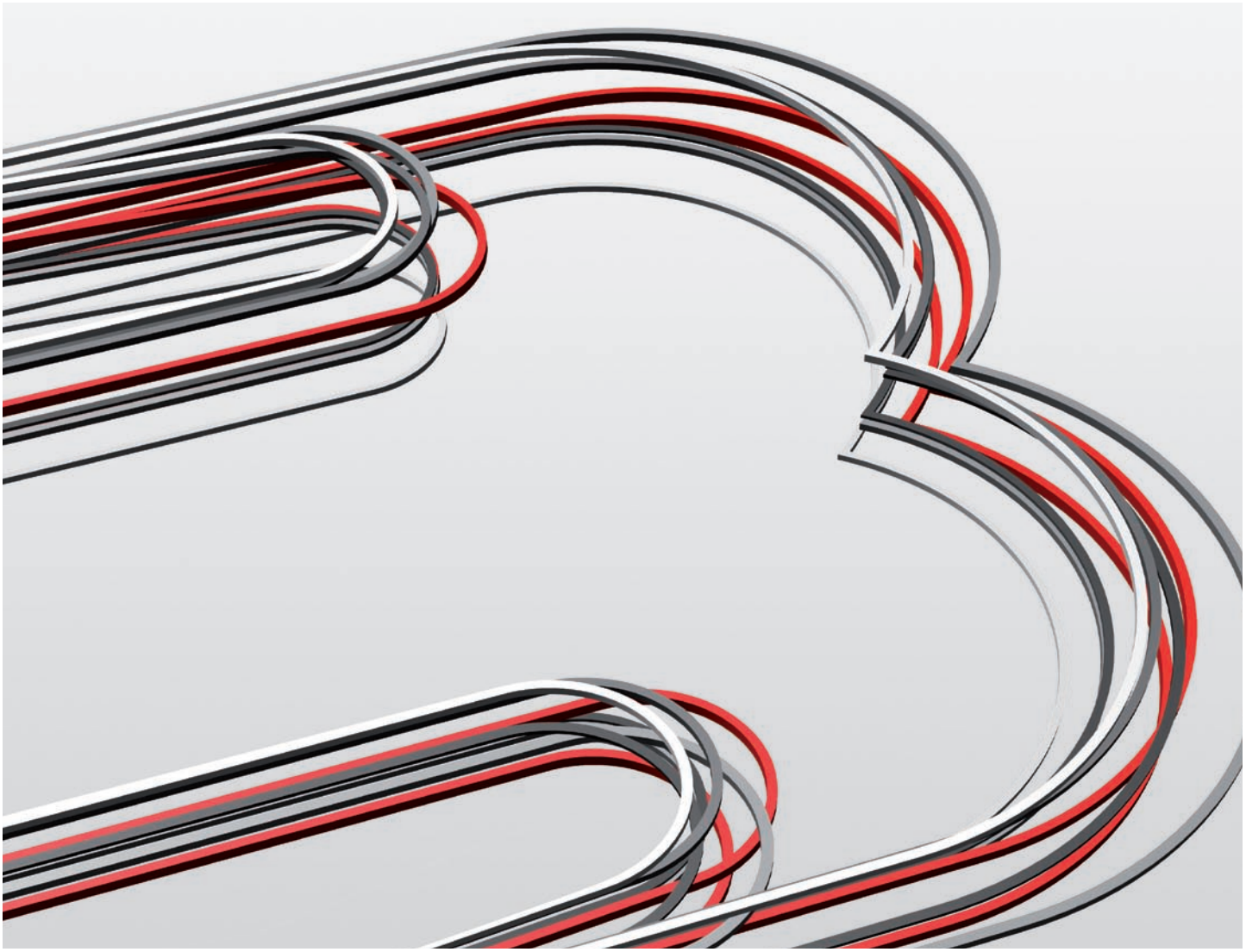
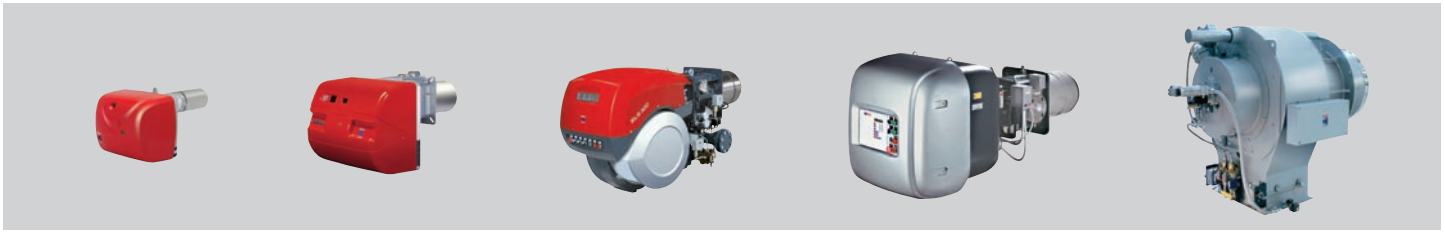
Technical Sales Catalogue

March 2009





RIELLO BURNERS

BURNERS PRODUCTION PLANT
S. Pietro - Legnago (Verona), Italy

COMBUSTION RESEARCH CENTRE
Angiari (Verona) - Italy

Our Premises

How to use this catalogue

This catalogue contains information to help you in selecting the right burner for any problem of heat production. There are the following sections:

pag. 5

Range of Products

In this section the product can be selected by operation, fuel and series. This index consists of bar charts showing the minimum and maximum output for each series. Low NOx series are green plus fuel colours.

pag. 13

Index

In this section the product can be selected by operation, fuel and series. For each series there are:

- a picture
- series name
- models in the series
- output range
- technical sheet page number.

pag. 25

Monobloc Burners Data Sheets Section

This section contains the technical sheets of monobloc burners, divided by fuel, series and operation.

pag. 599

Industrial Combustion System Data Sheets Section

This section contains the technical sheet for all components needed to carry out a complete industrial burner system.

pag. 663

Special Burners on Demand

This section contains further burner variants and technical options available upon request.

pag. 667

Request for Information

You can ask information for Riello Burners Technical Office directly using a special form.

pag. 669

Sales and Service Network

In this section you will find the Riello Burners distributors around the world and the references for the contact.

Fuels and associated colour identification

In the catalogue each colour represents a different fuel so that a fuel type can be matched to a series of burners.
For low NOx burners the green colour is associated with fuel type color.

LOW NOx LIGHT OIL BURNERS

LIGHT OIL BURNERS

HEAVY OIL BURNERS

LOW NOx GAS BURNERS

GAS BURNERS

LOW NOx DUAL FUEL BURNERS

DUAL FUEL BURNERS

INDUSTRIAL BURNERS

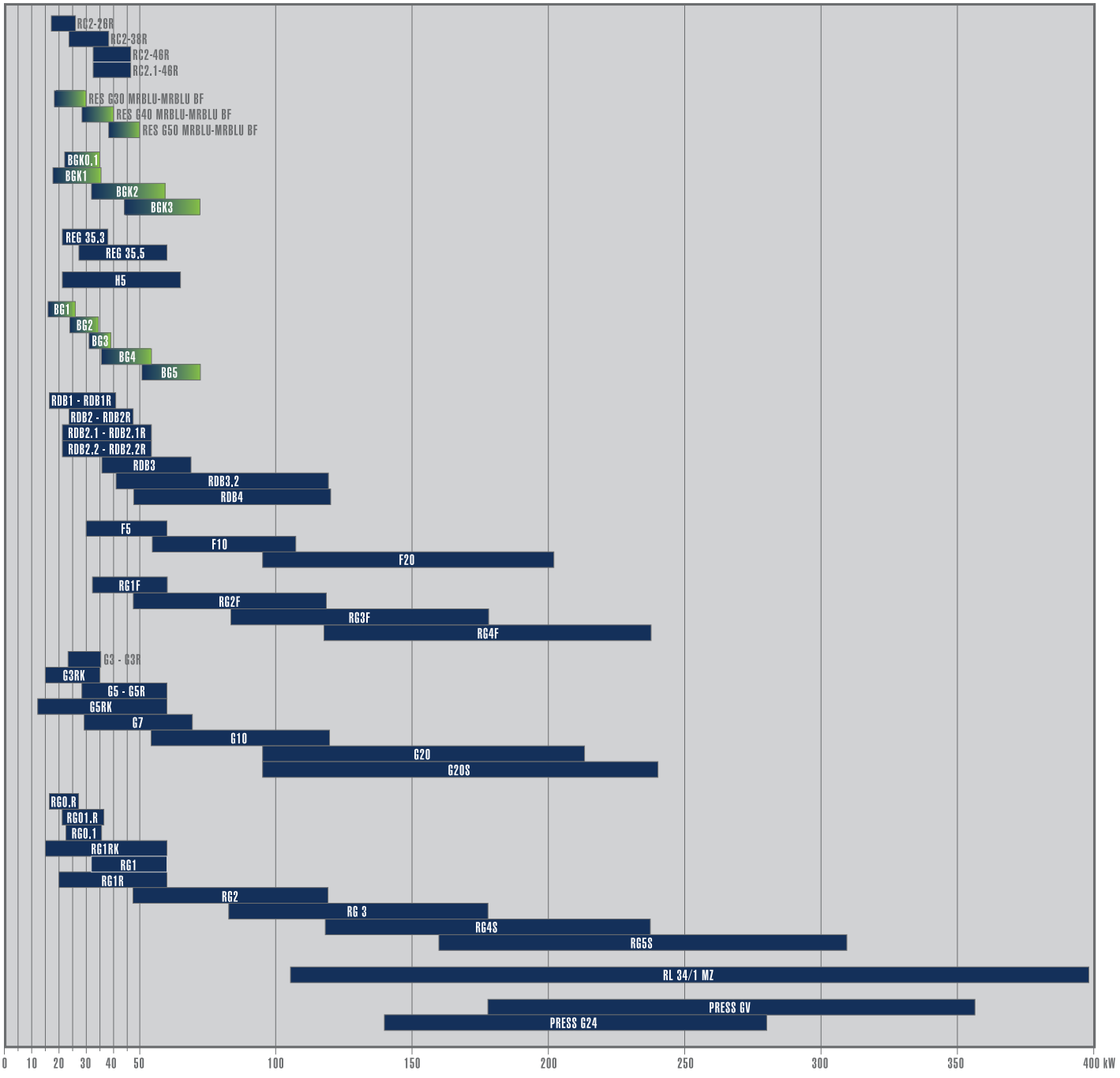
SYSTEM COMPONENTS

Range of products

In this section the product can be selected by operation, fuel and series. This index consists of bar charts showing the minimum and maximum output for each series. Low NOx series are green plus fuel colours.

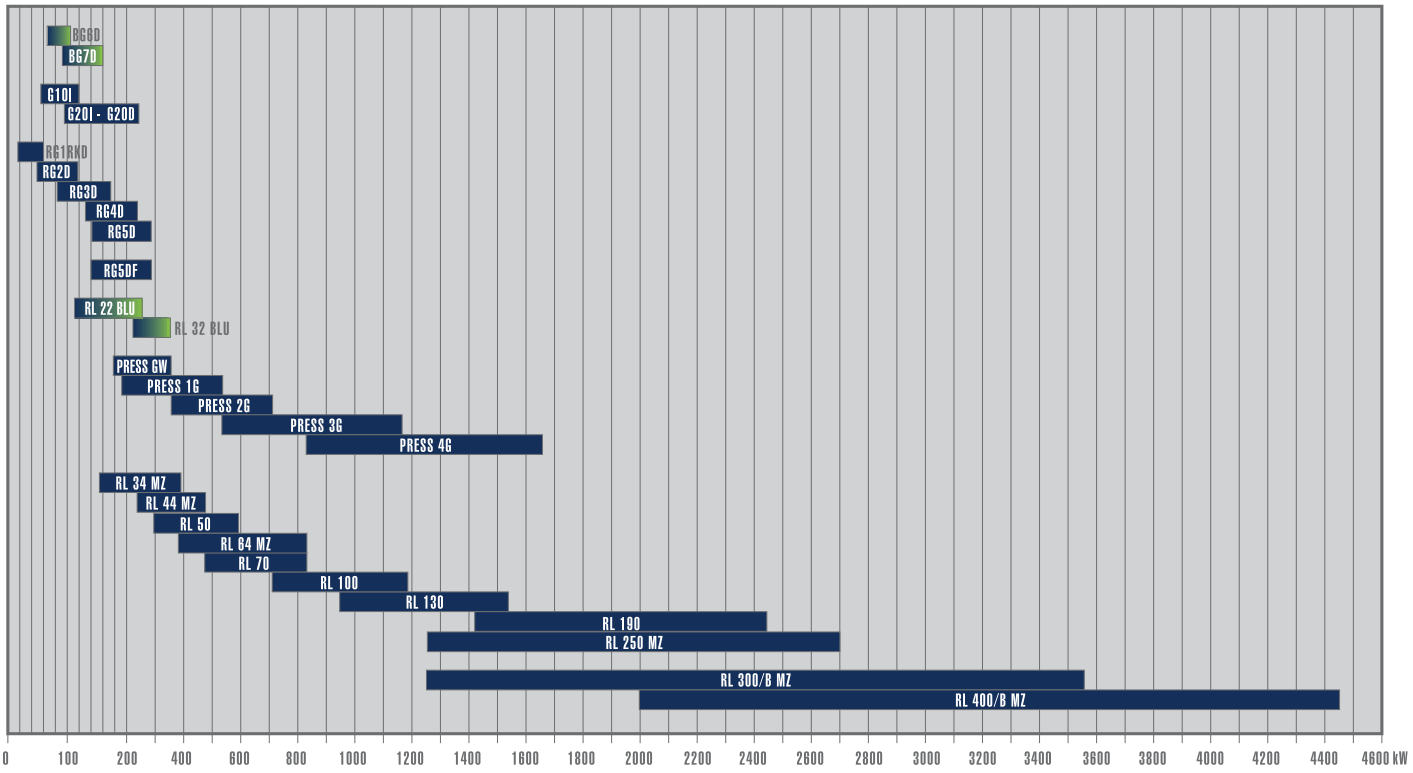
LIGHT OIL BURNERS

one stage

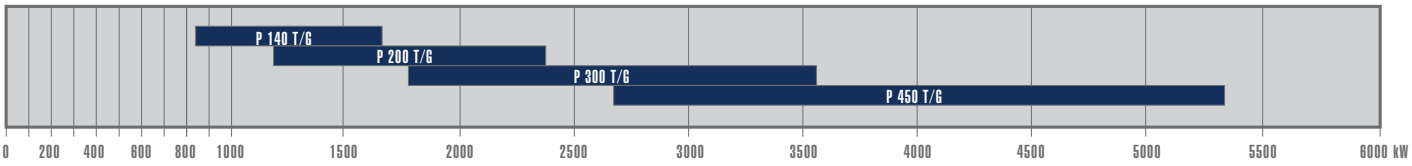


Range of products

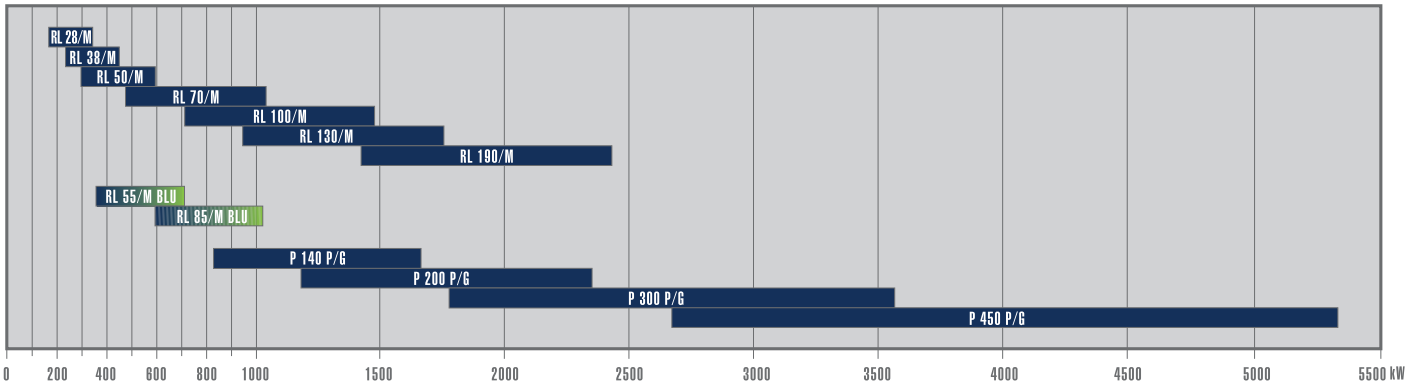
two stage



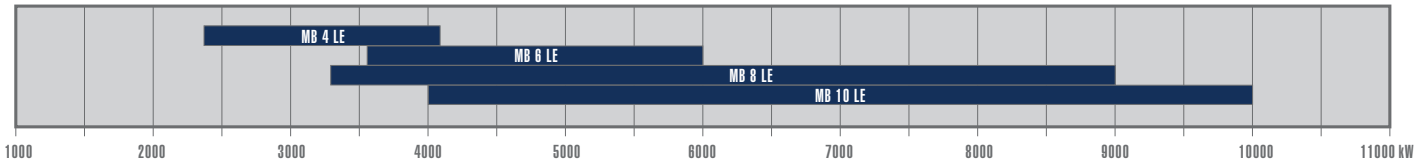
three stage



two stage-progressive/modulating

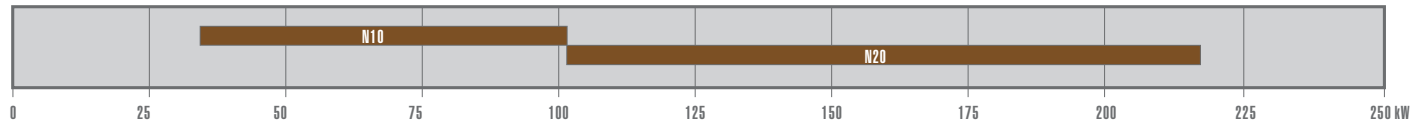


modulating

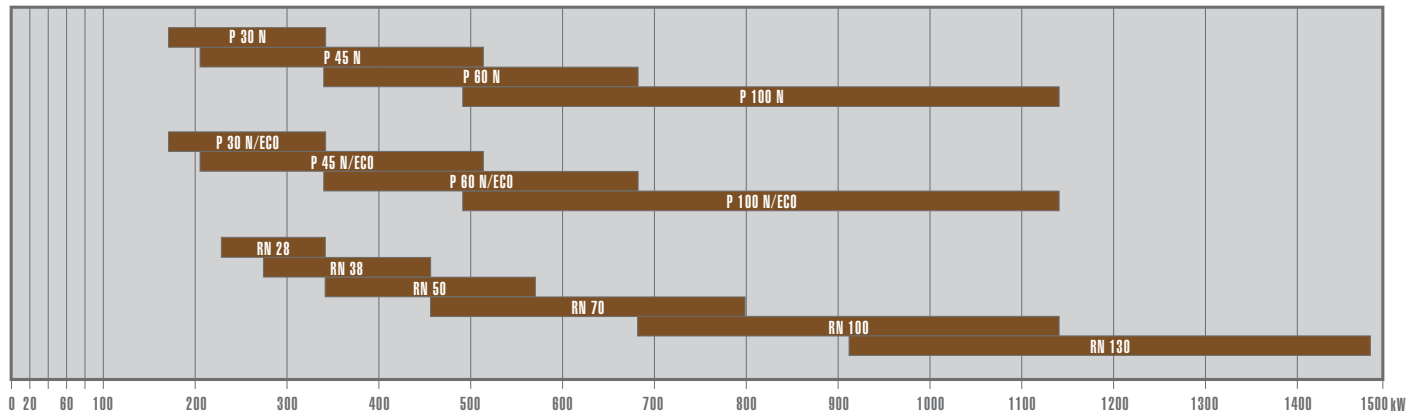


HEAVY OIL BURNERS

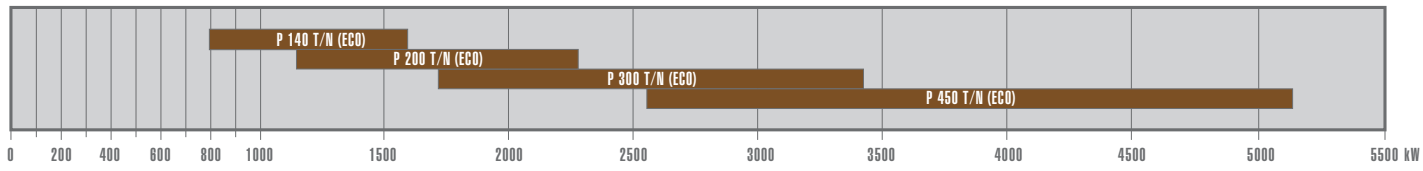
one stage



two stage



three stage



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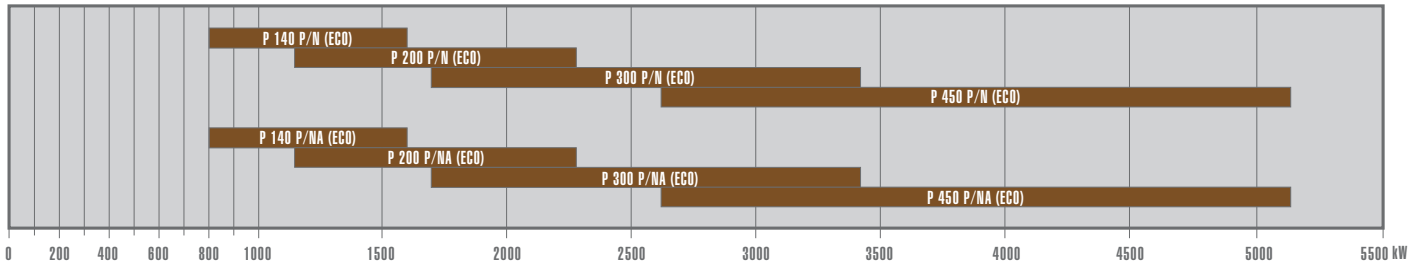
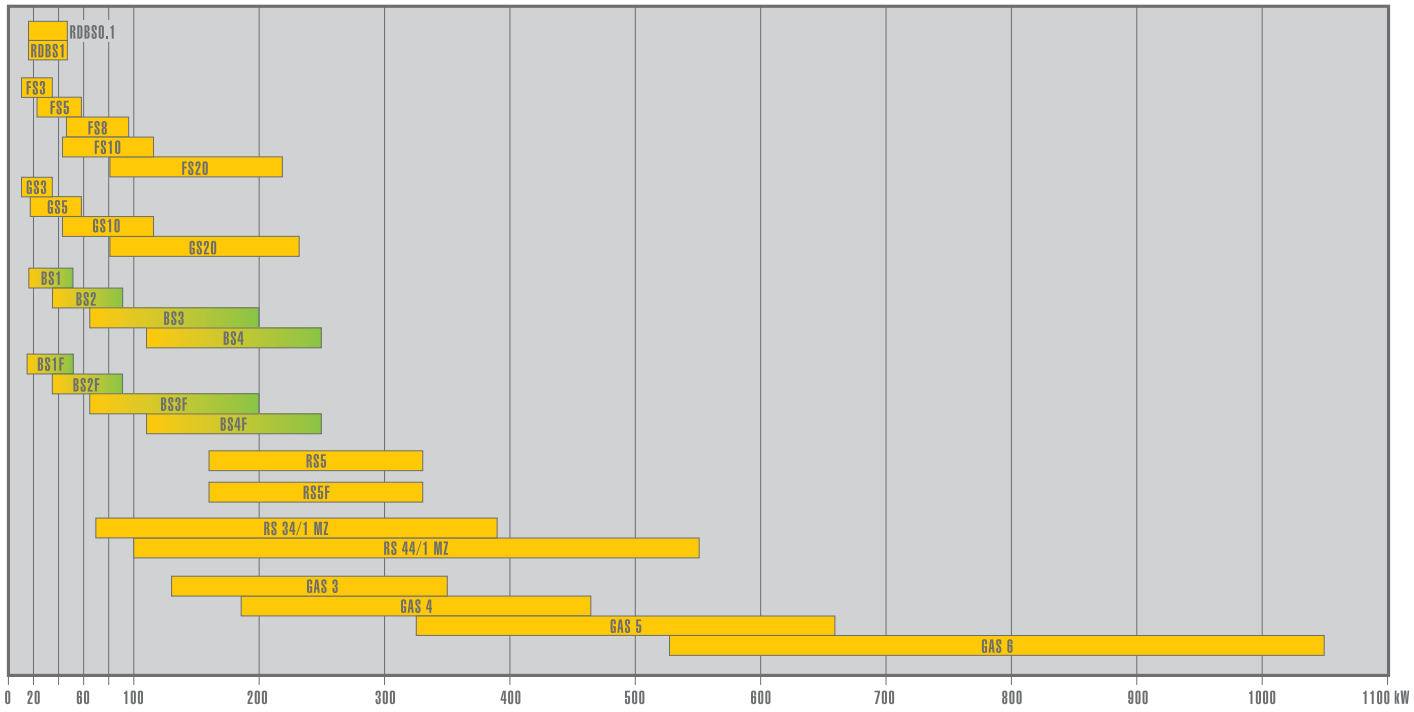
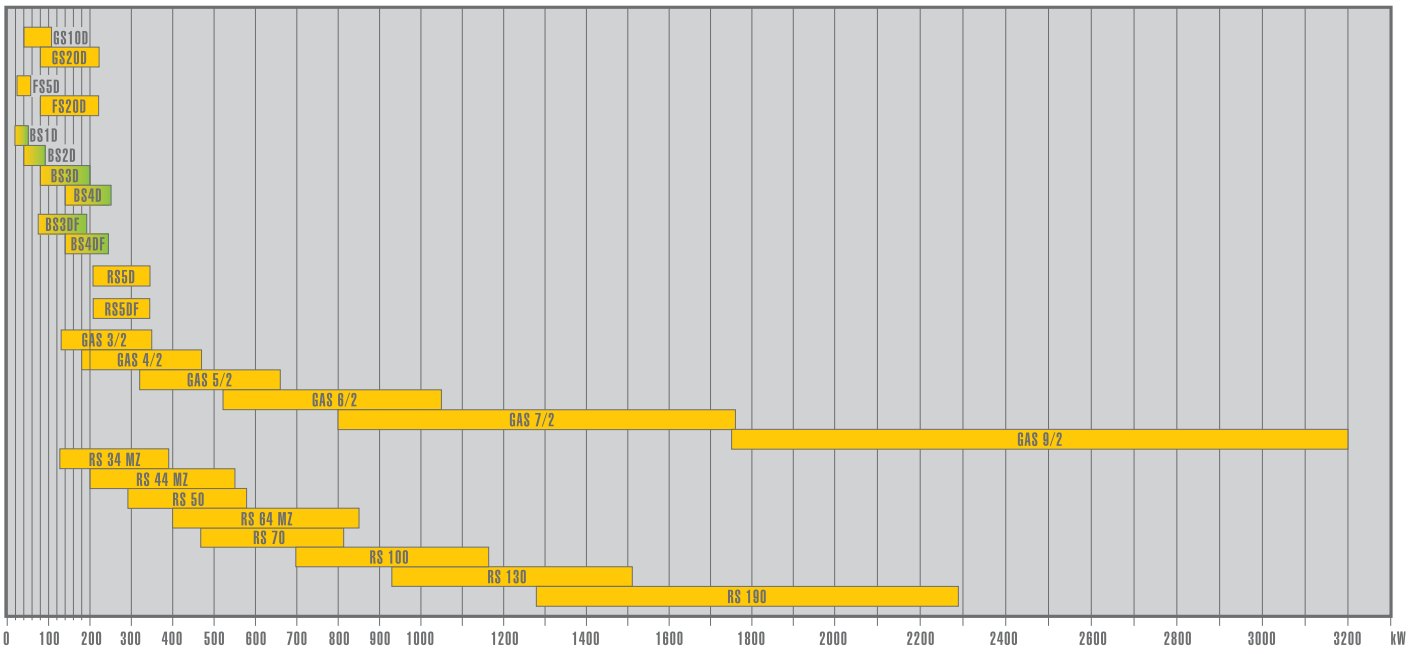


GAS BURNERS

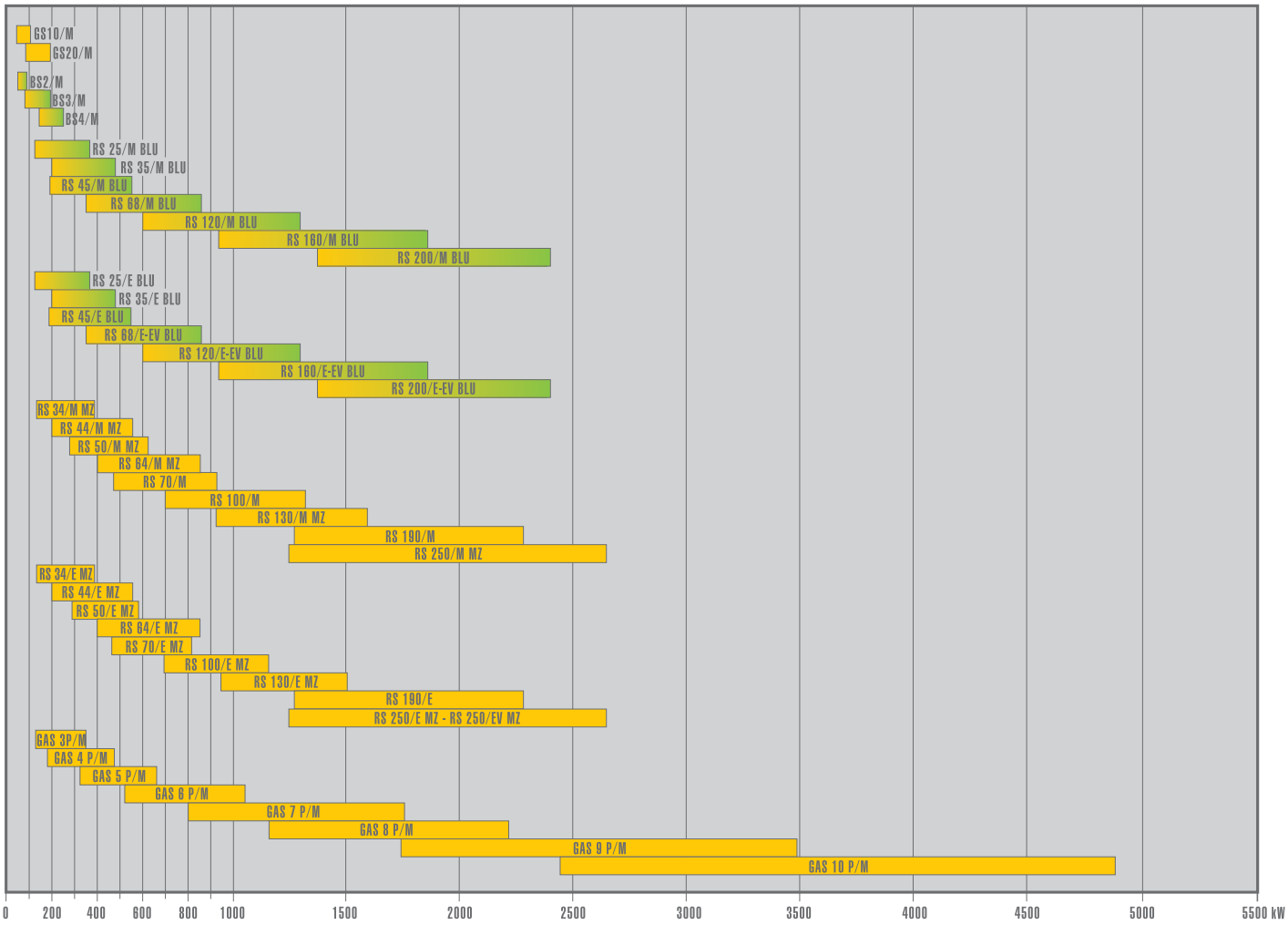
one stage

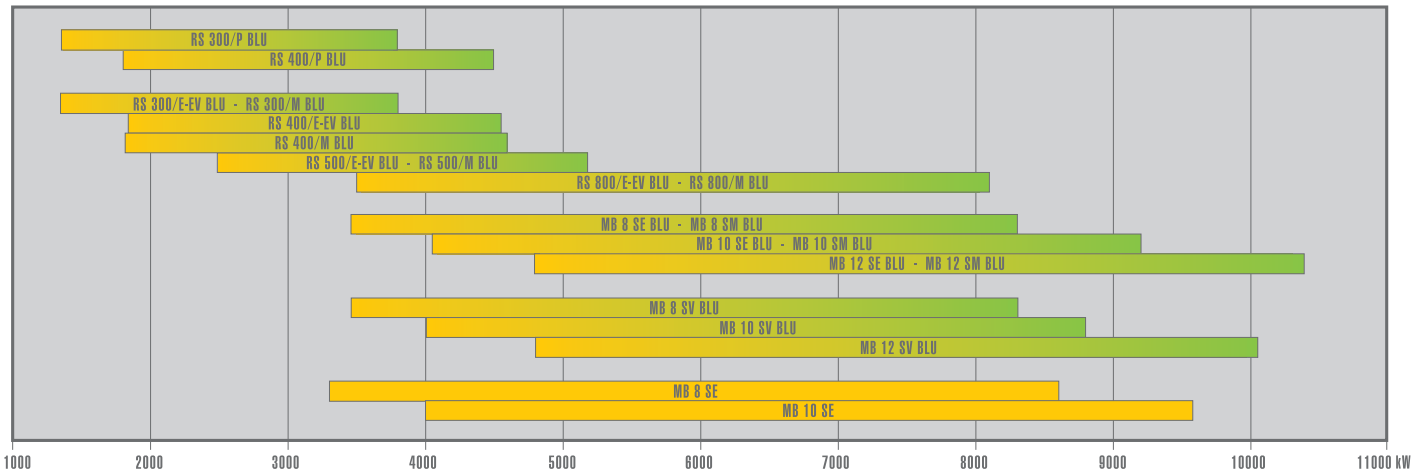


two stage



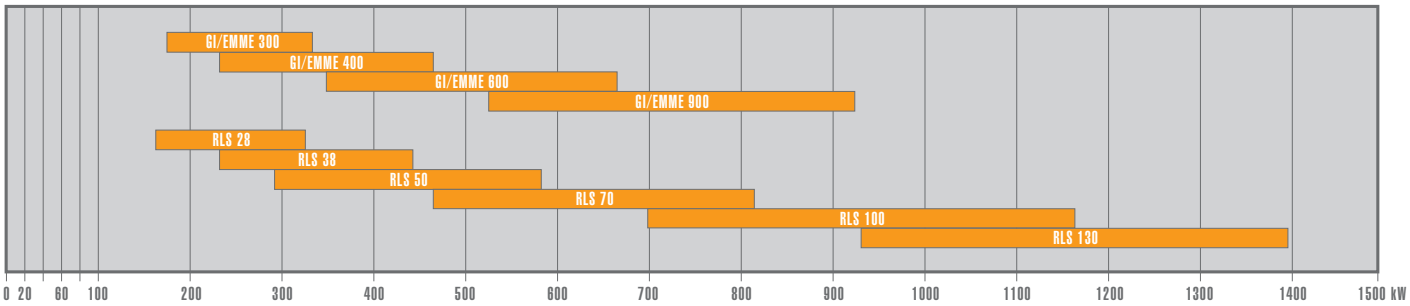
two stage-progressive/modulating



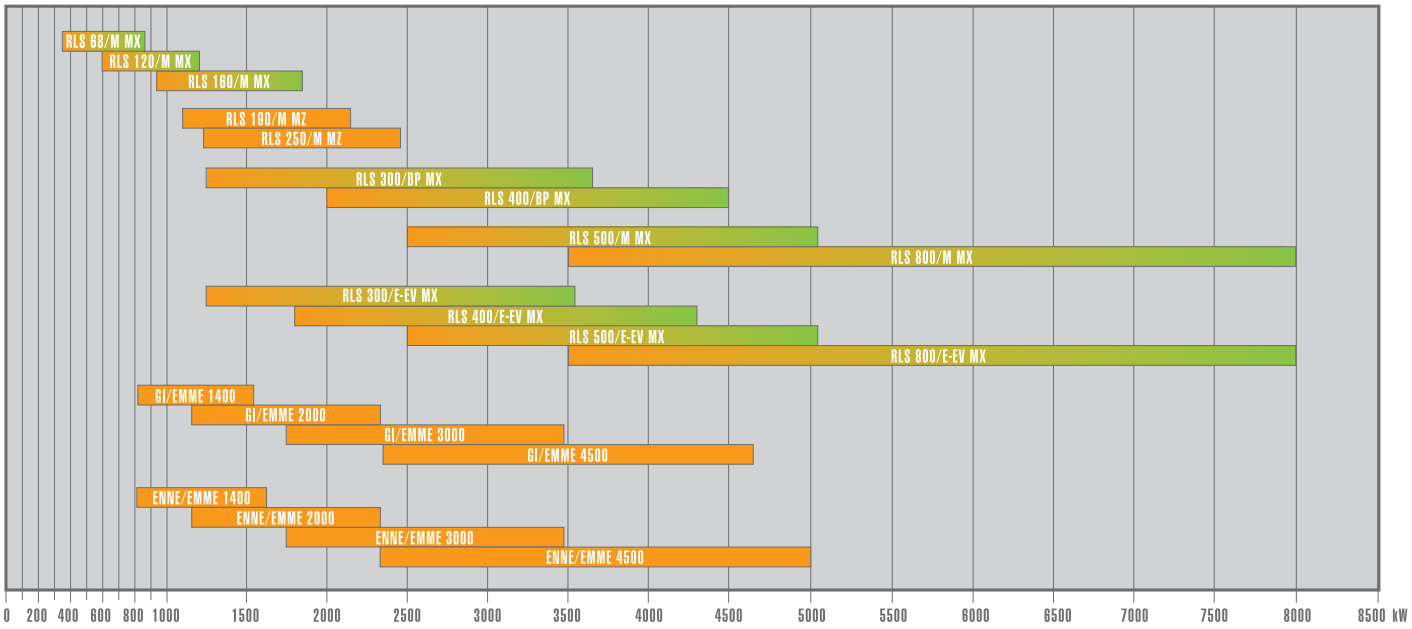


DUAL FUEL BURNERS

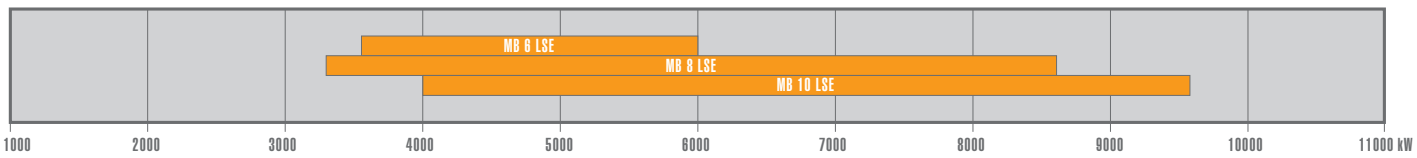
two stage



two stage-progressive/modulating

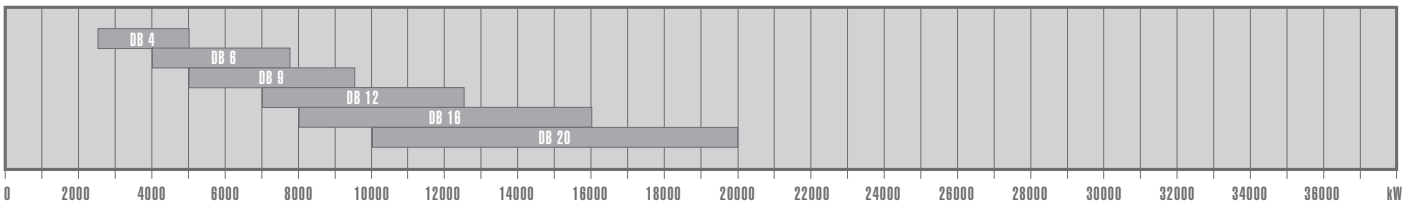


modulating

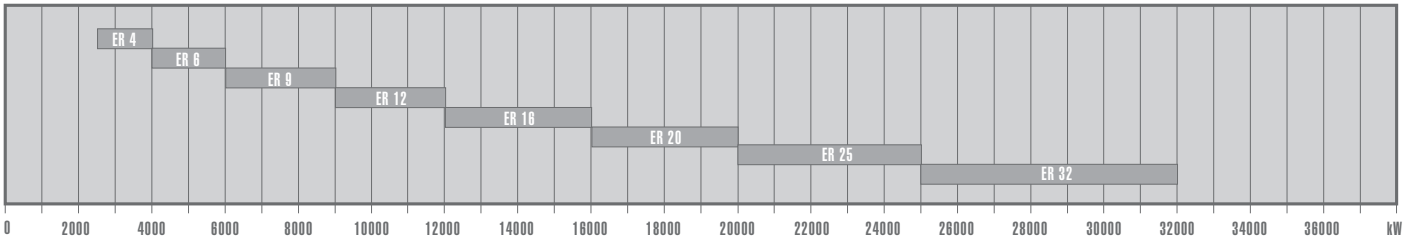


OIL, GAS and DUAL FUEL INDUSTRIAL BURNERS

DB series - all fuels



ER series - all fuels



These data are indicative for all fuels.

Index

LOW NOx LIGHT OIL BURNERS

RES SERIES

RES G MRBLU
RES G30 - G40 - G50 MRBLU
RES G30 - G40 - G50 MRBLU BF
18 ÷ 50 kW
Low NOx One Stage
pag 27

GULLIVER SERIES

GULLIVER BGK
BGK0.1 - BGK1 - BGK2 - BGK3
17,8 ÷ 72 kW
Low NOx One Stage
pag 31

GULLIVER BG
BG1 - BG2 - BG3 - BG4 - BG5
16 ÷ 72,3 kW
Low NOx One Stage
pag 37

GULLIVER BGD
BG6D - BG7D
65,2 ÷ 160 kW
Low NOx Two Stage
pag 43

RL SERIES

RL BLU
RL 22 BLU - 32 BLU
116 ÷ 356 kW
Low NOx Two Stage
pag 49

RL/M BLU
RL 55/M BLU - 85/M BLU
356 ÷ 1023 kW
Low NOx Modulating
pag 55

Index

LIGHT OIL BURNERS

RC SERIES

RC
RC2-26R - RC2-38R - RC2-46R - RC2.1-46R — 17 ÷ 46 kW — One Stage — pag 61

GULLIVER SERIES

GULLIVER RG
RG0.1 - RG1 - RG2 - RG3 - RG4S - RG5S
RG0.R - RG0.1R - RG1R - RG1RK — 15 ÷ 309,5 kW — One Stage — pag 67

GULLIVER RGD
RG1RKD - RG2D - RG3D - RG4D - RG5D — 17 ÷ 296 kW — Two Stage — pag 75

GULLIVER RGF
RG1F - RG2F - RG3F - RG4F — 32 ÷ 237 kW — One Stage — pag 81

GULLIVER RGDF
RG5DF — 142 ÷ 296 kW — Two Stage — pag 87

REG SERIES

REG
REG 35.3 - REG 35.5 — 21 ÷ 60 kW — One Stage — pag 93

RIELLO 40 SERIES

RIELLO 40 G
G3 - G5 - G7 - G10 - G20 - G20S
G3R - G3RK - G5R - G5RK — 12 ÷ 240 kW — One Stage — pag 97

RIELLO 40 GI
G10I - G20I - G20D — 54 ÷ 240 kW — Two Stage — pag 105

RIELLO 40 SERIES

RIELLO 40 F
F5 - F10 - F20 — 30 ÷ 202 kW — One Stage — pag 111

RIELLO 40 H
H5 — 21 ÷ 65 kW — One Stage — pag 117

RDB SERIES

RDB
RDB1 - RDB1R - RDB2 - RDB2R - RDB2.1 - RDB2.1R - RDB2.2 - RDB2.2R - RDB3 - RDB3.2 - RDB4 — 16,8 ÷ 120 kW — One Stage — pag 121

PRESS SERIES

PRESS GV
PRESS GV - G24 — 140 ÷ 356 kW — One Stage — pag 127

PRESS G
PRESS GW - 1G - 2G - 3G - 4G — 178 ÷ 1660 kW — Two Stage — pag 133

PRESS T/G
P 140T/G - 200T/G - 300T/G - 450T/G — 830 ÷ 5340 kW — Three Stage — pag 141

PRESS P/G
P 140P/G - 200P/G - 300P/G - 450P/G — 830 ÷ 5340 kW — Modulating — pag 149

RL SERIES

RL/1
RL 34/1 MZ — 107 ÷ 398 kW — One Stage — pag 157

RL
RL 34 MZ - 44 MZ - 50 - 64 MZ
RL 70 - 100 - 130 - 190 - 250 MZ — 154 ÷ 2700 kW — Two Stage — pag 165

Index

RL SERIES

RL/M
RL 28/M - 38/M - 50/M
RL 70/M - 100/M - 130/M - 190/M
166 ÷ 2431 kW **Modulating** pag 177

RL/B MZ
RL 300/B MZ - 400/B MZ
1250 ÷ 4450 kW **Two Stage** pag 185

MODUBLOC SERIES

MODUBLOC LE
MB 4 LE - 6 LE - 8 LE - 10 LE
2375 ÷ 10000 kW **Modulating** pag 191

HEAVY OIL BURNERS

RIELLO 40 SERIES

RIELLO 40 N
N10 - N20
34 ÷ 217 kW **One Stage** pag 199

PRESS SERIES

PRESS N
P 30N - 45N - 60N - 100N
171 ÷ 1140 kW **Two Stage** pag 203

PRESS N/ECO
P 30N/ECO - 45N/ECO
P 60N/ECO - 100N/ECO
171 ÷ 1140 kW **Two Stage** pag 211

PRESS T/N - T/N ECO
P 140T/N (ECO) - 200T/N (ECO)
P 300T/N (ECO) - 450T/N (ECO)
800 ÷ 5130 kW **Three Stage** pag 219

PRESS SERIES

PRESS P/N - P/N ECO
P 140P/N (ECO) - 200P/N (ECO)
P 300P/N (ECO) - 450P/N (ECO)
800 ÷ 5130 kW
Modulating
pag 227

PRESS P/NA - P/NA ECO
P 140P/NA (ECO) - 200P/NA (ECO)
P 300P/NA (ECO) - 450P/NA (ECO)
800 ÷ 5130 kW
Modulating
pag 235

RN SERIES

RN
RN 28 - 38 - 50 - 70 - 100 - 130
228 ÷ 1481 kW
Two Stage
pag 245

LOW NOx GAS BURNERS

GULLIVER SERIES

GULLIVER BS
BS1 - BS2 - BS3 - BS4
16 ÷ 250 kW
Low NOx
One Stage
pag 251

GULLIVER BSD
BS1D - BS2D - BS3D - BS4D
19 ÷ 250 kW
Low NOx
Two Stage
pag 257

GULLIVER BS/M
BS2/M - BS3/M - BS4/M
49 ÷ 250 kW
Low NOx
Modulating
pag 263

GULLIVER BSF
BS1F - BS2F - BS3F - BS4F
16 ÷ 250 kW
Low NOx
One Stage
pag 269

GULLIVER BSDF
BS3DF - BS4DF
75 ÷ 246 kW
Low NOx
Two Stage
pag 275

Index

RS SERIES

RS 25÷200/M BLU
RS 25/M - 35/M - 45/M - 68/M BLU
RS 120/M - 160/M - 200/M BLU
125 ÷ 2400 kW
Low NOx Modulating
pag 281

RS 25÷200/E-EV BLU
RS 25/E - 35/E - 45/E - 68/E-EV BLU
RS 120/E-EV - 160/E-EV - 200/E-EV BLU
125 ÷ 2400 kW
Low NOx Modulating
pag 295

RS/P BLU
RS 300/P - 400/P BLU
1350 ÷ 4500 kW
Low NOx Modulating
pag 307

RS 300÷800/M BLU
RS 300/M - 400/M - 500/M - 800/M BLU
1350 ÷ 8100 kW
Low NOx Modulating
pag 315

RS 300÷800/E-EV BLU
RS 300/E - 400/E - 500/E - 800/E BLU
RS 300/EV - 400/EV - 500/EV - 800/EV BLU
1350 ÷ 8100 kW
Low NOx Modulating
pag 323

MODUBLOC SERIES

MODUBLOC SM BLU
MB 8 SM - 10 SM - 12 SM BLU
3450 ÷ 10400 kW
Low NOx Modulating
pag 333

MODUBLOC SE - SV BLU
MB 8 SE - 10 SE - 12 SE BLU
MB 8 SV - 10 SV - 12 SV BLU
3450 ÷ 10400 kW
3450 ÷ 10050 kW
Low NOx Modulating
pag 341

GAS BURNERS

RDBS SERIES

RDBS
RDBS0.1 - RDBS1 — 16 ÷ 48 kW — One Stage — pag 351

RIELLO 40 SERIES

RIELLO 40 GS
GS3 - GS5 - GS10 - GS20 — 11 ÷ 220 kW — One Stage — pag 355

RIELLO 40 GSD
GS10D - GS20D — 41 ÷ 220 kW — Two Stage — pag 361

RIELLO 40 GS/M
GS10/M - GS20/M — 42 ÷ 194 kW — Modulating — pag 367

RIELLO 40 FS
FS3 - FS5 - FS8 - FS10 - FS20 — 11 ÷ 220 kW — One Stage — pag 373

RIELLO 40 FSD
FS5D - FS20D — 23 ÷ 220 kW — Two Stage — pag 381

GULLIVER SERIES

GULLIVER RS
RS5 — 160 ÷ 330 kW — One Stage — pag 387

GULLIVER RSD
RS5D — 208 ÷ 345 kW — Two Stage — pag 393

GULLIVER RSF
RS5F — 160 ÷ 330 kW — One Stage — pag 399

Index

GULLIVER SERIES

GULLIVER RSDF
RS5DF — 208 ÷ 345 kW — Two Stage — pag 405

GAS SERIES

GAS
GAS 3 - 4 - 5 - 6 — 130 ÷ 1050 kW — One Stage — pag 411

GAS/2
GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2 - 9/2 — 130 ÷ 3200 kW — Two Stage — pag 419

GAS P/M
GAS 3P/M - 4P/M - 5P/M - 6P/M - 7P/M
GAS 8P/M - 9P/M - 10P/M — 130 ÷ 4885 kW — Modulating — pag 429

RS SERIES

RS/1
RS 34/1 MZ - 44/1 MZ — 70 ÷ 550 kW — One Stage — pag 441

RS
RS 34 MZ - 44 MZ - 50 - 64 MZ
RS 70 - 100 - 130 - 190 — 130 ÷ 2290 kW — Two Stage — pag 449

RS/M
RS 34/M MZ - 44/M MZ - 50/M MZ
RS 64/M MZ - 70/M - 100/M - 130/M MZ
RS 190/M - 250/M MZ — 130 ÷ 2650 kW — Modulating — pag 467

RS/E-EV MZ
RS 34/E MZ - 44/E MZ - 50/E MZ
RS 64/E MZ - 70/E MZ - 100/E MZ
RS 130/E MZ - 190/E - 250/E-EV MZ — 130 ÷ 2650 kW — Modulating — pag 487

MODUBLOC SERIES

MODUBLOC SE
MB 8 SE - 10 SE — 3300 ÷ 9580 kW — Modulating — pag 501

LOW NOx DUAL FUEL BURNERS

RLS SERIES

	RLS/M MX RLS 68/M MX - 120/M MX - 160/M MX	350 ÷ 1840 kW	Low NOx Modulating	pag 509
	RLS/BP MX RLS 300/BP MX - 400/BP MX	1250 ÷ 4500 kW	Low NOx Modulating	pag 519
	RLS 500-800/M MX RLS 500/M MX - 800/M MX	2500 ÷ 8000 kW	Low NOx Modulating	pag 527
	RLS/E-EV MX RLS 300/E-EV MX - 400/E-EV MX RLS 500/E-EV MX - 800/E-EV MX	1250 ÷ 8000 kW	Low NOx Modulating	pag 535

DUAL FUEL BURNERS

RLS SERIES

	RLS RLS 28 - 38 - 50 - 70 - 100 - 130	163 ÷ 1395 kW	Two Stage	pag 543
	RLS/M MZ RLS 190/M MZ - 250/M MZ	1100 ÷ 2460 kW	Modulating	pag 553

Index

GI/EMME SERIES

GI/EMME 300÷900
GI/EMME 300 - 400 - 600 - 900 — 175 ÷ 922 kW — Two Stage — pag 561

GI/EMME 1400÷4500
GI/EMME 1400 - 2000 - 3000 - 4500 — 820 ÷ 4650 kW — Modulating — pag 569

ENNE/EMME SERIES

ENNE/EMME
ENNE/EMME 1400 - 2000 - 3000 - 4500 — 814 ÷ 5000 kW — Modulating — pag 579

MODUBLOC SERIES

MODUBLOC LSE
MB 6 LSE - 8 LSE - 10 LSE — 3300 ÷ 9580 kW — Modulating — pag 589

INDUSTRIAL BURNERS

DB SERIES

DB
DB 4 - 6 - 9 - 12 - 16 - 20 — 2500 ÷ 20000 kW — pag 601

ER SERIES

ER
ER 4 - 6 - 9 - 12 - 16 - 20 - 25 - 32 — 2500 ÷ 32000 kW — pag 613

SYSTEM COMPONENTS

HEATING PUMPING UNITS

SG - DG
SG 160 - 250 - 320 - 400 - 500 - 800 - 1000 - 1500
DG 160 - 250 - 320 - 400 - 500 - 800 - 1000 - 1500
380 ÷ 3600 l/h pag 623

SN - DN
SN 250 - 320 - 400 - 500 - 650 - 800 - 1000 - 1500
DN 250 - 320 - 400 - 500 - 650 - 800 - 1000 - 1500 - 2000
540 ÷ 3600 l/h pag 623

PRESSURE REGULATING / REDUCING UNITS

LPRT
LPRT 40 - 80 - 160 - 250 - 500 - 750 - 1000 - 1500 - 2000
< 500 mbar pag 631

HPRT
HPRT 80 - 160 - 250 - 500 - 750 - 1000 - 1500 - 2000
0,5 ÷ 4 bar pag 631

SAFETY / REGULATING GAS TRAINS

MBC
MBC 1200 SE 50 - MBC 1200 SE 50 CT
< 360 mbar

MBC 1900 SE 65 FC - MBC 1900 SE 65 FC CT
MBC 3100 SE 80 FC - MBC 3100 SE 80 FC CT
MBC 5000 SE 100 FC - MBC 5000 SE 100 FC CT
< 500 mbar

pag 631

SAFETY / REGULATING PROPORTIONAL GAS TRAINS

VGD
VGD 50 - VGDF 65 - VGDF 80 - VGDF 100
< 500 mbar pag 631

CENTRIFUGAL AIR FANS

GCH
GCH 4020 - 5020 - 5040
800 ÷ 5000 m^3/h pag 643

Index

CENTRIFUGAL AIR FANS

GCM
GCM 4540 - 5020 - 5040

4000 ÷ 9500 m³/h

pag 643

GBJ
GBJ H0 5630 - 6320 - 6330 - 6380 - 712 - 717
GBJ I0 6310 - 6320 - 6360 - 710 - 712 - 800A

3500 ÷ 20000 m³/h

pag 643

BURNER CONTROL PANELS

QA
for TI series

-

pag 657

Monobloc burners data sheets section

LOW NOx LIGHT OIL BURNERS pag 27

LIGHT OIL BURNERS pag 61

HEAVY OIL BURNERS pag 199

LOW NOx GAS BURNERS pag 251

GAS BURNERS pag 351

LOW NOx DUAL FUEL BURNERS pag 509

DUAL FUEL BURNERS pag 543

Riello RX series

Premix Low NOx Gas Burners

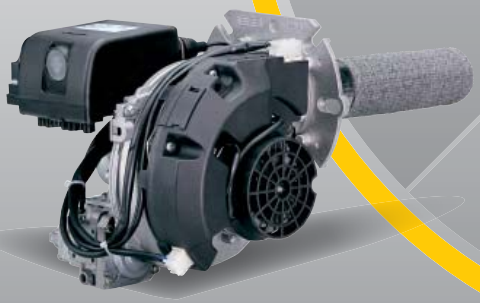
730 kW

500 kW

250 kW

- Excellent Turn-Down Modulation ratio (up to 7:1).
- Ideal solution for condensing applications.
- Compact flame geometry allowing reduction of combustion chamber dimensions.
- Very Low Noise Emissions at the chimney and the boiler room or any other installation place.
- Combustion Head with fibre manufactured in seamless knitted wire: removal of any critical situation caused by thermal stress.
- Values of CO and NOx Emissions lower than the more restrictive European Standards.

120 kW



35 kW

RIELLO RX Premix Gas Burners are designed to satisfy different demands in all HVAC and process applications (Boilers, Air Heaters, Furnaces, Absorption Chillers, Bakery Ovens, Grain Dryers, Spray Paint Booths, etc.). For further information contact Riello Burners Technical Department.

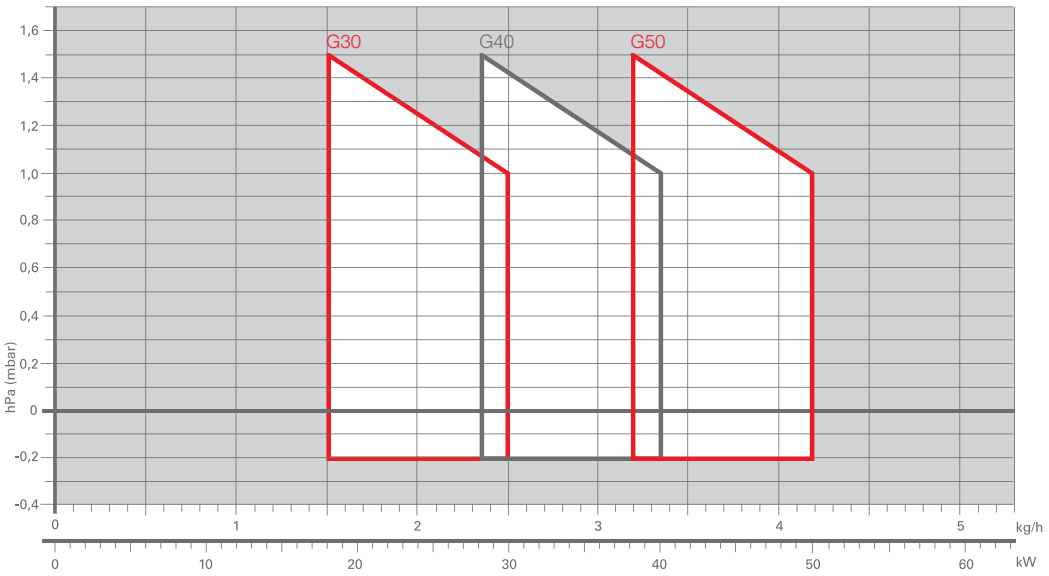
RIELLO BURNERS

RES G MRBLU SERIES

RES (Riello Environment Solution) is the new Low NOx light oil burners series with extremely low emissions to meet the increasingly stringent demands for low environmental impact products.
This family consists of 3 models based on the same ventilation device, with an output range from 18 to 50 kW. This series of burners comes in conventional and balanced flue versions.
The new Riello RES are fitted with a microprocessor-based control box, with diagnostic functions.
The new combustion head and the sealed ventilation system, keep NOx levels extremely low in spite of the small dimensions and very low noise emissions.
All the models are approved by the EN 267 European Standard, conform to European Directives, Machinery, EMC, Low Voltage, Boiler Efficiency. All burners are test fired before they leave the factory.

RES G30 MRBLU	18 ÷ 30	kW
RES G30 MRBLU BF	18 ÷ 30	kW
RES G40 MRBLU	28 ÷ 40	kW
RES G40 MRBLU BF	28 ÷ 40	kW
RES G50 MRBLU	38 ÷ 50	kW
RES G50 MRBLU BF	38 ÷ 50	kW

FIRING RATES



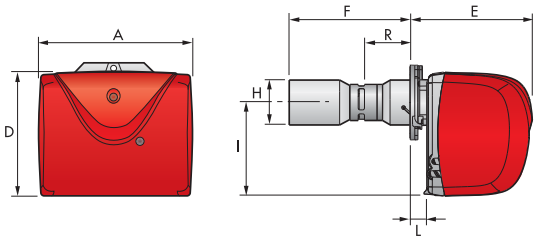
Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

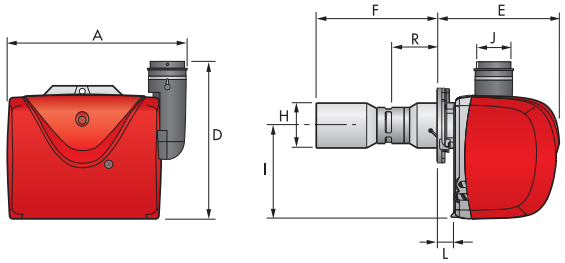
Overall dimensions (mm)

BURNER

RES G MRBLU



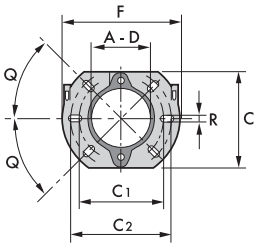
RES G MRBLU BF



MODEL	A	D	E	F(max)	H	I	L	R(max)
▶ RES G30 MRBLU	326	275	272	280	100	208	32	118
▶ RES G40 MRBLU	326	275	272	307	105	208	32	118
▶ RES G50 MRBLU	326	275	272	310	105	208	32	118

MODEL	A	D	E	F(max)	H	I	L	R(max)	J
▶ RES G30 MRBLU BF	383	351	272	280	100	208	32	113	75
▶ RES G40 MRBLU BF	383	351	272	307	105	208	32	108	75
▶ RES G50 MRBLU BF	383	351	272	310	105	208	32	129	75

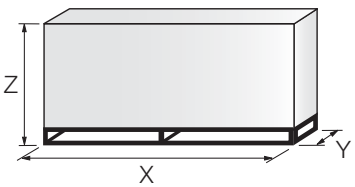
BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	Q	R
▶ All models	106	166	140	170	106	189	45°	11

NOTE: These dimensions are the same as BF models.

PACKAGING

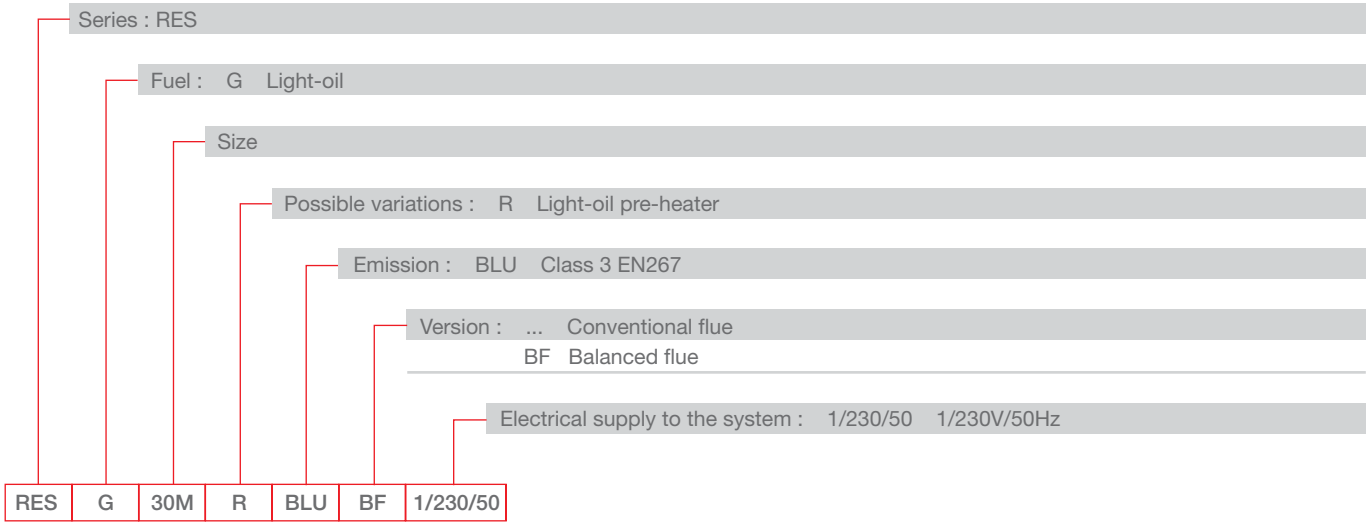


MODEL	X	Y	Z	kg
▶ RES G30 - 40 MRBLU	700	360	345	15,5
▶ RES G50 MRBLU	700	360	345	15,5

MODEL	X	Y	Z	kg
▶ RES G30 - 40 MRBLU BF	730	460	350	15,5
▶ RES G50 MRBLU BF	730	460	350	15,5

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Completely automatic monobloc light oil burners, with one stage operation fitted with:
- Forward blades fan and airtight fan house for high performance
- Sound proofing cover
- Air damper with inner adjustment for conventional flue version
- Air damper with external adjustment, with no need to remove the cover, for balanced flue version
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - inconel 601 end cone resistant to high temperatures
    - ignition electrodes
    - flame stability disk
- Geared pump for fuel supply, fitted with:
    - filter
    - pressure regulator
    - connectors for installing a pressure gauge and vacuometer
    - inner by-pass for preparing for single pipe installation
- Fuel feed solenoid incorporated in the pump
- UV sensor for flame detection
- Microprocessor-based burner safety control box, with diagnostic and remote control release functions
- Protection filter against radio interference (included into burner safety control box)
- Light oil nozzle
- IP X0D (IP 40) protection level
- PTC fuel heater.

Standard equipment:
- Two flexible pipes and two connectors
- Flange, screen, screws and nuts for fixing
- Grommet
- Flame tube
- 7-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
					(kW)	(kg/h)	(kW)		
20011492	RES	G30	MRBLU		18 ÷ 30	1,5 ÷ 2,5	0,28	-	
20011495	RES	G40	MRBLU		28 ÷ 40	2,4 ÷ 3,4	0,3	-	
20011498	RES	G50	MRBLU		38 ÷ 50	3,2 ÷ 4,2	0,3	-	
20011500	RES	G30	MRBLU	BF	18 ÷ 30	1,5 ÷ 2,5	0,28	-	
20011502	RES	G40	MRBLU	BF	28 ÷ 40	2,4 ÷ 3,4	0,3	-	
20011504	RES	G50	MRBLU	BF	38 ÷ 50	3,2 ÷ 4,2	0,3	-	

Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).
The burners of RES series are in according to EN 267.

Burner accessories

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

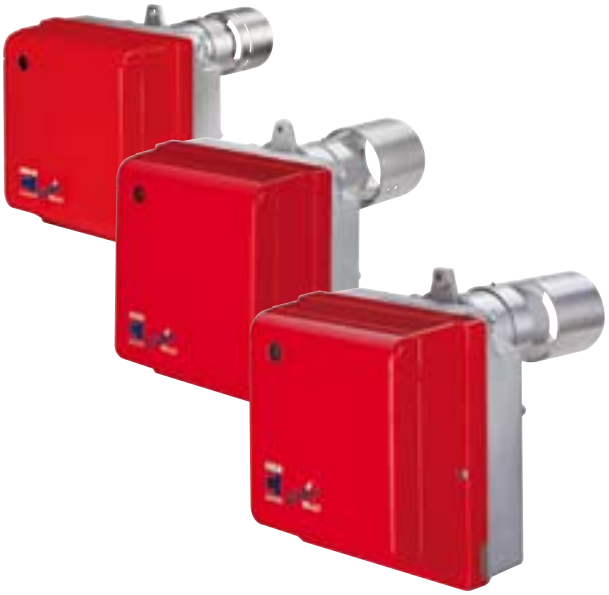
PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ All models	3002731

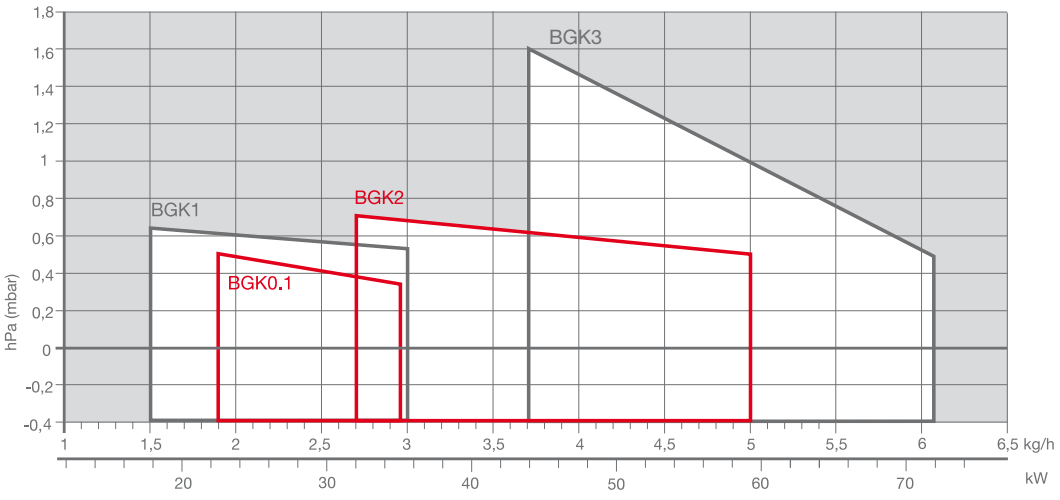
GULLIVER BGK SERIES

The Riello Gulliver BGK series of one stage light oil burners is a complete range of Low NOx products developed to respond to any request for home heating, conforming to the strictest standards regarding the reduction of polluting emissions.
The BGK series is available in four models with an output ranging from 17,8 to 72 kW, divided in two different structures.
All the models use the same components designed by Riello for the Gulliver series.
The high quality level guarantees safe working. The Gulliver BGK1-2 burners are fitted with a microprocessor-based control box, with diagnostic functions.
In developing these burners, special attention was paid to reducing noise, to ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the European EN 267 Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Gulliver BGK series of burners are fired before leaving the factory.



BGK0.1	22,5 ÷ 35,3	kW
BGK1	17,8 ÷ 35,6	kW
BGK2	32,0 ÷ 59,3	kW
BGK3	44,0 ÷ 72,0	kW

FIRING RATES



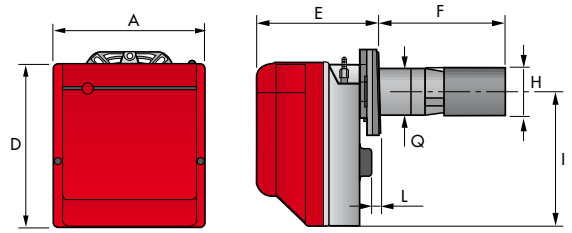
Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

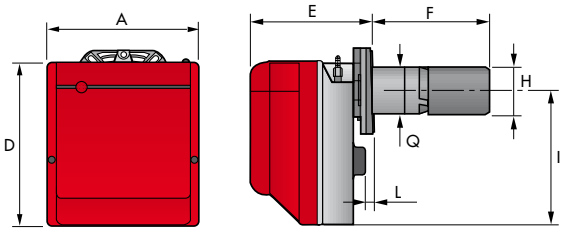
Overall dimensions (mm)

BURNER

BGK0.1



BGK1 - BGK2 - BGK3

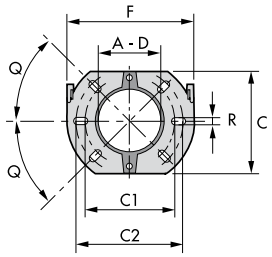


MODEL	A	D	E	F	H	I	L	Q
▶ BGK0.1	234	254	196	191	87	210	4	84
▶ BGK1	255	280	202	192	87	230	10	89
▶ BGK2	255	280	202	197	90	230	10	89
▶ BGK3	300	345	230	197	90	285	12	89

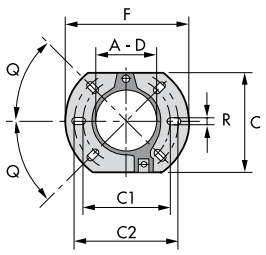
IMPORTANT: Boiler door must have a max. thickness of 70 mm for BGK0.1, 80 mm for BGK1 and 90 mm for BGK2 and BGK3, refractory lining included.

BURNER - BOILER MOUNTING FLANGE

BGK0.1

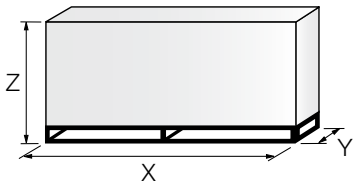


BGK1 - BGK2 - BGK3



MODEL	A	C	C1	C2	D	F	Q	R
▶ BGK0.1	91	144	130	150	91	180	45°	11
▶ BGK1	106	168	140	166	106	189	45°	11
▶ BGK2	106	168	140	166	106	189	45°	11
▶ BGK3	106	168	140	166	106	189	45°	11

PACKAGING



MODEL	X	Y	Z	kg
▶ BGK0.1	343	268	310	13
▶ BGK1	533	288	340	13
▶ BGK2	533	288	340	13
▶ BGK3	600	345	430	16,5

Specification

DESIGNATION OF SERIES

Series : R Standard emission burners
B Low NOx burners

Fuel : S Natural gas
G Light-oil

Possible variations: R Light-oil pre-heater
K Cone shaped head
S Reduced output ignition
D Two stage output setting

Size

Electrical supply to the system : 1/230/50 1/230V/50Hz

B	G	K	1	1/230/50

STATE OF SUPPLY

Completely automatic monobloc light oil burners, with one stage operation fitted with:
- Fan with forward inclined blades
- Sound deadening cover
- Air damper with external adjustment, with no need to remove the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head, fitted with:
  - stainless steel end cone resistant to high temperatures
  - ignition electrodes
  - flame stability disk
- Geared pump for fuel supply, fitted with:
  - filter
  - pressure regulator
  - connectors for installing a pressure gauge and vacuometer
  - internal by-pass for preparing for single pipe installation
- Post-ignition of 3 seconds after safety time
- Fuel feed solenoid incorporated in the pump
- Photocell for flame detection with optical fibre
- Microprocessor-based burner safety control box MO 550, with diagnostic and remote control release functions (BGK1 - BGK2 - BGK3 models)
- Protection filter against radio interference (included into burner safety control box)
- Light oil nozzle
- IP X0D (IP 40) electric protection level
- PTC fuel heater.

Standard equipment:
- Flange with insulating gasket
- Screws and nuts for flange
- Recirculating pipe (for BGK0.1)
- Four screws and nuts for flange to be fixed to boiler
- Remote control release kit
- Two flexible oil pipes with nipples
- 7-pin plug kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
MODELS WITH ANALOGIC CONTROL BOX						
3737511	BGK0.1 1/230/50	22,5 - 35,3	1,9 - 2,95	0,220	CE - 0036 0329/02	
MODELS WITH DIGITAL CONTROL BOX MO 550						
3737066	BGK1 1/230/50	17,8 - 35,6	1,5 - 3	0,250	CE - 0036 0232/98	
3737456	BGK2 1/230/50	32 - 59,3	2,7 - 5	0,250	CE - 0036 0232/98	
20012189	BGK3 1/230/50	44 - 72	3,7 - 6	0,460	-	

Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).
The burners of BGK series are in according to EN 267.

Burner accessories

Tester

The tester controls the correct working of the burner components. It can be fitted to all the light-oil models, with or without pre-heater.
It is made up of two parts: a control instrument and a “control box”.

BURNER	KIT CODE
▶ All models	3087211

DIRECT TESTING	MEASUREMENTS
M MOTOR The switch feeds the motor.	V L1-N Main voltage (230 V)
VALVE The switch feeds electromagnetic winding of the coil. A red led signals excitation stage, and a green led signals retainer stage.	A Pre-heater current consumption
PRE-HEATER The switch feeds the light oil pre-heater; a green led signals the thermostat cut-in.	V M Secondary voltage (low voltage)
TRANSFORMER The switch feeds the firing transformer inside the control box and excites the oil valve.	A Photo-resistance current consumption

Burner accessories

Control box MO 550 and sensor flame

On request, we can supply a more efficient control box with following features:
- Digital technology
- Post-ignition of 3 seconds after safety time (total ignition time of 8 seconds)
- Multi-color LED signalling the various working stage
- Visual or PC interface diagnostic functions through multi-color LED device
- Remote lock-out reset (the connection is supplied with the MO 550 accessory)
- Recycling for 3 attemps if there is flame failure during operation
- Programmable post-purge (up to 6 minutes), continuous purge, long pre-purge (2 minutes)
- Post-combustion lock-out
- Logging of burner operation parameters (for example operating time, number and type of lock-outs)

BURNER	KIT CODE
▶ BGK0.1	3001168+3007492

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ BGK1 - BGK2 - BGK3	3002731

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

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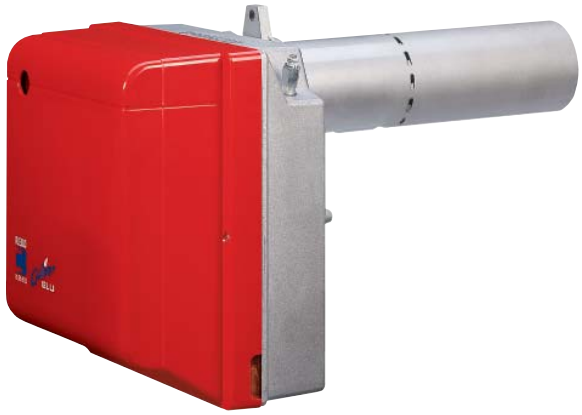
RIELLO BURNERS

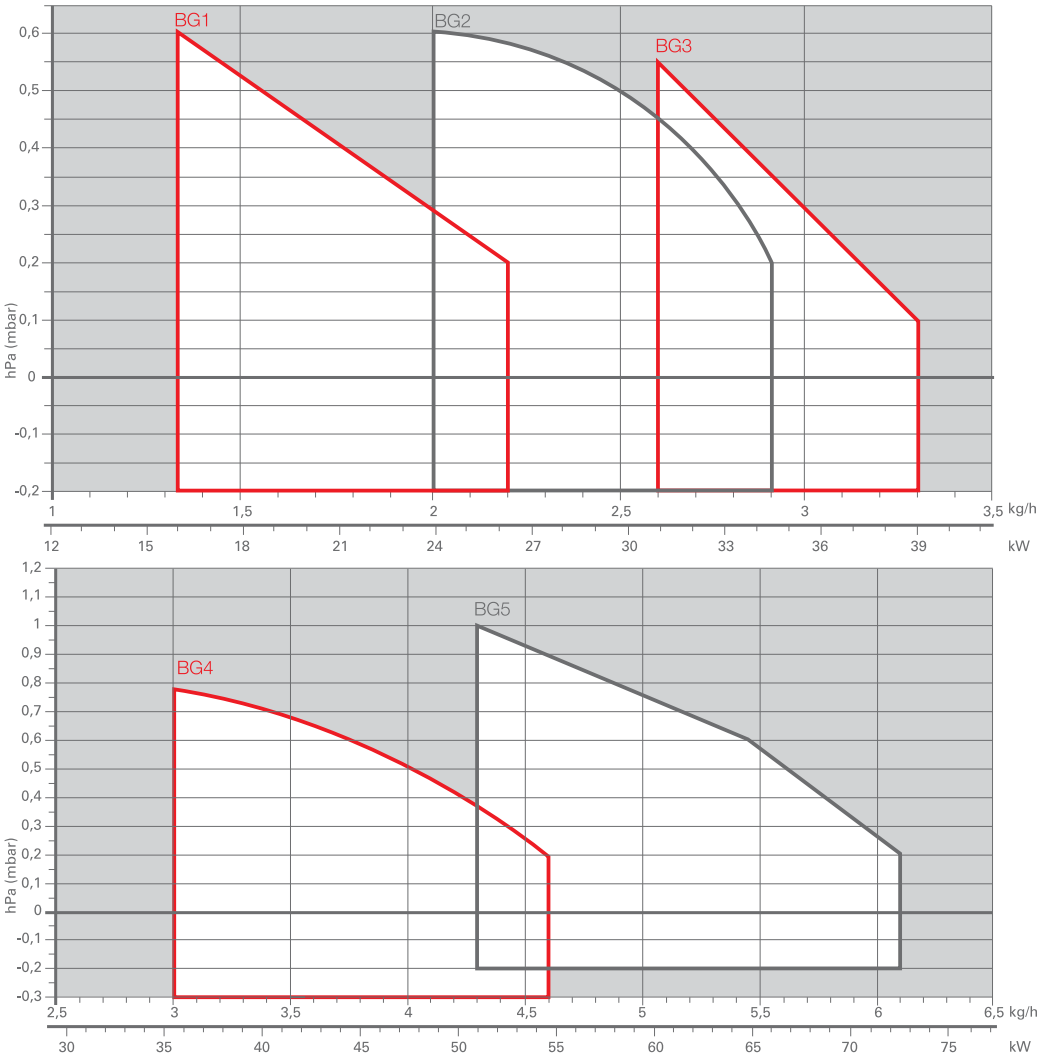
GULLIVER BG SERIES

The Riello Gulliver BG series of one stage light oil burners is a complete range of Low NOx products, developed to respond to any request for home heating, conforming to the strictest standards governing the reduction of polluting emissions. The Gulliver BG series is available in five different models,with an output ranging from 16 to 72,3 kW, divided in two different structures.
All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.
The Gulliver BG burners are fitted with a microprocessor-based control box, with diagnostic functions.
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the EN 267 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Gulliver BG burners are fired before leaving the factory.



BG1	16,0	÷	26,0	kW
BG2	24,0	÷	34,5	kW
BG3	31,0	÷	39,0	kW
BG4	35,5	÷	54,5	kW
BG5	51,0	÷	72,3	kW

FIRING RATES

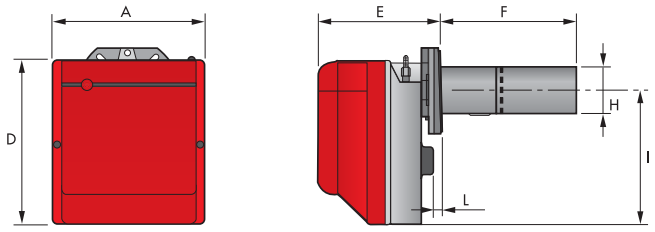


Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

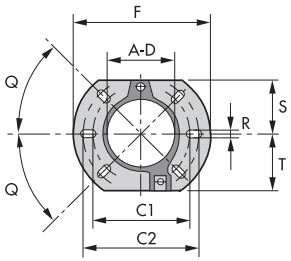
Overall dimensions (mm)

BURNER



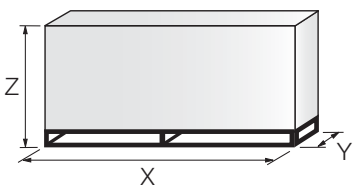
MODEL	A	D	E	F	H	I	L
▶ BG1	255	280	199	280,5	80	230	7
▶ BG2	255	280	202	287,5	89	230	10
▶ BG3	255	280	202	287,5	89	230	10
▶ BG4	300	345	230	307	97	285	12
▶ BG5	300	345	230	307	97	285	12

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C_1	C_2	D	F	Q	R	S	T
▶ BG1	91	130	150	91	180	45°	11	72	72
▶ BG2	106	140	168	106	189	45°	11	83	83
▶ BG3	106	140	168	106	189	45°	11	83	83
▶ BG4	106	140	170	106	189	45°	11	83	83
▶ BG5	106	140	170	106	189	45°	11	83	83

PACKAGING



MODEL	X	Y	Z	kg
▶ BG1	543	298	350	13
▶ BG2	543	298	350	13
▶ BG3	543	298	350	14
▶ BG4	600	345	430	16,5
▶ BG5	600	345	430	19

Specification

DESIGNATION OF SERIES

Series : R Standard emission burners
B Low NOx burners

Fuel : S Natural gas
G Light-oil

Size

Possible variations: R Light-oil pre-heater
K Cone shaped head
S Reduced output ignition
D Two stage output setting

Electrical supply to the system : 1/230/50 1/230V/50Hz

B	G	1		1/230/50

STATE OF SUPPLY

Completely automatic monobloc light oil burners, one stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, with external adjustment, with no need to remove the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
  - stainless steel head cone, resistant to high temperatures
  - ignition electrodes
  - flame stability disk
- Geared pump for fuel supply, fitted with:
  - filter
  - pressure regulator
  - attachments for fitting a pressure gauge and vacuum meter
  - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valve incorporated in the pump
- IRD for flame detection
- Microprocessor-based burner safety control box MO 550, with diagnostic and remote control release functions
- Protection filter against radio interference (included into burner safety control box)
- Light oil nozzle
- IP X0D (IP 40) protection level
- PTC fuel pre-heater.

Standard equipment:
- Two flexible pipes for connection to the light oil supply line
- Two nipples for connection to the pump
- Flange, screws and nuts for fixing
- Thermal screen
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3737155	BG1	1/230/50	16 - 26	1,35 - 2,2	0,27	CE - 0036 0264/99	
3737255	BG2	1/230/50	24 - 34,5	2 - 2,9	0,27	CE - 0036 0265/99	
3737355	BG3	1/230/50	31 - 39	2,6 - 3,3	0,28	CE - 0036 0266/99	
3738755	BG4	1/230/50	35,5 - 54,5	3 - 4,6	0,46	CE - 0036 0267/99	
3738855	BG5	1/230/50	51 - 72,3	4,3 - 6,1	0,47	CE - 0036 0268/99	

Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).
The burners of BG series are in according to EN 267.
All burners have "NO DRIP" hydraulic system.

Burner accessories

Tester

The tester controls the correct working of the burner components. It can be fitted to all the light-oil models, with or without pre-heater.
It is made up of two parts: a control instrument and a "control box".

BURNER	KIT CODE
▶ All models	3087211

DIRECT TESTING	MEASUREMENTS
M MOTOR The switch feeds the motor.	V L1-N Main voltage (230 V)
VALVE The switch feeds electromagnetic winding of the coil. A red led signals excitation stage, and a green led signals retainer stage.	A Pre-heater current consumption
PRE-HEATER The switch feeds the light oil pre-heater; a green led signals the thermostat cut-in.	V M Secondary voltage (low voltage)
TRANSFORMER The switch feeds the firing transformer inside the control box and excites the oil valve.	A Photo-resistance current consumption

Burner accessories

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

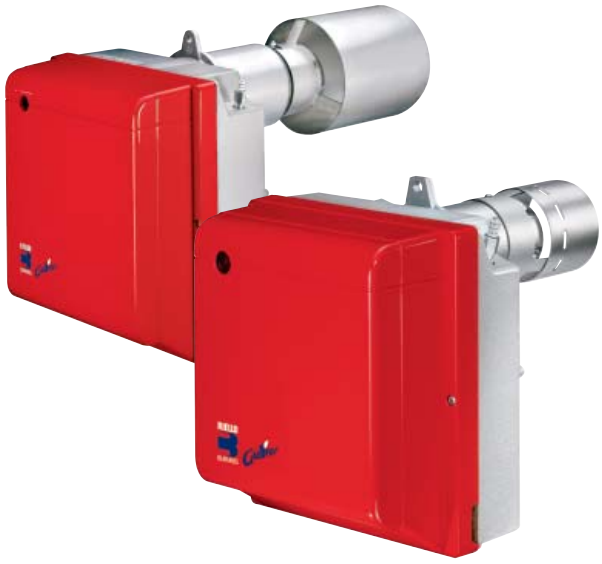
PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ All models	3002731

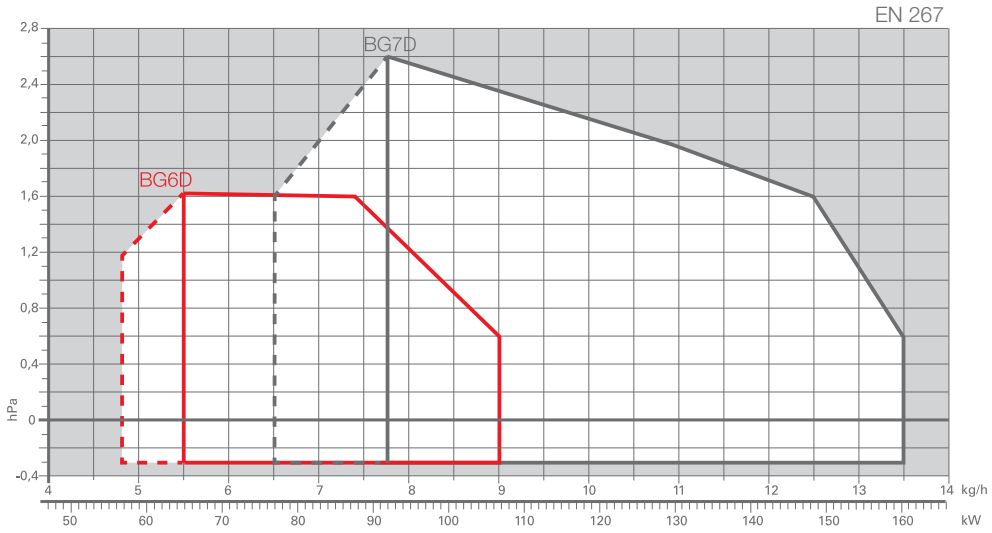
GULLIVER BGD SERIES

The Riello Gulliver BGD series of two stage light oil burners is a complete range of Low NOx products, developed to respond to any request for home heating, conforming to the strictest standards governing the reduction of polluting emissions. The Gulliver BGD series is available in two different models, with an output ranging from 65,2 to 160 kW, divided in two different structures.
All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working. The Gulliver BGD burners are fitted with a microprocessor-based control box, with diagnostic functions.
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
The two stage operation guarantees high level of thermal unit efficiency.
All the models are approved by the EN 267 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Gulliver BGD burners are fired before leaving the factory.



BG6D	56,3/65,2	÷	106,7	kW
BG7D	77/92	÷	160	kW

FIRING RATES



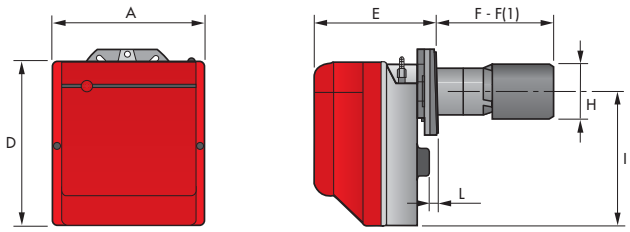
Useful working field for choosing the burner

1st stage operation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

BURNER

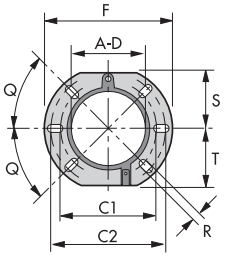


MODEL	A	D	E	F	F(1)	H	I	L
▶ BG6D	300	345	228	284	363	131	285	12
▶ BG7D	300	345	247	394	-	165	285	12

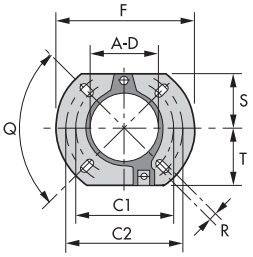
F1: length with extended combustion head

BURNER - BOILER MOUNTING FLANGE

BG6D

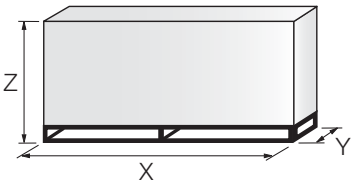


BG7D



MODEL	A	C1	C2	D	F	Q	R	S	T
▶ BG6D	106	140	170	106	189	45°	11	83	83
▶ BG7D	127	160	190	127	213	90°	11	99	99

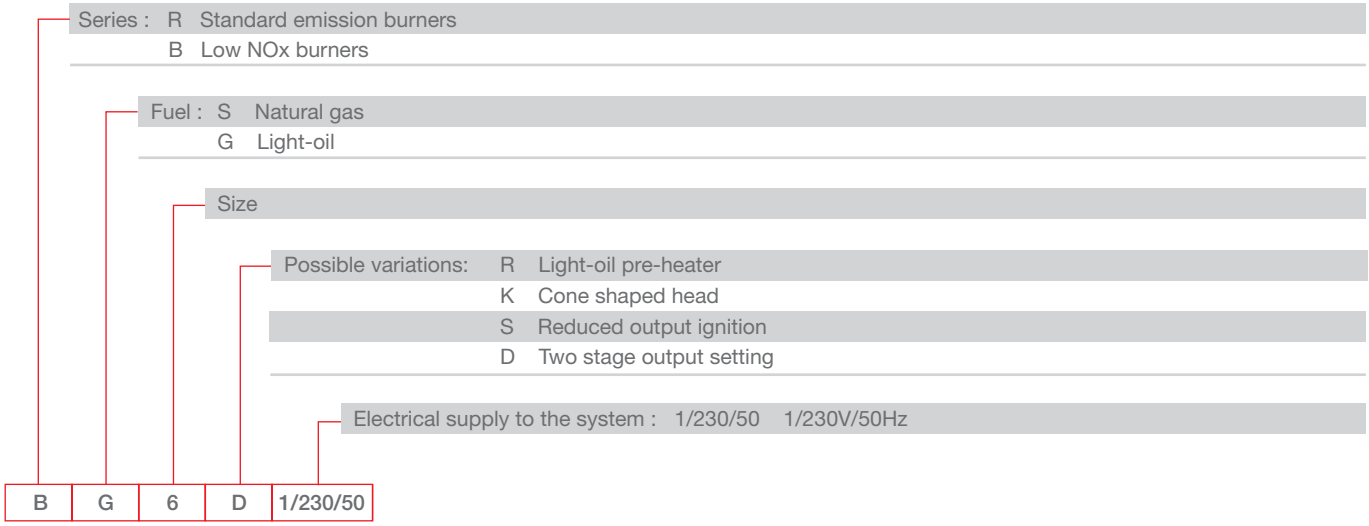
PACKAGING



MODEL	X	Y	Z	kg
▶ BG6D	600	345	430	20
▶ BG7D	600	345	430	20

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Completely automatic monobloc light oil burners, two stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper completely closed in stand by
- Air damper, with 1st and 2nd stage adjustment (2nd stage adjustment without removing the casing)
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - flame stability disk
- Geared pump for fuel supply, fitted with:
    - filter
    - pressure regulator
    - attachments for fitting a pressure gauge and vacuum meter
    - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valve incorporated in the pump
- IRD for flame detection
- Microprocessor-based burner safety control box MO 550, with diagnostic and remote control release functions
- Protection filter against radio interference (included into burner safety control box)
- Light oil nozzle
- IP X0D (IP 40) protection level.

Standard equipment:
- Two flexible pipes for connection to the light oil supply line
- Two nipples for connection to the pump
- Flange, screws and nuts for fixing
- Thermal screen
- 7-pin plug
- 4-pin plug
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3739254	BG6D 1/230/50	56,3/65,2 - 106,7	4,75/5,5 - 9	0,39	CE - 0036 0270/99	
3739258	BG6D TL 1/230/50	56,3/65,2 - 106,7	4,75/5,5 - 9	0,39	CE - 0036 0270/99	
3739154	BG7D 1/230/50	77/92 - 160	6,5/7,75 - 13,5	0,47	CE - 0036 0269/99	

Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).
The burners of BGD series are in according to EN 267.

Burner accessories

Tester

The tester controls the correct working of the burner components. It can be fitted to all the light-oil models, with or without pre-heater.
It is made up of two parts: a control instrument and a “control box”.

BURNER	KIT CODE
▶ All models	3087211

DIRECT TESTING	MEASUREMENTS
M MOTOR The switch feeds the motor.	V L1-N Main voltage (230 V)
VALVE The switch feeds electromagnetic winding of the coil. A red led signals excitation stage, and a green led signals retainer stage.	A Pre-heater current consumption
PRE-HEATER The switch feeds the light oil pre-heater; a green led signals the thermostat cut-in.	V M Secondary voltage (low voltage)
TRANSFORMER The switch feeds the firing transformer inside the control box and excites the oil valve.	A Photo-resistance current consumption

Burner accessories

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

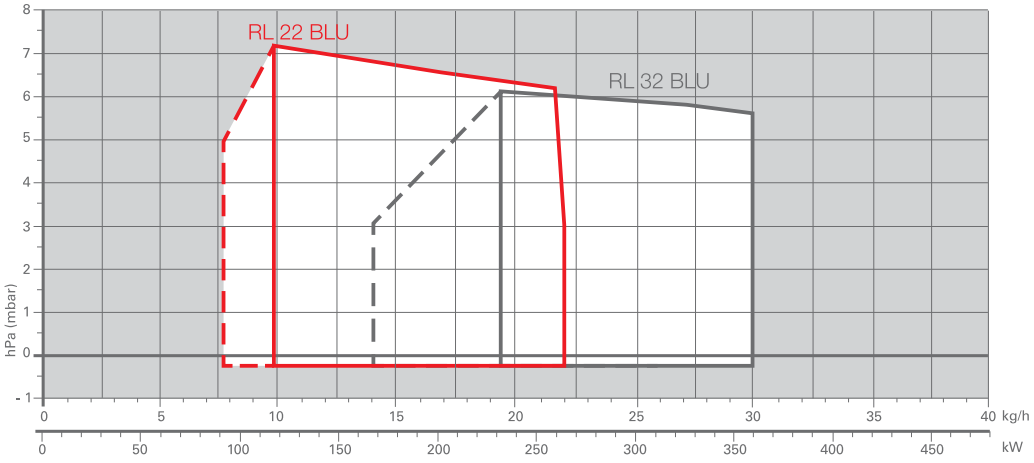
BURNER	KIT CODE
▶ All models	3002731

RL BLU SERIES

The RL BLU series of burners have been designed for use in hot or superheated water boilers, hot air or steam generators, diathermic oil boilers. The series includes two models with output ranging from 116 to 356 kW. A servomotor with three adjustable positions guarantees correct air output and air damper closing when the burner is turned off.
The burners are fitted with an electronic device STATUS PANEL, which supplies complete diagnostic: hour counter, ignition meter, identification of trouble shooting. Special care has been paid to keeping overall dimensions compact, to easy servicing, to design and to noise emissions.
The elevated performance of the fans and combustion head, guarantee flexibility of use and excellent working at all firing rates and low NOx emissions.

RL 22 BLU	89/116	÷	261	kW
RL 32 BLU	166/228	÷	356	kW

FIRING RATES



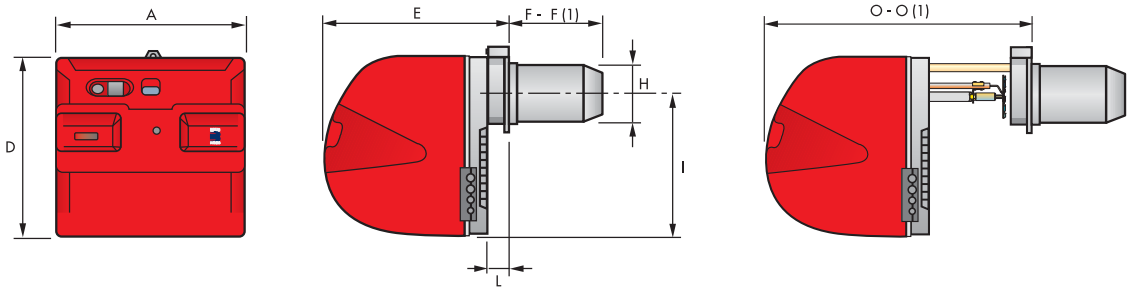
Useful working field for choosing the burner

1st stage operation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

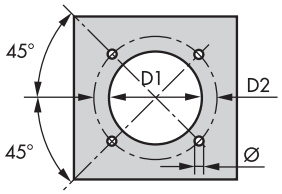
Overall dimensions (mm)

BURNER



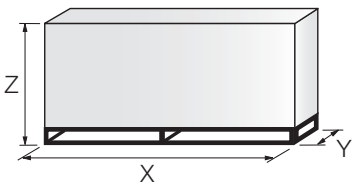
MODEL	A	D	E	F - F (1)	H	I	L	O - O (1)
▶ RL 22 BLU	476	474	468	197 - 276	140	352	52	604 - 739
▶ RL 32 BLU	476	474	468	217 - 293	140	352	52	604 - 739

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RL 22 BLU	160	224	M8
▶ RL 32 BLU	160	224	M8

PACKAGING



MODEL	X	Y	Z	kg
▶ RL 22 BLU	850	540	550	40
▶ RL 32 BLU	850	540	550	41

Specification

DESIGNATION OF SERIES

Series : R

Fuel : S Natural gas
L Light oil
LS Light oil / Natural gas
N Heavy oil

Size

Operation : /1 One stage
... Two stage
/M Modulating
/E Electronic cam
/P Proportioning air/gas valve
/EV Electronic cam predisposed for variable speed (with inverter)

Emission : ... Class 1 EN267 - EN676
MZ Class 2 EN267 - EN676
BLU Class 3 EN267 - EN676
MX Class 2 EN267, Class 3 EN676

Head : TC Standard head
TL Extended head

Flame control system :
FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :
1/230/50 1/230V/50Hz
3/230/50 3/230V/50Hz
3/400/50 3N/400V/50Hz
3/230-400/50 3/230V/50Hz - 3N/400V/50Hz
3/220/60 3/220V/60Hz
3/380/60 3N/380V/60Hz
3/220-380/60 3/220/60Hz - 3N/380V/60Hz

Auxiliary voltage :
230/50-60 230V/50-60Hz
110/50-60 110V/50-60Hz

ID : Differential switch

R	L	22		BLU	TC	FS1	1/230/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught Low NOx oil burner with completely automatic two stage operation, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades
- Air damper for air setting, driven by the adjustable servomotor
- Low emission combustion head, that can be set on the basis of required output
- Gears pump for high pressure fuel supply
- Two oil valves fitted directly on to the pump
- Photocell for flame detection
- Burner safety control box
- Electronic device to check all burners operational modes (status panel)
- Burner on/off switch
- Manual high/low flame switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 1 nozzle
- 2 flexible pipes for connection to the oil supply network
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for electrical connections
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3895110	RL 22 BLU TC ST FS1 1/230/50 230/50-60	89/116-261	7,5/9,8-22	0,6	CE 0036 0308/01	
3895210	RL 32 BLU TC ST FS1 1/230/50 230/50-60	166/228-356	14/19,2-30	0,6	CE 0036 0308/01	

Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4-6 mm^2/s (cSt)
The burners of RL BLU series are in according to 89/336 (2004/108) - 73/23 (2006/95) - 98/37 - 92/42 EC Directive and EN 267.

Burner accessories

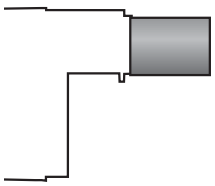
Nozzles

The nozzles of RL 22 and 32 BLU burners are chosen on the basis of the maximum output required from the application.

NOTE: each burner needs N° 1 nozzle.

GPH	RATED DELIVERY [kg/h] AT 8 bar	RATED DELIVERY [kg/h] AT 20 bar	DELAVAN 60°A CODE	MONARCH 60°PLP CODE
2.25	7.4	11.9	3042134	3041132
2.50	8.2	13.4	3042144	3041142
3.00	9.9	16.1	3042148	3041152
3.50	11.5	18.8	3042164	3041162
4.00	13.2	21.5	3042174	3041172
4.50	14.8	24.0	3042184	3041182
5.00	16.5	26.8	3042194	3041192
5.50	18.1	29.5	3042204	3041202
6.00	19.8	32.2	3042214	3041212

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RL 22 BLU	197	276	3010204
▶ RL 32 BLU	217	293	3010205

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RL 22 BLU - RL 32 BLU	C1/3	10	3010403

(*) according to EN 15036-1 standard

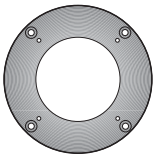
Degasing unit

To solve problem of air in the oil sucked, two versions of degasing unit are available.

BURNER	FILTER	FILTERING DEGREE (µm)	DEGASING UNIT CODE
▶ RL 22 BLU - RL 32 BLU	With filter	50 - 75	3010055
▶ RL 22 BLU - RL 32 BLU	Without filter	-	3010054

Burner accessories

Connection flange kit



A kit is available for use where the burner opening on the boiler is of excessive diameter.

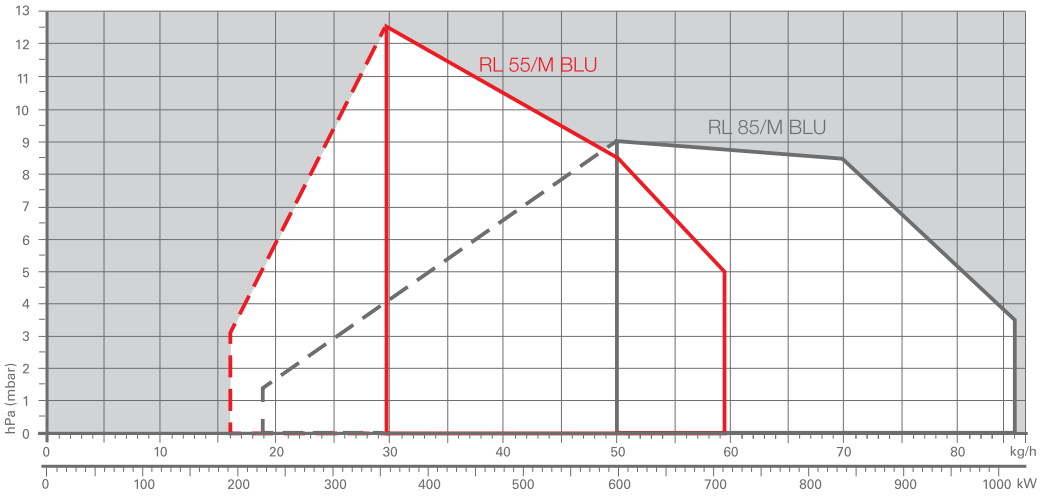
BURNER	KIT CODE
▶ RL 22 BLU - RL 32 BLU	3010138

RL/M BLU SERIES

The RL/M BLU burners series covers a firing range from 360 to 1023 kW, and it has been designed for use in hot or superheated water boilers, hot air or steam generators and diathermic oil boilers.
Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes.
RL/M BLU burners series guarantees high efficiency levels in all applications, thus reducing fuel consumption and running costs.
Sound emissions optimisation is guaranteed by the use of fans with reverse curve blades and sound deadening material incorporated in the air suction circuit.
The exclusive design ensures reduced dimensions, simple use and maintenance. A wide range of accessories guarantees elevated working flexibility.

RL 55/M BLU	190/356	÷	712	kW
RL 85/M BLU	223/594	÷	1023	kW

FIRING RATES



Useful working field for choosing the burner

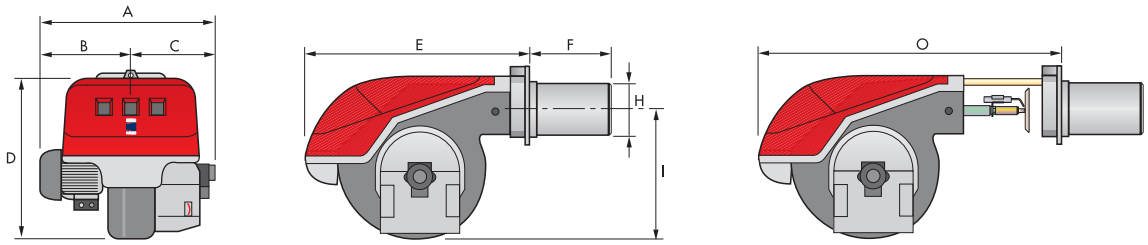
Modulation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

NOTE: *The RL 55-85/M BLU burners are designed exclusively for combustion chambers with flue gas outlet from the bottom, for example three flue gas passes (not reverse flame boilers) accessible through the door. Maximum thickness of the frontal boiler wall: 250 mm.*
Exhaust gases ducts must be always and exclusively directed upwards; change in directions must be realized only by bent elements; the angle between the axis of the stroke coming out of the combustion chamber and the axis of the chimney must be smaller than 45°.

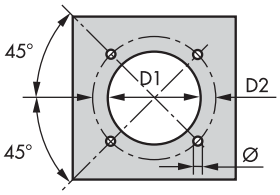
Overall dimensions (mm)

BURNER



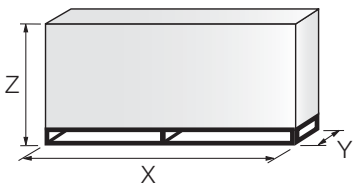
MODEL	A	B	C	D	E	F	H	I	O
▶ RL 55/M BLU	663	296	367	555	680	365	189	430	951
▶ RL 85/M BLU	705	338	367	555	680	365	189	430	951

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RL 55/M BLU	195	275-325	M12
▶ RL 85/M BLU	195	275-325	M12

PACKAGING



MODEL	X	Y	Z	kg
▶ RL 55/M BLU	1270	745	885	65
▶ RL 85/M BLU	1270	745	885	70

Specification

DESIGNATION OF SERIES

Series : R

Fuel : S Natural gas
L Light oil
LS Light oil / Natural gas
N Heavy oil

Size

Setting : /1 One stage
... Two stage
/M Modulating

Emission : ... Class 1 EN267 - EN676
MZ Class 2 EN267 - EN676
BLU Class 3 EN267 - EN676
MX Class 1 EN267 / Class 3 EN676

Head : TC Standard head
TL Extended head

Flame control system :
FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :

1/230/50	1/230V/50Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz

Auxiliary voltage :

230/50-60	230V/50-60Hz
110/50-60	110V/50-60Hz

ID : Differential switch

R	L	85	/M	BLU	TC	FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught oil burner with two stage progressive or modulating setting, with a specific kit, fully automatic, made up of:
- air suction circuit lined with sound-proofing material
- fan with reverse curve blades high performance with low sound emissions
- air damper for air setting and automatic oil output regulator controlled by a servomotor with variable cam
- starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- combustion head, that can be set on the basis of required output, fitted with:
- stainless steel end cone, resistant to corrosion and high temperatures
- ignition electrodes
- flame stability disk
- gears pump for high pressure fuel supply, fitted with:
- filter
- pressure regulator
- connections for installing a pressure gauge and vacuometer
- internal by-pass for single pipe installation
- valve unit with a double oil safety valve on the output circuit and safety valve on the return circuit; double safety valve on the return circuit
- safety oil pressure switch for stop the burner in case of problems in the return circuit
- photocell for flame detection
- burner safety control box, fitted with control function for the correct positioning of the servomotor and possibility of post-ventilation by just changing the electric wiring
- burner on/off switch
- flame inspection window
- manual or automatic output increase/decrease switch
- slide bars for easier installation and maintenance
- protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 4 screws for fixing the burner flange to the boiler
- 1 thermal screen
- wiring loom fittings for electrical connections
- instruction handbook for installation, use and maintenance
- spare parts catalogue.

Available models

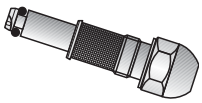
CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3899210	RL 55/M BLU TC FS1 3/230-400/50 230/50-60	190/356-712	16/30-60	2,2	CE050790223001	
3896011	RL 85/M BLU TC FS1 3/230-400/50 230/50-60	223/594-1023	18,8/50-86,2	2,6	CE050790223001	

Other versions, with FS2 (continuous working), are available on request.

Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4-6 mm^2/s (cSt)
The burners of RL/M BLU series are in according to 89/336 (2004/108) - 73/23 (2006/95) - 98/37 - 92/42 EC Directive and EN 267 Norm.

Burner accessories

Nozzles type A3 60°



The return nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

BURNER	RATED DELIVERY (kg/h) (*)	NOZZLE CODE
▶ RL 55-85/M BLU	30	3009867
	40	3009868
	50	3009869
	60	3009870
	90	3009871

(*) Nozzle rated delivery is referred to atomised pressure

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RL 55-85/M BLU	135	3010129

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RL 55-85/M BLU	C4/5	10	3010404

(*) according to EN 15036-1 standard

Degasing unit

To solve problem of air in the oil sucked, two versions of degasing unit are available.

BURNER	FILTER	FILTERING DEGREE (µm)	DEGASING UNIT CODE
▶ RL 55-85/M BLU	With filter	50 - 75	3010055
▶ RL 55-85/M BLU	Without filter	-	3010054

NOTE: *For burner deliveries higher than 80 kg/h, install two parallel degasing units.*

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the RL/M BLU series of burners requires a regulator with three point outlet controls. The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ RL 55-85/M BLU	RWF 40	3010212

The relative temperature or pressure probes fitted to the regulator must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ RL/M BLU	Temperature PT 100	-100 ÷ 500°C	3010110
▶ RL/M BLU	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ RL/M BLU	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor. The KITS available for the various burners are listed below.

BURNER	POTENTIOMETER KIT CODE
▶ RL 55-85/M BLU	3010021

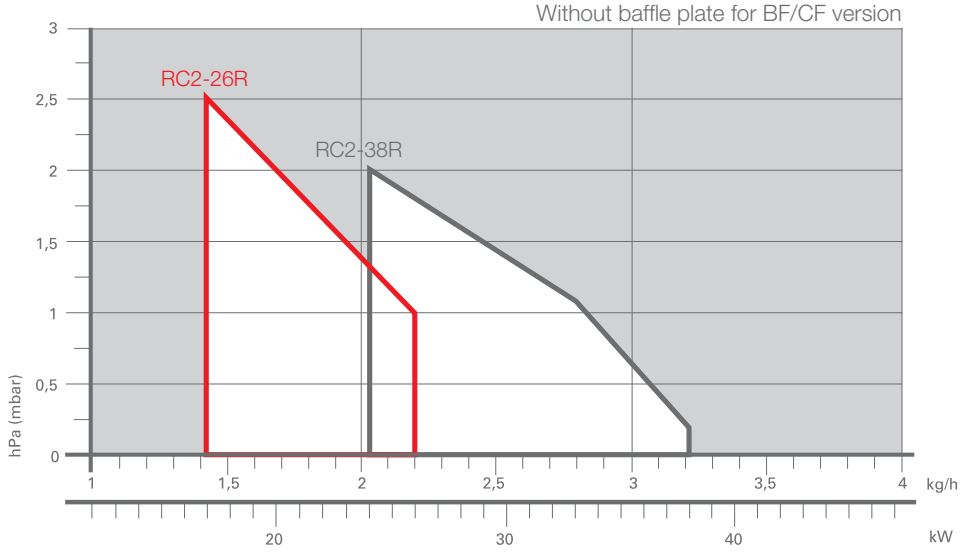
RC SERIES

Riello RC2-R is synonymous with highly compact size. The new burners in the light oil series are one stage with an output ranging from 17 to 46 kW. These burners have been specifically designed to meet the increasing trends towards direct connection to outside air for combustion and high pressure working field demand.
They are also flexible enough to suit both conventional and balanced flue versions, only changing the plastic screen to the snorkel in the air intake. These burners come with or without the cover. This designed marks Riello entry into many applications in the market which require both high performance and compact size. All RC2-R burners are fired before leaving the factory.

RC2-26R	17	÷	26	kW
RC2-38R	24	÷	38	kW
RC2-46R	33	÷	46	kW
RC2.1-46R	33	÷	46	kW

FIRING RATES

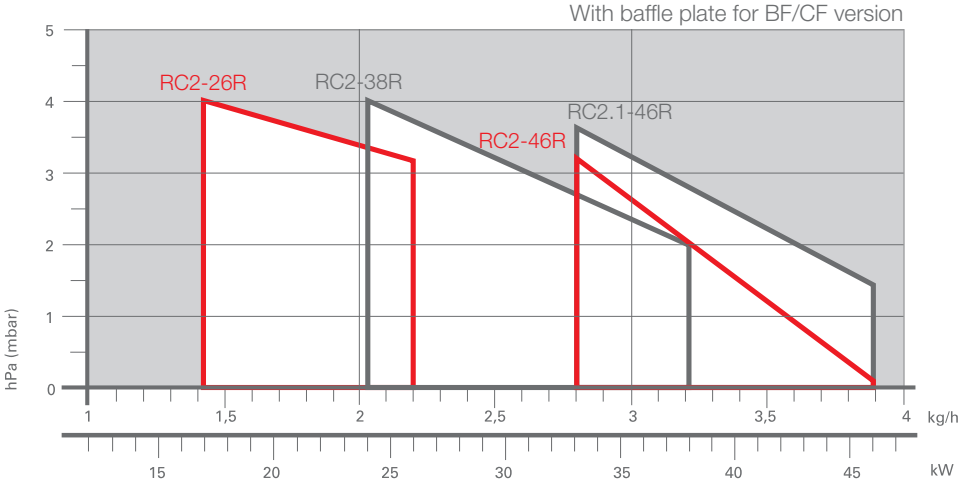
Without baffle plate for BF/CF version



Useful working field for choosing the burner

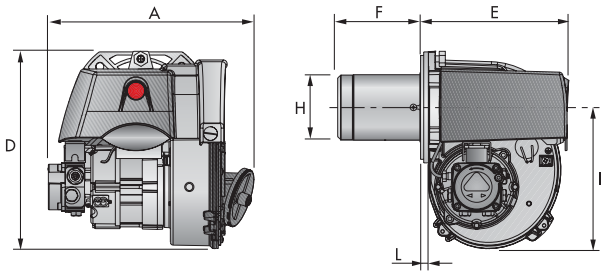
Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

With baffle plate for BF/CF version



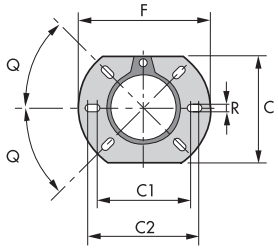
Overall dimensions (mm)

BURNER



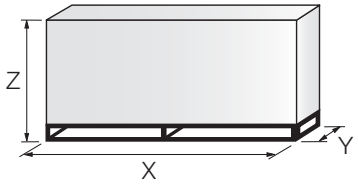
Model	A	D	E	F	H	I	L
▶ RC2-26R	267	256	192	108	85	183	10
▶ RC2-38R	267	256	192	108	85	183	10
▶ RC2-46R	267	256	192	108	85	183	10
▶ RC2.1-46R	267	256	192	108	85	183	10

BURNER - BOILER MOUNTING FLANGE



Model	C	C1	C2	F	Q	R
▶ RC2-26R	144	130	150	180	45°	11
▶ RC2-38R	144	130	150	180	45°	11
▶ RC2-46R	144	130	150	180	45°	11
▶ RC2.1-46R	144	130	150	180	45°	11

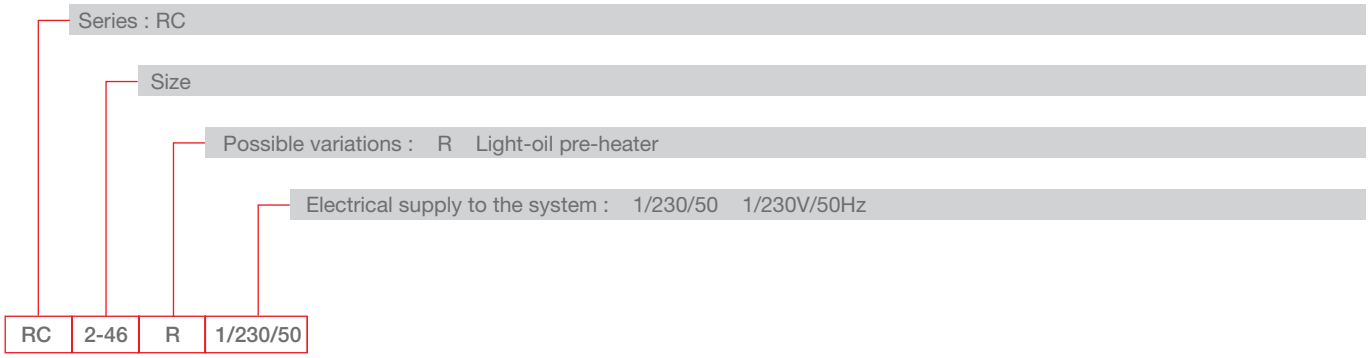
PACKAGING



Model	X	Y	Z	kg
▶ RC2-26R	363	295	310	10
▶ RC2-38R	363	295	310	10
▶ RC2-46R	363	295	310	10
▶ RC2.1-46R	363	295	310	10

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Completely automatic monobloc light oil burners, with single stage operation made up of:
- Forward blades fan and airtight fan house for high performance
- Air damper with adjustment for conventional flue version
- Single phase electric motor 230 V, 50 Hz
- Combustion head made up of:
  - stainless steel end cone resistant to high temperatures
  - ignition electrodes
  - flame stability disk
- Geared pump for fuel supply, fitted with:
  - filter
  - pressure regulator
  - connectors for installing a pressure gauge and vacuometer
  - inner by-pass for preparing for single pipe installation
- Fuel feed solenoid incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- IP X0D (IP 40) protection level.

Standard equipment:
- Two flexible pipes and two connectors
- Flange, screen screws and nuts for fixing
- Cable with 6-pole socket
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3570050	RC2-26R	1/230/50	17 - 26	1,4 - 2,2	0,150	CE 0036 0352/04	
3571050	RC2-38R	1/230/50	24 - 38	2,0 - 3,2	0,150	CE 0036 0352/04	
3572050	RC2-46R	1/230/50	33 - 46	2,8 - 3,9	0,150	CE 0036 0352/04	

Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm²/s (cSt).
The burners of RC series are in according to EN 267.

Kerosene and ULSD
RC series burners can be supplied, on demand, suitable for applications where combustion of Kerosene, Low Sulphur Kerosene and Ultra Low Sulphur Diesel Oil (ULSD) is the chosen fuel.

Burner accessories

Tester

The tester controls the correct working of the burner components. It can be fitted to all the light oil models. It is made up of two parts: a control instruments and a “control box”.

BURNER	KIT CODE
▶ All models	3087215

DIRECT TESTING	MEASUREMENTS
M MOTOR The switch feeds the motor.	V L1-N Main voltage (230 V)
VALVE The switch feeds electromagnetic winding of the coil. A red led signals excitation stage, and a green led signals retainer stage.	A Pre-heater current consumption
PRE-HEATER The switch feeds the light oil pre-heater; a green led signals the thermostat cut-in.	V M Secondary voltage (low voltage)
TRANSFORMER The switch feeds the firing transformer inside the control box and excites the oil valve.	A Photo-resistance current consumption

Burner accessories

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

Balanced flue conversion kit

The RC2-R models are easily converted from conventional flue to balanced flue version, by replacing the plastic air intake with the connector for the air supply pipe.

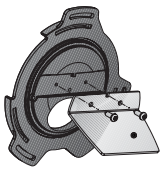
BURNER	KIT CODE
▶ RC2-26R/38R/46R	3002721
▶ RC2.1-46R	3020132

Hour counter kit for 530 SE and 531 SE control boxes

To measure the burner working time a hour counter kit is available.

BURNER	KIT CODE
▶ All models	3000904

Baffle plate kit



To improve the burner ventilation performances a baffle plate kit is available.

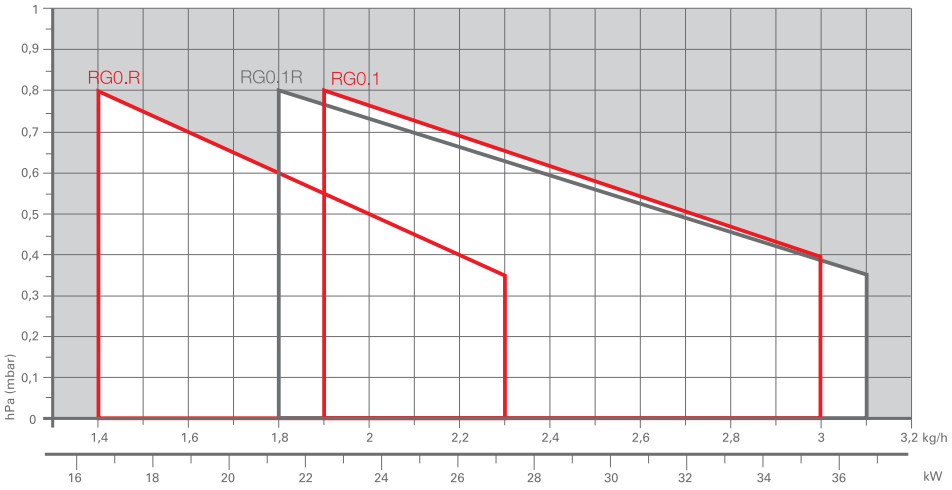
BURNER	KIT CODE
▶ RC2-26R/38R/46R	3002720

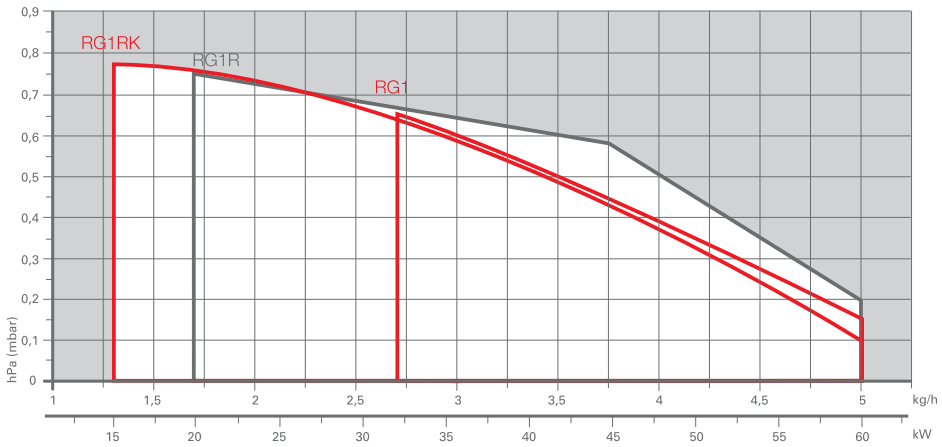
GULLIVER RG SERIES

The Riello Gulliver RG one stage light oil burners series, is a complete range of products developed to respond to any request for home heating. The Gulliver RG series is available in ten different models, with an output ranging from 16,6 to 309,5 kW, divided in five different structures.
All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.
In developing these burners, special attention was paid to reducing noise, to the easiness of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the EN 267 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Gulliver RG burners are fired before leaving the factory.

RG0.R	16,6	÷	27,3	kW
RG0.1	22,5	÷	35,6	kW
RG0.1R	21,3	÷	36,7	kW
RG1	32,0	÷	60,0	kW
RG1R	20,0	÷	60,0	kW
RG1RK	15,0	÷	60,0	kW
RG2	47,0	÷	119,0	kW
RG3	83,0	÷	178,0	kW
RG4S	118,5	÷	237,0	kW
RG5S	160,0	÷	309,5	kW

FIRING RATES

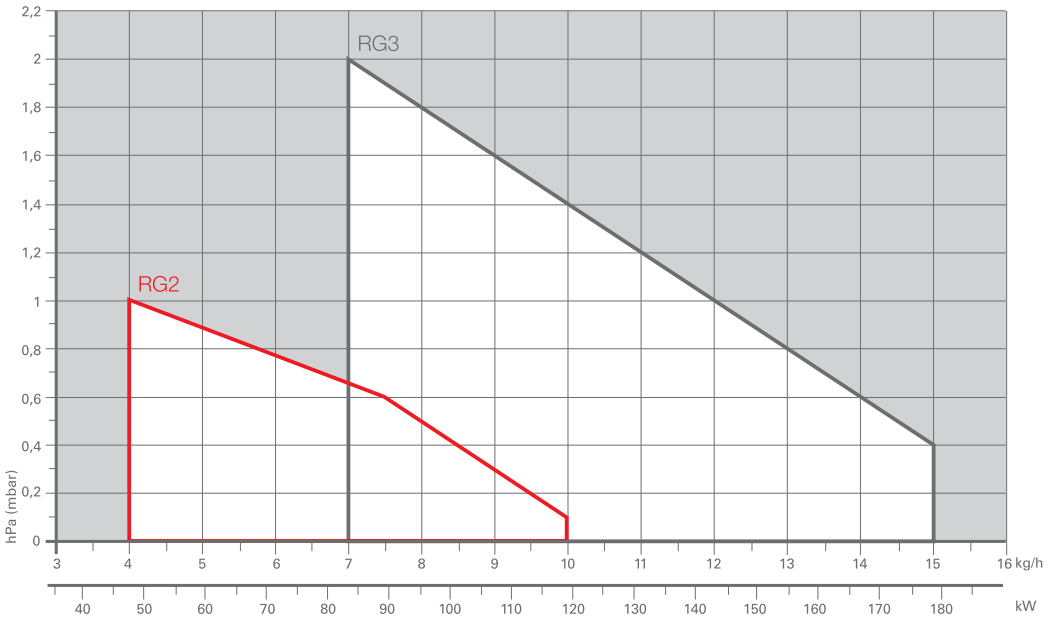


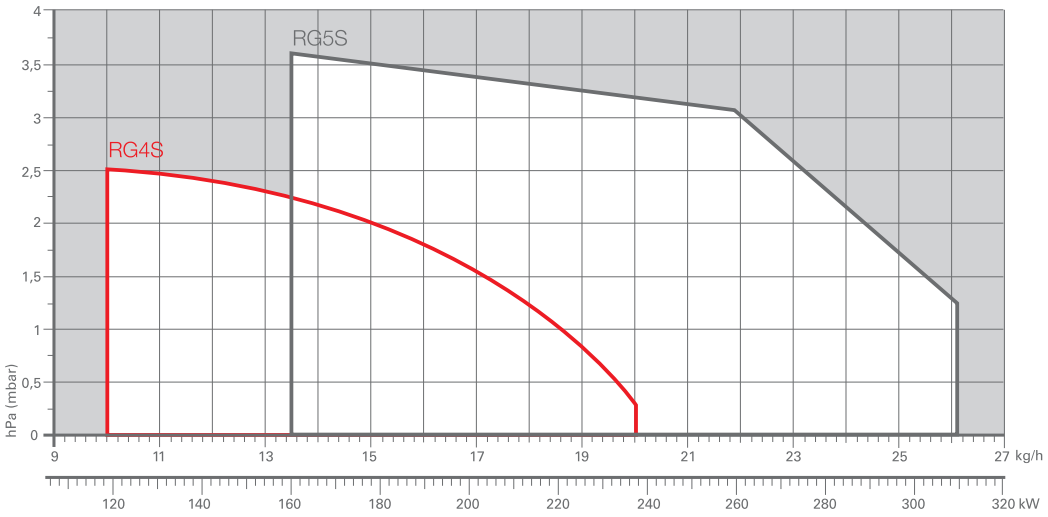


Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

FIRING RATES





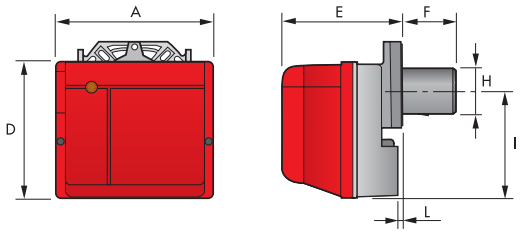
Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

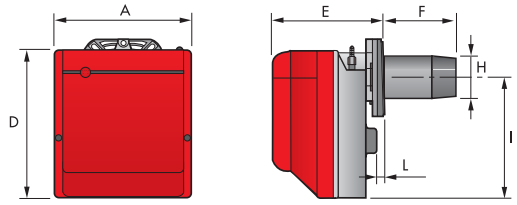
Overall dimensions (mm)

BURNER

GULLIVER RG0



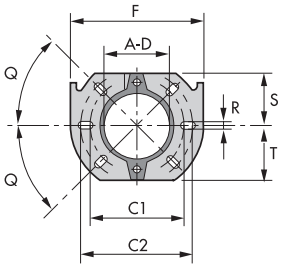
GULLIVER RG



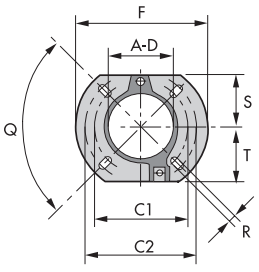
MODEL	A	D	E	F	H	I	L
▶ RG0.R	255	210	205	93	84	168	5
▶ RG0.1R	255	210	205	93	84	168	5
▶ RG0.1	255	210	205	93	84	168	5
▶ RG1	234	254	196	93	84	210	4
▶ RG1R	234	254	196	93	84	210	4
▶ RG1RK	234	254	196	111	84	210	4
▶ RG2	255	280	202	115	95	230	10
▶ RG3	300	345	228	142	123	285	12
▶ RG4S	300	345	228	142	123	285	12
▶ RG5S	300	345	247	155	125	285	12,5

BURNER - BOILER MOUNTING FLANGE

RG0.R - RG0.1R - RG0.1
RG1 - RG1R - RG1RK - RG2

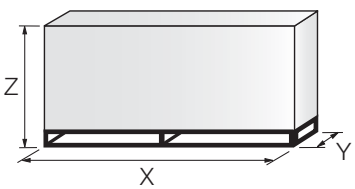


RG3 - RG4S
RG5S



MODEL	A-D	C1	C2	F	Q	R	S	T
▶ RG0.R - RG0.1R - RG0.1 RG1 RG1R - RG1RK	91	130	150	180	45°	11	72	72
▶ RG2	106	140	168	189	45°	11	83	83
▶ RG3 - RG4S - RG5S	127	160	190	213	90°	11	99	99

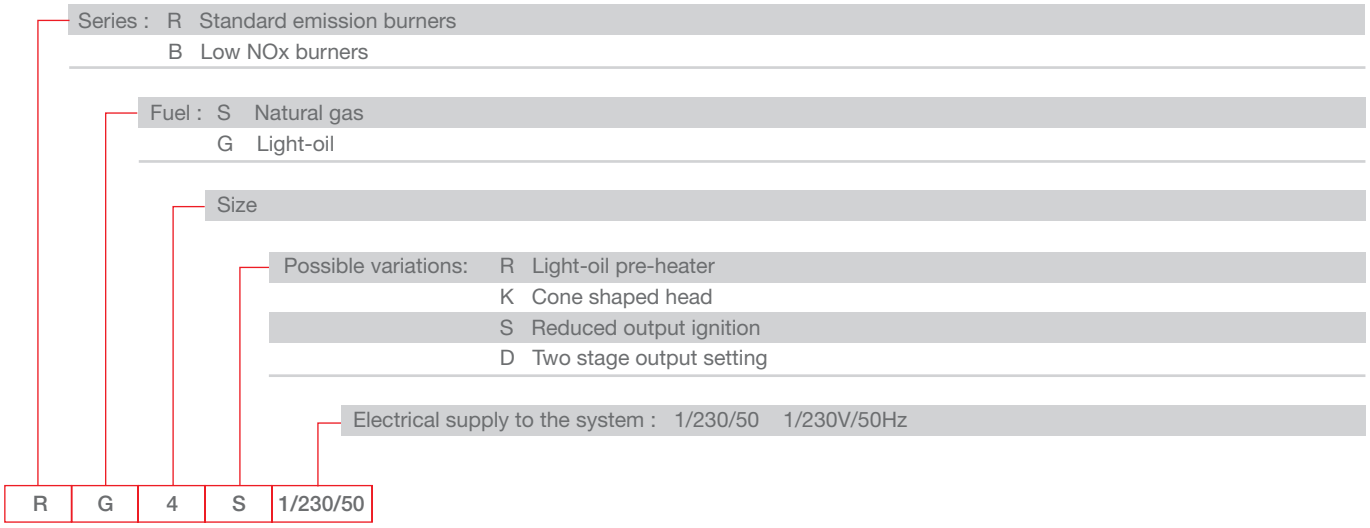
PACKAGING



MODEL	X	Y	Z	kg
▶ RG0.R	358	300	300	9
▶ RG0.1R	358	300	300	9
▶ RG0.1	358	300	300	11
▶ RG1	353	278	320	13
▶ RG1R	353	278	320	13
▶ RG1RK	353	278	320	13
▶ RG2	363	298	350	13
▶ RG3	430	345	430	15
▶ RG4S	430	345	430	18
▶ RG5S	510	345	430	18

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Completely automatic monobloc light oil burners, one stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, with external adjustment, without need to remove the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - flame stability disk
- Geared pump for fuel supply, fitted with:
    - filter
    - pressure regulator
    - attachments for fitting a pressure gauge and vacuum meter
    - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valve incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- Light oil nozzle
- IP X0D (IP 40) protection level
- PTC fuel pre-heater (optional)
- Reduced output ignition mechanism (optional).

Standard equipment:
- Two flexible pipes for connection to the light oil supply line
- Two nipples for connection to the pump
- Flange, screws and nuts for fixing
- Thermal screen
- 7-pin plug (not included in models with digital control box MO 550)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
MODELS WITH ANALOGIC CONTROL BOX							
3736550	RG0.R	1/230/50	16,6 - 27,3	1,4 - 2,3	0,290	CE - 0036 0272/99	
3736850	RG0.1	1/230/50	22,5 - 35,6	1,9 - 3,0	0,170	CE - 0036 0294/00	
3736750	RG0.1R	1/230/50	21,3 - 36,7	1,8 - 3,1	0,290	CE - 0036 0273/99	
3736350	RG1	1/230/50	32 - 60	2,7 - 5	0,170	CE - 0036 0341/03	
3736450	RG1R	1/230/50	20 - 60	1,7 - 5	0,290	CE - 0036 0341/03	
3736250	RG1RK	1/230/50	15 - 60	1,3 - 5	0,290	CE - 0036 0341/03	
3737750	RG2	1/230/50	47 - 119	4 - 10	0,180	CE - 0036 0344/03	
3739350	RG3	1/230/50	83 - 178	7 - 15	0,390	CE - 0036 0348/04	
3739650	RG4S	1/230/50	118,5 - 237	10 - 20	0,390	CE - 0036 0348/04	
3739950	RG5S	1/230/50	160 - 309,5	13,5 - 26,1	0,470	CE - 0036 0310/01	
MODELS WITH DIGITAL CONTROL BOX MO 550							
3736554	RG0.R	1/230/50	16,6 - 27,3	1,4 - 2,3	0,290	CE - 0036 0272/99	
3736254	RG1RK	1/230/50	15 - 60	1,3 - 5	0,290	CE - 0036 0341/03	
3737754	RG2	1/230/50	47 - 119	4 - 10	0,180	CE - 0036 0344/03	
3739354	RG3	1/230/50	83 - 178	7 - 15	0,390	CE - 0036 0348/04	
3739654	RG4S	1/230/50	118.5 - 237	10 - 20	0,390	CE - 0036 0348/04	

Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).
The burners of RG series are in according to EN 267.
On demand all RG burners can be supplied with digital control box MO 550.

Bio fuels

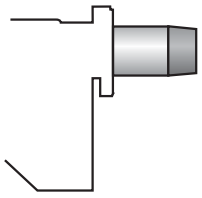
Riello Burners is able to offer technical variants which allow burners to be used within environmental heating, process or special applications. These applications now include solutions for liquid Bio fuels (I.e. biodiesel and vegetable oil).
Our experience in research and development and field applications with organic origin Bio fuels has resulted in Riello being able to offer a wide range of solutions for the combustion of Bio fuels.

Kerosene and ULSD

Gulliver RG series burners can be supplied, on demand, suitable for applications where combustion of Kerosene, Low Sulphur Kerosene and Ultra Low Sulphur Diesel Oil (ULSD) is the chosen fuel.
These burner variants can be provided upon request and after a technical-commercial evaluation; for more information please contact Riello Burners Commercial and Technical Department, our Application Engineers will be pleased to help you.

Burner accessories

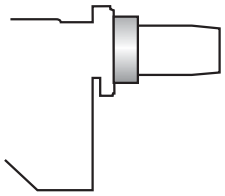
Extended head kit



Kits of extended heads are available.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RG1 - RG1R	93	163	3000963
▶ RG1RK	111	181	3000982
▶ RG2	115	180	3000964
▶ RG2	115	300	3000967
▶ RG3	142	210	3000965
▶ RG3	142	300	3000968
▶ RG4S	142	210	3000966
▶ RG4S	142	300	3000969
▶ RG5S	155	300	3001068

Spacer kit



By using the special accessories, the burner can be with-drawn to reduce head penetration into the combustion chamber.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RG0.R - RG0.1R - RG0.1 - RG1 - RG1R - RG1RK	15	3007931
▶ RG2	25	3000672
▶ RG3 - RG4S - RG5S	25	3000673

Pre-heater kit

This kit is used only for Gulliver RG1 burner. It can be installed in particular weather conditions and with viscous oil.

BURNER	KIT CODE
▶ RG1	3001083

Burner accessories

Control box MO 550, sensor flame and short circuit plug

On request, we can supply a more efficient control box with following features:
- Digital technology
- Post-ignition of 3 seconds after safety time (total ignition time of 8 seconds)
- Multi-color LED signalling the various working stage
- Visual or PC interface diagnostic functions through multi-color LED device
- Remote lock-out reset (the connection is supplied with the MO 550 accessory)
- Recycling for 3 attemps if there is flame failure during operation
- Programmable post-purge (up to 6 minutes), continuous purge, long pre-purge (2 minutes)
- Post-combustion lock-out
- Logging of burner operation parameters (for example operating time, number and type of lock-outs)

BURNER	KIT CODE
▶ RG0.R - RG0.1R - RG0.1 - RG1R - RG1RK	3001168+3007492
▶ RG1 - RG2 - RG3 - RG4S - RG5S	3001168+3007492+3007792

Tester

The tester controls the correct working of the burner components. It can be fitted to all the light-oil models, with or without pre-heater. It is made up of two parts: a control instrument and a “control box”.

BURNER	KIT CODE
▶ All models	3087211

DIRECT TESTING	MEASUREMENTS
M MOTOR The switch feeds the motor.	V L1-N Main voltage (230 V)
VALVE The switch feeds electromagnetic winding of the coil. A red led signals excitation stage, and a green led signals retainer stage.	A Pre-heater current consumption
PRE-HEATER The switch feeds the light oil pre-heater; a green led signals the thermostat cut-in.	V M Secondary voltage (low voltage)
TRANSFORMER The switch feeds the firing transformer inside the control box and excites the oil valve.	A Photo-resistance current consumption

Burner accessories

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

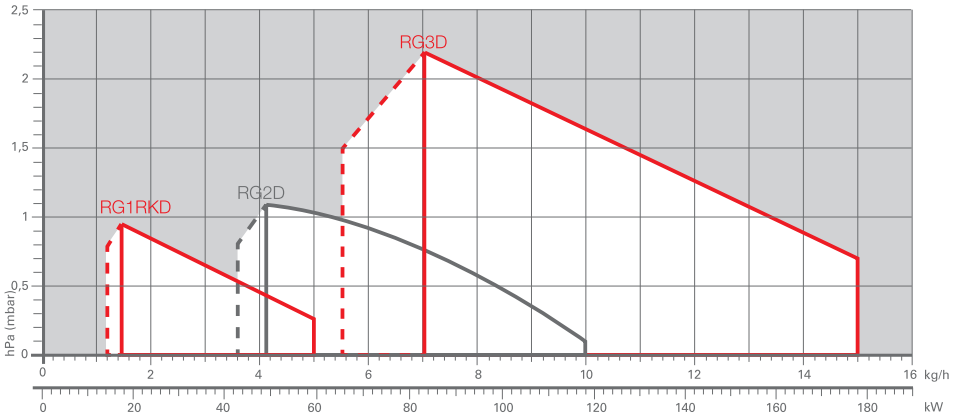
BURNER	KIT CODE
▶ RG0.R - RG1RK - RG2 - RG3 - RG4S	3002731

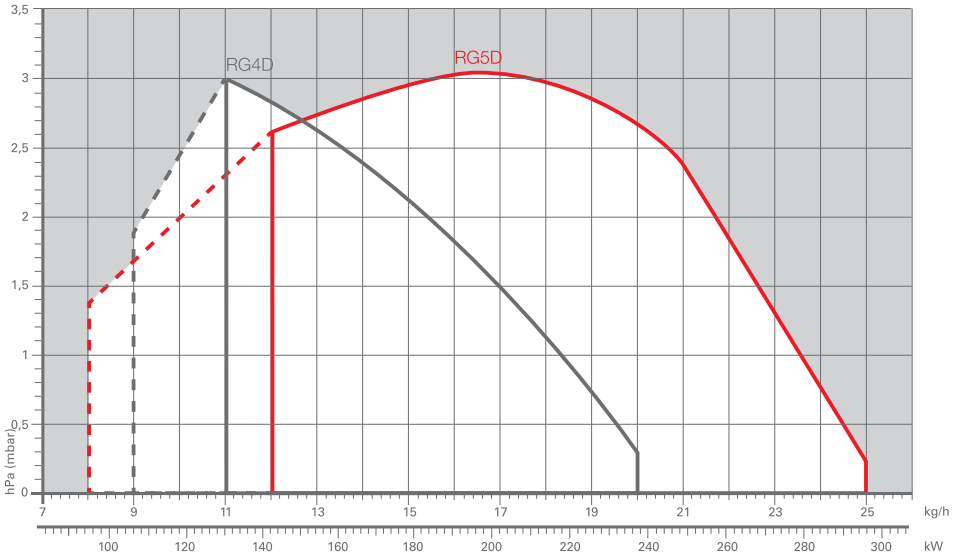
GULLIVER RGD SERIES

The Riello Gulliver RGD series of two stage light oil burners, is a complete range of products developed to respond to any request for home heating. The Gulliver RGD series is available in five different models, with an output ranging from 14 to 296 kW, divided in four different structures.
All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
The two stage operation guarantees high level of thermal unit efficiency.
All the models are approved by the EN 267 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Gulliver RGD burners are fired before leaving the factory.

RG1RKD	14/17	÷	60	kW
RG2D	42/49	÷	118	kW
RG3D	65/83	÷	178	kW
RG4D	106/130	÷	237	kW
RG5D	95/142	÷	296	kW

FIRING RATES





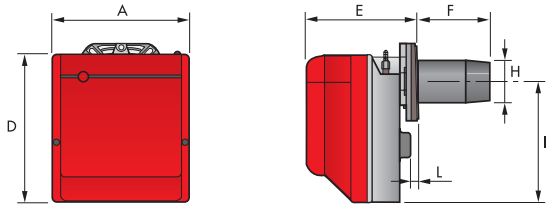
Useful working field for choosing the burner

1st stage operation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

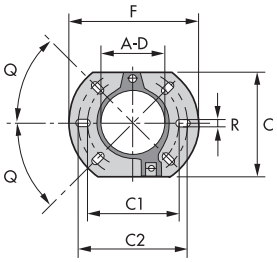
Overall dimensions (mm)

BURNER



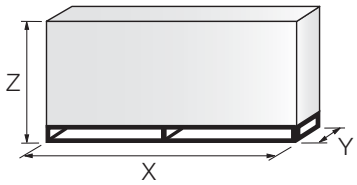
MODEL	A	D	E	F	H	I	L
▶ RG1RKD	234	254	196	111	84	210	4
▶ RG2D	255	280	202	115	95	230	10
▶ RG3D	300	345	228	142	123	285	12
▶ RG4D	300	345	228	142	123	285	12
▶ RG5D	300	345	247	159	125	285	12,5

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	Q	R
▶ RG1RKD	91	144	130	150	91	180	45°	11
▶ RG2D	106	166	140	168	106	189	45°	11
▶ RG3D	127	198	160	190	127	213	45°	11
▶ RG4D	127	198	160	190	127	213	45°	11
▶ RG5D	127	198	160	190	127	213	45°	11

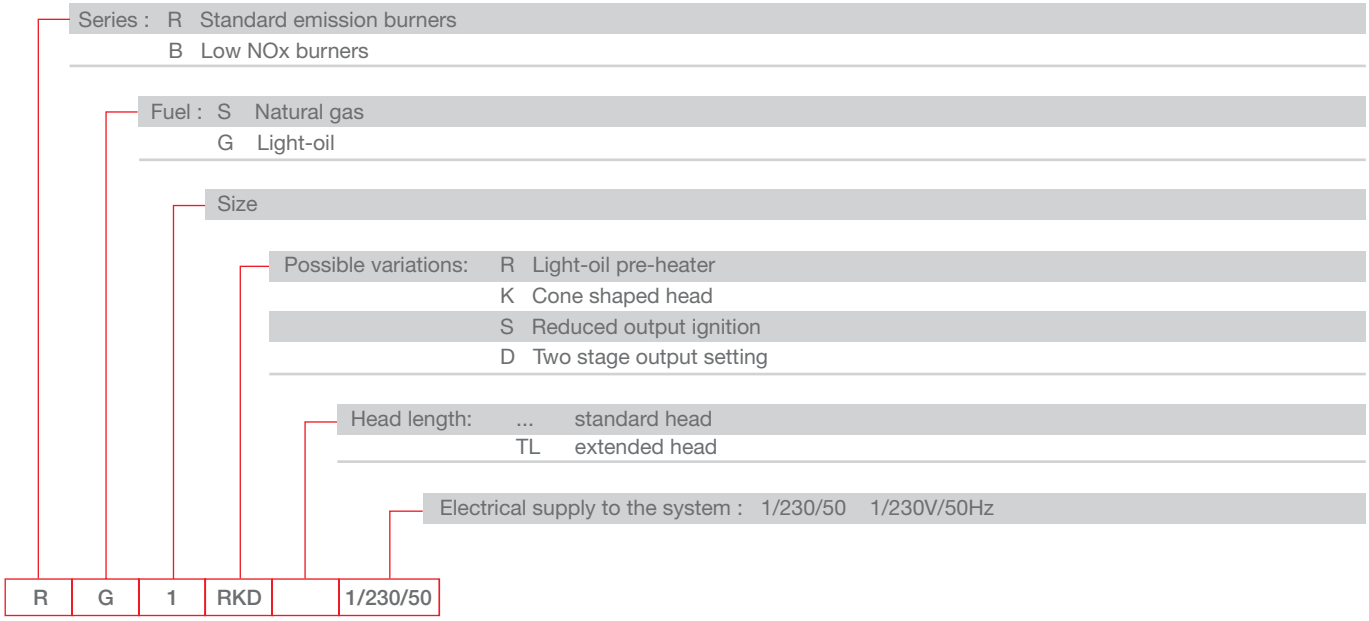
PACKAGING



MODEL	X	Y	Z	kg
▶ RG1RKD	353	278	320	12
▶ RG2D	363	298	350	13
▶ RG3D	430	345	430	13
▶ RG4D	430	345	430	13
▶ RG5D	510	345	440	18

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Completely automatic monobloc light oil burners, two stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper completely closed in stand by
- Air damper, with 1st and 2nd stage adjustment (2nd stage adjustment without removing the casing)
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - flame stability disk
- Geared pump for fuel supply, fitted with:
    - filter
    - pressure regulator
    - attachments for fitting a pressure gauge and vacuum meter
    - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valve incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- Light oil nozzle
- IP X0D (IP 40) protection level
- PTC fuel pre-heater (optional).

Standard equipment:
- Two flexible pipes for connection to the light oil supply line
- Two nipples for connection to the pump
- Flange, screws and nuts for fixing
- Thermal screen
- 7-pin plug (not included in models with digital control box MO 550)
- 4-pin plug
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

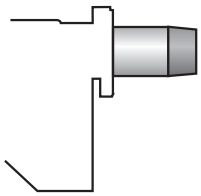
CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
MODELS WITH ANALOGIC CONTROL BOX							
3736650	RG1RKD	1/230/50	14/17 - 60	1,2/1,45 - 5	0,290	CE - 0036 0347/04	
3738050	RG2D	1/230/50	42/49 - 118	3,6/4,1 - 10	0,180	CE - 0036 0348/04	
3739450	RG3D	1/230/50	65/83 - 178	5,5/7 - 15	0,390	CE - 0036 0298/00	
3739750	RG4D	1/230/50	106/130 - 237	9/11 - 20	0,390	CE - 0036 0348/04	
3739850	RG5D	1/230/50	95/142 - 296	8/12 - 25	0,470	CE - 0036 0325/01	
MODELS WITH DIGITAL CONTROL BOX MO 550							
3736654	RG1RKD	1/230/50	14/17-60	1,2/1,45-5	0,290	CE - 0036 0347/04	
3738054	RG2D	1/230/50	42/49-118	3,6/4,1-10	0,180	CE - 0036 0348/04	
3738058	RG2D TL	1/230/50	42/49-118	3,6/4,1-10	0,180	CE - 0036 0348/04	
3739454	RG3D	1/230/50	65/83-178	5,5/7-15	0,390	CE - 0036 0298/00	
3739458	RG3D TL	1/230/50	65/83-178	5,5/7-15	0,390	CE - 0036 0298/00	
3739754	RG4D	1/230/50	106/130-237	9/11-20	0,390	CE - 0036 0348/04	
3739758	RG4D TL	1/230/50	106/130-237	9/11-20	0,390	CE - 0036 0348/04	
3739854	RG5D	1/230/50	95/142-296	8/12-25	0,470	CE - 0036 0325/01	
3739858	RG5D TL	1/230/50	95/142-296	8/12-25	0,470	CE - 0036 0325/01	

Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).
The burners of RGD series are in according to EN 267.

Kerosene and ULSD
Gulliver RGD series burners can be supplied, on demand, suitable for applications where combustion of Kerosene, Low Sulphur Kerosene and Ultra Low Sulphur Diesel Oil (ULSD) is the chosen fuel.

Burner accessories

Extended head kit

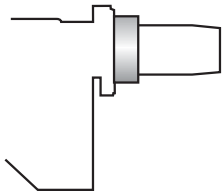


Kits of extended heads are available.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RG1RKD	111	181	3000982
▶ RG2D	115	180	3000964
▶ RG2D	115	300	3000967
▶ RG3D	142	210	3000965
▶ RG3D	142	300	3000968
▶ RG4D	142	210	3000966
▶ RG4D	142	300	3000969
▶ RG5D	159	300	3000981

Burner accessories

Spacer kit



By using the special accessories, the burner can be with-drawn to reduce head penetration into the combustion chamber.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RG1RKD	15	3007931
▶ RG2D	25	3000672
▶ RG3D - RG4D - RG5D	25	3000673

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RG1RKD - RG2D - RG3D - RG4D - RG5D	3002731

Burner accessories

Control box MO 550, sensor flame and short circuit plug

On request, we can supply a more efficient control box with following features:
- Digital technology
- Post-ignition of 3 seconds after safety time (total ignition time of 8 seconds)
- Multi-color LED signalling the various working stage
- Visual or PC interface diagnostic functions through multi-color LED device
- Remote lock-out reset (the connection is supplied with the MO 550 accessory)
- Recycling for 3 attemps if there is flame failure during operation
- Programmable post-purge (up to 6 minutes), continuous purge, long pre-purge (2 minutes)
- Post-combustion lock-out
- Logging of burner operation parameters (for example operating time, number and type of lock-outs)

BURNER	KIT CODE
▶ RG1RKD	3001168+3007492
▶ RG2D - RG3D - RG4D - RG5D	3001168+3007492+3007792

Tester

The tester controls the correct working of the burner components. It can be fitted to all the light-oil models, with or without pre-heater. It is made up of two parts: a control instrument and a “control box”.

