RIELLO BURNERS

technical sales

catalogue

JANUARY 2002

New Burners Production Plant
S. Pietro - Legnago, Italy

New Combustion Research Centre
Angiari, Italy

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 :

RANGE OF PRODUCTS

p. 5

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.

INDEX OF PRODUCTS

p. 11

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

GENERAL INFORMATION FOR BURNER APPLICATION

p. 19

In this section we help you to select the burner series by type of application. The applications are divided by kind of heated fluid

MONOBLOC BURNERS DATA SHEETS SECTION

p. 25

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

INDUSTRIAL BURNERS DATA SHEETS SECTION

p. 331

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

REQUEST OF INFORMATION

p. 373

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

SALES AND SERVICE NETWORKS

p. 375

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

the colour coding

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 burner the green colour is associated with fuel type color.

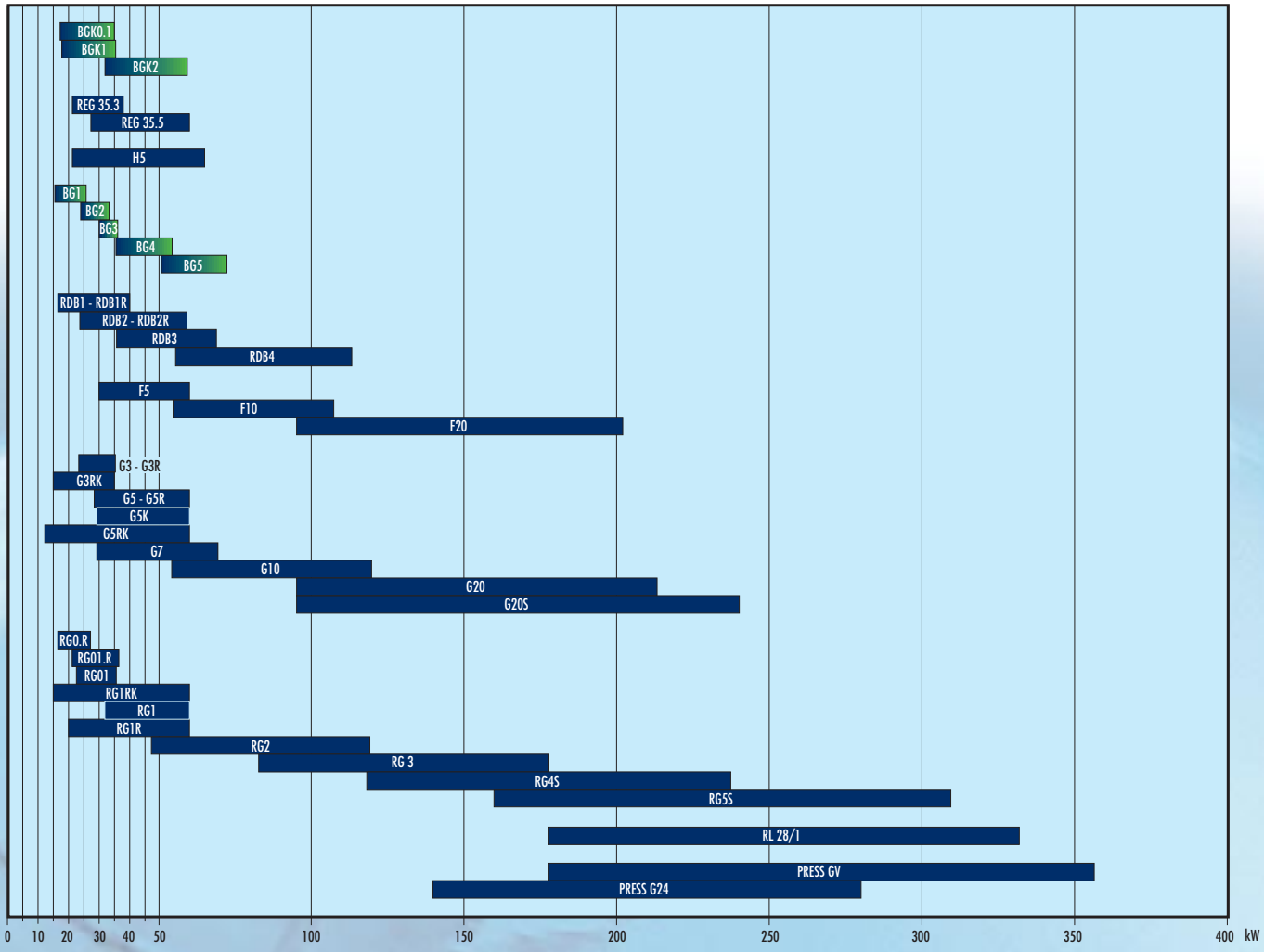
fuels and associated colour identification

- LIGHT OIL BURNERS
- LOW NOx LIGHT OIL BURNERS
- HEAVY OIL BURNERS
- GAS BURNERS
- LOW NOx GAS BURNERS
- DUAL FUEL BURNERS
- LOW NOx DUAL FUEL BURNERS
- OIL, GAS and DUAL FUEL INDUSTRIAL BURNERS
- OIL, GAS and DUAL FUEL LOW NOx INDUSTRIAL BURNERS

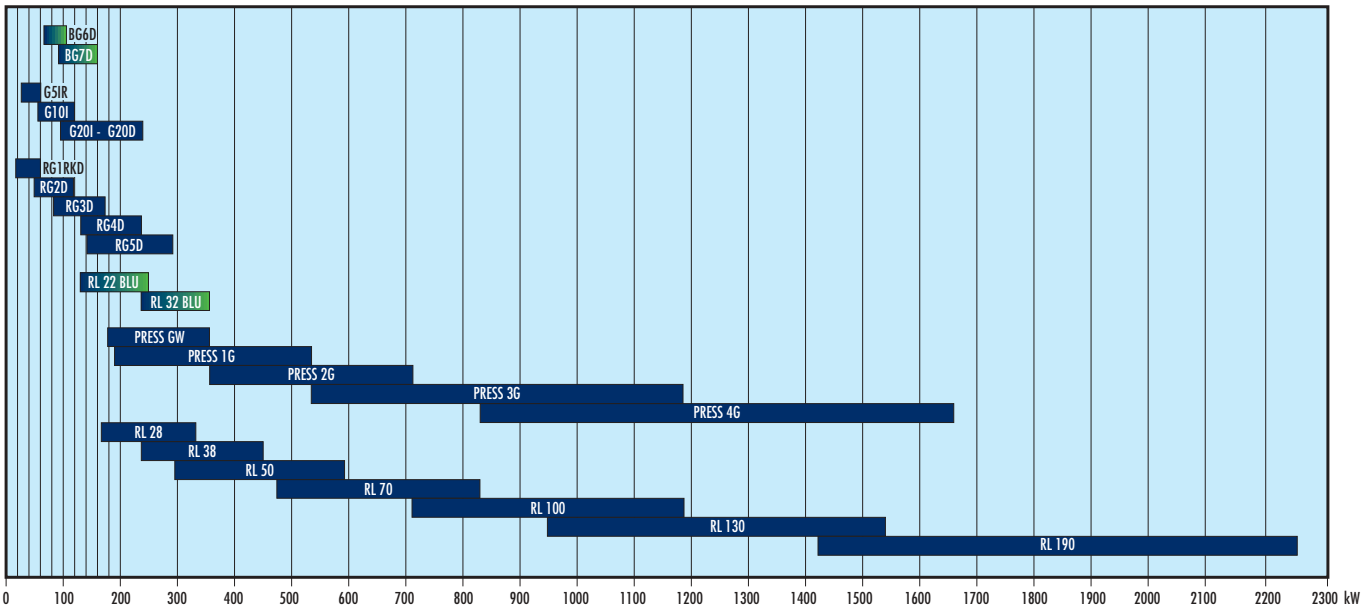
range of products

LIGHT OIL BURNERS

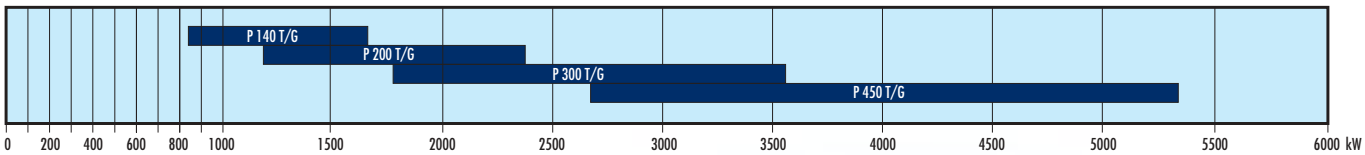
ONE STAGE



TWO STAGE



THREE STAGE



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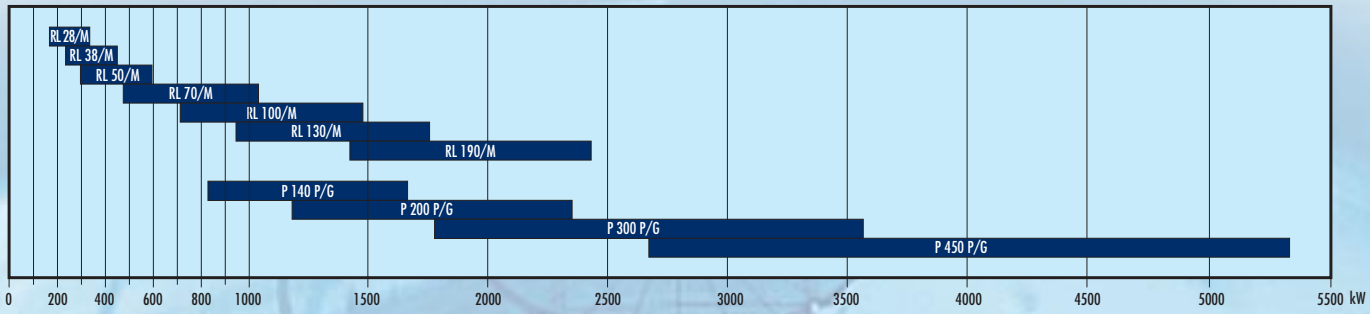
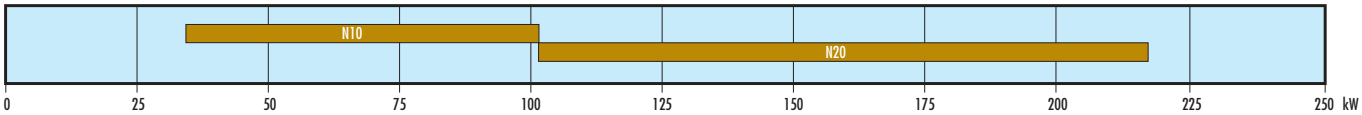


MODULATING

HEAVY OIL BURNERS

ONE STAGE



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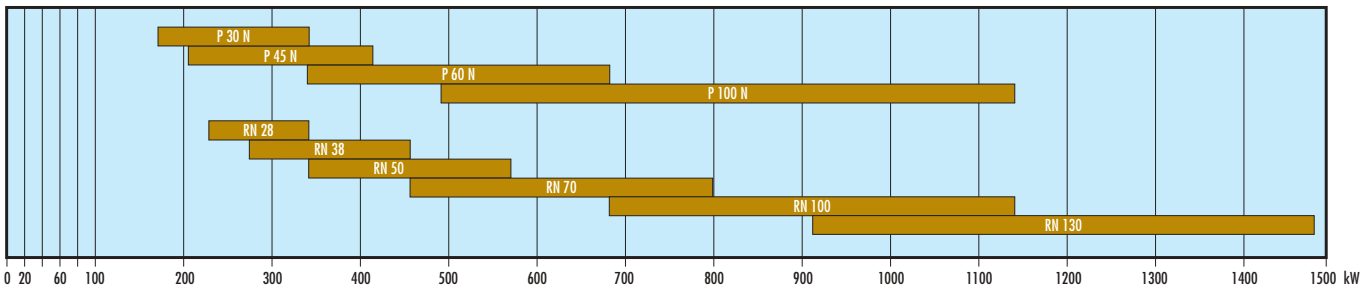

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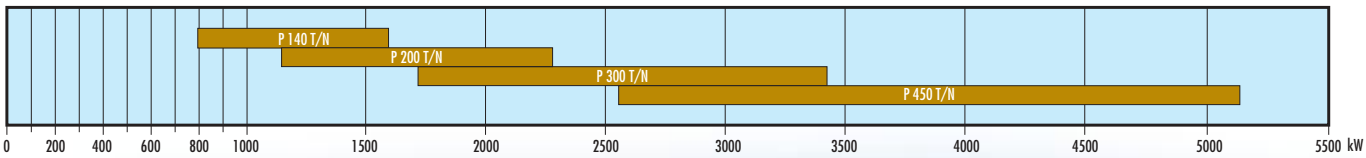

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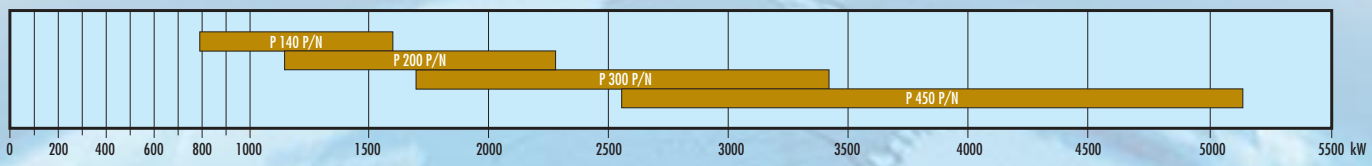
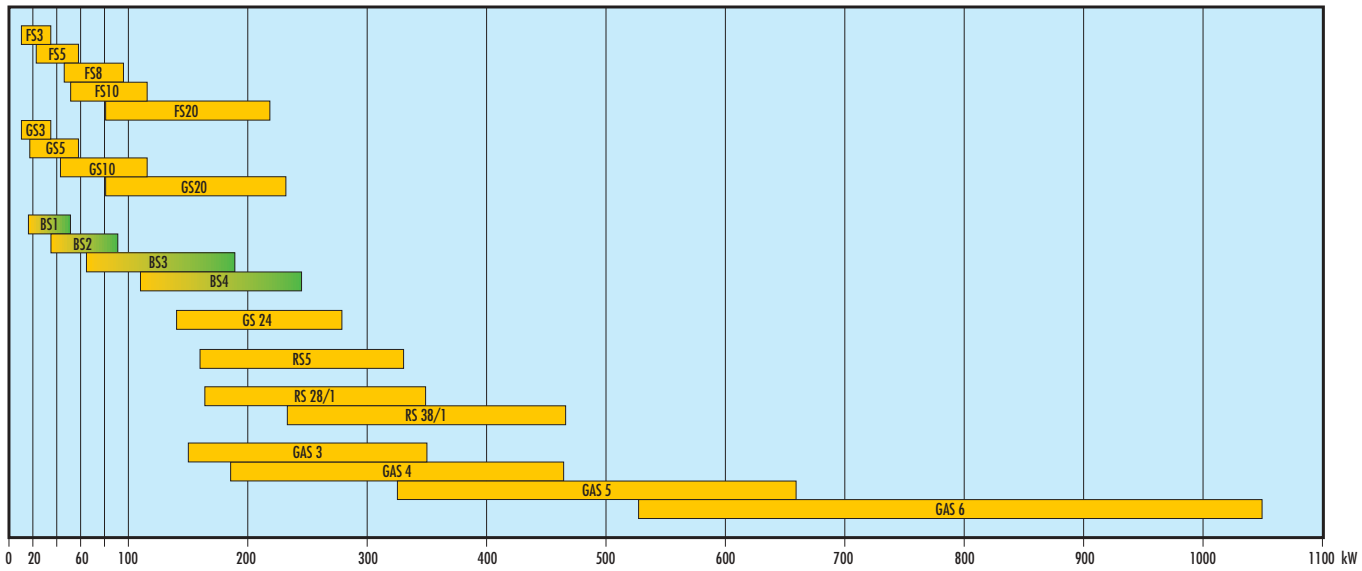


GAS BURNERS

ONE STAGE



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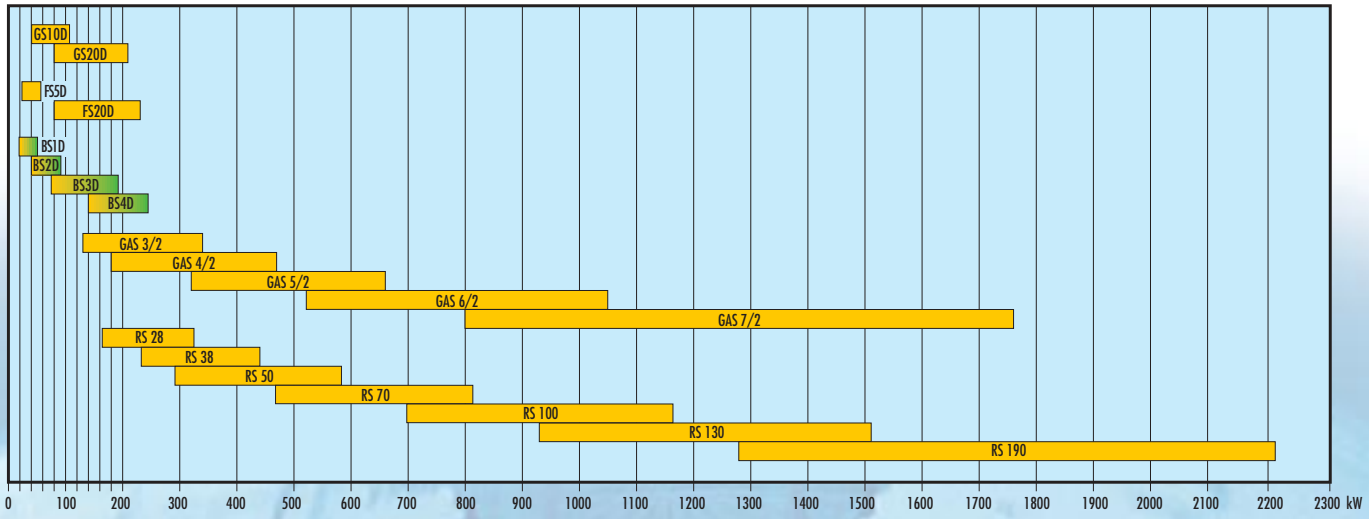

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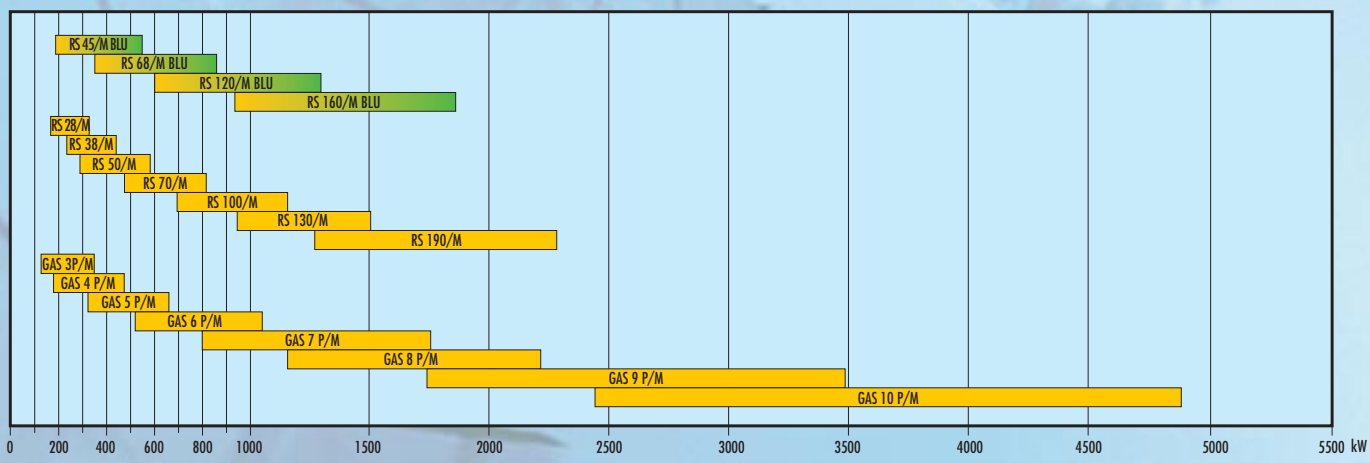
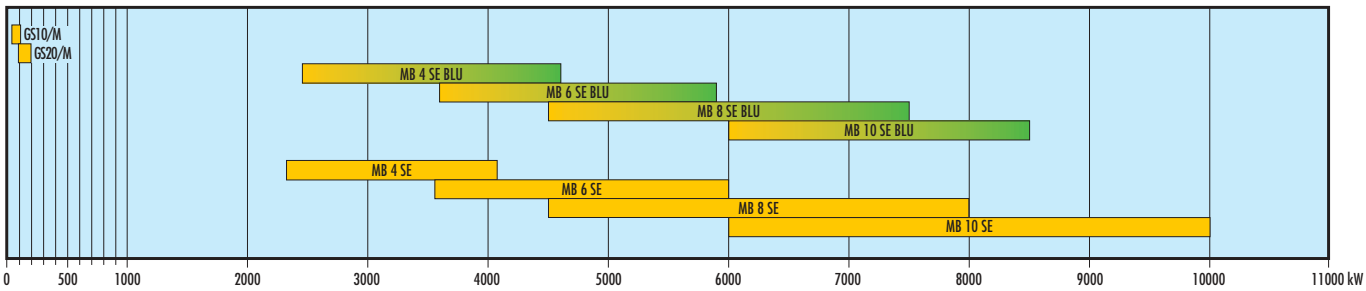
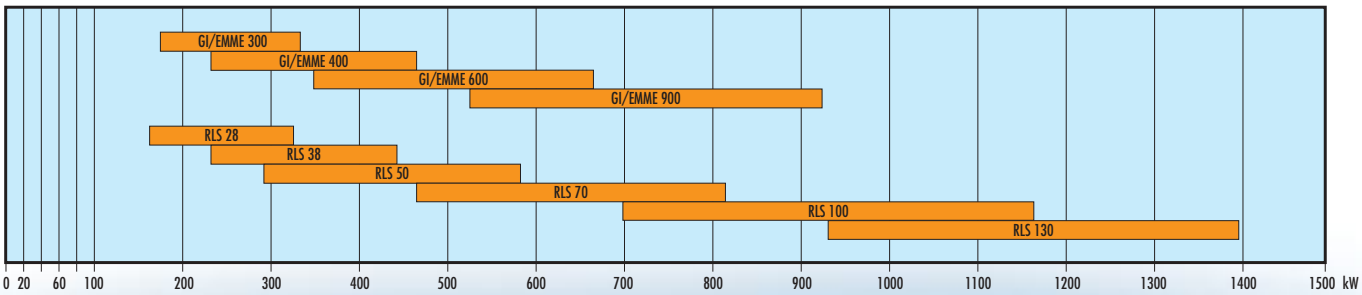


MODULATING



DUAL FUEL BURNERS

TWO STAGE



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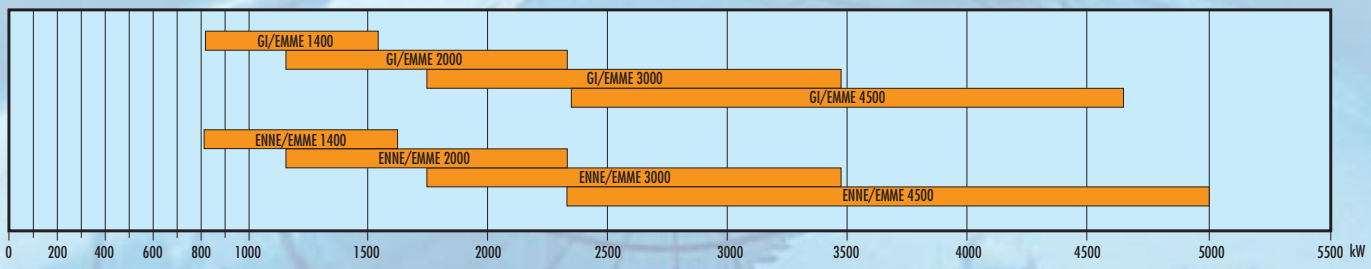
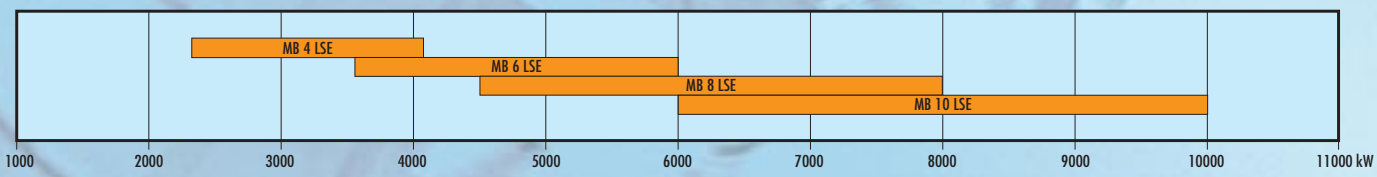
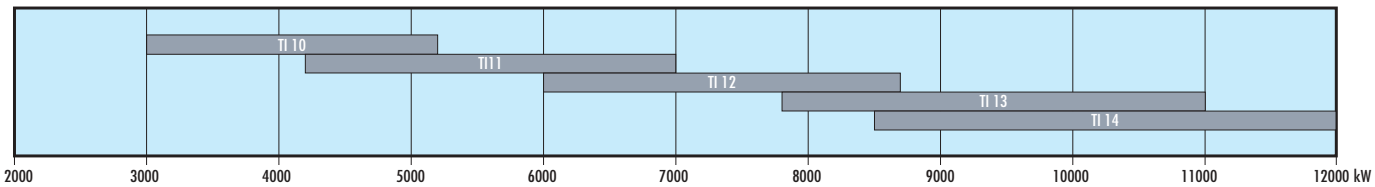


MODULATING

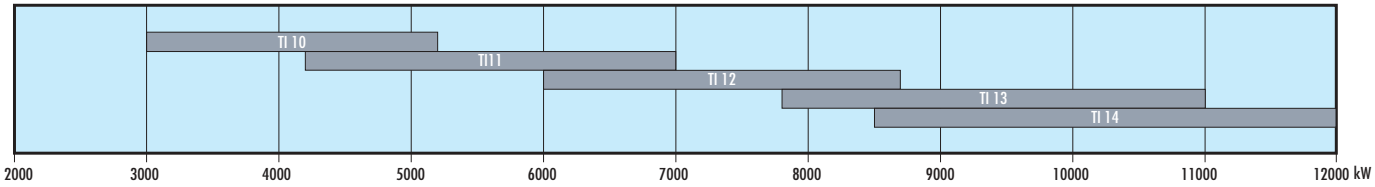


OIL, GAS and DUAL FUEL INDUSTRIAL BURNERS

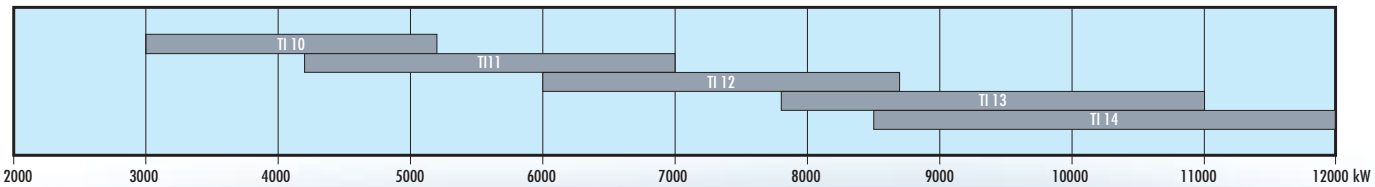
LIGHT OIL



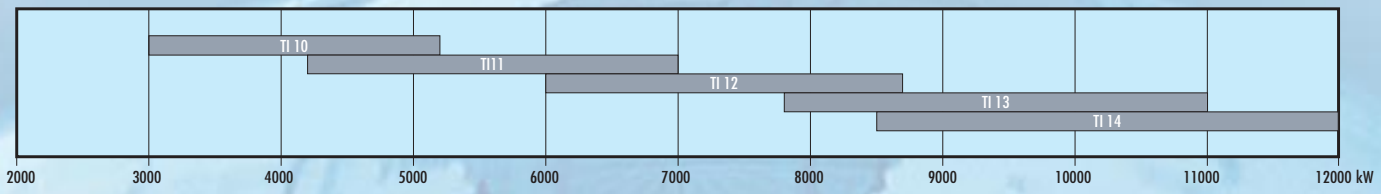
GAS



HEAVY OIL



DUAL FUEL



index of products

LIGHT OIL BURNERS

GULLIVER SERIES

	GULLIVER BGK BGK0.1 - BGK1 - BGK2 LOW NOx	17 ÷ 59,3 kW	p. 27
	GULLIVER BG BG1 - BG2 - BG3 - BG4 - BG5 LOW NOx	15,5 ÷ 72,3 kW	p. 31
	Gulliver BGD BG6D - BG7D LOW NOx	57 ÷ 160 kW	p. 35
	Gulliver RGD RG1RKD - RG2D - RG3D - RG4D - RG5D	17 ÷ 296 kW	p. 39
	Gulliver RG RG0.1 - RG1 - RG2 - RG3 - RG4S - RG5S RG0.R - RG0.1R - RG1R - RG1RK	15 ÷ 309,5 kW	p. 45

REG SERIES

	REG REG 35.3 - REG 35.5	21 ÷ 60 kW	p. 51

RIELLO 40 SERIES

	RIELLO 40 H H5	21 ÷ 65 kW	p. 55
	RIELLO 40 F F5 - F10 - F20	30 ÷ 202 kW	p. 59
	Riello 40 G G3 - G5 - G5K - G7 - G10 - G20 - G20S G3R - G3RK - G5R - G5RK	12 ÷ 240 kW	p. 63
	Riello 40 GI G5IR - G10I - G20I - G20D	26 ÷ 240 kW	p. 69

RDB SERIES

	serie RDB RDB1 - RDB1R - RDB2 - RDB2R RDB3 - RDB4	16,9 ÷ 113 kW	p. 75

PRESS SERIES

	PRESS GV PRESS GV - G24	140 ÷ 356 kW	p. 79
	PRESS G PRESS GW - 1G - 2G - 3G - 4G	178 ÷ 1660 kW	p. 85
	PRESS T/G P 140T/G - 200T/G - 300T/G - 450T/G	830 ÷ 5340 kW	p. 91
	PRESS P/G P 140P/G - 200P/G - 300P/G - 450P/G	830 ÷ 5340 kW	p. 97

RL SERIES

	RL/1 RL 28/1	178 ÷ 332 kW	p. 103
	RL BLU RL 22 BLU - 32 BLU LOW NOx	116 ÷ 356 kW	p. 109
	RL RL 28 - 38 - 50 - 70 - 100 - 130 - 190	166 ÷ 2431 kW	p. 115
	RL/M RL 28/M - 38/M - 50/M RL 70/M - 100/M - 130/M - 190/M	166 ÷ 2431 kW	p. 123

MODUBLOC SERIES

	MODUBLOC LE MB 4 LE - 6 LE - 8 LE - 10 LE	2375 ÷ 10000 kW	p. 129

HEAVY OIL BURNERS

RIELLO 40 SERIES

	RIELLO 40 N N10 - N20	34 ÷ 217 kW	p. 135

PRESS SERIES

	PRESS N P 30N - 45N - 60N - 100N	171 ÷ 1140 kW	p. 139
	PRESS T/N P 140T/N - 200T/N - 300T/N - 450T/N	800 ÷ 5130 kW	p. 145
	PRESS P/N P 140P/N - 200P/N - 300P/N - 450P/N	800 ÷ 5130 kW	p. 151

RN SERIES

	RN RN 28 - 38 - 50 - 70 - 100 - 130	228 ÷ 1481 kW	p. 159

GAS BURNERS

RIELLO 40 SERIES

	RIELLO 40 GS/M GS10/M - GS20/M	42 ÷ 192,4 kW	p. 165
	RIELLO 40 GSD GS10D - GS20D	41 ÷ 210 kW	p. 169
	RIELLO 40 FS FS3 - FS5 - FS8 - FS10 - FS20	11 ÷ 232 kW	p. 175
	RIELLO 40 GS GS3 - GS5 - GS10 - GS20	11 ÷ 232 kW	p. 181
	RIELLO 40 FSD FS5D - FS20D	23 ÷ 232 kW	p. 187

GULLIVER SERIES

	GULLIVER BS BS1 - BS2 - BS3 - BS4 LOW NOx	16 ÷ 246 kW	p. 193
	GULLIVER BSD BS1D - BS2D - BS3D - BS4D LOW NOx	16 ÷ 246 kW	p. 199
	GULLIVER RS RS5	160 ÷ 330 kW	p. 205

GAS SERIES

	GAS GAS 3 - 4 - 5 - 6 - 7	140 ÷ 1050 kW	p. 209
	GAS/2 GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2	130 ÷ 1760 kW	p. 217
	GAS P/M GAS 3P/M - 4P/M - 5P/M - 6P/M - 7P/M GAS 8P/M - 9P/M - 10P/M	130 ÷ 1760 kW 1163 ÷ 4885 kW	p. 225

RS SERIES

	RS/1 RS 28/1 - 38/1	163 ÷ 465 kW	p. 235
	RS/M BLU RS 45/M - 68/M - 120/M - 160/M BLU LOW NOx	190 ÷ 1860 kW	p. 243
	RS RS 28 - 38 - 50 - 70 - 100 - 130 - 190	163 ÷ 2290 kW	p. 253
	RS/M RS 28/M - 38/M - 50/M - RS 70/M - 100/M - 130/M - 190/M	163 ÷ 2290 kW	p. 263

MODUBLOC SERIES

	MODUBLOC SE BLU MB 4 SE - 6 SE - 8 SE - 10 SE BLU LOW NOx	2450 ÷ 8500 kW	p. 273
	MODUBLOC SE MB 4 SE - 6 SE - 8 SE - 10 SE	2325 ÷ 10000 kW	p. 281

DUAL FUEL BURNERS

RLS SERIES

	RLS RLS 28 - 38 - 50 - 70 - 100 - 130	163 ÷ 1395 kW	p. 289

GI/EMME SERIES

	GI/EMME GI/EMME 300 - 400 - 600 - 900	175 ÷ 922 kW	p. 297
	GI/EMME GI/EMME 1400 - 2000 - 3000 - 4500	820 ÷ 4650 kW	p. 305

ENNE/EMME SERIES

	ENNE/EMME ENNE/EMME 1400 - 2000 - 3000 - 4500	814 ÷ 5000 kW	p. 315

MODUBLOC SERIES

	MODUBLOC LSE MB 4 LSE - 6 LSE - 8 LSE - 10 LSE	2325 ÷ 10000 kW	p. 323

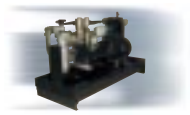
INDUSTRIAL BURNERS

TI SERIES

	TI TI 10 - 11 - 12 - 13 - 14	3000 ÷ 12000 kW	p. 333

HEATING PUMPING UNITS

SG - DG SERIES

	**SG - DG** SG 160 - 250 - 320 - 400 - 500 - 800 - 1000 - 1500 DG 160 - 250 - 320 - 400 - 500 - 800 - 1000 - 1500	380 ÷ 3600 l/h	p. 343

SN - DN SERIES

	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	p. 343

PRESSURE REGULATING / REDUCING UNITS

LPRT SERIES

	LPRT LPRT 40 - 80 - 160 - 250 - 500 - 750 - 1000 - 1500 - 2000	< 500 mbar	p. 349

HPRT SERIES

	HPRT HPRT 80 - 160 - 250 - 500 - 750 - 1000 - 1500 - 2000	0,5 ÷ 4 bar	p. 349

SAFETY / REGULATING GAS TRAINS

CB SERIES

	CB CB 40/1 - 50/1 CBF 65/1 - 80/1 - 100/1 - 125/1 CB 50/1 CT - 65/1 CT CBF 80/1 CT - 100/1 CT - 125/1 CT	< 500 mbar	p. 349

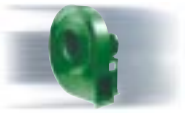
SAFETY SHUT-OFF VALVES

DMV SERIES

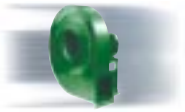
	DMV DMV 40/1 CT - 50/1 CT - 65/1 CT - 80/1 CT - 100/1 CT - 125/1 CT DMV 40/1 CQ - 50/1 CQ - 65/1 CQ - 80/1 CQ - 100/1 CQ - 125/1 CQ	< 500 mbar	p. 349

CENTRIFUGAL AIR FANS

GCH SERIES

	**GCH** GCH 4020 - 5020 - 5040	800 ÷ 5000 m³/h	p. 357

GCM SERIES

	**GCM** GCM 4540 - 5020 - 5040	4000 ÷ 9500 m³/h	p. 357

GBJ SERIES

	GBJ GBJ H0 5630 - 6320 - 6330 - 6380 - 712 - 717 GBJ I0 6310 - 6320 - 6360 - 710 - 712 - 800A	3500 ÷ 20000 m³/h	p. 357

BURNER CONTROL PANELS

QA SERIES

	QA for TI series	–	p. 369

general information for burner application

RIELLO BURNERS

FUEL	SERIES	"BOILER TYPE" APPLIANCES										
		HOT WATER						SUPER HEATED WATER OR STEAM				
		CAST-IRON CONVENTIONAL BOILERS	CAST-IRON THREE PASS BOILERS	BALANCED FLUE BOILERS	FIRE TUBE REVERSED FLAME BOILERS	CONDENSING BOILERS	FIRE TUBE THREE PASS BOILERS	FIRE TUBE REVERSED FLAME BOILERS	FIRE TUBE THREE PASS BOILERS	FIRE TUBE TWIN CHAMBER BOILERS	QUICK GENERATORS	WATER TUBE D-SHAPE BOILERS
LIGHT OIL	GULLIVER BG Low Nox		■									
	GULLIVER RG	■	■									
	GULLIVER BGK Low Nox	■	■									
	RIELLO 40 G	■	■									
	REG	■	■									
	RIELLO 40 H											
	RDB	■	■	■	■							
	RIELLO 40 F											
	RL/1	■	■		■							
	GULLIVER RGD	■	■		■			■			■	
	RIELLO 40 GI	■	■		■			■			■	
	GULLIVER BGD Low Nox	■	■		■						■	
	RL BLU Low Nox		■				■	■			■	
	RL	■	■		■		■	■			■	
	PRESS G	■	■		■		■	■			■	
	PRESS T/G				■		■	■	■		■	
	RL/M		■		■		■	■	■		■	
	PRESS P/G				■		■	■	■	■	■	
	MODUBLOC				■		■	■	■	■		
HEAVY OIL	RIELLO 40 N				■							
	PRESS N				■		■	■	■		■	
	RN				■		■	■	■		■	
	PRESS T/N				■		■	■	■		■	
	PRESS P/N				■		■	■	■	■	■	

RIELLO BURNERS

FUEL	SERIES	"BOILER TYPE" APPLIANCES			OTHER APPLIANCES					
		THERMAL FLUID		OTHER FLUID	AIR HEATING (BY EXCHANGER)					
		BASIC (NO HEAT RECOVERY)	HEAT RECOVERY (PRE-HEATED COMBUST. AIR)	ADSORPTION CHILLERS	FLOOR STANDING HEATING UNITS	MOBILE AIR HEATERS	ROOF TOP AIR HANDLING UNITS	PAINTING SPRAY BOOTHS	INDUSTRIAL DRYERS	AGRICULTURAL DRYERS
LIGHT OIL	GULLIVER BG Low Nox				■			■		
	GULLIVER RG				■			■		
	GULLIVER BGK Low Nox									
	RIELLO 40 G				■			■		
	REG				■	■		■		
	RIELLO 40 H									
	RDB									
	RIELLO 40 F					■		■		■
	RL/1									
	GULLIVER RGD	■		■	■		■	■	■	■
	RIELLO 40 GI	■		■			■		■	■
	GULLIVER BGD Low Nox	■		■	■		■	■	■	
	RL BLU Low Nox	■		■	■			■	■	
	RL	■		■	■			■	■	■
	PRESS G	■		■	■			■	■	■
	PRESS T/G	■		■					■	■
	RL/M	■		■	■		■	■	■	■
	PRESS P/G	■		■					■	■
	MODUBLOC	■		■						
HEAVY OIL	RIELLO 40 N				■					
	PRESS N	■		■	■			■		■
	RN	■		■	■			■		■
	PRESS T/N	■								■
	PRESS P/N	■		■						■

		OTHER APPLIANCES								
		AIR HEATING (BY DIRECT FIRING)				OVENS - COOKING SYSTEMS			KILNS - INCINERATORS	
FUEL	SERIES	INDUSTRIAL HOT GAS GENERATORS	AGRICULTURAL DRYERS	ROTARY DRYERS	SPRAYING DRYERS	BAKERY OVENS	HOTEL COOKERS	TOASTING OVENS	WASTE INCINERATORS	CREMATORY KILNS
LIGHT OIL	GULLIVER BG Low Nox									
	GULLIVER RG									
	GULLIVER BGK Low Nox									
	RIELLO 40 G									
	REG									
	RIELLO 40 H						■			
	RDB									
	RIELLO 40 F					■				
	RL/1									
	GULLIVER RGD									
	RIELLO 40 GI									
	GULLIVER BGD Low Nox	■								
	RL BLU Low Nox									
	RL	■								
	PRESS G	■							■	■
	PRESS T/G	■								
	RL/M	■				■				
	PRESS P/G	■		■	■				■	
	MODUBLOC									
HEAVY OIL	RIELLO 40 N									
	PRESS N									
	RN									
	PRESS T/N									
	PRESS P/N	■		■	■				■	

RIELLO BURNERS

FUEL	SERIES	"BOILER TYPE" APPLIANCES										
		HOT WATER						SUPER HEATED WATER OR STEAM				
		CAST-IRON CONVENTIONAL BOILERS	CAST-IRON THREE PASS BOILERS	BALANCED FLUE BOILERS	FIRE TUBE REVERSED FLAME BOILERS	CONDENSING BOILERS	FIRE TUBE THREE PASS BOILERS	FIRE TUBE REVERSED FLAME BOILERS	FIRE TUBE THREE PASS BOILERS	FIRE TUBE TWIN CHAMBER BOILERS	QUICK GENERATORS	WATER TUBE D-SHAPE BOILERS
GAS	RIELLO 40 FS											
	RIELLO 40 GS	✓	✓		✓		✓					
	GULLIVER BS Low Nox	✓	✓				✓					
	GAS	✓	✓		✓		✓					
	GULLIVER RS	✓	✓		✓		✓					
	RS/1	✓					✓					
	GULLIVER BSD Low Nox		✓		✓			✓	✓		✓	
	RIELLO 40 GSD		✓				✓	✓	✓		✓	
	RIELLO 40 FSD											
	GAS/2	✓	✓		✓		✓	✓	✓		✓	
	RS	✓	✓		✓		✓	✓	✓		✓	
	GAS P/M		✓			✓	✓	✓	✓	✓	✓	
	RS/M		✓		✓	✓	✓	✓	✓		✓	
	RS/M BLU Low Nox		✓		✓	✓	✓	✓	✓		✓	
	RIELLO 40 GS/M					✓		✓	✓		✓	
	MODUBLOC				✓		✓	✓	✓	✓		
	MODUBLOC Low Nox				✓		✓	✓	✓	✓		
DUAL FUEL	GI/EMME Two Stage	✓	✓		✓			✓	✓		✓	
	RLS	✓	✓		✓		✓	✓	✓		✓	
	GI/EMME Modulating				✓		✓	✓	✓	✓	✓	
	ENNE/EMME				✓		✓	✓	✓	✓	✓	
	MODUBLOC				✓		✓	✓	✓	✓		
OIL-GAS-DUAL FUEL INDUSTRIAL BURNERS	TI P/M				✓		✓	✓	✓	✓		
	TI P/G - TI P/N				✓		✓	✓	✓	✓		
	TI P/ NM TI P/ GM				✓		✓	✓	✓	✓		

FUEL	SERIES	"BOILER TYPE" APPLIANCES			OTHER APPLIANCES					
		THERMAL FLUID		OTHER FLUID	AIR HEATING (BY EXCHANGER)					
		BASIC (NO HEAT RECOVERY)	HEAT RECOVERY (PRE-HEATED COMBUST. AIR)	ADSORPTION CHILLERS	FLOOR STANDING HEATING UNITS	MOBILE AIR HEATERS	ROOF TOP AIR HANDLING UNITS	PAINTING SPRAY BOOTHS	INDUSTRIAL DRYERS	AGRICULTURAL DRYERS
GAS	RIELLO 40 FS				●	●		●		●
	RIELLO 40 GS				●			●		
	GULLIVER BS Low Nox				●			●		●
	GAS				●					
	GULLIVER RS				●			●		●
	RS/1				●					
	GULLIVER BSD Low Nox	●		●	●			●		●
	RIELLO 40 GSD	●		●	●		●	●		
	RIELLO 40 FSD						●	●		●
	GAS/2	●		●	●			●		●
	RS	●		●	●			●		●
	GAS P/M	●		●	●					●
	RS/M	●		●	●					●
	RS/M BLU Low Nox	●		●	●			●		
	RIELLO 40 GS/M			●	●			●		●
	MODUBLOC	●		●						
	MODUBLOC Low Nox	●		●						
DUAL FUEL	GI/EMME Two Stage	●		●	●			●		
	RLS	●		●	●			●		
	GI/EMME Modulating	●		●						
	ENNE/EMME	●		●						
	MODUBLOC	●		●						
OIL-GAS-DUAL FUEL INDUSTRIAL BURNERS	TI P/M			●	●					●
	TI P/G - TI P/N			●	●					●
	TI P/ NM TI P/ GM			●	●					

RIELLO BURNERS

		OTHER APPLIANCES								
		AIR HEATING (BY DIRECT FIRING)				OVENS - COOKING SYSTEMS			KILNS - INCINERATORS	
FUEL	SERIES	INDUSTRIAL HOT GAS GENERATORS	AGRICULTURAL DRYERS	ROTARY DRYERS	SPRAYING DRYERS	BAKERY OVENS	HOTEL COOKERS	TOASTING OVENS	WASTE INCINERATORS	CREMATORY KILNS
GAS	RIELLO 40 FS					●				
	RIELLO 40 GS									
	GULLIVER BS Low Nox									
	GAS									
	GULLIVER RS									
	RS/1									
	GULLIVER BSD Low Nox	●	●							
	RIELLO 40 GSD									
	RIELLO 40 FSD	●	●			●				
	GAS/2	●	●						●	●
	RS	●	●							
	GAS P/M	●	●	●	●	●		●	●	●
	RS/M	●	●			●		●		
	RS/M BLU Low Nox									
	RIELLO 40 GS/M	●	●					●		
	MODUBLOC									
	MODUBLOC Low Nox									
DUAL FUEL	GI/EMME Two Stage									
	RLS									
	GI/EMME Modulating			●						
	ENNE/EMME			●						
	MODUBLOC									
OIL-GAS-DUAL FUEL INDUSTRIAL BURNERS	TI P/M	●	●	●	●				●	
	TI P/G - TI P/N	●		●	●				●	
	TI P/ NM TI P/ GM	●		●						

monobloc burners
data sheets section

p. 27 Light Oil Burners

p. 135 Heavy Oil Burners

p. 165 Gas Burners

p. 289 Dual Fuel Burners

RESIDENTIAL HEATING applications

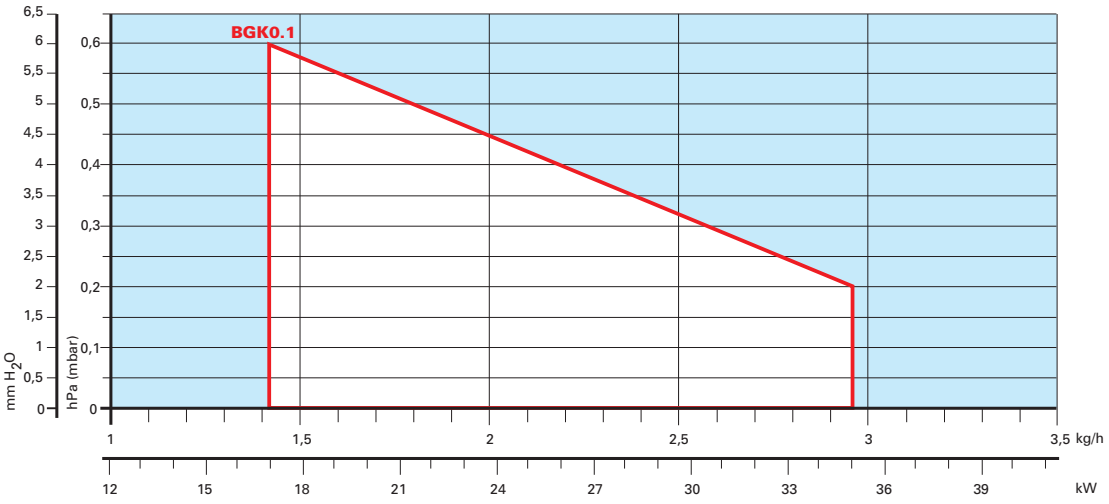
LOW NOx ONE STAGE LIGHT OIL BURNERS

GULLIVER BGK SERIES

BGK0.1	17,0	÷	35,0	kW
BGK1	17,8	÷	35,6	kW
BGK2	32,0	÷	59,3	kW

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 three models with an output ranging from 17 to 59,3 kW, divided in two different structures.
same components designed by Riello for the Gulliver series.
safe working.
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 German RAL UZ-9 standard, the European EN 267 standard, and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
The BGK1 and BGK2 models are also approved by the Swiss LRV-92 standard.
All the Gulliver BGK series of burners are fired before leaving the factory.

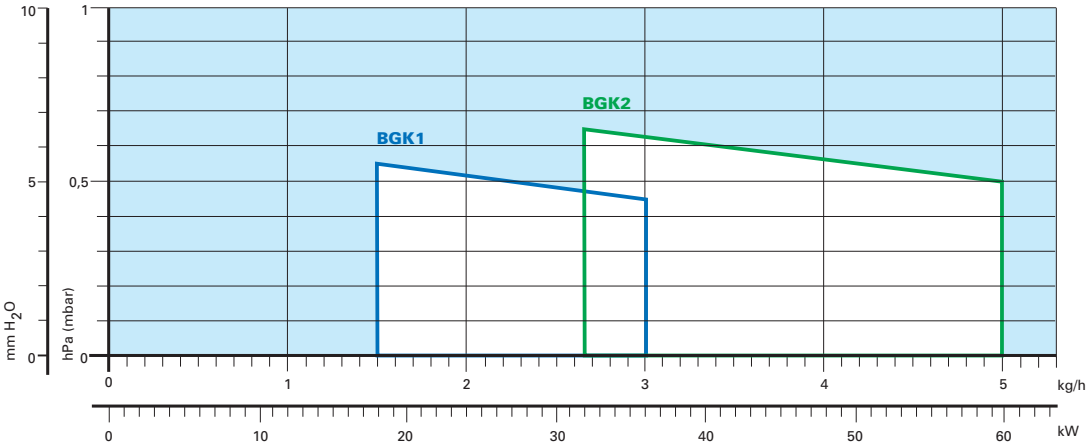
FIRING RATES



Useful working field for choosing the burner

Test conditions conforming to EN 267, RAL UZ-9 and LRV 92:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

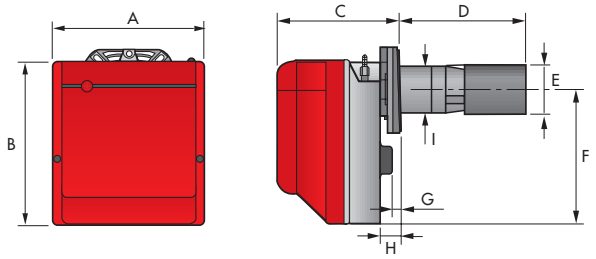
EN 267



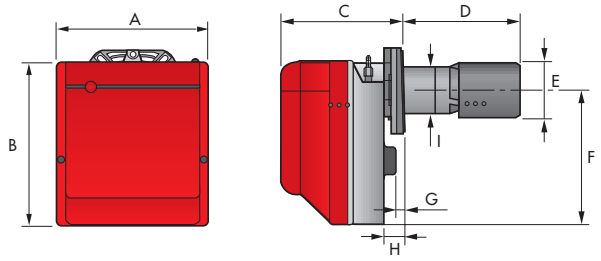
GULLIVER BGK series - OVERALL DIMENSIONS (mm)

BURNER

BGK0.1



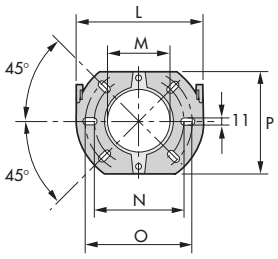
BGK1 - BGK2



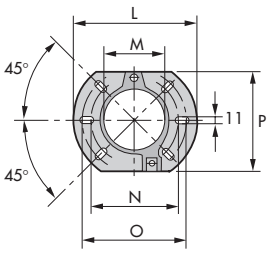
Model	A	B	C	D			E	F	G	H	I
				Pos. 1	Pos. 2	Pos. 3					
BGK0.1	234	254	196	191	-	-	87	210	4	22	84
BGK1	255	280	202	207	189,5	172	104	230	10	28	89
BGK2	255	280	202	229	213	197	105	230	10	28	89

BURNER - BOILER MOUNTING FLANGE

BGK0.1

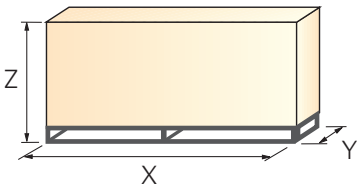


BGK1 - BGK2



Model	L	M	N	O	P
BGK0.1	180	91	130	150	144
BGK1	189	106	140	166	168
BGK2	189	106	140	166	168

PACKAGING



Model	X	Y	Z	kg
BGK0.1	343	268	310	13
BGK1	533	288	340	14
BGK2	533	288	340	14

GULLIVER BGK series - 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
E Flame monitor

Size

B	G	K	1

GULLIVER BGK series - STATE OF SUPPLY

Completely automatic monobloc light oil burners, one stage operation, made up of:
- 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
- Fuel feed solenoid incorporated in the pump
- Photocell for flame detection
- Electronic flame control equipment
- Protective filter against radio interference
- Light oil nozzle
- IP 40 protection level
- PTC fuel heater.

Standard equipment:
- Two flexible pipes and two connectors
- Flange, screen, screws and nuts for fixing
- Technical instructions
- Spare parts catalogue.

GULLIVER BGK series - AVAILABLE BURNER MODELS

Code	Model		Heat output (kW)	Heat output (kg/h)	Total electrical power (kW)	Certification	Note	Price
-	BGK0.1	1/50/230±10%	17 - 35	1,43 - 2,95	0,3	In progress	(1)	
3737050	BGK1	1/50/230±10%	17,8 - 35,6	1,5 - 3	0,3	CE - 0036 0232/98 BUWAL - Nr.198014 RAL - Nr.12002		
3737450	BGK2	1/50/230±10%	32 - 59,3	2,7 - 5	0,3	CE - 0036 0233/98 BUWAL - Nr.198014 RAL - Nr.12003		

(1) The BGK.1 code will be available in the future.

Net calorific value: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).

The burners of BGK series are in according to EN 267 - LRV 92 - RAL UZ-9 - BImSchV 1996.

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	Price
BGK0.1 - BGK1 - BGK2	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

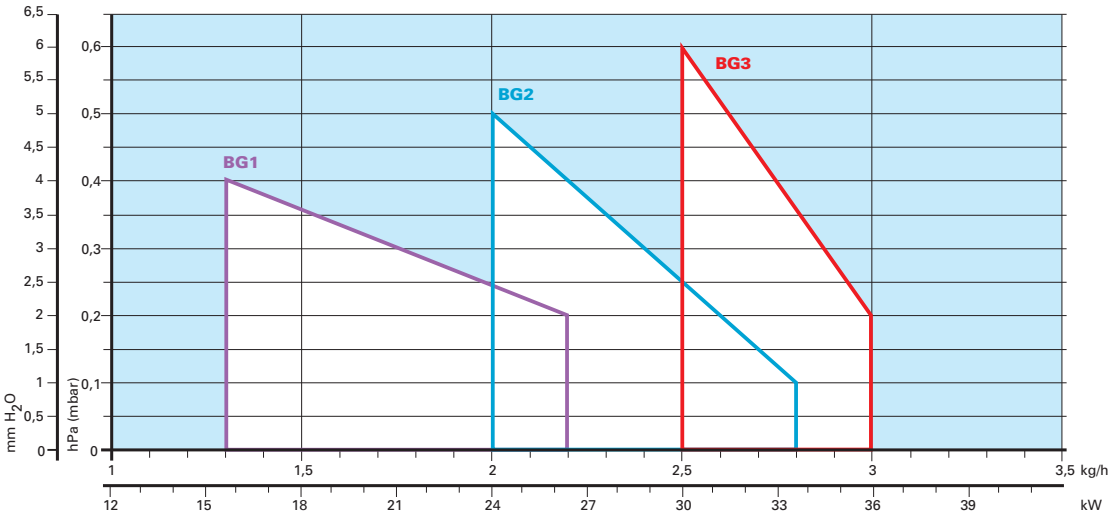
LOW NOx ONE STAGE LIGHT OIL BURNERS

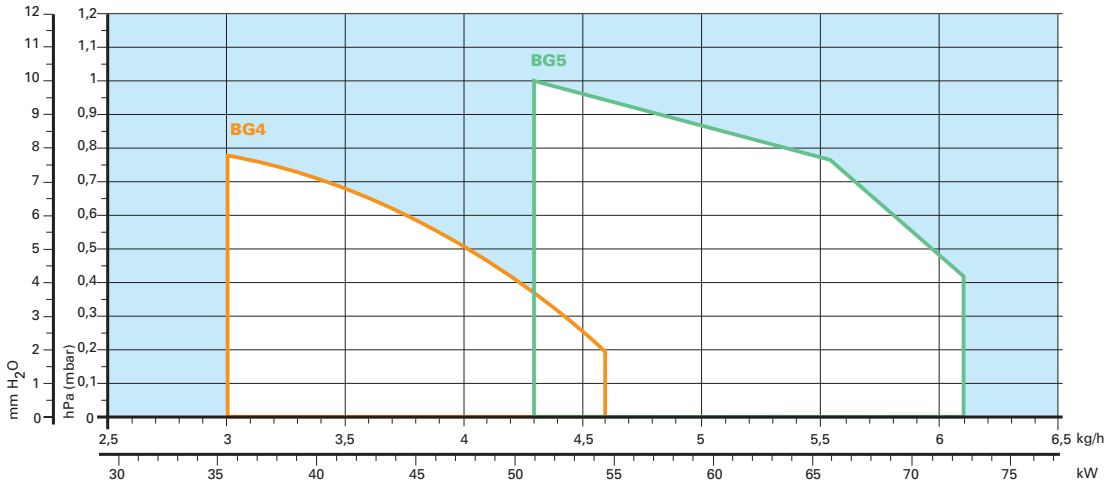
GULLIVER BG SERIES

BG1	15,5	÷	26,0	kW
BG2	24,0	÷	33,0	kW
BG3	30,0	÷	36,0	kW
BG4	35,5	÷	54,5	kW
BG5	51,0	÷	72,3	kW

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 ten different models, with an output ranging from 15,5 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.
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, the German Standard RAL UZ-9, the Swiss standard BUWAL-LRV 92 and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
All the Gulliver BG burners are fired before leaving the factory.

FIRING RATES



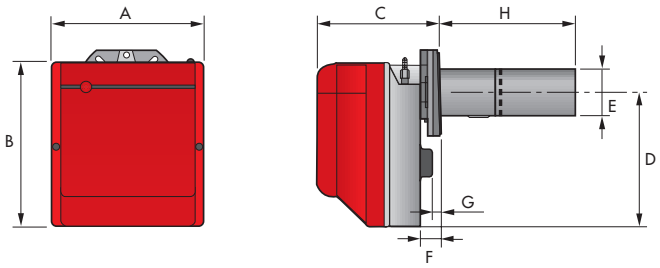


Useful working field for choosing the burner

Test conditions conforming to EN 267, RAL UZ-9 and LRV 92:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

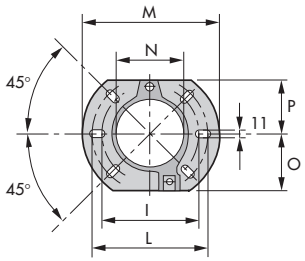
GULLIVER BG series - OVERALL DIMENSIONS (mm)

BURNERS



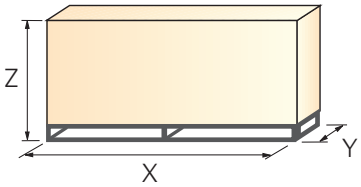
Model	A	B	C	D	E	F	G	H
BG1	255	280	199	230	80	25	7	280
BG2	255	280	202	230	89	28	10	287,5
BG3	255	280	202	230	89	28	10	287,5
BG4	300	345	230	285	97	34	12	307
BG5	300	345	230	285	97	34	12	307

BURNER - BOILER MOUNTING FLANGE



Model	I	L	M	N	O	P
BG1	130	150	180	91	72	72
BG2	140	168	189	106	83	83
BG3	140	168	189	106	83	83
BG4	140	165	189	106	83	83
BG5	140	165	189	106	83	83

PACKAGING



Model	X	Y	Z	kg
BG1	533	288	340	12
BG2	533	288	340	13
BG3	533	288	340	14
BG4	590	335	420	16
BG5	590	335	420	19

GULLIVER BG series - 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
- E Flame monitor

B	G	1	E

GULLIVER BG series - SPECIFICATION

GULLIVER BG series - STATE OF SUPPLY

Completely automatic monobloc light oil burners, one stage operation, made up of:
- Fan with forward inclined blades
- Cover lined with sound-deadening 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
- Electronic flame control equipment
- Protective filter against radio interference
- Light oil nozzle
- 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
- 7-pin plug
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

GULLIVER BG series - AVAILABLE BURNER MODELS

Code	Model		Heat output		Total electrical power (kW)	Certification	Note	Price
			(kW)	(kg/h)				
3737152	BG1	1/50/230±10%	15,5 - 26	1,3 - 2,2	0,29	CE - 0036 0264/99 BUWAL - Nr. 192016 RAL - Nr. 11900		
3737252	BG2	1/50/230±10%	24 - 33	2 - 2,8	0,29	CE - 0036 0265/99 BUWAL - Nr. 192016 RAL - Nr. 11901		
3737352	BG3	1/50/230±10%	30 - 36	2,5 - 3	0,29	CE - 0036 0266/99 BUWAL - Nr. 192016 RAL - Nr. 11902		
3738750	BG4	1/50/230±10%	35,5 - 54,5	3 - 4,6	0,46	CE - 0036 0267/99 BUWAL - Nr. 193052 RAL - Nr. 11903		
3738850	BG5	1/50/230±10%	51 - 72,3	4,3 - 6,1	0,47	CE - 0036 0268/99 BUWAL - Nr. 193052 RAL - Nr. 11904		

Net calorific value: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).

The burners of BG series are in according to EN 267 - LRV 92 - RAL UZ-9 - BImSchV 1996.