BURNER	KIT CODE
▶ All models	3087211

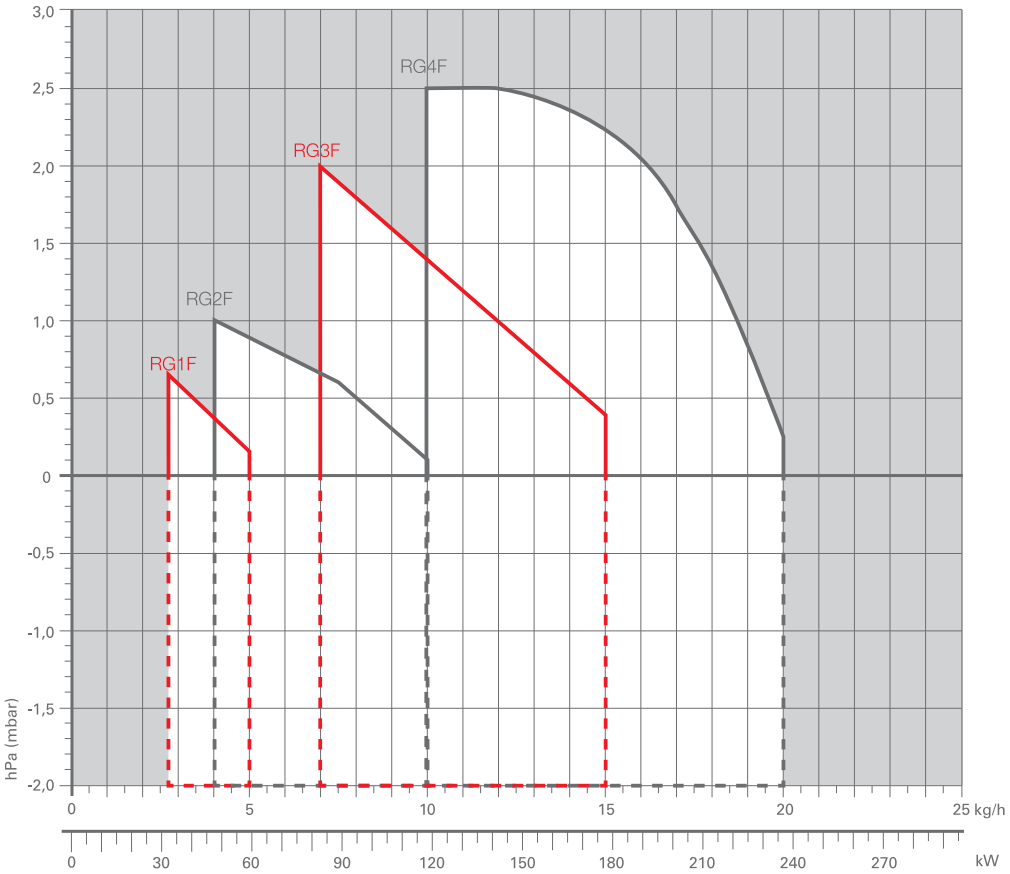
DIRECT TESTING	MEASUREMENTS
(M) MOTOR The switch feeds the motor.	(V) L1-N Main voltage (230 V)
VALVE The switch feeds electromagnetic winding of the coil. A red led signals excitation stage, and a green led signals retainer stage.	(A) Pre-heater current consumption
PRE-HEATER The switch feeds the light oil pre-heater; a green led signals the thermostat cut-in.	(V) (M) Secondary voltage (low voltage)
TRANSFORMER The switch feeds the firing transformer inside the control box and excites the oil valve.	(A) Photo-resistance current consumption

GULLIVER RGF SERIES

The Riello Gulliver RGF series of one stage light oil burners, is a complete range of products developed to respond to any request for light industrial processes like bakery ovens, spray painting ovens, small steam or thermal boilers and all applications which require a reliable, user-friendly industrial product with enhanced performance and specific functions.
The Gulliver RGF series is available in four different models, with an output ranging from 32 to 237 kW, divided in three different structures.
All the models use the same components designed by Riello for the Gulliver series and have the same ventilation system and overall dimensions as the previous one stage light oil models.
This new series can operates on 50 or 60 Hz and a Voltage 220 - 230 Volt (dual frequency).
All these burners are conform to the EN 267 Standard (Forced draught oil burners) and to European Directives for EMC, Low Voltage and Machinery. For depressurised working field see EN 746-2 Standard.
All the Gulliver RGF burners are fired before leaving the factory.

RG1F	32,0	÷	60,0	kW
RG2F	47,0	÷	119,0	kW
RG3F	83,0	÷	178,0	kW
RG4F	118,5	÷	237,0	kW

FIRING RATES



Useful working field for choosing the burner

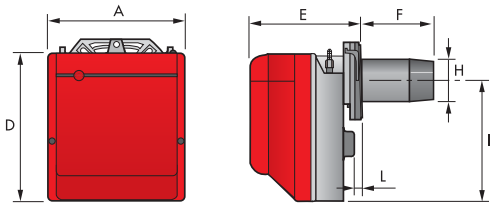
Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

IMPORTANT:
For the part of the working field that is depressurised, refer to EN 746-2 Standard.

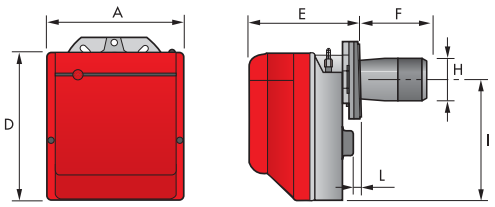
Overall dimensions (mm)

BURNER

GULLIVER RG1F



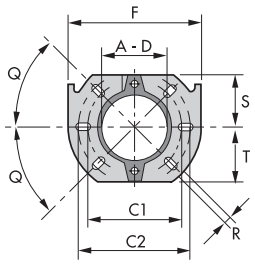
GULLIVER RG2F - RG3F - RG4F



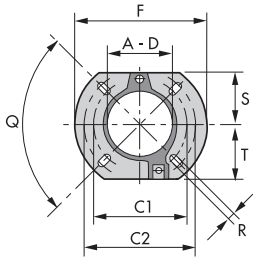
MODEL	A	D	E	F	H	I	L
▶ RG1F	234	254	196	93	84	210	4
▶ RG2F	255	280	202	115	95	230	10
▶ RG3F	300	345	228	142	123	285	12
▶ RG4F	300	345	228	142	125	285	12

BURNER - BOILER MOUNTING FLANGE

GULLIVER RG1F - RG2F

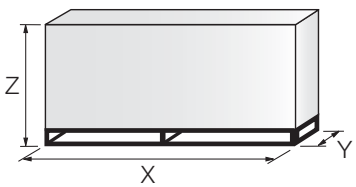


GULLIVER RG3F - RG4F



MODEL	A	C1	C2	D	F	Q	R	S	T
▶ RG1F	91	130	150	91	180	45°	11	72	72
▶ RG2F	106	140	168	106	189	45°	11	83	83
▶ RG3F	127	160	190	127	213	90°	11	99	99
▶ RG4F	127	160	190	127	213	90°	11	99	99

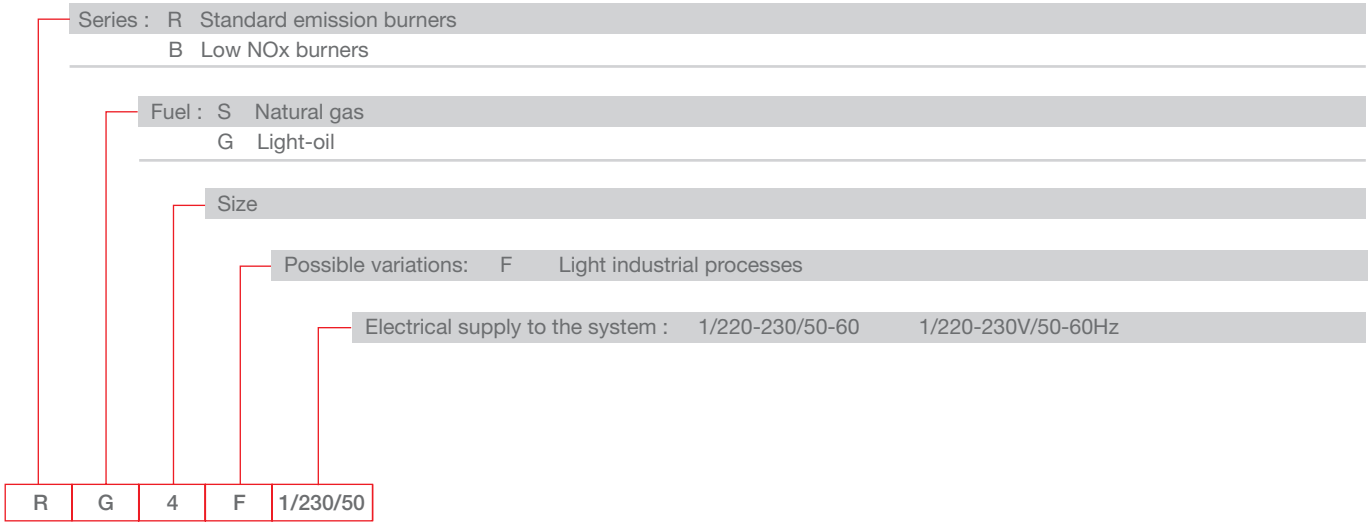
PACKAGING



MODEL	X	Y	Z	kg
▶ RG1F	353	278	320	13
▶ RG2F	363	298	350	13
▶ RG3F	430	345	430	15
▶ RG4F	430	345	430	18

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Completely automatic monobloc light oil burners, with one stage operation fitted with:
- Fan with forward curve blades
- Cover lined with sound - proofing material
- Air damper, always open in stand by, with external adjustment, without need to remove the cover
- Single phase electric motor 220 - 230 V, 50 - 60 Hz
- Combustion head fitted with:
  - stainless steel head cone, resistant to high temperatures
  - ignition electrodes
  - flame stability disk
- Geared pump for fuel supply, fitted with:
  - filter
  - pressure regulator
  - attachments for fitting a pressure gauge and vacuum meter
  - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valve incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- Light oil nozzle
- IP X0D (IP 40) protection level
- PTC fuel pre-heater.

Standard equipment:
- Flange with insulating gasket
- Screw and nuts for flange
- 7-pin plug
- Screw and nuts for flange to be fixed to the heat generator
- Flexible oil pipes with nipples
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

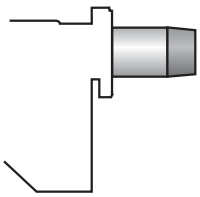
CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3736370	RG1F	1/220-230/50-60	32 - 60	2,7 - 5	0,155 (at 50Hz) - 0,200 (at 60 Hz)	CE 0036 0341/03	
3737770	RG2F	1/220-230/50-60	47 - 119	4 - 10	0,165 (at 50Hz) - 0,220 (at 60 Hz)	CE 0036 0344/03	
3739370	RG3F	1/220-230/50-60	83 - 178	7 - 15	0,380 (at 50Hz) - 0,520 (at 60 Hz)	CE 0036 0348/04	
3739670	RG4F	1/220-230/50-60	118,5 - 237	10 - 20	0,370 (at 50Hz) - 0,510 (at 60 Hz)	CE 0036 0348/04	

Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm²/s (cSt).
The burners of RGF series are in according to EN 267 and 746-2.

Kerosene and ULSD
Gulliver RGF series burners can be supplied, on demand, suitable for applications where combustion of Kerosene, Low Sulphur Kerosene and Ultra Low Sulphur Diesel Oil (ULSD) is the chosen fuel.

Burner accessories

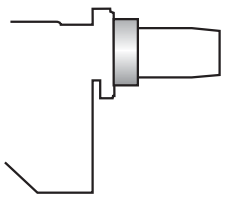
Extended head kit



Kits of extended heads are available.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RG1F	93	163	3000963
▶ RG2F	115	180	3000964
▶ RG2F	115	300	3000967
▶ RG3F	142	210	3000965
▶ RG3F	142	300	3000968
▶ RG4F	142	210	3000966
▶ RG4F	142	300	3000969

Spacer kit



By using the special accessories, the burner can be with-drawn to reduce head penetration into the combustion chamber.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RG1F	15	3007931
▶ RG2F	25	3000672
▶ RG3F - RG4F	25	3000673

Pre-heater kit

This kit is used only for Gulliver RG1F burner. It can be installed in special atmospheric conditions (low temperatures), with high diesel oil viscosity and with low deliveries.

BURNER	KIT CODE
▶ RG1F	3001083

Burner accessories

Control box MO 550, sensor flame and short circuit plug

On request, we can supply a more efficient control box with following features:
- Digital technology
- Post-ignition of 3 seconds after safety time (total ignition time of 8 seconds)
- Multi-color LED signalling the various working stage
- Visual or PC interface diagnostic functions through multi-color LED device
- Remote lock-out reset (the connection is supplied with the MO 550 accessory)
- Recycling for 3 attemps if there is flame failure during operation
- Programmable post-purge (up to 6 minutes), continuous purge, long pre-purge (2 minutes)
- Post-combustion lock-out
- Logging of burner operation parameters (for example operating time, number and type of lock-outs)

BURNER	KIT CODE
▶ All models	3001168+3007492+3007792

Tester

The tester controls the correct working of the burner components. It can be fitted to all the light-oil models, with or without pre-heater. It is made up of two parts: a control instrument and a “control box”.

BURNER	KIT CODE
▶ All models	3087211

DIRECT TESTING	MEASUREMENTS
(M) MOTOR The switch feeds the motor.	(V) L1-N Main voltage (230 V)
VALVE The switch feeds electromagnetic winding of the coil. A red led signals excitation stage, and a green led signals retainer stage.	(A) Pre-heater current consumption
PRE-HEATER The switch feeds the light oil pre-heater; a green led signals the thermostat cut-in.	(V) (M) Secondary voltage (low voltage)
TRANSFORMER The switch feeds the firing transformer inside the control box and excites the oil valve.	(A) Photo-resistance current consumption

Burner accessories

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

GULLIVER RGDF SERIES

The Riello Gulliver RG5DF is a new model of one stage light oil burner, developed to respond to any request for light industrial processes like bakery ovens, spray painting ovens, small steam or thermal boilers and all applications which require a reliable, user-friendly industrial product with enhanced performance and specific functions.
This model uses the same components designed by Riello for the Gulliver series and has the same ventilation system and overall dimensions as the previous two stage light oil model.
This new burner can operates on 50 or 60 Hz and a Voltage 220 - 230 Volt (dual frequency). It is conform to the EN 267 Standard (Forced draught oil burners) and to European Directives for EMC, Low Voltage and Machinery. For depressurised working field see EN 746-2 Standard.
The Gulliver RG5DF burner is fired before leaving the factory.

RG5DF	95/142 ÷ 296 kW

FIRING RATES

Useful working field for choosing the burner

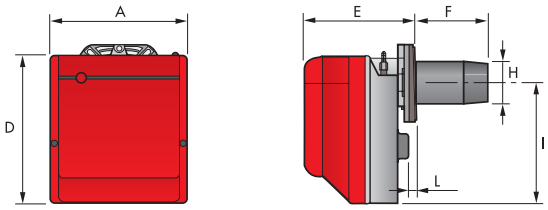
1st stage operation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

IMPORTANT:
For the part of the working field that is depressurised, refer to EN 746-2 Standard.

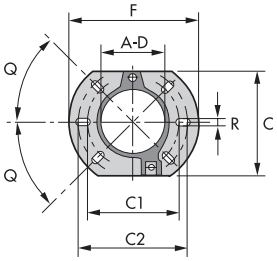
Overall dimensions (mm)

BURNER



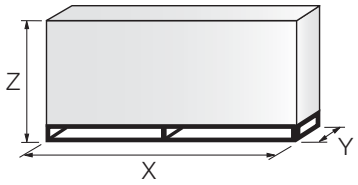
MODEL	A	D	E	F	H	I	L
▶ RG5DF	300	345	247	159	125	285	12,5

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	Q	R
▶ RG5DF	127	198	160	190	127	213	45°	11

PACKAGING



MODEL	X	Y	Z	kg
▶ RG5DF	510	345	440	18

Specification

DESIGNATION OF SERIES

Series : R Standard emission burners
B Low NOx burners

Fuel : S Natural gas
G Light-oil

Size

Possible variations: D Two stage output setting
F Light industrial processes

Electrical supply to the system : 1/220-230/50-60 1/220-230V/50-60Hz

R	G	5	DF	1/230/50

STATE OF SUPPLY

Completely automatic monobloc light oil burners, with two stage operation fitted with:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper always open in stand-by
- Air damper, with 1st and 2nd stage adjustment (2nd stage adjustment without removing the casing)
- Single phase electric motor 220 - 230 V/ 50 - 60 Hz
- Combustion head fitted with:
  - stainless steel head cone, resistant to high temperatures
  - ignition electrodes
  - flame stability disk
- Geared pump for fuel supply, fitted with:
  - filter
  - pressure regulator
  - attachments for fitting a pressure gauge and vacuum meter
  - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valve incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- Light oil nozzle
- IP X0D (IP 40) protection level.

Standard equipment
- Flange with insulating gasket
- Screw and nuts for flange
- Screws and nuts for flange to be fixed to the heat generator
- Flexible oil pipes with nipples
- 7-pin plug
- 4-pin plug
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

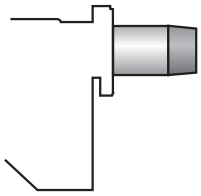
CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3739870	RG5DF 1/220-230/50-60	95/142 - 296	8/12 - 25	0,400 (at 50 Hz) - 0,575 (at 60 Hz)	CE - 0036 0325/01	

Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).
The burners of RGDF series are in according to EN 267 and 746-2.

Kerosene and ULSD
Gulliver RGDF series burners can be supplied, on demand, suitable for applications where combustion of Kerosene, Low Sulphur Kerosene and Ultra Low Sulphur Diesel Oil (ULSD) is the chosen fuel.

Burner accessories

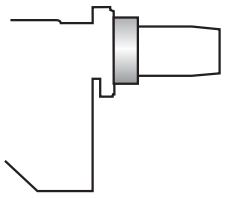
Extended head kit



Kits of extended heads are available.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RG5DF	159	300	3000981

Spacer kit



By using the special accessories, the burner can be with-drawn to reduce head penetration into the combustion chamber.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RG5DF	25	3000673

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ RG5DF	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ RG5DF	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ RG5DF	100	3000926

Burner accessories

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ RG5DF	3000945

Control box MO 550, sensor flame and short circuit plug

On request, we can supply a more efficient control box with following features:
- Digital technology
- Post-ignition of 3 seconds after safety time (total ignition time of 8 seconds)
- Multi-color LED signalling the various working stage
- Visual or PC interface diagnostic functions through multi-color LED device
- Remote lock-out reset (the connection is supplied with the MO 550 accessory)
- Recycling for 3 attemps if there is flame failure during operation
- Programmable post-purge (up to 6 minutes), continuous purge, long pre-purge (2 minutes)
- Post-combustion lock-out
- Logging of burner operation parameters (for example operating time, number and type of lock-outs)

BURNER	KIT CODE
▶ RG5DF	3001168+3007492+3007792

Tester

The tester controls the correct working of the burner components. It can be fitted to all the light-oil models, with or without pre-heater. It is made up of two parts: a control instrument and a “control box”.

BURNER	KIT CODE
▶ RG5DF	3087211

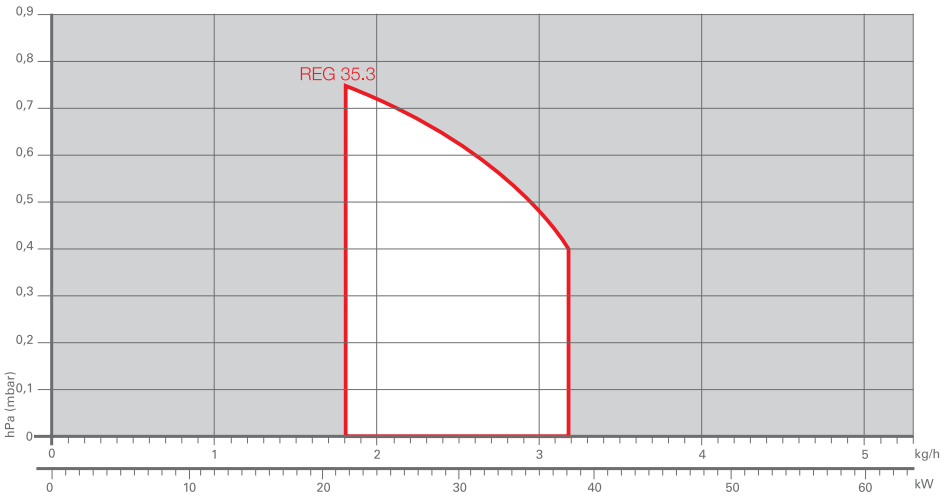
DIRECT TESTING	MEASUREMENTS
(M) MOTOR The switch feeds the motor.	(V) L1-N Main voltage (230 V)
VALVE The switch feeds electromagnetic winding of the coil. A red led signals excitation stage, and a green led signals retainer stage.	(A) Pre-heater current consumption
PRE-HEATER The switch feeds the light oil pre-heater; a green led signals the thermostat cut-in.	(V) (M) Secondary voltage (low voltage)
TRANSFORMER The switch feeds the firing transformer inside the control box and excites the oil valve.	(A) Photo-resistance current consumption

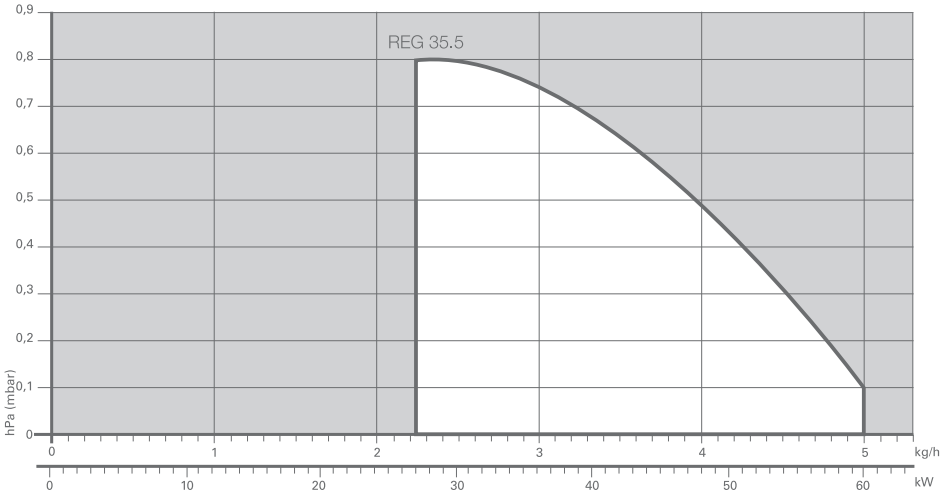
REG SERIES

The REG series of one stage light oil burners, is available in two models with an output ranging from 21 to 60 kW, in a single structure.
The models are available with or without casing and with or without pre-heater.
These models are distinguished by their compact size.
All the models use the same Riello components designed for the REG series. The high quality level guarantees safe working.
In developing these burners, special attention was paid to reducing noise, to ease of installation and adjustment, to obtaining the minimum size possible to allow fitting to any sort of boiler available on the market.
All the models are approved by European EN 267 standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the REG series of burners are fired before leaving the factory.

REG 35.3	21	÷	38	kW
REG 35.5	27	÷	60	kW

FIRING RATES



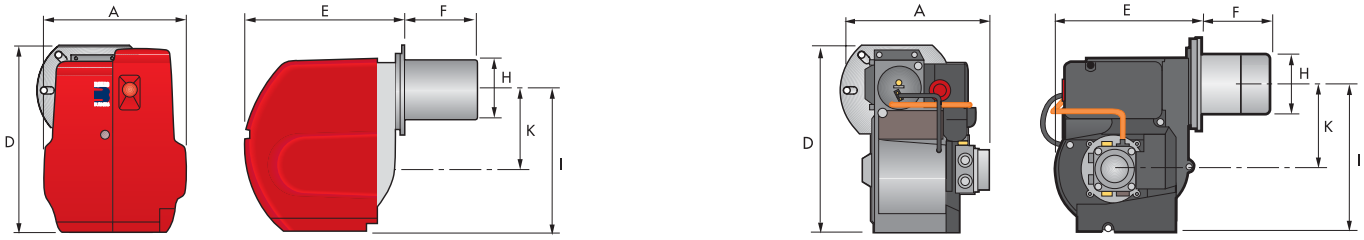


Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

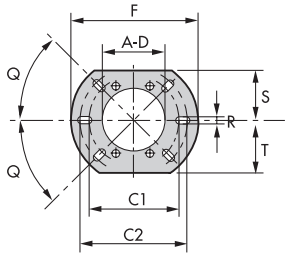
BURNER



MODEL	A	D	E	F *	H	I	K
▶ REG 35.3 (1)	215,5	279	211	82	89	211,5	121,5
▶ REG 35.5 (1)	215,5	279	211	80	89	211,5	121,5
▶ REG 35.3 (2)	223	282	240,5	82	89	214,5	121,5
▶ REG 35.5 (2)	223	282	240,5	80	89	214,5	121,5

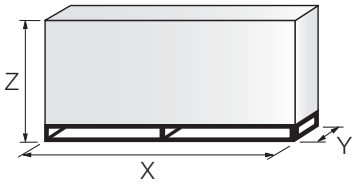
(1) Basic version.
(2) With cover.
* The combustion head is available in 2 different lengths.

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C1	C2	D	F	Q	S	T
▶ REG 35.3	95	130	150	95	170	45°	65	65
▶ REG 35.5	95	130	150	95	170	45°	65	65

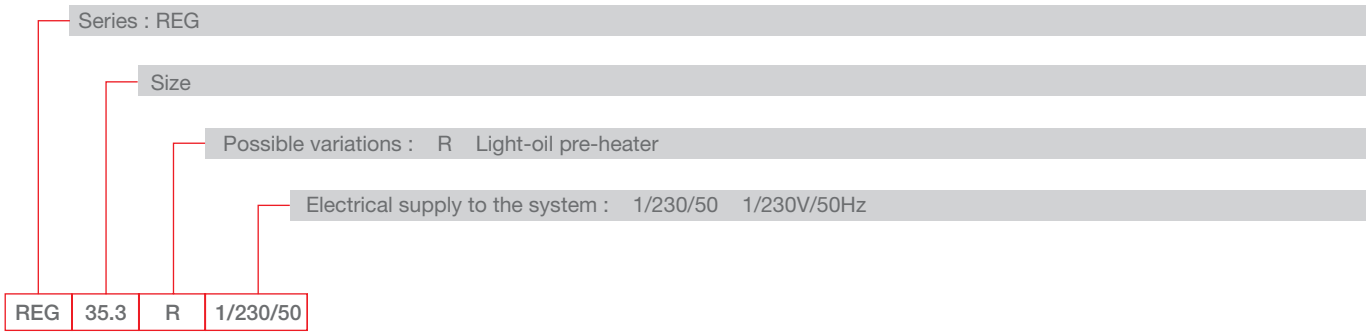
PACKAGING



MODEL	X	Y	Z	kg
▶ REG 35.3	347	310	220	10
▶ REG 35.5	347	310	220	10

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock fully automatic light oil burners, one stage operation, made up of:
- Fan with forward curve blades
- Adjustable air damper
- Single phase electric motor 230 V, 50 Hz
- Combustion head, fitted with:
  - stainless steel end cone, resistant to high temperatures
  - ignition electrodes
  - flame stability disk
- Geared pump for fuel supply, fitted with:
  - filter
  - pressure regulator
  - connectors for installing a pressure gauge and vacuometer
  - internal by-pass for preparing for single pipe installation
- Fuel feed solenoid incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- Light oil nozzle
- IP X0D (IP 40) protection level
- Fuel heater (optional).

Standard equipment:
- Two flexible pipes for connecting to the light oil supply line
- Two nipples for connecting to the pump
- Flange, screws and nuts for fixing
- Thermal screen
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3772115	REG 35.3	1/230/50	21 - 38	1,8 - 3,2	0,170	CE - 0036 0342/03	
3772117	REG 35.3	1/230/50	21 - 38	1,8 - 3,2	0,170	CE - 0036 0342/03	(1)
3772216	REG 35.5	1/230/50	27 - 60	2,3 - 5	0,170	CE - 0036 0342/03	
3772217	REG 35.5	1/230/50	27 - 60	2,3 - 5	0,170	CE - 0036 0342/03	(1)

(1) With cable for electrical connection to the boiler
Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm²/s (cSt).
The burners of REG series are in according to EN 267.

Kerosene and ULSD
REG series burners can be supplied, on demand, suitable for applications where combustion of Kerosene, Low Sulphur Kerosene and Ultra Low Sulphur Diesel Oil (ULSD) is the chosen fuel.

Burner accessories

Cover kit

Besides the basic version, the burners are also available with a plastic protective cover.
Two models of cover are available:
- for burners installed in the standard position
- for burners installed upside down.

VERSION	KIT CODE
▶ Standard installation	3002569
▶ Upside down installation	3002569+3008902

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

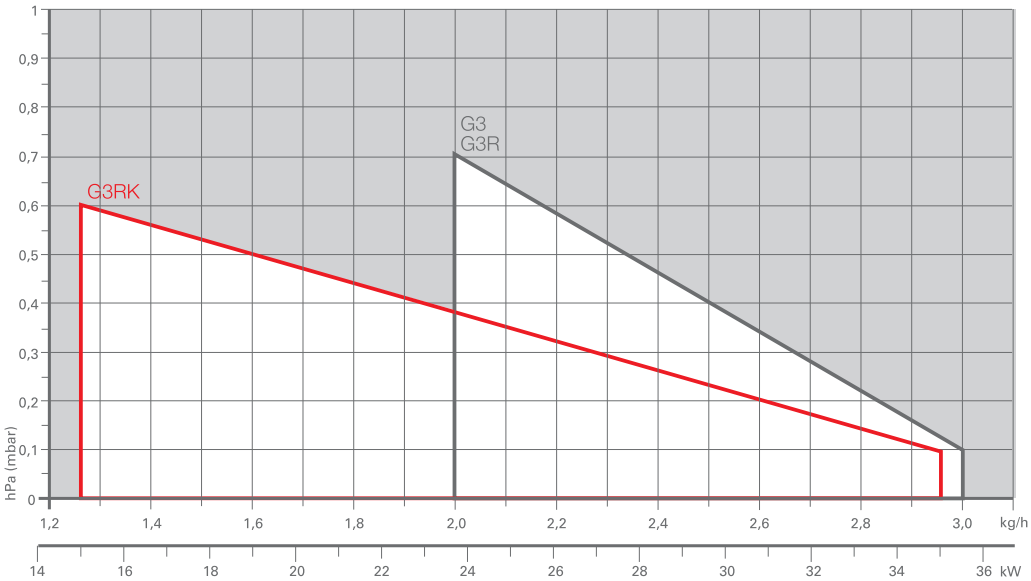
BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

RIELLO 40 G SERIES

The Riello 40 G series of one stage light oil burners, is a complete range of products developed to respond to any request for home heating. The Riello 40 G series is available in ten different models, with an output ranging from 12 to 240 kW, divided into four different structures.
All the models use the same components designed by Riello for the Riello 40 G series. The high quality level guarantees safe working.
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the EN 267 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Riello 40 G burners are fired before leaving the factory.

G3	23,8	÷	35,5	kW
G3R	23,8	÷	35,5	kW
G3RK	15,0	÷	35,0	kW
G5	28,0	÷	60,0	kW
G5R	28,0	÷	60,0	kW
G5RK	12,0	÷	60,0	kW
G7	29,0	÷	69,0	kW
G10	54,0	÷	120,0	kW
G20	95,0	÷	213,0	kW
G20S	95,0	÷	240,0	kW

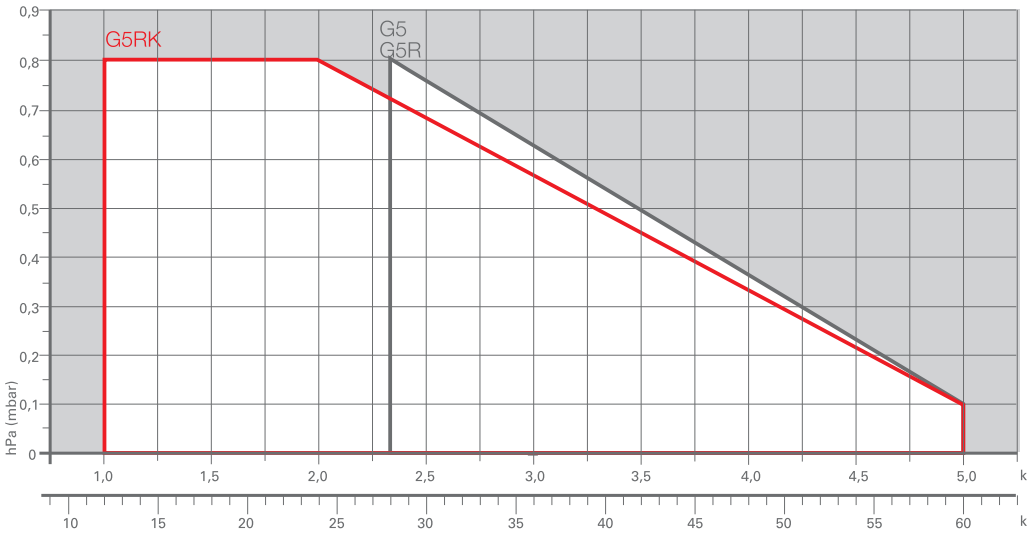
FIRING RATES



Useful working field for choosing the burner

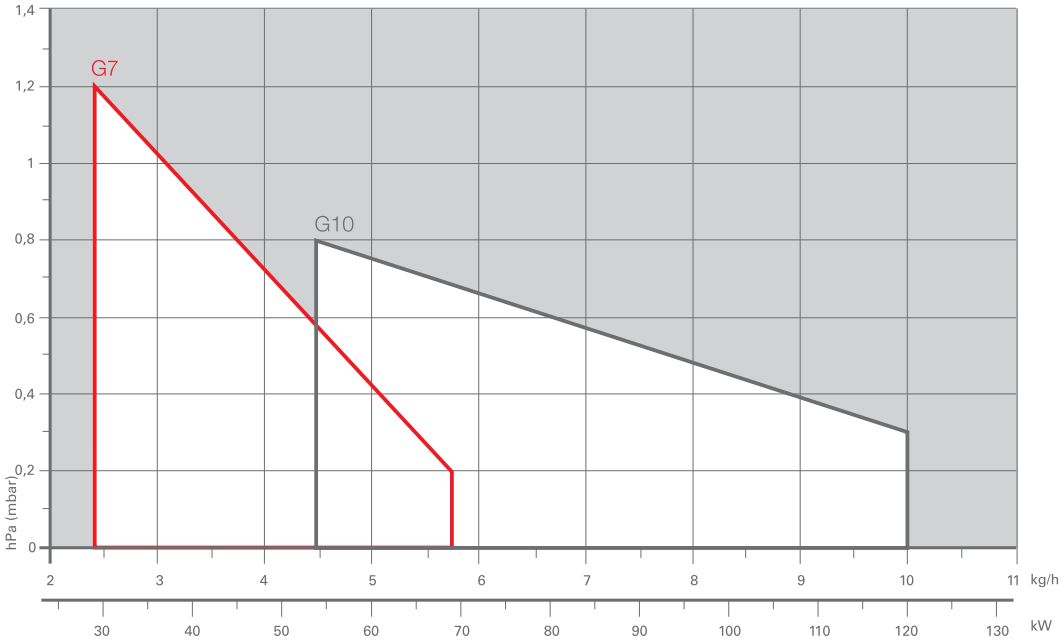
Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

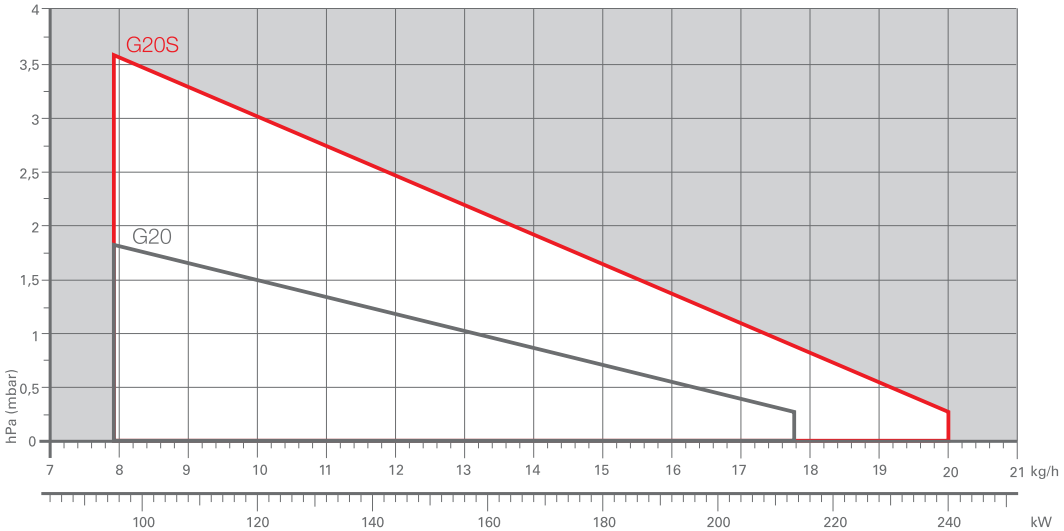
FIRING RATES



Useful working field for choosing the burner

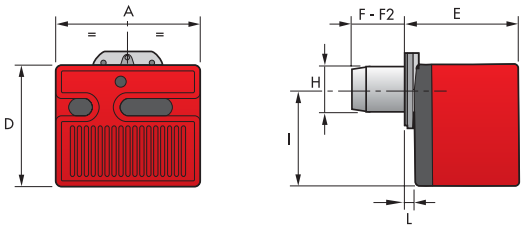
Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.





Overall dimensions (mm)

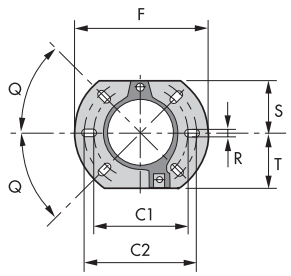
BURNER



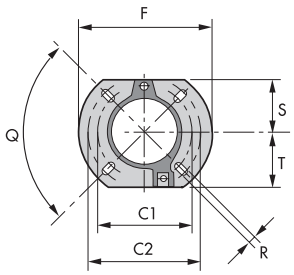
MODEL	A	D	E	F	F2	H	I	L
▶ G3	252	215	203	86	-	89	164	19
▶ G3R	252	215	203	86	-	89	164	19
▶ G3RK	252	215	203	97	115	89	164	19
▶ G5	272	233	236	107	-	89	180	37
▶ G5R	272	233	236	107	-	89	180	37
▶ G5RK	272	233	236	94	112	89	180	37
▶ G7	305	262	261	73	-	89	204	40
▶ G10	305	262	261	108	-	105	204	40
▶ G20	350	298	295	118	-	125	230	41
▶ G20S	350	298	295	118	-	125	230	41

BURNER - BOILER MOUNTING FLANGE

G3 - G3R - G3RK - G5 - G5R - G5RK - G7 - G10

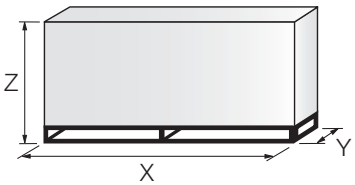


G20 - G20S



MODEL	C1	C2	F	Q	R	S	T
▶ G3 - G3R - G3RK - G5 - G5R - G5RK	130	150	180	45°	11	72	75
▶ G7 - G10	140	170	189	45°	11	83	83
▶ G20 - G20S	160	190	213	90°	11	99	99

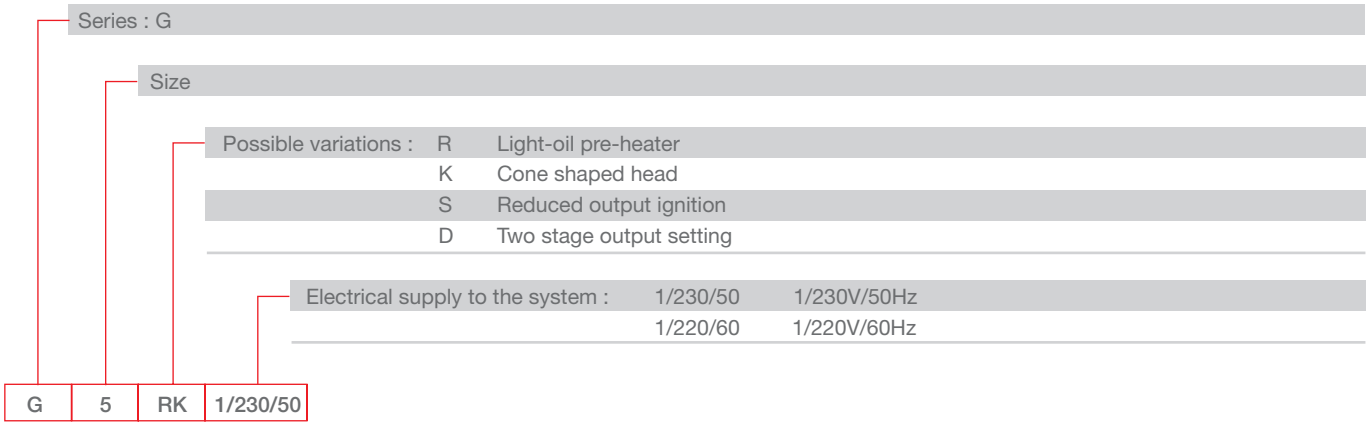
PACKAGING



MODEL	X	Y	Z	kg
▶ G3	363	295	310	10
▶ G3R	363	295	310	10
▶ G3RK	363	295	310	10,5
▶ G5	383	315	325	12
▶ G5R	383	315	325	12
▶ G5RK	383	315	325	12
▶ G7	423	348	340	13
▶ G10	423	348	340	13
▶ G20	483	393	377	16
▶ G20S	483	393	377	17,5

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Completely automatic monobloc light oil burners, one stage operation, made up of:
- Fan with forward curve blades
- Metallic cover lined with sound-proofing material
- Air damper, completely closed in stand by, with adjustment
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
  - stainless steel head cone, resistant to high temperatures
  - ignition electrodes
  - flame stability disk
- Geared pump for fuel supply, fitted with:
  - filter
  - pressure regulator
  - attachments for fitting a pressure gauge and vacuum meter
  - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valve incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- Light oil nozzle
- IP X0D (IP 40) protection level
- Fuel pre-heater (optional)
- Reduced output ignition mechanism (optional).

Standard equipment:
- Two flexible pipes for connection to the light oil supply line
- Two nipples for connection to the pump
- Flange, screws and nuts for fixing
- Thermal gasket
- 7-pin plug (on request)
- Maintenance assembly
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
			(kW)	(kg/h)	(kW)		
3743125	G3	1/230/50	23,8 - 35,5	2 - 3	0,115	CE – 0036 0315/01	
3743831	G3R	1/230/50	23,8 - 35,5	2 - 3	0,165	CE – 0036 0315/01	
3743412	G3RK	1/230/50	15 - 35	1,3 - 3	0,170	CE – 0036 0254/99	
3744512	G5	1/230/50	28 - 60	2,3 - 5	0,130	-	
3744612	G5R	1/230/50	28 - 60	2,3 - 5	0,185	-	
3745312	G5RK	1/230/50	12 - 60	1 - 5	0,185	CE – 0036 0256/99	
3745959	G7	1/230/50	29 - 69	2,5 - 5,8	0,160	-	(1)
3746412	G10	1/230/50	54 - 120	4,5 - 10	0,170	CE – 0036 0257/99	
3746464	G10	1/220/60	54 - 120	4,5 - 10	0,200	-	
3747412	G20	1/230/50	95 - 213	8 - 18	0,320	-	
3747459	G20	1/220/60	95 - 213	8 - 18	0,400	-	
3748212	G20S	1/230/50	95 - 240	8 - 20	0,330	-	
3748259	G20S	1/220/60	95 - 240	8 - 20	0,410	-	
MODELS WITH 24V DC ELECTRICAL SUPPLY							
3452030	G7	24V DC	29 - 69	2,45 - 5,8	0,3		
20006157	G10	24V DC	54 - 120	4,5 - 10	0,3		
3452736	G20	24V DC	95 - 201	8 - 17	0,3		

(1) UK version
Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt)
The burners of G series are in according to EN 267.

Bio fuels

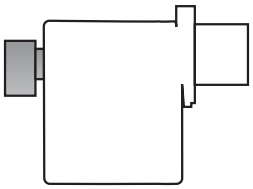
Riello Burners is able to offer technical variants which allow burners to be used within environmental heating, process or special applications. These applications now include solutions for liquid Bio fuels (I.e. biodiesel and vegetable oil).
Our experience in research and development and field applications with organic origin Bio fuels has resulted in Riello being able to offer a wide range of solutions for the combustion of Bio fuels.

Kerosene and ULSD

Riello 40 G series burners can be supplied, on demand, suitable for applications where combustion of Kerosene, Low Sulphur Kerosene and Ultra Low Sulphur Diesel Oil (ULSD) is the chosen fuel.
These burner variants can be provided upon request and after a technical-commercial evaluation; for more information please contact Riello Burners Commercial and Technical Department, our Application Engineers will be pleased to help you.

Burner accessories

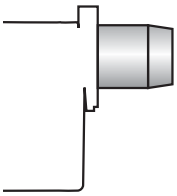
Remote control release kit for 530-531 control boxes



The 530-531 control boxes can be remotely released using an electric command kit.
This kit must be installed in conformity with current regulations in force.

BURNER	KIT CODE
▶ All models	3001030

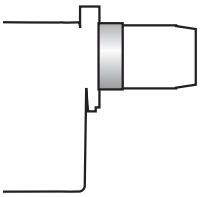
Extended head kit



Kits of extended heads are available.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ G5 - G5R	107	121	3000686
▶ G5 - G5R	107	121 inox	3000687
▶ G5 - G5R	107	94÷112 (conic head)	3000726
▶ G10	108	168	3000643
▶ G10	108	250	3000770
▶ G20 - G20S	118	178	3000644
▶ G20 - G20S	118	260	3000771

Spacer kit



Using the special accessories, the burner can be pulled back to reduce head penetration into the combustion chamber.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ G3 - G3R - G3RK - G5 - G5R - G5RK - G7	25	3000642
▶ G10	25	3000672
▶ G20 - G20S	25	3000673

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Burner accessories

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

Hour counter kit for 530 SE and 531 SE control boxes

To measure the burner working time a hour counter kit is available.

BURNER	KIT CODE
▶ All models	3000904

7-pole socket kit for 530 SE and 531 SE control boxes

For burner without pre installed socket a 7-pole socket kit with cable is available.

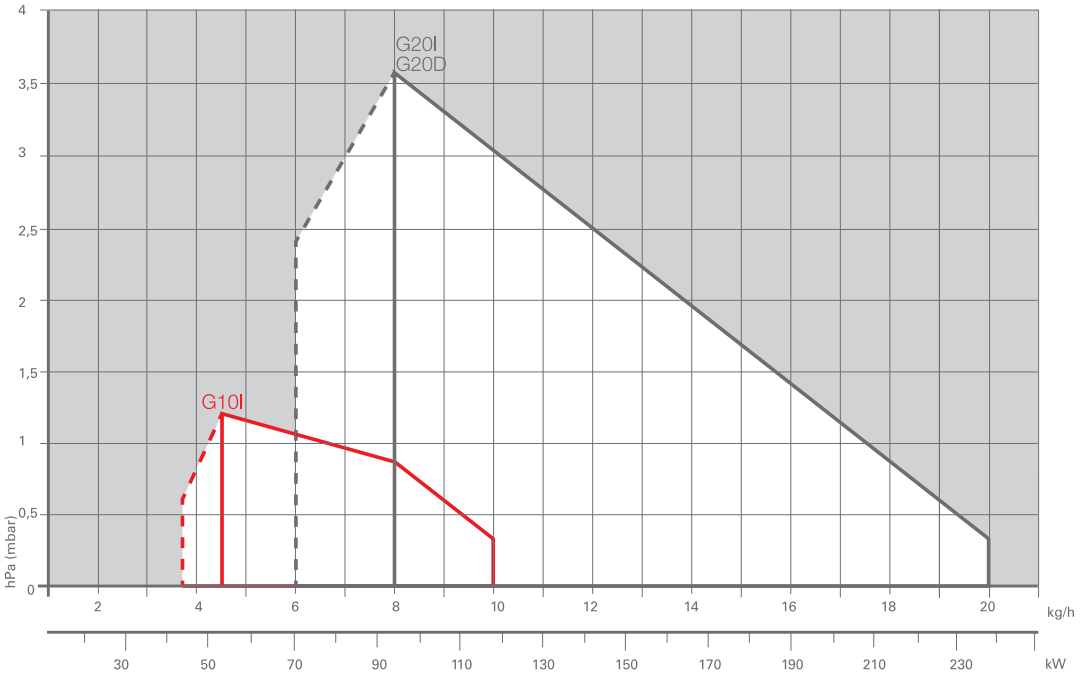
BURNER	KIT CODE
▶ All models	3001065

RIELLO 40 GI SERIES

The Riello 40 GI series of two stage light oil burners, is a complete range of products developed to respond to any request for residential heating. The Riello 40 GI series is available in three different models, with an output ranging from 54 to 240 kW, divided in two different structures.
All the models use the same components designed by Riello for the Riello 40 GI series. The high quality level guarantees safe working.
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the EN 267 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Riello 40 GI burners are fired before leaving the factory.

G10I	44/54	÷	120	kW
G20I	71/95	÷	240	kW
G20D	71/95	÷	240	kW

FIRING RATES



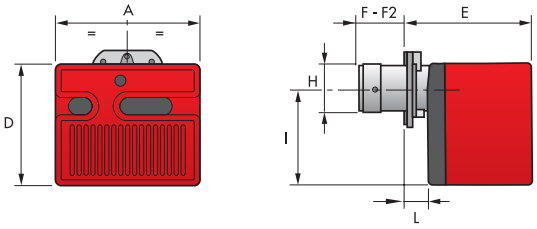
Useful working field for choosing the burner

1st stage operation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

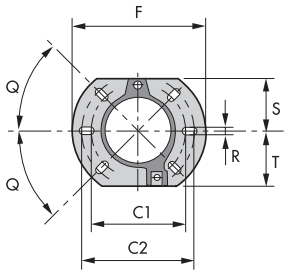
BURNER



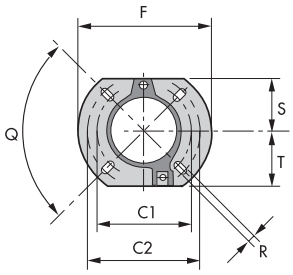
MODEL	A	D	E	F	F2	H	I	L
▶ G10I	305	262	261	108	-	105	204	40
▶ G20I - G20D	350	298	295	118	-	125	230	41

BURNER - BOILER MOUNTING FLANGE

G10I

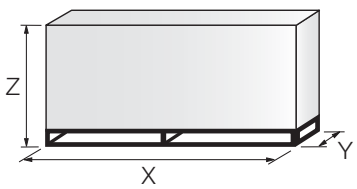


G20I - G20D



MODEL	C1	C2	F	Q	R	S	T
▶ G10I	140	170	189	45°	11	83	83
▶ G20I	160	190	213	90°	11	99	99
▶ G20D	160	190	213	90°	11	99	99

PACKAGING



MODEL	X	Y	Z	kg
▶ G10I	423	348	340	13
▶ G20I	483	393	377	15
▶ G20D	483	393	377	16,3

Specification

DESIGNATION OF SERIES

Series : G			
Size			
Possible variations :	I	Intelligent	
	D	Two stage output adjustment	
	R	Light-oil pre-heater	
Electrical supply to the system :		1/230/50	1/230V/50Hz
		1/220/60	1/220V/60Hz

G	10	I	1/230/50

STATE OF SUPPLY

Completely automatic monobloc light oil burners, two stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Servomotor to drive the air damper to fully closed position at stand-by, low and high fire position
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - flame stability disk
- Geared pump for fuel supply, fitted with:
    - filter
    - pressure regulator
    - attachments for fitting a pressure gauge and vacuum meter
    - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valves incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- Light oil nozzle
- IP X0D (IP 40) protection level
- Reduced output ignition mechanism.

Standard equipment:
- Two flexible pipes for connection to the light oil supply line
- Two nipples for connection to the pump
- Flange, screws and nuts for fixing
- Thermal screen
- 7-pin plug
- 4-pin plug
- External probe (for “I” versions only)
- Maintenance assembly
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
			(kW)	(kg/h)	(kW)		
3746613	G10I	1/230/50	44/54 - 120	3,7/4,5 - 10	0,170	CE - 0036 0258/99	
3746686	G10D	1/220/60	44/54 - 120	3,7/4,5 - 10	0,200	-	(1)
3748409	G20I	1/230/50	71/95 - 240	6/8 - 20	0,330	CE - 0036 0259/99	
3748414	G20D	1/230/50	71/95 - 240	6/8 - 20	0,330	CE - 0036 0259/99	
3748415	G20D	1/220/60	71/95 - 231	6/8 - 19,5	0,400	-	(1)

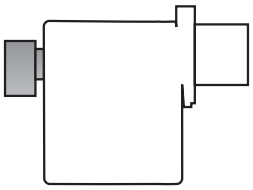
(1) Philippines version.
Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm²/s (cSt)
The burners of GI series are in according to EN 267.

Bio fuels
Riello Burners is able to offer technical variants which allow burners to be used within environmental heating, process or special applications. These applications now include solutions for liquid Bio fuels (I.e. biodiesel and vegetable oil).
Our experience in research and development and field applications with organic origin Bio fuels has resulted in Riello being able to offer a wide range of solutions for the combustion of Bio fuels.

Kerosene and ULSD
Riello 40 GI series burners can be supplied, on demand, suitable for applications where combustion of Kerosene, Low Sulphur Kerosene and Ultra Low Sulphur Diesel Oil (ULSD) is the chosen fuel.
These burner variants can be provided upon request and after a technical-commercial evaluation; for more information please contact Riello Burners Commercial and Technical Department, our Application Engineers will be pleased to help you.

Burner accessories

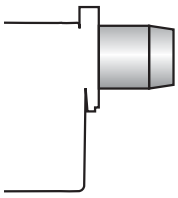
Remote control release kit for 530-531 control boxes



The 530-531 control boxes can be remotely released using an electric command kit.
This kit must be installed in conformity with current regulations in force.

BURNER	KIT CODE
▶ All models	3001030

Extended head kit

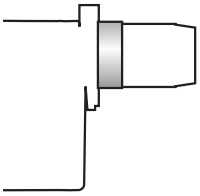


Kits of extended heads are available.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ G10I	108	168	3000643
▶ G20I	118	178	3000644
▶ G20D	118	260	3000771

Burner accessories

Spacer kit



Using the special accessories, the burner can be pulled back to reduce head penetration into the combustion chamber.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ G10I	25	3000672
▶ G20I - G20D	25	3000673

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

Hour counter kit for 530 SE and 531 SE control boxes

To measure the burner working time a hour counter kit is available.

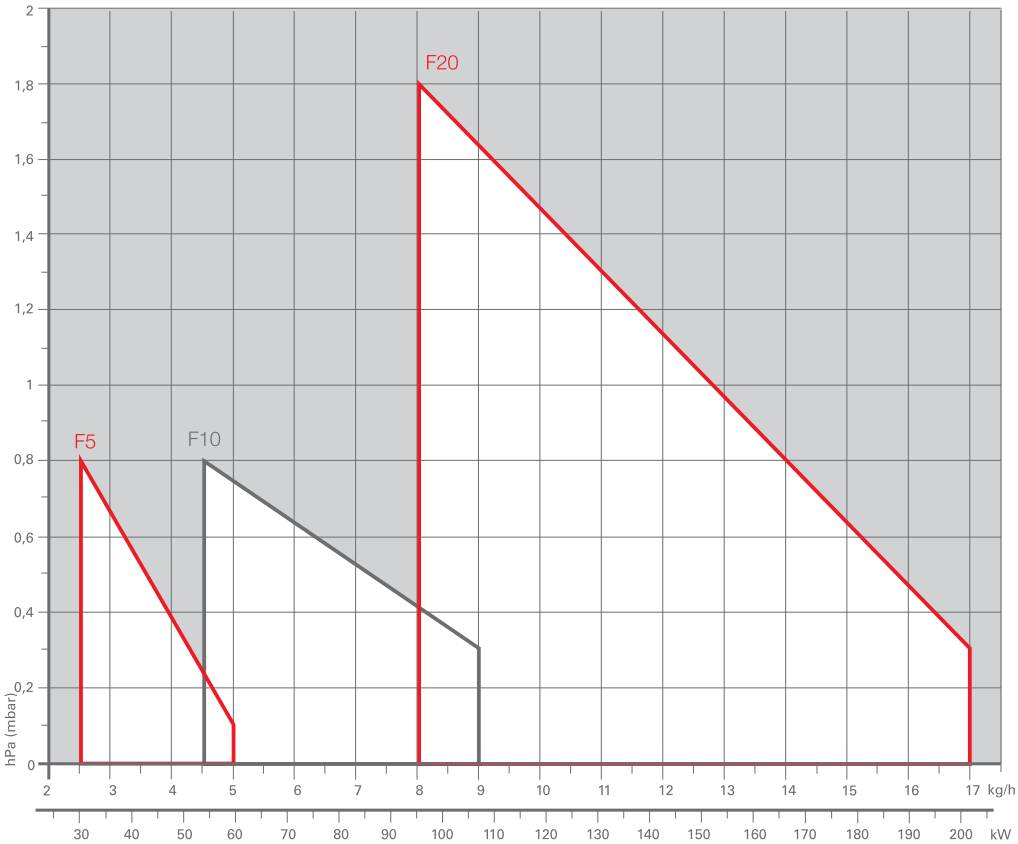
BURNER	KIT CODE
▶ All models	3000904

RIELLO 40 F SERIES

The Riello 40 F series of one stage light oil burners, is a complete range of products developed to respond to any request for light industrial applications. The Riello 40 F series is available in three different models, with an output ranging from 30 to 202 kW, divided in three different structures.
All the models use the same components designed by Riello for the Riello 40 F series. The high quality level guarantees safe working.
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the EN 267 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Riello 40 F burners are fired before leaving the factory.

F5	30	÷	60	kW
F10	54	÷	107	kW
F20	95	÷	202	kW

FIRING RATES

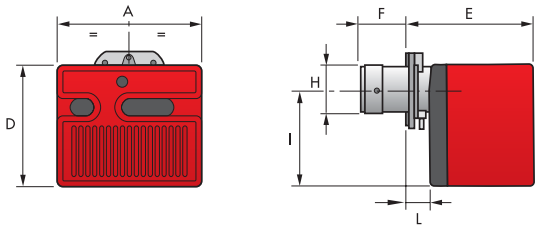


Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

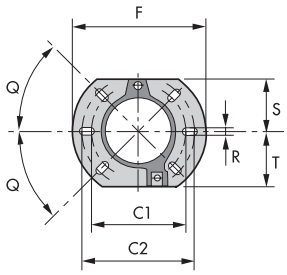
BURNER



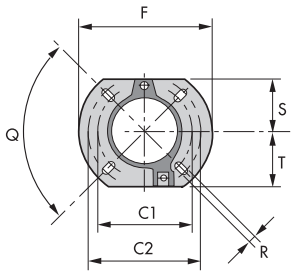
MODEL	A	D	E	F	H	I	L
▶ F5	272	233	240	72	89	180	41
▶ F10	305	262	265	104	105	204	44
▶ F20	350	298	299	118	125	230	45

BURNER - BOILER MOUNTING FLANGE

F5 - F10

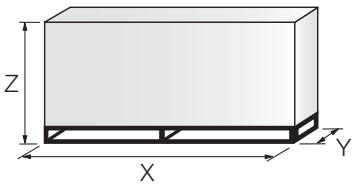


F20



MODEL	C1	C2	F	Q	R	S	T
▶ F5	130	150	180	45°	11	72	75
▶ F10	140	170	189	45°	11	83	83
▶ F20	160	190	213	90°	11	99	99

PACKAGING



MODEL	X	Y	Z	kg
▶ F5	383	315	325	12
▶ F10	423	348	340	13
▶ F20	483	393	377	16

Specification

DESIGNATION OF SERIES

Series : F		
Size		
Electrical supply to the system :	1/230/50	1/230V/50Hz
	1/220/60	1/220V/60Hz

F	5	1/230/50

STATE OF SUPPLY

Completely automatic monobloc light oil burners, one stage operation, made up of:
- Fan with forward curve blades
- Metallic cover
- Fixed air damper with adjustment
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
  - stainless steel head cone, resistant to high temperatures
  - ignition electrodes
  - flame stability disk
- Geared pump for fuel supply, fitted with:
  - filter
  - pressure regulator
  - attachments for fitting a pressure gauge and vacuum meter
  - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valve incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- Light oil nozzle
- IP X0D (IP 40) protection level.

Standard equipment:
- Two flexible pipes for connection to the light oil supply line
- Two nipples for connection to the pump
- Flange, screws and nuts for fixing
- Thermal screen
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3451083	F5	1/230/50	30 - 60	2,5 - 5	0,130	-	
3746159	F5	1/220/60	30 - 60	2,5 - 5	0,180	-	
3452083	F10	1/230/50	54 - 107	4,5 - 9	0,170	-	
3746260	F10	1/220/60	54 - 107	4,5 - 9	0,200	-	
3452783	F20	1/230/50	95 - 202	8 - 17	0,320	-	
3747260	F20	1/220/60	95 - 213	8 - 18	0,400	-	

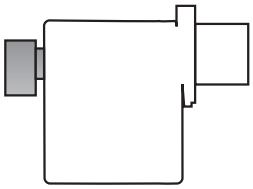
Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt)
The burners of F series are in according to EN 267.

Bio fuels
Riello Burners is able to offer technical variants which allow burners to be used within environmental heating, process or special applications. These applications now include solutions for liquid Bio fuels (I.e. biodiesel and vegetable oil).
Our experience in research and development and field applications with organic origin Bio fuels has resulted in Riello being able to offer a wide range of solutions for the combustion of Bio fuels.

Kerosene and ULSD
Riello 40 F series burners can be supplied, on demand, suitable for applications where combustion of Kerosene, Low Sulphur Kerosene and Ultra Low Sulphur Diesel Oil (ULSD) is the chosen fuel.
These burner variants can be provided upon request and after a technical-commercial evaluation; for more information please contact Riello Burners Commercial and Technical Department, our Application Engineers will be pleased to help you.

Burner accessories

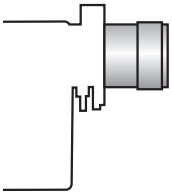
Remote control release kit for 530 SE control box



The 530 SE control box can be remotely released using an electric command kit.
This kit must be installed in conformity with current regulations in force.

BURNER	KIT CODE
▶ F5 - F10 - F20	3001030

Extended head kit

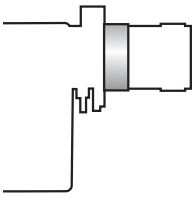


Kits of extended heads are available.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ F5	72	90	3006001
▶ F5	72	90 inox	3000688
▶ F5	72	107	3000638
▶ F5	72	121	3000686
▶ F5	72	121 inox	3000687
▶ F10	104	168	3000643
▶ F10	104	250	3000770
▶ F20	118	178	3000644
▶ F20	118	260	3000771

Burner accessories

Spacer kit



Using the special accessories, the burner can be pulled back to reduce head penetration into the combustion chamber.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ F5	25	3000642
▶ F10	25	3000672
▶ F10	25	3000673

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

Hour counter kit for 530 SE and 531 SE control boxes

To measure the burner working time a hour counter kit is available.

BURNER	KIT CODE
▶ All models	3000904

7-pole socket kit for 530 SE and 531 SE control boxes

For burner without pre installed socket a 7-pole socket kit with cable is available.

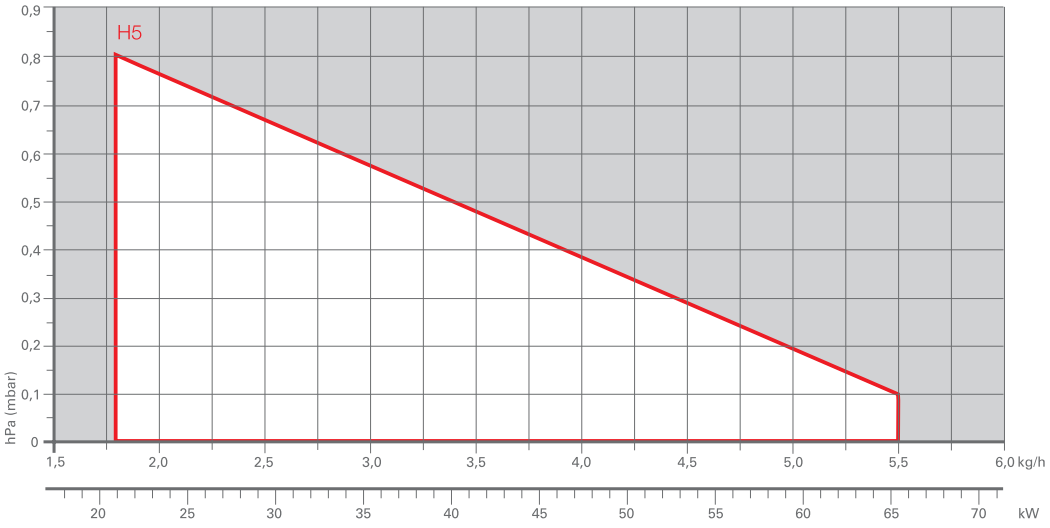
BURNER	KIT CODE
▶ All models	3001065

RIELLO 40 H SERIES

The Riello 40 H series of one stage light oil burners, has been designed to be used friendly and to respond to any request for hotel kitchen applications. The Riello 40 H series is available in a single model with an output ranging from 21 to 65 kW.
The high quality level guarantees safe working.
In developing this burner, special attention was paid to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of application. This burner can work in two stages, choosing the output required according with the heat input that the application needs. This results in very economical operation of the system and a decrease of the cyclic phases of ignition/shut down, less thermal stress of the plant and a significant decrease in emissions.
The model is approved by the EN 267 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Riello 40 H burners are fired before leaving the factory.

H5	21	÷	65	kW

FIRING RATES

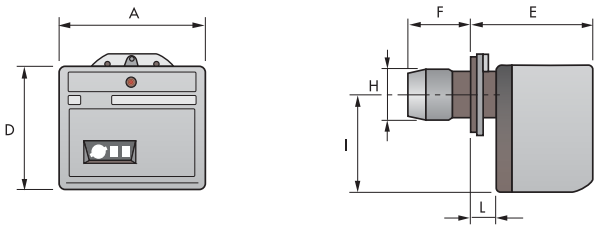


Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

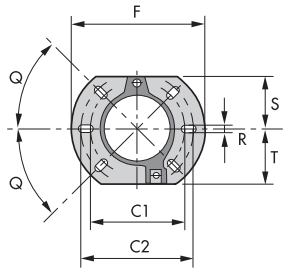
Overall dimensions (mm)

BURNER



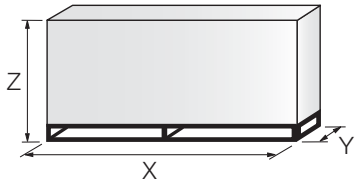
MODEL	A	D	E	F	H	I	L
▶ H5	272	233	238	107	89	180	37

BURNER - BOILER MOUNTING FLANGE



MODEL	C1	C2	F	Q	R	S	T
▶ H5	130	150	180	45°	11	72	75

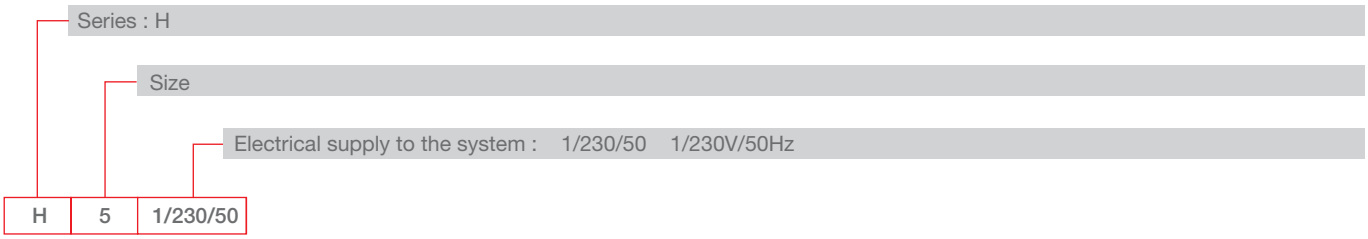
PACKAGING



MODEL	X	Y	Z	kg
▶ H5	383	315	325	12

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Completely automatic monobloc light oil burners, one stage operation, made up of:
- Change switch
- Burner start-up switch
- Capacitor connection switch
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Fixed air damper with adjustment
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
  - stainless steel head cone, resistant to high temperatures
  - ignition electrodes
  - flame stability disk
- Geared pump for fuel supply, fitted with:
  - filter
  - pressure regulator
  - attachments for fitting a pressure gauge and vacuum meter
  - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valve incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- Light oil nozzle
- IP X0D (IP 40) protection level.

Standard equipment:
- Two flexible pipes for connection to the light oil supply line
- Two nipples for connection to the pump
- Flange, screws and nuts for fixing
- Insulating gasket
- Grommet
- Hinge
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

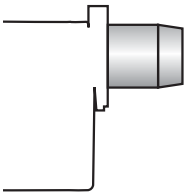
CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3451104	H5	1/230/50	21 - 65	1,8 - 5,5	0,130	-	

Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm²/s (cSt).
The burners of H series are in according to EN 267.

Kerosene and ULSD
Riello 40 H series burners can be supplied, on demand, suitable for applications where combustion of Kerosene, Low Sulphur Kerosene and Ultra Low Sulphur Diesel Oil (ULSD) is the chosen fuel.

Burner accessories

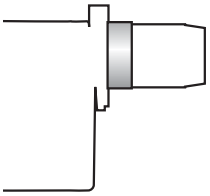
Extended head kit



Kits of extended heads are available.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ H5	107	121	3000686
▶ H5	107	121 INOX	3000687

Spacer kit



Using the special accessories, the burner can be pulled back to reduce head penetration into the combustion chamber.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ H5	25	3000642

Protection

BURNER	KIT CODE
▶ H5	3000925

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ H5	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ H5	60	3075011

Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ H5	100	3000926

End cone without turbulator ring

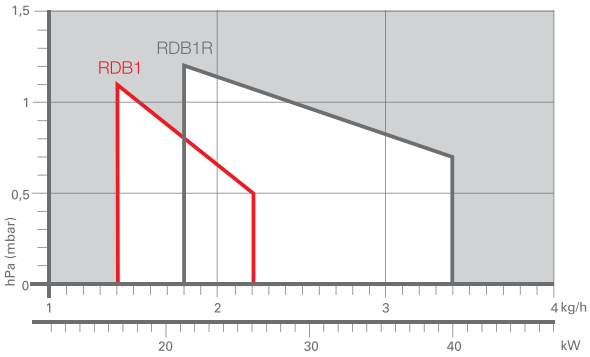
BURNER	KIT CODE
▶ H5	3006040

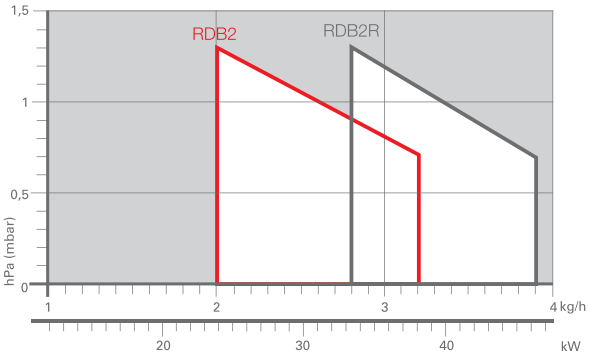
RDB SERIES

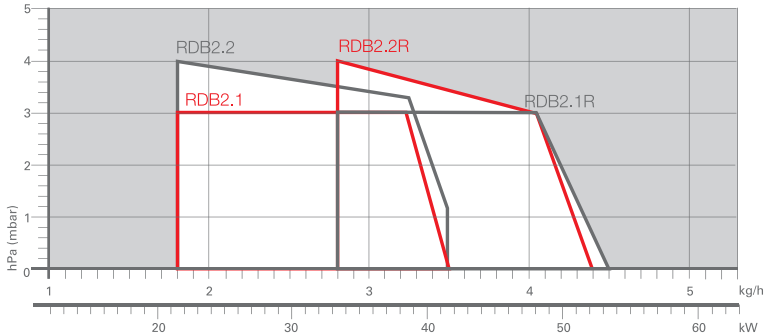
The Riello RDB series of one stage light oil and kerosene burners is available in eleven basic models, with an output ranging from 16,8 to 120 kW, in three different structures. The models are available in light oil and kerosene versions, conventional flue and balanced flue, with or without the fuel pre-heater fitted.
A new model has been specifically designed to meet the increasing trends towards high pressure working field demand.
These models are distinguished by their compact size. All the models use the same components designed by Riello for the RDB series. The high quality level guarantees safe working. The RDB burners are equipped with a geared pump suitable for Kerosene, Low Sulphur Kerosene and ultra low sulphur diesel oil (ULSD).
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market. All the models are approved by the EN 267 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency. All the RDB burners are fired before leaving the factory.

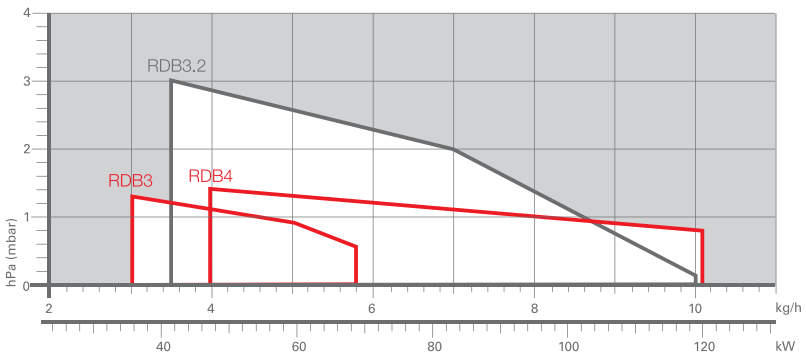
RDB1-1R	16,8	÷	40,6	kW
RDB2-2R	24	÷	46,2	kW
RDB2.1-2.1R	21	÷	54	kW
RDB2.2-2.2R	21	÷	54	kW
RDB3	35,6	÷	69	kW
RDB3.2	41,5	÷	119	kW
RDB4	47,45	÷	120	kW

FIRING RATES









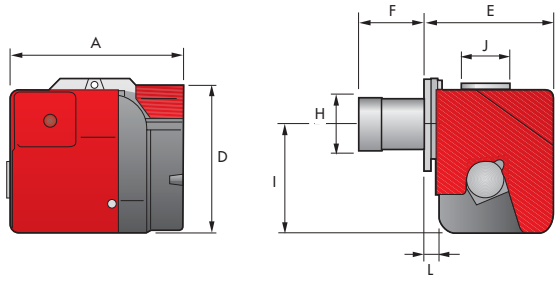
Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

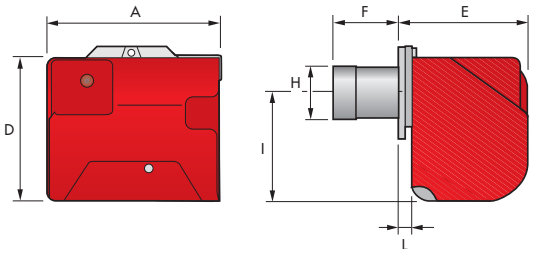
Overall dimensions (mm)

BURNER

RDB1-1R - RDB2-2R - RDB2.1-2.1R - RDB2.2-2.2R



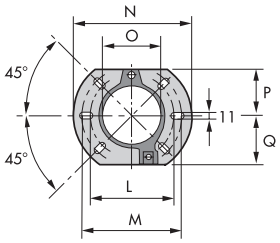
RDB3 - RDB3.2 - RDB4



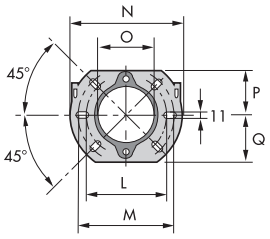
MODEL	A	D	H	F	E	L	I	J
▶ RDB1-1R	276	230	89-90	76-86	202	20	168	75
▶ RDB2-2R	276	230	89-90	76-86	202	20	168	75
▶ RDB2.1-2.1R	286	230	85	77	202	20	168	75
▶ RDB2.2-2.2R	286	230	85	77	202	20	168	75
▶ RDB3	325	268	88	78	253	30	204	75
▶ RDB3.2	325	268	95	69,5	253	30	204	75
▶ RDB4	325	268	105	111	253	30	204	75

BURNER - BOILER MOUNTING FLANGE

RDB1-1R - RDB2-2R - RDB2.1-2.1R - RDB2.2-2.2R

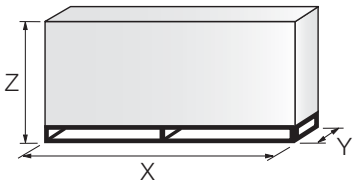


RDB3 - RDB3.2 - RDB4



MODEL	L	M	N	O	P	Q
▶ RDB1-1R	130	150	180	91	72	72
▶ RDB2-2R	130	150	180	91	72	72
▶ RDB2.1-2.1R	130	150	180	91	72	72
▶ RDB2.2-2.2R	130	150	180	91	72	72
▶ RDB3	140	168	189	106	83	83
▶ RDB3.2	140	168	189	106	83	83
▶ RDB4	140	168	189	106	83	83

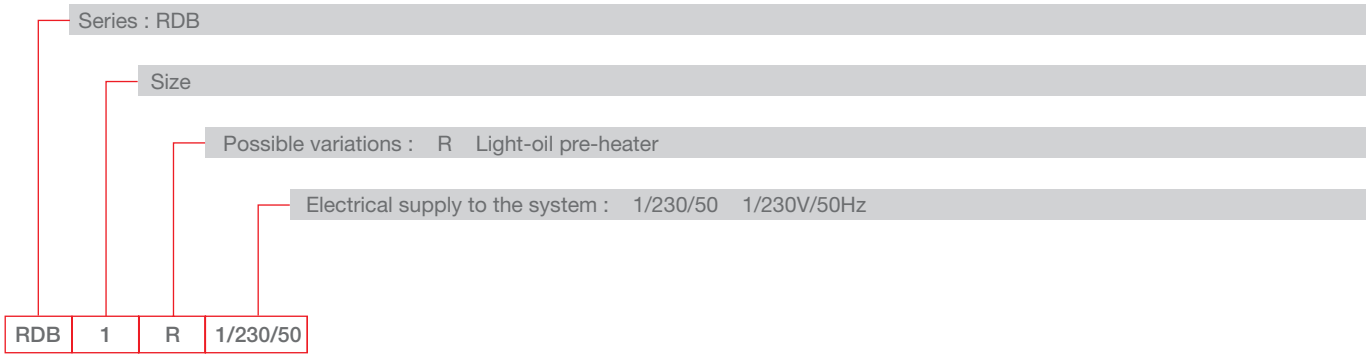
PACKAGING



MODEL	X	Y	Z	kg
▶ RDB1-1R	395	305	295	11
▶ RDB2-2R	395	305	295	11
▶ RDB2.1-2.1R	395	305	295	11
▶ RDB2.2-2.2R	395	305	295	11
▶ RDB3	435	360	355	15
▶ RDB3.2	435	360	355	15
▶ RDB4	435	360	355	15

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Completely automatic monobloc light oil and kerosene burners, one stage operation, made up of:
- Fan with forward inclined blades
- Air damper with external adjustment, with no need to remove the cover
- Air-tight air circuit, also available in the balanced flue version
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - flame stability disk
- Geared pump (specific version for kerosene) for fuel supply, fitted with filter
    - pressure regulator
    - attachments for fitting a pressure gauge and vacuum meter
    - internal by-pass for preparing for single-pipe installations
- Fuel feed solenoid valve incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment available with MO 535 (on demand)
- Light oil nozzle
- IP X0D (IP 40) protection level
- Fuel pre-heater (optional).

Standard equipment:
- Two flexible pipes for connection to the light oil supply line
- Two nipples for connection to the pump
- Flange, screws and nuts for fixing
- Thermal screen
- Air intake protection grill exagonal key
- Instruction handbook for installation, use and maintenance
- Spare parts list.

Available models

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
			(kW)	(kg/h)	(kW)		
on demand	RDB1	1/230/50	16,8 - 26,3	1,4 - 2,2	0,115	CE - 0036 0316/01	(1) (2)
on demand	RDB1R	1/230/50	21,6 - 40,6	1,8 - 3,4	0,170	CE - 0036 0326/01	(1)
on demand	RDB2	1/230/50	24 - 38,3	2 - 3,2	0,125	CE - 0036 0316/01	(1)
on demand	RDB2	1/230/50	29,6 - 59,3	2,5 - 5	0,125	CE - 0036 0316/01	(1)
on demand	RDB2R	1/230/50	33,2 - 46,2	2,8 - 3,9	0,175	CE - 0036 0316/01	(1)
on demand	RDB2.1	1/230/50	21,5 - 42	1,8 - 3,5	0,160	CE - 0036 0316/01	(1)
on demand	RDB2.1R	1/230/50	33 - 54	2,8 - 4,5	0,230	CE - 0036 0316/01	(1)
on demand	RDB2.2	1/230/50	21 - 41,5	1,8 - 3,5	0,160	CE - 0036 0316/01	(1)
on demand	RDB2.2R	1/230/50	33,5 - 51	2,9 - 4,3	0,230	CE - 0036 0316/01	(1)
on demand	RDB3	1/230/50	35,6 - 68,7	3 - 5,8	0,160	CE - 0036 0275/99	(1)
on demand	RDB3.2	1/230/50	41 - 120	3,5 - 10	0,160	CE - 0036 0332/02	(1)
on demand	RDB4	1/230/50	47,45 - 120	4 - 10	0,160	CE - 0036 0332/02	(1)

(1) All burner models are OEM's customized.
(2) This code is unprovided with thermal screen.
Net calorific value: 11,8 kWh/kg; 10200 kcal/kg - Viscosity at 20°C: light oil models 4÷6; kerosene models 1,5÷6 mm^2/s (cSt).
The burners of RDB series are in according to EN 267.

Burner accessories

Balanced-conventional flue conversion kit

All the RDB series models are easily converted from conventional flue to balanced flue, by replacing the plastic screen on the air intake with the connector for the air supply pipe.

BURNER	BALANCED FLUE KIT CODE	CONVENTIONAL FLUE KIT CODE
▶ RDB1-1R - RDB2-2R - RDB2.1-2.1R - RDB2.2-2.2R	3062774	3062775
▶ RDB3 - RDB4	3062774	3062876

Tester

The tester controls the correct working of the burner components. It can be fitted to all the light-oil models, with or without pre-heater.
It is made up of two parts: a control instrument and a “control box”.

BURNER	KIT CODE
▶ All models	3087216

DIRECT TESTING	MEASUREMENTS
M MOTOR The switch feeds the motor.	V L1-N Main voltage (230 V)
VALVE The switch feeds electromagnetic winding of the coil. A red led signals excitation stage, and a green led signals retainer stage.	A Pre-heater current consumption
PRE-HEATER The switch feeds the light oil pre-heater; a green led signals the thermostat cut-in.	V M Secondary voltage (low voltage)
TRANSFORMER The switch feeds the firing transformer inside the control box and excites the oil valve.	A Photo-resistance current consumption

Burner accessories

Light oil filter

For cleaning light oil from dirty particles and impurities filters with the following features are available:

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3006561

Filter made up of aluminium body and stainless steel filtering cartridge; available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	60	3075011

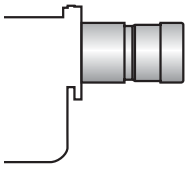
Filter made up of aluminium cover, plastic tank and nylon filtering cartridge; available in packaging of 50 pieces.

Light oil filter/degassing unit

To solve problems of air or water in the oil circuit a special filter/degassing unit is available, made up of aluminium cover, plastic tank, stainless steel filtering cartridge, air release cap and water purge valve. It is available singularly.

BURNER	FILTERING DEGREE (µm)	KIT CODE
▶ All models	100	3000926

Extended head kit

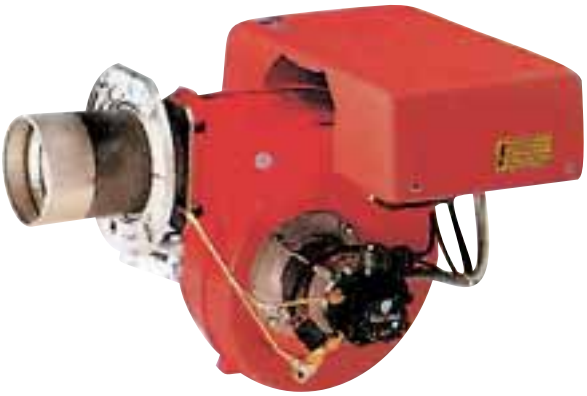


Kits of extended heads are available.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RDB4	111	170	3004590

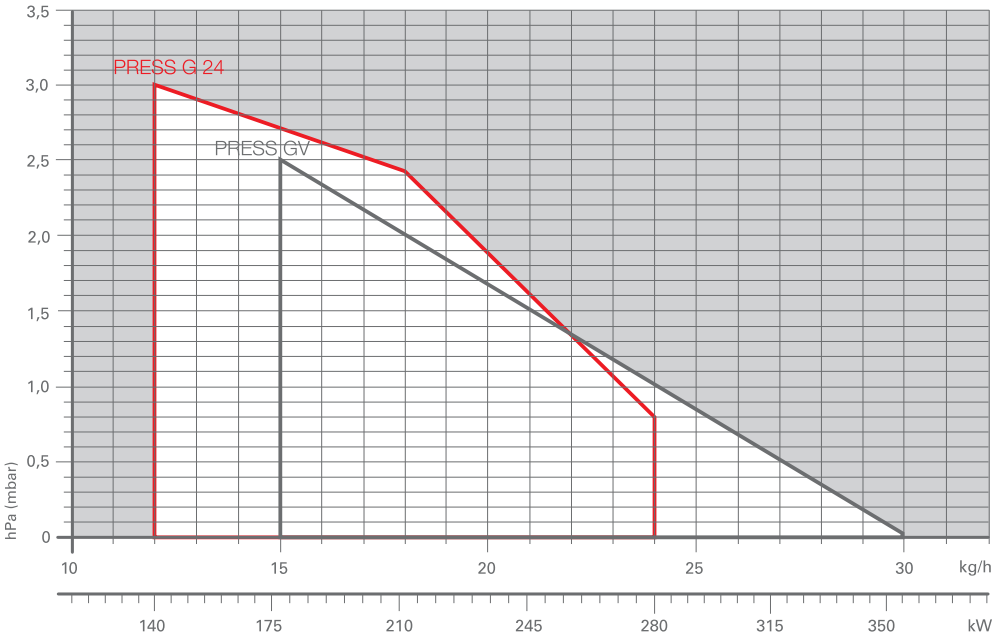
PRESS GV SERIES

The PRESS G series of burners covers a firing range from 140 to 356 kW and they have been designed for use in civil installations of small dimensions or in industrial applications, like incinerators or dyer kilns.
Operation is “one stage”; the burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause. The combustion head, that can be set on the basis of required output, allows optimal performance ensuring good combustion and reducing fuel consumption.
The main feature of these burners is their reliability due to a simple and strong construction, which permits operation without particular maintenance intervention.
Simplified maintenance is achieved by the slide bar system, which allows easy access to all of the essential components of the combustion head. All electrical components are easily accessible only by dismounting a protection panel, thus guaranteeing a quick and simple intervention on components.



PRESS G24	140	÷	280	kW
PRESS GV	178	÷	356	kW

FIRING RATES



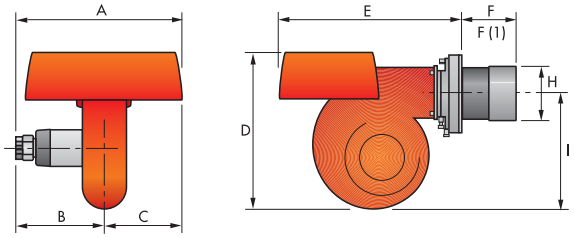
Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

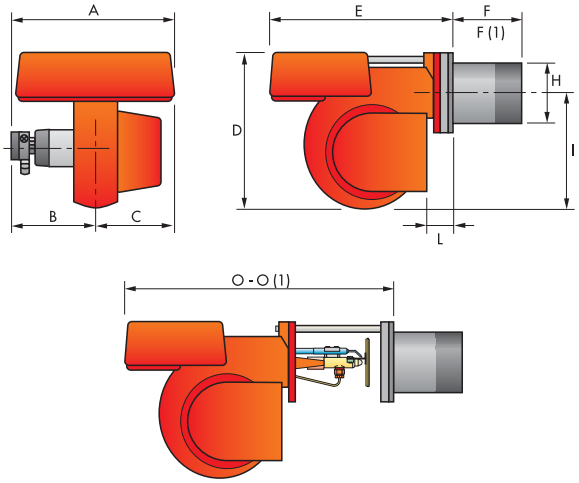
Overall dimensions (mm)

BURNER

PRESS G24



PRESS GV

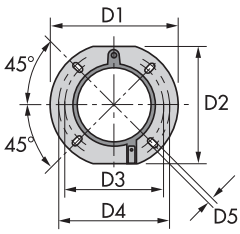


MODEL	A	B	C	D	E	F - F (1)	H	I	L	O - O (1)
▶ PRESS G24	425	222	203	397	485	118 - 253	125	290	-	- - -
▶ PRESS GV	439	234	205	397	473	185 - 320	140	292	59	690 - 825

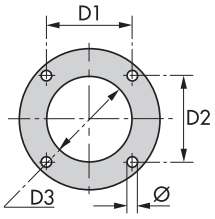
(1) Length with extended combustion head.

BURNER - BOILER MOUNTING FLANGE

PRESS G24

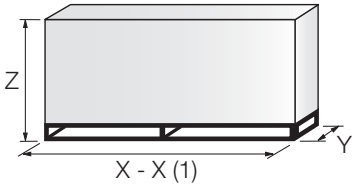


PRESS GV



MODEL	D1	D2	D3	D4	D5	Ø
▶ PRESS G24	213	198	160	190	11	-
▶ PRESS GV	160	160	155	-	-	M10

PACKAGING



MODEL	X - X (1)	Y	Z	kg
▶ PRESS G24	650	535	450	33
▶ PRESS GV	680	535	450	33

(1) Length with extended combustion head.

Specification

DESIGNATION OF SERIES

Series : PRESS		
Operation :	GV or G24	One stage
	GW or 1-2-3-4G	Two stage
Emission :	...	Class 1 EN267
Head :	TC	Standard head
	TL	Extended head
Flame control system :	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)
Electrical supply to the system :	1/230/50	1/230V/50Hz
	1/210/60	1/210V/60Hz
	1/220/60	1/220V/60Hz
	1/200/50-60	1/200V/50-60Hz
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
	3/210/60	3/210V/60Hz
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
	3/200/50-60	3/200V/50-60Hz
Auxiliary voltage :	230/50	230V/50Hz
	120/60	120V/60Hz
	220/60	220V/60Hz
	200/50-60	200V/50-60Hz

PRESS	G24		TC	FS1	1/230/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught oil burner with one stage operation, fully automatic, made up of:
- Air suction circuit
- Fan with forward curve blades with high performance concerning pressure and air delivery
- Air damper for air setting
- Starting motor at 2850 rpm, single-phase, 230V, 50Hz
- Combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Oil valves on the output circuit
- Photocell for flame detection
- Microprocessor-based burner safety control box, with diagnostic function
- Slide bars for easier installation and maintenance (for GV model)
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 2 Pipe fittings (for GV model)
- 2 Pipe fittings gasket (for GV model)
- 1 burner flange (for G24 model)
- 4 screws for fixing the burner flange to the boiler
- 1 thermal screen
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
						(kW)	(kg/h)	(kW)		
3473000	PRESS G24	TC	FS1	1/230/50	230/50	140/280	12/24	0,4	-	(1)
3473081	PRESS G24	TC	FS1	1/220/60	220/60	140/280	12/24	0,4	-	(1)
3473687	PRESS GV	TC	FS1	1/200/50-60	200/50-60	178/356	15/30	0,43	-	(2)
3473620	PRESS GV	TC	FS1	1/230/50	230/50	178/356	15/30	0,43	-	(2)

Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C 4-6 mm^2/s (cSt)
The burners of PRESS series are in according to 89/336 (2004/108) - 73/23 (2006/95) - 92/42 - EC Directive and EN 267 Norm.
(1) Burner needs 2 nozzles (to order separately).
(2) Burner needs 1 nozzle (to order separately).

Burner accessories

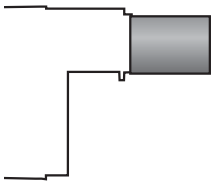
Nozzles type 60°B

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE : for nozzles quantity to order see note in the “Available Burner Models” table.

BURNER	RATED DELIVERY [kg/h] at 12 bar	GPH	NOZZLE CODE
▶ PRESS G24	6,3	1,50	3042107
▶ PRESS G24	7,3	1,75	3042110
▶ PRESS G24	8,5	2,00	3042126
▶ PRESS G24	10,6	2,50	3042140
▶ PRESS G24	12,7	3,00	3042158
▶ PRESS G24	14,8	3,50	3042162
▶ PRESS GV	17	4,00	3042172
▶ PRESS GV	19,1	4,50	3042182
▶ PRESS GV	21,2	5,00	3042192
▶ PRESS GV	23,3	5,50	3042202
▶ PRESS GV	25,5	6,00	3042212
▶ PRESS GV	27,6	6,50	3042222
▶ PRESS GV	29,7	7,00	3042232
▶ PRESS GV	31,8	7,50	3042242

Extended head kit



“Standard head” burners can be transformed into “extended head” versions, by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ PRESS G24	118	253	3010051
▶ PRESS GV	185	320	3000580

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ PRESS GV	142	3000755

Burner accessories

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ PRESS GV	C1/3	10	3010403

(*) according to EN 15036-1 standard

Degasing unit

To solve problem of air in the oil sucked, two versions of degasing unit are available.

BURNER	FILTER	FILTERING DEGREE (µm)	DEGASING UNIT CODE
▶ PRESS GV	With filter	50 - 75	3010055
▶ PRESS GV	Without filter	-	3010054

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

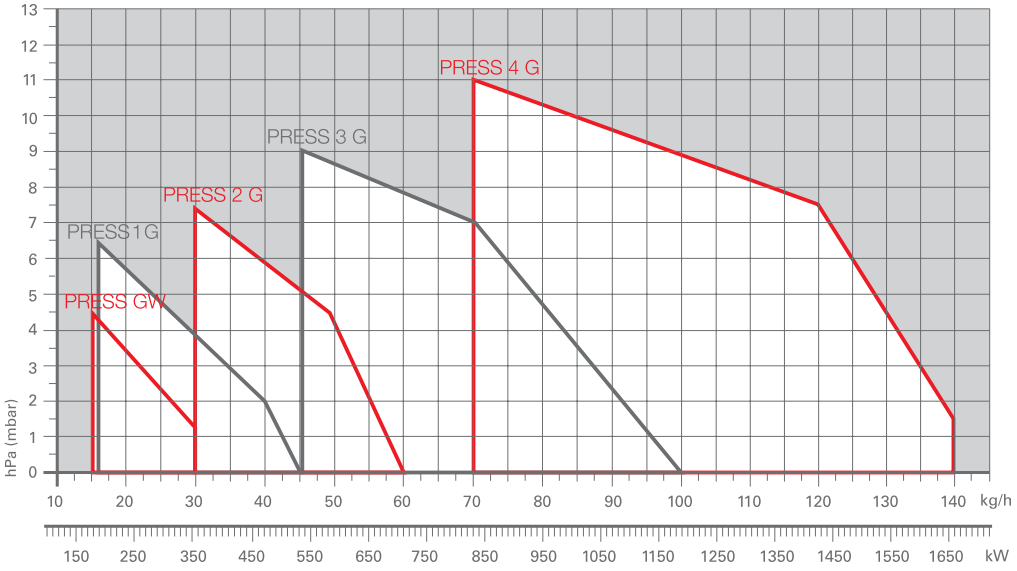
BURNER	KIT CODE
▶ PRESS G24 - GV	3002719

PRESS G SERIES

The PRESS G series of burners covers a firing range from 107 to 1660 kW and they have been designed for use in civil installations of average dimensions, like building areas and large apartment groups or for use in industrial applications, like small or medium plants.
Operation is two stage; the burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause. The combustion head, that can be set on the basis of required output, allows optimal performance ensuring good combustion and reducing fuel consumption. The main feature of these burners is their reliability due to a simple and strong construction, that permits operation without particular maintenance intervention.
Simplified maintenance is achieved by the slide bar system, which allows easy access to all of the essential components of the combustion head. All electrical components are easily accessible only by dismounting a protection panel, thus guaranteeing a quick and simple intervention on components.

PRESS GW	107/178	÷	356	kW
PRESS 1G	130/190	÷	534	kW
PRESS 2G	214/356	÷	712	kW
PRESS 3G	273/534	÷	1168	kW
PRESS 4G	415/830	÷	1660	kW

FIRING RATES

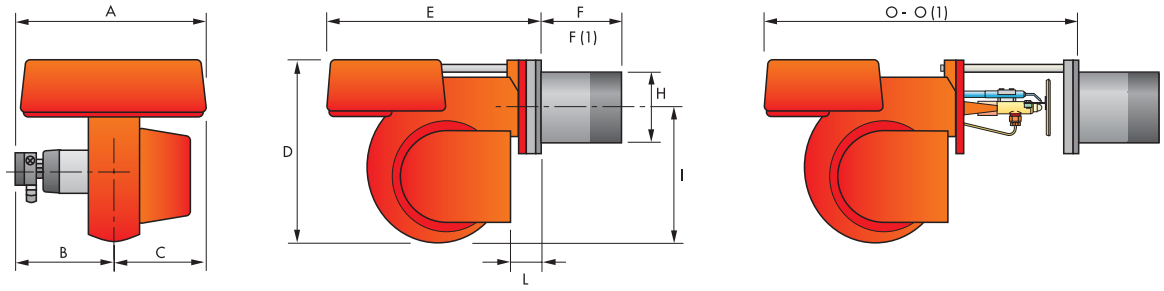


Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

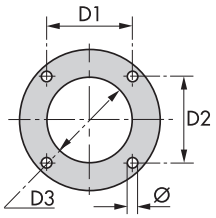
BURNER



MODEL	A	B	C	D	E	F -	F (1)	H	I	L	O -	O (1)
▶ PRESS GW	439	234	205	397	473	185 -	320	140	292	59	745 -	880
▶ PRESS 1G	475	270	205	397	473	237 -	370	150	292	59	745 -	880
▶ PRESS 2G	475	270	205	437	506	245 -	403	155	332	89	785 -	945
▶ PRESS 3G	611	406	205	485	570	254 -	412	175	370	88	846 -	1006
▶ PRESS 4G	675	354	316	590	720	266 -	426	205	445	175	999 -	1159

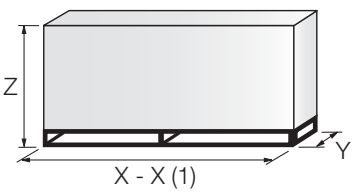
(1) Length with extended combustion head.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	D3	Ø
▶ PRESS GW	160	160	155	M10
▶ PRESS 1G	160	160	165	M10
▶ PRESS 2G	160	160	165	M10
▶ PRESS 3G	195	195	185	M12
▶ PRESS 4G	230	230	210	M12

PACKAGING



MODEL	X - X (1)	Y	Z	kg
▶ PRESS GW	695	542	468	37
▶ PRESS 1G	745	542	468	44
▶ PRESS 2G	800	542	515	44
▶ PRESS 3G	905	680	563	55
▶ PRESS 4G	1045	727	660	95

(1) Length with extended combustion head.

Specification

DESIGNATION OF SERIES

Series : PRESS			
Operation :	GV or G24	One stage	
	GW or 1-2-3-4G	Two stage	
Emission :	...	Class 1 EN267	
Head :	TC	Standard head	
	TL	Extended head	
Flame control system :	FS1	Standard (1 stop every 24 h)	
	FS2	Continuous working (1 stop every 72 h)	
Electrical supply to the system :	1/230/50	1/230V/50Hz	
	1/210/60	1/210V/60Hz	
	1/220/60	1/220V/60Hz	
	1/200/50-60	1/200V/50-60Hz	
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz	
	3/210/60	3/210V/60Hz	
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz	
	3/200/50-60	3/200V/50-60Hz	
Auxiliary voltage :	230/50	230V/50Hz	
	120/60	120V/60Hz	
	220/60	220V/60Hz	
	200/50-60	200V/50-60Hz	

PRESS	4G		TC	FS1	3/230-400/50	230/50
BASIC DESIGNATION						
EXTENDED DESIGNATION						

Specification

STATE OF SUPPLY

Monoblock forced draught oil burner with two stage operation, fully automatic, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with forward curve blades with high performance concerning pressure and air delivery
- Air damper for air setting
- Hydraulic ram for air damper control
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz (single-phase, 230V and 50Hz for the PRESS GW model)
- Combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Fan pressure test point
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Valve unit with two delivery oil valves on the output circuit
- Photocell for flame detection
- Microprocessor-based burner safety control box, with diagnostic function
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 4 screws for fixing the burner flange to the boiler
- 1 thermal screen
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3473754	PRESS GBW TC FS1 1/230/50 230/50	107/178-356	9/15-30	0,43	-	(1)
3473787	PRESS GW TC FS1 1/200/50-60 200/50-60	107/178-356	9/15-30	0,6	-	(1)
3473784	PRESS GW TC FS1 1/220/60 220/60	107/178-356	9/15-30	0,4	-	(1)
3473720	PRESS GW TC FS1 1/230/50 230/50	107/178-356	9/15-30	0,43	-	(1)
3474587	PRESS 1G TC FS1 3/200/50-60 200/50-60	130/190-534	11/16-45	0,6	-	(1)
3474582	PRESS 1G TC FS1 3/220-380/60 220/60	130/190-534	11/16-45	0,6	-	(1)
3474520	PRESS 1G TC FS1 3/230-400/50 230/50	130/190-534	11/16-45	0,6	-	(1)
3474987	PRESS 2G TC FS1 3/200/50-60 200/50-60	214/356-712	18/30-60	0,85	-	(1)
3474982	PRESS 2G TC FS1 3/220-380/60 220/60	214/356-712	18/30-60	0,85	-	(1)
3474920	PRESS 2G TC FS1 3/230-400/50 230/50	214/356-712	18/30-60	1,1	-	(1)
3475987	PRESS 3G TC FS1 3/200/50-60 200/50-60	273/534-1186	23/45-100	2,05	-	(1)
3475982	PRESS 3G TC FS1 3/220-380/60 220/60	273/534-1186	23/45-100	2,05	-	(1)
3475920	PRESS 3G TC FS1 3/230-400/50 230/50	273/534-1186	23/45-100	2,05	-	(1)
3476587	PRESS 4G TC FS1 3/200/50-60 200/50-60	415/830-1660	35/70-140	3,8	-	(1)
3476582	PRESS 4G TC FS1 3/220-380/60 220/60	415/830-1660	35/70-140	3,8	-	(1)
3476520	PRESS 4G TC FS1 3/230-400/50 230/50	415/830-1660	35/70-140	3,8	-	(1)

(1) Air damper open during stop
Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt)
The burners of PRESS series are in according to 89/336 (2004/108) - 73/23 (2006/95) - 92/42 - EC Directive and EN 267 Norm.

Burner accessories

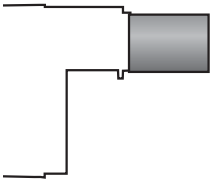
Nozzles type 60°B

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner is equipped with N° 2 nozzles.

BURNER	RATED DELIVERY [kg/h] at 12 bar	GPH	NOZZLE CODE
▶ PRESS GW - 1G	8,5	2,00	3042126
▶ PRESS GW - 1G	10,6	2,50	3042140
▶ PRESS GW - 1G	12,7	3,00	3042158
▶ PRESS GW - 1G	14,8	3,50	3042162
▶ PRESS GW - 1G - 2G	17	4,00	3042172
▶ PRESS 1G - 2G	19,1	4,50	3042182
▶ PRESS 1G - 2G	21,2	5,00	3042192
▶ PRESS 1G - 2G	23,3	5,50	3042202
▶ PRESS 2G - 3G	25,5	6,00	3042212
▶ PRESS 2G - 3G	27,6	6,50	3042222
▶ PRESS 2G - 3G	29,7	7,00	3042232
▶ PRESS 3G	31,8	7,50	3042242
▶ PRESS 3G	33,9	8,00	3042252
▶ PRESS 3G	36,1	8,50	3042262
▶ PRESS 3G - 4G	40,3	9,50	3042282
▶ PRESS 3G - 4G	42,4	10,00	3042292
▶ PRESS 3G - 4G	46,7	11,00	3042312
▶ PRESS 3G - 4G	50,9	12,00	3042322
▶ PRESS 4G	55,1	13,00	3042332
▶ PRESS 4G	59,4	14,00	3042352
▶ PRESS 4G	63,6	15,00	3042362
▶ PRESS 4G	67,9	16,00	3042382
▶ PRESS 4G	72,1	17,00	3042392
▶ PRESS 4G	76,4	18,00	3042412

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ PRESS GW	185	320	3000581
▶ PRESS 1G	237	370	3000537
▶ PRESS 2G	245	403	3000538
▶ PRESS 3G	254	412	3000851
▶ PRESS 4G	266	426	3000555

Burner accessories

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ All models	142	3000755

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ PRESS GW - 1G - 2G - 3G	C1/3	10	3010403
▶ PRESS 4G	C4/5	10	3010404

(*) according to EN 15036-1 standard

Degasing unit

To solve problem of air in the oil sucked, two versions of degasing unit are available.

BURNER	FILTER	FILTERING DEGREE (µm)	DEGASING UNIT CODE
▶ PRESS GW PRESS 1G - 2G - 3G(*) - 4G(*)	With filter	50 - 75	3010055
▶ PRESS GW PRESS 1G - 2G - 3G(*) - 4G(*)	Without filter	-	3010054

(*) For oil flow larger than 80 kg/h install two degasing units in parallel in the oil supply line.

Air damper complete closure kit

To minimize thermal dispersion caused by the stack draught sucking air from the fan's suction opening, an "air damper complete closure kit" is available. This is composed by a hydraulic ram, which closes the air damper completely when the burner shuts down.

BURNER	KIT CODE
▶ PRESS GW	3000853
▶ PRESS 1G	3000854
▶ PRESS 2G	3000855
▶ PRESS 3G	3000856
▶ PRESS 4G	3000857

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

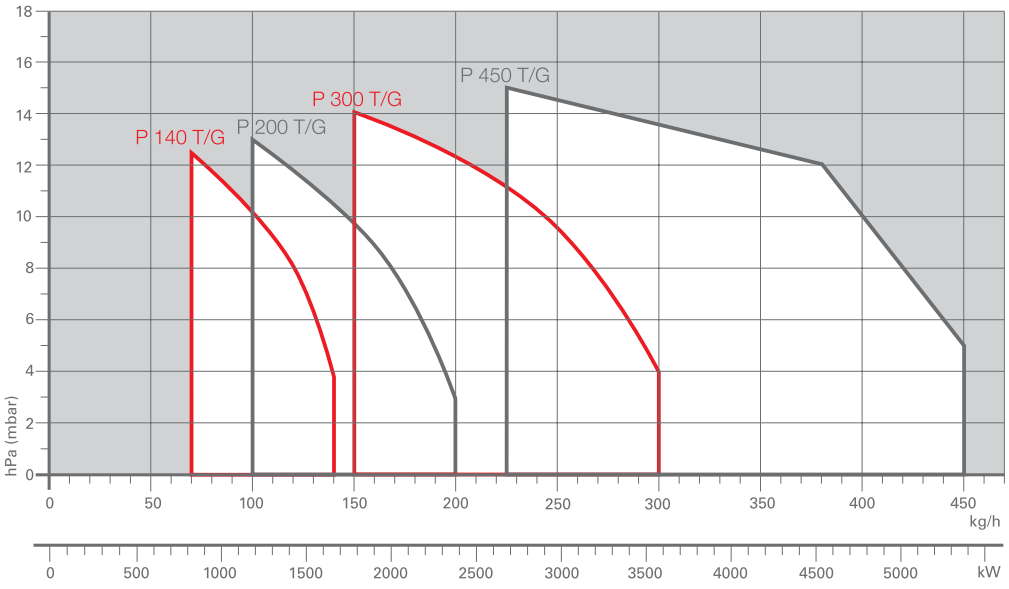
BURNER	KIT CODE
▶ All models	3002719

PRESS T/G SERIES

The PRESS T/G series of burners covers a firing range from 830 to 5340 kW.
Available in 4 different models, this burners are particularly well suited for matching with pressurized chamber boilers.
For their characteristics, they find application in big civil plants for domestic heating or in industrial applications where thermal load is repetitive and predictable.
An hydraulic ram exclusive system, with 3 adjustable positions, regulates dampers opening, allowing air passage in relation to output required: in this way flame stability is optimized in every working point, with micro-regulation available.
The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

P 140 T/G	380/830	÷	1660	kW
P 200 T/G	557/1186	÷	2372	kW
P 300 T/G	712/1779	÷	3560	kW
P 450 T/G	890/2670	÷	5340	kW

FIRING RATES

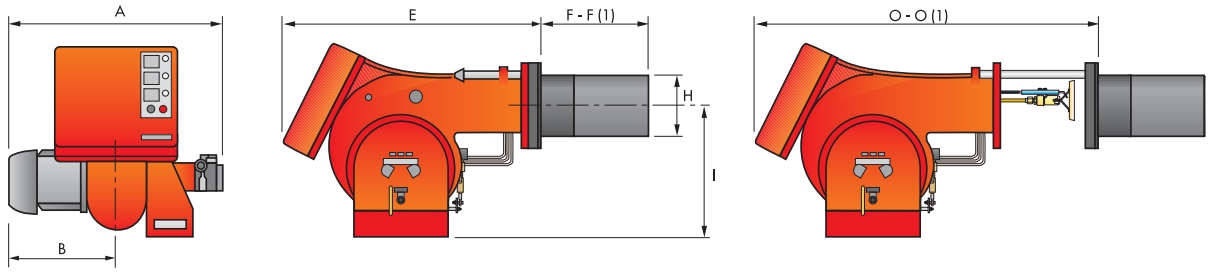


Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

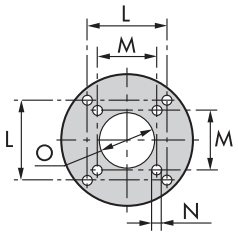
BURNER



MODEL	A	B	E	F - F (1)	H	I	O - O (1)
▶ P 140 T/G	765	365	890	363 - 473	222	467	1250 - 1360
▶ P 200 T/G	796	396	890	391 - 501	250	467	1280 - 1390
▶ P 300 T/G	858	447	1000	444 - 574	295	496	1440 - 1570
▶ P 450 T/G	950	508	1070	476 - 606	336	525	1546 - 1676

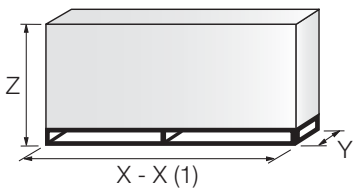
(1) Length with extended combustion head.

BURNER - BOILER MOUNTING FLANGE



MODEL	L	M	N	O
▶ P 140 T/G	260	230	M14	225
▶ P 200 T/G	260	-	M16	255
▶ P 300 T/G	260	-	M18	300
▶ P 450 T/G	310	-	M20	340

PACKAGING



MODEL	X - X (1)	Y	Z	kg
▶ P 140 T/G	1500	930	905	130
▶ P 200 T/G	1500	930	905	220
▶ P 300 T/G	1780	1085	990	238
▶ P 450 T/G	1780	1085	990	300

(1) Length with extended combustion head.

Specification

DESIGNATION OF SERIES

Series : PRESS

Size : 140 ... 450

Operation : T/G Three stage
P/G Modulating

Emission : ... Class 1 EN267

Head : TC Standard head
TL Extended head

Flame control system : FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :

3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
3/200/50-60	3/200V/50-60Hz

Auxiliary voltage :

230/50	230V/50Hz
220/60	220V/60Hz
110/50-60	110V/50-60Hz

PRESS	140	T/G		TC	FS1	3/230-400/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught oil burner with three stage operation, fully automatic, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with forward curved blades high performance pressure levels
- Air dampers for air setting controlled by a three stage hydraulic ram
- Starting motor at 2850 rpm, three-phase 400 V with neutral, 50 Hz
- Combustion head, that can be set on the basis of the combustion output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Valve unit with a oil safety valve and three oil delivery valves on the output circuit;
- Photocell for flame detection
- Microprocessor based burner safety control box, with diagnostic function
- Burner on/off switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for the connection to the pump
- 4 wiring looms fittings for electrical connections
- 4 screws for fixing the burner flange to the boiler
- 2 slide bar extensions (for the extended model of P 300 T/G and P 450 T/G)
- 3 nozzles
- Gasket for flange
- 1 Star Delta starter (On models where provided)
- Diffuser disk (P 450 T/G)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3476823	PRESS 140 T/G TC FS1 3/230-400/50 230/50	380/830÷1660	32/70÷140	4,5	CE060890223002	
3476824	PRESS 140 T/G TL FS1 3/230-400/50 230/50	380/830÷1660	32/70÷140	4,5	CE060890223002	
3476885	PRESS 140 T/G TC FS1 3/220-380/60 220/60	380/830÷1660	32/70÷140	4,5	-	
3476886	PRESS 140 T/G TL FS1 3/220-380/60 220/60	380/830÷1660	32/70÷140	4,5	-	
3477723	PRESS 200 T/G TC FS1 3/230-400/50 230/50	557/1186÷2372	47/100÷200	5,5	CE060890223002	
3477724	PRESS 200 T/G TL FS1 3/230-400/50 230/50	557/1186÷2372	47/100÷200	5,5	CE060890223002	
3477785	PRESS 200 T/G TC FS1 3/220-380/60 220/60	557/1186÷2372	47/100÷200	5,5	-	
3477786	PRESS 200 T/G TL FS1 3/220-380/60 220/60	557/1186÷2372	47/100÷200	5,5	-	
3478837	PRESS 300 T/G TC FS1 3/230-400/50 230/50	712/1779÷3560	60/150÷300	10	CE060890223002	
3478838	PRESS 300 T/G TL FS1 3/230-400/50 230/50	712/1779÷3560	60/150÷300	10	CE060890223002	
3478839	PRESS 300 T/G TC FS1 3/230/50 230/50	712/1779÷3560	60/150÷300	10	CE060890223002	(1)
3478840	PRESS 300 T/G TL FS1 3/230/50 230/50	712/1779÷3560	60/150÷300	10	CE060890223002	(1)
3478841	PRESS 300 T/G TC FS1 3/400/50 230/50	712/1779÷3560	60/150÷300	10	CE060890223002	(1)
3478842	PRESS 300 T/G TL FS1 3/400/50 230/50	712/1779÷3560	60/150÷300	10	CE060890223002	(1)
3478985	PRESS 300 T/G TC FS1 3/220-380/60 220/60	712/1779÷3560	60/150÷300	10	-	
3478986	PRESS 300 T/G TL FS1 3/220-380/60 220/60	712/1779÷3560	60/150÷300	10	-	
3479336	PRESS 450 T/G TC FS1 3/230/50 230/50	890/2670÷5340	75/225÷450	15	CE060890223002	(1)
3479337	PRESS 450 T/G TL FS1 3/230/50 230/50	890/2670÷5340	75/225÷450	15	CE060890223002	(1)
3479338	PRESS 450 T/G TC FS1 3/400/50 230/50	890/2670÷5340	75/225÷450	15	CE060890223002	(1)
3479339	PRESS 450 T/G TL FS1 3/400/50 230/50	890/2670÷5340	75/225÷450	15	CE060890223002	(1)

(1) Star-delta starting, as standard equipment
Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt)
The burners of PRESS series are in according to 89/336 (2004/108) - 73/23 (2006/95) - 92/42 - 89/392 EC Directive and EN 267 Norm.

Burner accessories

Nozzles

The following list shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 3 nozzles.

BURNER	GPH	RATED OUTPUT [kg/h]			NOZZLE CODE
		at 10 bar	at 12 bar	at 14 bar	
▶ P 140 T/G	3,50	13,5	14,8	16,1	3042162
▶ P 140 T/G	4,00	15,4	17	18,4	3042172
▶ P 140 T/G	4,50	17,3	19,1	20,7	3042182
▶ P 140 T/G - P 200 T/G	5,00	19,2	21,2	23	3042192
▶ P 140 T/G - P 200 T/G	5,50	21,1	23,3	25,3	3042202
▶ P 140 T/G - P 200 T/G	6,00	23,1	25,5	27,7	3042212
▶ P 140 T/G - P 200 T/G	6,50	25	27,6	30	3042222
▶ P 140 T/G - P 200 T/G	7,00	26,9	29,7	32,3	3042232
▶ P 140 T/G - P 200 T/G	7,50	28,8	31,8	34,6	3042242
▶ P 140 T/G - P 200 T/G	8,00	30,8	33,9	36,9	3042252
▶ P 140 T/G - P 200 T/G	8,50	32,7	36,1	39,2	3042262
▶ P 140 T/G - P 200 T/G	9,50	36,5	40,3	43,8	3042282
▶ P 140 T/G - P 200 T/G	10,00	38,4	42,4	46,1	3042292
▶ P 140 T/G - P 200 T/G	11,00	42,3	46,7	50,7	3042312
▶ P 200 T/G	12,00	46,1	50,9	55,3	3042322
▶ P 200 T/G	13,00	50	55,1	59,9	3042332
▶ P 200 T/G - P 300 T/G	14,00	53,8	59,4	64,5	3042352
▶ P 200 T/G - P 300 T/G	15,00	57,7	63,6	69,2	3042362
▶ P 300 T/G	16,00	61,5	67,9	73,8	3042382
▶ P 300 T/G	17,00	65,4	72,1	78,4	3042392
▶ P 300 T/G - P 450 T/G	18,00	69,2	76,4	83	3042412
▶ P 300 T/G - P 450 T/G	19,00	73	80,6	87,6	3042422
▶ P 300 T/G - P 450 T/G	20,00	76,9	84,8	92,2	3042442
▶ P 300 T/G - P 450 T/G	22,00	84,6	93,3	101,4	3042462
▶ P 300 T/G - P 450 T/G	24,00	92,2	101,8	110,6	3042472
▶ P 450 T/G	26,00	99,9	110,3	119,9	3042482
▶ P 450 T/G	28,00	107,6	118,8	129,1	3042492
▶ P 450 T/G	30,00	110,4	122	132,4	3042502
▶ P 450 T/G	32,00	117,8	130,1	150,1	3042512
▶ P 450 T/G	35,00	128,8	142,1	154,5	3042522

Burner accessories

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ P 140 T/G	102	3000722
▶ P 200 T/G	102	3000722
▶ P 300 T/G	130	3000723
▶ P 450 T/G	130	3000751

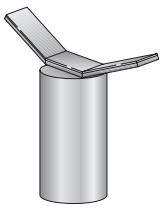
Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ P 140 T/G - P 200 T/G	C4/5	10	3010404
▶ P 300 T/G - P 450 T/G	C7	10	3010376

(*) according to EN 15036-1 standard

Burner support



For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need of forklift trucks.

BURNER	SUPPORT CODE
▶ P 300 T/G - P 450 T/G	3000731

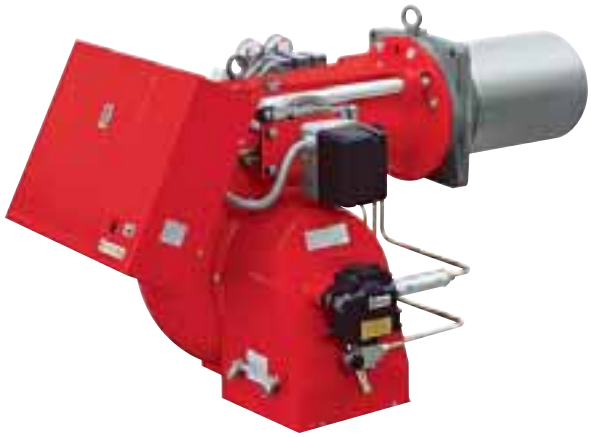
PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ P 140 T/G - P 200 T/G - P 300 T/G - P 450 T/G	3002719

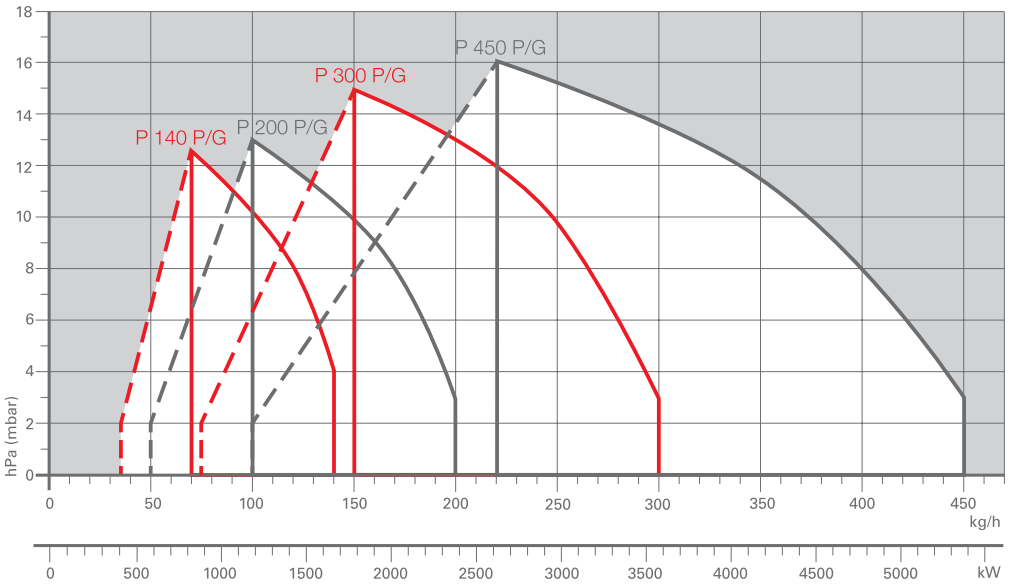
PRESS P/G SERIES

The PRESS P/G series of burners covers a firing range from 415 to 5340 kW.
Setting can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes, which guarantees a turn down ratio of 3:1.
The versatility of this range makes the burner well suited for use on commercial or industrial applications where the load factor is subject to wide variations over a short period of time.
Simplified maintenance is achieved by Riello designed slide bar system, which allows easy access to all of the essential components of the combustion head.



P 140 P/G	415/830	÷	1660	kW
P 200 P/G	590/1185	÷	2370	kW
P 300 P/G	890/1780	÷	3560	kW
P 450 P/G	1190/2670	÷	5340	kW

FIRING RATES



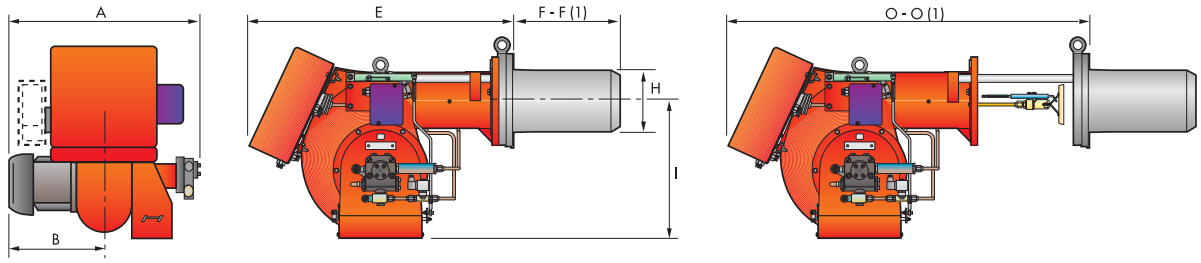
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

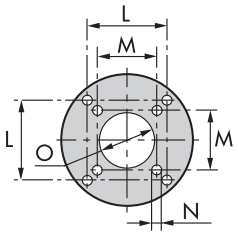
BURNER



MODEL	A	B	E	F - F (1)	H	I	O - O (1)
▶ P 140 P/G	765	365	890	363 - 473	222	467	1250 - 1360
▶ P 200 P/G	796	396	890	391 - 501	250	467	1280 - 1390
▶ P 300 P/G	858	447	1000	444 - 574	295	496	1440 - 1570
▶ P 450 P/G	950	508	1070	476 - 606	336	525	1546 - 1676

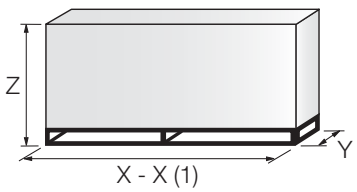
(1) Length with extended combustion head.

BURNER - BOILER MOUNTING FLANGE



MODEL	L	M	N	O
▶ P 140 P/G	260	230	M14	225
▶ P 200 P/G	260	-	M16	255
▶ P 300 P/G	260	-	M18	300
▶ P 450 P/G	310	-	M20	340

PACKAGING



MODEL	X - X (1)	Y	Z	kg
▶ P 140 P/G	1500	930	905	130
▶ P 200 P/G	1500	930	905	220
▶ P 300 P/G	1780	1085	990	238
▶ P 450 P/G	1780	1085	990	300

(1) Length with extended combustion head.

Specification

DESIGNATION OF SERIES

Series : PRESS			
Size :	140 ... 450		
Operation :	T/G	Three stage	
	P/G	Modulating	
Emission :	...	Class 1 EN267	
Head :	TC	Standard head	
	TL	Extended head	
Flame control system :	FS1	Standard (1 stop every 24 h)	
	FS2	Continuous working (1 stop every 72 h)	
Electrical supply to the system :	3/230/50	3/230V/50Hz	
	3/400/50	3N/400V/50Hz	
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz	
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz	
	3/200/50-60	3/200V/50-60Hz	
Auxiliary voltage :	230/50	230V/50Hz	
	220/60	220V/60Hz	
	110/50-60	110V/50-60Hz	

PRESS	140	P/G		TC	FS1	3/230-400/50	230/50
BASIC DESIGNATION							
EXTENDED DESIGNATION							

Specification

STATE OF SUPPLY

Monoblock forced draught oil burner, two stage progressive or modulating operation, with a kit, fully automatic, made up of:
- Air suction circuit
- Fan with forward curved blades high performance pressure levels
- Air damper for air setting and automatic oil output regulator controlled by a servomotor with variable cam
- Starting motor at 2850rpm, three-phase 400V with neutral, 50Hz
- Combustion head, that can be set on the basis of the required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Valve unit with a double oil safety valve on the output circuit and double safety valve on the return circuit
- Safey oil pressure switch for stop the burner in the case of problems on return circuit
- Photocell for flame detection
- Burner safety control box, fitted with control functions for the correct positioning of the servomotor and possibility of post-ventilation by just changing the electric wiring
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for the connection to the pump
- wiring looms fittings for electrcial connections
- 4 screws for fixing the burner flange to the boiler
- 2 slide bar extensions (for the extended head models of P 300 P/G e P 450 P/G)
- 1 star delta starter (on models where provided)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

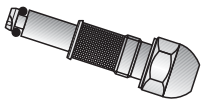
Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3476867	PRESS 140 P/G TC FS1 3/230-400/50 230/50	415/830÷1660	35/70÷140	4,5	CE060890223002	
3476868	PRESS 140 P/G TL FS1 3/230-400/50 230/50	415/830÷1660	35/70÷140	4,5	CE060890223002	
3477767	PRESS 200 P/G TC FS1 3/230-400/50 230/50	590/1185÷2370	50/100÷200	5,5	CE060890223002	
3477768	PRESS 200 P/G TL FS1 3/230-400/50 230/50	590/1185÷2370	50/100÷200	5,5	CE060890223002	
3478941	PRESS 300 P/G TC FS1 3/230-400/50 230/50	890/1780÷3560	75/150÷300	10	CE060890223002	
3478942	PRESS 300 P/G TL FS1 3/230-400/50 230/50	890/1780÷3560	75/150÷300	10	CE060890223002	
3478943	PRESS 300 P/G TC FS1 3/230/50 230/50	890/1780÷3560	75/150÷300	10	CE060890223002	(1)
3478944	PRESS 300 P/G TL FS1 3/230/50 230/50	890/1780÷3560	75/150÷300	10	CE060890223002	(1)
3478945	PRESS 300 P/G TC FS1 3/400/50 230/50	890/1780÷3560	75/150÷300	10	CE060890223002	(1)
3478946	PRESS 300 P/G TL FS1 3/400/50 230/50	890/1780÷3560	75/150÷300	10	CE060890223002	(1)
3479369	PRESS 450 P/G TC FS1 3/230/50 230/50	1190/2670÷5340	100/225÷450	15	CE060890223002	(1)
3479370	PRESS 450 P/G TL FS1 3/230/50 230/50	1190/2670÷5340	100/225÷450	15	CE060890223002	(1)
3479371	PRESS 450 P/G TC FS1 3/400/50 230/50	1190/2670÷5340	100/225÷450	15	CE060890223002	(1)
3479372	PRESS 450 P/G TL FS1 3/400/50 230/50	1190/2670÷5340	100/225÷450	15	CE060890223002	(1)

(1) Star-delta starting, as standard equipment
Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt)
The burners of PRESS series are in according to 89/336 (2004/108) - 73/23 (2006/95) - 92/42 - 89/392 EC Directive and EN 267 Norm.

Burner accessories

Return nozzles



The following list shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 1 nozzle.

BURNER	RATED OUTPUT kg/h (*)	NOZZLES BERGONZO B5 45° WITHOUT "SA" NEEDLE CODE	NOZZLES FLUIDICS N2 45° WITHOUT NEEDLE CODE
▶ P 140 P/G	70	3009303	3045471
▶ P 140 P/G	80	3009305	3045472
▶ P 140 P/G	90	3009307	3045473
▶ P 140 - 200 P/G	100	3009310	3045475
▶ P 140 - 200 P/G	125	3009312	3045477
▶ P 200 - 300 P/G	150	3009314	3045479
▶ P 200 - 300 P/G	175	3009316	3045481
▶ P 200 - 300 P/G	200	3009318	3045483
▶ P 300 - 400 P/G	225	3009320	3045485
▶ P 300 - 400 P/G	250	3009322	3045487
▶ P 300 - 400 P/G	275	3009324	3045489
▶ P 300 - 400 P/G	300	3009326	3045491
▶ P 450 P/G	325	3009328	3045493
▶ P 450 P/G	350	3009330	3045495
▶ P 450 P/G	375	3009332	3045497
▶ P 450 P/G	400	3009334	3045499
▶ P 450 P/G	425	3009336	3045500
▶ P 450 P/G	450	3009338	3045501

(*) Nozzle rated delivery is referred to atomised pressure

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ P 140 P/G	102	3000722
▶ P 200 P/G	102	3000722
▶ P 300 P/G	130	3000723
▶ P 450 P/G	130	3000751

Burner accessories

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ P 140 P/G - P 200 P/G	C4/5	10	3010404
▶ P 300 P/G - P 450 P/G	C7	10	3010376

(*) according to EN 15036-1 standard

Accessories for modulating operation

To obtain modulating operation, the PRESS P/G series of burners requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ P 140 - 200 - 300 - 450 P/G	RWF 40	3010211

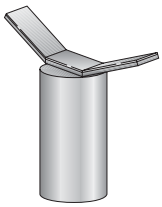
The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ P 140 - 200 - 300 - 450 P/G	Temperature PT 100	-100 ÷ 500°C	3010110
▶ P 140 - 200 - 300 - 450 P/G	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ P 140 - 200 - 300 - 450 P/G	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

BURNER	POTENTIOMETER KIT CODE
▶ P 140 - 200 - 300 - 450 P/G	3010021

Burner support



For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need of forklift trucks.

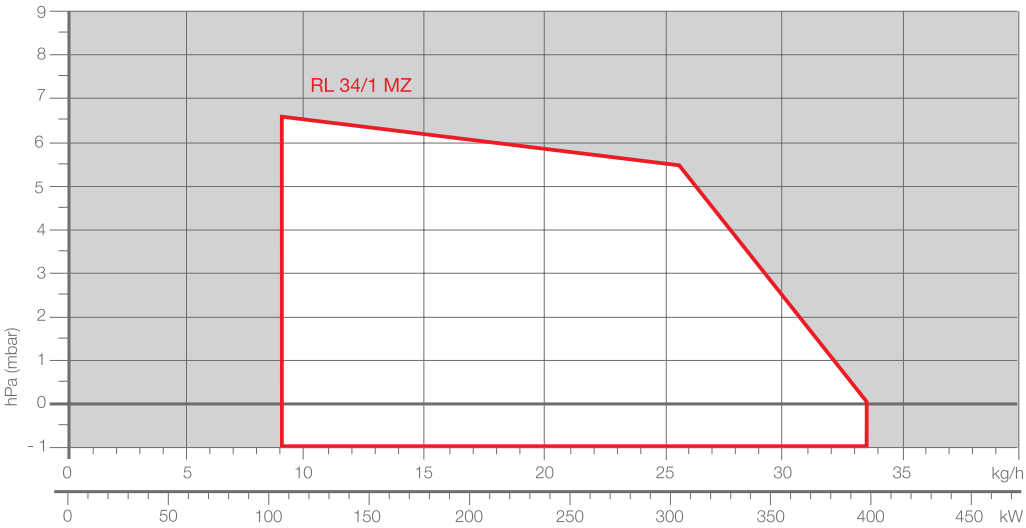
BURNER	SUPPORT CODE
▶ P 300 P/G - P 450 P/G	3000731

RL/1 SERIES

The RL/1 burners series covers a firing range from 107 to 398 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers.
Optimisation of sound emissions is guaranteed by the special design of the air suction circuit **and by incorporated sound proofing material**.
Special care has been paid to keeping overall dimensions compact and to easy servicing.
The elevated fans and combustion head performance guarantees flexibility of use and excellent operation at all firing rates. A wide range of accessories guarantees elevated working flexibility.

RL 34/1 MZ	107 ÷ 398 kW

FIRING RATES

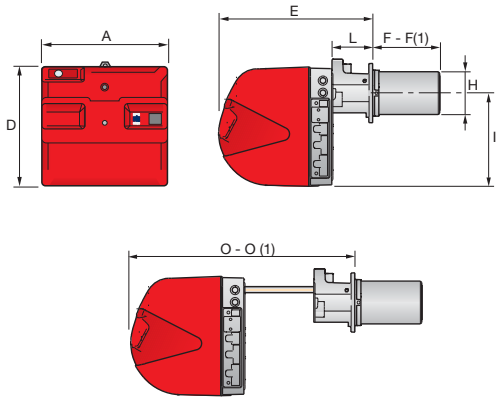


Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

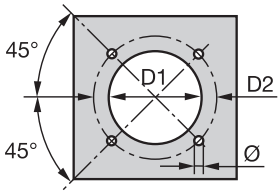
BURNER



MODEL	A	D	E	F - F(1)	H	I	L	O - O(1)
▶ RL 34/1 MZ	442	422	508	216 - 351	140	305	138	780 - 915

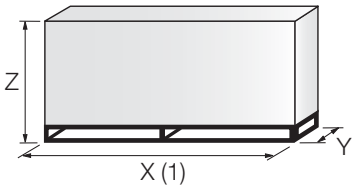
(1) dimension with extended head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RL 34/1 MZ	160	224	M8

PACKAGING



MODEL	X (1)	Y	Z	kg
▶ RL 34/1 MZ	1000	485	500	32

(1) Length with short and extended head

Specification

DESIGNATION OF SERIES

Series: R

Fuel:	S	Natural Gas
	SP	LPG
	L	Light oil
	LS	Light oil/Methane
	N	Heavy oil

Size

Setting:	/1	Single stage
	...	Two stage
	/M	Modulating

Emission:	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 1 EN267 Class 3 EN676

Head length:	TC	standard head
	TL	extended head

Flame control system:	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system:	
1/230/50	1/230V/50Hz
1/220-230/50-60	1/220-230V/50-60Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
3/220-400/50-60	3/220-230V/50-60Hz 3/380-400V/50-60Hz

Auxiliary voltage:	230/50-60	230V/50-60Hz
	220-230/50-60	220-230V/50-60Hz
	110/50-60	110V/50-60Hz

ID: Differential switch

R	L	34	/1	MZ	TC	FS1	1/230/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught oil burner with one stage operation, fully automatic, made up of:
- Air suction circuit **with sound proofing material**
- High performance fan with forward curve blades
- Air damper for air setting
- Starting motor at 2800 rpm, single-phase, 220-230V / 50-60Hz
- Combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Fan pressure test point
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Valve unit with a double oil delivery valve on the output circuit
- Photocell for flame detection
- Microprocessor-based burner safety control box, with diagnostic function
- Plugs and socket for electrical connections, accessible from the external of the cover
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 1 thermal screen
- 2 slide bar extensions (for model with long blast tube)
- 4 screws for fixing the burner flange to the boiler
- 1 7pin plug for electrical connection
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3470110	RL 34/1 MZ TC FS1 1/220-230/50-60 220-230/50-60	107 - 398	9 - 34	0,6	CE-00360383/07	
3470111	RL 34/1 MZ TL FS1 1/220-230/50-60 220-230/50-60	107 - 398	9 - 34	0,6	CE-00360383/07	

Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt)
The burners of RL/1 series are in according to 89/336 (2004/108) - 73/23 (2006/95) - 92/42 - 89/392 EC Directive and EN 267 Norm.

Burner accessories

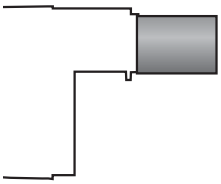
Nozzles

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N°2 nozzles.

BURNER	NOZZLE TYPE	GPH	RATED OUTPUT (kg/h) at 10 bar	at 12 bar	at 14 bar	NOZZLE CODE
	60°A	1,00	4,1	4,5	4,9	3042078
	60°A	1,25	4,7	5,2	5,6	3042094
	60°A	1,50	5,7	6,3	6,8	3042108
	60°A	1,75	6,7	7,3	7,9	3042114
▶ RL 34/1 MZ	60°A	2,00	7,7	8,5	9,2	3042124
	60°A	2,50	9,6	10,6	11,5	3042144
	60°A	3,00	11,5	12,7	13,8	3042148
	60°A	3,50	13,5	14,8	16,1	3042164
	60°A	4,00	15,4	17	18,4	3042174

Extended heads



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The kit available, giving the original and the extended lengths, is listed below.

BURNER	'STANDARD' HEAD LENGTH (mm)	'EXTENDED' HEAD LENGTH (mm)	KIT CODE
▶ RL 34/1 MZ	216	351	3010426

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RL 34/1 MZ	90	3010095

Sound-proofing box

If noise emission needs reducing even further, sound-proofing box is available, as given in the following table:

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)](*)	BOX CODE
▶ RL 34/1 MZ	C1/3	10	3010403

(*) according to EN 15036-1 standard

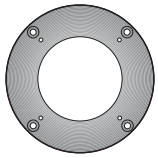
Burner accessories

Degasing unit

With single pipe systems, you can find air in the oil sucked by the pump that comes from the oil itself due to negative pressure or to a faulty seal.
To solve this problem, we recommend fitting a degasing unit near the burner. Two versions are available with or without filter:

BURNER	FILTER	KIT CODE
▶ RL 34/1 MZ	With filter	3010055
▶ RL 34/1 MZ	Without filter	3010054

Connection flange kit



A kit is available for use where the burner opening on the boiler is of excessive diameter.

BURNER	KIT CODE
▶ RL 34/1 MZ	3010138

Volt free contact kit

A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals.
Every burner can be equipped with a single kit to remote the flame presence signal and the burner lockout indication.

BURNER	KIT CODE
▶ RL 34/1 MZ	3010419

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RL 34/1 MZ	3002719

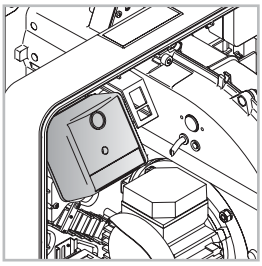
Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device for electrical system fault.

BURNER	KIT CODE
▶ RL 34/1 MZ	3010448

Burner accessories

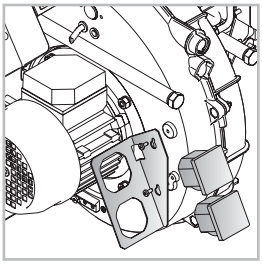
Post-ventilation kit



To have 20 s ventilation after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ RL 34/1 MZ	3010453

Hours counter kit



To measure the burner working time a hours counter kit is available.

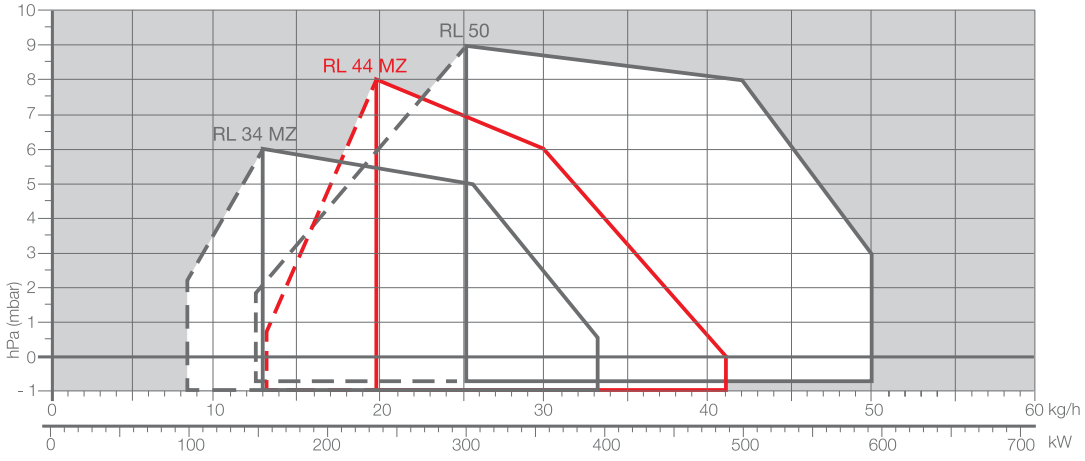
BURNER	KIT CODE
▶ RL 34/1 MZ	3010450

RL SERIES

The RL series of burners covers a firing range from 154 to 2700 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers.
Operation is “two stage”; the burners are fitted with a microprocessor-based control panel, which supplies indication of burner status and fault causes.
Optimisation of sound emissions is guaranteed by the special design of the air suction circuit **and by incorporated sound proofing material**. The elevated performance of the fans and combustion head, guarantee flexibility of use and excellent working at all firing rates.
The exclusive design ensures reduced dimensions, simple use and maintenance. A wide range of accessories guarantees elevated working flexibility.

RL 34 MZ	97/154	÷	395	kW
RL 44 MZ	155/235	÷	485	kW
RL 50	148/296	÷	593	kW
RL 64 MZ	206/391	÷	830	kW
RL 70	255/474	÷	830	kW
RL 100	356/711	÷	1186	kW
RL 130	486/948	÷	1540	kW
RL 190	759/1423	÷	2443	kW
RL 250 MZ	600/1250	÷	2700	kW

FIRING RATES



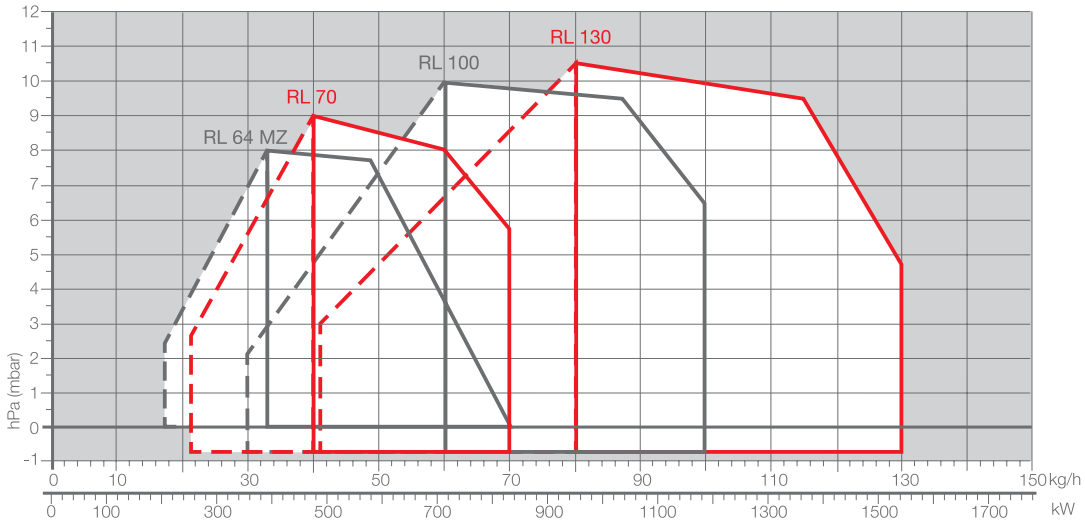
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

RL SERIES

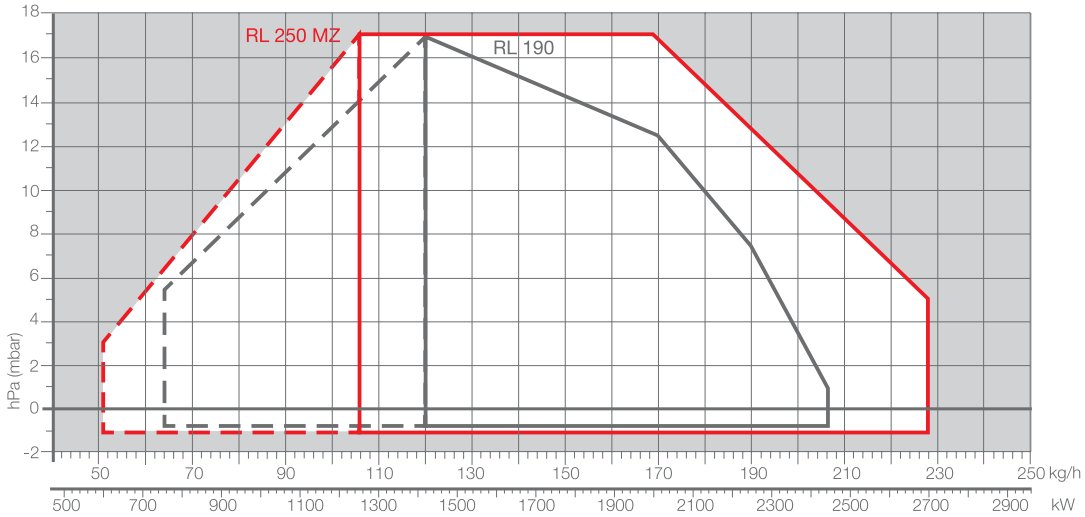
FIRING RATES



Useful working field for choosing the burner

Modulation range

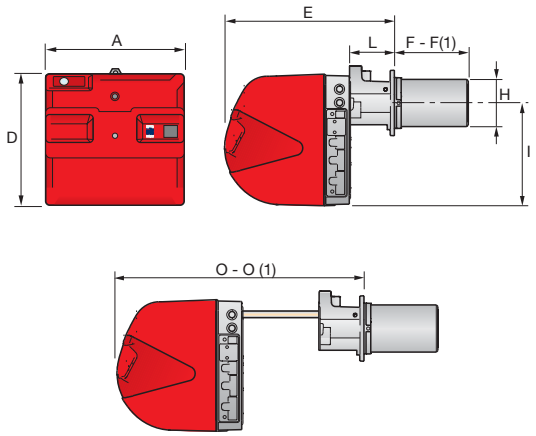
Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.



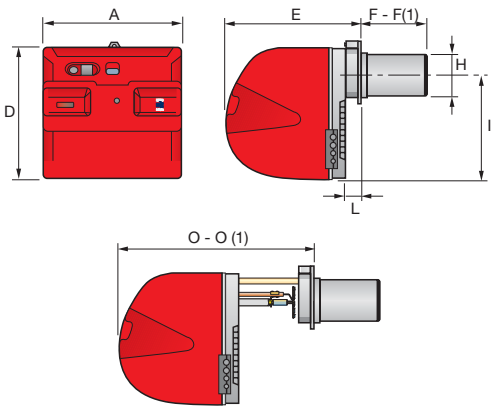
Overall dimensions (mm)

BURNER

RL 34 - 44 MZ



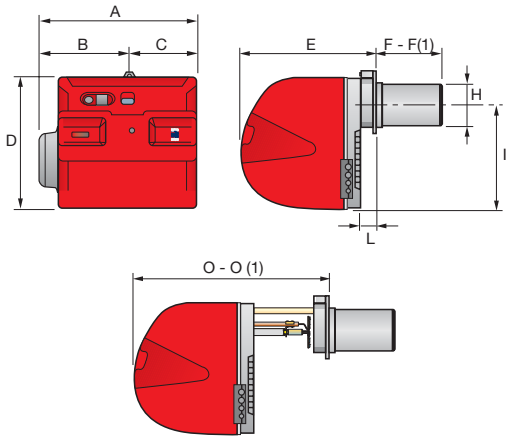
RL 50



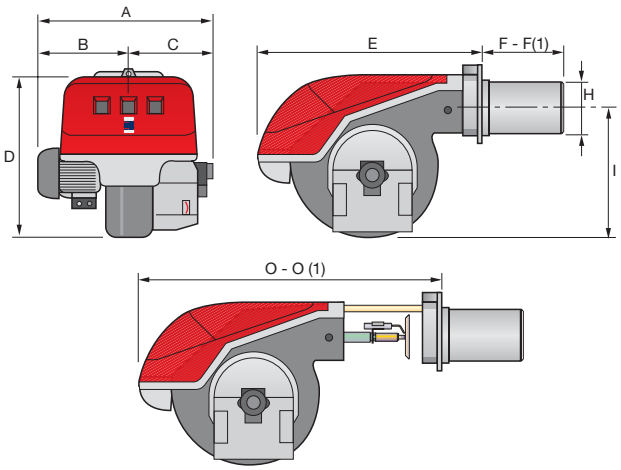
MODEL	A	D	E	F - F(1)	H	I	L	O - O(1)
▶ RL 34 MZ	442	422	508	216 - 351	140	305	138	780 - 915
▶ RL 44 MZ	442	422	508	216 - 351	152	305	138	780 - 915
▶ RL 50	476	474	468	216 - 351	152	352	52	672 - 807

(1) dimension with extended head

RL 64 MZ



RL 70 - 100 - 130 - 190 - 250 MZ

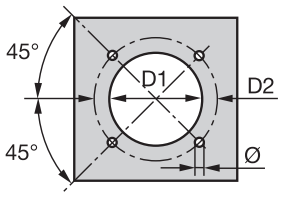


MODEL	A	B	C	D	E	F - F(1)	H	I	L	O - O(1)
▶ RL 64 MZ	538	300	238	490	477	250 - 385	179	335	60	680 - 815
▶ RL 70	580	296	284	555	680	250 - 385	179	430	-	951 - 1086
▶ RL 100	599	312	287	555	680	250 - 385	179	430	-	951 - 1086
▶ RL 130	625	338	287	555	680	250 - 385	189	430	-	951 - 1086
▶ RL 190	756	366	390	555	712	370 - -	222	430	-	1166 - -
▶ RL 250 MZ	910	432	478	596	705	378 - -	222	436	-	1163 - -

(1) dimension with extended head

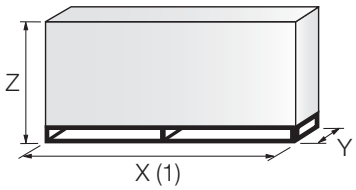
Overall dimensions (mm)

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RL 34 MZ	160	224	M8
▶ RL 44 MZ	160	224	M8
▶ RL 50	160	224	M8
▶ RL 64 MZ	185	275-325	M12
▶ RL 70	185	275-325	M12
▶ RL 100	185	275-325	M12
▶ RL 130	195	275-325	M12
▶ RL 190	230	325-368	M16
▶ RL 250 MZ	230	325-368	M16

PACKAGING



MODEL	X (1)	Y	Z	kg
▶ RL 34 MZ	1010	520	510	32
▶ RL 44 MZ	1010	520	510	33
▶ RL 50	1200	520	502	39
▶ RL 64 MZ	1200	560	520	42
▶ RL 70	1410	692	655	60
▶ RL 100	1410	692	655	63
▶ RL 130	1410	692	655	66
▶ RL 190	1410	985	655	75
▶ RL 250 MZ	1410	1040	655	140

(1) Length with short and extended head

Specification

DESIGNATION OF SERIES

Series: R

Fuel:		
	S	Natural Gas
	SP	LPG
	L	Light oil
	LS	Light oil/Methane
	N	Heavy oil

Size

Setting:		
	/1	Single stage
	...	Two stage
	/M	Modulating

Emission:		
	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 1 EN267 Class 3 EN676

Head length:		
	TC	standard head
	TL	extended head

Flame control system:		
	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system:	
1/230/50	1/230V/50Hz
1/220-230/50-60	1/220-230V/50-60Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
3/220-400/50-60	3/220-230V/50-60Hz 3/380-400V/50-60Hz

Auxiliary voltage:		
	230/50-60	230V/50-60Hz
	220-230/50-60	220-230V/50-60Hz
	110/50-60	110V/50-60Hz

ID: Differential switch

R	L	50			TC	FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

RL 34 MZ - 44 MZ models

Monoblock forced draught oil burner with two stage operation, fully automatic, made up of:
- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air setting controlled by an adjustable hydraulic ram
- Starting motor at 2800 rpm, single-phase / 220-230V / 50-60Hz or three-phase 380-400V / 50-60Hz
- Combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Valve unit with an oil safety valve and two delivery oil valves on the output circuit
- Photocell for flame detection
- Microprocessor-based burner safety control box, with diagnostic function
- Plugs and Sockets for electrical connection, accessible from the external of the cover
- Burner on/off switch
- Flame inspection window
- 1st - 2nd stage manual switch
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 4 screws for fixing the burner flange to the boiler
- 1 thermal screen
- 2 Plugs for electrical connection (RL 34-44 MZ single-phase)
- 3 Plugs for electrical connection (RL 44 MZ three-phase)
- 2 slide bar extensions (for the extended head models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY

RL 50 - 64 MZ - 70 - 100 - 130 - 190 - 250 MZ models

Monoblock forced draught oil burner with two stage operation, fully automatic, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (RL 50 - 70 - 100 - 130 models) or straight blades (RL 64 MZ - 190 - 250 MZ models)
- Air damper for air setting controlled by an adjustable hydraulic ram (or by a servomotor for the RL 250 MZ)
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- Combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Valve unit with an oil safety valve and two delivery oil valves on the output circuit
- Photocell for flame detection
- Microprocessor-based burner safety control box, with diagnostic function
- Burner on/off switch
- Flame inspection window
- 1st - 2nd stage manual switch
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 4 screws for fixing the burner flange to the boiler
- 1 thermal screen
- Fairleads for electrical connections (RL 50 models)
- 2 slide bar extensions (for the extended head models and the RL 190 - 250 MZ models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
						(kW)	(kg/h)	(kW)		
3470210	RL 34 MZ	TC	FS1	1/220-230/50-60	220-230/50-60	97/154-395	8,3/13-33,6	0,6	CE-0036 0383/07	(1)
3470211	RL 34 MZ	TL	FS1	1/220-230/50-60	220-230/50-60	97/154-395	8,3/13-33,6	0,6	CE-0036 0383/07	(1)
3470310	RL 44 MZ	TC	FS1	1/220-230/50-60	220-230/50-60	155/235-485	13/20-41	0,7	CE-0036 0383/07	(1)
3470311	RL 44 MZ	TL	FS1	1/220-230/50-60	220-230/50-60	155/235-485	13/20-41	0,7	CE-0036 0383/07	(1)
3470340	RL 44 MZ	TC	FS1	3/220-400/50-60	220-230/50-60	155/235-485	13/20-41	0,75	CE-0036 0383/07	(1)
3470341	RL 44 MZ	TL	FS1	3/220-400/50-60	220-230/50-60	155/235-485	13/20-41	0,75	CE-0036 0383/07	(1)
3474632	RL 50	TC	FS1	3/230-400/50	230/50-60	148/296-593	12,5/25-50	0,75	DIN BN 5G226/03	(1)
3474633	RL 50	TL	FS1	3/230-400/50	230/50-60	148/296-593	12,5/25-50	0,75	DIN BN 5G226/03	(1)
3474680	RL 50	TC	FS1	3/208-230/380-460/60	230/50-60	148/296-593	12,5/25-50	0,75	--	(1)
3474681	RL 50	TL	FS1	3/208-230/380-460/60	230/50-60	148/296-593	12,5/25-50	0,75	--	(1)
3470410	RL 64 MZ	TC	FS1	3/230-400/50	230/50-60	206/391-830	17,4/33-70	1,4	CE-0036 0382/07	(1)
3470411	RL 64 MZ	TL	FS1	3/230-400/50	230/50-60	206/391-830	17,4/33-70	1,4	CE-0036 0382/07	(1)
3475032	RL 70	TC	FS1	3/230-400/50	230/50-60	255/474-830	21,5/40-70	1,4	05 07 90223 001	(2)
3475033	RL 70	TL	FS1	3/230-400/50	230/50-60	255/474-830	21,5/40-70	1,4	05 07 90223 001	(2)
3475034	RL 70	TC	FS1	3/230-400/50	230/50-60	255/474-830	21,5/40-70	1,4	05 07 90223 001	(1) (2)
3475035	RL 70	TL	FS1	3/230-400/50	230/50-60	255/474-830	21,5/40-70	1,4	05 07 90223 001	(1) (2)
3475080	RL 70	TC	FS1	3/208-230/380-460/60	230/50-60	255/474-830	21,5/40-70	1,4	--	(2)
3475081	RL 70	TL	FS1	3/208-230/380-460/60	230/50-60	255/474-830	21,5/40-70	1,4	--	(2)
3475232	RL 100	TC	FS1	3/230-400/50	230/50-60	356/711-1186	30/60-100	1,8	05 07 90223 001	(2)
3475233	RL 100	TL	FS1	3/230-400/50	230/50-60	356/711-1186	30/60-100	1,8	05 07 90223 001	(2)
3475234	RL 100	TC	FS1	3/230-400/50	230/50-60	356/711-1186	30/60-100	1,8	05 07 90223 001	(1) (2)
3475235	RL 100	TL	FS1	3/230-400/50	230/50-60	356/711-1186	30/60-100	1,8	05 07 90223 001	(1) (2)
3475280	RL 100	TC	FS1	3/208-230/380-460/60	230/50-60	356/711-1186	30/60-100	1,8	--	(2)
3475281	RL 100	TL	FS1	3/208-230/380-460/60	230/50-60	356/711-1186	30/60-100	1,8	--	(2)
3475432	RL 130	TC	FS1	3/230-400/50	230/50-60	486/948-1540	41/80-130	2,6	05 07 90223 001	(2)
3475433	RL 130	TL	FS1	3/230-400/50	230/50-60	486/948-1540	41/80-130	2,6	05 07 90223 001	(2)
3475434	RL 130	TC	FS1	3/230-400/50	230/50-60	486/948-1540	41/80-130	2,6	05 07 90223 001	(1) (2)
3475435	RL 130	TL	FS1	3/230-400/50	230/50-60	486/948-1540	41/80-130	2,6	05 07 90223 001	(1) (2)
3475480	RL 130	TC	FS1	3/208-230/380-460/60	230/50-60	486/948-1540	41/80-130	2,6	--	(2)
3475481	RL 130	TL	FS1	3/208-230/380-460/60	230/50-60	486/948-1540	41/80-130	2,6	--	(2)
3475613	RL 190	TC	FS1	3/400/50	230/50-60	759/1423-2443	64/120-206	5,87	DIN BN 5G861/03	(2)
20011008	RL 190	TC	FS1	3/230/50	230/50-60	759/1423-2443	64/120-206	5,87	DIN BN 5G861/03	(2)
3475614	RL 190	TC	FS1	3/400/50	230/50-60	759/1423-2443	64/120-206	5,87	--	(1) (2)
20011018	RL 190	TC	FS1	3/230/50	230/50-60	759/1423-2443	64/120-206	5,87	--	(1) (2)
3475680	RL 190	TC	FS1	3/460/60	220/60	759/1423-2443	64/120-206	5,87	--	(2)
20011009	RL 190	TC	FS1	3/220/60	220/60	759/1423-2443	64/120-206	5,87	--	(2)
3470010	RL 250 MZ	TC	FS1	3/400/50	230/50-60	600/1250-2700	51/106-228	7,2	in progress	(2)

(1) with plug and socket (2) with terminal board
Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4-6 mm^2/s (cSt).
The burners of RL series are in according to 89/336 (2004/108) - 73/23 (2006/95) - 92/42 - 89/392 EC Directive and EN 267 Norm.

WARNING: nozzles are supplied as accessories that must be ordered separately; please refer to the “Burner Accessories” section.

Bio fuels
Riello Burners is able to offer technical variants which allow burners to be used within environmental heating, process or special applications. These applications now include solutions for liquid Bio fuels (I.e. biodiesel and vegetable oil).
Our experience in research and development and field applications with organic origin Bio fuels has resulted in Riello being able to offer a wide range of solutions for the combustion of Bio fuels.
These burner variants can be provided upon request and after a technical-commercial evaluation; for more information please contact Riello Burners Commercial and Technical Department, our Application Engineers will be pleased to help you.

Burner accessories

Nozzles

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N°2 nozzles.

BURNER	NOZZLE TYPE	GPH	RATED OUTPUT (kg/h) at 10 bar	at 12 bar	at 14 bar	NOZZLE CODE
▶ RL 34 MZ	60°A	1,00	4,1	4,5	4,9	3042078
▶ RL 34 MZ	60°A	1,25	4,7	5,2	5,6	3042094
▶ RL 34 MZ	60°A	1,50	5,7	6,3	6,8	3042108
▶ RL 34 MZ	60°A	1,75	6,7	7,3	7,9	3042114
▶ RL 34 MZ	60°A	2,00	7,7	8,5	9,2	3042124
▶ RL 34 MZ	60°A	2,50	9,6	10,6	11,5	3042144
▶ RL 34 MZ	60°A	3,00	11,5	12,7	13,8	3042148
▶ RL 34 MZ	60°A	3,50	13,5	14,8	16,1	3042164
▶ RL 34 MZ	60°A	4,00	15,4	17	18,4	3042174
▶ RL 34 MZ	60°A	4,50	17,3	19,1	20,7	3042184
▶ RL 44 MZ	45°A	1,50	5,7	6,3	6,8	20011655
▶ RL 44 MZ	45°A	1,75	6,7	7,3	7,9	20011658
▶ RL 44 MZ	45°A	2,00	7,7	8,5	9,2	20011662
▶ RL 44 MZ	45°A	2,50	9,6	10,6	11,5	20011666
▶ RL 44 MZ	45°A	3,00	11,5	12,7	13,8	20011669
▶ RL 44 MZ	45°A	3,50	13,5	14,8	16,1	20011672
▶ RL 44 MZ	45°A	4,00	15,4	17	18,4	20011674
▶ RL 44 MZ	45°A	4,50	17,3	19,1	20,7	20009760
▶ RL 44 MZ	45°A	5,00	19,2	21,2	23	20011677
▶ RL 44 MZ	45°A	5,50	21,1	23,3	25,3	20011678
▶ RL 44 MZ	45°A	6,00	23,1	25,5	27,7	20011679
▶ RL 50	60°B	3,00	11,5	12,7	13,8	3042158
▶ RL 50	60°B	3,50	13,5	14,8	16,1	3042162
▶ RL 50 - 64 MZ	60°B	4,00	15,4	17	18,4	3042172
▶ RL 50 - 64 MZ	60°B	4,50	17,3	19,1	20,7	3042182
▶ RL 50 - 64 MZ - 70	60°B	5,00	19,2	21,2	23	3042192
▶ RL 50 - 64 MZ - 70	60°B	5,50	21,1	23,3	25,3	3042202
▶ RL 50 - 64 MZ - 70	60°B	6,00	23,1	25,5	27,7	3042212
▶ RL 50 - 64 MZ - 70	60°B	6,50	25	27,6	30	3042222
▶ RL 64 MZ - 70 - 100	60°B	7,00	26,9	29,7	32,3	3042232
▶ RL 64 MZ - 70 - 100	60°B	7,50	28,8	31,8	34,6	3042242
▶ RL 64 MZ - 70 - 100	60°B	8,00	30,8	33,9	36,9	3042252
▶ RL 64 MZ - 70 - 100	60°B	8,50	32,7	36,1	39,2	3042262
▶ RL 64 MZ - 70 - 100 - 130	60°B	9,50	36,5	40,3	43,8	3042282
▶ RL 64 MZ - 70 - 100 - 130 - 190	60°B	10,00	38,4	42,4	46,1	3042292
▶ RL 64 MZ - 70 - 100 - 130 - 190	60°B	11,00	42,3	46,7	50,7	3042312
▶ RL 64 MZ - 100 - 130 - 190 - 250 MZ	60°B	12,00	46,1	50,9	55,3	3042322
▶ RL 64 MZ - 100 - 130 - 190 - 250 MZ	60°B	13,00	50	55,1	59,9	3042332

To be continued in the following page

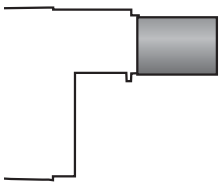
Burner accessories

Nozzles

Continued from the previous page

BURNER	NOZZLE TYPE	GPH	RATED OUTPUT (kg/h) at 10 bar	at 12 bar	at 14 bar	NOZZLE CODE
▶ RL 64 MZ - 100 - 130 - 190 - 250 MZ	60°B	14,00	53,8	59,4	64,5	3042352
▶ RL 64 MZ - 100 - 130 - 190 - 250 MZ	60°B	15,00	57,7	63,6	69,2	3042362
▶ RL 64 MZ - 100 - 130 - 190 - 250 MZ	60°B	16,00	61,5	67,9	73,8	3042382
▶ RL 64 MZ - 130 - 190 - 250 MZ	60°B	17,00	65,4	72,1	78,4	3042392
▶ RL 130 - 190 - 250 MZ	60°B	18,00	69,2	76,4	83	3042412
▶ RL 130 - 190 - 250 MZ	60°B	19,00	73	80,6	87,6	3042422
▶ RL 130 - 190 - 250 MZ	60°B	20,00	76,9	84,8	92,2	3042442
▶ RL 190 - 250 MZ	60°B	22,00	84,6	93,3	101,4	3042462
▶ RL 190 - 250 MZ	60°B	24,00	92,2	101,8	110,6	3042472
▶ RL 190 - 250 MZ	60°B	26,00	99,9	110,3	119,9	3042482
▶ RL 190 - 250 MZ	60°B	28,00	107,6	118,8	129,1	3042492
▶ RL 250 MZ	60°B	30,00	110,4	122	132,4	3042502
▶ RL 250 MZ	60°B	32,00	117,8	130,1	150,1	3042512
▶ RL 250 MZ	60°B	35,00	128,8	142,1	154,5	3042522

Extended heads



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The kits available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	'STANDARD' HEAD LENGTH (mm)	'EXTENDED' HEAD LENGTH (mm)	KIT CODE
▶ RL 34 MZ	216	351	3010426
▶ RL 44 MZ	216	351	3010425
▶ RL 50	216	351	3010075
▶ RL 64 MZ	250	385	3010114
▶ RL 70	250	385	3010114
▶ RL 100	250	385	3010115
▶ RL 130	250	385	3010116
▶ RL 190	370	530	3010444
▶ RL 250 MZ	378	528	3010422

Burner accessories

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RL 34 MZ - 44 MZ - 50	90	3010095
▶ RL 64 MZ - 70 - 100 - 130	135	3010129
▶ RL 190 - 250 MZ	110	3000722

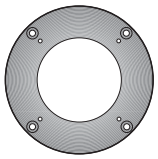
Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available, as given in the following table:

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)](*)	BOX CODE
▶ RL 34 MZ - 44 MZ - 50 - 70 - 100 - 130	C1/3	10	3010403
▶ RL 64 MZ - 190	C4/5	10	3010404
▶ RL 250 MZ	C7	10	3010376

(*) according to EN 15036-1 standard

Connection flange kit



A kit is available for use where the burner opening on the boiler is of excessive diameter.

BURNER	KIT CODE
▶ RL 34 MZ - 44 MZ - 50	3010138

Degasing unit

With single pipe systems, you can find air in the oil sucked by the pump that comes from the oil itself due to negative pressure or to a faulty seal.
To solve this problem, we recommend fitting a degasing unit near the burner. Two versions are available with or without filter:

BURNER	DEGASING UNIT WITH FILTER CODE	DEGASING UNIT WITHOUT FILTER CODE
▶ RL 34 MZ - 44 MZ - 50 - 64 MZ RL 70 - 100 - 130 - 190 - 250 MZ	3010055	3010054

Status Panel kit

The RL burners can be equipped with an exclusive electronic device “Status Panel” which continuously monitors and displays all the burner operational modes and picks up any anomalies during the operational cycle.

BURNER	KIT CODE
▶ RL 50 - 64 MZ - 70 - 100 - 130 - 190 - 250 MZ	3010322

Burner accessories

Volt free contact kit

A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals.
Every burner can be equipped with a single kit to remote the flame presence signal and the burner lockout indication.

BURNER	KIT CODE
▶ RL 34 MZ - 44 MZ - 64 MZ	3010419

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

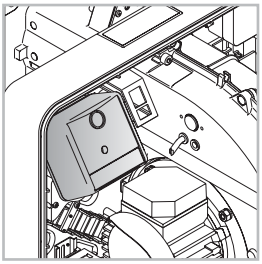
BURNER	KIT CODE
▶ RL 34 MZ - 44 MZ - 50 - 64 MZ - 70 - 100 - 130 - 190 - 250 MZ	3002719

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device for electrical system fault.

BURNER	KIT CODE
▶ RL 34 MZ - 44 MZ	3010448

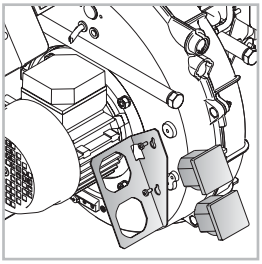
Post-ventilation kit



To have 20 s ventilation after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ RL 34 MZ - 44 MZ	3010453

Hours counter kit



To measure the burner working time a hours counter kit is available.

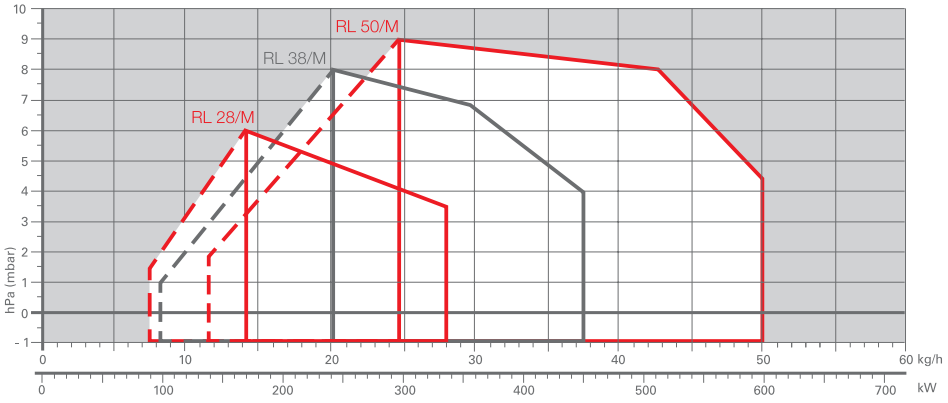
BURNER	KIT CODE
▶ RL 34 MZ - 44 MZ	3010450

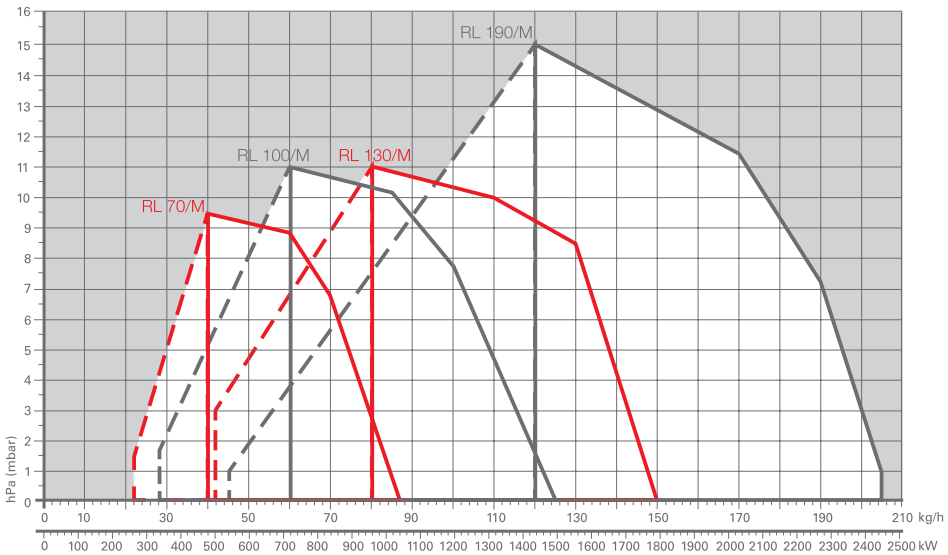
RL/M SERIES

The RL/M series of burners covers a firing range from 166 to 2431 kW, and they have been designed for use in hot or superheater water boilers, hot air or steam generators, diathermic oil boilers. Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes. RL/M series burners guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs. Optimisation of sound emissions is guaranteed by the use of fans with forward inclined blades and sound deadening material incorporated in the air suction circuit. The exclusive design ensures reduced dimensions, simple use and maintenance. A wide range of accessories guarantees elevated working flexibility.

RL 28/M	95/166	÷	332	kW
RL 38/M	101/237	÷	450	kW
RL 50/M	130/296	÷	593	kW
RL 70/M	261/474	÷	1043	kW
RL 100/M	332/711	÷	1482	kW
RL 130/M	498/948	÷	1779	kW
RL 190/M	534/1423	÷	2431	kW

FIRING RATES





Useful working field for choosing the burner

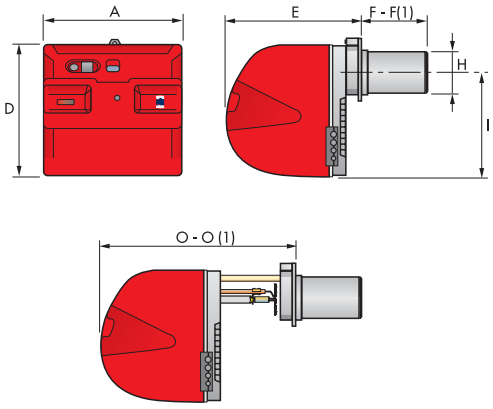
Modulation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

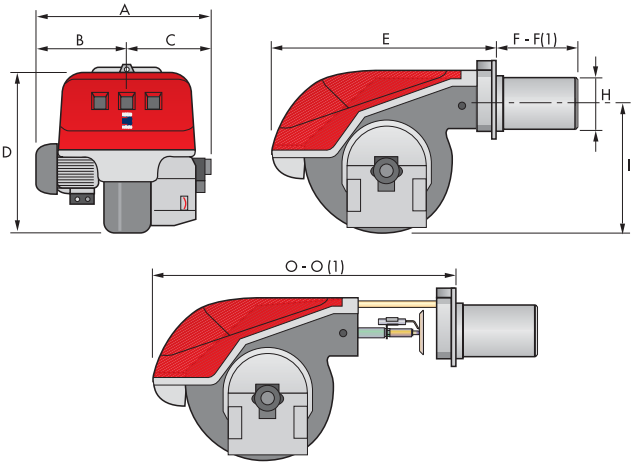
Overall dimensions (mm)

BURNER

RL 28/M - 38/M - 50/M



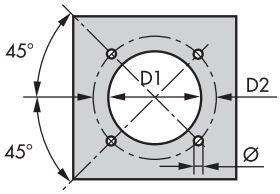
RL 70/M - 100/M - 130/M - 190/M



MODEL	A	B	C	D	E	F - F (1)	H	I	O - O (1)
▶ RL 28/M	476	-	-	474	468	241 - 351	140	352	672 - 807
▶ RL 38/M	476	-	-	474	468	241 - 351	140	352	672 - 807
▶ RL 50/M	476	-	-	474	468	241 - 351	152	352	672 - 807
▶ RL 70/M	663	296	367	555	680	272 - 385	179	430	951 - 1086
▶ RL 100/M	679	312	367	555	680	272 - 385	179	430	951 - 1086
▶ RL 130/M	705	338	367	555	680	272 - 385	189	430	951 - 1086
▶ RL 190/M	813	366	447	555	712	370	222	430	1166

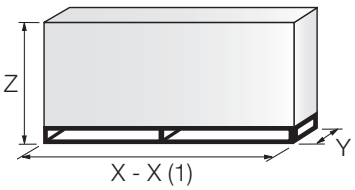
(1) Length with extended combustion head.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RL 28/M	160	224	M8
▶ RL 38/M	160	224	M8
▶ RL 50/M	160	224	M8
▶ RL 70/M	185	275 - 325	M12
▶ RL 100/M	185	275 - 325	M12
▶ RL 130/M	195	275 - 325	M12
▶ RL 190/M	230	325 - 368	M16

PACKAGING



MODEL	X - X (1)	Y	Z	kg
▶ RL 28/M	872	540	550	39
▶ RL 38/M	872	540	550	41
▶ RL 50/M	872	540	550	42
▶ RL 70/M	1150	792	600	65
▶ RL 100/M	1150	792	600	68
▶ RL 130/M	1150	792	600	71
▶ RL 190/M	1200	800	850	95

(1) Length with extended combustion head.

Specification

DESIGNATION OF SERIES

Series : R

Fuel : S Natural gas
L Light oil
LS Light oil / Natural gas
N Heavy oil

Size

Operation : /1 One stage
... Two stage
/M Modulating
/E Electronic cam
/P Proportioning air/gas valve
/EV Electronic cam predisposed for variable speed (with inverter)

Emission : ... Class 1 EN267 - EN676
MZ Class 2 EN267 - EN676
BLU Class 3 EN267 - EN676
MX Class 2 EN267, Class 3 EN676

Head : TC Standard head
TL Extended head

Flame control system :
FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :

1/230/50	1/230V/50Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz

Auxiliary voltage :

230/50-60	230V/50-60Hz
110/50-60	110V/50-60Hz

ID : Differential switch

R	L	50	/M		TC	FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught oil burners, two stage progressive or modulating operation with a kit, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (forward curve blades on the 190/M model)
- Air damper for air setting and automatic oil output regulator controlled by a servomotor with variable cam
- Combustion head, that can be set on the basis of required output
- Gears pump for high pressure fuel supply
- Valve unit with a double oil safety valve on the output circuit and safety valve on the return circuit; double safety valve on the return circuit for models RL 100/M, RL 130/M, RL 190/M and for all models in the TRD-72, NBN version
- Safety oil pressure switch
- Minimum oil pressure switch in the output circuit for the TRD-72, NBN versions
- Photocell for flame detection
- Burner safety control box
- Burner on/off switch
- Flame inspection window
- Manual or automatic output increase/decrease switch
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 4 screws for fixing the burner flange to the boiler
- 1 thermal screen
- Wiring loom fittings for electrical connections
- 2 slide bar extensions (for the extended head models and the RL 190/M model)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

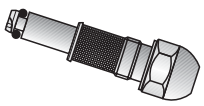
Available models

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
						(kW)	(kg/h)	(kW)		
3471002	RL 28/M	TC	FS1	1/230/50	230/50-60	90/166-332	7,5/14-28	0,4	-	
3471003	RL 28/M	TL	FS1	1/230/50	230/50-60	90/166-332	7,5/14-28	0,4	-	
3471080	RL 28/M	TC	FS1	1/220-230/60	230/50-60	90/166-332	7,5/14-28	0,4	-	
3471081	RL 28/M	TL	FS1	1/220-230/60	230/50-60	90/166-332	7,5/14-28	0,4	-	
3471402	RL 38/M	TC	FS1	3/230-400/50	230/50-60	101/237-450	8,5/20-38	0,6	-	
3471403	RL 38/M	TL	FS1	3/230-400/50	230/50-60	101/237-450	8,5/20-38	0,6	-	
3471480	RL 38/M	TC	FS1	3/208-230/380-460/60	230/50-60	101/237-450	8,5/20-38	0,66	-	
3471481	RL 38/M	TL	FS1	3/208-230/380-460/60	230/50-60	101/237-450	8,5/20-38	0,66	-	
3471602	RL 50/M	TC	FS1	3/230-400/50	230/50-60	130/296-593	11/25-50	0,8	-	
3471603	RL 50/M	TL	FS1	3/230-400/50	230/50-60	130/296-593	11/25-50	0,8	-	
3471680	RL 50/M	TC	FS1	3/208-230/380-460/60	230/50-60	130/296-593	11/25-50	0,66	-	
3471681	RL 50/M	TL	FS1	3/208-230/380-460/60	230/50-60	130/296-593	11/25-50	0,66	-	
3477012	RL 70/M	TC	FS1	3/230-400/50	230/50-60	261/474-1043	22/40-88	1,4	CE-050790223001	
3477013	RL 70/M	TL	FS1	3/230-400/50	230/50-60	261/474-1043	22/40-88	1,4	CE-050790223001	
3477080	RL 70/M	TC	FS1	3/208-230/380-460/60	230/50-60	261/474-1043	22/40-88	1,4	CE-050790223001	
3477081	RL 70/M	TL	FS1	3/208-230/380-460/60	230/50-60	261/474-1043	22/40-88	1,4	CE-050790223001	
3477022	RL 70/M	TC	FS2	3/230-400/50	230/50-60	261/474-1043	22/40-88	1,4	CE-050790223001	
3477023	RL 70/M	TL	FS2	3/230-400/50	230/50-60	261/474-1043	22/40-88	1,4	CE-050790223001	
3477212	RL 100/M	TC	FS1	3/230-400/50	230/50-60	332/711-1482	28/60-125	2,1	CE-050790223001	
3477213	RL 100/M	TL	FS1	3/230-400/50	230/50-60	332/711-1482	28/60-125	2,1	CE-050790223001	
3477280	RL 100/M	TC	FS1	3/208-230/380-460/60	230/50-60	332/711-1482	28/60-125	2,1	CE-050790223001	
3477281	RL 100/M	TL	FS1	3/208-230/380-460/60	230/50-60	332/711-1482	28/60-125	2,1	CE-050790223001	
3477222	RL 100/M	TC	FS2	3/230-400/50	230/50-60	332/711-1482	28/60-125	2,1	CE-050790223001	
3477223	RL 100/M	TL	FS2	3/230-400/50	230/50-60	332/711-1482	28/60-125	2,1	CE-050790223001	
3477412	RL 130/M	TC	FS1	3/230-400/50	230/50-60	498/948-1779	42/80-150	2,6	CE-050790223001	
3477413	RL 130/M	TL	FS1	3/230-400/50	230/50-60	498/948-1779	42/80-150	2,6	CE-050790223001	
3477480	RL 130/M	TC	FS1	3/208-230/380-460/60	230/50-60	498/948-1779	42/80-150	2,6	CE-050790223001	
3477481	RL 130/M	TL	FS1	3/208-230/380-460/60	230/50-60	498/948-1779	42/80-150	2,6	CE-050790223001	
3477422	RL 130/M	TC	FS2	3/230-400/50	230/50-60	498/948-1779	42/80-150	2,6	CE-050790223001	
3477423	RL 130/M	TL	FS2	3/230-400/50	230/50-60	498/948-1779	42/80-150	2,6	CE-050790223001	
3477811	RL 190/M	TC	FS1	3/400/50	230/50-60	534/1423-2431	45/120-205	5,5	CE-050790223001	
20011022	RL 190/M	TC	FS1	3/230/50	230/50-60	534/1423-2431	45/120-205	5,5	CE-050790223001	
3477880	RL 190/M	TC	FS1	3/460/60	220/60	534/1423-2431	45/120-205	5,5	CE-050790223001	
20011029	RL 190/M	TC	FS1	3/220/60	220/60	534/1423-2431	45/120-205	5,5	CE-050790223001	
3477822	RL 190/M	TC	FS2	3/400/50	230/50-60	534/1423-2431	45/120-205	5,5	CE-050790223001	
20011025	RL 190/M	TC	FS2	3/230/50	230/50-60	534/1423-2431	45/120-205	5,5	CE-050790223001	

Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4-6 mm^2/s (cSt).
The burners of RL/M series are in according to 89/336 (2004/108) - 73/23 (2006/95) - 98/37 - 92/42 EC Directive and EN 267 Norm.

Burner accessories

Return nozzles type A3 45°

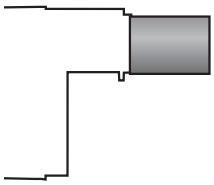


The following list shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 1 nozzle.

BURNER	RATED OUTPUT kg/h	NOZZLE CODE
▶ RL 28/M	15	3009850
▶ RL 28/M - 38/M	20	3009851
▶ RL 28/M - 38/M - 50/M	30	3009852
▶ RL 38/M - 50/M - 70/M	40	3009853
▶ RL 50/M - 70/M	50	3009854
▶ RL 70/M - 100/M	60	3009855
▶ RL 70/M - 100/M	70	3009856
▶ RL 100/M - 130/M	80	3009857
▶ RL 100/M - 130/M	90	3009858
▶ RL 100/M - 130/M	100	3009859
▶ RL 130/M	110	3009860
▶ RL 130/M - 190/M	120	3009861
▶ RL 130/M - 190/M	130	3009862
▶ RL 190/M	140	3009863
▶ RL 190/M	160	3009864
▶ RL 190/M	180	3009865
▶ RL 190/M	200	3009866

Extended head kit



“Standard head” burners can be transformed into “extended head” versions, by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RL 28/M	241	351	3010120
▶ RL 38/M	241	351	3010121
▶ RL 50/M	241	351	3010122
▶ RL 70/M	272	385	3010159
▶ RL 100/M	272	385	3010160
▶ RL 130/M	272	385	3010161
▶ RL 190/M	370	-	-

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RL 28/M - 38/M - 50/M	90	3010095
▶ RL 70/M - 100/M - 130/M	135	3010129
▶ RL 190/M	102	3000722

Burner accessories

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RL 28/M - 38/M - 50/M	C1/3	10	3010403
▶ RL 70/M - 100/M - 130/M - 190/M	C4/5	10	3010404

(*) according to EN 15036-1 standard

Degasing unit

To solve problem of air in the oil sucked, two versions of degasing unit are available.

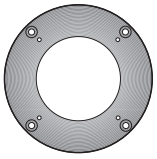
BURNER	FILTER	FILTERING DEGREE (µm)	DEGASING UNIT CODE
▶ RL 28/M - 38/M - 50/M - 70/M - 100/M	With filter	50 - 75	3010055
▶ RL 28/M - 38/M - 50/M - 70/M - 100/M	Without filter	-	3010054

Head kit for “reverse flame chamber”

In certain cases, the use of the burner on reverse flame boilers can be improved by using an additional cylinder.

BURNER	STANDARD HEAD LENGTH WITH CYLINDER (mm)	EXTENDED HEAD LENGTH WITH CYLINDER (mm)	KIT CODE
▶ RL 28/M - 38/M	319	429	3010178
▶ RL 50/M	319	429	3010179
▶ RL 70/M - 100/M	375	488	3010180
▶ RL 130/M	375	488	3010183
▶ RL 190/M	493	-	3010241

Connection flange kit



A kit is available for use where the burner opening on the boiler is of excessive diameter.

BURNER	KIT CODE
▶ RL 28/M - 38/M - 50/M	3010138

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the RL/M series of burners requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ RL 28/M - 38/M - 50/M RL 70/M - 100/M - 130/M - 190/M	RWF 40	3010212

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ RL 28/M - 38/M - 50/M RL 70/M - 100/M - 130/M - 190/M	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

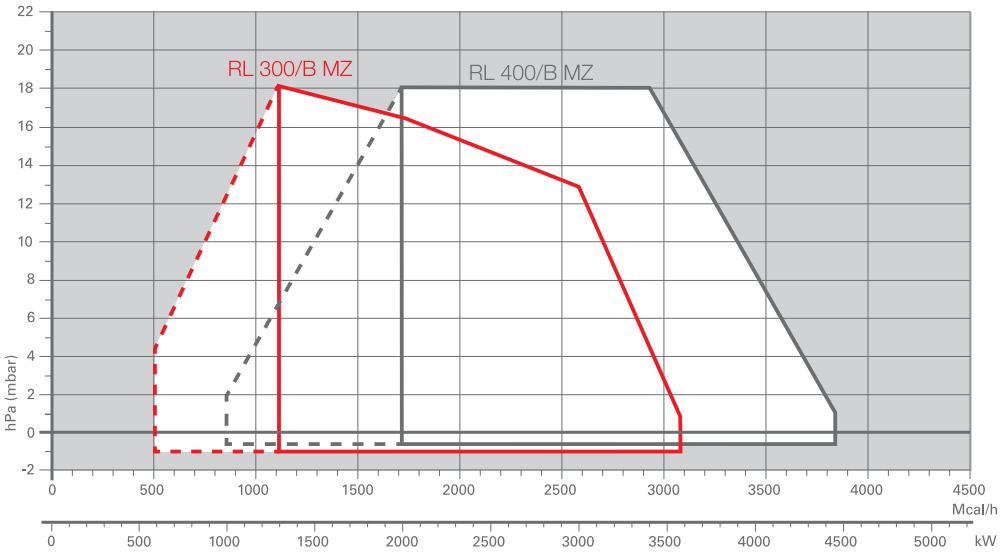
BURNER	POTENTIOMETER KIT CODE
▶ RL 28/M - 38/M - 50/M	3010109
▶ RL 70/M - 100/M - 130/M - 190/M	3010021

RL/B MZ SERIES

RL/B MZ series burners are characterised by a modular monoblock structure that means all necessary components can be combined in a single unit thus making installation easier, faster and, above all, more flexible.
The series covers a firing range from 1250 to 4450 kW, and they have been designed for use in hot water boilers, overheated water boilers as well as steamboilers.
Operation is 2 stages.
The innovative combustion head is able to reach good performances in term of Low NOx and helps in reducing noise emissions.

RL 300/B MZ	600/1250	÷	3550	kW
RL 400/B MZ	1000/2000	÷	4450	kW

FIRING RATES



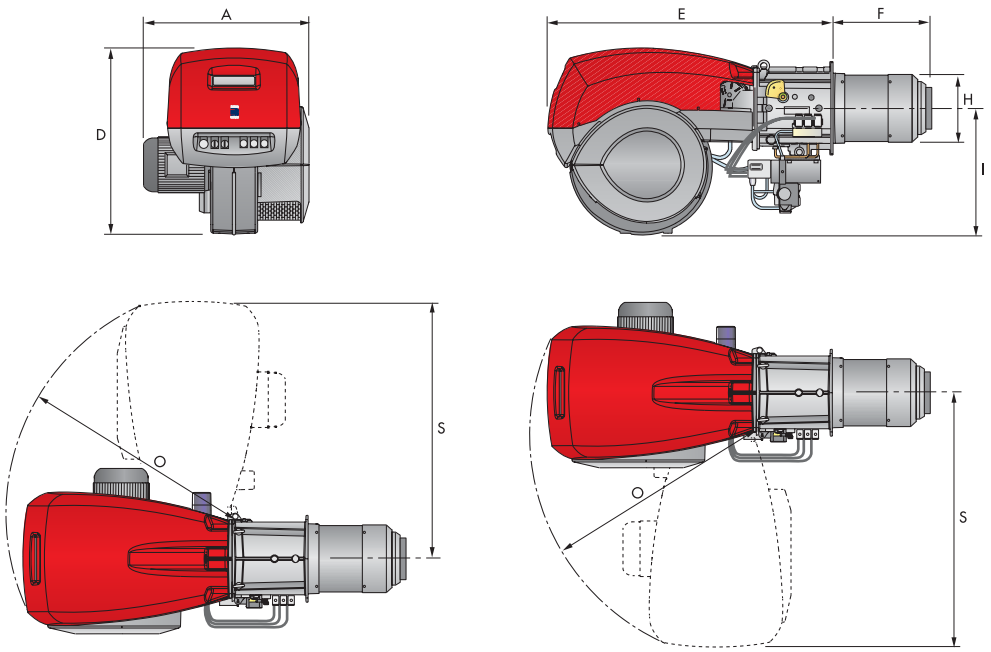
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

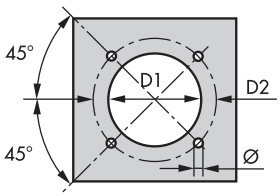
Overall dimensions (mm)

BURNER



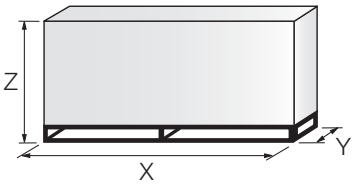
MODEL	A	D	E	F	H	I	O	S
▶ RL 300/B MZ	720	890	1325	510	313	605	1055	1175
▶ RL 400/B MZ	775	890	1325	510	313	605	1055	1175

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RL 300/B MZ	350	452	M18
▶ RL 400/B MZ	350	452	M18

PACKAGING



MODEL	X	Y	Z	kg
▶ RL 300/B MZ	1960	970	940	230
▶ RL 400/B MZ	1960	970	940	240

Specification

DESIGNATION OF SERIES

Series : R

Fuel : S Natural gas
L Light oil
LS Light oil / Natural gas
N Heavy oil

Size

Setting : /1 Single stage
/B Two stage
/M Modulating
/BP Two stage oil / Proportioning air/gas valve
/E Electronic cam
/P Proportioning air/gas valve
/EV Electronic cam predisposed for variable speed (with inverter)

Emission : ... Class 1 EN267 - EN676
MZ Class 2 EN267 - EN676
BLU Class 3 EN267 - EN676
MX Class 2 EN267 Class 3 EN676

Head : TC Standard head
TL Extended head

Flame control system :
FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :
1/230/50 1/230V/50Hz
3/230/50 3/230V/50Hz
3/400/50 3N/400V/50Hz
3/230-400/50 3/230V/50Hz - 3N/400V/50Hz
3/220/60 3/220V/60Hz
3/380/60 3N/380V/60Hz
3/220-380/60 3/220/60Hz - 3N/380V/60Hz

Auxiliary voltage :
230/50-60 230V/50-60Hz
110/50-60 110V/50-60Hz

ID : Differential switch

R	L	300	/B	MZ	TC	FS1	3/400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

RL/B MZ SERIES - STATE OF SUPPLY

Monoblock forced draught gas burner with “two stage progressive” operation, fully automatic, made up of:
- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2800 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Burner safety control box for controlling the system safety
- Star/triangle starter for the fan motor (only for RL 400/B MZ model)
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level
- Gears pump for high pressure fuel supply
- Pump starting motor
- Oil safety valves
- Three oil valves (1st and 2nd stage 3nd safety valve)
- Photocell for flame detection
- Flame inspection window.

Standard equipment:
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for connection to the pump with gaskets.
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

RL/B MZ SERIES - Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT (kg/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3478410	RL 300/B MZ TC FS1 3/230-400/50 230/50-60	600/1250-3550	50/105-301	6	050790223001	
3478512	RL 400/B MZ TC FS1 3/400/50 230/50-60	1000/2000-4450	84/169-378	9	050790223001	

Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4-6 mm^2/s (cSt)
The burners of RL/B MZ series are in according to 89/336 (2004/108) - 73/23 (2006/95) - 98/37 - 92/42 EC Directive and EN 267 Norm.

Burner accessories

Nozzles type 60° B

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 2 nozzles.

BURNER	GPH	RATED OUTPUT (kg/h) at 10 bar	RATED OUTPUT (kg/h) at 12 bar	RATED OUTPUT (kg/h) at 14 bar	NOZZLE CODE
▶ RL/B MZ	12,00	44,2	48,7	53,0	3009950
▶ RL/B MZ	13,00	47,8	52,8	57,4	3009951
▶ RL/B MZ	14,00	51,5	56,9	61,8	3009952
▶ RL/B MZ	15,00	55,2	60,9	66,2	3009953
▶ RL/B MZ	16,00	58,9	65,0	70,6	3009954
▶ RL/B MZ	17,00	62,6	69,0	75,0	3009955
▶ RL/B MZ	18,00	66,2	73,1	79,4	3009956
▶ RL/B MZ	19,00	69,9	77,2	83,5	3009957
▶ RL/B MZ	20,00	73,6	81,2	88,3	3009958
▶ RL/B MZ	22,00	81,0	89,3	97,1	3009959
▶ RL/B MZ	24,00	88,3	97,5	105,9	3009960
▶ RL/B MZ	26,00	95,7	105,6	114,7	3009961
▶ RL/B MZ	28,00	103,1	113,7	123,6	3009962
▶ RL/B MZ	30,00	110,4	121,8	132,4	3009963
▶ RL/B MZ	35,00	128,8	142,1	154,5	3009964
▶ RL/B MZ	40,00	147,2	162,4	176,5	3009965
▶ RL/B MZ	45,00	165,6	182,7	198,6	3009966
▶ RL/B MZ	50,00	184,0	203,0	220,7	3009967
▶ RL/B MZ	55,00	202,4	223,4	242,7	3009968
▶ RL/B MZ	60,00	220,8	243,7	264,8	3009969
▶ RL/B MZ	65,00	239,2	264,0	286,9	3009970
▶ RL/B MZ	70,00	257,6	284,3	309,0	3009971

Burner accessories

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RL/B MZ	C7	10	3010376

(*) according to EN 15036-1 standard

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RL/B MZ	3002719

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

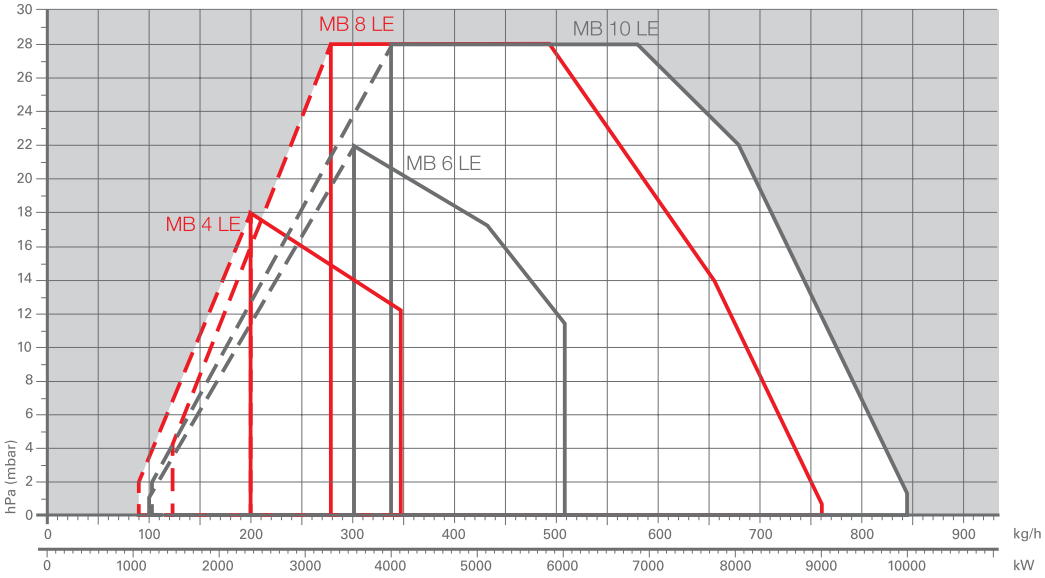
BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RL/B MZ	180	20008903

MODUBLOC MB LE SERIES

The MODUBLOC MB LE series of burners are characterised by a monoblock structure that means all necessary components can be combined in a single unit, making installation easier and faster. The series covers a firing range from 1070 to 10000 kW, and they have been designed for use in hot water boilers or industrial steam generators.
Operation is modulating, through an innovative electronic module, which gives control of the air/fuel ratio and PID control of the generator temperature or pressure.
The mechanisms of regulation allow to catch up a high modulation ratio on all firing rates range.
The burner can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.
An exclusive design, with fan unit fitted on line with the combustion head, guarantees low sound emissions, reduced dimensions, easy use and maintenance.

MB 4 LE	1070/2375	÷	4092	kW
MB 6 LE	1186/3558	÷	6000	kW
MB 8 LE	1450/3290	÷	9000	kW
MB 10 LE	1200/4000	÷	10000	kW

FIRING RATES



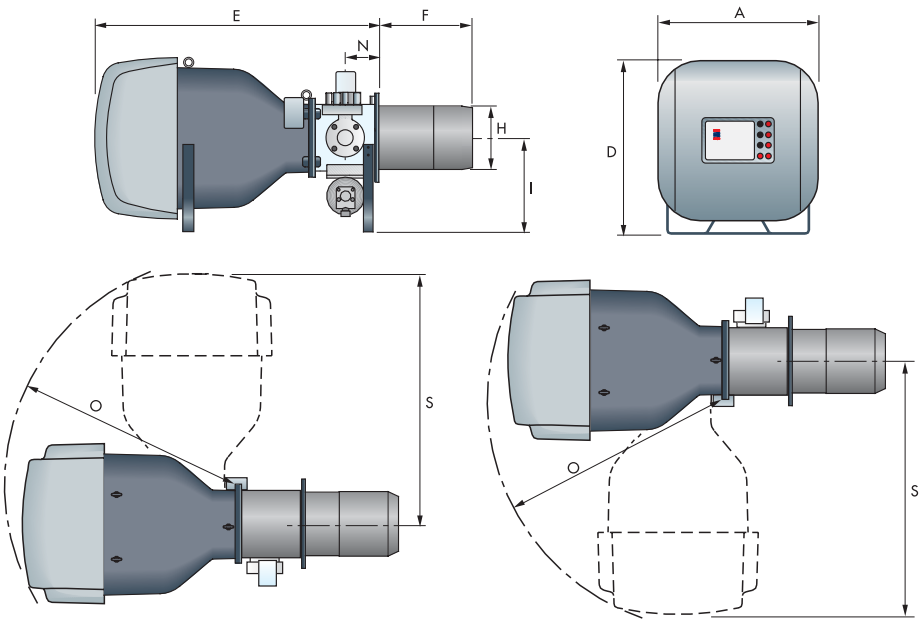
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

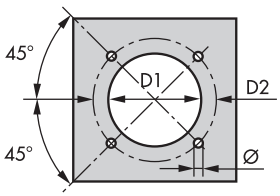
Overall dimensions (mm)

BURNER



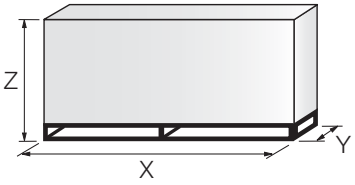
MODEL	A	D	E	F	H	I	N	O	S
▶ MB 4 LE	840	910	1470	511	336	490	183	1205	1330
▶ MB 6 LE	840	910	1470	511	336	490	183	1205	1330
▶ MB 8 LE	1007	1079	1900	530	413	575	208	1570	1740
▶ MB 10 LE	1007	1079	1900	530	413	575	208	1570	1740

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ MB 4 LE	350	496	M20
▶ MB 6 LE	350	496	M20
▶ MB 8 LE	418	608	M20
▶ MB 10 LE	418	608	M20

PACKAGING



MODEL	X	Y	Z	kg
▶ MB 4 LE	2120	1005	1175	300
▶ MB 6 LE	2120	1005	1175	300
▶ MB 8 LE	2690	1170	1350	450
▶ MB 10 LE	2690	1170	1350	450

Specification

DESIGNATION OF SERIES

Series : MB			
Size			
Fuel :	S	Natural gas	
	L	Light oil	
	LS	Light oil / Natural gas	
Operation :	E	Electronic cam	
	V	Electronic cam and variable speed (with Inverter)	
	P	Proportioning air/gas valve	
Emission :	...	Class 1 EN267 - EN676	
	MZ	Class 2 EN267 - EN676	
	BLU	Class 3 EN267 - EN676	
	MX	Class 2 EN267 Class 3 EN676	
Head :	TC	Standard head	
	TL	Extended head	
Fuel supply :	FR	from the right	
	FL	from the left	
Flame control system :			
	FS1	Standard (1 stop every 24 h)	
	FS2	Continuous working (1 stop every 72 h)	
Electrical supply to the system :		3/400/50	3N/400V/50Hz
		3/230/50	3/230V/50Hz
Auxiliary voltage :		230/50-60	230V/50-60Hz
		110/50-60	110V/50-60Hz

MB	4	L	E		TC	FR	FS1	3/400/50	230/50-60
BASIC DESIGNATION									
EXTENDED DESIGNATION									

Specification

STATE OF SUPPLY

Monoblock forced draught oil burners modulanting operation, made up of:
- Fan with reverse curve blades
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor
- Pump starting motor
- Mobile combustion head, that can be set on the basis of required output
- Gears pump for high pressure fuel supply
- Valve unit
- Automatic setting for light oil delivery, controlled by a high precision servomotor
- Safety oil pressure switch
- Pressure gauge for delivery pressure
- Pressure gauge for return pressure
- Minimum oil pressure switch
- Module for air/fuel setting and output modulation
- Burner safety control box
- Photocell for flame detection
- Star/triangle starter for the fan motor
- Main electrical supply terminal board
- Pump motor starter
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Thermal protector PTO for the fan motor
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan and pump motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP X0D (IP 40) protection level.

Standard equipment:
- 2 flexible pipes
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 4 screws for fixing the burner flange to the boiler
- 1 thermal screen
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3478000	MB4LE TC FR FS1 3/400/50 230/50-60	1070/2375÷4092	90/200÷345	16	DIN 5G 932/99 M	
3478005	MB4LE TC FL FS1 3/400/50 230/50-60	1070/2375÷4092	90/200÷345	16	DIN 5G 932/99 M	
3478100	MB6LE TC FR FS1 3/400/50 230/50-60	1186/3558÷6000	100/300÷506	18	DIN 5G 932/99 M	
3478105	MB6LE TC FL FS1 3/400/50 230/50-60	1186/3558÷6000	100/300÷506	18	DIN 5G 932/99 M	
3478200	MB8LE TC FR FS1 3/400/50 230/50-60	1450/3290÷9000	122/276÷762	22	DIN 5G 997/03	
3478210	MB8LE TC FR FS2 3/400/50 230/50-60	1450/3290÷9000	122/276÷762	22	DIN 5G 997/03	
3478205	MB8LE TC FL FS1 3/400/50 230/50-60	1450/3290÷9000	122/276÷762	22	DIN 5G 997/03	
3478215	MB8LE TC FL FS2 3/400/50 230/50-60	1450/3290÷9000	122/276÷762	22	DIN 5G 997/03	
3478300	MB10LE TC FR FS1 3/400/50 230/50-60	1200/4000÷10000	101/339÷837	27	DIN 5G 998/03	
3478310	MB10LE TC FR FS2 3/400/50 230/50-60	1200/4000÷10000	101/339÷837	27	DIN 5G 998/03	
3478305	MB10LE TC FL FS1 3/400/50 230/50-60	1200/4000÷10000	101/339÷837	27	DIN 5G 998/03	
3478315	MB10LE TC FL FS2 3/400/50 230/50-60	1200/4000÷10000	101/339÷837	27	DIN 5G 998/03	

Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).
The burners of MB LE series are in according to 73/23 (2006/95) - 89/336 (2004/108) - 98/37 EC Directive and EN 267 Norm.

Burner accessories

DTI module (Data Transfer Interface)

This electronic module can transfer multiple signals from different local modules to a BMS supervisor software system (Building Management System).

BURNER	MODULE CODE
▶ MB 4 - 6 - 8 - 10 LE	3010234

I/O digital module

Digital modules I/O transfer in-coming and out-going information from the system in general to a remote supervisor system.

BURNER	MODULE CODE
▶ MB 4 - 6 - 8 - 10 LE	3010233

I/O analogic module

I/O Analog modules transfer in-coming and out-going information to a remote supervisor system.

BURNER	MODULE CODE
▶ MB 4 - 6 - 8 - 10 LE	3010232

EGA module (Exhaust Gas Analyser)

Four different EGA modules are available to measure some of the exhaust gas substances and their temperature.

BURNER	ANALYSED GAS	MODULE CODE
▶ MB 4 - 6 - 8 - 10 LE	CO, CO_2, O_2	3010235
▶ MB 4 - 6 - 8 - 10 LE	CO, CO_2, O_2, NO	3010236
▶ MB 4 - 6 - 8 - 10 LE	CO, CO_2, O_2, SO_2	3010237
▶ MB 4 - 6 - 8 - 10 LE	CO, CO_2, O_2, NO, SO_2	3010238

Belden 9501 type leads

All the connections for the above modules must be done using a BELDEN 9501 type lead (available in coils of 50 m).

BURNER	LEAD CODE
▶ MB 4 - 6 - 8 - 10 LE	3010239

Burner accessories

Accessories for modulating operation

Main management module allows a modulating operation with use of probes chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ MB 4 - 6 - 8 - 10 LE	Temperature	0 ÷ 400°C	3010187
▶ MB 4 - 6 - 8 - 10 LE	Pressure	0 ÷ 3 bar	3010246
▶ MB 4 - 6 - 8 - 10 LE	Pressure	0 ÷ 18 bar	3010186
▶ MB 4 - 6 - 8 - 10 LE	Pressure	0 ÷ 30 bar	3010188

Return nozzles

The following list shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 1 nozzle.

BURNER	RATED DELIVERY (kg/h)	NOZZLE CODE (1)	NOZZLE CODE (2)	BURNER	RATED DELIVERY (kg/h)	NOZZLE CODE (1)	NOZZLE CODE (2)
	200	3009800	3045438		525	3009813	3045459
	225	3009801	3045440		550	3009814	3045460
▶ MB 4 LE	250	3009802	3045442	▶ MB 8 LE	575	3009815	3045461
	275	3009803	3045444		600	3009816	3045462
	300	3009804	3045446		650	3009817	3045463
	325	3009805	3045448		700	3009818	3045464
	350	3009806	3045450		400	3009808	3045454
	375	3009807	3045452		425	3009809	3045455
	400	3009808	3045454		450	3009810	3045456
▶ MB 6 LE	425	3009809	3045455		475	3009811	3045457
	450	3009810	3045456		500	3009812	3045458
	475	3009811	3045457		525	3009813	3045459
	500	3009812	3045458		550	3009814	3045460
	300	3009804	3045446		575	3009815	3045461
	325	3009805	3045448	▶ MB 10 LE	600	3009816	3045462
	350	3009806	3045450		650	3009817	3045463
	375	3009807	3045452		700	3009818	3045464
▶ MB 8 LE	400	3009808	3045454		750	3009819	3045465
	425	3009809	3045455		800	3009820	-
	450	3009810	3045456		850	3009821	-
	475	3009811	3045457		900	3009822	-
	500	3009812	3045458				

(1) Nozzles Bergonzo B5 45° - with "AA" needle code.
(2) Nozzles Fluidics W2 45° - with "AA" needle code.

Burner accessories

Burner support

For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need for forklift trucks.

BURNER	SUPPORT CODE
▶ MB 4 - 6 - 8 - 10 LE	3010385

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ MB 4 - 6 - 8 - 10 LE	10	3010401

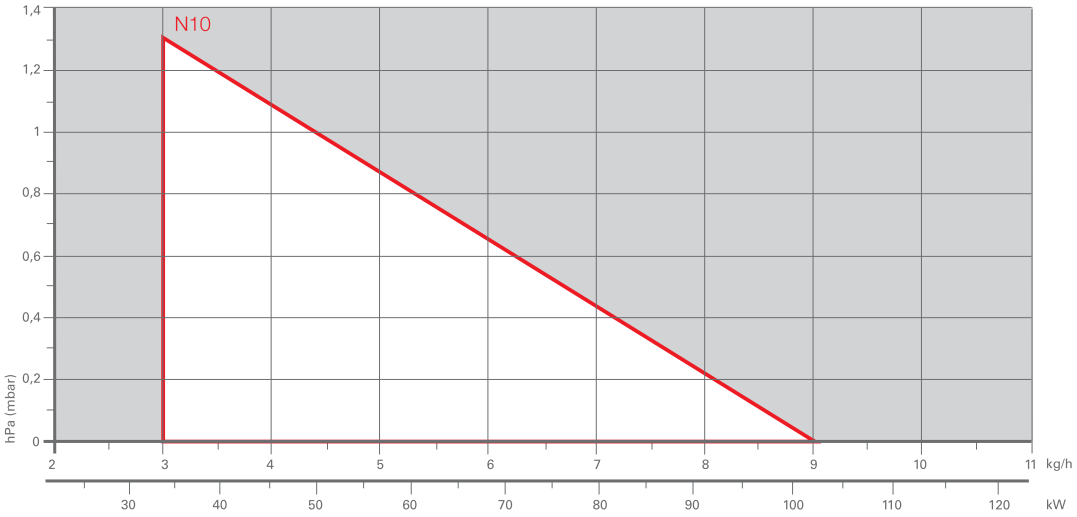
(*) according to EN 15036-1 standard

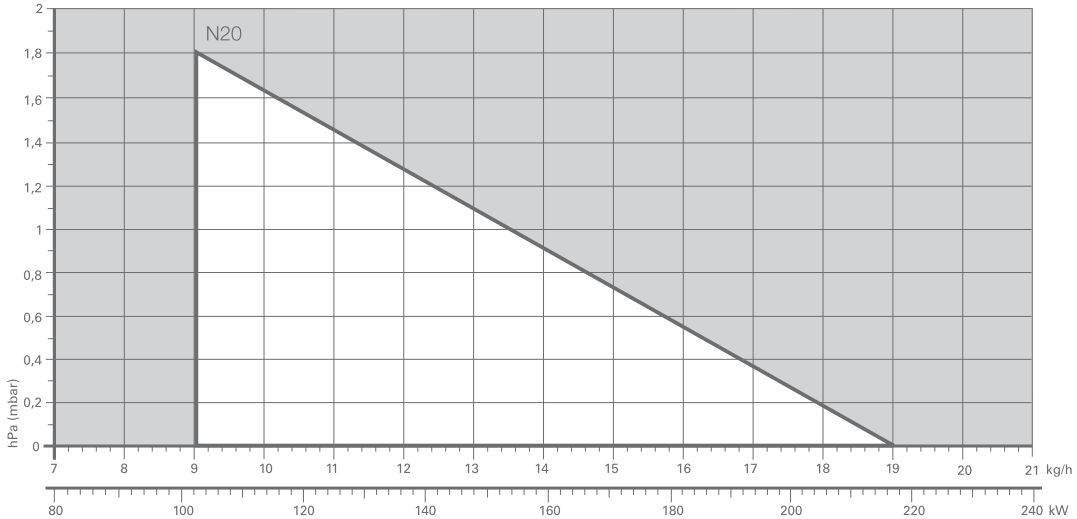
RIELLO 40 N SERIES

The Riello 40 N series of one stage heavy oil burners, is a complete range of products developed to respond to any request for the use of heavy oil in heating systems and light industrial processes.
The Riello 40 N series is available in two different models, with an output ranging from 34 to 217 kW, divided into two basic structures.
All the models use many components designed by Riello for the Riello 40 series but are fitted with special components for heavy oil combustion.
The high quality level guarantees safe working.
In developing these burners, special attention has been paid to reducing noise, to the ease of installation and adjustment, to reducing the size in order to facilitate installation in any kind of boiler on the market.
All the models are conform to EMC European Directives, for Low Voltage and Machinery.
All the Riello 40 N burners are tested before leaving the factory.

N 10	34	÷	102	kW
N 20	102	÷	217	kW

FIRING RATES



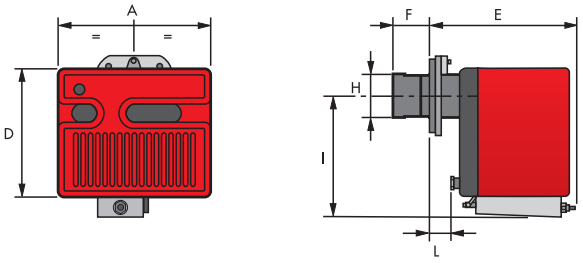


Useful working field for choosing the burner

Test conditions
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

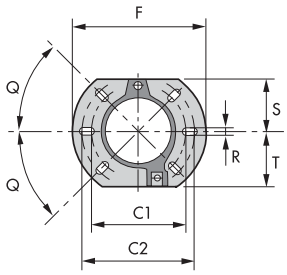
BURNER



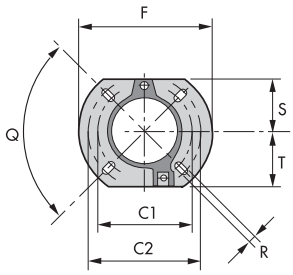
MODEL	A	D	E	F	H	I	L
▶ N10	305	262	275	108	105	258	25
▶ N20	350	298	295	118	125	280	35

BURNER - BOILER MOUNTING FLANGE

N10

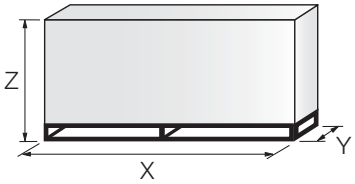


N20



MODEL	C1	C2	F	Q	R	S	T
▶ N10	140	170	189	45°	11	83	83
▶ N20	160	190	213	90°	11	99	99

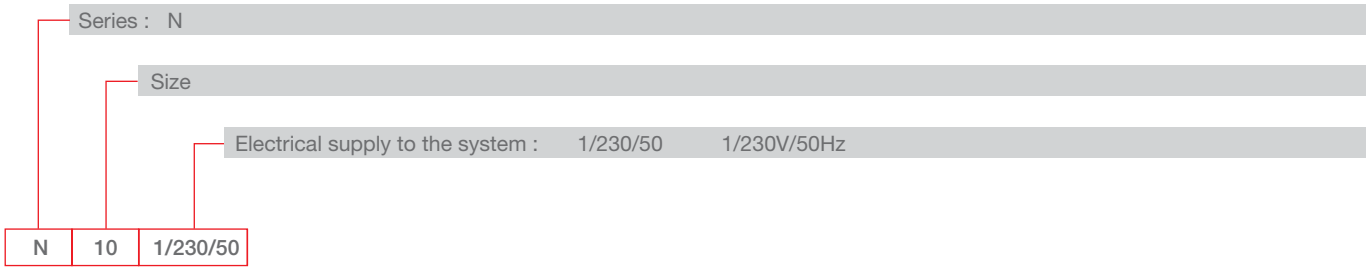
PACKAGING



MODEL	X	Y	Z	kg
▶ N10	395	307	375	26
▶ N20	425	352	410	29

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Completely automatic monobloc heavy oil burners, one stage operation, made up to:
- Fan with forward curve blades
- Metallic cover lined with sound-proofing material
- Metallic air damper
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - flame stability disk
- Geared pump for fuel supply, fitted with:
    - filter
    - pressure regulator
    - attachments for fitting a pressure gauge and vacuum meter
    - internal by-pass for preparing for single-pipe installations
- Heavy oil preheater
- Heavy oil filter into the preheater
- Heavy oil manometer
- Heavy oil termometer
- Heavy oil protection valve
- Heavy oil outlet valve
- Adjustment thermostat with probe
- Thermostat for fuel low temperature
- Fuel feed solenoid valve incorporated in the pump
- Terminal block for electrical links
- Photocell for flame detection
- Electronic flame control equipment
- Electronic transformer
- Protective filter against radio interference
- IP X0D (IP 40) protection level.

Standard equipment:
- Heavy oil nozzle
- Two flexible pipes with seal for connection to the heavy oil supply line
- Two nipples for connection to the pump
- Flange, screws and nuts for fixing
- Thermal gasket
- Hinge kit
- Grommet
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
			(kW)	(kg/h)	(kW)		
3412016	N10	1/230/50	34 - 102	3 - 9	1,1	-	(1)
3412816	N20	1/230/50	102 - 217	9 - 19	1,8	-	(1)

Net calorific value: 11,3 kWh/kg; 9720 kcal/kg - Viscosity at 50°C: 38 mm^2/s (cSt) (5°E).
(1) Austrian version.

Burner accessories

Cartridge filter

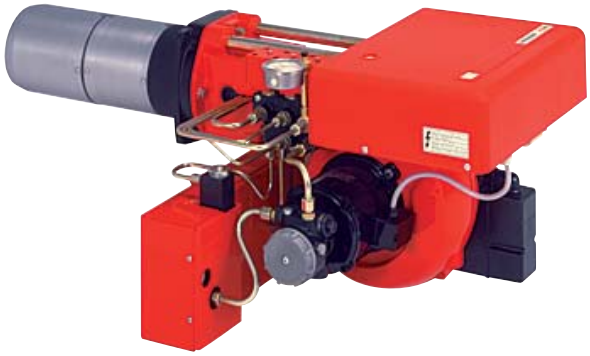
BURNER	KIT CODE
▶ N10 - N20	3004588

Self-cleaning filter

BURNER	KIT CODE
▶ N10 - N20	3000861

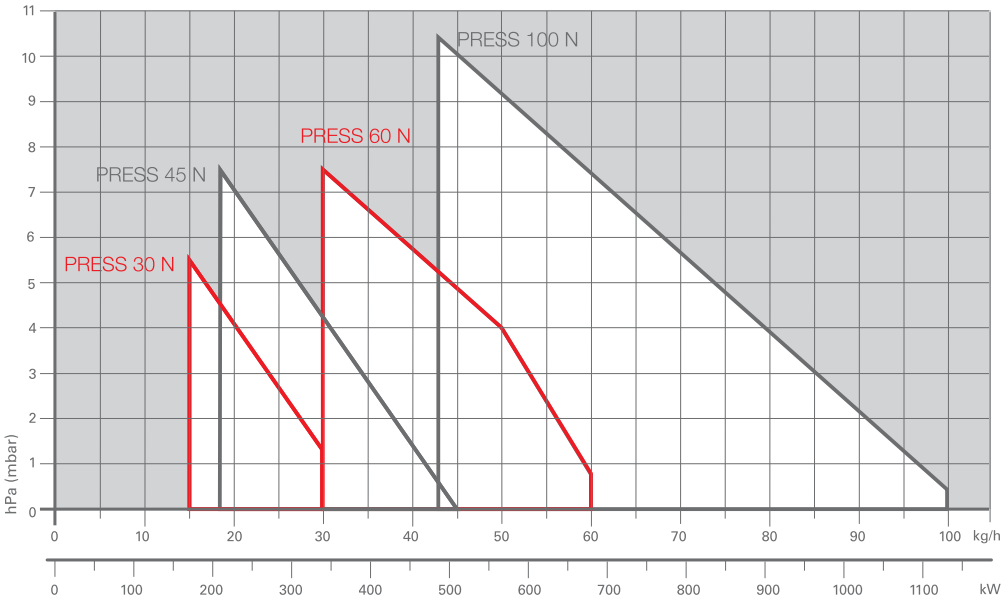
PRESS N SERIES

The PRESS N series of burners covers a firing range from 171 to 1140 kW and they have been designed for use in civil installations of average dimensions, like building areas and large apartment groups or for use in industrial applications, like small or medium plants.
Operation is two stage; a servomotor adjust automatically air damper opening, to obtain the right air delivery on both stage. The burners are fitted with a microprocessor control panel which supplies indication of operation and diagnosis of fault cause.
The combustion head, that can be set on the basis of required output, allows optimal performance ensuring good combustion and reducing fuel consumption and is available in two different length to be selected on the basis of specific application requirements.
In basic version the burners are supplied for use with heavy oil 7°E viscosity, but they can be supplied with higher viscosity oil with a specific heaters kit.
Simplified maintenance is achieved by the slide bar system, which allows easy access to all of the essential components of the combustion head.



PRESS 30 N	85/171 ÷ 342 kW
PRESS 45 N	114/205 ÷ 513 kW
PRESS 60 N	171/342 ÷ 684 kW
PRESS 100 N	285/490 ÷ 1140 kW

FIRING RATES

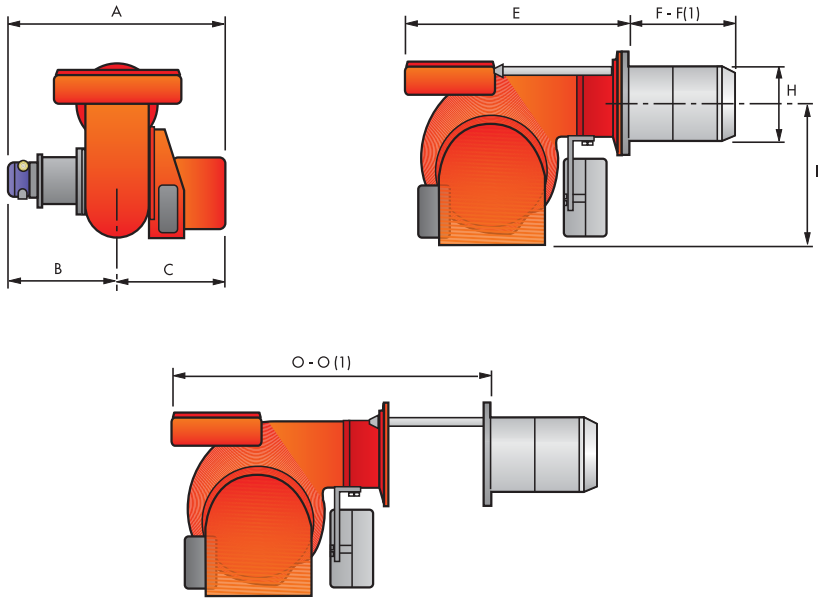


Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

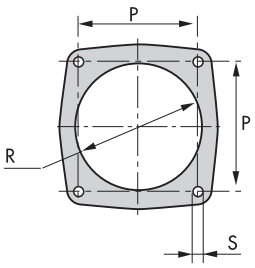
BURNER



MODEL	A	B	C	E	F - F(1)	H	I	O - O(1)
▶ PRESS 30 N	625	335	290	625	185 - 320	161	305	905 - 1080
▶ PRESS 45 N	625	335	290	625	235 - 370	161	305	925 - 1100
▶ PRESS 60 N	625	335	290	660	245 - 400	172	335	940 - 1115
▶ PRESS 100 N	625	335	290	710	250 - 410	195	370	1010 - 1195

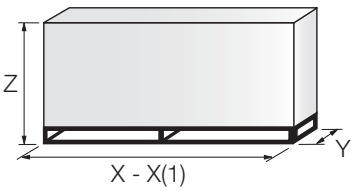
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	P	R	S
▶ PRESS 30 N	160	170	M 10
▶ PRESS 45 N	160	170	M 10
▶ PRESS 60 N	160	180	M 10
▶ PRESS 100 N	195	205	M 12

PACKAGING



MODEL	X - X(1)	Y	Z	kg
▶ PRESS 30 N	880 - 1015	690	622	84
▶ PRESS 45 N	880 - 1015	690	622	84
▶ PRESS 60 N	925 - 1095	760	652	87
▶ PRESS 100 N	985 - 1145	790	652	104

(1) Length with extended combustion head

Specification

DESIGNATION OF SERIES

Series : PRESS			
Size			
Operation :	N	Two stage	
	T/N	Three stage	
	P/N	Modulating	
Emission :	...	Class 1 EN267	
Head :	TC	Standard head	
	TL	Extended head	
Flame control system :	FS1	Standard (1 stop every 24 h)	
	FS2	Continuous working (1 stop every 72 h)	
Electrical supply to the system :	1/230/50	1/230V/50Hz	
	3/230/50	3/230V/50Hz	
	3/400/50	3N/400V/50Hz	
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz	
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz	
Auxiliary voltage :	230/50	230V/50Hz	
	220/60	220V/60Hz	

PRESS	60	N		TC	FS1	3/230-400/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught heavy oil burner, two stage operation, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air dampers for air setting controlled by a servomotor
- Starting motor at 2850 rpm
- Combustion head, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Valve unit with a double oil safety valve on the output circuit;
- Oil preheater provided with chance of a thermometer application for temperature control;
- Servomotor for air damper regulation;
- Photocell for flame detection;
- Microprocessor-based burner safety control box, with diagnostic function
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) protection level.

Standard equipment:
- 2 flexible hoses for pipe connection
- 2 gaskets for flexible hoses
- 2 nipples for flexible hoses
- 1 thermal insulation screen
- 4 screws for fixing the burner flange to the boiler
- 2 nozzles (see table of available burner model)
- 2 extensions for bars (for long head version)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3433723	PRESS 30 N TC FS1 1/230/50 230/50	85/171-342	7,5/15-30	3,4	-	(1)
3433724	PRESS 30 N TL FS1 1/230/50 230/50	85/171-342	7,5/15-30	3,4	-	(1)
3433785	PRESS 30 N TC FS1 3/220-380/60 220/60	85/171-342	7,5/15-30	3,7	-	
3433786	PRESS 30 N TL FS1 3/220-380/60 220/60	85/171-342	7,5/15-30	3,7	-	
3434523	PRESS 45 N TC FS1 3/230-400/50 230/50	114/205-513	10/18-45	3,6	-	(1)
3434524	PRESS 45 N TL FS1 3/230-400/50 230/50	114/205-513	10/18-45	3,6	-	(1)
3434585	PRESS 45 N TC FS1 3/220-380/60 220/60	114/205-513	10/18-45	3,7	-	
3434586	PRESS 45 N TL FS1 3/220-380/60 220/60	114/205-513	10/18-45	3,7	-	
3434923	PRESS 60 N TC FS1 3/230-400/50 230/50	171/342-684	15/30-60	5,5	-	(1)
3434924	PRESS 60 N TL FS1 3/230-400/50 230/50	171/342-684	15/30-60	5,5	-	(1)
3434985	PRESS 60 N TC FS1 3/220-380/60 220/60	171/342-684	15/30-60	5,8	-	
3434986	PRESS 60 N TL FS1 3/220-380/60 220/60	171/342-684	15/30-60	5,8	-	
3435923	PRESS 100 N TC FS1 3/230-400/50 230/50	285/490-1140	25/43-100	9,0	-	(1)
3435924	PRESS 100 N TL FS1 3/230-400/50 230/50	285/490-1140	25/43-100	9,0	-	(1)
3435985	PRESS 100 N TC FS1 3/220-380/60 220/60	285/490-1140	25/43-100	9,0	-	
3435986	PRESS 100 N TL FS1 3/220-380/60 220/60	285/490-1140	25/43-100	9,0	-	

(1) 2 nozzles as standard equipment.
Net calorific value: 11,16 kWh/kg; 9600 kcal/kg - Max Viscosity at 50°C: 50 mm^2/s (cSt)(7°E).
The burners of PRESS series are in according to 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 267 Norm.

Burner accessories

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ PRESS 30 N - 45 N - 60 N	142	3000755
▶ PRESS 100 N	142	3000802

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ PRESS 30 N - 45 N - 60 N - 100 N	C1/3	10	3010403

(*) according to EN 15036-1 standard

Self-cleaning filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a thermostatic heater for oil with 50°E viscosity at 50°C.

FILTER TYPE	FILTER CODE
▶ ø=1 50°E – 50°C	3000790

HEATER TYPE	HEATER CODE
▶ Thermostatic heater 80W	3010059

Heavy oil kit

Equipped with electrical heaters, it permits the employment of PRESS N burners with fuel oil of max. viscosity 23°E at 50°C (PRESS 30 N - 45 N) and 50°E at 50°C (PRESS 60 N -100 N).

BURNER	MAX VISCOSITY	KIT CODE
▶ PRESS 30 N - 45 N	23°E at 50°C	3000797
▶ PRESS 60 N - 100 N	50°E at 50°C	3010013

Burner accessories

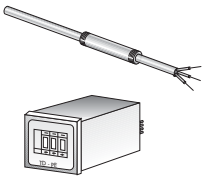
Cartridge filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a cartridge system for oil with 7°E viscosity at 50°C.

FILTER TYPE	FILTER CODE
▶ Cartridge 7°E – 50°C	3005209

HEATER TYPE	HEATER CODE
▶ Thermo - resistance up to 30°E - 50°	3010050

Thermostats



Thermostats allow heavy oil temperature control and regulation during burner operation. They are available in electronic and maximum versions.

BURNER	THERMOSTAT TYPE	THERMOSTAT CODE
▶ PRESS 30 N - 45 N - 60 N - 100 N	Electronic	3000799
▶ PRESS 30 N - 45 N - 60 N - 100 N	Maximum	3000800
▶ PRESS 30 N - 45 N - 60 N - 100 N	Kit electronic	3010173

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ PRESS 30 N - 45 N - 60 N - 100 N	3002719

Burner accessories

Nozzle

TYPE F80 PL 45°

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required output.

NOTE: each burner needs N° 2 nozzles.

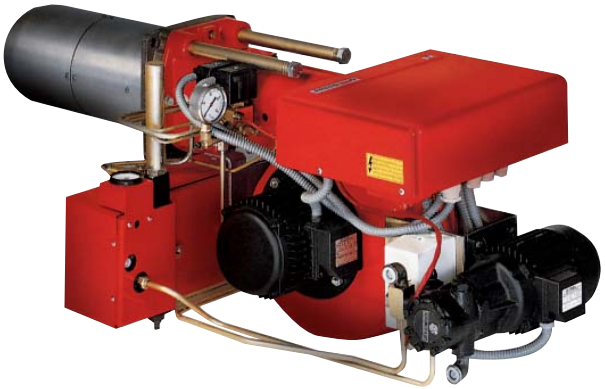
BURNER	RATED DELIVERY (kg/h) at 20 bar	GPH	NOZZLE CODE
▶ PRESS 30 N - 45 N	10,6	2	3043121
▶ PRESS 30 N - 45 N	11,9	2,25	3043131
▶ PRESS 30 N - 45 N - 60 N	13,2	2,5	3043141
▶ PRESS 45 N - 60 N	15,8	3	3043151
▶ PRESS 45 N - 60 N - 100 N	18,5	3,5	3043161
▶ PRESS 45 N - 60 N - 100 N	21,1	4	3043171
▶ PRESS 60 N - 100 N	23,7	4,5	3043181
▶ PRESS 60 N - 100 N	26,4	5	3043191
▶ PRESS 100 N	29	5,5	3043201
▶ PRESS 100 N	31,7	6	3043211
▶ PRESS 100 N	34,3	6,5	3043221
▶ PRESS 100 N	36,9	7	3043231
▶ PRESS 100 N	39,6	7,5	3043241
▶ PRESS 100 N	44,8	8,5	3043261

TYPE F80 PL 60°

BURNER	RATED DELIVERY (kg/h) at 20 bar	GPH	NOZZLE CODE
▶ PRESS 30 N	6,6	1,25	3041092
▶ PRESS 30 N - 45 N	7,9	1,5	3041102
▶ PRESS 30 N - 45 N	9,2	1,75	3041112
▶ PRESS 30 N - 45 N	10,6	2	3043122
▶ PRESS 30 N - 45 N	11,9	2,25	3043132
▶ PRESS 30 N - 45 N - 60 N	13,2	2,5	3043142
▶ PRESS 45 N - 60 N	15,8	3	3043152
▶ PRESS 45 N - 60 N - 100 N	18,5	3,5	3043162
▶ PRESS 45 N - 60 N - 100 N	21,1	4	3043172
▶ PRESS 60 N - 100 N	23,7	4,5	3043182
▶ PRESS 60 N - 100 N	26,4	5	3043192
▶ PRESS 100 N	29	5,5	3043202
▶ PRESS 100 N	31,7	6	3043212
▶ PRESS 100 N	34,3	6,5	3043222
▶ PRESS 100 N	36,9	7	3043232
▶ PRESS 100 N	39,6	7,5	3043242
▶ PRESS 100 N	44,8	8,5	3043262

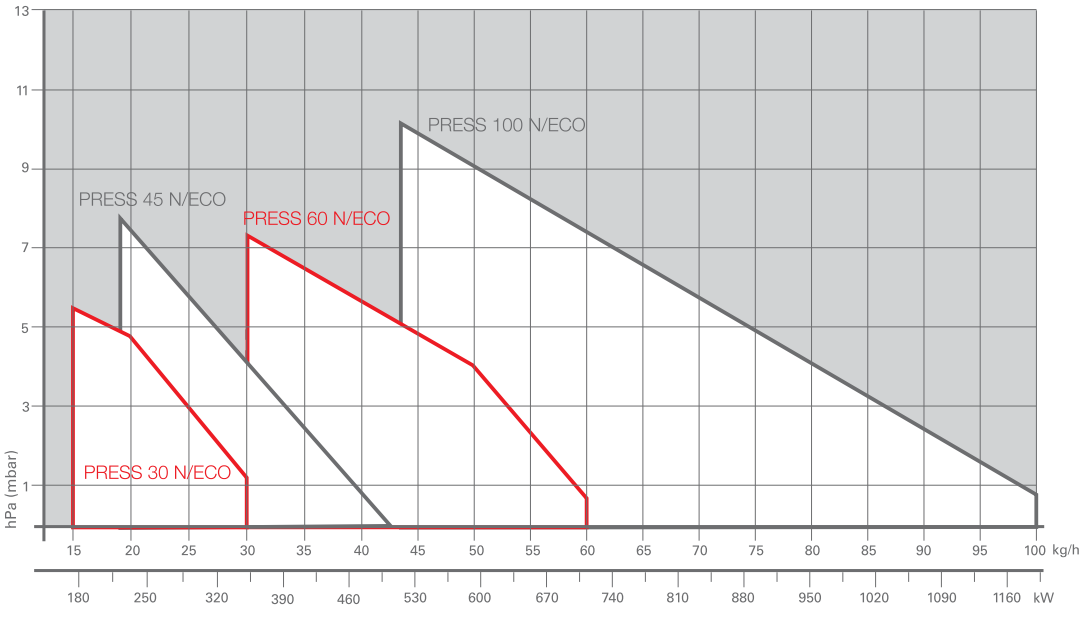
PRESS N/ECO SERIES

PRESS N/ECO burner series covers a firing range from 171 to 1140 kW and it has been designed for operation with low sulphur fuels. The burners are equipped with a separate low speed pump.
They have been designed for use in civil installations of average dimensions, like building areas and large apartment groups or for use in industrial applications, like small or medium plants.
Operation is two stage; a servomotor adjust automatically air damper opening, to obtain the right air delivery on both stage. The burners are fitted with a microprocessor control panel which supplies indication of operation and diagnosis of fault cause.
The combustion head, that can be set on the basis of required output, allows optimal performance ensuring good combustion and reducing fuel consumption and is available in two different length to be selected on the basis of specific application requirements.
As standard the burners are supplied with electrical heaters installed on crucial parts of hydraulics circuit, for use with heavy oil viscosity up to 15°E.
Simplified maintenance is achieved by the slide bar system, which allows easy access to all of the essential components of the combustion head.



PRESS 30 N/ECO	85/171 ÷ 342 kW
PRESS 45 N/ECO	114/205 ÷ 513 kW
PRESS 60 N/ECO	171/342 ÷ 684 kW
PRESS 100 N/ECO	285/490 ÷ 1140 kW

FIRING RATES

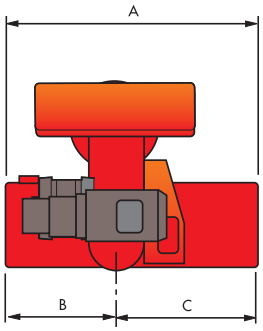


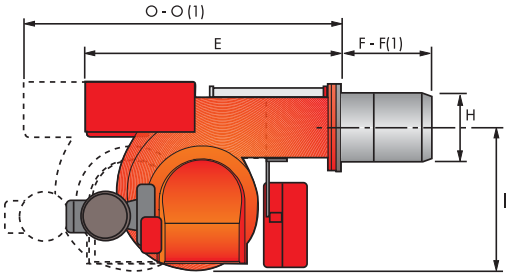
Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

BURNER

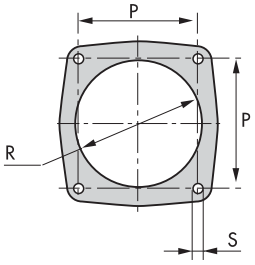




MODEL	A	B	C	E	F - F(1)	H	I	O - O(1)
▶ PRESS 30 N/ECO	625	335	290	625	185 - 320	161	305	968 - 1103
▶ PRESS 45 N/ECO	625	335	290	625	235 - 370	161	305	1018 - 1153
▶ PRESS 60 N/ECO	625	335	290	660	245 - 400	172	335	1079 - 1234
▶ PRESS 100 N/ECO	625	335	290	710	250 - 410	195	370	1126 - 1216

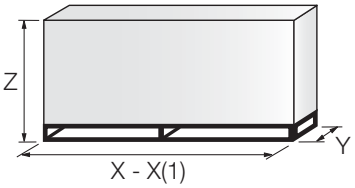
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	P	R	S
▶ PRESS 30 N/ECO	160	170	M 10
▶ PRESS 45 N/ECO	160	170	M 10
▶ PRESS 60 N/ECO	160	180	M 10
▶ PRESS 100 N/ECO	195	205	M 12

PACKAGING



MODEL	X - X(1)	Y	Z	kg
▶ PRESS 30 N/ECO	880 - 1015	690	622	84
▶ PRESS 45 N/ECO	880 - 1015	690	622	84
▶ PRESS 60 N/ECO	925 - 1095	760	652	87
▶ PRESS 100 N/ECO	985 - 1145	790	652	104

(1) Length with extended combustion head

Specification

DESIGNATION OF SERIES

Series : PRESS			
Size			
Operation :	N	Two stage	
	T/N	Three stage	
	P/N	Modulating	
	N/ECO	Two stage with separated pump	
Emission :	...	Class 1 EN267	
Head :	TC	Standard head	
	TL	Extended head	
Flame control system :	FS1	Standard (1 stop every 24 h)	
	FS2	Continuous working (1 stop every 72 h)	
Electrical supply to the system :	1/230/50	1/230V/50Hz	
	3/230/50	3/230V/50Hz	
	3/400/50	3N/400V/50Hz	
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz	
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz	
Auxiliary voltage :	230/50	230V/50Hz	
	220/60	220V/60Hz	

PRESS	60	N/ECO		TC	FS1	3/230-400/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught heavy oil burner, two stage operation, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air dampers for air setting controlled by a servomotor
- Fan motor at 2850 rpm
- Oil pump motor at 1400 rpm
- Combustion head, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Valve unit with a double oil safety valve on the output circuit
- Double filter between pump and nozzle
- Oil preheater provided with chance of a thermometer application for temperature control
- Installed electrical heaters on pump, nozzle holder, valves assembly
- Servomotor for air damper regulation
- Air pressure switch
- Photocell for flame detection
- Microprocessor-based burner safety control box, with diagnostic function
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) protection level.

Standard equipment:
- 2 flexible hoses for pipe connection
- 2 gaskets for flexible hoses
- 2 nipples for flexible hoses
- 1 thermal insulation screen
- 4 screws for fixing the burner flange to the boiler
- 2 nozzles (see table of available burner model)
- 2 extensions for bars (for long head version)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3433823	PRESS 30 N/ECO TC FS1 1/230/50 230/50	85/171-342	7,5/15-30	3,9	-	(1) (2)
3433824	PRESS 30 N/ECO TL FS1 1/230/50 230/50	85/171-342	7,5/15-30	3,9	-	(1) (2)
3433881	PRESS 30 N/ECO TC FS1 3/220-380/60 220/60	85/171-342	7,5/15-30	4,2	-	(2)
3433882	PRESS 30 N/ECO TL FS1 3/220-380/60 220/60	85/171-342	7,5/15-30	4,2	-	(2)
3434623	PRESS 45 N/ECO TC FS1 3/230-400/50 230/50	114/205-513	10/18-45	4,1	-	(1) (2)
3434624	PRESS 45 N/ECO TL FS1 3/230-400/50 230/50	114/205-513	10/18-45	4,1	-	(1) (2)
3434681	PRESS 45 N/ECO TC FS1 3/220-380/60 220/60	114/205-513	10/18-45	4,2	-	(2)
3434682	PRESS 45 N/ECO TL FS1 3/220-380/60 220/60	114/205-513	10/18-45	4,2	-	(2)
3435023	PRESS 60 N/ECO TC FS1 3/230-400/50 230/50	171/342-684	15/30-60	6,0	-	(1) (2)
3435024	PRESS 60 N/ECO TL FS1 3/230-400/50 230/50	171/342-684	15/30-60	6,0	-	(1) (2)
3435081	PRESS 60 N/ECO TC FS1 3/220-380/60 220/60	171/342-684	15/30-60	6,3	-	(2)
3435082	PRESS 60 N/ECO TL FS1 3/220-380/60 220/60	171/342-684	15/30-60	6,3	-	(2)
3436023	PRESS 100 N/ECO TC FS1 3/230-400/50 230/50	285/490-1140	25/43-100	9,5	-	(1) (2)
3436024	PRESS 100 N/ECO TL FS1 3/230-400/50 230/50	285/490-1140	25/43-100	9,5	-	(1) (2)
3436081	PRESS 100 N/ECO TC FS1 3/220-380/60 220/60	285/490-1140	25/43-100	9,5	-	(2)
3436082	PRESS 100 N/ECO TL FS1 3/220-380/60 220/60	285/490-1140	25/43-100	9,5	-	(2)

(1) 2 nozzles as standard equipment.
(2) Installed electrical heaters on pump, nozzle holder, valves assembly
Net calorific value: 11,16 kWh/kg; 9600 kcal/kg - Max Viscosity at 50°C: 115 mm^2/s (cSt)(15°E).
The burners of PRESS series are in according to 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 267 Norm.

Burner accessories

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ P 30 N/ECO - 45 N/ECO - 60 N/ECO	142	3000755
▶ P 100 N/ECO	142	3000802

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ PRESS 30 - 45 - 60 - 100 N/ECO	C1/3	10	3010403

(*) according to EN 15036-1 standard

Self-cleaning filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a thermostatic heater for oil with 50°E viscosity at 50°C.

FILTER TYPE	FILTER CODE
▶ ø=1 50°E – 50°C	3000790

HEATER TYPE	HEATER CODE
▶ Thermostatic heater 80W	3010059

Cartridge filter

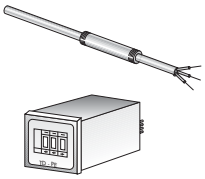
For cleaning heavy oil from dirty particles and impurities, it is equipped with a cartridge system for oil with 7°E viscosity at 50°C.

FILTER TYPE	FILTER CODE
▶ Cartridge 7°E – 50°C	3005209

HEATER TYPE	HEATER CODE
▶ Thermo - resistance up to 30°E - 50°	3010050

Burner accessories

Thermostats



Thermostats allow heavy oil temperature control and regulation during burner operation. They are available in electronic and maximum versions.

BURNER	THERMOSTAT TYPE	THERMOSTAT CODE
▶ P 30 N/ECO - 45 N/ECO - 60 N/ECO - 100 N/ECO	Electronic	3000799

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ P 30 N/ECO - 45 N/ECO - 60 N/ECO - 100 N/ECO	3002719

Burner accessories

Nozzle

TYPE F80 PL 45°

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required output.

NOTE: each burner needs N° 2 nozzles.

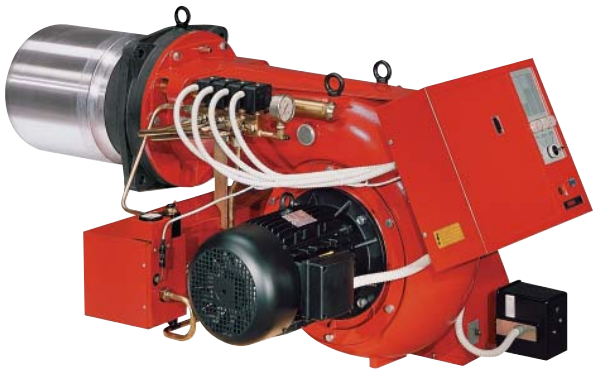
BURNER	RATED DELIVERY (kg/h) at 20 bar	GPH	NOZZLE CODE
▶ P 30 N/ECO - 45 N/ECO	10,6	2	3043121
▶ P 30 N/ECO - 45 N/ECO	11,9	2,25	3043131
▶ P 30 N/ECO - 45 N/ECO - 60 N/ECO	13,2	2,5	3043141
▶ P 45 N/ECO - 60 N/ECO	15,8	3	3043151
▶ P 45 N/ECO - 60 N/ECO - 100 N/ECO	18,5	3,5	3043161
▶ P 45 N/ECO - 60 N/ECO - 100 N/ECO	21,1	4	3043171
▶ P 60 N/ECO - 100 N/ECO	23,7	4,5	3043181
▶ P 60 N/ECO - 100 N/ECO	26,4	5	3043191
▶ P 100 N/ECO	29	5,5	3043201
▶ P 100 N/ECO	31,7	6	3043211
▶ P 100 N/ECO	34,3	6,5	3043221
▶ P 100 N/ECO	36,9	7	3043231
▶ P 100 N/ECO	39,6	7,5	3043241
▶ P 100 N/ECO	44,8	8,5	3043261

TYPE F80 PL 60°

BURNER	RATED DELIVERY (kg/h) at 20 bar	GPH	NOZZLE CODE
▶ P 30 N/ECO	6,6	1,25	3041092
▶ P 30 N/ECO - 45 N/ECO	7,9	1,5	3041102
▶ P 30 N/ECO - 45 N/ECO	9,2	1,75	3041112
▶ P 30 N/ECO - 45 N/ECO	10,6	2	3043122
▶ P 30 N/ECO - 45 N/ECO	11,9	2,25	3043132
▶ P 30 N/ECO - 45 N/ECO - 60 N/ECO	13,2	2,5	3043142
▶ P 45 N/ECO - 60 N/ECO	15,8	3	3043152
▶ P 45 N/ECO - 60 N/ECO - 100 N/ECO	18,5	3,5	3043162
▶ P 45 N/ECO - 60 N/ECO - 100 N/ECO	21,1	4	3043172
▶ P 60 N/ECO - 100 N/ECO	23,7	4,5	3043182
▶ P 60 N/ECO - 100 N/ECO	26,4	5	3043192
▶ P 100 N/ECO	29	5,5	3043202
▶ P 100 N/ECO	31,7	6	3043212
▶ P 100 N/ECO	34,3	6,5	3043222
▶ P 100 N/ECO	36,9	7	3043232
▶ P 100 N/ECO	39,6	7,5	3043242
▶ P 100 N/ECO	44,8	8,5	3043262

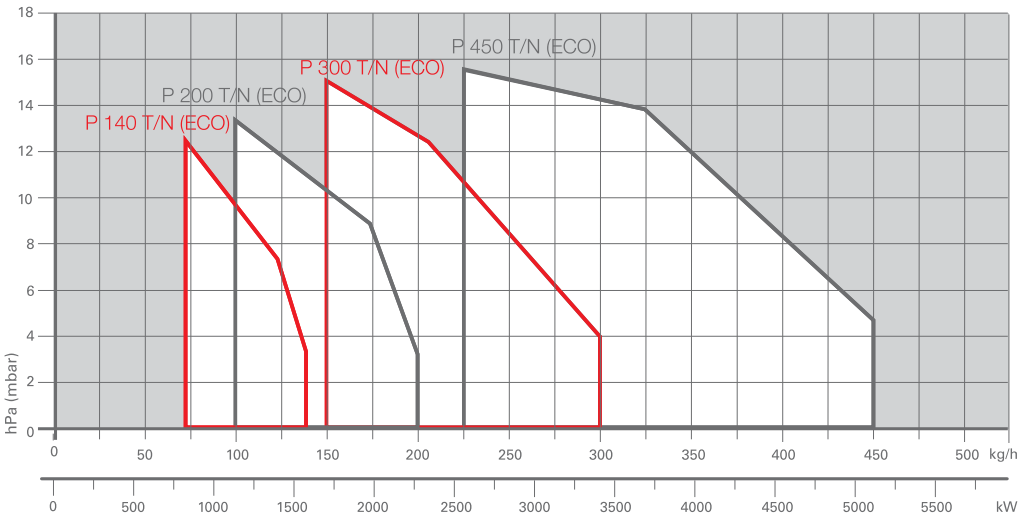
PRESS T/N - T/N ECO SERIES

The PRESS T/N series of burners covers a firing range from 800 to 5130 kW. They have been designed in three versions for use in commercial and industrial installations, to burn different oil viscosity from 7 up to 60 °E @ 50°C. Operation is three-stage, thus making these burners suitable for installations that have variable but predictable heating requirments.
A servomotor adjusts automatically air damper to the opening value, determined to obtain always the necessary fuel consumption. Every model of PRESS T/N series is available in two different combustion head lenght (short or long head) to be selected on the basis of specific application requirments. An electric preheater has been fitted to maintain the oil at the correct atomising temperature at maximum ouput and special heaters kits are separately supplied for burning high viscosity oil.
Simplified maintenance is achieved by the Riello designed slide bar system, which allows easy access to all of the essential components of the combustion head.



P 140 T/N	320/800	÷	1600	kW
P 200 T/N	515/1140	÷	2280	kW
P 300 T/N	626/1710	÷	3420	kW
P 450 T/N	855/2560	÷	5130	kW
P 140 T/N ECO	320/800	÷	1600	kW
P 200 T/N ECO	515/1140	÷	2280	kW
P 300 T/N ECO	626/1710	÷	3420	kW
P 450 T/N ECO	855/2560	÷	5130	kW

FIRING RATES



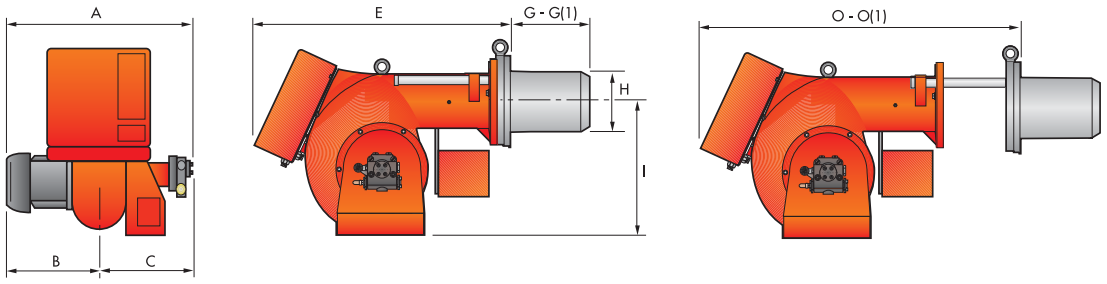
Useful working field for choosing the burner

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

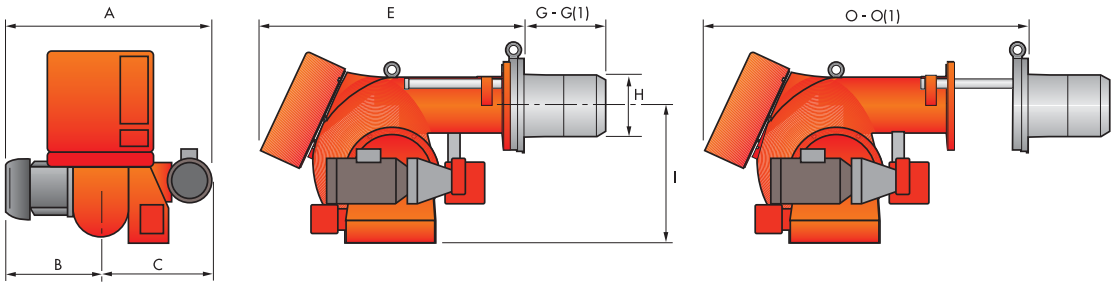
Overall dimensions (mm)

BURNER

PRESS T/N



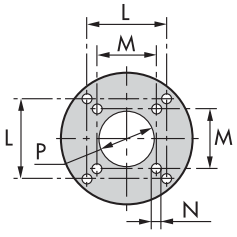
PRESS T/N ECO



MODEL	A	B	C	E	G - G(1)	H	I	O - O(1)
▶ P 140 T/N	796	396	400	890	323 - 433	222	467	1370 - 1370
▶ P 200 T/N	796	396	400	890	352 - 462	250	467	1370 - 1370
▶ P 300 T/N	858	447	411	1000	376 - 506	295	496	1515 - 1665
▶ P 450 T/N	950	508	442	1090	435 - 565	336	525	1665 - 1820
▶ P 140 T/N ECO	900	396	504	890	323 - 433	222	467	1370 - 1370
▶ P 200 T/N ECO	900	396	504	890	352 - 462	250	467	1370 - 1370
▶ P 300 T/N ECO	984	447	537	1000	376 - 506	295	496	1515 - 1665
▶ P 450 T/N ECO	1100	508	592	1090	435 - 565	336	525	1665 - 1820

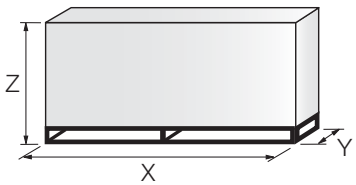
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	L	M	N	P
▶ P 140 T/N (ECO)	260	230	M 14	225
▶ P 200 T/N (ECO)	260	-	M 16	255
▶ P 300 T/N (ECO)	260	-	M 18	300
▶ P 450 T/N (ECO)	310	-	M 20	350

PACKAGING



MODEL	X	Y	Z	kg
▶ P 140 T/N (ECO)	1500	930	900	180
▶ P 200 T/N (ECO)	1500	930	900	190
▶ P 300 T/N (ECO)	1780	1085	990	260
▶ P 450 T/N (ECO)	1780	1085	990	350

Specification

DESIGNATION OF SERIES

Series : PRESS				
Size				
Operation :	N	Two stage	N/ECO	Two stage with separated oil pump
	T/N	Three stage	T/N ECO	Three stage with separate oil pump
	P/N	Modulating	P/N ECO	Modulating with separate oil pump
Emission :	...	Class 1 EN267		
Head :	TC	Standard head		
	TL	Extended head		
Flame control system :	FS1	Standard (1 stop every 24 h)		
	FS2	Continuous working (1 stop every 72 h)		
Electrical supply to the system :	1/230/50	1/230V/50Hz		
	3/230/50	3/230V/50Hz		
	3/400/50	3N/400V/50Hz		
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz		
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz		
Auxiliary voltage :	230/50	230V/50Hz		
	220/60	220V/60Hz		

PRESS	140	T/N		TC	FS1	3/230-400/50	230/50
BASIC DESIGNATION							
EXTENDED DESIGNATION							

Specification

STATE OF SUPPLY

Monoblock forced draught heavy oil burner, three stage operation, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air dampers for air setting controlled by a servomotor
- Fan motor at 2850 rpm
- Combustion head, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Valve unit with a oil safety shut-off valve fitted in series with three valves controlling three-stage on the output circuit
- Heavy oil heating cartridges (T/N ECO version)
- Oil pump motor at 1400 rpm (T/N ECO version)
- Oil preheater
- Servomotor for air damper regulation
- Photocell for flame detection
- Burner safety control box
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 2 flexible hoses for pipe connection
- 2 nipples for flexible hoses
- 1 thermal insulation screen
- 4 screws for fixing the burner flange to the boiler
- 3 nozzles
- 2 extensions for bars (for long head version of P 300 T/N and P 450 T/N)
- 5 wiring looms for electrical connections (7 for P 450 T/N version)
- 1 star delta starter (only for P 450 T/N version)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3436833	PRESS 140 T/N TC FS1 3/230-400/50 230/50	320-1600	28-140	19	-	
3436834	PRESS 140 T/N TL FS1 3/230-400/50 230/50	320-1600	28-140	19	-	
3436885	PRESS 140 T/N TC FS1 3/220-380/60 220/60	320-1600	28-140	19	-	
3436886	PRESS 140 T/N TL FS1 3/220-380/60 220/60	320-1600	28-140	19	-	
3437733	PRESS 200 T/N TC FS1 3/230-400/50 230/50	515-2280	45-200	20	-	
3437734	PRESS 200 T/N TL FS1 3/230-400/50 230/50	515-2280	45-200	20	-	
3437785	PRESS 200 T/N TC FS1 3/220-380/60 220/60	515-2280	45-200	20	-	
3437786	PRESS 200 T/N TL FS1 3/220-380/60 220/60	515-2280	45-200	20	-	
3438964	PRESS 300 T/N TC FS1 3/230-400/50 230/50	626-3420	60-300	30	-	
3438965	PRESS 300 T/N TL FS1 3/230-400/50 230/50	626-3420	60-300	30	-	
3438966	PRESS 300 T/N TC FS1 3/230/50 230/50	626-3420	60-300	30	-	(1)
3438967	PRESS 300 T/N TL FS1 3/230/50 230/50	626-3420	60-300	30	-	(1)
3438968	PRESS 300 T/N TC FS1 3/400/50 230/50	626-3420	60-300	30	-	(1)
3438969	PRESS 300 T/N TL FS1 3/400/50 230/50	626-3420	60-300	30	-	(1)
3439345	PRESS 450 T/N TC FS1 3/230/50 230/50	855-5130	75-450	34	-	(2)
3439346	PRESS 450 T/N TL FS1 3/230/50 230/50	855-5130	75-450	34	-	(2)
3439347	PRESS 450 T/N TC FS1 3/400/50 230/50	855-5130	75-450	34	-	(2)
3439348	PRESS 450 T/N TL FS1 3/400/50 230/50	855-5130	75-450	34	-	(2)

(1) Star-delta starting, on board
(2) Star-delta starting, as standard equipment
Net calorific value: 11,16 kWh/kg; 9600 kcal/kg - Max Viscosity at 50°C: 50 mm^2/s (cSt)(7°E) for PRESS T/N, 115 mm^2/s (cSt)(15°E) for PRESS T/N ECO.
For higher viscosity please contact Riello Burners Technical Department.
The burners of PRESS series are in according to 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 267 Norm.

For ECO models ask for specific code.

Special configuration on demand:
- Installed pipes heating cable on T/N ECO models
- Steam oil pre-heater on T/N ECO models.

Burner accessories

Available for T/N and T/N ECO versions

Nozzle type F80 PL 60°

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required output.

NOTE: each burner needs N° 3 nozzles.

BURNER	RATED DELIVERY (kg/h) at 25 bar	GPH	NOZZLE CODE
▶ P 140 T/N	20,8	3,5	3043162
▶ P 140 T/N	23,8	4	3043172
▶ P 140 T/N	26,8	4,5	3043182
▶ P 140 T/N - P 200 T/N	29,8	5	3043192
▶ P 140 T/N - P 200 T/N	32,7	5,5	3043202
▶ P 140 T/N - P 200 T/N	35,7	6	3043212
▶ P 140 T/N - P 200 T/N	38,7	6,5	3043222
▶ P 140 T/N - P 200 T/N	41,7	7	3043232
▶ P 140 T/N - P 200 T/N	44,6	7,5	3043242
▶ P 200 T/N - P 300 T/N	50,6	8,5	3043262
▶ P 200 T/N - P 300 T/N	56,5	9,5	3043272
▶ P 200 T/N - P 300 T/N - P 450 T/N	62,5	10,5	3043302
▶ P 300 T/N - P 450 T/N	71,4	12	3043322
▶ P 300 T/N - P 450 T/N	80,4	13,5	3043342
▶ P 300 T/N - P 450 T/N	92,3	15,5	3043372
▶ P 450 T/N	104,2	17,5	3043402
▶ P 450 T/N	116,1	19,5	3043432
▶ P 450 T/N	128	21,5	3043452
▶ P 450 T/N	142,8	24	3043472

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ P 140 T/N - P 200 T/N	102	3000722
▶ P 300 T/N	110	3000723
▶ P 450 T/N	130	3000751

Burner accessories

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ P 140 T/N - P 200 T/N	C4/5	10	3010404
▶ P 300 T/N - P 450 T/N	C7	10	3010376

(*) according to EN 15036-1 standard

Self-cleaning filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a thermostatic heater for oil with 60°E viscosity at 50°C.

FILTER TYPE	FILTERING DEGREE (µm)	FILTER CODE
▶ Ø = 1"1/2 (60°E at 50°C)	300	3010022

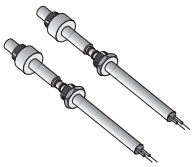
HEATER / THERMOSTAT TYPE	HEATER / THERMOSTAT CODE
▶ Thermostatic heater with LED	3010060
▶ Heater	3010061
▶ Thermostat (two-stage / regulable)	3010062

Gas separator bottle

Gas separator bottle connects the burner oil circuit to the main ring circuit. It allows to recover heat in excess and discharge return circuit gas.

BURNER	CODE
▶ P 140 T/N - P 200 T/N	3000748
▶ P 300 T/N - P 450 T/N	3010012

Heavy oil kit



Equipped with electrical heaters, it permits the employment of PRESS T/N burners with fuel oil of max. viscosity 25°E at 50°C.

BURNER	KIT CODE
▶ P 140 T/N - P 200 T/N - P 300 T/N - P 450 T/N	3000721

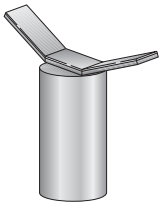
Burner accessories

Heavy oil precirculation kit

This kit, used with oil with high viscosity, in maintains fuel circulation in the oil circuit for avoiding system stop at start up.

BURNER	KIT CODE
▶ P 140 T/N - P 200 T/N	3000749
▶ P 300 T/N - P 450 T/N	3000750

Burner support



For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need of forklift trucks.

BURNER	SUPPORT CODE
▶ P 300 T/N - P 450 T/N	3000731

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

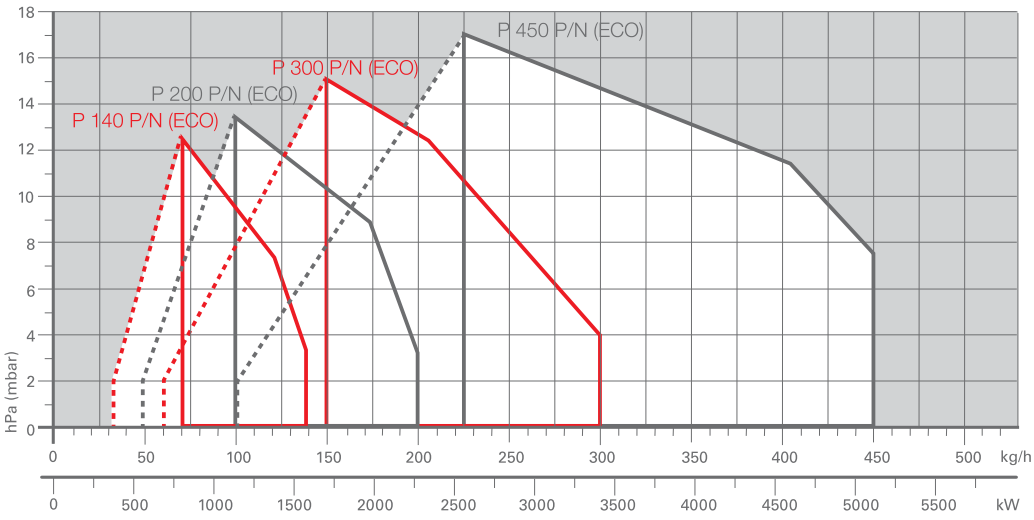
BURNER	KIT CODE
▶ P 140 T/N - P 200 T/N - P 300 T/N - P 450 T/N	3002719

PRESS P/N - P/N ECO SERIES

The PRESS P/N series of burners covers a firing range from 800 to 5130 kW. They have been designed in three versions for use in commercial and industrial installation, to burn different oil viscosity from 7 up to 60°E @ 50°C.
Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes, which guarantees a turn down ratio of 3:1.
The versatility of this range makes the burner well suited for use on steam boilers where the load factor is subject to wide variations, on thermal oil boilers and on boilers for particular heating plants, as hospitals or similar.
Simplified maintenance is achieved by the Riello designed slide bar system, which allows easy access to all of the essential components of the combustion head.

P 140 P/N	400/800	÷	1600	kW
P 200 P/N	570/1140	÷	2280	kW
P 300 P/N	683/1710	÷	3420	kW
P 450 P/N	1140/2615	÷	5130	kW
P 140 P/N ECO	400/800	÷	1600	kW
P 200 P/N ECO	570/1140	÷	2280	kW
P 300 P/N ECO	683/1710	÷	3420	kW
P 450 P/N ECO	1140/2615	÷	5130	kW

FIRING RATES



Useful working field for choosing the burner

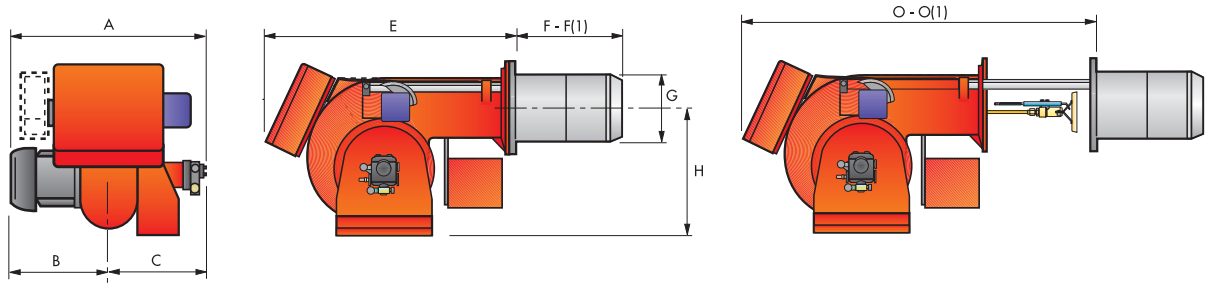
Modulation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

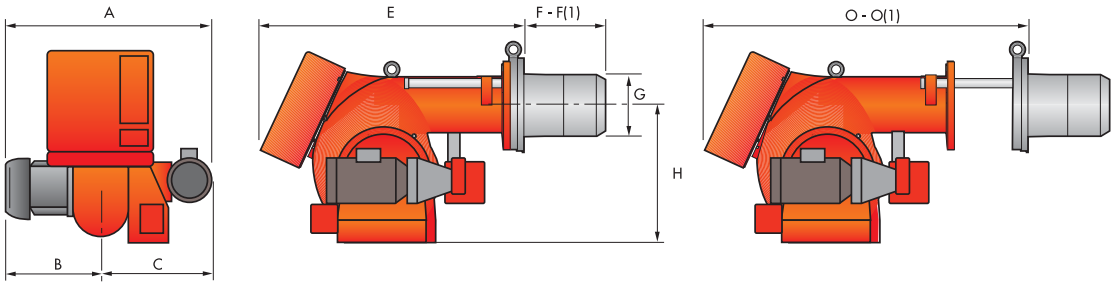
Overall dimensions (mm)

BURNER

PRESS P/N



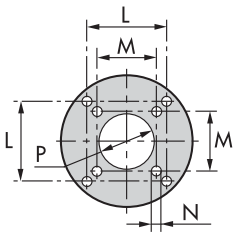
PRESS P/N ECO



MODEL	A	B	C	E	F - F(1)	G	H	O - O(1)
▶ P 140 P/N	796	396	400	910	323 - 433	222	467	1390 - 1390
▶ P 200 P/N	796	396	400	910	352 - 462	250	467	1390 - 1390
▶ P 300 P/N	858	447	411	1020	376 - 506	295	496	1535 - 1685
▶ P 450 P/N	950	508	442	1090	435 - 565	336	525	1665 - 1820
▶ P 140 P/N ECO	900	396	504	890	323 - 433	222	467	1370 - 1370
▶ P 200 P/N ECO	900	396	504	890	352 - 462	250	467	1370 - 1370
▶ P 300 P/N ECO	984	447	537	1000	376 - 506	295	496	1515 - 1665
▶ P 450 P/N ECO	1100	508	592	1090	435 - 565	336	525	1665 - 1820

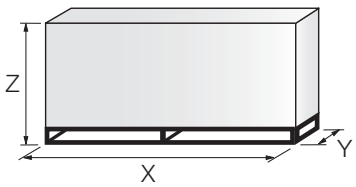
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	L	M	N	P
▶ P 140 P/N (ECO)	260	230	M 14	225
▶ P 200 P/N (ECO)	260	-	M 16	255
▶ P 300 P/N (ECO)	260	-	M 18	300
▶ P 450 P/N (ECO)	310	-	M 20	350

PACKAGING



MODEL	X	Y	Z	kg
▶ P 140 P/N (ECO)	1500	930	900	180
▶ P 200 P/N (ECO)	1500	930	900	220
▶ P 300 P/N (ECO)	1780	1085	990	238
▶ P 450 P/N (ECO)	1780	1085	990	300

Specification

DESIGNATION OF SERIES

Series : PRESS				
Size				
Operation :	N	Two stage	N/ECO	Two stage with separated oil pump
	T/N	Three stage	T/N ECO	Three stage with separate oil pump
	P/N	Modulating	P/N ECO	Modulating with separate oil pump
Emission :	...	Class 1 EN267		
Head :	TC	Standard head		
	TL	Extended head		
Flame control system :	FS1	Standard (1 stop every 24 h)		
	FS2	Continuous working (1 stop every 72 h)		
Electrical supply to the system :	1/230/50	1/230V/50Hz		
	3/230/50	3/230V/50Hz		
	3/400/50	3N/400V/50Hz		
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz		
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz		
Auxiliary voltage :	230/50	230V/50Hz		
	220/60	220V/60Hz		

PRESS	140	P/N		TC	FS1	3/230-400/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught oil burner with two-stage progressive or modulating operation, with a specific kit, fully automatic, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with forward curved blades high performance pressure levels
- Air damper for air setting and automatic oil output regulator controlled by a servomotor with variable cam
- Fan motor at 2850 rpm, three-phase 400V with neutral, 50Hz
- Combustion head, that can be set on the basis of the combustion output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Heavy oil heating cartridges (P/N ECO version)
- Pipes heating cable (P/N ECO version)
- Oil pump motor at 1400 rpm (P/N ECO version)
- Valve unit with a double oil safety valve on the output circuit
- Electrical preheater for heavy oil
- Safey oil pressure switch
- Photocell for flame detection
- Burner safety control box, fitted with control function for the correct positioning of the servomotor and possibility of post-ventilaton by just changing the electric wiring
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for the connection to the pump
- Wiring looms fittings for electrcial connections
- 4 screws for fixing the burner flange to the boiler
- 2 slide bar extensions (for the extended head models of P 300 P/N and P 450 P/N)
- Gasket for flange
- Starter*
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

* for versions with star-delta starting

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3436876	P 140 P/N TC FS1 3/230-400/50 230/50	400/800÷1600	35/70÷140	19	-	
3436877	P 140 P/N TL FS1 3/230-400/50 230/50	400/800÷1600	35/70÷140	19	-	
3437776	P 200 P/N TC FS1 3/230-400/50 230/50	570/1140÷2280	50/100÷200	20	-	
3437777	P 200 P/N TL FS1 3/230-400/50 230/50	570/1140÷2280	50/100÷200	20	-	
3438989	P 300 P/N TC FS1 3/230/50 230/50	683/1710÷3420	60/150÷300	30	-	(1)
3438987	P 300 P/N TC FS1 3/230-400/50 230/50	683/1710÷3420	60/150÷300	30	-	
3438991	P 300 P/N TC FS1 3/400/50 230/50	683/1710÷3420	60/150÷300	30	-	(1)
3438990	P 300 P/N TL FS1 3/230/50 230/50	683/1710÷3420	60/150÷300	30	-	(1)
3438988	P 300 P/N TL FS1 3/230-400/50 230/50	683/1710÷3420	60/150÷300	30	-	
3438992	P 300 P/N TL FS1 3/400/50 230/50	683/1710÷3420	60/150÷300	30	-	(1)
3439385	P 450 P/N TC FS1 3/230/50 230/50	1140/2615÷5130	100/225÷450	34	-	(1)
3439387	P 450 P/N TC FS1 3/400/50 230/50	1140/2615÷5130	100/225÷450	34	-	(1)
3439386	P 450 P/N TL FS1 3/230/50 230/50	1140/2615÷5130	100/225÷450	34	-	(1)
3439388	P 450 P/N TL FS1 3/400/50 230/50	1140/2615÷5130	100/225÷450	34	-	(1)

Net calorific value: 11,16 kWh/kg; 9600 kcal/kg
The burners of PRESS series are in according to 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 267 Norm.
(1) Star-delta starting

Viscosity
The modulating burner P/N series can burn different heavy oil types from 50 up to 450 cSt @ 50°C (7 up to 60°E @ 50°C).
For different viscosity levels Riello recommends 3 different configurations:
1) PRESS P/N version for viscosity up to 50 cSt (7°E) @ 50°C:
basic version with 2800 rmp oil pump installed directly on fan motor shaft (see available codes in the table above)
2) PRESS P/N version for viscosity up to 200 cSt (25°E) @ 50°C:
as basic version + heavy oil heating cartridges factory installed on nozzle, pump and valves group (please ask for specific code)
3) PRESS P/N ECO version for viscosity up to 450 cSt (60°E) @ 50°C:
- with separate 1400 rpm low speed pump
- heavy oil heating cartridges factory installed on nozzle, pump and valves group
- pipes heating cable factory installed
(please ask for specific code)

Special configuration on demand:
- Steam oil pre-heater on P/N ECO models.

Burner accessories

Available for P/N and P/N ECO versions

Nozzles

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required output.

NOTE: each burner needs N° 1 nozzle.

BURNER	RATED OUTPUT kg/h	NOZZLES BERGONZO B5 45°- WITH "AA" NEEDLE CODE	NOZZLES FLUIDICS W2 45°- WITH "AA" NEEDLE CODE
▶ P 140 P/N	70	3009203	3045426
▶ P 140 P/N	80	3009205	3045427
▶ P 140 P/N	90	3009207	3045428
▶ P 140 P/N - P 200 P/N	100	3009209	3045430
▶ P 140 P/N - P 200 P/N	125	3009211	3045432
▶ P 200 P/N - P 300 P/N	150	3009213	3045434
▶ P 200 P/N - P 300 P/N	175	3009215	3045436
▶ P 200 P/N - P 300 P/N	200	3009800	3045438
▶ P 200 P/N - P 300 P/N	225	3009801	3045440
▶ P 300 P/N - P 400 P/N	250	3009802	3045442
▶ P 300 P/N - P 400 P/N	275	3009803	3045444
▶ P 300 P/N - P 400 P/N	300	3009804	3045446
▶ P 450 P/N	325	3009805	3045448
▶ P 450 P/N	350	3009806	3045450
▶ P 450 P/N	375	3009807	3045452
▶ P 450 P/N	400	3009808	3045454
▶ P 450 P/N	425	3009809	3045455
▶ P 450 P/N	450	3009810	3045456

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ P 140 P/N - P 200 P/N	110	3000722
▶ P 300 P/N	130	3000723
▶ P 450 P/N	130	3000751

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ P 140 P/N - P 200 P/N	C4/5	10	3010404
▶ P 300 P/N - P 450 P/N	C7	10	3010376

(*) according to EN 15036-1 standard

Burner accessories

Self-cleaning filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a thermostatic heater for oil with 60°E viscosity at 50°C.

FILTER TYPE	FILTERING DEGREE (µm)	FILTER CODE
▶ Ø = 1"1/2 (60°E at 50°C)	300	3010022

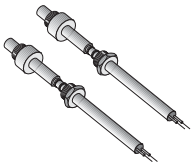
HEATER / THERMOSTAT TYPE	HEATER / THERMOSTAT CODE
▶ Thermostatic heater with LED	3010060
▶ Heater	3010061
▶ Thermostat (two-stage / regulable)	3010062

Gas separator bottle

Gas separator bottle connects the burner oil circuit to the main ring circuit. It allows to recover heat in excess and discharge return circuit gas.

BURNER	CODE
▶ P 140 P/N - P 200 P/N	3000748
▶ P 300 P/N - P 450 P/N	3010012

Heavy oil kit



Equipped with electrical heaters, it permits the employment of PRESS P/N burners with fuel oil of max. viscosity 25°E at 50°C.

BURNER	KIT CODE
▶ P 140 P/N - P 200 P/N - P 300 P/N - P 450 P/N	3000721

Heavy oil precirculation kit

This kit, used with oil with high viscosity, in maintains fuel circulation in the oil circuit for avoiding system stop at start up.

BURNER	KIT CODE
▶ P 140 P/N - P 200 P/N	3000749
▶ P 300 P/N - P 450 P/N	3000750

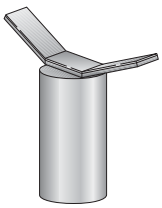
Cartridge filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a cartridge system for oil with 7°E viscosity at 50°C.

BURNER	FILTER CODE
▶ P 140 P/N - P 200 P/N - P 300 P/N - P 450 P/N	3005209

Burner accessories

Burner support



For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need of forklift trucks.

BURNER	SUPPORT CODE
▶ P 300 P/N - P 450 P/N	3000731

Accessories for modulating operation

To obtain modulating operation, the PRESS P/N series of burners requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ P 140 P/N - P 200 P/N - P 300 P/N - P 450 P/N	RWF 40	3010211

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ P 140 - 200 - 300 - 450 P/N	Temperature PT 100	-100 ÷ 500°C	3010110
▶ P 140 - 200 - 300 - 450 P/N	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ P 140 - 200 - 300 - 450 P/N	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

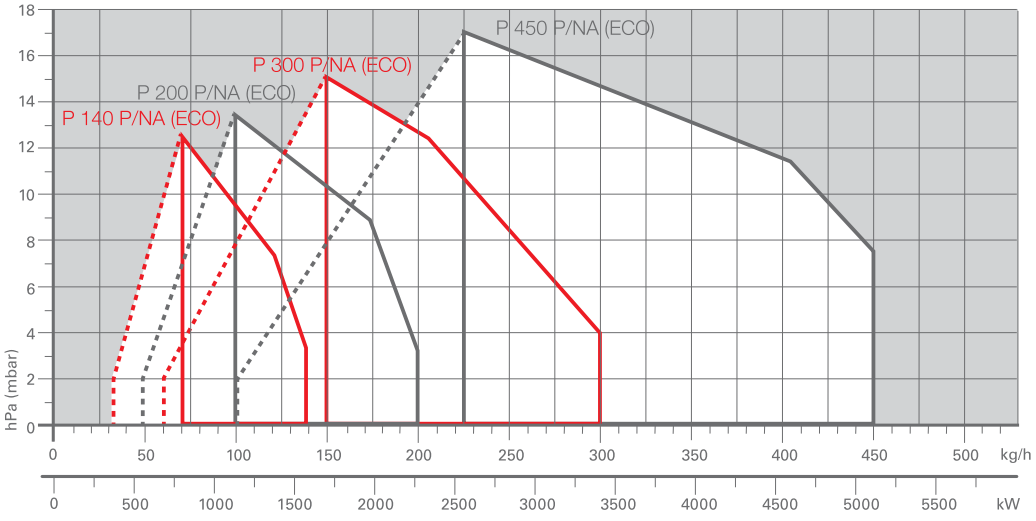
BURNER	POTENTIOMETER KIT CODE
▶ P 140 P/N - P 200 P/N - P 300 P/N - P 450 P/N	3010021

PRESS P/NA - P/NA ECO SERIES

Heavy oil burner series P/NA is an evolution of the traditional heavy oil modulating burners P/N series.
The new range applies a different technology to replace the usual mechanical atomising (high pressure) by “assisted” air/steam atomising (feed pressure 5-8 bar) and taking the related advantages when burning heavy fuels (even vegetal oil).
The upgraded design has been introduced to meet even the worst fuel qualities and to reach anyway the best achievable combustion performance (lower particulate and NOx emissions).
The capacity range is suited to cover applications on steam generators designed for production from 1 to 6 tons/hr of steam or an equivalent capacity in case of other kind of boiler.
Reliable and smooth ignition is achieved by LPG pilot burner installed into the combustion head.
The control system includes all safety and operation interlocks, making possible the configuration compliance to the latest design norms on world-wide base (i.e. EN 267 – UL 296 – others), by the available options on request.

P 140 P/NA	400/800	÷	1600	kW
P 200 P/NA	570/1140	÷	2280	kW
P 300 P/NA	683/1710	÷	3420	kW
P 450 P/NA	1140/2615	÷	5130	kW
P 140 P/NA ECO	400/800	÷	1600	kW
P 200 P/NA ECO	570/1140	÷	2280	kW
P 300 P/NA ECO	683/1710	÷	3420	kW
P 450 P/NA ECO	1140/2615	÷	5130	kW

FIRING RATES



Useful working field for choosing the burner

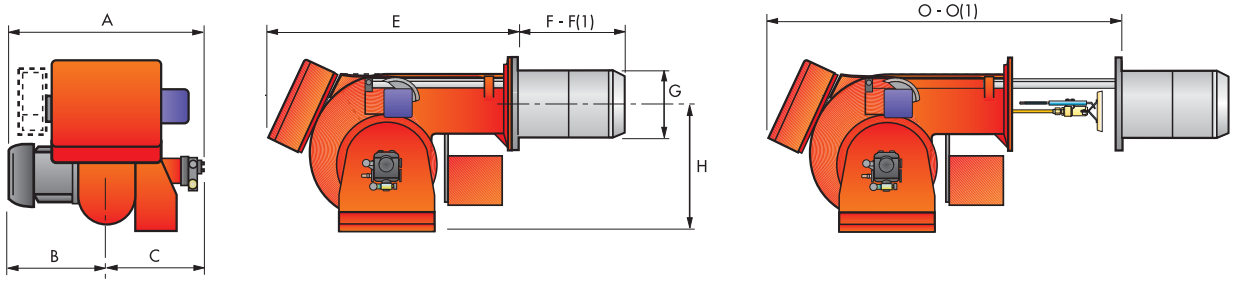
Modulation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

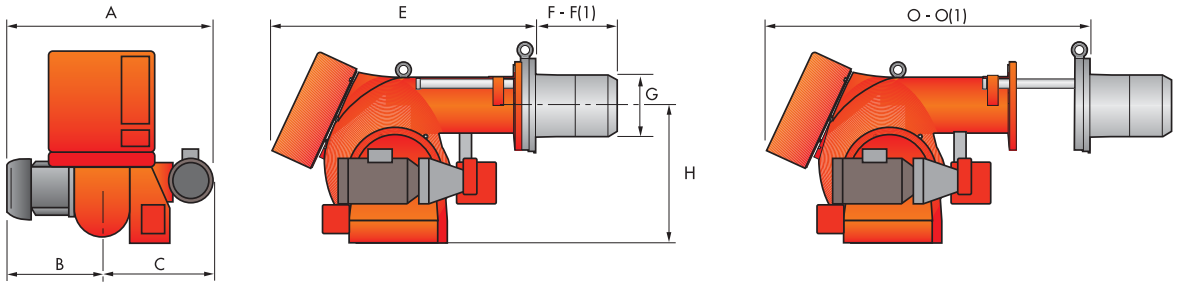
Overall dimensions (mm)

BURNER

PRESS P/NA



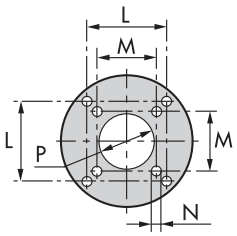
PRESS P/NA ECO



MODEL	A	B	C	E	F - F(1)	G	H	O - O(1)
▶ P 140 P/NA	796	396	400	910	323 - 433	222	467	1390 - 1390
▶ P 200 P/NA	796	396	400	910	352 - 462	250	467	1390 - 1390
▶ P 300 P/NA	858	447	411	1020	376 - 506	295	496	1535 - 1685
▶ P 450 P/NA	950	508	442	1090	435 - 565	336	525	1665 - 1820
▶ P 140 P/NA ECO	900	396	504	890	323 - 433	222	467	1370 - 1370
▶ P 200 P/NA ECO	900	396	504	890	352 - 462	250	467	1370 - 1370
▶ P 300 P/NA ECO	984	447	537	1000	376 - 506	295	496	1515 - 1665
▶ P 450 P/NA ECO	1100	508	592	1090	435 - 565	336	525	1665 - 1820

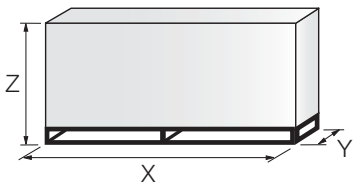
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	L	M	N	P
▶ P 140 P/NA (ECO)	260	230	M 14	225
▶ P 200 P/NA (ECO)	260	-	M 16	255
▶ P 300 P/NA (ECO)	260	-	M 18	300
▶ P 450 P/NA (ECO)	310	-	M 20	350

PACKAGING



MODEL	X	Y	Z	kg
▶ P 140 P/NA (ECO)	1500	930	900	180
▶ P 200 P/NA (ECO)	1500	930	900	220
▶ P 300 P/NA (ECO)	1780	1085	990	238
▶ P 450 P/NA (ECO)	1780	1085	990	300

Specification

DESIGNATION OF SERIES

Series : PRESS				
Size				
Operation :	N	Two stage	N/ECO	Two stage with separated oil pump
	T/N	Three stage	T/N ECO	Three stage with separate oil pump
	P/N	Modulating	P/N ECO	Modulating with separate oil pump
	P/NA	Modulating with air/steam atomizing		
Emission :	...	Class 1 EN267		
Head :	TC	Standard head		
	TL	Extended head		
Flame control system :	FS1	Standard (1 stop every 24 h)		
	FS2	Continuous working (1 stop every 72 h)		
Electrical supply to the system :	1/230/50	1/230V/50Hz		
	3/230/50	3/230V/50Hz		
	3/400/50	3N/400V/50Hz		
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz		
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz		
Auxiliary voltage :	230/50	230V/50Hz		
	220/60	220V/60Hz		

PRESS	140	P/NA		TC	FS1	3/230-400/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught oil burner with two-stage progressive or modulating operation, with a specific kit, fully automatic, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with forward curved blades high performance pressure levels
- Air damper for air setting and automatic oil output regulator controlled by a servomotor with variable cam
- Fan motor at 2850 rpm, three-phase 400V with neutral, 50Hz
- Combustion head, that can be set on the basis of the combustion output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Heavy oil kit cartridges
- Pipes heating cable (P/NA ECO version)
- Oil pump motor at 1400 rpm (P/NA ECO version)
- Valve unit with a double oil safety valve on the output circuit
- LPG pilot burner ignition
- Electrical preheater for heavy oil
- Safety oil pressure switch
- Photocell for flame detection
- Burner safety control box, fitted with control function for the correct positioning of the servomotor and possibility of post-ventilaton by just changing the electric wiring
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for the connection to the pump
- Wiring looms fittings for electrcial connections
- 4 screws for fixing the burner flange to the boiler
- 2 slide bar extensions (for the extended head models of P 300 P/NA and P 450 P/NA)
- Gasket for flange
- Starter*
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

* for versions with star-delta starting

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3808515	P 140 P/NA TC 3/230-400/50 230/50	400/800-1600	33,7/67,4-134,9	11,5	-	
3808525	P 140 P/NA TC 3/220-380/60 220/60	400/800-1600	33,7/67,4-134,9	11,5	-	
3808516	P 200 P/NA TC 3/230-400/50 230/50	570/1140-2280	48/96,12-192,2	12,5	-	
3808526	P 200 P/NA TC 3/220-380/60 220/60	570/1140-2280	48/96,12-192,2	12,5	-	
3808517	P 300 P/NA TC 3/230-400/50 230/50	683/1710-3420	57,6/144,1-288,3	25	-	
3808527	P 300 P/NA TC 3/220-380/60 220/60	683/1710-3420	57,6/144,1-288,3	25	-	
3808519	P 450 P/NA TC 3/230-400/50 230/50	1140/2615-5130	96,1/220,5-432,6	37	-	
3808529	P 450 P/NA TC 3/220-380/60 220/60	1140/2615-5130	96,1/220,5-432,6	37	-	

Net calorific value: 11,16 kWh/kg; 9600 kcal/kg
The burners of PRESS series are in according to 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 267 Norm.

Viscosity
The modulating burner P/NA series can burn different heavy oil types from 50 up to 600 cSt @ 50°C (up to 80°E @ 50°C).
For different viscosity levels Riello recommends 2 different configurations:
1) PRESS P/NA version for viscosity up to 450 cSt (60°E) @ 50°C:
- with 2800 rmp oil pump installed directly on fan motor shaft
- heavy oil heating cartridges factory installed on nozzle, pump and valves group
(see available codes in the table above)
2) PRESS P/NA ECO version for viscosity up to 600 cSt (80°E) @ 50°C:
- with separate 1400 rpm low speed pump
- heavy oil heating cartridges factory installed on nozzle, pump and valves group
- pipes heating cable factory installed
(please ask for specific code)

Special configuration on demand:
- Steam oil pre-heater on P/NA ECO models.

Burner accessories

Available for P/NA and P/NA ECO versions

Y-jet air/steam atomising nozzles - type 15 AG 45°

Effective nozzle delivery depends from many factors. Particular small variations of air/steam atomising pressure or viscosity at the nozzle, cause big oil delivery variations. Therefore, to choose the right nozzle it is so necessary to consider all parameters listed in the table below.

NOZZLE 15 AG 45°	VISCOSITY @ NOZZLE	OIL DENSITY	OIL DELIVERY (kg/h)					AIR CONSUMPTION AT 4 bar (kg/h)		SUGGESTED AIR/ STEAM PRESSURE	CODE
	cSt	kg/m³	6 bar	5 bar	4 bar	3 bar	2 bar	HIGH FIRE	LOW FIRE	bar	
▶ 60	5	850	112	94	75	60	32	2,5	8,4	2	3045000
	10	875	95	80	60	41	20	5,9	13,9	3	
	20	900	75	60	42	25	n.a.*	10	20	4	
	30	925	68	55	36	20	n.a.*	11,3	21,7	4	
▶ 70	5	850	130	110	90	70	36	2,9	9,9	2	3045001
	10	875	111	95	78	48	25	6,8	16	3	
	20	900	88	70	50	30	n.a.*	11,9	23	4	
	30	925	80	64	44	24	n.a.*	13,2	25,4	4	
▶ 80	5	850	150	130	105	80	40	3,3	11,3	2	3045002
	10	875	127	108	85	55	30	7,8	18,3	3	
	20	900	100	80	55	35	n.a.*	13,6	26,2	4	
	30	925	91	73	51	30	n.a.*	15	28,9	4	
▶ 100	5	850	187	158	130	100	50	4,2	14	2	3045003
	10	875	158	135	100	70	35	9,8	22,8	3	
	20	900	126	105	70	40	n.a.*	17	32,7	4	
	30	925	114	91	65	35	n.a.*	18,8	34,2	4	
▶ 130	5	850	243	200	170	130	60	5,4	18,3	2	3045004
	10	875	206	173	130	95	40	12,7	29,7	3	
	20	900	163	131	90	55	n.a.*	22	42,6	4	
	30	925	148	118	82	45	n.a.*	24,4	47	4	
▶ 160	5	850	299	260	210	160	80	6,7	22,5	2	3045005
	10	875	253	215	170	115	50	15,7	36,5	3	
	20	900	201	161	115	65	n.a.*	27,1	52,4	4	
	30	925	182	145	102	58	n.a.*	30	57,9	4	
▶ 200	5	850	374	330	260	215	105	8,3	28,1	2	3045006
	10	875	317	270	215	145	60	19,6	45,7	3	
	20	900	252	203	140	85	n.a.*	33,9	65,5	4	
	30	925	228	182	120	70	n.a.*	37,5	72,4	4	
▶ 225	5	850	421	365	285	220	110	9,4	31,7	2	3045007
	10	875	357	311	240	160	70	22,1	51,4	3	
	20	900	280	225	156	100	n.a.*	38,2	73,7	4	
	30	925	256	205	141	60	n.a.*	42,2	81,4	4	
▶ 250	5	850	468	410	340	250	120	10,4	35,2	2	3045008
	10	875	396	340	270	180	80	24,5	57,1	3	
	20	900	315	252	175	110	n.a.*	42,4	81,9	4	
	30	925	285	228	150	85	n.a.*	46,8	90,5	4	
▶ 275	5	850	514	430	360	270	130	11,5	38,6	2	3045009
	10	875	436	365	300	190	85	27	62,8	3	
	20	900	346	277	193	120	n.a.*	46,7	90	4	
	30	925	313	250	175	95	n.a.*	51,6	99,5	4	
▶ 300	5	850	560	470	400	300	150	11,5	38,6	2	3045010
	10	875	476	410	340	200	90	29,3	68,5	3	
	20	900	378	302	210	130	n.a.*	51	98,2	4	
	30	925	342	273	190	100	n.a.*	56,3	108,6	4	

* This matching is not available.

Burner accessories

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ P 140 P/NA - P 200 P/NA	110	3000722
▶ P 300 P/NA	130	3000723
▶ P 450 P/NA	130	3000751

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ P 140 P/NA - P 200 P/NA	C4/5	10	3010404
▶ P 300 P/NA - P 450 P/NA	C7	10	3010376

(*) according to EN 15036-1 standard

Self-cleaning filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a thermostatic heater for oil with 60°E viscosity at 50°C.

FILTER TYPE	FILTERING DEGREE (µm)	FILTER CODE
▶ Ø = 1”1/2 (60°E at 50°C)	300	3010022

HEATER / THERMOSTAT TYPE	HEATER / THERMOSTAT CODE
▶ Thermostatic heater with LED	3010060
▶ Heater	3010061
▶ Thermostat (two-stage / regulable)	3010062

Cartridge filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a cartridge system for oil with 7°E viscosity at 50°C.

BURNER	FILTER CODE
▶ P 140 P/NA - P 200 P/NA - P 300 P/NA - P 450 P/NA	3005209

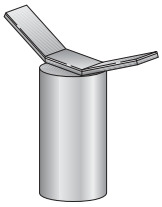
Burner accessories

Gas separator bottle

Gas separator bottle connects the burner oil circuit to the main ring circuit. It allows to recover heat in excess and discharge return circuit gas.

BURNER	CODE
▶ P 140 P/NA - P 200 P/NA	3000748
▶ P 300 P/NA - P 450 P/NA	3010012

Burner support



For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need of forklift trucks.

BURNER	SUPPORT CODE
▶ P 300 P/NA - P 450 P/NA	3000731

Accessories for modulating operation

To obtain modulating operation, the PRESS P/NA series of burners requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ P 140 P/NA - P 200 P/NA - P 300 P/NA - P 450 P/NA	RWF 40	3010211

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

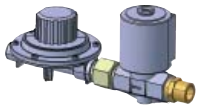
BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ P 140 - 200 - 300 - 450 P/NA	Temperature PT 100	-100 ÷ 500°C	3010110
▶ P 140 - 200 - 300 - 450 P/NA	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ P 140 - 200 - 300 - 450 P/NA	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

BURNER	POTENTIOMETER KIT CODE
▶ P 140 P/NA - P 200 P/NA - P 300 P/NA - P 450 P/NA	3010021

Burner accessories

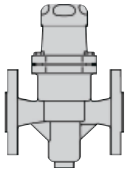
Gas/LPG Pressure regulator and SSOV for pilot burner (inlet pressure 0,5-7 bar)



To be applied on gas/LPG bottle when not already available.

TYPE	CODE
▶ HPR 1910	3010405

Air/steam pressure regulator



To be installed on the air/steam supply line according to supply system.

TYPE	CODE
▶ BRV	3010406

Steam valve over 10 bar or 180°C

To be applied for pressure from 10 to 15 bar or temperature from 180°C to maximum 200°C.

TYPE	CODE
▶ ODE	on demand

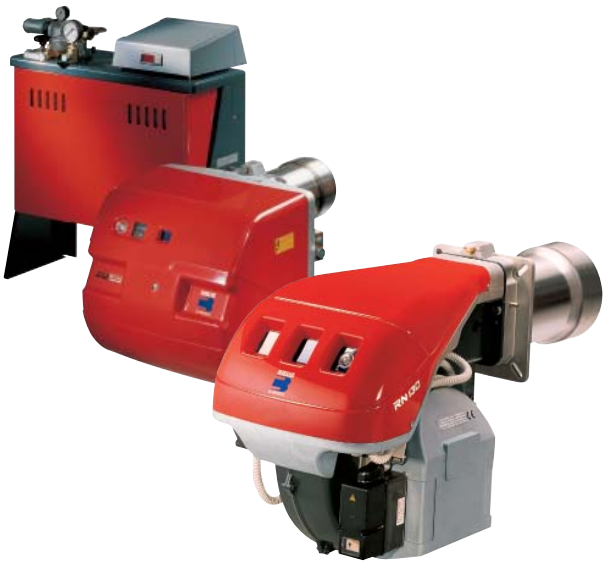
Water separator bottle

To be installed on the air/steam supply line in order to prevent water droplets to the nozzle supply.

TYPE	CODE
▶ WSB	on demand

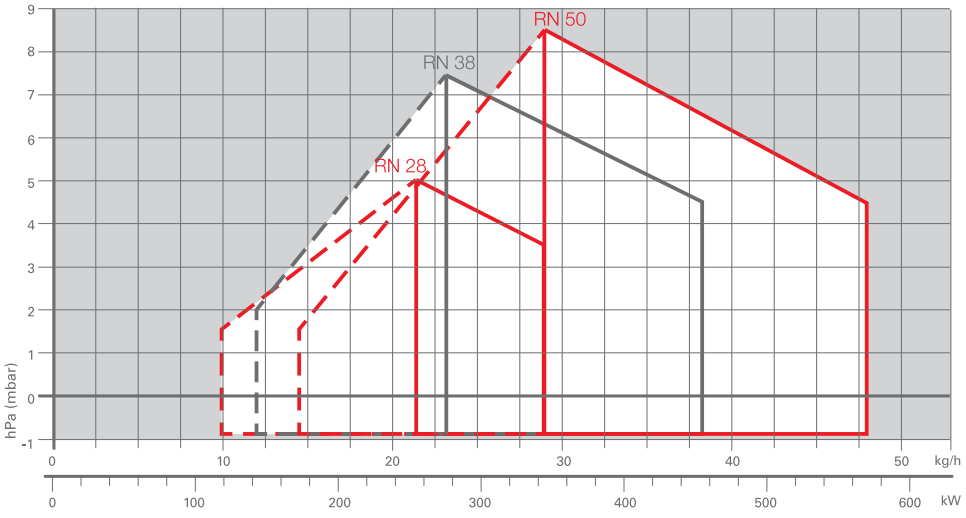
RN SERIES

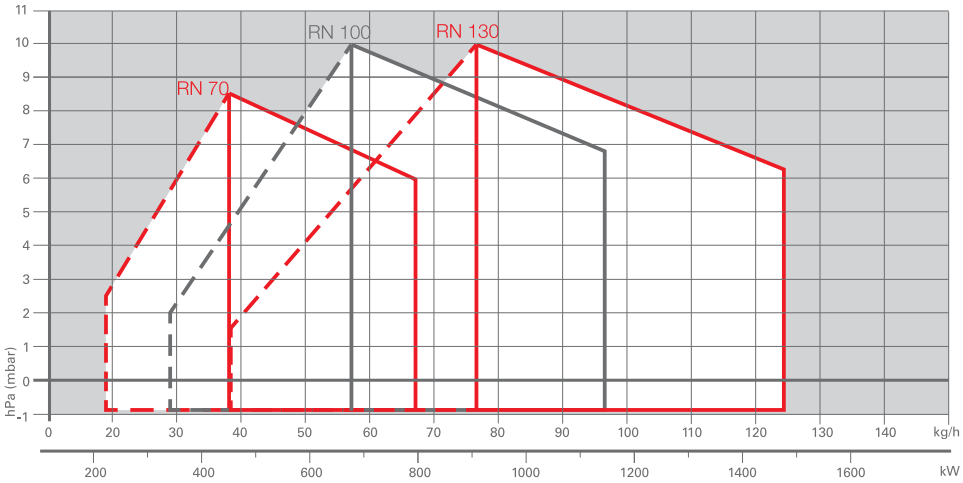
The RN series of burners covers a firing range from 228 to 1481 kW, and has been designed for use in hot or superheater water boilers, hot air or steam generators, diathermic oil boilers.
Operation is “two stage”; the burners are fitted with an electronic device LED PANEL, which supplies Information about burner working.
All necessary components of hydraulic heavy-oil circuit are assembled in a separate structure, called BAG, for easy and fast installation.
Optimisation of sound emissions is guaranteed by the use of fans with forward curved blades and sound deadening material incorporated in the air suction circuit.
The elevated performance of the fans and combustion head, guarantee flexibility of use and excellent working at all firing rates.
The exclusive design ensures reduced dimensions, simple use and maintenance. A wide range of accessories guarantees elevated working flexibility.



RN 28	114/228	÷	342	kW
RN 38	136/273	÷	456	kW
RN 50	171/342	÷	570	kW
RN 70	228/456	÷	798	kW
RN 100	342/684	÷	1140	kW
RN 130	456/912	÷	1481	kW

FIRING RATES





Useful working field for choosing the burner

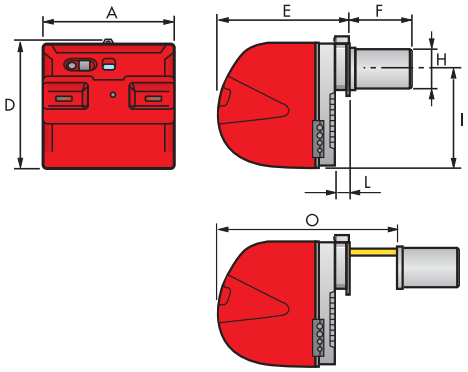
1st stage operation range

Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

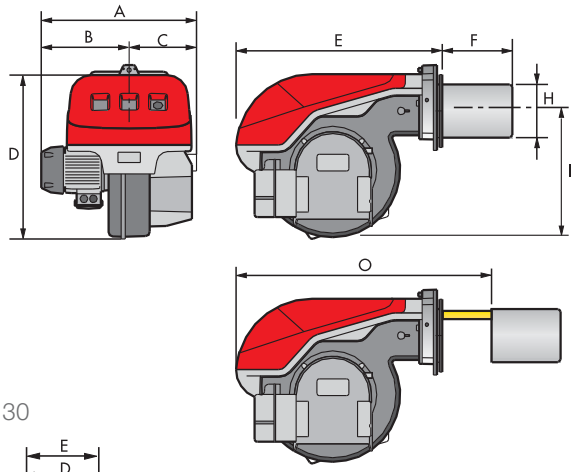
Overall dimensions (mm)

BURNER

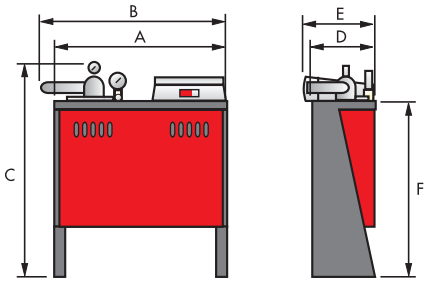
RN 28 - 38 - 50



RN 70 - 100 - 130

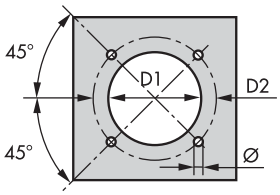


BAG 40 - 50 -130



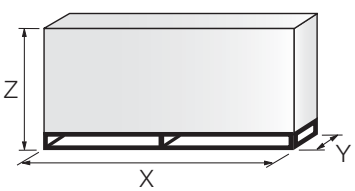
MODEL	A	B	C	D	E	F	H	I	L	O
▶ RN 28	476	-	-	474	468	265	166	352	52	730
▶ RN 38	476	-	-	474	468	265	166	352	52	730
▶ RN 50	476	-	-	474	468	265	166	352	52	730
▶ RN 70	511	296	215	555	680	310	189	430	-	951
▶ RN 100	527	312	215	555	680	330	200	430	-	951
▶ RN 130	553	338	215	555	680	330	220	430	-	951
▶ BAG 40 - 50 - 60	680	763	780	276	324	650	-	-	-	-

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RN 28 - 38 - 50	170	224	M8
▶ RN 70	200	275-325	M12
▶ RN 100	210	275-325	M12
▶ RN 130	230	275-325	M12

PACKAGING



MODEL	X	Y	Z	kg
▶ RN 28	1015	630	500	52
▶ RN 38 - 50	1015	630	500	57
▶ RN 70	1054	614	666	59
▶ RN 100	1054	614	666	62
▶ RN 130	1054	614	666	65
▶ BAG 40	824	859	394	62
▶ BAG 50	824	859	394	67
▶ BAG 130	824	859	394	69

Specification

DESIGNATION OF SERIES

Series : R

Fuel : S Natural gas
L Light oil
LS Light oil / Natural gas
N Heavy oil

Size

Operation : /1 One stage
... Two stage
/M Modulating
/E Electronic cam
/P Proportioning air/gas valve
/EV Electronic cam predisposed for variable speed (with inverter)

Emission : ... Class 1 EN267 - EN676
MZ Class 2 EN267 - EN676
BLU Class 3 EN267 - EN676
MX Class 2 EN267, Class 3 EN676

Head : TC Standard head
TL Extended head

Diagnostic : LP Led panel
ST Status panel

Flame control system :
FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :

1/230/50	1/230V/50Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz

Auxiliary voltage : 230/50-60 230V/50-60Hz
110/50-60 110V/50-60Hz

ID : Differential switch

R	N	50			TC	LP	FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monobloc forced draught heavy oil burner, two stage operation, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades
- Air damper for air setting controlled by a servomotor
- Combustion head, that can be set on the basis of required output
- Photocell for flame detection
- Burner safety control box
- Electronic device to check all burners operational modes (Led Panel)
- Burner on/off switch
- Manual 1st and 2nd stage switch
- Plugs for electrical connections (RN 28-38-50)
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

BAG
- Pressure gauge for fuel supply loop
- Atomising pressure gauge
- Self-controlling resistances for warming suction filter, delivery filter, valve and pump
- High and Low point thermostat
- High point thermostat with reset push-button
- Loop pressure control switch with burner operation enable (set at 1 bar)
- Pump
- Pump motor
- Pre-purge valve
- Degasing unit
- Valve for gas release from degasing unit
- Comb-filter at delivery
- Terminal strip
- Wiring looms
- Bag/Burner electrical connection socket
- Electronic thermostat
- Heating element Pt100
- Back pressure valve
- Comb-filter at pump suction
- Pre-heater.

Standard equipment:
- 2 flexible hoses for burner/bag connection (L = 1.3 m)
- 1 insulation for flexible hoses
- 2 nipples for flexible hoses
- 1 insulating screen
- 4 screws for fixing the burner flange to the boiler
- Wiring looms for electrical connections (for RN 28-38-50 model)
- 1 tube for installing BAG on left (for RN 28-38-50 model)
- 2 nozzles
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	(kg/h)	(kW)		
3433201	RN 28 TC LP FS1 3/230-400/50 230/50-60	114/228-342	10/20-30	4	-	
3433301	RN 38 TC LP FS1 3/230-400/50 230/50-60	136/273-456	12/24-40	5	-	
3433401	RN 50 TC LP FS1 3/230-400/50 230/50-60	171/342-570	15/30-50	6	-	
3434101	RN 70 TC LP FS1 3/230-400/50 230/50-60	228/456-798	20/40-70	10	-	
3434201	RN 100 TC LP FS1 3/230-400/50 230/50-60	342/684-1140	30/60-100	10	-	
3434301	RN 130 TC LP FS1 3/230-400/50 230/50-60	456/912-1481	40/80-130	11	-	
3891510	BAG 40			3	-	(1)
3891511	BAG 50			4	-	(2)
3891512	BAG 130			8	-	(3)

(1) For RN 28 burner.
(2) For RN 38-50 burners.
(3) For RN 70-100-130 burners.
Net calorific value: 11,16 kWh/kg; 9.600 kcal/kg - Viscosity at 50°C: 150 mm^2/s (cSt)(20°E).
The burners of RN series are in according to 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 267 Norm.

Burner accessories

Nozzle

TYPE F80 PL 45°

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required output.

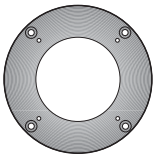
NOTE: each burner needs N° 2 nozzles.