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	Price
BG1 - BG2 - BG3 - BG4 - BG5	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

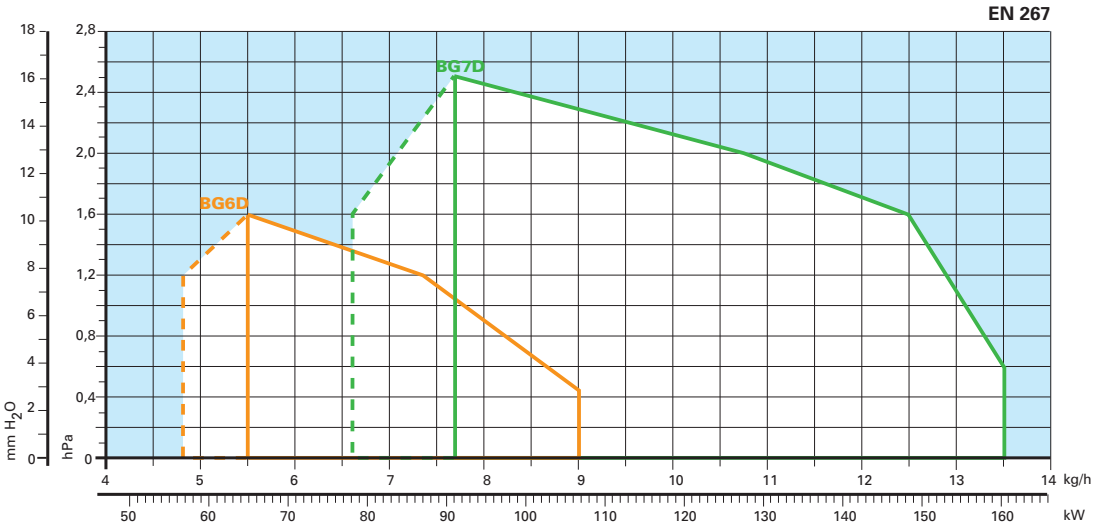
LOW NOx TWO STAGE LIGHT OIL BURNERS

GULLIVER BGD SERIES

BG6D	57/65	÷	106	kW
BG7D	78/91	÷	160	kW

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 57 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.
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 working guarantees high level of thermal unit efficiency.
All the models are approved by the EN 267 European Standard, the Swiss standard BUWAL-LRV 92 and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.
The model BG6D is approved by the German Standard RAL UZ-9.
All the Gulliver BGD burners are fired before leaving the factory.

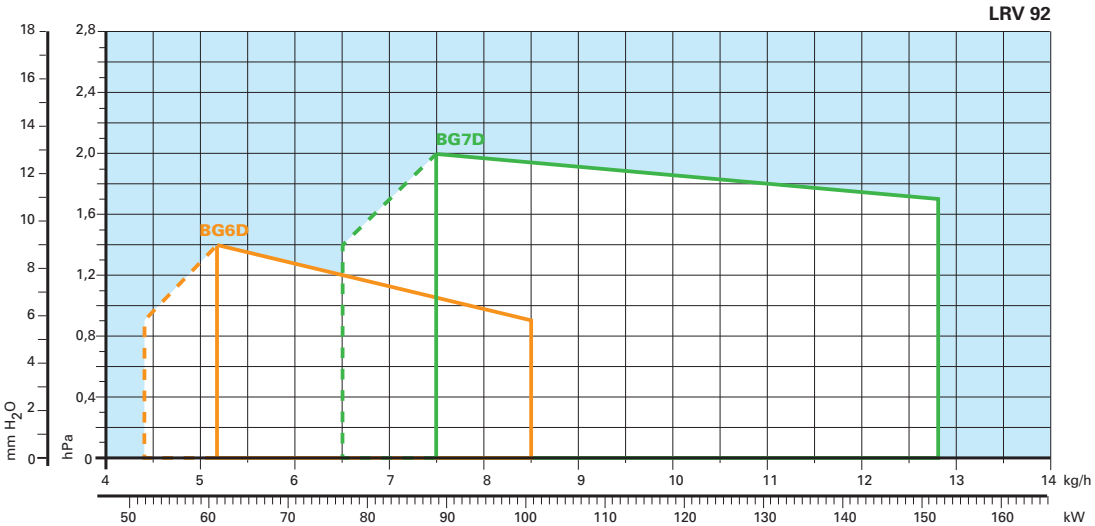
FIRING RATES



Useful working field for choosing the burner

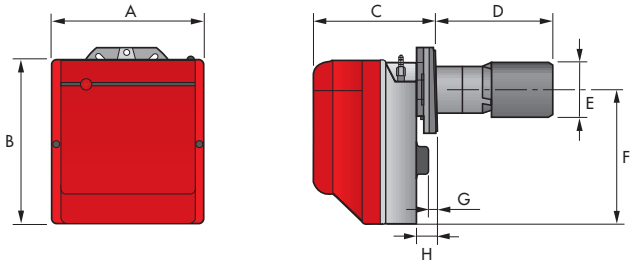
1st stage operating range

Test conditions conforming to EN 267, RAL UZ-9 and LRV 92:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



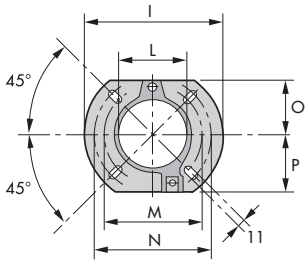
GULLIVER BGD series - OVERALL DIMENSIONS (mm)

BURNERS



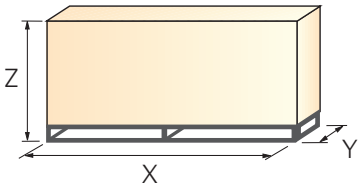
Model	A	B	C	D	E	F	G	H
BG6D	300	345	228	284	131	285	12	36
BG7D	300	345	247	394	165	285	12	36

BURNER - BOILER MOUNTING FLANGE



Model	I	L	M	N	O	P
BG6D	189	106	140	170	83	83
BG7D	213	127	160	190	99	99

PACKAGING



Model	X	Y	Z	kg
BG6D	590	335	420	20
BG7D	590	335	420	20

GULLIVER BGD series - 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
- E Flame monitor

B	G	6	D

GULLIVER BGD series - SPECIFICATION

GULLIVER BGD series - STATE OF SUPPLY

Completely automatic monobloc light oil burners, two stage operation, made up of:
- Fan with forward inclined blades
- Cover lined with sound-deadening 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
- Electronic flame control equipment
- Protective filter against radio interference
- Light oil nozzle
- 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.

GULLIVER BGD series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	(kg/h)				
3739250	BG6D 1/50/230±10%	57/65 - 106	4,8/5,6 - 8,5	0,39	CE - 0036 0270/99 BUWAL - Nr. 197012 RAL - Nr. 11905		
3739150	BG7D 1/50/230±10%	78/91 - 160	6,6/7,7 - 13,5	0,47	CE - 0036 0269/99 BUWAL - Nr. 197012		

Net calorific value: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).

The burners of BGD series are in according to EN 267 - LRV 92 - RAL UZ-9 - BImSchV 1996.

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	Price
BG6D - BG7D	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

CE

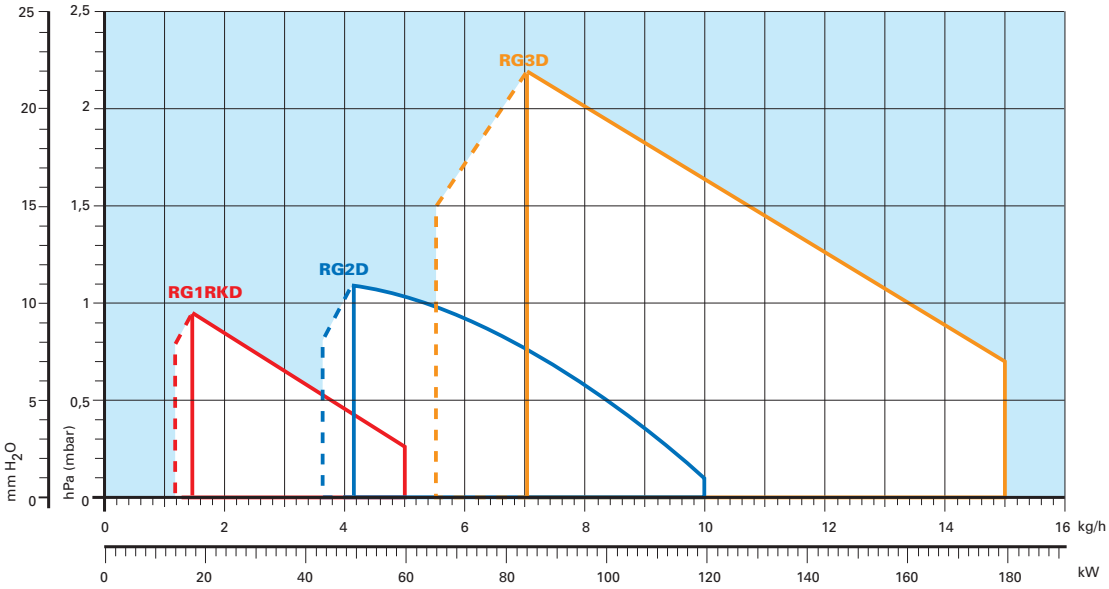
TWO STAGE LIGHT OIL BURNERS

GULLIVER RGD SERIES

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

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 working 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.

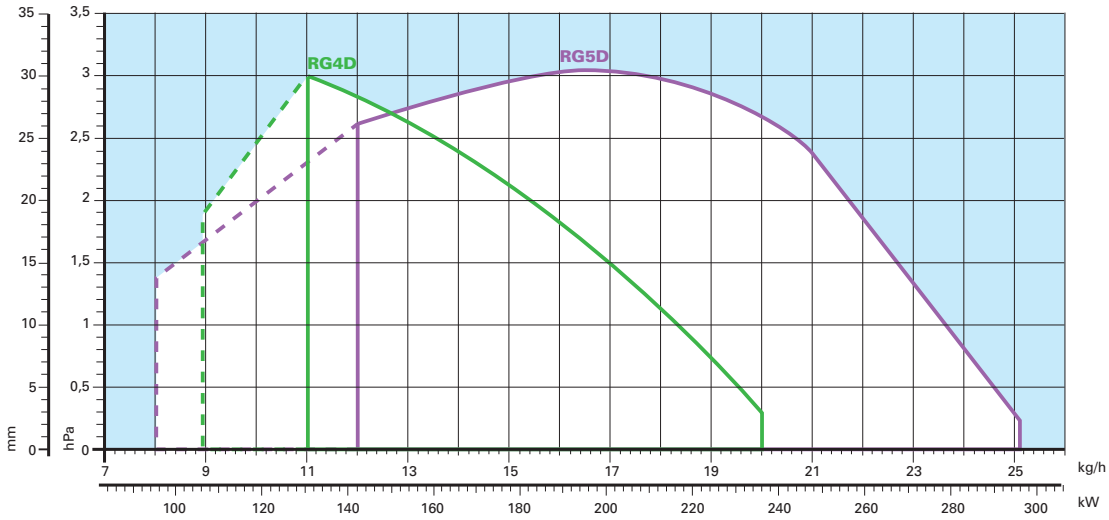
FIRING RATES



Useful working field for choosing the burner

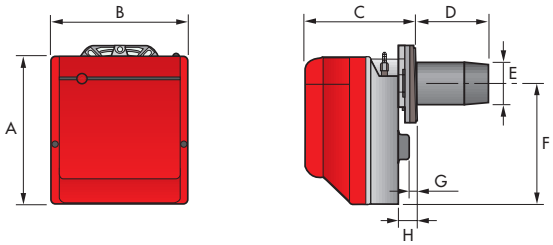
1st stage operating range

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



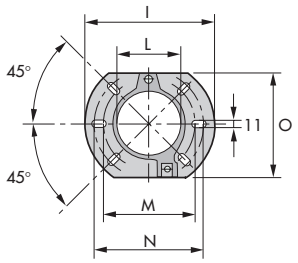
GULLIVER RGD series - OVERALL DIMENSIONS (mm)

BURNERS



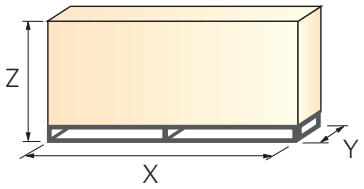
Model	A	B	C	D	E	F	G	H
RG1RKD	254	234	196	111	84	210	4	22
RG2D	280	255	202	114	95	230	10	28
RG3D	345	300	228	142	123	285	12	36
RG4D	345	300	228	142	123	285	12	36
RG5D	345	300	247	159	125	285	12,5	36

BURNER - BOILER MOUNTING FLANGE



Model	I	L	M	N	O
RG1RKD	180	91	130	150	144
RG2D	189	106	140	165	166
RG3D	213	127	160	190	198
RG4D	213	127	160	190	198
RG5D	213	127	160	190	198

PACKAGING



Model	X	Y	Z	kg
RG1RKD	343	268	310	12
RG2D	353	288	340	13
RG3D	420	335	420	13
RG4D	420	335	420	13
RG5D	500	335	430	18

GULLIVER RGD series - SPECIFICATION

DESIGNATION OF SERIES

Series: R Standard emission burners
B Low NOx burners

Combustibile : 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
E Flame monitor

R	G	1	RKD

GULLIVER RGD series - STATE OF SUPPLY

Completely automatic monobloc light oil burners, two stage operation, made up of:
- Fan with forward inclined blades
- Cover lined with sound-deadening 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
- Protective filter against radio interference
- Light oil nozzle
- 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
- 4-pin plug
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

GULLIVER RGD series - AVAILABLE BURNER MODELS

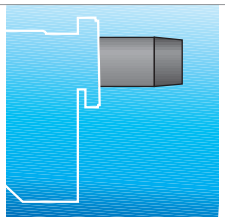
Code	Model		Heat output (kW)	Heat output (kg/h)	Total electrical power (kW)	Certification	Note	Price
3736650	RG1RKD	1/50/230±10%	14/17 - 60	1,2/1,45 - 5	0,29	DIN - Reg.-Nr.5G237/98		
3738050	RG2D	1/50/230±10%	42/49 - 118	3,6/4,1 - 10	0,18	DIN - Reg.-Nr.5G263/98		
3739450	RG3D	1/50/230±10%	65/83 - 178	5,5/7 - 15	0,39	CE - 0036 0298/00		
3739750	RG4D	1/50/230±10%	106/130 - 237	9/11 - 20	0,39	DIN - Reg.-Nr.5G266/98		
3739850	RG5D	1/50/230±10%	95/142 - 296	8/12 - 25	0,47	DIN - Reg.-Nr.5G767/96		

Net calorific value: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).

The burners of RGD series are in according to EN 267.

GULLIVER RGD series - BURNER ACCESSORIES

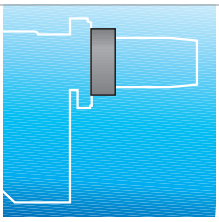
Extended head kit



Kits of extended heads are available.

Burner	Standard head length (mm)	Long head version length (mm)	Kit code	Price
RG1RKD	111	181	3000982	
RG2D	114	180	3000964	
RG2D	114	300	3000967	
RG3D	142	210	3000965	
RG3D	142	300	3000968	
RG4D	142	210	3000966	
RG4D	142	300	3000969	
RG5D	159	300	3000981	

Spacer kit



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

Burner	Accessory	Withdrawal (mm)	Kit code	Price
RG1RKD	Enlarged flange	15	3007931	
RG2D	Spacer	25	3000672	
RG3D - RG4D - RG5D	Spacer	25	3000673	

Control box 550 SMD

On request, we can supply the control box can be supplied that is used on the Low NOx models, which is interchangeable with the one fitted.

Burner	Kit code	Price
RG1RKD - RG2D - RG3D - RG4D - RG5D	3001168	

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".

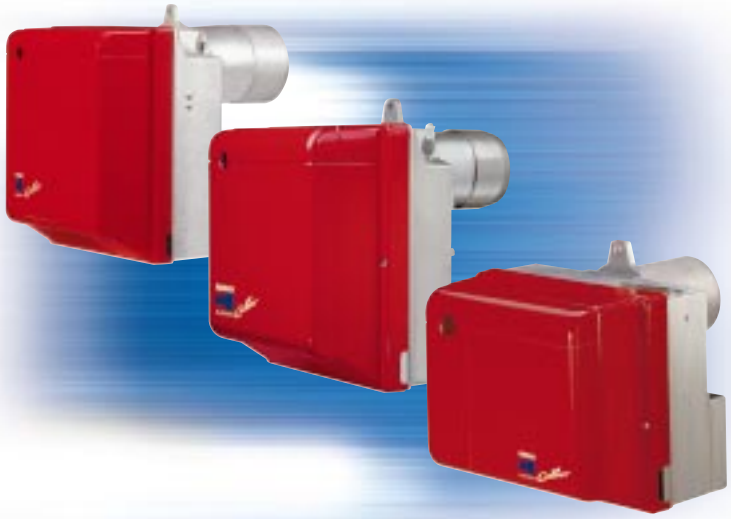
Burner	Kit code	Price
RG1RKD - RG2D RG3D - RG4D RG5D	3087211	

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

ONE STAGE LIGHT OIL BURNERS

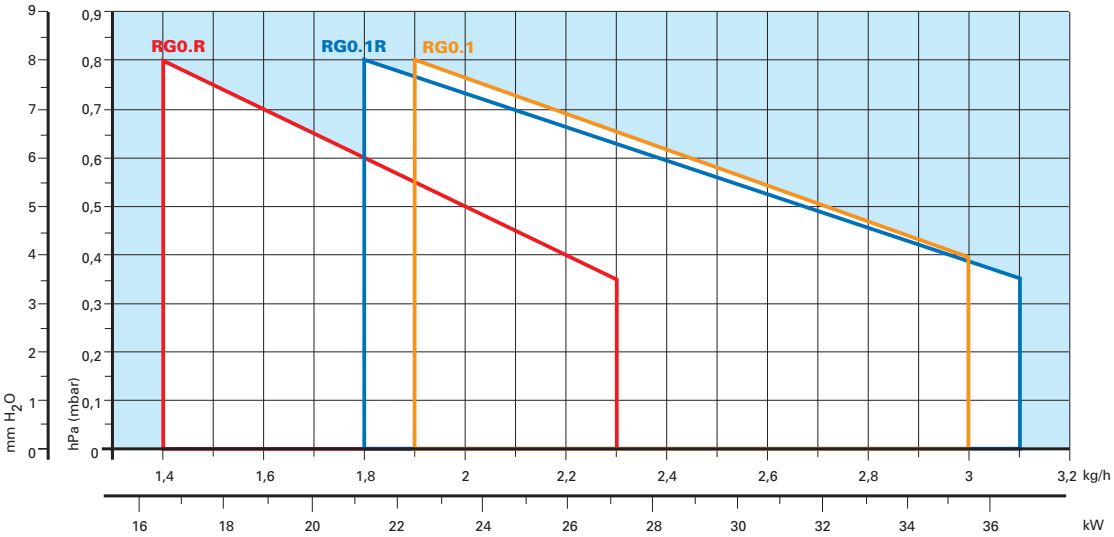
GULLIVER RG SERIES

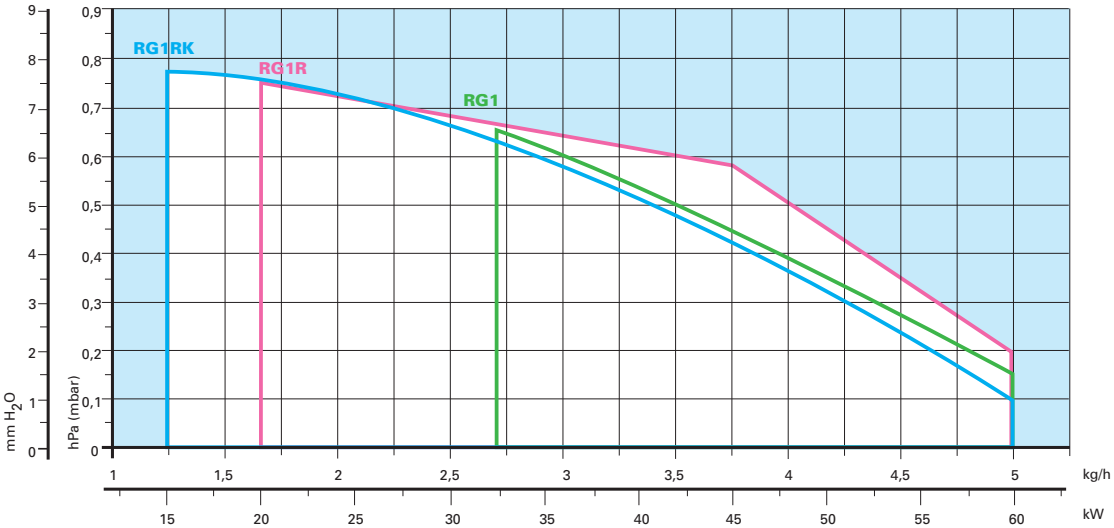
RG0.R	16,6	÷	27,3	kW
RG0.1	22,5	÷	35,6	kW
RG0.1R	21,3	÷	36,7	kW
RG1	32,0	÷	60,0	kW
RG1R	20,0	÷	60,0	kW
RG1RK	15,0	÷	60,0	kW
RG2	47,0	÷	119,0	kW
RG3	83,0	÷	178,0	kW
RG4S	118,5	÷	237,0	kW
RG5S	160,0	÷	309,5	kW



The Riello Gulliver RG series of one stage light oil burners, 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 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 RG burners are fired before leaving the factory.

FIRING RATES

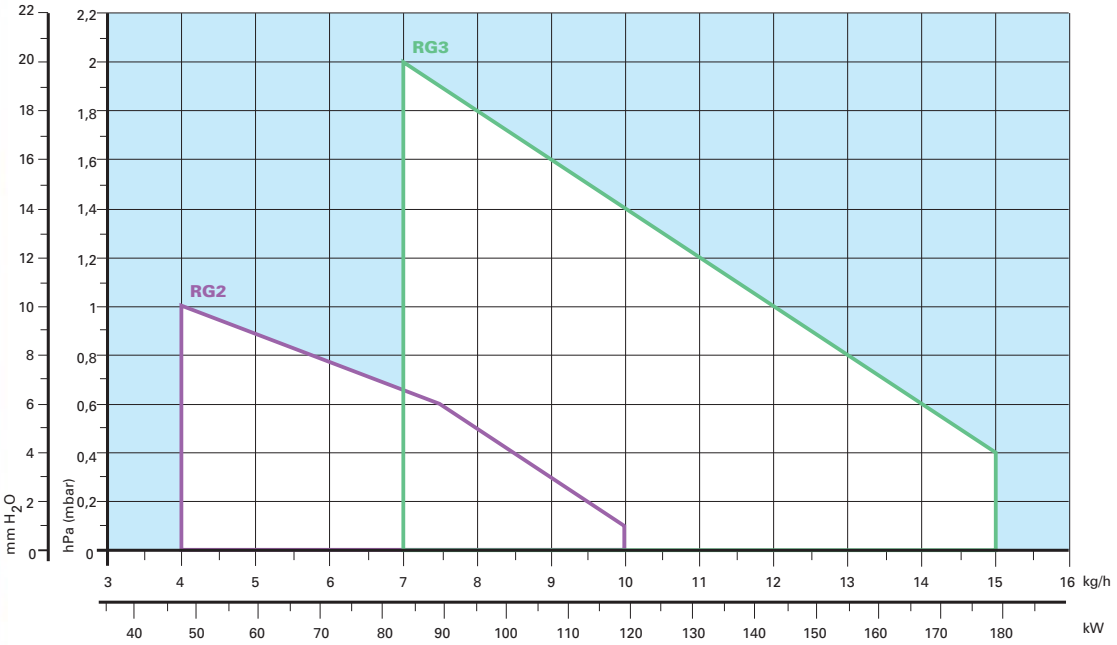


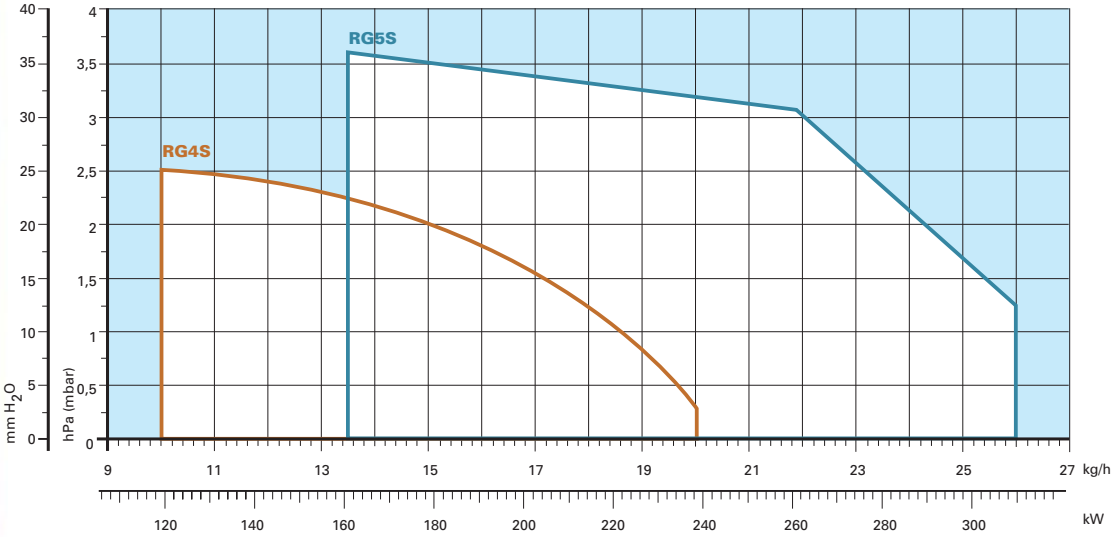


Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

GULLIVER RG series - FIRING RATES





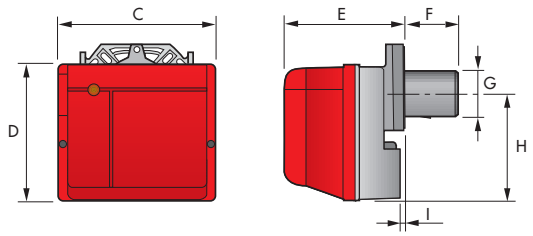
Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

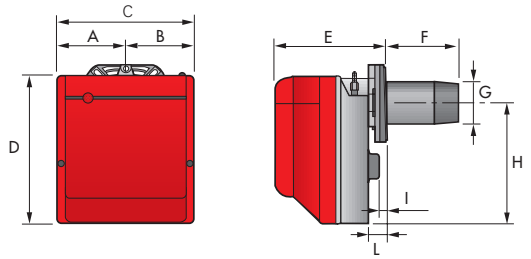
GULLIVER RG series - OVERALL DIMENSIONS (mm)

BURNERS

GULLIVER RG0



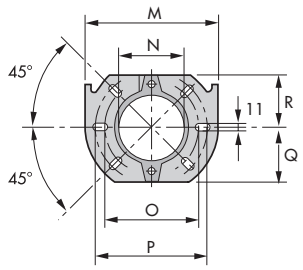
GULLIVER RG



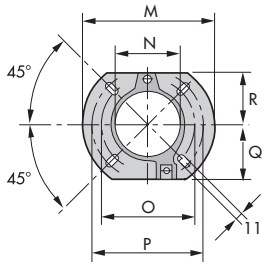
Model	A	B	C	D	E	F	G	H	I	L
RG0.R	-	-	255	210	205	93	84	168	5	-
RG0.1R	-	-	255	210	205	93	84	168	5	-
RG0.1	-	-	255	210	205	93	84	168	5	-
RG1	122	112	234	254	196	93	84	210	4	22
RG1R	122	112	234	254	196	93	84	210	4	22
RG1RK	122	112	234	254	196	111	84	210	4	22
RG2	-	-	255	280	202	115	95	230	10	28
RG3	-	-	300	345	228	142	123	285	12	36
RG4S	-	-	300	345	228	142	123	285	12	36
RG5S	-	-	300	345	247	155	125	285	12	36

BURNER - BOILER MOUNTING FLANGE

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

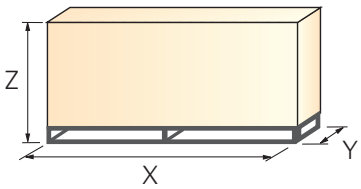


RG3 - RG4S - RG5S



Model	M	N	O	P	Q	R
RG0.R - RG0.1R RG0.1 - RG1 RG1R - RG1RK	180	91	130	150	72	72
RG2	189	106	140	168	83	83
RG3 - RG4S - RG5S	213	127	160	190	99	99

PACKAGING



Model	X	Y	Z	kg
RG0.R	398	290	290	9
RG0.1R	348	290	290	11
RG0.1	348	290	290	9
RG1	343	268	310	13
RG1R	343	268	310	13
RG1RK	343	268	310	13
RG2	353	288	340	13
RG3	420	335	420	15
RG4S	420	335	420	18
RG5S	500	335	420	18

GULLIVER RG series - 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
E Flame monitor

R	G	4	S	
R	G	1	R	K

GULLIVER RG series - STATE OF SUPPLY

Completely automatic monobloc light oil burners, one stage operation, made up of:
- Fan with forward inclined blades
- Cover lined with sound-deadening 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
- Protective filter against radio interference
- Light oil nozzle
- 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
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

GULLIVER RG series - AVAILABLE BURNER MODELS

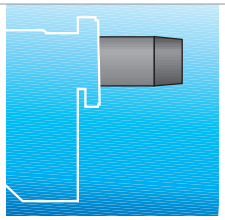
Code	Model		Heat output (kW)	Heat output (kg/h)	Total electrical power (kW)	Certification	Note	Price
3736550	RG0.R	1/50/230±10%	16,6 - 27,3	1,4 - 2,3	0,29	CE - 0036 0272/99		
3736850	RG0.1	1/50/230±10%	22,5 - 35,6	1,9 - 3,0	0,17	CE - 0036 0294/00		
3736750	RG01.R	1/50/230±10%	21,3 - 36,7	1,8 - 3,1	0,29	CE - 0036 0273/99		
3736350	RG1	1/50/230±10%	32 - 60	2,7 - 5	0,17	DIN - Reg.-Nr.5G148/98		
3736450	RG1R	1/50/230±10%	20 - 60	1,7 - 5	0,29	DIN - Reg.-Nr.5G149/98		
3736250	RG1RK	1/50/230±10%	15 - 60	1,3 - 5	0,29	DIN - Reg.-Nr.5G059/97		
3737750	RG2	1/50/230±10%	47 - 119	4 - 10	0,18	DIN - Reg.-Nr.5G060/97		
3739350	RG3	1/50/230±10%	83 - 178	7 - 15	0,39	DIN - Reg.-Nr.5G264/98		
3739650	RG4S	1/50/230±10%	118,5 - 237	10 - 20	0,39	DIN - Reg.-Nr.5G265/98		
3739950	RG5S	1/50/230±10%	160 - 309,5	13,5 - 26,1	0,47	CE - 0036 0310/01		

Net calorific value: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).

The burners of RG series are in according to EN 267.

GULLIVER RG series - BURNER ACCESSORIES

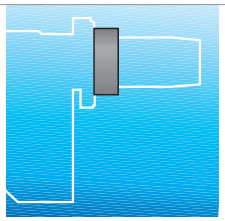
Extended head kit



Kits of extended heads are available.

Burner	Standard head length (mm)	Long head version length (mm)	Kit code	Price
RG1 - RG1R	93	163	3000963	
RG1RK	111	181	3000982	
RG2	114	180	3000964	
RG2	142	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 withdrawn to reduce head penetration into the combustion chamber.

Burner	Accessory	Withdrawal (mm)	Kit code	Price
RG0.R - RG0.1R - RG0.1 RG1 - RG1R - RG1RK	Enlarged flange	15	3007931	
RG2	Spacer	25	3000672	
RG3 - RG4S - RG5S	Spacer	25	3000673	

Control box 550 SMD

On request, we can supply the control box can be supplied that is used on the Low NOx models, which is interchangeable with the one fitted.

Burner	Kit code	Price
RG0.R - RG0.1R - RG0.1 RG1 - RG1R - RG1RK RG2 - RG3 - RG4S - RG5S	3001168	

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".

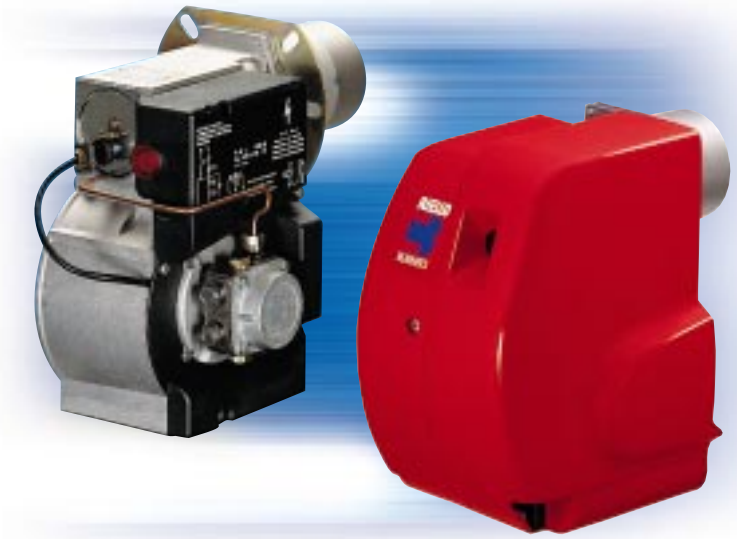
Burner	Kit code	Price
RG0.R - RG0.1R - RG0.1 RG1 - RG1R - RG1RK RG2 - RG3 - RG4S - RG5S	3087211	

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

CE

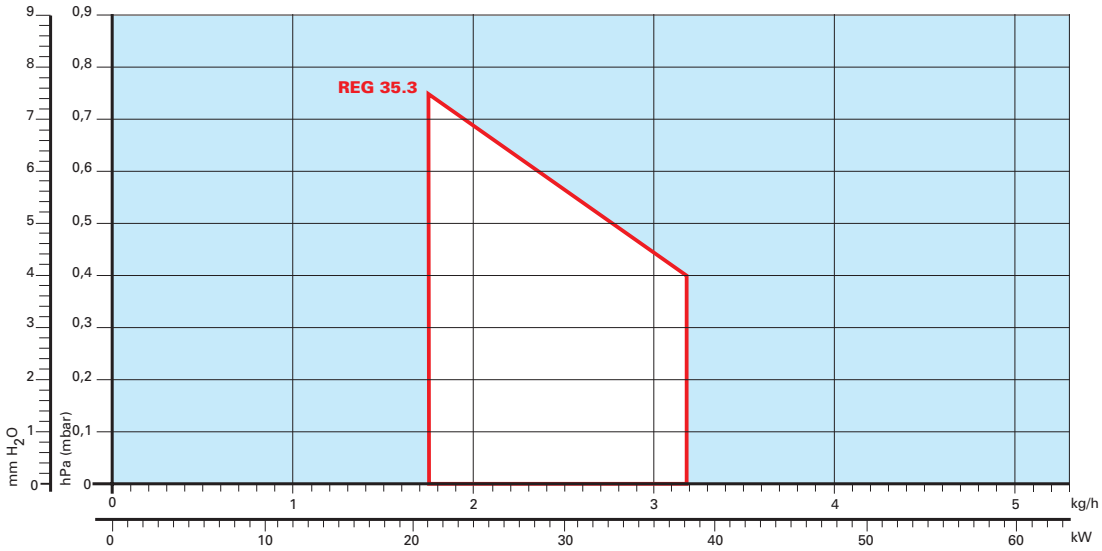
ONE STAGE LIGHT OIL BURNERS

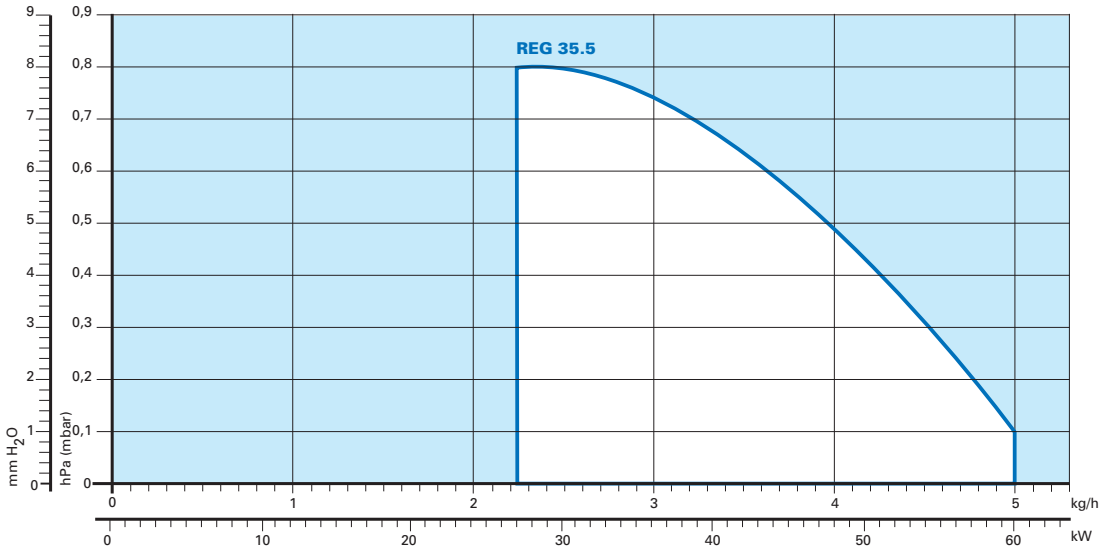
REG SERIES					
REG 35.3	21	÷	38	kW
REG 35.5	27	÷	60	kW



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.

FIRING RATES





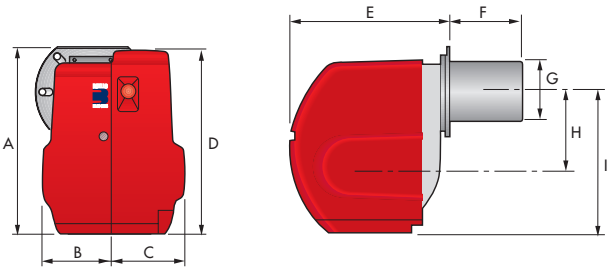
Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

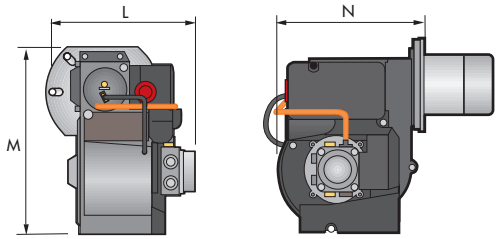
REG series - OVERALL DIMENSIONS (mm)

BURNERS

REG 35.3



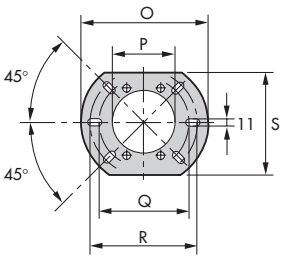
REG 35.5



Model	A *	B *	C *	D *	E *	F **	G	H	I *	L	M	N
REG 35.3	301/304	84/84	140/140	280/283	243/243	82-112	89	121.5	212/215	215,5	279	211
REG 35.5	301/304	84/84	140/140	280/283	243/243	80-110	89	121.5	212/215	215,5	279	211

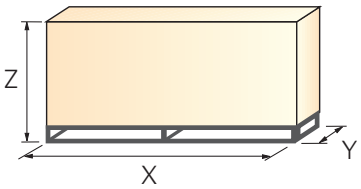
* Top cover only / Top and bottom cover.
** The combustion head is available in 2 different lengths.

BURNER - BOILER MOUNTING FLANGE



Model	O	P	Q	R	S
REG 35.3	170	95	130	150	130
REG 35.5	170	95	130	150	130

PACKAGING



Model	X	Y	Z	kg
REG 35.3	337	300	210	9,5
REG 35.5	337	300	210	9,5

REG series - SPECIFICATION

DESIGNATION OF SERIES

Series: REG

Size

REG	35.3

REG series - STATE OF SUPPLY

Monoblock fully automatic light oil burners, one stage operation, made up of:
- Fan with forward inclined 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
- Protective filter against radio interference
- Light oil nozzle
- 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.

REG series - AVAILABLE BURNER MODELS

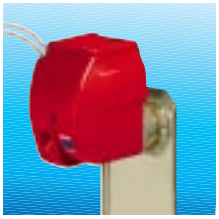
Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	(kg/h)				
3772116	REG 35.3 1/50/230±10%	21 - 38	1,8 - 3,2	0,17	DIN - Reg.-Nr.5G098/97		
3772216	REG 35.5 1/50/230±10%	27 - 60	2,3 - 5	0,17	DIN - Reg.-Nr.5G097/97		

Net calorific value: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4÷6 mm^2/s (cSt).

The burners of REG series are in according to EN 267.

REG series - BURNER ACCESSORIES

Cover



Besides the basic version, the boilers 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.

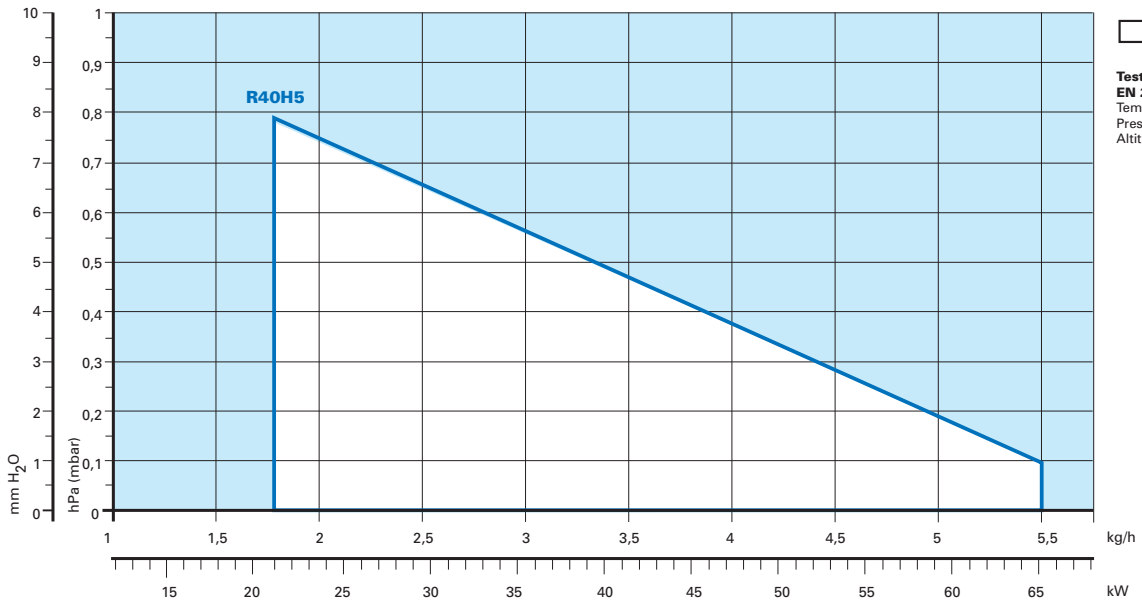
Version	Kit code	Price
Standard installation	3008900	
Upside down installation	3008900 + 3008902	

ONE STAGE LIGHT OIL BURNERS

RIELLO 40 H SERIES ▸ **H5** 21 ÷ 65 kW

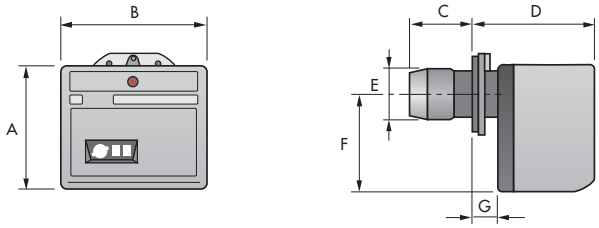
The Riello 40 H series burners is available as a single model structure with an output from 21 to 65 kW, suitable for hotel kitchen applications. This series represents the long experience of Riello in combustion techniques.
This burner can work in two stages, choosing the output required according with the heat input that the oven 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 Riello H series burners is designed and tested to conform to European Standard EN 267 and European Directives: EMC, Low Voltage, Machinery and Boiler Efficiency.
Electrical protection rating is to IP40.

FIRING RATES



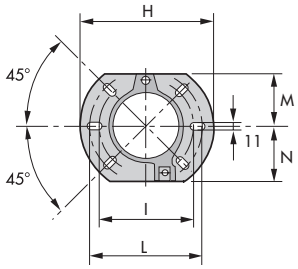
RIELLO 40 H series - OVERALL DIMENSIONS (mm)

BURNERS



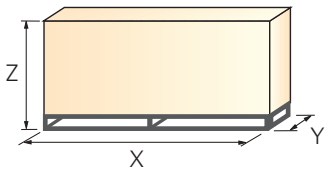
Model	A	B	C	D	E	F	G
H5	233	272	107	238	89	238	37

BURNER-BOILER MOUNTING FLANGE



Model	H	I	L	M	N
H5	180	130	150	72	75

PACKAGING



Model	X	Y	Z	kg
H5	373	305	315	12

RIELLO 40 H series - SPECIFICATION

DESIGNATION OF SERIES

Series : H

Size

H	5

RIELLO 40 H 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 inclined blades
- Cover lined with sound-deadening 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 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
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue
- Hinge.

RIELLO 40 H series - AVAILABLE BURNER MODELS

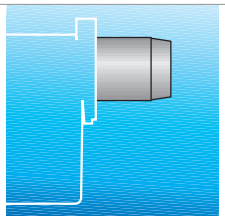
Code	Model	Heat output		Total electrical power	Certification	Note	Price
		(kW)	(kg/h)	(kW)			
3451104	H5 1/50/230±10% 21 - 65	1,8 – 5,5	0,13	0,13	-		

Net calorific value: 11,8 kWh/kg - 10.200 kcal/kg - Viscosity at 20°C 4÷6 mm^2/s (cSt)

The burners of H series are in according to EN 267

RIELLO 40 H series - BURNER ACCESSORIES

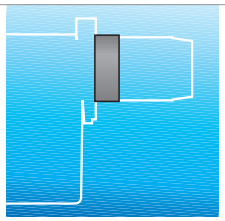
Extended head kit



Kits of extended heads are available.

Burner	Standard head length (mm)	Long head version length (mm)	Kit code	Price
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	Accessory	Pulling back (mm)	Kit code	Price
H5	Spacer	25	3007642	

Protection

Burner	Kit code	Price
H5	3000925	

Light oil filter

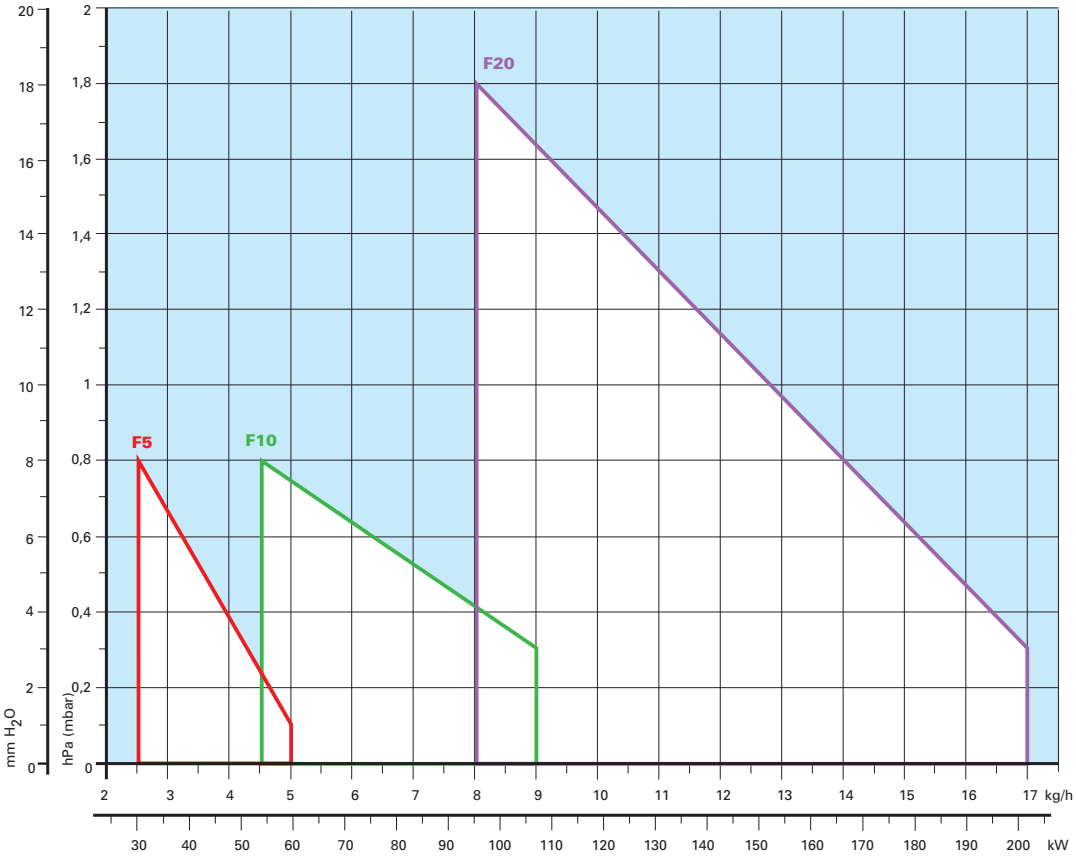
Burner	Kit code	Price
H5	3000926	

ONE STAGE LIGHT OIL BURNERS

RIELLO 40 F SERIES					
F5	30	÷	60	kW
F10	54	÷	107	kW
F20	95	÷	202	kW

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, whit 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.

FIRING RATES

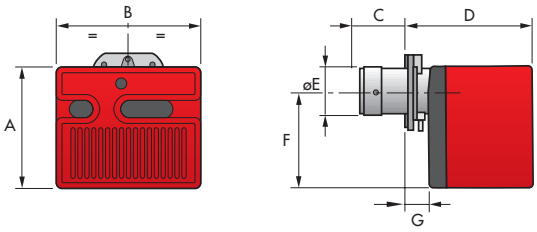


Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

RIELLO 40 F series - OVERALL DIMENSIONS (mm)

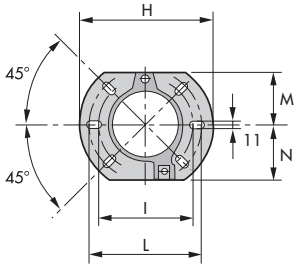
BURNERS



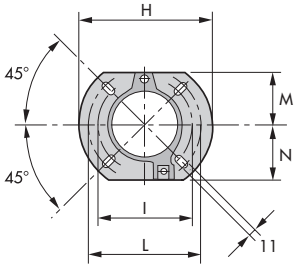
Model	A	B	C	D	E	F	G
F5	233	272	72	240	89	180	41
F10	262	305	104	265	105	204	44
F20	298	350	114	299	125	230	45

BURNER-BOILER MOUNTING FLANGE

F5 - F10

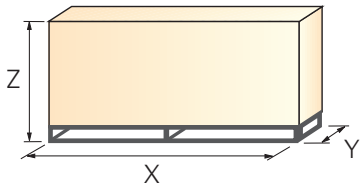


F20



Model	H	I	L	M	N
F5	180	130	150	72	75
F10	189	140	170	83	83
F20	213	160	190	99	99

PACKAGING



Model	X	Y	Z	kg
F5	373	305	315	11
F10	413	338	330	12
F20	473	383	367	15

RIELLO 40 F series - SPECIFICATION

DESIGNATION OF SERIES

Series : F

Size

F	5

RIELLO 40 F series - STATE OF SUPPLY

Completely automatic monobloc light oil burners, one stage operation, made up of:
- Fan with forward inclined 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 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.

RIELLO 40 F series - AVAILABLE BURNER MODELS

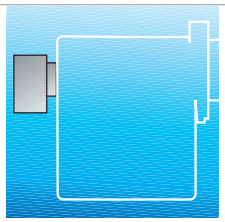
Code	Model	Heat output		Total electrical power	Certification	Note	Price
		(kW)	(kg/h)	(kW)			
3451083	F5 1/50/230±10%	30 – 60	2,5 – 5	0,13	-		
3452083	F10 1/50/230±10%	54 – 107	4,5 – 9	0,17	-		
3452783	F20 1/50/230±10%	95 - 202	8 - 17	0,33	-		

Net calorific value: 11,8 kWh/kg - 10.200 kcal/kg - Viscosity at 20°C 4÷6 mm²/s (cSt)

The burners of F series are in according to EN 267.

RIELLO 40 F series - BURNER ACCESSORIES

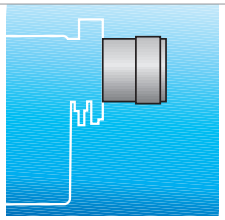
Remote control release kit for the 530 SE control box



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	Price
F5 - F10 - F20	3001030	

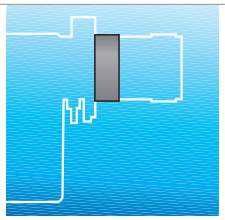
Extended head kit



Kits of extended heads are available.

Burner	Standard head length (mm)	Long head version length (mm)	Kit code	Price
F5	72	90	3006001	
F5	72	90 INOX	3000688	
F5	72	107	3000638	
F5	72	121	3000686	
F5	72	121 INOX	3000687	
F5	STANDARD	CONIC HEAD	3000726	
F5	CONIC	107 CILINDRIC HEAD	3000728	
F10	104	168	3000643	
F10	104	250	3000770	
F20	114	178	3000644	
F20	114	260	3000771	

Spacer kit



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

Burner	Accessory	Pulling back (mm)	Kit code	Price
F5	Spacer	25	3007642	
F10	Spacer	25	3000672	
F20	Spacer	25	3000673	

Light oil filter

Burner	Kit code	Price
F5 - F10 - F 20	3000926	

Biodiesel kit

Burner	Kit code	Price
F5 - F10 - F 20	3000978	

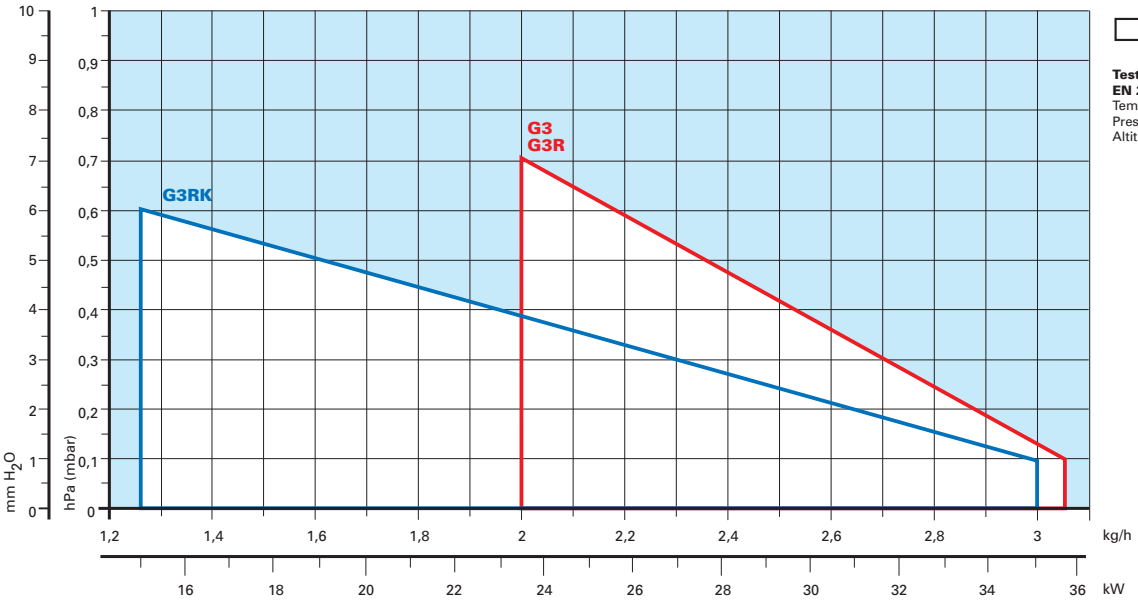
ONE STAGE LIGHT OIL BURNERS

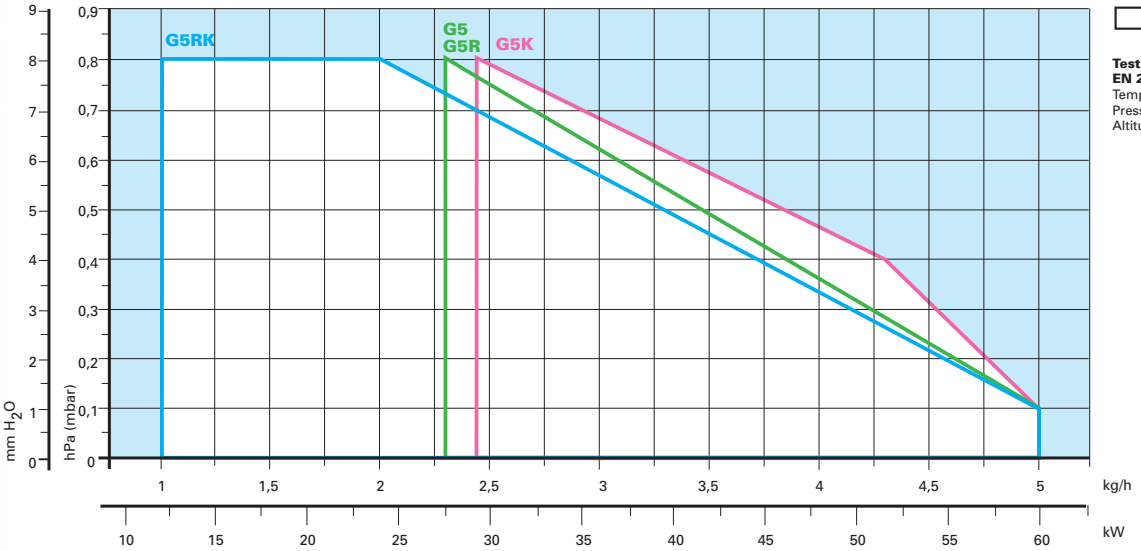
RIELLO 40 G SERIES

G3	23,8	÷	35,9	kW
G3R	23,8	÷	35,9	kW
G3RK	15,0	÷	35,0	kW
G5	28,0	÷	60,0	kW
G5R	28,0	÷	60,0	kW
G5K	29,0	÷	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

The Riello 40 G series of single-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 eleven different models, whit 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.

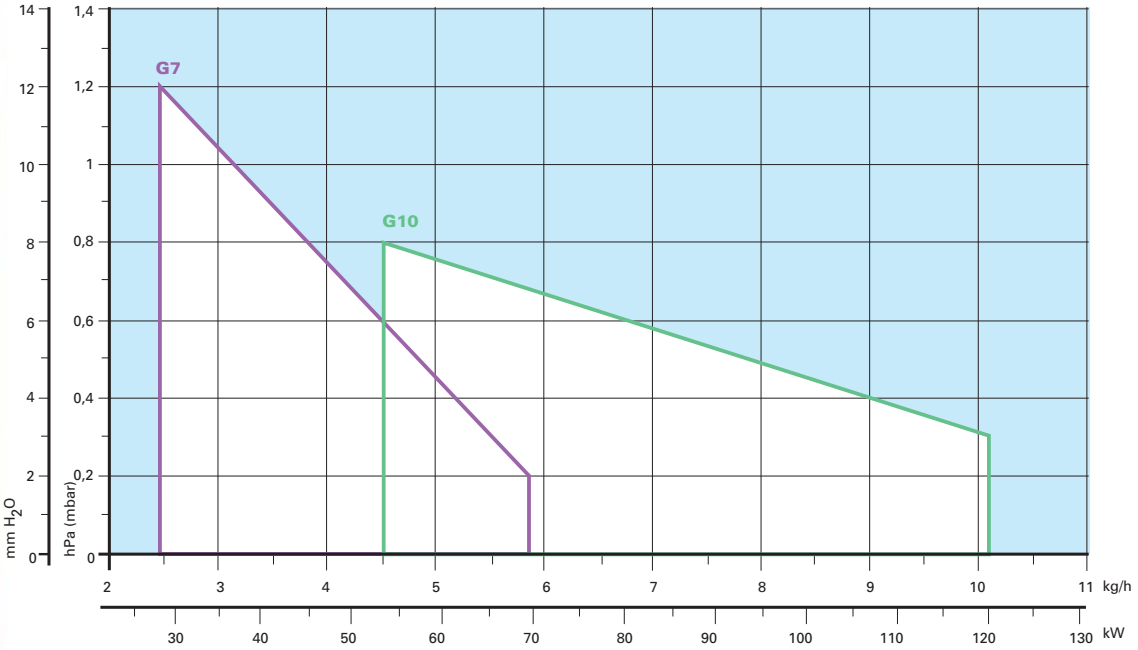
FIRING RATES

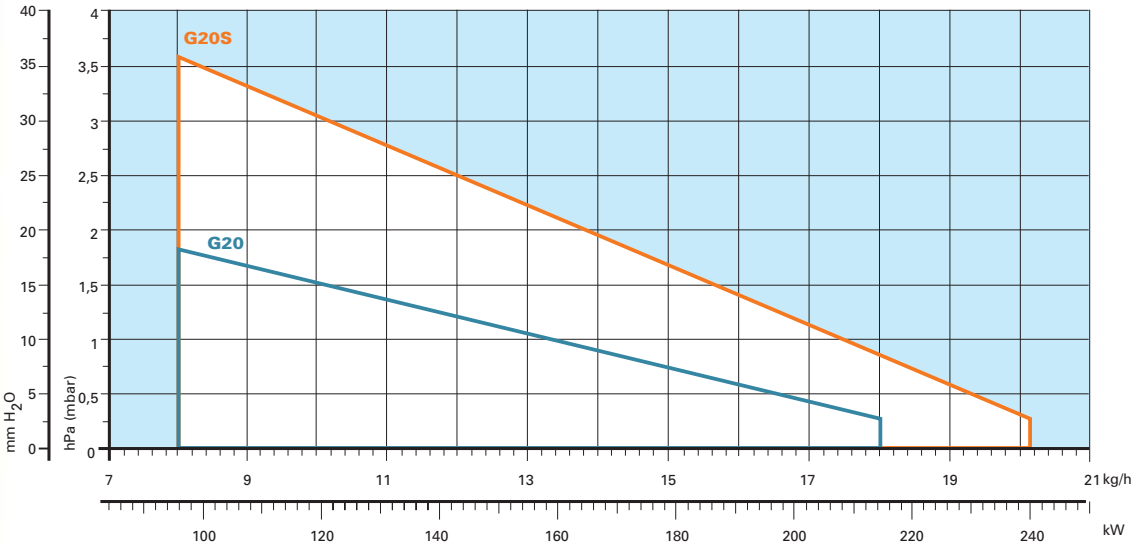




Useful working field for choosing the burner

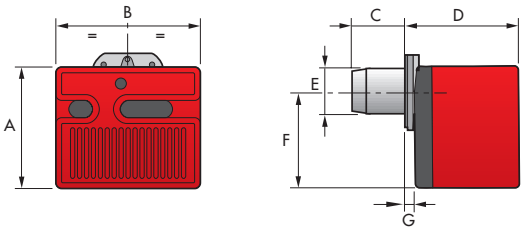
Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.





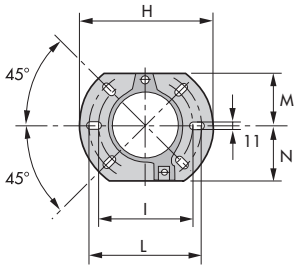
RIELLO 40 G series - OVERALL DIMENSIONS (mm)

BURNERS



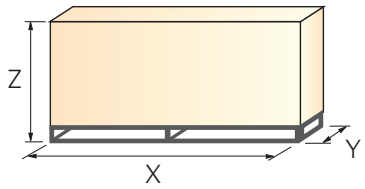
Model	A	B	C	D	E	F	G
G3	215	252	86	203	89	164	19
G3R	215	252	86	203	89	164	19
G3RK	215	252	97÷115	203	89	164	19
G5	233	272	107	236	89	180	37
G5R	233	272	107	236	89	180	37
G5K	233	272	94÷112	236	89	180	37
G5RK	233	272	94÷112	236	89	180	37
G7	262	305	73	261	89	204	40
G10	262	305	108	261	105	204	40
G20	298	350	118	295	125	230	41
G20S	298	350	118	295	125	230	41

BURNER-BOILER MOUNTING FLANGE



Model	H	I	L	M	N
G3 - G3R - G3RK - G5 - G5R - G5K - G5RK	180	130	150	72	75
G7 - G10	189	140	170	83	83
G20 - G20S	213	160	190	99	99

PACKAGING



Model	X	Y	Z	kg
G3	353	285	300	9
G3R	353	285	300	9
G3RK	353	285	300	9
G5	373	305	315	11
G5R	373	305	315	11
G5K	373	305	315	11
G5RK	373	305	315	11
G7	413	338	330	12
G10	413	338	330	12
G20	473	383	367	15
G20S	473	383	367	15

RIELLO 40 G series - SPECIFICATION

DESIGNATION OF SERIES

Series : G

Size

Possible variations:

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

G	5	R	K

BASIC DESIGNATION

RIELLO 40 G series - STATE OF SUPPLY

Completely automatic monobloc light oil burners, one stage operation, made up of:
- Fan with forward inclined blades
- Metallic cover lined with sound-deadening 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 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
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RIELLO 40 G series - AVAILABLE BURNER MODELS

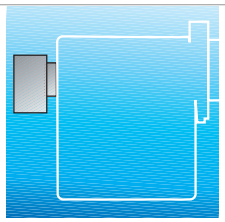
Code	Model		Heat output		Total electrical power	Certification	Note	Price
			(kW)	(kg/h)	(kW)			
3743125	G3	1/50/230 ±10%	23,8 – 35,9	2 - 3	0,12	-		
3743831	G3R	1/50/230 ±10%	23,8 – 35,9	2 - 3	0,17	-		
3743412	G3RK	1/50/230 ±10%	15 – 35	1,3 - 3	0,17	CE – 0036 0253/99		
3744512	G5	1/50/230 ±10%	28 – 60	2,3 - 5	0,13	-		
3744612	G5R	1/50/230 ±10%	28 – 60	2,3 - 5	0,19	-		
3745212	G5K	1/50/230 ±10%	29 – 60	2,5 - 5	0,13	CE – 0036 0255/99		
3745312	G5RK	1/50/230 ±10%	12 – 60	1 - 5	0,19	CE – 0036 0256/99		
3745959	G7	1/50/230 ±10%	29 – 69	2,5 - 5,8	0,16	-		
3746412	G10	1/50/230 ±10%	54 – 120	4,5 - 10	0,17	CE – 0036 0257/99		
3747412	G20	1/50/230 ±10%	95 – 213	8 - 18	0,33	-		
3748259	G20S	1/50/230 ±10%	95 – 240	8 - 20	0,33	-		

Net calorific value: 11,8 kWh/kg - 10.200 kcal/kg - Viscosity at 20°C 4÷6 mm^2/s (cSt)

The burners of G series are in according to EN 267.

RIELLO 40 G series - BURNER ACCESSORIES

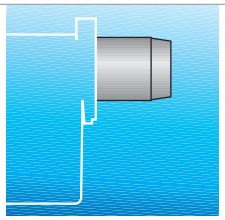
Remote control release kit for the 530-531 control box



The 530-531 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	Price
All models	3001030	

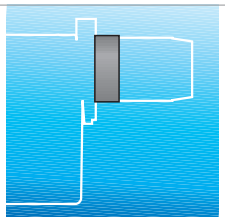
Extended head kit



Kits of extended heads are available.

Burner	Standard head length (mm)	Long head version length (mm)	Kit code	Price
G5, G5R	107	121	3000686	
G5, G5R	107	121 INOX	3000687	
G5, G5R	STANDARD	CONIC HEAD	3000726	
G5K	CONIC	107 CILINDRIC HEAD	3000728	
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	Accessory	Pulling back (mm)	Kit code	Price
G3,G3R,G3RK, G5, G5K, G5R, G5RK, G7	Spacer	25	3007642	
G10	Spacer	25	3000672	
G20, G20S	Spacer	25	3000673	

Light oil filter

Burner	Kit code	Price
All the models	3000926	

Biodiesel kit

Burner	Kit code	Price
G3,G3R,G3RK, G5, G5K, G5R, G5RK, G7, G10, G20	3000978	
G20S	3000979	

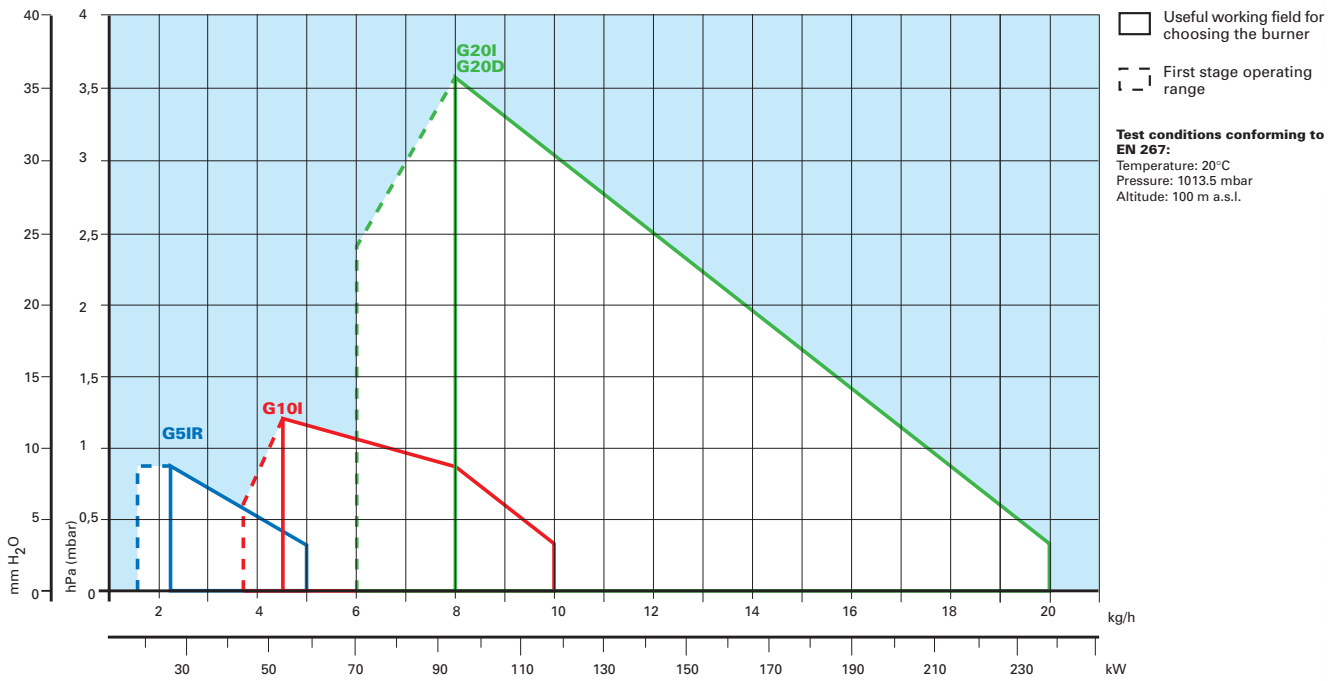
TWO STAGE LIGHT OIL BURNERS

RIELLO 40 GI SERIES

G5IR	19/26	÷	60	kW
G10I	44/54	÷	120	kW
G20I	71/95	÷	240	kW
G20D	71/95	÷	240	kW

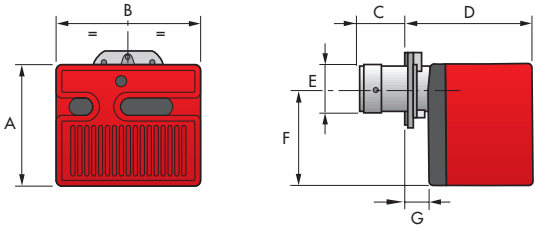
The Riello 40 GI series of two-stage light oil burners, is a complete range of products developed to respond to any request for home heating. The Riello 40 GI series is available in four different models, whit an output ranging from 19 to 240 kW, divided in three different structures.
All the models 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.

FIRING RATES



RIELLO 40 GI series - OVERALL DIMENSIONS (mm)

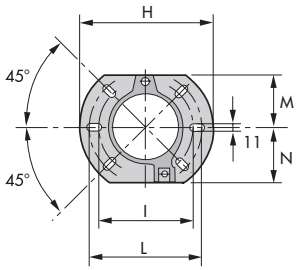
BURNERS



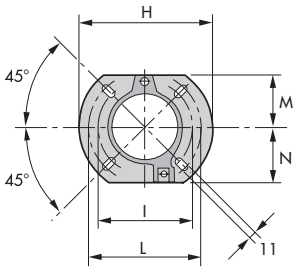
Model	A	B	C	D	E	F	G
G5IR	233	272	94-112	236	89	180	37
G10I	262	305	108	261	105	204	40
G20I - G20D	298	350	118	295	125	230	41

BURNER-BOILER MOUNTING FLANGE

G5IR - G10I

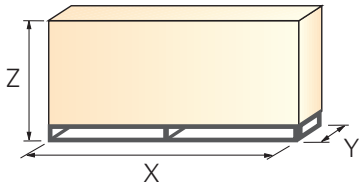


G20I - G20D



Model	H	I	L	M	N
G5IR	180	130	150	72	75
G10I	189	140	170	83	83
G20I	210	160	190	99	99
G20D	213	160	190	99	99

PACKAGING



Model	X	Y	Z	kg
G5IR	373	305	315	11
G10IR	413	338	330	12
G20I	473	383	367	14
G20D	473	383	367	15

RIELLO 40 GI series - SPECIFICATION

DESIGNATION OF SERIES

Series : G

Size

Possible variations:
- I Intelligent
- D Two stage output adjustment
- R Light-oil pre-heater

G	5	I	D	R

RIELLO 40 GI series - STATE OF SUPPLY

Completely automatic monobloc light oil burners, two stage operation, made up of:
- Fan with forward inclined blades
- Cover lined with sound-deadening 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 40 protection level
- Fuel pre-heater (optional)
- 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
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue
- Hinge
- External probe.

RIELLO 40 GI series - AVAILABLE BURNER MODELS

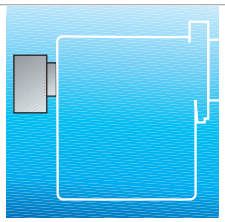
Code	Model	Heat output		Total electrical power	Certification	Note	Price
		(kW)	(kg/h)	(kW)			
3745613	G5IR 1/50/230±10%	19/26 - 60	1,6/2,2 - 5	0,18	-		
3746613	G10I 1/50/230±10%	44/54 - 120	3,7/4,5 - 10	0,17	CE - 0036 0258/99		
3748409	G20I 1/50/230±10%	71/95 - 240	6/8 - 20	0,33	-		
3748414	G20D 1/50/230±10%	71/95 - 240	6/8 - 20	0,33	CE - 0036 0259/99		

Net calorific value: 11,8 kWh/kg - 10.200 kcal/kg - Viscosity at 20°C 4...6 mm²/s (cSt)

The burners of GI series are in according to EN 267

RIELLO 40 GI series - BURNER ACCESSORIES

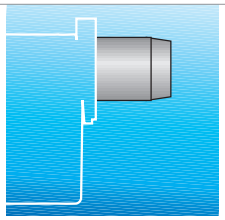
Remote control release kit for the 530-531 control box



The 530-531 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	Price
G5IR - G10I - G20I - G20D	3001030	

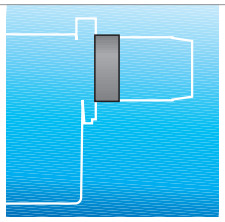
Extended head kit



Kits of extended heads are available.

Burner	Standard head length (mm)	Long head version length (mm)	Kit code	Price
G10I	108	168	3000643	
G20I	118	178	3000644	
G20D	118	260	3000771	

Spacer kit



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

Burner	Accessory	Pulling back (mm)	Kit code	Price
G5IR	Spacer	25	3007642	
G10I	Spacer	25	3000672	
G20I, G20D	Spacer	25	3000673	

Light oil filter

Burner	Kit code	Price
G5IR - G10I - G20I - G20D	3000926	

Biodiesel kit

Burner	Kit code	Price
G5IR - G10I - G20I - G20D	3000978	

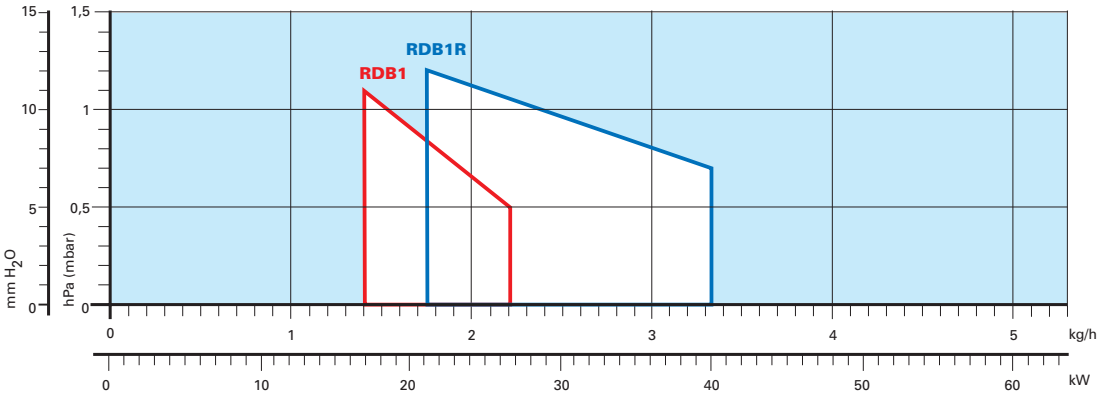
ONE STAGE LIGHT OIL AND KEROSENE BURNERS

RDB SERIES

RDB1-1R	16,9	÷	40,0	kW
RDB2-2R	23,8	÷	59,3	kW
RDB3	35,6	÷	68,7	kW
RDB4	55,7	÷	113,0	kW

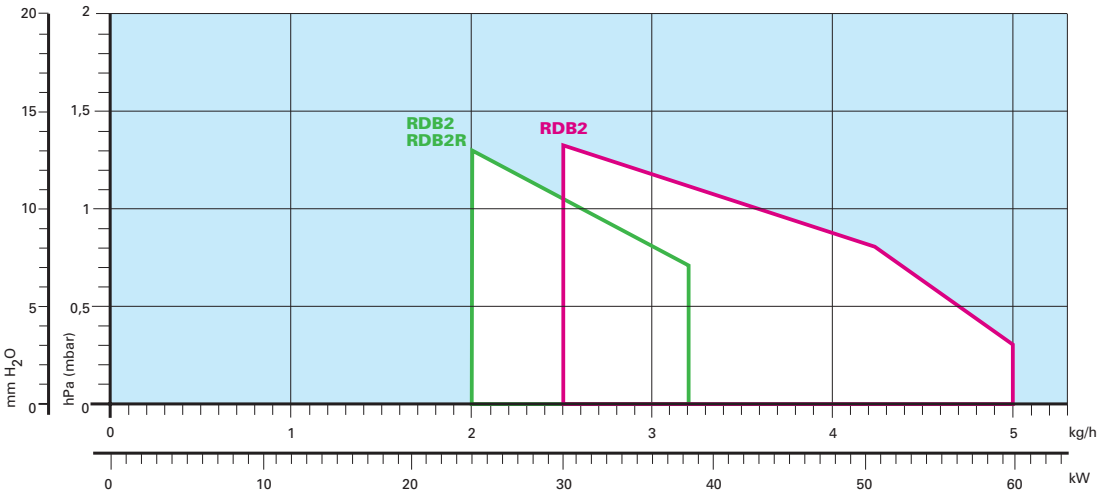
The Riello RDB series of one stage light oil and kerosene burners is available in 6 basic models, with an output ranging from 16,8 to 113 kW, in two different structures.
The models are available in light oil and kerosene versions, conventional flue and balanced flue, with or without the fuel pre-heater fitted.
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.
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.

FIRING RATES

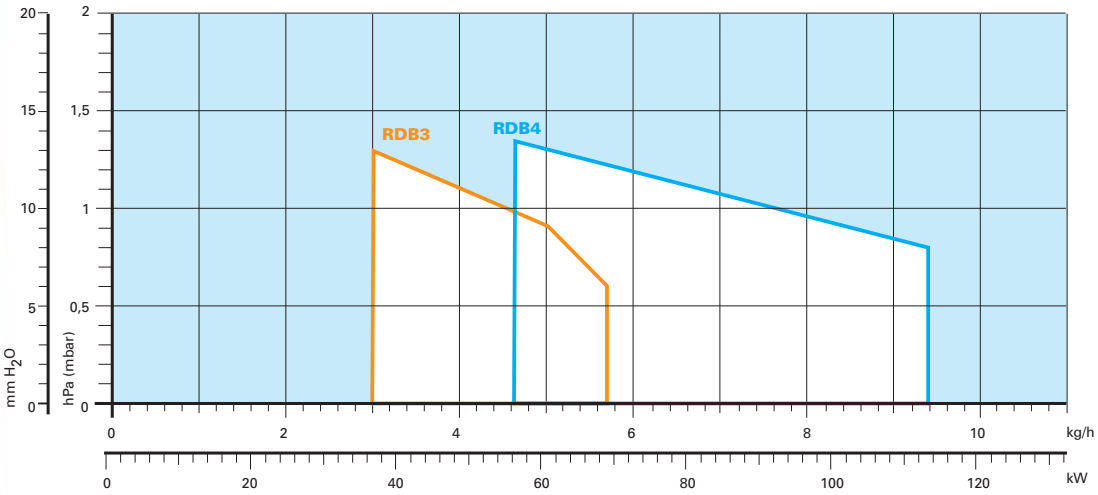


Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



RDB series - FIRING RATES



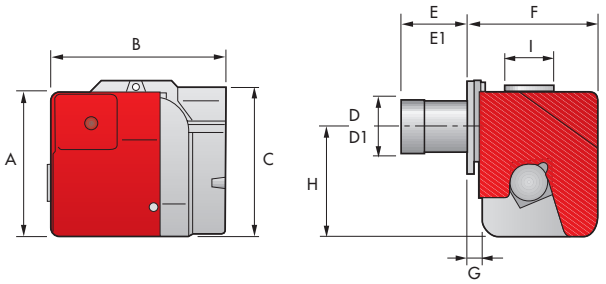
Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

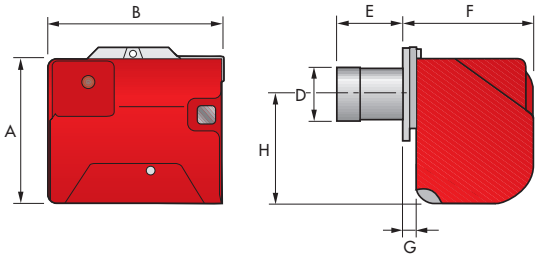
RDB series - OVERALL DIMENSIONS (mm)

BURNERS

RDB1-1R - RDB2-2R



RDB3 - RDB4

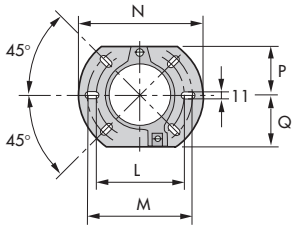


Model	A	B	C	D	D1	E	E1	F	G	H	I
RDB1-1R	223,5	276	230	90	89	76	86	202	20	168	75
RDB2-2R	223,5	276	230	90	89	76	86	202	20	168	75
RDB3	268	325	-	88	-	78	-	253	30	204	-
RDB4	268	325	-	105	-	111	-	253	30	204	-

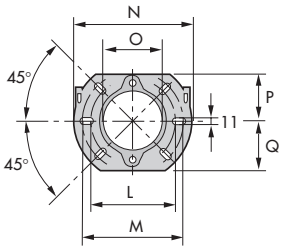
D - E = Adjustable combustion head.
D1 - E1 = Fixed combustion head.

BURNER - BOILER MOUNTING FLANGE

RDB1-1R - RDB2-2R

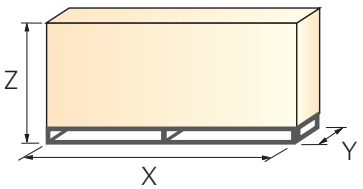


RDB3 - RDB4



Model	L	M	N	O	P	Q
RDB1-1R	130	150	180	-	72	72
RDB2-2R	130	150	180	-	72	72
RDB3	140	168	189	106	83	83
RDB4	140	168	189	106	83	83

PACKAGING



Model	X	Y	Z	kg
RDB1-1R	373	305	315	11
RDB2-2R	373	305	315	11
RDB3	435	360	355	15
RDB4	435	360	355	15

RDB series - SPECIFICATION

DESIGNATION OF SERIES

Series: RDB

Size

Possible variations: R Light-oil pre-heater

RDB	1	R

RDB 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
- Protective filter against radio interference
- Light oil nozzle
- 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
- Instruction handbook for installation, use and maintenance
- Spare parts list.

RDB series - AVAILABLE BURNER MODELS

Code	Model		Heat output		Total electrical power (kW)	Certification	Note	Price
			(kW)	(kg/h)				
3513005	RDB1	1/50/230±10%	16,9 - 26,5	1,4 - 2,2	0,115	-		
3748365	RDB1R	1/50/230±10%	21 - 40	1,75 - 3,4	0,17	-		
3513603	RDB2	1/50/230±10%	24,1 - 38,5	2 - 3,2	0,125	-		
-	RDB2	1/50/230±10%	29,6 - 59,3	2,5 - 5	0,125	-	(1)	
-	RDB2R	1/50/230±10%	23,8 - 37,9	2 - 3,2	0,175	-	(1)	
3748955	RDB3	1/50/230±10%	35,6 - 68,7	3 - 5,8	0,27	CE - 0036 0274/99		
3748855	RDB4	1/50/230±10%	55,7 - 113	4,7 - 9,5	0,27	CE - 0036 0275/99		

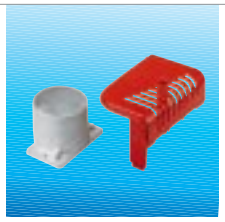
(1) The RDB2 and RDB2R codes will be available in the future.

Net calorific value: 11,8 kWh/kg; 10.200 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.

RDB series - 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	Price
RDB1-1R - RDB2-2R	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".

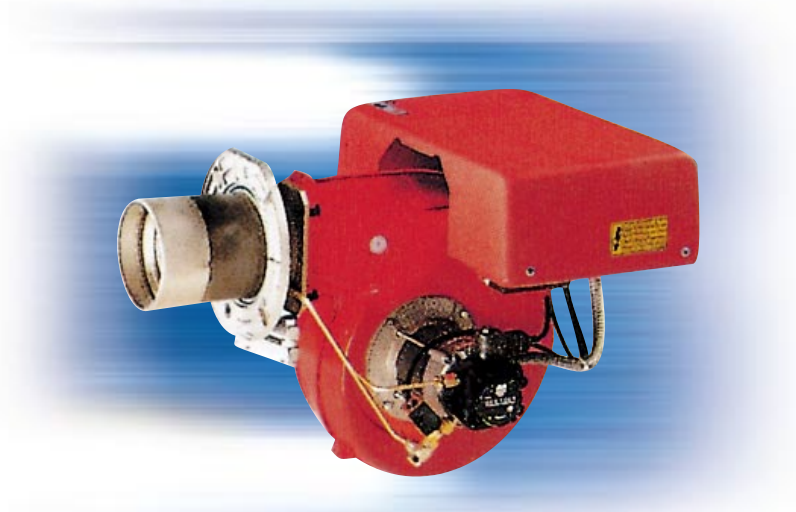
Burner	Kit code	Price
RDB1-1R - RDB2-2R - RDB3 - RDB4	3087216	

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

ONE STAGE LIGHT OIL BURNERS

PRESS GV SERIES

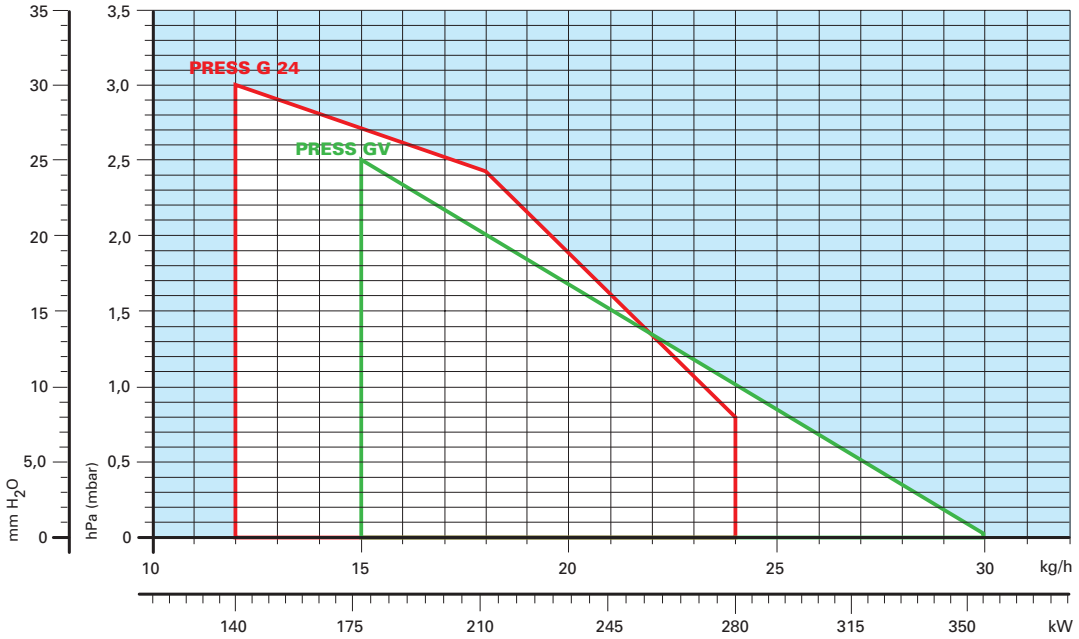
PRESS G24	140 ÷	280 kW
PRESS GV	178 ÷	356 kW



The PRESS GV 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 dryer kilns. Operation is single stage, thus making these burners suitable for installations that have repetitive and predictable heating requirments. Variable geometry combustion head allows optimal performance throught air speed control, ensuring combustion peak and saving on fuel consumption.

The main feature of these burners is their proofed reliability due to a simple and sturdy construction, which permits operation without particular maintenance intervents. 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. All electrical components are easily accessible only by dismounting a protection panel, thus guaranteeing a quick and simple intervent on components.

FIRING RATES



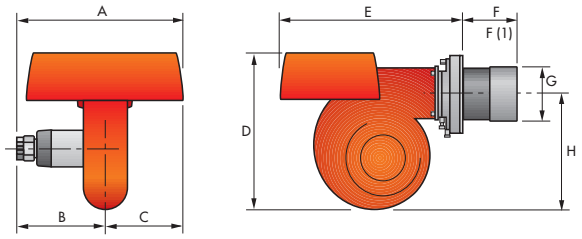
Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

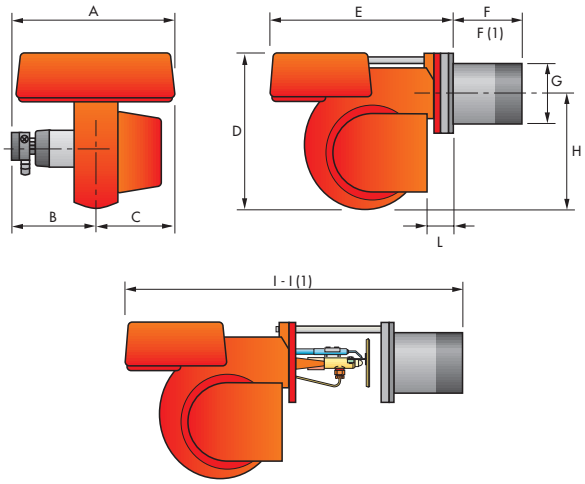
PRESS GV series - OVERALL DIMENSIONS (mm)

BURNER

PRESS G24



PRESS GV

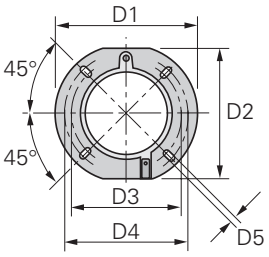


Model	A	B	C	D	E	F - F (1)	G	H	I - I (1)	L
▸ **PRESS G24**	425	222	203	397	485	118 - 253	125	290	- - -	-
▸ **PRESS GV**	439	234	205	397	473	185 - 320	140	292	875 - 1010	59

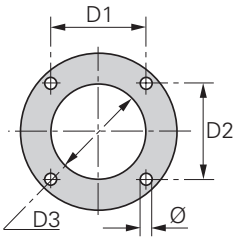
(1) dimension with extended head

BURNER - BOILER MOUNTING FLANGE

PRESS G24

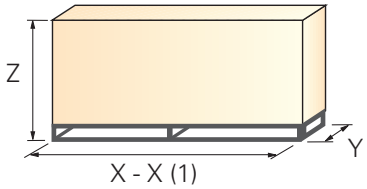


PRESS GV



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) dimension with extended head

PRESS GV series - 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	3/220/60Hz - 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						

PRESS GV series - STATE OF SUPPLY

Monoblock forced draught oil burner, one stage operation, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air dampers for air setting
- Starting motor at 2850rpm
- 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 double oil safety valve on the output circuit
- Photocell for flame detection
- Flame control panel, fitted with a 4 positions commutator for start-up procedure and three nozzles hourcounters
- Burner on/off switch
- Flame inspection window
- Slide bars for easier installation and maintenance (only for PRESS GV)
- Protection filter against radio interference
- IP 40 electric protection level.

Standard equipment:
- 2 flexible oil lines
- 2 gaskets for flexible
- 2 nipples for flexible
- 1 flange gasket
- 4 screws for fixing the burner flange to the boiler
- 2 pipe fittings (for GV)
- 2 pipe fitting gaskets (for GV)
- 1 flange with thermal insulation screen (for G24)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

PRESS GV series - AVAILABLE BURNER MODELS

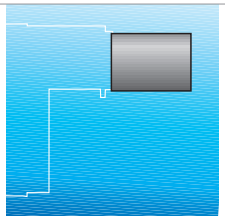
Code	Model					Heat output		Total electrical power	Certification	Note	Price
						(kW)	(kg/h)	(kW)			
3473000	PRESS G24	TC		1/230/50	230/50	140/280	12/24	0,4	-		
3473081	PRESS G24	TC		1/220/60	220/60	140/280	12/24	0,4	-		
3473686	PRESS GV	TC	FS1	1/200/50-60	200/50-60	178/356	15/30	0,6	-		
3473618	PRESS GV	TC	FS1	1/230/50	230/50	178/356	15/30	0,6	-		

Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C 4-6 mm²/s (cSt)

The burners of PRESS series are in according to 89/336 - 73/23 - 92/42 - EEC Directive and EN 267 Norm.

PRESS GV series - BURNER ACCESSORIES

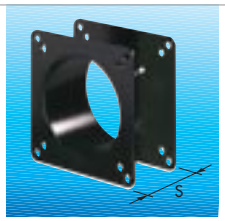
Extended heads



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

Burner	'Extended' head length (mm)	Kit code	Price
PRESS G24	253	3010051	
PRESS GV	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	Price
PRESS GV	142	3000755	

Sound proofing box

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

Burner	Box type	Box code	Price
PRESS GV	C1	3000776	

Degasing unit

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

Burner	Filter	Kit Code	Price
PRESS GV	with filter	3010055	
PRESS GV	without filter	3010054	

COMMERCIAL applications

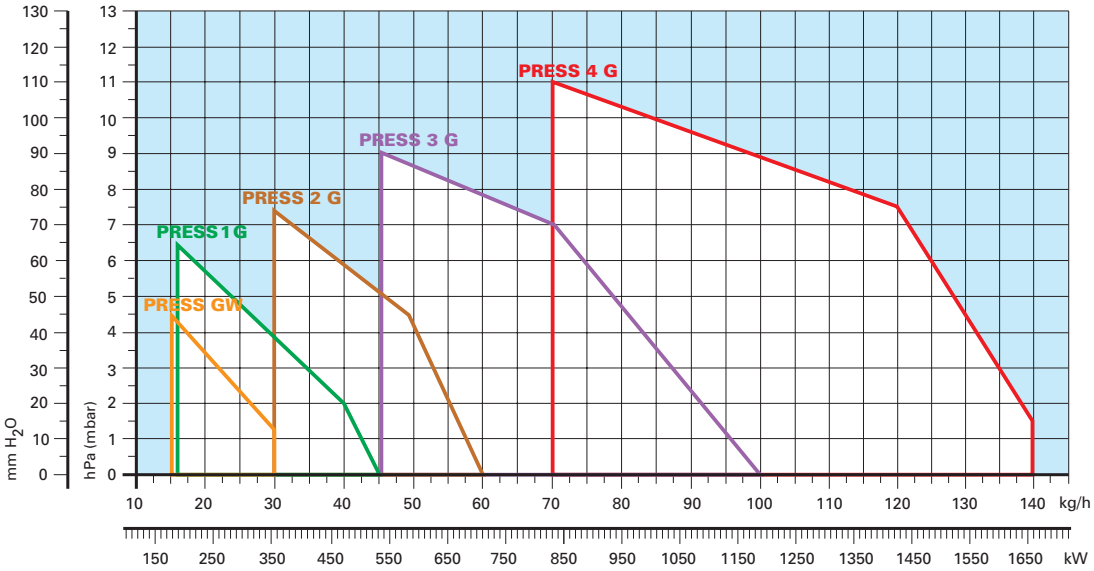
TWO STAGE LIGHT OIL BURNERS

PRESS G SERIES

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

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, thus making these burners suitable for installations that have variable but predictable heating requirments. Variable geometry combustion head allows optimal performance throught air speed control, ensuring combustion peak and saving on fuel consumption. Energy saving is permitted also from the original double ram solution, supplied for all versions, which avoid cold air flow by closing air damper during stop. 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. All electrical components are easily accessible only by dismounting a protection panel, thus guaranteeing a quick and simple intervent on components.

FIRING RATES

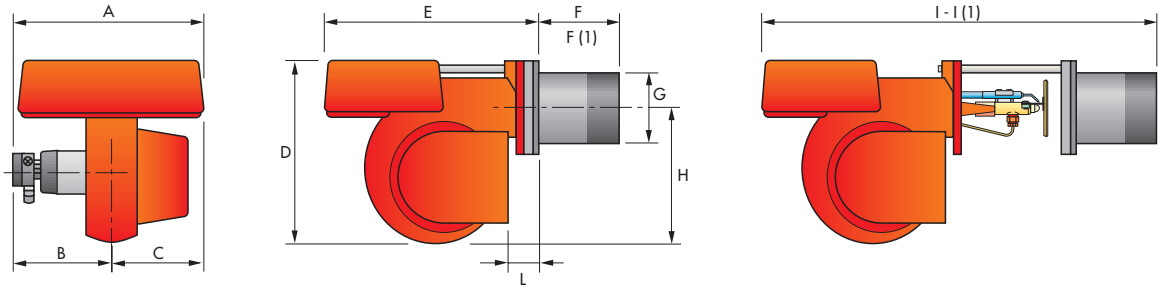


Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

PRESS G series - OVERALL DIMENSIONS (mm)

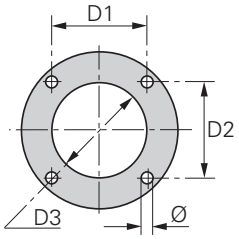
BURNER



Model	A	B	C	D	E	F - F (1)	G	H	I - I (1)	L
PRESS GW	439	234	205	397	473	185 - 320	140	292	930 - 1065	59
PRESS 1G	475	270	205	397	473	237 - 370	150	292	980 - 1115	59
PRESS 2G	475	270	205	437	506	245 - 403	155	332	1030 - 1190	89
PRESS 3G	611	406	205	485	570	254 - 412	175	370	1100 - 1270	88
PRESS 4G	675	354	316	590	720	266 - 426	205	445	1265 - 1425	175

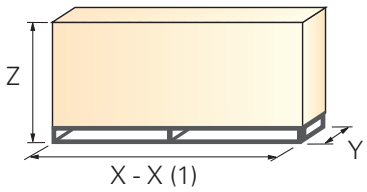
(1) dimension with extended head

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) dimension with extended head

PRESS G series - SPECIFICATION

DESIGNATION OF SERIES

Series : PRESS

Size

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	3/220/60Hz - 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							

PRESS G series - STATE OF SUPPLY

Monoblock forced draught oil burner, two stage operation, made up of:
- Air suction circuit
- Fan with forward curved blades
- Air dampers for air setting controlled by a double hydraulic ram
- Starting motor at 2850rpm
- 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 double oil safety valve on the output circuit;
- Double hydraulic ram for air dampers control;
- Photocell for flame detection
- Flame control panel, fitted with a 4 positions commutator for start-up procedure and three nozzles hourcounters
- Burner on/off switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 40 electric protection level.

Standard equipment:
- 2 flexible hoses
- 2 gaskets for flexible hoses
- 2 nipples for flexible hoses
- 1 reducer with gasket for connection of flexible suction hose to pump (for PRESS 1G – 2G)
- 1 thermal insulation screen
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

PRESS G series - AVAILABLE BURNER MODELS

Code	Model					Heat output		Total electrical power	Certification	Note	Price
						(kW)	(kg/h)	(kW)			
3473708	PRESS GW	TC		3/230-400/50	230/50	107/178-356	9/15-30	0,43	-	(1) (2)	
3473753	PRESS GBW	TC	FS1	1/230/50	230/50	107/178-356	9/15-30	0,43	-	(2)	
3473786	PRESS GW	TC	FS1	1/200/50-60	200/50-60	107/178-356	9/15-30	0,6	-	(2)	
3473782	PRESS GW	TC	FS1	1/220/60	220/60	107/178-356	9/15-30	0,4	-	(2)	
3473718	PRESS GW	TC	FS1	1/230/50	230/50	107/178-356	9/15-30	0,43	-	(2)	
3473719	PRESS GW	TC	FS1	1/230/50	230/50	118/190-356	10/16-30	0,43	-	(3)	
3473783	PRESS GW/35	TC	FS1	1/220/60	220/60	118/190-415	10/16-35	0,54	-	(2)	
3474508	PRESS 1G	TC		3/230-400/50	230/50	130/190-534	11/16-45	0,6	-	(1) (2)	
3474586	PRESS 1G	TC		3/200/50-60	200/50-60	130/190-534	11/16-45	0,6	-	(2)	
3474578	PRESS 1G	TC	FS1	1/210/60	120/60	130/190-534	11/16-45	1,1	-	(2)	
3474577	PRESS 1G	TC	FS1	3/210/60	120/60	130/190-534	11/16-45	0,6	-	(2)	
3474581	PRESS 1G	TC	FS1	3/220-380/60	220/60	130/190-534	11/16-45	0,6	-	(2)	
3474518	PRESS 1G	TC	FS1	3/230-400/50	230/50	130/190-534	11/16-45	0,6	-	(3)	
3474519	PRESS 1G	TC	FS1	3/230-400/50	230/50	130/190-534	11/16-45	0,6	-	(3)	
3474908	PRESS 2G	TC		3/230-400/50	230/50	214/356-712	18/30-60	0,85	-	(1) (2)	
3474986	PRESS 2G	TC		3/200/50-60	200/50-60	214/356-712	18/30-60	0,85	-	(2)	
3474978	PRESS 2G	TC	FS1	1/210/60	120/60	214/356-712	18/30-60	1,1	-	(2)	
3474977	PRESS 2G	TC	FS1	3/210/60	120/60	214/356-712	18/30-60	1,1	-	(2)	
3474981	PRESS 2G	TC	FS1	3/220-380/60	220/60	214/356-712	18/30-60	0,85	-	(2)	
3474918	PRESS 2G	TC	FS1	3/230-400/50	230/50	214/356-712	18/30-60	1,1	-	(3)	
3474919	PRESS 2G	TC	FS1	3/230-400/50	230/50	214/356-712	18/30-60	1,1	-	(3)	
3475986	PRESS 3G	TC		3/200/50-60	200/50-60	273/534-1186	23/45-100	2,05	-	(3)	
3475908	PRESS 3G	TC		3/230-400/50	230/50	273/534-1186	23/45-100	2,05	-	(1) (2)	
3475976	PRESS 3G	TC	FS1	3/210/60	120/60	273/534-1186	23/45-100	2,05	-	(2)	
3475981	PRESS 3G	TC	FS1	3/220-380/60	220/60	273/534-1186	23/45-100	2,05	-	(2)	
3475918	PRESS 3G	TC	FS1	3/230-400/50	230/50	273/534-1186	23/45-100	2,05	-	(2)	
3475919	PRESS 3G	TC	FS1	3/230-400/50	230/50	273/534-1186	23/45-100	2,05	-	(3)	
3476508	PRESS 4G	TC		3/230-400/50	230/50	415/830-1660	35/70-140	3,8	-	(1) (2)	
3476586	PRESS 4G	TC		3/200/50-60	200/50-60	415/830-1660	35/70-140	3,8	-	(2)	
3476581	PRESS 4G	TC	FS1	3/220-380/60	220/60	415/830-1660	35/70-140	3,8	-	(2)	
3476518	PRESS 4G	TC	FS1	3/230-400/50	230/50	415/830-1660	35/70-140	3,8	-	(2)	
3476519	PRESS 4G	TC	FS1	3/230-400/50	230/50	415/830-1660	35/70-140	3,8	-	(3)	

(1) BIO Diesel Fuel

(2) Air damper open during stop

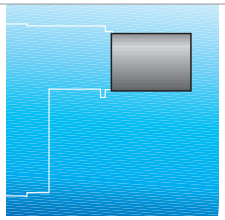
(3) Air damper close during stop

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 - 73/23 - 92/42 - EEC Directive and EN 267 Norm.

PRESS G series - BURNER ACCESSORIES

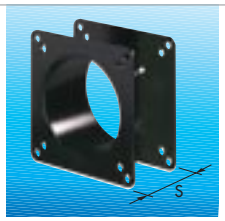
Extended heads



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

Burner	'Extended' head length (mm)	Kit code	Price
PRESS GW	320	3000581	
PRESS 1G	370	3000537	
PRESS 2G	403	3000538	
PRESS 3G	412	3000851	
PRESS 4G	426	3000555	

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	Price
PRESS GW PRESS 1G - 2G - 3G - 4G	142	3000755	

Sound proofing box

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

Burner	Box type	Box code	Price
PRESS GW - 1G - 2G	C1	3000776	
PRESS 3G	C3	3000778	
PRESS 4G	C4	3000779	

Degasing unit

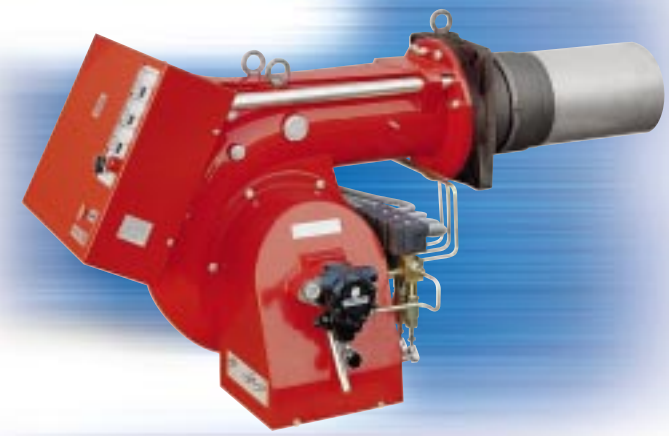
To solve problem of air in the oil sucked, two versions of degasing unit are available.

Burner	Filter	Kit code	Price
PRESS GW PRESS 1G - 2G - 3G - 4G	with filter	3010055	
PRESS GW PRESS 1G - 2G - 3G - 4G	without filter	3010054	

THREE STAGE LIGHT OIL BURNERS

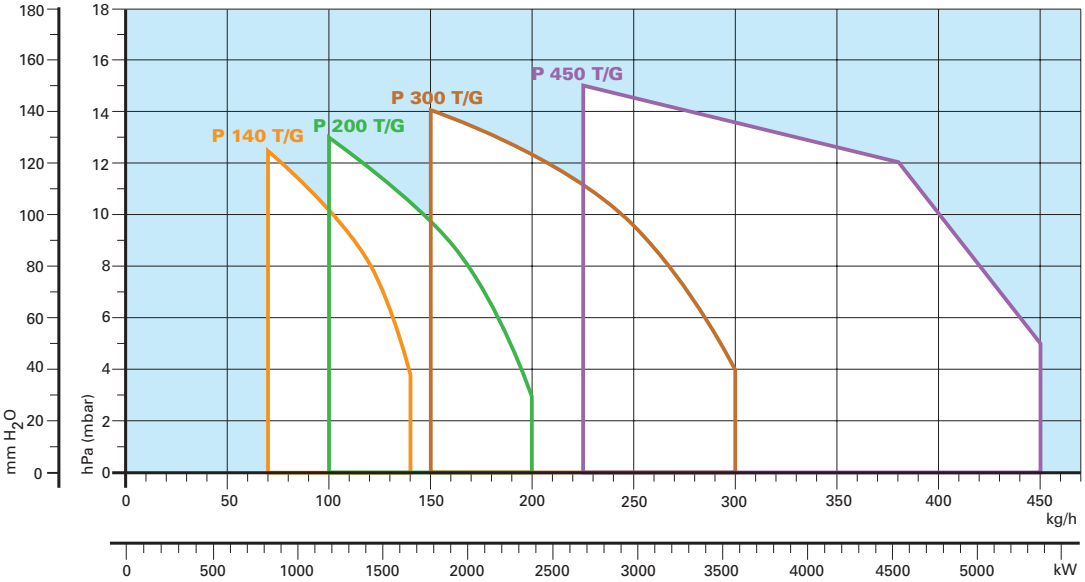
PRESS T/G SERIES

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	



The PRESS T/G series of burners cover a firing range from 380 to 5340 kW.
Available in 4 different models, they are particularly well suited for matching with pressurized chamber boilers.
For their characteristics, they find application in big civl 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.

FIRING RATES

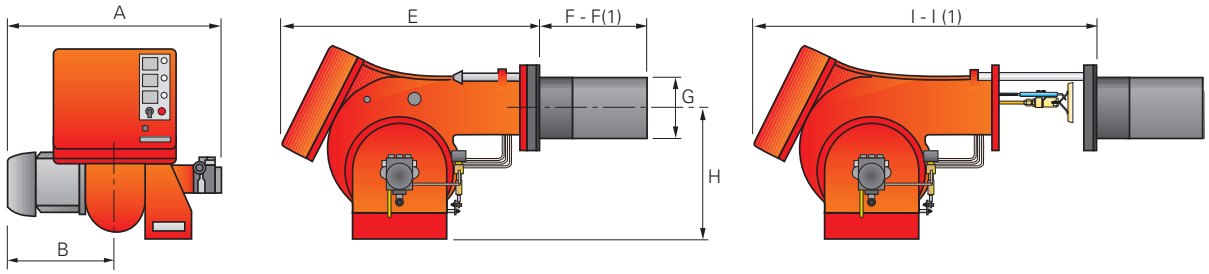


Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

T/G series - OVERALL DIMENSIONS (mm)

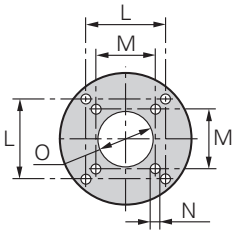
BURNERS



Model	A	B	E	F - F (1)	G	H	I - I (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

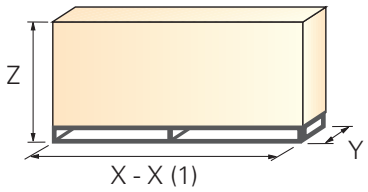
(1) "Extended head" model

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) dimension with extended head
The values are indicatives.

DESIGNATION OF SERIES

Series : PRESS

Size 140 ... 450

Operation :
- T/G Three stage
- P/G Modulating or two stage progressive

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	3/220/60Hz - 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							

T/G series - STATE OF SUPPLY

Monoblock forced draught oil burner, three stage operation, made up of:
- Air suction circuit
- Fan with forward curved blades high performance pressure levels
- Air dampers for air setting controlled by a three hydraulic ram
- Starting motor at 2850rpm, 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
- Valve unit with a double oil safety valve on the output circuit;
- Triple hydraulic ram for air dampers control;
- Photocell for flame detection
- Flame control panel, fitted with a 4 positions commutator for start-up procedure and three nozzles hourcounters
- Burner on/off switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- 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
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue
- 2 slide bar extensions (for the extended model of P 300 T/G and P 450 T/G)
- 3 nozzles
- Gasket for flange
- Starter (for versions with star-delta starting)
- Diffuser disk (P 450 T/G).

T/G series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power	Certification	Note	Price
		kW	kg/h	kW			
3476815	PRESS 140 T/G TC FS1 3/230-400/50 230/50	380-1660	30-140	4,5	DIN 5G455/2000		
3476816	PRESS 140 T/G TL FS1 3/230-400/50 230/50	380-1660	30-140	4,5	DIN 5G455/2000		
3476883	PRESS 140 T/G TC FS1 3/220-380/60 220/60	380-1660	30-140	4,5	-		
3476884	PRESS 140 T/G TL FS1 3/220-380/60 220/60	380-1660	30-140	4,5	-		
3477715	PRESS 200 T/G TC FS1 3/230-400/50 230/50	557-2370	47-200	5,5	DIN 5G456/2000		
3477716	PRESS 200 T/G TL FS1 3/230-400/50 230/50	515-2280	47-200	5,5	DIN 5G456/2000		
3477783	PRESS 200 T/G TC FS1 3/220-380/60 220/60	515-2280	45-200	5,5	-		
3477784	PRESS 200 T/G TL 3/220-380/60 220/60	515-2280	45-200	5,5	-		
3478927	PRESS 300 T/G TC 3/230-400/50 230/50	710-3560	60-300	10	DIN 5G457/2000		
3478928	PRESS 300 T/G TL FS1 3/230-400/50 230/50	710-3560	60-300	10	DIN 5G457/2000		
3478929	PRESS 300 T/G TC FS1 3/230/50 230/50	710-3560	60-300	10	DIN 5G457/2000		
3478930	PRESS 300 T/G TL FS1 3/230/50 230/50	710-3560	60-300	10	DIN 5G457/2000		
3478931	PRESS 300 T/G TC FS1 3/400/50 230/50	710-3560	60-300	10	DIN 5G457/2000		
3478932	PRESS 300 T/G TL FS1 3/400/50 230/50	710-3560	60-300	10	DIN 5G457/2000		
3478983	PRESS 300 T/G TC FS1 3/220-380/60 220/60	710-3560	60-300	10	-		
3478984	PRESS 300 T/G TL FS1 3/220-380/60 220/60	710-3560	60-300	10	-		
3479326	PRESS 450 T/G TC 3/230/50 230/50	890-5340	75-450	15	-		
3479327	PRESS 450 T/G TL 3/230/50 230/50	890-5340	75-450	15	-		
3479328	PRESS 450 T/G TC 3/400/50 230/50	890-5340	75-450	15	-		
3479329	PRESS 450 T/G TL 3/400/50 230/50	890-5340	75-450	15	-		

Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C 4-6 mm²/s (cSt)

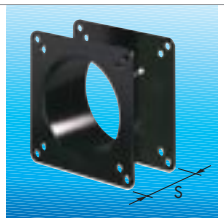
The burners of PRESS series are in according to 89/336 - 73/23 - 92/42 - 89/392 CEE Directive and EN 267 Norm.

Nozzles type 60° B

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

Burner	Rated output kg/h	Nozzle code	Price
P 140 T/G	3,5	3042162	
P 140 T/G	4	3042172	
P 140 T/G	4,5	3042182	
P 140 T/G - P 200 T/G	5	3042192	
P 140 T/G - P 200 T/G	6	3042212	
P 140 T/G - P 200 T/G	6,5	3042222	
P 140 T/G - P 200 T/G	7	3042232	
P 140 T/G - P 200 T/G	7,5	3042242	
P 140 T/G - P 200 T/G	8	3042252	
P 140 T/G - P 200 T/G	8,5	3042262	
P 140 T/G - P 200 T/G	9	3042586	
P 140 T/G - P 200 T/G	9,5	3042282	
P 140 T/G - P 200 T/G	10	3042292	
P 140 T/G - P 200 T/G	11	3042312	
P 200 T/G	12	3042322	
P 200 T/G	13	3042332	
P 200 T/G - P 300 T/G	14	3042352	
P 200 T/G - P 300 T/G	15	3042362	
P 300 T/G	16	3042382	
P 300 T/G	17	3042392	
P 300 T/G - P 400 T/G	18	3042412	
P 300 T/G - P 400 T/G	19	3042422	
P 300 T/G - P 400 T/G	20	3042442	
P 300 T/G - P 400 T/G	22	3042262	
P 300 T/G - P 400 T/G	24	3042472	
P 450 T/G	26	3042482	
P 450 T/G	28	3042492	
P 450 T/G	30	3042502	
P 450 T/G	32	3042512	
P 450 T/G	35	3042522	

Spacer kit



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

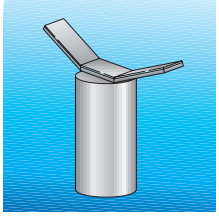
Burner	Spacer thickness S (mm)	Kit code	Price
P 140 T/G	110	3000722	
P 200 T/G	110	3000722	
P 300 T/G	130	3000723	
P 450 T/G	130	3000751	

Sound proofing box

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

Burner	Box type	Box code	Price
P 140 T/G - P 200 T/G	C5	3000780	
P 300 T/G - P 450 T/G	C6	3000781	

Burner support



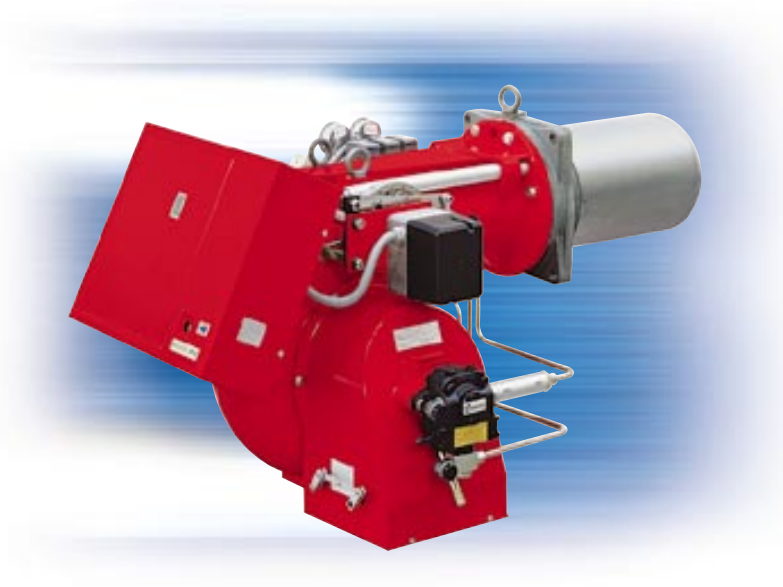
For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need of forklift trucks.

Burner	Potentiometer kit code	Price
P 300 T/G - P 450 T/G	3000731	

MODULATING LIGHT OIL BURNERS

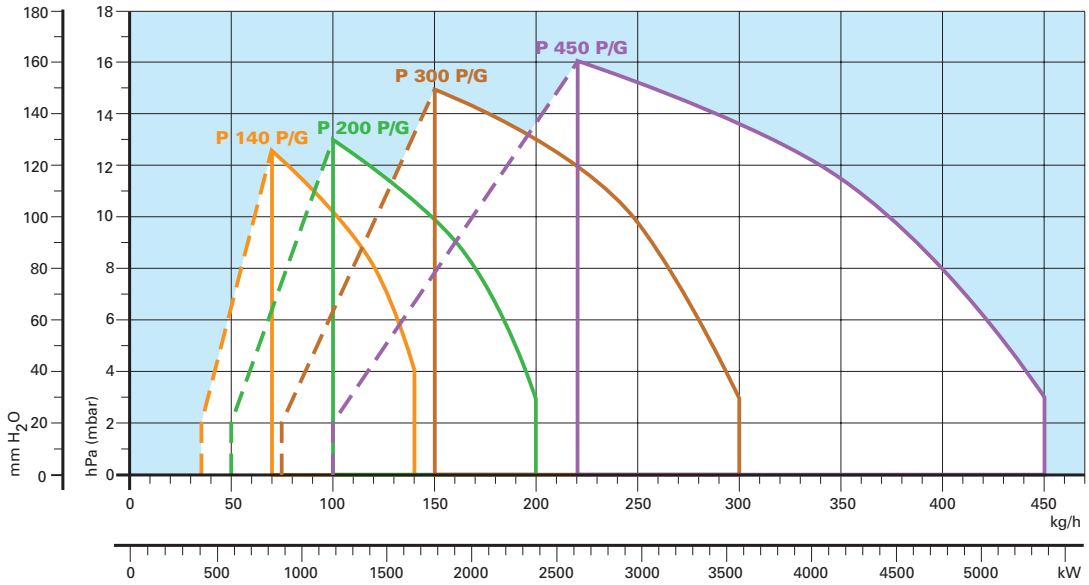
PRESS P/G SERIES

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



The PRESS P/G series of burners cover a firing range from 415 to 5340 kW.
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 commercial or industrial applications where the load factor is subject to wide variations over a short period of time.
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.

FIRING RATES



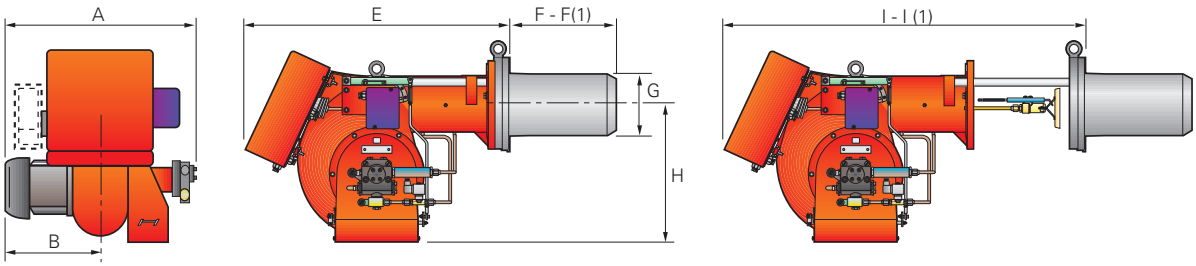
Useful working field for choosing the burner

Modulating range

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

P/G series - OVERALL DIMENSIONS (mm)

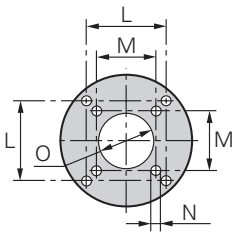
BURNERS



Model	A	B	E	F - F (1)	G	H	I - I (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

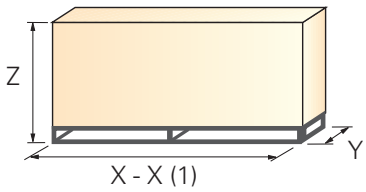
(1) "extended head" model

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) dimension with extended head
The values are indicatives.

P/G series - 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	3/220/60Hz - 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							

P/G series - 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 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 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
- Flame control panel, fitted with control function for the correct positioning of the servomotor and possibility of post-ventilaton
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- 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
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue
- 2 slide bar extensions (for the extended head models of P 300 P/G e P 450 P/G).

P/G series - AVAILABLE BURNER MODELS

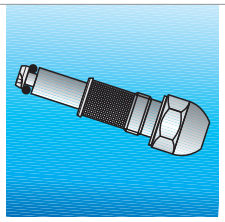
Code	Model	Heat output		Total electrical power	Certification	Note	Price
		kW	kg/h	kW			
3476867	PRESS 140 P/G TC FS 1 3/230-400/50 230/50	415 -1660	35-140	4,5	DIN 5G459/2000		
3476868	PRESS 140 P/G TL FS1 3/230-400/50 230/50	415 -1660	35-140	4,5	DIN 5G459/2000		
3477767	PRESS 200 P/G TC FS1 3/230-400/50 230/50	590-2370	50-200	5,5	DIN 5G460/2000		
3477768	PRESS 200 P/G TL FS1 3/230-400/50 230/50	590-2370	50-200	5,5	DIN 5G460/2000		
3478941	PRESS 300 P/G TC 3/230-400/50 230/50	890-3560	75-300	10	DIN 5G461/2000		
3478942	PRESS 300 P/G TL FS1 3/230-400/50 230/50	890-3560	75-300	10	DIN 5G461/2000		
3478943	PRESS 300 P/G TC FS1 3/230/50 230/50	890-3560	75-300	10	DIN 5G461/2000		
3478944	PRESS 300 P/G TL FS1 3/230/50 230/50	890-3560	75-300	10	DIN 5G461/2000		
3478945	PRESS 300 P/G TC FS1 3/400/50 230/50	890-3560	75-300	10	DIN 5G461/2000		
3478946	PRESS 300 P/G TL FS1 3/400/50 230/50	890-3560	75-300	10	DIN 5G461/2000		
3479369	PRESS 450 P/G TC 3/230/50 230/50	1190-5340	100-450	15	DIN 5G462/2000		
3479370	PRESS 450 P/G TL 3/230/50 230/50	1190-5340	100-450	15	DIN 5G462/2000		
3479371	PRESS 450 P/G TC 3/400/50 230/50	1190-5340	100-450	15	DIN 5G462/2000		
3479372	PRESS 450 P/G TL 3/400/50 230/50	1190-5340	100-450	15	DIN 5G462/2000		

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 - 73/23 - 92/42 - 89/392 CEE Directive and EN 267 Norm.

P/G series - BURNER ACCESSORIES

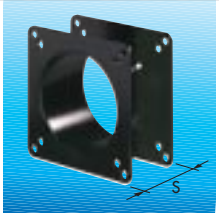
Return nozzles type B3 45°



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

Burner	Rated output kg/h	Nozzle code	Price
P 140 P/G	70	3009713	
P 140 P/G	80	3009715	
P 140 P/G	90	3009717	
P 140 P/G - P 200 P/G	100	3009720	
P 140 P/G - P 200 P/G	125	3009723	
P 200 P/G - P 300 P/G	150	3009726	
P 200 P/G - P 300 P/G	175	3009729	
P 200 P/G - P 300 P/G	200	3009732	
P 300 P/G - P 400 P/G	225	3009735	
P 300 P/G - P 400 P/G	250	3009738	
P 300 P/G - P 400 P/G	275	3009742	
P 300 P/G - P 400 P/G	300	3009744	
P 450 P/G	325	3009747	
P 450 P/G	350	3009750	
P 450 P/G	375	3009753	
P 450 P/G	400	3009756	
P 450 P/G	425	3009759	
P 450 P/G	450	3009762	

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	Price
P 140 P/G	110	3000722	
P 200 P/G	110	3000722	
P 300 P/G	130	3000723	
P 450 P/G	130	3000751	

Sound proofing box

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

Burner	Box type	Box code	Price
P 140 P/G - P 200 P/G	C5	3000780	
P 300 P/G - P 450 P/G	C6	3000781	

Accessories for modulating operation

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

Regulator type	Code	Price
RWF 40	3010212	

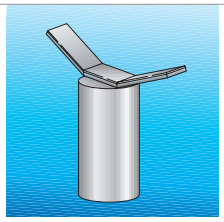
The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

Probe type	Range (°C) (bar)	Code	Price
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	Price
P 140 P/G - P 200 P/G - P 300 P/G - P 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.