BURNER	RATED DELIVERY (kg/h) at 22,5 bar	GPH	NOZZLE CODE
▶ RN 28	11,3	2	3043121
▶ RN 28 - RN 38	12,7	2,25	3043131
▶ RN 28 - RN 38	14,1	2,5	3043141
▶ RN 38 - RN 50	16,9	3	3043151
▶ RN 50 - RN 70	19,7	3,5	3043161
▶ RN 50 - RN 70	22,5	4	3043171
▶ RN 70	25,3	4,5	3043181
▶ RN 70 - RN 100	28,1	5	3043191
▶ RN 70 - RN 100	33,4	6	3043211
▶ RN 100 - RN 130	39,4	7	3043231
▶ RN 100 - RN 130	47,8	8,5	3043261
▶ RN 130	53,4	9,5	3043271
▶ RN 130	59	10,5	3043301

TYPE F80 PL 60°

BURNER	RATED DELIVERY (kg/h) at 22,5 bar	GPH	NOZZLE CODE
▶ RN 28	9,8	1,75	3041112
▶ RN 28	11,3	2	3043122
▶ RN 28 - RN 38	12,7	2,25	3043132
▶ RN 28 - RN 38	14,1	2,5	3043142
▶ RN 38 - RN 50	16,9	3	3043152
▶ RN 50 - RN 70	19,7	3,5	3043162
▶ RN 50 - RN 70	22,5	4	3043172
▶ RN 70	25,3	4,5	3043182
▶ RN 70 - RN 100	28,1	5	3043192
▶ RN 70 - RN 100	33,4	6	3043212
▶ RN 100 - RN 130	39,4	7	3043232
▶ RN 100 - RN 130	47,8	8,5	3043262
▶ RN 130	53,4	9,5	3043272
▶ RN 130	59	10,5	3043302

Connection flange kit



A kit is available for use where the burner opening on the boiler is of excessive diameter.

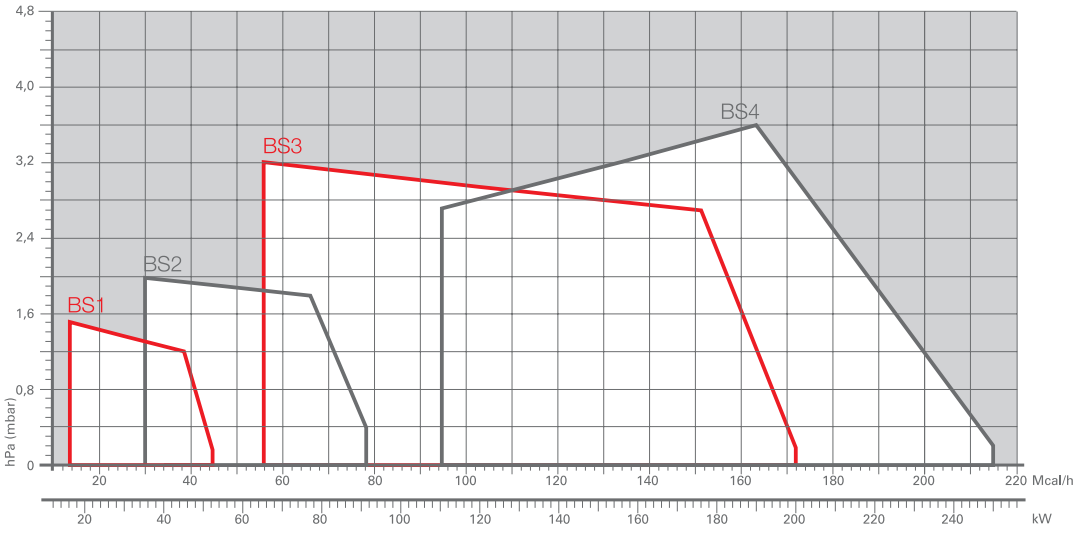
BURNER	KIT CODE
▶ RN 28 - RN 38 - RN 50	3010138

GULLIVER BS SERIES

The Riello Gulliver BS series of one stage gas burners, is a complete range of Low NOx emission products, developed to respond to any request for home heating, conforming to the most severe standards regarding the reduction of polluting emissions.
This series of burners is available in four different models with an output ranging from 16 to 250 kW, divided in four different structures.
All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.
The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.
In developing these burners, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the EN 676 European Standard and conform to European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.
All the Gulliver BS burners are tested before leaving the factory.

BS1	16	÷	52	kW
BS2	35	÷	91	kW
BS3	65	÷	200	kW
BS4	110	÷	250	kW

FIRING RATES

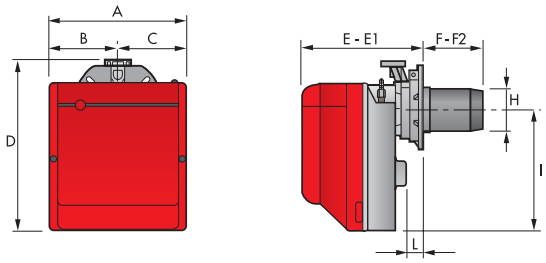


Useful working field for choosing the burner

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

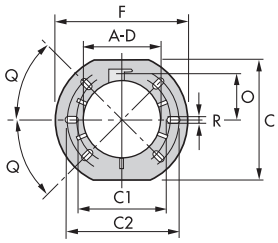
Overall dimensions (mm)

BURNER



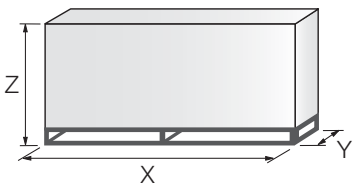
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ BS1	234	122	112	295	230	276	116	70	89	210	41
▶ BS2	255	125,5	125,5	325	238	252	114	100	106	230	45
▶ BS3	300	150	150	391	262	280	128	110	129	285	45
▶ BS4	300	150	150	392	278	301	168	145	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
▶ BS1	89	167	140	170	89	192	66	45°	11
▶ BS2	106	167	140	170	106	192	66	45°	11
▶ BS3	129	201	160	190	129	216	76,5	45°	11
▶ BS4	137	203	170	200	137	218	80,5	45°	11

PACKAGING



MODEL	X	Y	Z	kg
BS1	395	278	350	10
BS2	405	298	375	11
BS3	450	345	440	15
BS4	510	345	440	16,5

Specification

DESIGNATION OF SERIES

Series:	R	Standard emission burner
	B	Low NOx burners
Fuel:	S	Natural gas
	SP	LPG
	G	Light oil
Size		
Optional variations:	R	Light oil pre-heater
	K	Cone shaped head
	S	Reduced output ignition
	D	Two stage output operation
Electrical supply to the system: 1/230/50 1/230V/50Hz		

B	S	3		1/230/50

STATE OF SUPPLY

Monoblock, gas burners, completely automatic, one stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, with external adjustment, with no need to remove the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3761158	BS1	1/230/50	16 - 52	1,6 - 5,2	0,150	CE - 0085 AQ0409	(1)
3761258	BS2	1/230/50	35 - 91	3,5 - 9,1	0,180	CE - 0085 AQ0409	(1)
3761358	BS3	1/230/50	65 - 200	6,5 - 20	0,350	CE - 0085 AQ0409	(1)
3761458	BS4	1/230/50	110 - 250	11 - 25	0,530	CE - 0085 AQ0409	(1)

Net calorific value G20: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3.
The burners of BS series are in according to EN 676.
(1) With plug and socket.

Gas Trains

MULTIBLOC

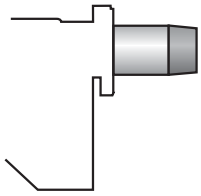
GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
3970570	MBC 65 DLE	BS1		BS1		(1)
3970546	MBDLE 405	BS1		BS1		(1)
3970547	MBDLE 405	BS2		BS2		(1)
3970544	MBDLE 407	BS2		BS2		(1)
3970548	MBDLE 407	BS3 - BS4		BS3 - BS4		(1) (2)
3970549	MBDLE 410	BS3 - BS4		BS3 - BS4		(1)
3970550	MBDLE 412	BS3 - BS4		BS3 - BS4		(1)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) With installed plug.
(2) BS3 and BS4 ≤ 150 kW with natural gas.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

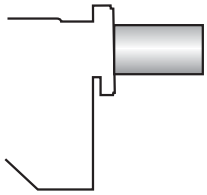
Extended head kit



Burners standard head can be transformed into “extended head” versions by using the special kit. Here the KITS available for the various burners are listed, showing the original and the extended lengths.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ BS2 (long)	100 ÷ 114	170 ÷ 180	3001007
▶ BS2 (extra long)	100 ÷ 114	270 ÷ 280	3001008
▶ BS3	110 ÷ 128	267 ÷ 282	3001009
▶ BS4	145 ÷ 168	302 ÷ 317	3001016

Alternative combustion head kit



This kit can be used to prevent combustion instability which could arise with particular heat generators.

BURNER	KIT CODE
▶ BS1	3001059
▶ BS2	3001064
▶ BS3	3001060
▶ BS4	3001070

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ BS1	3001003	-
▶ BS2	3001004	3001004
▶ BS3	3001005	3001005
▶ BS4	3001011	3001011

Town Gas kit

For burning Town Gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ BS1	3002727	-
▶ BS2	3002728	3002728
▶ BS3	3002729	3002729

(*) Without CE certification

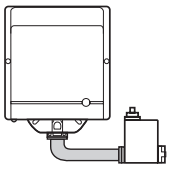
Burner accessories

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ BS1 - BS2 - BS3 - BS4	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ BS1	3001179
▶ BS2	3001177
▶ BS3 - BS4	3001178

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ BS1 - BS2 - BS3 - BS4	3000945

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ BS1 - BS2 - BS3 - BS4	3002731

Gas train accessories

Seal control kit

To test the valve seals on the gas train, (except for the model with Multibloc MBC 65 DLE) a special “seal control kit” is available.

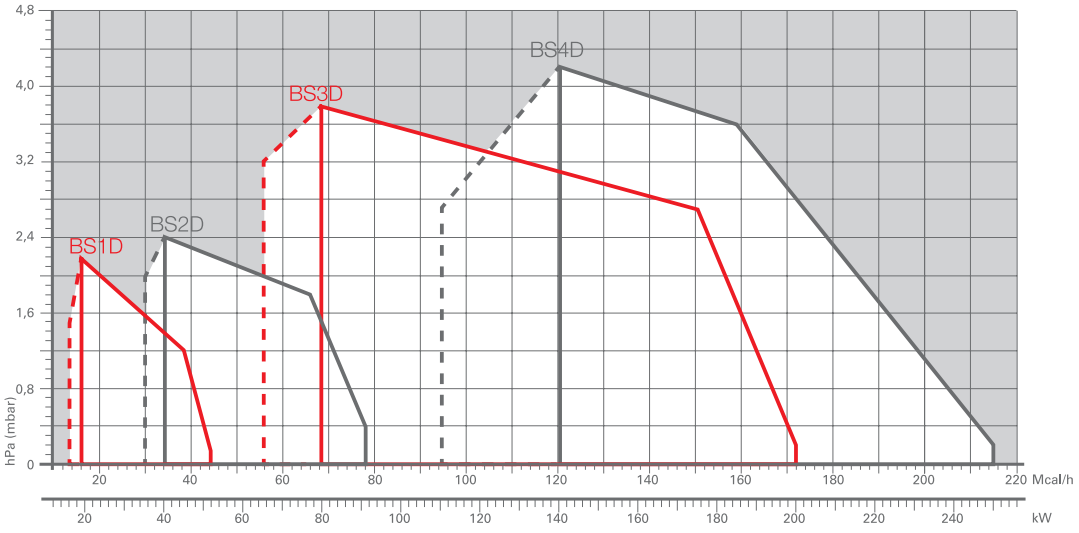
BURNER	KIT CODE
▶ BS1 - BS2 - BS3 - BS4	3010123

GULLIVER BSD SERIES

The Riello Gulliver BSD series of two stage gas burners, is a complete range of Low NOx emission products, developed to respond to any request for home heating, conforming to the most severe standards regarding the reduction of polluting emissions.
This series of burners is available in four different models with an output ranging from 16 to 250 kW, divided in four different structures.
All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.
The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.
In developing these burners, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
Two stage working guarantees high level performance from the thermal unit.
All the models are approved by the EN 676 European Standard and conform to European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.
All the Gulliver BSD burners are tested before leaving the factory.

BS1D	16/19	÷	52	kW
BS2D	35/40	÷	91	kW
BS3D	65/80	÷	200	kW
BS4D	110/140	÷	250	kW

FIRING RATES



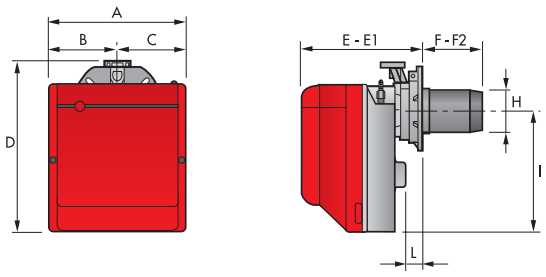
Useful working field for choosing the burner

1st stage operation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

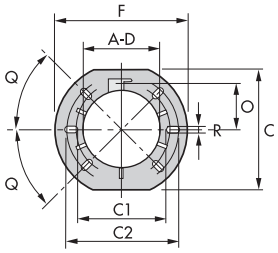
BURNER



MODEL	A	B	C	D	E	E1	F - F(1)	F2 - F2(1)	H	I	L
▶ BS1D	234	122	112	295	230	276	116	70	89	210	41
▶ BS2D	255	125,5	125,5	325	238	252	114 - 270	100 - 280	106	230	45
▶ BS3D	300	150	150	391	262	280	128 - 267	110 - 282	129	285	45
▶ BS4D	300	150	150	392	278	301	168 - 302	145 - 317	137	286	45

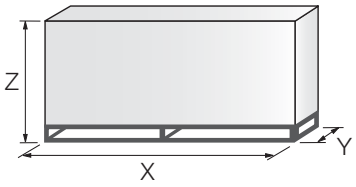
(1) Dimension with extended head

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
▶ BS1D	89	167	140	170	89	192	66	45°	1
▶ BS2D	106	167	140	170	106	192	66	45°	1
▶ BS3D	129	201	160	190	129	216	76,5	45°	1
▶ BS4D	137	203	170	200	137	218	80,5	45°	1

PACKAGING



MODEL	X - X(1)	Y - Y(1)	Z - Z(1)	kg - kg(1)
▶ BS1D	395	278	350	11
▶ BS2D	405 - 593	298 - 300	375 - 380	12 - 14
▶ BS3D	450 - 713	345	440 - 445	16 - 18
▶ BS4D	510 - 713	345	440 - 445	18 - 20

(1) Dimension with extended head

Specification

DESIGNATION OF SERIES

Series:	R	Standard emission burner
	B	Low NOx burners
Fuel:	S	Natural gas
	SP	LPG
	G	Light oil
Size		
Optional variations:	R	Light oil pre-heater
	K	Cone shaped head
	S	Reduced output ignition
	D	Two stage output operation
Head :	TC	Standard head
	TL	Extended head
Electrical supply to the system:	1/230/50	1/230V/50Hz

B	S	3	D		1/230/50

STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, driven by an electric servomotor
- Air damper with 1st and 2nd stage adjustment (2nd stage external adjustment, with no need to remove the cover)
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- 4-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3761558	BS1D 1/230/50	16/19 - 52	1,6/1,9 - 5,2	0,150	CE - 0085 AQ0409	(1)
3761658	BS2D 1/230/50	35/40 - 91	3,5/4 - 9	0,180	CE - 0085 AQ0409	(1)
3761618	BS2D TL 1/230/50	35/40 - 91	3,5/4 - 9	0,180	CE - 0085 AQ0409	(1)
3761758	BS3D 1/230/50	65/80 - 200	6,5/8 - 20	0,350	CE - 0085 AQ0409	(1)
3761718	BS3D TL 1/230/50	65/80 - 200	6,5/8 - 20	0,350	CE - 0085 AQ0409	(1)
3761858	BS4D 1/230/50	110/140 - 250	11/14 - 25	0,530	CE - 0085 AQ0409	(1)
3761818	BS4D TL 1/230/50	110/140 - 250	11/14 - 25	0,530	CE - 0085 AQ0409	(1)
3761559	BSP1D 1/230/50	16/19 - 52	--	0,150	CE - 0085 AQ0409	(1)
3761659	BSP2D 1/230/50	35/40 - 91	--	0,180	CE - 0085 AQ0409	(1)
3761759	BSP3D 1/230/50	65/80 - 200	--	0,350	CE - 0085 AQ0409	(1)
3761859	BSP4D 1/230/50	110/140 - 250	--	0,530	CE - 0085 AQ0409	(1)

Net calorific value G20: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3.
Net calorific value LPG: 25,8 kWh/Nm^3 - Density: 2,02 kg/Nm^3.
The burners of BS series are in according to EN 676.
(1) With plug and socket.

Gas Trains

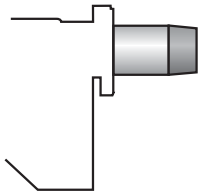
	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC	3970539	MBZRDLE 405	BS1D		BS1D		(1)
	3970540	MBZRDLE 405	BS2D		BS2D		(1)
	3970538	MBZRDLE 407	BS2D		BS2D		(1)
	3970541	MBZRDLE 407	BS3D - BS4D		BS3D - BS4D		(1) (2)
	3970542	MBZRDLE 410	BS3D - BS4D		BS3D - BS4D		
	3970543	MBZRDLE 412	BS3D - BS4D		BS3D - BS4D		

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) With installed plug.
(2) BS3D and BS4D ≤ 150 kW with natural gas.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

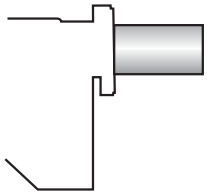
Extended head kit



Burners standard head can be transformed into “extended head” versions by using the special kit. Here the KITS available for the various burners are listed, showing the original and the extended lengths.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ BS2D (long)	100 ÷ 114	170 ÷ 180	3001007
▶ BS2D (extra long)	100 ÷ 114	270 ÷ 280	3001008
▶ BS3D	110 ÷ 128	267 ÷ 282	3001009
▶ BS4D	145 ÷ 168	302 ÷ 317	3001016

Alternative combustion head kit



This kit can be used to prevent combustion instability which could arise with particular heat generators.

BURNER	KIT CODE
▶ BS1D	3001059
▶ BS2D	3001064
▶ BS3D	3001060
▶ BS4D	3001070

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ BS1D	3001003	-
▶ BS2D	3001004	3001004
▶ BS3D	3001005	3001005
▶ BS4D	3001011	3001011

Town Gas kit

For burning Town Gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ BS1D	3002727	-
▶ BS2D	3002728	3002728
▶ BS3D	3002729	3002729

(*) Without CE certification

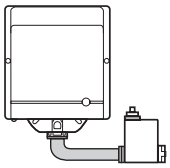
Burner accessories

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ BS1D - BS2D - BS3D - BS4D	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ BS1D	3001179
▶ BS2D	3001177
▶ BS3D - BS4D	3001178

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ BS1D - BS2D - BS3D - BS4D	3000945

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ BS1D - BS2D - BS3D - BS4D	3002731

Gas train accessories

Seal control kit

To test the valve seals on the gas train a special “seal control kit” is available.

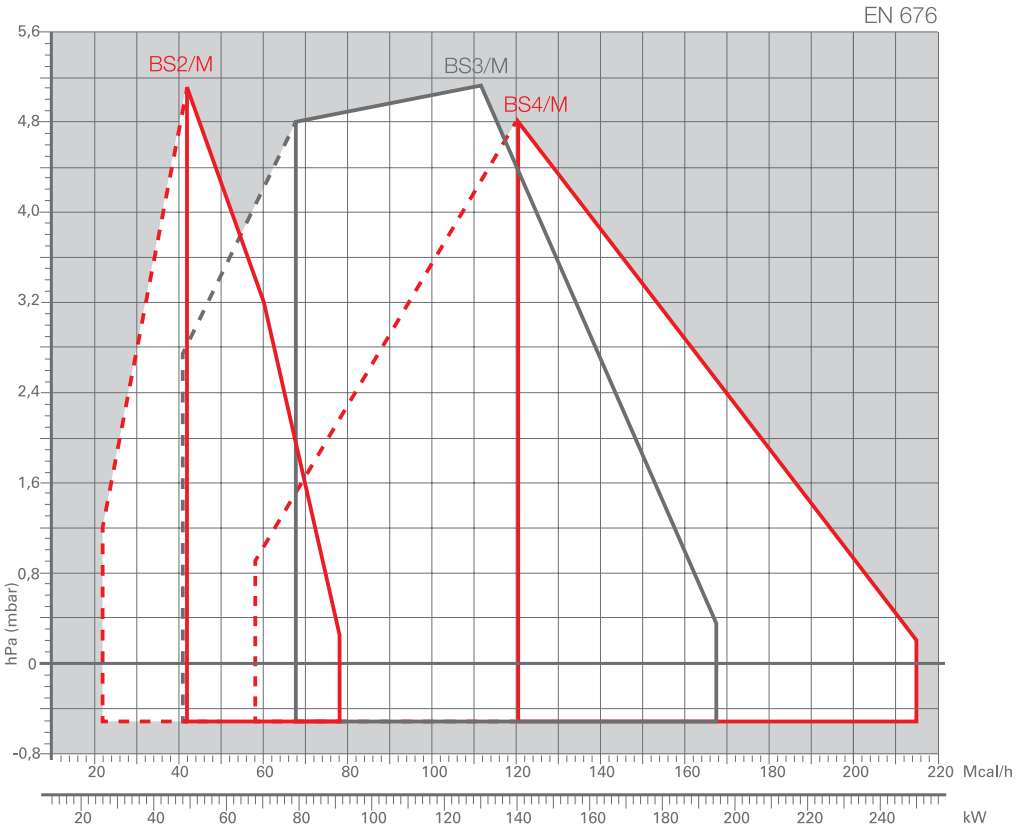
BURNER	KIT CODE
▶ BS1D - BS2D - BS3D - BS4D	3010123

GULLIVER BS/M SERIES

The Riello Gulliver BS/M series of two stage, progressive or modulating gas burners, is a complete range of Low NOx emission products, developed to respond to any request for home heating, conforming to the most severe standards regarding the reduction of polluting emissions.
This series of burners is available in three different models with an output ranging from 49 to 250 kW, divided in three different structures.
All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.
In developing these burners, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
Two stage operation guarantees high level performance from the thermal unit. All the models are approved by the EN 676 European Standard, conform to European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.
All the Gulliver BS/M burners are tested before leaving the factory.

BS2/M	26/49	÷	91	kW
BS3/M	48/79	÷	195	kW
BS4/M	68/140	÷	250	kW

FIRING RATES



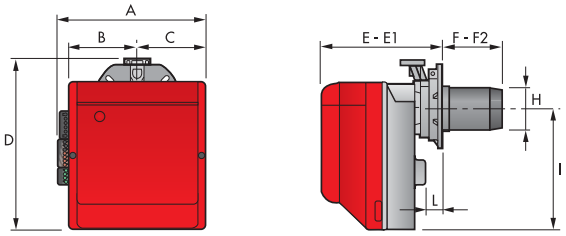
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

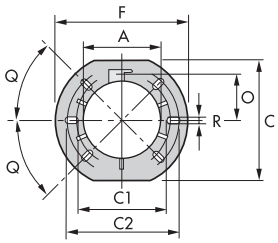
Overall dimensions (mm)

BURNER



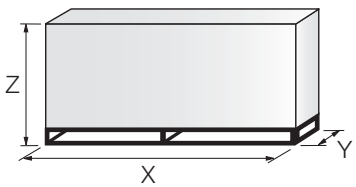
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ BS2/M	285	125,5	125,5	325	238	252	114	100	106	230	46
▶ BS3/M	330	150	150	391	262	280	128	110	129	285	46
▶ BS3/M TL	330	150	150	391	262	270	185	170	129	285	45
▶ BS4/M	330	150	150	392	278	301	168	145	137	286	46

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	F	O	Q	R
▶ BS2/M	106	167	140	170	192	66	45°	11
▶ BS3/M	129	201	160	190	216	76,5	45°	11
▶ BS3/M TL	129	201	160	190	216	76,5	45°	11
▶ BS4/M	137	203	170	200	218	80,5	45°	11

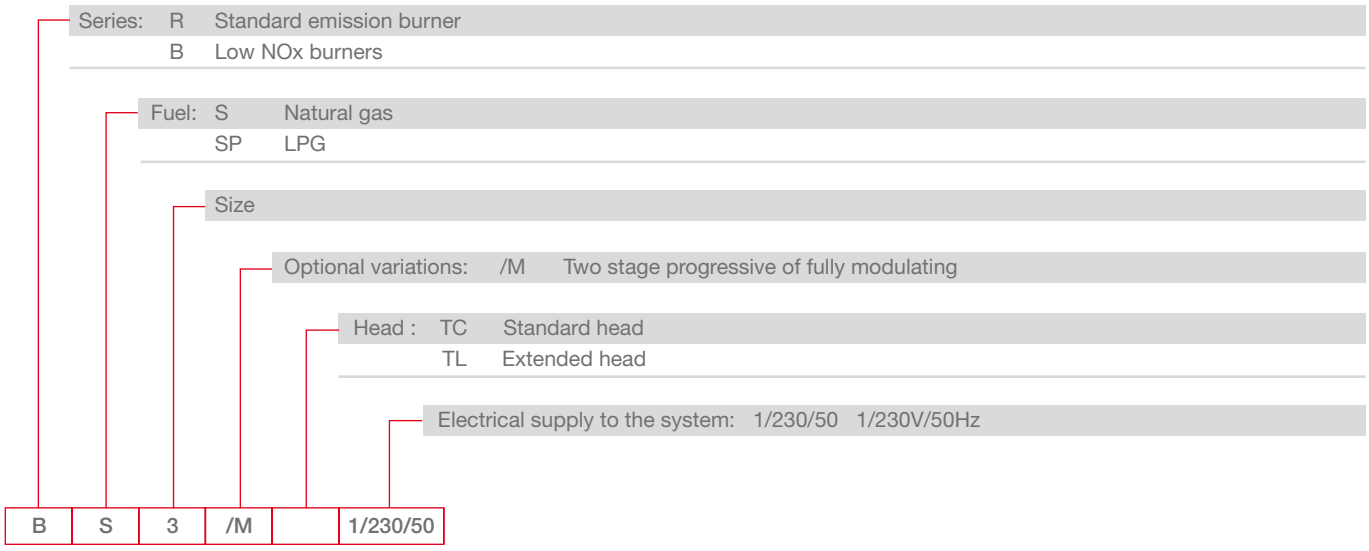
PACKAGING



MODEL	X	Y	Z	kg
▶ BS2/M	405	328	375	12
▶ BS3/M	450	375	440	16
▶ BS3/M TL	510	375	440	18
▶ BS4/M	510	375	440	18

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monobloc, gas burners, completely automatic, high/low progressive operation mode or fully modulating by using a regulator:
- Fan with forward curve blades
- Cover lined with sound proofing material
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Servomotor to drive the air damper to fully closed position at stand by, low and high fire position
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Flange with insulating gasket
- Screws and nuts for flange to be fixed to boiler
- Screw and nut for flange
- Blue plastic tube
- G 1/8 union elbow
- 4-pin plug
- 7-pin plug
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3762250	BS2/M 1/230/50	26/49 - 91	2,6/4,9 - 9,1	0,180	CE - 0085 BN0609	(1)
3762350	BS3/M 1/230/50	48/79 - 195	4,8/7,9 - 19,5	0,350	CE - 0085 BN0609	(1)
3762370	BS3/M TL 1/230/50	48/79 - 195	4,8/7,9 - 19,5	0,350	CE - 0085 BN0609	(1)
3762450	BS4/M 1/230/50	68/140 - 250	6,8/14 - 25	0,530	CE - 0085 BN0609	(1)

Net calorific value G20: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3.
The burners of BS/M series are in according to EN 676.
(1) With plug and socket.

Gas Trains

MULTIBLOC

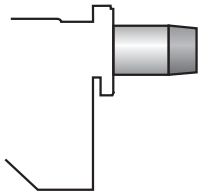
GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
3970587	CG 120	BS2/M		BS2/M		(1)
3970588	CG 220	BS3/M - BS4/M		BS3/M - BS4/M		(1)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) With installed plug.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



Burners standard head can be transformed into “extended head” versions by using the special kit. Here the KITS available for the various burners are listed, showing the original and the extended lengths.

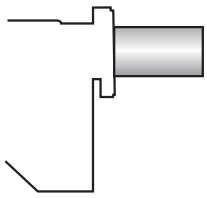
BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ BS2/M (long)	100 ÷ 114	170 ÷ 180	3002722
▶ BS2/M (extra long)	100 ÷ 114	270 ÷ 280	3002723
▶ BS3/M	110 ÷ 128	267 ÷ 282	3002724
▶ BS4/M	145 ÷ 168	302 ÷ 317	3002725

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in this table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ BS2/M	3002711	3002711
▶ BS3/M	3002712	3002712
▶ BS4/M	3001011	3001011

Alternative combustion head kit



To extend the adaptability of Gulliver BS/M burners to any sort of application, alternative combustion heads have been developed, for example, to overcome situations of combustion instability which could arise with certain heat generators.
These heads cause a very limited increase in NOx emissions, due to the slower air flow.

BURNER	KIT CODE
▶ BS2/M	3001064
▶ BS3/M	3001060
▶ BS4/M	3001070

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault.

BURNER	KIT CODE
▶ BS2/M - BS3/M - BS4/M	3001180

Burner accessories

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ BS2/M - BS3/M - BS4/M	3000945

Accessories for modulating operation

To obtain modulating operation, the BS/M series of burners requires a regulator with three point outlet controls. The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ BS2/M - BS3/M - BS4/M	RWF 40	3001078

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ BS2/M - BS3/M - BS4/M	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

BURNER	POTENTIOMETER KIT CODE
▶ BS2/M - BS3/M - BS4/M	3010109

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

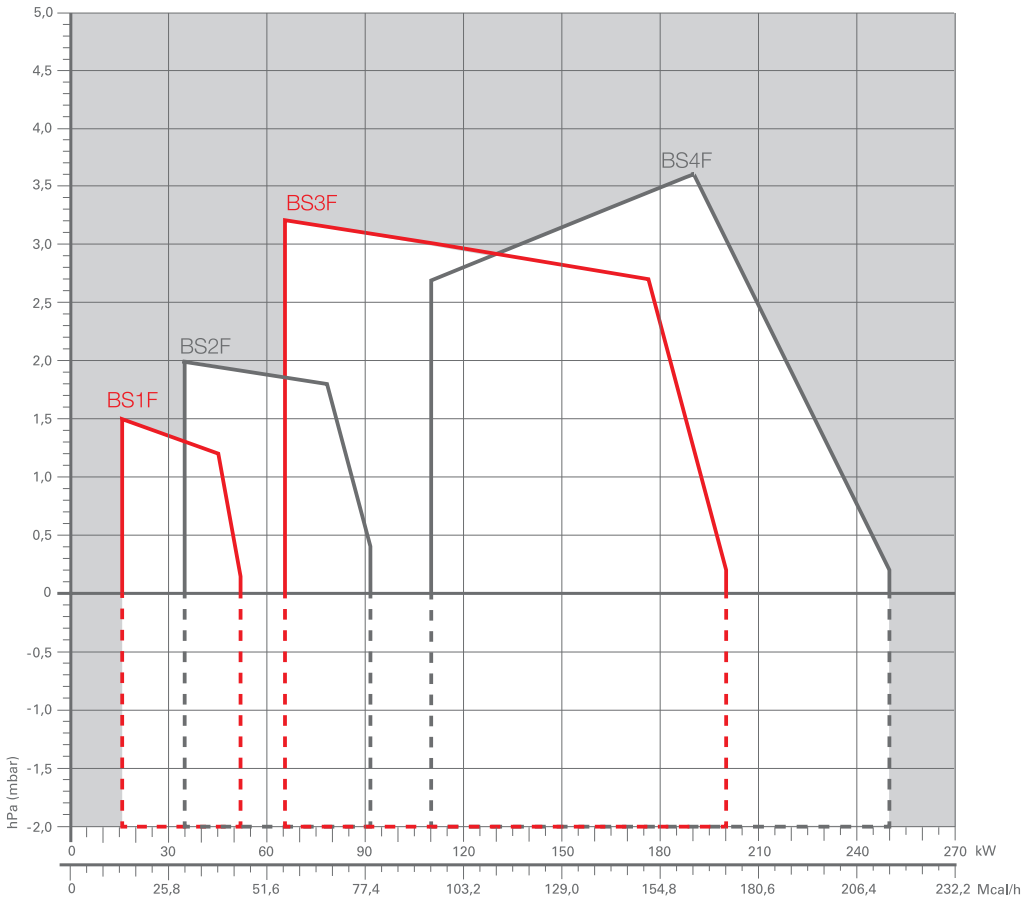
BURNER	KIT CODE
▶ BS2/M - BS3/M - BS4/M	3002719

GULLIVER BSF SERIES

The Riello Gulliver BSF series of one stage gas burners, is a complete range of products developed to respond to any request for light industrial processes like bakery ovens, spray painting ovens, small steam or thermal boilers and all applications which require a reliable, user-friendly industrial product with enhanced performance and specific functions.
The Gulliver BSF series is available in four different models, with an output ranging from 16 to 246 kW, divided in four different structures.
All the models use the same components designed by Riello for the Gulliver series and have the same ventilation system and overall dimensions as the previous one stage gas models.
The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.
This new series can operates on 50 or 60 Hz and a Voltage 220 - 230 Volt (dual frequency).
All these burners are conform to the EN 676 Standard (Forced draught gas burners) and to European Directives for EMC, Low Voltage and Gas Appliance.
For depressurised working field see EN 746-2 Standard.
All the Gulliver BSF burners are fired before leaving the factory.

BS1F	16	÷	52	kW
BS2F	35	÷	91	kW
BS3F	65	÷	200	kW
BS4F	110	÷	250	kW

FIRING RATES



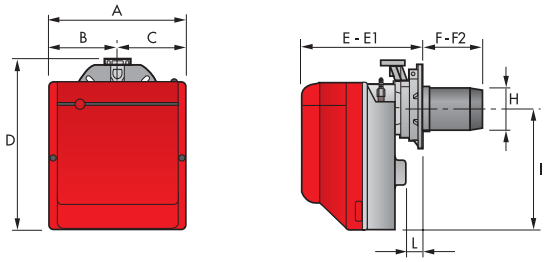
Useful working field for choosing the burner

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

IMPORTANT:
For the part of the working field that is depressurised, refer to EN 746-2 Standard.

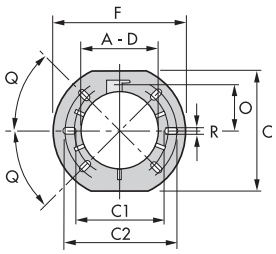
Overall dimensions (mm)

BURNER



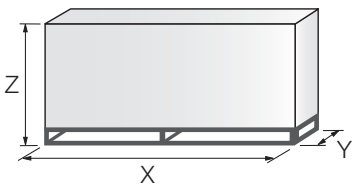
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ BS1F	234	122	112	295	230	276	116	70	89	210	41
▶ BS2F	255	125,5	125,5	325	238	252	114	100	106	230	45
▶ BS3F	300	150	150	391	262	280	128	110	129	285	45
▶ BS4F	300	150	150	392	278	301	168	145	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
▶ BS1F	89	167	140	170	89	192	66	45°	11
▶ BS2F	106	167	140	170	106	192	66	45°	11
▶ BS3F	129	201	160	190	129	216	76,5	45°	11
▶ BS4F	137	203	170	200	137	218	80,5	45°	11

PACKAGING



MODEL	X	Y	Z	kg
▶ BS1F	395	278	350	10
▶ BS2F	405	298	375	11
▶ BS3F	450	345	440	15
▶ BS4F	510	345	440	16,5

Specification

DESIGNATION OF SERIES

Series:	R	Standard emission burner
	B	Low NOx burners
Fuel:	S	Natural gas
	SP	LPG
	G	Light oil
Size		
Optional variations:	F	Light industrial processes
Electrical supply to the system:	1/220-230/50-60	1/220-230V/50-60Hz

B	S	3	F	1/230/50

STATE OF SUPPLY

Monobloc, gas burners, completely automatic, with one stage operation fitted with:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper always open in stand by, with external adjustment, with no need to remove the cover
- Single phase electric motor 220 - 230 V/50 - 60 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Flange with insulating gasket
- Screw and nut for flange
- Screw and nuts for flange to be fixed to the heat generator
- 7-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3761171	BS1F 1/220-230/50-60	16 - 52	1,6 - 5,2	0,135 (at 50Hz) - 0,165 (at 60 Hz)	CE - 0085 AQ0409	(1)
3761271	BS2F 1/220-230/50-60	35 - 91	3,5 - 9,1	0,155 (at 50Hz) - 0,200 (at 60 Hz)	CE - 0085 AQ0409	(1)
3761371	BS3F 1/220-230/50-60	65 - 200	6,5 - 20	0,355 (at 50Hz) - 0,485 (at 60 Hz)	CE - 0085 AQ0409	(1)
3761471	BS4F 1/220-230/50-60	110 - 250	11,0 - 25	0,420 (at 50Hz) - 0,600 (at 60 Hz)	CE - 0085 AQ0409	(1)

Net calorific value G20: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3.
The burners of BSF series are in according to EN 676.
(1) With plug and socket.

Gas Trains

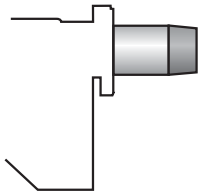
	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC	3970570	MBC 65 DLE	BS1F		BS1F		(1)
	3970546	MBDLE 405	BS1F		BS1F		(1)
	3970547	MBDLE 405	BS2F		BS2F		(1)
	3970544	MBDLE 407	BS2F		BS2F		(1)
	3970548	MBDLE 407	BS3F - BS4F		BS3F - BS4F		(1) (2)
	3970549	MBDLE 410	BS3F - BS4F		BS3F - BS4F		(1)
	3970550	MBDLE 412	BS3F - BS4F		BS3F - BS4F		(1)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) With installed plug.
(2) BS3F and BS4F ≤ 150 kW with natural gas.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

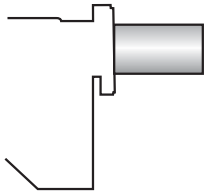
Extended head kit



Burners standard head can be transformed into “extended head” versions by using the special kit. Here the kits available for the various burners are listed, showing the original and the extended lengths.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ BS2F (long)	100 ÷ 114	170 ÷ 180	3001007
▶ BS2F (extra long)	100 ÷ 114	270 ÷ 280	3001008
▶ BS3F	110 ÷ 128	267 ÷ 282	3001009
▶ BS4F	145 ÷ 168	302 ÷ 317	3001016

Alternative combustion head kit



This kit can be used to prevent combustion instability which could arise with particular heat generators.

BURNER	KIT CODE
▶ BS1F	3001059
▶ BS2F	3001064
▶ BS3F	3001060
▶ BS4F	3001070

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ BS1F	3001003	-
▶ BS2F	3001004	3001004
▶ BS3F	3001005	3001005
▶ BS4F	3001011	3001011

Town Gas kit

For burning Town Gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ BS1F	3002727	-
▶ BS2F	3002728	3002728
▶ BS3F	3002729	3002729

(*) Without CE certification

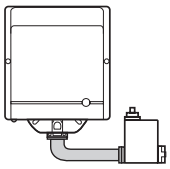
Burner accessories

Ground fault interrupter kit

A “ground fault interrupter kit” is available as safety device in case of electrical system fault.

BURNER	KIT CODE
▶ BS1F - BS2F - BS3F - BS4F	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ BS1F	3001179
▶ BS2F	3001177
▶ BS3F - BS4F	3001178

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ BS1F - BS2F - BS3F - BS4F	3002731

Gas train accessories

Seal control kit

To test the valve seals on the gas train, (except for the model with Multibloc MBC 65 DLE) a special “seal control kit” is available.

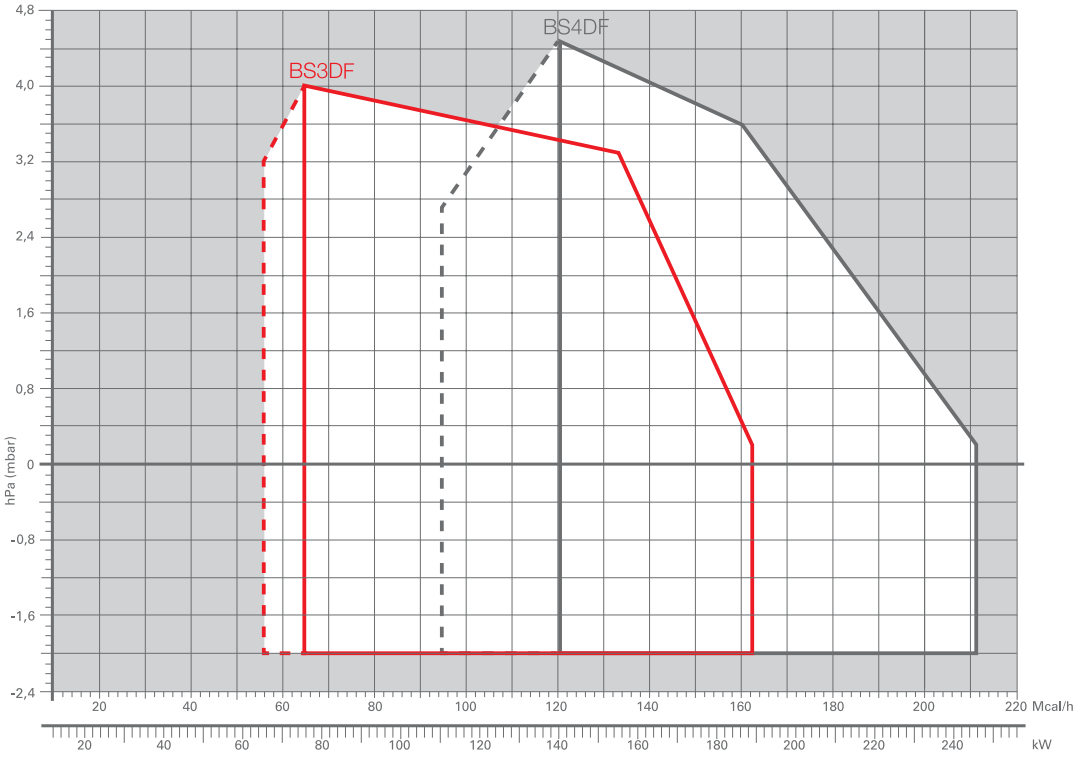
BURNER	GAS TRAIN	KIT CODE
▶ BS1F	MBDLE 405	3010123
▶ BS2F	MBDLE 405 - 407	3010123
▶ BS3F	MBDLE 407 - 410 - 412	3010123
▶ BS4F	MBDLE 407 - 410 - 412	3010123

GULLIVER BSDF SERIES

The Riello Gulliver BSDF series of two stage gas burners, is a complete range of Low NOx emission products, developed to respond to any request for light industrial processes like bakery ovens, spray painting ovens, small steam or thermal boilers and all applications which require a reliable, user-friendly industrial product with enhanced performance and specific functions.
This series of burners is available in two different models with an output ranging from 75 to 246 kW, divided in two different structures.
All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.
The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.
This new series can operates on 50 or 60 Hz and a Voltage 220 - 230 Volt (dual frequency).
For depressurised working field see EN 746-2 Standard.
All the Gulliver BSD burners are tested before leaving the factory.

BS3DF	65/75	÷	189	kW
BS4DF	110/140	÷	246	kW

FIRING RATES



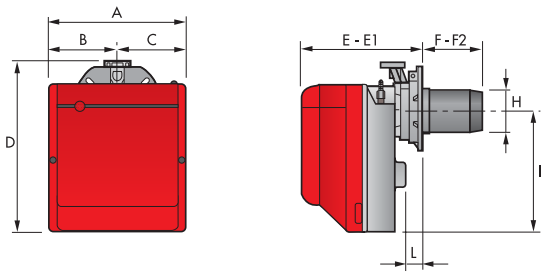
Useful working field for choosing the burner

1st stage operation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

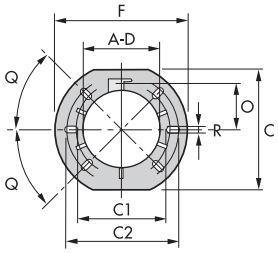
Overall dimensions (mm)

BURNER



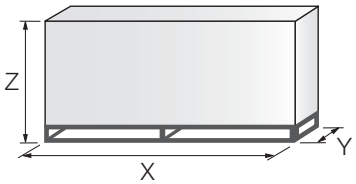
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ BS3DF	300	150	150	391	262	280	128	110	129	285	45
▶ BS4DF	300	150	150	392	278	301	168	145	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
▶ BS3DF	129	201	160	190	129	216	76,5	45°	11
▶ BS4DF	137	203	170	200	137	218	80,5	45°	11

PACKAGING



MODEL	X	Y	Z	kg
▶ BS3DF	450	345	440	16
▶ BS4DF	510	345	440	18

Specification

DESIGNATION OF SERIES

Series:	R	Standard emission burner
	B	Low NOx burners
Fuel:	S	Natural gas
	SP	LPG
	G	Light oil
Size		
Optional variations:	R	Light oil pre-heater
	K	Cone shaped head
	S	Reduced output ignition
	D	Two stage output operation
	F	Light Industrial Processes
Electrical supply to the system:	1/220-230/50-60	1/220-230V/50-60Hz

B	S	3	DF	1/230/50

STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper with 1st and 2nd stage adjustment (2nd stage external adjustment, with no need to remove the cover)
- Driven by an electric servomotor
- Single phase electric motor 220-230 V / 50-60 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- 4-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3761391	BS3DF	1/220-230/50-60	65/75 - 189	6,5/7,5 - 19	0,355 (at 50Hz) 0,485 (at 60 Hz)		(1)
3761491	BS4DF	1/220-230/50-60	110/140 - 246	11/14 - 24,6	0,420 (at 50Hz) 0,600 (at 60 Hz)		(1)

Net calorific value G20: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3.
Net calorific value LPG: 25,8 kWh/Nm^3 - Density: 2,02 kg/Nm^3.
The burners of BS series are in according to EN 676.
(1) With plug and socket.

Gas Trains

MULTIBLOC

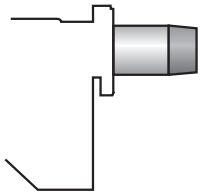
GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
3970541	MBZRDLE 407	BS3DF - BS4DF		BS3DF - BS4DF		(1) (2)
3970542	MBZRDLE 410	BS3DF - BS4DF		BS3DF - BS4DF		
3970543	MBZRDLE 412	BS3DF - BS4DF		BS3DF - BS4DF		

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) With installed plug.
(2) BS3DF and BS4DF ≤ 150 kW with natural gas.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

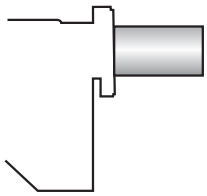
Extended head kit



Burners standard head can be transformed into “extended head” versions by using the special kit. Here the KITS available for the various burners are listed, showing the original and the extended lengths.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ BS3DF	110 ÷ 128	267 ÷ 282	3001009
▶ BS4DF	145 ÷ 168	302 ÷ 317	3001016

Alternative combustion head kit



This kit can be used to prevent combustion instability which could arise with particular heat generators.

BURNER	KIT CODE
▶ BS3DF	3001060
▶ BS4DF	3001070

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ BS3DF	3001005	3001005
▶ BS4DF	3001011	3001011

Town Gas kit

For burning Town Gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ BS3DF	3002729	3002729

(*) Without CE certification

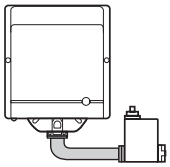
Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ BS3DF - BS4DF	3001180

Burner accessories

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ BS3DF - BS4DF	3001178

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ BS3DF - BS4DF	3000945

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ BS3DF - BS4DF	3002731

Gas train accessories

Seal control kit

To test the valve seals on the gas train a special “seal control kit” is available.

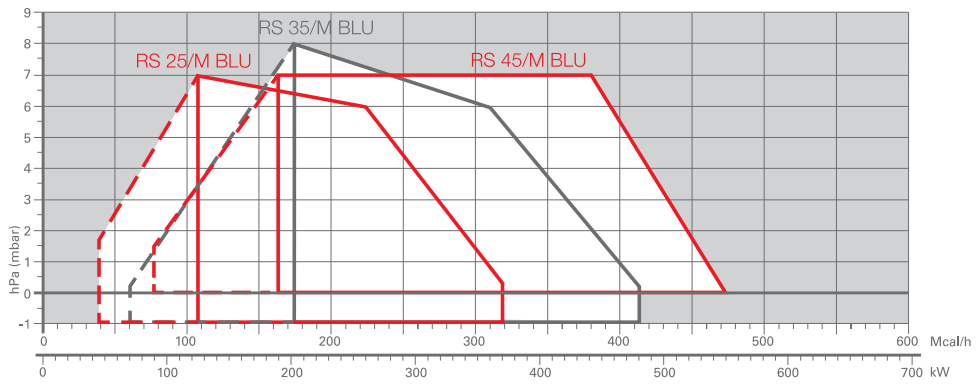
BURNER	KIT CODE
▶ BS3DF - BS4DF	3010123

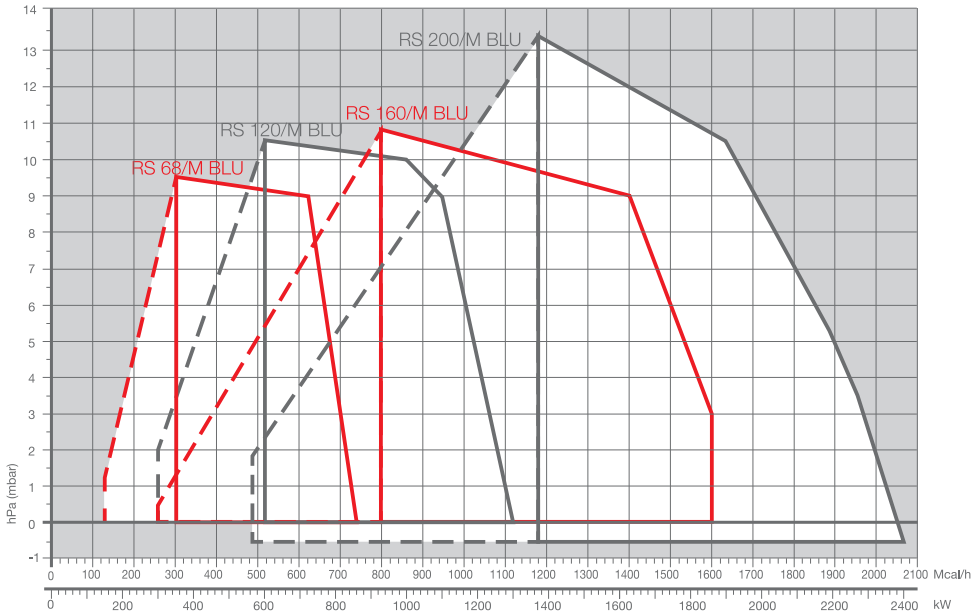
RS 25÷200/M BLU SERIES

The RS/M BLU burners series covers a firing range from 44 to 2400 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers. Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes. RS/M BLU burners series guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs. The exclusive design ensures reduced dimensions, simple use and maintenance. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**.
A wide range of accessories guarantees elevated working flexibility.

RS 25/M BLU	44/125	÷	370 kW
RS 35/M BLU	70/200	÷	480 kW
RS 45/M BLU	90/190	÷	550 kW
RS 68/M BLU	150/350	÷	860 kW
RS 120/M BLU	300/600	÷	1300 kW
RS 160/M BLU	300/930	÷	1860 kW
RS 200/M BLU	570/1375	÷	2400 kW

FIRING RATES





Useful working field for choosing the burner

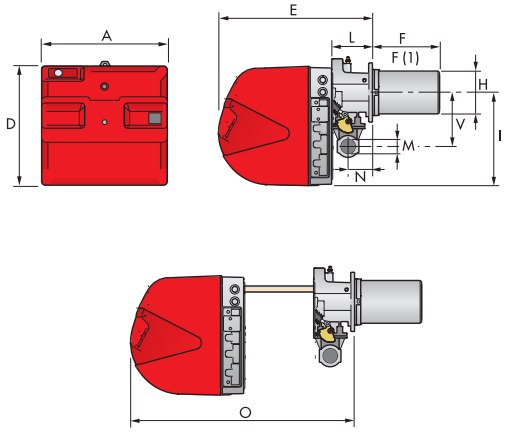
Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

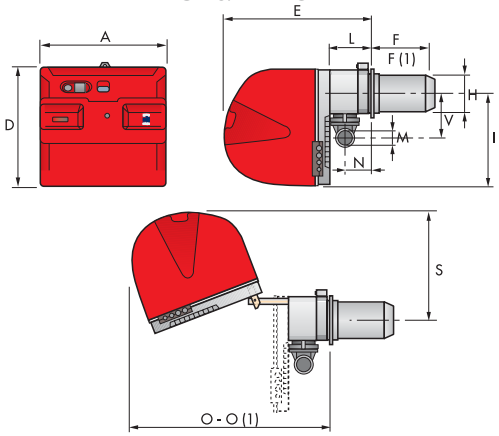
Overall dimensions (mm)

BURNER

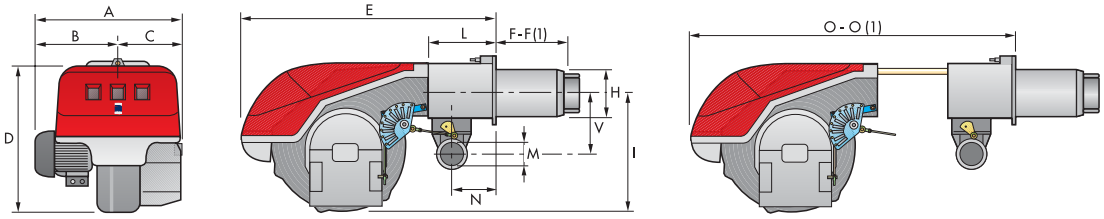
RS 25/M - 35/M BLU



RS 45/M BLU



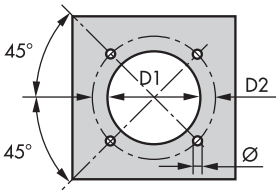
RS 68/M - 120/M - 160/M - 200/M BLU



MODEL	A	B	C	D	E	F - F (1)	H	I	L	M	N	O - O(1)	S	V
▶ RS 25/M BLU	442	-	-	422	508	230 - 365	140	305	138	1"1/2	84	780 - -	-	177
▶ RS 35/M BLU	442	-	-	422	508	230 - 365	152	305	138	1"1/2	84	780 - -	-	177
▶ RS 45/M BLU	476	-	-	474	580	229 - 354	160	352	164	1"1/2	108	810 - 810	367	168
▶ RS 68/M BLU	527	312	215	555	840	255 - 390	189	430	214	2"	134	1161 - 1296	-	221
▶ RS 120/M BLU	553	338	215	555	840	255 - 390	189	430	214	2"	134	1161 - 1296	-	221
▶ RS 160/M BLU	671	366	305	555	863	373 - 503	221	436	237	2"	141	1442 - 1587	-	264
▶ RS 200/M BLU	737	432	305	555	863	373 - 503	221	436	237	2"	141	1442 - 1587	-	264

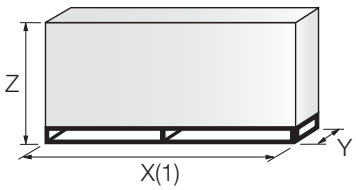
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 25/M BLU	160	224	M8
▶ RS 35/M BLU	160	224	M8
▶ RS 45/M BLU	165	224	M8
▶ RS 68/M BLU	195	275-325	M12
▶ RS 120/M BLU	195	275-325	M12
▶ RS 160/M BLU	230	325-368	M16
▶ RS 200/M BLU	230	325-368	M16

PACKAGING



MODEL	X(1)	Y	Z	kg
▶ RS 25/M BLU	1000	485	500	39
▶ RS 35/M BLU	1000	485	500	40
▶ RS 45/M BLU	1015	500	630	48
▶ RS 68/M BLU	1405	700	660	78
▶ RS 120/M BLU	1405	700	660	84
▶ RS 160/M BLU	1405-1420	1000	660	89
▶ RS 200/M BLU	1405-1420	1000	660	125

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES

Series : R

Fuel :
- S Natural gas
- SP LPG
- L Light oil
- LS Light oil / Natural gas
- N Heavy oil

Size

Operation :
- /1 One stage
- ... Two stage
- /M Modulating mechanical cam
- /E Electronic cam
- /P Proportioning air/gas valve
- /EV Electronic cam predisposed for variable speed (with inverter)

Emission :
- ... Class 1 EN267 - EN676
- MZ Class 2 EN267 - EN676
- BLU Class 3 EN267 - EN676
- MX Class 2 EN267, Class 3 EN676

Head :
- TC Standard head
- TL Extended head

Diagnostic :
- LP Led panel
- ST Status panel

Flame control system :
- FS1 Standard (1 stop every 24 h)
- FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :

1/230/50	1/230V/50Hz
1/220-230/50-60	1/220-230V/50-60Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
3/220-400/50-60	3/220-230V/50-60Hz, 3/380-400V/50-60Hz

Auxiliary voltage :
- 230/50-60 230V/50-60Hz
- 110/50-60 110V/50-60Hz

ID : Differential switch

R	S	120	/M	BLU	TC		FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught Low NOx gas burner, two stage progressive or modulating operation with a kit, made up of:
- Air suction circuit **with sound proofing material**
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by a servomotor with variable cam
- Low emissions combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Burner on/off selection switch
- Manual or automatic output increase/decrease switch
- Microprocessor-based burner safety control box, with diagnostic functions
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference

RS 25-35/M BLU models
- High performance fan with forward curve blades
- Starting motor at 2800 rpm, single-phase / 220-230V / 50-60Hz or three-phase / 380-400V / 50-60Hz
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Plug and socket for electrical connections accessible from the external of the cover
- IP 40 electric protection level.

RS 45-68-120-160-200/M BLU models
- Fan with reverse curve blades (RS 45-68-120/M BLU models) or forward curve blades (RS 160-200/M BLU models)
- Sound-proofing material on air suction circuit
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz (single-phase, 230V, 50Hz for the RS 45/M BLU model)
- Maximum gas pressure switch
- IP 44 electric protection level.

Standard equipment
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Fairleads for the electrical connection (RS 45/M BLU)
- 3 plugs for electrical connection (RS 25-35/M BLU single-phase)
- 4 plugs for electrical connection (RS 35/M BLU three-phase)
- 2 slide bar extensions (for extended head models and RS 160-200/M BLU models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm³/h)	(kW)		
3910510	RS 25/M BLU TC FS1 1/220-230/50-60 220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE-0085BR0379	(1)
3910511	RS 25/M BLU TL FS1 1/220-230/50-60 220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE-0085BR0379	(1)
3910610	RS 35/M BLU TC FS1 1/220-230/50-60 220-230/50-60	70/200÷480	7/20÷48	0,7	CE-0085BR0379	(1)
3910611	RS 35/M BLU TL FS1 1/220-230/50-60 220-230/50-60	70/200÷480	7/20÷48	0,7	CE-0085BR0379	(1)
3910640	RS 35/M BLU TC FS1 3/220-400/50-60 220-230/50-60	70/200÷480	7/20÷48	0,75	CE-0085BR0379	(1)
3910641	RS 35/M BLU TL FS1 3/220-400/50-60 220-230/50-60	70/200÷480	7/20÷48	0,75	CE-0085BR0379	(1)
3910520	RS 25/M BLU TC FS2 1/220-230/50-60 220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE-0085BR0379	(1)
3910521	RS 25/M BLU TL FS2 1/220-230/50-60 220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE-0085BR0379	(1)
3910620	RS 35/M BLU TC FS2 1/220-230/50-60 220-230/50-60	70/200÷480	7/20÷48	0,7	CE-0085BR0379	(1)
3910621	RS 35/M BLU TL FS2 1/220-230/50-60 220-230/50-60	70/200÷480	7/20÷48	0,7	CE-0085BR0379	(1)
3910650	RS 35/M BLU TC FS2 3/220-400/50-60 220-230/50-60	70/200÷480	7/20÷48	0,75	CE-0085BR0379	(1)
3910651	RS 35/M BLU TL FS2 3/220-400/50-60 220-230/50-60	70/200÷480	7/20÷48	0,75	CE-0085BR0379	(1)
3897306	RS 45/M BLU TC FS1 1/230/50 230/50-60	90/190-550	9/19-55	0,6	CE 0085 BM0104	(1)
3897307	RS 45/M BLU TL FS1 1/230/50 230/50-60	90/190-550	9/19-55	0,6	CE 0085 BM0104	(1)
3897312	RS 45/M BLU TC FS2 1/230/50 230/50-60	90/190-550	9/19-55	0,6	CE 0085 BM0104	(1)
3897313	RS 45/M BLU TL FS2 1/230/50 230/50-60	90/190-550	9/19-55	0,6	CE 0085 BM0104	(1)
3897406	RS 68/M BLU TC FS1 3/230-400/50 230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(2)
3897407	RS 68/M BLU TL FS1 3/230-400/50 230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(2)
3897420	RS 68/M BLU TC FS2 3/230-400/50 230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(2)
3897421	RS 68/M BLU TL FS2 3/230-400/50 230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(2)
3866211	RS 68/M BLU TC FS1 3/230-400/50 230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(1)
3866212	RS 68/M BLU TL FS1 3/230-400/50 230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(1)
3897606	RS 120/M BLU TC FS1 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(2)
3897607	RS 120/M BLU TL FS1 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(2)
3897620	RS 120/M BLU TC FS2 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(2)
3897621	RS 120/M BLU TL FS2 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(2)
3866213	RS 120/M BLU TC FS1 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(1)
20009506	RS 120/M BLU TL FS1 3/220-380/60 230/50-60	300/600-1300	30/60-130	2,6	-	(2)
3788006	RS 160/M BLU TC FS1 3/400/50 230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
on demand	RS 160/M BLU TC FS1 3/230/50 230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
3788007	RS 160/M BLU TL FS1 3/400/50 230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
on demand	RS 160/M BLU TL FS1 3/230/50 230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
3788011	RS 160/M BLU TC FS2 3/400/50 230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
on demand	RS 160/M BLU TC FS2 3/230/50 230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
3788012	RS 160/M BLU TL FS2 3/400/50 230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
on demand	RS 160/M BLU TL FS2 3/230/50 230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
3866214	RS 160/M BLU TC FS1 3/400/50 230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(1)
on demand	RS 160/M BLU TC FS1 3/230/50 230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(1)
20006048	RS 160/M BLU TC FS1 3/380/60 230/50-60	300/930-1860	30/93-186	4,8	-	(2)

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³
The burners of RS/M BLU series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676 - LRV 92 Norm.
(1) With plug and socket.
(2) With terminal board.

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm³/h)	(kW)		
20006049	RS 160/M BLU TL FS1 3/380/60 230/50-60	300/930-1860	30/93-186	4,8	-	(2)
3899710	RS 200/M BLU TC FS1 3/400/50 230/50-60	570/1375-2400	57/138-240	8,2	in progress	(2)
3899711	RS 200/M BLU TL FS1 3/400/50 230/50-60	570/1375-2400	57/138-240	8,2	in progress	(2)
3899740	RS 200/M BLU TC FS1 3/230/50 230/50-60	570/1375-2400	57/138-240	8,2	in progress	(2)
3899741	RS 200/M BLU TL FS1 3/230/50 230/50-60	570/1375-2400	57/138-240	8,2	in progress	(2)
3899720	RS 200/M BLU TC FS2 3/400/50 230/50-60	570/1375-2400	57/138-240	8,2	in progress	(2)
3899721	RS 200/M BLU TL FS2 3/400/50 230/50-60	570/1375-2400	57/138-240	8,2	in progress	(2)
3899750	RS 200/M BLU TC FS2 3/230/50 230/50-60	570/1375-2400	57/138-240	8,2	in progress	(2)
3899751	RS 200/M BLU TL FS2 3/230/50 230/50-60	570/1375-2400	57/138-240	8,2	in progress	(2)
3897344	RS 45/M BLU TC FS1 1/230/50 230/50-60 ID	90/190-550	9/19-55	0,6	CE 0085 BM0104	(2)
3897345	RS 45/M BLU TL FS1 1/230/50 230/50-60 ID	90/190-550	9/19-55	0,6	CE 0085 BM0104	(2)
3897342	RS 45/M BLU TC FS2 1/230/50 230/50-60 ID	90/190-550	9/19-55	0,6	CE 0085 BM0104	(2)
3897343	RS 45/M BLU TL FS2 1/230/50 230/50-60 ID	90/190-550	9/19-55	0,6	CE 0085 BM0104	(2)

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³
The burners of RS/M BLU series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676 - LRV 92 Norm.
(1) With plug and socket.
(2) With terminal board.

Gas Trains

MULTIBLOC GAS TRAINS

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970500	MBD 405	RS 25/M BLU	3000824	RS 25/M BLU	3000824	(1) (4)
		-	-	RS 35/M BLU	3000824	
3970553	MBD 407	RS 25/M BLU	3000824	RS 25/M BLU	3000824	(1) (4)
		RS 35/M BLU	3000824	RS 35/M BLU	3000824	
		RS 45/M BLU	3000824	-	-	
3970229	MBD 407	RS 25/M BLU	3000824	RS 25/M BLU	3000824	(2) (4)
		RS 35/M BLU	3000824	RS 35/M BLU	3000824	
		RS 45/M BLU	3000824	-	-	
3970554	MBD 410	RS 25/M BLU	3000824	RS 25/M BLU	3000824	(1) (4)
		RS 35/M BLU	3000824	RS 35/M BLU	3000824	
		RS 45/M BLU	3000824	-	-	
3970230	MBD 410	RS 25/M BLU	3000824	RS 25/M BLU	3000824	(2) (4)
		RS 35/M BLU	3000824	RS 35/M BLU	3000824	
		RS 45/M BLU	3000824	-	-	

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Available models

Gas Trains

MULTIBLOC GAS TRAINS

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970144	MBD 412	RS 25/M BLU	-	RS 25/M BLU	-	(1) (4)
		RS 35/M BLU	-	RS 35/M BLU	-	
		RS 45/M BLU	-	-	-	
		RS 68/M BLU	3010126	-	-	
3970231	MBD 412	RS 25/M BLU	-	RS 25/M BLU	-	(2) (4)
		RS 35/M BLU	-	RS 35/M BLU	-	
		RS 45/M BLU	-	-	-	
		RS 68/M BLU	3010126	-	-	
3970197	MBD 412 CT	RS 25/M BLU	-	RS 25/M BLU	-	(1) (5)
		RS 35/M BLU	-	RS 35/M BLU	-	
		RS 45/M BLU	-	-	-	
		RS 68/M BLU	3010126	-	-	
3970180	MBD 415	RS 25/M BLU	-	-	-	(1) (4)
		RS 35/M BLU	-	RS 35/M BLU	-	
		RS 45/M BLU	-	-	-	
		RS 68/M BLU	3000843	-	-	
		RS 120/M BLU	3000843	-	-	
		RS 160/M BLU	3000843	-	-	
		RS 200/M BLU	3000843			
3970232	MBD 415	RS 25/M BLU	-	-	-	(2) (4)
		RS 35/M BLU	-	RS 35/M BLU	-	
		RS 45/M BLU	-	-	-	
		RS 68/M BLU	3000843	-	-	
		RS 120/M BLU	3000843	-	-	
		RS 160/M BLU	3000843	-	-	
		RS 200/M BLU	3000843			
3970198	MBD 415 CT	RS 25/M BLU	-	-	-	(1) (5)
		RS 35/M BLU	-	RS 35/M BLU	-	
		RS 45/M BLU	-	-	-	
		RS 68/M BLU	3000843	-	-	
		RS 120/M BLU	3000843	-	-	
		RS 160/M BLU	3000843	-	-	
		RS 200/M BLU	3000843			
3970181	MBD 420	RS 25/M BLU	3000822	-	-	(1) (4)
		RS 35/M BLU	3000822	-	-	
		RS 45/M BLU	3000822	-	-	
		RS 68/M BLU	-	-	-	
		RS 120/M BLU	-	-	-	
		RS 160/M BLU	-	-	-	
		RS 200/M BLU				

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Available models

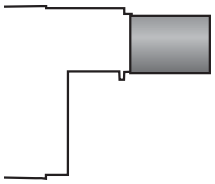
Gas Trains

	GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
			BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC GAS TRAINS	3970233	MBD 420	RS 25/M BLU	3000822	-	-	(2) (4)
			RS 35/M BLU	3000822	-	-	
			RS 45/M BLU	3000822	-	-	
			RS 68/M BLU	-	-	-	
			RS 120/M BLU	-	-	-	
			RS 160/M BLU	-	-	-	
			RS 200/M BLU				
	3970182	MBD 420 CT	RS 25/M BLU	3000822	-	-	(1) (5)
			RS 35/M BLU	3000822	-	-	
			RS 45/M BLU	3000822	-	-	
			RS 68/M BLU	-	-	-	
			RS 120/M BLU	-	-	-	
			RS 160/M BLU	-	-	-	
			RS 200/M BLU				
	3970234	MBD 420 CT	RS 25/M BLU	3000822	-	-	(2) (5)
			RS 35/M BLU	3000822	-	-	
			RS 45/M BLU	3000822	-	-	
			RS 68/M BLU	-	-	-	
			RS 120/M BLU	-	-	-	
			RS 160/M BLU	-	-	-	
			RS 200/M BLU				
	3970221	MBC 1200 SE 50	RS 68/M BLU	-	-	-	(2) (4)
			RS 120/M BLU	-	-	-	
			RS 160/M BLU	-	-	-	
			RS 200/M BLU				
	3970225	MBC 1200 SE 50 CT	RS 68/M BLU	-	-	-	(2) (5)
			RS 120/M BLU	-	-	-	
			RS 160/M BLU	-	-	-	
			RS 200/M BLU				
COMPOSED GAS TRAINS	3970222	MBC 1900 SE 65 FC	RS 120/M BLU	3000825	-	-	(2) (4)
			RS 160/M BLU	3000825	-	-	
			RS 200/M BLU	3000825			
	3970226	MBC 1900 SE 65 FC CT	RS 120/M BLU	3000825	-	-	(2) (5)
			RS 160/M BLU	3000825	-	-	
			RS 200/M BLU	3000825			
	3970223	MBC 3100 SE 80 FC	RS 160/M BLU	3000826	-	-	(2) (4)
			RS 200/M BLU	3000826			
	3970227	MBC 3100 SE 80 FC CT	RS 160/M BLU	3000826	-	-	(2) (5)
			RS 200/M BLU	3000826			

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The KITS available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS 25/M BLU	230	365	3010430
▶ RS 35/M BLU	230	365	3010431
▶ RS 45/M BLU	229	354	3010240
▶ RS 68/M - 120/M BLU	255	390	3010177
▶ RS 160/M BLU	373	503	3010442
▶ RS 200/M BLU	373	503	3010474

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 25/M - 35/M - 45/M BLU	90	3010095
▶ RS 68/M - 120/M BLU	135	3010129
▶ RS 160/M - 200/M BLU	110	3000722

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ RS 25/M - 35/M BLU	3010449
▶ RS 45/M - 68/M - 120/M - 160/M - 200/M BLU	3010094

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RS 25/M - 35/M - 45/M BLU	C1/3	10	3010403
▶ RS 68/M - 120/M - 160/M - 200/M BLU	C4/5	10	3010404

(*) according to EN 15036-1 standard

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the RS/M BLU series of burners requires a regulator with three point outlet controls. On RS 25/M - 35/M BLU the regulator is connected to the burner electrical wiring by plug-in system in order to make the connection easier and faster.
The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ RS 25/M - 35/M - 45/M BLU	RWF 40	3010417
▶ RS 68/M - 120/M - 160/M BLU	RWF 40	3010212
▶ RS 200/M BLU	RWF 40	3010414

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ RS 25/M - 35/M - 45/M - 68/M BLU RS 120/M - 160/M - 200/M BLU	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Modulating operation can also be obtained with an analog control signal converter and a feedback three-pole potentiometer.
Alternatively, the potentiometer can be used to check the servomotor position.

BURNER	TYPE (INPUT SIGNAL)	CODE
▶ RS 25/M - 35/M BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010410
▶ RS 45/M - 68/M BLU RS 120/M - 160/M BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	on demand
▶ RS 200/M BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010415

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor. The KITS available for the various burners are listed below.

BURNER	POTENTIOMETER KIT CODE
▶ RS 25/M - 35/M BLU	3010420
▶ RS 45/M BLU	3010109
▶ RS 68/M - 120/M - 160/M BLU	3010021
▶ RS 200/M BLU	3010416

Burner accessories

Head kit for "reverse flame chamber"

In certain cases, the use of the burner on reverse flame boilers can be improved by using an additional Pipes Kit.

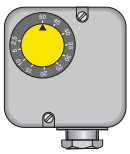
BURNER	KIT CODE
▶ RS 68/M BLU	3010247
▶ RS 120/M BLU	3010248
▶ RS 160/M BLU	3010249

Ground fault interrupter kit

A "Ground fault interrupter kit" is available as a safety device in case of electrical system fault.

BURNER	KIT CODE
▶ RS 25/M - 35/M BLU	3010448

Gas max pressure switch



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring trough Plugs & Sockets system.

BURNER	CODE
▶ RS 25/M - 35/M BLU	3010418

Volt free contact kit

A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals. Every burner can be equipped with a single kit for a remote check of the flame presence signal and the burner lockout indication.

BURNER	KIT CODE
▶ RS 25/M - 35/M BLU	3010419

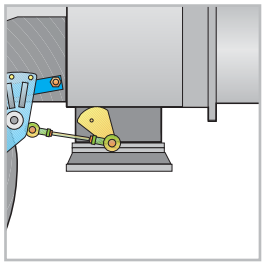
PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RS 25/M - 35/M - 45/M - 68/M - 120/M - 160/M - 200/M BLU	3002719

Burner accessories

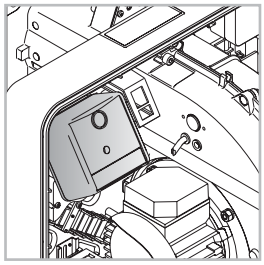
DN80 gas flange kit



To modify the standard 2" burner gas input connection in to DN80 connection, a specific gas flange is available.

BURNER	KIT CODE
▶ RS 68/M - 120/M - 160/M - 200/M BLU	3010439

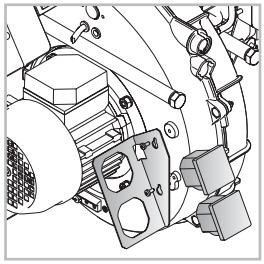
Post-ventilation kit



To have 20 s ventilation after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ RS 25/M - 35/M BLU	3010451

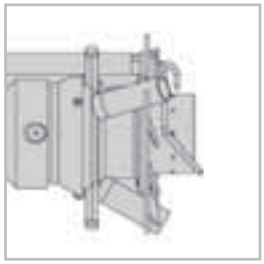
Hours counter kit



To measure the burner working time a hours counter kit is available.

BURNER	KIT CODE
▶ RS 25/M - 35/M BLU	3010450

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ RS 25/M BLU	3010423	3010423
▶ RS 35/M BLU	3010424	3010424
▶ RS 200/M BLU	3010491	3010491

Protection kit (electromagnetic interferences)

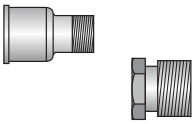
This kit is available as an interface between the thermostatic controls and the burner, to be used in systems where the lengths of the thermostat connections is over 20 meters, or where the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m).

BURNER	KIT CODE
▶ RS 25/M - 35/M - 45/M - 68/M - 120/M - 160/M BLU	3010386

Included as standard on RS 200/M BLU model

Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ RS 25/M BLU	MBD 405 - 407 - 410	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 35/M BLU	MBD 405 - 407 - 410	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 45/M BLU	MBD 407 - 410	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 68/M BLU	MBD 412	1" 1/4 2"	3010126
	MBD 415	1" 1/2 2"	3000843
▶ RS 120/M BLU	MBD 415	1" 1/2 2"	3000843
	MBC 1900	1" 1/2, DN 65 2" 1/2, 2"	3000825
▶ RS 160/M BLU	MBD 415	1" 1/2 2"	3000843
	MBC 1900	1" 1/2, DN 65 2" 1/2, 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ RS 200/M BLU	MBD 415	1" 1/2 2"	3000843
	MBC 1900	1" 1/2, DN 65 2" 1/2, 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826

Gas train accessories

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

BURNER	GAS TRAIN	KIT CODE
▶ All models	MBD type	3010123
	MBC type	3010367

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 SE 65 FC (CT)* ▶ MBC 3100 SE 80 FC (CT)*	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

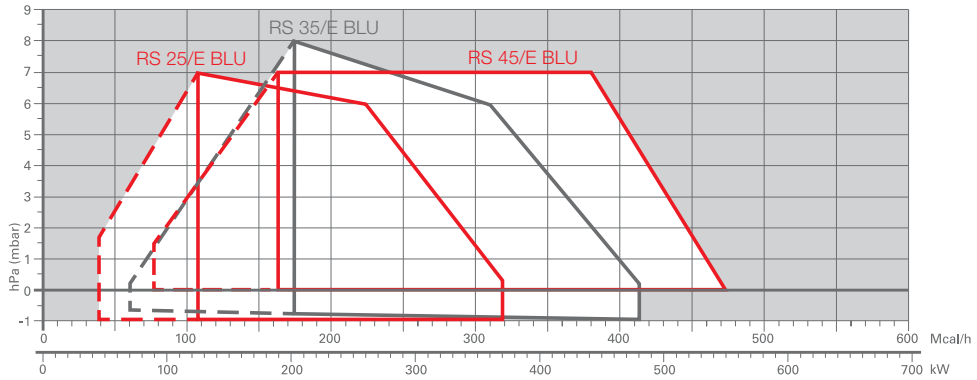
* with and without seal control.

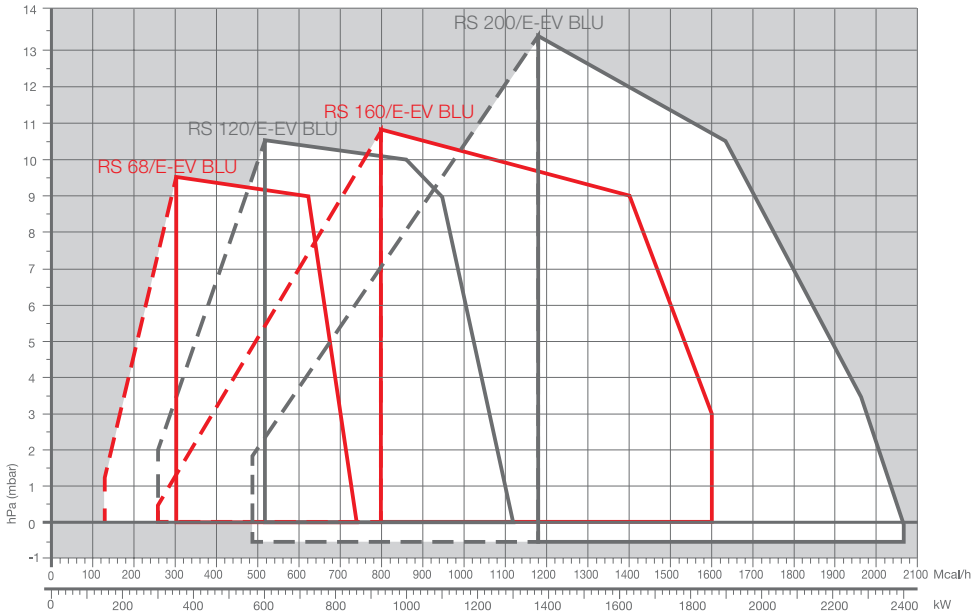
RS 25÷200/E-EV BLU SERIES

The RS/E BLU and RS/EV BLU burners series covers a firing range from 44 to 2400 kW, and it is based on a new Digital Burner Management System, Riello REC27-37, which is able to manage the air-fuel ratio by independent servomotors in order to obtain a perfect output control and to assure a correct combustion and safe operation on all modulation range. Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes.
RS/E BLU burners series guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs; specifics versions are available to operate with **Variable Speed Drive technology** base on the control of a Frequency Inverter that modifies the air flow through the motor speed variation. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**.

RS 25/E BLU	44/125 ÷ 370 kW
RS 35/E BLU	70/200 ÷ 480 kW
RS 45/E BLU	90/190 ÷ 550 kW
RS 68/E BLU-RS 68/EV BLU	150/350 ÷ 860 kW
RS 120/E BLU-RS 120/EV BLU	300/600 ÷ 1300 kW
RS 160/E BLU-RS 160/EV BLU	300/930 ÷ 1860 kW
RS 200/E BLU-RS 200/EV BLU	570/1375 ÷ 2400 kW

FIRING RATES





Useful working field for choosing the burner

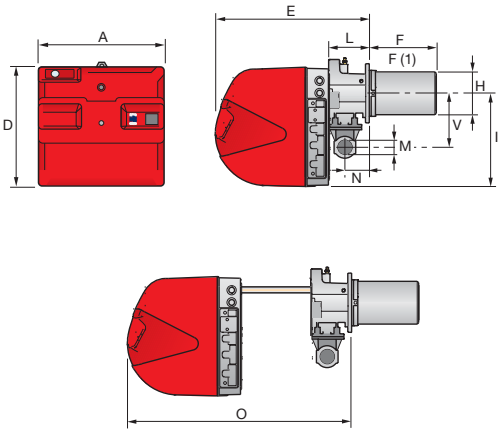
Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

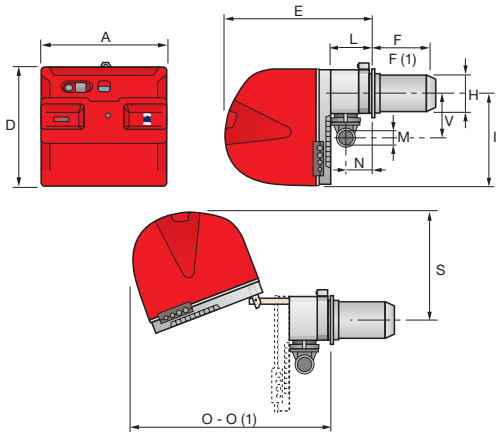
Overall dimensions (mm)

BURNER

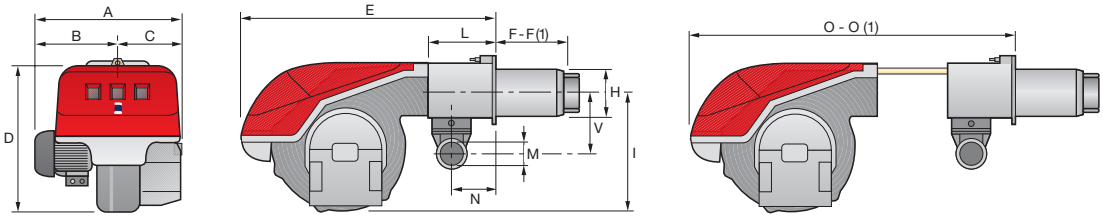
RS 25/E - 35/E BLU



RS 45/E BLU



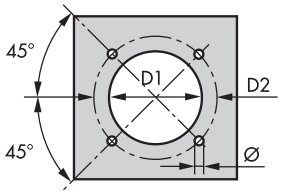
RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU



MODEL	A	B	C	D	E	F - F (1)	H	I	L	M	N	O - O(1)	S	V
▶ RS 25/E BLU	442	-	-	422	508	230 - 365	140	305	138	1”1/2	84	780 - -	-	177
▶ RS 35/E BLU	442	-	-	422	508	230 - 365	152	305	138	1”1/2	84	780 - -	-	177
▶ RS 45/E BLU	476	-	-	474	580	229 - 354	160	352	164	1”1/2	108	810 - 810	367	168
▶ RS 68/E-EV BLU	527	312	215	555	840	255 - 390	189	430	214	2”	134	1161 - 1296	-	221
▶ RS 120/E-EV BLU	553	338	215	555	840	255 - 390	189	430	214	2”	134	1161 - 1296	-	221
▶ RS 160/E-EV BLU	671	366	305	555	863	373 - 503	221	436	221	2”	141	1442 - 1587	-	264
▶ RS 200/E-EV BLU	737	432	305	555	863	373 - 503	221	436	221	2”	141	1442 - 1587	-	264

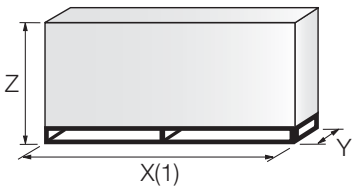
(1) dimension with extended head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 25/E BLU	160	224	M8
▶ RS 35/E BLU	160	224	M8
▶ RS 45/E BLU	165	224	M8
▶ RS 68/E-EV BLU	195	275-325	M12
▶ RS 120/E-EV BLU	195	275-325	M12
▶ RS 160/E-EV BLU	230	325-368	M16
▶ RS 200/E-EV BLU	230	325-368	M16

PACKAGING



MODEL	X(1)	Y	Z	kg
▶ RS 25/E BLU	1000	485	500	39
▶ RS 35/E BLU	1000	485	500	40
▶ RS 45/E BLU	1015	500	630	48
▶ RS 68/E-EV BLU	1405	700	660	78
▶ RS 120/E-EV BLU	1405	700	660	84
▶ RS 160/E-EV BLU	1405-1420	1000	660	89
▶ RS 200/E-EV BLU	1405-1420	1000	660	125

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES

Series : R

Fuel :
- S Natural gas
- SP LPG
- L Light oil
- LS Light oil / Natural gas
- N Heavy oil

Size

Operation :
- /1 One stage
- ... Two stage
- /M Modulating mechanical cam
- /E Electronic cam
- /P Proportioning air/gas valve
- /EV Electronic cam predisposed for variable speed (with inverter)

Emission :
- ... Class 1 EN267 - EN676
- MZ Class 2 EN267 - EN676
- BLU Class 3 EN267 - EN676
- MX Class 2 EN267, Class 3 EN676

Head :
- TC Standard head
- TL Extended head

Diagnostic :
- LP Led panel
- ST Status panel

Flame control system :
- FS1 Standard (1 stop every 24 h)
- FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :

1/230/50	1/230V/50Hz
1/220-230/50-60	1/220-230V/50-60Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
3/220-400/50-60	3/220-230V/50-60Hz, 3/380-400V/50-60Hz

Auxiliary voltage :
- 230/50-60 230V/50-60Hz
- 110/50-60 110V/50-60Hz

ID : Differential switch

R	S	120	/E	BLU	TC		FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

RS 25/E - 35/E BLU models
Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:
- Microprocessor-based Digital Burner Management System (RS/E models)
- Display Interface operating unit to adjust the system
- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, single-phase/220-230V/50-60Hz or three-phase/380-400V/50-60Hz
- low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Plugs and sockets for electrical connection, accessible from the external of the cover
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection (RS 25-35/E BLU single-phase)
- 4 plugs for electrical connection (RS 35/E BLU three-phase)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY

RS 45/E - 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU models
Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:
- Microprocessor-based Digital Burner Management System (RS/E BLU models)
- Microprocessor-based Digital Burner Management System with Variable Speed Drive technology for the control of a Frequency Inverter (RS/EV BLU models)
- Display Interface operating unit to adjust the system
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (straight blades on the 160/E-EV - 200/E-EV BLU model) high performance with low sound emissions
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz (single-phase, 230V and 50Hz for the 45/E BLU model)
- Low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for the electrical connection (for RS 45/E BLU model)
- 2 slide bar extensions (for extended head models and RS 160/E-EV - 200/E-EV BLU)
- Pressure switch for valve proofing system (RS 68-120/E-EV BLU models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3910710	RS 25/E BLU TC FS1 1/220-230/50-60 220-230/50-60	44/125÷370	4,5/13÷37	0,6	EC 0085BS0379	(1)(3)
3910711	RS 25/E BLU TL FS1 1/220-230/50-60 220-230/50-60	44/125÷370	4,5/13÷37	0,6	EC 0085BS0379	(1)(3)
3910810	RS 35/E BLU TC FS1 1/220-230/50-60 220-230/50-60	70/200÷480	7/20÷48	0,7	EC 0085BS0379	(1)(3)
3910811	RS 35/E BLU TL FS1 1/220-230/50-60 220-230/50-60	70/200÷480	7/20÷48	0,7	EC 0085BS0379	(1)(3)
3910840	RS 35/E BLU TC FS1 3/220-400/50-60 220-230/50-60	70/200÷480	7/20÷48	0,75	EC 0085BS0379	(1)(3)
3910841	RS 35/E BLU TL FS1 3/220-400/50-60 220-230/50-60	70/200÷480	7/20÷48	0,75	EC 0085BS0379	(1)(3)
3897332	RS 45/E BLU TC FS1 1/230/50 230/50-60	90/190-550	9/19-55	0,7	EC 0085BS0380	(1)(3)
3897333	RS 45/E BLU TL FS1 1/230/50 230/50-60	90/190-550	9/19-55	0,7	EC 0085BS0380	(1)(3)
3897432	RS 68/E BLU TC FS1 3/230-400/50 230/50-60	150/350-860	15/35-86	2,0	EC 0085BS0267	(2)(3)
3897433	RS 68/E BLU TL FS1 3/230-400/50 230/50-60	150/350-860	15/35-86	2,0	EC 0085BS0267	(2)(3)
3897632	RS 120/E BLU TC FS1 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,8	EC 0085BS0268	(2)(4)
3897633	RS 120/E BLU TL FS1 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,8	EC 0085BS0268	(2)(4)
3788032	RS 160/E BLU TC FS1 3/400/50 230/50-60	300/930-1860	30/93-186	5,3	EC 0085BS0266	(2)(4)
3788033	RS 160/E BLU TL FS1 3/400/50 230/50-60	300/930-1860	30/93-186	5,3	EC 0085BS0266	(2)(4)
3899810	RS 200/E BLU TC FS1 3/400/50 230/50-60	570/1375-2400	57/138-240	6,5	in progress	(2)(4)
3899811	RS 200/E BLU TL FS1 3/400/50 230/50-60	570/1375-2400	57/138-240	6,5	in progress	(2)(4)
3899840	RS 200/E BLU TC FS1 3/230/50 230/50-60	570/1375-2400	57/138-240	6,5	in progress	(2)(4)
3899841	RS 200/E BLU TL FS1 3/230/50 230/50-60	570/1375-2400	57/138-240	6,5	in progress	(2)(4)
(7)	RS 68/EV BLU TC FS1 3/230-400/50 230/50-60	150/350-860	15/35-86	2,0	in progress	(2)(3)(5)
(7)	RS 68/EV BLU TL FS1 3/230-400/50 230/50-60	150/350-860	15/35-86	2,0	in progress	(2)(3)(5)
(7)	RS 120/EV BLU TC FS1 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,8	in progress	(2)(4)(5)
(7)	RS 120/EV BLU TL FS1 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,8	in progress	(2)(4)(5)
20010976	RS 120/EV BLU TC FS1 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,8	in progress	(2)(4)(6)
(7)	RS 160/EV BLU TC FS1 3/400/50 230/50-60	300/930-1860	30/93-186	5,3	in progress	(2)(4)(5)
(7)	RS 160/EV BLU TL FS1 3/400/50 230/50-60	300/930-1860	30/93-186	5,3	in progress	(2)(4)(5)
20010988	RS 160/EV BLU TC FS1 3/400/50 230/50-60	300/930-1860	30/93-186	5,3	in progress	(2)(4)(6)
(7)	RS 200/EV BLU TC FS1 3/400/50 230/50-60	570/1375-2400	57/138-240	6,5	in progress	(2)(4)(5)
(7)	RS 200/EV BLU TL FS1 3/400/50 230/50-60	570/1375-2400	57/138-240	6,5	in progress	(2)(4)(5)
20006982	RS 200/EV BLU TC FS1 3/400/50 230/50-60	570/1375-2400	57/138-240	6,5	in progress	(2)(4)(6)

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³
The burners of RS/E BLU series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676.
(1) With plug and socket.
(2) With terminal board.
(3) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit on the gas train as Accessory (see Gas Train Accessories paragraph).
(4) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit (included as burner standard equipment) on the gas train.
(5) Frequency Inverter installed on burner motor.
(6) Frequency Inverter to be ordered as separated accessory; please refer to “Burner Accessories” paragraph.
(7) Please ask for specific code.

Available models

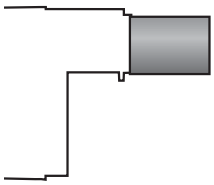
Gas Trains

	GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC GAS TRAINS	3970602	MBC 120	RS 25/E BLU	3000824	RS 25/E BLU	3000824	(1) (3)
			RS 35/E BLU	3000824	RS 35/E BLU	3000824	
			RS 45/E BLU	3000824	-	-	
	3970599	MBD 407	RS 25/E BLU	3000824	RS 25/E BLU	3000824	(1)
			RS 35/E BLU	3000824	RS 35/E BLU	3000824	
			RS 45/E BLU	3000824	-	-	
	3970258	MBD 410	RS 25/E BLU	-	RS 25/E BLU	-	(1)
			RS 35/E BLU	-	RS 35/E BLU	-	
			RS 45/E BLU	-	-	-	
	3970256	MBD 412	RS 25/E BLU	-	RS 25/E BLU	-	(1)
			RS 35/E BLU	-	RS 35/E BLU	-	
			RS 45/E BLU	-	-	-	
			RS 68/E-EV BLU	3010126	-	-	
			RS 120/E-EV BLU	3010126	-	-	
	3970250	MBD 415	RS 25/E BLU	-	-	-	(1)
			RS 35/E BLU	-	RS 35/E BLU	-	
			RS 45/E BLU	-	-	-	
			RS 68/E-EV BLU	3000843	-	-	
			RS 120/E-EV BLU	3000843	-	-	
			RS 160/E-EV BLU	3000843	-	-	
			RS 200/E-EV BLU	3000843	-	-	
	3970257	MBD 420	RS 25/E BLU	3000822	-	-	(1)
			RS 35/E BLU	3000822	-	-	
			RS 45/E BLU	3000822	-	-	
			RS 68/E-EV BLU	-	-	-	
			RS 120/E-EV BLU	-	-	-	
			RS 160/E-EV BLU	-	-	-	
			RS 200/E-EV BLU	-	-	-	
	3970221	MBC 1200 SE 50	RS 68/E-EV BLU	-	-	-	(2)
			RS 120/E-EV BLU	-	-	-	
			RS 160/E-EV BLU	-	-	-	
			RS 200/E-EV BLU	-	-	-	
COMPOSED GAS TRAINS	3970222	MBC 1900 SE 65 FC	RS 68/E-EV BLU	3000825	-	-	(2)
			RS 120/E-EV BLU	3000825	-	-	
			RS 160/E-EV BLU	3000825	-	-	
			RS 200/E-EV BLU	3000825	-	-	
	3970223	MBC 3100 SE 80 FC	RS 160/E-EV BLU	3000826	-	-	(2)
			RS 200/E-EV BLU	3000826	-	-	

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Integrated seal control is not available with this gas train.
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The KITS available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS 25/E BLU	230	365	3010430
▶ RS 35/E BLU	230	365	3010431
▶ RS 45/E BLU	229	354	20006586
▶ RS 68/E-EV - 120/E-EV BLU	255	390	3010177
▶ RS 160/E-EV BLU	373	503	3010442
▶ RS 200/E-EV BLU	373	503	3010474

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 25/E - 35/E - 45/E BLU	90	3010095
▶ RS 68/E-EV - 120/E-EV BLU	135	3010129
▶ RS 160/E-EV - 200/E-EV BLU	110	3000722

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ RS 25/E - 35/E BLU	3010449
▶ RS 45/E - 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	3010094

Note: the Post-ventilation function is obtainable by modification of the Digital Burner Management System parameters (see burner instruction manual).

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available, as given in the following table:

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)](*)	BOX CODE
▶ RS 25/E - 35/E - 45/E BLU	C1/3	10	3010403
▶ RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	C4/5	10	3010404

(*) according to EN 15036-1 standard

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the RS/E BLU series of burners requires a regulator with three point outlet controls. On RS 25/E - 35/E BLU the regulator is connected to the burner electrical wiring by plug-in system in order to make the connection easier and faster.
The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ RS 25/E - 35/E - 45/E BLU	RWF 40	3010417
▶ RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	RWF 40	3010414

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
RS 25/E - 35/E - 45/E BLU	Temperature PT 100	-100 ÷ 500°C	3010110
▶ RS 68/E-EV - 120/E-EV BLU	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
RS 160/E-EV - 200/E-EV BLU	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Head kit for “reverse flame chamber”

In certain cases, the use of the burner on reverse flame boilers can be improved by using an additional Pipes Kit.

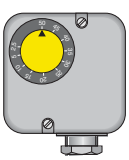
BURNER	KIT CODE
▶ RS 68/E-EV BLU	3010247
▶ RS 120/E-EV BLU	3010248
▶ RS 160/E-EV BLU	3010249

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault.

BURNER	KIT CODE
▶ RS 25/E - 35/E BLU	3010448

Gas max pressure switch



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring trough Plugs & Sockets system.

BURNER	CODE
▶ RS 25/E - 35/E BLU	3010418

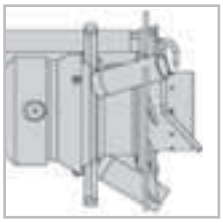
Burner accessories

Volt free contact kit

A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals. Every burner can be equipped with a single kit for a remote check of the flame presence signal and the burner lockout indication.

BURNER	KIT CODE
▶ RS 25/E - 35/E BLU	3010419

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

BURNER	KIT CODE FOR 'STANDARD HEAD'	KIT CODE FOR 'EXTENDED HEAD'
▶ RS 25/E BLU	3010423	3010423
▶ RS 35/E BLU	3010424	3010424
▶ RS 200/E-EV BLU	3010491	3010491

OCI410 interface for ACS410 software kit

Interface kit between burner management system and PC. It facilitates viewing, handling and recording setting parameters on site.

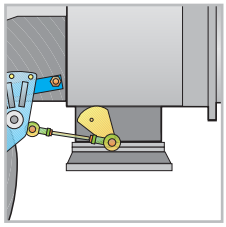
BURNER	KIT CODE
▶ RS 25/E - 35/E - 45/E - 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	3010436

OCI412 interface kit

Interface kit between the REC27.100A2 and a Modbus system, such as a building automation and control system (BACS).
The Modbus interface is based on the RS-485 standard.

BURNER	KIT CODE
▶ RS 25/E - 35/E - 45/E - 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	3010437

DN80 gas flange kit



To modify the standard 2" burner gas input connection in to DN80 connection, a specific gas flange is available.

BURNER	KIT CODE
▶ RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	3010439

Variable Speed Drive (VSD) for RS/EV series only

The motor speed variation for the RS/EV BLU burners series is obtained thanks to a frequency converter: variable speed drive (VSD).

BURNER	KIT CODE
▶ RS 68/EV - 120/EV BLU	20008555
▶ RS 160/EV BLU	20011040
▶ RS 200/EV BLU	3010379

Gas train accessories

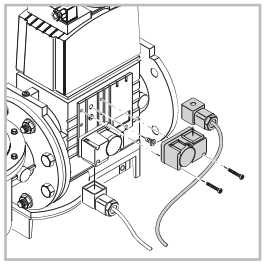
Adapters

When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner. The following table lists the adapters for various burners.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ RS 25/E BLU	MBC 120 - MBD 407	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 35/E BLU	MBC 120 - MBD 407	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 45/E BLU	MBC 120 - MBD 407	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 68/E-EV BLU	MBD 412	1" 1/4 2"	3010126
	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
▶ RS 120/E-EV BLU	MBD 412	1" 1/4 2"	3010126
	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
▶ RS 160/E-EV BLU	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ RS 200/E-EV BLU	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826

Gas train accessories

PVP (Pressure Valve Proving) kit *



The seal control function is included on Burner Digital Management System, it is only necessary to add the PVP kit on the gas train.
The PVP is included as standard equipment on RS 120/E-EV-160/E-EV-200/E-EV BLU models.

BURNER	KIT CODE
▶ MBD type - MBC type **	3010344

* not necessary for the RS 120/E-EV - 160/E-EV - 200/E-EV BLU models where is included as a standard.
** MBC 120 model excluded (integrated seal control is not available with this gas train).

Stabiliser spring

Accessory springs are available to vary the pressure range of the gas train composed. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 SE 65 FC (CT)* MBC 3100 SE 80 FC (CT)*	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

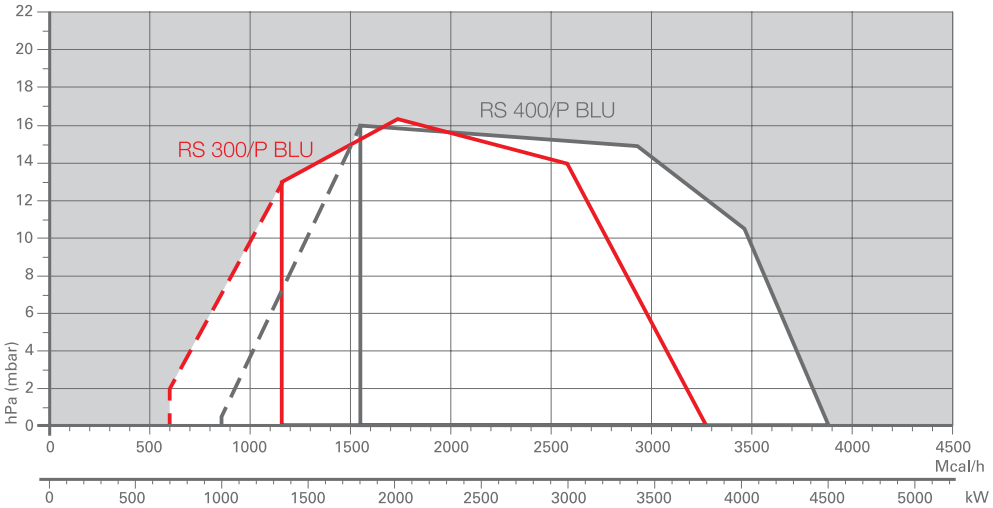
* with and without seal control

RS/P BLU SERIES

RS/P series burners are characterised by a modular monoblock structure which means that all necessary components can be combined in a single unit thus making installation easier, faster and, above all, more flexible.
The series covers a firing range from 1350 to 4500 kW, and they have been designed for use in hot water boilers or industrial steam generators.
Operation can be "two stage progressive" or alternative "modulating" with the installation of a PID logic regulator.
Using a particular proportioning valve the burner keeps desired air to gas ratio in every working condition.
The burner can, also, supply with precision the demanded power, guaranteeing an high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.
The innovative combustion head ensures reducing noise and pollutants.

RS 300/P BLU	500/1350 ÷ 3800 kW
RS 400/P BLU	800/1800 ÷ 4500 kW

FIRING RATES



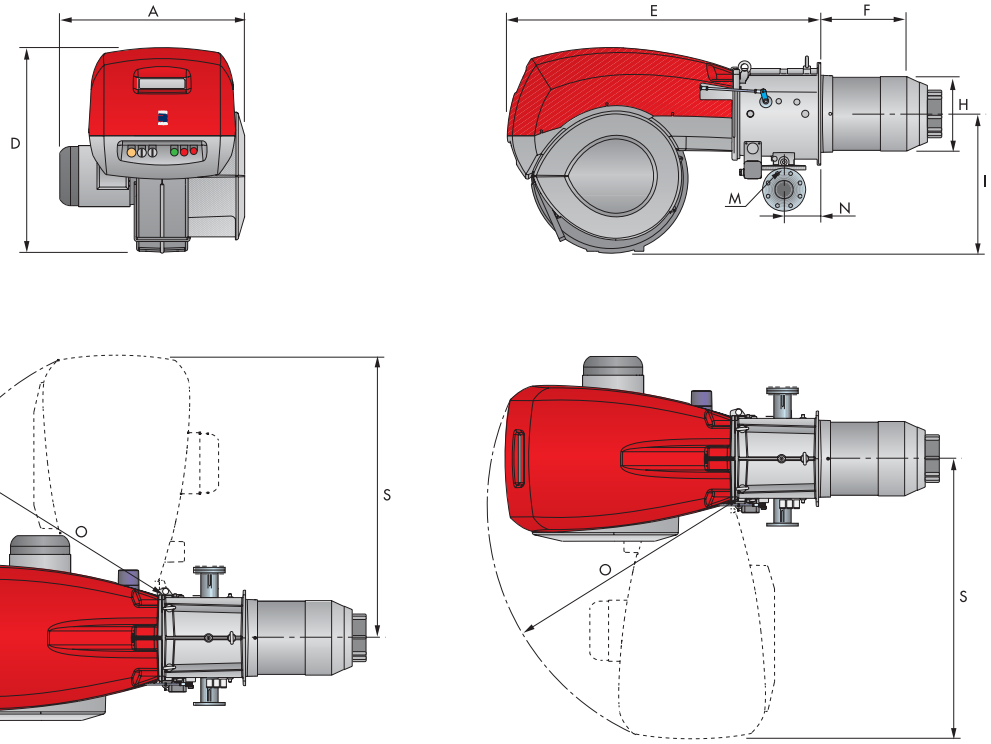
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

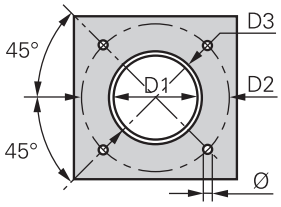
Overall dimensions (mm)

BURNER



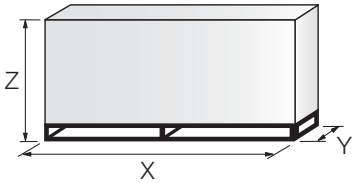
MODEL	A	D	E	F	H	I	M	N	O	S
▶ RS 300/P BLU	720	867	1325	521	313	588	DN80	164	1055	1175
▶ RS 400/P BLU	775	867	1325	521	313	588	DN80	164	1055	1175

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	D3	Ø
▶ RS 300/P BLU	350	452	354	M18
▶ RS 400/P BLU	350	452	354	M18

PACKAGING



MODEL	X	Y	Z	kg
▶ RS 300/P BLU	2100	1200	1000	225
▶ RS 400/P BLU	2100	1200	1000	236

Specification

DESIGNATION OF SERIES

Series : R

Fuel :	S	Natural gas
	L	Light oil
	LS	Light oil / Natural gas
	N	Heavy oil

Size

Operation :	/1	One stage
	...	Two stage
	/M	Modulating mechanical cam
	/E	Electronic cam
	/P	Proportioning air/gas valve
	/EV	Electronic cam predisposed for variable speed (with inverter)

Emission :	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 2 EN267 Class 3 EN676

Head :	TC	Standard head
	TL	Extended head

Flame control system :

FS1	Standard (1 stop every 24 h)
FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system :

1/230/50	1/230V/50Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz

Auxiliary voltage :

230/50-60	230V/50-60Hz
110/50-60	110V/50-60Hz

R	S	300	/P	BLU	TC	FS1	3/230-400/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with two stage operation, fully automatic, made up of:
- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Proportional air/gas valve
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with separated PID control of temperature or pressure
- Microprocessor-based burner safety control box, with diagnostic functions
- Ionization probe for flame detector
- Star/triangle starter for the fan motor (version with motor electrical power 7,5 kW)
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level.

Standard equipment:
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
			NATURAL GAS			
		(kW)	(Nm^3/h)	(kW)		
3898310	RS 300/P BLU TC FS1 3/230-400/50 230/50-60	700/1350-3800	70/135-380	6	CE 0085B00341	
20006127	RS 300/P BLU TC FS1 3/220-380/60 220/50-60	700/1350-3800	70/135-380	6	-	
3898412	RS 400/P BLU TC FS1 3/400/50 230/50-60	1000/1800-4500	100/180-450	9	CE 0085B00341	
20006130	RS 400/P BLU TC FS1 3/380/60 220/50-60	1000/1800-4500	100/180-450	9	-	

Natural gas, net calorific value: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3
The burners of RS/P BLU series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) EC Directives.

Gas Trains

COMPOSED GAS TRAIN

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		SEAL CONTROL	NOTE
		BURNER (type)	ADAPTER (code)		
3970215	VGD 50	RS 300/P RS 400/P	3000826	3010367	(1) (2)
3970212	VGDF 65	RS 300/P RS 400/P	3010221 or 3010369**	3010367	(1) (2)
3970213	VGDF 80	RS 300/P RS 400/P	3010222	3010367	(1) (2)
3970214	VGDF 100	RS 300/P RS 400/P	3010223 or 3010370**	3010367	(1) (2)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
** See adapter length on “Gas trains accessories” paragraph.
(1) Seal control to be ordered separately - see “Gas trains accessories” section.
(2) Adapter is necessary when the gas train has to be installed to the left of the burner to allow maintenance, or if is necessary to space out the gas train from burner.
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the RS/P BLU series of burners requires a regulator.

BURNER	REGULATOR TYPE		REGULATOR CODE
▶ RS 300-400/P BLU	RWF 40	Basic version with 3 position output	3010356
▶ RS 300-400/P BLU	RWF 40	High version with additional modulating output and RS 485 Interface	3010357

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ RS 300-400/P BLU	Temperature PT 100	-100 ÷ 500°C	3010110
▶ RS 300-400/P BLU	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ RS 300-400/P BLU	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Analogic control signal converter

BURNER	TYPE (INPUT SIGNAL)	CODE
▶ RS 300-400/P BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010390

Potentiometer

BURNER	CODE
▶ RS 300-400/P BLU	3010393

It is necessary for analog control signal converter operation.

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ RS 300-400/P BLU	3010094

Burner accessories

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner.

BURNER	KIT CODE
▶ RS 300-400/P BLU	3010445

UV cell kit

A UV cell is avaliable for the supervision of the flame alternatively to ionization probe for special applications.

BURNER	KIT CODE
▶ RS 300-400/P BLU	3010359

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RS 300-400/P BLU	3002719

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RS 300-400/P BLU	C7	10	3010376

(*) according to EN 15036-1 standard

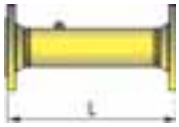
Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 300-400/P BLU	180	20008903

Gas train accessories

Adapters



Adapter is necessary when the gas train has to be installed to the left of the burner to allow maintenance, or if is necessary to space out the gas train from burner.

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS	L mm	ADAPTER CODE
▶ RS 300-400/P BLU	VGD 50*	I	2" DN 80	300	3000826
	VGDF 65*	I	DN 65 DN 80	400	3010221
	VGDF 65*	I	DN 65 DN 80	10	3010369
	VGDF 80*	I	DN 80 DN 80	400	3010222
	VGDF 100*	I	DN 100 DN 80	400	3010223
	VGDF 100*	I	DN 100 DN 80	50	3010370

* with and without seal control

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available.

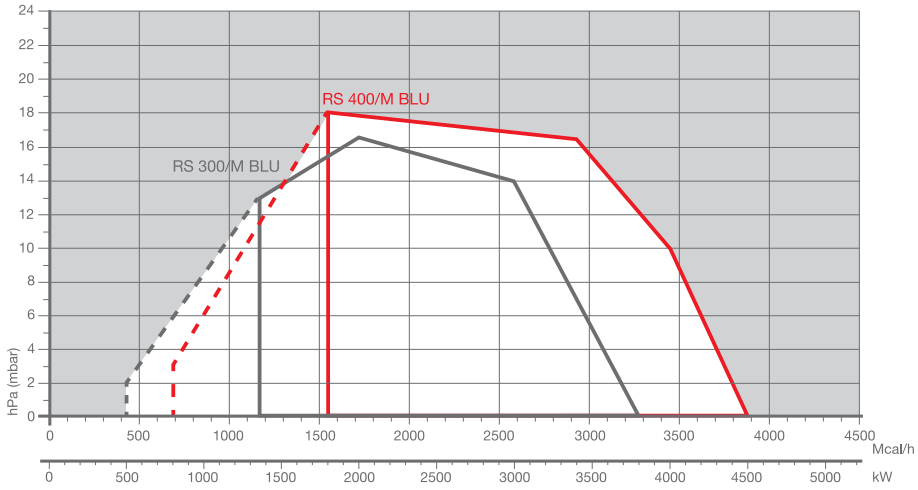
BURNER	KIT CODE
▶ RS 300-400/P BLU	3010367

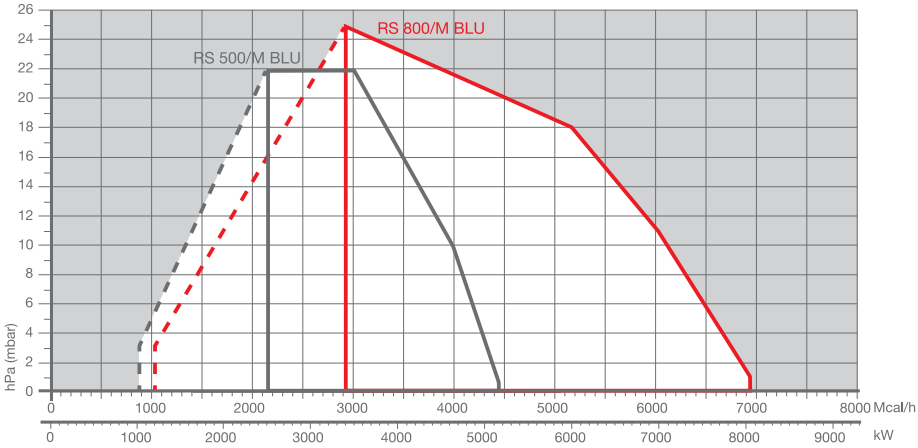
RS 300÷800/M BLU SERIES

The RS 300-400-500-800/M BLU burners are characterised by a monoblock structure which means that all necessary components are combined in a single unit, making installation easier and faster. The burners cover a firing range from 1350 to 8100 kW, and it have been designed for use in hot water boilers or industrial steam generators.
Operation can be “two stage progressive” or alternatively “modulating” with the installation of a PID logic regulator or by external 4-20 mA/0-10 V signal.
The mechanical cam device of regulation allows to catch up a high modulation ratio on all firing rates range. The burners can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.
The combustion head, engineered with advanced simulation devices, guarantees reduced polluting emissions (NOx < 80 mg/kWh).
FS1 and FS2 versions are available for intermittent and continuous operation applications.
An exclusive design, with reverse blade fan, guarantees low sound emissions, low electrical consumption, easy use and maintenance.

RS 300/M BLU	500/1350 ÷ 3800 kW
RS 400/M BLU	950/1830 ÷ 4590 kW
RS 500/M BLU	1000/2500 ÷ 5170 kW
RS 800/M BLU	1200/3500 ÷ 8100 kW

FIRING RATES





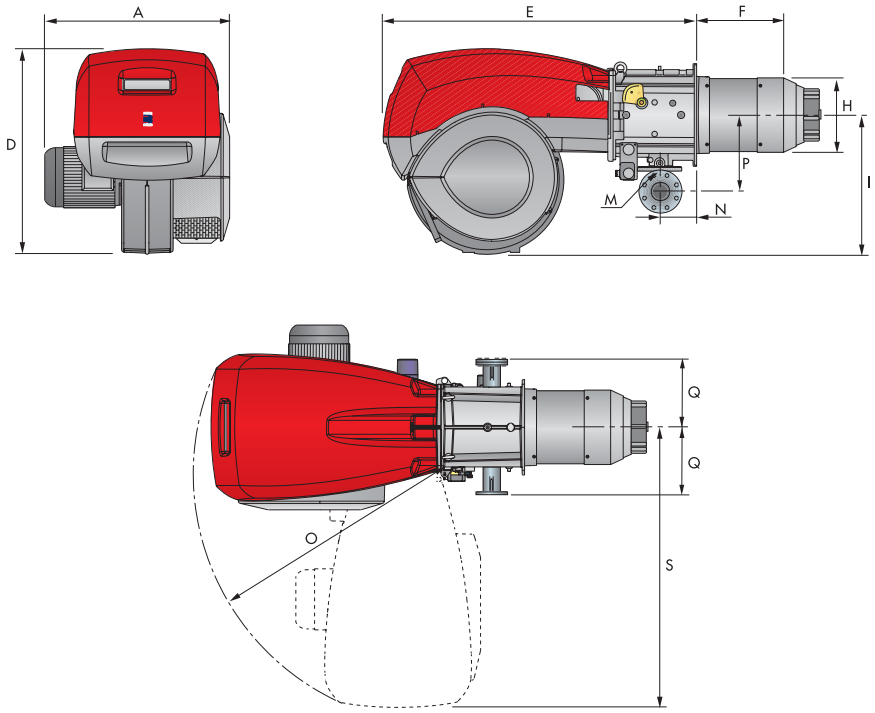
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

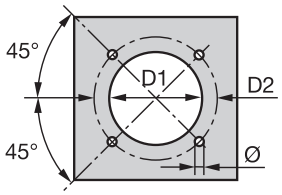
Overall dimensions (mm)

BURNER



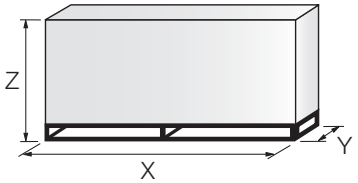
MODEL	A	D	E	F	H	I	M	N	O	P	Q	S
▶ RS 300/M BLU	720	867	1325	373	313	588	DN80	164	1055	342	320	1175
▶ RS 400/M BLU	775	867	1325	373	313	588	DN80	164	1055	342	320	1175
▶ RS 500/M BLU	775	867	1325	357	370	588	DN80	164	1055	342	320	1175
▶ RS 800/M BLU	940	867	1325	418	363	588	DN80	164	1055	427	320	1175

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 300/M BLU	350	452	M18
▶ RS 400/M BLU	350	452	M18
▶ RS 500/M BLU	400	452	M18
▶ RS 800/M BLU	400	495	M18

PACKAGING



MODEL	X	Y	Z	kg
▶ RS 300/M BLU	1960	970	940	225
▶ RS 400/M BLU	1960	970	940	236
▶ RS 500/M BLU	1960	970	940	250
▶ RS 800/M BLU	2035	1195	1090	300

Specification

DESIGNATION OF SERIES

Series: R

Fuel:	S	Natural Gas
	L	Light oil
	LS	Light oil/Natural Gas
	N	Heavy oil

Size

Setting :	/1	Single stage
	/B	Two stage
	/M	Modulating - Mechanical cam
	/P	Proportioning air/gas valve
	/E	Electronic cam
	/EV	Electronic cam predisposed for variable speed (with inverter)

Emission :	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 2 EN267 Class 3 EN676

Head length:	TC	standard head
	TL	extended head

Flame control system:	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system:	
1/230/50	1/230V/50Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220/60Hz - 3N/380V/60Hz

Auxiliary voltage:	230/50-60	230V/50-60Hz
	110/50-60	110V/50-60Hz

R	S	500	/M	BLU	TC	FS1	3/230-400/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:
- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50 Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Burner safety control box for controlling the system safety (RMG/M for FS1 intermittent operation - LGK16 for FS2 continuous operation)
- Ionisation probe for flame detection
- Star/triangle starter for the fan motor (burners with motor electrical power ≥ 7,5 kW)
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level
- Tee gas supply connector DN 80 for gas train connection (RS 300-400-500 models).

Standard equipment:
- 1 flange gasket
- 8 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Curve DN 80 for gas train connection (RS 800 model)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3899410	RS 300/M BLU TC FS1 3/230-400/50 230/50-60	500/1350-3800	50/135-380	6	CE 0085BR0480	
20008428	RS 300/M BLU TC FS1 3/220-380/60 220/50-60	500/1350-3800	50/135-380	6	-	
3899510	RS 400/M BLU TC FS1 3/400/50 230/50-60	950/1830-4590	95/183-459	9	CE 0085BR0481	
20008404	RS 400/M BLU TC FS1 3/380/60 220/50-60	950/1830-4590	95/183-459	9	-	
3899110	RS 500/M BLU TC FS1 3/400/50 230/50-60	1000/2500-5170	100/250-517	11	CE 0085BO0341	
3899115	RS 500/M BLU TC FS2 3/400/50 230/50-60	1000/2500-5170	100/250-517	11	CE 0085BO0341	
20006131	RS 500/M BLU TC FS1 3/380/60 220/50-60	1000/2500-5170	100/250-517	11	-	
3911010	RS 800/M BLU TC FS1 3/400/50 230/50-60	1200/3500-8100	120/350-810	24	CE 0085BT0337	
3911050	RS 800/M BLU TC FS2 3/400/50 230/50-60	1200/3500-8100	120/350-810	24	CE 0085BT0337	
20008894	RS 800/M BLU TC FS1 3/380/60 220/50-60	1200/3500-8100	120/350-810	26	-	

Natural gas, net calorific value: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3
The burners of RS/M BLU series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) EC Directives.

Gas Trains

COMPOSED GAS TRAINS MULTIBLOC

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	ADAPTER (code)	NOTE
3970221	MBC 1200 SE 50	RS 300-400/M BLU	3000826	(1)
3970225	MBC 1200 SE 50 CT	RS 300-400/M BLU	3000826	(2)
3970222	MBC 1900 SE 65 FC	RS 300-400-500-800/M BLU	3010221	(1)
3970226	MBC 1900 SE 65 FC CT	RS 300-400-500-800/M BLU	3010221	(2)
3970223	MBC 3100 SE 80 FC	RS 300-400-500-800/M BLU	3010222	(1)
3970227	MBC 3100 SE 80 FC CT	RS 300-400-500-800/M BLU	3010222	(2)
3970224	MBC 5000 SE 100 FC	RS 300-400-500-800/M BLU	3010223	(1)
3970228	MBC 5000 SE 100 FC CT	RS 300-400-500-800/M BLU	3010223	(2)

* gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) without seal control
(2) seal control included
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Accessories for modulating operation

POWER CONTROLLER

To obtain modulating operation, the RS/M BLU series of burners requires a regulator with three point outlet controls. The following table lists the accessories for modulating operation with their application range.

BURNER	TYPE	CODE
▶ RS 300-400-500-800/M BLU	RWF 40 - Basic version with 3 position output	3010356
	RWF 40 - High version with additional modulating output and RS 485 Interface	3010357

PROBE

The relative temperature or pressure probes fitted to the power controller must be chosen on the basis of the application.

BURNER	TYPE	RANGE (°C) (bar)	CODE
▶ RS 300-400-500-800/M BLU	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

ANALOG CONTROL SIGNAL CONVERTER

BURNER	TYPE (INPUT SIGNAL)	CODE
▶ RS 300-400-500-800/M BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010390

POTENTIOMETER

BURNER	KIT CODE
▶ RS 300-400-500-800/M BLU	3010402

It is necessary for analogic control signal converter operation.

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table:

BURNER	KIT CODE
▶ RS 300-400-500-800/M BLU	3010094

Burner accessories

UV cell kit

A UV cell is available for the supervision of the flame alternatively to ionisation probe for special applications.

BURNER	KIT CODE
▶ RS 300-400-500-800/M BLU	3010359

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RS 300-400-500-800/M BLU	3002719

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available, as given in the following table:

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)](*)	BOX CODE
▶ RS 300-400-500-800/M BLU	C7	10	3010376

(*) according to EN 15036-1 standard

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head of the burner.

BURNER	CODE
▶ RS 300-400-500/M BLU	3010445 (*)
▶ RS 800/M BLU	20007822

(*) approval in progress.

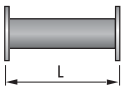
Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 300-400-500-800/M BLU	180	20008903

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the adapters than can be fitted on the various burners:

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS	L mm	ADAPTER CODE
▶ RS 300-400-500-800/M BLU	MBC 1200 SE 50*	I	2" DN 80	300	3000826
	MBC 1900 SE 65 FC*	I	DN 65 DN 80	400	3010221
	MBC 1900 SE 65 FC*	I	DN 65 DN 80	10	3010369
	MBC 3100 SE 80 FC*	I	DN 80 DN 80	400	3010222
	MBC 5000 SE 100 FC*	I	DN 100 DN 80	400	3010223
	MBC 5000 SE 100 FC*	I	DN 100 DN 80	50	3010370

* with and without seal control

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING	SPRING CODE
MBC 1900 SE 65 FC (CT)* ▶ MBC 3100 SE 80 FC (CT)* MBC 5000 SE 100 FC (CT)*	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

* with and without seal control

Seal control

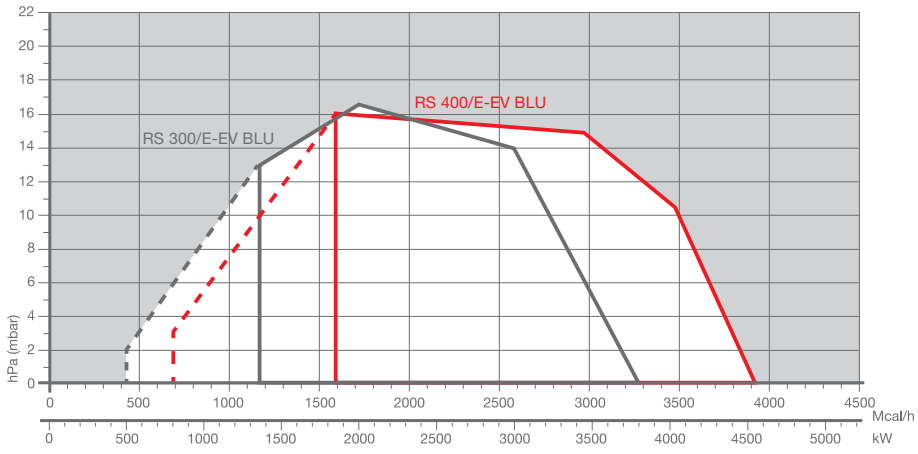
BURNER	CODE
▶ RS 300-400-500-800/M BLU	3010125

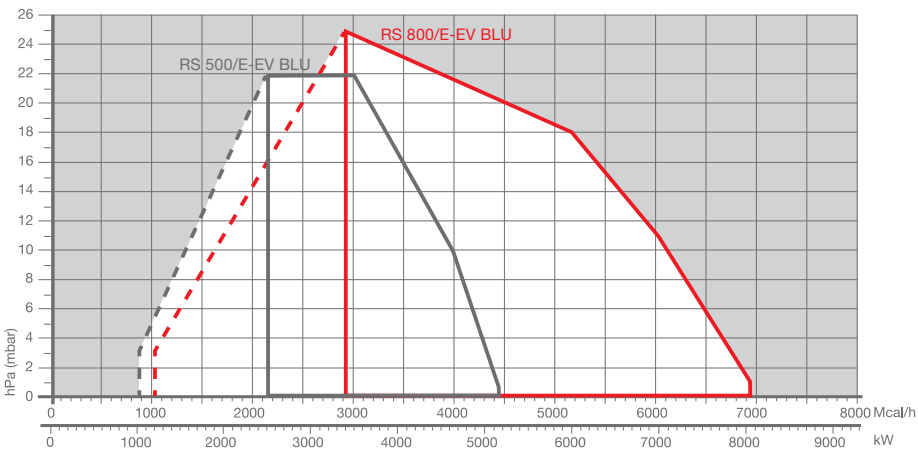
RS 300÷800/E-EV BLU SERIES

The RS/E and RS/EV series burners are characterised by a modular monoblock structure that means all necessary components can be combined in a single unit thus making installation easier, faster and, above all, more flexible.
The series covers a firing range from 1350 to 8100 kW, and they have been designed for use in hot water boilers or industrial steam generators.
Operation can be “two stage progressive” or alternatively “modulating” with the installation of a PID logic regulator on the RS/E series burners while RS/EV series is fully “modulating”.
The mechanisms of regulation allow to catch up a high modulation ratio on all firing rates range.
The burner can, therefore, supply with precision the demanded power, guaranteeing an high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.
The burner operation can be intermittent or continuous by menu setting.
The innovative combustion head, adjustment system ensures perfect movement during modulation as well as reducing noise and pollutants.

RS 300/E BLU	500/1350 ÷ 3800 kW
RS 400/E BLU	800/1840 ÷ 4550 kW
RS 500/E BLU	1000/2500 ÷ 5170 kW
RS 800/E BLU	1200/3500 ÷ 8100 kW
RS 300/EV BLU	500/1350 ÷ 3800 kW
RS 400/EV BLU	800/1840 ÷ 4550 kW
RS 500/EV BLU	1000/2500 ÷ 5170 kW
RS 800/EV BLU	1200/3500 ÷ 8100 kW

FIRING RATES





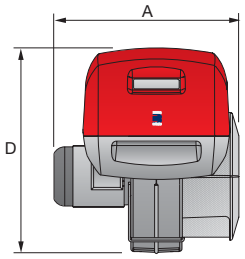
Useful working field for choosing the burner

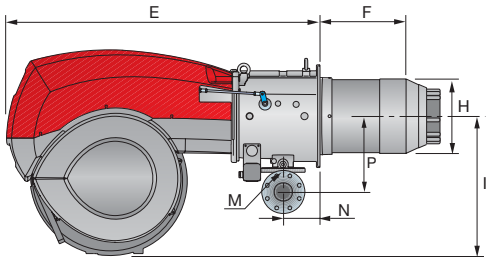
Modulation range

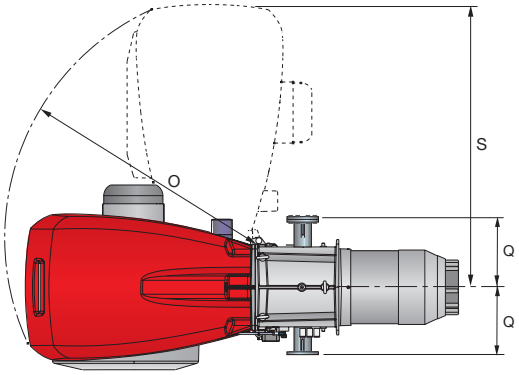
Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

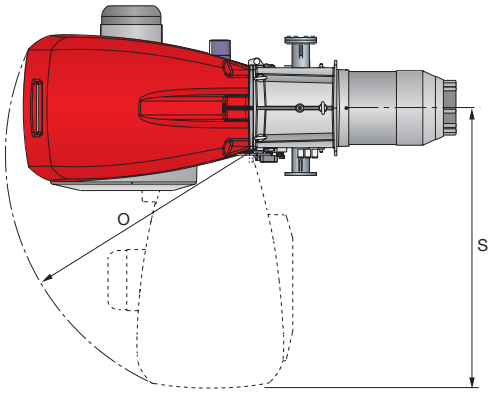
Overall dimensions (mm)

BURNER



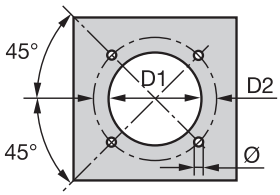






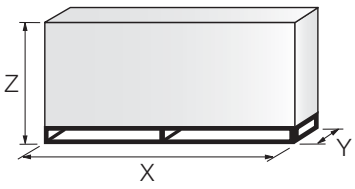
MODEL	A	D	E	F	H	I	M	N	O	P	Q	S
▶ RS 300/E-EV BLU	720	867	1325	373	313	588	DN80	164	1055	342	320	1175
▶ RS 400/E-EV BLU	775	867	1325	373	313	588	DN80	164	1055	342	320	1175
▶ RS 500/E-EV BLU	775	867	1325	357	370	588	DN80	164	1055	342	320	1175
▶ RS 800/E-EV BLU	940	867	1325	418	363	588	DN80	164	1055	427	320	1175

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 300/E-EV BLU	350	452	M18
▶ RS 400/E-EV BLU	350	452	M18
▶ RS 500/E-EV BLU	400	452	M18
▶ RS 800/E-EV BLU	400	495	M18

PACKAGING



MODEL	X	Y	Z	kg
▶ RS 300/E-EV BLU	1960	970	940	230
▶ RS 400/E-EV BLU	1960	970	940	240
▶ RS 500/E-EV BLU	1960	970	940	250
▶ RS 800/E-EV BLU	2035	1195	1090	300

Specification

DESIGNATION OF SERIES

Series: R

Fuel:	S	Natural Gas
	L	Light oil
	LS	Light oil/Natural Gas
	N	Heavy oil

Size

Setting :	/1	Single stage
	/B	Two stage
	/M	Modulating - Mechanical cam
	/E	Electronic cam
	/P	Proportioning air/gas valve
	/EV	Electronic cam predisposed for variable speed (with inverter)

Emission :	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 2 EN267 Class 3 EN676

Head length:	TC	standard head
	TL	extended head

Flame control system:	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system:	
1/230/50	1/230V/50Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220/60Hz - 3N/380V/60Hz

Auxiliary voltage:	230/50-60	230V/50-60Hz
	110/50-60	110V/50-60Hz

R	S	300	/E	BLU	TC	FS2	3/230-400/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:
- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission mobile combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with separated PID control of temperature or pressure, available as accessory for RS/E BLU model
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator (RS/EV BLU)
- Burner safety control box for controlling the system safety
- Ionization probe for flame detector
- Star/triangle starter for the fan motor (burners with motor electrical power > = 7,5 kW, RS/E)
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level
- Tee gas supply connector DN 80 for gas train connection (RS 300-400-500 models)

Standard equipment:
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Seal control
- Seal control pressure switch (for installation on gas train)
- Curve DN 80 for gas train connection (RS 800 model)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3898330	RS 300/E BLU TC FS1 3/230-400/50 230/50-60	500/1350÷3800	50/135÷380	6	CE 0085BO0341	(1)
3898432	RS 400/E BLU TC FS1 3/400/50 230/50-60	800/1840÷4550	80/184÷455	9	CE 0085BO0341	(1)
3899130	RS 500/E BLU TC FS1 3/400/50 230/50-60	1000/2500÷5170	100/250÷517	10,5	CE 0085BO0341	(1)
3911030	RS 800/E BLU TC FS1/FS2 3/400/50 230/50-60	1200/3500÷8100	120/350÷810	25	in progress	(1)
3898350	RS 300/EV BLU TC FS1 3/230-400/50 230/50-60	500/1350÷3800	50/135÷380	6	CE 0085BO0341	(1)
3898452	RS 400/EV BLU TC FS1 3/400/50 230/50-60	800/1840÷4550	80/184÷455	9	CE 0085BO0341	(1)
3899152	RS 500/EV BLU TC FS1 3/400/50 230/50-60	1000/2500÷5170	100/250÷517	10,5	in progress	(1)
3911090	RS 800/EV BLU TC FS1/FS2 3/400/50 230/50-60	1200/3500÷8100	120/350÷810	25	in progress	(1)

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³
The burners of RS/E-EV BLU series are in according to 90/396 - 89/336 - 73/23 EEC Directives.

(1) - The burners are factory set for FS1 operation (1 stop every 24 h) but they can be switched to FS2 operation (continuous - 1 stop every 72 h) by changing the parameters through the AZL unit menu.

Gas Trains

COMPOSED GAS TRAINS | MULTIBLOC

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	ADAPTER (code)	NOTE
3970221	MBC 1200 SE 50	RS 300/E-EV BLU	3000826	(1)
		RS 400/E-EV BLU		
3970222	MBC 1900 SE 65 FC	RS 300/E-EV BLU	3010221	(1)
		RS 400/E-EV BLU		
		RS 500/E-EV BLU		
		RS 800/E-EV BLU		
3970223	MBC 3100 SE 80 FC	RS 300/E-EV BLU	3010222	(1)
		RS 400/E-EV BLU		
		RS 500/E-EV BLU		
		RS 800/E-EV BLU		
3970224	MBC 5000 SE 100 FC	RS 300/E-EV BLU	3010223	(1)
		RS 400/E-EV BLU		
		RS 500/E-EV BLU		
		RS 800/E-EV BLU		

* gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) The seal control is managed by the control box LMV 51.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Variable Speed Drive (VSD) for RS/EV series only

The motor speed variation for the RS/EV BLU burners series is obtained thanks to a frequency converter: variable speed drive (VSD). It always must be ordered with RS/EV series.

BURNER	KIT CODE
▶ RS 300-400/EV BLU	3010379
▶ RS 500/EV BLU	3010455
▶ RS 800/EV BLU	3010468

Accessories for modulating operation

To obtain modulating operation, the RS/E BLU series of burners requires a regulator with three point outlet controls. The following table lists the accessories for modulating operation with their application range. In RS/EV models PID regulator is integrated inside LMV 52 control box.

BURNER	POWER CONTROLLER TYPE	CODE
▶ All models	RWF 40 - Basic version with 3 position output	3010356
	RWF 40 - High version with additional modulating output and RS 485 Interface	3010357

The relative temperature or pressure probes fitted to the regulator must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	CODE
▶ All models	Temperature PT 100	-100 ÷ 500°C	3010110
	Temperature PT 100 Ni1000	0-100 ÷ 500°C	3010377
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Display and Operating Unit (AZL) for RS/E models

This tool is needed for combustion system commissioning and monitoring.
The AZL is included in RS/EV models.

BURNER	KIT CODE
▶ RS 300-400-500-800/E BLU	3010355
▶ All models *	3010469

* for Russian language only

Burner accessories

Infrared Flame Detector (IFD)

For the supervision of gas, oil or other flame that emit infrared radiation, the RS/E-EV BLU series of burners can be equipped with infrared flame detector.
The infrared flame detector are suited for burners of any capacity, either in continuous or intermittent operation.

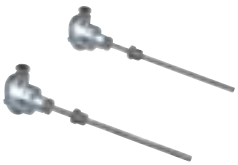
BURNER	CODE
▶ All models	3010354

Oxygen Control kit (QGO_2) for RS/EV series only

The QGO_2 is an oxygen analizer with relevant probe which controls and supervises the residual oxygen content in exhaust gases.

BURNER	KIT CODE
▶ RS 300-400-500-800/EV BLU	3010378

Kit efficiency with oxygen control kit (for RS/EV only)



The kit includes two temperature sensors: one for air and one for exhaust gas detection. They must be wired to oxygen control kit interface to allow the LMV 52 efficiency calculation. The value is showed on AZL display.

BURNER	KIT CODE
▶ RS 300-400-500-800/EV BLU	3010377

PC Interface Software (ACS 450)

PC tool for convenient programming and burner settings, process visualization, data recording, selection of AZL language, software update AZL.

BURNER	CODE
▶ All models	3010388

Burner accessories

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available, as given in the following table:

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)](*)	BOX CODE
▶ All models	C7	10	3010376

(*) according to EN 15036-1 standard

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head of the burner.

BURNER	KIT CODE
▶ RS 300-400-500/E-EV BLU	3010445 (*)
▶ RS 800/E-EV BLU	20007822

(*) approval in progress.

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table:

BURNER	KIT CODE
▶ All models	3010094

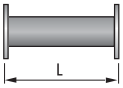
Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ All models	180	20008903

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the adapters than can be fitted on the various burners:

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS	L mm	ADAPTER CODE
▶ All models	MBC 1200 SE 50*	I	2" DN 80	300	3000826
	MBC 1900 SE 65 FC*	I	DN 65 DN 80	400	3010221
	MBC 1900 SE 65 FC*	I	DN 65 DN 80	10	3010369
	MBC 3100 SE 80 FC*	I	DN 80 DN 80	400	3010222
	MBC 5000 SE 100 FC*	I	DN 100 DN 80	400	3010223
	MBC 5000 SE 100 FC*	I	DN 100 DN 80	50	3010370

* with and without seal control

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

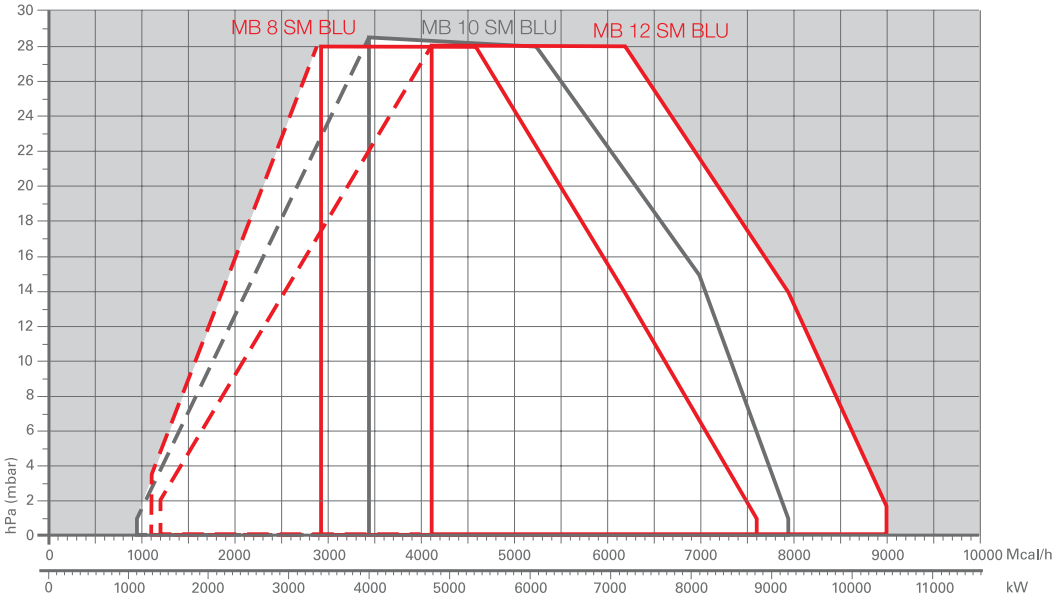
GAS TRAIN	SPRING	SPRING CODE
MBC 1900 SE 65 FC ▶ MBC 3100 SE 80 FC MBC 5000 SE 100 FC	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

MODUBLOC MB SM BLU SERIES

The MODUBLOC MB SM BLU series is characterised by a monoblock structure which means that all necessary components are combined in a single unit, making installation easier and faster.
The series covers a firing range from 3450 to 10400 kW, and it has been designed for use in hot water boilers or industrial steam generators.
Operation can be “two stage progressive” o alternatively “modulating” with the installation of a PID logic regulator or by external 4-20 mA/0-10 V signal.
The mechanical cam device of regulation allows to catch up a high modulation ratio on all firing rates range.
The burner can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.
The combustion head, engineered with advanced simulation devices, guarantees reduced polluting emissions.
An exclusive design, with fan unit fitted in axis with the combustion head, guarantees low sound emissions, easy use and maintenance.

MB 8 SM BLU	1300/3450	÷	8300 kW
MB 10 SM BLU	1100/4068	÷	9200 kW
MB 12 SM BLU	1500/4800	÷	10400 kW

FIRING RATES



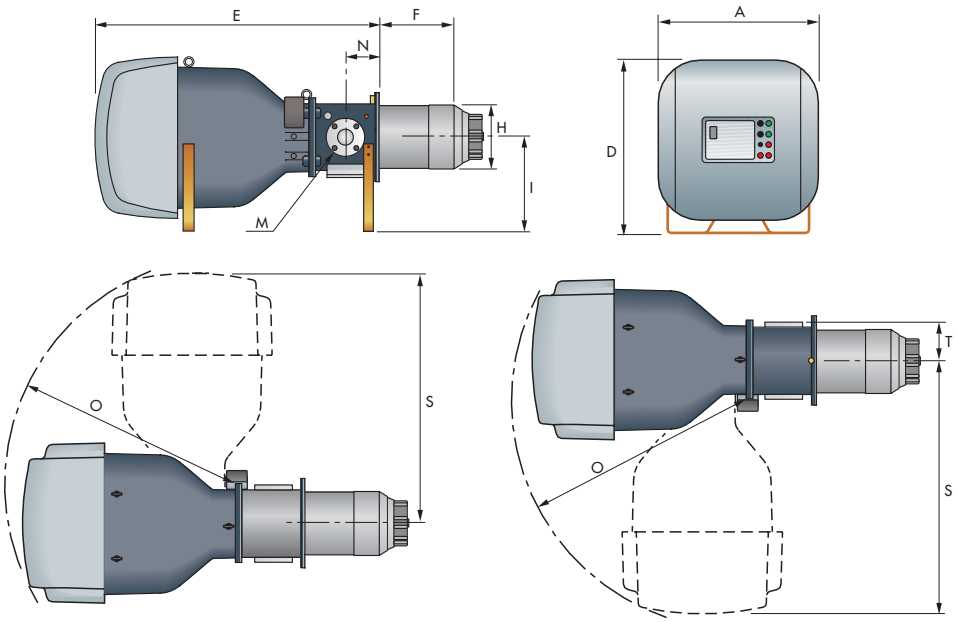
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

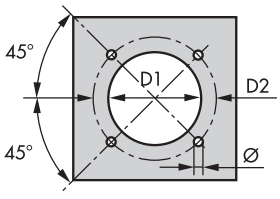
Overall dimensions (mm)

BURNER



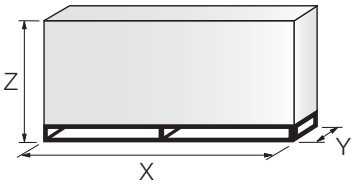
MODEL	A	D	E	F	H	I	M	N	O	S	T
▶ MB 8 SM BLU	1007	1079	1900	475	413	575	DN80	208	1570	1740	221
▶ MB 10 SM BLU	1007	1079	1900	475	413	575	DN80	208	1570	1740	221
▶ MB 12 SM BLU	1007	1079	1900	454	456	575	DN80	208	1570	1740	221

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ MB 8 SM BLU	418	608	M20
▶ MB 10 SM BLU	418	608	M20
▶ MB 12 SM BLU	470	608	M20

PACKAGING



MODEL	X	Y	Z	kg
▶ MB 8 SM BLU	2690	1170	1350	450
▶ MB 10 SM BLU	2690	1170	1350	450
▶ MB 12 SM BLU	2690	1170	1350	460

Specification

DESIGNATION OF SERIES

Series : MB			
Size			
Fuel :	S	Natural gas	
	L	Light oil	
	LS	Light oil / Methane	
Operation :	M	Mechanic cam	
	E	Electronic cam	
	V	Variable speed (with Inverter)	
	P	Proportioning gas valve with air/gas ratio controller	
Emission :	...	Class 1 EN267 - EN676	
	MZ	Class 2 EN267 - EN676	
	BLU	Class 3 EN267 - EN676	
	MX	Class 2 EN267 Class 3 EN676	
Head :	TC	Standard head	
	TL	Extended head	
Flame control system :	FS1	Standard (1 stop every 24 h)	
Electrical supply to the system :	3/400/50	3N/400V/50Hz	
	3/230/50	3/230V/50Hz	
Auxiliary voltage :	230/50-60	230V/50-60Hz	
	110/50-60	110V/50-60Hz	

MB	8	S	M	BLU	TC	FS1	3/400/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:
- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator
- Burner safety control box for controlling the system safety
- Photocell for flame detection
- Star/triangle starter for the fan motor
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 1 flange gasket
- 8 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
					(kW)	(kg/H)	(kW)		
3897960	MB 8SM BLU	TC	FS1	3/400/50	1300/3450-8300	110/291-700	19	CE 0085 BR0215	
3897965	MB 8SM BLU	TC	FS2	3/400/50	1300/3450-8300	110/291-700	19	CE 0085 BR0215	
3896660	MB10SM BLU	TC	FS1	3/400/50	1100/4068-9200	93/343-776	22	CE 0085 BR0216	
3896665	MB10SM BLU	TC	FS2	3/400/50	1100/4068-9200	93/343-776	22	CE 0085 BR0216	
3896760	MB12SM BLU	TC	FS1	3/400/50	1500/4800-10400	126/405-877	27	CE 0085 BR0217	
3896765	MB12SM BLU	TC	FS2	3/400/50	1500/4800-10400	126/405-877	27	CE 0085 BR0217	

G20 net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³
The burners of MB SM BLU series are produced according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 676 Norm.

Gas Trains

COMPOSED GAS TRAINS MULTIBLOC

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		NOTE
		BURNER (type)	ADAPTER (code)	
3970221	MBC 1200 SE 50	MB 8-10-12 SM BLU	3000826 (I)	(2)
3970225	MBC 1200 SE 50 CT	MB 8-10-12 SM BLU	3000826 (I)	(1)
3970222	MBC 1900 SE 65 FC	MB 8-10-12 SM BLU	3010221 (I) - 3010225 (Z)	(2)
3970226	MBC 1900 SE 65 FC CT	MB 8-10-12 SM BLU	3010221 (I) - 3010225 (Z)	(1)
3970223	MBC 3100 SE 80 FC	MB 8-10-12 SM BLU	3010222 (I) - 3010226 (Z)	(2)
3970227	MBC 3100 SE 80 FC CT	MB 8-10-12 SM BLU	3010222 (I) - 3010226 (Z)	(1)
3970224	MBC 5000 SE 100 FC	MB 10-12 SM BLU	3010223 (I) - 3010227 (Z)	(2)
3970228	MBC 5000 SE 100 FC CT	MB 10-12 SM BLU	3010223 (I) - 3010227 (Z)	(1)

* gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) seal control incorporated
(2) seal control to be ordered as accessory

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the MB series requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ MB 8 - 10 - 12 SM BLU	RWF 40 Basic	3010356
▶ MB 8 - 10 - 12 SM BLU	RWF 40 High	3010357

NOTE: RWF 40 HIGH version with RS435 serial interface.

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ MB 8 - 10 - 12 SM BLU	Temperature	0 ÷ 500°C	3010110
▶ MB 8 - 10 - 12 SM BLU	Pressure	0 ÷ 2,5 bar	3010213
▶ MB 8 - 10 - 12 SM BLU	Pressure	0 ÷ 16 bar	3010214

Analogic control signal converter

BURNER	TYPE (INPUT SIGNAL)	CODE
▶ MB 8 - 10 - 12 SM BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010390

Potentiometer

BURNER	CODE
▶ MB 8 - 10 - 12 SM BLU	3010021

It is necessary for analog control signal converter operation.

Burner support

For easier maintenance, a mobile burner support has been designed.

BURNER	SUPPORT CODE
▶ MB 8 - 10 - 12 SM BLU	3010385

Burner accessories

Sound proofing box

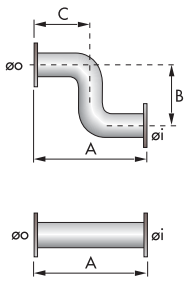
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ MB 8 - 10 - 12 SM BLU	10	3010401

(*) according to EN 15036-1 standard

Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS Øi DN	Øo DN	A mm	B mm	C mm	ADAPTER CODE
▶ MB 8-10 SM BLU	MBC 1200 SE 50 (CT)*	I	2"(1)	80	--	--	--	3000826
▶ MB 8-10-12 SM BLU	MBC 1900 SE 65 FC (CT)*	I	65	80	320	--	--	3010221
▶ MB 8-10-12 SM BLU	MBC 3100 SE 80 FC (CT)*	I	80	80	320	--	--	3010222
▶ MB 10-12 SM BLU	MBC 5000 SE 100 FC (CT)*	I	100	80	320	--	--	3010223
▶ MB 8-10-12 SM BLU	MBC 1900 SE 65 FC (CT)*	Z	65	80	400	480	225	3010225
▶ MB 8-10-12 SM BLU	MBC 3100 SE 80 FC (CT)*	Z	80	80	400	480	225	3010226
▶ MB 10-12 SM BLU	MBC 5000 SE 100 FC (CT)*	Z	100	80	400	480	225	3010227

* with and without seal control
(1) Unless flange

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

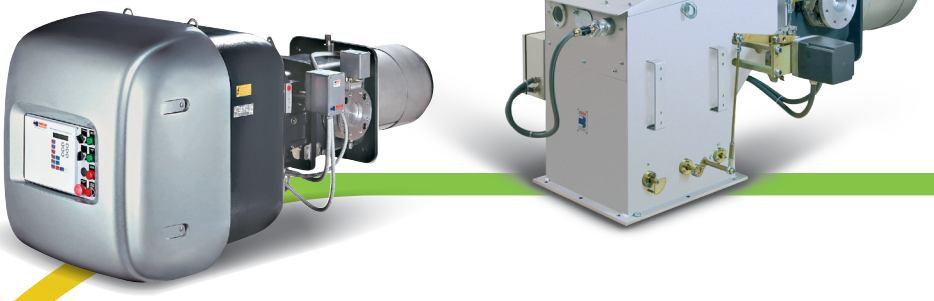
GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 SE 65 FC (CT)* ▶ MBC 3100 SE 80 FC (CT)* ▶ MBC 5000 SE 100 FC (CT)*	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

* with and without seal control

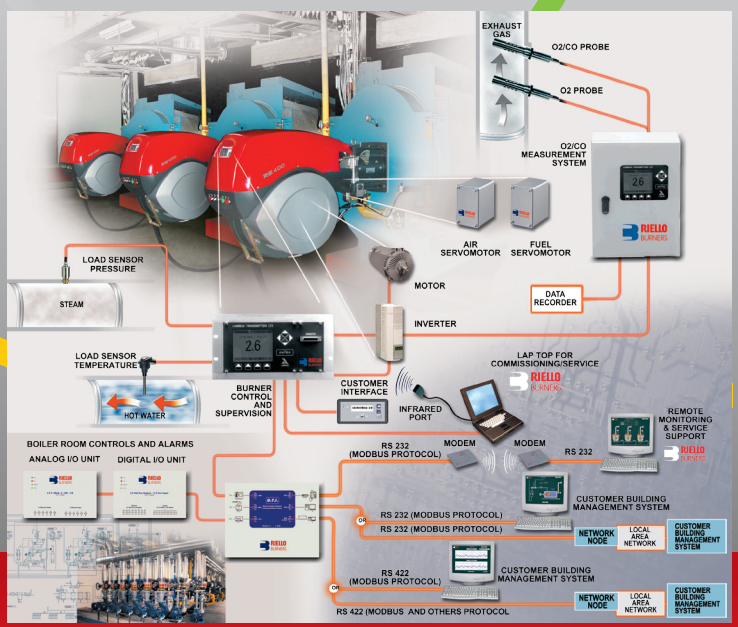
Seal control

BURNER	GAS TRAIN	CODE
▶ All models	All models	3010123

Combustion control systems



- Easy installation
- Small overall dimensions
- Indipendence from external air thanks to CO control
- Easy setting of lowest air excess with constant value on all firing rates thanks to the exhaust gas analyser
- Energy saving
- Noise reduction
- Polluting emissions reduction
- Total safety during operation



In addition to the solutions already available as standard, Riello Burners is able to supply on demand other burners, in the commercial and industrial range, equipped with continuous control of O2, CO and smoke temperature.
These devices, integrated into the burners, guarantee an excellent operation with a very low air excess, granting remarkable fuel savings and less waste gases production, all within total safety during the operation.

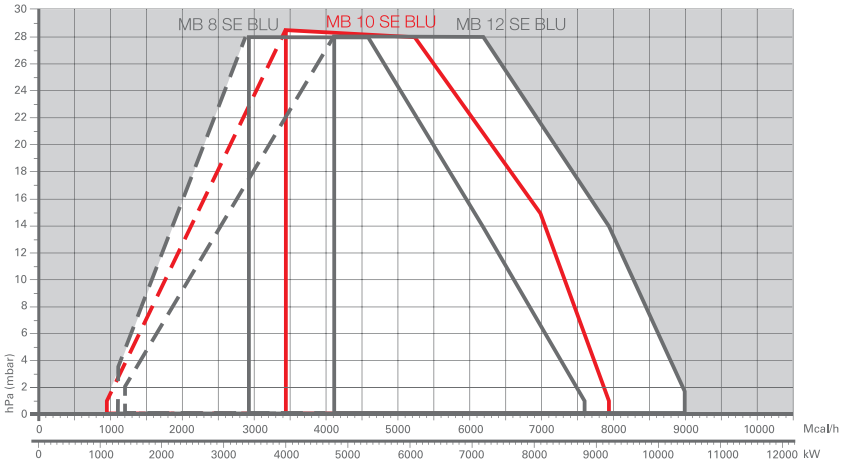
RIELLO BURNERS

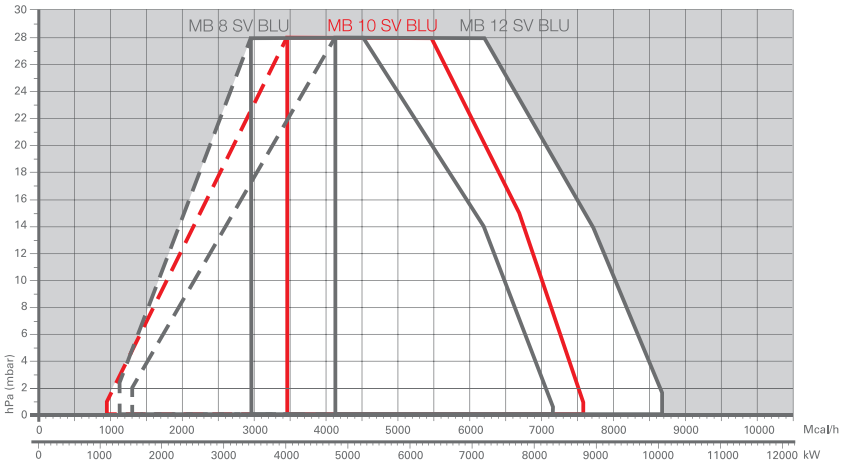
MODUBLOC MB SE-SV BLU SERIES

The MODUBLOC MB SE BLU and MB SV BLU series of burners are characterised by a monoblock structure that means all necessary components can be combined in a single unit, making installation easier and faster.
The series covers a firing range from 3450 to 10400 kW, and they have been designed for use in hot water boilers or industrial steam generators.
Adjustment is modulating, through an innovative electronic module, which gives control of the air/fuel ratio and PID control of the generator temperature or pressure.
The mechanisms of regulation allow to catch up a high modulation ratio on all firing rates range.
The burner can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.
The combustion head, studied with advanced simulation devices, guarantees reduced polluting emissions.
An exclusive design, with fan unit fitted on line with the combustion head, guarantees low sound emissions, reduced dimensions, easy use and maintenance.