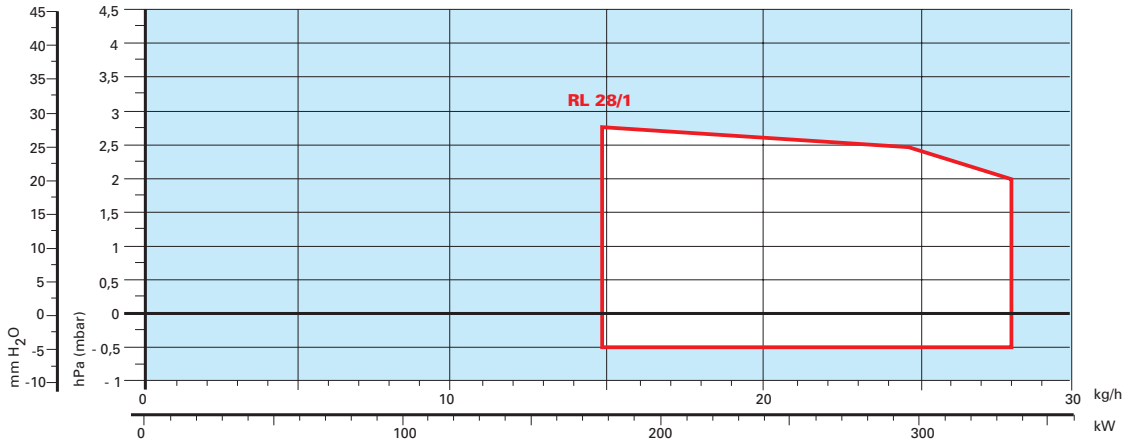
Burner	Potentiometer kit code	Price
P 300 P/G - P 450 P/G	3000731	

ONE STAGE LIGHT OIL BURNERS

RL/1 SERIES | **RL 28/1** 178 ÷ 332 kW

The RL /1 series of burners covers a firing range from 178 to 332 kW, and they have been designed for use in hot or superheated water boilers, hot air or steam generators, diathermic oil boilers. 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.
Special care has been paid to keeping overall dimensions compact and to easy servicing. The elevated performance of the fans and combustion head, guarantee flexibility of use and excellent working at all firing rates. A wide range of accessories guarantees elevated working flexibility.

FIRING RATES



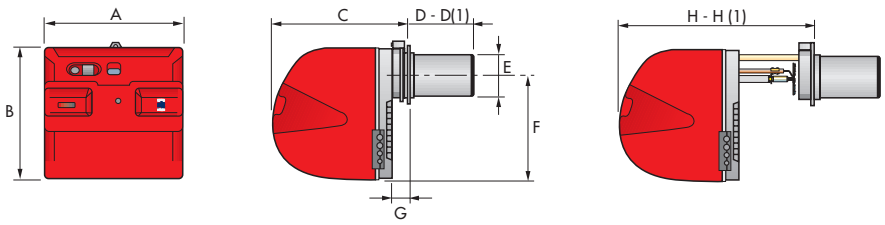
Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

RL/1 series - OVERALL DIMENSIONS (mm)

BURNERS

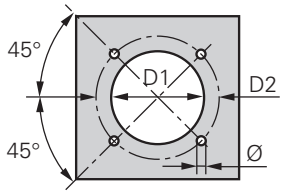
RL 28/1



Model	A	B	C	D - D (1)	E	F	G	H - H (1)
RL 28/1	476	474	468	216 - 351	140	352	52	672 - 807

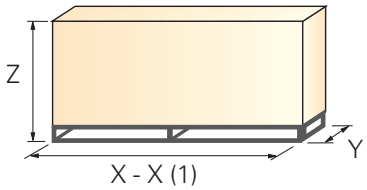
(1) dimension with extended head.

BURNER - BOILER MOUNTING FLANGE



Model	D1	D2	Ø
RL 28/1	160	224	M8

PACKAGING



Model	X - X (1)	Y	Z	kg
RL 28/1	760 - 895	540	550	35

(1) dimension with extended head.

RL/1 series - SPECIFICATION

DESIGNATION OF SERIES

Series : R

Fuel :

S	Natural Gas
L	Light oil
LS	Oil/Methane
N	Heavy oil

Size

Operation :

/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 :

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	3/220/60Hz - 3N/380V/60Hz

Auxiliary voltage :

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

ID : Differential switch

R	L	28	/1		TC		FS1	1/230/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

RL/1 series - STATE OF SUPPLY

Monoblock forced draught oil burner, one stage operation, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades
- Air damper for air setting
- Combustion head, that can be set on the basis of required output
- Fan pressure test point
- Gears pump for high pressure fuel supply
- Valves assembly
- Photocell for flame detection
- Flame control panel
- Terminal strip for electrical connections
- Flame inspection window
- 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
- 1 thermal screen
- 2 slide bar extensions (for model with long blast tube)
- 4 screws for fixing the burner flange to the boiler
- 2 fairleads for electrical connections
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RL series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power	Certification	Note	Price
		(kW)	(kg/h)	(kW)			
3472015	RL 28/1 TC FS1 1/230/50 230/50-60	178-332	15-28	0,37			
3472016	RL 28/1 TL FS1 1/230/50 230/50-60	178-332	15-28	0,37			

Net calorific value: 11,8 kWh/kg - 10.200 kcal/kg - Viscosity at 20°C 4-6 mm^2/s (cSt).

The burners of RL series are in according to 89/336 - 73/23 - 92/42 - 89/392 EEC Directive and EN 267 Norm.

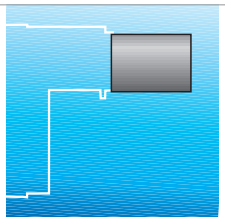
RL/1 series - BURNER ACCESSORIES

Nozzles

The nozzles of RL 28/1 burner are chosen on the basis of the maximum output required from the application.

GPH	Rated output [kg/h] at 12 [bar]	Delavan 60° B - Code	Price
1,5	6,3	3042107	
1,75	7,3	3042110	
2,0	8,4	3042126	
2,5	10,5	3042140	
3,0	12,6	3042158	
3,5	14,7	3042162	
4,0	16,7	3042172	

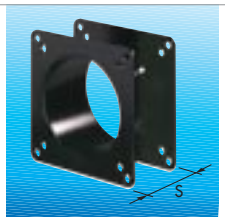
Extended heads



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

Burner	'Extended' head length (mm)	Kit code	Price
RL 28/1	351	3010073	

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	Price
RL 28/1	90	3010095	

Sound proofing box

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

Burner	Box type	Box code	Price
RL 28/1	C1	3000776	

Degasing unit

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

Burner	Filter	Kit code	Price
RL 28/1	With filter	3010055	
RL 28/1	Without filter	3010054	

TWO STAGE LOW NOx LIGHT OIL BURNERS

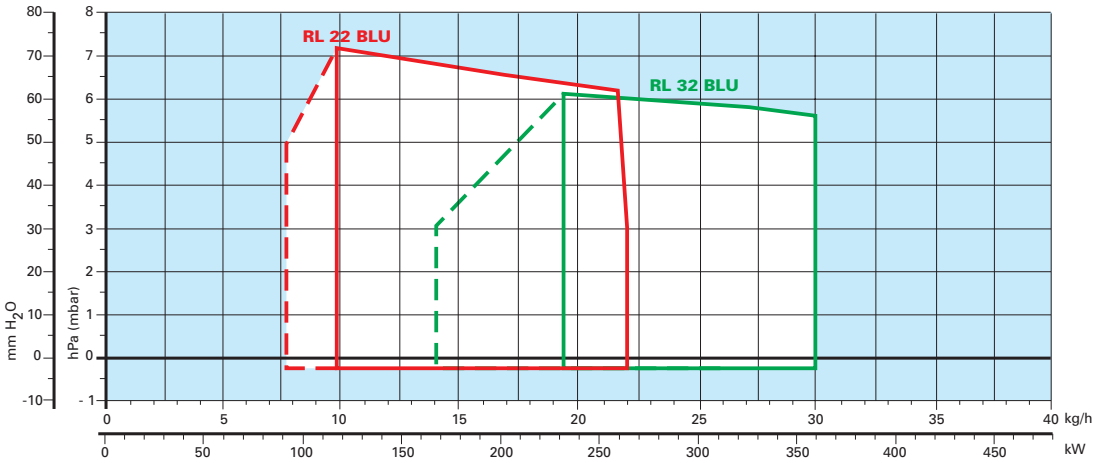
RL BLU SERIES

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

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 89 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 meter, 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.

FIRING RATES

EN 267

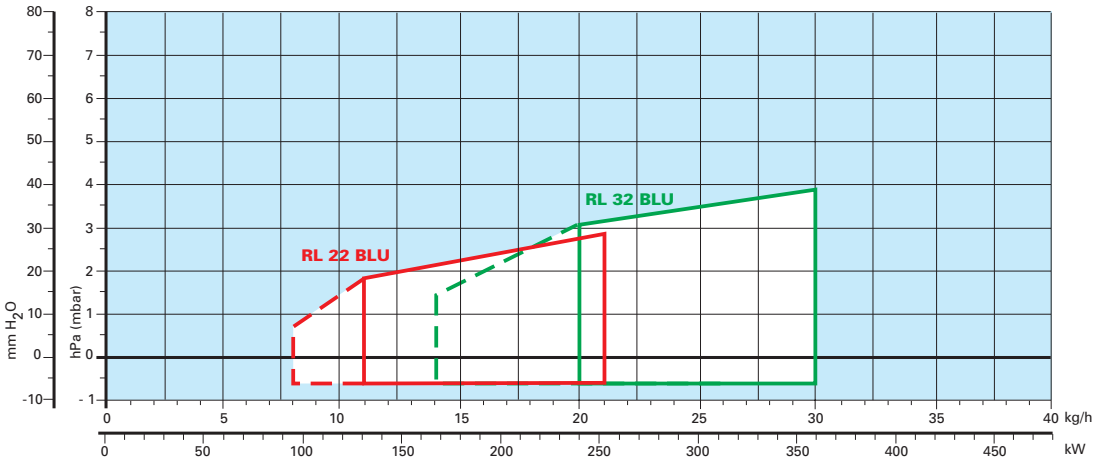


Useful working field for choosing the burner

1st stage operating range

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

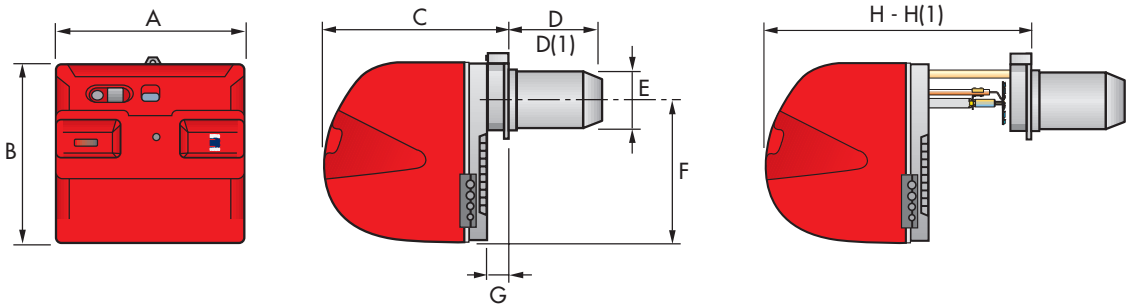
LRV 92



RL BLU series - OVERALL DIMENSIONS (mm)

BURNERS

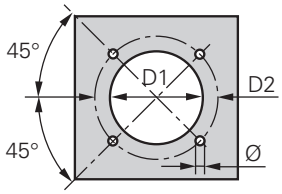
RL 22 BLU - RL 32 BLU



Model	A	B	C	D - D(1)	E	F	G	H - H(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

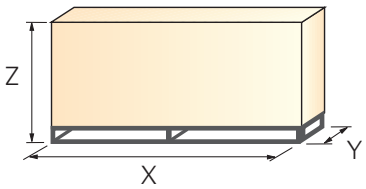
(1) dimension with extended head

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

RL BLU series - SPECIFICATION

DESIGNATION OF SERIES

Series : R

Fuel :
- S Natural Gas
- L Light Oil
- LS Light Oil/Methane
- N Heavy oil

Size

Operation :
- /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 :
- 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	3/220/60Hz - 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	ST	FS1	1/230/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

RL BLU series - 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
- Flame control panel
- 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.

RL BLU series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	(kg/h)				
3895110	RL 22 BLU TC ST FS1 1/230/50 230/50-60	89/116-261	7,5/15-22	0,6	(1)		
3895210	RL 32 BLU TC ST FS1 1/230/50 230/50-60	166/228-356	14/21-30	0,6	(1)		

(1) BUWAL Nr 100 009 - 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 series are in according to 89/336 - 73/23 - 98/37 - 92/42 EEC Directive and EN 267 - LRV 92 Norm.

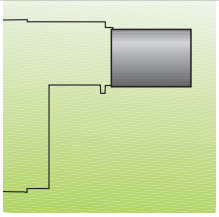
RL BLU series - BURNER ACCESSORIES

Nozzles

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

GPH	Rated output [kg/h] at 8 [bar]	Rated output [kg/h] at 20 [bar]	Delavan 60° A - Code	Monarch 60° PLP - Code	Price
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 heads



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

Burner	'Extended' head length (mm)	Kit code	Price
RL 22 BLU	276	3010204	
RL 32 BLU	293	3010205	

Sound proofing box

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

Burner	Box type	Box code	Price
RL 22 BLU - RL 32 BLU	C2	3000777	

Degasing unit

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

Burner	Filter	Kit code	Price
RL 22 BLU - RL 32 BLU	With filter	3010055	
RL 22 BLU - RL 32 BLU	Without filter	3010054	

CE

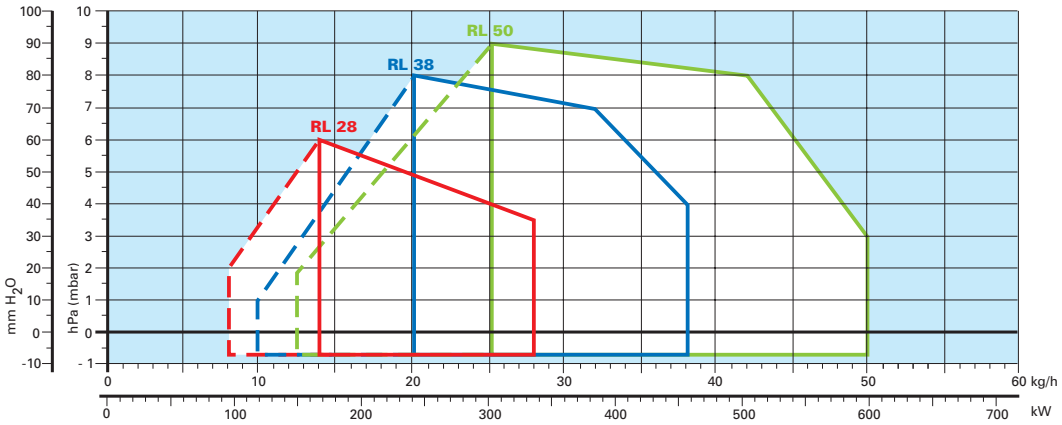
TWO STAGE LIGHT OIL BURNERS

RL SERIES

RL 28	90/166 ÷ 332	kW
RL 38	118/237 ÷ 450	kW
RL 50	148/296 ÷ 593	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

The RL series of burners covers a firing range from 90 to 2443 kW, and they have 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 STATUS PANEL, which supplies complete diagnostic: hour meter, ignition meter, identification of trouble shooting.
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 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.

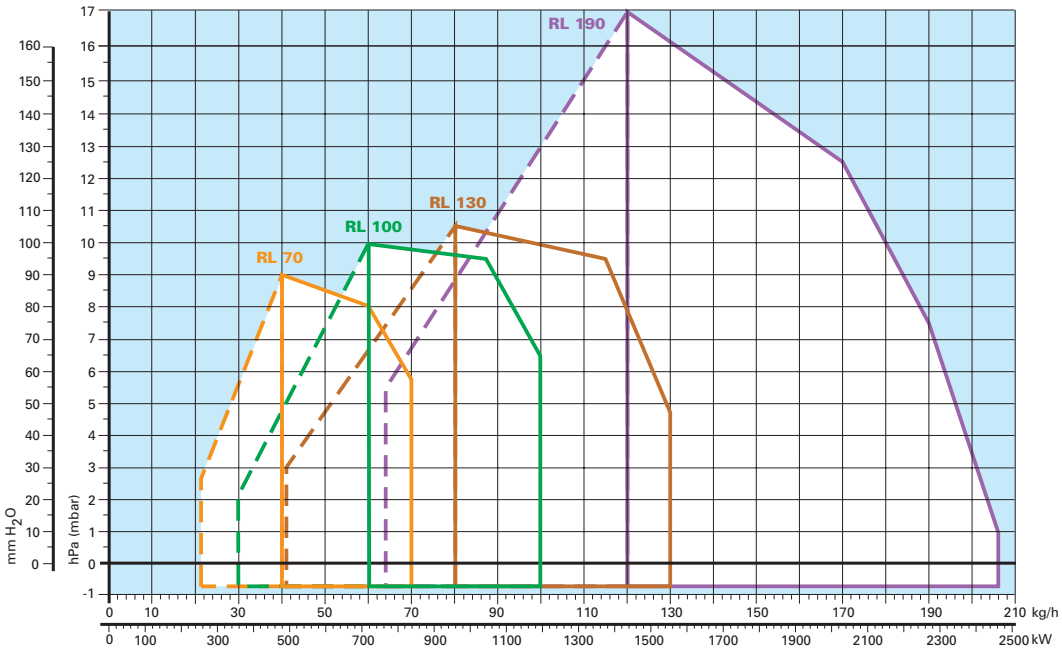
FIRING RATES



Useful working field for choosing the burner

1st stage operating range

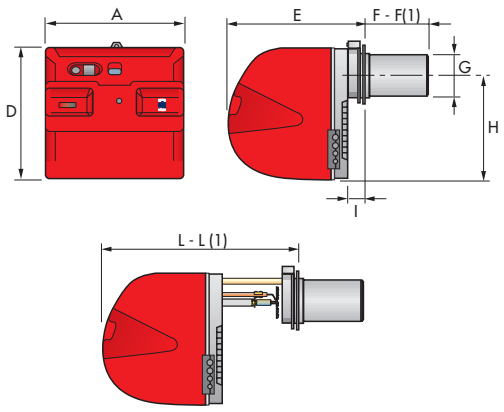
Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



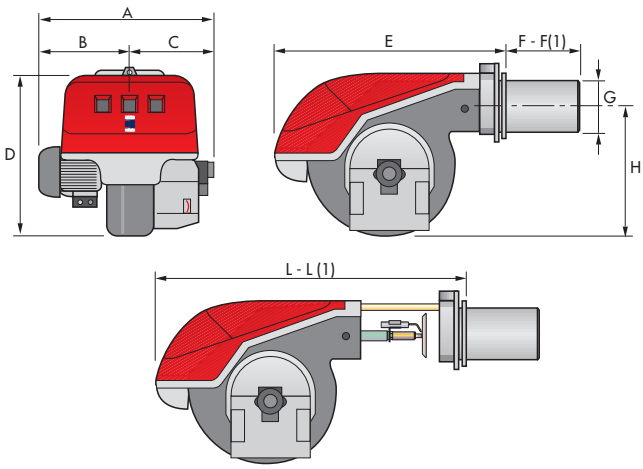
RL series - OVERALL DIMENSIONS (mm)

BURNERS

RL 28 - 38 - 50



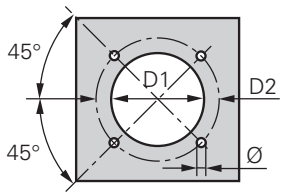
RL 70 - 100 - 130 - 190



Model	A	B	C	D	E	F - F (1)	G	H	I	L - L (1)
RL 28	476	-	-	474	468	216 - 351	140	352	52	672 - 807
RL 38	476	-	-	474	468	216 - 351	140	352	52	672 - 807
RL 50	476	-	-	474	468	216 - 351	140	352	52	672 - 807
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	696	370 -	222	430	-	1102 -

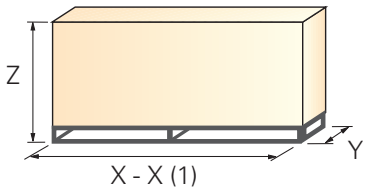
(1) dimension with extended head.

BURNER - BOILER MOUNTING FLANGE



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

PACKAGING



Model	X - X (1)	Y	Z	kg
RL 28	760 - 895	540	550	36
RL 38	760 - 895	540	550	38
RL 50	760 - 895	540	550	39
RL 70	960 - 1150	652	600	60
RL 100	960 - 1150	652	600	63
RL 130	960 - 1150	652	600	66
RL 190	1250 -	785	725	75

(1) dimension with extended head.

RL series - SPECIFICATION

DESIGNATION OF SERIES

Series : R

Fuel :

S	Natural Gas
L	Light oil
LS	Oil/Methane
N	Heavy oil

Size

Operation :

/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 :

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

BASIC DESIGNATION

EXTENDED DESIGNATION

RL series - STATE OF SUPPLY

Monoblock forced draught oil burner, two stage operation, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (straight blades on the 190 model)
- Air damper for air setting, driven by the adjustable hydraulic ram
- Combustion head, that can be set on the basis of required output
- Gears pump for high pressure fuel supply
- Oil safety valves
- Two oil valves (1st and 2nd stage)
- Photocell for flame detection
- Flame control panel
- Electronic device to check all burners operational modes (Led or Status Panel)
- Burner on/off switch
- Manual 1st and 2nd stage switch
- Plugs for electrical connections (RL 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:
- 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 the extended head models and the RL 190 model)
- 4 screws for fixing the burner flange to the boiler
- 3 fairleads for electrical connections (RL 28 and RL 38 single-phase)
- 4 fairleads for electrical connections (RL 38 three-phase and RL 50)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RL series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power	Certification	Note	Price
		(kW)	(kg/h)	(kW)			
3473220	RL 28 TC ST FS1 1/230/50 230/50-60	95/166-332	8/14-28	0,37	DIN BN 5G224/98		
3473221	RL 28 TL ST FS1 1/230/50 230/50-60	90/166-332	8/14-28	0,37	DIN BN 5G224/98		
3473222	RL 28 TC LP FS1 1/230/50 230/50-60	90/166-332	8/14-28	0,37	DIN BN 5G224/98		
3473223	RL 28 TL LP FS1 1/230/50 230/50-60	90/166-332	8/14-28	0,37	DIN BN 5G224/98		
3474120	RL 38 TC ST FS1 1/230/50 230/50-60	118/237-450	10/20-38	0,6	DIN BN 5G225/98		
3474121	RL 38 TL ST FS1 1/230/50 230/50-60	118/237-450	10/20-38	0,6	DIN BN 5G225/98		
3474122	RL 38 TC LP FS1 1/230/50 230/50-60	118/237-450	10/20-38	0,6	DIN BN 5G225/98		
3474123	RL 38 TL LP FS1 1/230/50 230/50-60	118/237-450	10/20-38	0,6	DIN BN 5G225/98		
3474320	RL 38 TC ST FS1 3/230-400/50 230/50-60	118/237-450	10/20-38	0,56	DIN BN 5G225/98		
3474321	RL 38 TL ST FS1 3/230-400/50 230/50-60	118/237-450	10/20-38	0,56	DIN BN 5G225/98		
3474322	RL 38 TC LP FS1 3/230-400/50 230/50-60	118/237-450	10/20-38	0,56	DIN BN 5G225/98		
3474323	RL 38 TL LP FS1 3/230-400/50 230/50-60	118/237-450	10/20-38	0,56	DIN BN 5G225/98		
3474620	RL 50 TC ST FS1 3/230-400/50 230/50-60	148/296-593	12,5/25-50	0,75	DIN BN 5G226/98		
3474621	RL 50 TL ST FS1 3/230-400/50 230/50-60	148/296-593	12,5/25-50	0,75	DIN BN 5G226/98		
3474622	RL 50 TC LP FS1 3/230-400/50 230/50-60	148/296-593	12,5/25-50	0,75	DIN BN 5G226/98		
3474623	RL 50 TL LP FS1 3/230-400/50 230/50-60	148/296-593	12,5/25-50	0,75	DIN BN 5G226/98		
3475020	RL 70 TC ST FS1 3/230-400/50 230/50-60	255/474-830	21,5/40-70	1,4	DIN BN 5G424/99		
3475021	RL 70 TL ST FS1 3/230-400/50 230/50-60	255/474-830	21,5/40-70	1,4	DIN BN 5G424/99		
3475022	RL 70 TC LP FS1 3/230-400/50 230/50-60	255/474-830	21,5/40-70	1,4	DIN BN 5G424/99		
3475023	RL 70 TL LP FS1 3/230-400/50 230/50-60	255/474-830	21,5/40-70	1,4	DIN BN 5G424/99		
3475220	RL 100 TC ST FS1 3/230-400/50 230/50-60	356/711-1186	30/60-100	1,8	DIN BN 5G425/99		
3475221	RL 100 TL ST FS1 3/230-400/50 230/50-60	356/711-1186	30/60-100	1,8	DIN BN 5G425/99		
3475222	RL 100 TC LP FS1 3/230-400/50 230/50-60	356/711-1186	30/60-100	1,8	DIN BN 5G425/99		
3475223	RL 100 TL LP FS1 3/230-400/50 230/50-60	356/711-1186	30/60-100	1,8	DIN BN 5G425/99		
3475420	RL 130 TC ST FS1 3/230-400/50 230/50-60	486/948-1540	41/80-130	2,6	DIN BN 5G426/99		
3475421	RL 130 TL ST FS1 3/230-400/50 230/50-60	486/948-1540	41/80-130	2,6	DIN BN 5G426/99		
3475422	RL 130 TC LP FS1 3/230-400/50 230/50-60	486/948-1540	41/80-130	2,6	DIN BN 5G426/99		
3475423	RL 130 TL LP FS1 3/230-400/50 230/50-60	486/948-1540	41/80-130	2,6	DIN BN 5G426/99		
3475611	RL 190 TC ST FS1 3/230-400/50 230/50-60	759/1423-2443	64/120-206	5,87	DIN BN 5G861/98		

Net calorific value: 11,8 kWh/kg - 10.200 kcal/kg - Viscosity at 20°C 4-6 mm^2/s (cSt).

The burners of RL series are in according to 89/336 - 73/23 - 92/42 - 89/392 EEC Directive and EN 267 Norm.

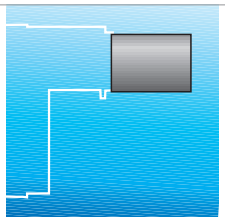
RL series - BURNER ACCESSORIES

Nozzles type 60° B

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

Burner	GPH	Rated output (kg/h) at 10 bar	at 12 bar	at 14 bar	Nozzle code	Price
RL 28	2,00	7,7	8,5	9,2	3042126	
RL 28-38	2,50	9,6	10,6	11,5	3042140	
RL 28-38-50	3,00	11,5	12,7	13,8	3042158	
RL 28-38-50	3,50	13,5	14,8	16,1	3042162	
RL 38-50	4,00	15,4	17	18,4	3042172	
RL 38-50	4,50	17,3	19,1	20,7	3042182	
RL 38-50-70	5,00	19,2	21,2	23	3042192	
RL 50-70	5,50	21,1	23,3	25,3	3042202	
RL 50-70	6,00	23,1	25,5	27,7	3042212	
RL 50-70	6,50	25	27,6	30	3042222	
RL 70-100	7,00	26,9	29,7	32,3	3042232	
RL 70-100	7,50	28,8	31,8	34,6	3042242	
RL 70-100	8,00	30,8	33,9	36,9	3042252	
RL 70-100	8,50	32,7	36,1	39,2	3042262	
RL 70-100-130	9,50	36,5	40,3	43,8	3042282	
RL 70-100-130-190	10,00	38,4	42,4	46,1	3042292	
RL 70-100-130-190	11,00	42,3	46,7	50,7	3042312	
RL 100-130-190	12,00	46,1	50,9	55,3	3042322	
RL 100-130-190	13,00	50	55,1	59,9	3042332	
RL 100-130-190	14,00	53,8	59,4	64,5	3042352	
RL 100-130-190	15,00	57,7	63,6	69,2	3042362	
RL 100-130-190	16,00	61,5	67,9	73,8	3042382	
RL 130-190	17,00	65,4	72,1	78,4	3042392	
RL 130-190	18,00	69,2	76,4	83	3042412	
RL 130-190	19,00	73	80,6	87,6	3042422	
RL 130-190	20,00	76,9	84,8	92,2	3042442	
RL 190	22,00	84,6	93,3	101,4	3042462	
RL 190	24,00	92,2	101,8	110,6	3042472	
RL 190	26,00	99,9	110,3	119,9	3042482	
RL 190	28,00	107,6	118,8	129,1	3042492	

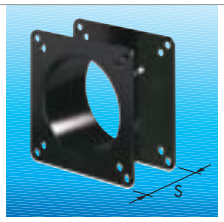
Extended heads



"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	Price
RL 28	216	351	3010073	
RL 38	216	351	3010074	
RL 50	216	351	3010075	
RL 70	250	385	3010114	
RL 100	250	385	3010115	
RL 130	250	385	3010116	
RL 190	370	-	-	

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	Price
RL 28 - 38 - 50	90	3010095	
RL 70 - 100 - 130	135	3010129	
RL 190	110	3000722	

Sound proofing box

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

Burner	Box type	Box code	Price
RL 28 - 38 - 50	C1	3000776	
RL 70 - 100 - 130	C3	3000778	
RL 190	C4	3000779	

Degasing unit

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

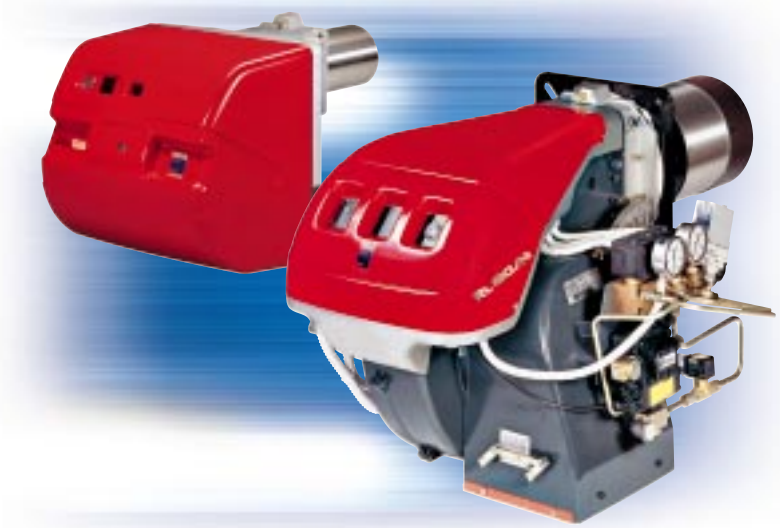
Burner	Filter	Kit code	Price
RL 28 - 38 - 50 RL 70 - 100 - 130 - 190	With filter	3010055	
RL 28 - 38 - 50 RL 70 - 100 - 130 - 190	Without filter	3010054	

CE

MODULATING LIGHT OIL BURNERS

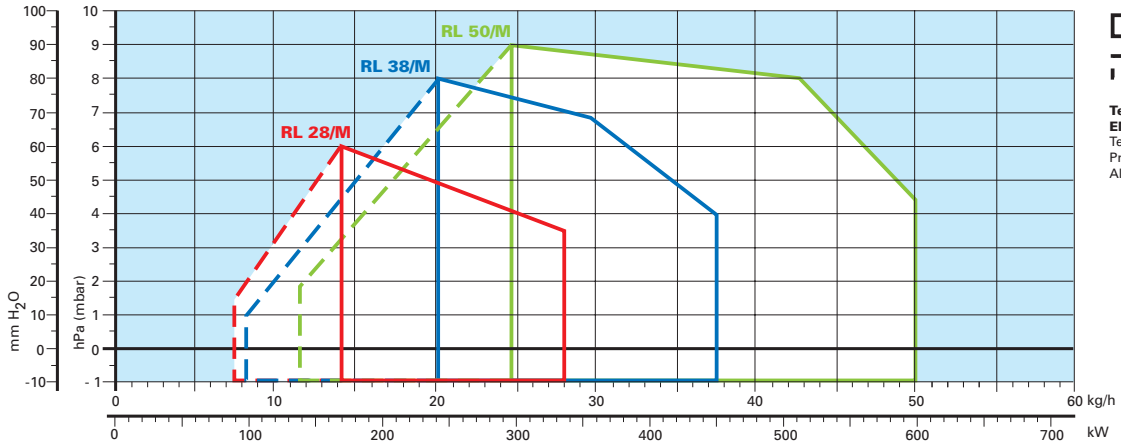
RL/M SERIES

RL 28/M	90/166 ÷ 332 kW
RL 38/M	101/237 ÷ 450 kW
RL 50/M	130/296 ÷ 593 kW
RL 70/M	202/474 ÷ 1043 kW
RL 100/M	332/711 ÷ 1482 kW
RL 130/M	415/948 ÷ 1779 kW
RL 190/M	474/1423 ÷ 2431 kW



The RL/M series of burners covers a firing range from 90 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.

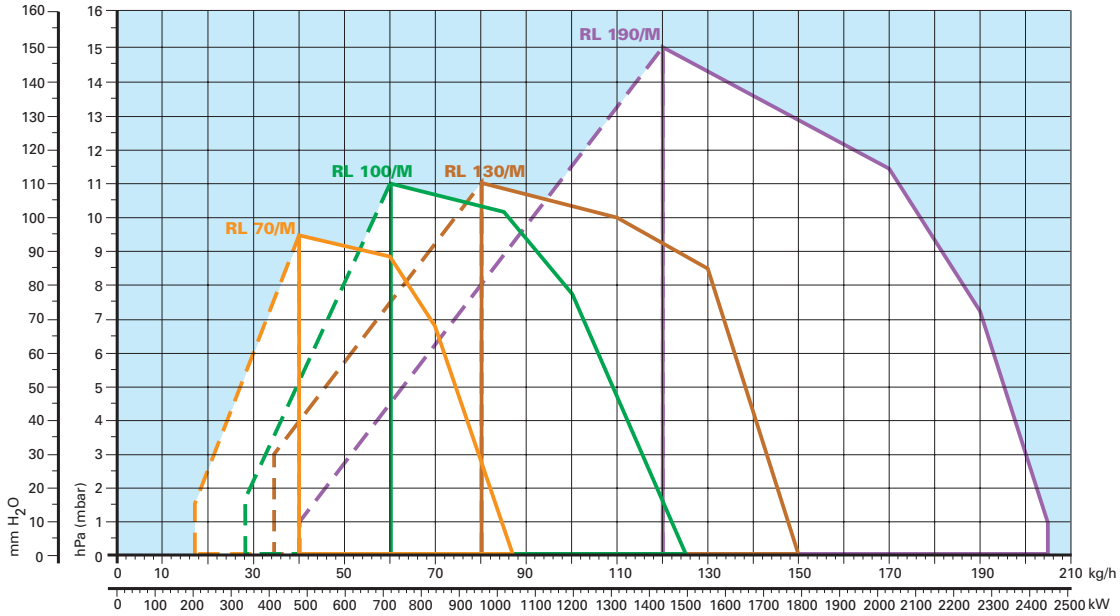
FIRING RATES



Useful working field for choosing the burner

Modulation range

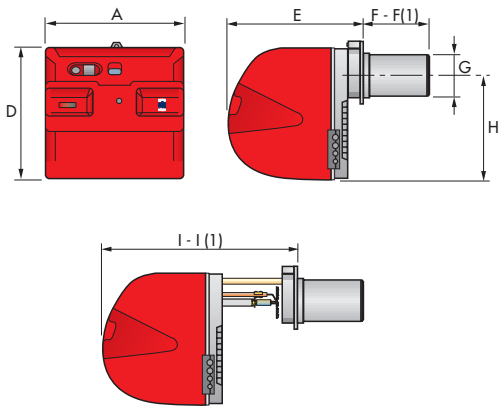
Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



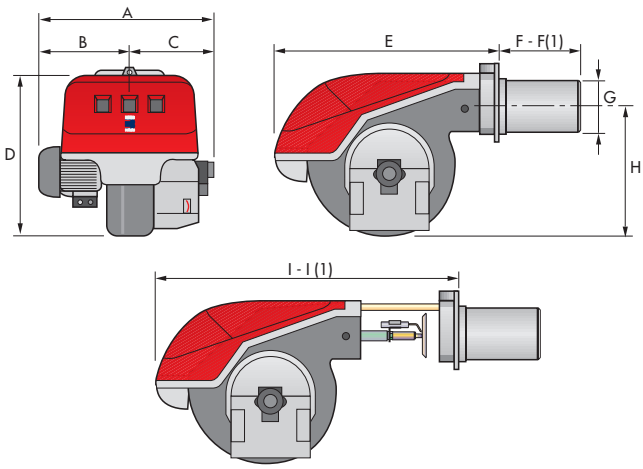
RL/M series - OVERALL DIMENSIONS (mm)

BURNERS

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



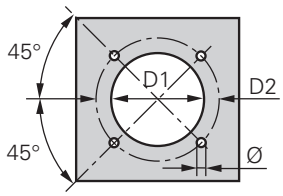
RL 70/M - 100/M - 130/M - 190/M



Model	A	B	C	D	E	F - F (1)	G	H	I - I (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	696	370	222	430	1102

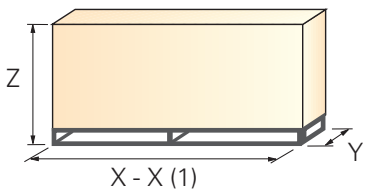
(1) dimension with extended head.

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	1000	540	550	39
RL 38/M	1000	540	550	41
RL 50/M	1000	540	550	42
RL 70/M	1180	792	600	65
RL 100/M	1180	792	600	68
RL 130/M	1180	792	600	71
RL 190/M	1200	800	850	95

(1) dimension with extended head.

DESIGNATION OF SERIES

Series : R

Fuel :

S	Natural Gas
L	Light oil
LS	Oil/Methane
N	Heavy oil

Size

Operation :

/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 :

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

BASIC DESIGNATION

EXTENDED DESIGNATION

RL/M series - 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 (straight 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
- Flame control panel
- 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.

RL/M series - AVAILABLE BURNER MODELS

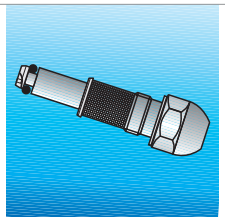
Code	Model	Heat output		Total electrical power	Certification	Note	Price
		(kW)	(kg/h)	(kW)			
3471002	RL 28/M TC FS1 1/230/50 230/50-60	90/166-332	7,5/14-28	0,4	-		
3471003	RL 28/M TL FS1 1/230/50 230/50-60	90/166-332	7,5/14-28	0,4	-		
3471402	RL 38/M TC FS1 3/230-400/50 230/50-60	101/237-450	8,5/20-38	0,6	-		
3471403	RL 38/M TL FS1 3/230-400/50 230/50-60	101/237-450	8,5/20-38	0,6	-		
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	-		
3477012	RL 70/M TC FS1 3/230-400/50 230/50-60	202/474-1043	17/40-70	1,4	DIN 5G975/2001		
3477013	RL 70/M TL FS1 3/230-400/50 230/50-60	202/474-1043	17/40-70	1,4	DIN 5G975/2001		
3477212	RL 100/M TC FS1 3/230-400/50 230/50-60	332/711-1482	28/60-100	1,8	DIN 5G976/2001		
3477213	RL 100/M TL FS1 3/230-400/50 230/50-60	332/711-1482	28/60-100	1,8	DIN 5G976/2001		
3477412	RL 130/M TC FS1 3/230-400/50 230/50-60	415/948-1779	35/80-130	2,6	DIN 5G977/2001		
3477413	RL 130/M TL FS1 3/230-400/50 230/50-60	415/948-1779	35/80-130	2,6	DIN 5G977/2001		
3477811	RL 190/M TC FS1 3/230-400/50 230/50-60	474/1423-2431	40/120-205	5,5	DIN 5G978/2001		

Net calorific value: 11,8 kWh/kg - 10.200 kcal/kg - Viscosity at 20°C 4-6 mm^2/s (cSt).

The burners of RL series are in according to 89/336 - 73/23 - 98/37 - 92/42 EEC Directive and EN 267 Norm.

RL/M series - BURNER ACCESSORIES

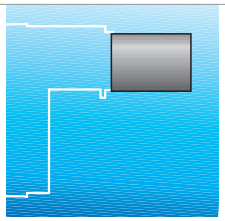
Return nozzles type A3 45°



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

Burner	Rated output kg/h	Nozzle code	Price
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	

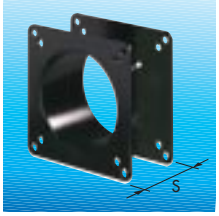
Extended heads



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

Burner	'Extended' head length (mm)	Kit code	Price
RL 28/M	351	3010120	
RL 38/M	351	3010121	
RL 50/M	351	3010122	
RL 70/M	385	3010159	
RL 100/M	385	3010160	
RL 130/M	385	3010161	
RL 190/M	-	-	

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	Price
RL 28/M - 38/M - 50/M	90	3010095	
RL 70/M - 100/M - 130/M	135	3010129	
RL 190/M	110	3000722	

Sound proofing box

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

Burner	Box type	Box code	Price
RL 28/M - 38/M - 50/M	C2	3000777	
RL 70/M - 100/M - 130/M	C3	3000778	
RL 190/M	C4	3000779	

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	'Extended' head length with cylinder(mm)	Kit code	Price
RL 28/M - 38/M	429	3010178	
RL 50/M	429	3010179	
RL 70/M - 100/M	488	3010180	
RL 130/M	488	3010183	
RL 190/M	-	3010241	

Accessories for modulating operation

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

Regulator type	Code	Price
RWF 40	3010212	

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

Probe type	Range (°C) (bar)	Code	Price
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	Price
RL 28/M - 38/M - 50/M	3010109	
RL 70/M - 100/M - 130/M - 190/M	3010021	

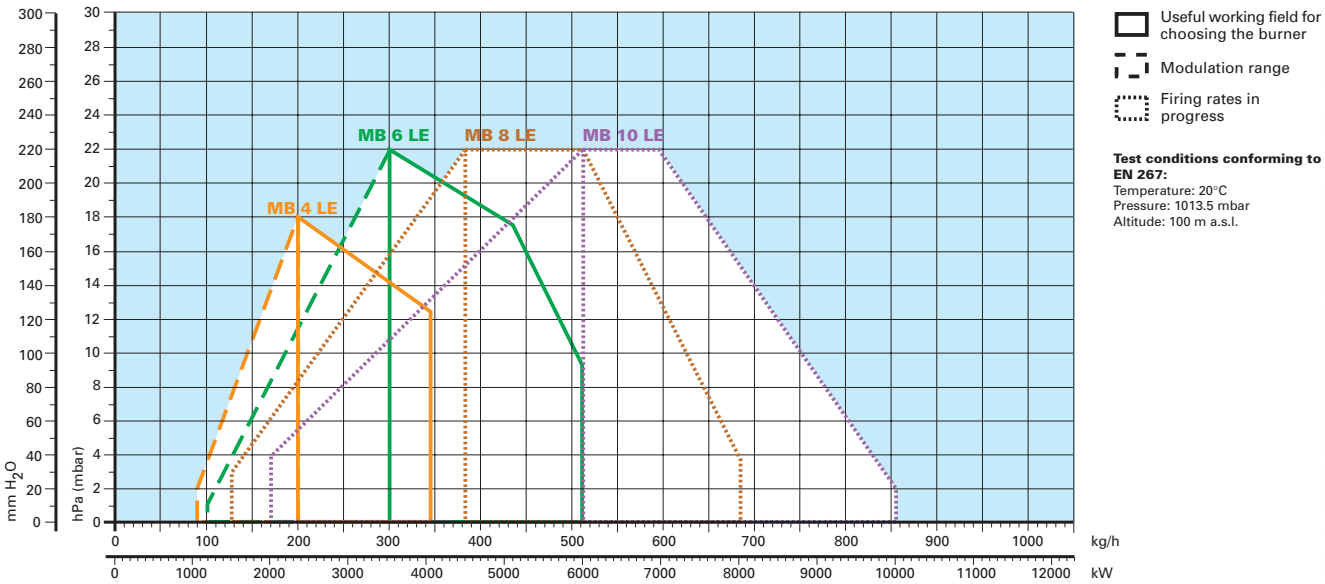
MODULATING LIGHT OIL BURNERS

MODUBLOC MB LE SERIES

MB 4 LE	1070/2375 ÷	4092	kW
MB 6 LE	1186/3558 ÷	6000	kW
MB 8 LE	1500/4500 ÷	8000	kW
MB 10 LE	2000/6000 ÷	10000	kW

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.

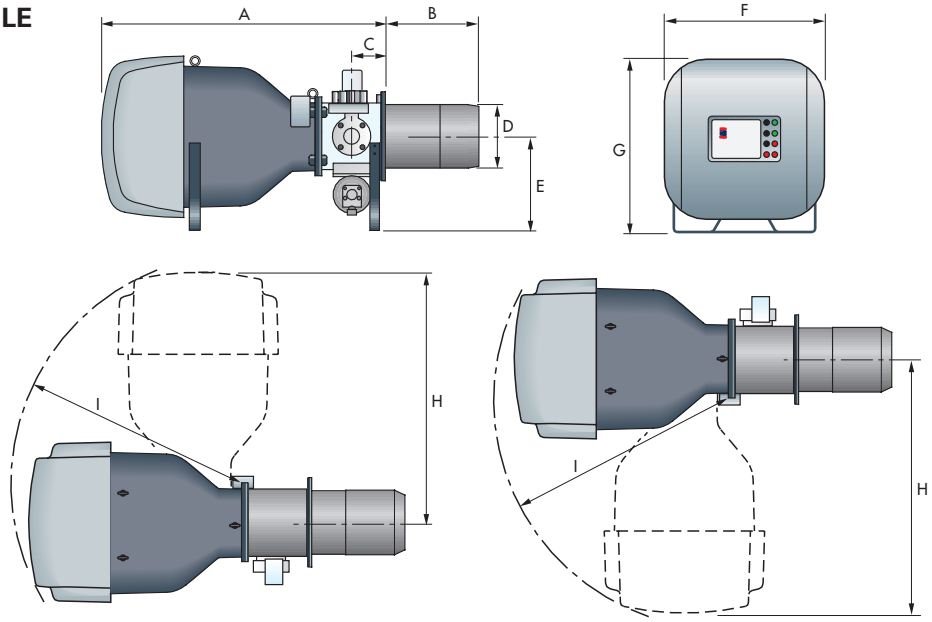
FIRING RATES



MODUBLOC MB LE series - OVERALL DIMENSIONS (mm)

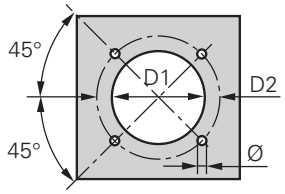
BURNERS

MB 4-6-8-10 LE



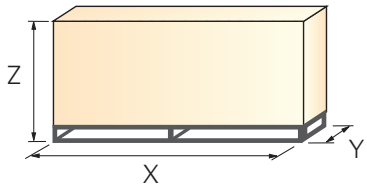
Model	A	B	C	D	E	F	G	H	I
MB 4 LE	1470	511	183	336	490	840	910	1330	1205
MB 6 LE	1470	511	183	336	490	840	910	1330	1205
MB 8 LE	1900	530	208	413	575	1007	1079	1740	1570
MB 10 LE	1900	530	208	413	575	1007	1079	1740	1570

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	2590	1170	1350	450
MB 10 LE	2590	1170	1350	450

MODUBLOC MB LE series - SPECIFICATION

DESIGNATION OF SERIES

Series : MB

Size: 4 - 6 - 8 - 10

Fuel :
- S Natural Gas
- L Light oil
- LS Light oil/Natural gas

Operation :
- E Electronic cam
- V Electronic cam and variable speed (with Inverter)

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

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									

MODUBLOC MB LE series - 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
- Flame control panel
- Photocell for flame detection
- Star/triangle starter for the fan motor
- 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 40 electric 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.

MB LE series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power	Certification	Note	Price
		(kW)	(kg/h)	(kW)			
3478000	MB4LE TC FR FS1 3/400/50 230/50-60	1070/2375-4092	90/200-345	15	DIN 5G 932/99 M		
3478001	MB4LE TC FR FS1 3/230/50 230/50-60	1070/2375-4092	90/200-345	15	DIN 5G 932/99 M		
3478005	MB4LE TC FL FS1 3/400/50 230/50-60	1070/2375-4092	90/200-345	15	DIN 5G 932/99 M		
3478006	MB4LE TC FL FS1 3/230/50 230/50-60	1070/2375-4092	90/200-345	15	DIN 5G 932/99 M		
3478100	MB6LE TC FR FS1 3/400/50 230/50-60	1186/3558-6000	100/300-506	17	DIN 5G 932/99 M		
3478101	MB6LE TC FR FS1 3/230/50 230/50-60	1186/3558-6000	100/300-506	17	DIN 5G 932/99 M		
3478105	MB6LE TC FL FS1 3/400/50 230/50-60	1186/3558-6000	100/300-506	17	DIN 5G 932/99 M		
3478106	MB6LE TC FL FS1 3/230/50 230/50-60	1186/3558-6000	100/300-506	17	DIN 5G 932/99 M		
3478200	MB8LE TC FR FS1 3/400/50 230/50-60	1500/4500-8000	126/379-675	27,4	In progress (CE + DIN)		
3478201	MB8LE TC FR FS1 3/230/50 230/50-60	1500/4500-8000	126/379-675	27,4	In progress (CE + DIN)		
3478205	MB8LE TC FL FS1 3/400/50 230/50-60	1500/4500-8000	126/379-675	27,4	In progress (CE + DIN)		
3478206	MB8LE TC FL FS1 3/230/50 230/50-60	1500/4500-8000	126/379-675	27,4	In progress (CE + DIN)		
3478300	MB10LE TC FR FS1 3/400/50 230/50-60	2000/6000-10000	169/506-843	27,4	In progress (CE + DIN)		
3478301	MB10LE TC FR FS1 3/230/50 230/50-60	2000/6000-10000	169/506-843	27,4	In progress (CE + DIN)		
3478305	MB10LE TC FL FS1 3/400/50 230/50-60	2000/6000-10000	169/506-843	27,4	In progress (CE + DIN)		
3478306	MB10LE TC FL FS1 3/230/50 230/50-60	2000/6000-10000	169/506-843	27,4	In progress (CE + DIN)		

The burners of MB LE series are in according to 73/23 - 89/336 - 98/37 EEC Directive and EN 267 Norm.
Net calorific value: 11,8 kWh/kg - 10.200 kcal/kg - Viscosity at 20°C 4-6 mm²/s (cSt).

MODUBLOC MB LE series - 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	Price
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	Price
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.

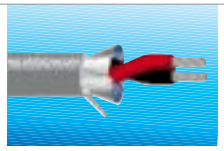
Burner	Module code	Price
MB 4 - 6 - 8 - 10 LE	3010232	

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	Price
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	Price
MB 4 - 6 - 8 - 10 LE	3010239	

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)	Code	Price
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	

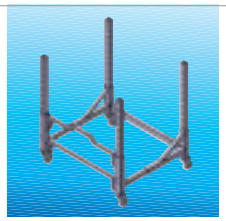
Return nozzles with needle cut-off type B5 45°

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

Burner	Rated output kg/h	Nozzle code	Price
MB 4 LE	200	3009800	
	225	3009801	
	250	3009802	
	275	3009803	
	300	3009804	
	325	3009805	
MB 6 LE	350	3009806	
	375	3009807	
	400	3009808	
	425	3009809	
	450	3009810	
	475	3009811	
	500	3009812	
MB 8 LE	300	3009804	
	325	3009805	
	350	3009806	
	375	3009807	
	400	3009808	
	425	3009809	
	450	3009810	
	475	3009811	
	500	3009812	

Burner	Rated output kg/h	Nozzle code	Price
MB 8 LE	525	3009813	
	550	3009814	
	575	3009815	
	600	3009816	
	650	3009817	
	700	3009818	
MB 10 LE	400	3009808	
	425	3009809	
	450	3009810	
	475	3009811	
	500	3009812	
	525	3009813	
	550	3009814	
	575	3009815	
	600	3009816	
	650	3009817	
	700	3009818	
	750	3009819	
	800	3009820	
	850	3009821	
	900	3009822	

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	Price
MB 4 - 6 LE	In progress	
MB 8 - 10 LE	In progress	

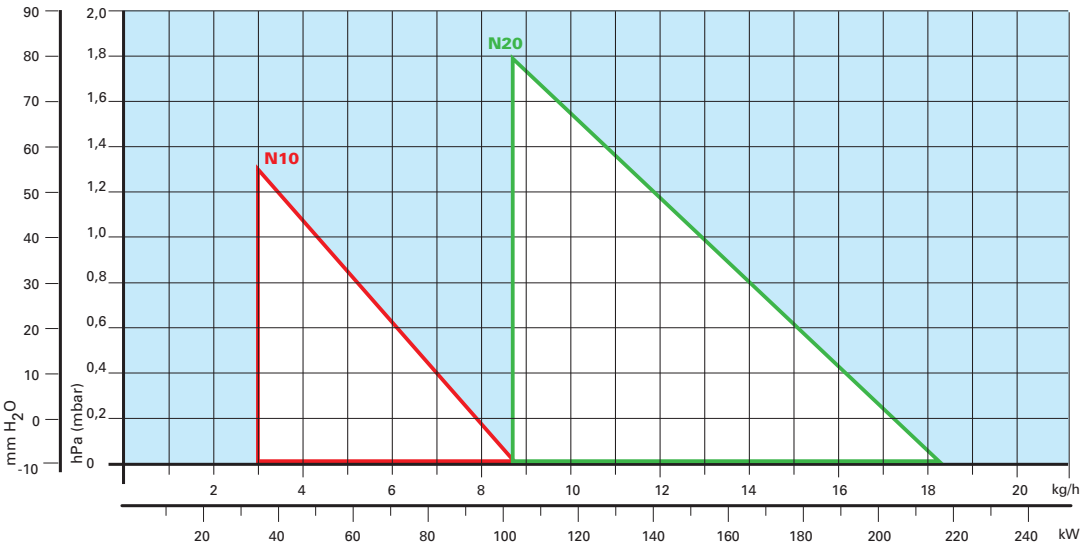
CE

ONE STAGE HEAVY OIL BURNERS

RIELLO 40 N SERIES					
	N 10	34	÷	102	kW
	N 20	102	÷	217	kW

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 51 to 228 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.

FIRING RATES

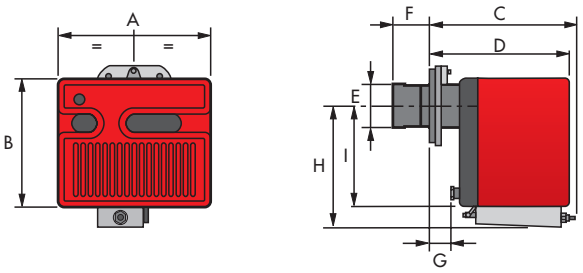


Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

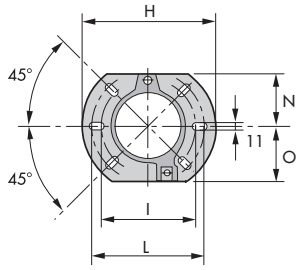
RIELLO 40 N series - OVERALL DIMENSIONS (mm)

BURNERS



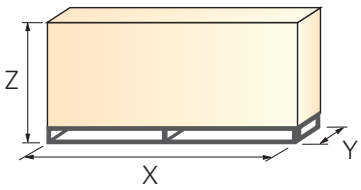
Model	A	B	C	D	E	F	G	H	I
N10	305	262	275	261	105	108	25	258	204
N20	350	298	-	295	125	118	35	280	230

BURNER - BOILER MOUNTING FLANGE



Model	H	I	L	N	O
N10	189	140	170	83	83
N20	213	160	190	99	99

PACKAGING



Model	X	Y	Z	kg
N10	395	307	375	25
N20	425	352	410	28

RIELLO 40 N series - SPECIFICATION

DESIGNATION OF SERIES

Series : N

Size

N	10

RIELLO 40 N series - STATE OF SUPPLY

Completely automatic monobloc heavy oil burners, one stage operation, made up to:
- Fan with forward inclined 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 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.

RIELLO 40 N series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	(kg/h)				
3412016	N10 1/50/230±10%	34 – 102	3 – 9	1,1	-		
3412816	N20 1/50/230±10%	102 – 217	9 – 19	1,8	-		

Net calorific value: 11,3 kWh/kg; 9720 kcal/kg - Viscosity at 50°C: 150 mm^2/s (cSt).

RIELLO 40 N series - BURNER ACCESSORIES

Cartridge filter

Burner	Kit code	Price
N10 - N20	3004588	

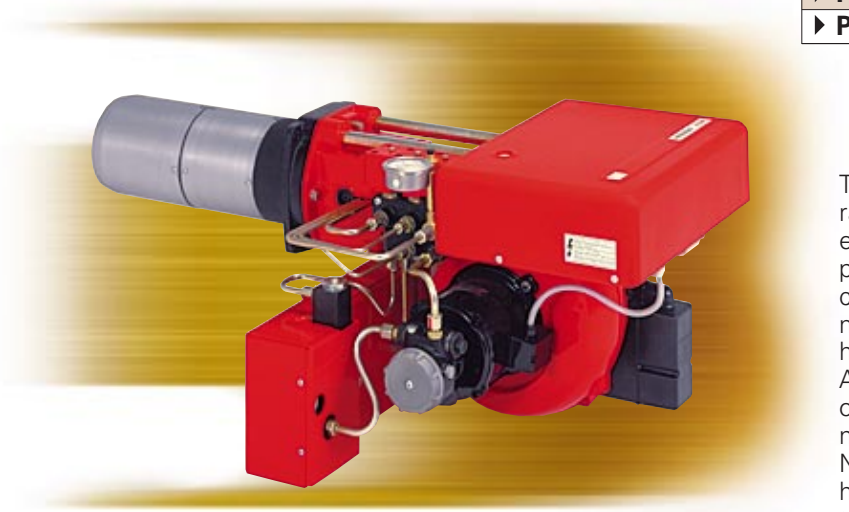
Self cleaning filter

Burner	Kit code	Price
N10 - N20	3000861	

TWO STAGE HEAVY OIL BURNERS

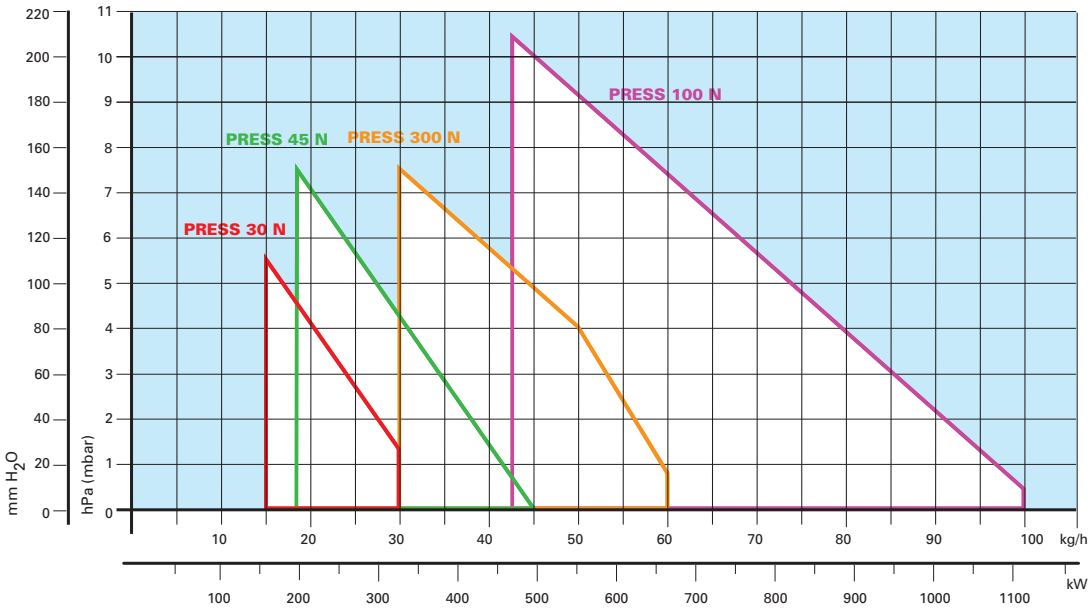
PRESS N SERIES

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



The PRESS N series of burners covers a firing range from 85 to 1140 kW and they have been expressly designed for use in boilers with both pressurized and depressurized combustion chambers. Flame operation is two-stage, thus making these burners suitable for installations that have variable but predictable heating requirments. A servomotor rules automatically air damper to the opening value, determined to obtain always the necessary fuel consumption. Every model of PRESS N series is available in two different combustion head lenght (short or long head) to be selected on the basis of specific application requirments. In basic version the burners are supplied for use with heavy oil 3,5°E viscosity, but they can be supplied with higher viscosity oil with a specific heaters kit. 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.

FIRING RATES

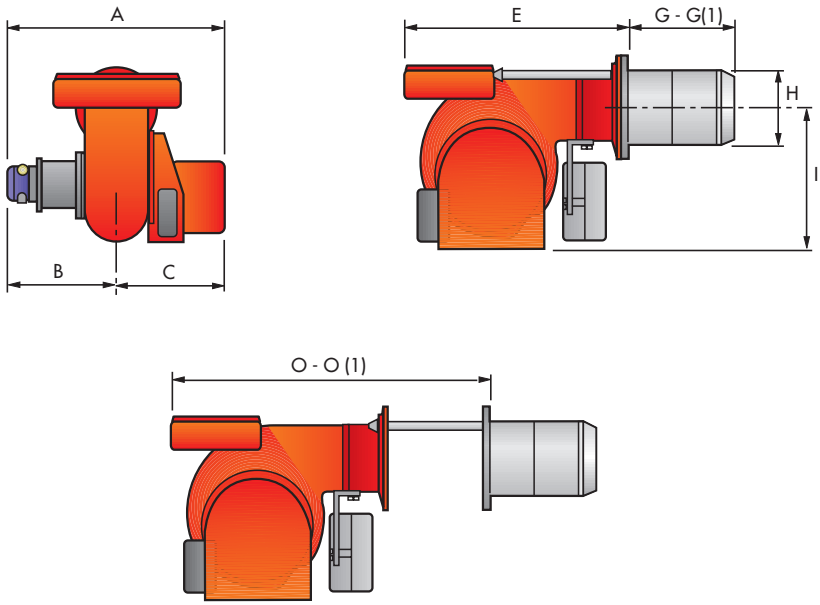


Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

PRESS N series - OVERALL DIMENSIONS (mm)

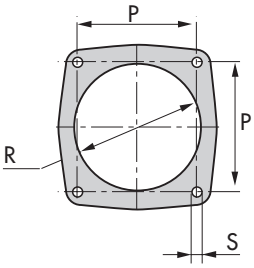
BURNERS



Model	A	B	C	E	G - G(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

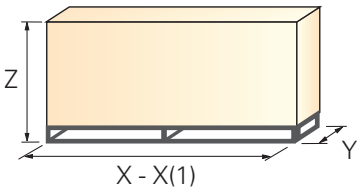
(1) "Extended head" model

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	522	84
PRESS 45 N	880 - 1015	690	522	84
PRESS 60 N	925 - 1095	760	552	87
PRESS 100 N	985 - 1145	790	552	104

(1) "Extended head" model

PRESS N series - SPECIFICATION

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

PRESS N series - 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 2850rpm
- 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;
- Flame control panel,
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 40 electric 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
- 2 extensions for bars (for long head version)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

PRESS N series - AVAILABLE BURNER MODELS

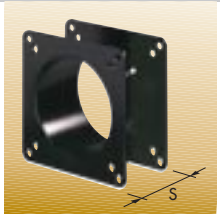
Code	Model					Heat output		Total electrical power kW	Certification	Note	Price
						(kW)	(kg/h)				
3433717	PRESS 30 N	TC	FS 1	1/230/50	230/50	107/178-356	7,5/15-30	3,5	-		
3433718	PRESS 30 N	TL	FS1	1/230/50	230/50	107/178-356	7,5/15-30	3,5	-		
3433783	PRESS 30 N	TC	FS1	3/220-380/60	220/60	107/178-356	7,5/15-30	3,5	-		
3433784	PRESS 30 N	TL	FS1	3/220-380/60	220/60	107/178-356	7,5/15-30	3,5	-		
3434517	PRESS 45 N	TC	FS1	3/230-400/50	230/50	107/178-356	10/18-45	3,7	-		
3434518	PRESS 45 N	TL	FS1	3/230-400/50	230/50	118/190-356	10/18-45	3,7	-		
3434583	PRESS 45 N	TC	FS1	3/220-380/60	220/60	118/190-415	10/18-45	3,7	-		
3434584	PRESS 45 N	TL		3/220-380/60	220/60	130/190-534	10/18-45	3,7	-		
3434917	PRESS 60 N	TC		3/230-400/50	230/50	130/190-534	15/30-60	5,5	-		
3434918	PRESS 60 N	TL	FS1	3/230-400/50	230/50	130/190-534	15/30-60	5,5	-		
3434983	PRESS 60 N	TC	FS1	3/220-380/60	220/60	130/190-534	15/30-60	5,5	-		
3434984	PRESS 60 N	TL	FS1	3/220-380/60	220/60	130/190-534	15/30-60	5,5	-		
3435917	PRESS 100 N	TC	FS1	3/230-400/50	230/50	130/190-534	25/43-100	9	-		
3435918	PRESS 100 N	TL	FS1	3/230-400/50	230/50	130/190-534	25/43-100	9	-		
3435983	PRESS 100 N	TC		3/220-380/60	220/60	214/356-712	25/43-100	9	-		
3435984	PRESS 100 N	TL		3/220-380/60	220/60	214/356-712	25/43-100	9	-		

Net calorific value: 11,16 kWh/kg; 9600 kcal/kg - Max Viscosity at 50°C: 390 mm^2/s (cSt).

The burners of PRESS series are in according to 89/336 - 73/23 CEE Directive and EN 267 Norm.

PRESS N series - 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	Price
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	Box code	Price
PRESS 30 N - 45 N - 60 N - 100 N	C3	3000778	

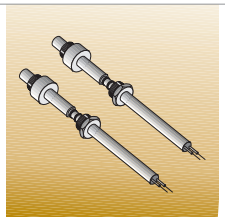
Selfcleaning filter

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.

Type	Filter code	Price
ø=1 50°E – 50°C	3000790	

Type	Heatters code	Price
Thermostatic heater 80W	3010059	

Heavy oil kit



Equipped with electrcal heaters, it permits the employment of PRESS N burners with fuel oil of max. viscosity 50°E at 50°C.

Burner	Kit code	Price
PRESS 30 N - 45 N	3000797	
PRESS 60 N - 100 N	3010013	

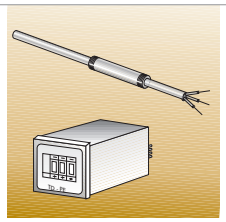
Cartrdige filter

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.

Type	Filter code	Price
Cartridge 7°E – 50°C	3005209	

Type	Heatters code	Price
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	Kit code	Price
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	

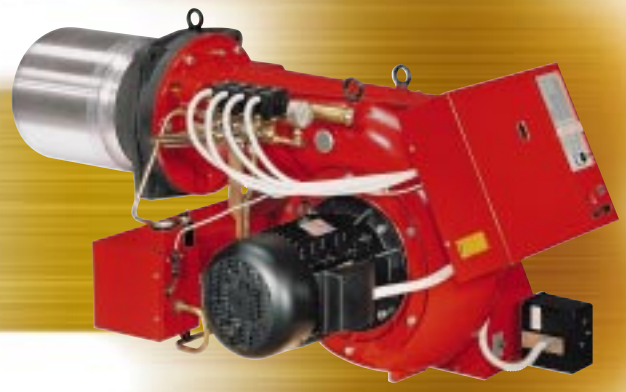
Nozzle type F80 45°

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

Burner	Rated output kg/h	Nozzle code	Price
PRESS 30 N	1,25	3041091	
PRESS 30 N – PRESS 45 N	1,5	3041101	
PRESS 30 N – PRESS 45 N	1,75	3041111	
PRESS 30 N – PRESS 45 N	2	3041121	
PRESS 30 N – PRESS 45 N	2,25	3041131	
PRESS 30 N – PRESS 45 N – PRESS 60 N	2,5	3041141	
PRESS 45 N – PRESS 60 N	3	3041151	
PRESS 45 N – PRESS 60 N – PRESS 100 N	3,5	3041161	
PRESS 45 N – PRESS 60 N – PRESS 100 N	4	3041171	
PRESS 60 N – PRESS 100 N	4,5	3041181	
PRESS 60 N – PRESS 100 N	5	3041191	
PRESS 100 N	5,5	3041201	
PRESS 100 N	6	3041211	
PRESS 100 N	6,5	3041221	
PRESS 100 N	7	3041231	
PRESS 100 N	7,5	3041241	
PRESS 100 N	8,5	3041261	

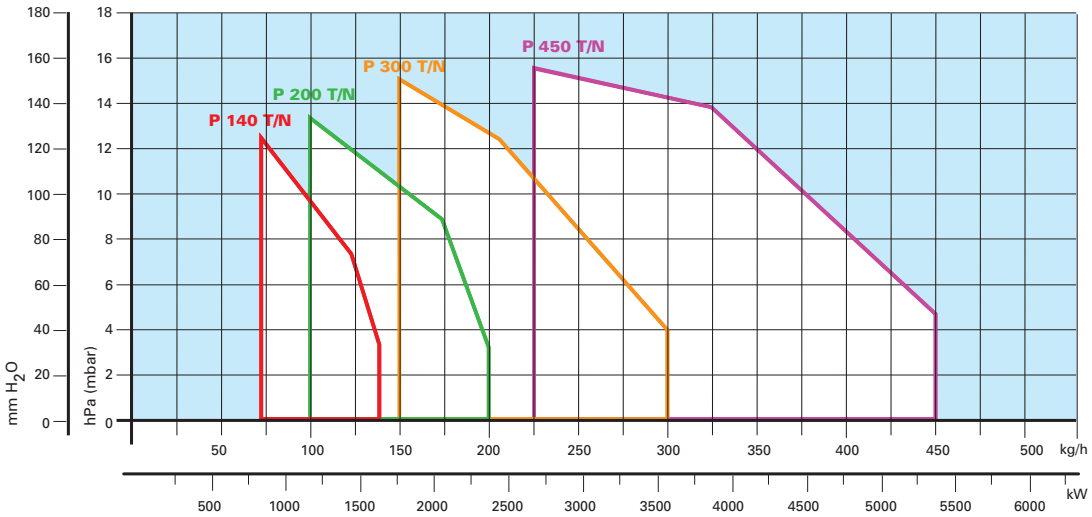
THREE STAGE HEAVY OIL BURNERS

PRESS T/N SERIES		
PRESS 140 T/N	320/800 ÷ 1600 kW	
PRESS 200 T/N	515/1140 ÷ 2280 kW	
PRESS 300 T/N	626/1710 ÷ 3420 kW	
PRESS 450 T/N	855/2560 ÷ 5130 kW	



The PRESS T/N series of burners covers a firing range from 320 to 5130 kW and they have been designed for use on commercial or industrial installations. 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.

FIRING RATES

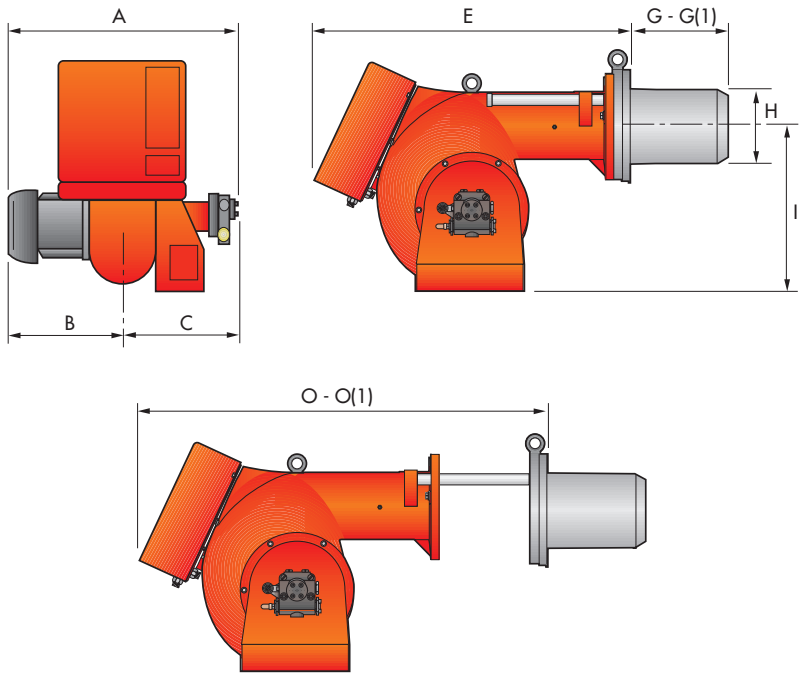


Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

PRESS T/N series - OVERALL DIMENSIONS (mm)

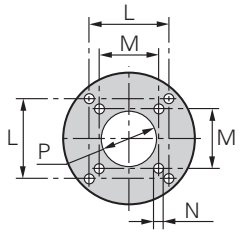
BURNERS



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

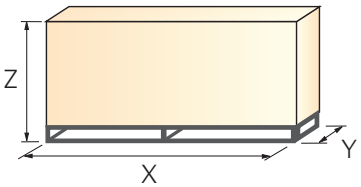
(1) "extended head" model

BURNER - BOILER MOUNTING FLANGE



Model	L	M	N	P
P 140 T/N	260	230	M 14	225
P 200 T/N	260	-	M 16	255
P 300 T/N	260	-	M 18	300
P 450 T/N	310	-	M 20	350

PACKAGING



Model	X	Y	Z	kg
P 140 T/N	1500	930	900	180
P 200 T/N	1500	930	900	190
P 300 T/N	1780	1085	990	260
P 450 T/N	1780	1085	990	350

PRESS T/N series - SPECIFICATION

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

PRESS T/N series - 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
- Starting motor at 2850rpm
- 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
- Oil preheater
- Servomotor for air damper regulation
- Photocell for flame detection
- Flame control panel
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- 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 fittings 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.

PRESS T/N series - AVAILABLE BURNER MODELS

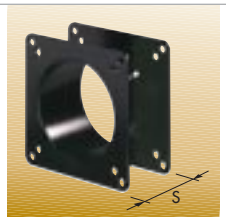
Code	Model	Heat output (kW)	Heat output (kg/h)	Total electrical power kW	Certification	Note	Price
3436826	PRESS 140 T/N TC FS 1 3/230-400/50 230/50	320-1600	28-140	18,6	-		
3436827	PRESS 140 T/N TL FS1 3/230-400/50 230/50	320-1600	28-140	18,6	-		
3436883	PRESS 140 T/N TC FS1 3/220-380/60 220/60	320-1600	28-140	18,6	-		
3436884	PRESS 140 T/N TL FS1 3/220-380/60 220/60	320-1600	28-140	18,6	-		
3437726	PRESS 200 T/N TC FS1 3/230-400/50 230/50	515-2280	45-200	19,5	-		
3437727	PRESS 200 T/N TL FS1 3/230-400/50 230/50	515-2280	45-200	19,5	-		
3437783	PRESS 200 T/N TC FS1 3/220-380/60 220/60	515-2280	45-200	19,5	-		
3437784	PRESS 200 T/N TL 3/220-380/60 220/60	515-2280	45-200	19,5	-		
3438940	PRESS 300 T/N TC 3/230-400/50 230/50	626-3420	60-300	30	-		
3438941	PRESS 300 T/N TL FS1 3/230-400/50 230/50	626-3420	60-300	30	-		
3438942	PRESS 300 T/N TC FS1 3/230/50 230/50	626-3420	60-300	30	-		
3438943	PRESS 300 T/N TL FS1 3/230/50 230/50	626-3420	60-300	30	-		
3438944	PRESS 300 T/N TC FS1 3/400/50 230/50	626-3420	60-300	30	-		
3438945	PRESS 300 T/N TL FS1 3/400/50 230/50	626-3420	60-300	30	-		
3439332	PRESS 450 T/N TC 3/230/50 230/50	855-5130	75-450	34	-		
3439333	PRESS 450 T/N TL 3/230/50 230/50	855-5130	75-450	34	-		
3439334	PRESS 450 T/N TC 3/400/50 230/50	855-5130	75-450	34	-		
3439335	PRESS 450 T/N TL 3/400/50 230/50	855-5130	75-450	34	-		

Net calorific value: 11,16 kWh/kg; 9600 kcal/kg - Max Viscosity at 50°C: 390 mm^2/s (cSt).

The burners of PRESS series are in according to 89/336 - 73/23 CEE Directive and EN 267 Norm.

PRESS T/N series - 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	Price
P 140 T/N - P 200 T/N	110	3000722	
P 300 T/N	110	3000723	
P 450 T/N	130	3000751	

Sound proofing box

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

Burner	Spacer thickness S (mm)	Kit code	Price
P 140 T/N - P 200 T/N	C5	3000780	
P 300 T/N - P 450 T/N	C6	3000781	

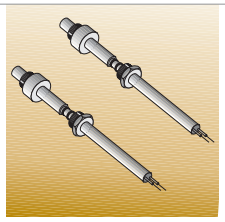
Selfcleaning filter

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

Type	Filter Code	Price
ø=1"1/2	3010022	
65°E – 50°C		

Type	Heatters and thermostats Code	Price
Thermostatic heater with LED	3010060	
Heater	3010061	
Thermostat (two-stage / regulalable)	3010062	

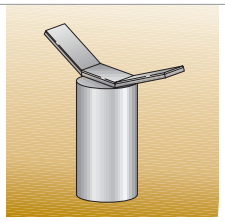
Heavy oil kit



Equipped with electrcal heaters, it permits the employment of PRESS P/N burners with fuel oil of max. viscosity 65°E at 50°C.

Burner	kit code	Price
P 140 T/N - P 200 T/N - P 300 T/N - P 450 T/N	3000721	

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.

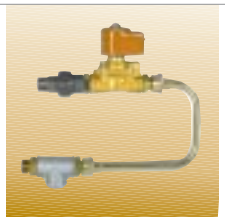
Burner	Potentiometer kit code	Price
P 300 T/N - P 450 T/N	3000731	

Gas separator bottle

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	Degaser code	Price
P 140 T/N - P 200 T/N	3000748	
P 300 T/N - P 450 T/N	3010012	

Heavy oil precirculation



This kit, used with oil with high viscosity, in maintains fuel circulation in the ol circuit for avoiding system stop at start up.

Burner	Heavy oil ptrecirculation code	Price
P 140 T/N - P 200 T/N	3000749	
P 300 T/N - P 450 T/N	3000750	

Nozzle type F80 - PLP 60°

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

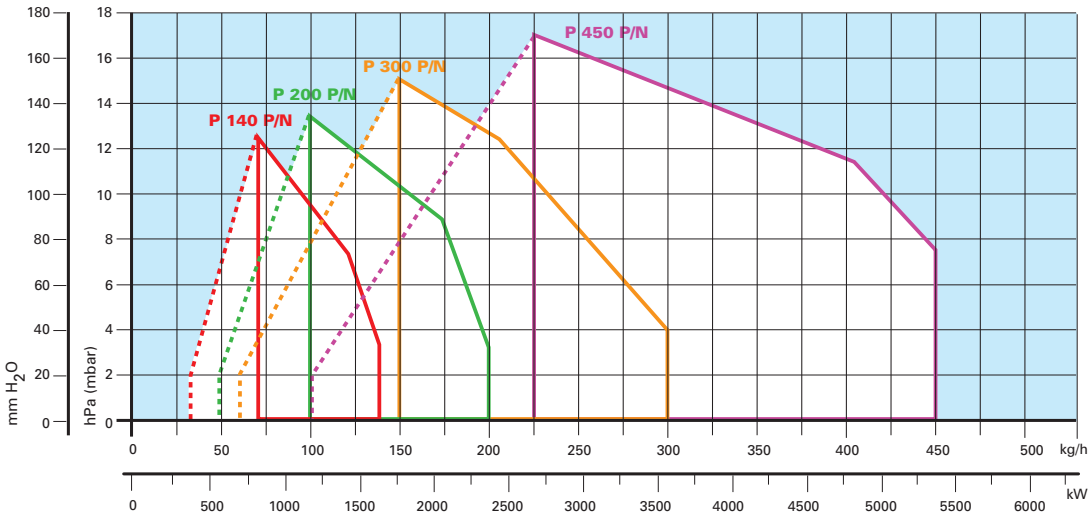
Burner	Size GPH	Nozzle code	Price
P 140 T/N	3,5	3041162	
P 140 T/N	4	3041172	
P 140 T/N	4,5	3041182	
P 140 T/N – P 200 T/N	5	3041192	
P 140 T/N – P 200 T/N	5,5	3041202	
P 140 T/N – P 200 T/N	6	3041212	
P 140 T/N – P 200 T/N	6,5	3041222	
P 140 T/N – P 200 T/N	7	3041232	
P 140 T/N – P 200 T/N	7,5	3041242	
P 200 T/N – P 300 T/N	8,5	3041262	
P 200 T/N – P 300 T/N	9,5	3041282	
P 200 T/N – P 300 T/N – P 450 T/N	10,5	3041302	
P 300 T/N – P 450 T/N	12	3041322	
P 300 T/N – P 450 T/N	13,5	3041352	
P 300 T/N – P 450 T/N	15,5	3041372	
P 450 T/N	17,5	3041402	
P 450 T/N	19,5	3041432	
P 450 T/N	21,5	3041452	
P 450 T/N	24	3041472	

MODULATING HEAVY OIL BURNERS

PRESS P/N SERIES		
PRESS 140 P/N	400/800 ÷	1600 kW
PRESS 200 P/N	570/1140 ÷	2280 kW
PRESS 300 P/N	683/1710 ÷	3420 kW
PRESS 450 P/N	1140/2615 ÷	5130 kW

The PRESS P/N series of burners cover a firing range from 400 to 5130 kW.
Operation can be "two stage progressive" or, alternatively, "modulating" with the installation of a PID logic regulator and respective probes, which gaurantees 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 diathermic 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.

FIRING RATES



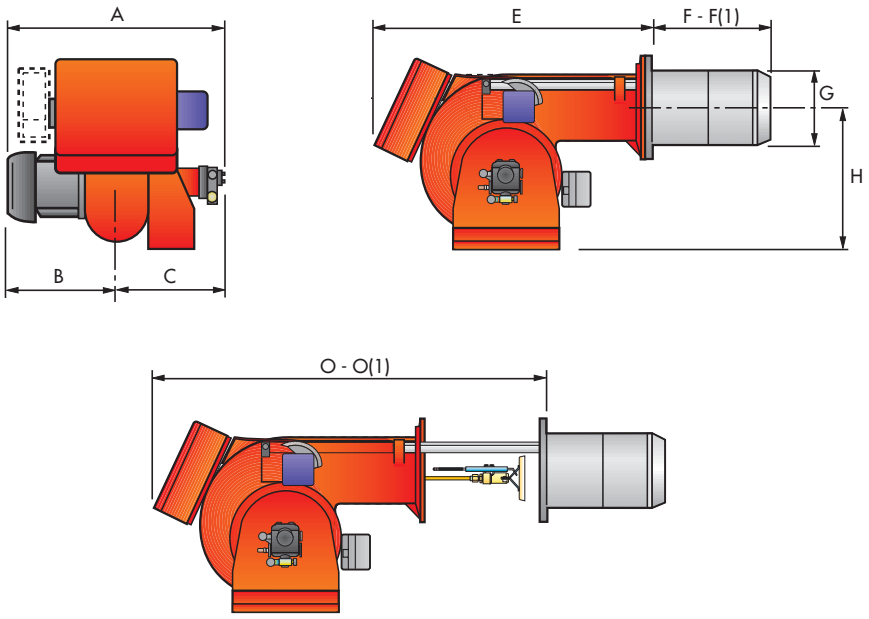
Useful working field for choosing the burner

Modulating range

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

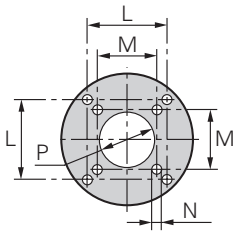
PRESS P/N series - OVERALL DIMENSIONS (mm)

BURNERS



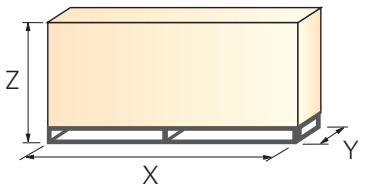
Model	A	B	C	E	F - F(1)	G	H	O - O(1)
P 140 P/N	796	396	400	910	323 - 433	222	467	1390 - 1390
P 200 P/N	796	396	400	910	352 - 462	250	467	1390 - 1390
P 300 P/N	858	447	411	1020	376 - 506	295	496	1535 - 1685
P 450 P/N	950	508	442	1090	435 - 565	336	525	1665 - 1820

BURNER - BOILER MOUNTING FLANGE



Model	L	M	N	P
P 140 P/N	260	230	M 14	225
P 200 P/N	260	-	M 16	255
P 300 P/N	260	-	M 18	300
P 450 P/N	310	-	M 20	350

PACKAGING



Model	X	Y	Z	kg
P 140 P/N	1500	930	900	180
P 200 P/N	1500	930	900	220
P 300 P/N	1780	1085	990	238
P 450 P/N	1780	1085	990	300

PRESS P/N series - SPECIFICATION

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

PRESS P/N series - 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 lined with sound-proofing material
- Fan with forward curved blades
- 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 the required output
- Gears pump for high pressure fuel supply
- Valve unit with a double oil safety valve on the output circuit
- Electrical preheater for heavy oil
- Safety oil pressure switch
- Photocell for flame detection
- Flame control panel, fitted with control function 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 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 electrical connections
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue
- 2 slide bar extensions (for the extended head models of P 300 P/N e P 450 P/N)
- Gasket for flange
- Starter (for versions with star-delta starting).

PRESS P/N series - AVAILABLE BURNER MODELS

Code	Model	Heat output (kW)	Heat output (kg/h)	Total electrical power kW	Certification	Note	Price
3436876	P 140 P/N TC FS1 3/230-400/50 230/50	400÷1600	35-140	18,5	-		
3436877	P 140 P/N TL FS1 3/230-400/50 230/50	400÷1600	35-140	18,5	-		
3437776	P 200 P/N TC FS1 3/230-400/50 230/50	570÷2280	50-200	19,5	-		
3437777	P 200 P/N TL FS1 3/230-400/50 230/50	570÷2280	50-200	19,5	-		
3438989	P 300 P/N TC FS1 3/230/50 230/50	683÷3422	60-300	30	-	*	
3438987	P 300 P/N TC FS1 3/230-400/50 230/50	683÷3420	60-300	30	-		
3438991	P 300 P/N TC FS1 3/400/50 230/50	683÷3424	60-300	30	-	*	
3438990	P 300 P/N TL FS1 3/230/50 230/50	683÷3423	60-300	30	-	*	
3438988	P 300 P/N TL FS1 3/230-400/50 230/50	683÷3421	60-300	30	-		
3438992	P 300 P/N TL FS1 3/400/50 230/50	683÷3425	60-300	30	-	*	
3439385	P 450 P/N TC FS1 3/230/50 230/50	1140÷5130	100-450	34	-	*	
3439387	P 450 P/N TC FS1 3/400/50 230/50	1140÷5132	100-450	34	-	*	
3439386	P 450 P/N TL FS1 3/230/50 230/50	1140÷5131	100-450	34	-	*	
3439388	P 450 P/N TL FS1 3/400/50 230/50	1140÷5133	100-450	34	-	*	

Net calorific value: 11,16 kWh/kg; 9600 kcal/kg - Max viscosity at 50°C: 390 mm^2/s (cSt).

The burners of PRESS series are in according to 89/336 - 73/23 CEE Directive and EN 267 Norm.

*** Star-delta starting**

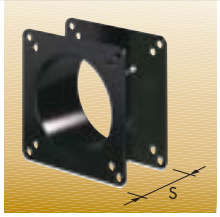
PRESS P/N series - BURNER ACCESSORIES

Nozzle type B3 45° - with "AA" needle

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

Burner	Rated output kg/h	Nozzle code	Price
P 140 P/N	70	3009613	
P 140 P/N	80	3009615	
P 140 P/N	90	3009617	
P 140 P/N – P 200 P/N	100	3009620	
P 140 P/N – P 200 P/N	125	3009623	
P 200 P/N – P 300 P/N	150	3009626	
P 200 P/N – P 300 P/N	175	3009629	
P 200 P/N – P 300 P/N	200	3009632	
P 200 P/N – P 300 P/N	225	3009635	
P 300 P/N – P 400 P/N	250	3009638	
P 300 P/N – P 400 P/N	275	3009642	
P 300 P/N – P 400 P/N	300	3009644	
P 450 P/N	325	3009647	
P 450 P/N	350	3009650	
P 450 P/N	375	3009653	
P 450 P/N	400	3009656	
P 450 P/N	425	3009659	
P 450 P/N	450	3009662	

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	Price
P 140 P/N	110	3000722	
P 200 P/N	110	3000722	
P 300 P/N	130	3000723	
P 450 P/N	130	3000751	

Sound proofing box

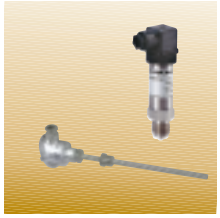
If noise emission needs reducing even further, sound-proofing boxes are available.

Burner	Box type	Box code	Price
P 140 P/N - P 200 P/N	C5	3000780	
P 300 P/N - P 450 P/N	C6	3000781	

Accessories for modulating operation

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

Regulator type	Code	Price
RWF 40	3010211	



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

Probe type	Range (°C) (bar)	Code	Price
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	Price
P 140 P/N - P 200 P/N - P 300 P/N - P 450 P/N	3010021	

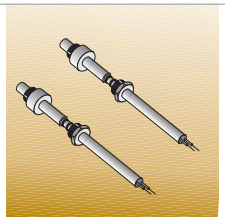
Selfcleaning filter

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

Type	Filter code	Price
Ø=1"1/2 (65°E – 50°C)	3010022	

Type	Heatters and thermostats code	Price
Thermostatic heater with LED	3010060	
Heater	3010061	
Thermostat (two-stage / regulalable)	3010062	

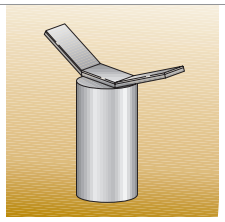
Heavy oil kit



Equipped with electrcal heaters, it permits the employment of PRESS P/N burners with fuel oil of max. viscosity 65°E at 50°C.

Burner	Kit code	Price
P 140 P/N - P 200 P/N - P 300 P/N - P 450 P/N	3000721	

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.

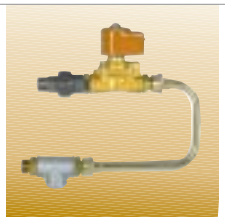
Burner	Potentiometer kit code	Price
P 300 P/N - P 450 P/N	3000731	

Gas separator bottle

It allows to recover heat in excess by discharge of the gas from the return circuit.

Burner	Degaser code	Price
P 140 P/N - P 200 P/N	3000748	
P 300 P/N - P 450 P/N	3010012	

Heavy oil precirculation



This kit, used with oil with high viscosity, in maintains fuel circulation in the ol circuit for avoiding system stop at start up.

Burner	Heavy oil precirculation code	Price
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.

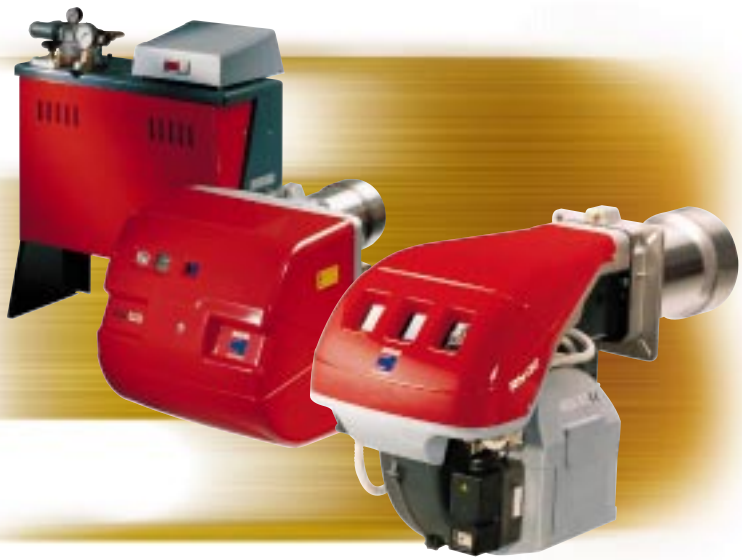
Burner	Filter code	Price
P 140 P/N - P 200 P/N - P 300 P/N - P 450 P/N	3005209	

CE

TWO STAGE HEAVY OIL BURNERS

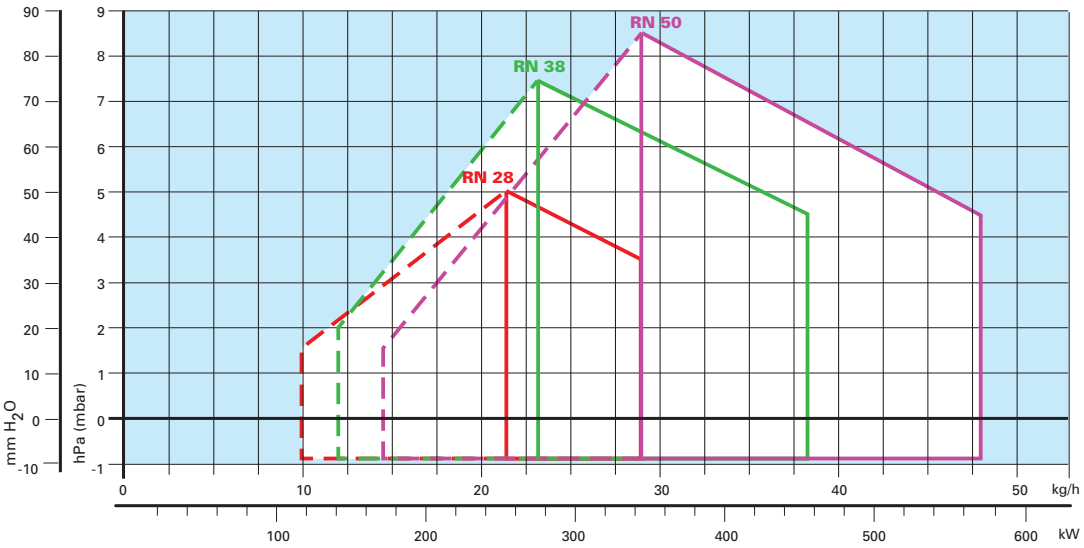
RN SERIES

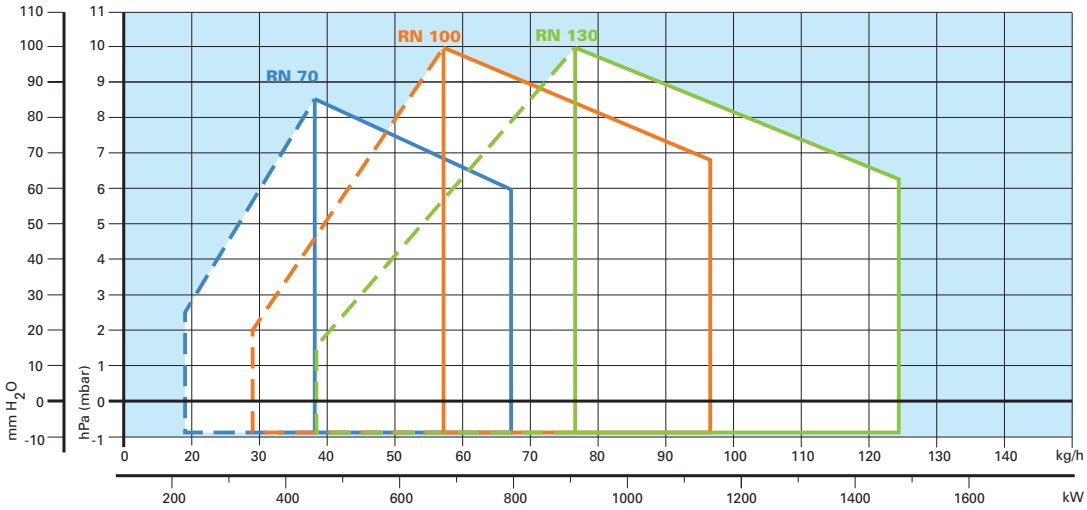
RN 28	114/228	÷	342 kW
RN 38	136/273	÷	456 kW
RN 50	171/342	÷	570 kW
RN 70	228/456	÷	798 kW
RN 100	342/684	÷	1140 kW
RN 130	456/912	÷	1481 kW



The RN series of burners covers a firing range from 114 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.

FIRING RATES





Useful working field for choosing the burner

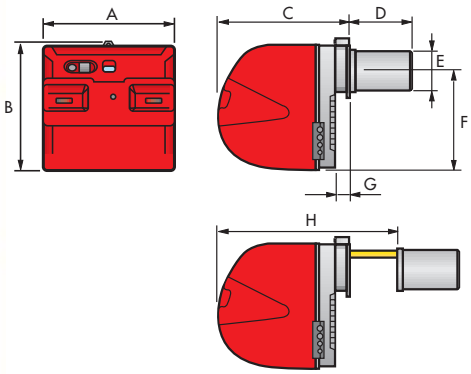
1st stage operating range

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

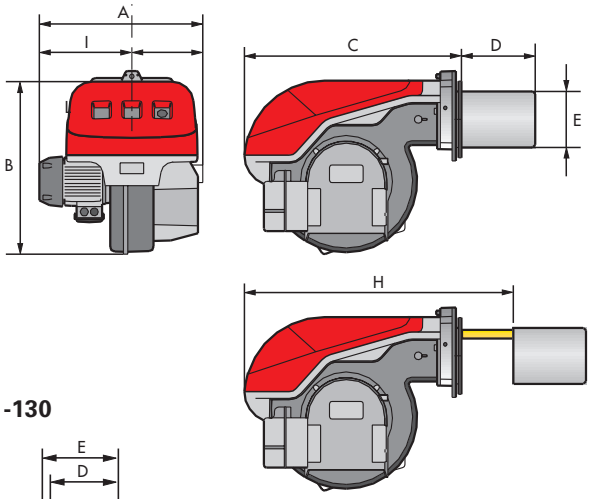
RN series - OVERALL DIMENSIONS (mm)

BURNERS

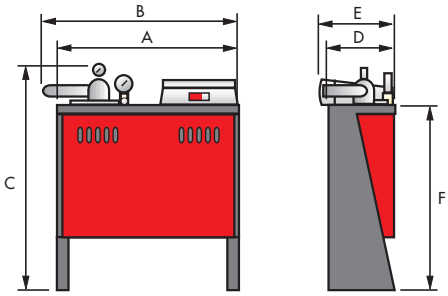
RN 28 - 38 - 50



RN 70 - 100 - 130

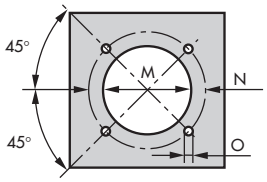


BAG 40 - 50 -130



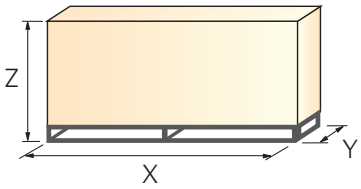
Model	A	B	C	D	E	F	G	H	I	L
RN 28	476	474	468	265	166	352	52	730	-	-
RN 38	476	474	468	265	166	352	52	730	-	-
RN 50	476	474	468	265	166	352	52	730	-	-
RN 70	511	555	680	310	189	430	-	951	296	215
RN 100	527	555	680	330	200	430	-	951	312	215
RN 130	553	555	680	330	220	430	-	951	338	215
BAG 40	680	763	780	276	324	650	-	-	-	-
BAG 50	680	763	780	276	324	650	-	-	-	-
BAG 130	680	763	780	276	324	650	-	-	-	-

BURNER - BOILER MOUNTING FLANGE



Model	M	N	O
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

RN series - SPECIFICATION

DESIGNATION OF SERIES

Series : R

Fuel :

S	Natural Gas
L	Light oil
LS	Oil/Methane
N	Heavy oil

Size

Operation :

/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 :

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

RN series - 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 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
- Flame control panel
- 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.

RN series - AVAILABLE BURNER MODELS

Code	Model	Heat output (kW)	Heat output (kg/h)	Total electrical power kW	Certification	Note	Price
3433201	RN 28 TC LP FS1 3/230-400/50 230/50-60	114/228-342	10/20-30	3,83	-		
3433301	RN 38 TC LP FS1 3/230-400/50 230/50-60	136/273-456	12/24-40	5,1	-		
3433401	RN 50 TC LP FS1 3/230-400/50 230/50-60	171/342-570	15/30-50	5,5	-		
3434101	RN 70 TC LP FS1 3/230-400/50 230/50-60	228/456-798	20/40-70	9,8	-		
3434201	RN 100 TC LP FS1 3/230-400/50 230/50-60	342/684-1140	30/60-100	10,2	-		
3434301	RN 130 TC LP FS1 3/230-400/50 230/50-60	456/912-1481	40/80-130	11	-		
3891510	BAG 40			2,8	-	(1)	
3891511	BAG 50			4,2	-	(2)	
3891512	BAG 130			8,4	-	(3)	

(1) For RN 28 burner.

(2) For RN 38-50 burners.

(3) For RN 70-100-130 burners.

Net calorific value: 11,7 kWh/kg; 9.600 kcal/kg - Viscosity at 50°C: 150 mm^2/s (cSt).

The burners of RN series are in according to 89/336 - 73/23 - CEE Directive and EN 267 Norm.

RN series - BURNER ACCESSORIES

Nozzles F80 R - PLP type

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

GPH	Rated output (kg/h) (1) at 20 bar	at 23 bar	at 25 bar	Nozzle 45° code	Price	Nozzle 60° code	Price
1,75	10,4	11,3	11,8	3041111		3041112	
2,00	12,0	12,9	13,5	3041121		3041122	
2,25	13,5	14,5	15,2	3041131		3041132	
2,50	15,0	16,0	16,9	3041141		3041142	
3,00	18,0	19,3	20,2	3041151		3041152	
3,50	21,0	22,5	23,6	3041161		3041162	
4,00	24,0	25,8	27,0	3041171		3041172	
4,50	26,9	29,0	30,3	3041181		3041182	
5,00	29,8	32,2	33,6	3041191		3041192	
6,00	35,8	38,6	40,4	3041211		3041212	
7,00	41,8	45,1	47,1	3041231		3041232	
8,50	50,8	54,7	57,3	3041261		3041262	
9,50	56,7	61,2	64,0	3041281		3041282	
10,50	62,7	67,6	70,7	3041301		3041302	

(1) Oil: density 0,94 kg/dm^3

CE

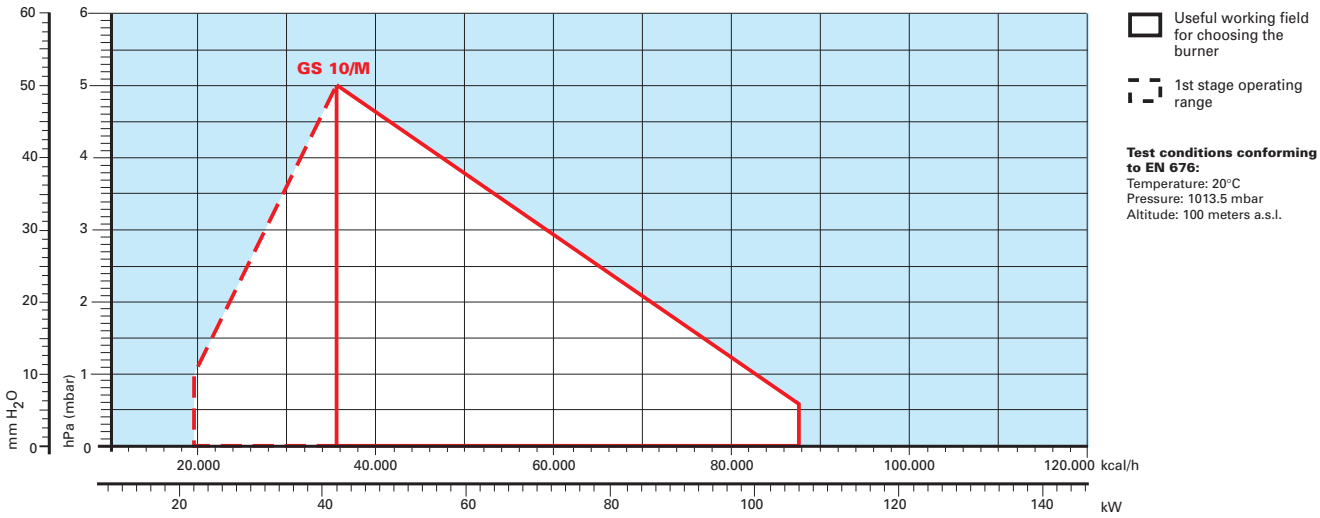
TWO STAGE PROGRESSIVE AND MODULATING GAS BURNERS

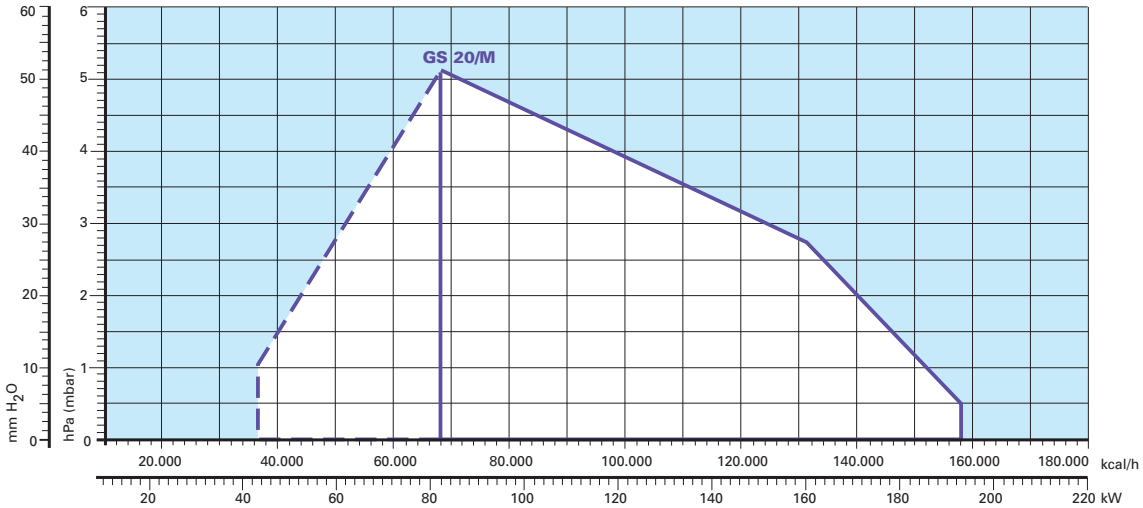
RIELLO 40 GS/M HEATER SERIES

GS 10/M	22/42 ÷ 106,0	kW
GS 20/M	43/82 ÷ 192,4	kW

The Riello 40 GS/M HEATER 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 PrEN 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 22 to 192,4 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, Machinery and Boiler Efficiency.

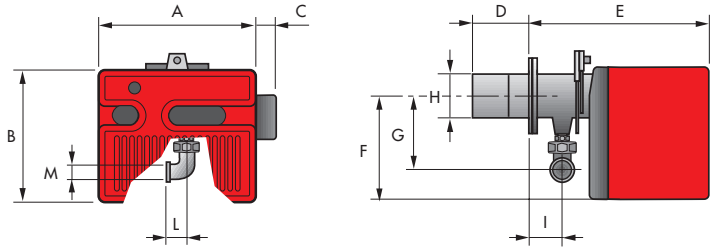
FIRING RATES





RIELLO 40 GS/M series - OVERALL DIMENSIONS (mm)

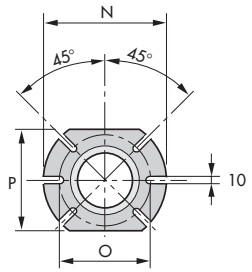
BURNERS



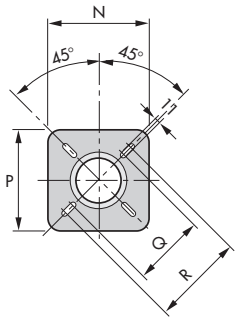
Model	A	B	C	D	E	F	G	H	I	L	M
GS 10/M	305	262	120	128	347	204	142	105	61	33	Rp 3/4"
GS 20/M	350	298	37	120	389	230	170	125	67	33	Rp 3/4"

BURNER – BOILER MOUNTING FLANGE

GS 10/M

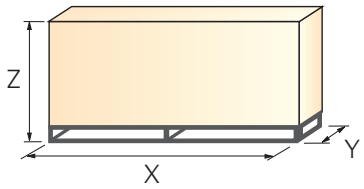


GS 20/M



Model	N	O	P	Q	R
GS 10/M	185	130	160	-	-
GS 20/M	170	-	170	155	200

PACKAGING



Model	X	Y	Z	kg
GS 10/M	495	480	320	16
GS 20/M	550	525	365	17

RIELLO 40 GS/M series - SPECIFICATION

DESIGNATION OF SERIES

Series: G

Fuel : Natural gas

Size

Operation mode: /M two stage progressive of fully modulating

G	S	10	/M

RIELLO 40 GS/M 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 fonctions
- 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 inclined 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
- IP 40 electric protection level.

Fuel supply line in the Multibloc configuration, fitted with:
- Filter
- Pressure stabiliser
- Minimum gas pressure switch
- Safety valve
- Single stage working valve
- Self-adapting regulator, to adjust the gas flow following the air flow.

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.

RIELLO 40 GS/M series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	Natural Gas (Nm^3/h)				
3755556	GS10/M 1/50/230±10%	22/42 - 106	2,2/4,2 - 10,6	0,130	CE - 0085 AU2367	(1)	
3755756	GS20/M 1/50/230±10%	43/82 - 192,4	4,3/8,2 - 19,24	0,25	CE - 0085 AU2367	(1)	

(1) With plug and socket.

Net calorific value G20 gas: 10 kWh/Nm^3; 8.600 kcal/Nm^3 - density: 0,71 kg/Nm^3.

RIELLO 40 GS/M series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter (code)	Burner (type)	Adapter (code)		
MULTIBLOC	3970535	MB-VEF 407	GS10/M GS20/M		GS10/M GS20/M		(1)	
MULTIBLOC	3970536	MB-VEF 412	GS20/M		GS20/M		(1)(2)	

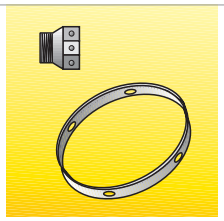
(1) With plug and socket. **(2) ≥120 kW.**

The following table shows the frequently matching between GS/M burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
GS10/M	2,8	MB-VEF 407	106	MB-VEF 407	106	MB-VEF 407	106	MB-VEF 407	106
GS20/M	3,3	MB-VEF 407	192,4	MB-VEF 407	192,4	MB-VEF 407	192,4	MB-VEF 407	192,4

RIELLO 40 GS/M series - BURNER ACCESSORIES

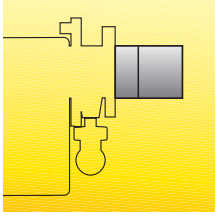
LPG kit



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	Price
GS 10/M	3000884	
GS 20/M	3000886	

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	Price
GS 10/M	128	188	3000864	
GS 20/M	120	280	3000873	

Accessories for modulating operation

To obtain modulating setting, the R40/M series of burners requires a regulator with three point outlet controls. The relative temperature or pressure, must be chosen on the basis of the application.

REGULATOR		PROBE			
Type	Code	Type	Range (°C) (bar)	Code	Price
RWF 40	3001074	Temperature PT 100	-100 ÷ 500°C	3010110	
		Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213	
		Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214	

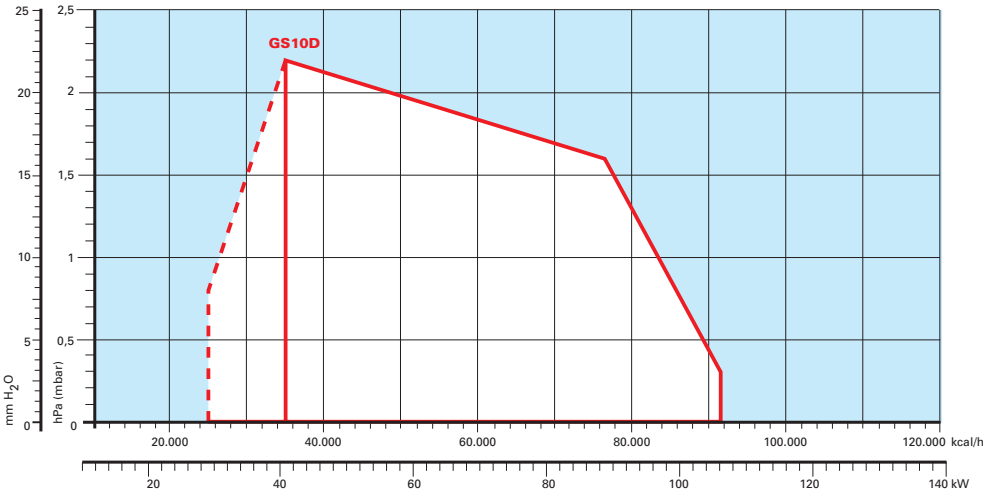
CE

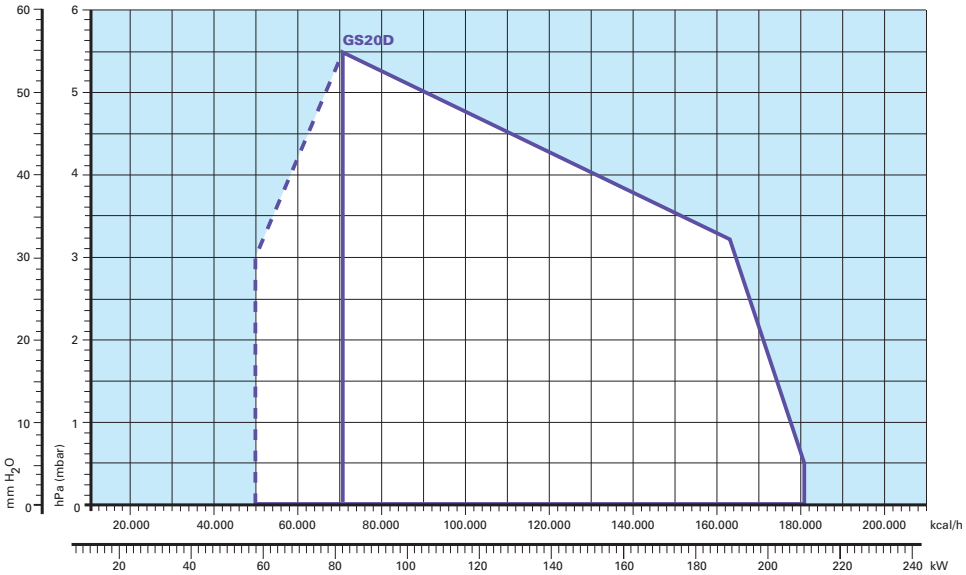
TWO STAGE GAS BURNERS

RIELLO 40 GSD SERIES			
GS10D	29/41 ÷ 106	kW
GS20D	58/81 ÷ 210	kW

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, whit an output ranging from 29 to 210 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, Machinery and Boiler Efficiency.
All the Riello 40 GSD burners are tested before leaving the factory.

FIRING RATES





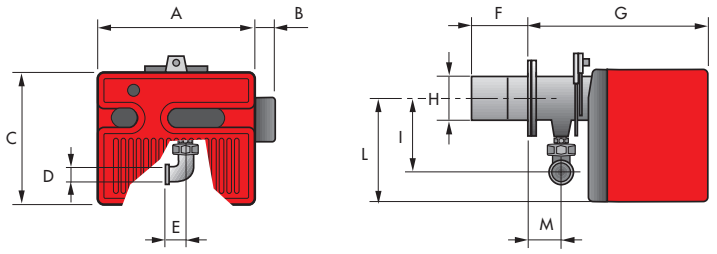
Useful working field for choosing the burner

First stage operating range

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

RIELLO 40 GSD series - OVERALL DIMENSIONS (mm)

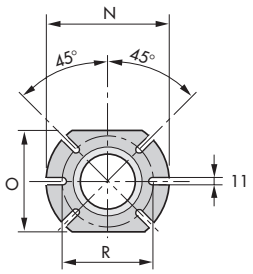
BURNERS



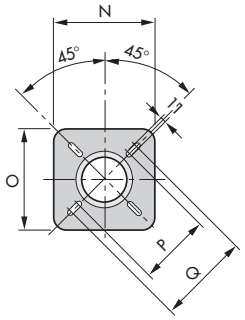
Model	A	B	C	D	E	F	G	H	I	L	M
GS10D	305	95	262	Rp 3/4"	33	110	347	105	142	204	61
GS20D	350	95	298	Rp 3/4"	33	120	389	125	152	230	67

BURNER – BOILER MOUNTING FLANGE

GS10D

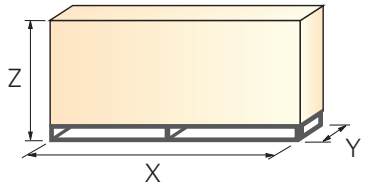


GS20D



Model	N	O	P	Q	R
GS10D	185	160	-	-	130
GS20D	170	170	155	200	-

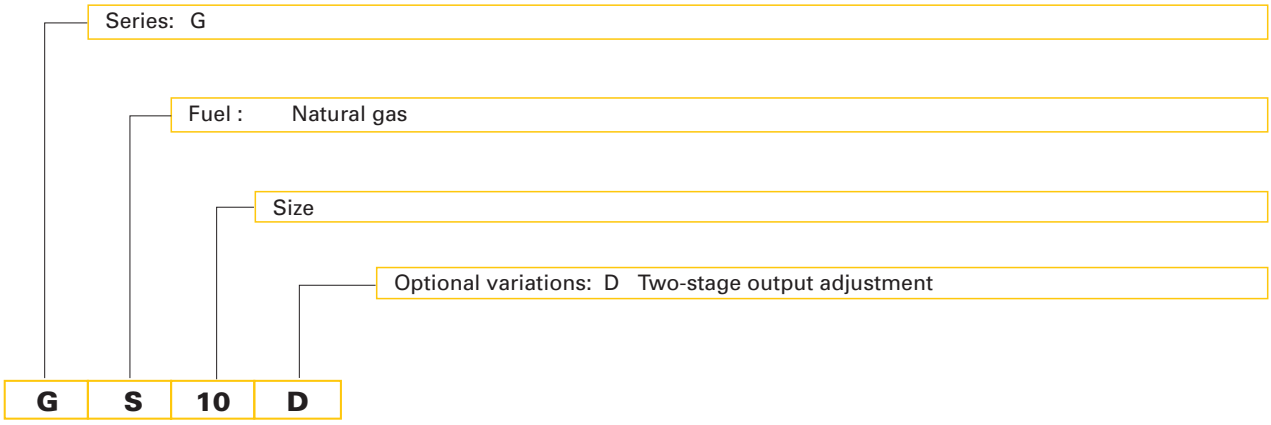
PACKAGING



Model	X	Y	Z	kg
GS10D	485	473	320	16
GS20D	525	525	365	21

RIELLO 40 GSD series - SPECIFICATION

DESIGNATION OF SERIES



RIELLO 40 GSD series - STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage operation, made up of:
- Fan with forward inclined blades
- Cover lined with sound-deadening 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 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
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue
- Hinge
- Grommet.

RIELLO 40 GSD series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	Natural Gas (Nm^3/h)				
3757613	GS10D 1/50/230±10%	29/41 – 106	2,9/4,1 – 10,6	0,13	CE – 0063 AP6680	(1)	
3757713	GS20D 1/50/230±10%	58/81 – 210	5,8/8,1 – 21	0,25	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

RIELLO 40 GSD series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter (code)	Burner (type)	Adapter (code)		
MULTIBLOC GAS TRAINS	3970084	MBZRDLE 405	GS10D		GS10D		(1) (2)	
	3970537	MBZRDLE 407	GS10D – GS20D		GS10D – GS20D		(1) (3)	
	3970534	MBZRDLE 410	GS20D		GS20D		(1)	

(1) With plug and socket

(2) GS10D ≤ 80 kW with natural gas

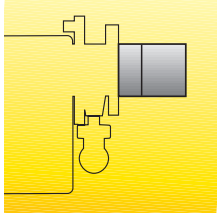
(3) GS20D ≤ 180 kW with natural gas

The following table shows the frequently matching between the burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
GS10D	1,8	MBZRDLE 407	106	MBZRDLE 407	106	MBZRDLE 405	106	MBZRDLE 405	106
GS20D	3,6	MBZRDLE 410	210	MBZRDLE 410	210	MBZRDLE 407	210	MBZRDLE 407	210

RIELLO 40 GSD series - BURNER ACCESSORIES

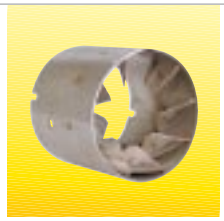
Extended head kit



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.

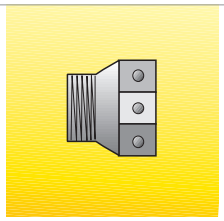
Burner	Standard head length (mm)	Extended head length (mm)	Kit code	Price
GS10D	100	170	3000864	
GS20D	120	280	3000873	

End cone with turbulator disk



Burner	Projection	Kit code	Price
GS10D	+18	3000918	
GS20D	+23	3000919	

Town gas kit



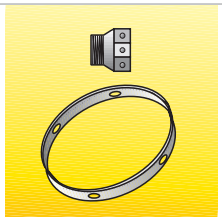
Burner	Kit code	Price
GS10D	3000891	
GS20D	3000893	

Seal control kit

To test the valve seals on the gas train a special "seal control kit" is available.

Burner	Kit code	Price
GS10D - GS20D	3010123	

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	Price
GS10D	3000884	
GS20D	3000886	

CE

ONE STAGE GAS BURNERS

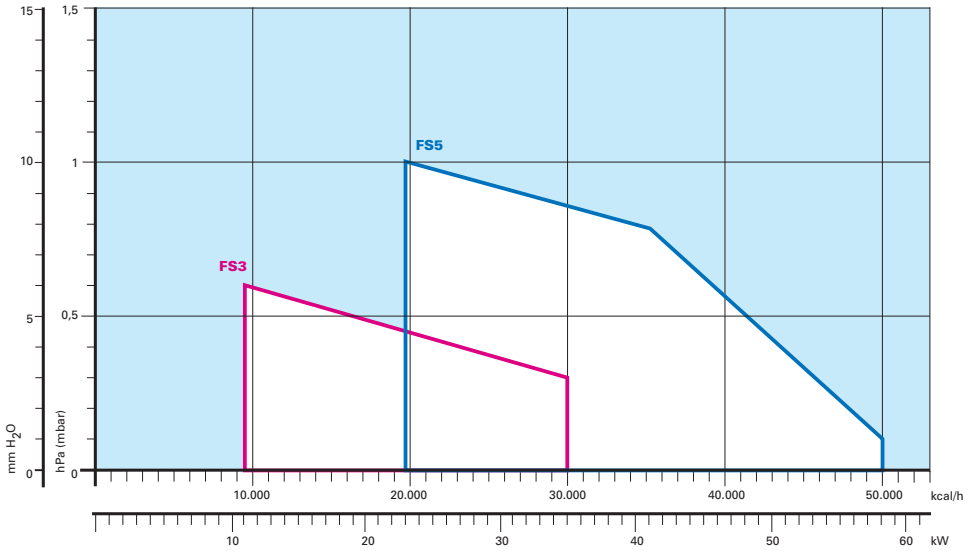
RIELLO 40 FS SERIES

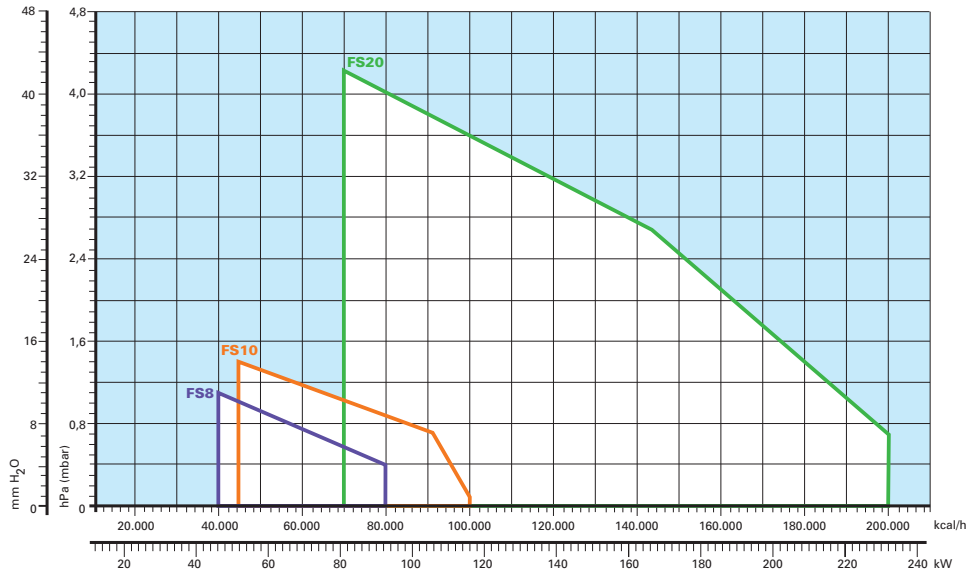
FS3	11	÷	35	kW
FS5	23	÷	58	kW
FS8	46	÷	93	kW
FS10	52	÷	116	kW
FS20	81	÷	232	kW

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, whit an output ranging from 11 to 232 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.
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.

FIRING RATES



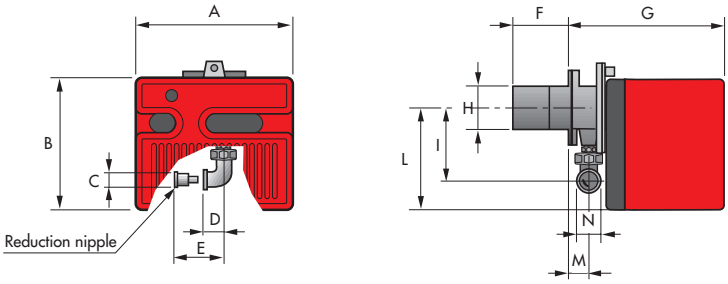


Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

RIELLO 40 FS series - OVERALL DIMENSIONS (mm)

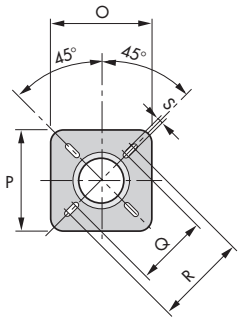
BURNERS



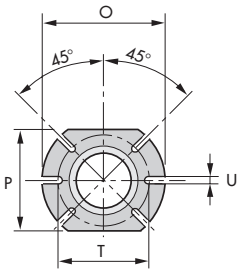
Model	A	B	C	D	E	F	G	H	I	L	M	N
FS3	252	215	Rp 1/2	25	55	100	230	91	132	165	37	Rp 3/8
FS5	272	233	Rp 1/2	28	-	100	295	91	138	180	48	-
FS8	305	262	Rp 3/4	33	-	110	347	105	142	204	61	-
FS10	305	262	Rp 3/4	33	-	110	347	105	142	204	61	-
FS20	350	298	Rp 3/4	33	-	120	389	125	152	230	67	-

BURNER – BOILER MOUNTING FLANGE

FS3 - FS5 - FS10

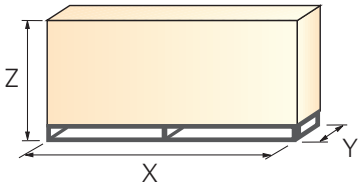


FS20



Model	O	P	Q	R	S	T	U
FS3	170	140	-	-	-	130	10
FS5	170	140	-	-	-	130	10
FS8	185	160	-	-	-	130	11
FS10	185	160	-	-	-	130	11
FS20	170	170	155	200	11	-	-

PACKAGING



Model	X	Y	Z	kg
FS3	365	325	300	9
FS5	435	345	315	10
FS8	473	413	320	16
FS10	473	413	320	16
FS20	525	453	365	16

RIELLO 40 FS series - SPECIFICATION

DESIGNATION OF SERIES

Series: F

Fuel : Natural gas

Size

F	S	3

RIELLO 40 FS series - STATE OF SUPPLY

Monoblock, gas burners, completely automatic, one stage operation, made up of:
- Fan with forward inclined 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
- Protection filter against radio interference
- IP 40 electric protection level.