MB 8 SE BLU	1300/3450	÷	8300 kW
MB 10 SE BLU	1100/4068	÷	9200 kW
MB 12 SE BLU	1500/4880	÷	10400 kW
MB 8 SV BLU	1300/3450	÷	8300 kW
MB 10 SV BLU	1100/4000	÷	8800 kW
MB 12 SV BLU	1500/4800	÷	10050 kW

FIRING RATES





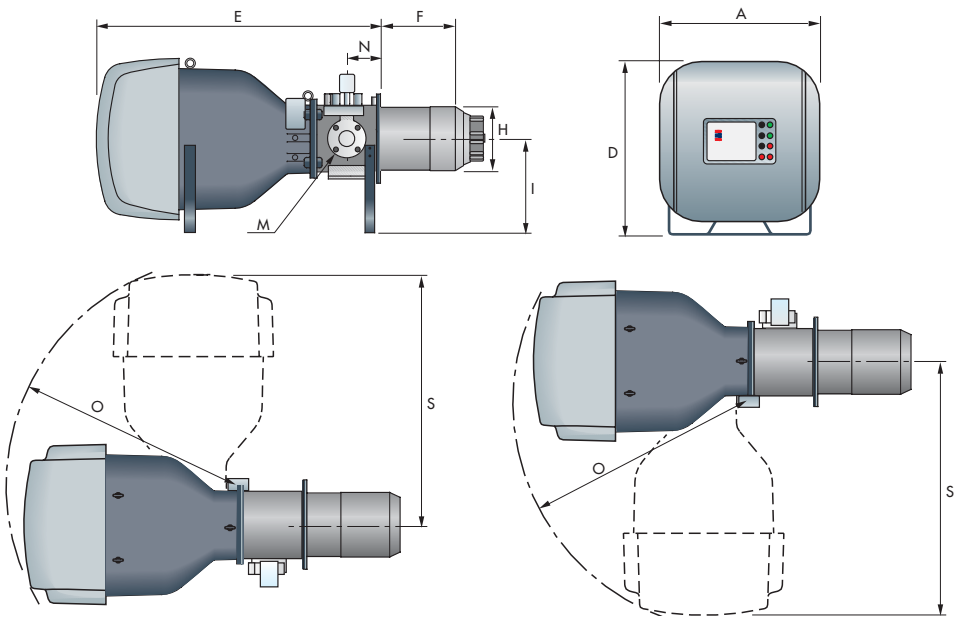
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

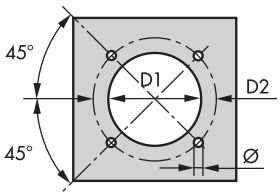
Overall dimensions (mm)

BURNER



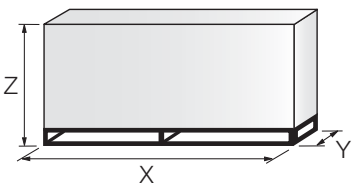
MODEL	A	D	E	F	H	I	M	N	O	S
▶ MB 8 SE-SV BLU	1007	1079	1900	475	413	575	DN80	208	1570	1740
▶ MB 10 SE-SV BLU	1007	1079	1900	475	413	575	DN80	208	1570	1740
▶ MB 12 SE-SV BLU	1007	1079	1900	454	456	575	DN80	208	1570	1740

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ MB 8 SE-SV BLU	418	608	M20
▶ MB 10 SE-SV BLU	418	608	M20
▶ MB 12 SE-SV BLU	470	608	M20

PACKAGING



MODEL	X	Y	Z	kg
▶ MB 8 SE-SV BLU	2690	1170	1350	450
▶ MB 10 SE-SV BLU	2700	1170	1350	450
▶ MB 12 SE-SV BLU	2700	1170	1390	450

Specification

DESIGNATION OF SERIES

Series : MB

Size

Fuel : S Natural gas
L Light oil
LS Light oil / Natural gas

Operation : E Electronic cam
V Electronic cam and variable speed (with Inverter)
P Proportioning air/gas valve

Emission : ... Class 1 EN267 - EN676
MZ Class 2 EN267 - EN676
BLU Class 3 EN267 - EN676
MX Class 2 EN267, Class 3 EN676

Head : TC Standard head
TL Extended head

Fuel supply : FR from the right
FL from the left

Flame control system :
FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system : 3/400/50 3N/400V/50Hz
3/230/50 3/230V/50Hz

Auxiliary voltage : 230/50-60 230V/50-60Hz
110/50-60 110V/50-60Hz

MB	8	S	E	BLU	TC	FR	FS1	3/400/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:
- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission mobile combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator
- Burner safety control box for controlling the system safety
- Photocell for flame detection
- Star/triangle starter for the fan motor
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP X0D (IP 40) protection level.

Standard equipment:
- 1 flange gasket
- 8 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:
- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting at the minimal modulation controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission mobile combustion head, that can be set on the basis of required output, controlled by a high precision dedicated servomotor, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator
- Burner safety control box for controlling the system safety built-in to the air-fuel ratio controller
- Photocell for flame detection
- Terminal board for main supply and inverter connections
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Safety feed back signal fan speed motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP X0D (IP 40) electric protection level
- 6 fairleads Pg11 for electrical connections.

Standard equipment:
- 1 flange gasket
- 8 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 6 fairleads Pg11 for electrical connections
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm^3/h)	(kW)		
3897900	MB8SE BLU TC FR FS1 3/400/50 230/50-60	900/3330-8400	90/330-840	18	CE 0085 B00175	
3897910	MB8SE BLU TC FR FS2 3/400/50 230/50-60	900/3330-8400	90/330-840	18	CE 0085 B00175	
3897905	MB8SE BLU TC FL FS1 3/400/50 230/50-60	900/3330-8400	90/330-840	18	CE 0085 B00175	
3897915	MB8SE BLU TC FL FS2 3/400/50 230/50-60	900/3330-8400	90/330-840	18	CE 0085 B00175	
3896600	MB10SE BLU TC FR FS1 3/400/50 230/50-60	1100/4000-9200	110/400-920	22	CE 0085 BM0347	
3896610	MB10SE BLU TC FR FS2 3/400/50 230/50-60	1100/4000-9200	110/400-920	22	CE 0085 BM0347	
3896605	MB10SE BLU TC FL FS1 3/400/50 230/50-60	1100/4000-9200	110/400-920	22	CE 0085 BM0347	
3896615	MB10SE BLU TC FL FS2 3/400/50 230/50-60	1100/4000-9200	110/400-920	22	CE 0085 BM0347	
3896700	MB12SE BLU TC FR FS1 3/400/50 230/50-60	1500/4800-10050	150/480-1000	27	CE 0085 B04400	
3896705	MB12SE BLU TC FL FS1 3/400/50 230/50-60	1500/4800-10050	150/480-1000	27	CE 0085 B04400	
3896710	MB12SE BLU TC FR FS2 3/400/50 230/50-60	1500/4800-10050	150/480-1000	27	CE 0085 B04400	
3896715	MB12SE BLU TC FL FS2 3/400/50 230/50-60	1500/4800-10050	150/480-1000	27	CE 0085 B04400	
3897920	MB8SV BLU TC FR FS1 3/400/50 230/50-60	1300/3380-8000	99/338-800	18	CE 0085 B0230	
3897925	MB8SV BLU TC FL FS1 3/400/50 230/50-60	1300/3380-8000	99/338-800	18	CE 0085 B0230	
3897930	MB8SV BLU TC FR FS2 3/400/50 230/50-60	1300/3380-8000	99/338-800	18	CE 0085 B0230	
3897935	MB8SV BLU TC FL FS2 3/400/50 230/50-60	1300/3380-8000	99/338-800	18	CE 0085 B0230	
3896620	MB10SV BLU TC FR FS1 3/400/50 230/50-60	1100/4000-8860	110/400-886	22	CE 0085 B00231	
3896630	MB10SV BLU TC FR FS2 3/400/50 230/50-60	1100/4000-8860	110/400-886	22	CE 0085 B00231	
3896625	MB10SV BLU TC FL FS1 3/400/50 230/50-60	1100/4000-8860	110/400-886	22	CE 0085 B00231	
3896635	MB10SV BLU TC FL FS2 3/400/50 230/50-60	1100/4000-8860	110/400-886	22	CE 0085 B00231	
3896720	MB12SV BLU TC FR FS1 3/400/50 230/50-60	1505/4800-10050	150/480-1000	27	CE 0085 B004410	
3896725	MB12SV BLU TC FL FS1 3/400/50 230/50-60	1505/4800-10050	150/480-1000	27	CE 0085 B004410	
3896730	MB12SV BLU TC FR FS2 3/400/50 230/50-60	1505/4800-10050	150/480-1000	27	CE 0085 B004410	
3896735	MB12SV BLU TC FL FS2 3/400/50 230/50-60	1505/4800-10050	150/480-1000	27	CE 0085 B004410	

G20 net calorific value: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3
The burners of MB SE - SV BLU series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 676 Norm.

Available models

Gas Trains

	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
			BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC	3970225	MBC 1200 SE 50 CT	MB 8 SE-SV BLU MB 10 SE-SV BLU	3000826 (“I”) type			(1)
COMPOSED	3970226	MBC 1900 SE 65 FC CT	MB 8 SE-SV BLU MB 10 SE-SV BLU MB 12 SE-SV BLU	3010221 (“I”) type 3010225 (“Z”) type			(1)
	3970227	MBC 3100 SE 80 FC CT	MB 8 SE-SV BLU MB 10 SE-SV BLU MB 12 SE-SV BLU	3010222 (“I”) type 3010226 (“Z”) type			(1)
	3970228	MBC 5000 SE 100 FC CT	MB 8 SE-SV BLU MB 10 SE-SV BLU MB 12 SE-SV BLU	3010223 (“I”) type 3010227 (“Z”) type			(1)

* gas trains are 230V/50Hz - 220V/60Hz electrical supply
(1) Seal control incorporated

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

DTI module (Data Transfer Interface)

This electronic module can transfer multiple signals from different local modules to a BMS supervisor software system (Building Management System).

BURNER	MODULE CODE
▶ MB 8 - 10 - 12 SE - SV BLU	3010234

I/O digital module

Digital modules I/O transfer in-coming and out-going information from the boiler room or from the system in general to a remote supervisor system.

BURNER	MODULE CODE
▶ MB 8 - 10 - 12 SE - SV BLU	3010233

I/O analogic module

I/O Analog modules transfer in-coming and out-going information to a remote supervisor system.

BURNER	MODULE CODE
▶ MB 8 - 10 - 12 SE - SV BLU	3010232

EGA module (Exhaust Gas Analyser)

Four different EGA modules are available to measure some of the exhaust gas substances and their temperature.

BURNER	ANALYSED GAS	MODULE CODE
▶ MB 8 - 10 - 12 SE - SV BLU	CO, CO_2, O_2	3010235
▶ MB 8 - 10 - 12 SE - SV BLU	CO, CO_2, O_2, NO	3010236
▶ MB 8 - 10 - 12 SE - SV BLU	CO, CO_2, O_2, SO_2	3010237
▶ MB 8 - 10 - 12 SE - SV BLU	CO, CO_2, O_2, NO, SO_2	3010238

Belden 9501 type leads

All the connections for the above modules must be done using a BELDEN 9501 type lead (available in coils of 50 m).

BURNER	LEAD CODE
▶ MB 8 - 10 - 12 SE - SV BLU	3010239

Burner accessories

Accessories for modulating operation

Main management module allows a modulating operation with use of probes chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ MB 8 - 10 - 12 SE - SV BLU	Temperature	0 ÷ 400°C	3010187
▶ MB 8 - 10 - 12 SE - SV BLU	Pressure	0 ÷ 3 bar	3010246
▶ MB 8 - 10 - 12 SE - SV BLU	Pressure	0 ÷ 18 bar	3010186
▶ MB 8 - 10 - 12 SE - SV BLU	Pressure	0 ÷ 30 bar	3010188

Burner support

For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need for forklift trucks.

BURNER	SUPPORT CODE
▶ MB 8 - 10 - 12 SE - SV BLU	3010385

Inverter module

The inverter allows the variation of the amount of combustion air through a variable speed action of the fan motor.

BURNER	CODE
▶ MB 8 SV BLU	3010446
▶ MB 10 - 12 SV BLU	3010447

Sound proofing box

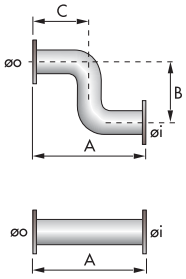
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ MB 8 - 10 - 12 SE - SV BLU	10	3010401

(*) according to EN 15036-1 standard

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the adapters than can be fitted on the various burners:

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS Øi DN	Øo DN	A mm	B mm	C mm	ADAPTER CODE
▶ MB 8-10 SE-SV BLU	MBC 1200	I	2”(1)	80	--	--	--	3000826
▶ All models	MBC 1900	I	65	80	320	--	--	3010221
	MBC 3100	I	80	80	320	--	--	3010222
	MBC 5000	I	100	80	320	--	--	3010223
	MBC 1900	Z	65	80	400	480	225	3010225
	MBC 3100	Z	80	80	400	480	225	3010226
	MBC 5000	Z	100	80	400	480	225	3010227

(1) Unless flange

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 ▶ MBC 3100 ▶ MBC 5000	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

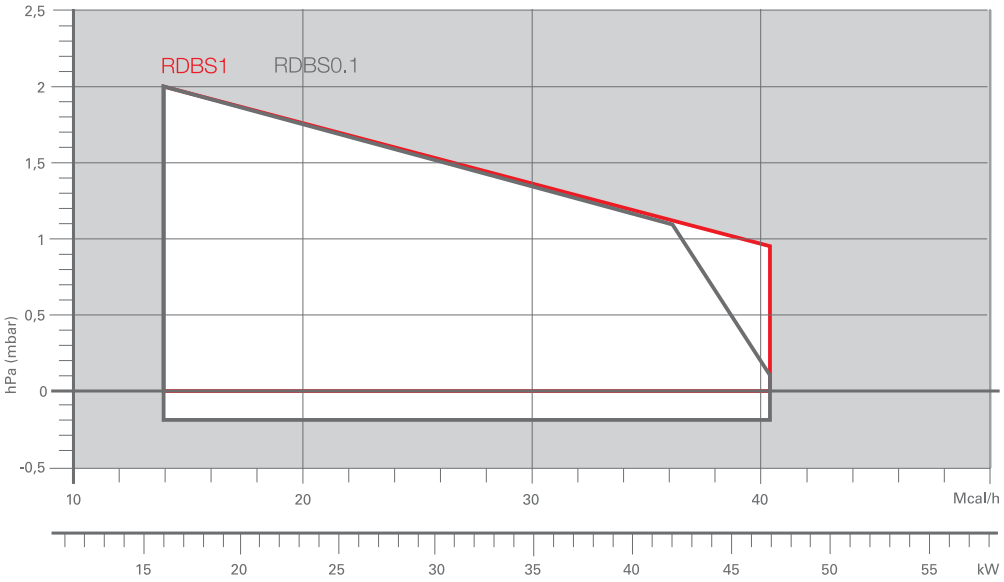
RDBS SERIES

The Riello RDBS is a new series of one stage gas burners with integrated gas train, characterised by its small dimensions in spite of its high combustion performance. It is available in conventional flue and balanced flue versions. It has been developed to respond to any request for home heating, conforming to current regulations in force.
The RDBS series is available in two models with an output range from 16 to 48 kW; the difference between the two models are the gas train and the combustion head.
The RDBS1 model is made up of a class A gas train and a standard flame combustion head, the RDBS0.1 model is made up of a class B gas train and a short flame combustion head.
The RDBS burners are fitted with a microprocessor based control box with diagnostic functions.
These models use the same components designed by Riello for RDB series. The high quality level guarantees safe working.
In developing these burners, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
These models are approved by the EN 676 European Standard and European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.
The RDBS burners are tested before leaving the factory.

RDBS1	16 ÷ 47 kW
RDBS0.1	16 ÷ 48 kW

GAS

FIRING RATES

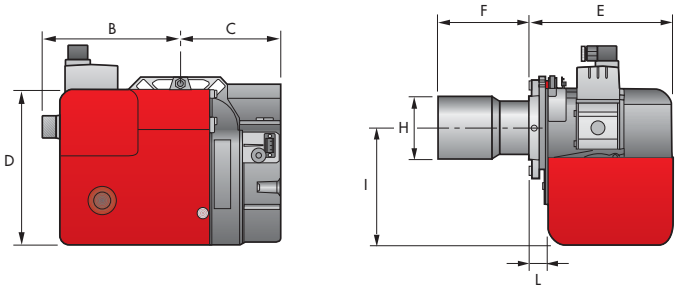


Useful working field for choosing the burner

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

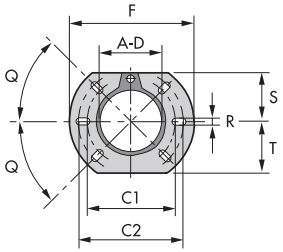
Overall dimensions (mm)

BURNER



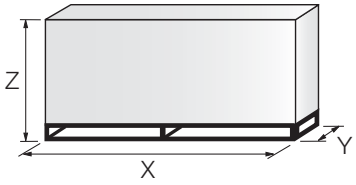
MODEL	B	C	D	E	F	H	I	L
▶ RDBS1	195	141	222	207	115	89	168	20
▶ RDBS0.1	195	141	222	207	94	89	168	20

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C1	C2	D	F	Q	R	S	T
▶ RDBS1	91	130	150	91	180	45°	11	72	72
▶ RDBS0.1	91	130	150	91	180	45°	11	72	72

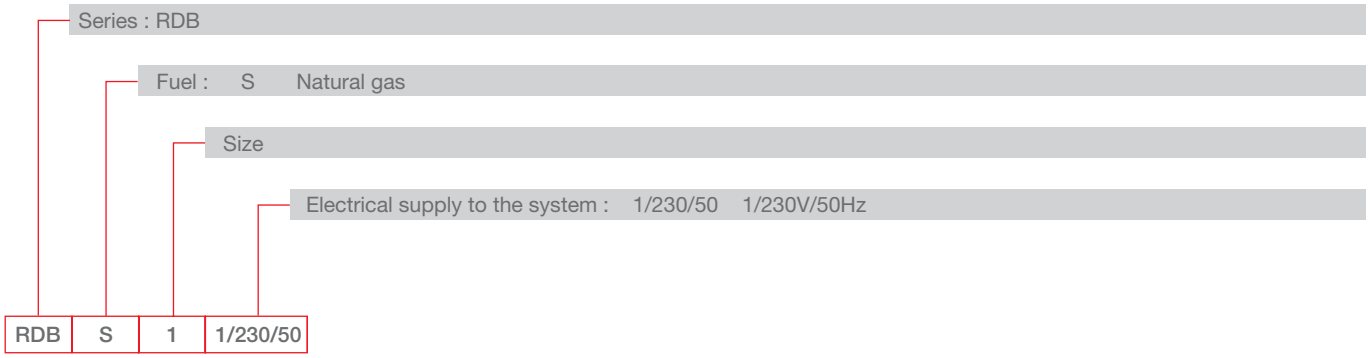
PACKAGING



MODEL	X	Y	Z	kg
▶ RDBS1	405	360	350	12
▶ RDBS0.1	405	360	350	12

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burner, completely automatic, with one stage operation made up of:
- Fan with forward curve blades
- Cover lined
- Air damper with external adjustment, with no need to remove the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Incorporated gas train
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based flame control box, with diagnostic functions
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
RDBS1
- Flange with insulating gasket
- 4-pin plug
- Screws and nuts for flange to be fixed to boiler
- Protection grill for CF application
- 90° manual gate valve
- Tube 1/2”
- Flange 90°
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RDBS0.1
- Flange with insulating gasket
- Screws and nuts for flange to be fixed to boiler
- Flange 90°
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

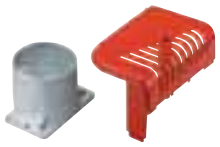
Burners

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
				NATURAL GAS			
			(kW)	(Nm^3/h)	(kW)		
3768000	RDBS1	1/230/50	16 - 47	1,6 - 4,7	0,090	CE - 0085 BM0490	(1)(2)(5)
3769000	RDBS0.1	1/230/50	16 - 48	1,6 - 4,8	0,090	CE - 0085 BM0490	(1)(3)(4)

The burners of RDBS series are in according to EN 676.
(1) With plug and socket.
(2) Incorporated class A gas train (max. operating pressure 65 mbar).
(3) Incorporated class B gas train (max. operating pressure 65 mbar).
(4) Short flame combustion head.
(5) Standard flame combustion head.

Burner accessories

Balanced-conventional flue conversion kit



All the RDBS series models are easily converted from conventional flue to balanced flue, by replacing the plastic screen on the air intake with the connector for the air supply pipe.

BURNER	BALANCED FLUE KIT CODE	CONVENTIONAL FLUE KIT CODE
▶ **RDBS1 - RDBS0.1**	3062774	3062775

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ **RDBS1 - RDBS0.1**	3001076	-

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

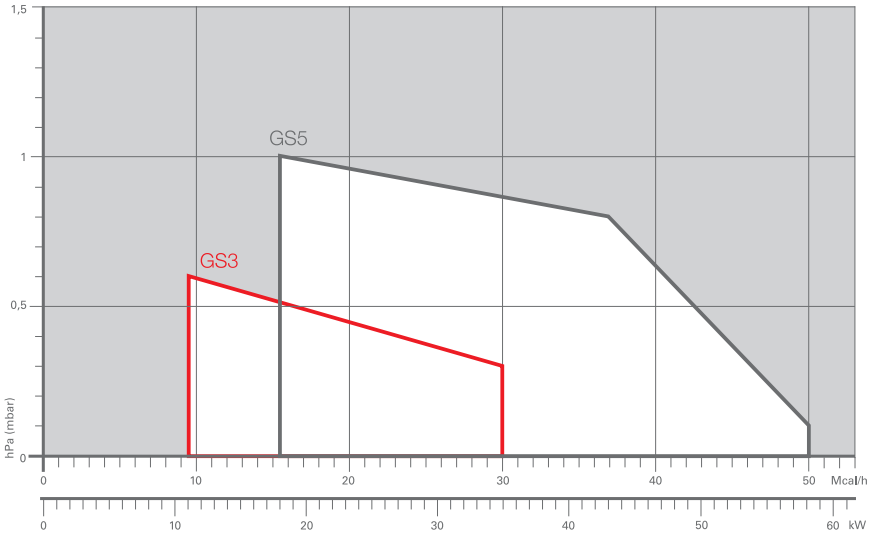
BURNER	KIT CODE
▶ **RDBS1 - RDBS0.1**	3002719

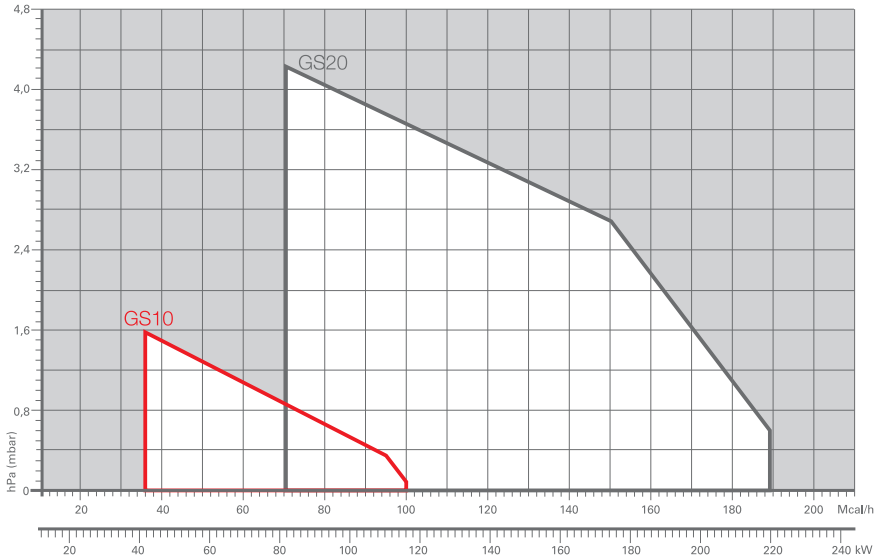
RIELLO 40 GS SERIES

The Riello 40 GS series of one stage gas burners, is a complete range of products developed to respond to any request for home heating. The Riello 40 GS series is available in four different models, with an output ranging from 11 to 220 kW, divided in four different structures.
All the models use the same components designed by Riello for the Riello 40 GS series. The high quality level guarantees safe working. The Riello 40 GS burners are fitted with a microprocessor based control box with diagnostic functions.
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the EN 676 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Riello 40 GS burners are tested before leaving the factory.

GS3	11	÷	35	kW
GS5	18	÷	58	kW
GS10	42	÷	116	kW
GS20	81	÷	220	kW

FIRING RATES



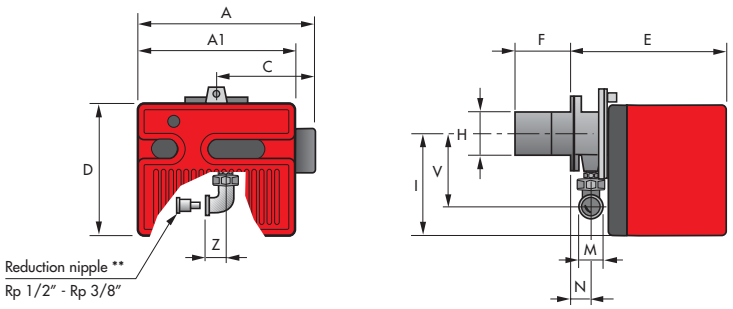


Useful working field for choosing the burner

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

BURNER

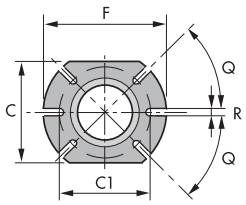


MODEL	A	A1	C	D	E	F	H	I	M	N	V	Z
▶ GS3	-	252	-	215	230	100	91	165	Rp 3/8"*	37	132	25
▶ GS5	-	272	-	233	295	100	91	180	Rp 1/2"	48	138	28
▶ GS10	341	-	188,5	262	346	110	105	204	Rp 3/4"	61	142	33
▶ GS10 ***	-	305	-	262	346	110	105	204	Rp 3/4"	61	142	33
▶ GS20	387	-	212	298	389	120	125	230	Rp 3/4"	67	152	33
▶ GS20 ***	-	350	-	298	389	120	125	230	Rp 3/4"	67	152	33

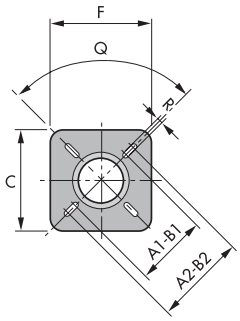
* With reduction nipple
** Standard equipment on R40 GS3
*** Versions with air damper opening motor inside the cover

BURNER - BOILER MOUNTING FLANGE

GS3 - GS5 - GS10

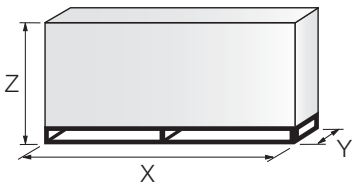


GS20



MODEL	A1	A2	B1	B2	C	C1	F	Q	R
▶ GS3	-	-	-	-	140	130	170	45°	10
▶ GS5	-	-	-	-	140	130	170	45°	10
▶ GS10	-	-	-	-	160	130	185	45°	11
▶ GS20	155	200	155	200	170	-	170	90°	11

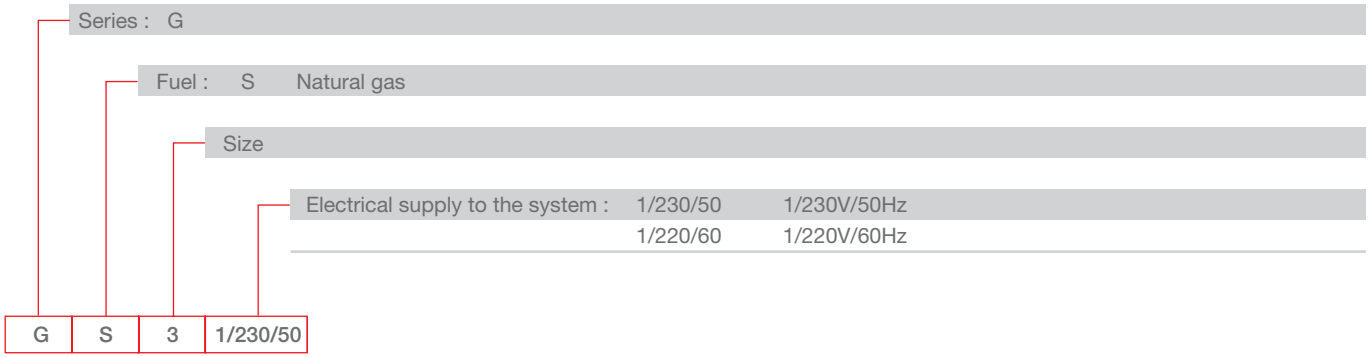
PACKAGING



MODEL	X	Y	Z	kg
▶ GS3	375	335	310	12
▶ GS5	445	355	325	12
▶ GS10	483	423	330	17
▶ GS20	535	463	375	22

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, with one stage settings fitted with:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, with adjustment inside the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box MG 557 (with diagnostic, remote reset, continuous purge integrated, recycle, post-purge)
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pole socket
- Hinge
- Reduction nipple Rp 1/2” - Rp 3/8” (for R40 GS3 only)
- Grommet
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3755119	GS3	1/230/50	11 - 35	1,1 - 3,5	0,100	CE – 0063 AP6680	(1) (5)
3755219	GS5	1/230/50	18 - 58	1,8 - 5,8	0,110	CE – 0063 AP6680	(1) (5)
3755281	GS5	1/220/60	23 - 65	2,3 - 6,5	0,180	-	(2) (4) (5)
3755426	GS10	1/230/50	42 - 116	4,2 - 11,6	0,130	CE – 0063 AP6680	(1)
3755444	GS10	1/230/50	42 - 116	4,2 - 11,6	0,130	CE – 0063 AP6680	(2) (3)
3755483	GS10	1/220/60	42 - 116	4,2 - 11,6	0,200	-	(2) (4) (5)
20007527	GS10	1/220/60	42 - 116	4,2 - 11,6	0,200	-	(1) (4) (5)
3755616	GS20	1/230/50	81 - 220	8,1 - 22	0,250	CE – 0063 AP6680	(1)
3755644	GS20	1/230/50	81 - 220	8,1 - 22	0,250	CE – 0063 AP6680	(2) (3)
3755683	GS20	1/220/60	81 - 220	8,1 - 22	0,430	-	(2) (4) (5)

Net calorific value G20: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3
The burners of GS series are in according to EN 676
(1) With plug and socket
(2) With terminal block
(3) Belgium version
(4) Korea version
(5) With air damper opening motor inside the cover

Gas Trains

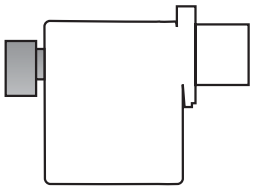
	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC GAS TRAIN	3970569	MBC 65 DLE	GS3 - GS5		GS3 - GS5		(1)
	3970530	MBDLE 405	GS5 - GS10		GS5 - GS10		(1)
	3970500	MBDLE 405	GS10		GS10		(1) (2)
	3970531	MBDLE 407	GS5 - GS10 - GS20		GS5 - GS10 - GS20		(1) (3)
	3970532	MBDLE 410	GS10 - GS20		GS10 - GS20		(1)

* Gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) With installed plug (if the plug is not necessary, remove it in accordance with gas train instruction manual indication)
(2) GS10 ≤ 80 kW with natural gas
(3) GS20 ≤ 180 kW with natural gas

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

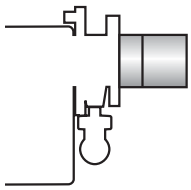
Remote reset control kit for MG 557/3/5 control box



The MG 557 control box can be remotely released using an electric command kit. This kit must be installed in conformity with current regulations in force.

BURNER	KIT CODE
▶ GS3 - GS5	3002750

Extended head kit



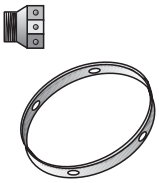
"Standard head" burners can be transformed into "extended head" versions by using the special kit. Below the KITS available for the various burners are listed, showing the original and the extended lengths.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GS3 - GS5	100	125	3000820
▶ GS10	110	170	3001064
▶ GS20	120	280	3000873

End cone with turbulator disk

BURNER	PROJECTION (mm)	KIT CODE
▶ GS5	+15	3000916
▶ GS10	+18	3000918
▶ GS20	+23	3000919

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GS3	3000881	3000881
▶ GS5	3000882	3000882
▶ GS10	3000884	3000884
▶ GS20	3000886	3000886

Town gas kit

BURNER	KIT CODE
▶ GS3	3000888
▶ GS5	3000889
▶ GS10	3000891
▶ GS20	3000893

Burner accessories

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ GS3 - GS5 - GS10 - GS20	3001180

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ GS3 - GS5 - GS10 - GS20	3000945

Continuous ventilation kit for RMG control box

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ GS10 - GS20	3010094

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ GS3 - GS5	3002731
▶ GS10 - GS20	3002719

Gas train accessories

Seal control kit

To test the valve seals on the gas train, (except for the model with Multibloc MBC 65 DLE) a special “seal control kit” is available.

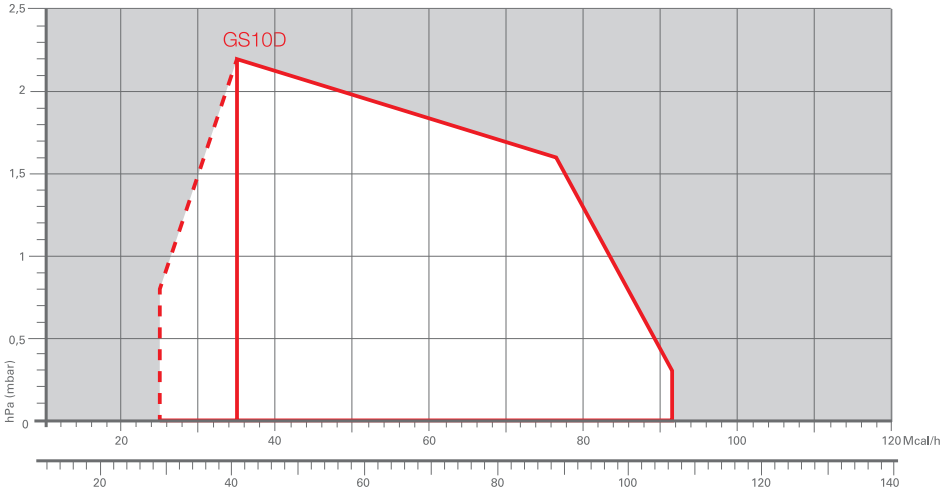
BURNER	GAS TRAIN	KIT CODE
▶ GS5	MBDLE 405 - 407	3010123
▶ GS10	MBDLE 405 - 407 - 410	3010123
▶ GS20	MBDLE 407 - 410	3010123

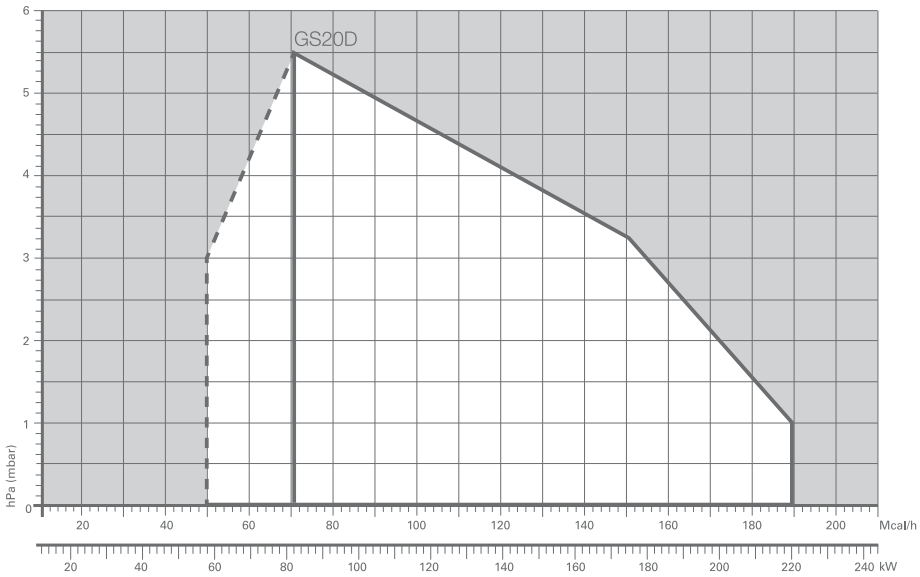
RIELLO 40 GSD SERIES

The Riello 40 GSD series of two stage gas burners, is a complete range of products developed to respond to any request for home heating. The Riello 40 GSD series is available in two different models, with an output ranging from 41 to 220 kW, divided in two different structures.
All the models use the same components designed by Riello for the Riello 40 GSD series. The high quality level guarantees safe working.
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the EN 676 European Standard and conform to European Directives for EMC, Low Voltage, Gas Appliance and Boiler Efficiency.
All the Riello 40 GSD burners are tested before leaving the factory.

GS10D	29/41	÷	106	kW
GS20D	58/81	÷	220	kW

FIRING RATES





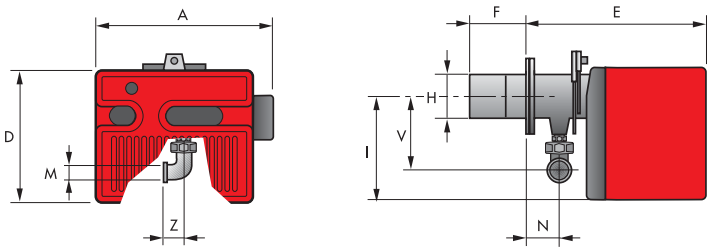
Useful working field for choosing the burner

1st stage operation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

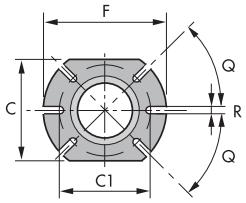
BURNER



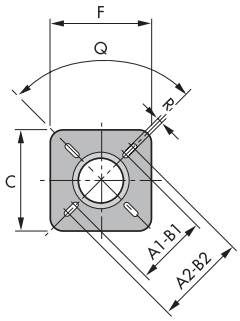
MODEL	A	D	E	F	H	I	M	N	V	Z
▶ GS10D	368	262	346	110	105	204	Rp 3/4”	61	142	33
▶ GS20D	413	298	389	120	125	230	Rp 3/4”	67	152	33

BURNER - BOILER MOUNTING FLANGE

GS10D

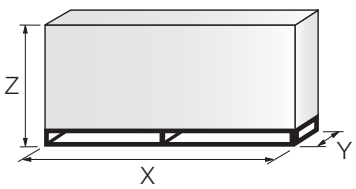


GS20D



MODEL	A1	A2	B1	B2	C	C1	F	Q	R
▶ GS10D	-	-	-	-	160	130	185	45°	11
▶ GS20D	155	200	155	200	170	-	170	90°	11

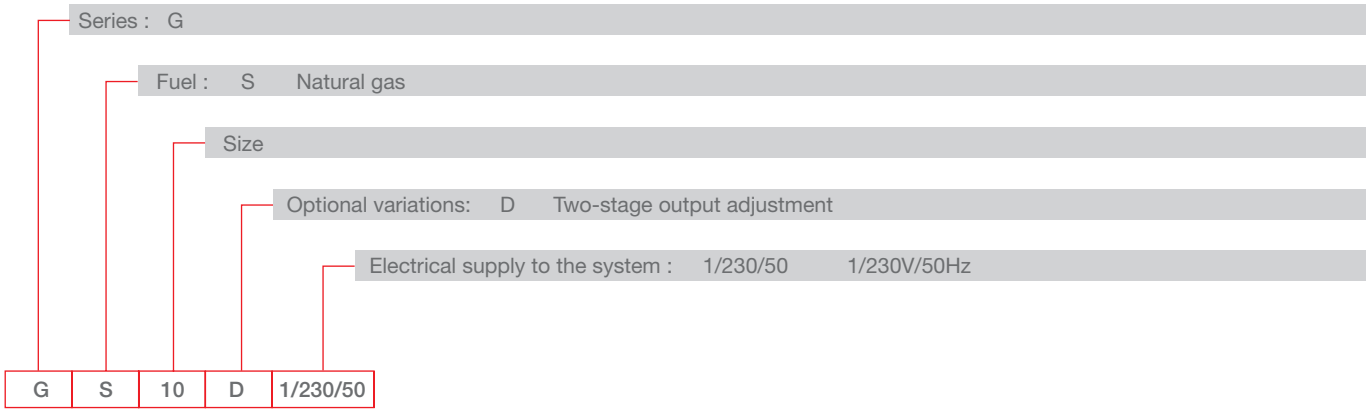
PACKAGING



MODEL	X	Y	Z	kg
▶ GS10D	495	483	330	17
▶ GS20D	535	535	375	22

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, driven by an electric servomotor
- Air damper with 1st and 2nd stage adjustement
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
    - flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pole socket
- 4-pole socket
- Hinge
- Grommet
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
				NATURAL GAS			
			(kW)	(Nm^3/h)	(kW)		
3757615	GS10D	1/230/50	29/41 - 106	2,9/4,1 - 10,6	0,130	CE – 0063 AP6680	(1)
3757714	GS20D	1/230/50	58/81 - 220	5,8/8,1 - 22	0,250	CE – 0063 AP6680	(1)

Net calorific value G20: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3
The burners of GSD series are in according to EN 676
(1) With plug and socket.

Gas Trains

MULTIBLOC GAS TRAINS

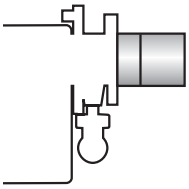
GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970084	MBZRDLE 405	GS10D		GS10D		(1) (2)
3970537	MBZRDLE 407	GS10D - GS20D		GS10D - GS20D		(1) (3)
3970534	MBZRDLE 410	GS20D		GS20D		(1)

* Gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) With installed plug
(2) GS10D ≤ 80 kW with natural gas
(3) GS20D ≤ 180 kW with natural gas

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



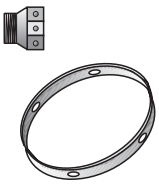
Burners “standard head” can be transformed into “extended head” versions by using the special kit. Here the KITS available for the various burners are listed, showing the original and the extended lengths.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GS10D	100	170	3000864
▶ GS20D	120	280	3000873

End cone with turbulator disk

BURNER	PROJECTION (mm)	KIT CODE
▶ GS10D	+18	3000918
▶ GS20D	+23	3000919

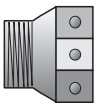
LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GS10D	3000884	3000884
▶ GS20D	3000886	3000886

Town gas kit



BURNER	KIT CODE
▶ GS10D	3000891
▶ GS20D	3000893

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ GS10D - GS20D	3001180

Burner accessories

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ GS10D - GS20D	3000945

Continuous ventilation kit for RMG control box

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ GS10D - GS20D	3010094

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ GS10D - GS20D	3002719

Gas train accessories

Seal control kit

To test the valve seals on the gas train a special “seal control kit” is available.

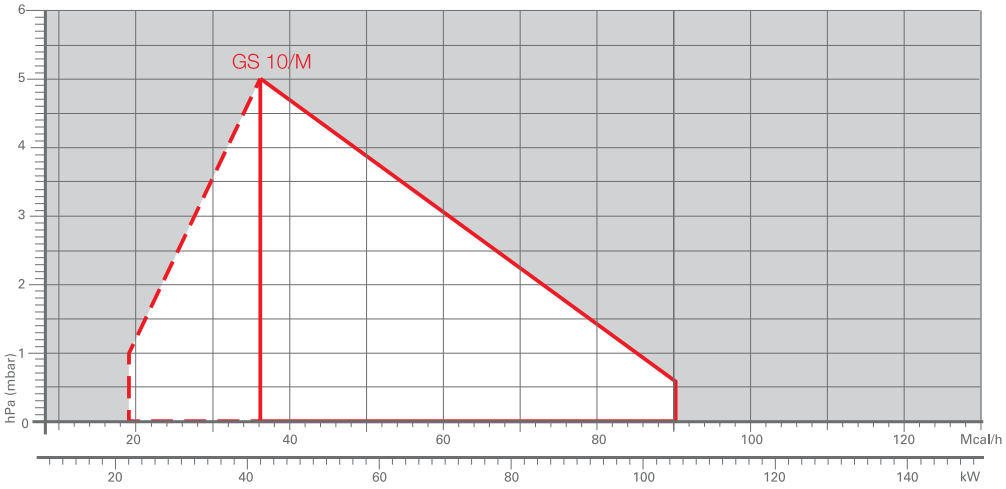
BURNER	KIT CODE
▶ GS10D - GS20D	3010123

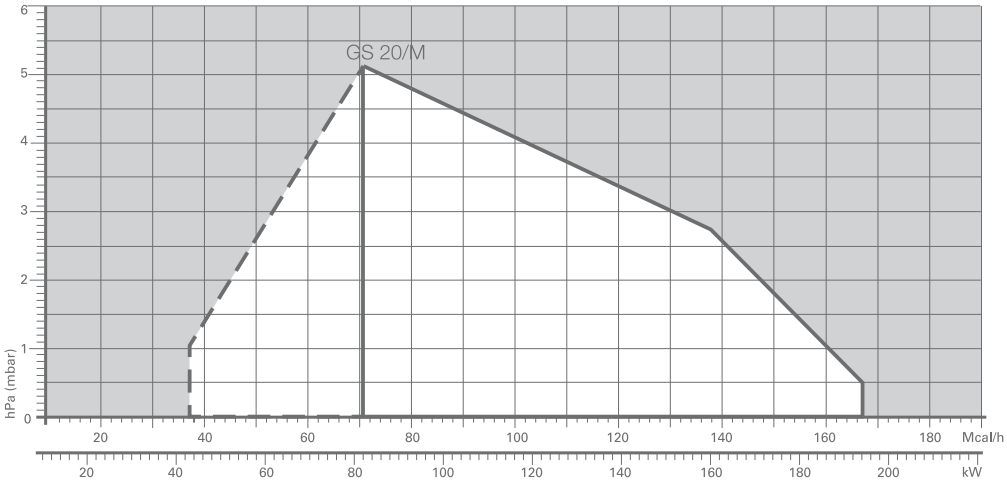
RIELLO 40 GS/M SERIES

The Riello 40 GS/M series of two stage progressive or modulating gas burners, is a complete range of products developed to respond to any request of gas burners for hot air generator according to EN 1020. These new models complete the Riello 40 gas series which prides itself on many years of experience in all the world in the field of residential heating and soft industrial applications. This series of burners is available in two different models with an output ranging from 42 to 194 kW, divided in two different structures. Basic version of these models has two stage progressive operation. A simple modification, adding a component, permits obtaining modulating operation with a rate 1:4. The burners are supplied air fuel ratio control gas trains.
This more advanced version can better satisfy market needs for applications where modulation is requested to obtain highest plant efficiency. In developing these burners, special attention was paid to the ease of installation and adjustment, to maintaining the smallest size possible and obtaining high performance for modulating operation to fit into any sort of application available on the market. All the models are approved by the EN 676 European Standard and they conform to European Directives: Gas Appliances, EMC, Low Voltage and Boiler Efficiency.

GS 10/M	22 / 42	÷	105	kW
GS 20/M	43 / 82	÷	194	kW

FIRING RATES





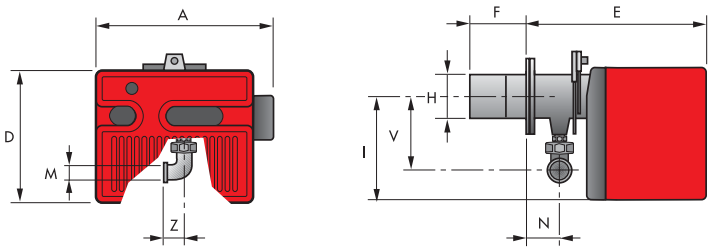
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

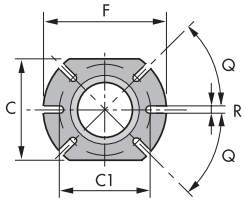
BURNER



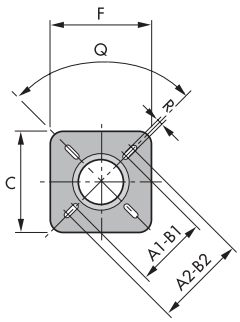
MODEL	A	D	E	F	H	I	M	N	V	Z
▶ GS10/M	425	262	347	110	105	204	Rp 3/4”	61	142	33
▶ GS20/M	488	298	389	120	125	230	Rp 3/4”	67	152	33

BURNER - BOILER MOUNTING FLANGE

GS10/M

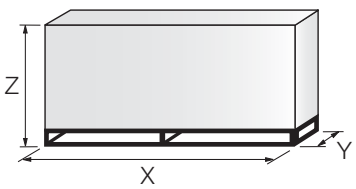


GS20/M



MODEL	A1	A2	B1	B2	C	C1	F	Q	R
▶ GS10/M	-	-	-	-	160	130	185	45°	11
▶ GS20/M	155	200	155	200	170	-	170	90°	11

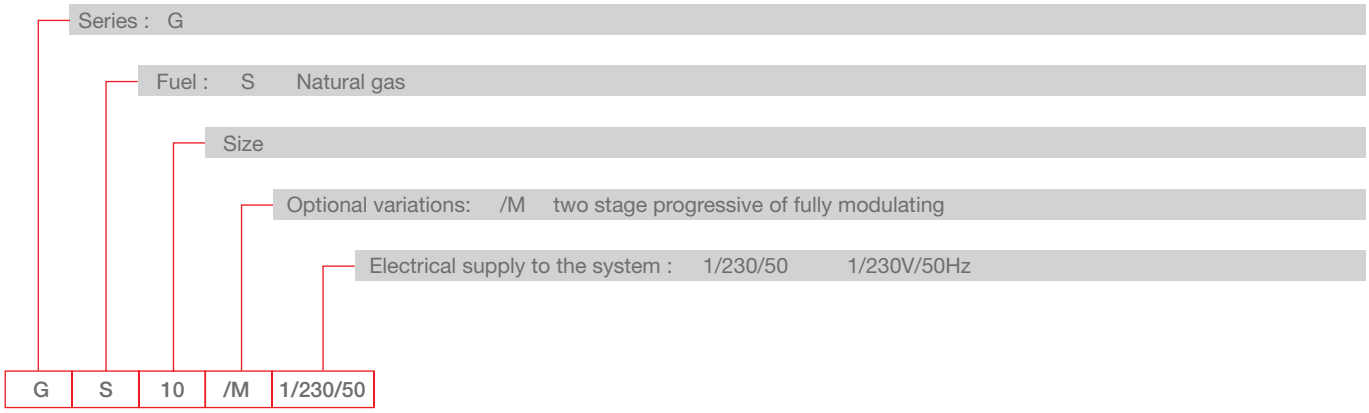
PACKAGING



MODEL	X	Y	Z	kg
▶ GS10/M	505	490	330	17
▶ GS20/M	560	535	375	17

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage progressive or modulating operation with a kit, made up of:
- Ratio air/fuel controlled by checking both the air and the gas flows
- Two pressure switches on the burner, to make sure the burner operation, detecting both the fan and the chimney functions
- Remote reset available
- Servomotor to drive the air damper to fully closed position at stand-by, low and high fire position
- Turn down fire 1:4
- Fan with forward curve blades
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
    - additional device, to keep short the flame shape
- Protection filter against radio interference
- Microprocessor-based flame control box, with diagnostic functions
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Hinge to turn the burner left-side or right-side for the maintenance position
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug with capacitor for EMC
- 4-pin plug to connect the high-low thermostat
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3755556	GS10/M	1/230/50	22/42 - 105	2,2/4,2 - 10,5	0,130	CE – 0085 BM0453	(1)
3755756	GS20/M	1/230/50	43/82 - 194	4,3/8,2 - 19,4	0,250	CE – 0085 BM0453	(1)

(1) With installed plug.
Net calorific value G20 gas: 10 kWh/Nm^3; 8600 kcal/Nm^3 - Density: 0,71 kg/Nm^3.

Gas Trains

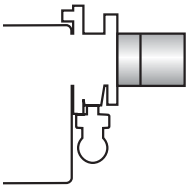
MULTIBLOC GAS TRAINS

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
3970535	MB-VEF 407	GS10/M		GS10/M		(1)
		GS20/M		GS20/M		
3970536	MB-VEF 412	GS20/M		GS20/M		(1) (2)

* Gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) With plug and socket.
(2) ≥120 kW.
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

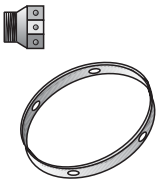
Extended head kit



Burners “standard head” can be transformed into “extended head” versions by using the special kit. Here the KITS available for the various burners are listed, showing the original and the extended lengths.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GS10/M	128	188	3000864
▶ GS20/M	120	280	3000873

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GS10/M	3000884	3000884
▶ GS20/M	3000886	3000886

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ GS10/M - GS20/M	3001180

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ GS10/M - GS20/M	3000945

Accessories for modulating operation

To obtain modulating operation, the GS/M series of burners requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ GS10/M - GS20/M	RWF 40	3001074

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ GS10/M - GS20/M	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Burner accessories

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

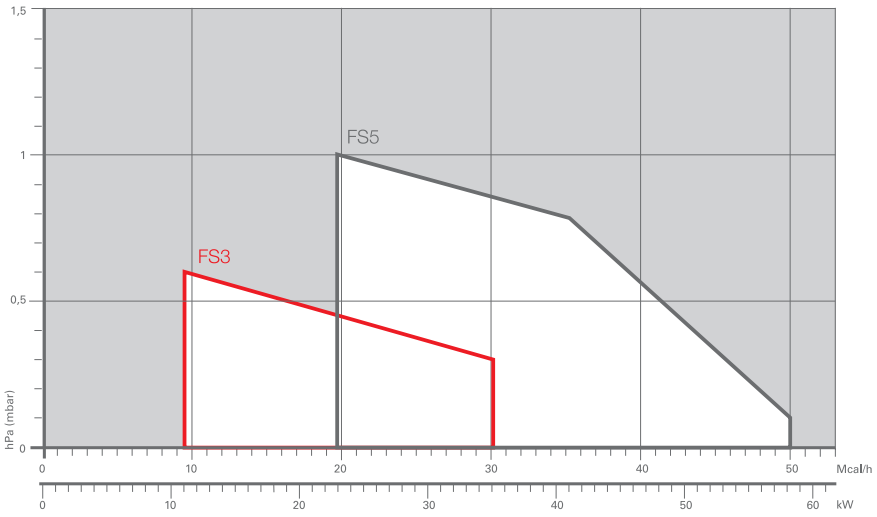
BURNER	KIT CODE
▶ GS10/M - GS20/M	3002719

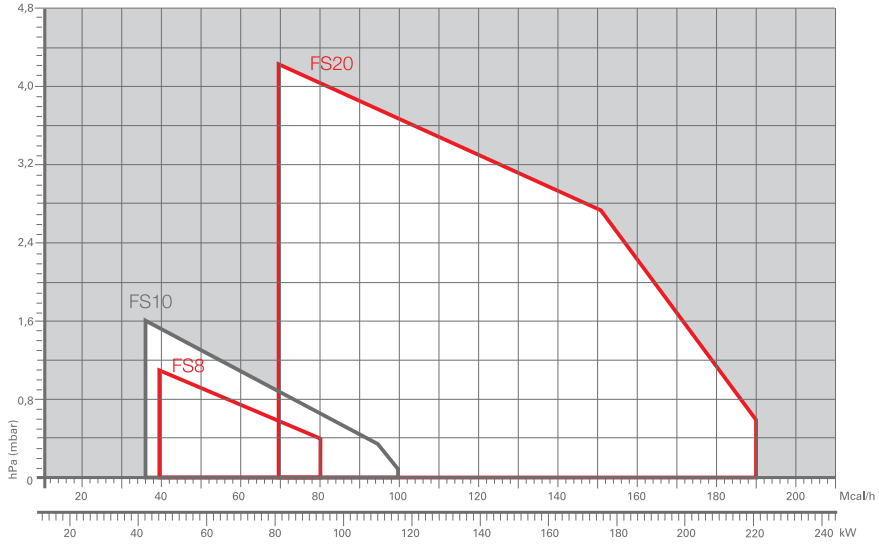
RIELLO 40 FS SERIES

The Riello 40 FS series of one stage gas burners, is a complete range of products developed to respond to any request for light industrial application. The Riello 40 FS series is available in five different models, with an output ranging from 11 to 220 kW, divided in four different structures.
All the models use the same components designed by Riello for the Riello 40 FS series. The high quality level guarantees safe working.
The Riello 40 FS burners are fitted with a microprocessor - based control box, with diagnostic functions.
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the EN 676 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Riello 40 FS burners are tested before leaving the factory.

FS3	11	÷	35	kW
FS5	23	÷	58	kW
FS8	46	÷	93	kW
FS10	42	÷	116	kW
FS20	81	÷	220	kW

FIRING RATES



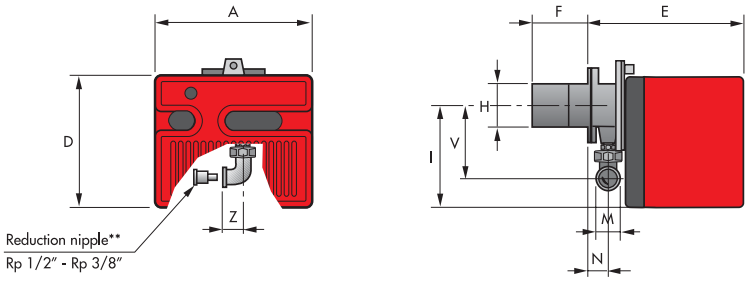


Useful working field for choosing the burner

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

BURNER

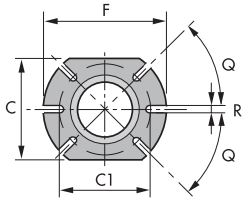


MODEL	A	D	E	F	H	I	M	N	V	Z
▶ FS3	252	215	230	100	91	165	Rp 3/8"*	37	132	25
▶ FS5	272	233	295	100	91	180	Rp 1/2"	48	138	28
▶ FS8	305	262	347	110	105	204	Rp 3/4"	61	142	33
▶ FS10	305	262	346	110	105	204	Rp 3/4"	61	142	33
▶ FS20	350	298	389	120	125	230	Rp 3/4"	67	152	33

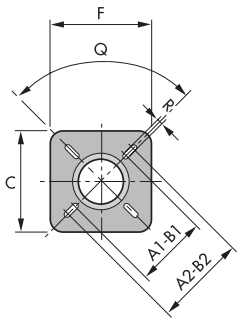
* With reduction nipple
** Standard equipment on R40 FS3

BURNER - BOILER MOUNTING FLANGE

FS3 - FS5 - FS8 - FS10

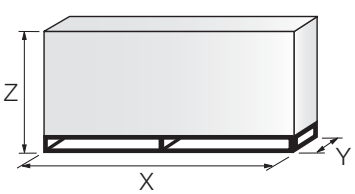


FS20



MODEL	A1	A2	B1	B2	C	C1	F	Q	R
▶ FS3	-	-	-	-	140	130	170	45°	10
▶ FS5	-	-	-	-	140	130	170	45°	10
▶ FS8	-	-	-	-	160	130	185	45°	11
▶ FS10	-	-	-	-	160	130	185	45°	11
▶ FS20	155	200	155	200	170	-	170	90°	11

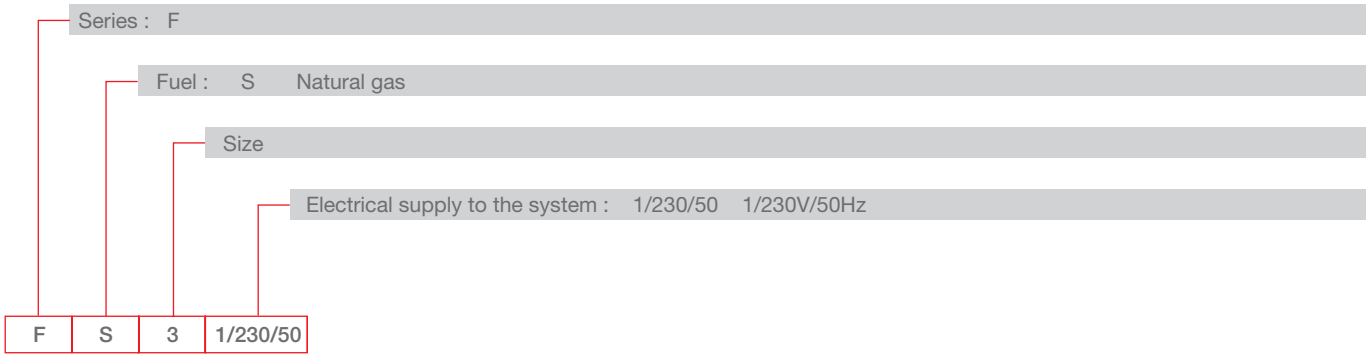
PACKAGING



MODEL	X	Y	Z	kg
▶ FS3	375	335	310	9,5
▶ FS5	445	355	335	11
▶ FS8	483	495	330	13,6
▶ FS10	483	495	330	17
▶ FS20	535	535	375	20

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, with one stage settings fitted with:
- Fan with forward curve blades
- Cover lined with sound-deadening material
- Metallic and fixed air damper with adjustment
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
    - flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based flame control box, with diagnostic functions
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pole socket
- Hinge
- Reduction nipple Rp 1/2” - Rp 3/8” (for R40 FS3 only)
- Grommet
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3756506	FS3	1/230/50	11 - 35	1,1 - 3,5	0,150	CE – 0063 AP6680	
3756606	FS5	1/230/50	23 - 58	2,3 - 5,8	0,150	CE – 0063 AP6680	(1)
3756706	FS8	1/230/50	46 - 93	4,6 - 9,3	0,150	CE – 0063 AP6680	(1)
3756435	FS10	1/230/50	42 - 116	4,2 - 11,6	0,130	CE – 0063 AP6680	(1) (2)
3756935	FS20	1/230/50	81 - 220	8,1 - 22	0,250	CE – 0063 AP6680	(1) (2)

Models for LPG applications

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT LPG (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3756439	FSP10	1/230/50	42 - 116	1,6 - 4,4	0,130	CE – 0063AP6680	(1) (2)
3756939	FSP20	1/230/50	81 - 220	3,1 - 8,5	0,250	CE – 0063AP6680	(1) (2)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³
Net calorific value G31 (LPG): 25,8 kWh/Nm³ - Density: 2,02 kg/Nm³
The burners of FS series are in according to EN 676
(1) With plug and socket
(2) French version

Gas Trains

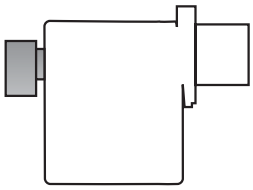
	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC GAS TRAIN	3970569	MBC 65 DLE	FS3 - FS5		FS3 - FS5		(1)
	3970530	MBDLE 405	FS5 - FS8 - FS20		FS5 - FS8 - FS20		(1) (2)
	3970500	MBDLE 405	FS10		FS10		(1) (3)
	3970531	MBDLE 407	FS5 - FS8 - FS10 - FS20		FS5 - FS8 - FS10 - FS20		(1) (4)
	3970532	MBDLE 410	FS10 - FS20		FS10 - FS20		(1)

* Gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) With installed plug (if the plug is not necessary, remove it in accordance with gas train instruction manual indication)
(2) FS8 ≤ 80 kW with natural gas
(3) FS10 ≤ 80 kW with natural gas
(4) FS20 ≤ 180 kW with natural gas

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

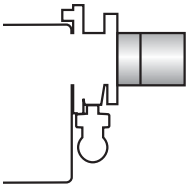
Remote reset control kit for MG 557/3/5 control box



The MG 557 control box can be remotely released using an electric command kit. This kit must be installed in conformity with the local authority.

BURNER	KIT CODE
▶ FS3 - FS5 - FS8	3002750

Extended head kit



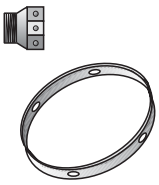
Burners “standard head” can be transformed into “extended head” versions by using the special kit. Here the KITS available for the various burners are listed, showing the original and the extended lengths.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ FS3 - FS5	100	125	3000820
▶ FS8 - FS10	110	170	3000864
▶ FS8	110	278	3000920
▶ FS20	120	280	3000873

End cone with turbulator disk

BURNER	PROJECTION (mm)	KIT CODE
▶ FS5	+15	3000916
▶ FS8	+18	3000917
▶ FS10	+18	3000918
▶ FS20	+23	3000919

LPG kit

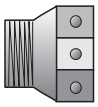


For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ FS3	3000881	3000881
▶ FS5	3000882	3000882
▶ FS8	3000927	3000927
▶ FS10	3000884	3000884
▶ FS20	3000886	3000886

Burner accessories

Town gas kit



BURNER	KIT CODE
▶ FS3	3000888
▶ FS5	3000889
▶ FS8	3000890
▶ FS10	3000891
▶ FS20	3000893

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ FS5 - FS8 - FS10 - FS20	3001180

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ All models	3000945

Continuous ventilation kit for RMG control box

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ FS10 - FS20	3010094

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

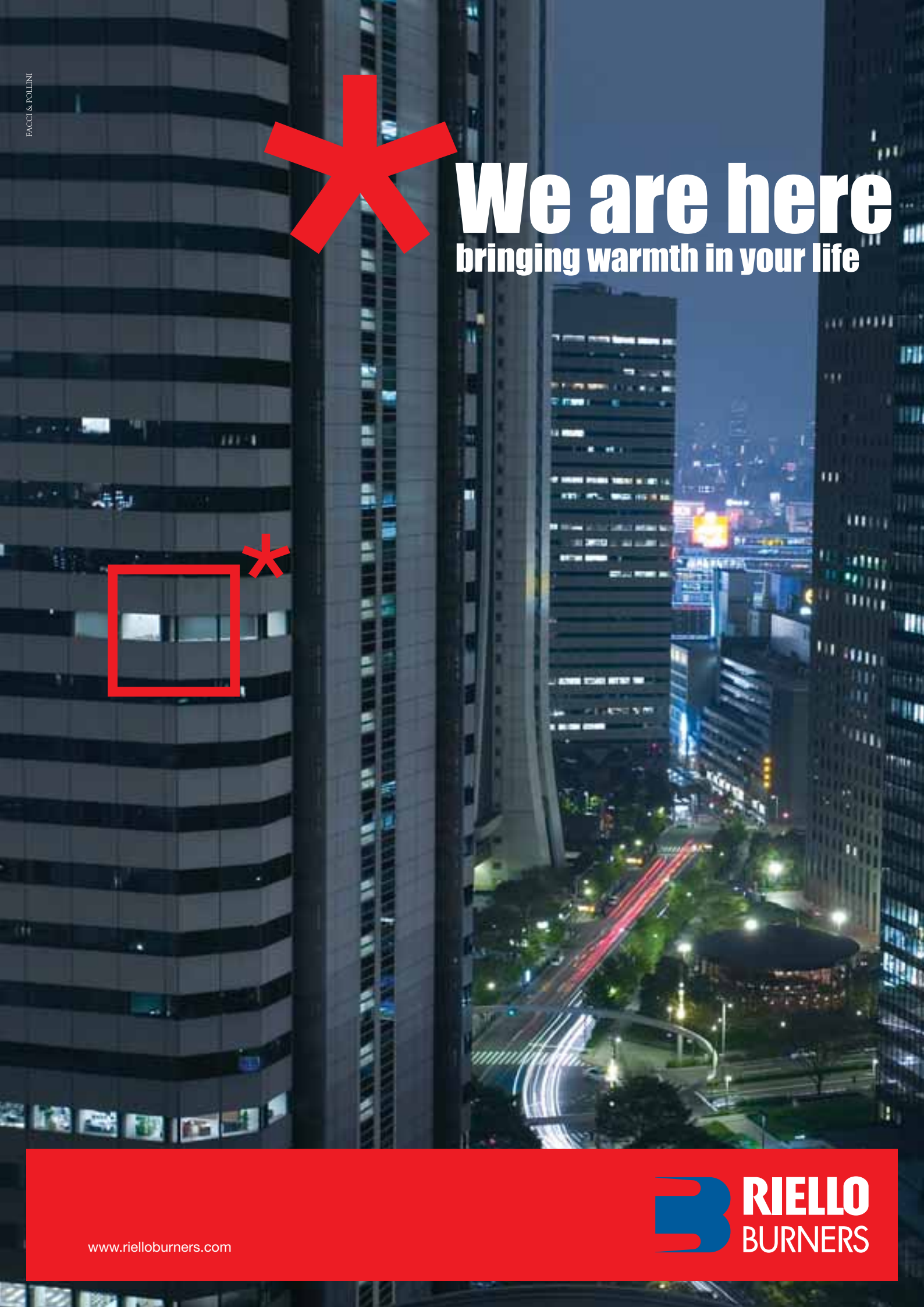
BURNER	KIT CODE
▶ FS3 - FS5 - FS8	3002731
▶ FS10 - FS20	3002719

Gas train accessories

Seal control kit

To test the valve seals on the gas train, (except for the model with Multibloc MBC 65 DLE) a special “seal control kit” is available.

BURNER	KIT CODE
▶ FS5 - FS8 - FS10 - FS20	3010123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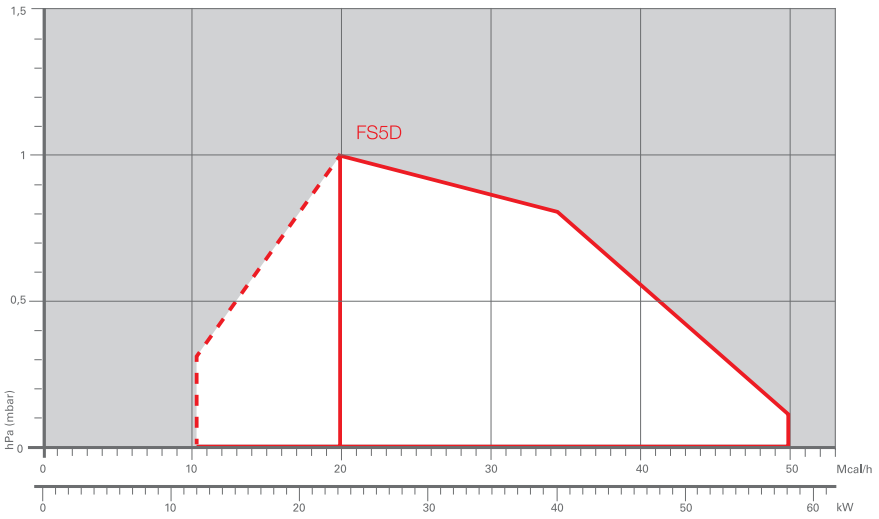
RIELLO
BURNERS

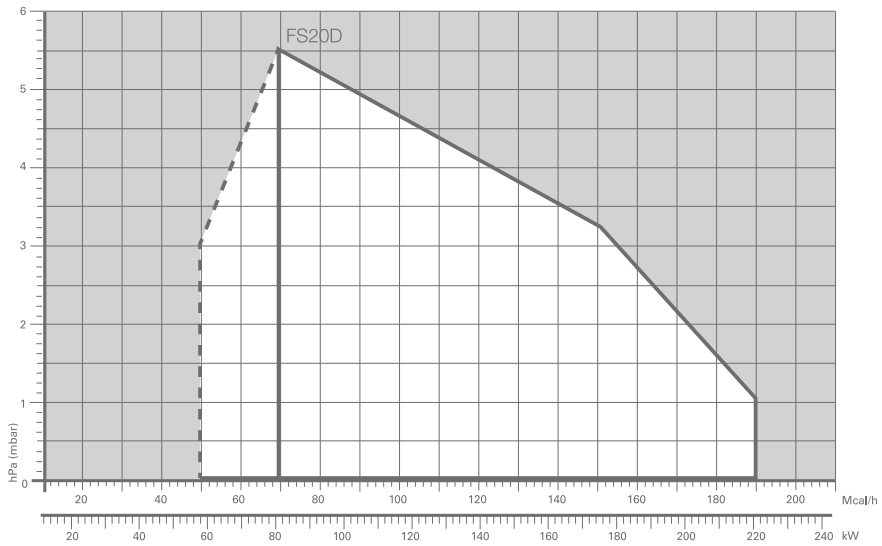
RIELLO 40 FSD SERIES

The Riello 40 FSD series of two stage gas burners, is a complete range of products developed to respond to any request for light industrial process. The Riello 40 FSD series is available in two different models, with an output ranging from 12 to 220 kW, divided in two different structures.
All the models use the same components designed by Riello for the Riello 40 FSD series. The high quality level guarantees safe working.
The Riello 40 FSD burners are fitted with a microprocessor - based control box, with diagnostic functions.
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
All the models are approved by the EN 676 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency. All the Riello 40 FSD burners are tested before leaving the factory.

FS5D	12/23	÷	58	kW
FS20D	58/81	÷	220	kW

FIRING RATES





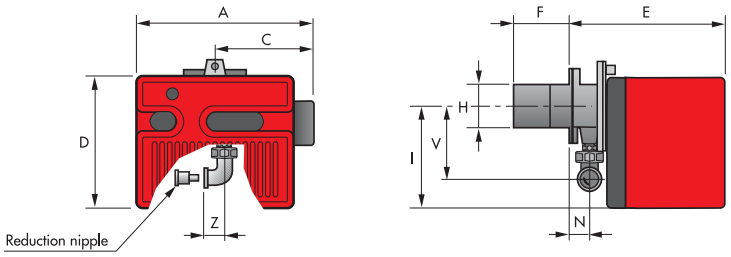
Useful working field for choosing the burner

1st stage operation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

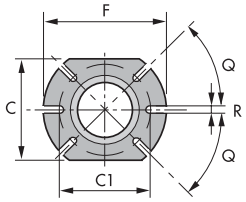
BURNER



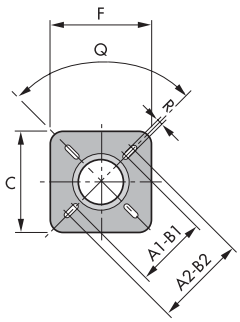
MODEL	A	C	D	E	F	H	I	N	V	Z
▶ FS5D	306	170	233	295	100	91	180	48	138	28
▶ FS20D	413	238	298	389	120	125	230	67	152	33

BURNER - BOILER MOUNTING FLANGE

FS5D

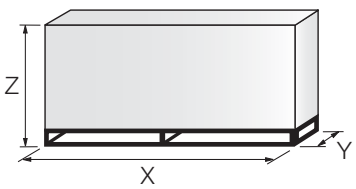


FS20D



MODEL	A1	A2	B1	B2	C	C1	F	Q	R
▶ FS5D	-	-	-	-	140	130	170	45°	10
▶ FS20D	155	200	155	200	170	-	170	90°	11

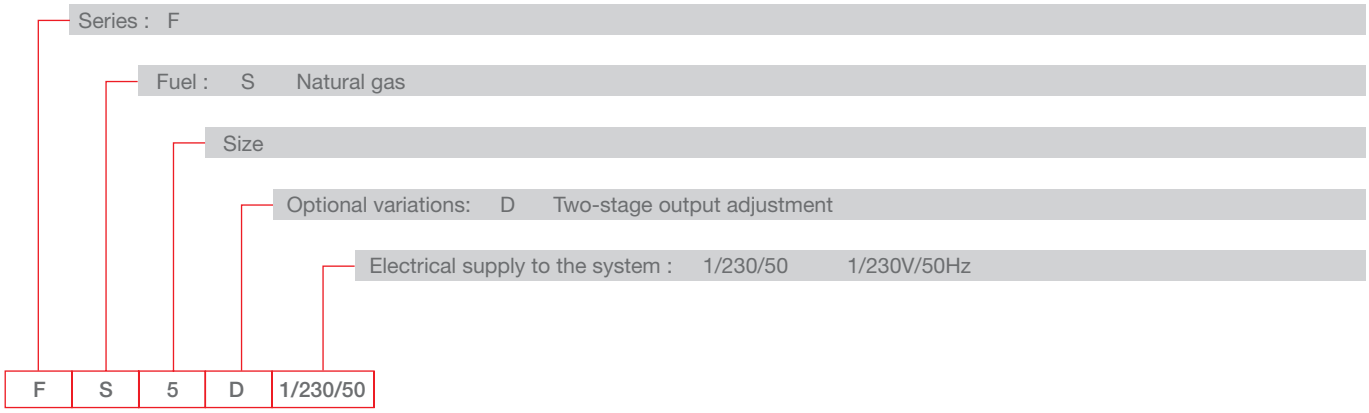
PACKAGING



MODEL	X	Y	Z	kg
▶ FS5D	445	355	325	11
▶ FS20D	535	535	375	22

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, with two stage settings fitted with:
- Fan with forward curve blades
- Metallic cover
- Air damper, completely closed in stand by, driven by an electric servomotor
- Air damper with 1st and 2nd stage adjustement
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box MG 557 (with diagnostic, remote reset, continuous purge integrated, recycle, post-purge)
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Insulating gasket
- Screws and nuts for fixing the flange to the boiler
- Hinge
- Cable grommet
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3758705	FS5D	1/230/50	12/23 - 58	1,2/2,3 - 5,8	0,110	CE – 0063 AP6680	(1)
3759105	FS20D	1/230/50	58/81 - 220	5,8/8,1 - 22	0,250	CE – 0063 AP6680	(1)

Net calorific value G20: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3
The burners of FSD series are in according to EN 676
(1) With terminal block.

Gas Trains

MULTIBLOC GAS TRAINS

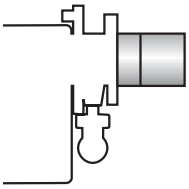
GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
3970555	MBZRDLE 405	FS5D		FS5D		(1)
3970537	MBZRDLE 407	FS20D		FS20D		(1) (2)
3970534	MBZRDLE 410	FS20D		FS20D		(1)

* Gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) With installed plug (if the plug is not necessary, remove it in accordance with gas train instruction manual indication)
(2) FS20D ≤ 180 kW with natural gas

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



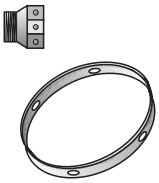
Burners “standard head” can be transformed into “extended head” versions by using the special kit. Here the KITS available for the various burners are listed, showing the original and the extended lengths.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ FS5D	100	125	3000820
▶ FS20D	120	280	3000873

End cone with turbulator disk

BURNER	PROJECTION (mm)	KIT CODE
▶ FS5D	+15	3000916
▶ FS20D	+23	3000919

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ FS5D	3000882	3000882
▶ FS20D	3000886	3000886

Town gas kit

BURNER	KIT CODE
▶ FS5D	3000889
▶ FS20D	3000893

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ FS5D - FS20D	3000945

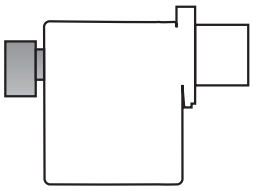
Burner accessories

Continuous ventilation kit for RMG control box

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ FS20D	3010094

Remote reset control kit for MG 557/3 control box



The MG 557 control box can be remotely released using an electric command kit. This kit must be installed in conformity with the local authority.

BURNER	KIT CODE
▶ FS5D	3002750

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ FS5D	3002731
▶ FS20D	3002719

Gas train accessories

Seal control kit

To test the valve seals on the gas train a special “seal control kit” is available.

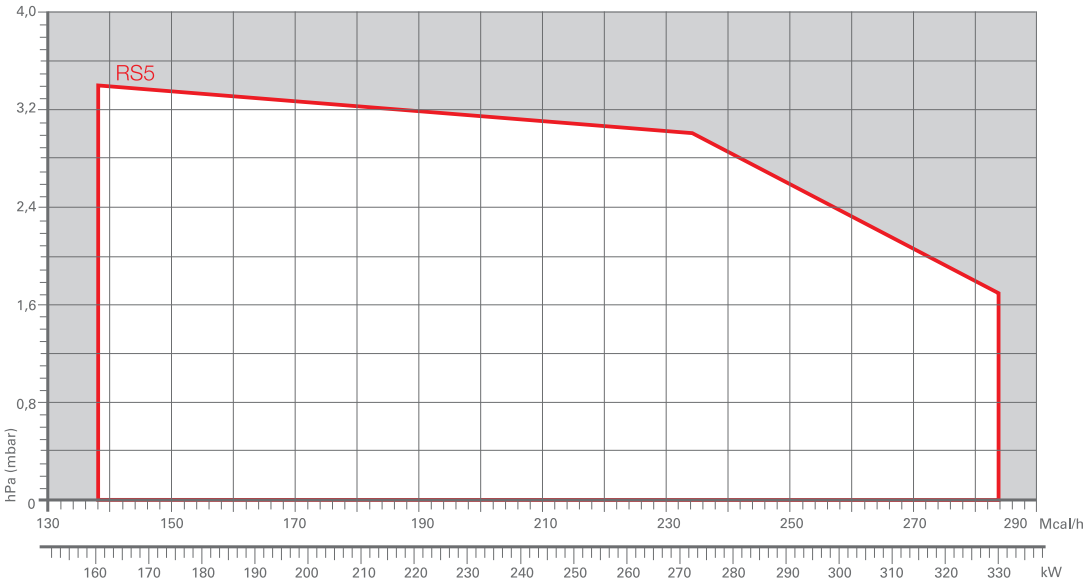
BURNER	KIT CODE
▶ FS5D - FS20D	3010123

GULLIVER RS SERIES

The Riello Gulliver RS5 is a new model of the series of one stage gas burners, characterized for its small dimensions in spite of its high combustion performance. It has been developed to respond to any request for home heating, conforming to current regulations in force.
This model uses the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.
The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.
In developing this burner, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
This model is approved by the EN 676 European Standard and European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.
The Gulliver RS5 burner is tested before leaving the factory.

RS5	160 ÷ 330 kW

FIRING RATES

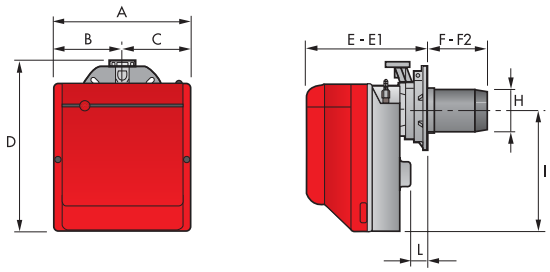


Useful working field for choosing the burner

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

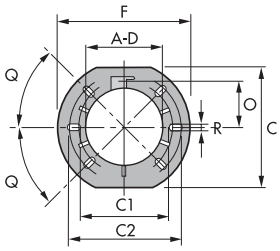
Overall dimensions (mm)

BURNER



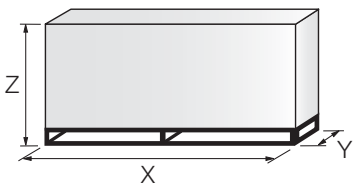
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ RS5	300	150	150	392	278	300	225	203	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
▶ RS5	137	203	170	200	137	218	80,5	45°	11

PACKAGING



MODEL	X	Y	Z	kg
▶ RS5	600	345	430	18

Specification

DESIGNATION OF SERIES

Series:	R	Standard emission burner
	B	Low NOx burners
Fuel:	S	Natural gas
	SP	LPG
	G	Light oil
Size		
Possible variations:	R	Light oil pre-heater
	K	Cone shaped head
	S	Reduced output ignition
	D	Two stage output operation
Electrical supply to the system:	1/230/50	1/230V/50Hz

R	S	5		1/230/50

STATE OF SUPPLY

Monoblock, gas burner, completely automatic, one stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, with external adjustment, with no need to remove the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3761958	RS5	1/230/50	160 - 330	16 - 33	0,430	CE - 0085 BM0114	(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.
The burners of RS series are in according to EN 676.
(1) With plug and socket.

Gas Trains

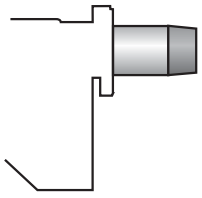
	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC	3970549	MBDLE 410	RS5		RS5		(1) (2)
	3970550	MBDLE 412	RS5		RS5		(1) (3)
	3970558	MBDLE 415	RS5		RS5		(1)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) With installed plug.
(2) RS5 ≤ 200 kW with natural gas.
(3) RS5 ≤ 300 kW with natural gas.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



Burners standard head can be transformed into “extended head” versions by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS5	203 ÷ 225	357 ÷ 372	3001016

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ RS5	3001011	3001011

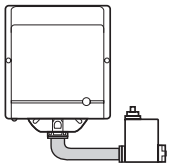
Burner accessories

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ RS5	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ RS5	3001178

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ RS5	3000945

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RS5	3002731

Gas train accessories

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available.

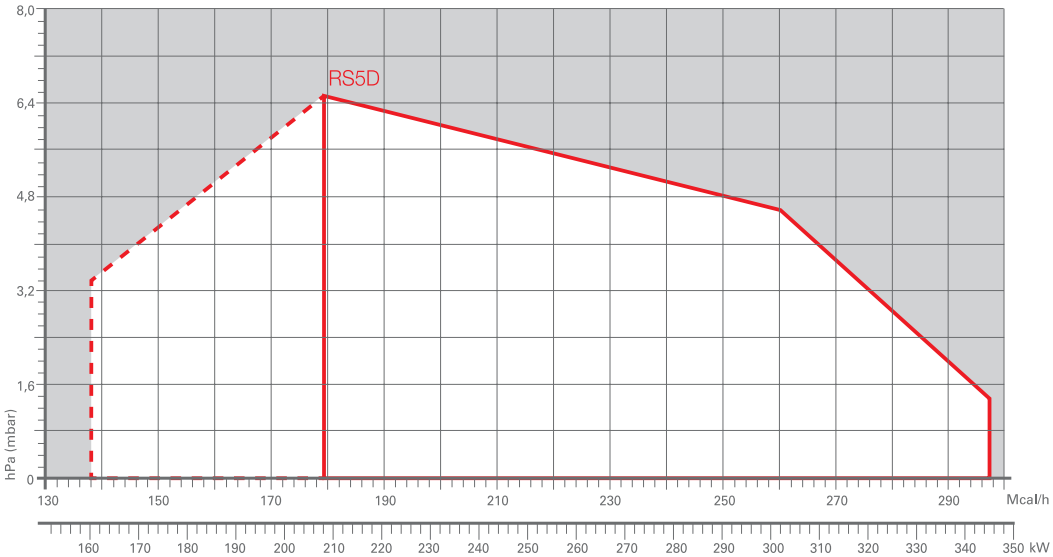
BURNER	KIT CODE
▶ RS5	3010123

GULLIVER RSD SERIES

The Riello Gulliver RS5D is a new model of the series of two stage gas burners, characterized for its small dimensions in spite of its high combustion performance. It has been developed to respond to any request for home heating, conforming to current regulations in force. This models uses the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.
The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.
In developing this burner, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.
This model is approved by the EN 676 European Standard and European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.
The Gulliver RS5D burner is tested before leaving the factory.

RS5D	160/208 ÷ 345 kW

FIRING RATES



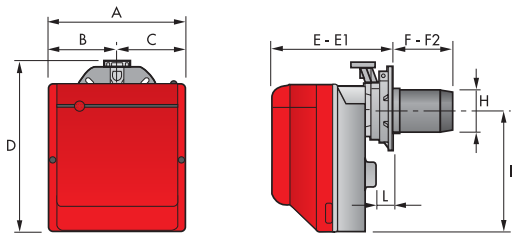
Useful working field for choosing the burner

1st stage operation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

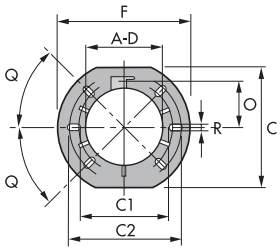
Overall dimensions (mm)

BURNER



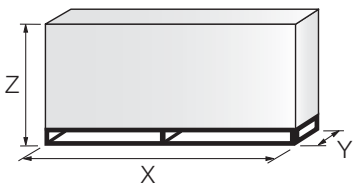
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ RS5D	300	150	150	392	278	300	203	225	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
▶ RS5D	137	203	170	200	137	218	80,5	45°	11

PACKAGING



MODEL	X	Y	Z	kg
▶ RS5D	600	345	430	18

Specification

DESIGNATION OF SERIES

Series:	R	Standard emission burner
	B	Low NOx burners
Fuel:	S	Natural gas
	SP	LPG
	G	Light oil
Size		
Possible variations:	R	Light oil pre-heater
	K	Cone shaped head
	S	Reduced output ignition
	D	Two stage output operation
Electrical supply to the system:	1/230/50	1/230V/50Hz

R	S	5	D	1/230/50

STATE OF SUPPLY

Monoblock, gas burner, completely automatic, with two stage settings fitted with:
- Fan with forward curve blades
- Cover lined with sound - proofing material
- Air damper, with 1st and 2nd stage adjustment, driven by an electric servomotor
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- 4-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3762058	RS5D 1/230/50	160/208 - 345	16/20,8 - 34,5	0,450	CE - 0085 BN0325	(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.
The burners of RSD series are in according to EN 676.
(1) With plug and socket.

Gas Trains

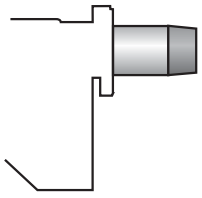
	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC	3970542	MBZRDLE 410	RS5D		RS5D		(1) (2)
	3970543	MBZRDLE 412	RS5D		RS5D		(1) (3)
	3970582	MBZRDLE 415	RS5D		RS5D		(1)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) With installed plug.
(2) RS5D ≤ 200 kW with natural gas.
(3) RS5D ≤ 300 kW with natural gas.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



Burners standard head can be transformed into “extended head” versions by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS5D	203 ÷ 225	357 ÷ 372	3001016

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ RS5D	3001011	3001011

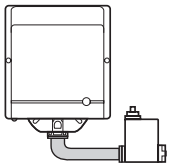
Burner accessories

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ RS5D	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ RS5D	3001178

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ RS5D	3000945

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RS5D	3002731

Gas train accessories

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available.

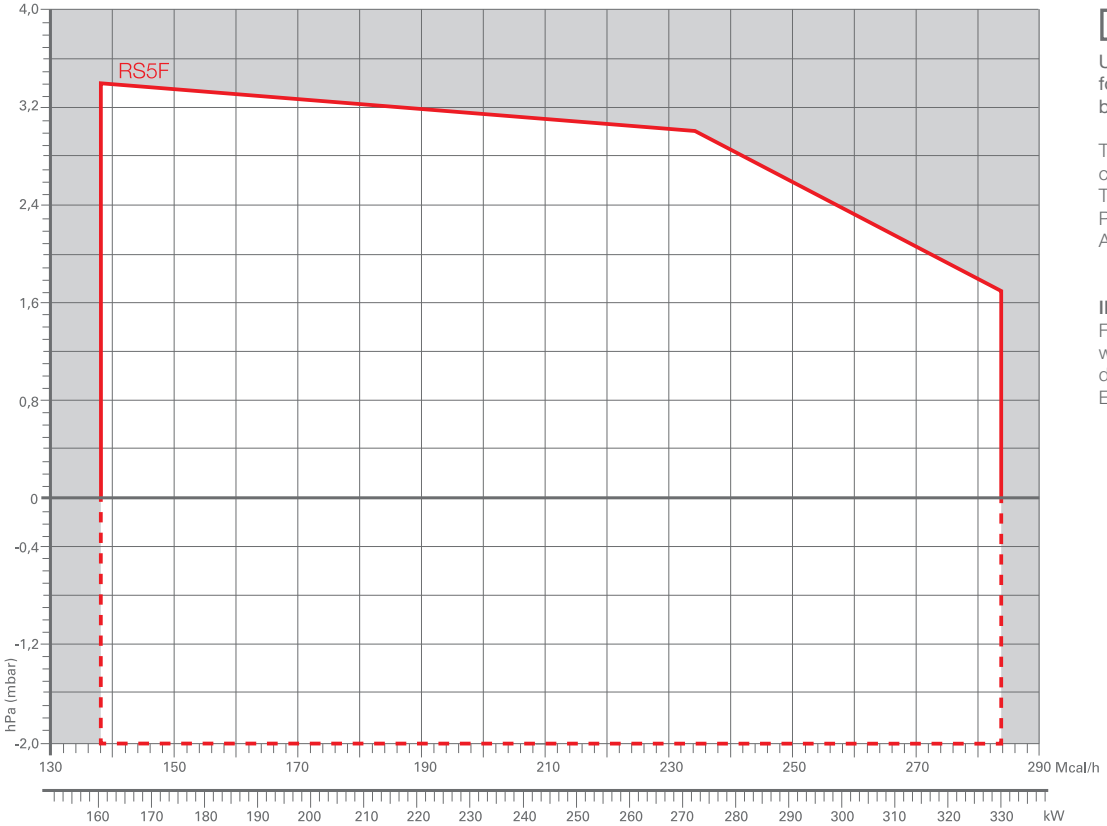
BURNER	KIT CODE
▶ RS5D	3010123

GULLIVER RSF SERIES

The Riello Gulliver RS5F, is a new model of the series of one stage gas burners, developed to respond to any request for light industrial processes like bakery ovens, spray painting ovens, small steam or thermal boilers and all applications which require a reliable, user-friendly industrial product with enhanced performance and specific functions.
The Gulliver RS5F series has an output ranging from 160 to 330 kW, uses the same components designed by Riello for the Gulliver series and have the same ventilation system and overall dimensions as the previous one stage gas model.
The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.
This new burner can operate on 50 or 60 Hz and a Voltage 220 - 230 Volt (dual frequency) and it is conform to the EN 676 Standard (Forced draught gas burners) and to European Directives for EMC, Low Voltage and Machinery. For depressurised working field see EN 746-2 Standard.
All the Gulliver RS5F burners are fired before leaving the factory.

RS5F	160 ÷ 330 kW

FIRING RATES



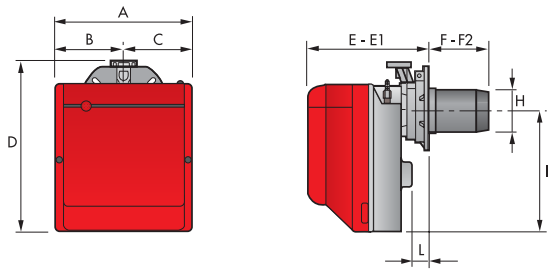
Useful working field for choosing the burner

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

IMPORTANT:
For the part of the working field that is depressurised, refer to EN 746-2 Standard.

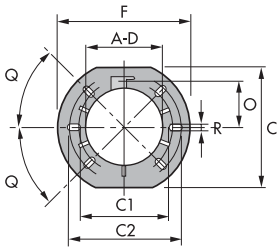
Overall dimensions (mm)

BURNER



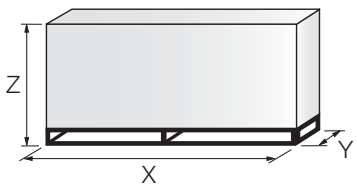
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ RS5F	300	150	150	392	278	300	225	203	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
▶ RS5F	137	203	170	200	137	218	80,5	45°	11

PACKAGING



MODEL	X	Y	Z	kg
▶ RS5F	600	345	430	18

Specification

DESIGNATION OF SERIES

Series:	R	Standard emission burner
	B	Low NOx burners
Fuel:	S	Natural gas
	SP	LPG
	G	Light oil
Size		
Possible variations:	F	Light industrial processes
Electrical supply to the system:	1/220-230/50-60	1/220-230V/50-60Hz

R	S	5	F	1/230/50

STATE OF SUPPLY

Monobloc, gas burner, completely automatic, one stage operation, made up of:
- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, always open in stand by, with external adjustment, with no need to remove the cover
- Single phase electric motor 220-230 V, 50-60 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Flange with insulating gasket
- Screw and nut for flange
- Screws and nuts for flange to be fixed to the heat generator
- 7-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL		HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3761971	RS5F	1/220-230/50-60	160 - 330	16,0 - 33,0	0,430 (at 50 Hz) - 0,600 (at 60 Hz)	CE - 0085 BM0114	(1)

Net calorific value G20: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3.
The burners of RSF series are in according to EN 676.
(1) With plug and socket.

Gas Trains

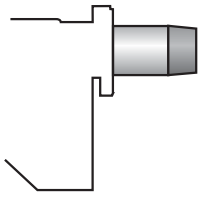
	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC	3970549	MBDLE 410	RS5F		RS5F		(1) (2)
	3970550	MBDLE 412	RS5F		RS5F		(1) (3)
	3970558	MBDLE 415	RS5F		RS5F		(1)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) With installed plug.
(2) RS5F ≤ 200 kW with natural gas.
(3) RS5F ≤ 300 kW with natural gas.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



Burners standard head can be transformed into “extended head” versions by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS5F	203 ÷ 225	302 ÷ 317	3001016

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ RS5F	3001011	3001011

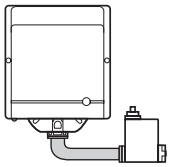
Burner accessories

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ RS5F	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ RS5F	3001178

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ RS5F	3000945

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RS5F	3002731

Gas train accessories

Seal control kit

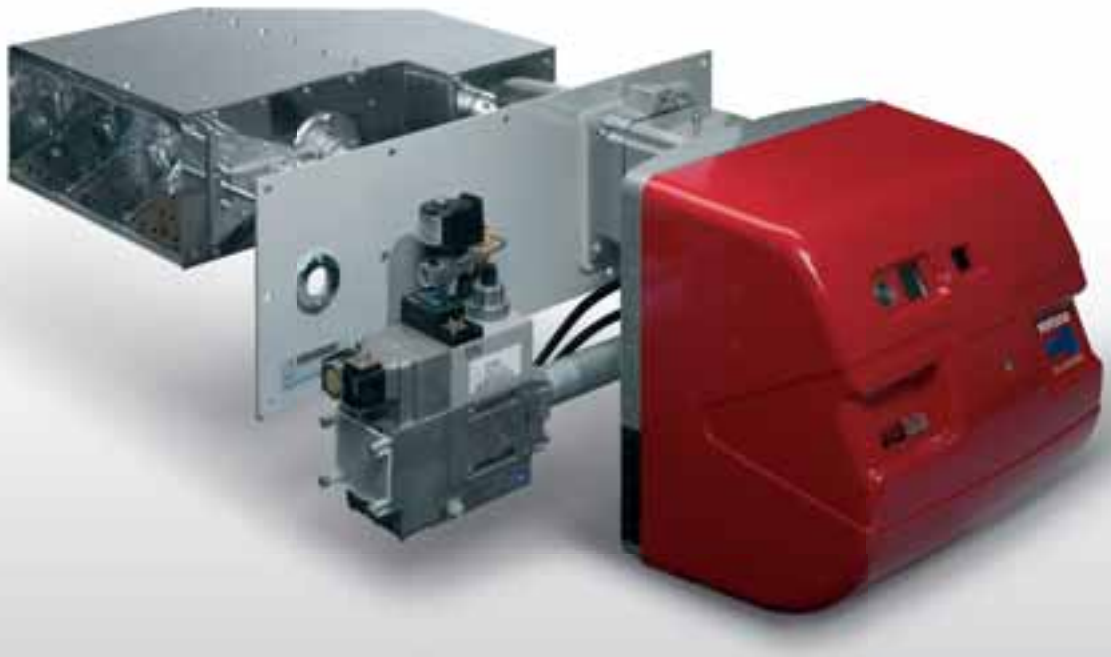
To test the valve seals on the gas train, a special “seal control kit” is available.

BURNER	GAS TRAIN	KIT CODE
▶ RS5F	MBDLE 410 - 412 - 415	3010123

Riello RS VA series

Air Duct Burners

Direct heating applications with low temperature



- Complete combustion at every output level thanks to a pre-adjusted air delivery system
- Excellent flame stability and uniform combustion
- Simple use
- Reduced flame length
- Operation with natural gas and LPG without installing accessory kits
- “Ready-to-install” package
- Thermal exchange efficiency near to 100%
- 8:1 modulation ratio (optional version)
- “Package” configuration “L” or “T” shape to suit to different types of applications
- Suitable for 50-60 Hz

RS 28 VA 225	30/180-270 kW
RS 38 VA 300	30/270-360 kW
RS 50 VA 450	90/360-530 kW
RS 70 VA 600	120/530-700 kW

The new Riello Burners RS VA series of duct burners has been designed for the installation in direct heating systems with medium-low temperature levels, as the ones adopted in spray booths.
This burner is particularly suitable for situation of elevated re-circulation and high air delivery variability, thanks to the dedicated fan. Moreover, the protection of the combustion head from the primary air flow avoids the settlement of impurities on the combustion module, guaranteeing long-lasting operation efficiency.

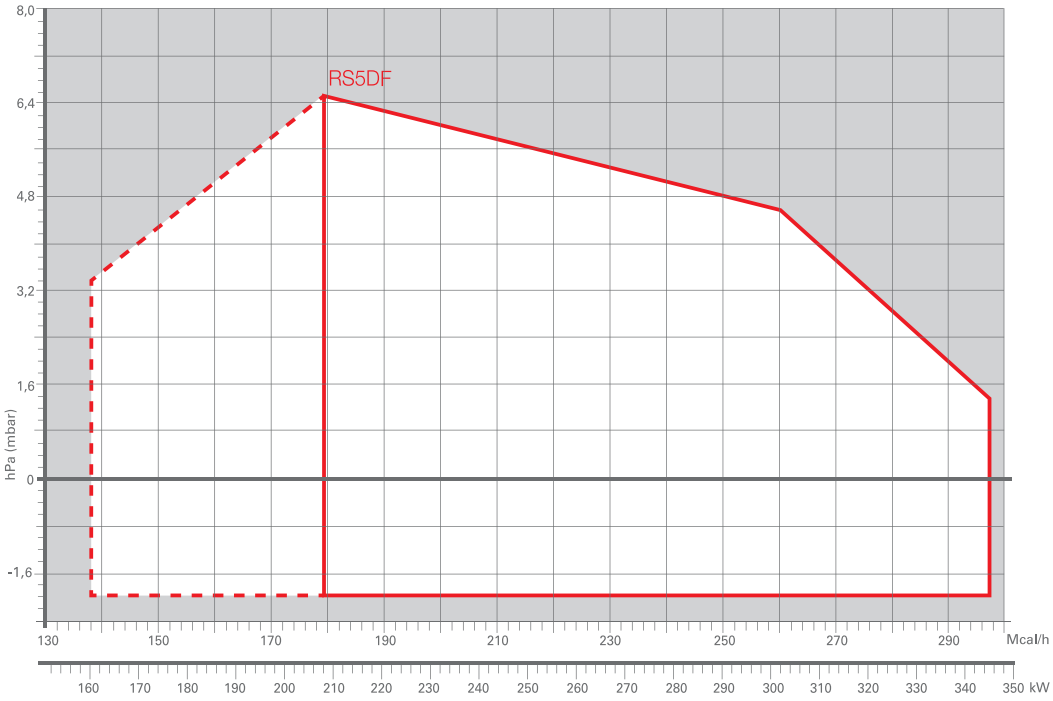
RIELLO BURNERS

GULLIVER RSDF SERIES

The Riello Gulliver RS5DF is a new model of the series of two stage gas burners, characterized for its small dimensions in spite of its high combustion performance. It has been developed to respond to any request for light industrial processes like bakery ovens, spray painting ovens, small steam or thermal boilers and all applications which require a reliable, user-friendly industrial product with enhanced performance and specific functions.
This model uses the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.
The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.
This new burner can operate on 50 or 60 Hz and a Voltage 220 - 230 Volt (dual frequency) and it is conform to the EN 676 Standard (Forced draught gas burners) and to European Directives for EMC, Low Voltage and Machinery. For depressurised working field see EN 746-2 Standard.
The Gulliver RS5DF burner is tested before leaving the factory.

RS5DF	160/208 ÷ 345 kW

FIRING RATES



Useful working field for choosing the burner

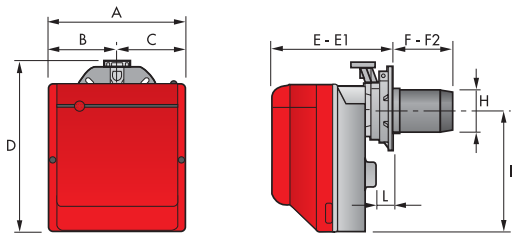
1st stage operation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

GAS

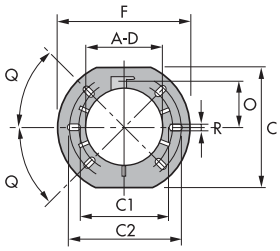
Overall dimensions (mm)

BURNER



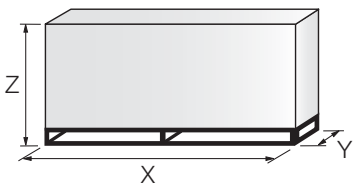
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ RS5DF	300	150	150	392	278	300	203	225	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
▶ RS5DF	137	203	170	200	137	218	80,5	45°	11

PACKAGING



MODEL	X	Y	Z	kg
▶ RS5DF	600	345	430	18

Specification

DESIGNATION OF SERIES

Series:	R	Standard emission burner
	B	Low NOx burners
Fuel:	S	Natural gas
	SP	LPG
	G	Light oil
Size		
Possible variations:	R	Light oil pre-heater
	K	Cone shaped head
	S	Reduced output ignition
	D	Two stage output operation
	F	Light Industrial Processes
Electrical supply to the system:	1/220-230/50-60	1/220-230V/50-60Hz

R	S	5	DF	1/230/50

STATE OF SUPPLY

Monoblock, gas burner, completely automatic, with two stage settings fitted with:
- Fan with forward curve blades
- Cover lined with sound - proofing material
- Air damper, with 1st and 2nd stage adjustment, driven by an electric servomotor
- Single phase electric motor 220-230 V / 50-60 Hz
- Combustion head fitted with:
    - stainless steel head cone, resistant to high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:
- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- 4-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3761991	RS5DF 1/220-230/50-60	160/208 - 345	16/20,8 - 34,5	0,450 (at 50 Hz) - 0,60 (at 60 Hz)		(1)

Net calorific value G20: 10 kWh/Nm^3 - Density: 0,71 kg/Nm^3.
The burners of RSD series are in according to EN 676.
(1) With plug and socket.

Gas Trains

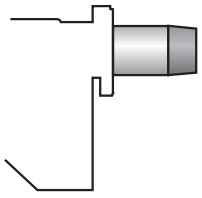
	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC	3970542	MBZRDLE 410	RS5DF		RS5DF		(1) (2)
	3970543	MBZRDLE 412	RS5DF		RS5DF		(1) (3)
	3970582	MBZRDLE 415	RS5DF		RS5DF		(1)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) With installed plug.
(2) RS5D ≤ 200 kW with natural gas.
(3) RS5D ≤ 300 kW with natural gas.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



Burners standard head can be transformed into “extended head” versions by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS5DF	203 ÷ 225	357 ÷ 372	3001016

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ RS5DF	3001011	3001011

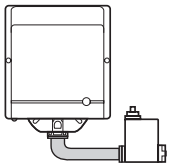
Burner accessories

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ RS5DF	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ RS5DF	3001178

7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

BURNER	KIT CODE
▶ RS5DF	3000945

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RS5DF	3002731

Gas train accessories

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available.

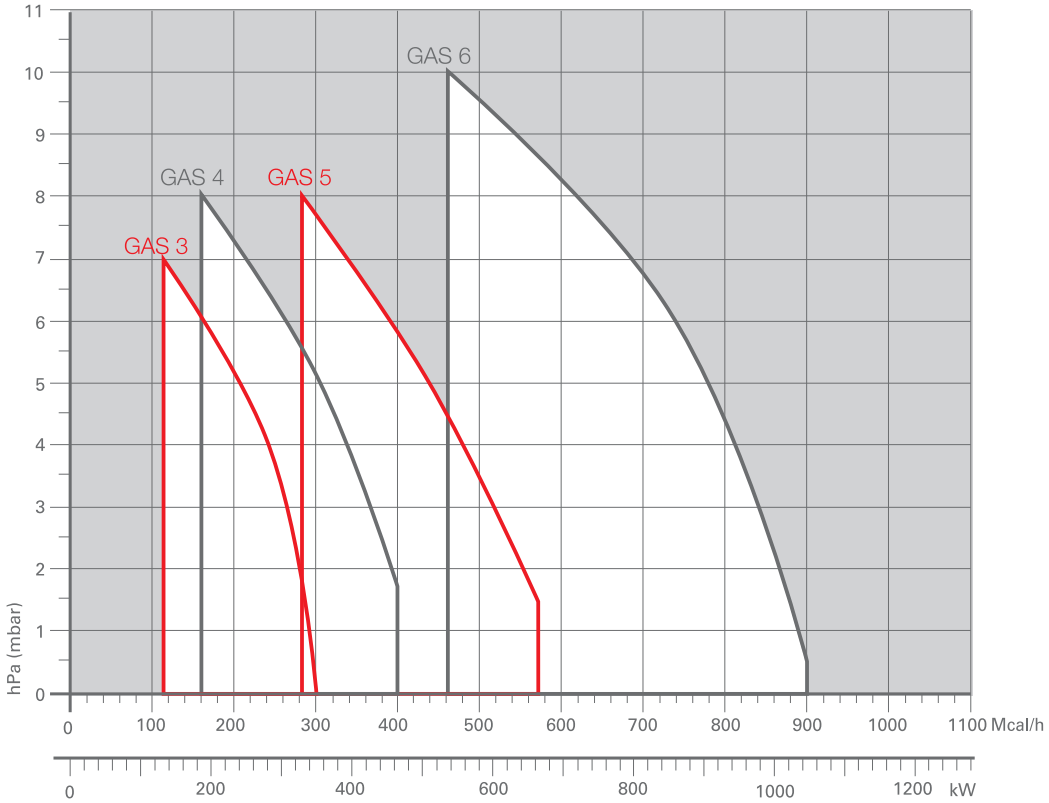
BURNER	KIT CODE
▶ RS5DF	3010123

GAS SERIES

The GAS series of burners cover a firing range from 130 to 1050 kW.
Operation is “one stage”; the combustion head, that can be set on the basis of required output, allows optimal performance ensuring good combustion and reducing fuel consumption.
The GAS series are extremely reliable burners, featured by a simple use and an operation without particular maintenance intervention.
Simplified maintenance is achieved by the slide bar system, which allows easy access to all of the essential components of the combustion head. All electrical components are easily accessible only by dismounting a protection panel, thus guaranteeing a quick and simple intervention on components.

GAS 3	130	÷	350	kW
GAS 4	185	÷	465	kW
GAS 5	325	÷	660	kW
GAS 6	525	÷	1050	kW

FIRING RATES

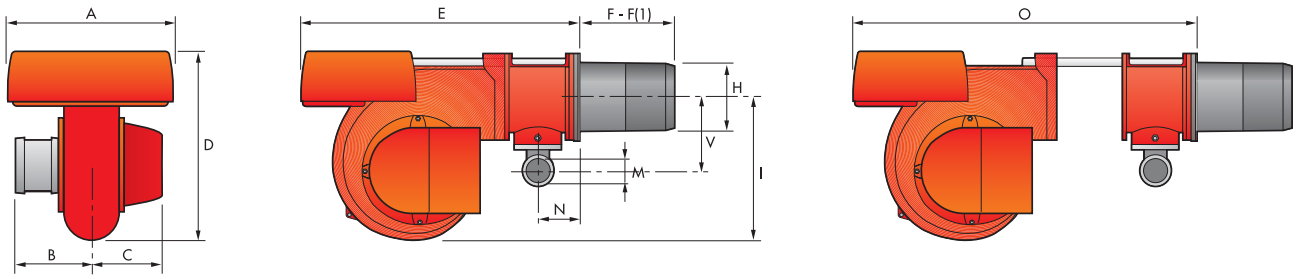


Useful working field for choosing the burner

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

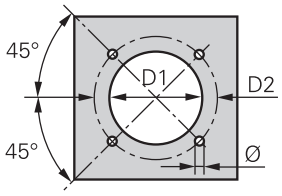
BURNER



MODEL	A	B	C	D	E	F - F (1)	H	I	M	N	O	V
▶ GAS 3	410	205	205	397	610	185 - 320	140	292	1”1/2	97	775	165
▶ GAS 4	410	205	205	397	610	187 - 320	150	292	1”1/2	97	775	165
▶ GAS 5	431	226	205	437	645	207 - 365	155	332	1”1/2	97	810	165
▶ GAS 6	463	258	205	485	770	227 - 360	175	370	2”	131	966	195

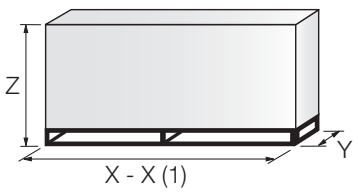
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ GAS 3	155	226	M10
▶ GAS 4	165	226	M10
▶ GAS 5	165	226	M10
▶ GAS 6	185	276	M12

PACKAGING



MODEL	X - X (1)	Y	Z	kg
▶ GAS 3	850	545	473	32
▶ GAS 4	850	545	473	38
▶ GAS 5	895	543	520	41
▶ GAS 6	1045	543	555	58

(1) Length with extended combustion head

Specification

DESIGNATION OF SERIES

Series : GAS

Size

Operation : ... One stage
/2 Two stage
P/M Modulating

Emission : ... Class 1 EN676

Head : TC Standard head
TL Extended head

Flame control system : FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :

1/230/50	1/230V/50Hz
1/240/50	1/240V/50Hz
1/220/60	1/220V/60Hz
1/200/50-60	1/200V/50-60Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
3/200/50-60	3/200V/50-60Hz

Auxiliary voltage :

230/50	230V/50Hz
240/50	240V/50Hz
220/60	220V/60Hz
200/50-60	200V/50-60Hz

GAS	6			TC	FS1	3/230-400/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner, one stage operation, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air damper for air setting
- Combustion head, that can be set on the basis of required output, fitted with:
- stainless steel end cone, resistant to corrosion and high temperatures
- ignition electrodes
- flame stability disk
- Minimum air pressure switch
- Single phase or three phases electrical motor
- Microprocessor-based burner safety control box, with diagnostic function
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 1 insulating screen
- 8 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
			NATURAL GAS			
		(kW)	(Nm^3/h)	(kW)		
3751987	GAS 3 TC FS1 1/200/50-60 200/50-60	130-350	13-35	0,48-0,6	-	
3751982	GAS 3 TC FS1 1/220/60 220/60	130-350	13-34	0,4	-	
3751918	GAS 3 TC FS1 1/230/50 230/50	130-350	13-35	0,4	CE 0085AQ0707	
3751960	GAS 3 TC FS1 1/240/50 240/50	130-350	13-35	0,4	-	
3751961	GAS 3 TL FS1 1/240/50 240/50	130-350	13-36	0,4	-	
3751617	GAS 4 TC FS1 1/230/50 230/50	185-465	18,5-46,5	0,54	-	
3751687	GAS 4 TC FS1 3/200/50-60 200/50-60	180-470	18-47	0,6	-	
3751682	GAS 4 TC FS1 3/220-380/60 220/60	180-470	18-47	0,6	-	
3751787	GAS 5 TC FS1 3/200/50-60 200/50-60	320-660	32-66	0,85	-	
3751782	GAS 5 TC FS1 3/220-380/60 220/60	320-660	32-66	1,1	-	
3751717	GAS 5 TC FS1 3/230-400/50 230/50	325-660	32,5-66	0,85	-	
3751887	GAS 6 TC FS1 3/200/50-60 200/50-60	525-1050	52-105	1,7	-	
3751882	GAS 6 TC FS1 3/220-380/60 220/60	525-1050	52-105	1,7	-	
3751817	GAS 6 TC FS1 3/230-400/50 230/50	525-1050	52,5-105	1,7	-	

Natural gas G20 net calorific value: 10 kWh/Nm^3 - Density gas G20: 0,71 kg/Nm^3
The burners of GAS series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676 Norm.

Available models

Gas Trains

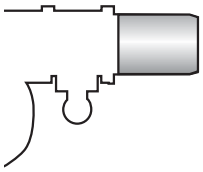
	GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC GAS TRAINS	3970556	MBZRDLE 407	GAS 3	3000824	GAS 3	3000824	(1)
	3970557	MBZRDLE 410	GAS 3	3000824	GAS 3	3000824	(1)
			GAS 4	3000824	GAS 4	3000824	
			GAS 5	3000824	GAS 5	3000824	
					GAS 6	3000824+3000843	
	3970152	MBZRDLE 412	GAS 3	-	GAS 3	-	(1)
			GAS 4	-	GAS 4	-	
			GAS 5	-	GAS 5	-	
			GAS 6	3000843	GAS 6	3000843	
	3970183	MBZRDLE 415	GAS 3	-	GAS 3	-	(1)
			GAS 4	-	GAS 4	-	
			GAS 5	-	GAS 5	-	
			GAS 6	3000843	GAS 6	3000843	
	3970184	MBZRDLE 420	GAS 4	3000822	GAS 4	3000822	(1)
			GAS 5	3000822	GAS 5	3000822	
			GAS 6	-	GAS 6	-	
	3970185	MBZRDLE 420 CT	GAS 4	3000822	GAS 4	3000822	(2)
			GAS 5	3000822	GAS 5	3000822	
			GAS 6	-	GAS 6	-	
COMPOSED GAS TRAINS	3970153	CB 40/2	GAS 3	-	GAS 3	-	(1)
			GAS 4	-	GAS 4	-	
			GAS 5	-	GAS 5	-	
			GAS 6	3000843	GAS 6	3000843	
	3970154	CB 50/2	GAS 4	3000822	GAS 4	3000822	(1)
			GAS 5	3000822	GAS 5	3000822	
			GAS 6	-	GAS 6	-	
	3970166	CB 50/2 CT	GAS 4	3000822	GAS 4	3000822	(2)
			GAS 5	3000822	GAS 5	3000822	
			GAS 6	-	GAS 6	-	
	3970155	CBF 65/2	GAS 6	3000825	-	-	(1)
	3970167	CBF 65/2 CT	GAS 6	3000825	-	-	(2)

* gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) Seal control accessory
(2) Seal control incorporated

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GAS 3	185	320	3000605
▶ GAS 4	187	320	3000606
▶ GAS 5	207	365	3000607
▶ GAS 6	227	360	3000608

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

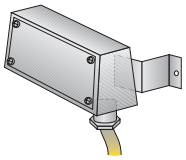
BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ GAS 3 - 4 - 5 - 6	142	3000755

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ GAS 3 - 4 - 5 - 6	3010030

Post-ventilation kit



To prolong ventilation for approximately 5 seconds after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ GAS 3 - 4 - 5 - 6	3010004

Sound proofing box

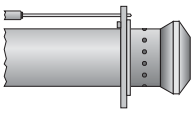
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ GAS 3 - 4 - 5 - 6	C1/3	10	3010403

(*) according to EN 15036-1 standard

Burner accessories

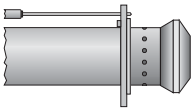
LPG kit



For burning LPG gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GAS 3	3000657	3000807
▶ GAS 4	3000658	3000808
▶ GAS 5	3000659	3000809
▶ GAS 6	3000753	3000810

Town Gas kit



For burning Town Gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD(*)
▶ GAS 3	3000742	-
▶ GAS 4	3000754	-
▶ GAS 5	3000759	-
▶ GAS 6	3000768	-

(*) Without CE certification

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ GAS 3 - 4 - 5 - 6	3002719

Protection kit (electromagnetic interferences)

This kit is available as an interface between the thermostatic controls and the burner, to be used in systems where the lengths of the thermostat connections is over 20 meters, or where the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m).

BURNER	KIT CODE
▶ GAS 3 - 4 - 5 - 6	3010386

Gas train accessories

Adapters

When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ GAS 3	MBZRDLE 407 - 410	3/4" 1" 1/2	3000824
▶ GAS 4	MBZRDLE 410	3/4" 1" 1/2	3000824
	MBZRDLE 420 - CB 50/2	2" 1" 1/2	3000822
▶ GAS 5	MBZRDLE 410	3/4" 1" 1/2	3000824
	MBZRDLE 420 - CB 50/2	2" 1" 1/2	3000822
▶ GAS 6	MBZRDLE 410	3/4" 1" 1/2	3000824
		1" 1/2 2"	3000843
	MBZRDLE 412-415 - CB 40/2	1" 1/2 2"	3000843
	CBF 65/2	1" 1/2 DN 65 2" 1/2 2"	3000825

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available.

BURNER	GAS TRAIN	KIT CODE
▶ GAS 3	MBZRDLE 407 - 410 - 412 - 415	3010123
	CB 40/2	3010125
▶ GAS 4	MBZRDLE 410 - 412 - 415 - 420	3010123
	CB 40/2 - 50/2	3010125
▶ GAS 5	MBZRDLE 410 - 412 - 415 - 420	3010123
	CB 40/2 - 50/2	3010125
▶ GAS 6	MBZRDLE 410 - 412 - 415 - 420	3010123
	CB 40/2 - 50/2 - 65/2	3010125

Stabiliser spring

Accessory springs are available to vary the pressure range of the gas train stabilisers.

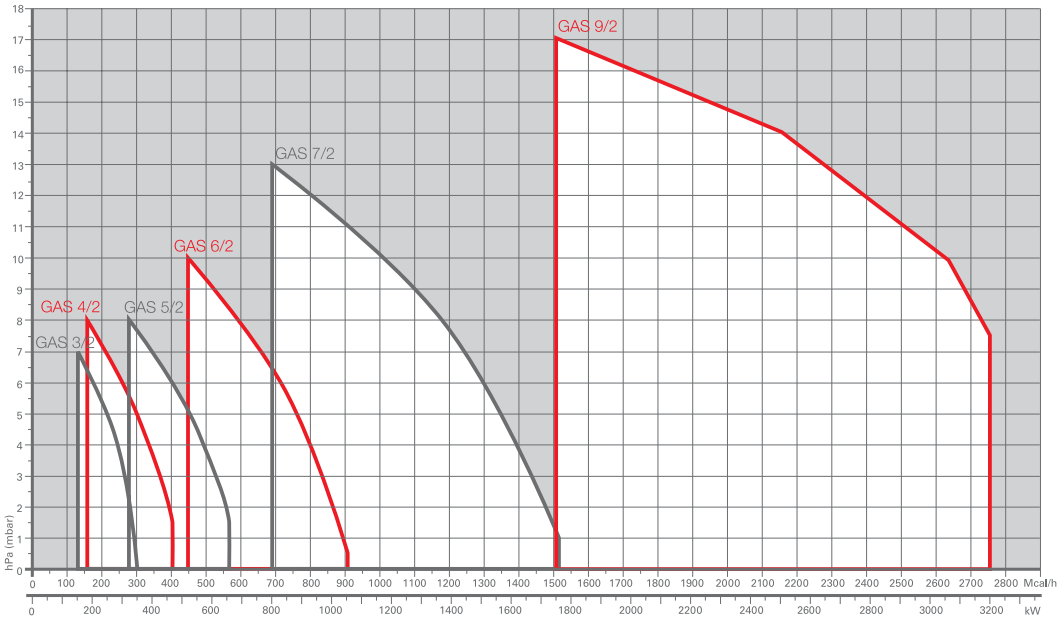
GAS TRAIN	SPRING	CODE
▶ CBF 65/2	Red from 25 to 55 mbar	3010133
▶ CBF 65/2	Black from 60 to 110 mbar	3010135
▶ CBF 65/2	Pink from 100 to 150 mbar	3090456

GAS/2 SERIES

The GAS/2 series of burners covers a firing range from 130 to 3200 kW and they have been designed for use in civil installations of average dimensions, like building areas and large apartment groups or for use in industrial applications, like small or medium plants.
Operation is two stage; the combustion head, that can be set on the basis of required output, allows optimal performance ensuring good combustion and reducing fuel consumption.
The main feature of these burners is their reliability due to a simple and strong construction, which permits operation without particular maintenance intervention.
Simplified maintenance is achieved by the slide bar system, which allows easy access to all of the essential components of the combustion head. All electrical components are easily accessible only by dismounting a protection panel, thus guaranteeing a quick and simple intervention on components.

GAS 3/2	80/130	÷	350 kW
GAS 4/2	120/180	÷	470 kW
GAS 5/2	155/320	÷	660 kW
GAS 6/2	300/520	÷	1050 kW
GAS 7/2	400/800	÷	1760 kW
GAS 9/2	1000/1750	÷	3200 kW

FIRING RATES



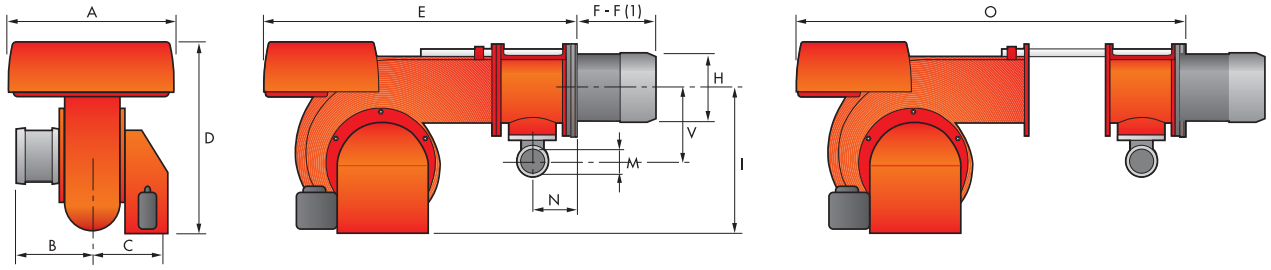
Useful working field for choosing the burner

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

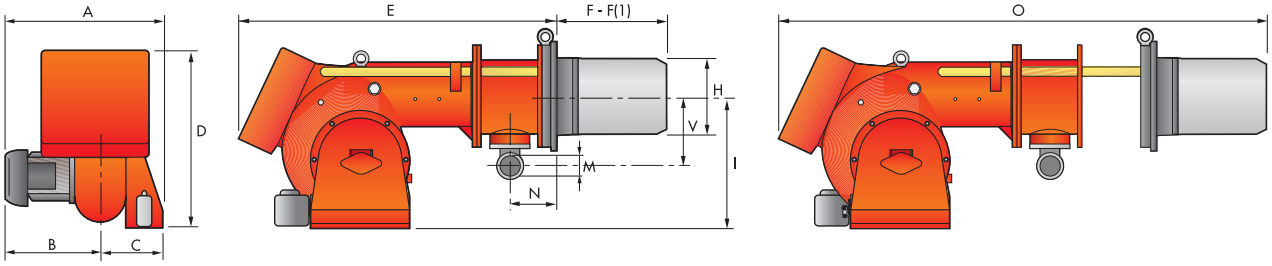
Overall dimensions (mm)

BURNER

GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2



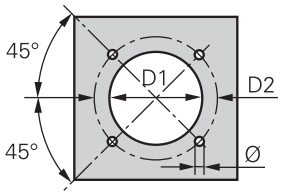
GAS 9/2



MODEL	A	B	C	D	E	F - F (1)	H	I	M	N	O	V
▶ GAS 3/2	410	205	205	397	610	185 - 320	140	292	1"1/2	97	775	165
▶ GAS 4/2	410	205	205	397	610	187 - 320	150	292	1"1/2	97	775	165
▶ GAS 5/2	431	226	205	437	645	207 - 365	155	332	1"1/2	97	810	165
▶ GAS 6/2	463	258	205	485	770	227 - 360	175	370	2"	131	966	195
▶ GAS 7/2	606	358	248	590	920	240 - 400	220	445	2"	140	1142	245
▶ GAS 9/2	780	445	335	680	1200	444 - 574	295	495	2"	168	1627	210

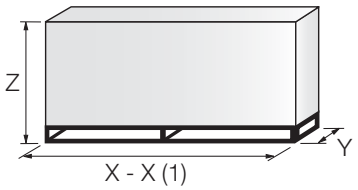
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ GAS 3/2	155	226	M10
▶ GAS 4/2	165	226	M10
▶ GAS 5/2	165	226	M10
▶ GAS 6/2	185	276	M12
▶ GAS 7/2	230	325	M12
▶ GAS 9/2	300	368	M18

PACKAGING



MODEL	X - X (1)	Y	Z	kg
▶ GAS 3/2	850	545	473	34
▶ GAS 4/2	850	545	473	40
▶ GAS 5/2	895	543	520	43
▶ GAS 6/2	1045	543	555	60
▶ GAS 7/2	1245	727	665	98
▶ GAS 9/2	1870	920	910	240

(1) Length with extended combustion head

Specification

DESIGNATION OF SERIES

Series : GAS			
Size			
Operation :	...	One stage	
	/2	Two stage	
	P/M	Modulating	
Emission :	...	Class 1 EN267 - EN676	
Head :	TC	Standard head	
	TL	Extended head	
Flame control system :	FS1	Standard (1 stop every 24 h)	
	FS2	Continuous working (1 stop every 72 h)	
Electrical supply to the system :	1/230/50	1/230V/50Hz	
	1/220/60	1/220V/60Hz	
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz	
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz	
	3/254-440/60	3/254V/60Hz - 3N/440V/60Hz	
	3/265-460/60	3/265V/60Hz - 3N/460V/60Hz	
Auxiliary voltage :	230/50-60	230V/50-60Hz	
	110/50-60	110V/50-60Hz	

GAS	7	/2		TC	FS1	3/230-400/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner, two stage operation, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air damper for air setting
- Combustion head, that can be set on the basis of required output, fitted with:
- stainless steel end cone, resistant to corrosion and high temperatures
- ignition electrodes
- flame stability disk
- Minimum air pressure switch
- Single phase or three phases electrical motor
- Microprocessor-based burner safety control box, with diagnostic function
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 1 insulating screen
- 8 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm³/h)	(kW)		
3752182	GAS 3/2 TC FS1 1/220/60 220/60	80/130-340	8/13-34	0,4	-	
3752118	GAS 3/2 TC FS1 1/230/50 230/50	80/130-350	8/13-35	0,4	CE 0085AQ0707	
3752218	GAS 4/2 TC FS1 1/230/50 230/50	120/180-470	12/18-47	0,54	CE 0085AQ0707	
3752282	GAS 4/2 TC FS1 3/220-380/60 220/60	115/180-470	11,5/18-47	0,6	-	
3752382	GAS 5/2 TC FS1 3/220-380/60 220/60	155/320-660	15,5/32-66	1,1	-	
3752318	GAS 5/2 TC FS1 3/230-400/50 230/50	155/320-660	15,5/32-66	0,85	CE 0085AQ0707	
3752482	GAS 6/2 TC FS1 3/220-380/60 220/60	300/520-1050	30/52-105	1,9	-	
3752418	GAS 6/2 TC FS1 3/230-400/50 230/50	300/520-1050	30/52-105	1,7	CE 0085AQ0707	
3752582	GAS 7/2 TC FS1 3/220-380/60 220/60	400/800-1760	40/80-176	3,8	-	
3752518	GAS 7/2 TC FS1 3/230-400/50 230/50	400/800-1760	40/80-176	3,4	CE 0085AQ0707	
3788300	GAS 9/2 TC FS1 3/230-400/50	1000/1750-3200	100/175-320	9	-	
3788301	GAS 9/2 TL FS1 3/230-400/50	1000/1750-3200	100/175-320	9	-	
3788302	GAS 9/2 TC FS1 3/254-440/60	1000/1750-3200	100/175-320	9	-	
3788303	GAS 9/2 TL FS1 3/254-440/60	1000/1750-3200	100/175-320	9	-	

Natural gas G20 net calorific value: 10 kWh/Nm³ - Density gas G20: 0,71 kg/Nm³
The burners of GAS/2 series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676 Norm.

Available models

Gas Trains

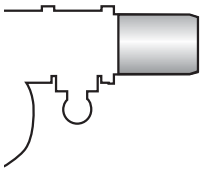
	GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
			BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC GAS TRAINS	3970046	MBZRDLE 407	GAS 3/2	3000824	GAS 3/2	3000824	(1)
	3970079	MBZRDLE 410	GAS 3/2	3000824	GAS 3/2	3000824	(1)
			GAS 4/2	3000824	GAS 4/2	3000824	
			GAS 5/2	3000824	GAS 5/2	3000824	
					GAS 6/2	3000824 + 3000843	
	3970152	MBZRDLE 412	GAS 3/2	-	GAS 3/2	-	(1)
			GAS 4/2	-	GAS 4/2	-	
			GAS 5/2	-	GAS 5/2	-	
			GAS 6/2	3010125	GAS 6/2	3010125	
	3970183	MBZRDLE 415	GAS 3/2	-	GAS 3/2	-	(1)
			GAS 4/2	-	GAS 4/2	-	
			GAS 5/2	-	GAS 5/2	-	
			GAS 6/2	3000843	GAS 6/2	3000843	
			GAS 7/2	3000843	GAS 7/2	3000843	
	3970184	MBZRDLE 420	GAS 4/2	3000822	GAS 4/2	3000822	(1)
			GAS 5/2	3000822	GAS 5/2	3000822	
			GAS 6/2	-	GAS 6/2	-	
			GAS 7/2	-	GAS 7/2	-	
			GAS 9/2	-	GAS 9/2	-	
	3970185	MBZRDLE 420 CT	GAS 4/2	3000822	GAS 4/2	3000822	(2)
			GAS 5/2	3000822	GAS 5/2	3000822	
			GAS 6/2	-	GAS 6/2	-	
			GAS 7/2	-	GAS 7/2	-	
COMPOSED GAS TRAINS	3970153	CB 40/2	GAS 3/2	-	GAS 3/2	-	(1)
			GAS 4/2	-	GAS 4/2	-	
			GAS 5/2	-	GAS 5/2	-	
			GAS 6/2	3000843	GAS 6/2	3000843	
			GAS 7/2	3000843	GAS 7/2	3000843	
	3970154	CB 50/2	GAS 4/2	3000822	GAS 4/2	3000822	(1)
			GAS 5/2	3000822	GAS 5/2	3000822	
			GAS 6/2	-	GAS 6/2	-	
			GAS 7/2	-	GAS 7/2	-	
			GAS 9/2	-	GAS 9/2	-	
	3809901	CBF 65/2	GAS 9/2	3000825	GAS 9/2	3000825	(1)
	3970155	CBF 65/2	GAS 6/2	3000825	-	-	(1)
			GAS 7/2	3000825	GAS 7/2	3000825	
	3970167	CBF 65/2 CT	GAS 6/2	3000825	-	-	(2)
			GAS 7/2	3000825	GAS 7/2	3000825	
	3809902	CBF 80/2	GAS 9/2	3000826	GAS 9/2	3000826	(1)
	3970156	CBF 80/2	GAS 7/2	3000826	-	-	(1)
	3970168	CBF 80/2 CT	GAS 7/2	3000826	-	-	(2)

* gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) Seal control accessory
(2) Seal control incorporated

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GAS 3/2	185	320	3000605
▶ GAS 4/2	187	320	3000606
▶ GAS 5/2	207	365	3000607
▶ GAS 6/2	227	360	3000608
▶ GAS 7/2	240	400	3000678

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

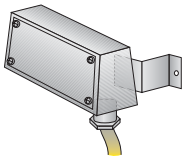
BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2	142	3000755
▶ GAS 7/2	102	3000722
▶ GAS 9/2	130	3000723

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2 - 9/2	3010030

Post-ventilation kit



To prolong ventilation for approximately 5 seconds after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2 - 9/2	3010004

Sound proofing box

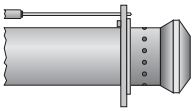
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2	C1/3	10	3010403
▶ GAS 7/2	C4/5	10	3010404
▶ GAS 9/2	C7	10	3010376

(*) according to EN 15036-1 standard

Burner accessories

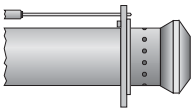
LPG kit



For burning LPG gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GAS 3/2	3000657	3000807
▶ GAS 4/2	3000658	3000808
▶ GAS 5/2	3000659	3000809
▶ GAS 6/2	3000753	3000810
▶ GAS 7/2	3000806	3000811
▶ GAS 9/2	3000876	3010028

Town Gas kit



For burning Town Gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ GAS 3/2	3000742	-
▶ GAS 4/2	3000754	-
▶ GAS 5/2	3000759	-
▶ GAS 6/2	3000768	-
▶ GAS 7/2	3000769	-
▶ GAS 9/2	3010298	-

(*) Without CE certification

PC Interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2 - 9/2	3002719

Protection kit (electromagnetic interferences)

This kit is available as an interface between the thermostatic controls and the burner, to be used in systems where the lengths of the thermostat connections is over 20 meters, or where the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m).

BURNER	KIT CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2 - 9/2	3010386

Gas train accessories

Adapters

When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ GAS 3/2	MBZRDLE 407 - 410	3/4" 1" 1/2	3000824
▶ GAS 4/2	MBZRDLE 410	3/4" 1" 1/2	3000824
	MBZRDLE 420 - CB 50/2	2" 1" 1/2	3000822
▶ GAS 5/2	MBZRDLE 410	3/4" 1" 1/2	3000824
	MBZRDLE 420 - CB 50/2	2" 1" 1/2	3000822
▶ GAS 6/2	MBZRDLE 410	3/4" 1" 1/2	3000824
		1" 1/2 2"	3000843
	MBZRDLE 412-415 - CB 40/2	1" 1/2 2"	3000843
	CBF 65/2	DN 65 2" 1/2 1" 1/2 2"	3000825
▶ GAS 7/2	MBZRDLE 415 - CB 40/2	1" 1/2 2"	3000843
	CBF 65/2	DN 65 2" 1/2 1" 1/2 2"	3000825
	CBF 80/2	DN 80 2" 1/2 2"	3000826
▶ GAS 9/2	CBF 65/2	DN 65 2" 1/2 1" 1/2 2"	300825
	CBF 80/2	DN 80 2" 1/2 2"	3000826

Gas train accessories

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available.

BURNER	GAS TRAIN	KIT CODE
▶ GAS 3/2	MBZRDLE 407 - 410 - 412	3010123
	MBZRDLE 415 - CB 40/2	3010125
▶ GAS 4/2	MBZRDLE 410 - 412	3010123
	MBZRDLE 415 - 420 - CB 40/2 - 50/2	3010125
▶ GAS 5/2	MBZRDLE 410 - 412	3010123
	MBZRDLE 415 - 420 - CB 40/2 - 50/2	3010125
▶ GAS 6/2	MBZRDLE 410 - 412	3010123
	MBZRDLE 415 - 420 - CB 40/2 - 50/2 - CBF 65/2	3010125
▶ GAS 7/2	MBZRDLE 415 - 420 - CB 40/2 - 50/2 - CBF 65/2 - 80/2	3010125
	MBZRDLE 420	3010125
▶ GAS 9/2	CB 50/2 - CBF 65/2 - 80/2	3809900

Stabiliser spring

Accessory springs are available to vary the pressure range of the gas train stabilisers.

GAS TRAIN	SPRING	CODE
▶ CB 50/2	Red from 25 to 55 mbar	3010132
▶ CB 50/2	Black from 60 to 110 mbar	3010158
▶ CB 50/2	Pink from 90 to 150 mbar	3090487
▶ CBF 65/2 - CBF 80/2	Red from 25 to 55 mbar	3010133
▶ CBF 65/2 - CBF 80/2	Black from 60 to 110 mbar	3010135
▶ CBF 65/2 - CBF 80/2	Pink from 90 to 150 mbar	3090456

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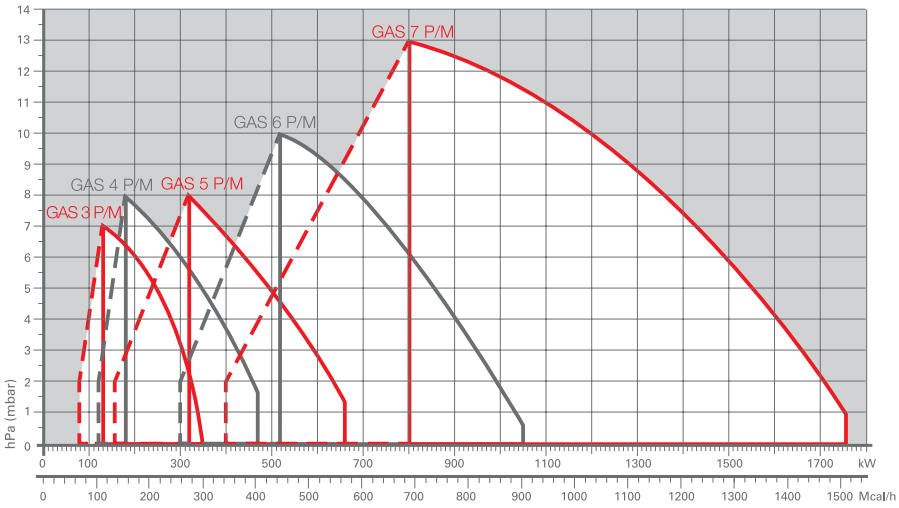
BURNERS

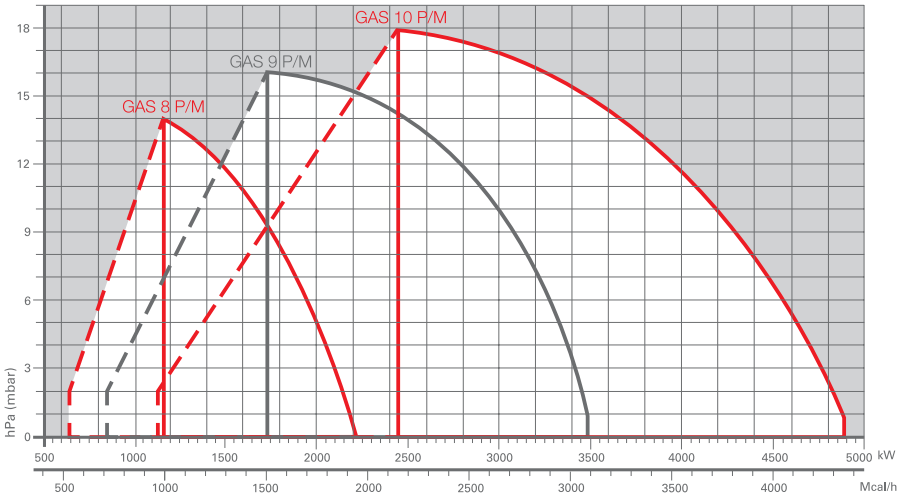
GAS P/M SERIES

The GAS P/M series covers a firing range from 130 to 4885 kW. Operation is featured by progressive two stage operation or full modulation, with an advanced modulating control system and probes. The burners of GAS P/M series are well suited for applications requiring versatility of control (process, steam, refrigerating absorption) where a variable output is needed.
Due to their metal sheet structures, they are specifically suitable for process applications where plastic materials could be easily damaged or deformed. Simplified maintenance is achieved by sliding bars which permit the access to the combustion head without need of removing the burner from the boiler.

GAS 3 P/M	80/130 ÷ 350 kW
GAS 4 P/M	120/180 ÷ 470 kW
GAS 5 P/M	155/320 ÷ 660 kW
GAS 6 P/M	300/520 ÷ 1050 kW
GAS 7 P/M	400/800 ÷ 1760 kW
GAS 8 P/M	640/1163 ÷ 2210 kW
GAS 9 P/M	870/1744 ÷ 3488 kW
GAS 10 P/M	1140/2441 ÷ 4885 kW

FIRING RATES





Useful working field for choosing the burner

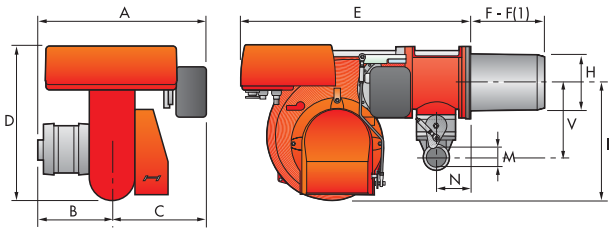
Modulation range

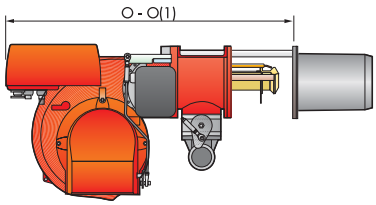
Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

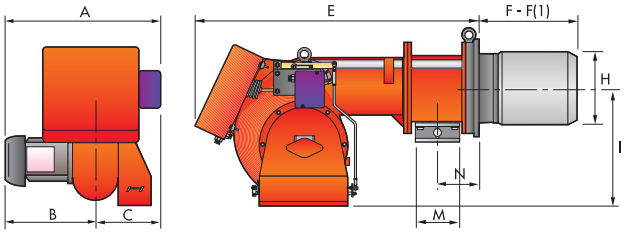
BURNER

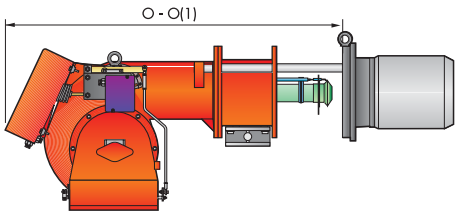
GAS 3 - 4 - 5 - 6 - 7 P/M





GAS 8 - 9 - 10 P/M

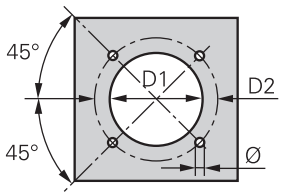




MODEL	A	B	C	D	E	F - F(1)	H	I	M	N	O - O(1)	V
▶ GAS 3 P/M	585	205	380	397	610	185 - 320	140	292	1"1/2	97	775	225
▶ GAS 4 P/M	585	205	380	397	610	187 - 320	150	292	1"1/2	97	775	225
▶ GAS 5 P/M	581	226	355	437	645	207 - 365	155	332	1"1/2	97	810	225
▶ GAS 6 P/M	628	258	370	485	770	227 - 360	175	370	2"	131	966	250
▶ GAS 7 P/M	758	358	400	590	920	240 - 400	220	445	2"	140	1142	305
▶ GAS 8 P/M	755	396	359	-	1090	391 - 501	260	467	DN 80	158	1541 - 1644	-
▶ GAS 9 P/M	817	447	370	-	1200	444 - 574	295	496	DN 80	168	1627 - 1757	-
▶ GAS 10 P/M	917	508	409	-	1320	476 - 606	336	525	DN 80	203	1730 - 1860	-

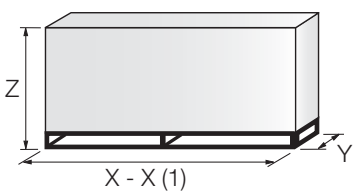
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ GAS 3 P/M	155	226	M10
▶ GAS 4 P/M	165	226	M10
▶ GAS 5 P/M	165	226	M10
▶ GAS 6 P/M	185	276	M12
▶ GAS 7 P/M	230	325	M12
▶ GAS 8 P/M	265	368	M16
▶ GAS 9 P/M	300	368	M18
▶ GAS 10 P/M	350	438	M20

PACKAGING



MODEL	X (1)	Y	Z	kg
▶ GAS 3 P/M	930	705	555	37
▶ GAS 4 P/M	930	705	555	43
▶ GAS 5 P/M	930	705	555	46
▶ GAS 6 P/M	1045	705	555	63
▶ GAS 7 P/M	1230	865	665	101
▶ GAS 8 P/M	1660	830	760	195
▶ GAS 9 P/M	1840	890	810	240
▶ GAS 10 P/M	2010	980	810	290

(1) Length with extended combustion head

Specification

DESIGNATION OF SERIES

Series : GAS		
Size		
Operation :	...	One stage
	/2	Two stage
	P/M	Modulating
Emission :	...	Class 1 EN267 - EN676
Head :	TC	Standard head
	TL	Extended head
Flame control system :	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system :	1/230/50	1/230V/50Hz
	1/210/60	1/210V/60Hz
	3/230/50	3/230V/50Hz
	3/400/50	3N/400V/50Hz
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
	3/210/60	3/210V/60Hz
	3/220/60	3/220V/60Hz
	3/380/60	3/380V/60Hz
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz

Auxiliary voltage :	230/50	230V/50Hz
	220/60	220V/60Hz
	120/50-60	120V/50-60Hz
	230/50-60	230V/50-60Hz

GAS	9	P/M		TC	FS1	3/230-400/50	230/50-60
BASIC DESIGNATION							
EXTENDED DESIGNATION							

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner, two stage progressive operation or modulating with a kit, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air damper for air setting controlled by a servomotor;
- Combustion head, that can be set on the basis of required output, fitted with:
- stainless steel end cone, resistant to corrosion and high temperatures
- ignition electrodes
- flame stability disk
- Servomotor for air and gas delivery regulation
- Maximum gas pressure switch (except for GAS 3 P/M model)
- Minimum air pressure switch
- Single phase or three phases electrical motor
- Ionisation probe
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 1 insulating screen
- 8 screws for fixing the burner flange to the boiler (12 for GAS 8 P/M - GAS 9 P/M and GAS 10 P/M)
- 4 wiring looms for electrical connections
- 1 star delta starter (for GAS 8 P/M - GAS 9 P/M and GAS 10 P/M)
- 2 wiring looms for electrical connections to the star delta starter (for GAS 8 P/M - GAS 9 P/M and GAS 10 P/M)
- 8 washers (for GAS 8 P/M - GAS 9 P/M and GAS 10 P/M)
- 2 bar extensions (only for extended head versions of GAS 8 P/M - GAS 9 P/M and GAS 10 P/M)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3753371	GAS 3 P/M TC FS1 1/210/60 120/50-60	80/130-340	8/13-34	0,4	-	
3753321	GAS 3 P/M TC FS1 1/230/50 230/50-60	80/130-350	8/13-35	0,4	CE 0085AQ0710	
3753421	GAS 4 P/M TC FS1 1/230/50 230/50-60	120/180-470	12/18-47	0,54	CE 0085AQ0710	
3753471	GAS 4 P/M TC FS1 3/210/60 120/50-60	115/180-470	11,5/18-47	0,54	-	
3753481	GAS 4 P/M TC FS1 3/220-380/60 220/60	115/180-470	11,5/18-47	0,6	-	
3753571	GAS 5 P/M TC FS1 3/210/60 120/50-60	155/320-660	15,5/32-66	0,85	-	
3753581	GAS 5 P/M TC FS1 3/220-380/60 220/60	155/320-660	15,5/32-66	0,85	-	
3753521	GAS 5 P/M TC FS1 3/230-400/50 230/50-60	155/320-660	15,5/32-66	0,85	CE 0085AQ0710	
3753671	GAS 6 P/M TC FS1 3/210/60 120/50-60	300/520-1050	30/52-105	1,7	-	
3753681	GAS 6 P/M TC FS1 3/220-380/60 220/60	300/520-1050	30/52-105	1,7	-	
3753621	GAS 6 P/M TC FS1 3/230-400/50 230/50-60	300/520-1050	30/52-105	1,7	CE 0085AQ0710	
3753771	GAS 7 P/M TC FS1 3/210/60 120/50-60	400/800 -1760	40/80-176	3,4	-	
3753781	GAS 7 P/M TC FS1 3/220-380/60 220/60	400/800-1760	40/80-176	3,4	-	
3753721	GAS 7 P/M TC FS1 3/230-400/50 230/50-60	400/800-1760	40/80-176	3,4	CE 0085AQ0710	
3753883	GAS 8 P/M TC FS1 3/220-380/60 220/60	580/1163-2325	58/116-232,5	5	-	
3753840	GAS 8 P/M TC FS1 3/230-400/50 230/50	640/1163-2210	64/116-221	5	CE 0085AP0941	
3753833	GAS 8 P/M TC FS1 3/230-400/50 230/50-60	640/1163-2210	64/116-221	5	CE 0085AP0941	
3753884	GAS 8 P/M TL FS1 3/220-380/60 220/60	580/1163-2325	58/116-232,5	5	-	
3753841	GAS 8 P/M TL FS1 3/230-400/50 230/50	640/1163-2210	64/116-221	5	CE 0085AP0941	
3753834	GAS 8 P/M TL FS1 3/230-400/50 230/50-60	640/1163-2210	64/116-221	5	CE 0085AP0941	
3754083	GAS 9 P/M TC FS1 3/220-380/60 220/60	870/1744-3488	87/174-349	10,5	-	
3754046	GAS 9 P/M TC FS1 3/230/50 230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1) (2)
3754039	GAS 9 P/M TC FS1 3/230/50 230/50-60	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1)
3754044	GAS 9 P/M TC FS1 3/230-400/50 230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(2)
3754037	GAS 9 P/M TC FS1 3/230-400/50 230/50-60	870/1744-3488	87/174-349	10,5	CE 0085AP0942	
3754048	GAS 9 P/M TC FS1 3/400/50 230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1) (2)
3754041	GAS 9 P/M TC FS1 3/400/50 230/50-60	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1)
3754084	GAS 9 P/M TL FS1 3/220-380/60 220/60	870/1744-3488	87/174-349	10,5	-	
3754047	GAS 9 P/M TL FS1 3/230/50 230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1) (2)
3754040	GAS 9 P/M TL FS1 3/230/50 230/50-60	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1)
3754045	GAS 9 P/M TL FS1 3/230-400/50 230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(2)
3754038	GAS 9 P/M TL FS1 3/230-400/50 230/50-60	870/1744-3488	87/174-349	10,5	CE 0085AP0942	
3754049	GAS 9 P/M TL FS1 3/400/50 230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1) (2)
3754042	GAS 9 P/M TL FS1 3/400/50 230/50-60	870/1744-3488	87/174-349	9	CE 0085AP0942	(1)
3754185	GAS 10 P/M TC FS1 3/220/60 220/60	1140/2441-5000	114/244-500	14	-	(1)
3754140	GAS 10 P/M TC FS1 3/230/50 230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1) (2)
3754135	GAS 10 P/M TC FS1 3/230/50 230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)
3754187	GAS 10 P/M TC FS1 3/380/60 220/60	1140/2441-5000	114/244-500	14	-	(1)
3754142	GAS 10 P/M TC FS1 3/400/50 230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1) (2)
3754137	GAS 10 P/M TC FS1 3/400/50 230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)
3754186	GAS 10 P/M TL FS1 3/220/60 220/60	1140/2441-5000	114/244-500	14	-	(1)
3754141	GAS 10 P/M TL FS1 3/230/50 230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1) (2)
3754136	GAS 10 P/M TL FS1 3/230/50 230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)
3754188	GAS 10 P/M TL FS1 3/380/60 220/60	1140/2441-5000	114/244-500	14	-	(1)
3754143	GAS 10 P/M TL FS1 3/400/50 230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1) (2)
3754138	GAS 10 P/M TL FS1 3/400/50 230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)

(1) Star delta starter (2) With ground fault interrupter kit
Natural gas G20 net calorific value: 10 kWh/Nm³ - Density gas G20: 0,71 kg/Nm³
The burners of GAS P/M series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676 Norm.

Available models

Gas Trains

MULTIBLOC GAS TRAINS

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970553	MBD 407	GAS 3 P/M	3000824	GAS 3 P/M	3000824	(1)
		-	-	GAS 5 P/M	3000824	
3970554	MBD 410	GAS 3 P/M	3000824	GAS 3 P/M	3000824	(1)
		GAS 4 P/M	3000824	GAS 4 P/M	3000824	
		GAS 5 P/M	3000824	GAS 5 P/M	3000824	
3970144	MBD 412	GAS 3 P/M	-	GAS 3 P/M	-	(1)
		GAS 4 P/M	-	GAS 4 P/M	-	
		GAS 5 P/M	-	GAS 5 P/M	-	
		GAS 6 P/M	3010126	GAS 6 P/M	3010126	
3970197	MBD 412 CT	GAS 3 P/M	-	GAS 3 P/M	-	(2)
		GAS 4 P/M	-	GAS 4 P/M	-	
		GAS 5 P/M	-	GAS 5 P/M	-	
		GAS 6 P/M	3010126	GAS 6 P/M	3010126	
3970180	MBD 415	GAS 3 P/M	-	GAS 3 P/M	-	(1)
		GAS 4 P/M	-	GAS 4 P/M	-	
		GAS 5 P/M	-	GAS 5 P/M	-	
		GAS 6 P/M	3000843	GAS 6 P/M	3000843	
		GAS 7 P/M	3000843	GAS 7 P/M	3000843	
		-	-	GAS 8 P/M	3000843 + 3000826 + 3010495	
3970198	MBD 415 CT	GAS 3 P/M	-	GAS 3 P/M	-	(2)
		GAS 4 P/M	-	GAS 4 P/M	-	
		GAS 5 P/M	-	GAS 5 P/M	-	
		GAS 6 P/M	3000843	GAS 6 P/M	3000843	
		GAS 7 P/M	3000843	GAS 7 P/M	3000843	
		-	-	GAS 8 P/M	3000843 + 3000826 + 3010495	
3970181	MBD 420	GAS 3 P/M	3000822	GAS 3 P/M	3000822	(1)
		GAS 4 P/M	3000822	GAS 4 P/M	3000822	
		GAS 5 P/M	3000822	GAS 5 P/M	3000822	
		GAS 6 P/M	-	GAS 6 P/M	-	
		GAS 7 P/M	-	GAS 7 P/M	-	
		GAS 8 P/M	3000826 + 3010495	GAS 8 P/M	3000826 + 3010495	
3970182	MBD 420 CT	GAS 3 P/M	3000822	GAS 3 P/M	3000822	(2)
		GAS 4 P/M	3000822	GAS 4 P/M	3000822	
		GAS 5 P/M	3000822	GAS 5 P/M	3000822	
		GAS 6 P/M	-	GAS 6 P/M	-	
		GAS 7 P/M	-	GAS 7 P/M	-	
		GAS 8 P/M	3000826 + 3010495	GAS 8 P/M	3000826 + 3010495	

* gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) Seal control accessory
(2) Seal control incorporated

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Available models

Gas Trains

COMPOSED GAS TRAINS

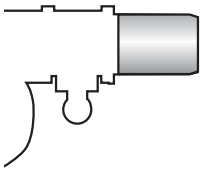
GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970221	MBC 1200 SE 50	GAS 5 P/M	3000822	-	-	(1)
		GAS 6 P/M	-	GAS 6 P/M	-	
		GAS 7 P/M	-	GAS 7 P/M	-	
		GAS 8 P/M	3000826 + 3010495	GAS 8 P/M	3000826 + 3010495	
		GAS 9 P/M	3000826 + 3010495	GAS 9 P/M	3000826 + 3010495	
		GAS 10 P/M	3000826 + 3010495	GAS 10 P/M	3000826 + 3010495	
3970225	MBC 1200 SE 50 CT	GAS 5 P/M	3000822	-	-	(2)
		GAS 6 P/M	-	GAS 6 P/M	-	
		GAS 7 P/M	-	GAS 7 P/M	-	
		GAS 8 P/M	3000826 + 3010495	GAS 8 P/M	3000826 + 3010495	
		GAS 9 P/M	3000826 + 3010495	GAS 9 P/M	3000826 + 3010495	
		GAS 10 P/M	3000826 + 3010495	GAS 10 P/M	3000826 + 3010495	
3970222	MBC 1900 SE 65 FC	GAS 7 P/M	3000825	GAS 7 P/M	3000825	(1)
		GAS 8 P/M	3000831	GAS 8 P/M	3000831	
		GAS 10 P/M	3000831	GAS 10 P/M	3000831	
3970226	MBC 1900 SE 65 FC CT	GAS 7 P/M	3000825	GAS 7 P/M	3000825	(2)
		GAS 8 P/M	3000831	GAS 8 P/M	3000831	
		GAS 9 P/M	3000831	GAS 9 P/M	3000831	
		GAS 10 P/M	3000831	GAS 10 P/M	3000831	
3970223	MBC 3100 SE 80 FC	GAS 7 P/M	3000826	GAS 7 P/M	3000826	(1)
		GAS 8 P/M	3000832	-	-	
		GAS 9 P/M	3000832	GAS 9 P/M	3000832	
		GAS 10 P/M	3000832	GAS 10 P/M	3000832	
3970227	MBC 3100 SE 80 FC CT	GAS 7 P/M	3000826	GAS 7 P/M	3000826	(2)
		GAS 8 P/M	3000832	-	-	
		GAS 9 P/M	3000832	GAS 9 P/M	3000832	
		GAS 10 P/M	3000832	GAS 10 P/M	3000832	
3970224	MBC 5000 SE 100 FC	GAS 8 P/M	3010127	-	-	(1)
		GAS 9 P/M	3010127	GAS 9 P/M	3010127	
		GAS 10 P/M	3010127	GAS 10 P/M	3010127	
3970228	MBC 5000 SE 100 FC CT	GAS 8 P/M	3010127	-	-	(2)
		GAS 9 P/M	3010127	GAS 9 P/M	3010127	
		GAS 10 P/M	3010127	GAS 10 P/M	3010127	

* gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) Seal control accessory
(2) Seal control incorporated

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GAS 3 P/M	185	320	3000605
▶ GAS 4 P/M	187	320	3000606
▶ GAS 5 P/M	207	365	3000607
▶ GAS 6 P/M	227	360	3000608
▶ GAS 7 P/M	240	400	3000678

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

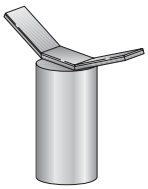
BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ GAS 3 - 4 - 5 - 6 P/M	142	3000755
▶ GAS 7 - 8 P/M	102	3000722
▶ GAS 9 P/M	130	3000723
▶ GAS 10 P/M	130	3000751

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ GAS 3 - 4 - 5 - 6 - 7 P/M	3010030

Burner support



For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need of forklift trucks.

BURNER	SUPPORT CODE
▶ GAS 8 P/M - GAS 10 P/M	3000731

Burner accessories

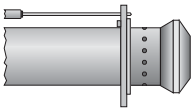
Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ GAS 3 - 4 - 5 - 6 P/M	C1/3	10	3010403
▶ GAS 7 - 8 P/M	C4/5	10	3010404
▶ GAS 9 - 10 P/M	C7	10	3010376

(*) according to EN 15036-1 standard

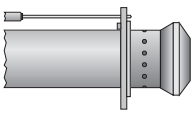
LPG kit



For burning LPG gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GAS 3 P/M	3000657	3000807
▶ GAS 4 P/M	3000658	3000808
▶ GAS 5 P/M	3000659	3000809
▶ GAS 6 P/M	3000753	3000810
▶ GAS 7 P/M	3000806	3000811
▶ GAS 8 P/M	3000875	3010029
▶ GAS 9 P/M	3000876	3010028
▶ GAS 10 P/M	3010152	3010153

Town Gas kit



For burning Town Gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ GAS 3 P/M	3000742	-
▶ GAS 4 P/M	3000754	-
▶ GAS 5 P/M	3000759	-
▶ GAS 6 P/M	3000768	-
▶ GAS 7 P/M	3000769	-
▶ GAS 8 P/M	-	-
▶ GAS 9 P/M	3010298	3010298
▶ GAS 10 P/M	3010300	3010300

(*) Without CE certification

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the GAS P/M series of burners requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ GAS 3 - 4 - 5 - 6 - 7 P/M	RWF 40	3010210
▶ GAS 8 - 9 - 10 P/M	RWF 40	3010211

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

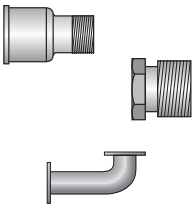
BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ GAS 3 - 4 - 5 - 6 - 7 P/M GAS 8 - 9 - 10 P/M	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

BURNER	POTENTIOMETER KIT CODE
▶ GAS 3 - 4 - 5 - 6 - 7 P/M GAS 8 - 9 - 10 P/M	3010021

Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ GAS 3 P/M	MBD 407 - 410	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ GAS 4 - 5 P/M	MBD 407	3/4" 1" 1/2	3000824
	MBD 410	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
	MBC 1200	2" 1" 1/2	3000822
▶ GAS 6 - 7 P/M	MBD 412	1" 1/4 2"	3010126
	MBD 415	1" 1/2 2"	3000843
	MBC 1900	1" 1/2 DN 65 2" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ GAS 8 P/M	MBD 415	DN 80 2" 1/2 2" 2" 1" 1/2	3000826 + 3010495 + 3000843
	MBD 420	DN 80 2" 1/2 2" 2"	3000826 + 3010495
	MBC 1200	DN 80 2" 1/2 2" 2"	3000826 + 3010495
	MBC 1900	DN 80 DN 65	3000831
	MBC 3100	DN 80 DN 80	3000832
	MBC 5000	DN 80 DN 100	3010127
▶ GAS 9 - 10 P/M	MBC 1200	DN 80 2" 1/2 2" 2"	3000826 + 3010495
	MBC 1900	DN 80 DN 65	3000831
	MBC 3100	DN 80 DN 80	3000832
	MBC 5000	DN 80 DN 100	3010127

Gas train accessories

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available.

BURNER	GAS TRAIN	KIT CODE
▶ All models	All models	3010123

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

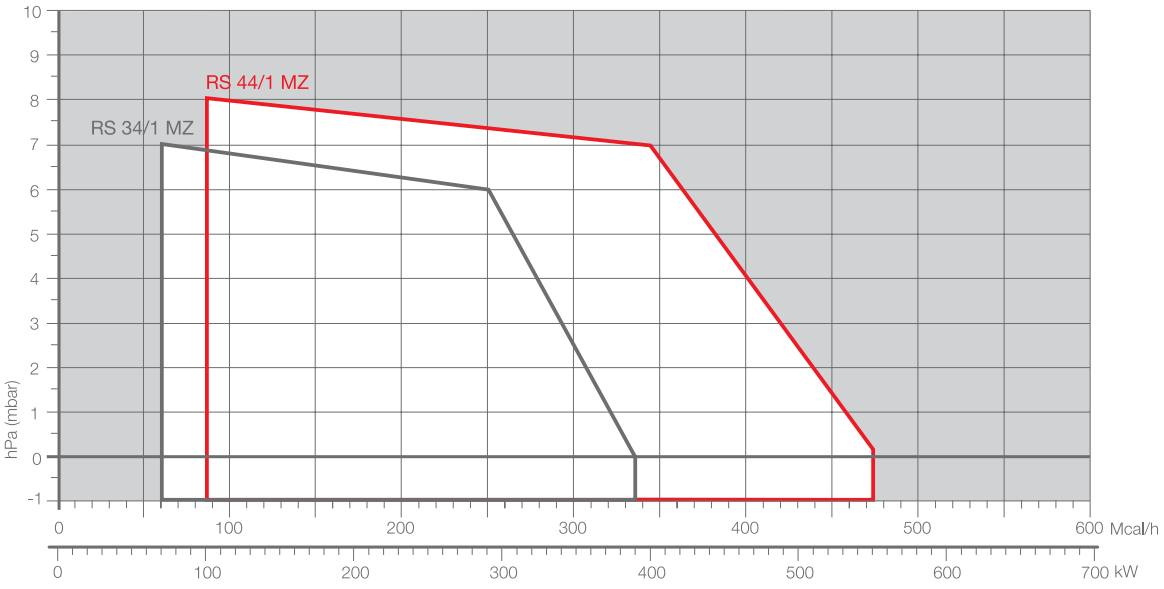
GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 ▶ MBC 3100 ▶ MBC 5000	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

RS/1 SERIES

The RS/1 series of burners covers a firing range from 70 to 550 kW, and they have been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers.
Operation is “one stage”; the burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit.
The elevated performance of the fans and combustion head, guarantee flexibility of use and excellent working at all firing rates.
The exclusive design ensures reduced dimensions, simple use and maintenance. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**. A wide range of accessories guarantees elevated working flexibility.

RS 34/1 MZ	70 ÷ 390 kW
RS 44/1 MZ	100 ÷ 550 kW

FIRING RATES

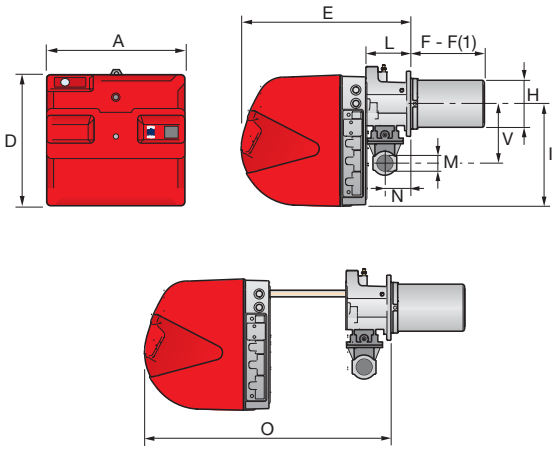


Useful working field for choosing the burner

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

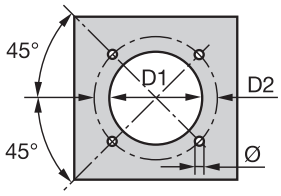
BURNER



MODEL	A	D	E	F - F(1)	H	I	L	M	N	O	S	V
▶ RS 34/1 MZ	442	422	508	216 - 351	140	305	138	1”1/2	84	780	-	177
▶ RS 44/1 MZ	442	422	508	216 - 351	152	305	138	1”1/2	84	780	-	177

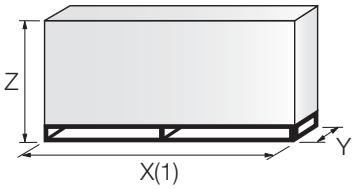
(1) dimension with extended head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 34/1 MZ	160	224	M8
▶ RS 44/1 MZ	160	224	M8

PACKAGING



MODEL	X (1)	Y	Z	kg
▶ RS 34/1 MZ	1000	485	500	32
▶ RS 44/1 MZ	1000	485	500	33

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES

Series: R

Fuel:	S	Natural Gas
	SP	LPG
	L	Light oil
	LS	Light oil/Methane
	N	Heavy oil

Size

Setting:	/1	Single stage
	...	Two stage
	/M	Modulating

Emission:	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 1 EN267 Class 3 EN676

Head length:	TC	standard head
	TL	extended head

Flame control system:	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system:	
1/230/50	1/230V/50Hz
1/220-230/50-60	1/220-230V/50-60Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
3/220-400/50-60	3/220-230V/50-60Hz 3/380-400V/50-60Hz

Auxiliary voltage:	230/50-60	230V/50-60Hz
	220-230/50-60	220-230V/50-60Hz
	110/50-60	110V/50-60Hz

ID: Differential switch

R	S	34	/1	MZ	TC	FS1	1/230/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with one stage operation, fully automatic, made up of:
- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting
- Starting motor at 2800 rpm, single-phase / 220-230V / 50-60Hz
- Combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Plug and socket for electrical connections accessible from the external of the cover
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3788510	RS 34/1 MZ TC FS1 1/230/50-60 230/50-60	70-390	7-39	0,6	CE0085BR0380	
3788511	RS 34/1 MZ TL FS1 1/230/50-60 230/50-60	70-390	7-39	0,6	CE0085BR0380	
3788610	RS 44/1 MZ TC FS1 1/230/50-60 230/50-60	100-550	10-55	0,7	CE0085BR0380	
3788611	RS 44/1 MZ TL FS1 1/230/50-60 230/50-60	100-550	10-55	0,7	CE0085BR0380	

Natural Gas, net calorific value: 10 kWh/Nm^3 - Density at 20°C: 0,71 kg/Nm^3
The burners of RS/1 series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676 Norm.

Available models

Gas Trains

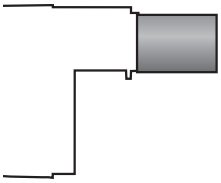
MULTIBLOC GAS TRAINS

GAS TRAIN CODE*	GAS TRAIN MODEL**	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970500	MBD 405	RS 34/1 MZ	3000824	--	--	(1) (4)
		RS 44/1 MZ	3000824	RS 44/1 MZ	3000824	
3970553 3970229	MBD 407	RS 34/1 MZ	3000824	RS 34/1 MZ	3000824	(1) (4) (2) (4)
		RS 44/1 MZ	3000824	RS 44/1 MZ	3000824	
3970599	MBD 407	--	--	RS 34/1 MZ	3000824	(1) (3) (4)
		--	--	RS 44/1 MZ	3000824	
3970046	MBZRDLE 407	RS 34/1 MZ	3000824	RS 34/1 MZ	3000824	(1) (4)
		RS 44/1 MZ	3000824	RS 44/1 MZ	3000824	
3970554 3970230	MBD 410	RS 34/1 MZ	3000824	RS 34/1 MZ	3000824	(1) (4) (2) (4)
		RS 44/1 MZ	3000824	RS 44/1 MZ	3000824	
3970600	MBD 410	--	--	RS 34/1 MZ	3000824	(1) (3) (4)
		--	--	RS 44/1 MZ	3000824	
3970079	MBZRDLE 410	RS 34/1 MZ	3000824	RS 34/1 MZ	3000824	(1) (4)
		RS 44/1 MZ	3000824	RS 44/1 MZ	3000824	
3970144 3970231	MBD 412	RS 34/1 MZ	--	RS 34/1 MZ	--	(1) (4) (2) (4)
		RS 44/1 MZ	--	RS 44/1 MZ	--	
3970197	MBD 412 CT	RS 34/1 MZ	--	RS 34/1 MZ	--	(1) (5)
		RS 44/1 MZ	--	RS 44/1 MZ	--	
3970152	MBZRDLE 412	RS 34/1 MZ	--	RS 34/1 MZ	--	(1) (4)
		RS 44/1 MZ	--	RS 44/1 MZ	--	
3970180 3970232	MBD 415	RS 34/1 MZ	--	RS 34/1 MZ	--	(1) (4) (2) (4)
		RS 44/1 MZ	--	RS 44/1 MZ	--	
3970250	MBD 415 CT	--	--	--	--	(1) (3) (5)
		--	--	RS 44/1 MZ	--	
3970198	MBD 415 CT	RS 34/1 MZ	--	RS 34/1 MZ	--	(1) (5)
		RS 44/1 MZ	--	RS 44/1 MZ	--	
3970253	MBD 415 CT	--	--	--	--	(1) (3) (5)
		--	--	RS 44/1 MZ	--	
3970183	MBZRDLE 415	RS 34/1 MZ	--	RS 34/1 MZ	--	(1) (4)
		RS 44/1 MZ	--	RS 44/1 MZ	--	
3970181 3970233	MBD 420	RS 34/1 MZ	3000822	--	--	(1) (4) (2) (4)
		RS 44/1 MZ	3000822	--	--	
3970182 3970234	MBD 420 CT	RS 34/1 MZ	3000822	--	--	(1) (5) (2) (5)
		RS 44/1 MZ	3000822	--	--	
3970184	MBZRDLE 420	RS 34/1 MZ	3000822	--	--	(1) (4)
		RS 44/1 MZ	3000822	--	--	
3970185	MBZRDLE 420 CT	RS 34/1 MZ	3000822	--	--	(1) (5)
		RS 44/1 MZ	3000822	--	--	

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
** Conforming to EN676 Standard the one stage gas train can be used on RS 34/1 - 44/1 up to a capacity of 350 kW.
(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The KITS available for the various burners, giving the original and the extended lengths, are listed below.

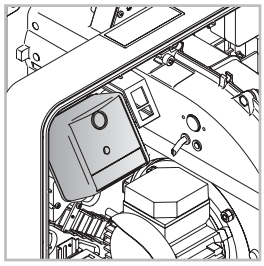
BURNER	'STANDARD HEAD' LENGTH (mm)	'EXTENDED HEAD' LENGTH (mm)	KIT CODE
▶ RS 34/1 MZ	216	351	3010428
▶ RS 44/1 MZ	216	351	3010429

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	90	3010095

Post-ventilation kit



To prolong ventilation for approximately 5 seconds after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010452

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table:

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010449

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available, as given in the following table:

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)](*)	BOX CODE
▶ RS 34/1 MZ - 44/1 MZ	C1/3	10	3010403

(*) according to EN 15036-1 standard

Burner accessories

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

BURNER	KIT CODE
▶ RS 34/1 MZ	3010423
▶ RS 44/1 MZ	3010424

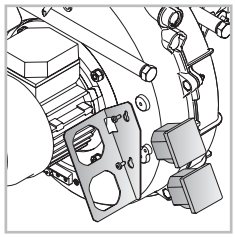
Town gas kit

For burning Town gas, a special kit is available:

BURNER	KIT CODE FOR 'STANDARD HEAD' (*)	KIT CODE FOR 'EXTENDED HEAD' (*)
▶ RS 34/1 MZ	3010502	3010502
▶ RS 44/1 MZ	3010503	3010503

(*) Without CE certification

Hours counter kit



To measure the burner working time a hours counter kit is available.

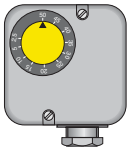
BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010450

Ground fault interrupter kit

A "Ground fault interrupter kit" is available as a safety device for electrical system fault.

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010448

Gas max pressure switch



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring through Plugs & Sockets system.

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010418

Volt free contact kit

A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals. Every burner can be equipped with a single kit for a remote check of the flame presence signal and the burner lockout indication.

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010419

Burner accessories

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3002719

Protection kit (electromagnetic interferences)

This kit is available as an interface between the thermostatic controls and the burner, to be used in systems where the lengths of the thermostat connections is over 20 meters, or where the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m).

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010386

Gas train accessories

Adapters

When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner. The following table lists the adapters for various burners.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ RS 34/1 MZ	MBD 405 - 407 - 410	3/4" 1" 1/2	3000824
	MBZRDLE 407 - 410	3/4" 1" 1/2	3000824
	MBD 420 - 420 CT	2" 1" 1/2	3000822
	MBZRDLE 420 - 420 CT	2" 1" 1/2	3000822
▶ RS 44/1 MZ	MBD 407 - 410	3/4" 1" 1/2	3000824
	MBZRDLE 407 - 410	3/4" 1" 1/2	3000824
	MBD 420 - 420 CT	2" 1" 1/2	3000822
	MBZRDLE 420 - 420 CT	2" 1" 1/2	3000822

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The sealing control is type VPS 504.

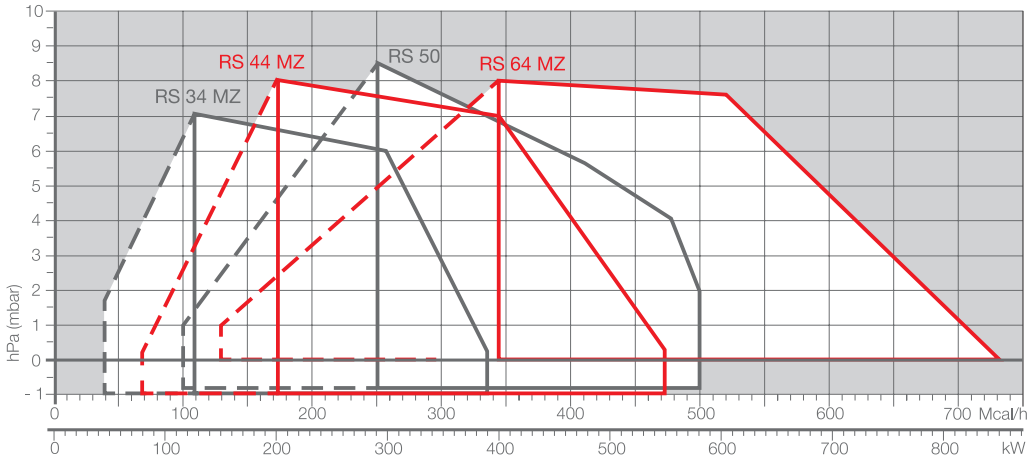
GAS TRAIN	KIT CODE
▶ MBD 405 - MBD 407 - MBZRDLE 407 - MBD 410 - MBZRDLE 410 MBD 412 - MBZRDLE 412 - MBD 415 - CB 40/1	3010123
▶ MBZRDLE 415 - CB 40/2 - MBZRDLE 420 - CB 50/2	3010125

RS SERIES

The RS burners series covers a firing range from 44 to 2290 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers.
Operation is “two stage progressive”; the burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.
The elevated performance of the fans and combustion head, guarantee flexibility of use and excellent working at all firing rates.
The exclusive design ensures reduced dimensions, simple use and maintenance. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**. A wide range of accessories guarantees elevated working flexibility.

RS 34 MZ	44/130	÷	390	kW
RS 44 MZ	80/200	÷	550	kW
RS 50	116/290	÷	580	kW
RS 64 MZ	150/400	÷	850	kW
RS 70	192/465	÷	814	kW
RS 100	232/698	÷	1163	kW
RS 130	372/930	÷	1512	kW
RS 190	470/1279	÷	2290	kW

FIRING RATES



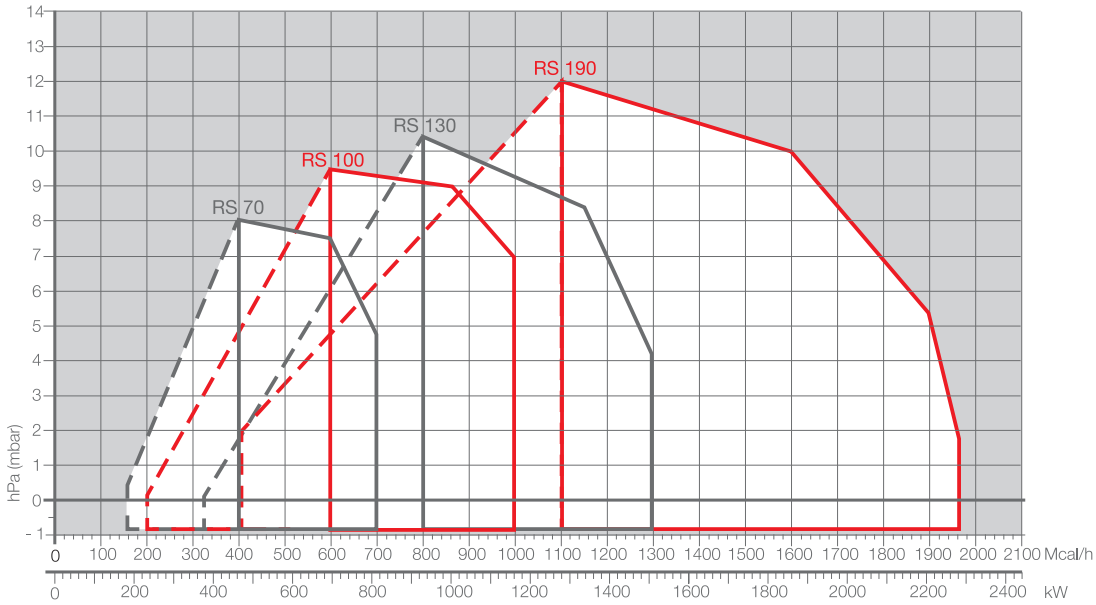
Useful working field for choosing the burner

1st stage operation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

RS SERIES

FIRING RATES



Useful working field for choosing the burner

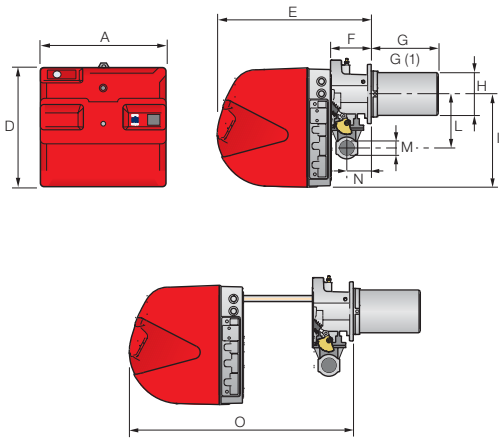
1st stage operation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

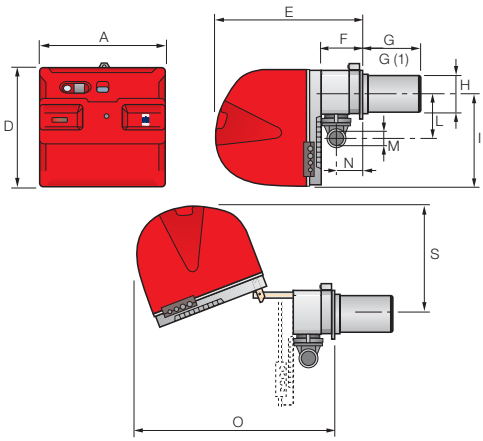
Overall dimensions (mm)

BURNER

RS 34 MZ - 44 MZ



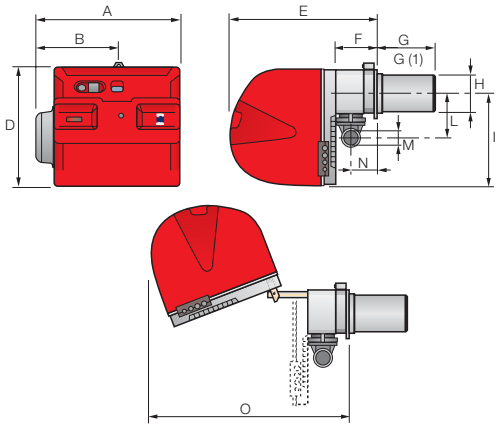
RS 50



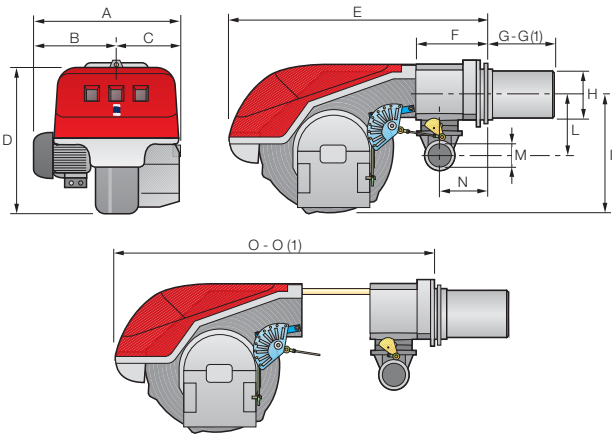
MODEL	A	D	E	F	G - G(1)	H	I	L	M	N	O	S
▶ RS 34 MZ	442	422	508	138	216 - 351	140	305	177	1”1/2	84	780	-
▶ RS 44 MZ	442	422	508	138	216 - 351	152	305	177	1”1/2	84	780	-
▶ RS 50	476	474	580	164	216 - 351	152	352	168	1”1/2	108	810	367

(1) dimension with extended head

RS 64 MZ



RS 70 - 100 - 130 - 190

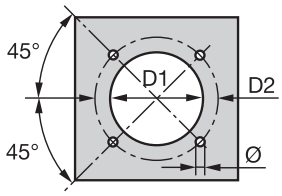


MODEL	A	B	C	D	E	F	G - G(1)	H	I	L	M	N	O - O(1)
▶ RS 64 MZ	533	300	-	490	640	222	250 - 385	179	352	221	2”	134	810 - -
▶ RS 70	511	296	215	555	840	214	250 - 385	179	430	221	2”	134	1161 - 1296
▶ RS 100	527	312	215	555	840	214	250 - 385	179	430	221	2”	134	1161 - 1296
▶ RS 130	553	338	215	555	840	214	280 - 415	189	430	221	2”	134	1161 - 1296
▶ RS 190	681	366	315	555	872	246	372 - 530	222	430	221	2”	150	1328 - -

(1) dimension with extended head

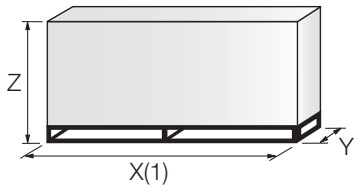
Overall dimensions (mm)

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 34 MZ	160	224	M8
▶ RS 44 MZ	160	224	M8
▶ RS 50	160	224	M8
▶ RS 64 MZ	185	275-325	M12
▶ RS 70	185	275-325	M12
▶ RS 100	185	275-325	M12
▶ RS 130	195	275-325	M12
▶ RS 190	230	325-368	M16

PACKAGING



MODEL	X (1)	Y	Z	kg
▶ RS 34 MZ	1000	485	500	32
▶ RS 44 MZ	1000	485	500	33
▶ RS 50	1200	502	520	41
▶ RS 64 MZ	1200	580	520	42
▶ RS 70	1405	700	660	70
▶ RS 100	1405	700	660	73
▶ RS 130	1405	700	660	76
▶ RS 190	1405-1420	1000	660	82

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES

Series: R

Fuel:		
	S	Natural Gas
	SP	LPG
	L	Light oil
	LS	Light oil/Methane
	N	Heavy oil

Size

Setting:		
	/1	Single stage
	...	Two stage
	/M	Modulating

Emission:		
	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 1 EN267 Class 3 EN676

Head length:		
	TC	standard head
	TL	extended head

Flame control system:		
	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system:	
1/230/50	1/230V/50Hz
1/220-230/50-60	1/220-230V/50-60Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
3/220-400/50-60	3/220-230V/50-60Hz 3/380-400V/50-60Hz

Auxiliary voltage:		
	230/50-60	230V/50-60Hz
	220-230/50-60	220-230V/50-60Hz
	110/50-60	110V/50-60Hz

ID: Differential switch

R	S	130			TC	FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

RS 34 MZ - 44 MZ models
Monoblock forced draught gas burner with two stage operation, fully automatic, made up of:
- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting and butterfly valve for regulating fuel output on 1st and 2nd stage controlled by a servomotor with variable cam
- Starting motor at 2800 rpm, single-phase / 220-230V / 50-60Hz or three-phase / 380-400V / 50-60Hz
- Combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Plug and socket for electrical connections accessible from the external of the cover
- Burner on/off selection switch
- 1st - 2nd stage manual switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection (RS 34 - 44 MZ single-phase)
- 4 plugs for electrical connection (RS 44 MZ three-phase)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY

RS 50 - 64 MZ - 70 - 100 - 130 - 190 models
Monoblock forced draught gas burner with two stage operation, fully automatic, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (RS 50 - 70 - 100 - 130 models) or straight blades (RS 64 MZ - 190 models)
- Air damper for air flow setting and butterfly valve for regulating fuel output on 1st and 2nd stage controlled by a servomotor with variable cam
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- Combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Plug and socket for electrical connections (RS 50 models)
- Burner on/off selection switch
- 1st - 2nd stage manual switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for the electrical connection (RS 50)
- 2 slide bar extensions (for extended head models and RS 190 model)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
						(kW)	NATURAL GAS (Nm³/h)	(kW)		
3789010	RS 34 MZ	TC	FS1	1/230/50-60	230/50-60	44/130-390	4,5/13-39	0,6	CE 0085BR0381	(1)
3789011	RS 34 MZ	TL	FS1	1/230/50-60	230/50-60	44/130-390	4,5/13-39	0,6	CE 0085BR0381	(1)
20008266	RSP 34	TC	FS1	1/230/50-60	230/50-60	44/130-390	4,5/13-39	0,6	CE 0085BR0381	(1)
3789110	RS 44 MZ	TC	FS1	1/230/50-60	230/50-60	80/200-550	8/20-55	0,7	CE 0085BR0381	(1)
3789111	RS 44 MZ	TL	FS1	1/230/50-60	230/50-60	80/200-550	8/20-55	0,7	CE 0085BR0381	(1)
3789140	RS 44 MZ	TC	FS1	3/230-400/50-60	230/50-60	80/200-550	8/20-55	0,8	CE 0085BR0381	(1)
3789141	RS 44 MZ	TL	FS1	3/230-400/50-60	230/50-60	80/200-550	8/20-55	0,8	CE 0085BR0381	(1)
3784702	RS 50	TC	FS1	3/230-400/50	230/50-60	116/290-581	12/29-58	0,75	CE 0085AP0735	(1)
3784703	RS 50	TL	FS1	3/230-400/50	230/50-60	116/290-581	12/29-58	0,75	CE 0085AP0735	(1)
3784720	RS 50	TC	FS1	3/230-460/60	230/50-60	116/290-581	12/29-58	0,75	-	(1)
3784721	RS 50	TL	FS1	3/230-460/60	230/50-60	116/290-581	12/29-58	0,75	-	(1)
3789310	RS 64 MZ	TC	FS1	3/230-400/50	230/50-60	150/400-850	15/40-85	1,5	in progress	(1)
3789311	RS 64 MZ	TL	FS1	3/230-400/50	230/50-60	150/400-850	15/40-85	1,5	in progress	(1)
3785102	RS 70	TC	FS1	3/230-400/50	230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944	(2)
3785103	RS 70	TL	FS1	3/230-400/50	230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944	(2)
3785104	RS 70	TC	FS1	3/230-400/50	230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944	(1) (2)
3785105	RS 70	TL	FS1	3/230-400/50	230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944	(1) (2)
3785120	RS 70	TC	FS1	3/230-460/60	230/50-60	192/465-814	19/46,5-81	1,4	-	(2)
3785121	RS 70	TL	FS1	3/230-460/60	230/50-60	192/465-814	19/46,5-81	1,4	-	(2)
3785302	RS 100	TC	FS1	3/230-400/50	230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945	(2)
3785303	RS 100	TL	FS1	3/230-400/50	230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945	(2)
3785304	RS 100	TC	FS1	3/230-400/50	230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945	(1) (2)
3785305	RS 100	TL	FS1	3/230-400/50	230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945	(1) (2)
3785320	RS 100	TC	FS1	3/230-460/60	230/50-60	232/698-1163	23/70-116	1,8	-	(2)
3785321	RS 100	TL	FS1	3/230-460/60	230/50-60	232/698-1163	23/70-116	1,8	-	(2)
3785502	RS 130	TC	FS1	3/230-400/50	230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946	(2)
3785503	RS 130	TL	FS1	3/230-400/50	230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946	(2)
3785504	RS 130	TC	FS1	3/230-400/50	230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946	(1) (2)
3785505	RS 130	TL	FS1	3/230-400/50	230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946	(1) (2)
3785520	RS 130	TC	FS1	3/230-460/60	230/50-60	372/930-1512	37/93-151	2,6	-	(2)
3785521	RS 130	TL	FS1	3/230-460/60	230/50-60	372/930-1512	37/93-151	2,6	-	(2)
3785813	RS 190	TC	FS1	3/400/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
on demand	RS 190	TC	FS1	3/230/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
3785814	RS 190	TC	FS1	3/400/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(1) (2)
on demand	RS 190	TC	FS1	3/230/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(1) (2)
3785820	RS 190	TC	FS1	3/460/60	230/50-60	470/1279-2290	47/128-229	5,5	-	(2)
on demand	RS 190	TC	FS1	3/220/60	220/60	470/1279-2290	47/128-229	5,5	-	(2)

Natural Gas, net calorific value: 10 kWh/Nm³ - Density at 20°C: 0,71 kg/Nm³
The burners of RS series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676 Norm.
(1) With plug and socket.
(2) With terminal board.

Available models

Gas Trains

MULTIBLOC GAS TRAINS

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970500	MBD 405	RS 34 MZ	3000824	RS 34 MZ	3000824	(1) (4)
		-	-	RS 44 MZ	3000824	
3970553	MBD 407	RS 34 MZ	3000824	RS 34 MZ	3000824	(1) (4)
		-	-	RS 44 MZ	3000824	
		-	-	RS 50	3000824	
		-	-	RS 64 MZ	3000824 + 3000843	
3970229	MBD 407	RS 34 MZ	3000824	RS 34 MZ	3000824	(2) (4)
		-	-	RS 44 MZ	3000824	
		-	-	RS 50	3000824	
		-	-	RS 64 MZ	3000824 + 3000843	
3970599	MBD 407	-	-	RS 34 MZ	3000824	(1) (3) (4)
		-	-	RS 44 MZ	3000824	
		-	-	RS 50	3000824	
		-	-	RS 64 MZ	3000824 + 3000843	
3970554	MBD 410	RS 34 MZ	3000824	RS 34 MZ	3000824	(1) (4)
		RS 44 MZ	3000824	RS 44 MZ	3000824	
		RS 50	3000824	RS 50	3000824	
		-	-	RS 64 MZ	3000824 + 3000843	
3970230	MBD 410	RS 34 MZ	3000824	RS 34 MZ	3000824	(2) (4)
		RS 44 MZ	3000824	RS 44 MZ	3000824	
		RS 50	3000824	RS 50	3000824	
		-	-	RS 64 MZ	3000824 + 3000843	
3970600	MBD 410	-	-	RS 34 MZ	3000824	(1) (3) (4)
		-	-	RS 44 MZ	3000824	
		-	-	RS 50	3000824	
3970144	MBD 412	RS 34 MZ	-	RS 34 MZ	-	(1) (4)
		RS 44 MZ	-	RS 44 MZ	-	
		RS 50	-	RS 50	-	
		RS 64 MZ	3000843	RS 64 MZ	3000843	
		-	-	RS 70	3000843	
3970231	MBD 412	RS 34 MZ	-	RS 34 MZ	-	(2) (4)
		RS 44 MZ	-	RS 44 MZ	-	
		RS 50	-	RS 50	-	
		RS 64 MZ	3000843	RS 64 MZ	3000843	
		-	-	RS 70	3000843	

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Available models

Gas Trains

MULTIBLOC GAS TRAINS

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970197	MBD 412 CT	RS 34 MZ	-	RS 34 MZ	-	(1) (5)
		RS 44 MZ	-	RS 44 MZ	-	
		RS 50	-	RS 50	-	
		RS 64 MZ	3000843	RS 64 MZ	3000843	
		-	-	RS 70	3000843	
3970180	MBD 415	RS 34 MZ	-	RS 34 MZ	-	(1) (4)
		RS 44 MZ	-	RS 44 MZ	-	
		RS 50	-	RS 50	-	
		RS 64 MZ	3000843	RS 64 MZ	3000843	
		RS 70	3000843	RS 70	3000843	
		RS 100	3000843	RS 100	3000843	
		RS 130	3000843	RS 130	3000843	
		-	-	RS 190	3000843	
3970232	MBD 415	RS 34 MZ	-	RS 34 MZ	-	(2) (4)
		RS 44 MZ	-	RS 44 MZ	-	
		RS 50	-	RS 50	-	
		RS 64 MZ	3000843	RS 64 MZ	3000843	
		RS 70	3000843	RS 70	3000843	
		RS 100	3000843	RS 100	3000843	
		RS 130	3000843	RS 130	3000843	
		-	-	RS 190	3000843	
3970250	MBD 415	RS 50	-	RS 50	-	(1) (3) (4)
3970198	MBD 415 CT	RS 34 MZ	-	RS 34 MZ	-	(1) (5)
		RS 44 MZ	-	RS 44 MZ	-	
		RS 50	-	RS 50	-	
		RS 64 MZ	3000843	RS 64 MZ	3000843	
		RS 70	3000843	RS 70	3000843	
		RS 100	3000843	RS 100	3000843	
		RS 130	3000843	RS 130	3000843	
		-	-	RS 190	3000843	
3970253	MBD 415 CT	RS 50	-	RS 50	-	(1) (3) (5)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Available models

Gas Trains

MULTIBLOC GAS TRAINS

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970181	MBD 420	RS 34 MZ	3000822	-	-	(1) (4)
		RS 44 MZ	3000822	-	-	
		RS 50	3000822	RS 50	3000822	
		RS 64 MZ	-	RS 64 MZ	-	
		RS 70	-	RS 70	-	
		RS 100	-	RS 100	-	
		RS 130	-	RS 130	-	
		RS 190	-	RS 190	-	
3970233	MBD 420	RS 34 MZ	3000822	-	-	(2) (4)
		RS 44 MZ	3000822	-	-	
		RS 50	3000822	RS 50	3000822	
		RS 64 MZ	-	RS 64 MZ	-	
		RS 70	-	RS 70	-	
		RS 100	-	RS 100	-	
		RS 130	-	RS 130	-	
		RS 190	-	RS 190	-	
3970182	MBD 420 CT	RS 34 MZ	3000822	-	-	(1) (5)
		RS 44 MZ	3000822	-	-	
		RS 50	3000822	RS 50	3000822	
		RS 64 MZ	-	RS 64 MZ	-	
		RS 70	-	RS 70	-	
		RS 100	-	RS 100	-	
		RS 130	-	RS 130	-	
		RS 190	-	RS 190	-	
3970234	MBD 420 CT	RS 34 MZ	3000822	-	-	(2) (5)
		RS 44 MZ	3000822	-	-	
		RS 50	3000822	RS 50	3000822	
		RS 64 MZ	-	RS 64 MZ	-	
		RS 70	-	RS 70	-	
		RS 100	-	RS 100	-	
		RS 130	-	RS 130	-	
		RS 190	-	RS 190	-	
3970252	MBD 420 CT	RS 50	3000822	RS 50	3000822	(1) (3) (5)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Available models

Gas Trains

	GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
			BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC GAS TRAINS	3970221	MBC 1200 SE 50	RS 50	3000822	-	-	(1) (4)
			RS 64 MZ	-	-	-	
			RS 70	-	RS 70	-	
			RS 100	-	RS 100	-	
			RS 130	-	RS 130	-	
			RS 190	-	RS 190	-	
	3970225	MBC 1200 SE 50 CT	RS 50	3000822	-	-	(1) (5)
			RS 64 MZ	-	-	-	
			RS 70	-	RS 70	-	
			RS 100	-	RS 100	-	
			RS 130	-	RS 130	-	
			RS 190	-	RS 190	-	
COMPOSED GAS TRAINS	3970222	MBC 1900 SE 65 FC	RS 100	3000825	RS 100	3000825	(1) (4)
			RS 130	3000825	RS 130	3000825	
			RS 190	3000825	RS 190	3000825	
	3970226	MBC 1900 SE 65 FC CT	RS 100	3000825	RS 100	3000825	(1) (5)
			RS 130	3000825	RS 130	3000825	
			RS 190	3000825	RS 190	3000825	
	3970223	MBC 3100 SE 80 FC	RS 130	3000826	-	-	(1) (4)
			RS 190	3000826	RS 190	3000826	
	3970227	MBC 3100 SE 80 FC CT	RS 130	3000826	-	-	(1) (5)
			RS 190	3000826	RS 190	3000826	

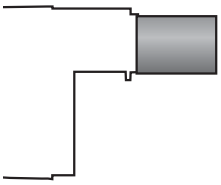
* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The KITS available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	'STANDARD HEAD' LENGTH (mm)	'EXTENDED HEAD' LENGTH (mm)	KIT CODE
▶ RS 34 MZ	216	351	3010428
▶ RS 44 MZ	216	351	3010429
▶ RS 50	216	351	3010078
▶ RS 64 MZ	250	385	3010427
▶ RS 70	250	385	3010117
▶ RS 100	250	385	3010118
▶ RS 130	280	415	3010119
▶ RS 190	372	530	3010443

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 34 MZ - 44 MZ - 50	90	3010095
▶ RS 64 MZ - 70 - 100 - 130	135	3010129
▶ RS 190	102	3000722

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table:

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ	3010449
▶ RS 50 - 70 - 100 - 130 - 190	3010094

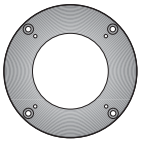
Post-ventilation kit

To prolong ventilation after opening of thermostats chain, a special kit is available.

BURNER	POST-VENTILATION TIME (s)	KIT CODE
▶ RS 34 MZ - 44 MZ	5	3010004
▶ RS 50 - 70 - 100 - 130 - 190	20	3010452

Burner accessories

Connection flange kit



A kit is available for use where the burner opening on the boiler is of excessive diameter.

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ - 50	3010138

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available, as given in the following table:

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)](*)	BOX CODE
▶ RS 34 MZ - 44 MZ - RS 50 - RS 64 MZ	C1/3	10	3010403
▶ RS 70 - 100 - 130 - 190	C4/5	10	3010404

(*) according to EN 15036-1 standard

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

BURNER	KIT CODE FOR 'STANDARD HEAD'	KIT CODE FOR 'EXTENDED HEAD'
▶ RS 34 MZ	3010423	3010423
▶ RS 44 MZ	3010424	3010424
▶ RS 50	3010165	3010165
▶ RS 64 MZ	3010434	3010435
▶ RS 70	3010097	3010098
▶ RS 100	3010099	3010100
▶ RS 130	3010101	3010102
▶ RS 190	3010166	3010166

Town gas kit

For burning Town gas, a special kit is available:

BURNER	KIT CODE FOR 'STANDARD HEAD' (*)	KIT CODE FOR 'EXTENDED HEAD' (*)
▶ RS 34 MZ	3010502	3010502
▶ RS 44 MZ	3010503	3010503
▶ RS 50	3010285	3010285
▶ RS 70	3010286	3010286
▶ RS 100	3010287	3010287
▶ RS 130	3010288	3010288
▶ RS 190	3010297	3010297

(*) Without CE certification

Burner accessories

Vibration reduction kit

The kit allow you to improve flame stability in some applications, where the boiler/flue assembly is liable to resonate.

BURNER	KIT CODE
▶ RS 50 TC - RS 50 TL	3010200
▶ RS 70 TC - RS 70 TL	3010201
▶ RS 100 TC - RS 100 TL	3010202
▶ RS 130 TC	3010373
▶ RS 130 TL	3010374
▶ RS 190 TC	3010375

Status Panel kit

The RS burners can be equipped with an exclusive electronic device “Status Panel” which continuously monitors and displays all the burner operational modes and picks up any anomalies during the operational cycle.

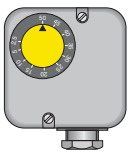
BURNER	KIT CODE
▶ RS 50 - 64 MZ - 70 - 100 - 130 - 190	3010322

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device for electrical system fault.

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ	3010448
▶ RS 50 - RS 64 MZ	3010321
▶ RS 70 - 100 - 130 - 190	3010329

Gas max pressure switch kit



If necessary a Gas max pressure Switch kit is available.

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ*	3010418
▶ RS 50 - 64 MZ - 70 - 100 - 130 - 190	3010493

* Connectable to the burner electrical wiring through Plugs & Sockets system

Volt free contact kit

A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals.
Every burner can be equipped with a single kit for a remote check of the flame presence signal and the burner lockout indication.

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ - 64 MZ	3010419

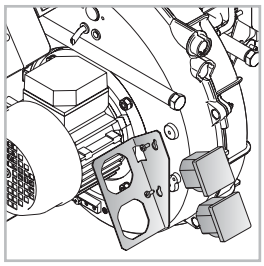
Burner accessories

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ - 50 - 64 MZ - 70 - 100 - 130 - 190	3002719

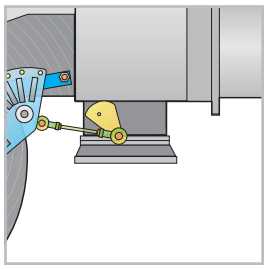
Hours counter kit



To measure the burner working time a hours counter kit is available.

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ	3010450

DN80 gas flange kit



To modify the standard 2” burner gas input connection in to DN80 connection, a specific gas flange is available.

BURNER	KIT CODE
▶ RS 64 MZ - 70 - 100 - 130 - 190	3010439

Protection kit (electromagnetic interferences)

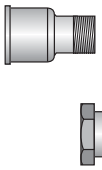
This kit is available as an interface between the thermostatic controls and the burner, to be used in systems where the lengths of the thermostat connections is over 20 meters, or where the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m).

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ - 50 - 64 MZ - 70 - 100 - 130	3010386

Included as standard on RS 190 model.

Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner. The following table lists the adapters for various burners.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ RS 34 MZ	MBD 405 - 407 - 410	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 44 MZ	MBD 405 - 407 - 410	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 50	MBD 407 - 410	3/4" 1" 1/2	3000824
	MBD 420 - MBC 1200	2" 1" 1/2	3000822
▶ RS 64 MZ	MBD 407 - 410	3/4" 1" 1/2	3000824
		1" 1/2 2"	3000843
	MBD 412 - 415	1" 1/2 2"	3000843
▶ RS 70	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ RS 100	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ RS 130	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ RS 190	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826

Gas train accessories

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The sealing control is type VPS 504.

GAS TRAIN	KIT CODE
▶ MBD type	3010123
▶ MBC type	3010367

Stabiliser spring

Accessory springs are available to vary the pressure range of the gas train stabilisers. The following table shows these accessories with their application range.
Please refer to the technical manual for the correct choice of spring.

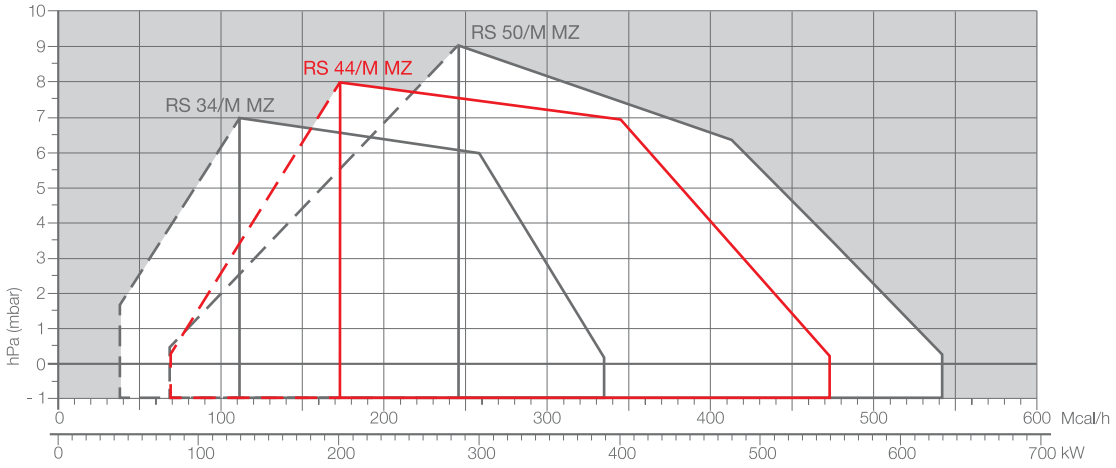
GAS TRAIN	SPRING	SPRING CODE
MBC 1900 ▶ MBC 3100 MBC 5000	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

RS/M SERIES

The RS/M burners series covers a firing range from 44 to 2650 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers.
Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes.
RS/M burners series guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs.
The exclusive design ensures reduced dimensions, simple use and maintenance. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**.
A wide range of accessories guarantees elevated working flexibility.

RS 34/M MZ	44/130	÷	390	kW
RS 44/M MZ	80/200	÷	550	kW
RS 50/M MZ	80/285	÷	630	kW
RS 64/M MZ	150/400	÷	850	kW
RS 70/M	150/470	÷	930	kW
RS 100/M	150/700	÷	1340	kW
RS 130/M MZ	240/920	÷	1600	kW
RS 190/M	470/1279	÷	2290	kW
RS 250/M MZ	600/1250	÷	2650	kW

FIRING RATES



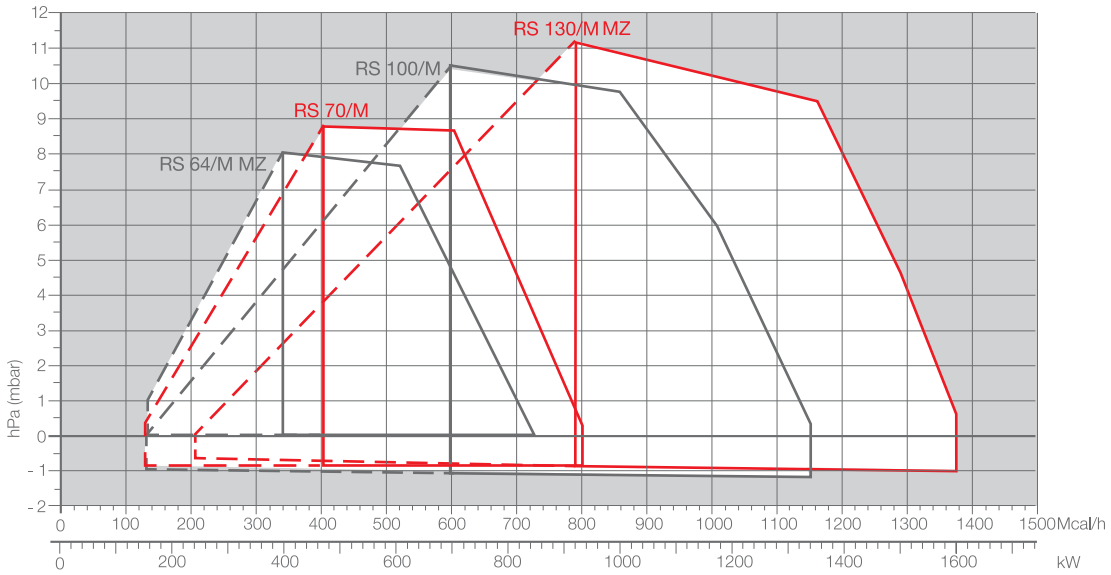
Useful working field for choosing the burner

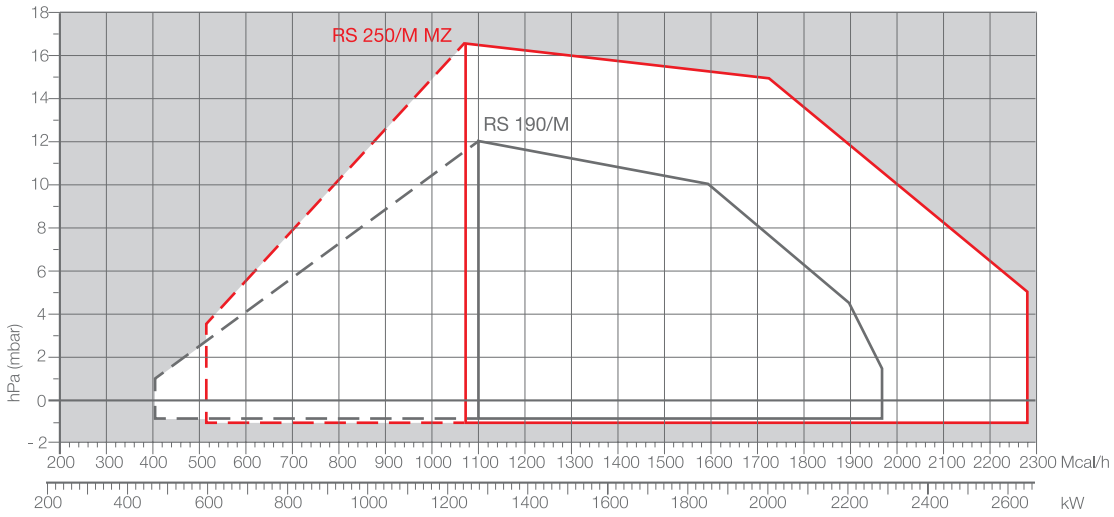
Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

RS/M SERIES

FIRING RATES





Useful working field for choosing the burner

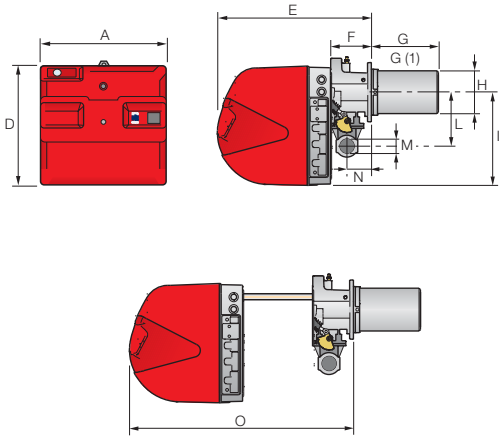
Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

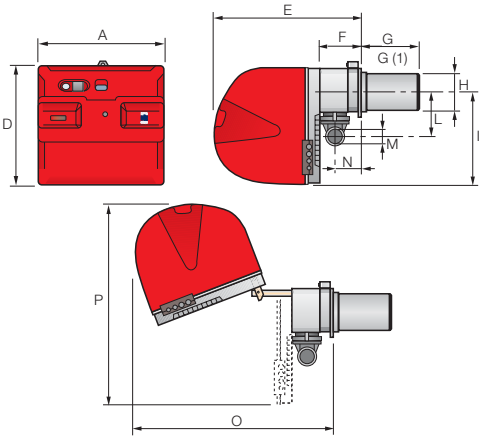
Overall dimensions (mm)

BURNER

RS 34/M MZ - 44/M MZ



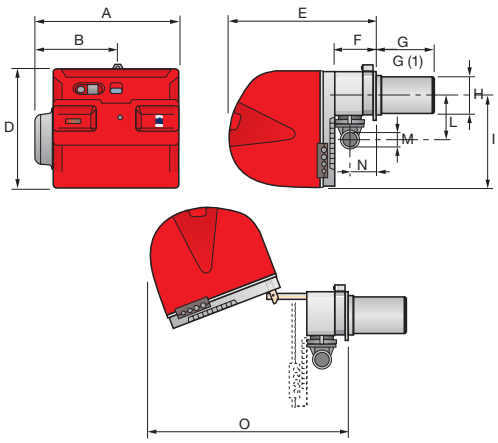
RS 50/M



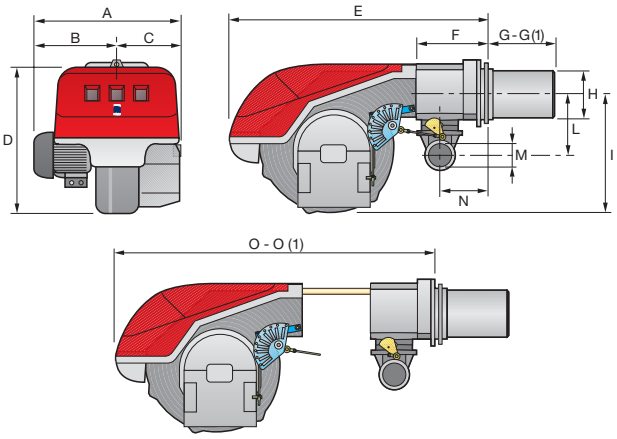
MODEL	A	D	E	F	G - G(1)	H	I	L	M	N	O	P
▶ RS 34/M MZ	442	422	508	138	216 - 351	140	305	177	1”1/2	84	780	-
▶ RS 44/M MZ	442	422	508	138	216 - 351	152	305	177	1”1/2	84	780	-
▶ RS 50/M	476	474	580	164	216 - 351	152	352	168	1”1/2	108	810	719

(1) dimension with extended head

RS 64/M MZ



RS 70/M - 100/M - 130/M - 190/M - 250/M MZ

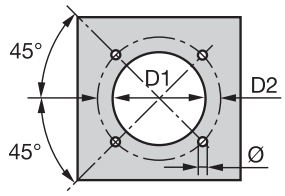


MODEL	A	B	C	D	E	F	G - G(1)	H	I	L	M	N	O - O(1)
▶ RS 64/M MZ	533	300	-	490	640	222	250 - 385	179	352	221	2”	134	810 - -
▶ RS 70/M	511	296	215	555	840	214	250 - 385	179	430	221	2”	134	1161 - 1296
▶ RS 100/M	527	312	215	555	840	214	250 - 385	179	430	221	2”	134	1161 - 1296
▶ RS 130/M	553	338	215	555	840	214	280 - 415	189	430	221	2”	134	1161 - 1296
▶ RS 190/M	681	366	315	555	856	230	372 - 530	222	430	221	2”	150	1328 - -
▶ RS 250/M MZ	732	427	305	555	872	230	370 - 520	222	430	221	2”	150	1322 - -

(1) dimension with extended head

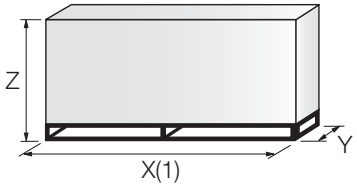
Overall dimensions (mm)

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 34/M MZ	160	224	M8
▶ RS 44/M MZ	160	224	M8
▶ RS 50/M	160	224	M8
▶ RS 64/M MZ	185	275-325	M12
▶ RS 70/M	185	275-325	M12
▶ RS 100/M	185	275-325	M12
▶ RS 130/M	195	275-325	M12
▶ RS 190/M	230	325-368	M16
▶ RS 250/M MZ	230	325-368	M16

PACKAGING



MODEL	X (1)	Y	Z	kg
▶ RS 34/M MZ	1000	485	500	32
▶ RS 44/M MZ	1000	485	500	33
▶ RS 50/M	1200	502	520	41
▶ RS 64/M MZ	1200	580	520	42
▶ RS 70/M	1405	700	660	70
▶ RS 100/M	1405	700	660	73
▶ RS 130/M	1405	700	660	76
▶ RS 190/M	1405-1420	1000	660	82
▶ RS 250/M MZ	1405-1420	1000	660	117

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES

Series: R

Fuel:	S	Natural Gas
	SP	LPG
	L	Light oil
	LS	Light oil/Methane
	N	Heavy oil

Size

Setting:	/1	Single stage
	...	Two stage
	/M	Modulating

Emission:	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 1 EN267 Class 3 EN676

Head length:	TC	standard head
	TL	extended head

Flame control system:	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system:	
1/230/50	1/230V/50Hz
1/220-230/50-60	1/220-230V/50-60Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
3/220-400/50-60	3/220-230V/50-60Hz 3/380-400V/50-60Hz

Auxiliary voltage:	230/50-60	230V/50-60Hz
	220-230/50-60	220-230V/50-60Hz
	110/50-60	110V/50-60Hz

ID:	Differential switch

R	S	50	/M		TC	FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

RS 34/M MZ - 44/M MZ models
Monoblock forced draught gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:
- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by a servomotor with variable cam
- Starting motor at 2800 rpm, single-phase / 220-230V / 50-60Hz or three-phase / 380-400V / 50-60Hz
- Combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Plugs and Sockets for electrical connection, accessible from the external of the cover
- Burner on/off selection switch
- Manual or automatic output increase/decrease selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 40 electric protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection (RS 34-44/M MZ single-phase)
- 4 plugs for electrical connection (RS 44/M MZ three-phase)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY

RS 50/M - 64/M MZ - 70/M - 100/M - 130/M - 190/M - 250/M MZ models
Monoblock forced draught gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (RS 50 - 70 - 100 - 130/M models) or straight blades (RS 64/M MZ - 190/M - 250/M MZ models)
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by a servomotor with variable cam
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- Combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Burner on/off selection switch
- Manual or automatic output increase/decrease selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for the electrical connection (RS 50/M)
- 2 slide bar extensions (for extended head models and RS 190/M model)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
						NATURAL GAS			
					(kW)	(Nm^3/h)	(kW)		
3788710	RS 34/M MZ	TC	FS1 1/230/50-60	230/50-60	44/130÷390	4,5/13÷39	0,6	CE 0085BR0378	(1)
3788711	RS 34/M MZ	TL	FS1 1/230/50-60	230/50-60	44/130÷390	4,5/13÷39	0,6	CE 0085BR0378	(1)
3788810	RS 44/M MZ	TC	FS1 1/230/50-60	230/50-60	80/200÷550	8/20÷55	0,7	CE 0085BR0378	(1)
3788811	RS 44/M MZ	TL	FS1 1/230/50-60	230/50-60	80/200÷550	8/20÷55	0,7	CE 0085BR0378	(1)
3788840	RS 44/M MZ	TC	FS1 3/230-400/50-60	230/50-60	80/200÷550	8/20÷55	0,75	CE 0085BR0378	(1)
3788841	RS 44/M MZ	TL	FS1 3/230-400/50-60	230/50-60	80/200÷550	8/20÷55	0,75	CE 0085BR0378	(1)
3781622	RS 50/M MZ	TC	FS1 3/230-400/50	230/50-60	80/285÷630	8/29÷63	0,75	CE 0085AQ0709	(2)
3781623	RS 50/M MZ	TL	FS1 3/230-400/50	230/50-60	80/285÷630	8/29÷63	0,75	CE 0085AQ0709	(2)
3866202	RS 50/M MZ	TC	FS1 3/230-400/50	230/50-60	80/285÷630	8/29÷63	0,75	CE 0085AQ0709	(1)
3781682	RS 50/M MZ	TC	FS1 3/230-460/60	230/50-60	80/285÷630	8/29÷63	0,66	-	(2)
3781683	RS 50/M MZ	TL	FS1 3/230-460/60	230/50-60	80/285÷630	8/29÷63	0,66	-	(2)
3788910	RS 64/M MZ	TC	FS1 3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,5	CE 0085BR0558	(1)
3788911	RS 64/M MZ	TL	FS1 3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,5	CE 0085BR0558	(1)
3788920	RS 64/M MZ	TC	FS2 3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,5	CE 0085BR0558	(1)
3788921	RS 64/M MZ	TL	FS2 3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,5	CE 0085BR0558	(1)
3789610	RS 70/M	TC	FS1 3/230-400/50	230/50-60	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(2)
3787040	RS 70/M	TC	FS1 3/230-400/50	230/50-60 ID	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(2)
3789611	RS 70/M	TL	FS1 3/230-400/50	230/50-60	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(2)
3787041	RS 70/M	TL	FS1 3/230-400/50	230/50-60 ID	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(2)
3866203	RS 70/M	TC	FS1 3/230-400/50	230/50-60	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(1)
3787082	RS 70/M	TC	FS1 3/230-460/60	230/50-60	150/470÷930	15/47÷93	1,4	-	(2)
3787083	RS 70/M	TL	FS1 3/230-460/60	230/50-60	150/470÷930	15/47÷93	1,4	-	(2)
3789710	RS 100/M	TC	FS1 3/230-400/50	230/50-60	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(2)
3787240	RS 100/M	TC	FS1 3/230-400/50	230/50-60 ID	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(2)
3789711	RS 100/M	TL	FS1 3/230-400/50	230/50-60	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(2)
3787241	RS 100/M	TL	FS1 3/230-400/50	230/50-60 ID	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(2)
3866204	RS 100/M	TC	FS1 3/230-400/50	230/50-60	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(1)
3787282	RS 100/M	TC	FS1 3/230-460/60	230/50-60	150/700÷1340	15/70÷134	2,1	-	(2)
3787283	RS 100/M	TL	FS1 3/230-460/60	230/50-60	150/700÷1340	15/70÷134	2,1	-	(2)
3789810	RS 130/M MZ	TC	FS1 3/230-400/50	230/50-60	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(2)
3787440	RS 130/M MZ	TC	FS1 3/230-400/50	230/50-60 ID	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(2)
3789811	RS 130/M MZ	TL	FS1 3/230-400/50	230/50-60	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(2)
3787441	RS 130/M MZ	TL	FS1 3/230-400/50	230/50-60 ID	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(2)
3866205	RS 130/M MZ	TC	FS1 3/230-400/50	230/50-60	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(1)
3787482	RS 130/M MZ	TC	FS1 3/230-460/60	230/50-60	240/920÷1600	24/92÷160	2,6	-	(2)
3787483	RS 130/M MZ	TL	FS1 3/230-460/60	230/50-60	240/920÷1600	24/92÷160	2,6	-	(2)

Natural Gas, net calorific value: 10 kWh/Nm^3 - Density at 20°C: 0,71 kg/Nm^3
The burners of RS/M series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676 Norm.
(1) With plug and socket.
(2) With terminal board.

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm^3/h)	(kW)		
3787623	RS 190/M TC FS1 3/400/50 230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
on demand	RS 190/M TC FS1 3/230/50 230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
3787640	RS 190/M TC FS1 3/400/50 230/50-60 ID	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
on demand	RS 190/M TC FS1 3/230/50 230/50-60 ID	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
3866206	RS 190/M TC FS1 3/400/50 230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(1)
on demand	RS 190/M TC FS1 3/230/50 230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(1)
3787682	RS 190/M TC FS1 3/460/60 230/50-60	470/1279-2290	47/128-229	5,5	-	(2)
on demand	RS 190/M TC FS1 3/220/60 220/60	470/1279-2290	47/128-229	5,5	-	(2)
3788410	RS 250/M MZ TC FS1 3/400/50 230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788411	RS 250/M MZ TL FS1 3/400/50 230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788440	RS 250/M MZ TC FS1 3/230/50 230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788441	RS 250/M MZ TL FS1 3/230/50 230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788420	RS 250/M MZ TC FS2 3/400/50 230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788421	RS 250/M MZ TL FS2 3/400/50 230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788450	RS 250/M MZ TC FS2 3/230/50 230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788451	RS 250/M MZ TL FS2 3/230/50 230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
20008162	RS 250/M MZ TC FS1 3/220-380/60 220/60	600/1250÷2650	60/125÷265	6,5	-	(2)

Natural Gas, net calorific value: 10 kWh/Nm^3 - Density at 20°C: 0,71 kg/Nm^3
The burners of RS/M series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676 Norm.
(1) With plug and socket.
(2) With terminal board.

Available models

Gas Trains

MULTIBLOC GAS TRAINS

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970500	MBD 405	RS 34/M MZ	3000824	RS 34/M MZ	3000824	(1) (4)
		-	-	RS 44/M MZ	3000824	
3970553	MBD 407	RS 34/M MZ	3000824	RS 34/M MZ	3000824	(1) (4)
		-	-	RS 44/M MZ	3000824	
		-	-	RS 50/M	3000824	
		-	-	RS 64/M MZ	3000824 + 3000843	
3970229	MBD 407	RS 34/M MZ	3000824	RS 34/M MZ	3000824	(2) (4)
		-	-	RS 44/M MZ	3000824	
		-	-	RS 50/M	3000824	
		-	-	RS 64/M MZ	3000824 + 3000843	
3970599	MBD 407	-	-	RS 34/M MZ	3000824	(1) (3) (4)
		-	-	RS 44/M MZ	3000824	
		-	-	RS 50/M	3000824	
		-	-	RS 64/M MZ	3000824 + 3000843	
3970554	MBD 410	RS 34/M MZ	3000824	RS 34/M MZ	3000824	(1) (4)
		RS 44/M MZ	3000824	RS 44/M MZ	3000824	
		RS 50/M	3000824	RS 50/M	3000824	
		-	-	RS 64/M MZ	3000824 + 3000843	
3970230	MBD 410	RS 34/M MZ	3000824	RS 34/M MZ	3000824	(2) (4)
		RS 44/M MZ	3000824	RS 44/M MZ	3000824	
		RS 50/M	3000824	RS 50/M	3000824	
		-	-	RS 64/M MZ	3000824 + 3000843	
3970600	MBD 410	-	-	RS 34/M MZ	3000824	(1) (3) (4)
		-	-	RS 44/M MZ	3000824	
		-	-	RS 50/M	3000824	
3970144	MBD 412	RS 34/M MZ	-	RS 34/M MZ	-	(1) (4)
		RS 44/M MZ	-	RS 44/M MZ	-	
		RS 50/M	-	RS 50/M	-	
		RS 64/M MZ	3000843	RS 64/M MZ	3000843	
		-	-	RS 70/M	3000843	
3970231	MBD 412	RS 34/M MZ	-	RS 34/M MZ	-	(2) (4)
		RS 44/M MZ	-	RS 44/M MZ	-	
		RS 50/M	-	RS 50/M	-	
		RS 64/M MZ	3000843	RS 64/M MZ	3000843	
		-	-	RS 70/M	3000843	

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Available models

Gas Trains

MULTIBLOC GAS TRAINS

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970197	MBD 412 CT	RS 34/M MZ	-	RS 34/M MZ	-	(1) (5)
		RS 44/M MZ	-	RS 44/M MZ	-	
		RS 50/M	-	RS 50/M	-	
		RS 64/M MZ	3000843	RS 64/M MZ	3000843	
		-	-	RS 70/M	3000843	
3970180	MBD 415	RS 34/M MZ	-	RS 34/M MZ	-	(1) (4)
		RS 44/M MZ	-	RS 44/M MZ	-	
		RS 50/M	-	RS 50/M	-	
		RS 64/M MZ	3000843	RS 64/M MZ	3000843	
		RS 70/M	3000843	RS 70/M	3000843	
		RS 100/M	3000843	RS 100/M	3000843	
		RS 130/M	3000843	RS 130/M	3000843	
		-	-	RS 190/M	3000843	
3970232	MBD 415	RS 34/M MZ	-	RS 34/M MZ	-	(2) (4)
		RS 44/M MZ	-	RS 44/M MZ	-	
		RS 50/M	-	RS 50/M	-	
		RS 64/M MZ	3000843	RS 64/M MZ	3000843	
		RS 70/M	3000843	RS 70/M	3000843	
		RS 100/M	3000843	RS 100/M	3000843	
		RS 130/M	3000843	RS 130/M	3000843	
		-	-	RS 190/M	3000843	
3970250	MBD 415	RS 50/M	-	RS 50/M	-	(1) (3) (4)
3970198	MBD 415 CT	RS 34/M MZ	-	RS 34/M MZ	-	(1) (5)
		RS 44/M MZ	-	RS 44/M MZ	-	
		RS 50/M	-	RS 50/M	-	
		RS 64/M MZ	3000843	RS 64/M MZ	3000843	
		RS 70/M	3000843	RS 70/M	3000843	
		RS 100/M	3000843	RS 100/M	3000843	
		RS 130/M	3000843	RS 130/M	3000843	
		-	-	RS 190/M	3000843	
3970253	MBD 415 CT	RS 50/M	-	RS 50/M	-	(1) (3) (5)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Available models

Gas Trains

MULTIBLOC GAS TRAINS

GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970181	MBD 420	RS 34/M MZ	3000822	-	-	(1) (4)
		RS 44/M MZ	3000822	-	-	
		RS 50/M	3000822	RS 50/M	3000822	
		RS 64/M MZ	-	RS 64/M MZ	-	
		RS 70/M	-	RS 70/M	-	
		RS 100/M	-	RS 100/M	-	
		RS 130/M	-	RS 130/M	-	
		RS 190/M	-	RS 190/M	-	
		-	-	RS 250/M MZ	-	
3970233	MBD 420	RS 34/M MZ	3000822	-	-	(2) (4)
		RS 44/M MZ	3000822	-	-	
		RS 50/M	3000822	RS 50/M	3000822	
		RS 64/M MZ	-	RS 64/M MZ	-	
		RS 70/M	-	RS 70/M	-	
		RS 100/M	-	RS 100/M	-	
		RS 130/M	-	RS 130/M	-	
		RS 190/M	-	RS 190/M	-	
3970182	MBD 420 CT	RS 34/M MZ	3000822	-	-	(1) (5)
		RS 44/M MZ	3000822	-	-	
		RS 50/M	3000822	RS 50/M	3000822	
		RS 64/M MZ	-	RS 64/M MZ	-	
		RS 70/M	-	RS 70/M	-	
		RS 100/M	-	RS 100/M	-	
		RS 130/M	-	RS 130/M	-	
		RS 190/M	-	RS 190/M	-	
		-	-	RS 250/M MZ	-	
3970234	MBD 420 CT	RS 34/M MZ	3000822	-	-	(2) (5)
		RS 44/M MZ	3000822	-	-	
		RS 50/M	3000822	RS 50/M	3000822	
		RS 64/M MZ	-	RS 64/M MZ	-	
		RS 70/M	-	RS 70/M	-	
		RS 100/M	-	RS 100/M	-	
		RS 130/M	-	RS 130/M	-	
		RS 190/M	-	RS 190/M	-	
3970252	MBD 420 CT	RS 50/M	3000822	RS 50/M	3000822	(1) (3) (5)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Available models

Gas Trains

	GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
			BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC GAS TRAINS	3970221	MBC 1200 SE 50	RS 50/M	3000822	-	-	(1) (4)
			RS 64/M MZ	-	-	-	
			RS 70/M	-	RS 70/M	-	
			RS 100/M	-	RS 100/M	-	
			RS 130/M	-	RS 130/M	-	
			RS 190/M	-	RS 190/M	-	
			RS 250/M MZ	-	RS 250/M MZ	-	
	3970225	MBC 1200 SE 50 CT	RS 50/M	3000822	-	-	(1) (5)
			RS 64/M MZ	-	-	-	
			RS 70/M	-	RS 70/M	-	
			RS 100/M	-	RS 100/M	-	
			RS 130/M	-	RS 130/M	-	
			RS 190/M	-	RS 190/M	-	
			RS 250/M MZ	-	RS 250/M MZ	-	
COMPOSED GAS TRAINS	3970222	MBC 1900 SE 65 FC	RS 100/M	3000825	RS 100/M	3000825	(1) (4)
			RS 130/M	3000825	RS 130/M	3000825	
			RS 190/M	3000825	RS 190/M	3000825	
			RS 250/M MZ	3000825	RS 250/M MZ	3000825	
	3970226	MBC 1900 SE 65 FC CT	RS 100/M	3000825	RS 100/M	3000825	(1) (5)
			RS 130/M	3000825	RS 130/M	3000825	
			RS 190/M	3000825	RS 190/M	3000825	
			RS 250/M MZ	3000825	RS 250/M MZ	3000825	
	3970223	MBC 3100 SE 80 FC	RS 130/M	3000826	-	-	(1) (4)
			RS 190/M	3000826	RS 190/M	3000826	
			RS 250/M MZ	3000826	RS 250/M MZ	3000826	
	3970227	MBC 3100 SE 80 FC CT	RS 130/M	3000826	-	-	(1) (5)
			RS 190/M	3000826	RS 190/M	3000826	
			RS 250/M MZ	3000826	RS 250/M MZ	3000826	

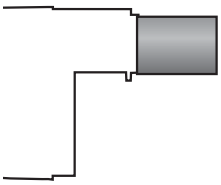
* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Gas Train S52 type for application with high combustion head pressure drop.
(4) Seal control accessory.
(5) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended heads



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The KITS available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	'STANDARD HEAD' LENGTH (mm)	'EXTENDED HEAD' LENGTH (mm)	KIT CODE
▶ RS 34/M MZ	216	351	3010428
▶ RS 44/M MZ	216	351	3010429
▶ RS 50/M	216	351	3010078
▶ RS 64/M MZ	250	385	3010427
▶ RS 70/M	250	385	3010117
▶ RS 100/M	250	385	3010118
▶ RS 130/M	280	415	3010119
▶ RS 190/M	372	530	3010443
▶ RS 250/M MZ	370	520	3010412

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 34/M MZ - 44/M MZ - RS 50/M	90	3010095
▶ RS 64/M MZ - RS 70/M - 100/M - 130/M	135	3010129
▶ RS 190/M - 250/M MZ	110	3000722

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table:

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ	3010449
▶ RS 50/M - 70/M - 100/M - 130/M - 190/M - 250/M	3010094

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available, as given in the following table:

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)](*)	BOX CODE
▶ RS 34/M MZ - 44/M MZ - RS 50/M - RS 64/M MZ	C1/3	10	3010403
▶ RS 70/M - 100/M - 130/M - 190/M - RS 250/M MZ	C4/5	10	3010404

(*) according to EN 15036-1 standard

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the RS/M series of burners requires a regulator with three point outlet controls. On RS 34/M MZ - 44/M MZ - 250/M MZ the regulator is connected to the burner electrical wiring by plug-in system in order to make the connection easier and faster.
The relative temperature or pressure probes fitted to the regulator must be chosen on the basis of the application.
The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE	CODE
▶ RS 34/M MZ - 44/M MZ	RWF 40	3010417
▶ RS 50/M - 64/M MZ - RS 70/M - 100/M - 130/M - 190/M	RWF 40	3010212
▶ RS 250/M MZ	RWF 40	3010414

PROBE

BURNER	PROBE TYPE	RANGE (°C) (bar)	CODE
▶ All models	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

ANALOG CONTROL SIGNAL CONVERTER

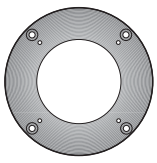
Modulating operation can also be obtained with an analog control signal converter and a feedback three-pole potentiometer.
Alternatively, the potentiometer can be used to check the servomotor position.

BURNER	TYPE (INPUT SIGNAL)	CODE
▶ RS 34/M MZ - 44/M MZ	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010410
▶ RS 50/M - RS 64/M MZ - RS 70/M RS 100/M - 130/M - 190/M	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	on demand
▶ RS 250/M MZ	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010415

POTENTIOMETER KIT

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ	3010420
▶ RS 50/M - RS 64/M MZ	3010109
▶ RS 70/M - 100/M - 130/M - 190/M	3010021
▶ RS 250/M MZ	3010416

Connection flange kit



A kit is available for use where the burner opening on the boiler is of excessive diameter.

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ - RS 50/M	3010138

Burner accessories

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

BURNER	KIT CODE FOR 'STANDARD HEAD'	KIT CODE FOR 'EXTENDED HEAD'
▶ RS 34/M MZ	3010423	3010423
▶ RS 44/M MZ	3010424	3010424
▶ RS 50/M MZ	3010165	3010165
▶ RS 64/M MZ	3010434	3010435
▶ RS 70/M	3010097	3010098
▶ RS 100/M	3010099	3010100
▶ RS 130/M MZ	3010101	3010102
▶ RS 190/M	3010166	3010166
▶ RS 250/M MZ	3010411	3010411

Town gas kit

For burning Town gas, a special kit is available:

BURNER	KIT CODE FOR 'STANDARD HEAD' (*)	KIT CODE FOR 'EXTENDED HEAD' (*)
▶ RS 34/M MZ	3010502	3010502
▶ RS 44/M MZ	3010503	3010503
▶ RS 50/M MZ	3010285	3010285
▶ RS 70/M	3010286	3010286
▶ RS 100/M	3010287	3010287
▶ RS 130/M MZ	3010288	3010288
▶ RS 190/M	3010297	3010297
▶ RS 250/M MZ	3010472	3010472

(*) Without CE certification

Vibration reduction kit

The kit allow you to improve flame stability in some applications, where the boiler/flue assembly is liable to resonate.

BURNER	KIT CODE
▶ RS 50/M MZ TC - RS 50/M MZ TL	3010200
▶ RS 70/M TC - RS 70/M TL	3010201
▶ RS 100/M TC - RS 100/M TL	3010202
▶ RS 130/M MZ TC	3010373
▶ RS 130/M MZ TL	3010374
▶ RS 190/M TC	3010375

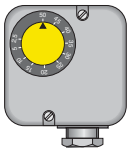
Burner accessories

Ground fault interrupter kit

A “Ground fault interrupter kit” is available as a safety device for electrical system fault.

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ	3010448
▶ RS 50/M - RS 64/M MZ	3010321
▶ RS 70/M - 100/M - 130/M - 190/M - RS 250/M MZ	3010329

Gas max pressure switch kit



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring through Plugs & Sockets system.

BURNER (*)	KIT CODE
▶ RS 34/M MZ - 44/M MZ	3010418

(*) Gas max pressure switch is installed as a standard on RS 50/M MZ - 64/M MZ - 70/M - 100/M - 130/M MZ - 190/M - 250/M MZ

Volt free contact kit

A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals.
Every burner can be equipped with a single kit for a remote check of the flame presence signal or the burner lockout indication.

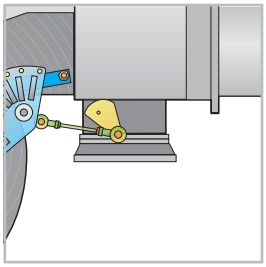
BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ - 64/M MZ	3010419

PC interface kit

To connect the control box to a personal computer for the transmission of operation, fault signals and detailed service information, an interface adapter with PC software are available.

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ - 64/M MZ - 250/M MZ	3002719

DN80 gas flange kit

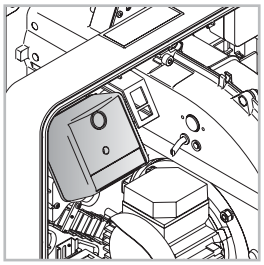


To modify the standard 2” burner gas input connection in to DN80 connection, a specific gas flange is available.

BURNER	KIT CODE
▶ RS 64/M MZ - 70/M - 100/M - 130/M - 190/M - 250/M MZ	3010439

Burner accessories

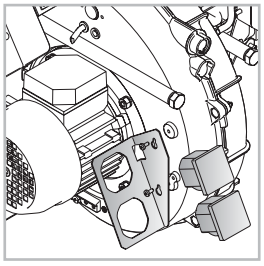
Post-ventilation kit



To have 20 s ventilation after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ	3010451

Hours counter kit



To measure the burner working time a hours counter kit is available.

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ	3010450

Protection kit (electromagnetic interferences)

This kit is available as an interface between the thermostatic controls and the burner, to be used in systems where the lengths of the thermostat connections is over 20 meters, or where the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m).

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ - 50/M - 64/M MZ - 70/M - 100/M - 130/M MZ	3010386

Included as standard on RS 190/M - 250/M MZ model.

Gas train accessories

Adapters

When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner. The following table lists the adapters for various burners.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ RS 34/M MZ	MBD 405 - 407 - 410	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 44/M MZ	MBD 405 - 407 - 410	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 50/M	MBD 407 - 410	3/4" 1" 1/2	3000824
	MBD 420 - MBC 1200	2" 1" 1/2	3000822
▶ RS 64/M MZ	MBD 407 - 410	3/4" 1" 1/2 1" 1/2 2"	3000824 + 3000843
	MBD 412 - 415	1" 1/2 2"	3000843
▶ RS 70/M	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ RS 100/M	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ RS 130/M	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826

To be continued in the following page

Gas train accessories

Adapters

Continued from the previous page

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
	MBD 415	1" 1/2 2"	3000843
▶ RS 190/M	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ RS 250/M MZ	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826

Stabiliser spring

Accessory springs are available to vary the pressure range of the gas train stabilisers. The following table shows these accessories with their application range.
Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING	SPRING CODE
MBC 1900 ▶ MBC 3100 MBC 5000	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The sealing control is type VPS 504.

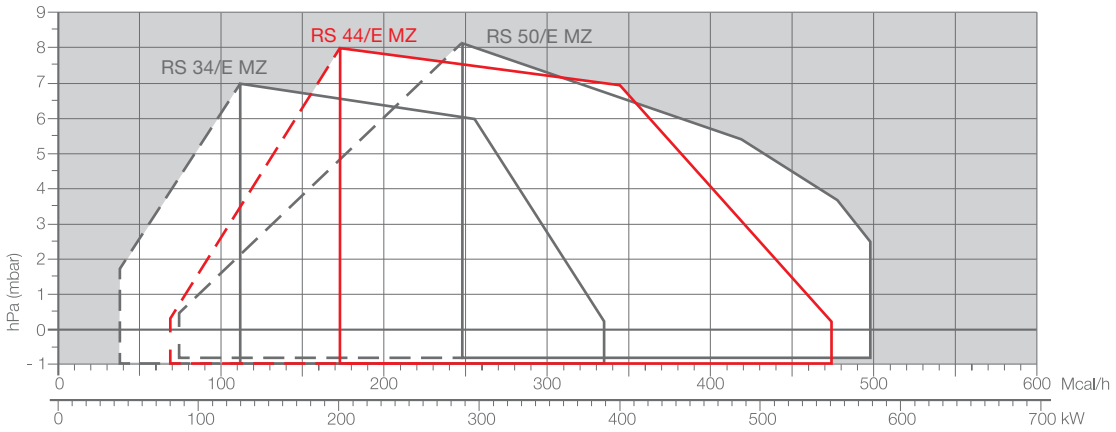
GAS TRAIN	KIT CODE
▶ MBD type	3010123
▶ MBC type	3010367

RS/E-EV MZ SERIES

The RS/E-EV MZ burners series covers a firing range from 44 to 2650 kW, and it is based on a new Digital Burner Management System, Riello REC27, which is able to manage the air-fuel ratio by independent servomotors in order to obtain a perfect output control and to assure a correct combustion and safe operation on all modulation range. Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes. RS/E MZ burners series guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs.
The RS 250/EV MZ model, equipped with REC37, is available to operate with **Variable Speed Drive technology** base on the control of a Frequency Inverter that modifies the air flow through the motor speed variation.
Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**.

RS 34/E MZ	44/130	÷	390	kW
RS 44/E MZ	80/200	÷	550	kW
RS 50/E MZ	85/290	÷	580	kW
RS 64/E MZ	150/400	÷	850	kW
RS 70/E MZ	135/465	÷	814	kW
RS 100/E MZ	150/698	÷	1163	kW
RS 130/E MZ	160/930	÷	1512	kW
RS 190/E	470/1279	÷	2290	kW
RS 250/E MZ	600/1250	÷	2650	kW
RS 250/EV MZ	600/1250	÷	2650	kW

FIRING RATES



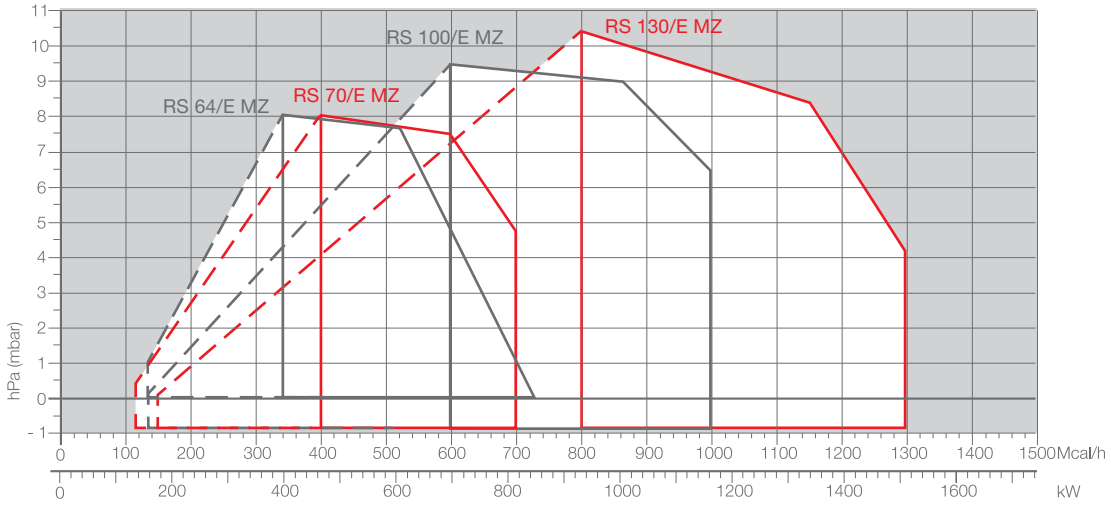
Useful working field for choosing the burner

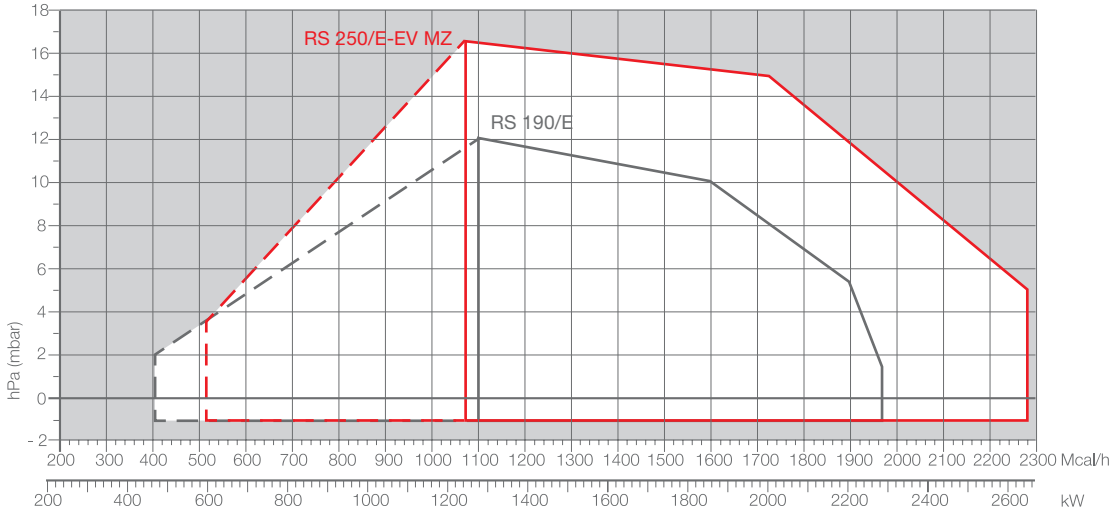
Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

RS/E-EV MZ SERIES

FIRING RATES





Useful working field for choosing the burner

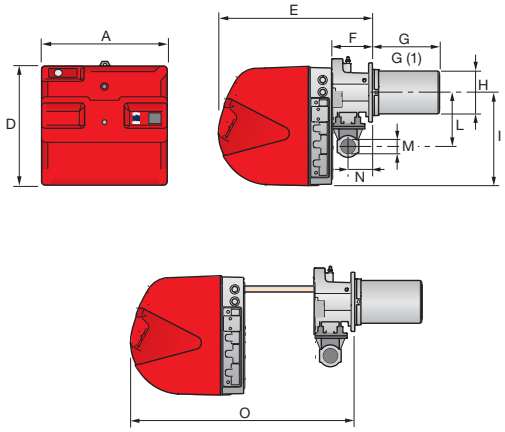
Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

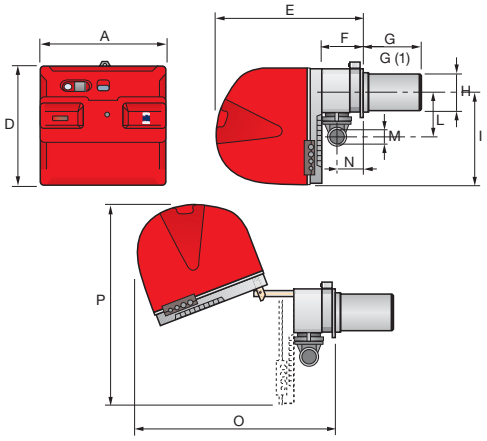
Overall dimensions (mm)

BURNER

RS 34-44/E MZ



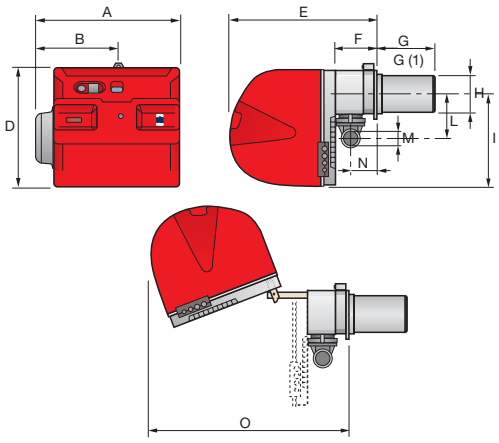
RS 50/E MZ



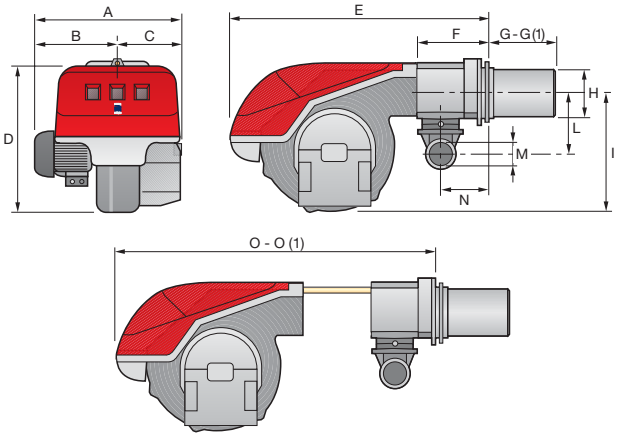
MODEL	A	D	E	F	G - G(1)	H	I	L	M	N	O	P
▶ RS 34/E MZ	442	422	508	138	216 - 351	140	305	177	1”1/2	84	780	-
▶ RS 44/E MZ	442	422	508	138	216 - 351	152	305	177	1”1/2	84	780	-
▶ RS 50/E MZ	476	474	580	164	216 - 351	152	352	168	1”1/2	108	810	719

(1) dimension with extended head

RS 64/E MZ



RS 70-100-130-250/E MZ - RS 190/E

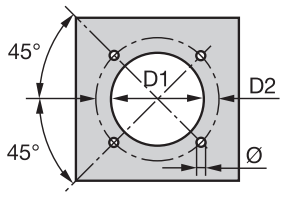


MODEL	A	B	C	D	E	F	G - G(1)	H	I	L	M	N	O - O(1)
▶ RS 64/E MZ	533	300	-	490	640	222	250 - 385	179	352	221	2”	134	810 - -
▶ RS 70/E MZ	527	312	215	555	840	214	250 - 385	179	430	221	2”	134	1161 - 1296
▶ RS 100/E MZ	527	312	215	555	840	214	250 - 385	179	430	221	2”	134	1161 - 1296
▶ RS 130/E MZ	553	338	215	555	840	214	280 - 415	189	430	221	2”	134	1161 - 1296
▶ RS 190/E	675	370	305	555	856	230	372 - 530	222	436	223	2”	150	1328 - -
▶ RS 250/E-EV MZ	732	427	305	555	872	230	370 - 520	222	436	264	2”	150	1322 - 1467

(1) dimension with extended head

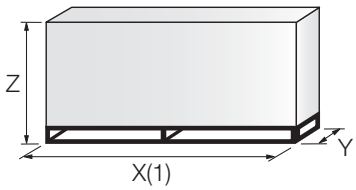
Overall dimensions (mm)

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 34/E MZ	160	224	M8
▶ RS 44/E MZ	160	224	M8
▶ RS 50/E MZ	160	224	M8
▶ RS 64/E MZ	185	275-325	M12
▶ RS 70/E MZ	185	275-325	M12
▶ RS 100/E MZ	185	275-325	M12
▶ RS 130/E MZ	195	275-325	M12
▶ RS 190/E	230	325-368	M16
▶ RS 250/E-EV MZ	230	325-368	M16

PACKAGING



MODEL	X (1)	Y	Z	kg
▶ RS 34/E MZ	1000	485	500	39
▶ RS 44/E MZ	1000	485	500	40
▶ RS 50/E MZ	1200	502	630	48
▶ RS 64/E MZ	1200	580	630	50
▶ RS 70/E MZ	1405	700	660	78
▶ RS 100/E MZ	1405	700	660	81
▶ RS 130/E MZ	1405	700	660	84
▶ RS 190/E	1405	1000	660	89
▶ RS 250/E-EV MZ	1405-1420	1000	660	125

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES

Series: R

Fuel:	S	Natural Gas
	SP	LPG
	L	Light oil
	LS	Light oil/Methane
	N	Heavy oil

Size

Setting:	/1	Single stage
	...	Two stage
	/M	Modulating

Emission:	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 1 EN267 Class 3 EN676

Head length:	TC	standard head
	TL	extended head

Flame control system:	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system:	
1/230/50	1/230V/50Hz
1/220-230/50-60	1/220-230V/50-60Hz
3/230/50	3/230V/50Hz
3/400/50	3N/400V/50Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/220/60	3/220V/60Hz
3/380/60	3N/380V/60Hz
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
3/220-400/50-60	3/220-230V/50-60Hz 3/380-400V/50-60Hz

Auxiliary voltage:	230/50-60	230V/50-60Hz
	220-230/50-60	220-230V/50-60Hz
	110/50-60	110V/50-60Hz

ID: Differential switch

R	S	50	/E	MZ	TC	FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

RS 34/E MZ - 44/E MZ models
Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:
- Microprocessor-based Digital Burner Management System (Electronic Cam)
- Display Interface operating unit to adjust the system
- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, single-phase/220-230V/50-60Hz or three-phase/380-400V/50-60Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Plugs and sockets for electrical connection, accessible from the external of the cover
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection (RS 34-44/E MZ single-phase)
- 4 plugs for electrical connection (RS 44/E MZ three-phase)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY

RS 50/E MZ - 64/E MZ - 70/E MZ - 100/E MZ - 130/E MZ - 190/E - 250/E-EV MZ models
Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:
- Microprocessor-based Digital Burner Management System (Electronic Cam)
- Display Interface operating unit to adjust the system
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (straight blades on the RS 64/E MZ - 190/E - 250/E-EV MZ models) high performance with low sound emissions
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - ionisation probe
    - gas distributor
    - flame stability disk
- Maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for the electrical connection
- 2 slide bar extensions (for extended head models and RS 190/E - 250/E-EV MZ models)
- Pressure switch for valve proofing system (RS 130/E MZ - 190/E - 250/E-EV MZ models models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
						(kW)	NATURAL GAS (Nm^3/h)	(kW)		
3789410	RS 34/E MZ	TC	FS1	1/220-230/50-60	220-230/50-60	44/130÷ 390	4,5/13÷39	0,6	CE 0085BS0378	(1)(3)
3789411	RS 34/E MZ	TL	FS1	1/220-230/50-60	220-230/50-60	44/130÷ 390	4,5/13÷39	0,6	CE 0085BS0378	(1)(3)
3789510	RS 44/E MZ	TC	FS1	1/220-230/50-60	220-230/50-60	80/200÷550	8/20÷55	0,7	CE 0085BS0378	(1)(3)
3789511	RS 44/E MZ	TL	FS1	1/220-230/50-60	220-230/50-60	80/200÷550	8/20÷55	0,7	CE 0085BS0378	(1)(3)
3789540	RS 44/E MZ	TC	FS1	3/220-400/50-60	220-230/50-60	80/200÷550	8/20÷55	0,75	CE 0085BS0378	(1)(3)
3789541	RS 44/E MZ	TL	FS1	3/220-400/50-60	220-230/50-60	80/200÷550	8/20÷55	0,75	CE 0085BS0378	(1)(3)
3781622	RS 50/E MZ	TC	FS1	3/230-400/50	230/50-60	85/290-580	8,5/29-58	0,75	in progress	(1)(3)
3781623	RS 50/E MZ	TL	FS1	3/230-400/50	230/50-60	85/290-580	8,5/29-58	0,75	in progress	(1)(3)
3789910	RS 64/E MZ	TC	FS1	3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,2	in progress	(1)(3)
3789911	RS 64/E MZ	TL	FS1	3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,2	in progress	(1)(3)
3787032	RS 70/E MZ	TC	FS1	3/230-400/50	230/50-60	135/465-814	13,5/46,5-81	1,6	in progress	(2)(3)
3787033	RS 70/E MZ	TL	FS1	3/230-400/50	230/50-60	135/465-814	13,5/46,5-81	1,6	in progress	(2)(3)
3787232	RS 100/E MZ	TC	FS1	3/230-400/50	230/50-60	150/698-1163	15/70-116	2,0	in progress	(2)(3)
3787233	RS 100/E MZ	TL	FS1	3/230-400/50	230/50-60	150/698-1163	15/70-116	2,0	in progress	(2)(3)
3787432	RS 130/E MZ	TC	FS1	3/230-400/50	230/50-60	160/930-1512	16/93-151	2,8	in progress	(2)(4)
3787433	RS 130/E MZ	TL	FS1	3/230-400/50	230/50-60	160/930-1512	16/93-151	2,8	in progress	(2)(4)
3787632	RS 190/E MZ	TC	FS1	3/400/50	230/50-60	470/1279-2290	47/128-229	5,3	in progress	(2)(4)
on demand	RS 190/E MZ	TC	FS1	3/230/50	230/50-60	470/1279-2290	47/128-229	5,3	in progress	(2)(4)
3789210	RS 250/E MZ	TC	FS1	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BT0061	(2)(4)
3789211	RS 250/E MZ	TL	FS1	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BT0061	(2)(4)
3789240	RS 250/E MZ	TC	FS1	3/230/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BT0061	(2)(4)
3789241	RS 250/E MZ	TL	FS1	3/230/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BT0061	(2)(4)
on demand	RS 250/EV MZ	TC	FS1	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	in progress	(2)(4)

Natural Gas, net calorific value: 10 kWh/Nm^3 - Density at 20°C: 0,71 kg/Nm^3
The burners of RS/E MZ series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 676 Norm.
(1) With plug and socket.
(2) With terminal board.
(3) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit on the gas train as Accessory (see Gas Train Accessories paragraph).
(4) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit (included as burner standard equipment) on the gas train.

Available models

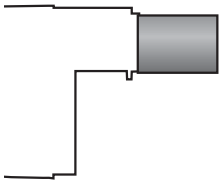
Gas Trains

	GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
MULTIBLOC GAS TRAINS	3970602	MBC 120	RS 34/E MZ	3000824	RS 34/E MZ	3000824	(1) (3)
			RS 44/E MZ	3000824	RS 44/E MZ	3000824	
	3970599	MBD 407	RS 34/E MZ	3000824	RS 34/E MZ	3000824	(1)
			RS 44/E MZ	3000824	RS 44/E MZ	3000824	
			RS 50/E MZ	3000824	RS 50/E MZ	3000824	
			RS 64/E MZ	3000824-3000843	RS 64/E MZ	3000824-3000843	
	3970258	MBD 410	RS 34/E MZ	-	RS 34/E MZ	-	(1)
			RS 44/E MZ	-	RS 44/E MZ	-	
			RS 50/E MZ	-	RS 50/E MZ	-	
			RS 64/E MZ	3000824-3000843	RS 64/E MZ	3000824-3000843	
	3970256	MBD 412	RS 34/E MZ	-	RS 34/E MZ	-	(1)
			RS 44/E MZ	-	RS 44/E MZ	-	
			RS 50/E MZ	-	RS 50/E MZ	-	
			RS 64/E MZ	3010126	RS 64/E MZ	3010126	
			RS 70/E MZ	3010126	RS 70/E MZ	3010126	
	3970250	MBD 415	RS 34/E MZ	-	RS 34/E MZ	-	(1)
			RS 44/E MZ	-	RS 44/E MZ	-	
			RS 50/E MZ	-	RS 50/E MZ	-	
			RS 64/E MZ	3000843	RS 64/E MZ	3000843	
			RS 70/E MZ	3000843	RS 70/E MZ	3000843	
			RS 100/E MZ	3000843	RS 100/E MZ	3000843	
			RS 130/E MZ	3000843	RS 130/E MZ	3000843	
			RS 190/E	3000843	RS 190/E	3000843	
	3970257	MBD 420	RS 34/E MZ	3000822	-	-	(1)
			RS 44/E MZ	3000822	-	-	
			RS 50/E MZ	3000822	RS 50/E MZ	3000822	
			RS 64/E MZ	-	RS 64/E MZ	-	
			RS 70/E MZ	-	RS 70/E MZ	-	
			RS 100/E MZ	-	RS 100/E MZ	-	
			RS 130/E MZ	-	RS 130/E MZ	-	
			RS 190/E	-	RS 190/E	-	
			RS 250/E-EV MZ	-	RS 250/E-EV MZ	-	
	3970221	MBC 1200 SE	RS 50/E MZ	3000822	RS 50/E MZ	3000822	(2)
			RS 64/E MZ	-	RS 64/E MZ	-	
			RS 70/E MZ	-	RS 70/E MZ	-	
			RS 100/E MZ	-	RS 100/E MZ	-	
			RS 130/E MZ	-	RS 130/E MZ	-	
			RS 190/E	-	RS 190/E	-	
			RS 250/E-EV MZ	-	RS 250/E-EV MZ	-	
COMPOSED GAS TRAINS	3970222	MBC 1900 SE	RS 100/E MZ	3000825	RS 100/E MZ	3000825	(2)
			RS 130/E MZ	3000825	-	-	
			RS 190/E	3000825	RS 190/E	3000825	
			RS 250/E-EV MZ	3000825	RS 250/E-EV MZ	3000825	
	3970223	MBC 3100 SE	RS 130/E MZ	3000826	-	-	(2)
			RS 190/E	3000826	RS 190/E	3000826	
			RS 250/E-EV MZ	3000826	RS 250/E-EV MZ	3000826	

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) Gas Train with 6-pin plug to install for connection to the burner.
(2) Gas Train with 6-pin plug installed for connection to the burner.
(3) Integrated seal control is not available with this gas train.
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended heads



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The KITS available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	'STANDARD HEAD' LENGTH (mm)	'EXTENDED HEAD' LENGTH (mm)	KIT CODE
▶ RS 34/E MZ	216	351	3010428
▶ RS 44/E MZ	216	351	3010429
▶ RS 50/E MZ	216	351	20008182
▶ RS 64/E MZ	250	385	3010427
▶ RS 70/E MZ	250	385	3010117
▶ RS 100/E MZ	250	385	3010118
▶ RS 130/E MZ	280	415	3010119
▶ RS 190/E	372	530	3010443
▶ RS 250/E-EV MZ	370	520	3010412

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 34/E MZ - 44/E MZ - RS 50/E MZ	90	3010095
▶ RS 64/E MZ - RS 70/E MZ - 100/E MZ - 130/E MZ	135	3010129
▶ RS 190/E - 250/E-EV MZ	110	3000722

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table:

BURNER	KIT CODE
▶ RS 34/E MZ - 44/E MZ	3010449
▶ RS 50/E MZ - 70/E MZ - 100/E MZ - 130/E MZ - 190/E - 250/E-EV MZ	3010094

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available, as given in the following table:

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)](*)	BOX CODE
▶ RS 34-44-50-64/E MZ	C1/3	10	3010403
▶ RS 70/E MZ - 100/E MZ - 130/E MZ RS 190/E - RS 250/E-EV MZ	C4/5	10	3010404

(*) according to EN 15036-1 standard

Burner accessories

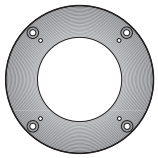
Accessories for modulating operation

To obtain modulating operation, the RS/E series of burners requires a regulator with three point outlet controls. On RS 34/E MZ - 44/E MZ - 250/E MZ the regulator is connected to the burner electrical wiring by plug-in system in order to make the connection easier and faster.
The relative temperature or pressure probes fitted to the regulator must be chosen on the basis of the application.
The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE	CODE
▶ RS 34/E MZ - 44/E MZ	RWF 40	3010417
▶ RS 50-64-70-100-130-250/E-EV MZ - RS 190/E	RWF 40	3010414

BURNER	PROBE TYPE	RANGE (°C) (bar)	CODE
▶ All models	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Connection flange kit



A kit is available for use where the burner opening on the boiler is of excessive diameter.

BURNER	KIT CODE
▶ RS 34/E MZ - 44/E MZ - RS 50/E MZ	3010138

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

BURNER	KIT CODE FOR 'STANDARD HEAD'	KIT CODE FOR 'EXTENDED HEAD'
▶ RS 34/E MZ	3010423	3010423
▶ RS 44/E MZ	3010424	3010424
▶ RS 50/E MZ	3010165	3010165
▶ RS 64/E MZ	3010434	3010435
▶ RS 70/E MZ	3010097	3010098
▶ RS 100/E MZ	3010099	3010100
▶ RS 130/E MZ	3010101	3010102
▶ RS 190/E	3010166	3010166
▶ RS 250/E-EV MZ	3010411	3010411

Burner accessories

Town gas kit

For burning Town gas, a special kit is available:

BURNER	KIT CODE FOR 'STANDARD HEAD' (*)	KIT CODE FOR 'EXTENDED HEAD' (*)
▶ RS 34/E MZ	3010502	3010502
▶ RS 44/E MZ	3010503	3010503
▶ RS 50/E MZ	3010285	3010285
▶ RS 70/E MZ	3010286	3010286
▶ RS 100/E MZ	3010287	3010287
▶ RS 130/E MZ	3010288	3010288
▶ RS 190/E	3010297	3010297

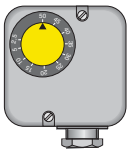
(*) Without CE certification

Ground fault interrupter kit

A "Ground fault interrupter kit" is available as a safety device for electrical system fault.

BURNER	KIT CODE
▶ RS 34/E MZ - 44/E MZ	3010448
▶ RS 50/E MZ - RS 64/E MZ	3010321
▶ RS 70-100-130-250/E-EV MZ - RS 190/E	3010329

Gas max pressure switch



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring through Plugs & Sockets system.

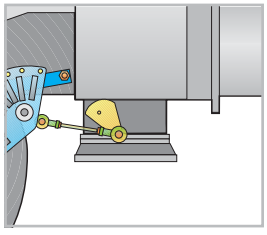
BURNER	KIT CODE
▶ RS 34/E MZ - 44/E MZ	3010418

Volt free contact kit

A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals. Every burner can be equipped with a single kit for a remote check of the flame presence signal and the burner lockout indication.

BURNER	KIT CODE
▶ RS 34/E MZ - 44/E MZ	3010419

DN80 gas flange kit



To modify the standard 2" burner gas input connection in to DN80 connection, a specific gas flange is available.

BURNER	KIT CODE
▶ RS 64-70-100-130-250/E EV MZ - RS 190/E	3010439

Burner accessories

Variable Speed Drive (VSD) for RS/EV series only

The motor speed variation for the RS/EV MZ burners series is obtained thanks to a frequency converter: variable speed drive (VSD). It always must be ordered with RS/EV series.

BURNER	KIT CODE
▶ RS 250/EV MZ	3010379

OCI410 interface for ACS410 software kit

Interface kit between burner management system and PC. It facilitates viewing, handling and recording setting parameters on site.

BURNER	KIT CODE
▶ RS 34-44-64-70-100-130-250/E-EV MZ - RS 190/E	3010436

OCI412 interface kit

Interface kit between the REC27.100A2 and a Modbus system, such as a building automation and control system (BACS). The Modbus interface is based on the RS-485 standard.

BURNER	KIT CODE
▶ RS 34-44-64-70-100-130-250/E-EV MZ - RS 190/E	3010437

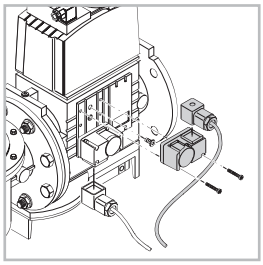
Gas train accessories

Stabiliser spring

Accessory springs are available to vary the pressure range of the gas train stabilisers. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING	SPRING CODE
MBC 1900 ▶ MBC 3100 MBC 5000	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

PVP (Pressure Valve Proving) kit *



The seal control function is included on Burner Digital Management System, it is only necessary to add the PVP kit on the gas train.
The PVP is included as standard equipment on RS 130/E-250/E-EV MZ and RS 190/E models.

BURNER	KIT CODE
▶ MBD type - MBC type **	3010344

* not necessary for the RS 130/E-250/E MZ and RS 190/E models where is included as a standard.
** MBC 120 model excluded (integrated seal control is not available with this gas train).

Gas train accessories

Adapters

When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner. The following table lists the adapters for various burners.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ RS 34/E MZ	MBC 120 - MBD 407	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 44/E MZ	MBC 120 - MBD 407	3/4" 1" 1/2	3000824
	MBD 420	2" 1" 1/2	3000822
▶ RS 50/E MZ	MBC 120 - MBD 407	3/4" 1" 1/2	3000824
	MBD 420 - MBC 1200	2" 1" 1/2	3000822
▶ RS 64/E MZ	MBD 407	3/4" 1" 1/2 1" 1/2 2"	3000824 + 3000843
	MBD 415	1" 1/2 2"	3000843
▶ RS 70/E MZ	MBD 412	1" 1/4 2"	3010126
	MBD 415	1" 1/2 2"	3000843
▶ RS 100/E MZ	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
▶ RS 130/E MZ	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ RS 190/E	MBD 415	1" 1/2 2"	3000843
	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826
▶ RS 250/E-EV MZ	MBC 1900	DN 65 2" 1/2 1" 1/2 2"	3000825
	MBC 3100	DN 80 2" 1/2 2"	3000826

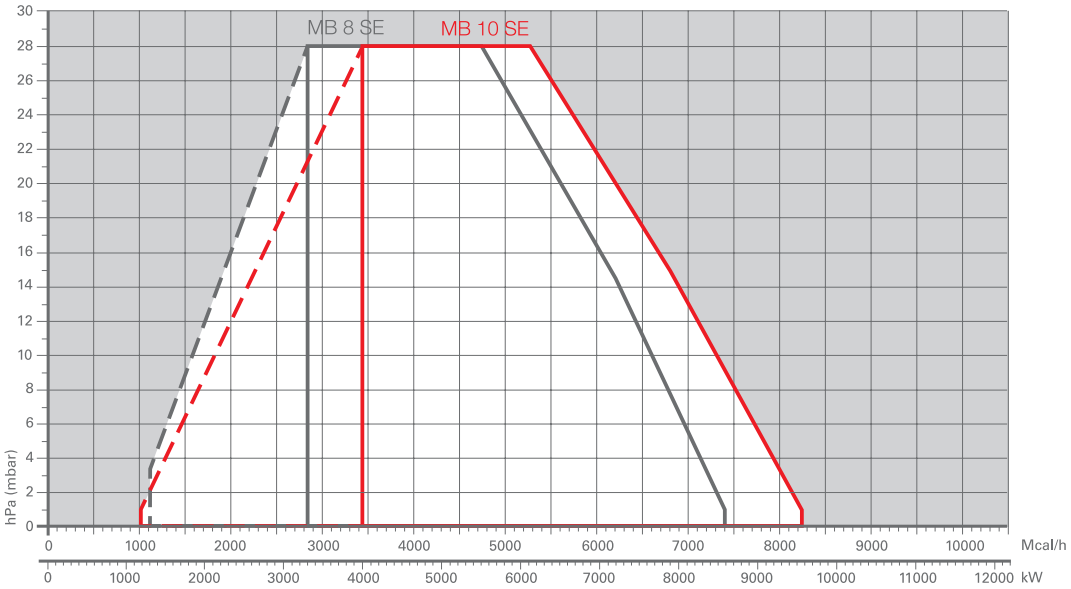
MODUBLOC MB SE SERIES

The MODUBLOC MB SE series of burners are characterised by a monoblock structure that means all necessary components can be combined in a single unit, making installation easier and faster. The series covers a firing range from 3300 to 9580 kW, and they have been designed for use in hot water boilers or industrial steam generators.
Adjustment is modulating, through an innovative electronic module, which gives control of the air/fuel ratio and PID control of the generator temperature or pressure.
The mechanisms of regulation allow to catch up a high modulation ratio on all firing rates range.
The burner can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.
An exclusive design, with fan unit fitted on line with the combustion head, guarantees low sound emissions, reduced dimensions, easy use and maintenance.

MB 8 SE	1300/3300	÷	8600 kW
MB 10 SE	1185/4000	÷	9580 kW

GAS

FIRING RATES



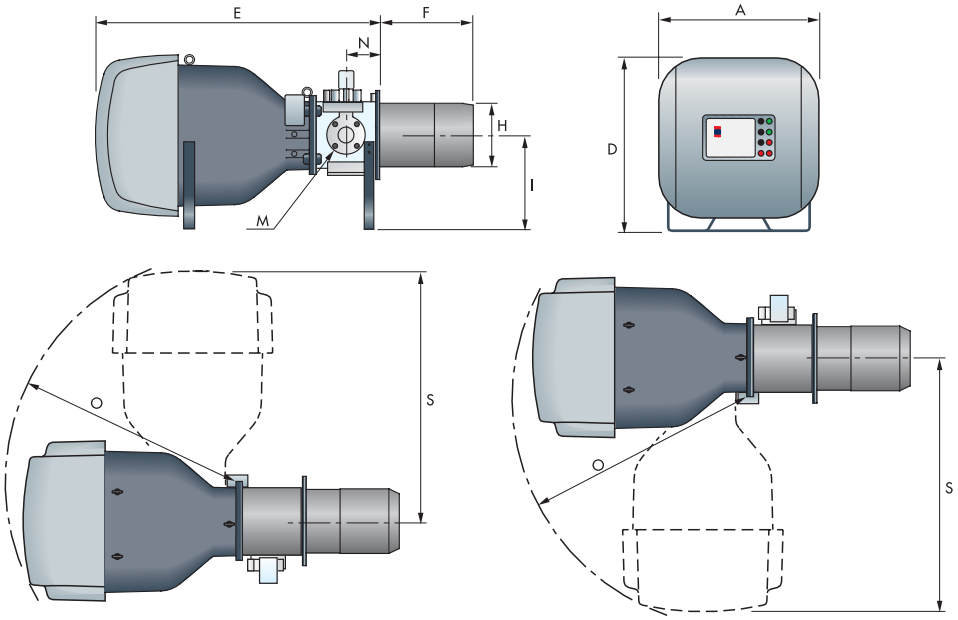
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

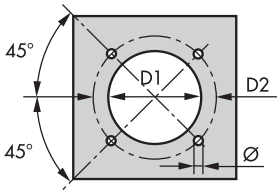
Overall dimensions (mm)

BURNER



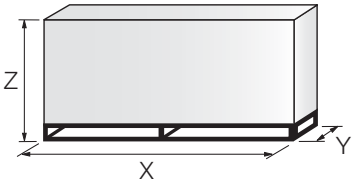
MODEL	A	D	E	F	H	I	M	N	O	S
▶ MB 8 SE	1007	1079	1900	530	413	575	DN80	208	1570	1740
▶ MB 10 SE	1007	1079	1900	530	413	575	DN80	208	1570	1740

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ MB 8 SE	418	608	M20
▶ MB 10 SE	418	608	M20

PACKAGING



MODEL	X	Y	Z	kg
▶ MB 8 SE	2700	1170	1350	450
▶ MB 10 SE	2700	1170	1350	450

Specification

DESIGNATION OF SERIES

Series : MB

Size

Fuel : S Natural gas
L Light oil
LS Light oil / Natural gas

Operation : E Electronic cam
V Electronic cam and variable speed (with Inverter)
P Proportioning air/gas valve

Emission : ... Class 1 EN267 - EN676
MZ Class 2 EN267 - EN676
BLU Class 3 EN267 - EN676
MX Class 2 EN267, Class 3 EN676

Head : TC Standard head
TL Extended head

Fuel supply : FR from the right
FL from the left

Flame control system :
FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system : 3/400/50 3N/400V/50Hz
3/230/50 3/230V/50Hz

Auxiliary voltage : 230/50-60 230V/50-60Hz
110/50-60 110V/50-60Hz

MB	8	S	E		TC	FR	FS1	3/400/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:
- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Mobile combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator
- Burner safety control box for controlling the system safety
- Photocell for flame detection
- Star/triangle starter for the fan motor
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP X0D (IP 40) protection level.

Standard equipment:
- 1 flange gasket
- 8 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3786200	MB8SE TC FR FS1 3/400/50 230/50-60	1300/3300-8600	130/330-860	18	CE 0085BO0169	
3786210	MB8SE TC FR FS2 3/400/50 230/50-60	1300/3300-8600	130/330-860	18	CE 0085BO0169	
3786205	MB8SE TC FL FS1 3/400/50 230/50-60	1300/3300-8600	130/330-860	18	CE 0085BO0169	
3786215	MB8SE TC FL FS2 3/400/50 230/50-60	1300/3300-8600	130/330-860	18	CE 0085BO0169	
3786300	MB10SE TC FR FS1 3/400/50 230/50-60	1185/4000-9580	119/400-958	22	CE 0085BO0162	
3786310	MB10SE TC FR FS2 3/400/50 230/50-60	1185/4000-9580	119/400-958	22	CE 0085BO0162	
3786305	MB10SE TC FL FS1 3/400/50 230/50-60	1185/4000-9580	119/400-958	22	CE 0085BO0162	
3786315	MB10SE TC FL FS2 3/400/50 230/50-60	1185/4000-9580	119/400-958	22	CE 0085BO0162	

G20 net calorific value 10 kWh/Nm³ - Density 0,71 kg/Nm³
The burners of MB SE series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 676 Norm.

Gas Trains

COMPOSED GAS TRAIN MULTIBLOC

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	LPG BURNER (type)	LPG ADAPTER (code)	NOTE
3970225	MBC 1200 SE 50 CT	MB 8 SE MB 10 SE	3000826 (“I”) type	MB 8 SE MB 10 SE	3000826 (“I”) type	(1)
3970226	MBC 1900 SE 65 FC CT	MB 8 SE MB 10 SE	3010221 (“I”) type 3010225 (“Z”) type	MB 8 SE MB 10 SE	3010221 (“I”) type 3010225 (“Z”) type	(1)
3970227	MBC 3100 SE 80 FC CT	MB 8 SE MB 10 SE	3010222 (“I”) type 3010226 (“Z”) type	MB 8 SE MB 10 SE	3010222 (“I”) type 3010226 (“Z”) type	(1)
3970228	MBC 5000 SE 100 FC CT	MB 8 SE MB 10 SE	3010223 (“I”) type 3010227 (“Z”) type	MB 8 SE MB 10 SE	3010223 (“I”) type 3010227 (“Z”) type	(1)

* gas trains are 230V/50Hz - 220V/60Hz electrical supply
(1) Seal control incorporated

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

DTI module (Data Transfer Interface)

This electronic module can transfer multiple signals from different local modules to a BMS supervisor software system (Building Management System).

BURNER	MODULE CODE
▶ MB 8 - 10 SE	3010234

I/O digital module

Digital modules I/O transfer in-coming and out-going information from the system in general to a remote supervisor system.

BURNER	MODULE CODE
▶ MB 8 - 10 SE	3010233

I/O analogic module

I/O Analog modules transfer in-coming and out-going information to a remote supervisor system.

BURNER	MODULE CODE
▶ MB 8 - 10 SE	3010232

EGA module (Exhaust Gas Analyser)

Four different EGA modules are available to measure some of the exhaust gas substances and their temperature.

BURNER	ANALYSED GAS	MODULE CODE
▶ MB 8 - 10 SE	CO, CO_2, O_2	3010235
▶ MB 8 - 10 SE	CO, CO_2, O_2, NO	3010236
▶ MB 8 - 10 SE	CO, CO_2, O_2, SO_2	3010237
▶ MB 8 - 10 SE	CO, CO_2, O_2, NO, SO_2	3010238

Belden 9501 type leads

All the connections for the above modules must be done using a BELDEN 9501 type lead (available in coils of 50 m).

BURNER	LEAD CODE
▶ MB 8 - 10 SE	3010239

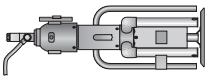
Burner accessories

Accessories for modulating operation

Main management module allows a modulating operation with use of probes chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ MB 8 - 10 SE	Temperature	0 ÷ 400°C	3010187
▶ MB 8 - 10 SE	Pressure	0 ÷ 3 bar	3010246
▶ MB 8 - 10 SE	Pressure	0 ÷ 18 bar	3010186
▶ MB 8 - 10 SE	Pressure	0 ÷ 30 bar	3010188

LPG kit



For burning LPG gas, a special kit is available.

BURNER	KIT CODE
▶ MB 8 - 10 SE	3010296

Burner support

For easier maintenance, a mobile burner support has been designed.

BURNER	SUPPORT CODE
▶ MB 8 - 10 SE	3010385

Sound proofing box

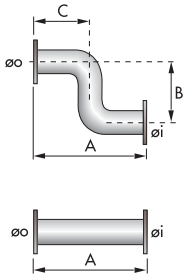
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ MB 8 - 10 SE	10	3010401

(*) according to EN 15036-1 standard

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the adapters than can be fitted on the various burners:

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS Øi DN	Øo DN	A mm	B mm	C mm	ADAPTER CODE
▶ All models	MBC 1200	I	2"(1)	80	--	--	--	3000826
	MBC 1900	I	65	80	320	--	--	3010221
	MBC 3100	I	80	80	320	--	--	3010222
	MBC 5000	I	100	80	320	--	--	3010223
	MBC 1900	Z	65	80	400	480	225	3010225
	MBC 3100	Z	80	80	400	480	225	3010226
	MBC 5000	Z	100	80	400	480	225	3010227

(1) Unless flange

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

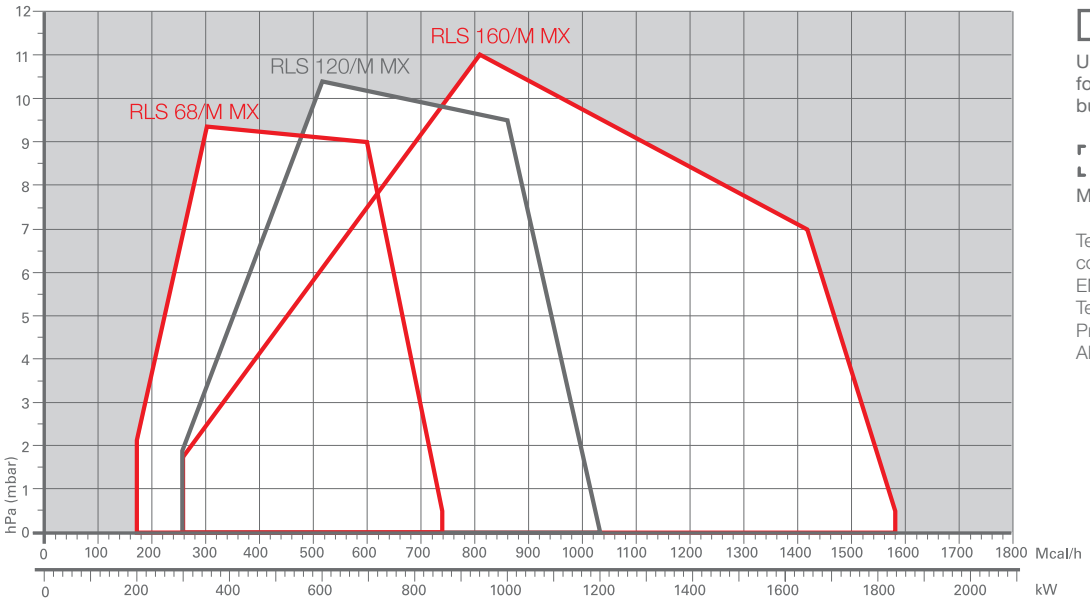
GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 ▶ MBC 3100 ▶ MBC 5000	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

RLS/M MX SERIES

The RLS/M MX series of burners covers a firing range from 350 to 1840 kW, and they have been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers.
Operation is “two stage” at the oil side and “modulating” at the gas side with the installation of a PID logic regulator and respective probes.
RLS/M MX series burners guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs.
Optimisation of sound emissions is guaranteed by the special design of air suction circuit and the use of sound proofing material.
The exclusive design ensures reduced dimensions, simple use and maintenance. A wide range of accessories guarantees elevated working flexibility.

RLS 68/M MX	200/350	÷	860	kW
RLS 120/M MX	300/600	÷	1200	kW
RLS 160/M MX	300/930	÷	1840	kW

FIRING RATES



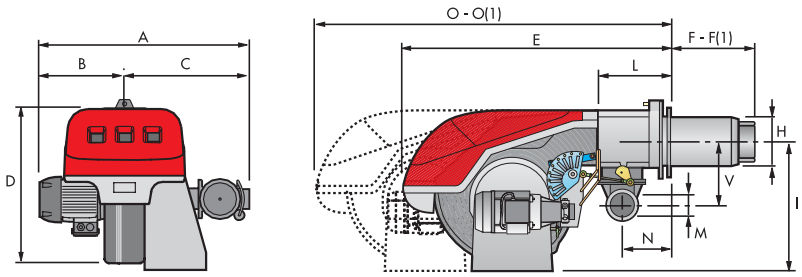
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267-EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

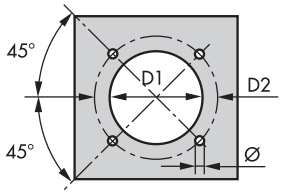
BURNER



MODEL	A	B	C	D	E	F - F (1)	H	I	L	M	N	O - O (1)	V
▶ RLS 68/M MX	691	296	395	555	840	260 - 395	214	430	214	2”	134	1161 - 1300	221
▶ RLS 120/M MX	733	338	395	555	840	260 - 395	214	430	214	2”	134	1161 - 1300	221
▶ RLS 160/M MX	843	366	477	555	863	373 - 503	221	430	237	2”	141	1442 - 1589	186

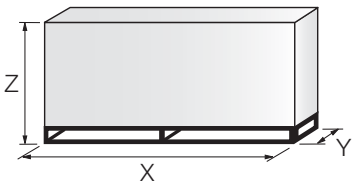
(1) Length with extended combustion head.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RLS 68-120/M MX	195	275 - 325	M12
▶ RLS 160/M MX	230	325 - 368	M16

PACKAGING



MODEL	X (1)	Y	Z	kg
▶ RLS 68/M MX	1400	975	645	70
▶ RLS 120/M MX	1400	975	645	76
▶ RLS 160/M MX	1400	975	645	95

(1) Length with standard and extended combustion head.

Specification

DESIGNATION OF SERIES

Series :	R	
Fuel :	S	Natural gas
	L	Light oil
	LS	Light oil / Natural gas
	N	Heavy oil
Size		
Operation :	/1	One stage
	...	Two stage
	/M	Modulating
	/E	Electronic cam
	/P	Proportioning air/gas valve
	/EV	Electronic cam predisposed for variable speed (with inverter)
Emission :	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 2 EN267 Class 3 EN676
Head :	TC	Standard head
	TL	Extended head
Flame control system :		
	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)
Electrical supply to the system :		
	1/230/50	1/230V/50Hz
	3/230/50	3/230V/50Hz
	3/400/50	3N/400V/50Hz
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
	3/220/60	3/220V/60Hz
	3/380/60	3N/380V/60Hz
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
Auxiliary voltage :		
	230/50-60	230V/50-60Hz
	110/50-60	110V/50-60Hz
ID :		Differential switch

R	LS	160	/M	MX	TC	FS1	3/230-400/50	230/50	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught Low NOx dual fuel burner with two stage operation at the oil side and two stage progressive or modulating operation at the gas side, with a specific kit, fully automatic, made up of:
- air suction circuit lined with sound-proofing material
- centrifugal fan with high performance and low sound emissions
- air damper for air flow setting and butterfly valve for regulating gas output controlled by a servomotor with variable cam
- starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - gas distributor
    - flame stability disk
- maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line
- minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- gears pump for high pressure fuel supply
- pump starting motor
- oil safety valves
- two oil valves (1st and 2nd stage)
- burner safety control box
- UV photocell for flame detection
- burner on/off selection switch
- manual or automatic output increase/decrease selection switch
- Oil/Gas selector
- flame inspection window
- slide bars for easier installation and maintenance
- protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for connection to the pump with gaskets
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT			TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
			LIGHT OIL	NATURAL GAS			
		(kW)	(kg/h)	(Nm³/h)	(kW)		
3898010	RLS 68/M MX TC FS1 3/230-400/50 230/50-60	200/350-860	17/30-73	27/40-100	2,2	CE 0085BP0175	
3898011	RLS 68/M MX TL FS1 3/230-400/50 230/50-60	200/350-860	17/30-73	27/40-100	2,2	CE 0085BP0175	
3898020	RLS 68/M MX TC FS2 3/230-400/50 230/50-60	200/350-860	17/30-73	27/40-100	2,2	CE 0085BP0175	
3898021	RLS 68/M MX TL FS2 3/230-400/50 230/50-60	200/350-860	17/30-73	27/40-100	2,2	CE 0085BP0175	
3898110	RLS 120/M MX TC FS1 3/230-400/50 230/50-60	300/600-1200	25/50-101	37/70-140	3,0	CE 0085BP0175	
3898111	RLS 120/M MX TL FS1 3/230-400/50 230/50-60	300/600-1200	25/50-101	37/70-140	3,0	CE 0085BP0175	
3898120	RLS 120/M MX TC FS2 3/230-400/50 230/50-60	300/600-1200	25/50-101	37/70-140	3,0	CE 0085BP0175	
3898121	RLS 120/M MX TL FS2 3/230-400/50 230/50-60	300/600-1200	25/50-101	37/70-140	3,0	CE 0085BP0175	
3898210	RLS 160/M MX TC FS1 3/400/50 230/50-60	300/930-1840	25/78-155	30/93-184	6,0	CE 0085BN0625	
20011635	RLS 160/M MX TC FS1 3/230/50 230/50-60	300/930-1840	25/78-155	30/93-184	6,0	CE 0085BN0625	
3898211	RLS 160/M MX TL FS1 3/400/50 230/50-60	300/930-1840	25/78-155	30/93-184	6,0	CE 0085BN0625	
20011642	RLS 160/M MX TL FS1 3/230/50 230/50-60	300/930-1840	25/78-155	30/93-184	6,0	CE 0085BN0625	
3898220	RLS 160/M MX TC FS2 3/400/50 230/50-60	300/930-1840	25/78-155	30/93-184	6,0	CE 0085BN0625	
20011644	RLS 160/M MX TC FS2 3/230/50 230/50-60	300/930-1840	25/78-155	30/93-184	6,0	CE 0085BN0625	
3898221	RLS 160/M MX TL FS2 3/400/50 230/50-60	300/930-1840	25/78-155	30/93-184	6,0	CE 0085BN0625	
20011645	RLS 160/M MX TL FS2 3/230/50 230/50-60	300/930-1840	25/78-155	30/93-184	6,0	CE 0085BN0625	

Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm²/s (cSt).
Net calorific value G20 gas: 10 kWh/Nm³; 8.600 kcal/Nm³ - Density: 0,71 kg/Nm³.
The burners of RLS/M MX series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 267 - 676 Norm.

Gas Trains

	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		NOTE
			BURNER (type)	ADAPTER (code)	
MULTIBLOC GAS TRAIN	3970181	MBD 420	RLS 68-120-160/M MX	-	(1)
	3970182	MBD 420 CT	RLS 68-120-160/M MX	-	(2)
	3970221	MBC 1200 SE 50	RLS 68-120-160/M MX	-	(1)
	3970225	MBC 1200 SE 50 CT	RLS 68-120-160/M MX	-	(2)
COMPOSED GAS TRAIN	3970222	MBC 1900 SE 65 FC	RLS 120-160/M MX	3000825	(1)
	3970226	MBC 1900 SE 65 FC CT	RLS 120-160/M MX	3000825	(2)
	3970223	MBC 3100 SE 80 FC	RLS 160/M MX	3000826	(1)
	3970227	MBC 3100 SE 80 FC CT	RLS 160/M MX	3000826	(2)

* gas trains are 230V/50Hz - 220V/60Hz electrical supply
(1) Seal control accessory
(2) Seal control incorporated

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Nozzles type 60° B

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

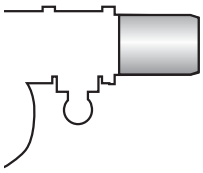
NOTE: each burner needs N° 2 nozzles.

BURNER	RATED DELIVERY kg/h (*)	GPH	NOZZLE
▶ RLS 68-120/M MX	21,2	5,00	3042582
	23,3	5,50	3042202
	25,5	6,00	3042583
	27,6	6,50	3042222
	29,7	7,00	3042584
	31,8	7,50	3042242
	33,9	8,00	3042585
	36,1	8,50	3042262
	38,2	9,00	3042586
	40,3	9,50	3042282
▶ RLS/M MX	42,4	10,00	3042292
	46,7	11,00	3042312
	50,9	12,00	3042322
	55,1	13,00	3042332
	59,4	14,00	3042352
	63,6	15,00	3042362
	67,9	16,00	3042382
	72,1	17,00	3042392
	76,4	18,00	3042412
	80,6	19,00	3042422
	84,8	20,00	3042442
	93,3	22,00	3042462
	101,8	24,00	3042472
▶ RLS 160/M MX	110,3	26,00	3042482
	118,8	28,00	3042492

(*) Nozzle rated delivery is reffered to atomized pressure

Burner accessories

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The kits available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RLS 68-120/M MX	260	395	3010360
▶ RLS 160/M MX	373	503	3010441

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RLS/M MX	102	3000722

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ RLS/M MX	3010094

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RLS 68-120/M MX	C4/5	10	3010404
▶ RLS 160/M MX	C7	10	3010376

(*) according to EN 15036-1 standard

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the RLS/M MX series of burners requires a regulator with three point outlet controls. The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ RLS/M MX	RWF 40	3010212

The relative temperature or pressure probes fitted to the regulator must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ RLS/M MX	Temperature PT 100	-100 ÷ 500°C	3010110
▶ RLS/M MX	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ RLS/M MX	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor. The KITS available for the various burners are listed below.

BURNER	POTENTIOMETER KIT CODE
▶ RLS/M MX	3010021

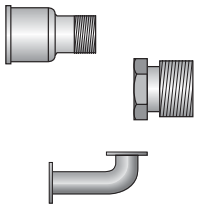
Head kit for “reverse flame chamber”

In certain cases, the use of the burner on reverse flame boilers can be improved by using an additional Pipes Kit.

BURNER	KIT CODE
▶ RLS 68/M MX	20006401
▶ RLS 120/M MX	20006402
▶ RLS 160/M MX	3010249

Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner. The following table lists the adapters for various burners.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ RLS 120/M MX ▶ RLS 160/M MX	MBC 1900 SE 65 FC (CT*)	DN 65 2" 1/2 1" 1/2 2"	3000825
▶ RLS 160/M MX	MBC 3100 SE 80 FC (CT*)	DN 80 2" 1/2 2"	3000826

* with and without seal control

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

BURNER	GAS TRAIN	KIT CODE
▶ RLS/M MX	MBD 420	3010123
▶ RLS/M MX	MBC 1200 SE 50 - MBC 1900 SE 65 FC - MBC 3100 SE 80 FC	3010367

Stabiliser spring

Accessory springs are available to vary the pressure range of the gas train stabilisers. The following table shows these accessories with their application range.
Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 SE 65 FC (CT)* ▶ MBC 3100 SE 80 FC (CT)*	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

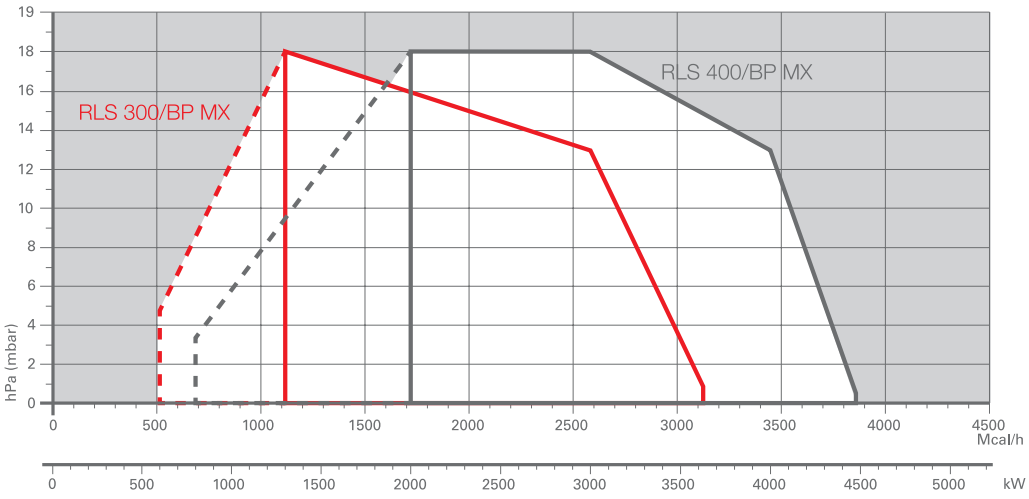
* with and without seal control

RLS/BP MX SERIES

RLS/BP MX series burners are characterised by a modular monoblock structure that means all necessary components can be combined in a single unit thus making installation easier, faster and, above all, more flexible.
The series covers a firing range from 1250 to 4500 kW, and they have been designed for use in hot water boilers, overheated water boilers as well as steam boilers. Burners working is 2 stages on the oil side and two stages progressive on the gas side. Alternatively the gas working can be modulating with the installation of a PID logic regulator. Using a particular proportioning gas valve the burner keeps the desired air/gas ratio in every working condition.
The innovative combustion head which is able to reach good performances in term of Low NOx either during gas working or light oil working and reducing noise.

RLS 300/BP MX	600/1250 ÷ 3650 kW
RLS 400/BP MX	800/2000 ÷ 4500 kW

FIRING RATES



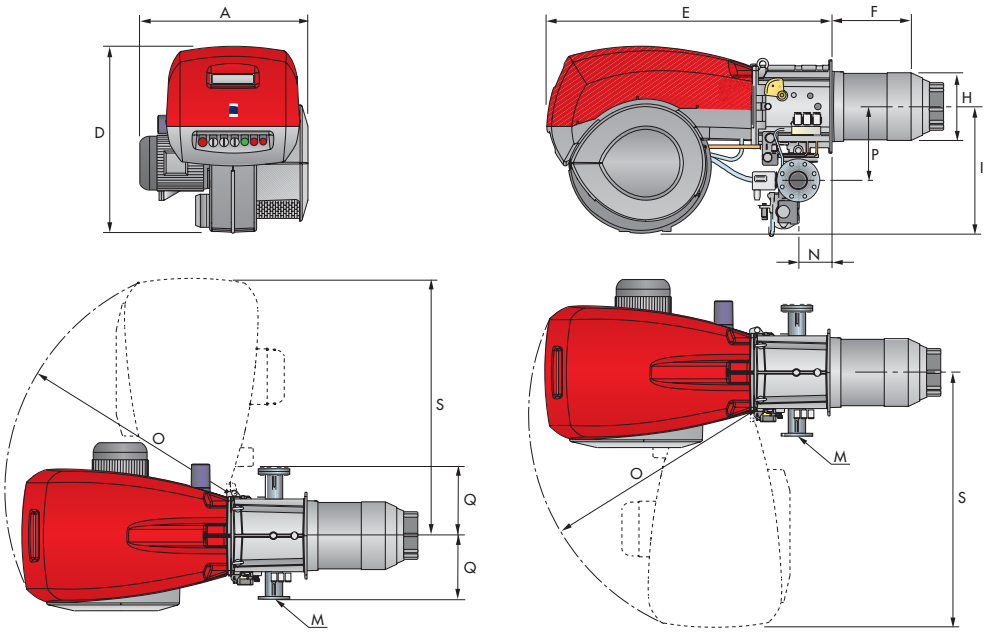
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267-EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

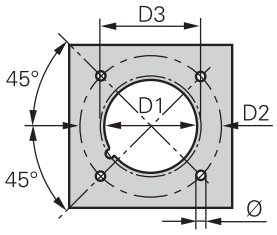
Overall dimensions (mm)

BURNER



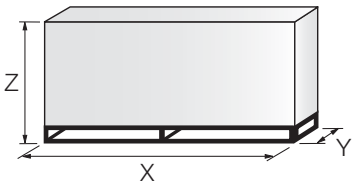
MODEL	A	D	E	F	H	I	M	N	O	P	Q	S
▶ RLS 300/BP MX	720	890	1325	373	313	605	DN80	164	1055	342	320	1175
▶ RLS 400/BP MX	775	890	1325	373	313	605	DN80	164	1055	342	320	1175

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	D3	Ø
▶ RLS 300/BP MX	350	452	354	M18
▶ RLS 400/BP MX	350	452	354	M18

PACKAGING



MODEL	X	Y	Z	kg
▶ RLS 300/BP MX	1960	970	940	240
▶ RLS 400/BP MX	1960	970	940	250

Specification

DESIGNATION OF SERIES

Series : R

Fuel : S Natural gas
L Light oil
LS Light oil / Natural gas
N Heavy oil

Size

Operation : /1 One stage
... Two stage
/M Modulating
/E Electronic cam
/P Proportioning air/gas valve
/EV Electronic cam predisposed for variable speed (with inverter)
/BP Two stage oil / Proportioning air/gas valve

Emission : ... Class 1 EN267 - EN676
MZ Class 2 EN267 - EN676
BLU Class 3 EN267 - EN676
MX Class 2 EN267, Class 3 EN676

Head : TC Standard head
TL Extended head

Flame control system :
FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :
1/230/50 1/230V/50Hz
3/230/50 3/230V/50Hz
3/400/50 3N/400V/50Hz
3/230-400/50 3/230V/50Hz - 3N/400V/50Hz
3/220/60 3/220V/60Hz
3/380/60 3N/380V/60Hz
3/220-380/60 3/220V/60Hz - 3N/380V/60Hz

Auxiliary voltage :
230/50-60 230V/50-60Hz
110/50-60 110V/50-60Hz

ID : Differential switch

R	LS	300	/BP	MX	TC	FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with “two stage progressive” or “modulating” operation, fully automatic, made up of:
- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2800 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with separated PID control of temperature or pressure, available as accessory for RLS/BP MX model
- Burner safety control box for controlling the system safety
- Ionization probe for flame detector
- Star/triangle starter for the fan motor (only for RLS 400/BP MX model)
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Emergency button
- Coded connection plugs-sockets
- Lifting rings
- IP 54 electric protection level
- Gears pump for high pressure fuel supply
- Pump starting motor
- Oil safety valves
- Three oil valves (1st and 2nd stage 3nd safety valve)
- UV photocell for flame detection
- Oil/Gas selector
- Flame inspection window
- Burner opening hinge.

Standard equipment:
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for connection to the pump with gaskets.
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT			TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
			LIGHT OIL	NATURAL GAS			
		(kW)	(kg/h)	(Nm^3/h)	(kW)		
3898510	RLS 300/BP MX TC FS1 3/230-400/50 230/50-60	600/1250-3650	50/105-308	60/125-365	7,5	CE 0085 BP5534	
20006452	RLS 300/BP MX TC FS1 3/220-380/60 220/60	600/1250-3650	50/105-308	60/125-365	7,5	-	
3898612	RLS 400/BP MX TC FS1 3/400/50 230/50-60	800/2000-4500	68/169-380	80/200-450	11	CE 0085 BP5535	

Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm^2/s (cSt).
Net calorific value G20 gas: 10 kWh/Nm^3; 8.600 kcal/Nm^3 - Density: 0,71 kg/Nm^3.
The burners of RLS/BP MX series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 267 - 676 Norm.

Gas Trains

COMPOSED GAS TRAIN

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		SEAL CONTROL	NOTE
		BURNER (type)	ADAPTER (code)		
3970215	VGD 50	RLS 300/BP MX RLS 400/BP MX	3000826	3010367	(1) (2)
3970212	VGDF 65	RLS 300/BP MX RLS 400/BP MX	3010221 or 3010369**	3010367	(1) (2)
3970213	VGDF 80	RLS 300/BP MX RLS 400/BP MX	3010222	3010367	(1) (2)
3970214	VGDF 100	RLS 300/BP MX RLS 400/BP MX	3010223 or 3010370**	3010367	(1) (2)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
** See adapter length on "Gas trains accessories" paragraph.
(1) Seal control to be ordered separately - see "Gas trains accessories" section.
(2) Adapter is necessary when the gas train has to be installed to the left of the burner to allow maintenance, or if is necessary to space out the gas train from burner.
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Nozzles type 60° B

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 2 nozzles.

BURNER	GPH	RATED OUTPUT (kg/h)			NOZZLE CODE
		at 10 bar	at 12 bar	at 14 bar	
▶ RLS/BP MX	12,00	44,2	48,7	53,0	3009950
▶ RLS/BP MX	13,00	47,8	52,8	57,4	3009951
▶ RLS/BP MX	14,00	51,5	56,9	61,8	3009952
▶ RLS/BP MX	15,00	55,2	60,9	66,2	3009953
▶ RLS/BP MX	16,00	58,9	65,0	70,6	3009954
▶ RLS/BP MX	17,00	62,6	69,0	75,0	3009955
▶ RLS/BP MX	18,00	66,2	73,1	79,4	3009956
▶ RLS/BP MX	19,00	69,9	77,2	83,5	3009957
▶ RLS/BP MX	20,00	73,6	81,2	88,3	3009958
▶ RLS/BP MX	22,00	81,0	89,3	97,1	3009959
▶ RLS/BP MX	24,00	88,3	97,5	105,9	3009960
▶ RLS/BP MX	26,00	95,7	105,6	114,7	3009961
▶ RLS/BP MX	28,00	103,1	113,7	123,6	3009962
▶ RLS/BP MX	30,00	110,4	121,8	132,4	3009963
▶ RLS/BP MX	35,00	128,8	142,1	154,5	3009964
▶ RLS/BP MX	40,00	147,2	162,4	176,5	3009965
▶ RLS/BP MX	45,00	165,6	182,7	198,6	3009966
▶ RLS/BP MX	50,00	184,0	203,0	220,7	3009967
▶ RLS/BP MX	55,00	202,4	223,4	242,7	3009968
▶ RLS/BP MX	60,00	220,8	243,7	264,8	3009969
▶ RLS/BP MX	65,00	239,2	264,0	286,9	3009970
▶ RLS/BP MX	70,00	257,6	284,3	309,0	3009971

Fuel remote selection kit

BURNER	KIT CODE
▶ RLS 300-400/BP MX	3010372

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RLS 300-400/BP MX	180	20008903

Burner accessories

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ RLS 300-400/BP MX	3010030

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RLS 300-400/BP MX	C7	10	3010376

(*) according to EN 15036-1 standard

Accessories for modulating operation

To obtain modulating operation, the RLS/BP MX series of burners requires a regulator with three point outlet controls. The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE		REGULATOR CODE
▶ RLS 300-400/BP MX	RWF 40	Basic version with 3 position output	3010356
▶ RLS 300-400/BP MX	RWF 40	High version with additional modulating output and RS 485 Interface	3010357

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

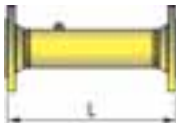
BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ RLS 300-400/BP MX	Temperature PT 100	-100 ÷ 500°C	3010110
▶ RLS 300-400/BP MX	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ RLS 300-400/BP MX	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor. The KITS available for the various burners are listed below.