Standard equipment:
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pole socket
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue
- Hinge
- Grommet.

RIELLO 40 FS series - AVAILABLE BURNER MODELS

Code	Model	Heat output (kW)	Heat output Natural Gas (Nm^3/h)	Total electrical power (kW)	Certification	Note	Price
3756503	FS3 1/50/230±10%	11 – 35	1,1 – 3,5	0,1	CE – 0063 AP6680	(2)	
3756605	FS5 1/50/230±10%	23 – 58	2,3 – 5,8	0,11	CE – 0063 AP6680	(1)	
3756630	FS5 1/50/230±10%	23 – 58	2,3 – 5,8	0,11	CE – 0063 AP6680	(2)	
3756705	FS8 1/50/230±10%	46 – 93	4,6 – 9,3	0,13	CE – 0063 AP6680	(1)	
3756703	FS8 1/50/230±10%	46 – 93	4,6 – 9,3	0,13	CE – 0063 AP6680	(2)	
3756432	FS10 1/50/230±10%	52 – 116	5,2 – 11,6	0,13	CE – 0063 AP6680	(1)	
3756932	FS20 1/50/230±10%	81 - 218	8,1 – 21,8	0,25	CE – 0063 AP6680	(1)	
3756902	FS20 1/50/230±10%	81 - 232	8,1 – 23,2	0,25	CE – 0063 AP6680	(2)	

Net calorific value G20: 10 kWh/Nm^3 - Density 0,71 kg/Nm^3

The burners of FS series are in according to EN 676

(1) With plug and socket

(2) With terminal block

RIELLO 40 FS series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas Burner (type)	Natural gas Adapter (code)	LPG Burner (type)	LPG Adapter (code)	Note	Gas train price
MULTIBLOC GAS TRAINS	3970569	MBDLE 055	FS5		FS5		(1)	
	3970571	MBDLE 055	FS3 - FS5		FS3 - FS5		(2)	
	3970533	MBDLE 403	FS5		FS5		(1) (3)	
	3970551	MBDLE 403	FS3 - FS5		FS3 - FS5		(2) (3)	
	3970530	MBDLE 405	FS5 – FS8		FS5 – FS8		(1) (4)	
	3970552	MBDLE 405	FS5 – FS8		FS5 – FS8		(2) (4)	
	3970500	MBDLE 405	FS10		FS10		(1) (5)	
	3970531	MBDLE 407	FS5 – FS8 FS10 – FS20		FS5 – FS8 FS10 – FS20		(1) (6)	
	3970553	MBDLE 407	FS8		FS8		(2)	
	3970532	MBDLE 410	FS10 – FS20		FS10 – FS20		(1)	

(1) With plug and socket

(2) With terminal block

(3) FS5 ≤ 45 kW with natural gas

(4) FS8 ≤ 80 kW with natural gas

(5) FS10 ≤ 80 kW with natural gas

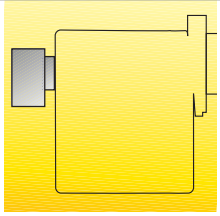
(6) FS20 ≤ 180 kW with natural gas

The following table shows the frequently matching between the burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar) Gas train	Natural gas G20 (20 mbar) Reference output (kW)	Natural gas G20 (300 mbar) Gas train	Natural gas G20 (300 mbar) Reference output (kW)	LPG (35 mbar) Gas train	LPG (35 mbar) Reference output (kW)	LPG (150 mbar) Gas train	LPG (150 mbar) Reference output (kW)
FS3	0,4	MBDLE 055	35	MBDLE 055	35	MBDLE 055	35	MBDLE 055	35
FS5	0,6	MBDLE 055	58	MBDLE 055	58	MBDLE 055	58	MBDLE 055	58
FS8	0,65	MBDLE 407	93	MBDLE 407	93	MBDLE 405	93	MBDLE 405	93
FS10	0,8	MBDLE 407	116	MBDLE 407	116	MBDLE 405	116	MBDLE 405	116
FS20	2,7	MBDLE 410	218	MBDLE 410	218	MBDLE 407	218	MBDLE 407	218
FS20	2,1	MBDLE 410	232	MBDLE 410	232	MBDLE 407	232	MBDLE 407	232

RIELLO 40 FS series - BURNER ACCESSORIES

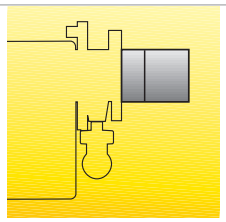
Remote control release kit for the 525-508 control box



The 525-508 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	Price
FS3 - FS5 - FS8 - FS10 - FS20	3001030	

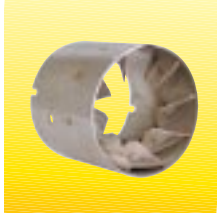
Extended head kit



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.

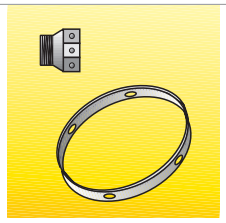
Burner	Standard head length (mm)	Extended head length (mm)	Kit code	Price
FS3 - FS5	100	125	3000820	
FS8 - FS10	110	170	3000864	
FS20	120	280	3000873	

End cone with turbulator disk



Burner	Projection	Kit code	Price
FS5	+15	3000916	
FS8	+18	3000917	
FS10	+18	3000918	
FS20	+23	3000919	

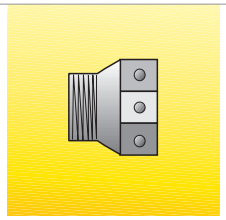
LPG kit



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	Price
FS3	3000881	
FS5	3000882	
FS8	3000927	
FS10	3000884	
FS20	3000886	

Town gas kit



Burner	Kit code	Price
FS3	3000888	
FS5	3000889	
FS8	3000890	
FS10	3000891	
FS20	3000893	

Seal control kit

To test the valve seals on the gas train, (except for the model with Multibloc MBDLE 055) a special "seal control kit" is available.

Burner	Kit code	Price
FS3 - FS5 - FS8 - FS10 - FS20	3010123	

CE

ONE STAGE GAS BURNERS

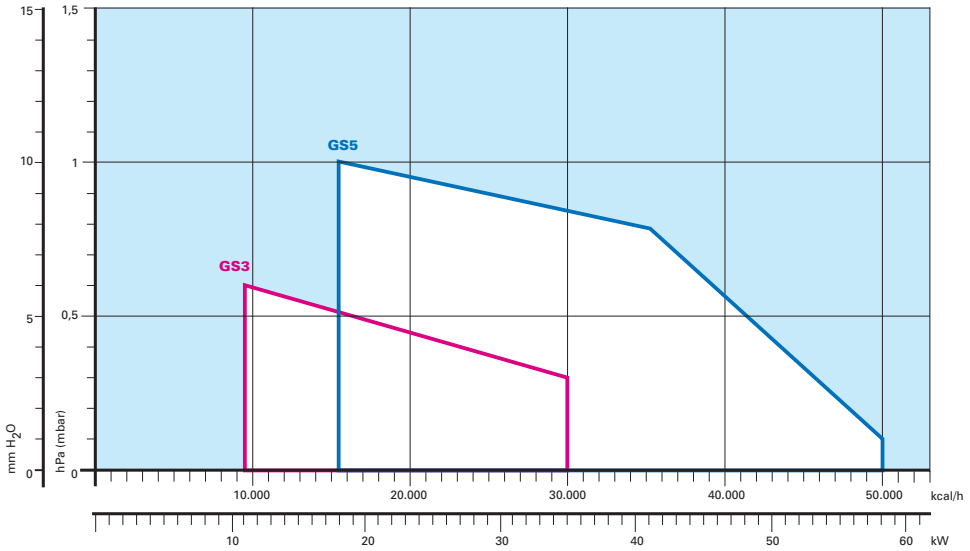
RIELLO 40 GS SERIES

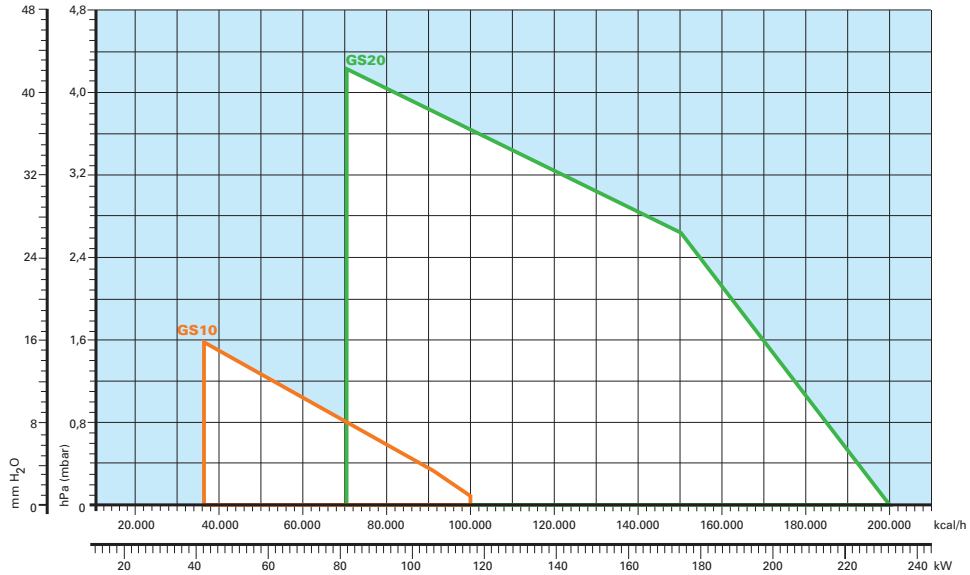
GS3	11	÷	35	kW
GS5	18	÷	58	kW
GS10	42	÷	116	kW
GS20	81	÷	232	kW

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, whit an output ranging from 11 to 232 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. 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.

FIRING RATES



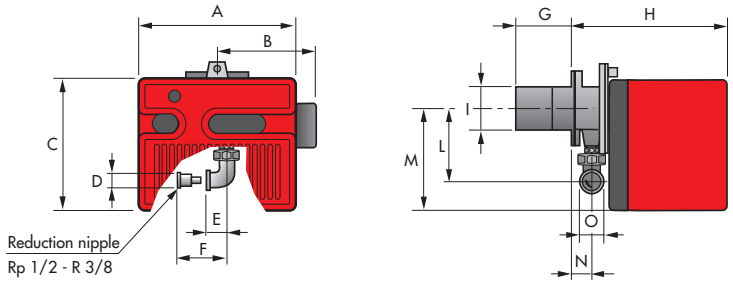


Useful working field for choosing the burner

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

RIELLO 40 GS series - OVERALL DIMENSIONS (mm)

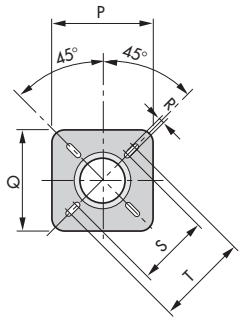
BURNERS



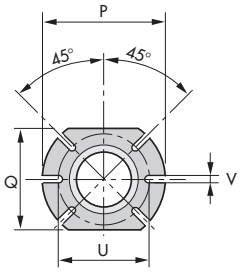
Model	A	B	C	D	E	F	G	H	I	L	M	N	O
GS3	252	166	215	Rp 1/2	25	55	100	230	91	132	165	37	Rp 3/8
GS5	272	170	233	Rp 1/2	28	-	100	295	91	138	180	48	-
GS10	305	188	262	Rp 3/4	33	-	110	347	105	142	204	61	-
GS20	350	212	298	Rp 3/4	33	-	120	389	125	152	230	67	-

BURNER – BOILER MOUNTING FLANGE

GS3 - GS5 - GS10

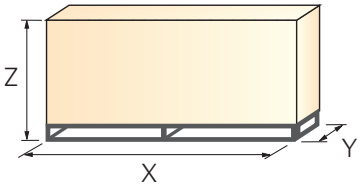


GS20



Model	P	Q	R	S	T	U	V
GS3	170	140	-	-	-	130	10
GS5	170	140	-	-	-	130	10
GS10	185	160	-	-	-	130	11
GS20	170	170	11	155	200	-	-

PACKAGING



Model	X	Y	Z	kg
GS3	365	325	300	11
GS5	435	345	315	11
GS10	473	413	320	26
GS20	525	453	365	21

RIELLO 40 GS series - SPECIFICATION

DESIGNATION OF SERIES

Series: G

Fuel : Natural gas

Size

G	S	3

RIELLO 40 GS series - STATE OF SUPPLY

Monoblock, gas burners, completely automatic, one stage operation, made up of:
- Fan with forward inclined blades
- Cover lined with sound-deadening 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
- Protection filter against radio interference
- IP 40 electric protection level.

Standard equipment:
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pole socket
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue
- Hinge
- Grommet.

RIELLO 40 GS series - AVAILABLE BURNER MODELS

Code	Model	Heat output (kW)	Heat output Natural Gas (Nm^3/h)	Total electrical power (kW)	Certification	Note	Price
3755116	GS3 1/50/230±10%	11 - 35	1,1 - 3,5	0,1	CE – 0063 AP6680	(1)	
3755130	GS3 1/50/230±10%	11 - 35	1,1 - 3,5	0,1	CE – 0063 AP6680	(2)	
3755216	GS5 1/50/230±10%	18 - 58	1,8 - 5,8	0,11	CE – 0063 AP6680	(1)	
3755270	GS5 1/50/230±10%	18 - 58	1,8 - 5,8	0,11	CE – 0063 AP6680	(2)	
3755417	GS10 1/50/230±10%	42 - 116	4,2 - 11,6	0,13	CE – 0063 AP6680	(1)	
3755443	GS10 1/50/230±10%	42 - 116	4,2 - 11,6	0,13	CE – 0063 AP6680	(2) *	
3755613	GS20 1/50/230±10%	81 - 232	8,1 - 23,2	0,25	CE – 0063 AP6680	(1)	
3755643	GS20 1/50/230±10%	81 - 218	8,1 - 21,8	0,25	CE – 0063 AP6680	(2)	

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

*** Belgium version**

RIELLO 40 GS series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas Burner (type)	Natural gas Adapter (code)	LPG Burner (type)	LPG Adapter (code)	Note	Gas train price
MULTIBLOC GAS TRAINS	3970569	MBDLE 055	GS3 – GS5		GS3 – GS5		(1)	
	3970571	MBDLE 055	GS3 – GS5		GS3 – GS5		(2)	
	3970533	MBDLE 403	GS3 – GS5		GS3 – GS5		(1) (3)	
	3970551	MBDLE 403	GS3 – GS5		GS3 – GS5		(2) (3)	
	3970530	MBDLE 405	GS5		GS5		(1)	
	3970552	MBDLE 405	GS5		GS5		(2)	
	3970500	MBDLE 405	GS10		GS10		(1) (4)	
	3970531	MBDLE 407	GS5 – GS10 – GS20		GS5 – GS10 – GS20		(1) (5)	
	3970553	MBDLE 407	GS20		GS20		(2) (5)	
	3970532	MBDLE 410	GS10 – GS20		GS10 – GS20		(1)	
	3970554	MBDLE 410	GS20		GS20		(2)	

(1) With plug and socket

(2) With terminal block

(3) GS5 ≤ 45 kW with natural gas

(4) GS10 ≤ 80 kW with natural gas

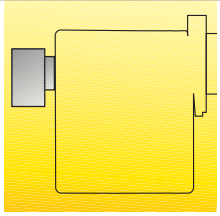
(5) GS20 ≤ 180 kW with natural gas

The following table shows the frequently matching between the burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar) Gas train	Natural gas G20 (20 mbar) Reference output (kW)	Natural gas G20 (300 mbar) Gas train	Natural gas G20 (300 mbar) Reference output (kW)	LPG (35 mbar) Gas train	LPG (35 mbar) Reference output (kW)	LPG (150 mbar) Gas train	LPG (150 mbar) Reference output (kW)
GS3	0,4	MBDLE 055	35	MBDLE 055	35	MBDLE 055	35	MBDLE 055	35
GS5	0,6	MBDLE 055	58	MBDLE 055	58	MBDLE 055	58	MBDLE 055	58
GS10	0,65	MBDLE 407	116	MBDLE 407	116	MBDLE 405	116	MBDLE 405	116
GS20	2,7	MBDLE 410	218	MBDLE 410	218	MBDLE 407	218	MBDLE 407	218
GS20	2,1	MBDLE 410	232	MBDLE 410	232	MBDLE 407	232	MBDLE 407	232

RIELLO 40 GS series - BURNER ACCESSORIES

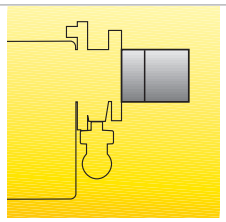
Remote control release kit for the 525-508 control box



The 525-508 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	Price
GS3 - GS5 - GS10 - GS20	3001030	

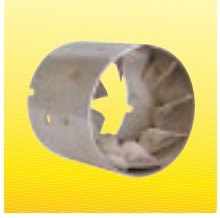
Extended head kit



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.

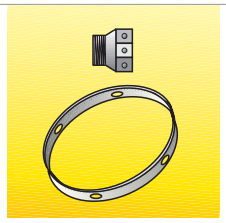
Burner	Standard head length (mm)	Extended head length (mm)	Kit code	Price
GS3 - GS5	100	125	3000820	
GS10	110	170	3000864	
GS20	120	280	3000873	

End cone with turbulator disk



Burner	Projection	Kit code	Price
GS5	+15	3000916	
GS10	+18	3000918	
GS20	+23	3000919	

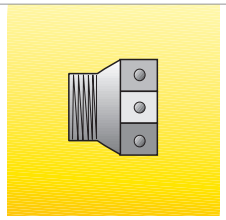
LPG kit



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	Price
GS3	3000881	
GS5	3000882	
GS10	3000884	
GS20	3000886	

Town gas kit



Burner	Kit code	Price
GS3	3000888	
GS5	3000889	
GS10	3000891	
GS20	3000893	

Seal control kit

To test the valve seals on the gas train, (except for the model with Multibloc MBDLE 055) a special "seal control kit" is available.

Burner	Kit code	Price
GS3 - GS5 - GS10 - GS20	3010123	

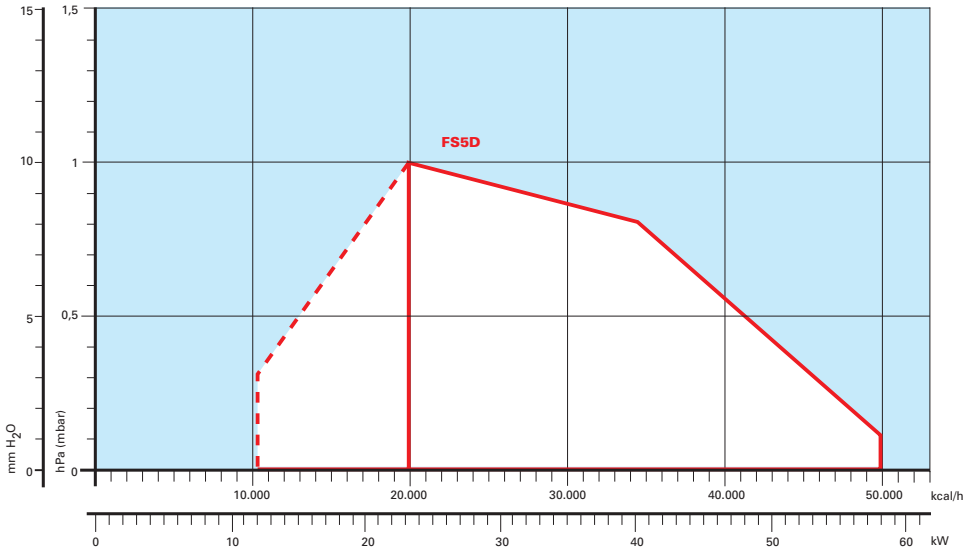
CE

TWO STAGE GAS BURNERS

RIELLO 40 FSD SERIES			
FS5D	12/23 ÷ 58	kW
FS20D	58/81 ÷ 232	kW

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 210 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.
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.

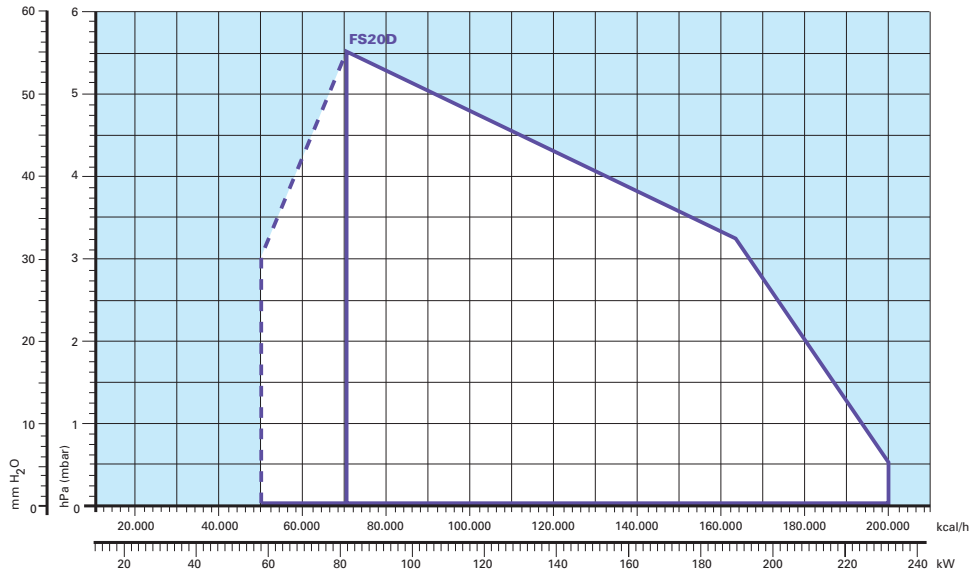
FIRING RATES



Useful working field for choosing the burner

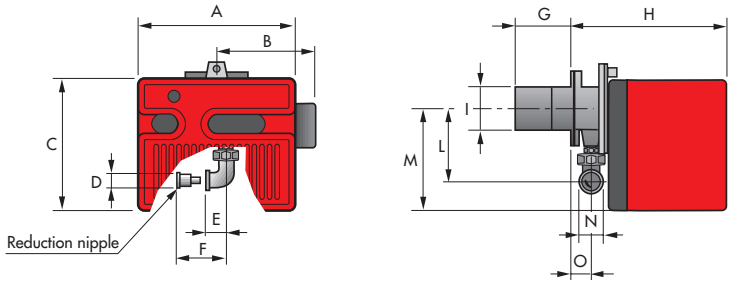
First stage operating range

Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



RIELLO 40 FSD series - OVERALL DIMENSIONS (mm)

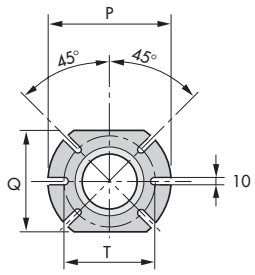
BURNERS



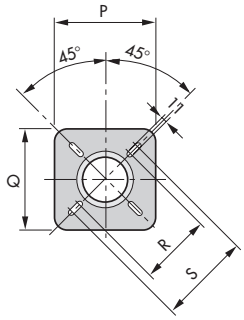
Model	A	B	C	D	E	F	G	H	I	L	M	N	O
FS5D	272	170	233	Rp 3/4	28	65	100	295	91	138	180	Rp 1/2	48
FS20D	350	238	298	Rp 3/4	33	-	120	389	125	152	230	-	67

BURNER – BOILER MOUNTING FLANGE

FS5D

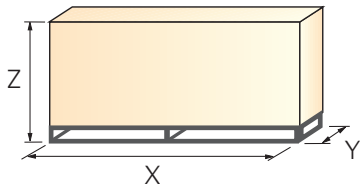


FS20D



Model	P	Q	R	S	T
FS5D	170	140	-	-	130
FS20D	170	170	155	200	-

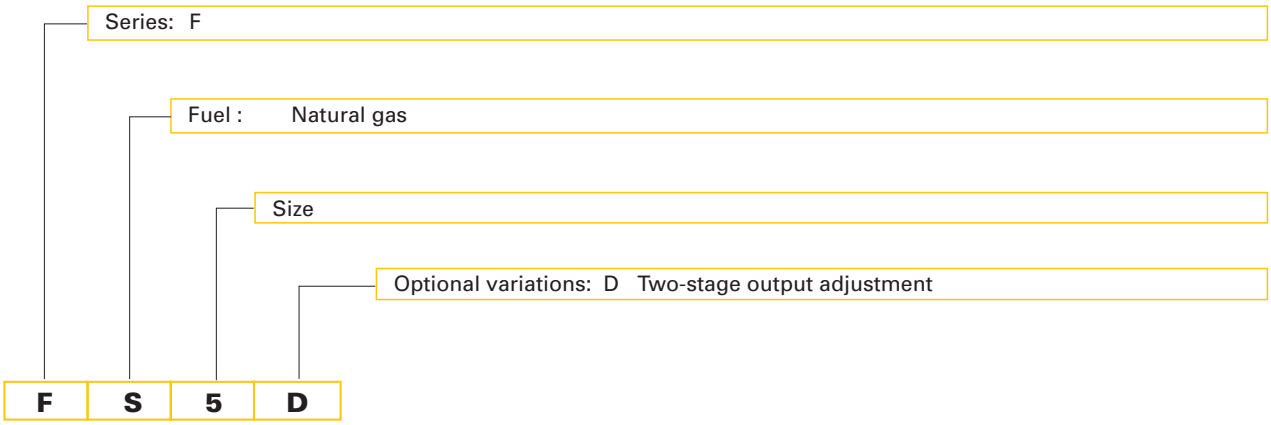
PACKAGING



Model	X	Y	Z	kg
FS5D	435	345	315	10
FS20D	525	525	365	20

RIELLO 40 FSD series - SPECIFICATION

DESIGNATION OF SERIES



RIELLO 40 FSD series - STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage operation, made up of:
- Fan with forward inclined 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
    - 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 40 electric protection level.

Standard equipment:
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue
- Hinge
- Grommet.

RIELLO 40 FSD series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	Natural Gas (Nm^3/h)				
3758703	FS5D 1/50/230±10%	12/23 – 58	2,9/4,1 – 10,6	0,11	CE – 0063 AP6680	(1)	
3759103	FS20D 1/50/230±10%	58/81 - 232	5,8/8,1 – 21	0,25	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

RIELLO 40 FSD series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter (code)	Burner (type)	Adapter (code)		
MULTIBLOC GAS TRAINS	3970555	MBZRDLE 405	FS5D		FS5D		(1)	
	3970556	MBZRDLE 407	FS20D		FS20D		(1) (2)	
	3970557	MBZRDLE 410	FS20D		FS20D		(1)	

(1) With terminal block

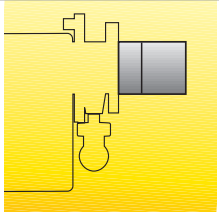
(2) FS20D ≤ 180 kW with natural gas

The following table shows the frequently matching between the burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
FS5D	0,85	MBZRDLE 405	58	MBZRDLE 405	58	MBZRDLE 405	58	MBZRDLE 405	58
FS20D	3,3	MBZRDLE 410	232	MBZRDLE 410	232	MBZRDLE 407	232	MBZRDLE 407	232

RIELLO 40 FSD series - BURNER ACCESSORIES

Extended head kit



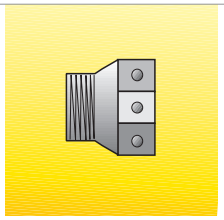
Burners "standard head" can be transformed into "extended head" versions by using the special kit. Here the KITS available for the various burners are listed, showing the original and the extended lengths.

Burner	Standard head length (mm)	Extended head length (mm)	Kit code	Price
FS5D	100	125	3000820	
FS20D	120	280	3000873	

End cone with turbulator disk

Burner	Projection	Kit code	Price
FS5D	+15	3000916	
FS20D	+23	3000919	

Town gas kit



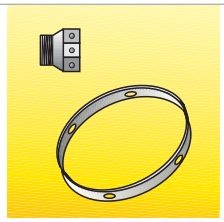
Burner	Kit code	Price
FS5D	3000889	
FS20D	3000893	

Seal control kit

To test the valve seals on the gas train a special "seal control kit" is available.

Burner	Kit code	Price
FS5D - FS20D	3010123	

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	Price
FS5D	3000882	
FS20D	3000886	

CE

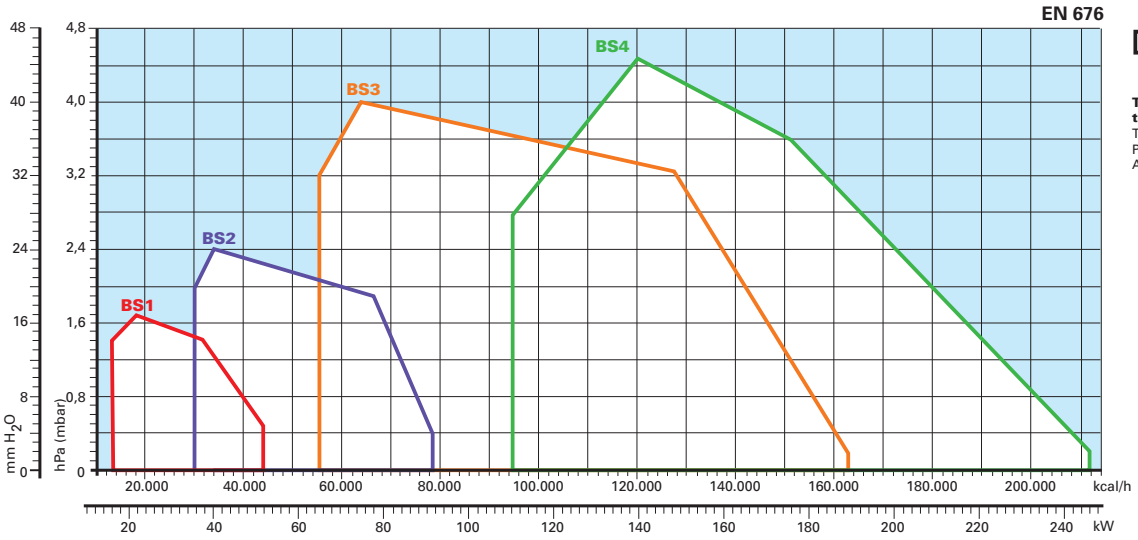
LOW NOx ONE STAGE GAS BURNERS

GULLIVER BS SERIES

BS1	16	÷	52	kW
BS2	35	÷	91	kW
BS3	65	÷	189	kW
BS4	110	÷	246	kW

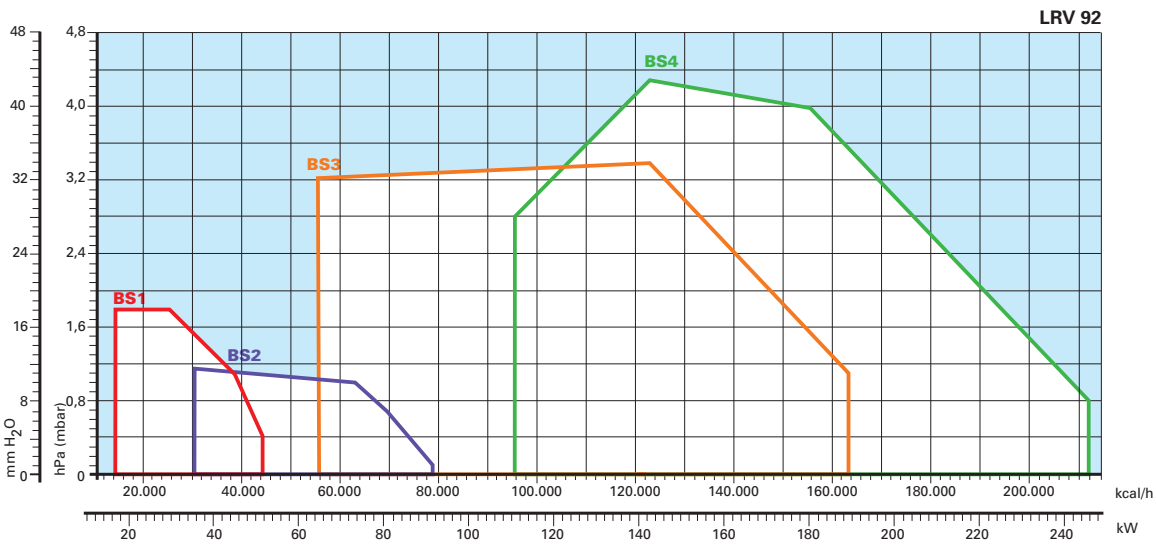
The Riello Gulliver BS series of one stage gas burners, is a complete range of Low NOx emission products, developed to respond to any request for home heating, conforming to the most severe standards regarding the reduction of polluting emissions.
This series of burners is available in four different models with an output ranging from 16 to 246 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, 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 LRV-92 Swiss standards, and conform to BImSchV 1996 and European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.
All the Gulliver BS burners are tested before leaving the factory.

FIRING RATES



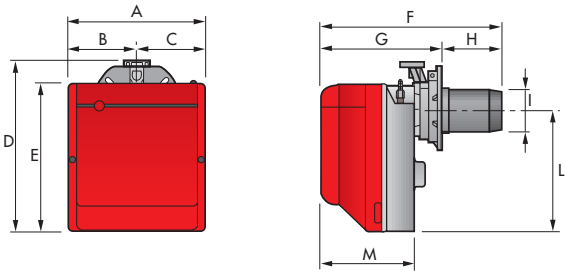
Useful working field for choosing the burner

Test conditions conforming to EN 676 and LRV 92:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



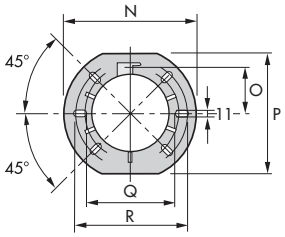
GULLIVER BS series - OVERALL DIMENSIONS (mm)

BURNERS



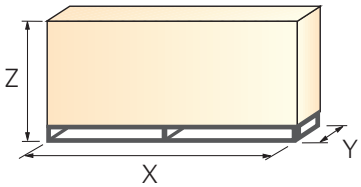
Model	A	B	C	D	E	F	G	H	I	L	M
BS1	234	122,0	112,0	295	254	346	230÷276	116÷70	83	210	174
BS2	255	125,5	125,5	325	280	352	238÷252	114÷100	101	230	174
BS3	300	150,0	150,0	391	345	390	262÷280	128÷110	123	285	196
BS4	300	150,0	150,0	392	345	446	278÷301	168÷145	131,5	286	216

BURNER – BOILER MOUNTING FLANGE



Model	N	O	P	Q	R
BS1	192	66	167	140	170
BS2	192	66	167	140	170
BS3	216	76,5	201	160	190
BS4	218	80,5	203	170	200

PACKAGING



Model	X	Y	Z	kg
BS1	385	268	340	10
BS2	395	288	365	11
BS3	440	335	430	15
BS4	500	335	430	16,5

GULLIVER BS series - SPECIFICATION

DESIGNATION OF SERIES

Series: R Standard emission burner
B Low NOx burners

Fuel : S Natural gas
G Light oil

Size

Optional variations: R Light oil pre-heater
K Cone shaped head
S Reduced output ignition
D Two stage output operation
E Flame monitor

B	S	3	

GULLIVER BS series - STATE OF SUPPLY

Monoblock, gas burners, completely automatic, one stage operation, made up of:
- Fan with forward inclined blades
- Cover lined with sound-deadening 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
- Protection filter against radio interference
- IP 40 electric protection level.

Fuel supply line in the Multibloc configuration, fitted with:
- Filter
- Pressure stabiliser
- Minimum gas pressure switch
- Safety valve
- Single stage working valve with ignition gas output regulator.

Standard equipment:
- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug with capacitor for EMC
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

GULLIVER BS series - AVAILABLE BURNER MODELS

Code	Model		Heat output (kW)	Heat output (kg/h)	Total electrical power (kW)	Certification	Note	Price
3761150	BS1	1/50/230±10%	16 - 52	1,6 - 5,2	0,15	BUWAL - Nr.100010	(1)	
3761250	BS2	1/50/230±10%	35 - 91	3,5 - 9,1	0,18	BUWAL - Nr.197011	(1)	
3761350	BS3	1/50/230±10%	65 - 189	6,5 - 18,9	0,35	BUWAL - Nr.100010	(1)	
3761450	BS4	1/50/230±10%	110 - 246	11 - 24,6	0,43	BUWAL - Nr.100010	(1)	

(1) With plug and socket.

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 - LRV 92 - BImSchV 1996.

GULLIVER BS series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas Burner (type)	Natural gas Adapter (code)	LPG Burner (type)	LPG Adapter (code)	Note	Gas train price
MULTIBLOC	3970570	MBDLE 055	BS1		BS1		(1)	
MULTIBLOC	3970545	MBDLE 403	BS1		BS1		(1) (2)	
MULTIBLOC	3970546	MBDLE 405	BS1		BS1		(1)	
MULTIBLOC	3970547	MBDLE 405	BS2		BS2		(1)	
MULTIBLOC	3970544	MBDLE 407	BS2		BS2		(1)	
MULTIBLOC	3970548	MBDLE 407	BS3 - BS4		BS3 - BS4		(1) (3)	
MULTIBLOC	3970549	MBDLE410	BS3 - BS4		BS3 - BS4		(1)	
MULTIBLOC	3970550	MBDLE 412	BS3 - BS4		BS3 - BS4		(1)	

(1) With plug and socket.

(2) BS1 ≤ 45 kW with natural gas.

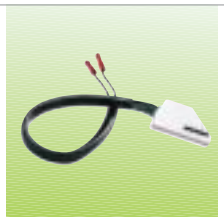
(3) BS3 and BS4 ≤ 150 kW with natural gas.

The following table shows the frequently matching between GULLIVER BS burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar) Gas train	Natural gas G20 (20 mbar) Reference output (kW)	Natural gas G20 (300 mbar) Gas train	Natural gas G20 (300 mbar) Reference output (kW)	LPG (35 mbar) Gas train	LPG (35 mbar) Reference output (kW)	LPG (150 mbar) Gas train	LPG (150 mbar) Reference output (kW)
GULLIVER BS1	1,2	MBDLE 055	52	MBDLE 055	52	MBDLE 055	52	MBDLE 055	52
GULLIVER BS2	2,0	MBDLE 405	91	MBDLE 405	91	MBDLE 405	91	MBDLE 405	91
GULLIVER BS3	3,3	MBDLE 410	189	MBDLE 410	189	MBDLE 407	189	MBDLE 410	189
GULLIVER BS4	2,8	MBDLE 410	246	MBDLE 410	246	MBDLE 407	246	MBDLE 410	246

GULLIVER BS series - BURNER ACCESSORIES

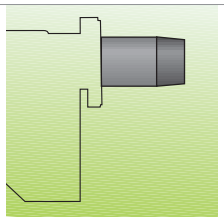
Remote control release kit for the 568 control box



The 568 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	Price
BS1 - BS2 - BS3 - BS4	3001031	

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	Price
BS1	70 ÷ 116	175 ÷ 185	3001007	
BS2	100 ÷ 114	275 ÷ 285	3001008	
BS3	110 ÷ 128	270 ÷ 285	3001009	
BS4	145 ÷ 168	325 ÷ 340	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:

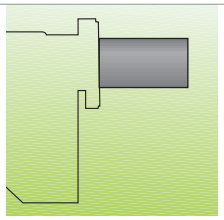
Burner	Kit code	Price
BS1	3001003	
BS2	3001004	
BS3	3001005	
BS4	3001011	

Seal control kit

To test the valve seals on the gas train, (except for the model with Multibloc MBDLE 055) a special "seal control kit" is available.

Burner	Kit code	Price
BS1 - BS2 - BS3 - BS4	3010123	

Kit for alternative combustion heads



This kit can be used to prevent combustion instability which could arise with particular heat generators.

Burner	Kit code	Price
BS1	3001059	
BS2	3001064	
BS3	3001060	
BS4	3001070	

CE

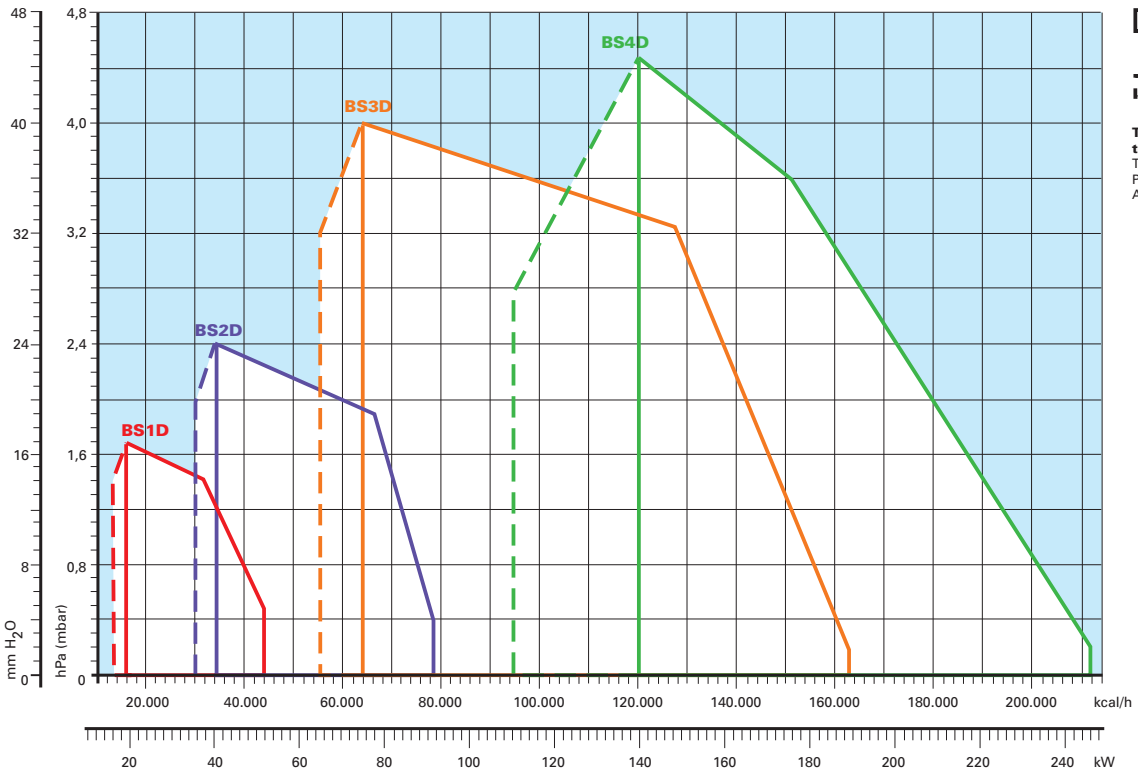
LOW NOx TWO STAGE GAS BURNERS

GULLIVER BSD SERIES

BS1D	16/19	÷	52	kW
BS2D	35/40	÷	91	kW
BS3D	65/75	÷	189	kW
BS4D	110/140	÷	246	kW

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 246 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, 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 LRV 92 Swiss standards, and conform to BImSchV 1996 and European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.
All the Gulliver BSD burners are tested before leaving the factory.

FIRING RATES



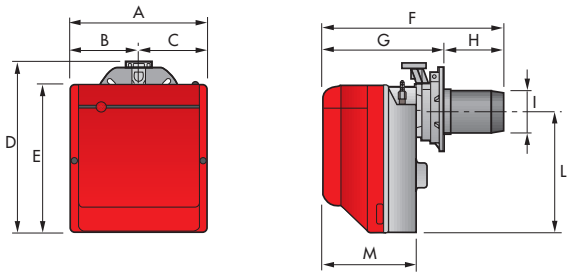
Useful working field for choosing the burner

1st stage operating range

Test conditions conforming to EN 676 and LRV 92:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

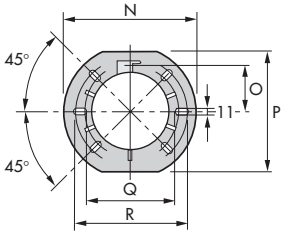
GULLIVER BSD series - OVERALL DIMENSIONS (mm)

BURNERS



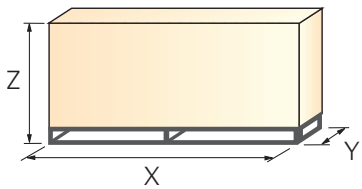
Model	A	B	C	D	E	F	G	H	I	L	M
BS1D	234	122,0	112,0	295	254	346	230÷276	116÷70	83	210	174
BS2D	255	125,5	125,5	325	280	352	238÷252	114÷100	101	230	174
BS3D	300	150,0	150,0	391	345	390	262÷280	128÷110	123	285	196
BS4D	300	150,0	150,0	392	345	446	278÷301	168÷145	131,5	286	216

BURNER – BOILER MOUNTING FLANGE



Model	N	O	P	Q	R
BS1D	192	66	167	140	170
BS2D	192	66	167	140	170
BS3D	216	76,5	201	160	190
BS4D	218	80,5	203	170	200

PACKAGING



Model	X	Y	Z	kg
BS1D	385	268	340	11
BS2D	395	288	365	12
BS3D	440	335	430	16
BS4D	500	335	430	18

GULLIVER BSD series - SPECIFICATION

DESIGNATION OF SERIES

Series: R Standard emission burner
B Low NOx burners

Fuel : S Natural gas
G Light oil

Size

Optional variations: R Light oil pre-heater
K Cone shaped head
S Reduced output ignition
D Two stage output adjustment
E Flame monitor

B	S	3	D

GULLIVER BSD series - STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage operation, made up of:
- Fan with forward inclined blades
- Cover lined with sound-deadening 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
- Protection filter against radio interference
- IP 40 electric protection level.

Fuel supply line in the Multibloc configuration, fitted with:
- Filter
- Pressure stabiliser
- Minimum gas pressure switch
- Safety valve
- Two stage working valve with ignition gas output regulator.

Standard equipment:
- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug with capacitor for EMC
- 4-pin plug
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

GULLIVER BSD series - AVAILABLE BURNER MODELS

Code	Model	Heat output (kW)	Heat output (kg/h)	Total electrical power (kW)	Certification	Note	Price
3761550	BS1D 1/50/230±10%	16/19 - 52	1,6/1,9 - 5,2	0,15	CE - 0085 AQ0409 BUWAL - Nr.100010	(1)	
3761650	BS2D 1/50/230±10%	35/40 - 91	3,5/4 - 9	0,18	CE - 0085 AQ0409 BUWAL - Nr.100010	(1)	
3761750	BS3D 1/50/230±10%	65/75 - 189	6,5/7,5 - 19	0,35	CE - 0085 AQ0409 BUWAL - Nr.100010	(1)	
3761850	BS4D 1/50/230±10%	110/140 - 246	11/14 - 24,6	0,43	CE - 0085 AQ0409 BUWAL - Nr.100010	(1)	

(1) With pug and socket.

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 - LRV 92 - BImSchV 1996.

GULLIVER BSD series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas Burner (type)	Natural gas Adapter (code)	LPG Burner (type)	LPG Adapter (code)	Note	Gas train price
MULTIBLOC	3970539	MBZRDLE 405	BS1D		BS1D		(1)	
MULTIBLOC	3970540	MBZRDLE 405	BS2D		BS2D		(1)	
MULTIBLOC	3970538	MBZRDLE 407	BS2D		BS2D		(1)	
MULTIBLOC	3970541	MBZRDLE 407	BS3D - BS4D		BS3D - BS4D		(1)(2)	
MULTIBLOC	3970542	MBZRDLE410	BS3D - BS4D		BS3D - BS4D			
MULTIBLOC	3970543	MBZRDLE 412	BS3D - BS4D		BS3D - BS4D			

(1) With plug and socket.

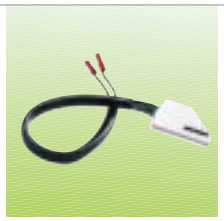
(2) BS3D and BS4D ≤ 150 kW with natural gas.

The following table shows the frequently matching between GULLIVER BSD burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar) Gas train	Natural gas G20 (20 mbar) Reference output (kW)	Natural gas G20 (300 mbar) Gas train	Natural gas G20 (300 mbar) Reference output (kW)	LPG (35 mbar) Gas train	LPG (35 mbar) Reference output (kW)	LPG (150 mbar) Gas train	LPG (150 mbar) Reference output (kW)
GULLIVER BS1D	1,2	MBZRDLE 405	52	MBZRDLE 405	52	MBZRDLE 405	52	MBZRDLE 405	52
GULLIVER BS2D	2,0	MBZRDLE 405	91	MBZRDLE 405	91	MBZRDLE 405	91	MBZRDLE 405	91
GULLIVER BS3D	3,3	MBZRDLE 410	189	MBZRDLE 410	189	MBZRDLE 407	189	MBZRDLE 410	189
GULLIVER BS4D	2,8	MBZRDLE 410	246	MBZRDLE 410	246	MBZRDLE 407	246	MBZRDLE 410	246

GULLIVER BSD series - BURNER ACCESSORIES

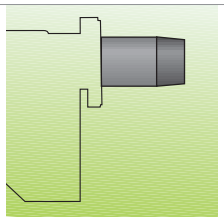
Remote control release kit for the 568 control box



The 568 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	Price
BS1D - BS2D - BS3D - BS4D	3001031	

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	Price
BS1D	70 ÷ 116	175 ÷ 185	3001007	
BS2D	100 ÷ 114	275 ÷ 285	3001008	
BS3D	110 ÷ 128	270 ÷ 285	3001009	
BS4D	145 ÷ 168	325 ÷ 340	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:

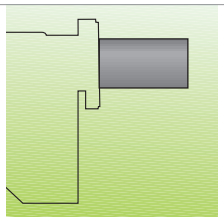
Burner	Kit code	Price
BS1D	3001003	
BS2D	3001004	
BS3D	3001005	
BS4D	3001011	

Seal control kit

To test the valve seals on the gas train a special "seal control kit" is available.

Burner	Kit code	Price
BS1D - BS2D - BS3D - BS4D	3010123	

Kit for alternative combustion heads



This kit can be used to prevent combustion instability which could arise with particular heat generators.

Burner	Kit code	Price
BS1D	3001059	
BS2D	3001064	
BS3D	3001060	
BS4D	3001070	

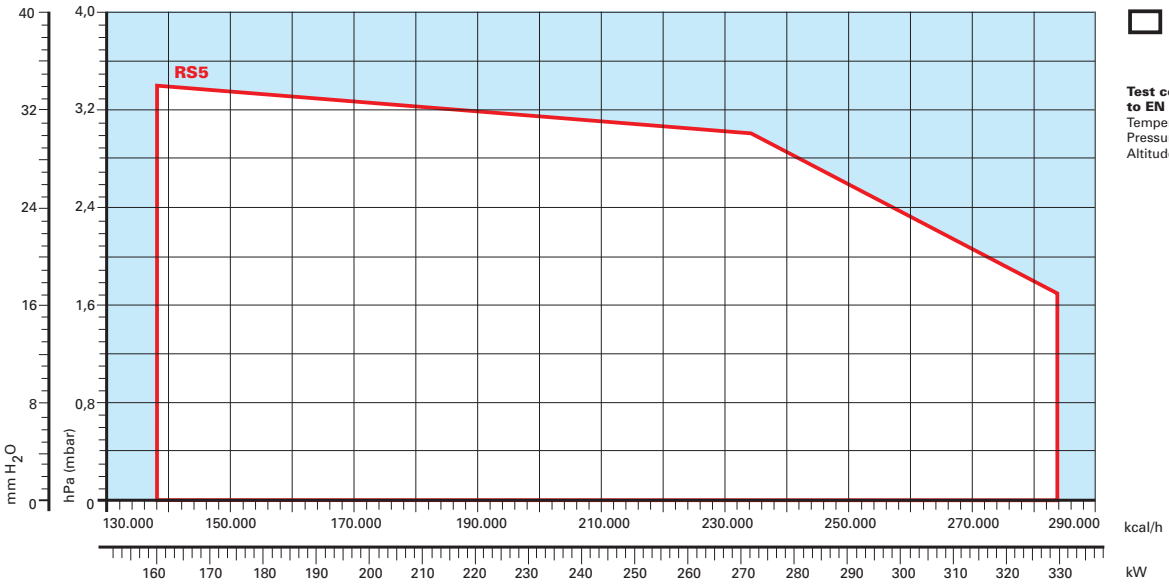
CE

ONE STAGE GAS BURNER

GULLIVER RS SERIES ▸ **RS5** 160 ÷ 330 kW

The Riello Gulliver RS5 is a new model of the series of one stage gas burners, characterized for its small dimensions inspite 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.
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.

FIRING RATES

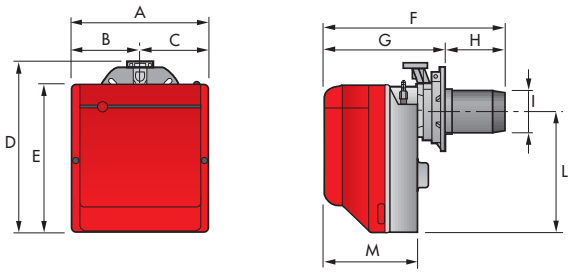


Useful working field for choosing the burner

Test conditions conforming to EN 676:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

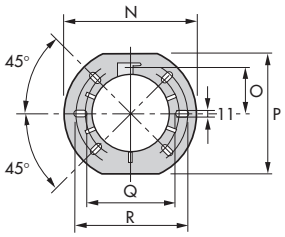
GULLIVER RS series - OVERALL DIMENSIONS (mm)

BURNER



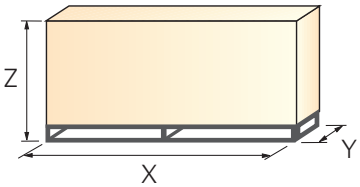
Model	A	B	C	D	E	F	G	H	I	L	M
RS5	300	150	150	392	345	501	278÷301	223÷200	137	286	216

BURNER – BOILER MOUNTING FLANGE



Model	N	O	P	Q	R
RS5	218	80,5	203	170	200

PACKAGING



Model	X	Y	Z	kg
RS5	590	335	420	18

GULLIVER RS series - 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
- E Flame monitor

R	S	5	

GULLIVER RS series - STATE OF SUPPLY

Monoblock, gas burner, completely automatic, one stage operation, made up of:
- Fan with forward inclined blades
- Cover lined with sound-deadening 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
- Protection filter against radio interference
- IP 40 electric protection level.

Fuel supply line in the Multibloc configuration, fitted with:
- Filter
- Pressure stabiliser
- Minimum gas pressure switch
- Safety valve
- Single stage working valve with ignition gas output regulator.

Standard equipment:
- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug with capacitor for EMC
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

GULLIVER RS series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	(Nm^3/h)				
3761900	RS5 1/50/230±10%	160 - 330	16 - 33	0,43	CE - 0085 AQ0409	(1)	

(1) With plug and socket.

Net calorific value G20: 10 kWh/Nm^3 - density: 0,71 kg/Nm^3.

The burner of RS series are in according to EN 676.

GULLIVER RS series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter (code)	Burner (type)	Adapter (code)		
MULTIBLOC	3970549	MBDLE 410	RS5		RS5		(1)(2)	
MULTIBLOC	3970550	MBDLE 412	RS5		RS5		(1)(3)	
MULTIBLOC	3970558	MBDLE 415	RS5		RS5		(1)	

(1) With plug and socket.

(2) RS5 ≤ 200 kW with natural gas.

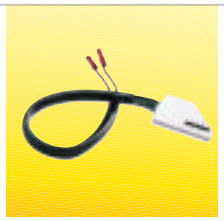
(3) RS5 ≤ 300 kW with natural gas.

The following table shows the frequently matching between RS burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
GULLIVER RS5	3,0	MBDLE 415	330	MBDLE 415	330	MBDLE 410	330	MBDLE 410	330

GULLIVER RS series - BURNER ACCESSORIES

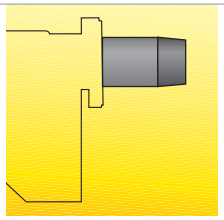
Remote control release kit for the 568 control box



The 568 control box can be remotely released using an electric command kit.
This kit must be installed in conformity with current regulations in force.

Burner	Code	Price
RS5	3001031	

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)	Extended head kit code	Price
RS5	200 ÷ 223	365 ÷ 382	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	LPG kit code	Price
RS5	3001011	

Seal control kit

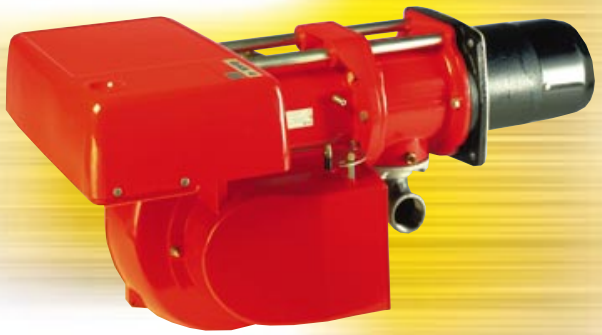
To test the valve seals on the gas train, a special "seal control kit" is available.

Burner	Kit code	Price
RS5	3010123	

CE

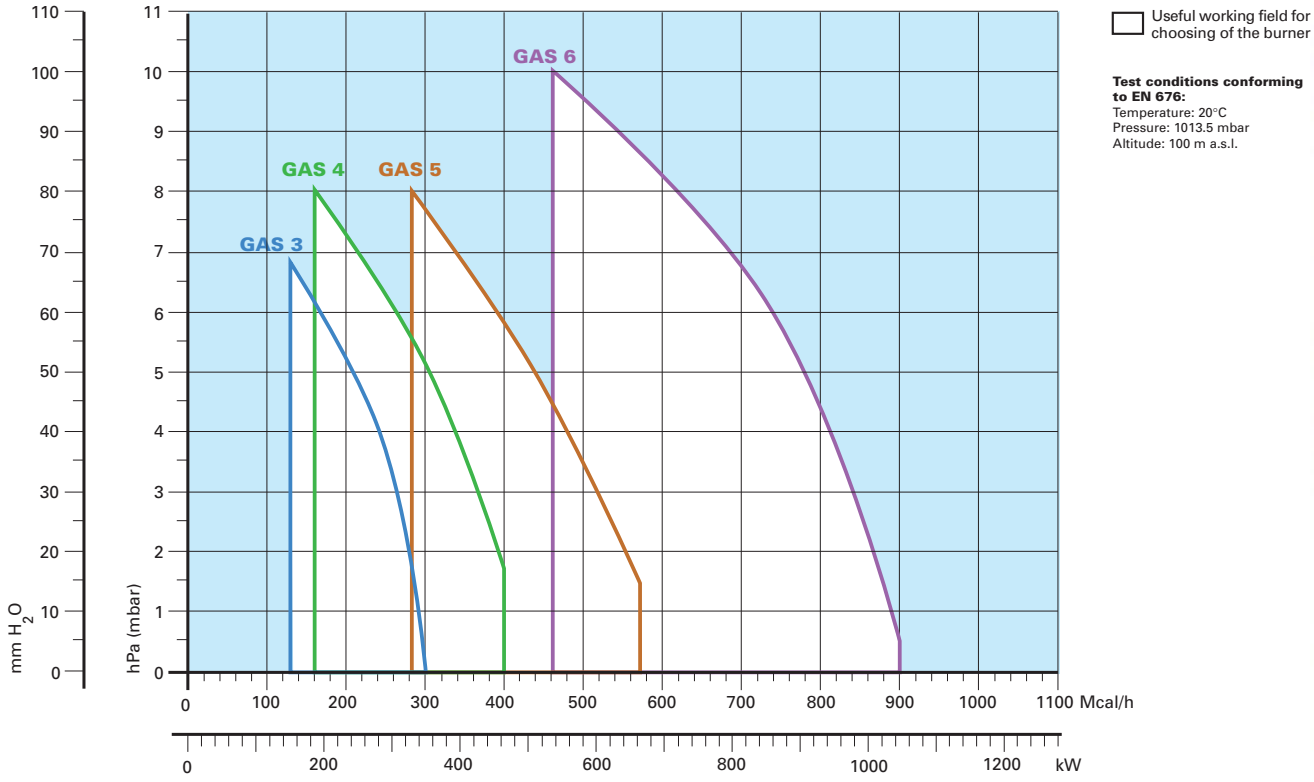
ONE STAGE GAS BURNERS

GAS SERIES		
GAS 3	150 ÷	350 kW
GAS 4	185 ÷	465 kW
GAS 5	325 ÷	660 kW
GAS 6	525 ÷	1050 kW



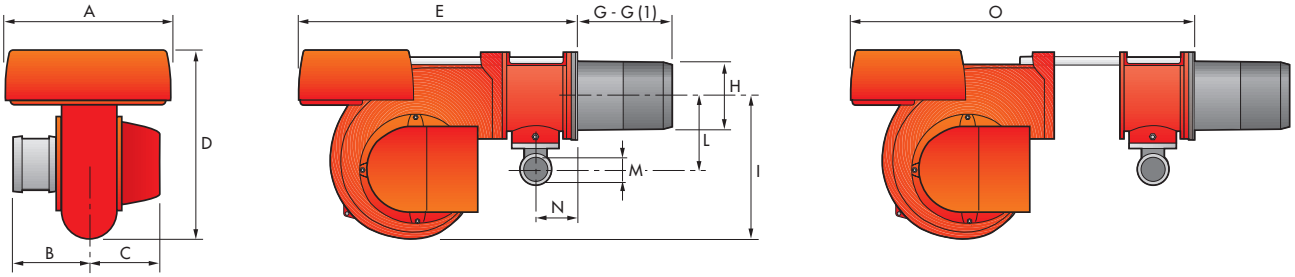
The GAS series of burners cover a firing range from 150 to 1050 kW.
Operation is one stage, thus making these burners suitable for application with repetitive and predictable load factors.
The GAS series are extremely reliable burners and featured by a simple use: their structure allow installation to the boiler separately. Combustion head is first fixed to the flange and then, after connecting gas train from left or right side, burner body with fan, electric motor and regulation devices is installed by a sliding bar system.
Simplified maintenance is achieved by the sliding bars which permit the access to the combustion head without need of removing the burner from the boiler.