BURNER	POTENTIOMETER KIT CODE
▶ RLS 300-400/BP MX	3010021

Gas train accessories

Adapters



Adapter is necessary when the gas train has to be installed to the left of the burner to allow maintenance, or if is necessary to space out the gas train from burner.

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS	L mm	ADAPTER CODE
▶ RLS 300-400/BP MX	VGD 50*	I	2" DN 80	300	3000826
	VGDF 65*	I	DN 65 DN 80	400	3010221
	VGDF 65*	I	DN 65 DN 80	10	3010369
	VGDF 80*	I	DN 80 DN 80	400	3010222
	VGDF 100*	I	DN 100 DN 80	400	3010223
	VGDF 100*	I	DN 100 DN 80	50	3010370

* with and without seal control

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

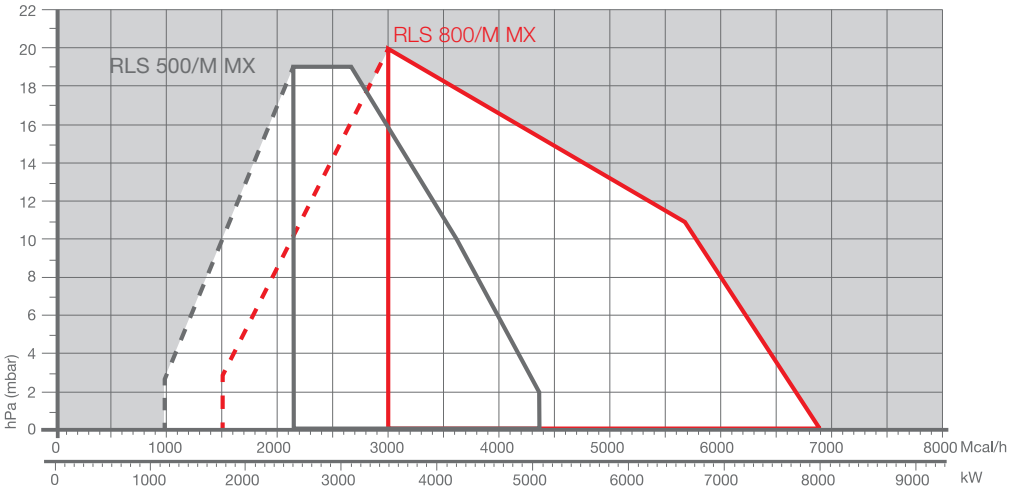
BURNER	GAS TRAIN	KIT CODE
▶ RLS 300-400/BP MX	VGD 50 - VGDF 65 - VGDF 80 - VGDF 100	3010367

RLS 500-800/M MX SERIES

RLS/M MX burners are characterised by a modular monoblock structure that means all necessary components can be combined in a single unit thus making installation easier, faster and, above all, more flexible.
The series covers a firing range from 1120 to 8000 kW, and it has been designed for use in hot water boilers, overheated water boilers as well as steam boilers.
Operation can be “two stage progressive” or alternatively “modulating”, for both fuels, light oil and gas, with the installation of a PID logic regulator .
The mechanical cam device of regulation allows to catch up a high modulation ratio on all firing rates range. The burners can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.
The combustion head guarantees reduced polluting emissions (NOx < 80 mg/kWh on gas operation). An exclusive design guarantees low sound emissions, low electrical consumption, easy use and maintenance.

RLS 500/M MX	1120/2500 ÷ 5050 kW
RLS 800/M MX	1750/3500 ÷ 8000 kW

FIRING RATES



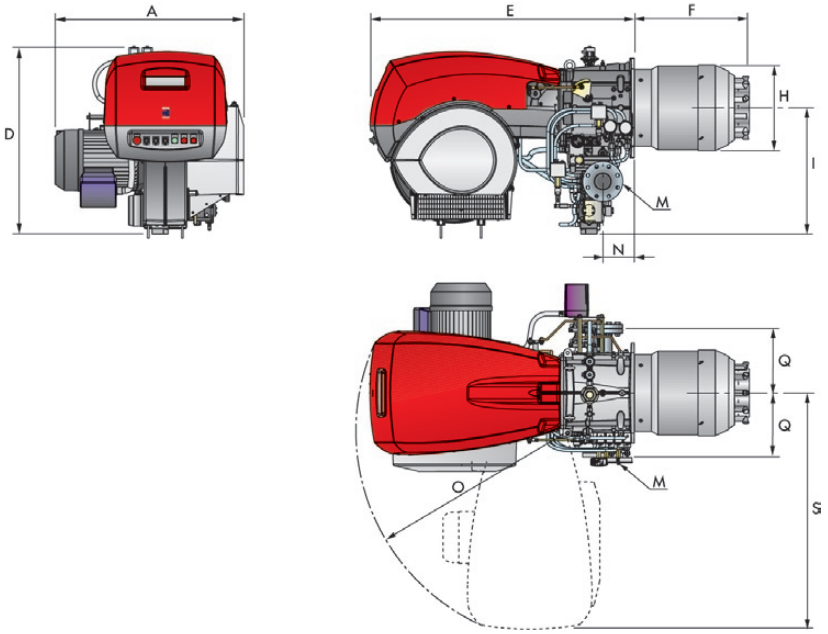
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267-EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

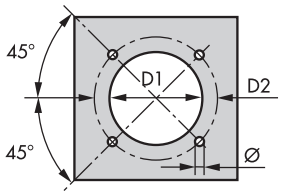
Overall dimensions (mm)

BURNER



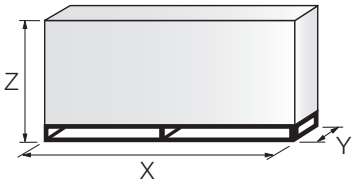
MODEL	A	D	E	F	H	I	M	N	O	Q	S
▶ RLS 500/M MX	900	890	1325	395	370	605	DN80	164	1055	320	1175
▶ RLS 800/M MX	940	937	1325	405	428	630	DN80	164	1055	320	1190

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RLS 500/M MX	400	452	M18
▶ RLS 800/M MX	450	495	M18

PACKAGING



MODEL	X	Y	Z	kg
▶ RLS 500/M MX	1960	970	1100	280
▶ RLS 800/M MX	1960	970	1100	320

Specification

DESIGNATION OF SERIES

Series :	R	
Fuel :	S	Natural gas
	L	Light oil
	LS	Light oil / Natural gas
	N	Heavy oil
Size		
Operation :	/1	One stage
	/B	Two stage
	/M	Modulating - Mechanical cam
	/E	Electronic cam
	/P	Proportioning air/gas valve
	/EV	Electronic cam predisposed for variable speed (with inverter)
Emission :	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 2 EN267 Class 3 EN676
Head :	TC	Standard head
	TL	Extended head
Flame control system :		
	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)
Electrical supply to the system :		
	1/230/50	1/230V/50Hz
	3/230/50	3/230V/50Hz
	3/400/50	3N/400V/50Hz
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
	3/220/60	3/220V/60Hz
	3/380/60	3N/380V/60Hz
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz
Auxiliary voltage :		
	230/50-60	230V/50-60Hz
	110/50-60	110V/50-60Hz

R	LS	300	/M	MX	TC	FS1	3/400/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:
- High performance fan with forward curve blades
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2800 rpm, three-phase, 400V, 50Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Mechanical cam with gas and oil modulator
- Maximum gas pressure switch, with pressure test point, to stop the burner in the case of over pressure on the fuel supply line
- Flame control panel for controlling the system safety - Infrared flame detector
- Star/triangle starter for the fan motor - Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level
- Light oil gears pump for high pressure fuel supply
- Dedicated pump starting motor
- Valve unit with double oil safety valve on the output circuit and double safety valve on the return circuit
- Maximum an minimum oil pressure switches
- Oil pressure gauges on supply and return oil lines
- Oil/Gas selector
- Flame inspection window.

Standard equipment:
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for connection to the pump with gaskets
- Seal control pressure switch (for installation on gas train)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT LIGHT OIL (kg/h)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3899612	RLS 500/M MX TC FS1 3/400/50 230/50-60	1120/2500-5050	95/211-426	112/250-505	15 (oil) 13 (gas)	in progress	
3911112	RLS 800/M MX TC FS1 3/400/50 230/50-60	1750/3500-8000	148/295-675	175/350-800	26 (oil) 24 (gas)	in progress	

Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm^2/s (cSt).
Net calorific value G20 gas: 10 kWh/Nm^3; 8.600 kcal/Nm^3 - Density: 0,71 kg/Nm^3.
The burners of RLS/M MX series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 267 - 676 Norm.

Gas Trains

COMPOSED GAS TRAINS

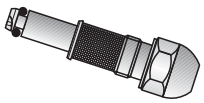
GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	ADAPTER (code)	NOTE
3970222	MBC 1900 SE 65 FC	RLS 500/M MX	3010221	(1)
		RLS 800/M MX		
3970223	MBC 3100 SE 80 FC	RLS 500/M MX	3010222	(1)
		RLS 800/M MX		
3970224	MBC 5000 SE 100 FC	RLS 500/M MX	3010223	(1)
		RLS 800/M MX		

* gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) The seal control is managed by the control box LMV 51.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Nozzles



Return nozzles without needle are used on RLS/M MX burners. The nozzle must be ordered as accessory. The following table shows the features and codes on the basis of the maximum required fuel output.

BURNER	NOZZLE TYPE	RATED DELIVERY (kg/h)	NOZZLE CODE
▶ RLS 500/M MX	45° B5	350	3045495
▶ RLS 500/M MX	45° B5	400	3045499
▶ RLS 500/M MX	45° B5	450	3045501
▶ RLS 500/M MX	45° B5	500	3045503
▶ RLS 800/M MX	45° N2	375	3009332
▶ RLS 800/M MX	45° N2	550	3009346
▶ RLS 800/M MX	45° N2	650	3009352
▶ RLS 800/M MX	45° N2	750	3009356

Accessories for modulating operation

POWER CONTROLLER

To obtain modulating operation, the RLS/M MX series of burners requires a regulator.
In RLS/M MX models PID regulator is integrated inside LMV 52 control box.

BURNER	REGULATOR TYPE		REGULATOR CODE
▶ RLS 500-800/M MX	RWF 40	Basic version with 3 position output	3010356
▶ RLS 500-800/M MX	RWF 40	High version with additional modulating output and RS 485 Interface	3010357

PROBE

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ RLS/M MX	Temperature PT 100	-100 ÷ 500°C	3010110
▶ RLS/M MX	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ RLS/M MX	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

ANALOG CONTROL SIGNAL CONVERTER

BURNER	TYPE (INPUT SIGNAL)	CODE
▶ RLS 500-800/M MX	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010390

POTENTIOMETER

BURNER	KIT CODE
▶ RLS 500-800/M MX	3010402

It is necessary for analogic control signal converter operation.

Burner accessories

Fuel remote selection kit

BURNER	KIT CODE
▶ RLS 500-800/M MX	3010372

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RLS 500-800/M MX	C7	10	3010376

(*) according to EN 15036-1 standard

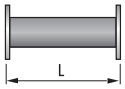
Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RLS 500-800/M MX	180	20008903

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the adapters than can be fitted on the various burners:

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS	L mm	ADAPTER CODE
▶ All models	MBC 1200 SE 50*	I	2" DN 80	300	3000826
	MBC 1900 SE 65 FC*	I	DN 65 DN 80	400	3010221
	MBC 1900 SE 65 FC*	I	DN 65 DN 80	10	3010369
	MBC 3100 SE 80 FC*	I	DN 80 DN 80	400	3010222
	MBC 5000 SE 100 FC*	I	DN 100 DN 80	400	3010223
	MBC 5000 SE 100 FC*	I	DN 100 DN 80	50	3010370

* with and without seal control

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range.
Please refer to the technical manual for the correct choice of spring.

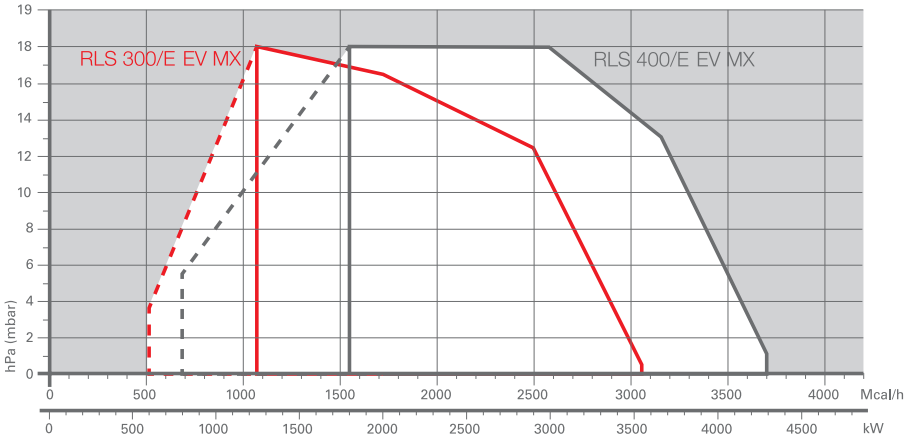
GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 SE 65 FC ▶ MBC 3100 SE 80 FC ▶ MBC 5000 SE 100 FC	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

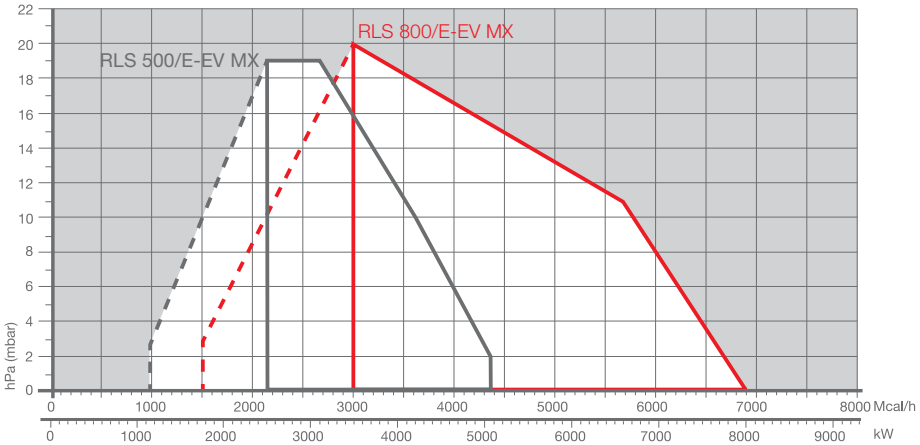
RLS/E-EV MX SERIES

RLS/E-EV MX series burners are characterised by a modular monoblock structure that means all necessary components can be combined in a single unit thus making installation easier, faster and, above all, more flexible.
The series covers a firing range from 1250 to 8000 kW, and they have been designed for use in hot water boilers, overheated water boilers as well as steam boilers. Operation can be “two stage progressive” or alternatively “modulating” for both fuels, ligth oil and gas, with the installation of a PID logic regulator on the RLS/E series burners while RLS/EV series is fully “modulating”. The burner can, therefore, supply with precision the demanded power, guaranteeing an high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.
The innovative combustion head, adjustment system ensures perfect movement during modulation as well as reducing noise and pollutants.

RLS 300/E MX	600/1250 ÷ 3550 kW
RLS 400/E MX	800/1800 ÷ 4300 kW
RLS 500/E MX	1120/2500 ÷ 5050 kW
RLS 800/E MX	1750/3500 ÷ 8000 kW
RLS 300/EV MX	600/1250 ÷ 3550 kW
RLS 400/EV MX	800/1800 ÷ 4300 kW
RLS 500/EV MX	1120/2500 ÷ 5050 kW
RLS 800/EV MX	1750/3500 ÷ 8000 kW

FIRING RATES





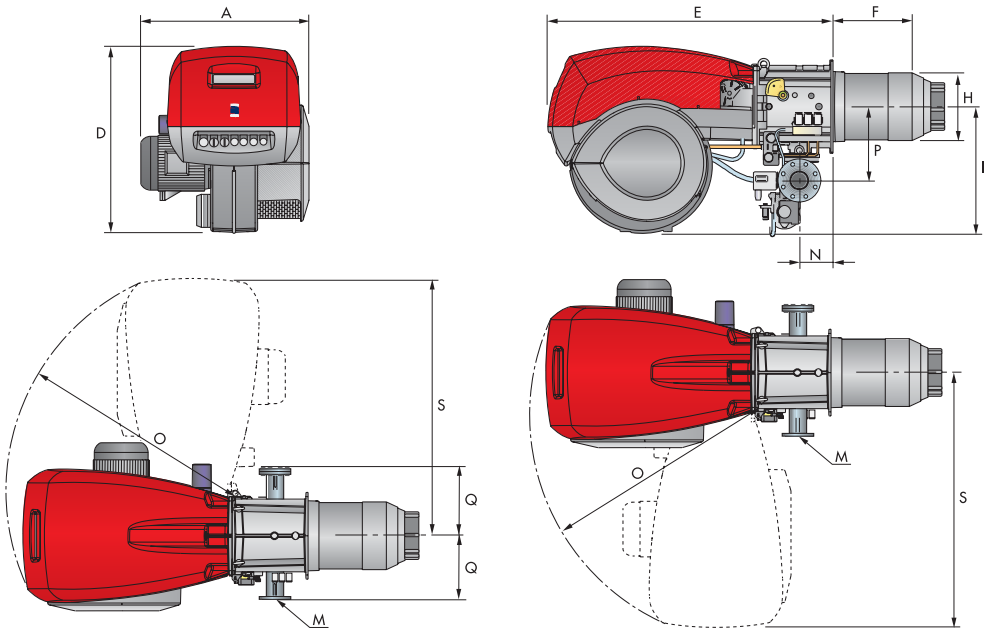
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267-EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

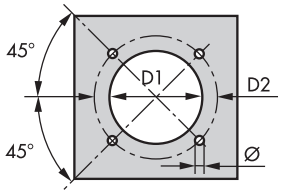
Overall dimensions (mm)

BURNER



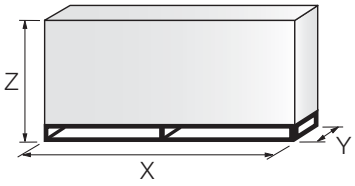
MODEL	A	D	E	F	H	I	M	N	O	P	Q	S
▶ RLS 300/E-EV MX	720	890	1325	373	313	605	DN80	164	1055	342	320	1175
▶ RLS 400/E-EV MX	775	890	1325	373	313	605	DN80	164	1055	342	320	1175
▶ RLS 500/E-EV MX	815	890	1325	395	370	605	DN80	164	1055	342	320	1175
▶ RLS 800/E-EV MX	940	937	1325	405	428	630	DN80	164	1055	427	320	1190

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RLS 300/E-EV MX	350	452	M18
▶ RLS 400/E-EV MX	350	452	M18
▶ RLS 500/E-EV MX	400	452	M18
▶ RLS 800/E-EV MX	450	495	M18

PACKAGING



MODEL	X	Y	Z	kg
▶ RLS 300/E-EV MX	1960	970	1100	240
▶ RLS 400/E-EV MX	1960	970	1100	250
▶ RLS 500/E-EV MX	1960	970	1100	280
▶ RLS 800/E-EV MX	1960	970	1100	320

Specification

DESIGNATION OF SERIES

Series : R

Fuel : S Natural gas
L Light oil
LS Light oil / Natural gas
N Heavy oil

Size

Operation : /1 One stage
/B Two stage
/M Modulating - Mechanical cam
/E Electronic cam
/P Proportioning air/gas valve
/EV Electronic cam predisposed for variable speed (with inverter)

Emission : ... Class 1 EN267 - EN676
MZ Class 2 EN267 - EN676
BLU Class 3 EN267 - EN676
MX Class 2 EN267, Class 3 EN676

Head : TC Standard head
TL Extended head

Flame control system :
FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :
1/230/50 1/230V/50Hz
3/230/50 3/230V/50Hz
3/400/50 3N/400V/50Hz
3/230-400/50 3/230V/50Hz - 3N/400V/50Hz
3/220/60 3/220V/60Hz
3/380/60 3N/380V/60Hz
3/220-380/60 3/220V/60Hz - 3N/380V/60Hz

Auxiliary voltage :
230/50-60 230V/50-60Hz
110/50-60 110V/50-60Hz

R	LS	300	/E	MX	TC	FS1	3/400/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:
- High performance fan with low sound emissions, reverse curve blades for RLS 300-400/E-EV MX, forward curve blades for RLS 500-800/E-EV MX
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2800 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Separate light oil pump
- Low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Ignition pilot burner with gas train
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Digital Burner management system for air/fuel setting; with output PID modulation control included on RLS/EV MX models, as accessory on RLS/EV MX
- Electronic cam for controlling the system safety
- Infrared flame detector
- Star/triangle starter for the fan motor (burners with motor electrical power ≥ 7,5 kW - RLS/E versions)
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level
- Gears pump for high pressure fuel supply
- Pump starting motor
- Oil safety valves
- Valve unit with double oil safety valve on the output circuit and double safety valve on the return circuit
- Oil/Gas selector
- Flame inspection window.

Standard equipment:
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for connection to the pump with gaskets
- Seal control pressure switch (for installation on gas train)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT LIGHT OIL (kg/h)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3898530	RLS 300/E MX TC FS1 3/400/50 230/50-60	600/1250-3550	50/105-300	60/125-355	7,5	CE 0085BR0471	(1)
20005681	RLS 300/E MX TC FS1 3/380/60 220/60	600/1250-3550	50/105-300	60/125-355	7,5	-	(1)
3898632	RLS 400/E MX TC FS1 3/400/50 230/50-60	800/1800-4300	67/152-363	80/180-430	11,5	CE 0085BR0472	(1)
3899632	RLS 500/E MX TC FS1 3/400/50 230/50-60	1120/2500-5050	95/211-426	112/250-505	15 (oil) 13 (gas)	in progress	(1)
3911132	RLS 800/E MX TC FS1 3/400/50 230/50-60	1750/3500-8000	148/295-675	175/350-800	26 (oil) 24 (gas)	in progress	(1)
on demand	RLS 300/EV MX TC FS1 3/400/50 230/50-60	600/1250-3550	50/105-300	60/125-355	7,5	in progress	(1)
on demand	RLS 400/EV MX TC FS1 3/400/50 230/50-60	800/1800-4300	67/152-363	80/180-430	11,5	in progress	(1)
20005681	RLS 500/EV MX TC FS1 3/400/50 230/50-60	1120/2500-5050	95/211-426	112/250-505	15 (oil) 13 (gas)	in progress	(1)
20011319	RLS 800/EV MX TC FS1 3/400/50 230/50-60	1750/3500-8000	148/295-675	175/350-800	26 (oil) 24 (gas)	in progress	(1)

Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm²/s (cSt).
Net calorific value G20 gas: 10 kWh/Nm³; 8.600 kcal/Nm³ - Density: 0,71 kg/Nm³.
The burners of RLS/E-EV MX series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 267 - 676 Norm.
(1) - The burners are factory set for FS1 operation (1 stop every 24 h) but they can be switched to FS2 operation (continuous - 1 stop every 72 h) by changing the parameters through the AZL unit menu.

Gas Trains

COMPOSED GAS TRAINS | MULTIBLOC

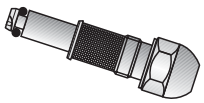
GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	ADAPTER (code)	NOTE
3970221	MBC 1200 SE 50	RLS 300/E-EV MX	3000826	(1)
		RLS 400/E-EV MX		
3970222	MBC 1900 SE 65 FC	RLS 300/E-EV MX	3010221	(1)
		RLS 400/E-EV MX		
		RLS 500/E-EV MX		
		RLS 800/E-EV MX		
3970223	MBC 3100 SE 80 FC	RLS 300/E-EV MX	3010222	(1)
		RLS 400/E-EV MX		
		RLS 500/E-EV MX		
		RLS 800/E-EV MX		
3970224	MBC 5000 SE 100 FC	RLS 300/E-EV MX	3010223	(1)
		RLS 400/E-EV MX		
		RLS 500/E-EV MX		
		RLS 800/E-EV MX		

* gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) The seal control is managed by the control box LMV 51.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Nozzles



The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

BURNER (*)	RATED DELIVERY (kg/h)	NOZZLE CODE
▶ RLS 300-400/E-EV MX	150	3009363
▶ RLS 300-400/E-EV MX	200	3009364
▶ RLS 300-400/E-EV MX	225	3009365
▶ RLS 300-400/E-EV MX	250	3009366
▶ RLS 300-400/E-EV MX	275	3009367
▶ RLS 300-400/E-EV MX	300	3009368
▶ RLS 400/E-EV MX	325	3009369
▶ RLS 400/E-EV MX	350	3009370
▶ RLS 400/E-EV MX	375	3009371
▶ RLS 400/E-EV MX	400	3009372
▶ RLS 400/E-EV MX	425	3009373

(*) for RLS 500-800/E-EV MX models please contact Riello Burners Technical Department

Accessories for modulating operation

To obtain modulating operation, the RLS/E MX series of burners requires a regulator.
In RLS/EV models PID regulator is integrated inside LMV 52 control box.

BURNER	REGULATOR TYPE		REGULATOR CODE
▶ RLS 300-400-500-800/E MX	RWF 40	Basic version with 3 position output	3010356
▶ RLS 300-400-500-800/E MX	RWF 40	High version with additional modulating output and RS 485 Interface	3010357

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ RLS/E-EV MX	Temperature PT 100	-100 ÷ 500°C	3010110
▶ RLS/E-EV MX	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ RLS/E-EV MX	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Display and Operating Unit (AZL)

This tool is needed for combustion system commissioning and monitoring.
The AZL is included in RLS/EV models.

BURNER	KIT CODE
▶ RLS 300-400-500-800/E MX	3010355
▶ All models *	3010469

* for Russian language only

Burner accessories

Variable Speed Drive (VSD) for RLS/EV series only

The motor speed variation for the RLS/EV MX burners series is obtained thanks to a frequency converter: variable speed drive (VSD). It always must be ordered with RLS/EV series.

BURNER (*)	KIT CODE
▶ RLS 300-400/EV MX	3010379

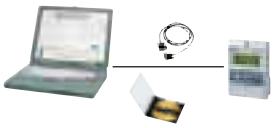
(*) for RLS 500-800/E-EV MX models please contact Riello Burners Technical Department

Oxygen Control kit (QGO_2)

The QGO_2 is an oxygen analizer with relevant probe which controls and supervises the residual oxygen content in exhaust gases.

BURNER	KIT CODE
▶ RLS 300-400-500-800/EV MX	3010378

PC Interface Software (ACS 450)



PC tool for convenient programming and burner settings, process visualization, data recording, selection of AZL language, software update AZL.

BURNER	KIT CODE
▶ RLS 300-400-500-800/E-EV MX	3010388

Kit efficiency with oxygen control kit (for RLS/EV only)

The kit includes two temperature sensors: one for air and one for exhaust gas detection. They must be wired to oxygen control kit interface to allow the LMV 52 efficiency calculation. The value is showed on AZL display.

BURNER	KIT CODE
▶ RLS 300-400-500-800/EV MX	3010377

LPG kit

For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner.

BURNER	KIT CODE
▶ RLS 300-400/E-EV MX	in progress
▶ RLS 500-800/E-EV MX	in progress

Burner accessories

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RLS 300-400-500-800/E-EV MX	C7	10	3010376

(*) according to EN 15036-1 standard

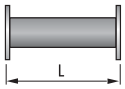
Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RLS 300-400-500-800/E-EV MX	180	20008903

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the adapters than can be fitted on the various burners:

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS	L mm	ADAPTER CODE
▶ All models	MBC 1200 SE 50*	I	2" DN 80	300	3000826
	MBC 1900 SE 65 FC*	I	DN 65 DN 80	400	3010221
	MBC 1900 SE 65 FC*	I	DN 65 DN 80	10	3010369
	MBC 3100 SE 80 FC*	I	DN 80 DN 80	400	3010222
	MBC 5000 SE 100 FC*	I	DN 100 DN 80	400	3010223
	MBC 5000 SE 100 FC*	I	DN 100 DN 80	50	3010370

* with and without seal control

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range.
Please refer to the technical manual for the correct choice of spring.

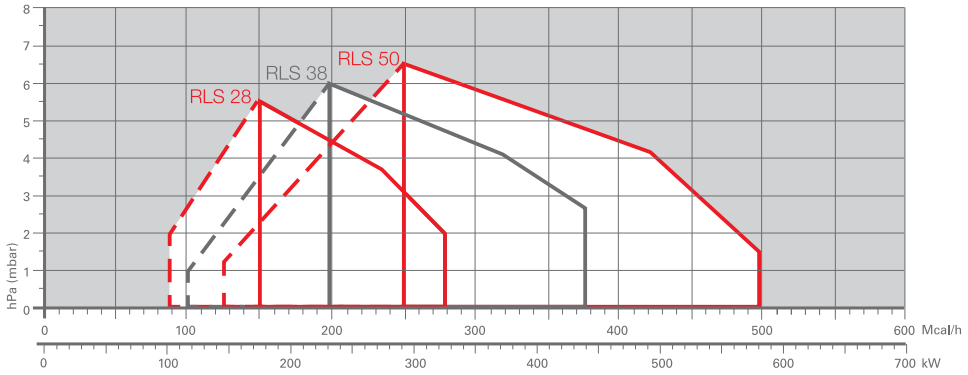
GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 SE 65 FC ▶ MBC 3100 SE 80 FC ▶ MBC 5000 SE 100 FC	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

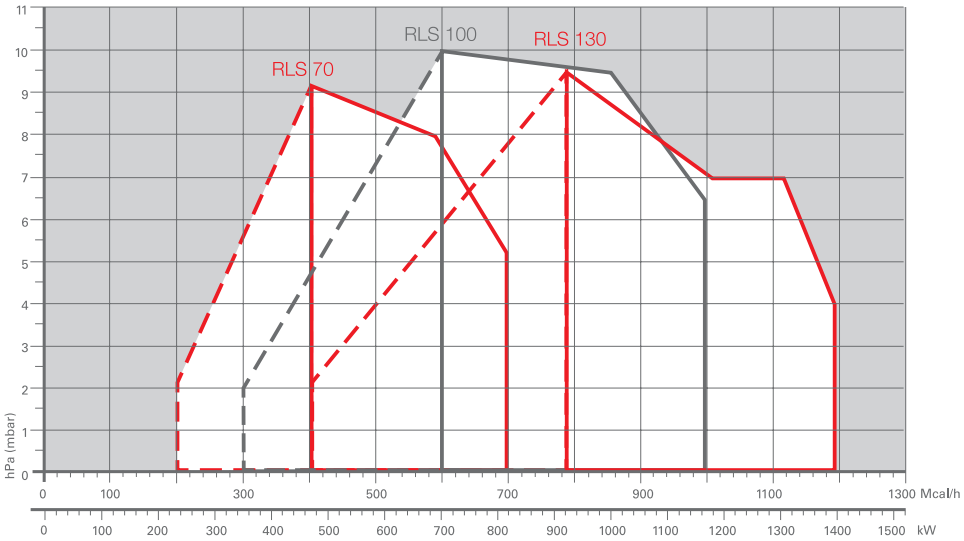
RLS SERIES

The RLS series of burners covers a firing range from 163 to 1395 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam generators, diathermic oil boilers.
Operation is “two stage”; the burners are fitted with an electronic device STATUS PANEL, which supplies complete diagnostic functions: hour meter, ignition meter, identification of trouble shooting. Optimisation of sound emissions is guaranteed by the use of fans with reverse curve blades and sound deadening material incorporated in the air suction circuit. The elevated performance of the fans and combustion head guarantee flexibility of use and excellent working at all firing rates.
The exclusive design ensures reduced dimensions, simple use and maintenance. A wide range of accessories guarantees elevated working flexibility.

RLS 28	100/163	÷	325 kW
RLS 38	116/232	÷	442 kW
RLS 50	145/290	÷	581 kW
RLS 70	232/465	÷	814 kW
RLS 100	349/698	÷	1163 kW
RLS 130	465/930	÷	1395 kW

FIRING RATES





Useful working field for choosing the burner

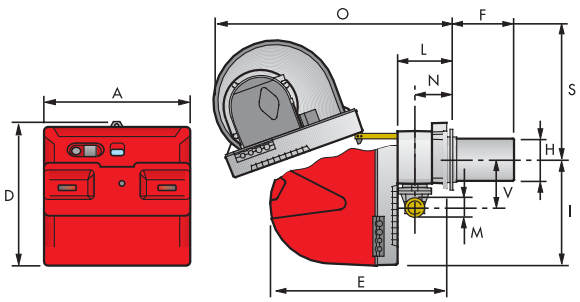
Modulation range

Test conditions conforming to EN267-EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

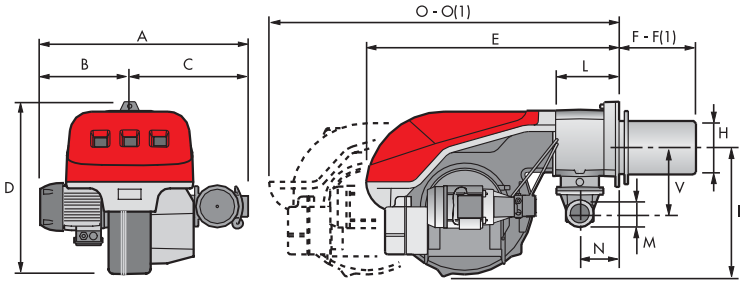
Overall dimensions (mm)

BURNER

RLS 28 - 38 - 50



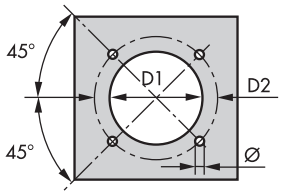
RLS 70 - 100 - 130



Model	A	B	C	D	E	F - F(1)	H	I	L	M	N	O - O(1)	S	V
▶ RLS 28	476			474	580	191 - 326	140	352	164	1”1/2	108	810 - 810	367	168
▶ RLS 38	476			474	580	201 - 336	152	352	164	1”1/2	108	810 - 810	367	168
▶ RLS 50	476			474	580	216 - 351	152	352	164	1”1/2	108	810 - 810	367	168
▶ RLS 70	691	296	395	555	840	250 - 385	179	430	214	2”	134	1161 - 1361	-	221
▶ RLS 100	707	312	395	555	840	250 - 385	189	430	214	2”	134	1161 - 1361	-	221
▶ RLS 130	733	338	395	555	840	250 - 385	189	430	214	2”	134	1161 - 1361	-	221

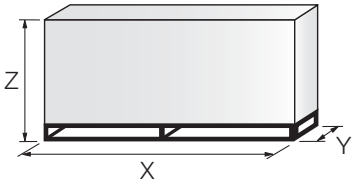
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



Model	D1	D2	Ø
▶ RLS 28	160	224	M8
▶ RLS 38	160	224	M8
▶ RLS 50	160	224	M8
▶ RLS 70	185	275-325	M12
▶ RLS 100	195	275-325	M12
▶ RLS 130	195	275-325	M12

PACKAGING



Model	X	Y	Z	kg
▶ RLS 28	1190	492	510	43
▶ RLS 38	1190	492	510	45
▶ RLS 50	1190	492	510	46
▶ RLS 70	1405	1000	660	70
▶ RLS 100	1405	1000	660	73
▶ RLS 130	1405	1000	660	76

Specification

DESIGNATION OF SERIES

Series : R

Fuel : S Natural gas
L Light oil
LS Light oil / Natural gas
N Heavy oil

Size

Operation : /1 One stage
... Two stage
/M Modulating
/E Electronic cam
/P Proportioning air/gas valve
/EV Electronic cam predisposed for variable speed (with inverter)

Emission : ... Class 1 EN267 - EN676
MZ Class 2 EN267 - EN676
BLU Class 3 EN267 - EN676
MX Class 2 EN267, Class 3 EN676

Head : TC Standard head
TL Extended head

Diagnostic : LP Led panel
ST Status panel

Flame control system :
FS1 Standard (1 stop every 24 h)
FS2 Continuous working (1 stop every 72 h)

Electrical supply to the system :
1/230/50 1/230V/50Hz
3/230/50 3/230V/50Hz
3/400/50 3N/400V/50Hz
3/230-400/50 3/230V/50Hz - 3N/400V/50Hz
3/220/60 3/220V/60Hz
3/380/60 3N/380V/60Hz
3/220-380/60 3/220V/60Hz - 3N/380V/60Hz

Auxiliary voltage :
230/50-60 230V/50-60Hz
110/50-60 110V/50-60Hz

ID : Differential switch

R	LS	28			TC		FS1	3/230-400/50	230/50	

BASIC DESIGNATION

EXTENDED DESIGNATION

DUAL FUEL

Specification

STATE OF SUPPLY

Monobloc forced draught dual fuel burner, two stage operation, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades
- Fan starting motor
- Air damper for air setting controlled by a servomotor
- Minimum air pressure switch
- Combustion head, that can be set on the basis of required output
- Gears pump for high pressure fuel supply
- Pump starting motor
- Oil safety valves
- Two oil valves (1st and 2nd stage)
- Burner safety control box
- Electronic device to check all burners operational modes (Led Panel)
- UV photocell for flame detection
- Burner on/off switch
- Oil/Gas selector
- Manual 1st and 2nd stage switch
- Plugs for electrical connections (RLS 28-38-50)
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for connection to the pump with gaskets
- Kit for transformation to LPG
- Fairleads for electrical connections (for RLS 28-38-50 model)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT LIGHT OIL (kg/h)	HEAT OUTPUT NATURAL GAS (Nm^3/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3483201	RLS 28 TC LP FS1 1/230/50 230/50	100/163-325	8,5/13,7-27,4	10/16-33	0,53	(1)	
20008836	RLS 28 TC LP FS1 1/220/60 220/60	100/163-325	8,5/13,7-27,4	10/16-33	0,53	-	
3484101	RLS 38 TC LP FS1 1/230/50 230/50	116/232-442	9,8/19,6-37,3	12/23-44	0,76	(1)	
3484601	RLS 50 TC LP FS1 3/230-400/50 230/50	145/290-581	12,3/24,5-49	15/29-58	0,91	(1)	
20008911	RLS 50 TC LP FS1 3/220-380/60 220/60	145/290-581	12,3/24,5-49	15/29-58	0,91	-	
3485001	RLS 70 TC LP FS1 3/230-400/50 230/50	232/465-814	19/39-69	23/47-81	2,0	(2)	
3485201	RLS 100 TC LP FS1 3/230-400/50 230/50	349/698-1163	29,5/59-98	35/70-116	2,4	(2)	
3485401	RLS 130 TC LP FS1 3/230-400/50 230/50	465/930-1395	39/78-118	47/93-140	3,2	(2)	

(1) CE 0063AR4637
(2) CE 0063AS4863
Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm^2/s (cSt).
Net calorific value G20 gas: 10 kWh/Nm^3; 8.600 kcal/Nm^3 - Density: 0,71 kg/Nm^3.
The burners of RLS series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 267 - 676 Norm.

Available models

Gas Trains

	GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
			BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC GAS TRAIN	3970556	MBZRDLE 407	RLS 28	3000824	RLS 28	3000824	(1)
	3970557	MBZRDLE 410	RLS 28	3000824	RLS 28	3000824	(1)
			RLS 38	3000824	RLS 38	3000824	
			RLS 50	3000824	RLS 50	3000824	
	3970152	MBZRDLE 412	RLS 28	-	RLS 28	-	(1)
			RLS 38	-	RLS 38	-	
			RLS 50	-	RLS 50	-	
	3970183	MBZRDLE 415	RLS 28	-	RLS 28	-	(1)
			RLS 38	-	RLS 38	-	
			RLS 50	-	RLS 50	-	
			RLS 70	3000843	RLS 70	3000843	
			RLS 100	3000843	RLS 100	3000843	
			RLS 130	3000843	RLS 130	3000843	
	3970184	MBZRDLE 420	RLS 28	3000822	RLS 28	3000822	(1)
			RLS 38	3000822	RLS 38	3000822	
			RLS 50	3000822	RLS 50	3000822	
			RLS 70	-	RLS 70	-	
			RLS 100	-	RLS 100	-	
			RLS 130	-	RLS 130	-	
	3970185	MBZRDLE 420 CT	RLS 28	3000822	RLS 28	3000822	(2)
			RLS 38	3000822	RLS 38	3000822	
			RLS 50	3000822	RLS 50	3000822	
			RLS 70	-	RLS 70	-	
			RLS 100	-	RLS 100	-	
			RLS 130	-	RLS 130	-	
COMPOSED GAS TRAIN	3970153	CB 40/2	RLS 28	-	RLS 28	-	(1)
			RLS 38	-	RLS 38	-	
			RLS 50	-	RLS 50	-	
			RLS 70	3000843	RLS 70	3000843	
			RLS 100	3000843	RLS 100	3000843	
			RLS 130	3000843	RLS 130	3000843	
	3970154	CB 50/2	RLS 28	3000822	RLS 28	3000822	(1)
			RLS 38	3000822	RLS 38	3000822	
			RLS 50	3000822	RLS 50	3000822	
			RLS 70	-	RLS 70	-	
			RLS 100	-	RLS 100	-	
			RLS 130	-	RLS 130	-	
	3970155	CBF 65/2	RLS 70	3000825	RLS 70	3000825	(1)
			RLS 100	3000825	RLS 100	3000825	
			RLS 130	3000825	RLS 130	3000825	
	3970167	CBF 65/2 CT	RLS 70	3000825	RLS 70	3000825	(2)
			RLS 100	3000825	RLS 100	3000825	
			RLS 130	3000825	RLS 130	3000825	
	3970156	CBF 80/2	RLS 70	3000826	RLS 70	3000826	(1)
			RLS 100	3000826	RLS 100	3000826	
			RLS 130	3000826	RLS 130	3000826	
	3970168	CBF 80/2 CT	RLS 70	3000826	RLS 70	3000826	(2)
			RLS 100	3000826	RLS 100	3000826	
			RLS 130	3000826	RLS 130	3000826	

* gas train are 230V/50Hz - 220V/60Hz electrical supply
(1) Seal control Accessory
(2) Seal control Incorporated
To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

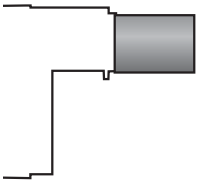
Nozzles type 60° B

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 2 nozzles.

BURNER	RATED DELIVERY (kg/h) at 12 bar	GPH	NOZZLE CODE
▶ RLS 28	8,5	2,00	3042126
▶ RLS 28-38	10,6	2,50	3042140
▶ RLS 28-38-50	12,7	3,00	3042158
▶ RLS 28-38-50	14,8	3,50	3042162
▶ RLS 38-50	17	4,00	3042172
▶ RLS 38-50	19,1	4,50	3042182
▶ RLS 38-50-70	21,2	5,00	3042192
▶ RLS 50-70	23,3	5,50	3042202
▶ RLS 50-70	25,5	6,00	3042212
▶ RLS 50-70	27,6	6,50	3042222
▶ RLS 70-100	29,7	7,00	3042232
▶ RLS 70-100	31,8	7,50	3042242
▶ RLS 70-100	33,9	8,00	3042252
▶ RLS 70-100	36,1	8,50	3042262
▶ RLS 70-100-130	40,3	9,50	3042282
▶ RLS 70-100-130	42,4	10,00	3042292
▶ RLS 70-100-130	46,7	11,00	3042312
▶ RLS 100-130	50,9	12,00	3042322
▶ RLS 100-130	55,1	13,00	3042332
▶ RLS 100-130	59,4	14,00	3042352
▶ RLS 100-130	63,6	15,00	3042362
▶ RLS 100-130	67,9	16,00	3042382
▶ RLS 130	72,1	17,00	3042392

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The kits available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RLS 28	191	326	3010264
▶ RLS 38	201	336	3010265
▶ RLS 50	216	351	3010266
▶ RLS 70	250	385	3010345
▶ RLS 100	250	385	3010346
▶ RLS 130	250	385	3010347

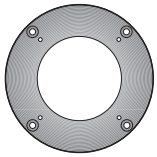
Burner accessories

Degasing unit

To solve problem of air in the oil sucked, two versions of degassing unit are available.

BURNER	FILTER	FILTERING DEGREE (µm)	DEGASING UNIT CODE
▶ RLS 28 - 38 - 50 RLS 70 - 100	With filter	50 - 75	3010055
▶ RLS 28 - 38 - 50 RLS 70 - 100	Without filter	-	3010054

Connection flange kit



A kit is available for use where the burner opening on the boiler is of excessive diameter.

BURNER	KIT CODE
▶ RLS 28 - 38 - 50	3010138

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available, as given in the following table.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RLS 28 - 38 - 50	C1/3	10	3010403
▶ RLS 70 - 100 - 130	C4/5	10	3010404

(*) according to EN 15036-1 standard

Gas train accessories

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available.

BURNER	GAS TRAIN	KIT CODE
▶ RLS 28	MBZRDLE 407 - MBZRDLE 410 MBZRDLE 412 - MBZRDLE 415 - MBZRDLE 420	3010123
	CB 40/2 - CB 50/2	3010125
▶ RLS 38	MBZRDLE 410 - MBZRDLE 412 MBZRDLE 415 - MBZRDLE 420	3010123
	CB 40/2 - CB 50/2	3010125
▶ RLS 50	MBZRDLE 410 - MBZRDLE 412 MBZRDLE 415 - MBZRDLE 420	3010123
	CB 40/2 - CB 50/2	3010125
▶ RLS 70	MBZRDLE 415 - MBZRDLE 420	3010123
	CB 40/2 - CB 50/2 - CBF 65/2 - CBF 80/2	3010125
▶ RLS 100	MBZRDLE 415 - MBZRDLE 420	3010123
	CB 40/2 - CB 50/2 - CBF 65/2 - CBF 80/2	3010125
▶ RLS 130	MBZRDLE 415 - MBZRDLE 420	3010123
	CB 40/2 - CB 50/2 - CBF 65/2 - CBF 80/2	3010125

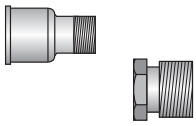
Stabiliser spring

Accessory springs are available to vary the pressure range of the gas train stabilisers.

GAS TRAIN	SPRING	SPRING CODE
▶ CBF 65/2 - CBF 80/2	Red from 25 to 55 mbar	3010133
▶ CBF 65/2 - CBF 80/2	Black from 60 to 110 mbar	3010135
▶ CBF 65/2 - CBF 80/2	Pink from 100 to 150 mbar	3090456

Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

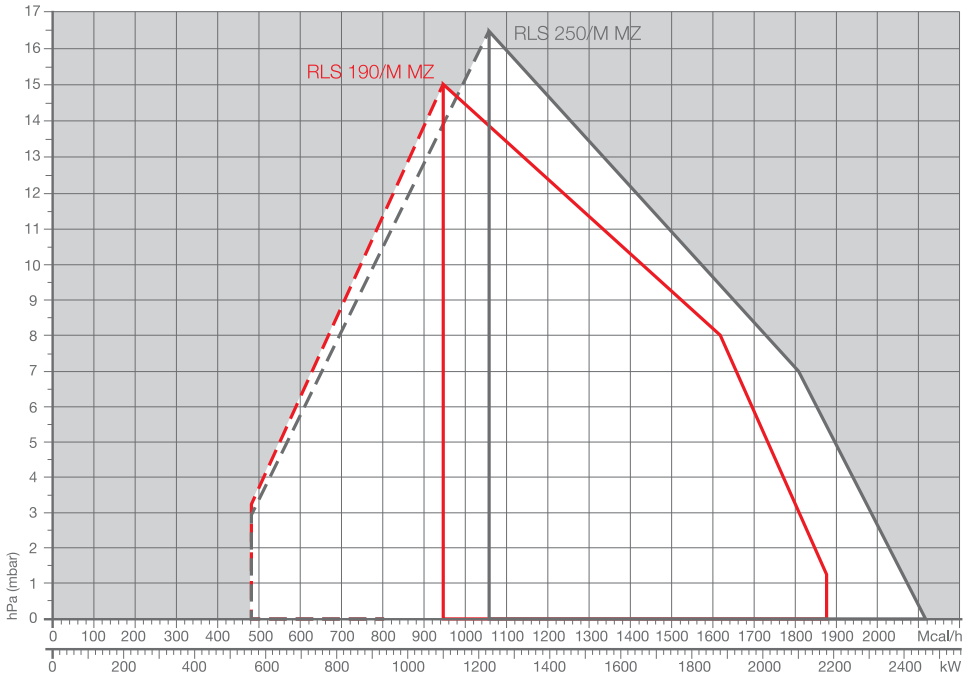
BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ RLS 28	MBZRDLE 407 - MBZRDLE 410	3/4" 1" 1/2	3000824
	CB 50/2 - CB 50/2 CT MBZRDLE 420 - MBZRDLE 420 CT	2" 1" 1/2	3000822
▶ RLS 38	MBZRDLE 410	3/4" 1" 1/2	3000824
	MBZRDLE 420 - MBZRDLE 420 CT CB 50/2 - CB 50/2 CT	2" 1" 1/2	3000822
▶ RLS 50	MBZRDLE 410	3/4" 1" 1/2	3000824
	MBZRDLE 420 - MBZRDLE 420 CT CB 50/2 - CB 50/2 CT	2" 1" 1/2	3000822
▶ RLS 70	MBZRDLE 415 - CB 40/2	1" 1/2 2"	3000843
	CBF 65/2 - CBF 65/2 CT	DN 65 2" 1/2 1" 1/2 2"	3000825
	CBF 80/2 - CBF 80/2 CT	DN 80 2" 1/2 2"	3000826
▶ RLS 100	MBZRDLE 415 - CB 40/2	1" 1/2 2"	3000843
	CBF 65/2 - CBF 65/2 CT	DN 65 2" 1/2 1" 1/2 2"	3000825
	CBF 80/2 - CBF 80/2 CT	DN 80 2" 1/2 2"	3000826
▶ RLS 130	MBZRDLE 415 - CB 40/2	1" 1/2 2"	3000843
	CBF 65/2 - CBF 65/2 CT	DN 65 2" 1/2 1" 1/2 2"	3000825
	CBF 80/2 - CBF 80/2 CT	DN 80 2" 1/2 2"	3000826

RLS/M MZ SERIES

The RLS/M MZ series of burners covers a firing range from 550 to 2460 kW, and they have been designed for use in hot or superheated water boilers, hot air or steam generators, diathermic oil boilers.
Operation is “two stage” at the oil side and “modulating” at the gas side with the installation of a PID logic regulator and respective probes.
RLS/M MZ series burners guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs.
Optimisation of sound emissions is guaranteed by the special design of air suction circuit and the use of sound proofing material.
The exclusive design ensures reduced dimensions, simple use and maintenance. A wide range of accessories guarantees elevated working flexibility.

RLS 190/M MZ	550/1100 ÷ 2150 kW
RLS 250/M MZ	550/1230 ÷ 2460 kW

FIRING RATES



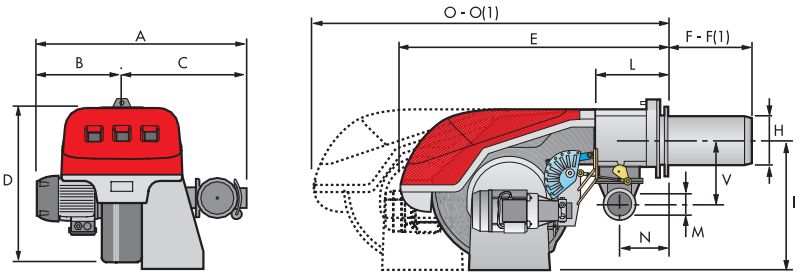
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267-EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

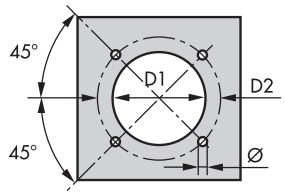
BURNER



MODEL	A	B	C	D	E	F - F (1)	H	I	L	M	N	O - O (1)	V
▶ RLS 190/M MZ	843	366	477	555	863	412 - 542	222	430	237	Rp2	141	1442 - 1587	186
▶ RLS 250/M MZ	904	427	477	555	863	412 - 542	222	435	237	Rp2	141	1442 - 1587	186

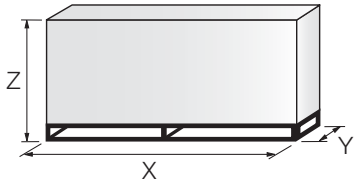
(1) Length with extended combustion head.

BURNER - BOILER MOUNTING FLANGE



Model	D1	D2	Ø
▶ RLS 190/M MZ	230	325 - 368	M16
▶ RLS 250/M MZ	230	325 - 368	M16

PACKAGING



Model	X	Y	Z	kg
▶ RLS 190/M MZ	1400	975	645	95
▶ RLS 250/M MZ	1400	1000	765	100

Specification

DESIGNATION OF SERIES

Series : R		
Fuel : S	Natural gas	
L	Light oil	
LS	Light oil / Natural gas	
N	Heavy oil	
Size		
Operation : /1	One stage	
...	Two stage	
/M	Modulating	
/E	Electronic cam	
/P	Proportioning air/gas valve	
/EV	Electronic cam predisposed for variable speed (with inverter)	
Emission : ...	Class 1 EN267 - EN676	
MZ	Class 2 EN267 - EN676	
BLU	Class 3 EN267 - EN676	
MX	Class 2 EN267 Class 3 EN676	
Head : TC	Standard head	
TL	Extended head	
Flame control system :		
FS1	Standard (1 stop every 24 h)	
FS2	Continuous working (1 stop every 72 h)	
Electrical supply to the system :		
1/230/50	1/230V/50Hz	
3/230/50	3/230V/50Hz	
3/400/50	3N/400V/50Hz	
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz	
3/220/60	3/220V/60Hz	
3/380/60	3N/380V/60Hz	
3/220-380/60	3/220V/60Hz - 3N/380V/60Hz	
Auxiliary voltage :		
230/50-60	230V/50-60Hz	
110/50-60	110V/50-60Hz	
ID : Differential switch		

R	LS	190	/M	MZ	TC	FS1	3/230-400/50	230/50	

BASIC DESIGNATION

EXTENDED DESIGNATION

DUAL FUEL

Specification

STATE OF SUPPLY

Monoblock forced draught dual fuel burner with two stage operation at the oil side and two stage progressive or modulating operation at the gas side, with a specific kit, fully automatic, made up of:
- air suction circuit lined with sound-proofing material
- centrifugal fan with high performance and low sound emissions
- air damper for air flow setting and butterfly valve for regulating gas output controlled by a servomotor with variable cam
- starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- low emission combustion head, that can be set on the basis of required output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - gas distributor
    - flame stability disk
- maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line
- minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- gears pump for high pressure fuel supply
- pump starting motor
- oil safety valves
- two oil valves (1st and 2nd stage)
- burner safety control box
- UV photocell for flame detection
- burner on/off selection switch
- manual or automatic output increase/decrease selection switch
- Oil/Gas selector
- flame inspection window
- slide bars for easier installation and maintenance
- protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for connection to the pump with gaskets
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	LIGHT OIL (kg/h)	NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3488110	RLS 190/M MZ TC FS1 3/400/50 230/50-60	550/1100-2150	46/93-181	55/110-215	6,0	CE 0085BP0439	
20011625	RLS 190/M MZ TC FS1 3/230/50 230/50-60	550/1100-2150	46/93-181	55/110-215	6,0	CE 0085BP0439	
3482810	RLS 250/M MZ TC FS1 3/400/50 230/50-60	550/1230-2460	46/104-208	55/123-246	7,5 (oil) 6,0 (gas)	in progress	
20004704	RLS 250/M MZ TC FS1 3/230/50 230/50-60	550/1100-2150	46/93-181	55/110-215	7,5 (oil) 6,0 (gas)	in progress	

Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm²/s (cSt).
Net calorific value G20 gas: 10 kWh/Nm³; 8.600 kcal/Nm³ - Density: 0,71 kg/Nm³.
The burners of RLS/M MZ series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 267 - 676 Norm.

Gas Trains

	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS BURNER (type)	NATURAL GAS ADAPTER (code)	NOTE
MULTIBLOC GAS TRAIN	3970180	MBD 415	RLS 250/M MZ	3000843	(1)
	3970198	MBD 415 CT	RLS 250/M MZ	3000843	(2)
	3970181	MBD 420	RLS 190-250/M MZ	-	(1)
	3970257 (3)	MBD 420	RLS 250/M MZ	-	(1)
	3970182	MBD 420 CT	RLS 190-250/M MZ	-	(2)
	3970252 (3)	MBD 420 CT	RLS 250/M MZ	-	(2)
	3970221	MBC 1200 SE 50	RLS 190-250/M MZ	-	(1)
	3970225	MBC 1200 SE 50 CT	RLS 190-250/M MZ	-	(2)
COMPOSED GAS TRAIN	3970222	MBC 1900 SE 65 FC	RLS 190-250/M MZ	3000825	(1)
	3970226	MBC 1900 SE 65 FC CT	RLS 190-250/M MZ	3000825	(2)
	3970223	MBC 3100 SE 80 FC	RLS 190-250/M MZ	3000826	(1)
	3970227	MBC 3100 SE 80 FC CT	RLS 190-250/M MZ	3000826	(2)

* gas trains are 230V/50Hz - 220V/60Hz electrical supply
(1) Seal control accessory
(2) Seal control incorporated
(3) Gas Train S5 type for application with high pressure drop

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Nozzles type 60° B

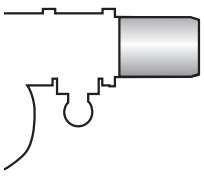
The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 2 nozzles.

BURNER	RATED DELIVERY kg/h (*)	GPH	NOZZLE
▶ RLS 190/M MZ	42,4	10,00	3042292
	46,7	11,00	3042312
▶ RLS 190/M MZ RLS 250/M MZ	48,37	12,00	3042322
	52,79	13,00	3042332
	56,86	14,00	3042352
	60,92	15,00	3042362
	64,98	16,00	3042382
	69,04	17,00	3042392
	73,10	18,00	3042412
	77,16	19,00	3042422
	81,22	20,00	3042442
	89,34	22,00	3042462
	97,47	24,00	3042472
	101,53	26,00	3042482
	105,59	28,00	3042492
▶ RLS 250/M MZ	122	30,00	3042502
	130,1	32,00	3042512
	142,1	35,00	3042522

(*) Nozzle rated delivery is reffered to atomized pressure

Extended head kit



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The kits available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RLS 190/M MZ	412	542	3010366
▶ RLS 250/M MZ	412	542	3010440

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RLS 190/M - 250/M MZ	102	3000722

Burner accessories

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ RLS 190/M - 250/M MZ	3010094

Accessories for modulating operation

REGULATOR

To obtain modulating operation, the RLS/M MZ series of burners requires a regulator with three point outlet controls. The following table lists the accessories for modulating operation with their application range.

BURNER	TYPE	CODE
▶ RLS 190/M MZ	RWF 40	3010212
▶ RLS 250/M MZ	RWF 40	3010414

PROBE

The relative temperature or pressure probes fitted to the regulator must be chosen on the basis of the application.

TYPE	RANGE (°C) (bar)	CODE
Temperature PT 100	-100 ÷ 500°C	3010110
Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

ANALOG CONTROL SIGNAL CONVERTER

BURNER	TYPE (INPUT SIGNAL)	CODE
▶ RLS 250/M MZ	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010415

POTENTIOMETER KIT

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor. The KITS available for the various burners are listed below.

BURNER	KIT CODE
▶ RLS 190/M MZ	3010021
▶ RLS 250/M MZ	3010416

Sound proofing box

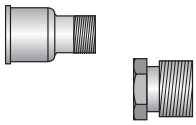
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ RLS 190/M MZ	C4/5	10	3010404
▶ RLS 250/M MZ	C7	10	3010376

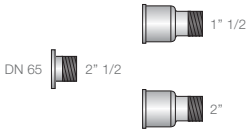
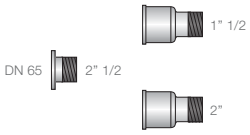
(*) according to EN 15036-1 standard

Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner. The following table lists the adapters for various burners.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ RLS 190/M MZ	MBC 1900 SE 65 FC MBC 1900 SE 65 FC CT		3000825
	MBC 3100 SE 80 FC MBC 3100 SE 80 FC CT		3000826
▶ RLS 250/M MZ	MBD 415		3000843
	MBC 1900 SE 65 FC MBC 1900 SE 65 FC CT		3000825
	MBC 3100 SE 80 FC MBC 3100 SE 80 FC CT		3000826

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

BURNER	GAS TRAIN	KIT CODE
▶ RLS 190/M - 250/M MZ	MBC without CT	3010367
▶ RLS 190/M - 250/M MZ	MBD without CT	3010123

Stabiliser spring

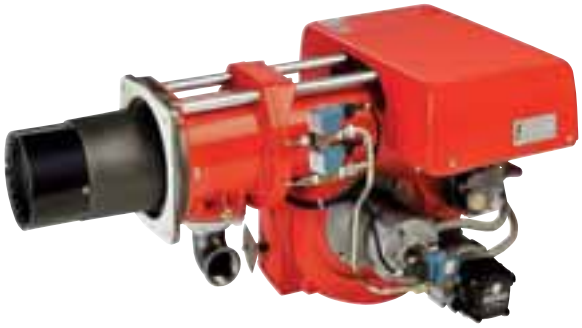
Accessory springs are available to vary the pressure range of the gas train stabilisers. The following table shows these accessories with their application range.
Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 SE 65 FC (CT)* ▶ MBC 3100 SE 80 FC (CT)*	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

* with and without seal control

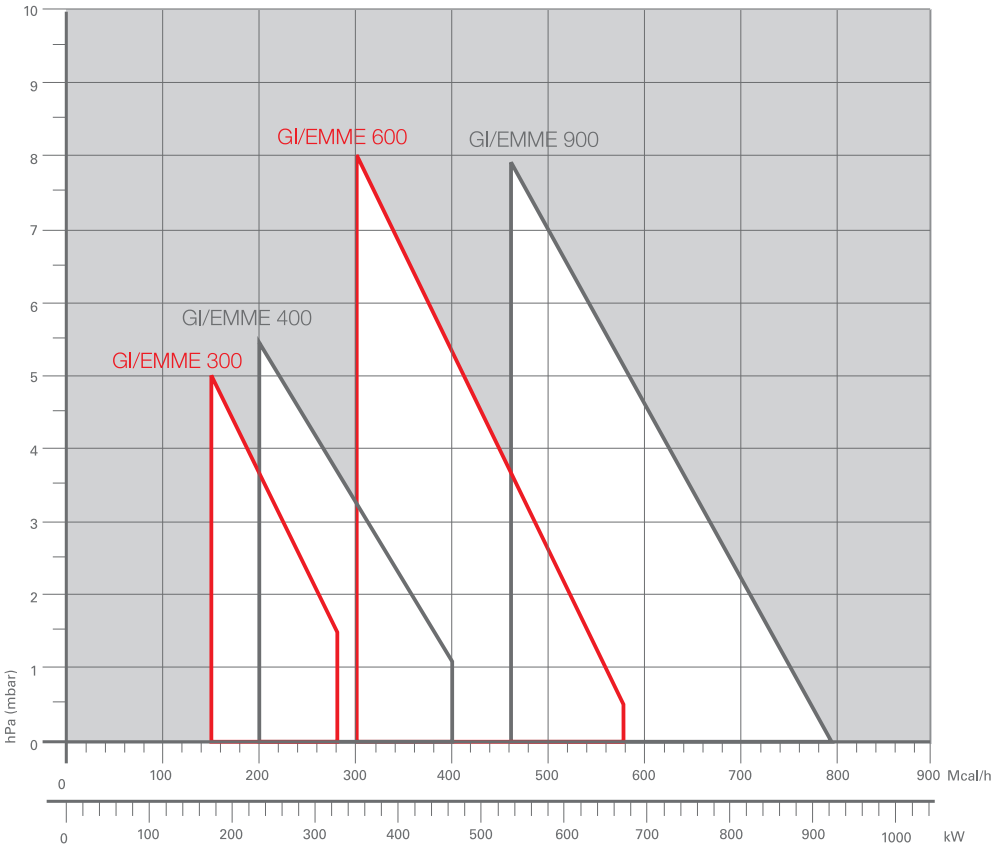
GI/EMME 300÷900 SERIES

The GI/EMME 300-900 series of burners covers a firing range from 175 to 922 kW.
They have been designed for middle and high output users and they are in particular suitable for matching with pressurized boilers.
Their use allow to have an high safety in operation, guaranteed from the double fuel supply. Two options of operation are available: only gas and only light oil, thus settable by a selector and a terminal board. Light oil circuit is fitted with his own electric motor: this permits pump stop during gas operation preventing danger of pumping seizure. A wide range of accessories and gas trains suitable to the burners guarantee an elevated working flexibility.



GI/EMME 300	107/175	÷	332	kW
GI/EMME 400	116/232	÷	465	kW
GI/EMME 600	174/348	÷	665	kW
GI/EMME 900	250/525	÷	922	kW

FIRING RATES

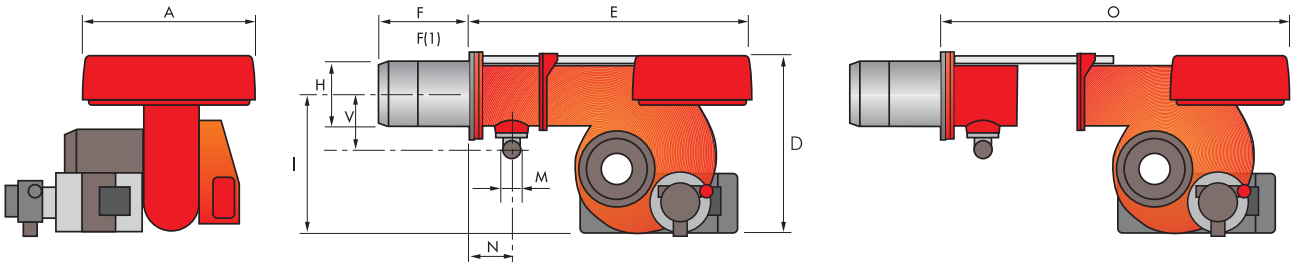


Useful working field for choosing the burner

Test conditions conforming to EN267-EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

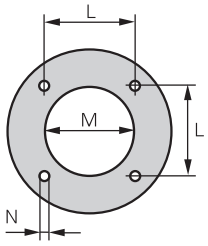
BURNER



MODEL	A	D	E	F - F(1)	H	I	M	N	O	V
▶ GI/EMME 300	410	397	610	185 - 320	140	292	1"1/2	97	978	165
▶ GI/EMME 400	410	397	610	187 - 320	150	292	1"1/2	97	1018	165
▶ GI/EMME 600	410	437	645	187 - 320	155	332	1"1/2	97	1063	165
▶ GI/EMME 900	410	485	770	227 - 360	175	370	2"	131	1260	195

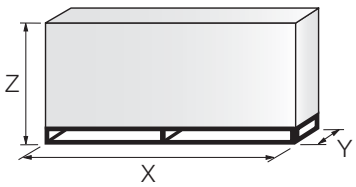
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	L	M	N
▶ GI/EMME 300	160	155	M10
▶ GI/EMME 400	160	165	M10
▶ GI/EMME 600	160	165	M10
▶ GI/EMME 900	195	185	M12

PACKAGING



MODEL	X	Y	Z	kg
▶ GI/EMME 300	835	530	453	42
▶ GI/EMME 400	835	530	453	49
▶ GI/EMME 600	880	530	500	64
▶ GI/EMME 900	1030	530	435	88

Specification

DESIGNATION OF SERIES

Series : GI/EMME		
Size		
Emission : Class 1 EN267 - EN676		
Head :	TC	Standard head
	TL	Extended head
Flame control system :	FS1	Standard (1 stop every 24 h)
Electrical supply to the system :	1/230/50	1/230V/50Hz
	1/210/60	1/210V/60Hz
	1/220/60	1/220V/60Hz
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
	3/210/60	3/210V/60Hz
	3/400/50	3N/400V/50Hz
	3/220/60	3/220V/60Hz
	3/380/60	3N/380V/60Hz
	3/230/50	3/230V/50Hz
	3/220-380/60	3/220/60Hz - 3N/380V/60Hz
Auxiliary voltage :	230/50-60	230V/50-60Hz
	110/50-60	110V/50-60Hz

GI/EMME	900		TC	FS1	3/230-400/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught dual fuel burner, two stage operation, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air damper for setting controlled by a servomotor
- Combustion head, that can be set on the basis of required output
- Minimum air pressure switch
- Fan electrical motor
- Pump electrical motor
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and a a vacuometer
    - internal by-pass for single pipe installation
- Valve unit with a double oil safety valve on the output circuit
- UV photocell for flame detection
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) protection level.

Standard equipment:
- 1 gas train flange
- 1 flange gasket
- 1 insulating screen
- 2 flexible hoses for connection to the oil supply circuit
- 2 nipples for connection to the pump
- 3 wiring looms fittings for electrical connections
- 8 screws for fixing the burner flange to the boiler
- 1 LPG kit
- Instruction manual for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT			TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
			LIGHT OIL	NATURAL GAS			
		(kW)	(kg/h)	(Nm³/h)	(kW)		
3483681	GI/EMME 300 TC FS1 1/220/60 220/60	107/175-340	9/15-29	11/17,5-34	0,5	-	
3483621	GI/EMME 300 TC FS1 1/230/50 230/50	107/175-332	9/15-28	11/17,5-33	0,5	-	
3484271	GI/EMME 400 TC FS1 1/210/60 120/60	116/232-465	10/20-39	12/23-46,5	0,62	-	
3484221	GI/EMME 400 TC FS1 1/230/50 230/50	116/232-465	10/20-39	12/23-46,5	0,62	-	
3484281	GI/EMME 400 TC FS1 3/220-380/60 220/60	116/232-465	10/20-39	12/23-46,5	0,62	-	
3484871	GI/EMME 600 TC FS1 3/210/60 120/60	174/348-697	15/30-60	17/35-70	1,1	-	
3484881	GI/EMME 600 TC FS1 3/220-380/60 220/60	174/348-697	15/30-60	17/35-70	1,1	-	
3484821	GI/EMME 600 TC FS1 3/230-400/50 230/50	174/348-665	15/30-56	17/35-66,5	1,1	-	
3485971	GI/EMME 900 TC FS1 3/210/60 120/60	262/523-1045	22/44-88	26/52-105	2	-	
3485981	GI/EMME 900 TC FS1 3/220-380/60 220/60	262/523-1045	22/44-88	26/52-105	2	-	
3485921	GI/EMME 900 TC FS1 3/230-400/50 230/50	250/525-922	21/44-78	25/52,5-92	2	-	

Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm²/s (cSt).
Net calorific value G20 gas: 10 kWh/Nm³; 8.600 kcal/Nm³ - Density: 0,71 kg/Nm³.
The burners of GI/EMME series are in according to 89/336 (2004/108), 73/23 (2006/95) Directive and EN 267, EN 676 Norm.

Available models

Gas Trains

	GAS TRAIN CODE*	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
			BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC GAS TRAIN	3970556	MBZRDLE 407	GI/EMME 300	3000824	GI/EMME 300	3000824	(1)
	3970557	MBZRDLE 410	GI/EMME 300	3000824		3000824	(1)
			GI/EMME 400	3000824	GI/EMME 300	3000824	
			GI/EMME 600	3000824	GI/EMME 400	3000824	
	3970152	MBZRDLE 412	GI/EMME 300	3010124			(1)
			GI/EMME 400	3010124	GI/EMME 300	3000824	
			GI/EMME 600	3010124	GI/EMME 400	3000824	
			GI/EMME 900	3010126	GI/EMME 600	3000824	
	3970183	MBZRDLE 415	GI/EMME 300	-	GI/EMME 300	-	(1)
			GI/EMME 400	-	GI/EMME 400	-	
			GI/EMME 600	-	GI/EMME 600	-	
			GI/EMME 900	3000843	GI/EMME 900	3000843	
	3970184	MBZRDLE 420	GI/EMME 400	3000822	GI/EMME 400	3000822	(1)
			GI/EMME 600	3000822	GI/EMME 600	3000822	
			GI/EMME 900	-	GI/EMME 900	-	
	3970185	MBZRDLE 420 CT	GI/EMME 400	3000822	GI/EMME 400	3000822	(2)
			GI/EMME 600	3000822	GI/EMME 600	3000822	
			GI/EMME 900	-	GI/EMME 900	-	
COMPOSED GAS TRAIN	3970153	CB 40/2	GI/EMME 300	-	GI/EMME 300	-	(1)
			GI/EMME 400	-	GI/EMME 400	-	
			GI/EMME 600	-	GI/EMME 600	-	
			GI/EMME 900	3000843	GI/EMME 900	3000843	
	3970154	CB 50/2	GI/EMME 400	-	GI/EMME 400	-	(1)
			GI/EMME 600	-	GI/EMME 600	-	
			GI/EMME 900	-	GI/EMME 900	-	
	3970155	CB 65/2	GI/EMME 900	3000825	GI/EMME 900	3000825	(1)
	3970167	CB 65/2 CT	GI/EMME 900	3000825	GI/EMME 900	3000825	(2)

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) Seal control accessory.
(2) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

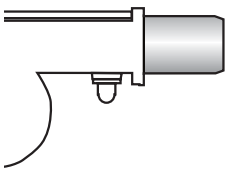
Nozzles type 60° B

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 2 nozzles.

BURNER	RATED DELIVERY (kg/h) AT 12 bar	GPH	NOZZLE CODE
▶ GI/EMME 300	6,8	1,75	3042110
▶ GI/EMME 300	7,8	2,00	3042126
▶ GI/EMME 300	8,7	2,25	3042127
▶ GI/EMME 300 - 400	9,7	2,50	3042140
▶ GI/EMME 300 - 400	11,6	3,00	3042158
▶ GI/EMME 300 - 400	13,6	3,50	3042162
▶ GI/EMME 300 - 400 - 600	15,6	4,00	3042172
▶ GI/EMME 400 - 600	17,5	4,50	3042182
▶ GI/EMME 400 - 600	19,4	5,00	3042192
▶ GI/EMME 400 - 600	21,3	5,50	3042202
▶ GI/EMME 600 - 900	23,3	6,00	3042212
▶ GI/EMME 600 - 900	27,1	7,00	3042232
▶ GI/EMME 600 - 900	29,1	7,50	3042242
▶ GI/EMME 900	33	8,50	3042262
▶ GI/EMME 900	36,8	9,50	3042282
▶ GI/EMME 900	38,8	10,00	3042292
▶ GI/EMME 900	42,3	11,00	3042312
▶ GI/EMME 900	46,5	12,00	3042322

Extended head kit



“Standard head” burners can be transformed into “extended head” versions, by using the special kit. The kits available for the various burners, giving the original and the extended lengths, are listed below.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GI/EMME 300	185	320	3000836
▶ GI/EMME 400	187	320	3010001
▶ GI/EMME 600	187	320	3010002
▶ GI/EMME 900	227	360	3010003

Sound proofing box

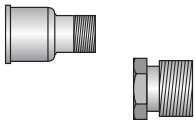
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ GI/EMME 300 - 400 - 600 - 900	C1/3	10	3010403

(*) according to EN 15036-1 standard

Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ GI/EMME 300	MBZRDLE 407 - 410	3/4" 1" 1/2	3000824
	MBZRDLE 412	1" 1/4 1" 1/2	3010124
▶ GI/EMME 400	MBZRDLE 410	3/4" 1" 1/2	3000824
	MBZRDLE 412	1" 1/4 1" 1/2	3010124
	MBZRDLE 420 - CB 50/1	2" 1" 1/2	3000822
▶ GI/EMME 600	MBZRDLE 410	3/4" 1" 1/2	3000824
	MBZRDLE 412	1" 1/4 1" 1/2	3010124
	MBZRDLE 420 - CB 50/2	2" 1" 1/2	3000822
▶ GI/EMME 900	MBZRDLE 412	1" 1/4 2"	3010126
	MBZRDLE 415 - CB 40/2	1" 1/2 2"	3000843
	CBF 65	1" 1/2 DN 65 2" 1/2 2"	3000825

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available.

BURNER	GAS TRAIN	KIT CODE
▶ GI/EMME 300	MBZRDLE 407 - MBZRDLE 410 MBZRDLE 412 - MBZRDLE 415	3010123
	CB 40/2	3010125
▶ GI/EMME 400	MBZRDLE 410 - MBZRDLE 412 MBZRDLE 415 - MBZRDLE 420	3010123
	CB 40/2 - CB 50/2	3010125
▶ GI/EMME 600	MBZRDLE 410 - MBZRDLE 412 MBZRDLE 415 - MBZRDLE 420	3010123
	CB 40/2 - CB 50/2	3010125
▶ GI/EMME 900	MBZRDLE 412 - MBZRDLE 415 MBZRDLE 420	3010123
	CB 40/2 - CB 50/2 - CBF 65/2	3010125

Stabiliser spring

Accessory springs are available to vary the pressure range of the gas train stabilisers.

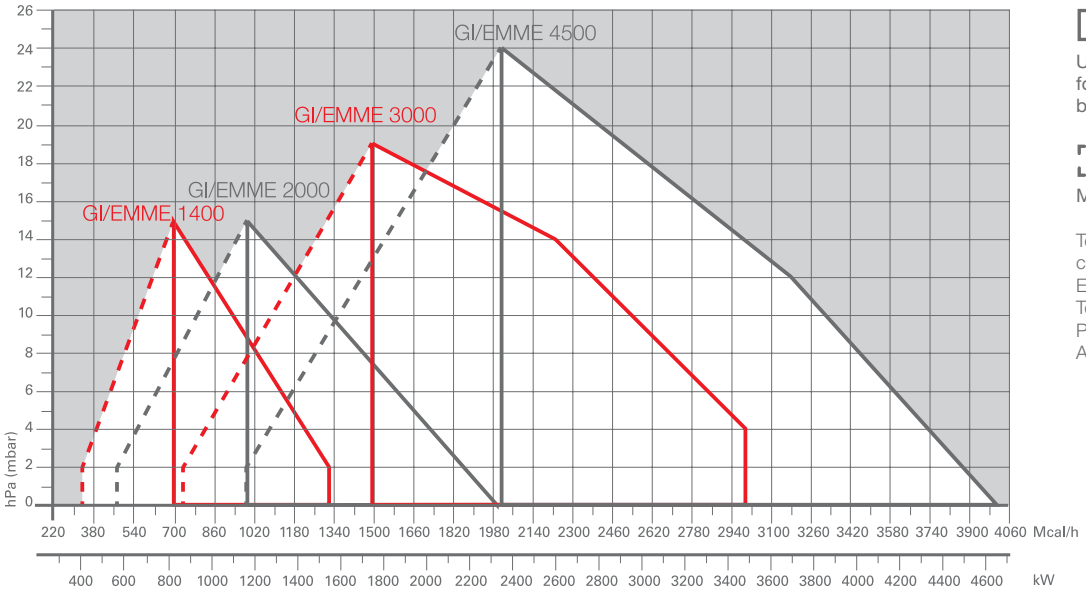
GAS TRAIN	SPRING	SPRING CODE
▶ CBF 65/2	Red from 25 to 55 mbar	3010133
▶ CBF 65/2	Black from 60 to 110 mbar	3010135
▶ CBF 65/2	Pink from 100 to 150 mbar	3090456

GI/EMME 1400÷4500 SERIES

The GI/EMME 1400-4500 series of burners covers a firing range from 820 to 4650 kW. They ave been designed for high output users and they are suitable for matching with every kind of boilers, with normal or pressurized combustion chamber.
Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes. Two options of operation are available: only gas and only light oil, thus settable by a manual switch. Light oil circuit is fitted with his own electric motor: this permits pump stop during gas operation preventing danger of pumping seizure and avoiding oil circulation. A wide range of accessories and gas trains suitable to the burners guarantee an elevated working flexibility.

GI/EMME 1400	407/820	÷	1540	kW
GI/EMME 2000	581/1163	÷	2325	kW
GI/EMME 3000	872/1744	÷	3488	kW
GI/EMME 4500	1163/2350	÷	4650	kW

FIRING RATES



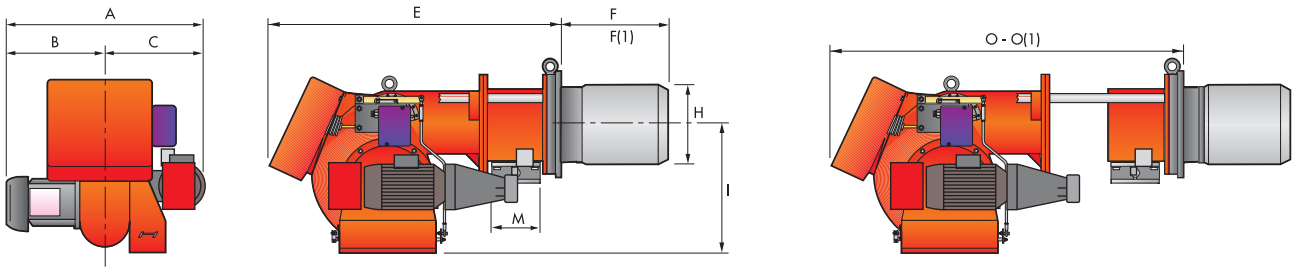
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267-EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

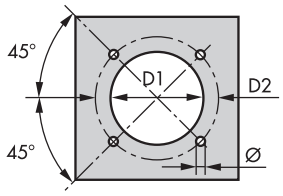
BURNER



MODEL	A	B	C	E	F - F(1)	H	I	M	O - O(1)
▶ GI/EMME 1400	858	376	482	1090	385 - 495	250	467	2”	1407 - 1585
▶ GI/EMME 2000	878	396	482	1090	385 - 495	260	467	DN 80	1407 - 1585
▶ GI/EMME 3000	985	447	538	1320	476 - 606	336	525	DN 80	1796 - 2000
▶ GI/EMME 4500	1046	508	538	1320	476 - 606	336	525	DN 80	1796 - 1926

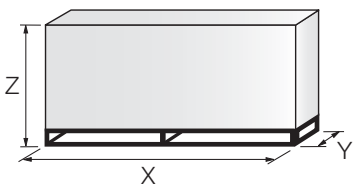
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ GI/EMME 1400	255	368	M16
▶ GI/EMME 2000	265	368	M16
▶ GI/EMME 3000	340	438	M20
▶ GI/EMME 4500	340	438	M20

PACKAGING



MODEL	X	Y	Z	kg
▶ GI/EMME 1400	1670	1010	780	190
▶ GI/EMME 2000	1670	1010	780	200
▶ GI/EMME 3000	2000	1160	870	280
▶ GI/EMME 4500	2000	1160	870	280

Specification

DESIGNATION OF SERIES

Series : GI/EMME		
Size		
Emission : Class 1 EN267 - EN676		
Head :	TC	Standard head
	TL	Extended head
Flame control system :	FS1	Standard (1 stop every 24 h)
Electrical supply to the system :	1/230/50	1/230V/50Hz
	1/210/60	1/210V/60Hz
	1/220/60	1/220V/60Hz
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
	3/210/60	3/210V/60Hz
	3/400/50	3N/400V/50Hz
	3/220/60	3/220V/60Hz
	3/380/60	3N/380V/60Hz
	3/230/50	3/230V/50Hz
	3/220-380/60	3/220/60Hz - 3N/380V/60Hz
Auxiliary voltage :	230/50	230V/50Hz
	120/60	120V/60Hz
	220/60	220V/60Hz

GI/EMME	1400		TC	FS1	3/230-400/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught dual fuel burner, two stage progressive or modulating operation with a kit, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air damper for setting and butterfly valve for regulating fuel output controlled by a servomotor
- Combustion head, that can be set on the basis of required output
- Maximum gas pressure switch
- Minimum air pressure switch
- Fan electrical motor
- Pump electrical motor
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and a a vacuometer
    - internal by-pass for single pipe installation
- Valve unit with a double oil safety valve on the output circuit and safety valve on the return circuit
- UV photocell for flame detection
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) protection level.

Standard equipment:
- 1 flange (for GI/EMME 1400)
- 1 gas train flange
- 8 screws for fixing the burner flange to the boiler (for GI/EMME 1400)
- 12 screws for fixing the burner flange to the boiler
- 1 insulating screen
- 2 flexible hoses for connection to the oil supply circuit
- 2 nipples for connection to the pump
- 4 wiring looms fittings for electrical connections
- 2 pin extensions
- 8 washers (for GI/EMME 1400)
- 12 washers
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT (kW)	HEAT OUTPUT LIGHT OIL (kg/h)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
3486683	GI/EMME 1400 TC FS1 3/220-380/60 220/60	415/814-1660	35/69-140	41/81-166	3 + 1,1	-	
3486655	GI/EMME 1400 TC FS1 3/230-400/50 230/50	407/820-1540	34/69-130	41/82-154	3 + 1,1	(1)	
3486684	GI/EMME 1400 TL FS1 3/220-380/60 220/60	415/814-1660	35/69-140	41/81-166	3 + 1,1	-	
3486656	GI/EMME 1400 TL FS1 3/230-400/50 230/50	407/820-1540	34/69-130	41/82-154	3 + 1,1	(1)	
3487683	GI/EMME 2000 TC FS1 3/220-380/60 220/60	590/1163-2370	50/98-200	59/116-237	4 + 1,1	-	
3487657	GI/EMME 2000 TC FS1 3/230-400/50 230/50	581/1163-2325	49/98-196	58/116-233	4 + 1,1	(2)	
3487659	GI/EMME 2000 TC FS1 3/400/50 230/50	581/1163-2325	49/98-196	58/116-233	4 + 1,1	(2)	*
3487684	GI/EMME 2000 TL FS1 3/220-380/60 220/60	590/1163-2370	50/98-200	59/116-237	4 + 1,1	-	
3487658	GI/EMME 2000 TL FS1 3/230-400/50 230/50	581/1163-2325	49/98-196	58/116-233	4 + 1,1	(2)	
3487660	GI/EMME 2000 TL FS1 3/400/50 230/50	581/1163-2325	49/98-196	58/116-233	4 + 1,1	(2)	*
3488783	GI/EMME 3000 TC FS1 3/220-380/60 220/60	890/1744-3560	75/147-300	89/174-356	9 + 1,5	-	
3488757	GI/EMME 3000 TC FS1 3/230-400/50 230/50	872/1744-3488	74/147-294	87/174-349	9 + 1,5	(3)	
3488759	GI/EMME 3000 TC FS1 3/400/50 230/50	872/1744-3488	74/147-294	87/174-349	9 + 1,5	(3)	*
3488784	GI/EMME 3000 TL FS1 3/220-380/60 220/60	890/1744-3560	75/147-300	89/174-356	9 + 1,5	-	
3488758	GI/EMME 3000 TL FS1 3/230-400/50 230/50	872/1744-3488	74/147-294	87/174-349	9 + 1,5	(3)	
3488760	GI/EMME 3000 TL FS1 3/400/50 230/50	872/1744-3488	74/147-294	87/174-349	9 + 1,5	(3)	*
3489085	GI/EMME 4500 TC FS1 3/220/60 220/60	1190/2325-5100	100/196-430	119/233-510	12 + 1,5	-	*
3489063	GI/EMME 4500 TC FS1 3/230/50 230/50	1163/2350-4650	98/198-392	116/235-465	12 + 1,5	(4)	*
3489087	GI/EMME 4500 TC FS1 3/380/60 220/60	1190/2325-5100	100/196-430	119/233-510	12 + 1,5	-	*
3489065	GI/EMME 4500 TC FS1 3/400/50 230/50	1163/2350-4650	98/198-392	116/235-465	12 + 1,5	(4)	*
3489086	GI/EMME 4500 TL FS1 3/220/60 220/60	1190/2325-5100	100/196-430	119/233-510	12 + 1,5	-	*
3489064	GI/EMME 4500 TL FS1 3/230/50 230/50	1163/2350-4650	98/198-392	116/235-465	12 + 1,5	(4)	*
3489088	GI/EMME 4500 TL FS1 3/380/60 220/60	1190/2325-5100	100/196-430	119/233-510	12 + 1,5	-	*
3489066	GI/EMME 4500 TL FS1 3/400/50 230/50	1163/2350-4650	98/198-392	116/235-465	12 + 1,5	(4)	*

(1) CE 0085AQ0712 - DIN 5G830/97 M.
(2) CE 0085AQ0712 - DIN 5G831/97 M.
(3) CE 0085AQ0712 - DIN 5G832/97 M.
(4) CE 0085AQ0712 - DIN 5G833/97 M.

* Star delta starter.

Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm²/s (cSt).
Net calorific value G20 gas: 10 kWh/Nm³; 8.600 kcal/Nm³ - Density: 0,71 kg/Nm³.
The burners of GI/EMME series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 267-676 Norm.

Available models

Gas Trains

	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
			BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC GAS TRAIN	3970181	MBD 420	GI/EMME 1400	-	GI/EMME 1400	-	(1)
			GI/EMME 2000	3010128	GI/EMME 2000	3010128	
	3970182	MBD 420 CT	GI/EMME 1400	-	GI/EMME 1400	-	(2)
			GI/EMME 2000	3010128	GI/EMME 2000	3010128	
COMPOSED GAS TRAIN	3970221	MBC 1200 SE 50	GI/EMME 1400	-			(1)
			GI/EMME 2000	3010128	GI/EMME 2000	3010128	
			GI/EMME 3000	3010128	GI/EMME 3000	3010128	
			GI/EMME 4500	3010128	GI/EMME 4500	3010128	
	3970225	MBC 1200 SE 50 CT	GI/EMME 1400	-			(2)
			GI/EMME 2000	3010128	GI/EMME 2000	3010128	
			GI/EMME 3000	3010128	GI/EMME 3000	3010128	
			GI/EMME 4500	3010128	GI/EMME 4500	3010128	
	3970222	MBC 1900 SE 65 FC	GI/EMME 1400	-			(1)
			GI/EMME 2000	3000831			
			GI/EMME 3000	3000831			
			GI/EMME 4500	3000831			
	3970226	MBC 1900 SE 65 FC CT	GI/EMME 1400	-			(2)
			GI/EMME 2000	3000831			
			GI/EMME 3000	3000831			
			GI/EMME 4500	3000831			
	3970223	MBC 3100 SE 80 FC	GI/EMME 2000	3000832			(1)
			GI/EMME 3000	3000832			
			GI/EMME 4500	3000832			
	3970227	MBC 3100 SE 80 FC CT	GI/EMME 2000	3000832			(2)
			GI/EMME 3000	3000832			
			GI/EMME 4500	3000832			

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) Seal control accessory.
(2) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Nozzles type B5-SA 45°

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 1 nozzle.

BURNER	RATED DELIVERY (kg/h)	NOZZLE CODE (1)	NOZZLE CODE (2)
▶ GI/EMME 1400	70	3009303	3045471
▶ GI/EMME 1400	80	3009305	3045472
▶ GI/EMME 1400	90	3009307	3045473
▶ GI/EMME 1400 - 2000	100	3009310	3045475
▶ GI/EMME 1400 - 2000	125	3009312	3045477
▶ GI/EMME 2000 - 3000	150	3009314	3045479
▶ GI/EMME 2000 - 3000	175	3009316	3045481
▶ GI/EMME 2000 - 3000 - 4500	200	3009318	3045483
▶ GI/EMME 3000 - 4500	225	3009320	3045485
▶ GI/EMME 3000 - 4500	250	3009322	3045487
▶ GI/EMME 3000 - 4500	275	3009324	3045489
▶ GI/EMME 3000 - 4500	300	3009326	3045491
▶ GI/EMME 4500	325	3009328	3045493
▶ GI/EMME 4500	350	3009330	3045495
▶ GI/EMME 4500	375	3009332	3045497
▶ GI/EMME 4500	400	3009334	3045499

(1) Nozzles Bergonzo B5 45° - without "SA" needle code.
(2) Nozzles Fluidics N2 45° - without needle code.

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ GI/EMME 1400 - 2000	102	3000722
▶ GI/EMME 3000 - 4500	130	3000751

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ GI/EMME 1400 - 2000 - 3000 - 4500	C7	10	3010376

(*) according to EN 15036-1 standard

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the GI/EMME series of burners requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ GI/EMME 1400 - 2000 - 3000 - 4500	RWF 40	3010211

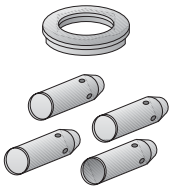
The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ GI/EMME 1400 - 2000 GI/EMME 3000 - 4500	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

BURNER	POTENTIOMETER KIT CODE
▶ GI/EMME 1400 - 2000 - 3000 - 4500	3010021

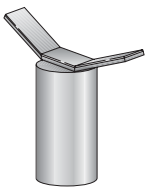
LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GI/EMME 1400 - 2000	3010063	3010063

Burner support



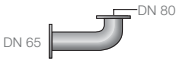
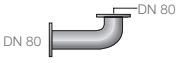
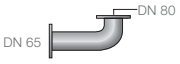
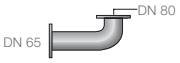
For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need of forklift trucks.

BURNER	SUPPORT CODE
▶ GI/EMME 1400 - 2000 - 3000 - 4500	3000731

Gas train accessories

Adapters

When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ GI/EMME 1400	MBC 1900		3000825
▶ GI/EMME 2000	MBD 420		3010128
	MBC 1200		3010128
	MBC 1900		3000831
	MBC 3100		3000832
▶ GI/EMME 3000	MBC 1200		3010128
	MBC 1900		3000831
	MBC 3100		3000832
▶ GI/EMME 4500	MBC 1200		3010128
	MBC 1900		3000831
	MBC 3100		3000832

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available.

BURNER	GAS TRAIN	KIT CODE
▶ All models	All models	3010123

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

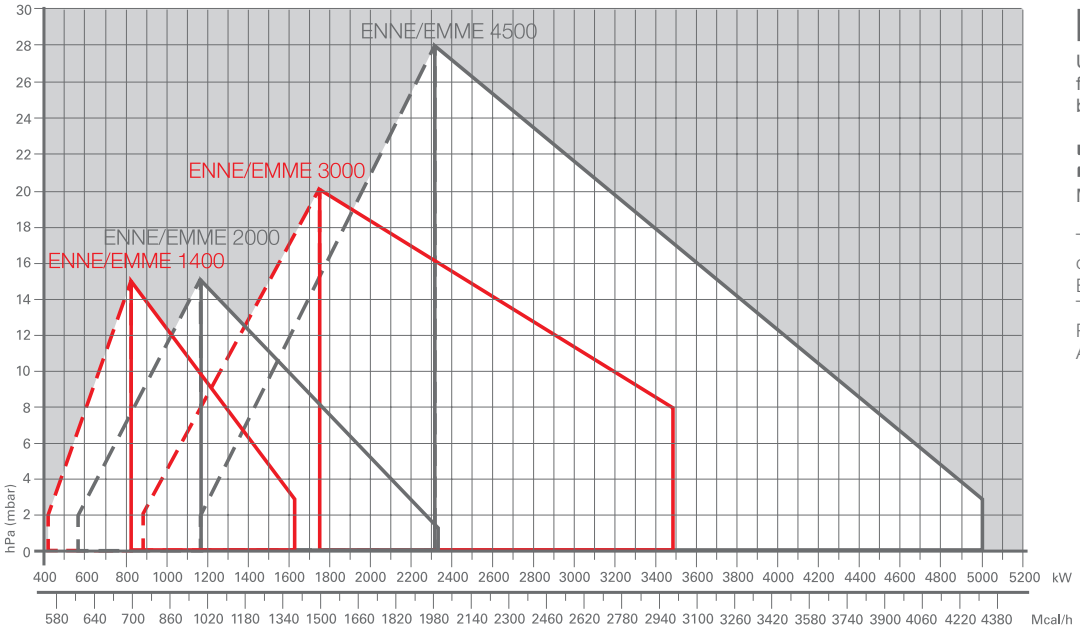
GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 ▶ MBC 3100 ▶ MBC 5000	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

ENNE/EMME SERIES

The ENNE/EMME 1400-4500 series of burners covers a firing range from 814 to 5000 kW.
They They have been designed for high output users and they are suitable for matching with every kind of boilers, with normal or pressurized combustion chamber.
Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes. Two fuel options are available: only gas and only heavy oil, thus settable by a manual switch. Heavy oil circuit is fitted with his own electric motor: this permits pump stop during gas operation preventing danger of pumping seizure and avoiding oil circulation. A wide range of accessories and gas trains suitable to the burners guarantee an elevated working flexibility.

ENNE/EMME 1400	407/814	÷	1628	kW
ENNE/EMME 2000	581/1163	÷	2325	kW
ENNE/EMME 3000	872/1744	÷	3488	kW
ENNE/EMME 4500	1163/2325	÷	5000	kW

FIRING RATES



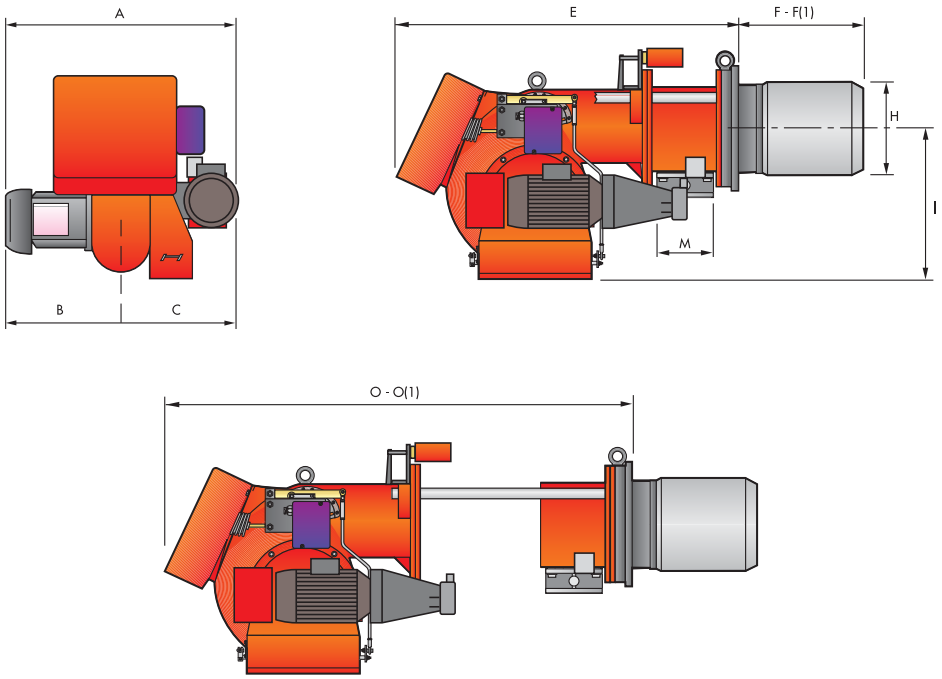
Useful working field for choosing the burner

Modulation range

Test conditions conforming to EN267-EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

Overall dimensions (mm)

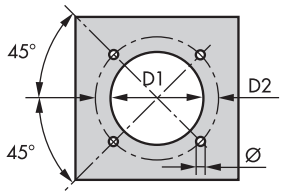
BURNER



MODEL	A	B	C	E	F - F(1)	H	I	M	O - O(1)
▶ ENNE/EMME 1400	892	376	516	1090	385 - 495	250	467	2”	1475 - 1585
▶ ENNE/EMME 2000	912	396	516	1090	385 - 495	260	467	DN80	1475 - 1585
▶ ENNE/EMME 3000	1000	447	553	1320	476 - 606	336	525	DN80	1796 - 1926
▶ ENNE/EMME 4500	1061	508	553	1320	476 - 606	336	525	DN80	1796 - 1926

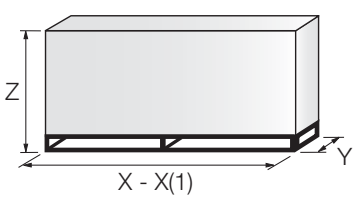
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ ENNE/EMME 1400	255	368	M16
▶ ENNE/EMME 2000	265	368	M16
▶ ENNE/EMME 3000	340	438	M20
▶ ENNE/EMME 4500	340	438	M20

PACKAGING



MODEL	X - X(1)	Y	Z	Kg
▶ ENNE/EMME 1400	1670 - 1670	1010	780	265
▶ ENNE/EMME 2000	1670 - 1670	1010	780	265
▶ ENNE/EMME 3000	2000 - 2000	1160	870	280
▶ ENNE/EMME 4500	2000 - 2000	1160	870	290

(1) Length with extended combustion head

Specification

DESIGNATION OF SERIES

Series : ENNE/EMME

Size

Emission : Class 1 EN267 - EN676

Head : TC Standard head
TL Extended head

Flame control system : FS1 Standard (1 stop every 24 h)

Electrical supply to the system : 3/220/50 3/220V/50Hz
3/380/50 3N/380V/50Hz
3/220-380/50 3/220/50Hz - 3N/380V/50Hz

Auxiliary voltage : 220/50 220V/50Hz

ENNE/EMME	1400		TC	FS1	3/220-380/50	220/50

BASIC DESIGNATION

EXTENDED DESIGNATION

Specification

STATE OF SUPPLY

Monoblock forced draught dual fuel burner, two stage progressive or modulating operation with a kit, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air damper for setting and butterfly valve for regulating fuel output controlled by a servomotor
- Combustion head, that can be set on the basis of required output
- Maximum gas pressure switch
- Minimum air pressure switch
- Fan electrical motor
- Pump electrical motor
- Gears pump for high pressure fuel supply, fitted with:
    - -filter
    - -pressure regulator
    - -connections for installing a pressure gauge and a a vacuometer
    - -internal by-pass for single pipe installation
- Preheater unit
- Valve unit with a double oil safety valve on the output circuit and safety valve on the return circuit
- UV photocell for flame detection
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) protection level.

Standard equipment:
- 1 gas train flange
- 12 screws for fixing the burner flange to the boiler
- 1 insulating screen
- 2 flexible hoses for connection to the oil supply circuit
- 2 nipples for connection to the pump
- 4 wiring looms fittings for electrical connections
- 2 pin extensions
- 8 washers
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT			TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	LIGHT OIL (kg/h)	NATURAL GAS (Nm^3/h)	(kW)		
3486701	ENNE/EMME 1400 TC FS1 3/230-400/50 230/50	407/814-1628	35/70-140	41/81-163	3 + 1,1		
3486702	ENNE/EMME 1400 TL FS1 3/230-400/50 230/50	407/814-1628	35/70-140	41/81-163	3 + 1,1		
3487801	ENNE/EMME 2000 TC FS1 3/230-400/50 230/50	581/1163-2325	50/100-200	58/116-233	4 + 1,1		
3487802	ENNE/EMME 2000 TL FS1 3/230-400/50 230/50	581/1163-2325	50/100-200	58/116-233	4 + 1,1		
3488801	ENNE/EMME 3000 TC FS1 3/230-400/50 230/50	872/1744-3488	75/150-300	87/174-349	9 + 2,2		
3488802	ENNE/EMME 3000 TL FS1 3/230-400/50 230/50	872/1744-3488	75/150-300	87/174-349	9 + 2,2		
3489201	ENNE/EMME 4500 TC FS1 3/230/50 230/50	1163/2325-5000	100/200-430	116/233-500	12 + 2,2		(1)
3489202	ENNE/EMME 4500 TL FS1 3/230/50 230/50	1163/2325-5000	100/200-430	116/233-500	12 + 2,2		(1)
3489203	ENNE/EMME 4500 TC FS1 3/400/50 230/50	1163/2325-5000	100/200-430	116/233-500	12 + 2,2		(1)
3489204	ENNE/EMME 4500 TL FS1 3/400/50 230/50	1163/2325-5000	100/200-430	116/233-500	12 + 2,2		(1)

(1) Star delta starter.
Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm^2/s (cSt).
Net calorific value G20 gas: 10 kWh/Nm^3; 8.600 $kcal/Nm^3$ - Density: 0,71 kg/Nm^3.
The burners of ENNE/EMME series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) EC Directive and EN 267-676 Norm.

Available models

Gas Trains

	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
			BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC GAS TRAIN	3970181	MBD 420	ENNE/EMME 1400	-	ENNE/EMME 1400	-	(1)
			ENNE/EMME 2000	3010128	ENNE/EMME 2000	3010128	
	3970182	MBD 420 CT	ENNE/EMME 1400	-	ENNE/EMME 1400	-	(2)
			ENNE/EMME 2000	3010128	ENNE/EMME 2000	3010128	
COMPOSED GAS TRAIN	3970221	MBC 1200 SE 50	ENNE/EMME 1400	-			(1)
			ENNE/EMME 2000	3010128	ENNE/EMME 2000	3010128	
			ENNE/EMME 3000	3010128	ENNE/EMME 3000	3010128	
			ENNE/EMME 4500	3010128	ENNE/EMME 4500	3010128	
	3970225	MBC 1200 SE 50 CT	ENNE/EMME 1400	-			(2)
			ENNE/EMME 2000	3010128	ENNE/EMME 2000	3010128	
			ENNE/EMME 3000	3010128	ENNE/EMME 3000	3010128	
			ENNE/EMME 4500	3010128	ENNE/EMME 4500	3010128	
	3970222	MBC 1900 SE 65 FC	ENNE/EMME 1400	3000825			(1)
			ENNE/EMME 2000	3000831			
			ENNE/EMME 3000	3000831			
			ENNE/EMME 4500	3000831			
	3970226	MBC 1900 SE 65 FC CT	ENNE/EMME 1400	-			(2)
			ENNE/EMME 2000	3000831			
			ENNE/EMME 3000	3000831			
			ENNE/EMME 4500	3000831			
	3970223	MBC 3100 SE 80 FC	ENNE/EMME 2000	3000832			(1)
			ENNE/EMME 3000	3000832			
			ENNE/EMME 4500	3000832			
	3970227	MBC 3100 SE 80 FC CT	ENNE/EMME 2000	3000832			(2)
			ENNE/EMME 3000	3000832			
			ENNE/EMME 4500	3000832			

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.
(1) Seal control accessory.
(2) Seal control incorporated.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Nozzles type B5-AA 45°

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 1 nozzle.

BURNER	RATED DELIVERY (kg/h)	NOZZLE CODE (1)	NOZZLE CODE (2)
▶ ENNE/EMME 1400	70	3009203	3045426
▶ ENNE/EMME 1400	80	3009205	3045427
▶ ENNE/EMME 1400	90	3009207	3045428
▶ ENNE/EMME 1400 - 2000	100	3009209	3045430
▶ ENNE/EMME 1400 - 2000	125	3009211	3045432
▶ ENNE/EMME 1400 - 2000 - 3000	150	3009213	3045434
▶ ENNE/EMME 2000 - 3000	175	3009215	3045436
▶ ENNE/EMME 2000 - 3000 - 4500	200	3009800	3045438
▶ ENNE/EMME 3000 - 4500	225	3009801	3045440
▶ ENNE/EMME 3000 - 4500	250	3009802	3045442
▶ ENNE/EMME 3000 - 4500	275	3009803	3045444
▶ ENNE/EMME 3000 - 4500	300	3009804	3045446
▶ ENNE/EMME 4500	325	3009805	3045448
▶ ENNE/EMME 4500	350	3009806	3045450
▶ ENNE/EMME 4500	375	3009807	3045452
▶ ENNE/EMME 4500	400	3009808	3045454
▶ ENNE/EMME 4500	425	3009809	3045455
▶ ENNE/EMME 4500	450	3009810	3045456

(1) Nozzles Bergonzo B5 45° - with "AA" needle code.
(2) Nozzles Fluidics W2 45° - with "AA" needle code.

Spacer kit

If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ ENNE/EMME 1400 - 2000	102	3000722
▶ ENNE/EMME 3000 - 4500	130	3000751

Sound proofing box

If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ ENNE/EMME 1400-2000-3000-4500	C7	10	3010376

(*) according to EN 15036-1 standard

Burner accessories

Accessories for modulating operation

To obtain modulating operation, the ENNE/EMME series of burners requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ ENNE/EMME 1400 - 2000 - 3000 - 4500	RWF 40	3010211

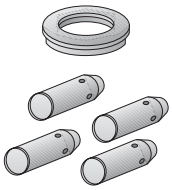
The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ ENNE/EMME 1400 - 2000 ENNE/EMME 3000 - 4500	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

BURNER	POTENTIOMETER KIT CODE
▶ ENNE/EMME 1400 - 2000 - 3000 - 4500	3010021

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ ENNE/EMME 1400 - 2000	3010063	3010063
▶ ENNE/EMME 3000	in progress	in progress
▶ ENNE/EMME 4500	3090937	3090937

Burner accessories

Self-cleaning filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a thermostatic heater for oil with 60°E viscosity at 50°C.

FILTER TYPE	FILTERING DEGREE (µm)	FILTER CODE
▶ Ø = 1”1/2 (60°E at 50°C)	300	3010022

HEATER / THERMOSTAT TYPE	HEATER / THERMOSTAT CODE
▶ Thermostatic heater with LED	3010060
▶ Heater	3010061
▶ Thermostat (two-stage / regulable)	3010062

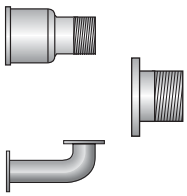
Degasing unit

In modulating burner, gas separator bottle connects the burner circuit to the main ring circuit. It allows to recover heat in excess by discharge of the gas from the return circuit.

BURNER	DEGASING UNIT CODE
▶ ENNE/EMME 1400 - 2000	3000748
▶ ENNE/EMME 3000 - 4500	3010012

Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ ENNE/EMME 1400	MBC 1900	DN 65 2" 1/2 2"	3000825
▶ ENNE/EMME 2000	MBD 420	DN 80 DN 65 2" 1/2 2"	3010128
	MBC 1200	DN 80 DN 65 2" 1/2 2"	3010128
	MBC 1900	DN 80 DN 65	3000831
	MBC 3100	DN 80 DN 80	3000832
▶ ENNE/EMME 3000	MBC 1200	DN 80 DN 65 2" 1/2 2"	3010128
	MBC 1900	DN 80 DN 65	3000831
	MBC 3100	DN 80 DN 80	3000832
▶ ENNE/EMME 4500	MBC 1200	DN 80 DN 65 2" 1/2 2"	3010128
	MBC 1900	DN 80 DN 65	3000831
	MBC 3100	DN 80 DN 80	3000832

Seal control kit

To test the valve seals on the gas train, a special “seal control kit” is available.

BURNER	GAS TRAIN	KIT CODE
▶ All models	All models	3010123

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

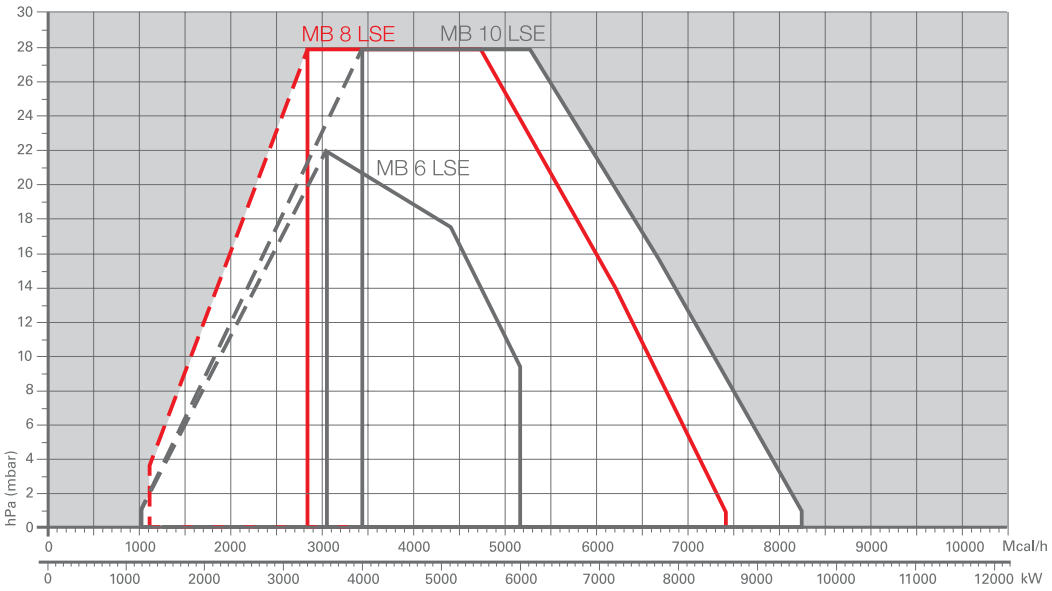
GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 ▶ MBC 3100 ▶ MBC 5000	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

MODUBLOC MB LSE SERIES

The MODUBLOC MB LSE series of burners are characterised by a monoblock structure that means all necessary components can be combined in a single unit, making installation easier and faster. The series covers a firing range from 3558 to 9580 kW, and they have been designed for use in hot water boilers or industrial steam generators.
Adjustment is modulating, through an innovative electronic module, which gives control of the air/fuel ratio and PID control of the generator temperature or pressure.
The mechanisms of regulation allow to catch up a high modulation ratio on all firing rates range.
The burner can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.
An exclusive design, with fan unit fitted on line with the combustion head, guarantees low sound emissions, reduced dimensions, easy use and maintenance.

MB 6 LSE	1186/3558	÷	6000 kW
MB 8 LSE	1300/3300	÷	8600 kW
MB 10 LSE	1185/4000	÷	9580 kW

FIRING RATES



Useful working field for choosing the burner

Modulation range

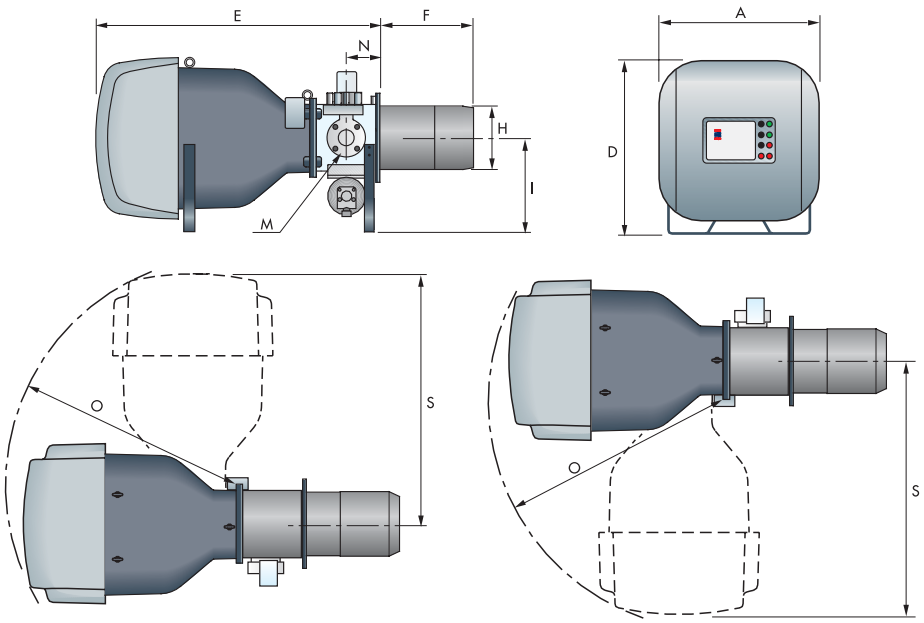
Test conditions conforming to EN267-EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

DUAL FUEL

Overall dimensions (mm)

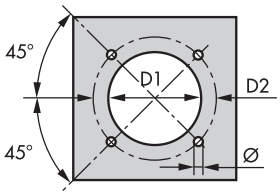
BURNER

MB 6-8-10 LSE



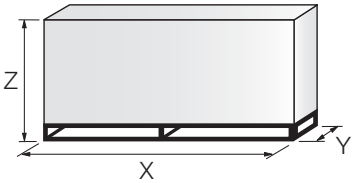
MODEL	A	D	E	F	H	I	M	N	O	S
▶ MB 6 LSE	840	910	1470	511	336	490	DN80	183	1205	1330
▶ MB 8 LSE	1007	1079	1900	545	413	575	DN80	208	1570	1740
▶ MB 10 LSE	1007	1079	1900	545	413	575	DN80	208	1570	1740

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ MB 6 LSE	350	496	M20
▶ MB 8 LSE	418	608	M20
▶ MB 10 LSE	418	608	M20

PACKAGING



MODEL	X	Y	Z	kg
▶ MB 6 LSE	2120	1005	1175	300
▶ MB 8 LSE	2700	1170	1350	450
▶ MB 10 LSE	2700	1170	1350	450

Specification

DESIGNATION OF SERIES

Series : MB		
Size		
Fuel :	S	Natural gas
	L	Light oil
	LS	Light oil / Natural gas
Operation :	E	Electronic cam
	V	Electronic cam and variable speed (with Inverter)
	P	Proportioning air/gas valve
Emission :	...	Class 1 EN267 - EN676
	MZ	Class 2 EN267 - EN676
	BLU	Class 3 EN267 - EN676
	MX	Class 2 EN267 Class 3 EN676
Head :	TC	Standard head
	TL	Extended head
Fuel supply :	FR	from the right
	FL	from the left
Flame control system :		
	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)
Electrical supply to the system :	3/400/50	3N/400V/50Hz
	3/230/50	3/230V/50Hz
Auxiliary voltage :	230/50-60	230V/50-60Hz
	110/50-60	110V/50-60Hz

MB	6	LS	E		TC	FR	FS1	3/400/50	230/50-60
BASIC DESIGNATION									
EXTENDED DESIGNATION									

Specification

STATE OF SUPPLY

Monoblock forced draught dual-fuel burner modulating operation, made up of:
- Fan with reverse curve blades
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor
- Pump starting motor
- Mobile combustion head, that can be set on the basis of required output
- Gears pump for high pressure fuel supply
- Valve unit
- Automatic setting for light oil and gas delivery, controlled by a high precision servomotor
- Safety oil pressure switch
- Pressure gauge for delivery pressure
- Pressure gauge for return pressure
- Minimum oil pressure switch
- Maximum gas pressure switch
- Module for air/fuel setting and output modulation
- Burner safety control box
- Photocell for flame detection
- Star/triangle starter for the fan motor
- Main electrical supply terminal board
- Pump motor starter
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan and pump motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP X0D (IP 40) protection level.

Standard equipment:
- 2 flexible pipes
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 1 flange gasket
- 8 screws for fixing the flange
- 4 screws for fixing the burner flange to the boiler
- 1 thermal screen
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT			TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
		(kW)	LIGHT OIL (kg/h)	NATURAL GAS (Nm^3/h)	(kW)		
3486100	MB6LSE TC FR FS1 3/400/50 230/50-60	1186/3558-6000	100/300-506	119/356-600	17	(1) - (2)	
3486105	MB6LSE TC FL FS1 3/400/50 230/50-60	1186/3558-6000	100/300-506	119/356-600	17	(1) - (2)	
3486200	MB8LSE TC FR FS1 3/400/50 230/50-60	1300/3300-8600	110/278-728	130/330-860	22	(3)	
3486210	MB8LSE TC FR FS2 3/400/50 230/50-60	1300/3300-8600	110/278-728	130/330-860	22	(3)	
3486205	MB8LSE TC FL FS1 3/400/50 230/50-60	1300/3300-8600	110/278-728	130/330-860	22	(3)	
3486215	MB8LSE TC FL FS2 3/400/50 230/50-60	1300/3300-8600	110/278-728	130/330-860	22	(3)	
3486300	MB10LSE TC FR FS1 3/400/50 230/50-60	1185/4000-9580	100/337-808	119/400-958	25	(4)	
3486310	MB10LSE TC FR FS2 3/400/50 230/50-60	1185/4000-9580	100/337-808	119/400-958	25	(4)	
3486305	MB10LSE TC FL FS1 3/400/50 230/50-60	1185/4000-9580	100/337-808	119/400-958	25	(4)	
3486315	MB10LSE TC FL FS2 3/400/50 230/50-60	1185/4000-9580	100/337-808	119/400-958	25	(4)	

Light oil net calorific value: 11,8 kWh/kg - 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm^2/s (cSt).
Natural gas net calorific value: 10 kWh/Nm^3 - 8.600 kcal/Nm^3 - Density: 0,71 kg/Nm^3.
The burners of MB LSE series are in according to 73/23 (2006/95) - 89/336 (2004/108) - 98/37 - 90/396 EC Directive and EN 267 - 676 Norm.
(1) CE 0085AU2360.
(2) DIN 5G933/99 M.
(3) CE 0085BO0170.
(4) CE 0085BO0163.

Gas Trains

COMPOSED GAS TRAIN

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970225	MBC 1200 SE 50 CT	MB 6 LSE MB 8 LSE MB 10 LSE	3000826 (“I”) type	MB 6 LSE MB 8 LSE MB 10 LSE	3010221 (“I”) type	(1)
3970226	MBC 1900 SE 65 FC CT	MB 6 LSE MB 8 LSE MB 10 LSE	3010221 (“I”) type 3010225 (“Z”) type	MB 6 LSE MB 8 LSE MB 10 LSE	3010221 (“I”) type 3010225 (“Z”) type	(1)
3970227	MBC 3100 SE 80 FC CT	MB 6 LSE MB 8 LSE MB 10 LSE	3010222 (“I”) type 3010226 (“Z”) type	MB 6 LSE MB 8 LSE MB 10 LSE	3010222 (“I”) type 3010226 (“Z”) type	(1)
3970228	MBC 5000 SE 100 FC CT	MB 6 LSE MB 8 LSE MB 10 LSE	3010223 (“I”) type 3010227 (“Z”) type	MB 6 LSE MB 8 LSE MB 10 LSE	3010223 (“I”) type 3010227 (“Z”) type	(1)

* gas trains are 230V/50Hz - 220V/60Hz electrical supply
(1) Seal control incorporated

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

DTI module (Data Transfer Interface)

This electronic module can transfer multiple signals from different local modules to a BMS supervisor software system (Building Management System).

BURNER	MODULE CODE
▶ MB 6 - 8 - 10 LSE	3010234

I/O digital module

Digital modules I/O transfer in-coming and out-going information from the system in general to a remote supervisor system.

BURNER	MODULE CODE
▶ MB 6 - 8 - 10 LSE	3010233

I/O analogic module

I/O Analog modules transfer in-coming and out-going information to a remote supervisor system.

BURNER	MODULE CODE
▶ MB 6 - 8 - 10 LSE	3010232

EGA module (Exhaust Gas Analyser)

Four different EGA modules are available to measure some of the exhaust gas substances and their temperature.

BURNER	ANALYSED GAS	MODULE CODE
▶ MB 6 - 8 - 10 LSE	CO, CO_2, O_2	3010235
▶ MB 6 - 8 - 10 LSE	CO, CO_2, O_2, NO	3010236
▶ MB 6 - 8 - 10 LSE	CO, CO_2, O_2, SO_2	3010237
▶ MB 6 - 8 - 10 LSE	CO, CO_2, O_2, NO, SO_2	3010238

Belden 9501 type leads

All the connections for the above modules must be done using a BELDEN 9501 type lead (available in coils of 50 m).

BURNER	LEAD CODE
▶ MB 6 - 8 - 10 LSE	3010239

Burner accessories

Accessories for modulating operation

Main management module allows a modulating operation with use of probes chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ MB 6 - 8 - 10 LSE	Temperature	0 ÷ 400°C	3010187
▶ MB 6 - 8 - 10 LSE	Pressure	0 ÷ 3 bar	3010246
▶ MB 6 - 8 - 10 LSE	Pressure	0 ÷ 18 bar	3010186
▶ MB 6 - 8 - 10 LSE	Pressure	0 ÷ 30 bar	3010188

Return nozzles

The following list shows the features and codes on the basis of the maximum required fuel output.

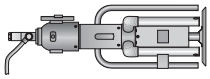
NOTE: each burner needs N° 1 nozzle.

BURNER	RATED DELIVERY (kg/h)	NOZZLE CODE (1)	NOZZLE CODE (2)	BURNER	RATED DELIVERY (kg/h)	NOZZLE CODE (1)	NOZZLE CODE (2)
	350	3009806	3045450		400	3009808	3045454
	375	3009807	3045452		425	3009809	3045455
	400	3009808	3045454		450	3009810	3045456
▶ MB 6 LSE	425	3009809	3045455		475	3009811	3045457
	450	3009810	3045456		500	3009812	3045458
	475	3009811	3045457		525	3009813	3045459
	500	3009812	3045458		550	3009814	3045460
	300	3009804	3045446	▶ MB 10 LSE	575	3009815	3045461
	325	3009805	3045448		600	3009816	3045462
	350	3009806	3045450		650	3009817	3045463
	375	3009807	3045452		700	3009818	3045464
	400	3009808	3045454		750	3009819	3045465
	425	3009809	3045455		800	3009820	-
	450	3009810	3045456		850	3009821	-
▶ MB 8 LSE	475	3009811	3045457		900	3009822	-
	500	3009812	3045458				
	525	3009813	3045459				
	550	3009814	3045460				
	575	3009815	3045461				
	600	3009816	3045462				
	650	3009817	3045463				
	700	3009818	3045464				

(1) Nozzles Bergonzo B5 45° - with "AA" needle code.
(2) Nozzles Fluidics W2 45° - with "AA" needle code.

Burner accessories

LPG kit



For burning LPG gas, a special kit is available.

BURNER	KIT CODE
▶ MB 6 LSE	3010190
▶ MB 8 - 10 LSE	3010296

Burner support

For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need for forklift trucks.

BURNER	SUPPORT CODE
▶ MB 6 - 8 - 10 LSE	3010385

Sound proofing box

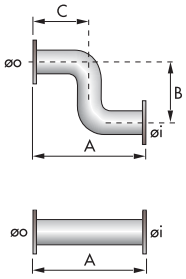
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ MB 6 - 8 - 10 LSE	10	3010401

(*) according to EN 15036-1 standard

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the adapters than can be fitted on the various burners:

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS Øi DN	Øo DN	A mm	B mm	C mm	ADAPTER CODE
	MBC 1200 SE 50 CT	I	2"(1)	80	--	--	--	3000826
	MBC 1900 SE 65 FC CT	I	65	80	320	--	--	3010221
	MBC 3100 SE 80 FC CT	I	80	80	320	--	--	3010222
▶ All models	MBC 5000 SE 100 FC CT	I	100	80	320	--	--	3010223
	MBC 1900 SE 65 FC CT	Z	65	80	400	480	225	3010225
	MBC 3100 SE 80 FC CT	Z	80	80	400	480	225	3010226
	MBC 5000 SE 100 FC CT	Z	100	80	400	480	225	3010227

(1) Unless flange

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available.

BURNER	GAS TRAIN	KIT CODE
▶ All models	All models	3010123

Stabiliser spring

To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 ▶ MBC 3100 ▶ MBC 5000	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

Industrial combustion system data sheets section

INDUSTRIAL BURNERS pag 601

SYSTEM COMPONENTS pag 623

HEATING PUMPING UNITS pag 623

PRESSURE REGULATING / REDUCING UNITS
SAFETY / REGULATING GAS TRAINS
SAFETY / REGULATING PROPORTIONAL GAS TRAINS pag 631

CENTRIFUGAL AIR FANS pag 643

BURNER CONTROL PANELS pag 657

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RIELLO
BURNERS

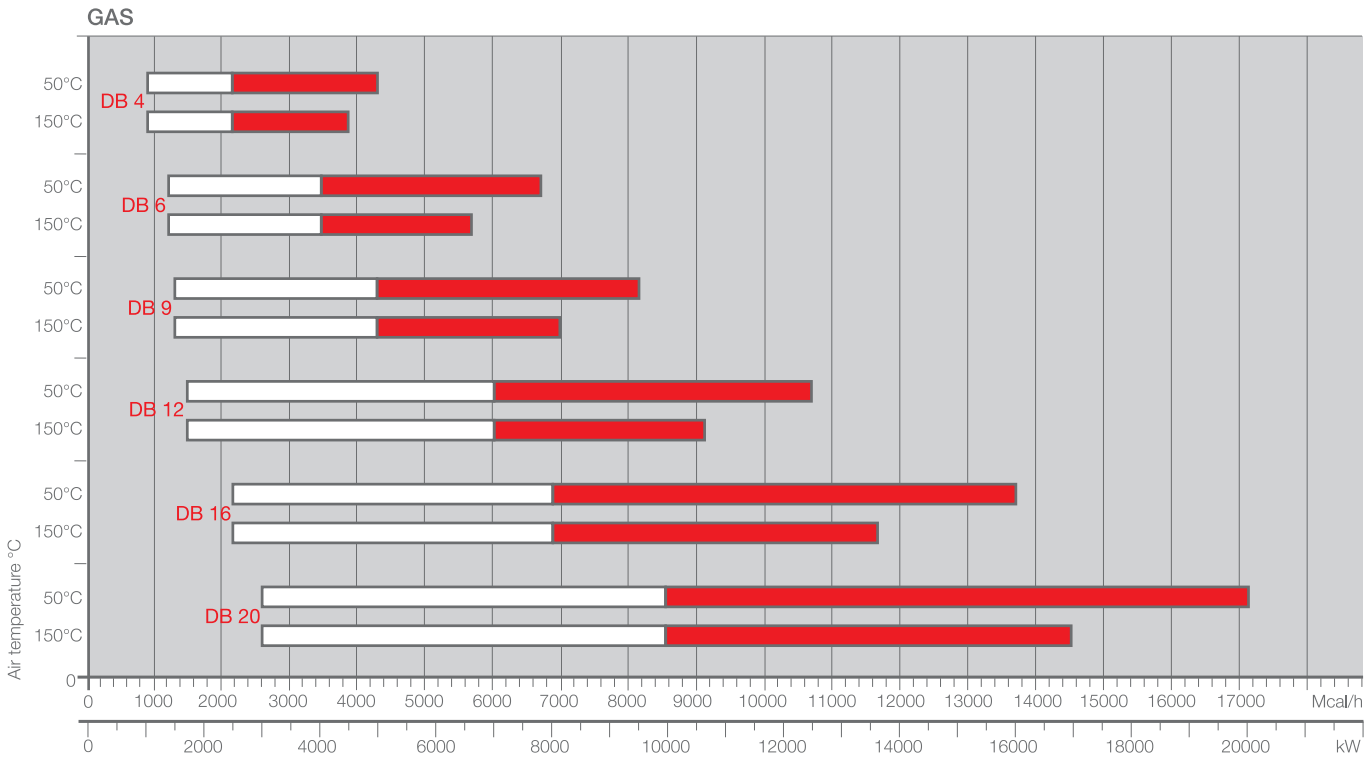
DB SERIES

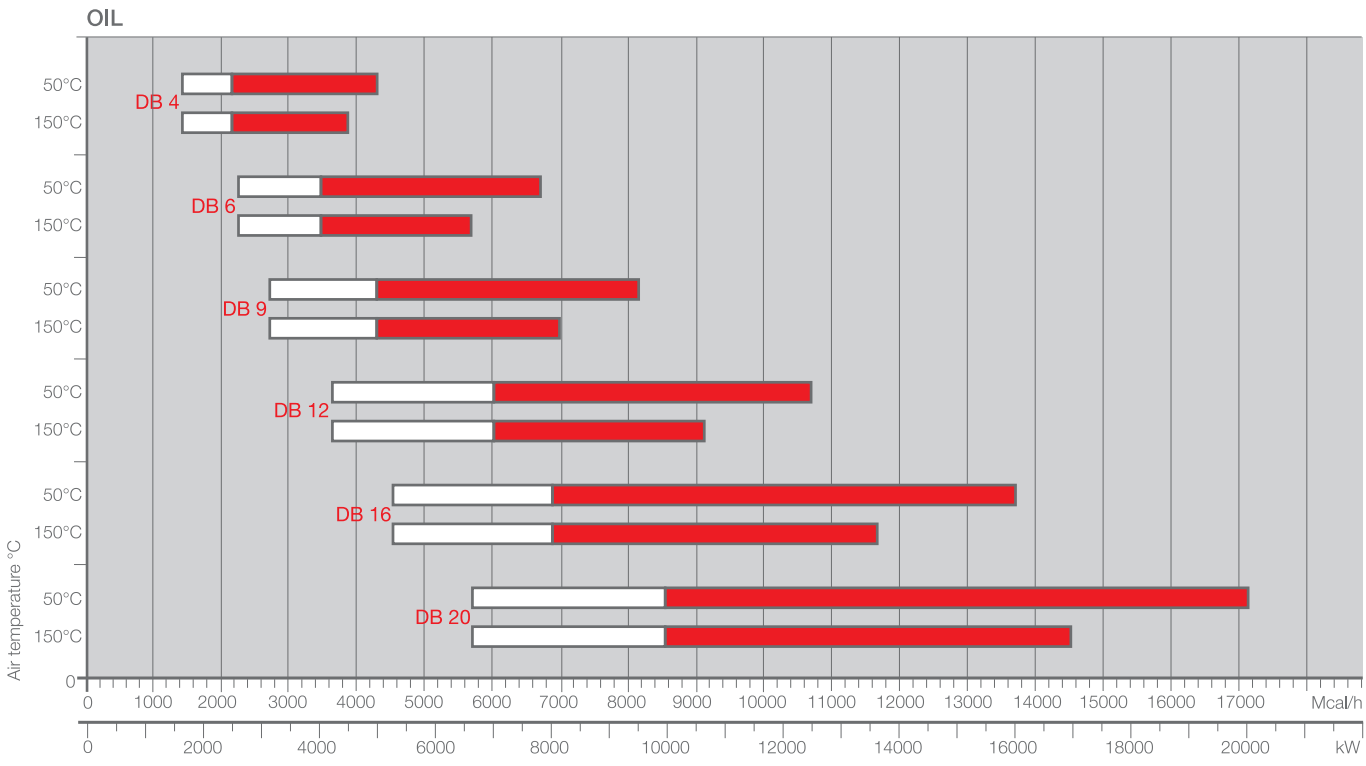
The new DB burners platform represents the evolution in Riello Burners industrial product range.
They are dual block burners for application in big plants (district heating, hospitals) as well as in food, chemicals, textile industry for matching with hot water boilers, steam and thermal oil generators.
DB series burners can be supplied with electronic or mechanical air-fuel ratio control according to customer specification.
DB 9-12-16-20 are equipped with pilot ignition, while for DB 4-6 models it can be supplied on demand. DB series can work with pre-heated air up to 150°C as standard, up to 250°C with special construction. New variable geometry combustion head allows to reach < 80 mg/kWh NOx emission on natural gas operations.
An hinge system for easier combustion head maintenance is available on all models.
As part of the offer, various accessories (air fan, control panels, high pressure gas train, etc) are available.

DB 4	1000/2500	÷	5000	kW
DB 6	1400/4000	÷	7800	kW
DB 9	1500/5000	÷	9500	kW
DB 12	1700/7000	÷	12500	kW
DB 16	2500/8000	÷	16000	kW
DB 20	3000/10000	÷	20000	kW

DB SERIES

FIRING RATES





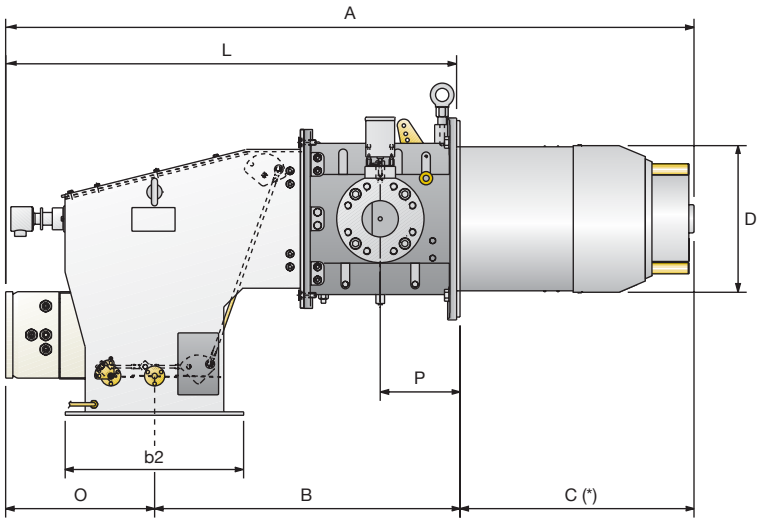
Modulation range Working field

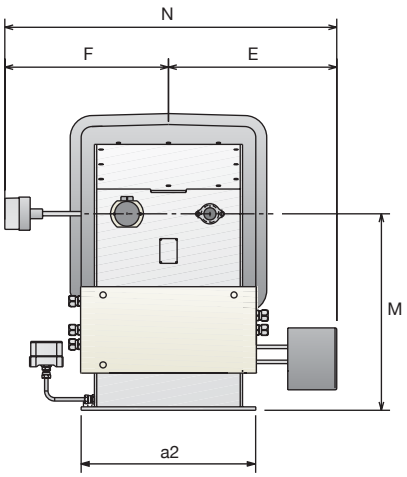
Test conditions conforming to EN 267- EN676
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

Overall dimensions (mm)

All dimensions are approximate and mentioned just as an indication. Please refer to Riello Burners Technical Department for further detailed information.

BURNER



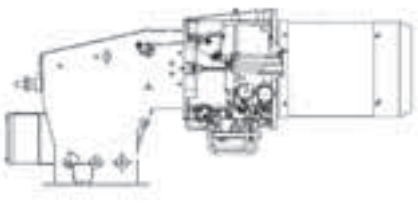


MODEL	A	B	C	D	E	F	L (L*)	M	N	O	P
▶ DB 4	1577	700	536	313	385	375	1033 (1217)	450	760	341	183
▶ DB 6	1577	700	536	363	385	375	1033 (1217)	450	760	341	183
▶ DB 9	1857	851	662	413	420	333	1195 (1539)	550	753	344	208
▶ DB 12	1857	851	662	456	420	333	1195 (1539)	550	753	344	208
▶ DB 16	2080	852	797	544	486	448	1283 (1600)	761	934	431	258
▶ DB 20	2080	852	797	590	486	448	1283 (1600)	761	934	431	258

L = gas version
L* = oil and dual fuel versions
a2 - b2 = see “Burner-boiler mounting flange” dimensions table
(*) Instructions about how to realize the fettling are reported in the manual of the burner in the chapter “Fixing to the boiler”.

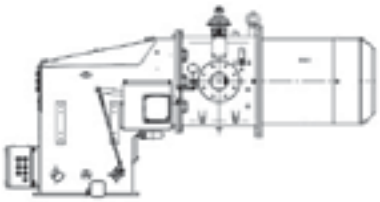
GAS CONNECTIONS

DB 4: DN 65
DB 6: DN 80



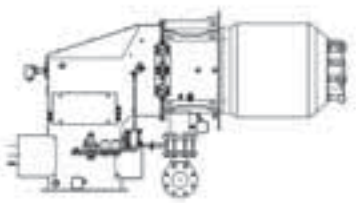
DN 65 gas connection from below
Elbow adapter DN 65 required
DN 80 gas connection from below (for gas versions). Elbow adapter DN 80 required.

DB 9 - 12



DN 80 gas connection from the side
Straight adapter DN 80 required.

DB 16 - 20

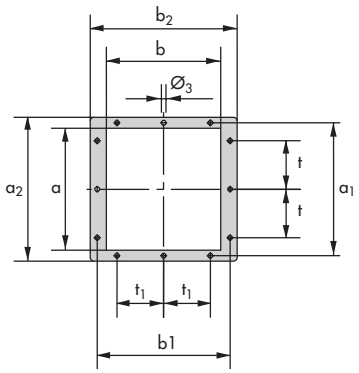


DN 100 gas connection from the side
Elbow 100/100 adapter already included as standard equipment

Overall dimensions (mm)

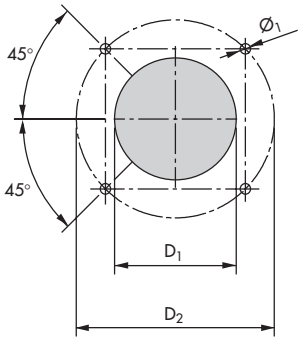
BURNER - BOILER MOUNTING FLANGE

AIR DUCT CONNECTION

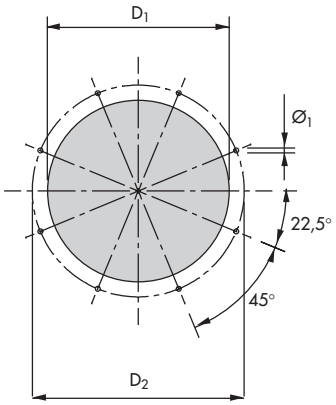


FIXING TO THE BOILER

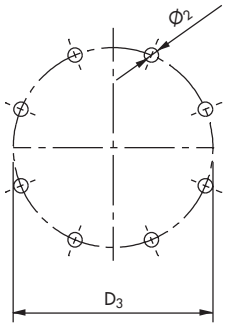
DB 4 - 6 - 9 - 12



DB 16 - 20



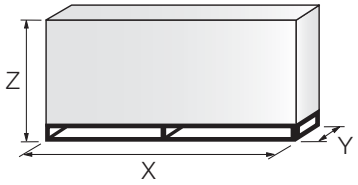
GAS SUPPLY



MODEL	a	a_1	a_2	b	b_1	b_2	D_1	D_2	D_3	t	t_1	$Ø_1$	$Ø_2$	$Ø_3$
▶ DB 4	329	370	400	308	370	409	350	452	145 - DN 65	130	130	M18	4x45°M16	13
▶ DB 6	329	370	400	308	370	409	380	495	160 - DN80	130	130	M18	M16	13
▶ DB 9	436	476	506	400	440	470	420	608	160 - DN 80	200	180	M20	M18	11
▶ DB 12	436	476	506	400	440	470	465	608	160 - DN 80	200	180	M20	18	11
▶ DB 16	562	620	652	452	510	542	560	700	180 - DN 100	260	205	M16	18	11
▶ DB 20	562	620	652	452	510	542	600	700	160 - DN 100	260	205	M16	18	11

PACKAGING

Overall dimensions and weights to estimate the delivery.



MODEL	X	Y	Z	kg
▶ DB 4	2100	1000	1200	200
▶ DB 6	2100	1000	1200	200
▶ DB 9	2100	1000	1200	250
▶ DB 12	2100	1000	1200	250
▶ DB 16	2200	1000	1300	300
▶ DB 20	2200	1000	1300	300

Specification

DESIGNATION OF SERIES

Series: DB

Size: 4 - 6 - 9 - 12 - 16 - 20

Fuel:
- S = natural gas
- L = light oil
- N = heavy oil
- NA = heavy oil assisted atomizing
- P = LPG
- NS = heavy oil/natural gas
- NAS = heavy oil assisted atomizing/natural gas
- LS = light oil/natural gas
- LP = light oil/LPG
- NAP = heavy oil assisted atomizing/LPG

Operation:
- M = mechanical cam
- E = electronic cam
- EV = electronic cam predisposed for variable speed

Emissions*:
- C11 = class 1 oil - class 1 gas
- C23 = class 2 oil - class 3 gas
- C03 = No oil - class 3 gas
- C01 = No oil - class 1 gas
- C10 = class 1 oil - No gas
- C20 = class 2 oil - No gas

Head length:
- TC = standard head
- TL = extended head

Flame safeguard:
- FS1 = standard checking (1 stop/24 h)
- FS2 = continuous self checking

Fuel supply:
- FR = from right
- FL = from left

Air supply:
- A0 = from the bottom
- A180 = from the top

Air max temperature:
- T50 = 50°C
- T150 = 150°C
- T250 = 250°C

Auxiliary voltage:
- 230V/50-60Hz
- 110V/50-60Hz

DB	4	S	E	C03	TC	FS1	FR	A0	T50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

* Estimated, emissions values, considering a hot water boiler with thermal load of 1,1 MW/m³
Guaranteed values to be confirmed after the verification of the combustion chamber charachteristics

Specification

DB SERIES - STATE OF SUPPLY

All burners
Dual block forced draught burner, two stages progressive or modulating operation (with a kit), separate supply, fully automatic, made up of:
- Air damper for air setting with variable profile cam controlled by a servomotor (version /M – mechanical cam)
- Air damper for air setting with air servomotor managed by microprocessor (version /E – electronic cam)
- Variable geometry combustion head that can be set according the required output
- Combustion head servomotor managed by microprocessor (version /E – electronic cam DB16-20 only)
- Pilot burner with two gas valves and pressure regulator (as standard on DB9-12-16-20 only)
- Minimum air pressure switch
- Flame inspection window
- Electrical interface box with ignition transformer inside
- Opening hinge to have easier combustion head inspection and maintenance
- IP54 protection level.

Oil Burner
- Phototcell for flame detection
- Nozzle pipe
- Safety nozzle valve
- Oil lance without nozzle (nozzle must be ordered separately)
- Valves group with safety oil valves
- Oil capacity regulator controlled by air servomotor linkage (version /M – mechanical cam)
- Oil capacity regulator with servomotor managed by microprocessor (version /E – electronic cam)
- Maximum oil pressure switch on the return circuit
- Pressure gauge on delivery and return circuit.

Standard equipment:
- screws for fixing the burner flange to the boiler
- thermal screen
- instruction handbook for installation, use and maintenance
- spare parts catalogue.

Gas Burner
- Photocell for flame detection
- Maximum gas pressure switch
- Butterfly gas valve controlled by air servomotor linkage (version /M – mechanical cam)
- Butterfly gas valve with servomotor managed by microprocessor (version /E – electronic cam)
- Gas pressure test point to the combustion head.

Standard equipment:
- screws for fixing the burner flange to the boiler
- thermal screen
- screws for fixing the gas train flange to the burner
- gas train gasket
- high voltage burner ignition for DB 4÷6
- pilot burner ignition for DB 9÷20 (for DB 4÷6 on demand)
- instruction handbook for installation, use and maintenance
- spare parts catalogue.

Specification

DB SERIES - STATE OF SUPPLY

Dual fuel Burner (Oil/Gas)
- Phototcell for flame detection
- Nozzle pipe
- Safety nozzle valve
- Oil lance without nozzle (nozzle must be ordered separately)
- Valves group with safety oil valves
- Oil capacity regulator controlled by air servomotor linkage (version /M – mechanical cam)
- Oil capacity regulator with servomotor managed by microprocessor (version /E – electronic cam)
- Maximum oil pressure switch on the return circuit
- Pressure gauge on delivery and return circuit
- Maximum gas pressure switch
- Butterfly gas valve controlled by air servomotor linkage (version /M – mechanical cam)
- Gas/oil servomotor managed by microprocessor (version /E – electronic cam) for butterfly gas valve / oil capacity regulator control
- Gas pressure test point to the combustion head.

Standard equipment:
- screws for fixing the burner flange to the boiler
- thermal screen
- screws for fixing the gas train flange to the burner
- gas train gasket
- high voltage burner ignition for DB 4÷6
- pilot burner ignition for DB 9÷20 (for DB 4÷6 on demand)
- instruction handbook for installation, use and maintenance
- spare parts catalogue.

Models available

Burners

	MODEL **	FUEL	HEAT OUTPUT *		
			(kW)	OIL (kg/h)	GAS (Nm^3/h)
LOW NOX MODELS	DB 4 SE TC A 0 FS1 230/50-60 Hz	Natural gas	1000/2500-5000	-	500
	DB 4 SE TC A 180 FS1 230/50-60 Hz	Natural gas		-	500
	DB 6 SE TC A 0 FS1 230/50-60 Hz	Natural gas	1400/4000-7800	-	780
	DB 6 SE TC A 180 FS1 230/50-60 Hz	Natural gas		-	780
	DB 9 SE TC A 0 FS1 230/50-60 Hz	Natural gas	1500/5000-9500	-	950
	DB 9 SE TC A 180 FS1 230/50-60 Hz	Natural gas		-	950
	DB 12 SE TC A 0 FS1 230/50-60 Hz	Natural gas	1700/7000-12500	-	1250
	DB 12 SE TC A 180 FS1 230/50-60 Hz	Natural gas		-	1250
	DB 16 SE TC A 0 FS1 230/50-60 Hz	Natural gas	2500/8000-16000	-	1600
	DB 16 SE TC A 180 FS1 230/50-60 Hz	Natural gas		-	1600
	DB 20 SE TC A 0 FS1 230/50-60 Hz	Natural gas	3000/10000-20000	-	2000
	DB 20 SE TC A 180 FS1 230/50-60 Hz	Natural gas		-	2000
OTHER MODELS AVAILABLE	DB 4 SM TC A 0 FS1 230/50-60 Hz	Natural gas	1000/2500-5000	-	500
	DB 4 SM TC A 180 FS1 230/50-60 Hz	Natural gas		-	500
	DB 4 LE TC A 0 FS1 230/50-60 Hz	Light oil		422	-
	DB 4 LE TC A 180 FS1 230/50-60 Hz	Light oil		422	-
	DB 4 LSE TC A 0 FS1 230/50-60 Hz	Light oil / Natural gas		422	500
	DB 4 LSE TC A 180 FS1 230/50-60 Hz	Light oil / Natural gas		422	500
	DB 4 LSM TC A 0 FS1 230/50-60 Hz	Light oil / Natural gas		422	500
	DB 4 LSM TC A 180 FS1 230/50-60 Hz	Light oil / Natural gas		422	500
	DB 4 NM TC A 0 FS1 230/50-60 Hz	Heavy oil		450	-
	DB 4 NM TC A 180 FS1 230/50-60 Hz	Heavy oil		450	-
	DB 4 NSM TC A 0 FS1 230/50-60 Hz	Heavy oil / Natural gas		450	500
	DB 4 NSM TC A 180 FS1 230/50-60 Hz	Heavy oil / Natural gas		450	500
	DB 6 SM TC A 0 FS1 230/50-60 Hz	Natural gas	1400/4000-7800	-	780
	DB 6 SM TC A 180 FS1 230/50-60 Hz	Natural gas		-	780
	DB 6 LE TC A 0 FS1 230/50-60 Hz	Light oil		658	-
	DB 6 LE TC A 180 FS1 230/50-60 Hz	Light oil		658	-
	DB 6 LSE TC A 0 FS1 230/50-60 Hz	Light oil / Natural gas		658	780
	DB 6 LSE TC A 180 FS1 230/50-60 Hz	Light oil / Natural gas		658	780
	DB 6 LSM TC A 0 FS1 230/50-60 Hz	Light oil / Natural gas		658	780
	DB 6 LSM TC A 180 FS1 230/50-60 Hz	Light oil / Natural gas		658	780
	DB 6 NM TC A 0 FS1 230/50-60 Hz	Heavy oil		703	-
	DB 6 NM TC A 180 FS1 230/50-60 Hz	Heavy oil		703	-
	DB 6 NSM TC A 0 FS1 230/50-60 Hz	Heavy oil / Natural gas		703	780
	DB 6 NSM TC A 180 FS1 230/50-60 Hz	Heavy oil / Natural gas		703	780
	DB 9 SM TC A 0 FS1 230/50-60 Hz	Natural gas	1500/5000-9500	-	950
	DB 9 SM TC A 180 FS1 230/50-60 Hz	Natural gas		-	950
	DB 9 LE TC A 0 FS1 230/50-60 Hz	Light oil		801	-
	DB 9 LE TC A 180 FS1 230/50-60 Hz	Light oil		801	-
	DB 9 LSE TC A 0 FS1 230/50-60 Hz	Light oil / Natural gas		801	950
	DB 9 LSE TC A 180 FS1 230/50-60 Hz	Light oil / Natural gas		801	950
	DB 9 LSM TC A 0 FS1 230/50-60 Hz	Light oil / Natural gas		801	950

* Max capacity is referred to:
Light oil net calorific value 11,8 kWh/kh - 10200 kcal/kg - Viscosity at 20°C 4-6 mm^2/s (cSt)
Heavy oil net calorific value 11,1-11,3 kWh/kg - 9545-9720 kcal/kg - Viscosity at 20°C 500 mm^2/s (cSt)
G20 net calorific value 10 kWh/Nm^3 - Density 0,71 kg/Nm^3
G25 net calorific value 8,6 kWh/Nm^3 - Density 0,78 kg/Nm^3
LPG net calorific value 25,8 kWh/Nm^3 - Density 2,02 kg/Nm^3

** FS1 operation as standard. FS2 on demand.

Models available

Burners

OTHER MODELS AVAILABLE

MODEL **						FUEL	HEAT OUTPUT *		
							(kW)	OIL (kg/h)	GAS (Nm^3/h)
DB 9	LSM	TC	A 180	FS1	230/50-60 Hz	Light oil / Natural gas	1500/5000-9500	801	950
DB 9	NM	TC	A 0	FS1	230/50-60 Hz	Heavy oil		856	-
DB 9	NM	TC	A 180	FS1	230/50-60 Hz	Heavy oil		856	-
DB 9	NSM	TC	A 0	FS1	230/50-60 Hz	Heavy oil / Natural gas		856	950
DB 9	NSM	TC	A 180	FS1	230/50-60 Hz	Heavy oil / Natural gas		856	950
DB 12	SM	TC	A 0	FS1	230/50-60 Hz	Natural gas	1700/7000-12500	-	1250
DB 12	SM	TC	A 180	FS1	230/50-60 Hz	Natural gas		-	1250
DB 12	LE	TC	A 0	FS1	230/50-60 Hz	Light oil		1054	-
DB 12	LE	TC	A 180	FS1	230/50-60 Hz	Light oil		1054	-
DB 12	LSE	TC	A 0	FS1	230/50-60 Hz	Light oil / Natural gas		1054	1250
DB 12	LSE	TC	A 180	FS1	230/50-60 Hz	Light oil / Natural gas		1054	1250
DB 12	LSM	TC	A 0	FS1	230/50-60 Hz	Light oil / Natural gas		1054	1250
DB 12	LSM	TC	A 180	FS1	230/50-60 Hz	Light oil / Natural gas		1054	1250
DB 12	NM	TC	A 0	FS1	230/50-60 Hz	Heavy oil		1126	-
DB 12	NM	TC	A 180	FS1	230/50-60 Hz	Heavy oil		1126	-
DB 12	NSM	TC	A 0	FS1	230/50-60 Hz	Heavy oil / Natural gas		1126	1250
DB 12	NSM	TC	A 180	FS1	230/50-60 Hz	Heavy oil / Natural gas		1126	1250
DB 16	SM	TC	A 0	FS1	230/50-60 Hz	Natural gas	2500/8000-16000	-	1600
DB 16	SM	TC	A 180	FS1	230/50-60 Hz	Natural gas		-	1600
DB 16	LE	TC	A 0	FS1	230/50-60 Hz	Light oil		1349	-
DB 16	LE	TC	A 180	FS1	230/50-60 Hz	Light oil		1349	-
DB 16	LSE	TC	A 0	FS1	230/50-60 Hz	Light oil / Natural gas		1349	1600
DB 16	LSE	TC	A 180	FS1	230/50-60 Hz	Light oil / Natural gas		1349	1600
DB 16	LSM	TC	A 0	FS1	230/50-60 Hz	Light oil / Natural gas		1349	1600
DB 16	LSM	TC	A 180	FS1	230/50-60 Hz	Light oil / Natural gas		1349	1600
DB 16	NM	TC	A 0	FS1	230/50-60 Hz	Heavy oil		1441	-
DB 16	NM	TC	A 180	FS1	230/50-60 Hz	Heavy oil		1441	-
DB 16	NSM	TC	A 0	FS1	230/50-60 Hz	Heavy oil / Natural gas		1441	1600
DB 16	NSM	TC	A 180	FS1	230/50-60 Hz	Heavy oil / Natural gas		1441	1600
DB 20	SM	TC	A 0	FS1	230/50-60 Hz	Natural gas	3000/10000-20000	-	2000
DB 20	SM	TC	A 180	FS1	230/50-60 Hz	Natural gas		-	2000
DB 20	LE	TC	A 0	FS1	230/50-60 Hz	Light oil		1686	-
DB 20	LE	TC	A 180	FS1	230/50-60 Hz	Light oil		1686	-
DB 20	LSE	TC	A 0	FS1	230/50-60 Hz	Light oil / Natural gas		1686	2000
DB 20	LSE	TC	A 180	FS1	230/50-60 Hz	Light oil / Natural gas		1686	2000
DB 20	LSM	TC	A 0	FS1	230/50-60 Hz	Light oil / Natural gas		1686	2000
DB 20	LSM	TC	A 180	FS1	230/50-60 Hz	Light oil / Natural gas		1686	2000
DB 20	NM	TC	A 0	FS1	230/50-60 Hz	Heavy oil		1802	-
DB 20	NM	TC	A 180	FS1	230/50-60 Hz	Heavy oil		1802	-
DB 20	NSM	TC	A 0	FS1	230/50-60 Hz	Heavy oil / Natural gas		1802	2000
DB 20	NSM	TC	A 180	FS1	230/50-60 Hz	Heavy oil / Natural gas		1802	2000

* Max capacity is referred to:
Light oil net calorific value 11,8 kWh/kh - 10200 kcal/kg - Viscosity at 20°C 4-6 mm^2/s (cSt)
Heavy oil net calorific value 11,1-11,3 kWh/kg - 9545-9720 kcal/kg - Viscosity at 20°C 500 mm^2/s (cSt)
G20 net calorific value 10 kWh/Nm^3 - Density 0,71 kg/Nm^3
G25 net calorific value 8,6 kWh/Nm^3 - Density 0,78 kg/Nm^3
LPG net calorific value 25,8 kWh/Nm^3 - Density 2,02 kg/Nm^3
** FS1 operation as standard. FS2 on demand.