FIRING RATES



GAS series - OVERALL DIMENSIONS (mm)

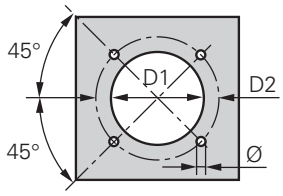
BURNERS



Model	A	B	C	D	E	G - G (1)	H	I	L	M	N	O
GAS 3	410	205	205	397	610	185 - 320	140	292	165	1"1/2	97	775
GAS 4	410	205	205	397	610	187 - 320	150	292	165	1"1/2	97	775
GAS 5	431	226	205	437	645	207 - 365	155	332	165	1"1/2	97	810
GAS 6	463	258	205	485	770	227 - 360	175	370	195	2"	131	966

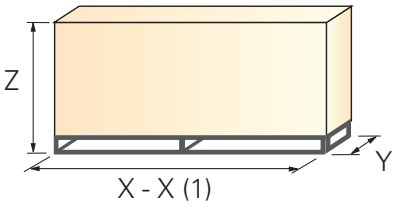
(1) dimension with extended head

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) dimension with extended head

GAS series - 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			

GAS series - 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
- Maximum gas pressure switch
- Minimum air pressure switch
- Single phase or three phases electrical motor
- UV photocell for flame detection
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 40 protection level.

Standard equipment:
- 1 gas train gasket
- 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.

GAS series - AVAILABLE BURNER MODELS

Code	Model	Heat output (kW)	Heat output Natural Gas (Nm^3/h)	Total electrical power (kW)	Certification	Note	Price
3751986	GAS 3 TC FS1 1/200/50-60 200/50-60	130-350	13-35	0,48-0,6	-		
3751981	GAS 3 TC FS1 1/220/60 220/60	130-340	13-34	0,4	-		
3751916	GAS 3 TC FS1 1/230/50 230/50	150-350	15-35	0,4	CE 0085AQ0707		
3751955	GAS 3 TC FS1 1/240/50 240/50	150-350	15-35	0,4	-		
3751957	GAS 3 TL FS1 1/240/50 240/50	150-350	15-36	0,4	-		
3751616	GAS 4 TC FS1 1/230/50 230/50	185-465	18,5-46,5	0,54	-		
3751686	GAS 4 TC FS1 3/200/50-60 200/50-60	180-470	18-47	0,6	-		
3751681	GAS 4 TC FS1 3/220-380/60 220/60	180-470	18-47	0,6	-		
3751786	GAS 5 TC FS1 3/200/50-60 200/50-60	320-660	32-66	0,85	-		
3751781	GAS 5 TC FS1 3/220-380/60 220/60	320-660	32-66	1,1	-		
3751716	GAS 5 TC FS1 3/230-400/50 230/50	325-660	32,5-66	0,85	-		
3751886	GAS 6 TC FS1 3/200/50-60 200/50-60	520-1050	52-105	1,7	-		
3751881	GAS 6 TC FS1 3/220-380/60 220/60	520-1050	52-105	1,9	-		
3751816	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 - 73/23 - 92/42 EEC Directive and EN 676 Norm.

GAS series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas Burner (type)	Natural gas Adapter* (code)	LPG Burner (type)	LPG Adapter* (code)	Note	Gas train price
MULTIBLOC GAS TRAINS	3970046	MBZRDLE 407	GAS 3	3000824	GAS 3	3000824	(1)	
	3970079	MBZRDLE 410	GAS 3 GAS 4 GAS 5	3000824 3000824 3000824	GAS 3 GAS 4 GAS 5	3000824 3000824 3000824	(1)	
	3970152	MBZRDLE 412	GAS 3 GAS 4 GAS 5 GAS 6	- - - 3000843	GAS 3 GAS 4 GAS 5 GAS 6	- - - 3000843	(1)	
	3970183	MBZRDLE 415	GAS 3 GAS 4 GAS 5 GAS 6	- - - 3000843	GAS 3 GAS 4 GAS 5 GAS 6	- - - 3000843	(1)	
	3970184	MBZRDLE 420	GAS 4 GAS 5 GAS 6	3000822 3000822 -	GAS 4 GAS 5 GAS 6	3000822 3000822 -	(1)	
	3970185	MBZRDLE 420 CT	GAS 4 GAS 5 GAS 6	3000822 3000822 -	GAS 4 GAS 5 GAS 6	3000822 3000822 -	(2)	
COMPOSED GAS TRAINS	3970153	CB 40/2	GAS 3 GAS 4 GAS 5 GAS 6	- - - 3000843	GAS 3 GAS 4 GAS 5 GAS 6	- - - 3000843	(1)	
	3970154	CB 50/2	GAS 4 GAS 5 GAS 6	3000822 3000822 -	GAS 4 GAS 5 GAS 6	3000822 3000822 -	(1)	
	3970166	CB 50/2 CT	GAS 4 GAS 5 GAS 6	3000822 3000822 -	GAS 4 GAS 5 GAS 6	3000822 3000822 -	(2)	
	3970155	CBF 65/2	GAS 6	3000825	-	-	(1)	
	3970167	CBF 65/2 CT	GAS 6	3000825	-	-	(2)	

*** the adapter price is available in the "Gas train accessories" section**

(1) Seal control accessory

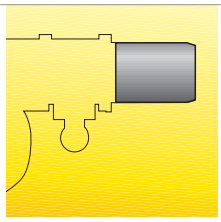
(2) Seal control incorporated

The following table shows the frequently matching between GAS burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
GAS 3	4	-	280	MBZRDLE 407	280	MBZRDLE 407	280	MBZRDLE 407	280
GAS 4	4,5	MBZRDLE 420 CB 50/2	370	MBZRDLE 410	370	MBZRDLE 410	370	MBZRDLE 410	370
GAS 5	4	-	550	MBZRDLE 410	550	MBZRDLE 412	550	MBZRDLE 410	550
GAS 6	5	-	875	MBZRDLE 412	875	MBZRDLE 420 CB 50/2	875	MBZRDLE 412	875

GAS series - BURNER ACCESSORIES

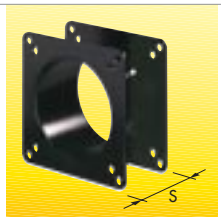
Extended heads



"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	Price
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	Price
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.

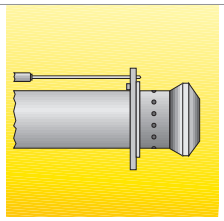
Burner	Kit code	Price
GAS 3 - 4 - 5 - 6	3010030	

Sound proofing box

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

Burner	Box type	Box code	Price
GAS 3 - 4 - 5	C2	3000777	
GAS 6	C3	3000778	

LPG kit

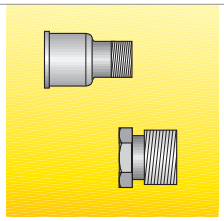


For burning LPG gas, a special kit is available.

Burner	Kit code for 'standard head'	Kit code for 'extended head'	Price
GAS 3	3000657	3000807	
GAS 4	3000658	3000808	
GAS 5	3000659	3000809	
GAS 6	3000753	3000810	

GAS series - 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.

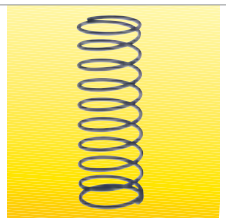
Burner	Gas train	Dimensions	Adapter code	Price
GAS 3	MBZRDLE 407 - 410	3/4" 1" 1/2	3000824	
GAS 4	MBZRDLE 410	3/4" 1" 1/2	3000824	
	MBZRDLE 420 - CB 50/2	2" 1" 1/2	3000822	
GAS 5	MBZRDLE 410	3/4" 1" 1/2	3000824	
	MBZRDLE 420 - CB 50/2	2" 1" 1/2	3000822	
GAS 6	MBZRDLE 412 - 415 - CB 40/2	1" 1/2 2"	3000843	
	CBF 65/2	DN 65 2"1/2 1" 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	Price
GAS 3	MBZRDLE 407 - 410 - 412	3010123	
	MBZRDLE 415 - CB 40/2	3010125	
GAS 4	MBZRDLE 410 - 412	3010123	
	MBZRDLE 415 - 420 - CB 40/2 - 50/2	3010125	
GAS 5	MBZRDLE 410 - 412	3010123	
	MBZRDLE 415 - 420 - CB 40/2 - 50/2	3010125	
GAS 6	MBZRDLE 412	3010123	
	MBZRDLE 415 - 420 - CB 40/2 - 50/2 - 65/2	3010125	

Stabiliser spring



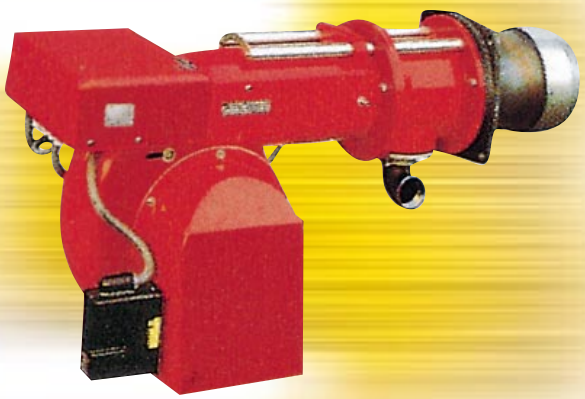
Accessory springs are available to vary the pressure range of the gas train stabilisers.

Gas train	Spring	Code	Price
CBF 65/1	Red from 25 to 55 mbar	3010133	
CBF 65/1	Black from 60 to 110 mbar	3010135	
CBF 65/1	Pink from 90 to 150 mbar	3090456	

CE

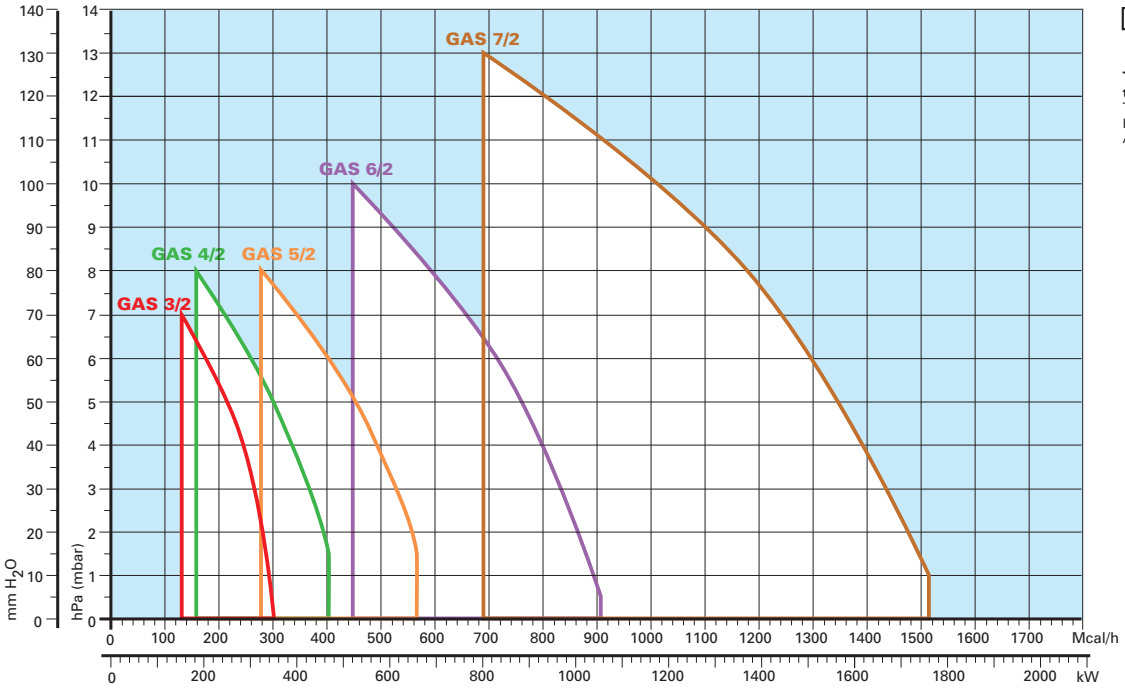
TWO STAGE GAS BURNERS

GAS/2 SERIES				
GAS 3/2	80/150	÷	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



The GAS/2 series of burners cover a firing range from 80 to 1760 kW.
Flame operation is two stage, thus making these burners suitable for application where it is reccomended to avoid large variations of load factor.
Gas train solenoid valves support two stage operation with a slow and regular fuel ignition and a rapid opening, assisted from an electric device, for second stage.
Simplified maintenance is achieved by the sliding bars which permit the access to the combustion head without need of removing the burner from the boiler. A wide range of accessories and gas trains suitable to these burners are available.

FIRING RATES

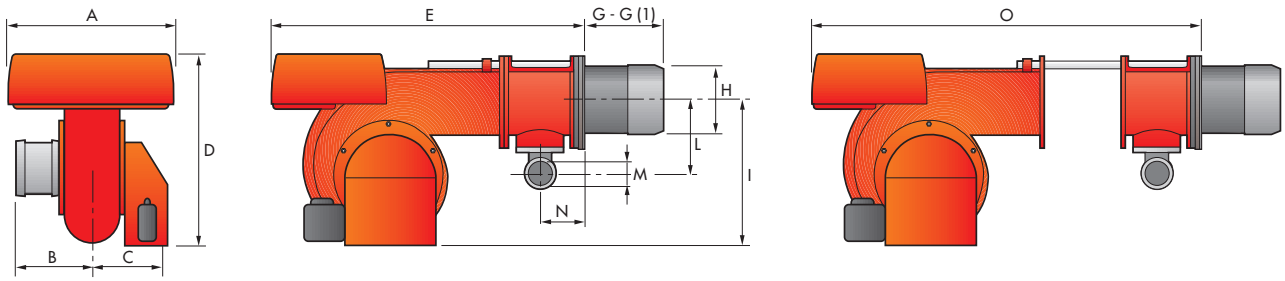


Useful working field for choosing of the burner

Test conditions conforming to EN 676:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

GAS/2 series - OVERALL DIMENSIONS (mm)

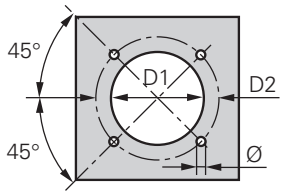
BURNERS



Model	A	B	C	D	E	G - G (1)	H	I	L	M	N	O
GAS 3/2	410	205	205	397	610	185 - 320	140	292	165	1"1/2	97	775
GAS 4/2	410	205	205	397	610	187 - 320	150	292	165	1"1/2	97	775
GAS 5/2	431	226	205	437	645	207 - 365	155	332	165	1"1/2	97	810
GAS 6/2	463	258	205	485	770	227 - 360	175	370	195	2"	131	966
GAS 7/2	606	358	248	590	920	240 - 400	220	445	245	2"	140	1142

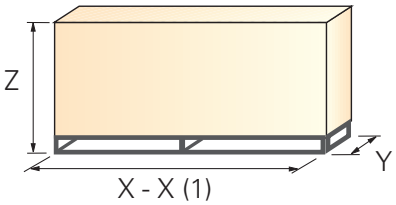
(1) dimension with extended head

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

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

(1) dimension with extended head

GAS/2 series - 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
1/220/60	1/220V/60Hz
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
3/210/60	3/210V/60
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

GAS	7	/2		TC	FS1	3/230-400/50	230/50
BASIC DESIGNATION							
EXTENDED DESIGNATION							

GAS/2 series - 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
- Maximum gas pressure switch
- Minimum air pressure switch
- Single phase or three phases electrical motor
- UV photocell for flame detection
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 40 protection level.

Standard equipment:
- 1 gas train gasket
- 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.

GAS/2 series - AVAILABLE BURNER MODELS

Code	Model	Heat output (kW)	Heat output Natural Gas (Nm^3/h)	Total electrical power (kW)	Certification	Note	Price
3752171	GAS 3/2 TC FS1 1/210/60 120/50-60	80/130-340	8/13-34	0,4	-		
3752181	GAS 3/2 TC FS1 1/220/60 220/60	80/130-340	8/13-34	0,4	-		
3752117	GAS 3/2 TC FS1 1/230/50 230/50	80/130-350	8/13-35	0,4	CE 0085AQ0707		
3752217	GAS 4/2 TC FS1 1/230/50 230/50	120/180-470	12/18-47	0,54	CE 0085AQ0707		
3752271	GAS 4/2 TC FS1 1/210/60 120/50-60	115/180-470	11,5/18-47	0,54	-		
3752281	GAS 4/2 TC FS1 3/220-380/60 220/60	115/180-470	11,5/18-47	0,6	-		
3752371	GAS 5/2 TC FS1 3/210/60 120/50-60	155/320-660	15,5/32-66	0,85	-		
3752381	GAS 5/2 TC FS1 3/220-380/60 220/60	155/320-660	15,5/32-66	1,1	-		
3752317	GAS 5/2 TC FS1 3/230-400/50 230/50	155/320-660	15,5/32-66	0,85	CE 0085AQ0707		
3752471	GAS 6/2 TC FS1 3/210/60 120/50-60	300/520-1050	30/52-105	1,7	-		
3752481	GAS 6/2 TC FS1 3/220-380/60 220/60	300/520-1050	30/52-105	1,9	-		
3752417	GAS 6/2 TC FS1 3/230-400/50 230/50	300/520-1050	30/52-105	1,7	CE 0085AQ0707		
3752571	GAS 7/2 TC FS1 3/210/60 120/50-60	400/800-1760	40/80-176	3,4	-		
3752581	GAS 7/2 TC FS1 3/220-380/60 220/60	400/800-1760	40/80-176	3,8	-		
3752517	GAS 7/2 TC FS1 3/230-400/50 230/50	400/800-1760	40/80-176	3,4	CE 0085AQ0707		

Natural gas G20 net calorific value: 10 kWh/Nm^3 - Density gas G20 0,71 kg/Nm^3

The burners of GAS/2 series are in according to 90/396 - 89/336 - 73/23 - 92/42 EEC Directive and EN 676 Norm.

GAS/2 series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			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 GAS 4/2 GAS 5/2	3000824 3000824 3000824	GAS 3/2 GAS 4/2 GAS 5/2	3000824 3000824 3000824	(1)	
	3970152	MBZRDLE 412	GAS 3/2 GAS 4/2 GAS 5/2 GAS 6/2	- - - 3010125	GAS 3/2 GAS 4/2 GAS 5/2 GAS 6/2	- - - 3010125	(1)	
	3970183	MBZRDLE 415	GAS 3/2 GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	- - - 3000843 3000843	GAS 3/2 GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	- - - 3000843 3000843	(1)	
	3970184	MBZRDLE 420	GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	3000822 3000822 - -	GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	3000822 3000822 - -	(1)	
	3970185	MBZRDLE 420 CT	GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	3000822 3000822 - -	GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	3000822 3000822 - -	(2)	
COMPOSED GAS TRAINS	3970153	CB 40/2	GAS 3/2 GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	- - - 3000843 3000843	GAS 3/2 GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	- - - 3000843 3000843	(1)	
	3970154	CB 50/2	GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	3000822 3000822 - -	GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	3000822 3000822 - -	(1)	
	3970166	CB 50/2 CT	GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	3000822 3000822 - -	GAS 4/2 GAS 5/2 GAS 6/2 GAS 7/2	3000822 3000822 - -	(2)	
	3970155	CBF 65/2	GAS 6/2 GAS 7/2	3000825 3000825	- GAS 7/2	- 3000825	(1)	
	3970167	CBF 65/2 CT	GAS 6/2 GAS 7/2	3000825 3000825	- GAS 7/2	- 3000825	(2)	
	3970156	CBF 80/2	GAS 7/2	3000826	-	-	(1)	
	3970168	CBF 80/2 CT	GAS 7/2	3000826	-	-	(2)	

*** the adapter price is available in the "Gas train accessories" section**

(1) Seal control accessory

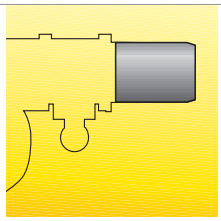
(2) Seal control incorporated

The following table shows the frequently matching between GAS/2 burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
GAS 3/2	4	-	280	MBZRDLE 407	280	MBZRDLE 407	280	MBZRDLE 407	280
GAS 4/2	4,5	MBZRDLE 420 CB 50/2	370	MBZRDLE 410	370	MBZRDLE 410	370	MBZRDLE 410	370
GAS 5/2	4	-	550	MBZRDLE 410	550	MBZRDLE 412	550	MBZRDLE 410	550
GAS 6/2	5	-	870	MBZRDLE 412	870	MBZRDLE 420 CB 50/2	870	MBZRDLE 412	870
GAS 7/2	7	-	1440	MBZRDLE 415 CB 40/2	1440	CBF 65/2	1440	MBZRDLE 415 CB 40/2	1440

GAS/2 series - BURNER ACCESSORIES

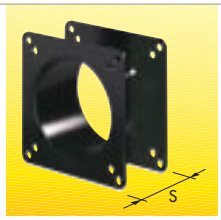
Extended heads



"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	Price
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	3000609	

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	Price
GAS 3/2 - 4/2 - 5/2 - 6/2	142	3000755	
GAS 7/2	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.

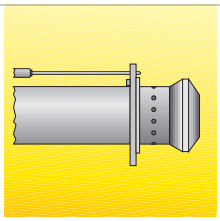
Burner	Kit code	Price
GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2	3010030	

Sound proofing box

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

Burner	Box type	Box code	Price
GAS 3/2 - 4/2 - 5/2	C2	3000777	
GAS 6/2	C3	3000778	
GAS 7/2	C4	3000779	

LPG kit

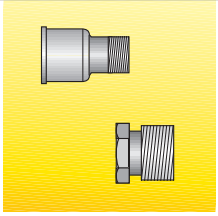


For burning LPG gas, a special kit is available.

Burner	Kit code for 'standard head'	Kit code for 'extended head'	Price
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/2 series - 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.

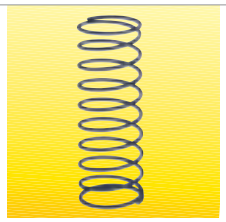
Burner	Gas train	Dimensions	Adapter code	Price
GAS 3/2	MBZRDLE 407 - 410	3/4" 1" 1/2	3000824	
GAS 4/2	MBZRDLE 410	3/4" 1" 1/2	3000824	
	MBZRDLE 420 - CB 50/2	2" 1" 1/2	3000822	
GAS 5/2	MBZRDLE 410	3/4" 1" 1/2	3000824	
	MBZRDLE 420 - CB 50/2	2" 1" 1/2	3000822	
GAS 6/2	MBZRDLE 412 - 415 - CB 40/2	1" 1/2 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	

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available.

Burner	Gas train	Kit code	Price
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 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	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

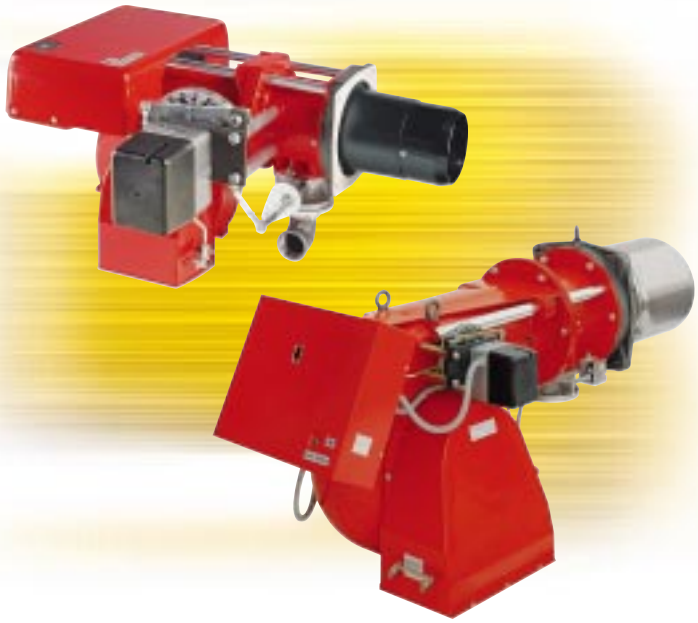
Gas train	Spring	Code	Price
CBF 65/1 - CBF 80/1	Red from 25 to 55 mbar	3010133	
CBF 65/1 - CBF 80/1	Black from 60 to 110 mbar	3010135	
CBF 65/1 - CBF 80/1	Pink from 90 to 150 mbar	3090456	

CE

MODULATING GAS BURNERS

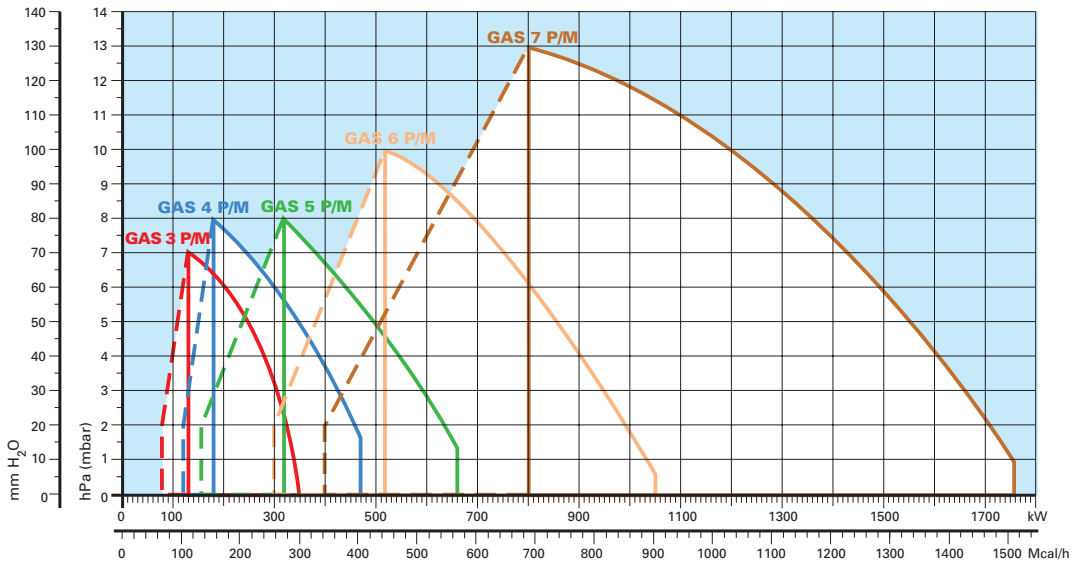
GAS P/M SERIES

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	640/1162 ÷	2210 kW
GAS 9 P/M	870/1744 ÷	3488 kW
GAS 10 P/M	1140/2441 ÷	4885 kW



The GAS P/M series of burners cover a firing range from 80 to 4885 kW.
Setting is featured by progressive two stage operation or full modulation performance, with a turn down ratio of 4:1, by addition of an advanced modulating control system (RWF 40).
The GAS P/M series of burners are well suited to applications requiring versatility of control (process, steam, refrigerating absorption) where a variable output within rapid response time is needed. Simplified maintenance is achieved by the sliding bars which permit the access to the combustion head without need of removing the burner from the boiler.

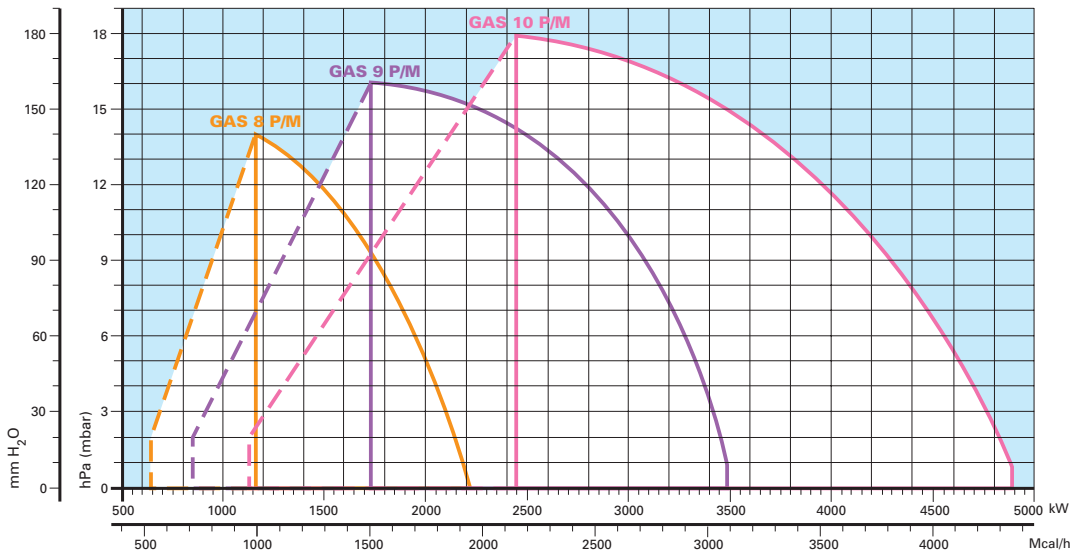
FIRING RATES



Useful working field for choosing of the burner

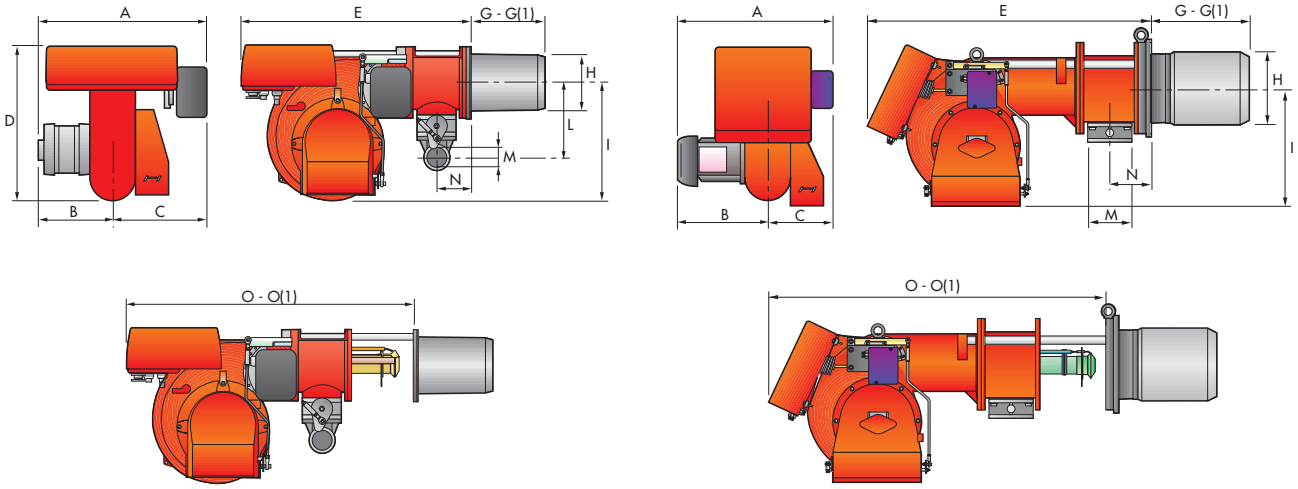
Modulation range

Test conditions conforming to EN 676:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



GAS P/M series - OVERALL DIMENSIONS (mm)

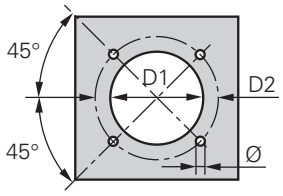
BURNERS



Model	A	B	C	D	E	G - G(1)	H	I	L	M	N	O - O(1)
GAS 3 P/M	585	205	380	397	610	185 - 320	140	292	225	1"1/2	97	775
GAS 4 P/M	585	205	380	397	610	187 - 320	150	292	225	1"1/2	97	775
GAS 5 P/M	581	226	355	437	645	207 - 365	155	332	225	1"1/2	97	810
GAS 6 P/M	628	258	370	485	770	227 - 360	175	370	250	2"	131	966
GAS 7 P/M	758	358	400	590	920	240 - 400	220	445	305	2"	140	1142
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

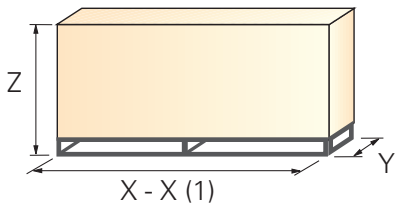
(1) dimension with extended head

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 - 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	1203 - -	865	665	101
GAS 8 P/M	1690	820	880	195
GAS 9 P/M	1870	920	910	240
GAS 10 P/M	2040	1101	930	290

(1) dimension with extended head

GAS P/M series - 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							

GAS P/M series - 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
- Minimum air pressure switch
- Single phase or three phases electrical motor
- UV photocell for flame detection
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 40 protection level.

Standard equipment:
- 1 gas train gasket
- 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 long 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.

GAS P/M series - AVAILABLE BURNER MODELS

Code	Model	Heat output (kW)	Heat output Natural Gas (Nm^3/h)	Total electrical power (kW)	Certification	Note	Price
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	872/1744-3490	87/174-349	9	-		
3754046	GAS 9 P/M TC FS1 3/230/50 230/50	870/1744-3488	87/174-349	9	CE 0085AP0942	(1)	
3754039	GAS 9 P/M TC FS1 3/230/50 230/50-60	870/1744-3488	87/174-349	9	CE 0085AP0942		
3754044	GAS 9 P/M TC FS1 3/230-400/50 230/50	870/1744-3488	87/174-349	9	CE 0085AP0942		
3754037	GAS 9 P/M TC FS1 3/230-400/50 230/50-60	870/1744-3488	87/174-349	9	CE 0085AP0942		
3754048	GAS 9 P/M TC FS1 3/400/50 230/50	870/1744-3488	87/174-349	9	CE 0085AP0942	(1)	
3754041	GAS 9 P/M TC FS1 3/400/50 230/50-60	870/1744-3488	87/174-349	9	CE 0085AP0942		
3754084	GAS 9 P/M TL FS1 3/220-380/60 220/60	872/1744-3490	87/174-349	9	-		
3754047	GAS 9 P/M TL FS1 3/230/50 230/50	870/1744-3488	87/174-349	9	CE 0085AP0942	(1)	
3754040	GAS 9 P/M TL FS1 3/230/50 230/50-60	870/1744-3488	87/174-349	9	CE 0085AP0942		
3754045	GAS 9 P/M TL FS1 3/230-400/50 230/50	870/1744-3488	87/174-349	9	CE 0085AP0942		
3754038	GAS 9 P/M TL FS1 3/230-400/50 230/50-60	870/1744-3488	87/174-349	9	CE 0085AP0942		
3754049	GAS 9 P/M TL FS1 3/400/50 230/50	870/1744-3488	87/174-349	9	CE 0085AP0942	(1)	
3754042	GAS 9 P/M TL FS1 3/400/50 230/50-60	870/1744-3488	87/174-349	9	CE 0085AP0942		
3754185	GAS 10 P/M TC FS1 3/220/60 220/60	1140/2441-5000	114/244-500	14	-		
3754140	GAS 10 P/M TC FS1 3/230/50 230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)	
3754135	GAS 10 P/M TC FS1 3/230/50 230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943		
3754187	GAS 10 P/M TC FS1 3/380/60 220/60	1140/2441-5000	114/244-500	14	-		
3754142	GAS 10 P/M TC FS1 3/400/50 230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)	
3754137	GAS 10 P/M TC FS1 3/400/50 230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943		
3754186	GAS 10 P/M TL FS1 3/220/60 220/60	1140/2441-5000	114/244-500	14	-		
3754141	GAS 10 P/M TL FS1 3/230/50 230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)	
3754136	GAS 10 P/M TL FS1 3/230/50 230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943		
3754188	GAS 10 P/M TL FS1 3/380/60 220/60	1140/2441-5000	114/244-500	14	-		
3754143	GAS 10 P/M TL FS1 3/400/50 230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)	
3754138	GAS 10 P/M TL FS1 3/400/50 230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943		

(1) Star delta starter

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 - 73/23 - 92/42 EEC Directive and EN 676 Norm.

GAS P/M series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter* (code)	Burner (type)	Adapter* (code)		
MULTIBLOC GAS TRAINS	3970076	MBD 407	GAS 3 P/M	3000824	GAS 3 P/M	3000824	(1)	
	3970077	MBD 410	GAS 3 P/M GAS 4 P/M GAS 5 P/M	3000824 3000824 3000824	GAS 3 P/M GAS 4 P/M GAS 5 P/M	3000824 3000824 3000824	(1)	
	3970144	MBD 412	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M	- - - 3010126 3010126	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M	- - - 3010126 3010126	(1)	
	3970180	MBD 415	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M	- - - 3000843 3000843	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M	- - - 3000843 3000843	(1)	
	3970181	MBD 420	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M GAS 8 P/M	3000822 3000822 3000822 - - 3010128	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M GAS 8 P/M	3000822 3000822 3000822 - - 3010128	(1)	
	3970182	MBD 420 CT	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M GAS 8 P/M	3000822 3000822 3000822 - - 3010128	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M GAS 8 P/M	3000822 3000822 3000822 - - 3010128	(2)	
COMPOSED GAS TRAINS	3970145	CB 40/1	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M	- - - 3000843 3000843	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M	- - - 3000843 3000843	(1)	
	3970146	CB 50/1	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M GAS 8 P/M	3000822 3000822 3000822 - - 3010128	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M GAS 8 P/M	3000822 3000822 3000822 - - 3010128	(1)	
	3970160	CB 50/1 CT	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M GAS 8 P/M	3000822 3000822 3000822 - - 3010128	GAS 3 P/M GAS 4 P/M GAS 5 P/M GAS 6 P/M GAS 7 P/M GAS 8 P/M	3000822 3000822 3000822 - - 3010128	(2)	
	3970147	CBF 65/1	GAS 6 P/M GAS 7 P/M GAS 8 P/M GAS 9 P/M GAS 10 P/M	3000825 3000825 3000831 3000831 3000831	- GAS 7 P/M GAS 8 P/M GAS 9 P/M GAS 10 P/M	- 3000825 3000831 3000831 3000831	(1)	
	3970161	CBF 65/1 CT	GAS 6 P/M GAS 7 P/M GAS 8 P/M GAS 9 P/M GAS 10 P/M	3000825 3000825 3000831 3000831 3000831	- GAS 7 P/M GAS 8 P/M GAS 9 P/M GAS 10 P/M	- 3000825 3000831 3000831 3000831	(2)	
	3970148	CBF 80/1	GAS 6 P/M GAS 7 P/M GAS 8 P/M GAS 9 P/M GAS 10 P/M	3000826 3000826 3000832 3000832 3000832			(1)	
	3970162	CBF 80/1 CT	GAS 6 P/M GAS 7 P/M GAS 8 P/M GAS 9 P/M GAS 10 P/M	3000826 3000826 3000832 3000832 3000832			(2)	
	3970149	CBF 100/1	GAS 8 P/M GAS 9 P/M GAS 10 P/M	3010127 3010127 3010127			(1)	
	3970163	CBF 100/1 CT	GAS 8 P/M GAS 9 P/M GAS 10 P/M	3010127 3010127 3010127			(2)	

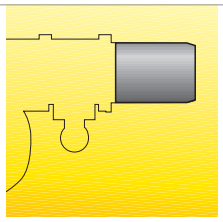
*** the adapter price is available in the "Gas train accessories" section**
(1) Seal control accessory
(2) Seal control incorporated

The following table shows the frequently matching between GAS P/M burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
GAS 3 P/M	4	MBD 415 CB 40/1	280	MBD 407	280	MBD 407	280	MBD 407	280
GAS 4 P/M	4,5	MBD 420 CB 50/1	370	MBD 410	370	MBD 410	370	MBD 410	370
GAS 5 P/M	4	-	550	MBD 410	550	MBD 412	550	MBD 410	550
GAS 6 P/M	5	CBF 80/1	870	MBD 412 CB 40/1	870	MBD 415 CB 50/1	870	MBD 412 CB 40/1	870
GAS 7 P/M	7	-	1440	MBD 412 CB 40/1	1440	CBF 65/1	1440	MBD 412 CB 40/1	1440
GAS 8 P/M	8	-	1860	MBD 420	1860	CBF 80/1	1860	MBD 420	1860
GAS 9 P/M	11	-	2900	CBF 65/1	2900	CBF 100/1	2900	CBF 65/1	2900
GAS 10 P/M	11	-	4070	CBF 65/1	4070	-	4070	CBF 65/1	4070

GAS P/M series - BURNER ACCESSORIES

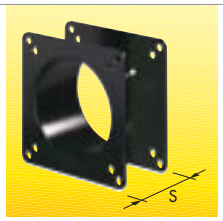
Extended heads



"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	Price
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	3000609	

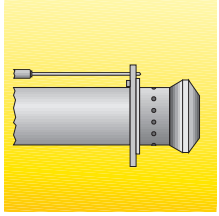
Spacer kit



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	Price
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	

LPG kit



For burning LPG gas, a special kit is available.

Burner	Kit code for 'standard head'	Kit code for 'extended head'	Price
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	

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	Price
GAS 3 - 4 - 5 - 6 - 7 P/M	3010030	

Sound proofing box

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

Burner	Box type	Box code	Price
GAS 3 - 4 - 5 P/M	C2	3000777	
GAS 6 P/M	C3	3000778	
GAS 7 P/M	C4	3000779	
GAS 8 P/M	C5	3000780	
GAS 9 - 10 P/M	C6	3000781	

Accessories for modulating operation

To obtain modulating setting, the GAS P/M series of burners requires a regulator.

Burner	Regulator type	Code	Price
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.

Probe type	Range (°C) (bar)	Code	Price
Temperature PT 100	-100 ÷ 500°C	3010110	
Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213	
Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214	

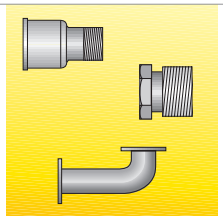
Accessories for modulating operation

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	Price
GAS 3 - 4 - 5 - 6 - 7 P/M GAS 8 - 9 -10 P/M	3010021	

GAS P/M series - 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.

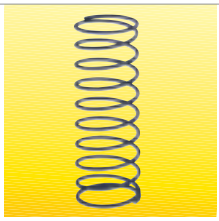
Burner	Gas train	Dimensions	Adapter code	Price
GAS 3 P/M	MBD 407 - 410	3/4" 1" 1/2	3000824	
	MBD 420 - CB 50/1	2" 1" 1/2	3000822	
GAS 4 - 5 P/M	MBD 410	3/4" 1" 1/2	3000824	
	MBD 420 - CB 50/1	2" 1" 1/2	3000822	
GAS 6 - 7 P/M	MBD 412 - 415 - CB 40/1	1" 1/2 2"	3000843	
	CB 65	DN 65 2"1/2 1" 1/2 2"	3000825	
	CB 80	DN 80 2"1/2 2"	3000826	
GAS 8 P/M	MBD 420 - CB 50/1	DN 80 DN 65 2"1/2 2"	3010128	
	CB 65	DN 65 DN 80	3000831	
	CB 80	DN 80 DN 80	3000832	
	CB 100	DN 100 DN 80	3010127	
GAS 9 -10 P/M	CB 65	DN 65 DN 80	3000831	
	CB 80	DN 80 DN 80	3000832	
	CB 100	DN 100 DN 80	3010127	

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available.

Burner	Gas train	Kit code	Price
GAS 3 P/M	MBD 407 - 410 - 412	3010123	
	MBD 415 - 420 - CB 40/1 - 50/1	3010125	
GAS 4 P/M	MBD 410 - 412	3010123	
	MBD 415 - 420 - CB 40/1 - 50/1	3010125	
GAS 5 P/M	MBD 410 - 412	3010123	
	MBD 415 - 420 - CB 40/1 - 50/1	3010125	
GAS 6 P/M	MBD 412	3010123	
	MBD 415 - 420 - CB 40/1 - 50/1 - CBF 65/1 - 80/1	3010125	
GAS 7 P/M	MBD 412	3010123	
	MBD 415 - 420 - CB 40/1 - 50/1 - CBF 65/1 - 80/1	3010125	
GAS 8 P/M	MBD 420 - CB 50/1 - CBF 65/1 - 80/1 - 100/1	3010125	
GAS 9 P/M	CBF 65/1 - 80/1 - 100/1	3010125	
GAS 10 P/M	CBF 65/1 - 80/1 - 100/1	3010125	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

Gas train	Spring	Code	Price
CBF 65/1 - CBF 80/1	Red from 25 to 55 mbar	3010133	
CBF 100/1	Red from 25 to 55 mbar	3010134	
CBF 65/1 - CBF 80/1	Black from 60 to 110 mbar	3010135	
CBF 100/1	Black from 60 to 110 mbar	3010136	
CBF 65/1 - CBF 80/1	Pink from 90 to 150 mbar	3090456	
CBF 100/1	Pink from 90 to 150 mbar	3090489	

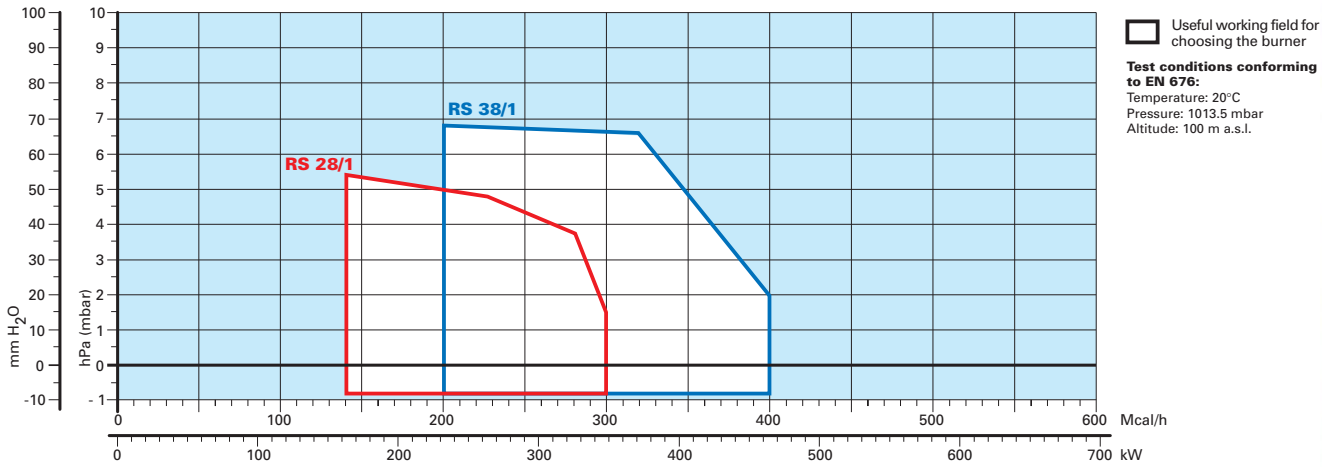
CE

ONE STAGE GAS BURNERS

RS/1 SERIES			
	RS 28/1	163 ÷	349 kW
	RS 38/1	232 ÷	465 kW

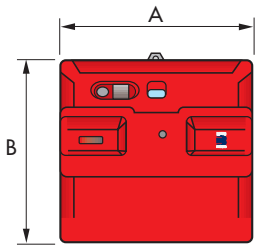
The RS/1 series of burners covers a firing range from 163 to 465 kW, and they have been designed for use in hot or superheater water boilers, hot air or steam generators, diathermic oil boilers. Setting is "one stage"; optimisation of sound emissions is guaranteed by the use of fans with forward inclined blades and sound deadening material incorporated in the air suction circuit. The 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.

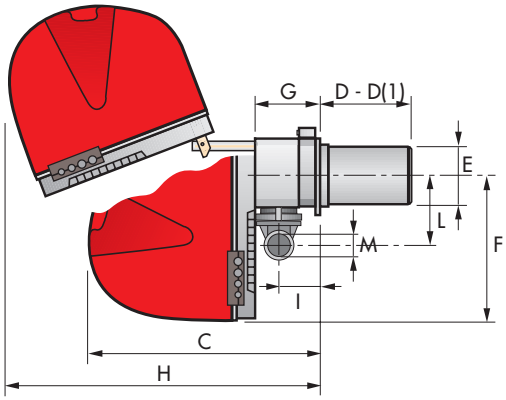
FIRING RATES



RS/1 series - OVERALL DIMENSIONS (mm)

BURNERS

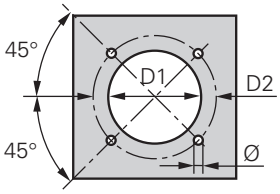




Model	A	B	C	D - D(1)	E	F	G	H	I	L	M
▸ **RS 28/1**	476	474	580	216 - 351	140	352	164	810	108	168	1"1/2
▸ **RS 38/1**	476	474	580	216 - 351	140	352	164	810	108	168	1"1/2

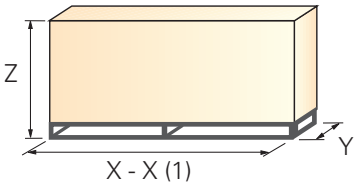
(1) Dimension with "extended head".

BURNER – BOILER MOUNTING FLANGE



Model	D1	D2	Ø
▸ **RS 28/1**	160	224	M8
▸ **RS 38/1**	160	224	M8

PACKAGING



Model	X - X (1)	Y	Z	kg
▸ **RS 28/1**	872 - 1007	540	550	37
▸ **RS 38/1**	872 - 1007	540	550	39

(1) dimension with extended head.

RS/1 series - SPECIFICATION

DESIGNATION OF SERIES

Series : R

Fuel :

S	Natural Gas
L	Light oil
LS	Light oil/Methane
N	Heavy oil

Size

Operation :

/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 :

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	S	28	/1		TC		FS1	1/230/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

RS/1 series - STATE OF SUPPLY

Monoblock forced draught gas burner, one stage operation, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades
- Air damper for air setting
- Combustion head, that can be set on the basis of required output
- Minimum air pressure switch
- Flame control panel
- Terminal strip for electrical connections
- 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 gasket
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 4 fairleads for electrical connections
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RS/1 series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	Natural Gas (Nm^3/h)				
3782017	RS 28/1 TC FS1 1/230/50 230/50-60	163-349	16-35	0,37	CE 63AP6680		
3782018	RS 28/1 TL FS1 1/230/50 230/50-60	163-349	16-35	0,37	CE 63AP6680		
3782117	RS 38/1 TC FS1 1/230/50 230/50-60	232-465	23-46,5	0,6	CE 63AP6680		
3782118	RS 38/1 TL FS1 1/230/50 230/50-60	232-465	23-46,5	0,6	CE 63AP6680		

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 - 73/23 - 92/42 EEC Directive and EN 676 Norm.

RS/1 series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter * (code)	Burner (type)	Adapter* (code)		
MULTIBLOC GAS TRAINS	3970076	MBD 407	RS 28/1	3000824	RS 28/1	3000824	(1)	
	3970046	MBZRDLE 407	RS 28/1	3000824	RS 28/1	3000824	(1)	
	3970077	MBD 410	RS 28/1 RS 38/1**	3000824 3000824	RS 38/1**	3000824	(1)	
	3970079	MBZRDLE 410	RS 28/1 RS 38/1	3000824 3000824	RS 38/1	3000824	(1)	
	3970144	MBD 412	RS 28/1 RS 38/1**				(1)	
	3970197	MBD 412 CT	RS 28/1 RS 38/1**				(2)	
	3970152	MBZRDLE 412	RS 28/1 RS 38/1				(1)	
	3970180	MBD 415	RS 28/1 RS 38/1**				(1)	
	3970198	MBD 415 CT	RS 28/1 RS 38/1**				(2)	
	3970183	MBZRDLE 415	RS 28/1 RS 38/1				(1)	
	3970181	MBD 420	RS 38/1**	3000822			(1)	
	3970182	MBD 420 CT	RS 38/1**	3000822			(2)	
	3970184	MBZRDLE 420	RS 38/1	3000822			(1)	
	3970185	MBZRDLE 420 CT	RS 38/1	3000822			(2)	
COMPOSED GAS TRAINS	3970145	CB 40/1	RS 38/1**				(1)	
	3970153	CB 40/2	RS 38/1				(1)	
	3970146	CB 50/1	RS 38/1**	3000822			(1)	
	3970160	CB 50/1 CT"	RS 38/1**	3000822			(2)	
	3970154	CB 50/2	RS 38/1	3000822			(1)	
	3970166	CB 50/2 CT"	RS 38/1	3000822			(2)	

*** The adapter price is available in the "Gas train accessories" section.**

**** Up to a capacity of 350 kW.**

(1) Seal control accessory.

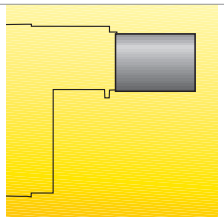
(2) Seal control incorporated.

The following table shows the frequently matching between RS/1 burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
RS 28/1	4,5	MBD 412 MBZRDLE 412	290	MBD 407 MBZRDLE 407	290	MBD 407 MBZRDLE 407	290	MBD 407 MBZRDLE 407	290
RS 38/1	5,5	CB 40/2	390	MBZRDLE 410	390	MBZRDLE 410	390	MBZRDLE 410	390

RS/1 series - BURNER ACCESSORIES

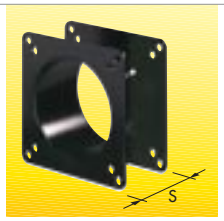
Extended heads



"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	Price
RS 28/1	216	351	3010091	
RS 38/1	216	351	3010092	

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	Price
RS 28/1 - 38/1	90	3010095	

Continuous ventilation kit

If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the table:

Burner	Kit code	Price
RS 28/1 - 38/1	3010094	

Sound proofing box

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

Burner	Box type	Box code	Price
RS 28/1 - 38/1	C2	3000777	

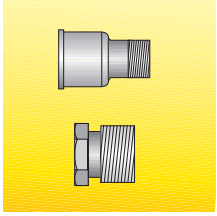
LPG kit

For burning LPG gas, a special kit is available.

Burner	Kit code	Price
RS 28/1	3010089	
RS 38/1	3010090	

RS/1 series - 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	Price
RS 28/1	MBD 407	3/4" 1" 1/2	3000824	
	MBZRDLE 407	3/4" 1" 1/2	3000824	
	MBD 410	3/4" 1" 1/2	3000824	
	MBZRDLE 410	3/4" 1" 1/2	3000824	
RS 38/1	MBD 410	3/4" 1" 1/2	3000824	
	MBZRDLE 410	3/4" 1" 1/2	3000824	
	MBD 420 - CB 50/1	2" 1" 1/2	3000822	
	MBD 420 CT - CB 50/1 CT	2" 1" 1/2	3000822	
	MBZRDLE 420 - CB 50/2	2" 1" 1/2	3000822	
	MBZRDLE 420 CT - CB 50/2 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.

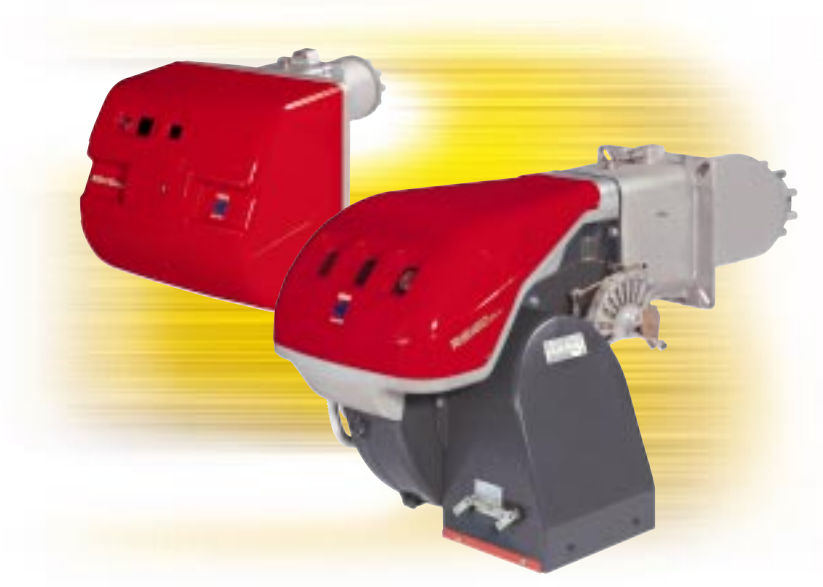
Burner	Gas train	Kit code	Price
RS 28/1	MBD 407 - MBZRDLE 407	3010123	
	MBD 410 - MBZRDLE 410	3010123	
	MBD 412 - MBZRDLE 412	3010123	
	MBD 415 - CB 40/1	3010123	
	MBZRDLE 415 - CB 40/2	3010125	
RS 38/1	MBD 407 - MBZRDLE 407	3010123	
	MBD 410 - MBZRDLE 410	3010123	
	MBD 412 - MBZRDLE 412	3010123	
	MBD 415 - MBD 420	3010123	
	CB 40/1 - CB 50/1	3010123	
	MBZRDLE 415 - CB 40/2	3010125	
	MBZRDLE 420 - CB 50/2	3010125	

CE

MODULATING LOW NOx GAS BURNERS

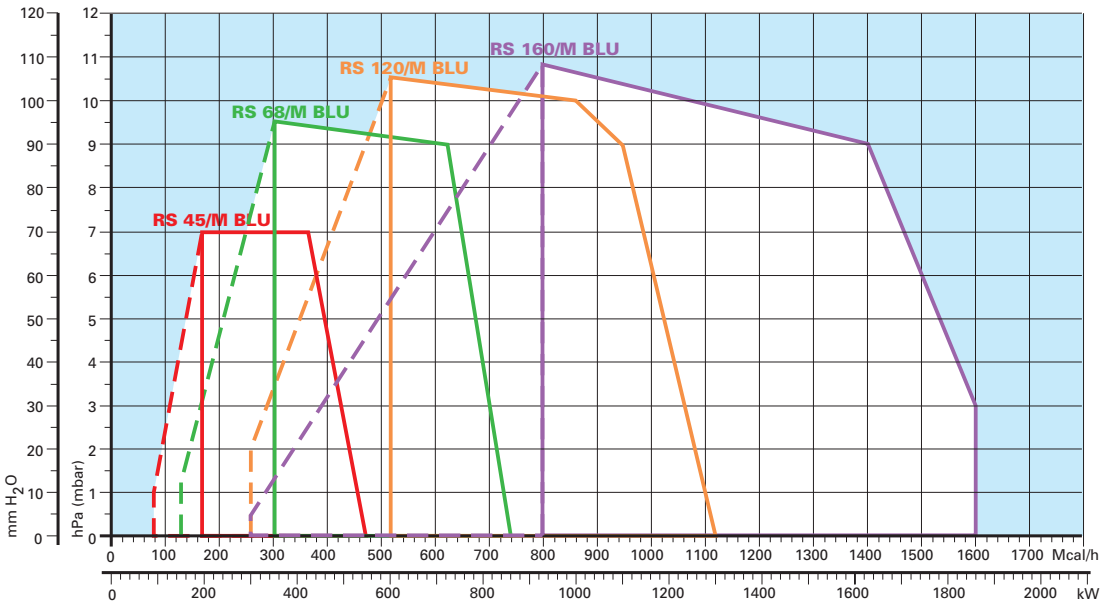
RS/M BLU SERIES

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



The RS/M BLU series of burners covers a firing range from 90 to 1860 kW, and they have been designed for use in hot or superheated 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. RS/M BLU 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.

FIRING RATES



Useful working field for choosing the burner

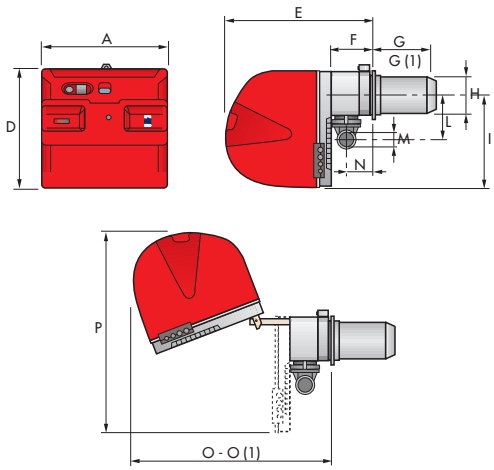
Modulation range

Test conditions conforming to EN 676:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

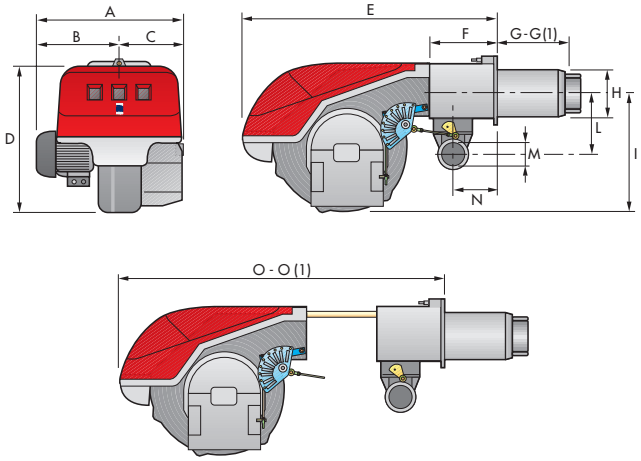
RS/M BLU series - OVERALL DIMENSIONS (mm)

BURNERS

RS 45/M BLU



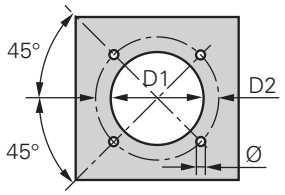
RS 68/M - 120/M - 160/M BLU



Model	A	B	C	D	E	F	G - G (1)	H	I	L	M	N	O - O(1)	P
▸ **RS 45/M BLU**	476	-	-	474	580	164	229 - 354	160	352	168	1"1/2	108	810 - 810	719
▸ **RS 68/M BLU**	511	296	215	555	840	214	255 - 390	189	430	221	2"	134	1161 - 1296	-
▸ **RS 120/M BLU**	553	338	215	555	840	214	255 - 390	189	430	221	2"	134	1161 - 1296	-
▸ **RS 160/M BLU**	681	366	315	555	847	221	373 - 503	221	430	186	2"	141	1395 - 1535	-

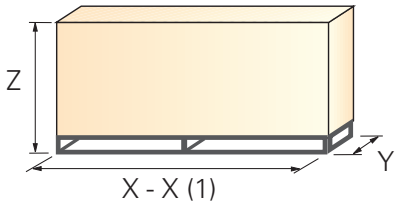
(1) dimension with extended head

BURNER – BOILER MOUNTING FLANGE



Model	D1	D2	Ø
▸ **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

PACKAGING



Model	X - X (1)	Y	Z	kg
▸ **RS 45/M BLU**	1015 - 1015	500	630	41
▸ **RS 68/M BLU**	1190 - 1340	692	740	70
▸ **RS 120/M BLU**	1190 - 1340	692	740	76
▸ **RS 160/M BLU**	1250 - 1400	785	725	89

(1) dimension with extended head

RS/M BLU series - SPECIFICATION

DESIGNATION OF SERIES

Series : R

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

Size

Operation :
- /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

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	3/220/60Hz - 3N/380V/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

RS/M BLU series - STATE OF SUPPLY

Monoblock forced draught gas burner, 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 (straight blades on the 160/M BLU model)
- Air damper for air setting and butterfly valve for regulating fuel output controlled by a servomotor with variable cam
- Low emission combustion head, that can be set on the basis of required output
- Maximum gas pressure switch
- Minimum air pressure switch
- Flame control panel, fitted with control functions for the correct positioning of the servomotor
- 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:
- 1 gas train gasket
- 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/M BLU model)
- 2 slide bar extensions (for extended head models and RS 160/M BLU)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RS/M BLU series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	Natural Gas (Nm^3/h)				
3897302	RS 45/M BLU TC FS1 3/230-400/50 230/50-60	90/190-550	9/19-55	0,6	In progress		
3897303	RS 45/M BLU TL FS1 3/230-400/50 230/50-60	90/190-550	9/19-55	0,6	In progress		
3897312	RS 45/M BLU TC FS2 3/230-400/50 230/50-60	90/190-550	9/19-55	0,6	In progress		
3897313	RS 45/M BLU TL FS2 3/230-400/50 230/50-60	90/190-550	9/19-55	0,6	In progress		
3897402	RS 68/M BLU TC FS1 3/230-400/50 230/50-60	150/350-860	15/35-86	2,1	In progress		
3897403	RS 68/M BLU TL FS1 3/230-400/50 230/50-60	150/350-860	15/35-86	2,1	In progress		
3897420	RS 68/M BLU TC FS2 3/230-400/50 230/50-60	150/350-860	15/35-86	2,1	In progress		
3897421	RS 68/M BLU TL FS2 3/230-400/50 230/50-60	150/350-860	15/35-86	2,1	In progress		
3897602	RS 120/M BLU TC FS1 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,6	In progress		
3897603	RS 120/M BLU TL FS1 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,6	In progress		
3897620	RS 120/M BLU TC FS2 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,6	In progress		
3897621	RS 120/M BLU TL FS2 3/230-400/50 230/50-60	300/600-1300	30/60-130	2,6	In progress		
3788002	RS 160/M BLU TC FS1 3/230-400/50 230/50-60	300/930-1860	30/93-186	4,8	In progress		
3788003	RS 160/M BLU TL FS1 3/230-400/50 230/50-60	300/930-1860	30/93-186	4,8	In progress		
3788011	RS 160/M BLU TC FS2 3/230-400/50 230/50-60	300/930-1860	30/93-186	4,8	In progress		
3788012	RS 160/M BLU TL FS2 3/230-400/50 230/50-60	300/930-1860	30/93-186	4,8	In progress		
3897340	RS 45/M BLU TC FS1 3/230-400/50 230/50-60 ID	90/190-550	9/19-55	0,6	In progress		
3897341	RS 45/M BLU TL FS1 3/230-400/50 230/50-60 ID	90/190-550	9/19-55	0,6	In progress		
3897342	RS 45/M BLU TC FS2 3/230-400/50 230/50-60 ID	90/190-550	9/19-55	0,6	In progress		
3897343	RS 45/M BLU TL FS2 3/230-400/50 230/50-60 ID	90/190-550	9/19-55	0,6	In progress		
3788040	RS 160/M BLU TC FS1 3/230-400/50 230/50-60 ID	300/930-1860	30/93-186	4,8	In progress		

Natural gas, net calorific value: 10 kWh/Nmc - Density 0,71 Kg/Nmc

The burners of RS/M BLU series are in according to 90/396 - 89/336 - 73/23 - 92/42 EEC Directive and EN 676 - LRV 92 Norm.