Other versions are available on request.

Burner accessories

Nozzles for DB 4 - 6 - 9 - 12 - 16 - 20

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output. One nozzle required for each burner, able to guarantee the calculated oil delivery.

BURNER	ton/h*	RATED DELIVERY kg/h	NOZZLES TYPE W2 - 45° CODE	RATED DELIVERY kg/h	NOZZLES TYPE B5 - 45° - AA CODE	RATED DELIVERY kg/h	NOZZLES TYPE CT5 - 45° CODE
	3	200	3045438	200	3009800		
		225	3045440	225	3009801		
		250	3045442	250	3009802		
	4	275	3045444	275	3009803		
		300	3045446	300	3009804		
▶ DB 4 - 6 - 9		325	3045448	325	3009805		
	5	350	3045450	350	3009806		
		375	3045452	375	3009807		
	6	400	3045454	400	3009808		
		425	3045455	425	3009809		
		450	3045456	450	3009810		
		475	3045457	475	3009811		
		500	3045458	500	3009812		
		525	3045459	525	3009813		
	8	550	3045460	550	3009814		
▶ DB 6 - 9 - 12		575	3045461	575	3009815		
		600	3045462	600	3009816		
		650	3045463	650	3009817		
	10	700	3045464	700	3009818	700	20006462
		750	3045465	750	3009819		
▶ DB 9 - 12 - 16				800	3009820	800	20006465
	12			850	3009821		
						900	20006468
▶ DB 12 - 16 - 20	15					1000	20006469
	16					1100	20006470
						1200	20006471
	18					1300	20006472
▶ DB 16 - 20	20					1400	20006473
						1500	20006474
	22					1600	20006475
▶ DB 20						1700	20006476
	25					1800	20006477

Nozzles:
W2 maximum modulating ratio 1:4 (interchangeable with B5)
B5 maximum modulating ratio 1:5 (interchangeable with W2)
CT5 maximum modulating ratio 1:5 bigger shape

*steam boiler size according to:
N.C.V. heavy oil = 11,16 kWh/kg
combustion air = 50°C
1 ton/h = 775 kW (eff = 90%)

For steam/air assisted atomizing, special nozzles available on demand.

Burner accessories

High pressure flexible tubes

In order to facilitate the connection of the burner to the fuel line adduction there are flexible tubes available according to the following table.

BURNER	TUBE DIAMETER	TUBE LENGTH (mm)	MAXIMUM WORKING PRESSURE (bar)	TUBE CODE
▶ DB 4 - 6	1/2”	1500	40	3094227
▶ DB 9 - 12 - 16 - 20	3/4”	2000	40	3094226

High pressure oil filter

In order to protect the hydraulic circuit of the burner from the possible presence of particles in the combustion line, these following filters are available.

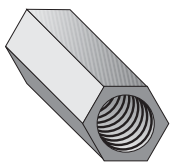
BURNER	FILTER DIAMETER	FILTERING DEGREE (µm)	FILTER CODE
▶ DB 4 - 6	1/2”	500	3091881
▶ DB 9 - 12 - 16 - 20	3/4”	500	in progress

Circulation group (by-pass valve)

If the burner is far away from the pumping group it is possible to install a circulation group that allows the circulates of the heated fuel during the stand-by phase.

BURNER	GROUP DIAMETER	GROUP CODE
▶ DB 4 - 6	1/2”	in progress
▶ DB 9 - 12 - 16 - 20	3/4”	in progress

Check valve



In order to avoid fuel return, that could damage the hydraulic circuit, “check valve” are available.

BURNER	VALVE DIAMETER	VALVE CODE
▶ DB 4 - 6	1/2”	in progress
▶ DB 9 - 12 - 16 - 20	3/4”	3012660

Potentiometer kit

Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor. The KITS available for the various burners are listed below.

BURNER	POTENTIOMETER KIT CODE
▶ DB 4 - 6 - 9 - 12 - 16 - 20	3010021

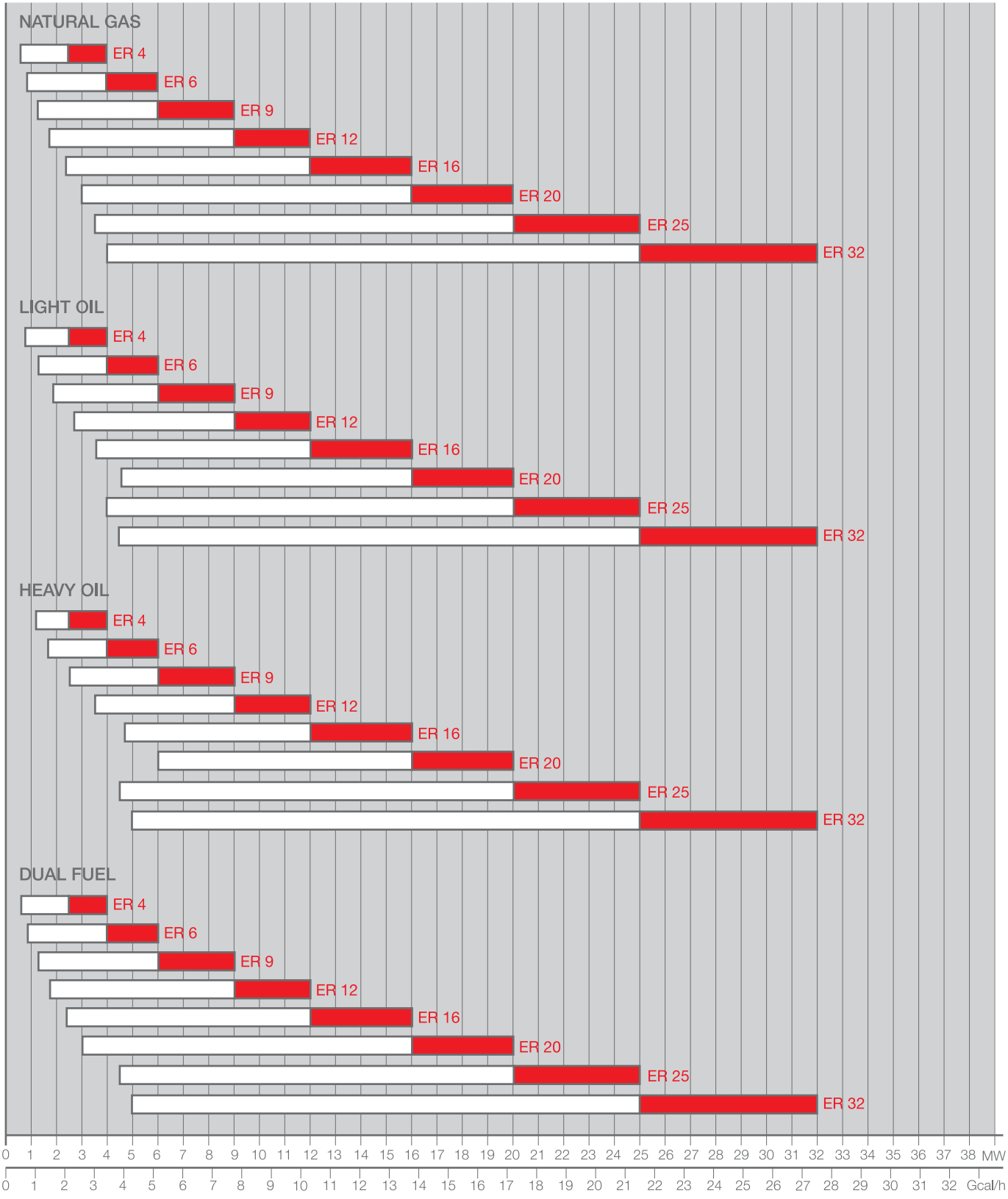
ER SERIES

The industrial burners ER series are designed especially for water tube boilers used in big civil installations and industrial processes with a remarkable thermal demand.
These burners allow to realise a modular and flexible combustion system adding a preparation fuel unit (regulation pressure group set, preheating/pumping oil station), a gas train, a control panel and a fan.
Preheated air can also be used as in the oil diathermic generators and other heat recovery systems.
The modulating regulation always allows to reach a wide modulation ratio and optimal fluid-dynamics conditions for a good combustion.

ER 4	540/2500	÷	4000	kW
ER 6	840/4000	÷	6000	kW
ER 9	1250/6000	÷	9000	kW
ER 12	1750/9000	÷	12000	kW
ER 16	2350/12000	÷	16000	kW
ER 20	3000/16000	÷	20000	kW
ER 25	3500/20000	÷	25000	kW
ER 32	4000/25000	÷	32000	kW

ER SERIES

FIRING RATES



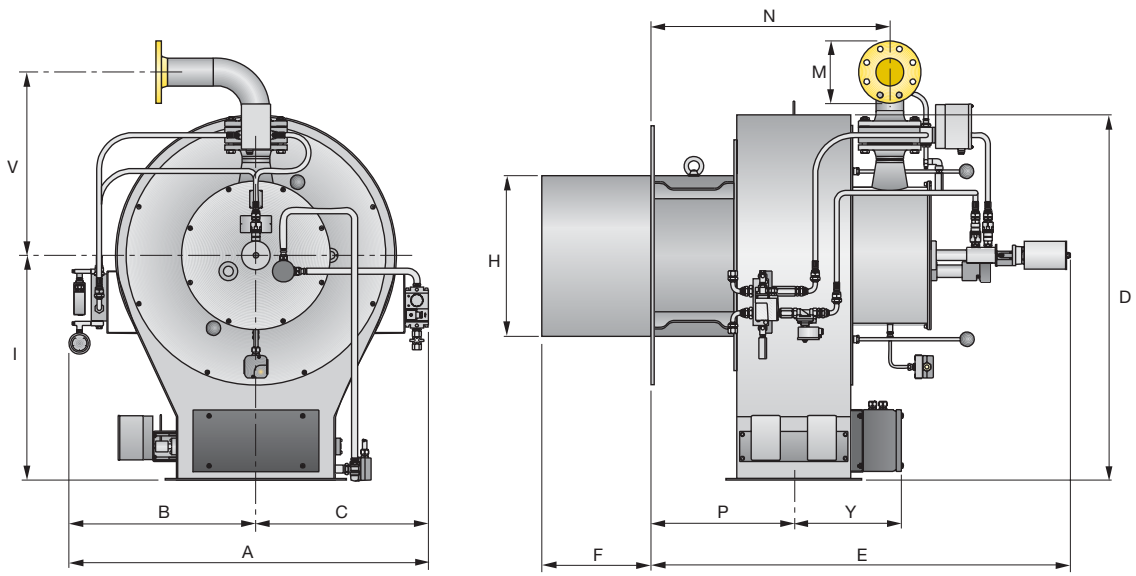
Test conditions conforming to EN 267 - EN 676:
Temperature: 20°C - Pressure: 1013,5 mbar - Altitude: 0 m a.s.l.

Modulation range / Working field

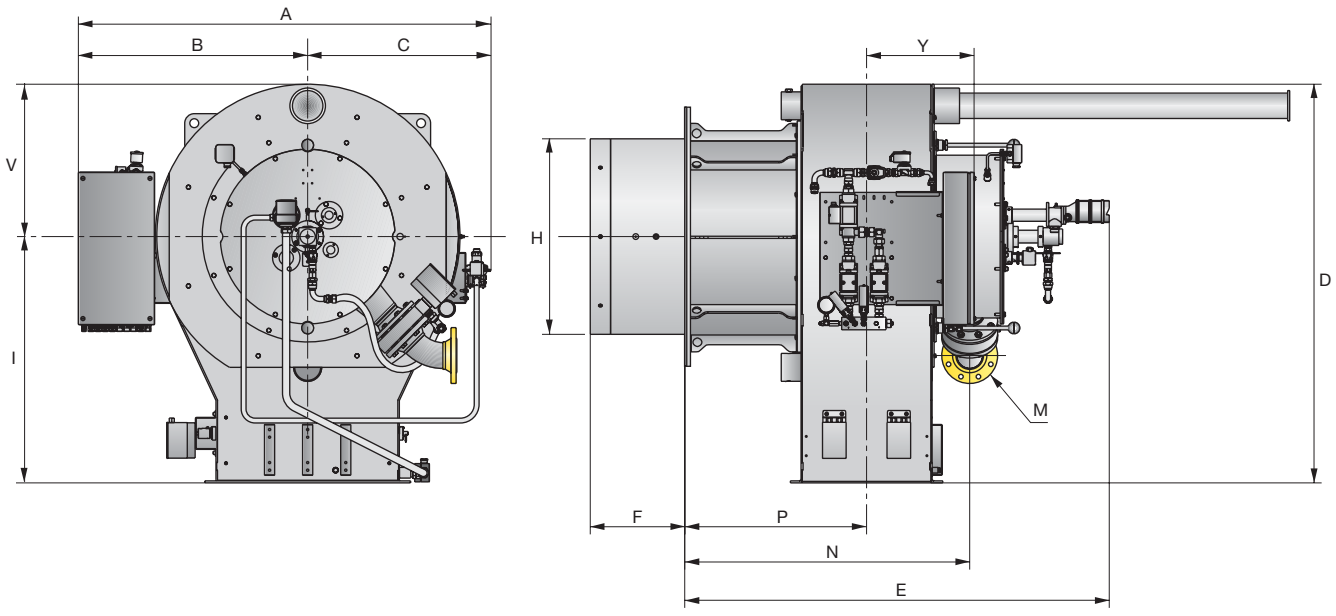
Overall dimensions (mm)

BURNER

ER 4 - 6 - 9 - 12



ER 16 - 20 - 25 - 32

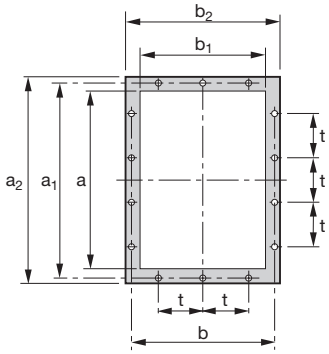


MODEL	A	B	C	D	E	F	H	I	M	N	P	Y	V
▶ ER 4	855	455	400	835	1160	330	370	530	DN65	605	380	307	542
▶ ER 6	855	455	400	835	1160	330	430	530	DN65	605	380	307	542
▶ ER 9	1150	600	550	1170	1345	350	520	720	DN80	765	457	345	588
▶ ER 12	1150	600	550	1170	1345	350	600	720	DN80	765	457	345	588
▶ ER 16	1623	903	720	1570	1670	372	690	970	DN100	1122	716	423	600
▶ ER 20	1623	903	720	1570	1670	372	770	970	DN100	1122	716	423	600
▶ ER 25	1835	1007	828	1758	1952	472	870	1050	DN125	1294	794	487	708
▶ ER 32	1835	1007	828	1758	1952	472	980	1050	DN125	1294	794	487	708

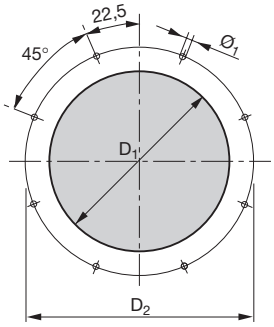
Overall dimensions (mm)

BURNER - BOILER MOUNTING FLANGE

AIR DUCT CONNECTION

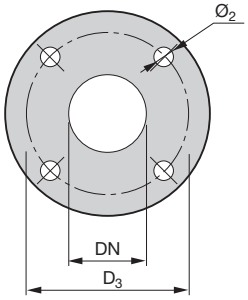


FIXING TO THE BOILER

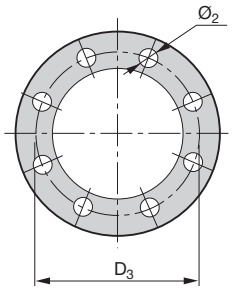


GAS SUPPLY

ER 4-6

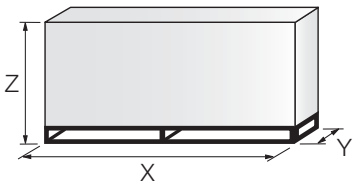


ER 9÷32



MODEL	a	a_1	a_2	b	b_1	b_2	D_1	D_2	D_3	t	$Ø_1$	$Ø_2$
▶ ER 4	400	444	480	324	280	360	380	552	145	148	M18	18
▶ ER 6	400	444	480	324	280	360	440	552	145	148	M18	18
▶ ER 9	500	551	580	405	355	435	530	800	160	125	M18	18
▶ ER 12	500	551	580	405	355	435	620	800	160	125	M18	18
▶ ER 16	710	775	810	567	500	600	710	970	180	160	M20	18
▶ ER 20	710	775	810	567	500	600	790	970	180	160	M20	18
▶ ER 25	900	968	1018	708	640	758	930	1200	210	200	M20	18
▶ ER 32	900	968	1018	708	640	758	1050	1200	210	200	M20	18

PACKAGING



MODEL	X	Y	Z	kg
▶ ER 4	2090	1460	1680	200
▶ ER 6	2090	1460	1680	200
▶ ER 9	2300	1750	1900	300
▶ ER 12	2300	1750	1900	300
▶ ER 16	2750	2100	2150	500
▶ ER 20	2750	2100	2150	500
▶ ER 25	3000	2500	2300	800
▶ ER 32	3000	2500	2300	800

Specification

DESIGNATION OF SERIES

Series: ER

Size: 4 - 6 - 9 - 12 - 16 - 20 - 25 - 32

Fuel:				
	S	Natural gas	NS	Heavy oil/natural gas
	L	Light oil	NAS	Heavy oil assisted atomizing/Natural gas
	N	Heavy oil	LS	Light oil/Natural gas
	NA	Heavy oil assisted atomizing	LP	Light oil/LPG
	P	LPG	NAP	Heavy oil assisted atomizing/LPG

Operation:		
	E	electronic cam
	M	mechanic cam

Emissions *:	
	C11 = class 1 oil - class 1 oil
	C23 = class 2 oil - class 3 gas
	C03 = No oil - class 3 gas
	C01 = No oil - class 1 gas
	C10 = class 1 oil - No gas
	C20 = class 2 oil - No gas

Head length:		
	TC	standard head
	TL	extended head

Flame safeguard:		
	FS1	= standard checking (1 stop/24 h)
	FS2	= continuous self checking

Fuel supply:		
	FR	= from right
	FL	= from left

Air supply:		
	A0	= from the bottom
	A180	= from the top

Air max temperature:		
	T50	= 50°C
	T150	= 150°C
	T250	= 250 °C

Auxiliary voltage:		
	230/50-60	230V/50-60Hz
	110/50-60	110V/50-60Hz

ER	4	S	E	C03	TC	FS1	FR	A0	T50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

* Estimated, not garanteed emissions values, considering a hot water boiler with thermal load of 1,1 MW/m³

Specification

STATE OF SUPPLY

Oil burner
Forced draught oil burner with modulating operation and separate supplies, fully automatic, made up of:
- Sheet-steel airlock painted with a front cover for access to the internal elements
- Air dampers for air setting controlled by two indipendent high precision servomotors
- Combustion head fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - pilot burner with gas train and ignition electrodes
    - flame stability disk made up of axial swirlers
- Flame shape regulation device
- Photocell for flame detection
- Minimum air pressure switch
- Nozzle pipe
- Safety nozzle valve
- Valves group with safety oil valves
- Automatic regulator of oil delivery controlled by a high precision servomotor
- Maximum oil pressure switch on the return circuit
- Pressure gauge on the delivery circuit
- Pressure gauge on the return circuit
- Electrical box with ignition transformer
- IP 54 electric protection level.

Standard equipment:
- Screws for fixing the burner flange to the boiler
- Thermal screen
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Gas burner
Forced draught gas burner with modulating operation and separate supplies, fully automatic, made up of:
- Sheet-steel airlock painted with a front cover for access to the internal elements
- Air dampers for air setting controlled by two indipendent high precision servomotors
- Combustion head fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - gas distributor with multiple pipes
    - pilot burner with gas train and ignition electrodes
    - uv photocell
    - flame stability disk made up of axial swirler
- Flame shape regulation device
- Minimum air pressure switch
- Maximum gas pressure switch
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Gas pressure test point to the combustion head
- Electrical box with ignition transformer
- IP 54 electric protection level.

Standard equipment:
- Screws for fixing the burner flange to the boiler
- Thermal screen
- Screws for fixing the gas train flange to the burner
- Gas train gasket
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY

Dual fuel burner (oil/gas)
Forced draught dual fuel burner with modulating operation and separate supplies, fully automatic, made up of:
- Sheet-steel airlock painted with a front cover for access to the internal elements
- Air dampers for air setting controlled by two indipendent high precision servomotors
- Combustion head fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - gas distributor with multiple pipes
    - pilot burner with gas train and ignition electrodes
    - flame stability disk made up of axial swirler
- Flame shape regulation device
- UV photocell for flame detection
- Nozzle pipe
- Safety nozzle valve
- Valves group with safety oil valves
- Automatic regulator of oil and gas delivery controlled by a high precision servomotor
- Maximum oil pressure switch on the return circuit
- Pressure gauge on the delivery circuit
- Pressure gauge on the return circuit
- Minimum air pressure switch
- Maximum gas pressure switch
- Gas pressure test point to the combustion head
- Electrical box with ignition transformer
- IP 54 electric protection level.

Standard equipment:
- Screws for fixing the burner flange to the boiler
- Thermal screen
- Screws for fixing the gas train flange to the burner
- Gas train gasket
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Models available

Burners

MODEL	FUEL	HEAT OUTPUT *		
		(kW)	OIL (kg/h) max	GAS (Nm^3/h) max
ER 4 S E ...	Natural gas	540/2500-4000	---	400
ER 4 L E ...	Light oil	820/2500-4000	337	---
ER 4 N E ...	Heavy oil	1100/2500-4000	357	---
ER 4 P E ...	LPG	540/2500-4000	---	155
ER 4 NP E ...	Heavy oil/LPG	1100/2500-4000	357	155
ER 4 NS E ...	Heavy oil/Natural gas	1100/2500-4000	357	400
ER 4 LS E ...	Light oil/Natural gas	820/2500-4000	337	400
ER 4 LP E ...	Light oil/LPG	820/2500-4000	337	155
ER 4 NA E ...	Heavy oil steam atomising	1100/2500-4000	357	---
ER 4 NAS E ...	Natural gas / heavy oil steam atomising	1100/2500-4000	357	400
ER 6 S E ...	Natural gas	840/4000-6000	---	600
ER 6 L E ...	Light oil	1250/4000-6000	506	---
ER 6 N E ...	Heavy oil	1700/4000-6000	536	---
ER 6 P E ...	LPG	840/4000-6000	---	233
ER 6 NP E ...	Heavy oil/LPG	1700/4000-6000	536	233
ER 6 NS E ...	Heavy oil/Natural gas	1700/4000-6000	536	600
ER 6 LS E ...	Light oil/Natural gas	1250/4000-6000	506	600
ER 6 LP E ...	Light oil/LPG	1250/4000-6000	506	233
ER 6 NA E ...	Heavy oil steam atomising	1700/4000-6000	536	---
ER 6 NAS E ...	Natural gas / heavy oil steam atomising	1700/4000-6000	536	600
ER 9 S E ...	Natural gas	1250/6000-9000	---	900
ER 9 L E ...	Light oil	1870/6000-9000	759	---
ER 9 N E ...	Heavy oil	2500/6000-9000	804	---
ER 9 P E ...	LPG	1250/6000-9000	---	349
ER 9 NP E ...	Heavy oil/LPG	2500/6000-9000	804	349
ER 9 NS E ...	Heavy oil/Natural gas	2500/6000-9000	804	900
ER 9 LS E ...	Light oil/Natural gas	1870/6000-9000	759	900
ER 9 LP E ...	Light oil/LPG	1870/6000-9000	759	349
ER 9 NA E ...	Heavy oil steam atomising	2500/6000-9000	804	---
ER 9 NAS E ...	Natural gas / heavy oil steam atomising	2500/6000-9000	804	900
ER 12 S E ...	Natural gas	1750/9000-12000	---	1200
ER 12 L E ...	Light oil	2600/9000-12000	1012	---
ER 12 N E ...	Heavy oil	3500/9000-12000	1071	---
ER 12 P E ...	LPG	2100/9000-12000	---	465
ER 12 NP E ...	Heavy oil/LPG	3500/9000-12000	1071	465
ER 12 NS E ...	Heavy oil/Natural gas	3500/9000-12000	1071	1200
ER 12 LS E ...	Light oil/Natural gas	2600/9000-12000	1012	1200
ER 12 LP E ...	Light oil/LPG	2600/9000-12000	1012	465
ER 12 NA E ...	Heavy oil steam atomising	3500/9000-12000	1071	---
ER 12 NAS E ...	Natural gas / heavy oil steam atomising	3500/9000-12000	1071	1200

Further version available on request

* Max capacity is referred to:

Light oil net calorific value 11,86 kWh/kh - 10200 kcal/kg - Viscosity at 20°C 4-6 mm^2/s (cSt)

Heavy oil net calorific value 11,1-11,3 kWh/kg - 9545-9720 kcal/kg - Viscosity at 20°C 500 mm^2/s (cSt)

G20 net calorific value 10 kWh/Nm^3 - Density 0,71 kg/Nm^3

G25 net calorific value 8,6 kWh/Nm^3 - Density 0,78 kg/Nm^3

LPG net calorific value 25,8 kWh/Nm^3 - Density 2,02 kg/Nm^3

Models available

Burners

MODEL	FUEL	HEAT OUTPUT *		
		(kW)	OIL (kg/h) max	GAS (Nm^3/h) max
ER 16 S E ...	Natural gas	2350/12000-16000	---	1600
ER 16 L E ...	Light oil	3500/12000-16000	1349	---
ER 16 N E ...	Heavy oil	4700/12000-16000	1428	---
ER 16 P E ...	LPG	2800/12000-16000	---	620
ER 16 NP E ...	Heavy oil/LPG	4700/12000-16000	1428	620
ER 16 NS E ...	Heavy oil/Natural gas	4700/12000-16000	1428	1600
ER 16 LS E ...	Light oil/Natural gas	3500/12000-16000	1349	1600
ER 16 LP E ...	Light oil/LPG	3500/12000-16000	1349	620
ER 16 NA E ...	Heavy oil steam atomising	4700/12000-16000	1428	---
ER 16 NAS E ...	Natural gas / heavy oil steam atomising	4700/12000-16000	1428	1600
ER 20 S E ...	Natural gas	3000/16000-20000	---	2000
ER 20 L E ...	Light oil	4500/16000-20000	1686	---
ER 20 N E ...	Heavy oil	6000/16000-20000	1786	---
ER 20 P E ...	LPG	3600/16000-20000	---	775
ER 20 NP E ...	Heavy oil/LPG	6000/16000-20000	1786	775
ER 20 NS E ...	Heavy oil/Natural gas	6000/16000-20000	1786	2000
ER 20 LS E ...	Light oil/Natural gas	4500/16000-20000	1686	2000
ER 20 LP E ...	Light oil/LPG	4500/16000-20000	1686	775
ER 20 NA E ...	Heavy oil steam atomising	6000/16000-20000	1786	---
ER 20 NAS E ...	Natural gas / heavy oil steam atomising	6000/16000-20000	1786	2000
ER 25 S E ...	Natural gas	3500/20000-25000	---	2500
ER 25 L E ...	Light oil	3500/20000-25000	2107	---
ER 25 N E ...	Heavy oil	3500/20000-25000	2232	---
ER 25 P E ...	LPG	3500/20000-25000	---	968
ER 25 NP E ...	Heavy oil/LPG	3500/20000-25000	2232	968
ER 25 NS E ...	Heavy oil/natural gas	3500/20000-25000	2232	2500
ER 25 LS E ...	Light oil/natural gas	3500/20000-25000	2107	2500
ER 25 LP E ...	Light oil/LPG	3500/20000-25000	2107	968
ER 25 NA E ...	Heavy oil steam atomising	3500/20000-25000	2232	---
ER 25 NAS E ...	Natural gas / heavy oil steam atomising	3500/20000-25000	2232	2500
ER 32 S E ...	Natural gas	4000/25000-32000	---	3200
ER 32 L E ...	Light oil	4000/25000-32000	2711	---
ER 32 N E ...	Heavy oil	4000/25000-32000	2857	---
ER 32 P E ...	LPG	4000/25000-32000	---	1240
ER 32 NP E ...	Heavy oil/LPG	4000/25000-32000	2857	1240
ER 32 NS E ...	Heavy oil/natural gas	4000/25000-32000	2857	3200
ER 32 LS E ...	Light oil/natural gas	4000/25000-32000	2711	3200
ER 32 LP E ...	Light oil/LPG	4000/25000-32000	2711	1240
ER 32 NA E ...	Heavy oil steam atomising	4000/25000-32000	2857	---
ER 32 NAS E ...	Natural gas / heavy oil steam atomising	4000/25000-32000	2857	3200

Further version available on request
* Max capacity is referred to:
Light oil net calorific value 11,86 kWh/kh - 10200 kcal/kg - Viscosity at 20°C 4-6 mm^2/s (cSt)
Heavy oil net calorific value 11,1-11,3 kWh/kg - 9545-9720 kcal/kg - Viscosity at 20°C 500 mm^2/s (cSt)
G20 net calorific value 10 kWh/Nm^3 - Density 0,71 kg/Nm^3
G25 net calorific value 8,6 kWh/Nm^3 - Density 0,78 kg/Nm^3
LPG net calorific value 25,8 kWh/Nm^3 - Density 2,02 kg/Nm^3

Other versions are available on request.

SG and DG SERIES
SN and DN SERIES

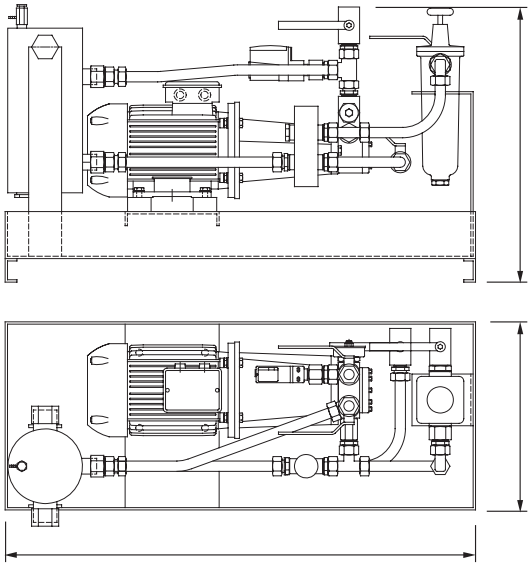
The unit skids of SG, DG, SN and DN series to treat and prepare fuel are an integral part of the industrial burners.
The system, designed for oil fuel with max viscosity 65°E at 50°C, consists mainly of a filter, a heater, a pump and a vent valve. Electric or steam/electric heaters may be used and a double system with backup filter and pump is also available.
The unit skids come ready assembled and tested for fast installation and the wide range of models available makes the system suitable for many different application.

SG and DG series	380 ÷ 3600 l/h	pre-set at 28 bar
SN and DN series	540 ÷ 3600 l/h	pre-set at 30 bar

Overall dimensions (mm)

PUMPING UNIT

LIGHT OIL



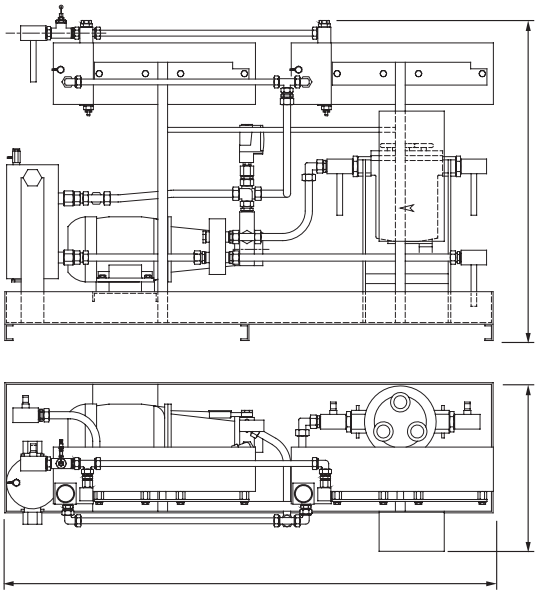
MODEL	A	B	C
▶ SG 160	1000	400	600
▶ SG 250	1000	400	600
▶ SG 320	1000	400	600
▶ SG 400	1000	400	600
▶ SG 500	1000	400	600
▶ SG 800	1000	400	600
▶ SG 1000	1300	400	650
▶ SG 1500	1300	400	650
▶ DG 160	1000	600	600
▶ DG 250	1000	600	600
▶ DG 320	1000	600	600
▶ DG 400	1000	600	600
▶ DG 500	1000	600	600
▶ DG 800	1000	600	600
▶ DG 1000	1300	800	650
▶ DG 1500	1300	800	650

Overall dimensions (mm)

PUMPING UNIT

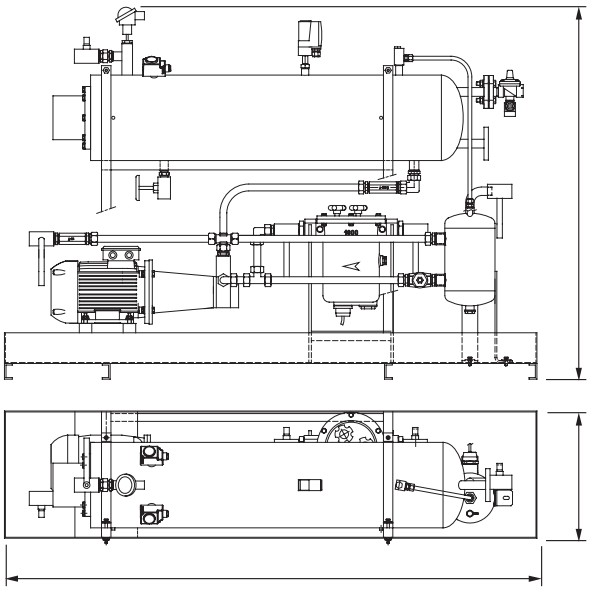
HEAVY OIL

Electrical heater



MODEL	A	B	C
▶ SN 250 EP	1400	400	985
▶ SN 320 EP	1400	400	985
▶ SN 400 EP	1500	400	1100
▶ SN 650 EP	1500	400	1100
▶ SN 800 EP	1500	400	1100
▶ SN 1000 EP	1500	600	1100
▶ SN 1500 EP	1500	600	1100
▶ DN 250 EP	1400	700	985
▶ DN 320 EP	1400	700	985
▶ DN 400 EP	1500	700	1100
▶ DN 650 EP	1500	700	1100
▶ DN 800 EP	1500	700	1100
▶ DN 1000 EP	1500	900	1100
▶ DN 1500 EP	1500	900	1100

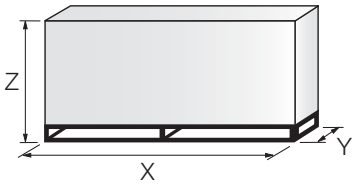
Electrical/steam heater



MODEL	A	B	C
▶ SN 250 EV	1700	400	1105
▶ SN 320 EV	1700	400	1200
▶ SN 400 EV	1700	400	1200
▶ SN 500 EV	1700	400	1200
▶ SN 650 EV	1700	400	1200
▶ SN 800 EV	1700	400	1200
▶ SN 1000 EV	1900	600	1300
▶ SN 1500 EV	1900	600	1300
▶ SN 2000 EV	1900	600	1300
▶ DN 250 EV	1700	700	1105
▶ DN 320 EV	1700	700	1200
▶ DN 400 EV	1700	700	1200
▶ DN 500 EV	1700	700	1200
▶ DN 650 EV	1700	700	1200
▶ DN 800 EV	1700	700	1200
▶ DN 1000 EV	1900	900	1300
▶ DN 1500 EV	1900	900	1300
▶ DN 2000 EV	1900	900	1300

Overall dimensions (mm)

PACKAGING



MODEL	X	Y	Z
▶ SG 160	1260	640	840
▶ SG 250	1260	640	840
▶ SG 320	1260	640	840
▶ SG 400	1260	640	840
▶ SG 500	1260	640	840
▶ SG 800	1260	640	840
▶ SG 1000	1560	640	890
▶ SG 1500	1560	640	890
▶ DG 160	1260	840	840
▶ DG 250	1260	840	840
▶ DG 320	1260	840	840
▶ DG 400	1260	840	840
▶ DG 500	1260	840	840
▶ DG 800	1260	840	840
▶ DG 1000	1560	1040	890
▶ DG 1500	1560	1040	890

MODEL	X	Y	Z
▶ SN 250 EP	1660	640	1450
▶ SN 320 EP	1660	640	1450
▶ SN 400 EP	1660	640	1450
▶ SN 650 EP	1660	640	1450
▶ SN 800 EP	1660	640	1450
▶ SN 1000 EP	1660	840	1450
▶ SN 1500 EP	1660	840	1450
▶ DN 250 EP	1660	940	1450
▶ DN 320 EP	1660	940	1450
▶ DN 400 EP	1660	940	1450
▶ DN 650 EP	1660	940	1450
▶ DN 800 EP	1660	940	1450
▶ DN 1000 EP	1660	1140	1450
▶ DN 1500 EP	1660	1140	1450

MODEL	X	Y	Z
▶ SN 250 EV	1860	640	1450
▶ SN 320 EV	1860	640	1450
▶ SN 400 EV	1860	640	1450
▶ SN 500 EV	1860	640	1450
▶ SN 650 EV	1860	640	1450
▶ SN 800 EV	1860	640	1450
▶ SN 1000 EV	1995	840	1550
▶ SN 1500 EV	1995	840	1550
▶ SN 2000 EV	1995	840	1550
▶ DN 250 EV	1860	940	1450
▶ DN 320 EV	1860	940	1450
▶ DN 400 EV	1860	940	1450
▶ DN 500 EV	1860	940	1450
▶ DN 650 EV	1860	940	1450
▶ DN 800 EV	1860	940	1450
▶ DN 1000 EV	1995	1140	1550
▶ DN 1500 EV	1995	1140	1550
▶ DN 2000 EV	1995	1140	1550

Specification

DESIGNATION OF SERIES

Series:	S	single pumping and filtering unit
	D	double pumping and filtering unit
Fuel:	G	Light oil
	K	Kerosene
	N	Heavy oil
Type:	160 - 250 - 320 - 400 - 500 - 650 - 800 - 1000 - 1500 - 2000	
Heating type:	EP	electrical heating
	EV	mixed heating: electrical/steam
	V	steam heating
	AS	superheated water heating
Electrical connection:	SB	shunt box
	SC	direct connection (standard)
Electrical supply:	3/400/50	3/440/60 3/380/60
	3/230/50	3/254/60 3/220/60
Control circuit electrical supply:	230/50-60Hz	
	110/50-60Hz	
Output meter:	CL	local meter
	CI	impulses emitter meter
Emulsion kit:	D1	n°1 distributor
	D2	n°2 distributors
Motorized filter: MF		
Installation:	I	internal
	O	external

S	N	500	EV	SB	3/400/50	230/50-60	-	-	-	I

BASIC DESIGNATION

EXTENDED DESIGNATION — OPTIONS AVAILABLE ON REQUEST

STATE OF SUPPLY

- Base in painted steel sheet
- Manual shut off valve on the output circuit
- Selfcleaning filter (double on the D version)
- Gas separator group
- Heavy oil pressure regolator on the burner oil circuit
- Pumping group (double on the D version)
- Pressure gauge
- Electrical heater (on the EP models)
- Mixed heating: electrical/steam (on the EV models)
- Minimum oil pressure switch
- Maximum thermostat
- Minimum thermostat
- Shunt box
- Steam circuit solenoid valve
- Temperature probe
- Safety valve
- Heating cartridge.

Available models

CODE	MODELS	FUEL	PORT SIZE	DELIVERY at 15 bar (l/h)	DELIVERY at 28 bar (l/h)	MOTOR POWER (kW)
on demand	SG 250 SC 3/380/60 230/50-60 I	Light oil	1/2”	900	780	1,5
3090820	SG 320 SC 3/400/50-3/440/60 230/50-60 I	Light oil	1/2”	910*	810*	1,1*
3090545	SG 400 SC 3/400/50-3/440/60 230/50-60 I	Light oil	1/2”	1270*	1140*	2,2*
3090549	SG 800 SC 3/400/50-3/440/60 230/50-60 I	Light oil	3/4”	1960*	1700*	3,0*
3090657	SG 1000 SC 3/400/50-3/440/60 230/50-60 I	Light oil	1”	2800*	2200*	4,0*

* these data are referred to 50 Hz supply

CODE	MODELS	FUEL	PORT SIZE	DELIVERY at 15 bar (l/h)	DELIVERY at 30 bar (l/h)	MOTOR POWER (kW)	HEATING ELECTRICAL POWER (kW)	MAX DELIVERY (kg/h)
on demand	SN 250 EP SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	1/2”	580*	540*	1,1*	14*	265*
on demand	SN 320 EP SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	3/4”	950*	700*	1,5*	20*	350*
on demand	SN 650 EP SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	3/4”	1400*	1200*	2,2*	40*	590*
on demand	SN 800 EP SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	3/4”	1900*	1700*	3*	30*	800*
on demand	DN 800 EP SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	3/4”	1900*	1700*	3+3*	40*	775*

* these data are referred to 50 Hz supply - oil viscosity max 65°E at 50°C

CODE	MODELS	FUEL	PORT SIZE	DELIVERY at 15 bar (l/h)	DELIVERY at 30 bar (l/h)	MOTOR POWER (kW)	ELECTRICAL HEATED OUTPUT ** (%)	MAX DELIVERY (kg/h)
on demand	SN 250 EV SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	1/2”	580*	540*	1,1*	100	265*
on demand	SN 400 EV SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	3/4”	1400*	1200*	2,2*	70	415*
on demand	SN 400 EV SC 3/380/60 230/50-60 I	Heavy oil	3/4”	1680	1440	2,2	70	415
on demand	SN 500 EV SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	3/4”	1400*	1200*	2,2*	65	590*
on demand	SN 650 EV SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	3/4”	1900*	1700*	3,0*	70	700*
on demand	SN 800 EV SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	3/4”	1900*	1700*	3,0*	70	800*
on demand	SN 1000 EV SC 3/400/50-3/440/60 230/50-60 I	Heavy oil	1”	2700*	2200*	5,5*	70	1083*

* these data are referred to 50 Hz supply - oil viscosity max 65°E at 50°C
** percentage of output with electrical heater only

Other models are available on request.

Available accessories

Pumping unit for main ring

MODEL	ELECTRICAL SUPPLY Ph/V/Hz	CONNECTION IN/OUT	DELIVERY at 9 bar [l/h]	ELECTRIC MOTOR POWER [kW]	MOTOR SPEED [rpm]	CODE
Max viscosity 12°E at 50°C						
▶ RG 600	3/400/50 3/440/60	Rp 1/2	600 720	0,37 0,43	1400 1700	3093220
▶ RG 1000	3/400/50 3/440/60	Rp 3/4	1000 1200	0,55 0,65	1400 1700	3093221
▶ RG 1500	3/400/50 3/440/60	Rp 3/4	1500 1800	0,75 0,88	1400 1700	3093222
▶ RG 2000	3/400/50 3/440/60	Rp 3/4	2000 2400	1,1 1,27	1400 1700	3093223
▶ RG 3000	3/400/50 3/440/60	Rp 1	3000 3600	1,5 1,8	1400 1700	3093224
▶ RG 4500	3/400/50 3/440/60	Rp 1	4500 5400	2,2 2,5	1400 1700	on demand
▶ RG 6000	3/400/50 3/440/60	Rp 1	6000 7200	3 3,5	1400 1700	3093226
Max viscosity 65°E at 50°C						
▶ RGS 670	3/400/50 3/440/60	Rp 1	670 800	0,75 0,88	950 1100	3093232
▶ RGS 1000	3/400/50 3/440/60	Rp 1	1000 1200	1,1 1,27	950 1100	3093227
▶ RGS 1330	3/400/50 3/440/60	Rp 1	1330 1600	1,5 1,8	950 1100	3093228
▶ RGS 2000	3/400/50 3/440/60	Rp 1 1/4	2000 2400	2,2 2,5	950 1100	on demand
▶ RGS 3000	3/400/50 3/440/60	Rp 1 1/4	3000 3600	3 3,5	950 1100	on demand
▶ RGS 4000	3/400/50 3/440/60	Rp 1 1/4	4000 4800	4 4,8	950 1100	3093231

Pumping group with pressure regulator

MODEL	ELECTRICAL SUPPLY Ph/V/Hz	CONNECTION IN/OUT	DELIVERY at 28 bar [l/h]	ELECTRIC MOTOR POWER [kW]	MOTOR SPEED [rpm]	CODE
Max viscosity 65°E at 50°C						
▶ GP 700	3/400/50 3/440/60	Rp 3/4	700 840	1,5	1400 1700	3093211
▶ GP 1200	3/400/50 3/440/60	Rp 3/4	1200 1440	2,2	1400 1700	3093212
▶ GP 1700	3/400/50 3/440/60	Rp 3/4	1700 2040	3,0	1400 1700	3093213
▶ GP 2200	3/400/50 3/440/60	Rp 1	2200 2640	4,0	1400 1700	3093217

Available accessories

Automatic gas separator

TYPE	CONNECTION IN/OUT	MAX WORKING DELIVERY [l/h]	CODE
▶ GS 150	1"1/2 - 1"	1000	3000748
▶ GS 250	1"1/2 - 1"1/2	2000	3010012

Heating cartridge

TYPE	ELECTRICAL POWER [W]	CODE
▶ HC 100	100	on demand
▶ HC 160	160	3090621
▶ HC 280	280	3090622

Line filter

TYPE	ELECTRICAL POWER [W]	CONNECTION IN/OUT	MAX DELIVERY [l/h]	CODE
Cartridge filter 100 μm (light oil)				
▶ LOCF 3800	-	Rp 1	3800	3090236
Selfcleaning filter 300 μm				
▶ SCOF 2000	80	Rp 1 1/2	2000	3000790
▶ SCOF 4000	80 - 300	Rp 1 1/2	4000	3010022

Pressure regolator

TYPE	SETTING RANGE [bar]	CONNECTION IN/OUT	MAX DELIVERY [l/h]	CODE
▶ BGH 3/4	1 - 4	Rp 3/4	2000	3090569
▶ BGHG 1	1 - 4	Rp 1	6000	3090316
▶ BGHG 1 1/4	1 - 4	Rp 1 1/4	10000	on demand

HPRT SERIES
LPRT SERIES
MBC SERIES
VGD SERIES

Pressure reduction and regulation units allow to bring gas pressure available in the line to values suited to the specific application.
Gas trains include a series of safety and control devices for gas feeding to the burner.
They are constructed and supplied with two different selection options (separated or assembled units). The selection has to be made on the specific application (available pressure, installation chances,…).
This permits to reach the best flexibilty using pre-assembled units, which are also tested in the factory according with existing norms and designed for a easy installation.

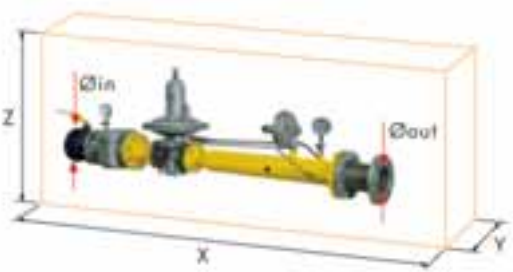
HPRT	Pin = 0,5 ÷ 4	bar
LPRT	Pin <= 0,5	bar
MBC	Pin <= 0,5	bar (<= 0,36 threaded)
VGD	Pin <= 0,5	bar

Overall dimensions (mm)

LOW PRESSURE REGULATING / REDUCING UNITS (LPRT series)

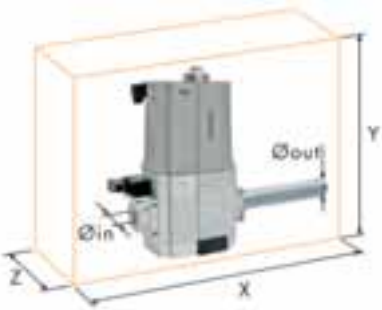
MODEL	X	Y	Z	Ø IN	Ø OUT
▶ LPRT 40	532	130	245	Rp 3/4	R 3/4
▶ LPRT 80	600	145	310	Rp 1	R 1
▶ LPRT 160	710	195	365	Rp 1 1/2	R 1 1/2
▶ LPRT 250	880	250	450	Rp 2	R 2
▶ LPRT 500	880	285	590	DN 65	DN 65
▶ LPRT 750	955	285	590	DN 80	DN 80
▶ LPRT 1000	1070	350	760	DN 100	DN 100
▶ LPRT 1500	1146	400	1000	DN 125	DN 125
▶ LPRT 2000	1275	480	1180	DN 150	DN 150

HIGH PRESSURE REGULATING / REDUCING UNITS (HPRT series)



Model	X	Y	Z	Ø IN	Ø OUT
▶ HPRT 80	1223	180	400	Rp 1 1/2	R 1 1/2
▶ HPRT 160	1275	180	410	Rp 1 1/2	R 2
▶ HPRT 250	1200	280	560	Rp 2	DN 65
▶ HPRT 500	1750	280	563	DN 65	DN 65
▶ HPRT 750	1890	280	563	DN 80	DN 80
▶ HPRT 1000	2070	380	725	DN 100	DN 100
▶ HPRT 1500	2120	500	810	DN 100	DN 100
▶ HPRT 2000	2150	500	810	DN 125	DN 125

SAFETY / REGULATING GAS TRAINS (MBC series)



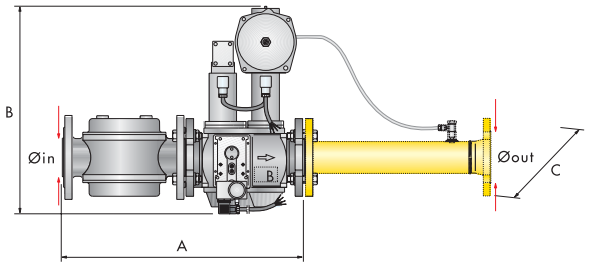
Example of gas train "MULTIBLOC" type without seal control

Example of gas train "COMPOSED" type without seal control

MODEL	X	Y	Z	Ø IN	Ø OUT
▶ MBC 1200 SE 50	573	425	161	2"	2"
▶ MBC 1900 SE 65	583	430	237	DN 65	DN 65
▶ MBC 3100 SE 80	633	500	240	DN 80	DN 80
▶ MBC 5000 SE 100	733	576	350	DN 100	DN 100
▶ MBC 1200 SE 50 CT	573	425	290	2"	2"
▶ MBC 1900 SE 65 CT	583	430	300	DN 65	DN 65
▶ MBC 3100 SE 80 CT	633	500	320	DN 80	DN 80
▶ MBC 5000 SE 100 CT	733	576	350	DN 100	DN 100

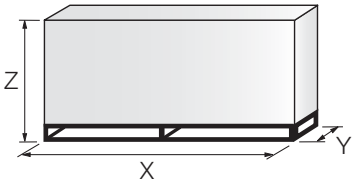
Overall dimensions (mm)

SAFETY / REGULATING PROPORTIONAL GAS TRAINS (VGD series)



MODEL	A	B	C	Ø IN	Ø OUT
▶ VGD 50	615	245	495	2”	DN 80
▶ VGDF 65	600	245	520	DN 65	DN 80
▶ VGDF 80	625	245	545	DN 80	DN 80
▶ VGDF 100	755	245	575	DN 100	DN 80

PACKAGING (HPRT - LPRT - MBC - VGD series)



Model	X	Y	Z
▶ LPRT 40	532	245	292
▶ LPRT 80	310	290	397
▶ LPRT 160	350	307	449
▶ LPRT 250	400	333	554
▶ LPRT 500	532	150	292
▶ LPRT 750	535	165	292
▶ LPRT 1000	290	185	338
▶ LPRT 1500	310	200	397
▶ LPRT 2000	350	220	449
▶ HPRT 80	1230	460	560
▶ HPRT 160	1230	460	560
▶ HPRT 250	1230	460	560
▶ HPRT 500	1300	530	590
▶ HPRT 750	1300	530	590
▶ HPRT 1000	1300	530	590
▶ HPRT 1500	1390	710	795
▶ HPRT 2000	1390	710	795
▶ MBC 1200 SE 50	650	490	350
▶ MBC 1900 SE 65	690	410	490
▶ MBC 3100 SE 80	750	460	570
▶ MBC 5000 SE 100	850	510	660
▶ MBC 1200 SE 50 CT	650	490	350
▶ MBC 1900 SE 65 CT	690	410	490
▶ MBC 3100 SE 80 CT	750	460	570
▶ MBC 5000 SE 100 CT	850	510	660
▶ VGD 50	860	360	620
▶ VGDF 65	860	360	620
▶ VGDF 80	860	360	620
▶ VGDF 100	860	360	620

Specification

DESIGNATION OF SERIES

Series: LPRT low pressure regulating / reducing unit
HPRT high pressure regulating / reducing unit

Size: 40 - 80 - 160 - 250 - 500 - 750 - 1000 - 1500 - 2000

LPRT	160

Series: MBC xxx SE one stage
MBC xxx VEF variable air/gas

Size : 15 = 1/2”
20 = 3/4”
25 = 1”
32 = 1 1/4”
40 = 1 1/2”
50 = 2”
65 = DN 65
80 = DN 80
100 = DN 100
125 = DN 125

Port : ... threaded
F flanged

Config. : ... alone
C composed

Seal control : CT integrated

Power supply: 230V/ 50-60Hz
110V/ 50-60Hz

MBC 1900 SE	65	F	C	CT	230/50-60

Series: VGD

Port : ... Threaded
F Flanged

Size: 40 - 50 - 65 - 80 - 100 - 125

Power supply: 230V/ 50-60Hz
110V/ 50-60Hz

VGD	F	65	230/50-60

Specification

STATE OF SUPPLY

HPRT series
High pressure regulating/reducing unit, for gas of 1st - 2nd - 3rd family, with max. inlet pressure of 4 bar made up of:
- 1 manual shut-off valve (ball valve)
- 1 gas filter with filtering degree lower than 50 µm
- 1 gas pressure gauge, with shut-off push-button cock, located upstream to the regulator
- 2 connection stubs
- 1 pressure regulator-stabilizer
- 1 slam-shut valve
- 1 gas pressure gauge, with shut-off push-button cock, located downstrem to the regulator
- 2 pipelines for sensing line
- 1 vent valve
- 1 antivibrating joint
- Nipples (in threaded version)
- Gaskets (in flanged version)
- Fixing screws (in flanged version).

LPRT series
Low pressure regulating/reducing unit, for gas of 1st - 2nd - 3rd family, with max. inlet pressure of 500 mbar made up of:
- 1 manual shut-off valve (ball valve)
- 1 gas filter with filtering degree lower than 50 µm
- 1 gas pressure gauge, with shut-off push-button cock, located upstraem to the regulator
- 1 pressure regulator-stabilizer
- 1 anti-vibrating joint
- Nipples (in threaded version)
- Gaskets (in flanged version)
- Fixing screws (in flanged version).

Standard equipment:
- Instruction handbook for installation, use and maintenance
- Gaskets (in flanged version)
- Fixing screws (in flanged version)
- Terminals for electrical connection.

MBC series
Safety shut-off valve for gas of 1st - 2nd - 3rd family, with MAX supply pressure of 360 mbar for threaded version and 500 mbar for flanged version.
Gas train are composed of:
- 1 gas filter with filtering degree lower than 50 µm (inside for the threaded valve)
- 1 valves unit composed from two automatic closing valves EN 161, class A, group 2, realized with double diaphragm technology, comprised in a single body and featured by:
- ant-dust filter with net
- fast closing and slow opening
- servo pressure regulator unit as per DIN EN 88 Class A Group 2
- 1 automatic seal control with a release time of 10÷26 seconds (when equipped)
- Gaskets (in flanged version)
- Fixing screws (in flanged version).

Standard equipment:
- Instruction handbook for installation, use and maintenance
- Gaskets (in flanged version)
- Fixing screws (in flanged version)
- Electrical connection terminals whit plug.

Specification

STATE OF SUPPLY

VGD series
Safety shut-off valve for gas of 1st - 2nd - 3rd family, with MAX supply pressure of 500 mbar composed from:
- 1 valves unit composed from two automatic closing valves EN 161, class A, group 2, realized with double diaphragm technology, comprised in a single body and featured by:
    - fast closing and slow opening with adjustable fast stroke for initial gas volume
    - adjustable main delivery and proportional regulation
    - ant-dust filter with net
- 1 automatic seal control with a release time of 10÷26 seconds (when equipped)
- nipples (in threaded version)
- gaskets (in flanged version)
- fixing screws (in flanged version).

Standard equipment:
- instruction handbook for installation, use and maintenance
- gaskets (in flanged version)
- fixing screws (in flanged version)
- electrical connection terminals.

Available models

CODE	MODEL	Ø		PRESSURE RANGES (mbar)		NOTE
		IN	OUT	MAX INLET	OUTLET (4)	
3090650	HPRT 80	1”1/2	1”1/2	4000	27-60	-
3090843	HPRT 160	1”1/2	2”	4000	27-60	-
3090844	HPRT 250	2”	DN 65	4000	65-120	-
3090768	HPRT 500	DN 65	DN 65	4000	100-200	-
3090857	HPRT 750	DN 80	DN 80	4000	100-200	-
3090870	HPRT 1000	DN 100	DN 100	4000	155-230	-
In progress	HPRT 1500	DN 100	DN 100	4000	150-220	-
3091033	HPRT 2000	DN 125	DN 125	4000	150-220	-
In progress	LPRT 40	3/4”	3/4”	500	10-30	-
In progress	LPRT 80	1”	1”	500	10-30	-
3090664	LPRT 160	1”1/2	1”1/2	500	10-30	-
In progress	LPRT 250	2”	2”	500	10-30	-
3090455	LPRT 500	DN 65	DN 65	500	10-30	-
3090604	LPRT 750	DN 80	DN 80	500	10-30	-
3090546	LPRT 1000	DN 100	DN 100	500	10-30	-
In progress	LPRT 1500	DN 125	DN 125	500	10-30	-
In progress	LPRT 2000	DN 150	DN 150	500	10-30	-
3970221	MBC 1200 SE 50	2”	2”	360	4-60	(1)
3970222	MBC 1900 SE 65 FC	DN 65	DN 65	500	20-40	(1)
3970223	MBC 3100 SE 80 FC	DN 80	DN 80	500	20-40	(1)
3970228	MBC 5000 SE 100 FC	DN 100	DN 100	500	40-80	(1)
3970225	MBC 1200 SE 50 CT	2”	2”	360	4-60	(2)
3970226	MBC 1900 SE 65 FC CT	DN 65	DN 65	500	20-40	(2)
3970227	MBC 3100 SE 80 FC CT	DN 80	DN 80	500	20-40	(2)
3970229	MBC 5000 SE 100 FC CT	DN 100	DN 100	500	40-80	(2)
3970215	VGD 50	2”	DN 80	500	proportional	(5)
3970212	VGDF 65	2”	DN 80	500	proportional	(5)
3970213	VGDF 80	DN 65	DN 80	500	proportional	(5)
3970214	VGDF 100	DN 65	DN 80	500	proportional	(5)

(1) Seal control accessory
(2) Seal control incorporated
(3) Seal control on control panel
(4) For LPRT and MBC units, for different outlet pressure ranges, it is possible to match the correct springs selecting them from accessories section
(5) gas trains suitable to MB SP BLU and RS/P BLU burners only.

Accessories

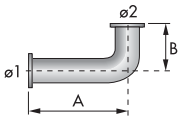
Springs for pressure regulators

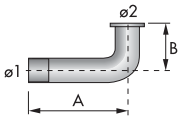
Accessories springs are available for varying pressure range of the regulator-stabilizer included in the regulating/reducing unit or in MBC train.
In the following table, the springs are listed with their application range.

TYPE	SPRING	PORT	OUTLET PRESSURE (mbar)	CODE
▶ LPRT 40	red	Rp 3/4”	25÷55	in progress
▶ LPRT 40	yellow	Rp 3/4”	30÷70	in progress
▶ LPRT 40	black	Rp 3/4”	60÷110	in progress
▶ LPRT 40	pink	Rp 3/4”	90÷150	in progress
▶ LPRT 80	red	Rp 1”	25÷55	in progress
▶ LPRT 80	yellow	Rp 1”	30÷70	in progress
▶ LPRT 80	black	Rp 1”	60÷110	in progress
▶ LPRT 80	pink	Rp 1”	90÷150	in progress
▶ LPRT 160	red	Rp 1”1/2	25÷55	3010131
▶ LPRT 160	yellow	Rp 1”1/2	30÷70	in progress
▶ LPRT 160	black	Rp 1”1/2	60÷110	3010157
▶ LPRT 160	pink	Rp 1”1/2	90÷150	3090486
▶ LPRT 250	red	Rp 2”	25÷55	3010132
▶ LPRT 250	yellow	Rp 2”	30÷70	in progress
▶ LPRT 250	black	Rp 2”	60÷110	3010158
▶ LPRT 250	pink	Rp 2”	90÷150	3090487
▶ LPRT 500/750	red	DN 65/80	25÷55	3010133
▶ LPRT 500/750	yellow	DN 65/80	30÷70	in progress
▶ LPRT 500/750	black	DN 65/80	60÷110	3010135
▶ LPRT 500/750	pink	DN 65/80	100÷150	3090456
▶ LPRT 500/750	grey	DN 65/80	140÷200	3090992
▶ LPRT 1000	red	DN 100	25÷55	3010134
▶ LPRT 1000	yellow	DN 100	30÷70	in progress
▶ LPRT 1000	black	DN 100	60÷110	3010136
▶ LPRT 1000	pink	DN 100	100÷150	3090489
▶ LPRT 1000	grey	DN 100	140÷200	in progress
▶ LPRT 1500	red	DN 125	25÷55	3010315
▶ LPRT 1500	yellow	DN 125	30÷70	3010316
▶ LPRT 1500	black	DN 125	60÷110	3010317
▶ LPRT 1500	pink	DN 125	100÷150	3010318
▶ LPRT 2000	red	DN 150	25÷55	in progress
▶ LPRT 2000	yellow	DN 150	30÷70	in progress
▶ LPRT 2000	black	DN 150	60÷110	in progress
▶ LPRT 2000	pink	DN 150	90÷150	in progress
▶ MBC series	neutral	DN 68÷100	0÷20	3010381
▶ MBC series	red	DN 68÷100	20÷40	3010382
▶ MBC series	black	DN 68÷100	40÷80	3010383
▶ MBC series	green	DN 68÷100	80÷150	3010384

Accessories

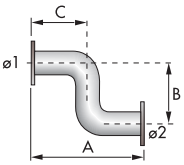
Connection adapters





In some cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below the available adapters that can be fitted are listed.

TYPE	Ø 1	Ø 2	A	B	CODE
▶ L 65/80 - 320	DN 65	DN 80	320	174	3000831
▶ L 65/65 - 320	DN 65	DN 65	320	174	3010351
▶ L 80/80 - 320	DN 80	DN 80	320	174	3000832
▶ L 80/65 - 320	DN 80	DN 65	320	174	3010352
▶ L 100/80 - 320	DN 100	DN 80	320	174	3010127
▶ L 2”/80	2”	DN 80	540	174	3010128
▶ L 100/100	DN 100	DN 100	320	174	3090680
▶ L125/100 - 320	DN 125	DN 100	320	174	3090679
▶ L 125/80 - 320	DN 125	DN 80	320	174	3090940
▶ L 100/65	DN 100	DN 65	320	174	3010353



TYPE	Ø 1	Ø 2	A	B	C	CODE
▶ I 65/80 - 320	DN 65	DN 80	320	-	-	3010221
▶ I 80/80 - 320	DN 80	DN 80	320	-	-	3010222
▶ I 100/80 - 320	DN 100	DN 80	320	-	-	3010223
▶ I 125/80 - 320	DN 125	DN 80	320	-	-	3010224
▶ Z 65/80 - 400/480/225	DN 65	DN 80	400	480	225	3010225
▶ Z 80/80 - 400/480/225	DN 80	DN 80	400	480	225	3010226
▶ Z 100/80 - 400/480/225	DN 100	DN 80	400	480	225	3010227
▶ Z 125/80 - 500/480/300	DN 125	DN 80	500	480	300	3010228

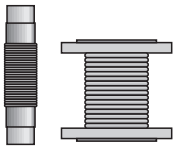
Manual valves

Ball shut-off manual valves are available in different sizes and listed in the following table.

MODEL	MAX OPERATING PRESSURE (bar)	PORT	CODE
▶ GBV 1/2”	5	1/2”	in progress
▶ GBV 3/4”	5	3/4”	3090097
▶ GBV 1”	5	1”	3090967
▶ GBV 1”1/2	5	1”1/2	3090143
▶ GBV 2”	5	2”	3090968
▶ GBV DN65	16	DN65	3090947
▶ GBV DN80	16	DN80	3090969
▶ GBV DN100	16	DN100	3090962
▶ GBV DN125	16	DN125	3091065
▶ GBV DN150	16	DN150	in progress

Accessories

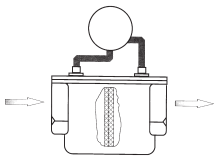
Anti-vibrating joints



Anti-vibrating joints to damp vibrations and facilitate application of the gas train to the gas distribution line are available in different sizes listed in the table below.

TYPE	PORT SIZE	INLET MAX PRESSURE (bar)	CODE
▶ GA 20	3/4”	6	3891033
▶ GA 25	1”	6	3891034
▶ GA 40	1”1/2	6	3891043
▶ GA 50	2”	6	3891053
▶ GAF 65	DN65	6	3891013
▶ GAF 80	DN80	6	3891003
▶ GAF 100	DN100	6	3891023
▶ GAF 125	DN125	6	3091092

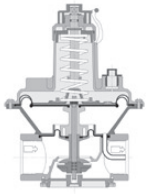
Filters



A series of gas filters of different sizes are avilable and listed in the following table.

TYPE	PORT IN/OUT	INLET MAX PRESSURE (bar)	CODE
▶ GF515/1	1”1/2	0,5	3012198
▶ GF520/1	2”	0,5	3012199
▶ GF40065/3	DN 65	4	3012200
▶ GF40080/3	DN 80	4	3012201
▶ GF40100/3	DN 100	4	3012202
▶ GF40125	DN 125	4	3013141

Pressure regulators



A series of pressure regulators of different sizes are avilable and listed in the following table.

TYPE	PORT IN/OUT	INLET MAX PRESSURE (bar)	CODE
▶ FRS 515	1”1/2	0,5	3012203
▶ FRS 520	2”	0,5	3012204
▶ FRS 5065	DN 65	0,5	3012205
▶ FRS 5080	DN 80	0,5	3012206
▶ FRS 5100	DN 100	0,5	3012207
▶ FRS 5125	DN 125	0,5	on demand

Accessories

Pressure gauge kit + push-button cock

A kit composed from a pressure gauge and a push-button cock for measuring gas pressure is available in different sizes following the table.

MODEL	MAX PRESSURE (mbar)	CODE
▶ NGPG 1	60	3090062
▶ NGPG 2	100	3091805
▶ NGPG 3	300	3091491
▶ NGPG 4	500	3090099
▶ NGPG 5	1000	in progress
▶ NGPG 6	2000	in progress
▶ NGPG 7	3000	in progress
▶ NGPG 8	4000	in progress

Gas pressure switch for seal control installed on the control panel

A gas pressure switch is available as seal control accessory to be installed on the control panel.

MODEL	SETTING RANGE ΔP (mbar)	CODE
▶ GW 1500	300 ÷ 1500	in progress
▶ GW 6000	1000 ÷ 6000	in progress

Seal control kit VPS 504

A seal control kit is available as accessory to be installed on the gas train to verify seal control.

GAS TRAIN	CODE
▶ MBC type	3010123
▶ CB type	3010125
▶ VGD type	3010367

GCH SERIES
GCM SERIES
GBJ SERIES

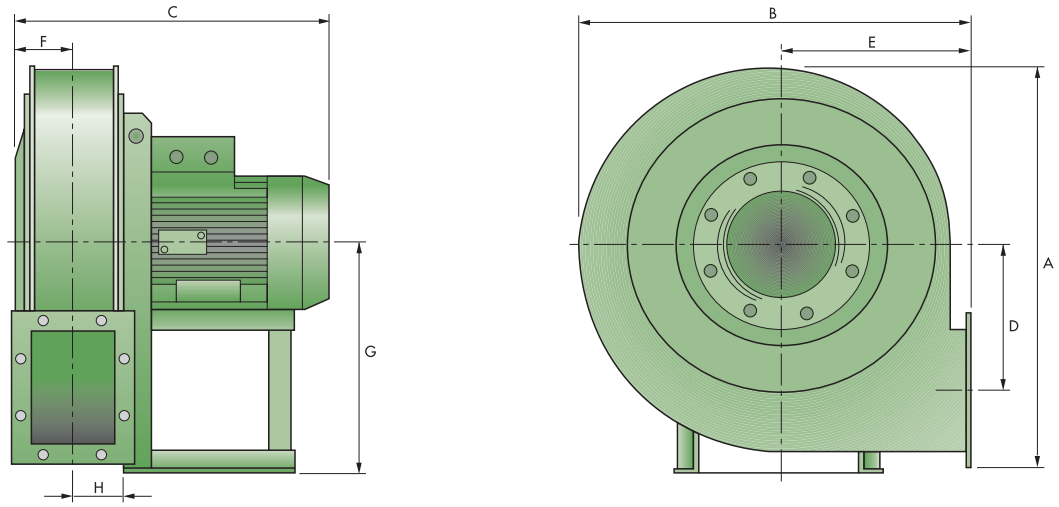
Air supply fans allow to bring comburent air through the adduction channel to the combustion head in pressure and delivery conditions required from the application.
The air delivery processed from the fan is in a correct proportion to the fuel to guarantee the required burner output with a safe combustion. Performance tables help the fan selection among the available models.
All the models are pre-assembled and tested in factory in the respect of existing normatives so to permit the maximum installation facility.

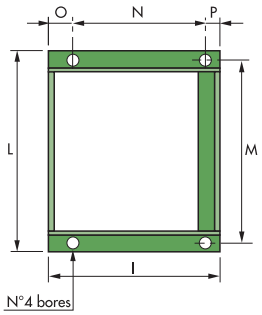
GCH SERIES	800 ÷ 5000 m^3/h	1800 ÷ 4800 Pa
GCM SERIES	4000 ÷ 9500 m^3/h	1800 ÷ 4400 Pa
GBJ SERIES	3500 ÷ 20000 m^3/h	2800 ÷ 10000 Pa

Overall dimensions (mm)

GCH SERIES

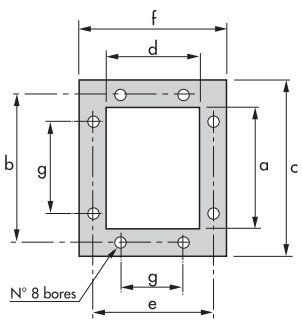
Fan and basement





MODEL	A	B	C	D	E	F	G	H	I	L	M	N	O	P
▶ GCH 04020	660	580	400	230	280	80	375	67	215	270	245	137	60	18
▶ GCH 05020	800	735	570	290	355	100	450	85	320	392	360	250	45	25
▶ GCH 05040	800	735	570	290	355	100	450	85	320	392	360	250	45	25

OUTLET FLANGE

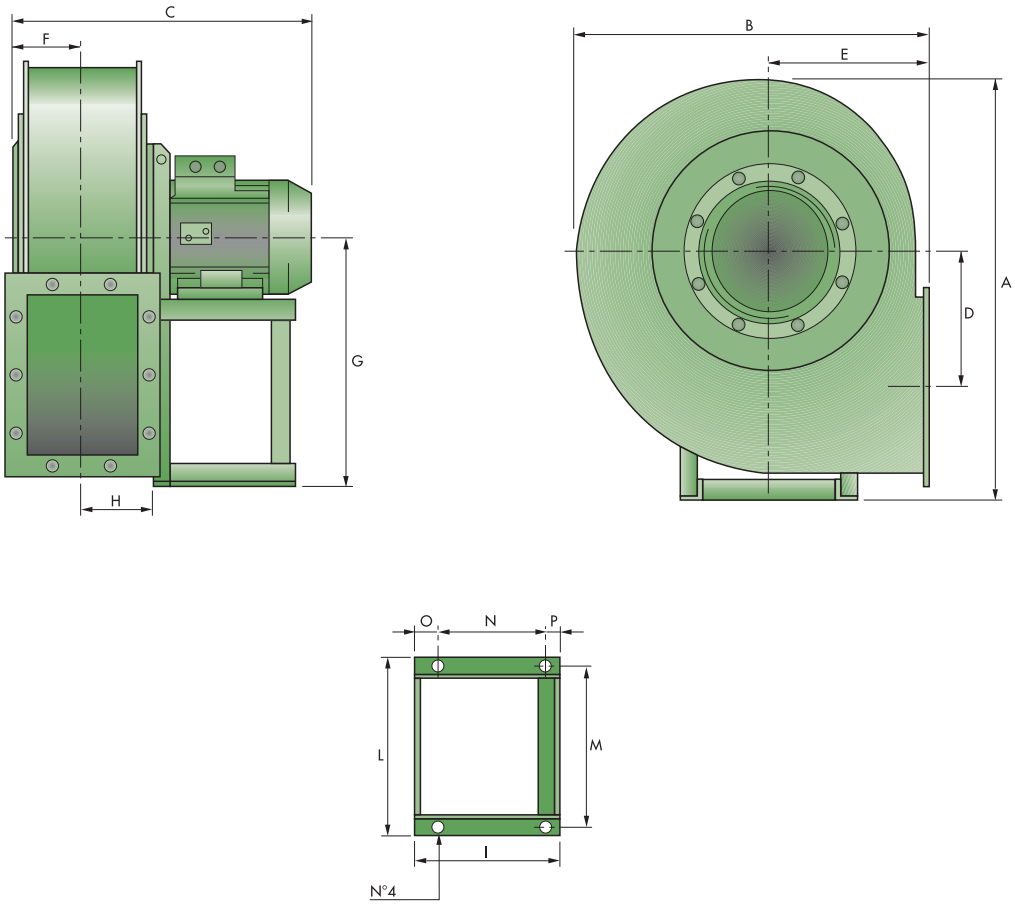


MODEL	a	b	c	d	e	f	g
▶ GCH 04020	180	219	250	125	167	195	112
▶ GCH 05020	224	265	294	160	200	230	112
▶ GCH 05040	224	265	294	160	200	230	112

Overall dimensions (mm)

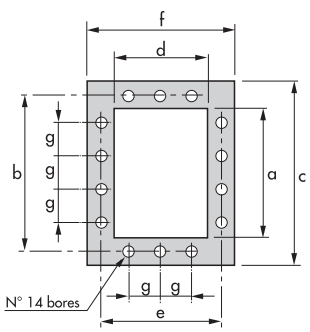
GCM SERIES

Fan and basement



MODEL	A	B	C	D	E	F	G	H	I	L	M	N	O	P
▶ GCM 04540	930	750	720	328	335	140	560	132	320	392	360	250	45	25
▶ GCM 05020	1010	840	750	365	355	160	630	148	320	392	360	250	45	25
▶ GCM 05040	1010	840	820	365	355	160	630	148	425	440	400	340	55	30

OUTLET FLANGE

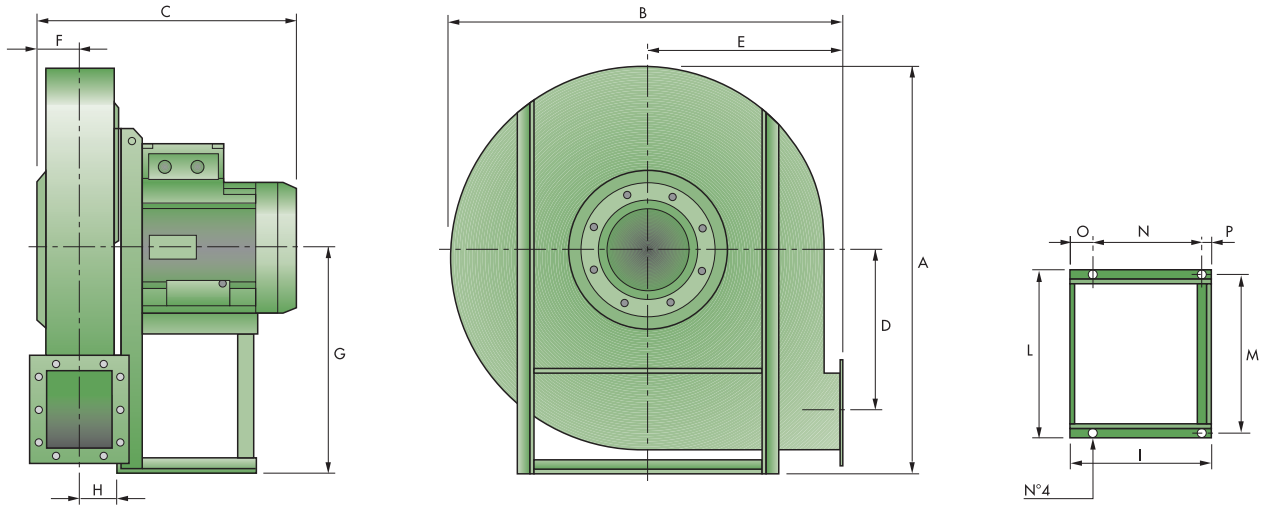


MODEL	a	b	c	d	e	f	g
▶ GCM 04540	355	405	435	250	300	330	125
▶ GCM 05020	400	448	480	280	332	360	125
▶ GCM 05040	400	448	480	280	332	360	125

Overall dimensions (mm)

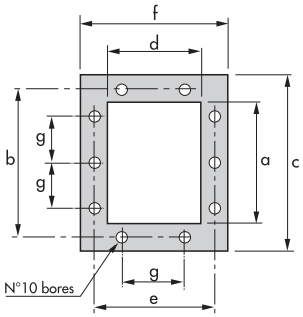
GBJ SERIES

Fan and basement



MODEL	A	B	C	D	E	F	G	H	I	L	M	N	O	P
▶ GBJ H05630	900	825	680	310	400	120	500	110	425	440	360	250	45	30
▶ GBJ H06320	1000	930	700	342	425	135	560	120	425	440	400	340	55	30
▶ GBJ H06330	1000	930	750	342	425	135	560	120	425	440	400	340	55	30
▶ GBJ H06380	1000	930	775	342	425	135	560	120	470	500	450	340	55	35
▶ GBJ H0712	1120	1000	825	382	475	145	630	135	500	570	510	385	75	40
▶ GBJ H0717	1120	1000	825	382	475	145	630	135	500	570	510	385	75	40
▶ GBJ I06310	1000	930	820	322	425	145	560	135	425	440	400	340	55	30
▶ GBJ I06320	1000	930	820	322	425	145	560	135	425	440	400	340	55	35
▶ GBJ I06360	1000	930	820	322	425	145	560	135	470	500	450	370	65	35
▶ GBJ I0710	1120	1000	1000	360	475	160	630	150	550	626	565	425	85	40
▶ GBJ I0712	1120	1000	710	360	475	160	630	150	320	392	360	250	45	25
▶ GBJ I0800A	1250	1120	750	405	530	180	710	170	320	320	392	360	45	25

OUTLET FLANGE



MODEL	a	b	c	d	e	f	g
▶ GBJ H05630	280	332	260	200	249	280	125
▶ GBJ H06320	315	366	395	224	273	304	125
▶ GBJ H06330	315	366	395	224	273	304	125
▶ GBJ H06380	315	366	395	224	273	304	125
▶ GBJ H0712	355	405	435	250	300	330	125
▶ GBJ H0717	355	405	435	250	300	330	125
▶ GBJ I06310	355	405	435	250	300	330	125
▶ GBJ I06320	355	405	435	250	300	330	125
▶ GBJ I06360	355	405	435	250	300	330	125
▶ GBJ I0710	400	448	480	280	332	360	125
▶ GBJ I0712	400	448	480	280	332	360	125
▶ GBJ I0800A	450	497	530	315	366	395	125

Specification

DESIGNATION OF SERIES

Series: GCH, GCM, GBJ

Model: 04020 ..... I0800A

Discharge position: RD 0 45 90 135 180 225 270 315 (clockwise rotation)
LG 0 45 90 135 180 225 270 315 (counterclockwise rotation)

Electrical supply: 3 / 380 VΔ / 60 Hz
3 / 400 VΔ / 50 Hz
3 / 440 VΔ / 60 Hz
3 / 220 VΔ / 60 Hz
3 / 230 VΔ / 50 Hz

Installation: I Indoor
O Outdoor

Motor certification: CE
EEX PROOF
RINA (Naval approval)
...

GBJ	H05630	LG 0	3/380VΔ/50Hz	I	CE

BASIC DESIGNATION

EXTENDED DESIGNATION

STATE OF SUPPLY

Air fan models of GBJ, GCM and GCH series are provided, already assembled and tested in the factory, packaged on pallets with protective plastic films.
The issue includes:
- centrifugal fan made up of a spiral-box which contains the fan wheel fitted on drive shaft
- three phases electrical motor
- intake protection grid
- vibration damping coupling outflow-end
- terminals for electrical connection
- handbook for installation, use and maintenance.

Technical data delivery and static pressure

FAN MODEL	GCH			GCM			GBJ											
	04020	05020	05040	04540	05020	05040	H05630	H06320	I06310	H06330	I06320	I06360	H06380	H0712	H0717	I0710	I0712	I0800A	
Air delivery in m^3/min																			Air delivery in m^3/s
10	277																		0,2
14	268																		0,2
18	254																		0,3
22	228																		0,4
25	209	452																	0,4
28	188	449	489																0,5
31	162	447	487																0,5
35		443	483																0,6
40		433	473																0,7
45		418	463																0,8
50		396	451																0,8
56		373	433	348			583												0,9
63		341	396	341	380		568												1,1
71		282	352	329	373	433	547	642		642									1,2
80		218	308	311	361	427	525	641	656	641	656		691						1,3
90			230	287	344	419	500	626	632	626	632	727	681						1,5
100				258	326	396	455	606	608	606	608	703	666						1,7
112				222	298	368	411	583	587	583	587	672	648	842	942	942			1,9
125				176	263	338	344	554	551	554	551	646	619	826	926	926	898		2,1
140				132	213	293	277			518	522	612	583	807	907	907	883		2,3
160					165	250				470	464	569	525	764	864	864	855	1028	2,7
180						180					399	514	466	709	809	809	825	1012	3,0
200											332	457	383	652	752	752	785	995	3,3
225												363		568	658		735	956	3,8
250															562		684	916	4,2
280															427		592	862	4,7
315																	493	789	5,3
355																	356		5,9
	Static pressure (mmH_2O)																		

The features listed are referred to air at the temperature of +15°C and at the barometrical pressure of 760 mmHg with specific gravity 1,226 kg/m^3
Capacity tolerance: ± 5 %

Available models

CODE	MODELS	TOTAL ELECTRICAL POWER INSTALLED (kW)	TOTAL ELECTRICAL POWER ABSORBED (kW)	SOUND PRESSURE dB(A)	NOTE
In progress	GCH 04020 RD 270 3/400 VΔ/50 Hz	1,5	1,4	72	
In progress	GCH 04020 LG 270 3/400 VΔ/50 Hz	1,5	1,4	72	
In progress	GCH 04020 RD 0 3/400 VΔ/50 Hz	1,5	1,4	72	
In progress	GCH 04020 LG 0 3/400 VΔ/50 Hz	1,5	1,4	72	
In progress	GCH 04020 RD 270 3/380 VΔ/60 Hz	1,5	1,4	72	
In progress	GCH 04020 LG 270 3/380 VΔ/60 Hz	1,5	1,4	72	
In progress	GCH 04020 RD 0 3/380 VΔ/60 Hz	1,5	1,4	72	
In progress	GCH 04020 LG 0 3/380 VΔ/60 Hz	1,5	1,4	72	
In progress	GCH 05020 RD 270 3/400 VΔ/50 Hz	5,5	5,2	78	
In progress	GCH 05020 LG 270 3/400 VΔ/50 Hz	5,5	5,2	78	
In progress	GCH 05020 RD 0 3/400 VΔ/50 Hz	5,5	5,2	78	
In progress	GCH 05020 LG 0 3/400 VΔ/50 Hz	5,5	5,2	78	
In progress	GCH 05020 RD 270 3/380 VΔ/60 Hz	5,5	5,2	78	
In progress	GCH 05020 LG 270 3/380 VΔ/60 Hz	5,5	5,2	78	
In progress	GCH 05020 RD 0 3/380 VΔ/60 Hz	5,5	5,2	78	
In progress	GCH 05020 LG 0 3/380 VΔ/60 Hz	5,5	5,2	78	
In progress	GCH 05040 RD 270 3/400 VΔ/50 Hz	7,5	7	80	
In progress	GCH 05040 LG 270 3/400 VΔ/50 Hz	7,5	7	80	
In progress	GCH 05040 RD 0 3/400 VΔ/50 Hz	7,5	7	80	
In progress	GCH 05040 LG 0 3/400 VΔ/50 Hz	7,5	7	80	
In progress	GCH 05040 RD 270 3/380 VΔ/60 Hz	7,5	7	80	
In progress	GCH 05040 LG 270 3/380 VΔ/60 Hz	7,5	7	80	
In progress	GCH 05040 RD 0 3/380 VΔ/60 Hz	7,5	7	80	
In progress	GCH 05040 LG 0 3/380 VΔ/60 Hz	7,5	7	80	
3891100	GCM 04540 RD 270 3/400 VΔ/50 Hz	7,5	7,1	82	
3891101	GCM 04540 LG 270 3/400 VΔ/50 Hz	7,5	7,1	82	
3891102	GCM 04540 RD 0 3/400 VΔ/50 Hz	7,5	7,1	82	
3891103	GCM 04540 LG 0 3/400 VΔ/50 Hz	7,5	7,1	82	
3891104	GCM 04540 RD 270 3/440 VΔ/60 Hz	7,5	7,1	82	
3891105	GCM 04540 LG 270 3/440 VΔ/60 Hz	7,5	7,1	82	
3891106	GCM 04540 RD 0 3/440 VΔ/60 Hz	7,5	7,1	82	
3891107	GCM 04540 LG 0 3/440 VΔ/60 Hz	7,5	7,1	82	
3891108	GCM 04540 RD 270 3/380 VΔ/60 Hz	7,5	7,1	82	
3891109	GCM 04540 LG 270 3/380 VΔ/60 Hz	7,5	7,1	82	
3891110	GCM 04540 RD 0 3/380 VΔ/60 Hz	7,5	7,1	82	
3891111	GCM 04540 LG 0 3/380 VΔ/60 Hz	7,5	7,1	82	
3891112	GCM 05020 RD 270 3/400 VΔ/50 Hz	9	8,7	83	
3891113	GCM 05020 LG 270 3/400 VΔ/50 Hz	9	8,7	83	
3891114	GCM 05020 RD 0 3/400 VΔ/50 Hz	9	8,7	83	
3891115	GCM 05020 LG 0 3/400 VΔ/50 Hz	9	8,7	83	
3891116	GCM 05020 RD 270 3/440 VΔ/60 Hz	9	8,7	83	
3891117	GCM 05020 LG 270 3/440 VΔ/60 Hz	9	8,7	83	

Available models

CODE	MODELS	TOTAL ELECTRICAL POWER INSTALLED (kW)	TOTAL ELECTRICAL POWER ABSORBED (kW)	SOUND PRESSURE dB(A)	NOTE
3891118	GCM 05020 RD 0 3/440 VΔ/60 Hz	9	8,7	83	
3891119	GCM 05020 LG 0 3/440 VΔ/60 Hz	9	8,7	83	
3891120	GCM 05020 RD 270 3/380 VΔ/60 Hz	9	8,7	83	
3891121	GCM 05020 LG 270 3/380 VΔ/60 Hz	9	8,7	83	
3891122	GCM 05020 RD 0 3/380 VΔ/60 Hz	9	8,7	83	
3891123	GCM 05020 LG 0 3/380 VΔ/60 Hz	9	8,7	83	
3891124	GCM 05040 RD 270 3/400 VΔ/50 Hz	11	10,5	84	
3891125	GCM 05040 LG 270 3/400 VΔ/ 50 Hz	11	10,5	84	
3891126	GCM 05040 RD 0 3/400 VΔ/ 50 Hz	11	10,5	84	
3891127	GCM 05040 LG 0 3/400 VΔ/ 50 Hz	11	10,5	84	
3891128	GCM 05040 RD 270 3/440 VΔ/ 60 Hz	11	10,5	84	
3891129	GCM 05040 LG 270 3/440 VΔ/ 60 Hz	11	10,5	84	
3891130	GCM 05040 RD 0 3/440 VΔ/ 60 Hz	11	10,5	84	
3891131	GCM 05040 LG 0 3/440 VΔ/ 60 Hz	11	10,5	84	
3891132	GCM 05040 RD 270 3/380 VΔ/ 60 Hz	11	10,5	84	
3891133	GCM 05040 LG 270 3/380 VΔ/ 60 Hz	11	10,5	84	
3891134	GCM 05040 RD 0 3/380 VΔ/ 60 Hz	11	10,5	84	
3891135	GCM 05040 LG 0 3/380 VΔ/ 60 Hz	11	10,5	84	
3891136	GBJ H05630 RD 270 3/400 VΔ/ 50 Hz	11	10,5	88	
3891137	GBJ H05630 LG 270 3/400 VΔ/ 50 Hz	11	10,5	88	
3891138	GBJ H05630 RD 0 3/400 VΔ/ 50 Hz	11	10,5	88	
3891139	GBJ H05630 LG 0 3/400 VΔ/ 50 Hz	11	10,5	88	
3891140	GBJ H05630 RD 270 3/440 VΔ/ 60 Hz	11	10,5	88	
3891141	GBJ H05630 LG 270 3/440 VΔ/ 60 Hz	11	10,5	88	
3891142	GBJ H05630 RD 0 3/440 VΔ/ 60 Hz	11	10,5	88	
3891143	GBJ H05630 LG 0 3/440 VΔ/ 60 Hz	11	10,5	88	
3891144	GBJ H05630 RD 270 3/380 VΔ/ 60 Hz	11	10,5	88	
3891145	GBJ H05630 LG 270 3/380 VΔ/ 60 Hz	11	10,5	88	
3891146	GBJ H05630 RD 0 3/380 VΔ/ 60 Hz	11	10,5	88	
3891147	GBJ H05630 LG 0 3/380 VΔ/ 60 Hz	11	10,5	88	
3891148	GBJ H06320 RD 270 3/400 VΔ/ 50 Hz	15	14,5	91	
3891149	GBJ H06320 LG 270 3/400 VΔ/ 50 Hz	15	14,5	91	
3891150	GBJ H06320 RD 0 3/400 VΔ/ 50 Hz	15	14,5	91	
3891151	GBJ H06320 LG 0 3/400 VΔ/ 50 Hz	15	14,5	91	
3891152	GBJ H06320 RD 270 3/440 VΔ/ 60 Hz	15	14,5	91	
3891153	GBJ H06320 LG 270 3/440 VΔ/ 60 Hz	15	14,5	91	
3891154	GBJ H06320 RD 0 3/440 VΔ/ 60 Hz	15	14,5	91	
3891155	GBJ H06320 LG 0 3/440 VΔ/ 60 Hz	15	14,5	91	
3891156	GBJ H06320 RD 270 3/380 VΔ/ 60 Hz	15	14,5	91	
3891157	GBJ H06320 LG 270 3/380 VΔ/ 60 Hz	15	14,5	91	
3891158	GBJ H06320 RD 0 3/380 VΔ/ 60 Hz	15	14,5	91	
3891159	GBJ H06320 LG 0 3/380 VΔ/ 60 Hz	15	14,5	91	

Available models

CODE	MODELS	TOTAL ELECTRICAL POWER INSTALLED (kW)	TOTAL ELECTRICAL POWER ABSORBED (kW)	SOUND PRESSURE dB(A)	NOTE
3891160	GBJ I06310 RD 270 3/400 VΔ/ 50 Hz	15	14,5	90	
3891161	GBJ I06310 LG 270 3/400 VΔ/ 50 Hz	15	14,5	90	
3891162	GBJ I06310 RD 0 3/400 VΔ/ 50 Hz	15	14,5	90	
3891163	GBJ I06310 LG 0 3/400 VΔ/ 50 Hz	15	14,5	90	
3891164	GBJ I06310 RD 270 3/440 VΔ/ 60 Hz	15	14,5	90	
3891165	GBJ I06310 LG 270 3/440 VΔ/ 60 Hz	15	14,5	90	
3891166	GBJ I06310 RD 0 3/440 VΔ/ 60 Hz	15	14,5	90	
3891167	GBJ I06310 LG 0 3/440 VΔ/ 60 Hz	15	14,5	90	
3891168	GBJ I06310 RD 270 3/380 VΔ/ 60 Hz	15	14,5	90	
3891169	GBJ I06310 LG 270 3/380 VΔ/ 60 Hz	15	14,5	90	
3891170	GBJ I06310 RD 0 3/380 VΔ/ 60 Hz	15	14,5	90	
3891171	GBJ I06310 LG 0 3/380 VΔ/ 60 Hz	15	14,5	90	
3891172	GBJ H06330 RD 270 3/400 VΔ/ 50 Hz	18,5	18	92	
3891173	GBJ H06330 LG 270 3/400 VΔ/ 50 Hz	18,5	18	92	
3891174	GBJ H06330 RD 0 3/400 VΔ/ 50 Hz	18,5	18	92	
3891175	GBJ H06330 LG 0 3/400 VΔ/ 50 Hz	18,5	18	92	
3891176	GBJ H06330 RD 270 3/440 VΔ/ 60 Hz	18,5	18	92	
3891177	GBJ H06330 LG 270 3/440 VΔ/ 60 Hz	18,5	18	92	
3891178	GBJ H06330 RD 0 3/440 VΔ/ 60 Hz	18,5	18	92	
3891179	GBJ H06330 LG 0 3/440 VΔ/ 60 Hz	18,5	18	92	
3891180	GBJ H06330 RD 270 3/380 VΔ/ 60 Hz	18,5	18	92	
3891181	GBJ H06330 LG 270 3/380 VΔ/ 60 Hz	18,5	18	92	
3891182	GBJ H06330RD 0 3/380 VΔ/ 60 Hz	18,5	18	92	
3891183	GBJ H06330 LG 0 3/380 VΔ/ 60 Hz	18,5	18	92	
3891184	GBJ I06320 RD 270 3/400 VΔ/ 50 Hz	18,5	18	90	
3891185	GBJ I06320 LG 270 3/400 VΔ/ 50 Hz	18,5	18	90	
3891186	GBJ I06320 RD 0 3/400 VΔ/ 50 Hz	18,5	18	90	
3891187	GBJ I06320 LG 0 3/400 VΔ/ 50 Hz	18,5	18	90	
3891188	GBJ I06320 RD 270 3/440 VΔ/ 60 Hz	18,5	18	90	
3891189	GBJ I06320 LG 270 3/440 VΔ/ 60 Hz	18,5	18	90	
3891190	GBJ I06320 RD 0 3/440 VΔ/ 60 Hz	18,5	18	90	
3891191	GBJ I06320 LG 0 3/440 VΔ/ 60 Hz	18,5	18	90	
3891192	GBJ I06320 RD 270 3/380 VΔ/ 60 Hz	18,5	18	90	
3891193	GBJ I06320 LG 270 3/380 VΔ/ 60 Hz	18,5	18	90	
3891194	GBJ I06320 RD 0 3/380 VΔ/ 60 Hz	18,5	18	90	
3891195	GBJ I06320 LG 0 3/380 VΔ/ 60 Hz	18,5	18	90	
3891196	GBJ I06360 RD 270 3/400 VΔ/ 50 Hz	22	21	92	
3891197	GBJ I06360 LG 270 3/400 VΔ/ 50 Hz	22	21	92	
3891198	GBJ I06360 RD 0 3/400 VΔ/ 50 Hz	22	21	92	
3891199	GBJ I06360 LG 0 3/400 VΔ/ 50 Hz	22	21	92	
3891200	GBJ I06360 RD 270 3/440 VΔ/ 60 Hz	22	21	92	
3891201	GBJ I06360 LG 270 3/440 VΔ/ 60 Hz	22	21	92	

Available models

CODE	MODELS	TOTAL ELECTRICAL POWER		SOUND PRESSURE	NOTE
		INSTALLED (kW)	ABSORBED (kW)	dB(A)	
3891202	GBJ I06360 RD 0 3/440 VΔ/ 60 Hz	22	21	92	
3891203	GBJ I06360 LG 0 3/440 VΔ/ 60 Hz	22	21	92	
3891204	GBJ I06360 RD 270 3/380 VΔ/ 60 Hz	22	21	92	
3891205	GBJ I06360 LG 270 3/380 VΔ/ 60 Hz	22	21	92	
3891206	GBJ I06360 RD 0 3/380 VΔ/ 60 Hz	22	21	92	
3891207	GBJ I06360 LG 0 3/380 VΔ/ 60 Hz	22	21	92	
3891208	GBJ H06380 RD 270 3/400 VΔ/ 50 Hz	22	21	93	
3891209	GBJ H06380 LG 270 3/400 VΔ/ 50 Hz	22	21	93	
3891210	GBJ H06380 RD 0 3/400 VΔ/ 50 Hz	22	21	93	
3891211	GBJ H06380 LG 0 3/400 VΔ/ 50 Hz	22	21	93	
3891212	GBJ H06380 RD 270 3/440 VΔ/ 60 Hz	22	21	93	
3891213	GBJ H06380 LG 270 3/440 VΔ/ 60 Hz	22	21	93	
3891214	GBJ H06380 RD 0 3/440 VΔ/ 60 Hz	22	21	93	
3891215	GBJ H06380 LG 0 3/440 VΔ/ 60 Hz	22	21	93	
3891216	GBJ H06380 RD 270 3/380 VΔ/ 60 Hz	22	21	93	
3891217	GBJ H06380 LG 270 3/380 VΔ/ 60 Hz	22	21	93	
3891218	GBJ H06380 RD 0 3/380 VΔ/ 60 Hz	22	21	93	
3891219	GBJ H06380 LG 0 3/380 VΔ/ 60 Hz	22	21	93	
3891220	GBJ H0712 RD 270 3/400 VΔ/ 50 Hz	30	28	95	
3891221	GBJ H0712 LG 270 3/400 VΔ/ 50 Hz	30	28	95	
3891222	GBJ H0712 RD 0 3/400 VΔ/ 50 Hz	30	28	95	
3891223	GBJ H0712 LG 0 3/400 VΔ/ 50 Hz	30	28	95	
3891224	GBJ H0712 RD 270 3/440 VΔ/ 60 Hz	30	28	95	
3891225	GBJ H0712 LG 270 3/440 VΔ/ 60 Hz	30	28	95	
3891226	GBJ H0712 RD 0 3/440 VΔ/ 60 Hz	30	28	95	
3891227	GBJ H0712 LG 0 3/440 VΔ/ 60 Hz	30	28	95	
3891228	GBJ H0712 RD 270 3/380 VΔ/ 60 Hz	30	28	95	
3891229	GBJ H0712 LG 270 3/380 VΔ/ 60 Hz	30	28	95	
3891230	GBJ H0712 RD 0 3/380 VΔ/ 60 Hz	30	28	95	
3891231	GBJ H0712 LG 0 3/380 VΔ/ 60 Hz	30	28	95	
3891232	GBJ H0717 RD 270 3/400 VΔ/ 50 Hz	37	35	95	
3891233	GBJ H0717 LG 270 3/400 VΔ/ 50 Hz	37	35	95	
3891234	GBJ H0717 RD 0 3/400 VΔ/ 50 Hz	37	35	95	
3891235	GBJ H0717 LG 0 3/400 VΔ/ 50 Hz	37	35	95	
3891236	GBJ H0717 RD 270 3/440 VΔ/ 60 Hz	37	35	95	
3891237	GBJ H0717 LG 270 3/440 VΔ/ 60 Hz	37	35	95	
3891238	GBJ H0717 RD 0 3/440 VΔ/ 60 Hz	37	35	95	
3891239	GBJ H0717 LG 0 3/440 VΔ/ 60 Hz	37	35	95	
3891240	GBJ H0717 RD 270 3/380 VΔ/ 60 Hz	37	35	95	
3891241	GBJ H0717 LG 270 3/380 VΔ/ 60 Hz	37	35	95	
3891242	GBJ H0717 RD 0 3/380 VΔ/ 60 Hz	37	35	95	
3891243	GBJ H0717 LG 0 3/380 VΔ/ 60 Hz	37	35	95	

Available models

CODE	MODELS	TOTAL ELECTRICAL POWER INSTALLED (kW)	TOTAL ELECTRICAL POWER ABSORBED (kW)	SOUND PRESSURE dB(A)	NOTE
3891244	GBJ I0710 RD 270 3/400 VΔ/ 50 Hz	37	35	94	
3891245	GBJ I0710 LG 270 3/400 VΔ/ 50 Hz	37	35	94	
3891246	GBJ I0710 RD 0 3/400 VΔ/ 50 Hz	37	35	94	
3891247	GBJ I0710 LG 0 3/400 VΔ/ 50 Hz	37	35	94	
3891248	GBJ I0710 RD 270 3/440 VΔ/ 60 Hz	37	35	94	
3891249	GBJ I0710 LG 270 3/440 VΔ/ 60 Hz	37	35	94	
3891250	GBJ I0710 RD 0 3/440 VΔ/ 60 Hz	37	35	94	
3891251	GBJ I0710 LG 0 3/440 VΔ/ 60 Hz	37	35	94	
3891252	GBJ I0710 RD 270 3/380 VΔ/ 60 Hz	37	35	94	
3891253	GBJ I0710 LG 270 3/380 VΔ/ 60 Hz	37	35	94	
3891254	GBJ I0710 RD 0 3/380 VΔ/ 60 Hz	37	35	94	
3891255	GBJ I0710 LG 0 3/380 VΔ/ 60 Hz	37	35	94	
3891256	GBJ I0712 RD 270 3/400 VΔ/ 50 Hz	45	42	94	
3891257	GBJ I0712 LG 270 3/400 VΔ/ 50 Hz	45	42	94	
3891258	GBJ I0712 RD 0 3/400 VΔ/ 50 Hz	45	42	94	
3891259	GBJ I0712 LG 0 3/400 VΔ/ 50 Hz	45	42	94	
3891260	GBJ I0712 RD 270 3/440 VΔ/ 60 Hz	45	42	94	
3891261	GBJ I0712 LG 270 3/440 VΔ/ 60 Hz	45	42	94	
3891262	GBJ I0712 RD 0 3/440 VΔ/ 60 Hz	45	42	94	
3891263	GBJ I0712 LG 0 3/440 VΔ/ 60 Hz	45	42	94	
3891264	GBJ I0712* RD 270 3/380 VΔ/ 60 Hz	45	42	94	
3891265	GBJ I0712* LG 270 3/380 VΔ/ 60 Hz	45	42	94	
3891266	GBJ I0712* RD 0 3/380 VΔ/ 60 Hz	45	42	94	
3891267	GBJ I0712* LG 0 3/380 VΔ/ 60 Hz	45	42	94	
3891268	GBJ I0800A RD 270 3/400 VΔ/ 50 Hz	55	50	95	
3891269	GBJ I0800A LG 270 3/400 VΔ/ 50 Hz	55	50	95	
3891270	GBJ I0800A RD 0 3/400 VΔ/ 50 Hz	55	50	95	
3891271	GBJ I0800A LG 0 3/400 VΔ/ 50 Hz	55	50	95	
3891272	GBJ I0800A RD 270 3/440 VΔ/ 60 Hz	55	50	95	
3891273	GBJ I0800A LG 270 3/440 VΔ/ 60 Hz	55	50	95	
3891274	GBJ I0800A RD 0 3/440 VΔ/ 60 Hz	55	50	95	
3891275	GBJ I0800A LG 0 3/440 VΔ/ 60 Hz	55	50	95	
3891276	GBJ I0800A* RD 270 3/380 VΔ/ 60 Hz	55	50	95	
3891277	GBJ I0800A* LG 270 3/380 VΔ/ 60 Hz	55	50	95	
3891278	GBJ I0800A* RD 0 3/380 VΔ/ 60 Hz	55	50	95	
3891279	GBJ I0800A* LG 0 3/380 VΔ/ 60 Hz	55	50	95	

* Motor size 45-55 kW voltage supply 3/380 V/60 Hz are rewinded. Other electrical supply are available on request.

Noise level tolerance: + 3 dB

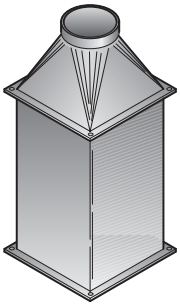
Fan accessories

Fan silencers for GCM and GBJ models

Cylindrical/rectangular silencers in zinc sheet full of circular flange for mounting on the fans aspiration mouths.

Fan silencers for GCM models

SILENCER	SUCTION FLANGE	OUTLET FLANGE	FAN MODELS	LENGHT (m)	NOISE REDUCTION (dBA)	CODE
▶ **GXS A 1032**	GXS B32	GWA 0321L	GCM 04540	1	3-4	In progress
▶ **GXS A 1035**	GXS B35	GWA 0361L	GCM 05020	1	3-4	In progress
▶ **GXS A 1035**	GXS B35	GWA 0361L	GCM 05040	1	3-4	In progress



Fan silencers for GBJ models

SILENCER	SUCTION FLANGE (mm)	OUTLET FLANGE (mm)	FAN MODELS	LENGHT (m)	NOISE REDUCTION (dBA)	CODE
▶ **GXS J1**	400x800	350	GBJ H06320 GBJ I06310	2	3-4	In progress
▶ **GXS J2**	800x600	350	GBJ H05630 GBJ H06330	2	3-4	In progress
▶ **GXS J3**	800x750	400	GBJ H06380 GBJ I06320 GBJ I0710 GBJ I07120	2	3-4	In progress
▶ **GXS J4**	800x900	400	GBJ I06360 GBJ H07120	2	3-4	In progress
▶ **GXS J5**	800x1050	500	GBJ H07170	2	3-4	In progress
▶ **GXS J6**	1200x800	560	GBJ I0800A	2	3-4	In progress

Fan accessories

Circular DAPO' flow regulators for GCM and GBJ models

Flow rate regulators are used to vary the fan flow rate, so as to keep the efficiency high even during the operation. Available with manual and motor-driven operation.

Circular DAPO' flow regulators for GCM models

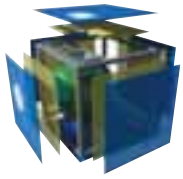
TYPE	BORES (n°)	WEIGHT (kg)	FAN MODELS	CODE
▶ GXH _0315	8	19	GCM 04540	In progress
▶ GXH _0355	8	21	GCM 05020	In progress
▶ GXH _0355	8	21	GCM 05040	In progress

Circular DAPO' flow regulators for GBJ models

TYPE	BORES (n°)	WEIGHT (kg)	FAN MODELS	CODE
▶ GXH _0280	8	17	GBJ H05630	In progress
▶ GXH _0315	8	19	GBJ H06320	In progress
▶ GXH _0315	8	19	GBJ H06330	In progress
▶ GXH _0315	8	19	GBJ H06380	In progress
▶ GXH _0355	8	21	GBJ H0712	In progress
▶ GXH _0355	8	21	GBJ H0717	In progress
▶ GXH _0355	8	21	GBJ I06310	In progress
▶ GXH _0355	8	21	GBJ I06320	In progress
▶ GXH _0355	8	21	GBJ I06360	In progress
▶ GXH _0400	12	23	GBJ I0710	In progress
▶ GXH _0400	12	23	GBJ I0712	In progress
▶ GXH _0450	12	26	GBJ I0800A	In progress

Fan accessories

Sound proofing box



Used to dampen the fan noise during operation. In the standard version they are provided with:
- Vibration-damping joints between the fan panels and the suction and delivery flanges
- Flexible supports between the fan and the base
- Silenced circulation air intakes
- Lifting eyebolts
- Self-bearing chassis
- Removable inspection panels.

TYPE	DIMENSIONS (mm)	NOISE REDUCTION	FAN MODELS	CODE
▶ **GXB 5H**	1150x1110x1120	10-15 dB(A) at 2 m	GBJ H05630	In progress
▶ **GXB 6H**	1250x1250x1220	10-15 dB(A) at 2 m	GBJ H06320	In progress
▶ **GXB 6H**	1250x1250x1220	10-15 dB(A) at 2 m	GBJ H06330	In progress
▶ **GXB 6H**	1250x1250x1220	10-15 dB(A) at 2 m	GBJ H06380	In progress
▶ **GXB 6I**	1250x1250x1220	10-15 dB(A) at 2 m	GBJ I06310	In progress
▶ **GXB 6I**	1250x1250x1220	10-15 dB(A) at 2 m	GBJ I06320	In progress
▶ **GXB 6I**	1250x1250x1220	10-15 dB(A) at 2 m	GBJ I06360	In progress
▶ **GXB 7H**	1320x1250x1340	10-15 dB(A) at 2 m	GBJ H0712	In progress
▶ **GXB 7H**	1320x1250x1340	10-15 dB(A) at 2 m	GBJ H0717	In progress
▶ **GB 7I**	1320x1430x1340	10-15 dB(A) at 2 m	GBJ I0710	In progress
▶ **GB 7I**	1320x1430x1340	10-15 dB(A) at 2 m	GBJ I0712	In progress
▶ **GXB 8I**	1440x1500x1470	10-15 dB(A) at 2 m	GBJ I0800A	In progress

For all the fan models it is possible to predispose electrical motor for the application of inverter so to have variable fan rotation speed by varying frequency.

QA SERIES

Burner control panels are available in different structural versions, such as wall-mounted and desk tpye (on request).
The automatic control system makes the logical integration of whole combustion system.
The customisation of this logic is carried out with the different type of combustion process and in compliance with the main safety norms.
Basic operation can be increased by the addition of more sophisticated control systems such as continuos regulation of combustion (oxygene trim), fan speed control (with inverter), electronic cam and others.
The standard control panels are designed and realized according to the norm EN 60439-1. They are suitable for indoor application (IP 54), on request, suitable for outdoor applications.

QA...PM	Natural Gas
QA...PG	Light Oil
QA...PN	Heavy Oil
QA...PGM	Natural Gas and Light Oil
QA...PNM	Natural Gas and heavy Oil

Specification

DESIGNATION OF SERIES

Series: QA			
Size: 10…14			
Operation :	P/	progressive (mechanic cam)	
	E/	electronic cam	
Fuel:	M	Natural gas	
	G	Light oil	
	N	Heavy oil	
	GM	Natural gas and Light oil	
	NM	Natural gas and Heavy oil	
ID number of max burner output:	… 1 - 2 - 3		
Heating system:	A	electrical	
	B	steam/electrical	
Power supply to the system:	3/230/50	3/230V/50Hz	
	3/400/50	3/400V/50Hz	
	3/208/60	3/208V/60Hz	
	3/220/60	3/220V/60Hz	
	3/254/60	3/254V/60Hz	
	3/265/60	3/265V/60Hz	
	3/380/60	3/380V/60Hz	
	3/440/60	3/440V/60Hz	
	3/460/60	3/460V/60Hz	
Auxiliary and control supply:	110/50-60	110V (+10%/-15%) /50-60Hz	
	230/50-60	230V (+10%/-15%) /50-60Hz	

QA	11	P/	N	1	A	3/230/50	230/50-60
BASIC DESIGNATION							
EXTENDED DESIGNATION							

Specification

STATE OF SUPPLY

Wall-mounted burner control panels for logical integration of a whole combustion system, made up of some basic components and different devices depending on applications requirments following the list and the table below.

- General switch with door interlock
- Control box for ingition cycle and flame safeguard
- Power controller (RWF 40) for modulating operation
- Terminal strip with bearings
- Carpentery metal structure for support and assembly of all components
- Fuse block
- Thermal relay
- Auxilary relay and socket
- Lamps.

		MAX. BURNER OUTPUT≤7,5MW							MAX. BURNER OUTPUT>7,5MW						
	FUEL	M	G	N	N	GM	NM	NM	M	G	N	N	GM	NM	NM
	DEVICE / NOTE			(1)	(2)		(1)	(2)			(1)	(2)		(1)	(2)
BURNER CONTROL	Reset alarm push-buttom	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Emergency shut down push-buttom	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Automatic/stop/manual operating switch	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Manual modulation switch (+increase / - decrease)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Fuel selector switch					•	•	•					•	•	•
	Heating operation selection switch			•	•		•	•			•	•			
HEATERS AND MOTORS SUPPLY	Fuses for motor	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Contactor + relay for motor	•	•	•	•	•	•	•						•	•
	Motor star/delta starter								•	•	•	•	•	•	•
	Fuses for heaters			•	•		•	•			•	•		•	•
	Contactor for heaters			•	•		•	•			•	•		•	•
LAMPS AND ALARMS	Control voltage status	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Boiler lock out (safety switch)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Burner lock out to client system manager	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Leakage detector (VPS) lock-out	•				•		•	•				•		•
	Fan motor status: on/overload	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	External signals consens	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Oil pump motor status: on/overload		•	•	•	•	•	•	•	•	•	•	•	•	•
	High/low limit oil temperature			•	•		•	•			•	•		•	•
	Burner on	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CONTROL/ REGULATION DEVICES	Oil temperature controller		•	•	•	•	•	•		•	•	•	•	•	•
	Air/fuel ratio electronic control (*)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
STEAM BOILER OPTIONS	Feed water pump control	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Levels control	•	•	•	•	•	•	•	•	•	•	•	•	•	•

(1) Only electrical heating type
(2) Steam/electrical heating type
(*) Only for burners with micromodulation system

Available models

MODEL	MAX. BURNER POWER (kW)
QA 10 PM - 1A 3/230/50	3900
QA 10 PM - 2A 3/230/50	4600
QA 11 PM - 1A 3/230/50	5400
QA 11 PM - 2A 3/230/50	6200
QA 11 PM - 3A 3/230/50	7000
QA 12 PM - 1A 3/230/50	7700
QA 12 PM - 2A 3/230/50	8500
QA 13 PM - 1A 3/230/50	9500
QA 13 PM - 2A 3/230/50	10800
QA 14 PM - 1A 3/230/50	11600
QA 14 PM - 2A 3/230/50	12400
QA 10 PG - 1A 3/230/50	3900
QA 10 PG - 2A 3/230/50	4600
QA 11 PG - 1A 3/230/50	5400
QA 11 PG - 2A 3/230/50	6200
QA 11 PG - 3A 3/230/50	7000
QA 12 PG - 1A 3/230/50	7700
QA 12 PG - 2A 3/230/50	8500
QA 13 PG - 1A 3/230/50	9300
QA 13 PG - 2A 3/230/50	10800
QA 14 PG - 1A 3/230/50	11600
QA 14 PG - 2A 3/230/50	12400
QA 10 PN - 1A 3/230/50	3900
QA 10 PN - 2A 3/230/50	4600
QA 11 PN - 1A 3/230/50	5400
QA 11 PN - 2A 3/230/50	6200
QA 11 PN - 3A 3/230/50	7000
QA 12 PN - 1A 3/230/50	7700
QA 12 PN - 2A 3/230/50	8500
QA 13 PN - 1A 3/230/50	9300
QA 13 PN - 2A 3/230/50	10800
QA 14 PN - 1A 3/230/50	11600
QA 14 PN - 2A 3/230/50	12400
QA 10 PN - 1B 3/230/50	3900
QA 10 PN - 2B 3/230/50	5000
QA 11 PN - 1B 3/230/50	5400
QA 11 PN - 2B 3/230/50	6200
QA 11 PN - 3B 3/230/50	7000
QA 12 PN - 1B 3/230/50	7700
QA 12 PN - 2B 3/230/50	8500
QA 13 PN - 1B 3/230/50	9300
QA 13 PN - 2B 3/230/50	10800
QA 14 PN - 1B 3/230/50	11600
QA 14 PN - 2B 3/230/50	12400

MODEL	MAX. BURNER POWER (kW)
QA 10 PGM - 1A 3/230/50	3900
QA 10 PGM - 2A 3/230/50	4600
QA 11 PGM - 1A 3/230/50	5400
QA 11 PGM - 2A 3/230/50	6200
QA 11 PGM - 3A 3/230/50	7000
QA 12 PGM - 1A 3/230/50	7700
QA 12 PGM - 2A 3/230/50	8500
QA 13 PGM - 1A 3/230/50	9300
QA 13 PGM - 2A 3/230/50	10800
QA 14 PGM - 1A 3/230/50	11600
QA 14 PGM - 2A 3/230/50	12400
QA 10 PNM - 1A 3/230/50	3900
QA 10 PNM - 2A 3/230/50	4600
QA 11 PNM - 1A 3/230/50	5400
QA 11 PNM - 2A 3/230/50	6200
QA 11 PNM - 3A 3/230/50	7000
QA 12 PNM - 1A 3/230/50	7700
QA 12 PNM - 2A 3/230/50	8500
QA 13 PNM - 1A 3/230/50	9300
QA 13 PNM - 2A 3/230/50	10800
QA 14 PNM - 1A 3/230/50	11600
QA 14 PNM - 2A 3/230/50	12400
QA 10 PNM - 1B 3/230/50	3900
QA 10 PNM - 2B 3/230/50	5000
QA 11 PNM - 1B 3/230/50	5400
QA 11 PNM - 2B 3/230/50	6200
QA 11 PNM - 3B 3/230/50	7000
QA 12 PNM - 1B 3/230/50	7700
QA 12 PNM - 2B 3/230/50	8500
QA 13 PNM - 1B 3/230/50	9300
QA 13 PNM - 2B 3/230/50	10800
QA 14 PNM - 1B 3/230/50	11600
QA 14 PNM - 2B 3/230/50	12400

Available accessories

The following options or accessories are available on request:

OPTION OR ACCESSORY
Feed water pump level control – up to 7,5 kW
Feed water pump level control – up to 18 kW
Desk type control panel (overprice respect wall-mounted version)
IP 55 protection degree (overprice respect IP 54 version)
Leakage control LDU 11 mounted on control panel

Special burners on demand

For some models Riello Burners is able to offer technical variants which allow the burner to be used in case of special applications different from the standard in terms of:
- special National or Regional Directives
- local requirements in terms of plant design and installation
- special requirements in terms of interface/integration with the plant system.

These burner variants can be developed upon request and after a technical-commercial evaluation. The availability of this kind of products is planned within 60 days after receipt of order. In the following table you can find the variants available: further special variants can be evaluated upon request.

	RL BLU	RL/M BLU	GULLIVER RG	GULLIVER RGD	GULLIVER RGF	GULLIVER RGDF	RIELLO 40 G	RIELLO 40 GI	RIELLO 40 F	RDB	PRESS G
Painted cover	●	●	●	●	●	●	●	●	●	●	
Strip version (no CE) - (only for under cover application)			●	●	●	●	●	●	●	●	
Air damper open in stand-by			●		■		●		■	■	
Installed extended head kit			●	●	●	●	●	●	●		
MO550 digital control box			■	■	●	●					
553SE/H control box with hourcounter signal			●	●	●	●					
With electrical supply cable *			●	●	●	●	●	●	●		
Always on 25W electrical heater			●	●	●	●	●	●	●	●	
Kerosene fuel version			●	●	●	●	●	●	●	■	
Biodiesel 5% blended fuel version			●		●		●	●	●		
With gas train *											
LPG version											
Town Gas version (no CE)											
MO556 digital control box							●	●	●		
Ceramic electrodes			●	●	■	■	●	●	■		
Continuosly ventilation version (no CE)	●	●	●	●	●	●	●	●	●		●
Post ventilation version (no CE)	●	●	●	●	●	●	●	●	●		■
Remoted control box version (no CE)							●		●		
Reduced combustion head diameter version							●		●		
BF Balanced Flue version							●	●	●	■	
RMG digital control box											
Hot air generator version (no CE)											
Short flame version (end cone with turbulator disk)											
Kitchen version							■				
Continuous operation / Steam boilers	●	●									
Version with external controls (terminal strip interface)	●	●									●
Remote status and alarm signals (voltage free)	●	●									●
AISI 310 combustion head blast tube	●	●									●
Extended pre-ventilation (5 minutes max)	●	●									●
Voltage - frequency variants	●	●									●
Marine burner version (compliance to Marine standards)	●	●									
Various combustion head length	●	●					●	●	●		●
Remote modulation from analogic signal		●									
Burner control cycle for combustor and incinerator	●	●									●
Quick start cycle (short pre-ventilation)	●	●									●
Bio Gas version											
Plug and Socket interface	■	■	■	■	■	■	■	■	■		
Manual modulating operation											
IP 55 version without control panel (with terminal strip interface)											●
Dual fuel Light oil / Heavy oil version											
MO 535 digital control box										●	

* Supplied as standard equipment.

■ Available as standard

● Available on demand

Not available

Special burners on demand

	PRESS T/G	PRESS P/G	RL/1 - RL	RL/M	PRESS N	PRESS T/N	PRESS P/N	GULLIVER BS	GULLIVER BSD	GULLIVER BSF	GULLIVER BSDF
Painted cover			●	●				●	●	●	●
Strip version (no CE) - (only for under cover application)								●	●	●	●
Air damper open in stand-by			●	●				●		➡	
Installed extended head kit								●	●	●	●
MG569 digital control box								➡	➡	➡	➡
553SE/H control box with hourcounter signal											
With electrical supply cable *								●	●	●	●
Always on 25W electrical heater											
Kerosene fuel version											
Biodiesel 5% blended fuel version											
With gas train *								●	●	●	●
LPG version								●	●	●	●
Town Gas version (no CE)								●	●	●	●
MO556 digital control box											
Ceramic electrodes											
Continuosly ventilation version (no CE)	●	●	●	●	●	●	●	●	●	●	●
Post ventilation version (no CE)	➡	➡	➡	•	➡	➡	➡	➡	➡	➡	➡
Remoted control box version (no CE)											
Reduced combustion head diameter version											
BF Balanced Flue version											
RMG digital control box											
Hot air generator version (no CE)											
Short flame version (end cone with turbulator disk)											
Kitchen version											
Continuous operation / Steam boilers		●	●	➡			●				
Version with external controls (terminal strip interface)	●	●	●	●	●	●	●				
Remote status and alarm signals (voltage free)	●	●	●	●	●	●	●				
AISI 310 combustion head blast tube	●	●	●	●	●	●	●				
Extended pre-ventilation (5 minutes max)	●	●	●	●	●	●	●				
Voltage - frequency variants	●	●	●	●	●	●	●				
Marine burner version (compliance to Marine standards)			●	●							
Various combustion head length	●	●	●	●	●	●	●	●	●	●	●
Remote modulation from analogic signal		●		●			●				
Burner control cycle for combustor and incinerator	●	●		●	●	●	●				
Quick start cycle (short pre-ventilation)	●	●		●	●	●	●	●	●	●	●
Bio Gas version								●	●	●	●
Plug and Socket interface								➡	➡	➡	➡
Manual modulating operation		●					●				
IP 55 version without control panel (with terminal strip interface)	●	●									
Dual fuel Light oil / Heavy oil version					●						
MO 535 digital control box											

* Supplied as standard equipment. ➡ Available as standard ● Available on demand Not available

	RS/M BLU	RS/E BLU	RIELLO 40 GS	RIELLO 40 GSD	RIELLO 40 FS	RIELLO 40 FSD	GULLIVER RS	GULLIVER RSD	GULLIVER RSF	GULLIVER RSDF	GAS
Painted cover	●	●	●	●	●	●	●	●	●	●	
Strip version (no CE) - (only for under cover application)			●	●	●	●	●	●	●	●	
Air damper open in stand-by			●		■		●		■		
Installed extended head kit			●	●	●	●	●	●	●	●	
MG569 digital control box							■	■	■	■	
553SE/H control box with hourcounter signal											
With electrical supply cable *			●	●	●	●	●	●	●	●	
Always on 25W electrical heater											
Kerosene fuel version											
Biodiesel 5% blended fuel version											
With gas train *			●	●	●	●	●	●	●	●	
LPG version	●	●	●	●	●	●	●	●	●	●	●
Town Gas version (no CE)			●	●	●	●	●	●	●	●	●
MG557 digital control box			■	■	■	■					
Ceramic electrodes											
Continuosly ventilation version (no CE)	●	●	●	●	●	●	●	●	●		●
Post ventilation version (no CE)	●	●	●	●	●	●		■	■	■	■
Remoted control box version (no CE)											
Reduced combustion head diameter version											
BF Balanced Flue version			●		●						
RMG digital control box	■		●	●	●	●					■
Hot air generator version (no CE)			●		●						
Short flame version (end cone with turbulator disk)			●	●		●					
Kitchen version			●								
Continuous operation / Steam boilers	■	●									●
Version with external controls (terminal strip interface)	●	●									●
Remote status and alarm signals (voltage free)	●	●									●
AISI 310 combustion head blast tube	●	●									●
Extended pre-ventilation (5 minutes max)	●	●									●
Voltage - frequency variants	●	●									●
Marine burner version (compliance to Marine standards)											
Various combustion head length	●	●	●	●	●	●	●	●	●	●	●
Remote modulation from analogic signal	●	●									
Burner control cycle for combustor and incinerator	●										●
Quick start cycle (short pre-ventilation)	●	●					●	●	●	●	●
Bio Gas version			●	●	●	●	●	●	●	●	●
Plug and Socket interface	■	■	■	■	■	■	■	■	■	■	
Manual modulating operation											
IP 55 version without control panel (with terminal strip interface)											
Dual fuel Light oil / Heavy oil version											
MO 535 digital control box											

* Supplied as standard equipment.

■ Available as standard

● Available on demand

Not available

Special burners on demand

	GAS/2	GAS P/M	RS/1 - RS	RS/M	RS/E MZ	RLS/M MX	RLS	RLS/M MZ	GI/EMME Two Stage	GI/EMME Modulating	ENNE/EMME
Painted cover			●	●	●	●	●	●			
Strip version (no CE) - (only for under cover application)											
Air damper open in stand-by											
Installed extended head kit							●	●	●	●	●
MO550 digital control box											
553SE/H control box with hourcounter signal											
With electrical supply cable *											
Always on 25W electrical heater											
Kerosene fuel version											
Biodiesel 5% blended fuel version											
With gas train *											
LPG version	●	●	●	●	●	●	●	●	●	●	●
Town Gas version (no CE)	●	●	●	●	●						
MO556 digital control box											
Ceramic electrodes											
Continuosly ventilation version (no CE)	●	●	●	●	●	●	●	●	●	●	●
Post ventilation version (no CE)	■	●	■	●	●	●	●	●	■	●	●
Remoted control box version (no CE)											
Reduced combustion head diameter version											
BF Balanced Flue version											
RMG digital control box	■		■	■							
Hot air generator version (no CE)											
Short flame version (end cone with turbulator disk)											
Kitchen version											
Continuous operation / Steam boilers	●	●	●	●	●	■	●	●		●	●
Version with external controls (terminal strip interface)	●	●	●	●	●	●	●	●	●	●	●
Remote status and alarm signals (voltage free)	●	●	●	●	●	●	●	●	●	●	●
AISI 310 combustion head blast tube	●	●	●	●	●		●				
Extended pre-ventilation (5 minutes max)	●	●	●	●	●	●	●	●	●	●	●
Voltage - frequency variants	●	●	●	●	●	●	●	●	●	●	●
Marine burner version (compliance to Marine standards)											
Various combustion head length	●	●	●	●	●	●	●	●	●	●	●
Remote modulation from analogic signal		●		●	●	●		●		●	●
Burner control cycle for combustor and incinerator	●	●	●	●		●	●	●	●	●	●
Quick start cycle (short pre-ventilation)	●	●	●	●	●	●	●	●	●	●	●
Bio Gas version	●	●	●	●	●	●	●	●	●	●	●
Plug and Socket interface		●					●				
Manual modulating operation		●									●
IP 55 version without control panel (with terminal strip interface)											
Dual fuel Light oil / Heavy oil version											
MO 535 digital control box											

* Supplied as standard equipment. ■ Available as standard ● Available on demand Not available

Request for information

If you did not find the product for your application in this catalogue, please fill in the following form and send it to RIELLO BURNERS APPLICATION ENGINEERING DEPT. (fax +39 0442 630 375 - application.engineering@rielloburners.com)

Customer: Contact person: Riello Project Ref.:

Boiler model: Manufacturer: Year:

☐ Hot water ☐ Superheated water ☐ Thermal oil ☐ _____
☐ High pressure steam ☐ Low pressure steam ☐ Superheated steam

Max working pressure ☐ bar Max working temperature ☐ °C Steam ☐ ton/h

System design ☐ Firetube ☐ 3-pass ☐ Heat recovery ☐ Twin chamber/Twin burner
☐ Watertube ☐ Reversed flame ☐ Single chamber/Twin burner

Type of Process application .....

Thermal power Boiler nominal output ☐ kW ☐ kcal/h Efficiency ☐ %
Burner nominal output ☐ kW ☐ kcal/h

Combustion chamber data
Combustion chamber resistance ☐ mbar ☐ mm W.C. ☐ W.C.
Length ☐ mm High ☐ mm
Diameter ☐ mm Width ☐ mm Min burner head projection ☐ mm

Fuel ☐ Natural gas ☐ LPG ☐ Town gas ☐ _____ ☐ _____
☐ Light oil ☐ Heavy oil ☐ Kerosene ☐ _____

Gas supply Net calorific value ☐ kWh/Nmc ☐ kcal/Nmc
Gas supply pressure ☐ mbar ☐ Bar

Gas train ☐ Regulating gas train ☐ Safety gas train ☐ Leakage control

Oil supply Viscosity: ☐ 6 cSt at 20°C ☐ 3°E at 50°C ☐ 20°E at 50°C ☐ 50°E at 50°C ☐ 85°E at 50°C
Lower calorific value: ... ☐ kWh/kg ☐ kcal/kg

Burner site installation Country ☐ Town ☐
Altitude ☐ m a.s.l. ☐ Indoor ☐ Outdoor Temperature ☐ °C

Electrical data (Power voltage / control voltage / frequency)
☐ 400/230/50 ☐ 380/220/60 ☐ 210/120/60 ☐ 440/220/60 ☐ 230/230/50 ☐ other ____ /____ /____

Burner control options ☐ Mechanical cam ☐ O_2 only Analysis ☐ Fan speed control (VSD)
☐ Electronic cam ☐ O_2 Trim

Burner pumping unit ☐ Single pump ☐ Single filter
☐ Double pump ☐ Double filter

Oil preheater ☐ Electrical
☐ Steam + Electrical

Approval/compliance with:
☐ European Standards EN 267, EN 676 ☐ North American Standards UL 296, UL 795 ☐ _____ ☐ _____

Other requirements .....

Date Signature

Sales & Service Network

WEST EUROPE

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
ALBANIA	Name: Ergeda Vulcano Address: Brigada 8 str. 8/1 Build. City: Tirana	Office Phone: 355 4 237273 Office Fax: 355 4 237273 e-mail: egdvul@abissnet.com.al			
BELGIUM	Name: Riello S.A./N.V. Address: Waverstraat 3 City: B-9310 Aalst-Moorsel	Office Phone: 0032 53 769030 Office Fax: 0032 53 789440 e-mail: info@riello.be			
	Name: Geveke Climate Technology Address: Leuvenseweg 250 A City: B-1800 Vilvoorde	Office Phone: +32 2 257 10 03 Office Fax: +32 2 257 10 08 e-mail: info@geveke.be			
CYPRUS	Name: Royal Engineering Co. Ltd. Address: 1, Prodicou Str. P.O. Box 20689 City: 1662 Nicosia	Office Phone: +357-2-344985 / 347782 Office Fax: +357 - 2 - 348436 Mobile Phone: +35-09-657192 e-mail: styleng@cytanet.com.cy			
DENMARK	Name: Milton A/S Address: Kornmarksvej 8-10 City: D.K. 2605 Brøndby	Office Phone: +45 46970000 Office Fax: +45 46970001 e-mail: milton@milton.dk			
FINLAND	Name: Oy Callidus Ab Address: Hiekkakiventie 1 City: 00710 Helsinki	Office Phone: 09 3747 51 Office Fax: 09 3747 5505 e-mail: info@callidus.fi website: www.callidus.fi			

WEST EUROPE

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
FRANCE	Name: S.F.C.R. Riello - Division Brûleurs France Address: 56 Boulevard de Courcerin Local n°35 City: 77183 Croissy Beaubourg	Office Phone: +33 1 64116375 Office Fax: +33 1 64116373 e-mail: mp@riello.fr website: www.rielloburners-france.com			
GERMANY	Name: Riello S.p.A. Zweigniederlassung Deutschland Address: Josef-Baumann-Str. 19a City: 44805 Bochum	Office Phone: +49 234 8901412 Office Fax: +49 234 8901419 e-mail: info@rielloburners.de			
GREECE	Name: Caloria S.A. Address: 57 Ifestou str. City: 19400 Koropi - Athens	Office Phone: 0030-210-6628068/69/70/71/72/73 Office Fax: 0030-210-6623784 Mobile Phone: 0030-6944841974 e-mail: info@caloria.gr			
HOLLAND	Name: Geveke Klimaattechniek Address: Barajasweg 60 City: 1043 CP Amsterdam	Office Phone: +31 20 5829111 Office Fax: +31 20 6861604 e-mail: info@geveke.wtb.nl			
ITALY	Name: Riello S.p.A. Address: Via Caterina Visconti, 11 City: 37045 Legnago (VR)	Office Phone: +39 0442 630111 Office Fax: +39 0442 630107 e-mail: assistenza@riello.it website: www.riello.it			
MALTA	Name: Anthony Falzon Energy Projects Address: 12, Triq il-Parrocca City: St. Venera HMR 18	Office Phone: +356 21470265 Office Fax: +356 21470264 e-mail: info@energyprojectsmalta.com			
NORWAY	Name: VV Parts AS Address: Larkollveien 10 City: N-1570 Dilling	Office Phone: +47 69 26 46 50 Office Fax: +47 69 26 46 99 e-mail: support@vvparts.no website: www.vvparts.no			

WEST EUROPE

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
PORTUGAL	Name: Eclipse Combustion S.A. Address: Santander, 71 City: 08020 Barcelona	Office Phone: +34 93 4980400 Office Fax: +34 93 4980410 website: www.eclipsenet.com		■	■
	Name: Galecia Address: Rua dos Combatentes, 681 City: 4485 - 093 Fajozes Vila Do Conde	Office Phone: +351 252 660500 Office Fax: +351 252 660501 e-mail: s.t@galecia.pt	■	■	
SPAIN	Name: Eclipse Combustion S.A. Address: Santander, 71 City: 08020 Barcelona	Office Phone: +34 93 4980400 Office Fax: +34 93 4980410 website: www.eclipsenet.com	■	■	■
SWITZERLAND	Name: Riello Suisse S.A. Address: Via Industria City: CH-6814 Lamone	Office Phone: +41/91/6045022 Office Fax: +41/91/6045024 Mobile Phone: +41/79/2070551 e-mail: guenther.bezler@riello.ch	■	■	
SWEDEN	Name: Milton Sverige AB Address: Lastgatan 13 City: 254 64 Helsingborg	Office Phone: +46 042252840 Office Fax: +46 042158621 e-mail: info@milton.se website: www.milton.se	■	■	
UK	Name: Riello Ltd. Address: The Ermine Centre Ermine Business Park City: Huntingdon Cambridgeshire PE29 6WX	Office Phone: +44 1480432144 Office Fax: +44 1480432191 e-mail: info@rielloburners.co.uk	■	■	■

EAST EUROPE

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
BULGARIA	Name: Caloria Ltd. Address: 202 Street, no. 8 City: 1220 Sofia	Office Phone: +359 2 83111-30/33 Office Fax: +359 2 83111-34 Mobile Phone: +359 89845150 +395 888233284 e-mail: riello@techno-link.com website: www.caloria.bg			
CZECH REPUBLIC	Name: Šlitr GFE Address: Tómkova 144a City: 500 03 Hradec Kralove	Office Phone: +42 049 5581864 Office Fax: +42 049 5581864 Mobile Phone: +420-602 241 353 e-mail: info@riello.cz			
ESTONIA	Name: Filter AS Address: Läike tee 9, Peetri küla, Rae vald City: 75312 Harjumaa	Office Phone: +372 606 6666 Office Fax: +372 606 6650 e-mail: filter@filter.ee			
HUNGARY	Name: Riello Hungary Kft. Address: Lomb Utca 37-39 City: H-1139 Budapest	Office Phone: +36 1 3399069 Office Fax: +36 1 3200578 e-mail: info@riello.hu			
LATVIA	Name: Filter SIA Address: Aizkraukles iela 21, LV-1006 City: Rīga	Office Phone: +371 675 567 65 Office Fax: +371 675 502 24 e-mail: filter@filter.lv			
LITHUANIA	Name: Filter UAB Address: Draugystės g. 19, LT-51230 City: Kaunas	Office Phone: +370 37 400 370 Office Fax: +370 37 400 373 e-mail: filter@filter.lt			
POLAND	Name: Riello Palniki Sp. z o.o. Address: ul. Pólnocna 15-19 City: 54-105 Wroclaw	Office Phone: +48 71 326 53 80 Office Fax: +48 71 326 53 90 e-mail: info@rielloburners.wroc.pl			

EAST EUROPE

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
ROMANIA	Name: SC Riello RO S.r.l. Address: Str. Siret nr.95, sect.1 City: 012152 Bucuresti	Office Phone: +40 21 2246648 Office Fax: +40 21 2029287 e-mail: office@riello.ro			
RUSSIA	Name: Riello S.p.A. Representative Office in CIS Address: Malaya Kaluzhskaya Street City: 117927 Moscow	Office Phone: +7-495-7851485 Office Fax: +7-495-7851486 e-mail: jp@beretta.ru			
SLOVAK REPUBLIC	Name: Iseng-Mont s.r.o. Address: Cervenej Arnady, 18 City: 93401 Levice	Office Phone: +421-36-6313240/6313042 Office Fax: +421-36-6319248 e-mail: isengmont@isengmont.sk			
UKRAINE	Name: Riello S.p.A. Representative Office in CIS Address: Otto Shmidta str. 26b City: 04107 Kiev	Office Phone: +38 (044) 239-97-31 Office Fax: +38 (044) 239-97-31 e-mail: cv@beretta.ru			

MIDDLE EAST AND AFRICA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
ALGERIA	Name: Eurl Maroua Impex Address: 4em km Route de Batna, 47 City: Constantine	Office Phone: +213 31 625 733 Office Fax: +213 31 625 734-5 e-mail: maroua_impex@hotmail.com			
EGYPT	Name: Mohamed Ahmed Omer Address: 11 Darb Shaikh Faraq St. City: Block Ela - Cairo	Office Phone: +2 02 5762898-5797176 Office Fax: +2 02 5779503 e-mail: a-omar@link.net			
IRAN	Name: Ramesh Trading Co. Address: 465 Taleghani st. City: Teheran	Office Phone: +98 5118405619 Office Fax: +98 5118411627 e-mail: eng@middleasthvac.com			
JORDAN	Name: Matco - Mazzawi Trading Co. Address: P.O. Box 9151 City: Amman 11191	Office Phone: +962 6 5513462 - 5513463 Office Fax: +962 6 5524127 e-mail: adel@mazzawitrading.com			
LEBANON	Name: Hage Group Address: Rue Monot, Imm. Tabet 11-4991 City: 9312 Beirouth	Office Phone: +961 1 329209 Office Fax: +961 1 329209 Mobile Phone: +961 3 618558 e-mail: rony@hagegroup.com			
MOROCCO	Name: Aqua Flamme Address: Rue de l'Aisne Belvedere 22-24 City: Casablanca	Office Phone: +212 22 305 350 Office Fax: +212 22 305 289 e-mail: aquaflamme@aquaflamme.ma			
	Name: S.te Hierro Address: 11 Rue Abou Amrane el Fassi City: 21100 Casablanca	Office Phone: +212 22 985971 Office Fax: +212 22 254142			

MIDDLE EAST AND AFRICA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
NAMIBIA	Name: Rentech Address: Rentech Building, no. 5, 12th street, Industrial Area City: Walvis Bay	Office Phone: +264 64 204327 Office Fax: +264 64 204328 e-mail: info@rentech.bz website: www.rentech.bz			
SOUTH AFRICA	Name: Combustion Technology (Pty) Ltd. Postal Address: P.O. BOX 30047, Tokai, 7966, Cape Town Premises Address: Unit 28E, 60 White Road, Retreat, 7945, Cape Town	Office Phone: +27 (21) 7153171 Office Fax: +27 (21) 7156297 Mobile Phone: +27 82 568 4012 e-mail: grant@rielloburners.co.za			
SYRIA	Name: Tahmaz Co. Address: P.O. Box 316 City: Damascus	Office Phone: +963 11 2121533 Office Fax: +963 11 2121294 e-mail: tahmazco@scs-net.org			
TUNISIA	Name: Sotucep S.A. Address: 8, Rue Abou El Hassen Gabsi City: Citè El Khadra - 1003 Tunis	Office Phone: +216 1 772506 Office Fax: +216 1 770476 Mobile Phone: +21609342132 e-mail: khouja.samir@sotucep.com			
TURKEY	Name: E-Gaz Address: Perpa Ticaret Merkezi B Blok Kat: 11 n° 1651 City: 80270 Sisli / Istanbul	Office Phone: +90 (0) 212 3205201-02 Office Fax: +90 (0) 212 3207924-25 e-mail: info@e-gaz.com.tr			
UNITED ARAB EMIRATES	Name: Alitaliya Trading Est. Address: P.O. Box 28095 City: Sharjah	Office Phone: +971 6 5671265 Office Fax: +971 6 5670260 e-mail: mail@alitaliya.com			
	Name: Value Addition Address: P.O. Box 8153 - A3/77 Saif Zone City: Sharjah	Office Phone: +971 6 5571699 Office Fax: +971 6 5571678 e-mail: value@emirates.net.ae			

FAR EAST AND OCEANIA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
AUSTRALIA	Name: Accutherm Address: Unit 1/5 Samantha Court City: Knoxfield 3180 Victoria	Office Phone: +61 3 97636335 Office Fax: +61 3 97638003 e-mail: sales@accutherm.com.au			
	Name: System Control Engineering PTY. LTD. Address: 5 Alfred Street, Blackburn, Victoria 3130 City: Melbourne	Office Phone: +61 3 9877 3211 Office Fax: +61 3 9878 5337 e-mails: scott.rimes@systemcontrol.com.au brian.walton@systemcontrol.com.au website: www.systemcontrol.com.au			
CHINA	Name: Riello Beijing Representative Office Address: Rm. 1915, Gemdale Plaza Tower B, No. 91 Jianguo Road Chaoyang District City: 100022 Beijing	Office Phone: +86 10 6563 0131 Office Fax: +86 10 6566 2772 e-mail: julie@riellogroup.com.cn			
INDIA	Name: Suntec Energy Systems Address: “Sambhaav House” Bodakdev, Vastrapur City: 380015 Ahmedabad	Office Phone: +91 79 26871911 Office Fax: +91 79 26871990 e-mail: anita@suntecenergy.in			
INDONESIA	Name: Pt. Unitek Standarindo Address: Jl. Pangeran Jayakarta 44/29, Complex Hotel Mercure City: 10730 Jakarta	Office Phone: +62 21 6289456 - 6264806 Office Fax: +62 21 6264807 e-mail: unitek@unitek.co.id			
JAPAN	Name: Riello Japan Inc. Address: c/o NFK 1-53, 2-Chome, Shitte Tsurumi-ku, P.O. Box 280 City: Yokohama	Office Phone: +81 455758097 Office Fax: +81 455758099 e-mail: info@rielloburners.co.jp			
KOREA	Name: Chungwoo Gnt. Co. Ltd. Address: 1Ma – 715Ho 1695, Jeongwang-dong, Kyunggi-do, 429-915 City: Shihung-city	Office Phone: +82 31 4972041 Office Fax: +82 31 4972048 Website: http://cwgnt.co.kr			

FAR EAST AND OCEANIA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
MALAYSIA	Name: Unimech Eng. Sdn Bhd. Address: No. 4934, Jalan Chain Ferry City: 12100 Butterworth, Penang	Office Phone: +60 4 33288821/2/3 Office Fax: +60 4 3325491 e-mail: lk.wong@unimechgroup.com			
NEW ZEALAND	Name: Aquaheat Heating Solutions Address: 92 - 96 Main Road, Tawa P.O. Box 51-031 City: Wellington	Office Phone: +64 4 232 5179 Office Fax: +64 4 232 4170 e-mail: sales@aquaheat.co.nz			
	Name: System Control Engineering PTY. LTD. Address: 274 Church Street, Onehunga, 1006 City: Auckland	Office Phone: + 64 9 636 1401 Office Fax: + 64 9 636 1525 e-mail: sales@systemcontrol.co.nz website: www.systemcontrol.co.nz			
PHILIPPINES	Name: Willshine Enterprise Company Address: No. 6 McDonought Road Quirino Avenue, Tambo City: 1700 Paranaque City	Office Phone: +63 2 8521179/84/98 Office Fax: +63 2 8521231 e-mail: powill@tri-isys.com			
SINGAPORE	Name: Riello S.p.A. Rep. Off. Address: 300,Beach Road #38-04, The Concourse City: 199555 Singapore	Office Phone: +65 63415580 Office Fax: +65 63980314 e-mail: info@riello.com.sg			
	Name: Tech Ray Pte Ltd. Address: 36 Gul Avenue, Jurong City: 629676 Singapore	Office Phone: +65 68613188 Office Fax: +65 68610833 e-mail: timothy@tech-ray.com			
SRI LANKA	Name: Ess Kaye Enterprise Address: 6/1B, Tyre Corporation Road, Dalugama City: Kelaniya	Office phone: +94 11 4815918 Office fax: +94 11 5511351 e-mail: sksiva@sol.lk			

FAR EAST AND OCEANIA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
TAIWAN	Name: Ching Ye Co. Ltd. Address: 8F-11, No.16, Lane 609, Sec. 5, Chung Hsin Rd City: Sanchung City, Taipei	Office Phone: +886 2 29990456 Office Fax: +886 2 29990455 e-mail: info@chingye.com.tw			
THAILAND	Name: R.L. Burner (Thailand) Co., Ltd. Address: 24, 26 Soi Chan 18/7 Yak 3 Thungwatdon, Sathorn City: 10120 Bangkok	Office Phone: +66 2 6732772 Office Fax: +66 2 6731881 e-mail: rielloth@truemail.co.th			
	Name: Unimech Engineering Group (Thailand) Co., Ltd. Address: 68/60 Moo 5 Kingkaew Road., T.Rachatewa A.Bangplee City: Samutprakam	Office Phone: +66 2 738 8640 - 6 Office Fax: +66 2 7388647 e-mail: raymond@unimechgroups.com			
VIETNAM	Name: Dinh Hai Equipment Co. Ltd.-DHE Address: 1C Street No 10, Tan binh Industrial Park City: Ho Chi Minh	Office Phone: +84 38 815 5195 Office Fax: +84 38 815 5196 Mobile Phone: +84 90701 289 e-mail: dinhhai@hcm.vnn.vn			

AMERICA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
BRAZIL	Name: Auto-Ferr Ind. e Com. de Queimadores Ltda. Address: Av. Álvaro Guimarães, 322 09890-001 Bairro Planalto City: São Bernardo do Campo	Office Phone: +55 11 4341-4894 Office Fax: +55 11 4341-6501 e-mail: auto-ferr@auto-ferr.com.br website: www.riello.com.br			
CANADA	Name: Riello Burners North America Address: 2165 Meadowpine Blvd. City: L5N 6H6 Mississauga (Ontario)	Office Phone: +1-800-4-RIELLO +1-800-474-3556 Office Fax: +1-866-2-RIELLO e-mail: info@rbna.com			
CHILE	Name: Anwo S.A. Address: Los Orfebres 380 Parque Ind. La Reina City: Santiago de Chile	Office Phone: +56 2 7310000 Office Fax: +56 2 2730404 Mobile Phone: 096791004 e-mail: deptotecnico@anwo.cl website: www.anwo.cl			
COLOMBIA	Name: Indisa S.A. Address: Cra. 75 no. 48A-27 City: 55812 Medellin	Office Phone: +57 4 2605533 Office Fax: +57 4 2308388 e-mail: comercial@indisa.com.co website: www.indisa.com.co			
CUBA	Name: Air Tecnia S.A. de C.V. Address: Calle 24 105 apto. Entra 1ra y 3ra Miramar City: Playa	Office Phone: +537240064 Office Fax: +537249660 e-mail: airtecnia@airtecnia.cu			
MEXICO	Name: Controles y Quemadores de Mexico, S.A. de C.V. Address: Blvd. Hermanos Serdan, 41 Col. Amor City: Puebla	Office Phone: 0052 22 480817 Office Fax: 0052 22 480817 e-mail: info@cqmexico.com.mx website: www.cqmexico.com.mx			
PANAMA	Name: Servipan S.A. Address: Calle Principal Altos de Bethania 3C - Apartado 6 City: 2680 El Dorado Panama	Office Phone: +507 2600748 Office Fax: +507 2606342 e-mail: servipa@sinfo.net			

AMERICA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	RESIDENTIAL BURNERS	COMMERCIAL BURNERS	INDUSTRIAL BURNERS
PERU	Name: Energroup S.A. Address: Calle Mar Adriatico N° 105 Surco City: Lima	Office Phone: +511 250 1360 - 436 9333 Office Fax: +511 250 1255 e-mail: jnieto@energroup.com.pe website: www.energroup.com.pe			
URUGUAY	Name: Tecnosolar S.A. Address: Calle Paraguay 1968 City: 11800 Montevideo	Office Phone: +59829240738-42 Office Fax: +59829248423 e-mail: info@tecnosolar.com.uy			
USA	Name: Riello Burners North America Address: 35 Pond Park Road City: 02043 Hingham (Massachusetts)	Office Phone: +1-800-4-RIELLO +1-800-474-3556 Office Fax: +1-866-2-RIELLO e-mail: info@rbna.com			
VENEZUELA	Name: Riello Venezuela Address: Calle 13, edf Yamato PB Local 6-E - La Urbina City: Caracas	Office Phone: +58 212 2416748 Office Fax: +58 414 3268480 e-mail: enricopancera@hotmail.com			

CISQ is a member of

IQNet

www.iqnet-certification.com

IQNet, the association of the world's first class certification bodies, is the largest provider of management System Certification in the world. IQNet is composed of more than 30 bodies and counts over 150 subsidiaries all over the globe.

ICIM

www.icim.it

CERTIFICATO n. / *CERTIFICATE No.* **0061/5**

SI CERTIFICA CHE IL SISTEMA DI GESTIONE PER LA QUALITA' DI
WE HEREBY CERTIFY THAT THE QUALITY MANAGEMENT SYSTEM OPERATED BY

RIELLO S.p.A.

UNITA' OPERATIVE
OPERATIVE UNITS

Headquarters
Via Ing. Pilade Riello, 7 - 37048 San Pietro di Legnago (VR)
Burners Division
Via Ing. Pilade Riello, 5 - 37048 San Pietro di Legnago (VR)
Via del Lavoro, 504 - 37050 Angiari (VR)
Riello Division
Via Caterina Visconti, 11 - 37045 Legnago (VR)
Via Mussa, 20 - 35017 Piombino Dese (PD)
Via J. Gasparini, 86 - 31040 Volpago del Montello (TV)
Gas Boilers Division
Via Risorgimento, 13 - 23900 Lecco (LC)
Via dell'Industria, 10 - 23017 Morbegno (SO)
Via San Nicolò, 9 - 20069 Vaprio d'Adda (MI)
RUG S.A. - UL. Kociewska, 28/30 - 87-100 Torun - Poland
Fit Service S.p.A.
Via dell'Industria, 13 - 37012 Bussolengo (VR)
Coge Engineering S.r.l.
Via degli Olivi, 66 – 31054 Possagno (TV)

E' CONFORME ALLA NORMA
IS IN COMPLIANCE WITH THE STANDARD

UNI EN ISO 9001:2000

PER LE SEGUENTI ATTIVITA'
FOR THE FOLLOWING ACTIVITIES

EA: 17

Progettazione, fabbricazione, vendita e assistenza di: bruciatori per riscaldamento residenziale e per applicazioni commerciali e industriali; caldaie murali e scaldabagni; gruppi termici, caldaie a basamento e sistemi per il riscaldamento, gruppi di autoproduzione, cogenerazione, trigenerazione e produzione di vapore. Commercializzazione e assistenza di: prodotti per il riscaldamento; prodotti per il condizionamento e la refrigerazione; complementi di impianto. Commercializzazione di ricambi e accessori.
Design, manufacturing, sales and service of: residential heating burners and commercial and industrial burners; wall-hung boilers and water heaters; units, floor standing boilers and heating systems; continuous electric power plants, cogeneration systems, trigeneration systems and steam generation systems. Trading and service of: heating products; air conditioning and cooling products; systems' parts and accessories. Trading of spare parts and accessories.

Riferirsi al Manuale della Qualità per l'applicabilità dei requisiti della Norma ISO 9001:2000.
Refer to Quality Manual for details of application to ISO 9001:2000 requirements.

Il presente certificato è soggetto al rispetto del regolamento per la certificazione dei sistemi di gestione per la qualità delle aziende.
The use and the validity of this certificate shall satisfy the requirements of the rules for the certification of company quality management systems.

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CISQ è la Federazione Italiana di Organismi di Certificazione dei sistemi di gestione aziendale

CISQ is the Italian Federation of management system Certification Bodies

SINCERT

Membro degli Accordi di Mutuo Riconoscimento EA e IAF
Signatory of EA and IAF Mutual Recognition Agreements

SGQ N° 008A
SGA N° 008D
PRD N° 009B
SCR N° 006F

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Since the Company is constantly engaged in the production improvement, the aesthetic and dimensional features, the technical data, the equipment and the accessories can be changed.
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