RS/M BLU series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		Note	Gas train price
			Burner (type)	Adapter * (code)		
MULTIBLOC GAS TRAIN	3970076	MBD 407	RS 45/M BLU	3000824	(1)	
	3970077	MBD 410	RS 45/M BLU	3000824	(1)	
	3970144	MBD 412	RS 45/M BLU RS 68/M BLU RS 120/M BLU	- 3000843 3000843	(1)	
	3970197	MBD 412 CT	RS 45/M BLU RS 68/M BLU RS 120/M BLU	- 3000843 3000843	(2)	
	3970180	MBD 415	RS 45/M BLU RS 68/M BLU RS 120/M BLU	- 3000843 3000843	(1)	
	3970198	MBD 415 CT	RS 45/M BLU RS 68/M BLU RS 120/M BLU	- 3000843 3000843	(2)	
	3970181	MBD 420	RS 45/M BLU RS 68/M BLU RS 120/M BLU RS 160/M BLU	3000822 - - -	(1)	
	3970182	MBD 420 CT	RS 45/M BLU RS 68/M BLU RS 120/M BLU RS 160/M BLU	3000822 - - -	(2)	
COMPOSED GAS TRAIN	3970145	CB 40/1	RS 45/M BLU RS 68/M BLU RS 120/M BLU	- 3000843 3000843	(1)	
	3970146	CB 50/1	RS 45/M BLU RS 68/M BLU RS 120/M BLU RS 160/M BLU	3000822 - - -	(1)	
	3970160	CB 50/1 CT	RS 45/M BLU RS 68/M BLU RS 120/M BLU RS 160/M BLU	3000822 - - -	(2)	
	3970147	CBF 65/1	RS 68/M BLU RS 120/M BLU RS 160/M BLU	3000825 3000825 3000825	(1)	
	3970161	CBF 65/1 CT	RS 68/M BLU RS 120/M BLU RS 160/M BLU	3000825 3000825 3000825	(2)	
	3970148	CBF 80/1	RS 120/M BLU RS 160/M BLU	3000826 3000826	(1)	
	3970162	CBF 80/1 CT	RS 120/M BLU RS 160/M BLU	3000826 3000826	(2)	
	3970149	CBF 100/1	RS 160/M BLU	3010127	(1)	
	3970163	CBF 100/1 CT	RS 160/M BLU	3010127	(2)	

*** the adapter price is available in the "Gas train accessories" section**

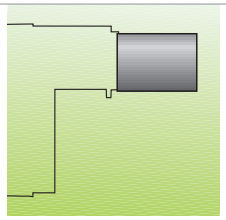
(1) Seal control accessory

(2) Seal control incorporated

The following table shows the frequently matching between RS/M BLU burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
RS/M 45 BLU	7			MBD 412	430				
RS/M 68 BLU	9			MBD 412	690				
RS/M 120 BLU	9,5			MBD 415	1070				
RS/M 120 BLU	9,5			CB 40/1	1070				
RS/M 160 BLU	9,5			MBD 420	1550				
RS/M 160 BLU	9,5			CB 50/1	1550				

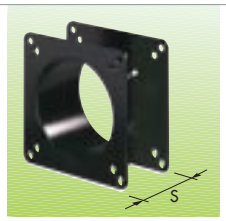
Extended heads



"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	Price
RS 45/M BLU	229	354	3010240	
RS 68/M BLU	255	390	3010177	
RS 120/M BLU	255	390	3010177	
RS 160/M BLU	373	503	3010193	

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	Price
RS 45/M BLU	90	3010095	
RS 68/M - 120/M BLU	135	3010129	
RS 160/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	Price
RS 45/M BLU	3010094	
RS 68/M - 120/M - 160/M BLU	3010094	

Sound proofing box

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

Burner	Box type	Box code	Price
RS 45/M BLU	C2	3000777	
RS 68/M - 120/M - 160/M BLU	C3	3000778	

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	Price
RS 68/M BLU	3010247	
RS 120/M BLU	3010248	
RS 160/M BLU	3010249	

Accessories for modulating operation

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

Regulator type	Code	Price
RWF 40	3010212	

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

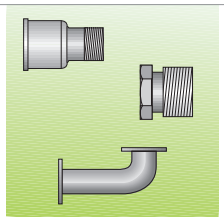
Probe type	Range (°C) (bar)	Code	Price
Temperature PT 100	-100 ÷ 500°C	3010110	
Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213	
Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214	

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	Price
RS 45/M BLU	3010109	
RS 68/M - 120/M - 160/M BLU	3010021	

RS/M BLU series - 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.

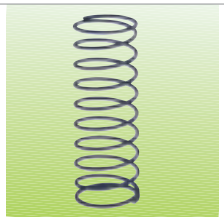
Burner	Gas train	Dimensions	Adapter code	Price
RS 45/M BLU	MBD 407 - 410	3/4" 1" 1/2	3000824	
	MBD 420 - CB 50/1	2" 1" 1/2	3000822	
RS 68/M BLU	MBD 412-415-CB 40/1	1" 1/2 2"	3000843	
	CBF 65/1	DN 65 2"1/2 1" 1/2 2"	3000825	
RS 120/M BLU	MBD 415 - CB 40/1	1" 1/2 2"	3000843	
	CBF 65/1	DN 65 2"1/2 1" 1/2 2"	3000825	
	CBF 80/1	DN 80 2"1/2 2"	3000826	
RS 160/M BLU	CBF 65/1	DN 65 2"1/2 1" 1/2 2"	3000825	
	CBF 80/1	DN 80 2"1/2 2"	3000826	
	CBF 100/1	DN 100 DN 80	3010127	

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available.

Burner	Gas train	Kit code	Price
RS 45/M BLU	CB 40/1 - 50/1 - MBD 407 - 410 - 412 - 415 - 420	3010123	
RS 68/M BLU	CB 40/1 - 50/1 - MBD 412 - 415 - 420 - CBF 65/1	3010123	
RS 120/M BLU	CB 40/1 - 50/1 - MBD 415 - 420 - CBF 65/1 - 80/1	3010123	
RS 160/M BLU	CB 50/1 - MBD 420 - CBF 65/1 - 80/1	3010123	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

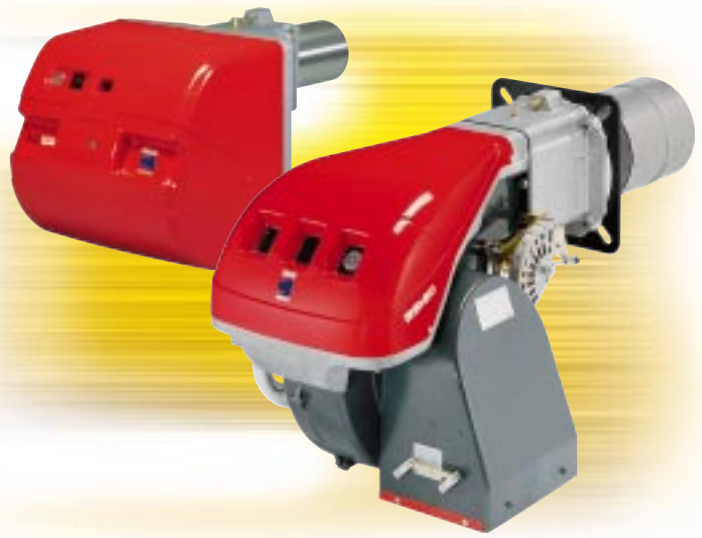
Gas train	Spring	Code	Price
CBF 65/1 - CBF 80/1	Red from 25 to 55 mbar	3010133	
CBF 100/1	Red from 25 to 55 mbar	3010134	
CBF 65/1 - CBF 80/1	Black from 60 to 110 mbar	3010135	
CBF 100/1	Black from 60 to 110 mbar	3010136	
CBF 65/1 - CBF 80/1	Pink from 90 to 150 mbar	3090456	
CBF 100/1	Pink from 90 to 150 mbar	3090489	

CE

TWO STAGE GAS BURNERS

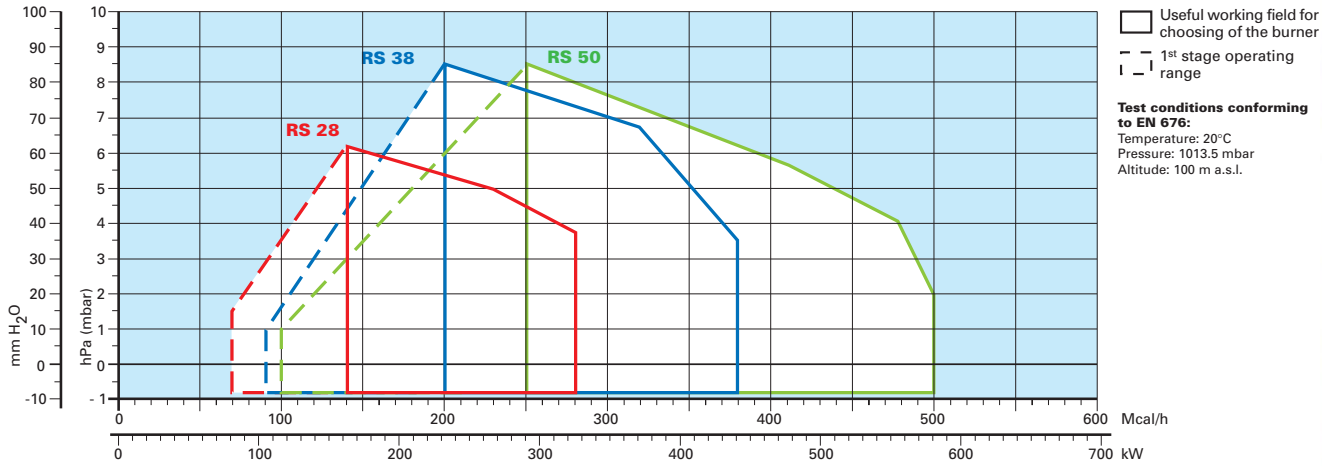
RS SERIES

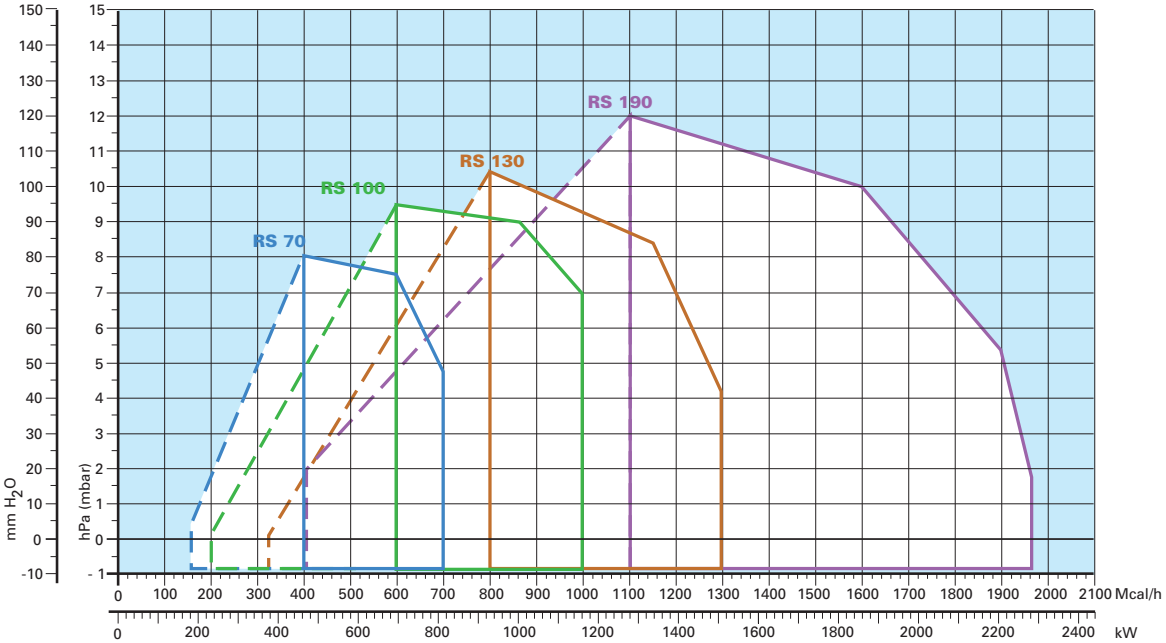
RS 28	81/163 ÷ 325 kW
RS 38	105/232 ÷ 440 kW
RS 50	116/290 ÷ 580 kW
RS 70	192/465 ÷ 814 kW
RS 100	232/698 ÷ 1163 kW
RS 130	372/930 ÷ 1512 kW
RS 190	470/1279 ÷ 2290 kW



The RS series of burners covers a firing range from 81 to 2290 kW, and they have been designed for use in hot or superheater water boilers, hot air or steam generators, diathermic oil boilers. Operation is "two stage progressive"; the burners are fitted with an electronic device STATUS PANEL, which supplies complete diagnostic: hour meter, ignition meter, identification of trouble shooting. 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 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.

FIRING RATES

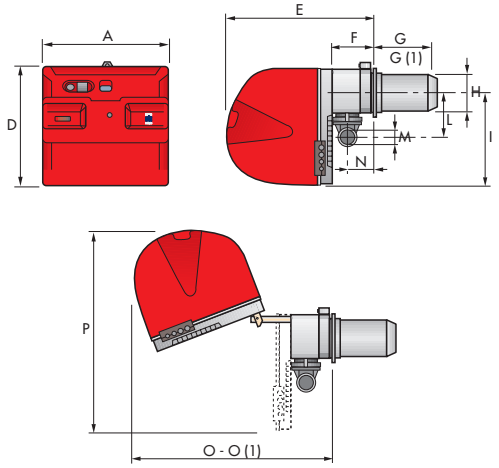




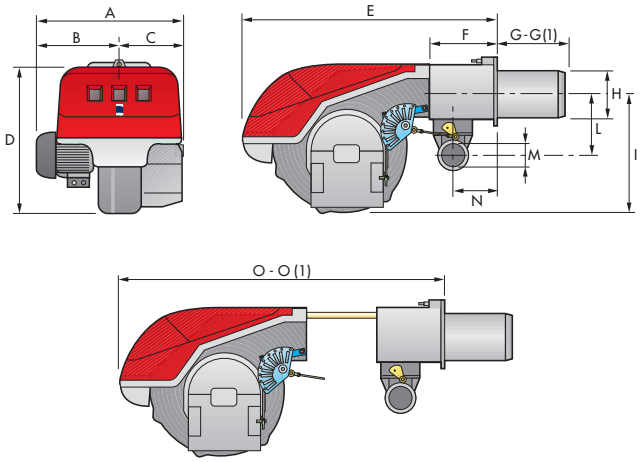
RS series - OVERALL DIMENSIONS (mm)

BURNERS

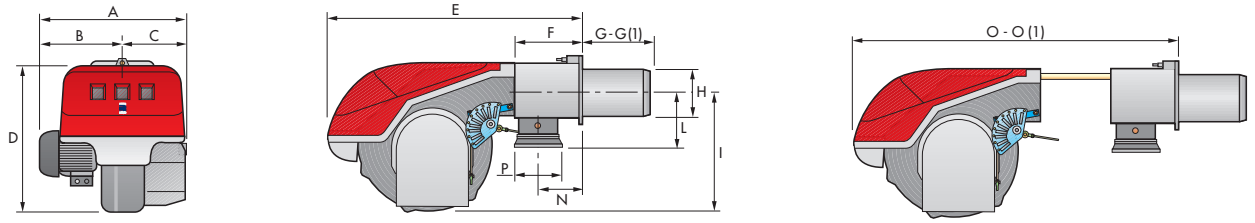
RS 28 - 38 - 50



RS 70 - 100 - 130



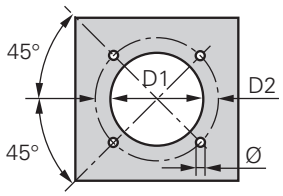
RS 190



Model	A	B	C	D	E	F	G - G (1)	H	I	L	M	N	O - O (1)	P
▸ **RS 28**	476	-	-	474	580	164	216 - 351(1)	140	352	168	1"1/2	108	810	
▸ **RS 38**	476	-	-	474	580	164	216 - 351(1)	140	352	168	1"1/2	108	810	
▸ **RS 50**	476	-	-	474	580	164	216 - 351(1)	152	352	168	1"1/2	108	810	
▸ **RS 70**	511	296	215	555	840	214	250 - 385(1)	179	430	221	2"	134	1161 - 1296(1)	
▸ **RS 100**	527	312	215	555	840	214	250 - 385(1)	179	430	221	2"	134	1161 - 1296(1)	
▸ **RS 130**	553	338	215	555	840	214	280 - 415(1)	189	430	221	2"	134	1161 - 1296(1)	
▸ **RS 190**	681	366	315	555	856	230	372	222	430	186	DN80	150	1312	

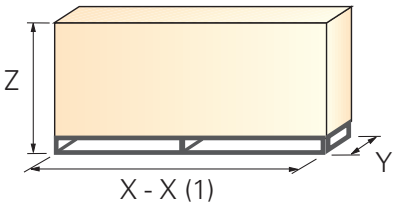
(1) "Extended" head model

BURNER – BOILER MOUNTING FLANGE



Model	D1	D2	Ø
▸ **RS 28**	160	224	M8
▸ **RS 38**	160	224	M8
▸ **RS 50**	160	224	M8
▸ **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 - X (1)	Y	Z	kg
▸ **RS 28**	872 - 1007	540	550	38
▸ **RS 38**	872 - 1007	540	550	40
▸ **RS 50**	872 - 1007	540	550	41
▸ **RS 70**	1190 - 1325	692	740	70
▸ **RS 100**	1190 - 1325	692	740	73
▸ **RS 130**	1190 - 1325	692	740	76
▸ **RS 190**	1250	785	725	82

(1) "Extended" head model

RS series - SPECIFICATION

DESIGNATION OF SERIES

Series : R

Fuel :
- S Natural Gas
- L Light oil
- LS Light oil/Natural Gas
- N Heavy oil

Size

Operation :
- /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 :
- 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
- 3/400/50 3/400V/50Hz
- 3/230/50 3/230V/50Hz
- 3/380/60 3/380V/60Hz
- 3/220/60 3/220V/60Hz

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

ID:
Differential switch

R	S	130			TC	LP	FS1	3/230-400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

RS series - STATE OF SUPPLY

- Monoblock forced draught burner, two stage operation, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (straight blades on the 190 model)
- Air damper for air setting controlled by a servomotor with variable cam
- Combustion head, that can be set on the basis of required output
- Maximum gas pressure switch
- Minimum air pressure switch
- Flame control panel
- Electronic device to check all burners operational modes (Led or Status Panel)
- Burner on/off switch
- Manual 1st and 2nd stage switch
- Plugs for electrical connections (RS 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 gasket
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Fairleads for electrical connections (for RS 28-38-50 model)
- 2 slide bar extensions (for extended head models of RS 50 - 70 - 100 - 130 and for RS 190)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RS series - AVAILABLE BURNER MODELS

Code	Model	Heat output (kW)	Heat output Natural Gas (Nm^3/h)	Total Electrical power (kW)	Certification	Note	Price
3783222	RS 28 TC LP FS1 1/230/50 230/50-60	81/163-325	8/16-33	0,37	CE 0085AP0733		
3783257	RS 28 TC LP FS1 1/230/50 230/50-60 ID	81/163-325	8/16-33	0,37	CE 0085AP0733		
3783220	RS 28 TC ST FS1 1/230/50 230/50-60	81/163-325	8/16-33	0,37	CE 0085AP0733		
3783255	RS 28 TC ST FS1 1/230/50 230/50-60 ID	81/163-325	8/16-33	0,37	CE 0085AP0733		
3783223	RS 28 TL LP FS1 1/230/50 230/50-60	81/163-325	8/16-33	0,37	CE 0085AP0733		
3783258	RS 28 TL LP FS1 1/230/50 230/50-60 ID	81/163-325	8/16-33	0,37	CE 0085AP0733		
3783221	RS 28 TL ST FS1 1/230/50 230/50-60	81/163-325	8/16-33	0,37	CE 0085AP0733		
3783256	RS 28 TL ST FS1 1/230/50 230/50-60 ID	81/163-325	8/16-33	0,37	CE 0085AP0733		
3784122	RS 38 TC LP FS1 1/230/50 230/50-60	105/232-440	10,5/23-44	0,6	CE 0085AP0734		
3784157	RS 38 TC LP FS1 1/230/50 230/50-60 ID	105/232-440	10,5/23-44	0,6	CE 0085AP0734		
3784322	RS 38 TC LP FS1 3/230-400/50 230/50-60	105/232-440	10,5/23-44	0,56	CE 0085AP0734		
3784357	RS 38 TC LP FS1 3/230-400/50 230/50-60 ID	105/232-440	10,5/23-44	0,56	CE 0085AP0734		
3784120	RS 38 TC ST FS1 1/230/50 230/50-60	105/232-440	10,5/23-44	0,6	CE 0085AP0734		
3784155	RS 38 TC ST FS1 1/230/50 230/50-60 ID	105/232-440	10,5/23-44	0,6	CE 0085AP0734		
3784320	RS 38 TC ST FS1 3/230-400/50 230/50-60	105/232-440	10,5/23-44	0,56	CE 0085AP0734		
3784355	RS 38 TC ST FS1 3/230-400/50 230/50-60 ID	105/232-440	10,5/23-44	0,56	CE 0085AP0734		
3784123	RS 38 TL LP FS1 1/230/50 230/50-60	105/232-440	10,5/23-44	0,6	CE 0085AP0734		
3784158	RS 38 TL LP FS1 1/230/50 230/50-60 ID	105/232-440	10,5/23-44	0,6	CE 0085AP0734		
3784323	RS 38 TL LP FS1 3/230-400/50 230/50-60	105/232-440	10,5/23-44	0,56	CE 0085AP0734		
3784358	RS 38 TL LP FS1 3/230-400/50 230/50-60 ID	105/232-440	10,5/23-44	0,56	CE 0085AP0734		
3784121	RS 38 TL ST FS1 1/230/50 230/50-60	105/232-440	10,5/23-44	0,6	CE 0085AP0734		
3784156	RS 38 TL ST FS1 1/230/50 230/50-60 ID	105/232-440	10,5/23-44	0,6	CE 0085AP0734		
3784321	RS 38 TL ST FS1 3/230-400/50 230/50-60	105/232-440	10,5/23-44	0,56	CE 0085AP0734		
3784356	RS 38 TL ST FS1 3/230-400/50 230/50-60 ID	105/232-440	10,5/23-44	0,56	CE 0085AP0734		
3784622	RS 50 TC LP FS1 3/230-400/50 230/50-60	116/290-581	12/29-58	0,75	CE 0085AP0735		
3784657	RS 50 TC LP FS1 3/230-400/50 230/50-60 ID	116/290-581	12/29-58	0,75	CE 0085AP0735		
3784620	RS 50 TC ST FS1 3/230-400/50 230/50-60	116/290-581	12/29-58	0,75	CE 0085AP0735		
3784655	RS 50 TC ST FS1 3/230-400/50 230/50-60 ID	116/290-581	12/29-58	0,75	CE 0085AP0735		
3784623	RS 50 TL LP FS1 3/230-400/50 230/50-60	116/290-581	12/29-58	0,75	CE 0085AP0735		
3784658	RS 50 TL LP FS1 3/230-400/50 230/50-60 ID	116/290-581	12/29-58	0,75	CE 0085AP0735		
3784621	RS 50 TL ST FS1 3/230-400/50 230/50-60	116/290-581	12/29-58	0,75	CE 0085AP0735		
3784656	RS 50 TL ST FS1 3/230-400/50 230/50-60 ID	116/290-581	12/29-58	0,75	CE 0085AP0735		
3785022	RS 70 TC LP FS1 3/230-400/50 230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944		
3785047	RS 70 TC LP FS1 3/230-400/50 230/50-60 ID	192/465-814	19/46,5-81	1,4	CE 0085AP0944		
3785020	RS 70 TC ST FS1 3/230-400/50 230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944		
3785045	RS 70 TC ST FS1 3/230-400/50 230/50-60 ID	192/465-814	19/46,5-81	1,4	CE 0085AP0944		
3785023	RS 70 TL LP FS1 3/230-400/50 230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944		
3785048	RS 70 TL LP FS1 3/230-400/50 230/50-60 ID	192/465-814	19/46,5-81	1,4	CE 0085AP0944		
3785021	RS 70 TL ST FS1 3/230-400/50 230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944		
3785046	RS 70 TL ST FS1 3/230-400/50 230/50-60 ID	192/465-814	19/46,5-81	1,4	CE 0085AP0944		
3785222	RS 100 TC LP FS1 3/230-400/50 230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945		
3785247	RS 100 TC LP FS1 3/230-400/50 230/50-60 ID	232/698-1163	23/70-116	1,8	CE 0085AP0945		
3785220	RS 100 TC ST FS1 3/230-400/50 230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945		
3785245	RS 100 TC ST FS1 3/230-400/50 230/50-60 ID	232/698-1163	23/70-116	1,8	CE 0085AP0945		
3785223	RS 100 TL LP FS1 3/230-400/50 230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945		
3785248	RS 100 TL LP FS1 3/230-400/50 230/50-60 ID	232/698-1163	23/70-116	1,8	CE 0085AP0945		
3785221	RS 100 TL ST FS1 3/230-400/50 230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945		
3785246	RS 100 TL ST FS1 3/230-400/50 230/50-60 ID	232/698-1163	23/70-116	1,8	CE 0085AP0945		
3785422	RS 130 TC LP FS1 3/230-400/50 230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946		
3785447	RS 130 TC LP FS1 3/230-400/50 230/50-60 ID	372/930-1512	37/93-151	2,6	CE 0085AP0946		
3785420	RS 130 TC ST FS1 3/230-400/50 230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946		
3785445	RS 130 TC ST FS1 3/230-400/50 230/50-60 ID	372/930-1512	37/93-151	2,6	CE 0085AP0946		
3785423	RS 130 TL LP FS1 3/230-400/50 230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946		
3785448	RS 130 TL LP FS1 3/230-400/50 230/50-60 ID	372/930-1512	37/93-151	2,6	CE 0085AP0946		
3785421	RS 130 TL ST FS1 3/230-400/50 230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946		
3785446	RS 130 TL ST FS1 3/230-400/50 230/50-60 ID	372/930-1512	37/93-151	2,6	CE 0085AP0946		
3785811	RS 190 TC ST FS1 3/230-400/50 230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042		
3785841	RS 190 TC ST FS1 3/230-400/50 230/50-60 ID	470/1279-2290	47/128-229	5,5	CE 0085AT0042		

Net calorific value gas G20 10 kWh/Nm^3 8600 kcal/Nm^3 - Density gas G20 0,71 kg/Nm^3.
The burners of RS series are in according to 90/396 - 89/336 - 73/23 - 92/42 EEC Directive and EN 676 Norm.

RS series - AVAILABLE GAS TRAIN MODELS

	Gas train model	Gas train code	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter (code)	Burner (type)	Adapter (code)		
MULTIBLOC GAS TRAINS	MBD 407	3970076	RS 28 - -	3000824 - -	RS 28 RS 38 RS 50	3000824 3000824 3000824	(1)	
	MBD 410	3970077	RS 28 RS 38 RS 50	3000824 3000824 3000824	RS 28 RS 38 RS 50	3000824 3000824 3000824	(1)	
	MBD 412	3970144	RS 28 RS 38 RS 50	- - -	RS 28 RS 38 RS 50	- - -	(1)	
	MBD 412 CT	3970197	RS 28 RS 38 RS 50	- - -	RS 28 RS 38 RS 50	- - -	(2)	
	MBD 415	3970180	RS 28 RS 38 RS 50 RS 70 RS 100 RS 130	- - - 3000843 3000843 3000843	RS 28 RS 38 RS 50 RS 70 RS 100 RS 130	- - - 3000843 3000843 3000843	(1)	
	MBD 415 CT	3970198	RS 28 RS 38 RS 50 RS 70 RS 100 RS 130	- - - 3000843 3000843 3000843	RS 28 RS 38 RS 50 RS 70 RS 100 RS 130	- - - 3000843 3000843 3000843	(2)	
	MBD 420	3970181	RS 38 RS 50 RS 70 RS 100 RS 130 RS 190	3000822 3000822 - - - 3010128	- - RS 70 RS 100 RS 130 RS 190	- - - - - 3010128	(1)	
	MBD 420 CT	3970182	RS 38 RS 50 RS 70 RS 100 RS 130 RS 190	3000822 3000822 - - - 3010128	- - RS 70 RS 100 RS 130 RS 190	- - - - - 3010128	(2)	
COMPOSED GAS TRAINS	CB 40/1	3970145	RS 28 RS 38 RS 50 RS 70 RS 100 RS 130	- - - 3000843 3000843 3000843	- RS 38 RS 50 RS 70 RS 100 RS 130	- - - 3000843 3000843 3000843	(1)	
	CB 50/1	3970146	RS 38 RS 50 RS 70 RS 100 RS 130 RS 190	3000822 3000822 - - - 3010128	- - RS 70 RS 100 RS 130 RS 190	- - - - - 3010128	(1)	
	CB 50/1 CT	3970160	RS 38 RS 50 RS 70 RS 100 RS 130 RS 190	3000822 3000822 - - - 3010128	- - RS 70 RS 100 RS 130 RS 190	- - - - - 3010128	(1)	
	CBF 65/1	3970147	RS 70 RS 100 RS 130 RS 190	3000825 3000825 3000825 3000831	RS 70 RS 100 RS 130 RS 190	3000825 3000825 3000825 3000831	(2)	
	CBF 65/1 CT	3970161	RS 70 RS 100 RS 130 RS 190	3000825 3000825 3000825 3000831	RS 70 RS 100 RS 130 RS 190	3000825 3000825 3000825 3000831	(2)	
	CBF 80/1	3970148	RS 70 RS 100 RS 130 RS 190	3000826 3000826 3000826 3000832	- - - -	- - - -	(1)	
	CBF 80/1 CT	3970162	RS 70 RS 100 RS 130 RS 190	3000826 3000826 3000826 3000832	- - - -	- - - -	(2)	
	CBF 100/1	3970149	RS 190	3010127	-	-	(1)	
	CB 100/1 CT	3970163	RS 190	3010127	-	-	(2)	

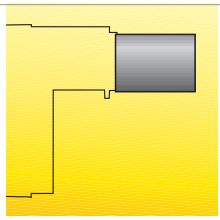
1) Seal control Accessory
2) Seal control Incorporated

The following table shows the frequently matching between RS/M burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
RS 28	5,0	MBD 412	270	MBD 407	270	MBD 407	270	MBD 407	270
RS 38	6,5	CB 40/1	370	MBD 410	370	MBD 410	370	MBD 410	370
RS 50	5,5	CB 50/1	480	MBD 410	480	MBD 410	480	MBD 410	480
RS 70	7,5	-	-	CB 40/1	700	CB 40/1	700	CB 40/1	700
RS 100	9,0	-	-	CB 40/1	1010	CB 50/1	1010	CB 40/1	1010
RS 130	8,0	-	-	CB 40/1	1320	CB 50/1	1320	CB 40/1	1320
RS 190	9,0	-	-	CB 50/1	1950	-	-	CB 50/1	1950

RS series - BURNER ACCESSORIES

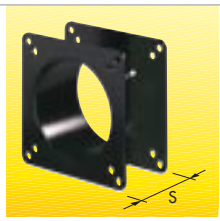
Extended heads



"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	Price
RS 28	216	351	3010076	
RS 38	216	351	3010077	
RS 50	216	351	3010078	
RS 70	250	385	3010117	
RS 100	250	385	3010118	
RS 130	280	415	3010119	

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	Price
RS 28 - 38 - 50	90	3010095	
RS 70 - 100 - 130	135	3010129	
RS 190	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	Price
RS 28 - 38 - 50 - 70 - 100 - 130 - 190	3010094	

Sound proofing box

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

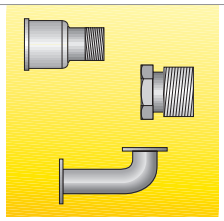
Burner	Box type	Box code	Price
RS 28 - 38 - 50	C2	3000777	
RS 70 - 100 - 130 - 190	C3	3000778	

LPG kit

For burning LPG gas, a special kit is available.

Burner	Kit code for 'standard head'	Price	Kit code for 'extended head'	Price
RS 28	3010079		3010080	
RS 38	3010081		3010082	
RS 50	3010083		3010084	
RS 70	3010097		3010098	
RS 100	3010099		3010100	
RS 130	3010101		3010102	
RS 190	3010166		-	

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.

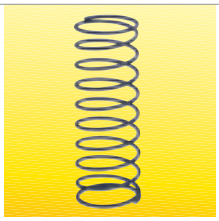
Burner	Gas train	Dimensions	Adapter code	Price
RS 28	MBD 407 - 410	3/4" 1" 1/2	3000824	
RS 38	MBD 407 - 410	3/4" 1" 1/2	3000824	
	MBD 420 - CB 50/1	2" 1" 1/2	3000822	
RS 50	MBD 407 - 410	3/4" 1" 1/2	3000824	
	MBD 420 - CB 50/1	2" 1" 1/2	3000822	
RS 70	MBD 415 - CB 40/1	1" 1/2 2"	3000843	
	CBF 65/1	DN 65 2"1/2 1" 1/2 2"	3000825	
	CBF 80/1	DN 80 2"1/2 2"	3000826	
RS 100	MBD 415 - CB 40/1	1" 1/2 2"	3000843	
	CBF 65/1	DN 65 2"1/2 1" 1/2 2"	3000825	
	CBF 80/1	DN 80 2"1/2 2"	3000826	
RS 130	MBD 415 - CB 40/1	1" 1/2 2"	3000843	
	CBF 65/1	DN 65 2"1/2 1" 1/2 2"	3000825	
	CBF 80/1	DN 80 2"1/2 2"	3000826	
RS 190	MBD 420 - CB 50/1	DN 80 DN 65 2"1/2 2"	3010128	
	CBF 65/1	DN 65 DN 80	3000831	
	CBF 80/1	DN 80 DN 80	3000832	
	CBF 100/1	DN 100 DN 80	3010127	

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available.

Burner	Gas train	Kit code	Price
RS 28	MBD 407 - 410 - 412 - 415	3010123	
RS 38	MBD 410 - 412 - 415 - 420	3010123	
RS 50	MBD 410 - 412 - 415 - 420	3010123	
RS 70	MBD 415 - 420 - CB 40/1 - 50/1 - CBF 65/1	3010123	
RS 100	MBD 415 - 420 - CB 40/1 - 50/1 - CBF 65/1- 80/1	3010123	
RS 130	MBD 415 - 420 - CB 40/1 - 50/1 - CBF 65/1 - 80/1	3010123	
RS 190	MBD 420 - CB 50/1 - CBF 65/1 - 80/1 - 100/1	3010123	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

Gas train	Spring	Code	Price
CBF 65/1 - CBF 80/1	Red from 25 to 55 mbar	3010133	
CBF 100/1	Red from 25 to 55 mbar	3010134	
CBF 65/1 - CBF 80/1	Black from 60 to 110 mbar	3010135	
CBF 100/1	Black from 60 to 110 mbar	3010136	
CBF 65/1 - CBF 80/1	Pink from 90 to 150 mbar	3090456	
CBF 100/1	Pink from 90 to 150 mbar	3090489	

CE

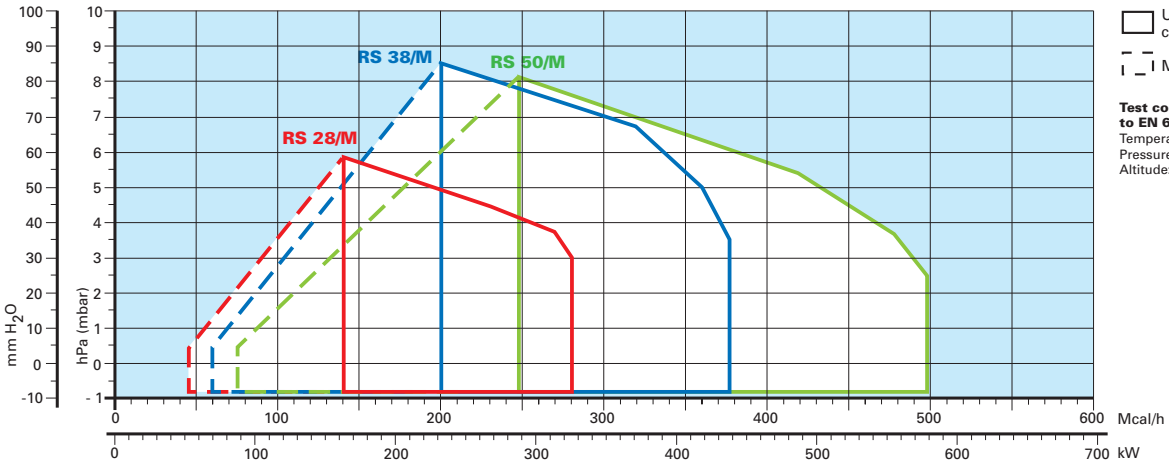
MODULATING GAS BURNERS

RS/M SERIES

RS 28/M	52/163 ÷	325 kW
RS 38/M	70/232 ÷	440 kW
RS 50/M	85/290 ÷	580 kW
RS 70/M	135/465 ÷	814 kW
RS100/M	150/698 ÷	1163 kW
RS 130/M	160/930 ÷	1512 kW
RS 190/M	470/1279 ÷	2290 kW

The RS/M series of burners covers a firing range from 52 to 2290 kW, and they have been designed for use in hot water boilers or superheaters, 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. RS/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.

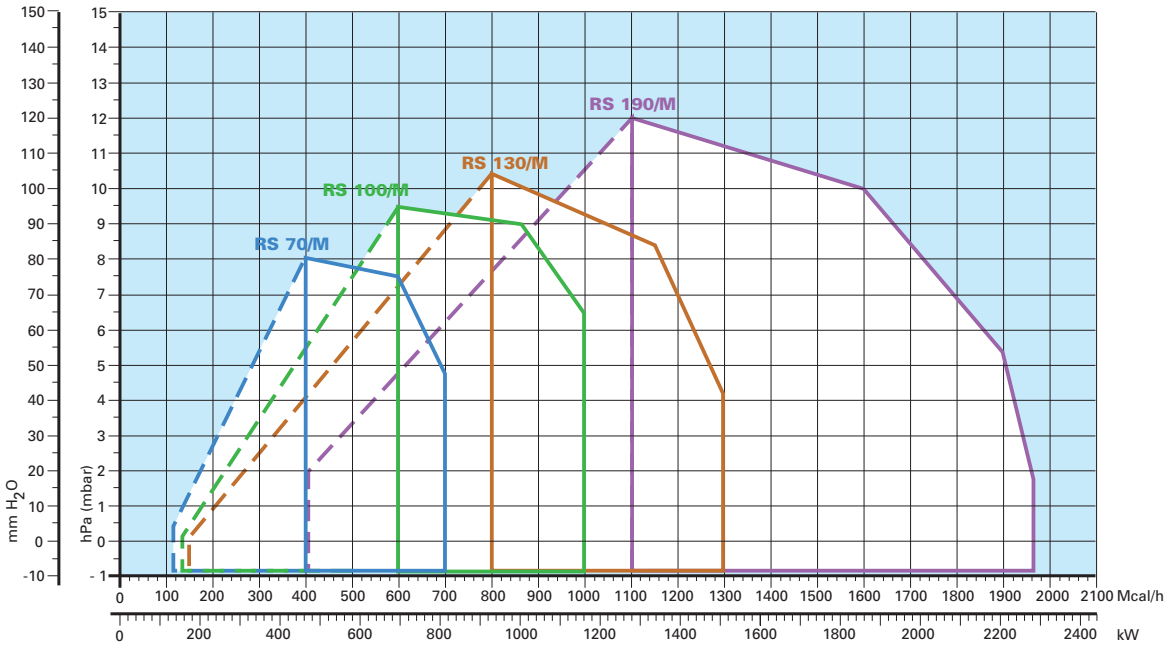
FIRING RATES



Useful working field for choosing of the burner

Modulation range

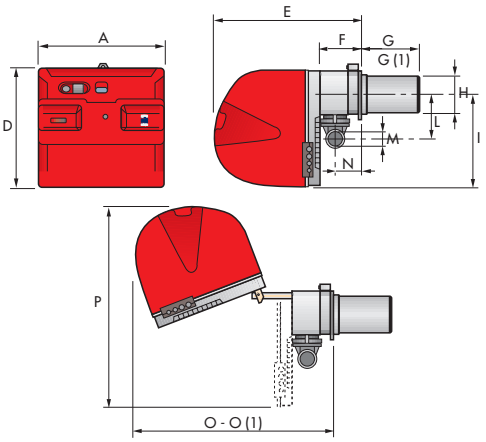
Test conditions conforming to EN 676:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



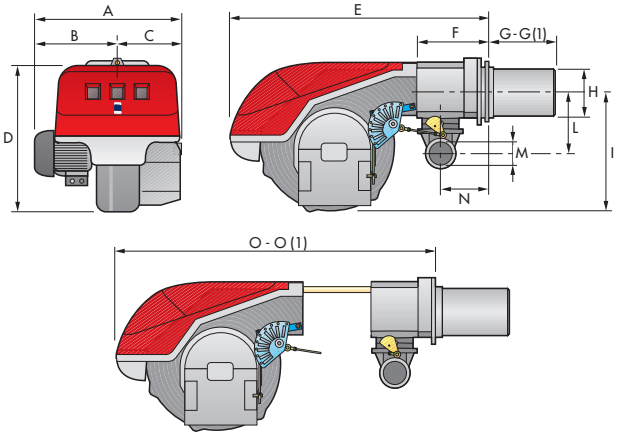
RS/M series - OVERALL DIMENSIONS (mm)

BURNERS

RS 28/M - 38/M - 50/M



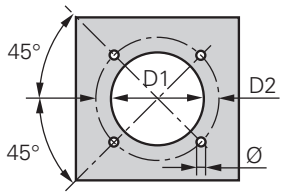
RS 70/M - 100/M - 130/M - 190/M



Model	A	B	C	D	E	F	G - G (1)	H	I	L	M	N	O - O(1)	P
▸ **RS 28/M**	476	-	-	474	580	164	216 - 351	140	352	168	1"1/2	108	810 - 810	719
▸ **RS 38/M**	476	-	-	474	580	164	216 - 351	140	352	168	1"1/2	108	810 - 810	719
▸ **RS 50/M**	476	-	-	474	580	164	216 - 351	152	352	168	1"1/2	108	810 - 810	719
▸ **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	186	DN 80	150	1312 - -	-

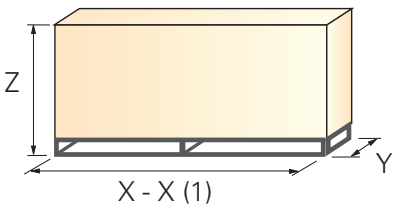
(1) dimension with extended head

BURNER – BOILER MOUNTING FLANGE



Model	D1	D2	Ø
▸ **RS 28/M**	160	224	M8
▸ **RS 38/M**	160	224	M8
▸ **RS 50/M**	160	224	M8
▸ **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

PACKAGING



Model	X - X (1)	Y	Z	kg
▸ **RS 28/M**	872 - 1007	540	550	38
▸ **RS 38/M**	872 - 1007	540	550	40
▸ **RS 50/M**	872 - 1007	540	550	41
▸ **RS 70/M**	1190 - 1325	692	740	70
▸ **RS 100/M**	1190 - 1325	692	740	73
▸ **RS 130/M**	1190 - 1325	692	740	76
▸ **RS 190/M**	1250	785	725	82

(1) dimension with extended head

RS/M series - SPECIFICATION

DESIGNATION OF SERIES

Series : R

Fuel :

S	Natural Gas
L	Light oil
LS	Light oil/Methane
N	Heavy oil

Size

Operation :

/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

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	S	50	/M		TC		FS1	3/400/50	230/50-60	

BASIC DESIGNATION

EXTENDED DESIGNATION

RS/M series - STATE OF SUPPLY

Monoblock forced draught gas burner, 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 (straight blades on the 190/M model)
- Air damper for air setting and butterfly valve for regulating fuel output controlled by a servomotor with variable cam
- Combustion head, that can be set on the basis of required output
- Maximum gas pressure switch
- Minimum air pressure switch
- Flame control panel, fitted with control functions 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:
- 1 gas train gasket
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Fairleads for electrical connections (for RS 28-38-50/M model)
- 2 slide bar extensions (for extended head models and RS 190/M)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RS/M series - AVAILABLE BURNER MODELS

Code	Model	Heat output (kW)	Heat output Natural Gas (Nm^3/h)	Total electrical power (kW)	Certification	Note	Price
3781012	RS 28/M TC FS1 1/230/50 230/50-60	52/163-325	5/16-32,5	0,37	CE 0085AQ0709		
3781040	RS 28/M TC FS1 1/230/50 230/50-60 ID	52/163-325	5/16-32,5	0,37	CE 0085AQ0709		
3781013	RS 28/M TL FS1 1/230/50 230/50-60	52/163-325	5/16-32,5	0,37	CE 0085AQ0709		
3781041	RS 28/M TL FS1 1/230/50 230/50-60 ID	52/163-325	5/16-32,5	0,37	CE 0085AQ0709		
3781412	RS 38/M TC FS1 3/230-400/50 230/50-60	70/232-440	7/23-44	0,56	CE 0085AQ0709		
3781440	RS 38/M TC FS1 3/230-400/50 230/50-60 ID	70/232-440	7/23-44	0,56	CE 0085AQ0709		
3781413	RS 38/M TL FS1 3/230-400/50 230/50-60	70/232-440	7/23-44	0,56	CE 0085AQ0709		
3781441	RS 38/M TL FS1 3/230-400/50 230/50-60 ID	70/232-440	7/23-44	0,56	CE 0085AQ0709		
3781612	RS 50/M TC FS1 3/230-400/50 230/50-60	85/290-580	8,5/29-58	0,75	CE 0085AQ0709		
3781640	RS 50/M TC FS1 3/230-400/50 230/50-60 ID	85/290-580	8,5/29-58	0,75	CE 0085AQ0709		
3781613	RS 50/M TL FS1 3/230-400/50 230/50-60	85/290-580	8,5/29-58	0,75	CE 0085AQ0709		
3781641	RS 50/M TL FS1 3/230-400/50 230/50-60 ID	85/290-580	8,5/29-58	0,75	CE 0085AQ0709		
3787012	RS 70/M TC FS1 3/230-400/50 230/50-60	135/465-814	13,5/46,5-81	1,4	CE 0085AQ0708		
3787040	RS 70/M TC FS1 3/230-400/50 230/50-60 ID	135/465-814	13,5/46,5-81	1,4	CE 0085AQ0708		
3787013	RS 70/M TL FS1 3/230-400/50 230/50-60	135/465-814	13,5/46,5-81	1,4	CE 0085AQ0708		
3787041	RS 70/M TL FS1 3/230-400/50 230/50-60 ID	135/465-814	13,5/46,5-81	1,4	CE 0085AQ0708		
3787212	RS 100/M TC FS1 3/230-400/50 230/50-60	150/698-1163	15/70-116	1,8	CE 0085AQ0708		
3787240	RS 100/M TC FS1 3/230-400/50 230/50-60 ID	150/698-1163	15/70-116	1,8	CE 0085AQ0708		
3787213	RS 100/M TL FS1 3/230-400/50 230/50-60	150/698-1163	15/70-116	1,8	CE 0085AQ0708		
3787241	RS 100/M TL FS1 3/230-400/50 230/50-60 ID	150/698-1163	15/70-116	1,8	CE 0085AQ0708		
3787412	RS 130/M TC FS1 3/230-400/50 230/50-60	160/930-1512	16/93-151	2,6	CE 0085AQ0708		
3787440	RS 130/M TC FS1 3/230-400/50 230/50-60 ID	160/930-1512	16/93-151	2,6	CE 0085AQ0708		
3787413	RS 130/M TL FS1 3/230-400/50 230/50-60	160/930-1512	16/93-151	2,6	CE 0085AQ0708		
3787441	RS 130/M TL FS1 3/230-400/50 230/50-60 ID	160/930-1512	16/93-151	2,6	CE 0085AQ0708		
3787611	RS 190/M TC FS1 3/230-400/50 230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042		
3787640	RS 190/M TC FS1 3/230-400/50 230/50-60 ID	470/1279-2290	47/128-229	5,5	CE 0085AT0042		

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 - 73/23 - 92/42 EEC Directive and EN 676 Norm.

RS/M series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter* (code)	Burner (type)	Adapter* (code)		
MULTIBLOC GAS TRAINS	3970076	MBD 407	RS28/M - -	3000824 - -	RS28/M RS38/M RS50/M	3000824 3000824 3000824	(1)	
	3970077	MBD 410	RS28/M RS38/M RS50/M	3000824 3000824 3000824	RS28/M RS38/M RS50/M	3000824 3000824 3000824	(1)	
	3970144	MBD 412	RS28/M RS38/M RS50/M	- - -	RS28/M RS38/M RS50/M	- - -	(1)	
	3970197	MBD 412 CT	RS28/M RS38/M RS50/M	- - -	RS28/M RS38/M RS50/M	- - -	(2)	
	3970180	MBD 415	RS28/M RS38/M RS50/M RS70/M RS100/M RS130/M	- - - 3000843 3000843 3000843	- RS38/M RS50/M RS70/M RS100/M RS130/M	- - - 3000843 3000843 3000843	(1)	
	3970198	MBD 415 CT	RS28/M RS38/M RS50/M RS70/M RS100/M RS130/M	- - - 3000843 3000843 3000843	- RS38/M RS50/M RS70/M RS100/M RS130/M	- - - 3000843 3000843 3000843	(2)	
	3970181	MBD 420	RS38/M RS50/M RS70/M RS100/M RS130/M RS190/M	3000822 3000822 - - - 3010128	RS38/M RS50/M RS70/M RS100/M RS130/M RS190/M	3000822 3000822 - - - 3010128	(1)	
	3970182	MBD 420 CT	RS38/M RS50/M RS70/M RS100/M RS130/M RS190/M	3000822 3000822 - - - 3010128	RS38/M RS50/M RS70/M RS100/M RS130/M RS190/M	3000822 3000822 - - - 3010128	(2)	
COMPOSED GAS TRAINS	3970145	CB 40/1	RS28/M RS38/M RS50/M RS70/M RS100/M RS130/M	- - - 3000843 3000843 3000843	RS38/M RS50/M RS70/M RS100/M RS130/M	- - 3000843 3000843 3000843	(1)	
	3970146	CB 50/1	RS38/M RS50/M RS70/M RS100/M RS130/M RS190/M	3000822 3000822 - - - 3010128	RS38/M RS50/M RS70/M RS100/M RS130/M RS190/M	3000822 3000822 - - - 3010128	(1)	
	3970160	CB 50/1 CT	RS38/M RS50/M RS70/M RS100/M RS130/M RS190/M	3000822 3000822 - - - 3010128	RS38/M RS50/M RS70/M RS100/M RS130/M RS190/M	3000822 3000822 - - - 3010128	(2)	

*** the adapter price is available in the "Gas train accessories" section**

(1) Seal control accessory

(2) Seal control incorporated

The list of available gas train models follows in the next page.

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter* (code)	Burner (type)	Adapter* (code)		
COMPOSED GAS TRAINS	3970147	CBF 65/1	RS70/M RS100/M RS130/M RS190/M	3000825 3000825 3000825 3000831	- - RS130/M RS190/M	- - 3000825 3000831	(1)	
	3970161	CBF 65/1 CT	RS70/M RS100/M RS130/M RS190/M	3000825 3000825 3000825 3000831	- - RS130/M RS190/M	- - 3000825 3000831	(2)	
	3970148	CBF 80/1	RS70/M RS100/M RS130/M RS190/M	3000826 3000826 3000826 3000832	-	-	(1)	
	3970162	CBF 80/1 CT	RS70/M RS100/M RS130/M RS190/M	3000826 3000826 3000826 3000832	-	-	(2)	
	3970149	CBF 100/1	RS130/M RS190/M	3010223+3000826 3010127	-	-	(1)	
	3970163	CBF 100/1 CT	RS130/M RS190/M	3010223+3000826 3010127	-	-	(2)	

*** the adapter price is available in the "Gas train accessories" section**

(1) Seal control accessory

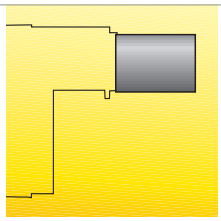
(2) Seal control incorporated

The following table shows the frequently matching between RS/M burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
RS 28/M	4,5	MBD 412	270	MBD 407	270	MBD 407	270	MBD 407	270
RS 38/M	5,0	MBD 415 CB 40/1	370	MBD 410	370	MBD 410	370	MBD 407	370
RS 50/M	5,5	MBD 415 CB 40/1	480	MBD 410	480	MBD 410	480	MBD 407	480
RS 70/M	7,5	CBF 65/1	700	MBD 415 CB 40/1	700	MBD 415 CB 40/1	700	MBD 415 CB 40/1	700
RS 100/M	8,0	CBF 80/1	1010	MBD 415 CB 40/1	1010	MBD 420 CB 50/1	1010	MBD 415 CB 40/1	1010
RS 130/M	8,5	---	1320	MBD 415 CB 40/1	1320	CBF 65/1	1320	MBD 415 CB 40/1	1320
RS 190/M	8,5	---	1950	MBD 420 CB 50/1	1950	CBF 65/1	1950	MBD 420 CB 50/1	1950

RS/M series - BURNER ACCESSORIES

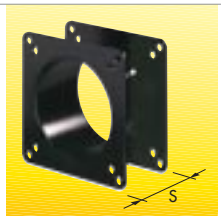
Extended heads



"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	Price
RS 28/M	216	351	3010076	
RS 38/M	216	351	3010077	
RS 50/M	216	351	3010078	
RS 70/M	250	385	3010117	
RS 100/M	250	385	3010118	
RS 130/M	280	415	3010119	
RS 190/M	312	530	3010196	

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	Price
RS 28/M - 38/M - 50/M	90	3010095	
RS 70/M - 100/M - 130/M	135	3010129	
RS 190/M	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	Price
RS 28/M - 38/M - 50/M	3010094	
RS 70/M - 100/M - 130/M - 190/M	3010094	

Sound proofing box

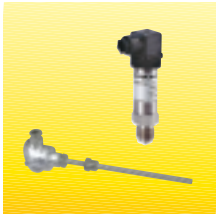
If noise emission needs reducing even further, sound-proofing boxes are available.

Burner	Box type	Box code	Price
RS 28/M - 38/M - 50/M	C2	3000777	
RS 70/M - 100/M - 130/M - 190/M	C3	3000778	

Accessories for modulating operation

To obtain modulating setting, the RS/M series of burners requires a regulator.

Regulator type	Code	Price
RWF 40	3010212	



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

Probe type	Range (°C) (bar)	Code	Price
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.

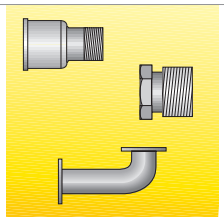
Burner	Potentiometer kit code	Price
RS 28/M - 38/M - 50/M	3010109	
RS 70/M - 100/M - 130/M - 190/M	3010021	

LPG kit

For burning LPG gas, a special kit is available.

Burner	Kit code for 'standard head'	Kit code for 'extended head'	Price
RS 28/M	3010079	3010080	
RS 38/M	3010081	3010082	
RS 50/M	3010083	3010084	
RS 70/M	3010097	3010098	
RS 100/M	3010099	3010100	
RS 130/M	3010101	3010102	
RS 190/M	3010166	-	

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.

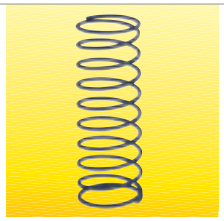
Burner	Gas train	Dimensions	Adapter code	Price
RS 28/M	MBD 407 - 410	3/4" 1" 1/2	3000824	
RS 38/M	MBD 407 - 410	3/4" 1" 1/2	3000824	
	MBD 420 - CB 50/1	2" 1" 1/2	3000822	
RS 50/M	MBD 407 - 410	3/4" 1" 1/2	3000824	
	MBD 420 - CB 50/1	2" 1" 1/2	3000822	
RS 70/M	MBD 415 - CB 40/1	1" 1/2 2"	3000843	
	CBF 65/1	DN 65 2"1/2 1" 1/2 2"	3000825	
	CBF 80/1	DN 80 2"1/2 2"	3000826	
RS 100/M	MBD 415 - CB 40/1	1" 1/2 2"	3000843	
	CBF 65/1	DN 65 2"1/2 1" 1/2 2"	3000825	
	CBF 80/1	DN 80 2"1/2 2"	3000826	
RS 130/M	MBD 415 - CB 40/1	1" 1/2 2"	3000843	
	CBF 65/1	DN 65 2"1/2 1" 1/2 2"	3000825	
	CBF 80/1	DN 80 2"1/2 2"	3000826	
	CBF 100/1	DN 100 DN 80	3010223	
		DN 80 2"1/2 2"	3000826	
RS 190/M	MBD 420 - CB 50/1	DN 80 DN 65 2"1/2 2"	3010128	
	CBF 65/1	DN 65 DN 80	3000831	
	CBF 80/1	DN 80 DN 80	3000832	
	CBF 100/1	DN 100 DN 80	3010127	

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available.

Burner	Gas train	Kit code	Price
RS 28/M	MBD 407 - 410 - 412 - 415 - CB 40/1	3010123	
RS 38/M	MBD 410 - 412 - 415 - 420 - CB 40/1 - 50/1	3010123	
RS 50/M	MBD 410 - 412 - 415 - 420 - CB 40/1 - 50/1	3010123	
RS 70/M	MBD 415 - 420 - CB 40/1 - 50/1 - CBF 65/1	3010123	
RS 100/M	MBD 415 - 420 - CB 40/1 - 50/1 - CBF 65/1 - 80/1	3010123	
RS 130/M	MBD 415 - 420 - CB 40/1 - 50/1 - CBF 65/1 - 80/1	3010123	
RS 190/M	MBD 420 - CB 50/1 - CBF 65/1 - 80/1 - 100/1	3010123	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

Gas train	Spring	Code	Price
CBF 65/1 - CBF 80/1	Red from 25 to 55 mbar	3010133	
CBF 100/1	Red from 25 to 55 mbar	3010134	
CBF 65/1 - CBF 80/1	Black from 60 to 110 mbar	3010135	
CBF 100/1	Black from 60 to 110 mbar	3010136	
CBF 65/1 - CBF 80/1	Pink from 90 to 150 mbar	3090456	
CBF 100/1	Pink from 90 to 150 mbar	3090489	

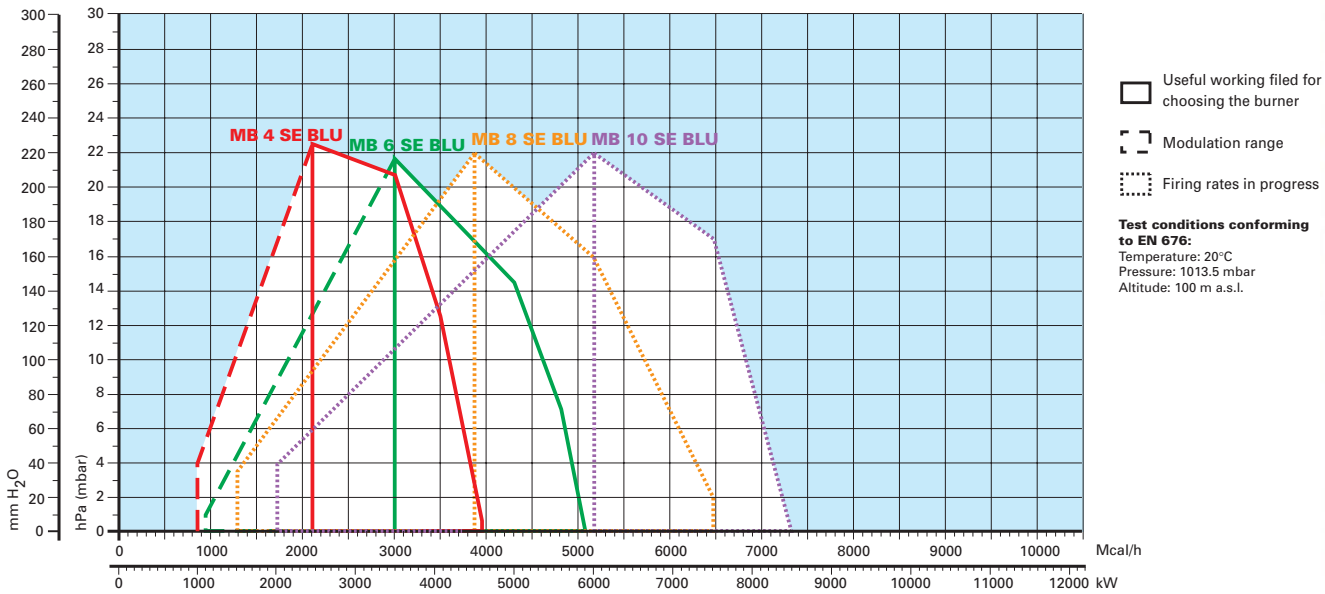
MODULATING LOW NOx GAS BURNERS

MODUBLOC MB SE BLU SERIES

MB 4 SE BLU	1000/2450 ÷	4600 kW
MB 6 SE BLU	1100/3600 ÷	5900 kW
MB 8 SE BLU	1500/4500 ÷	7500 kW
MB 10 SE BLU	2000/6000 ÷	8500 kW

The MODUBLOC MB SE 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 1000 to 8500 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 regulation mechanisms enable high modulation ratio to be reached for all firing rates.
The burner output can, therefore, be set precisely as required ensuring maximum efficiency, reduced fuel consumption and operating cost.
The low emission combustion head is result of advanced simulation designed project.
The exclusive design, with fan unit fitted on line with the combustion head, guarantees low sound emissions, reduced dimensions, easy use and maintenance.

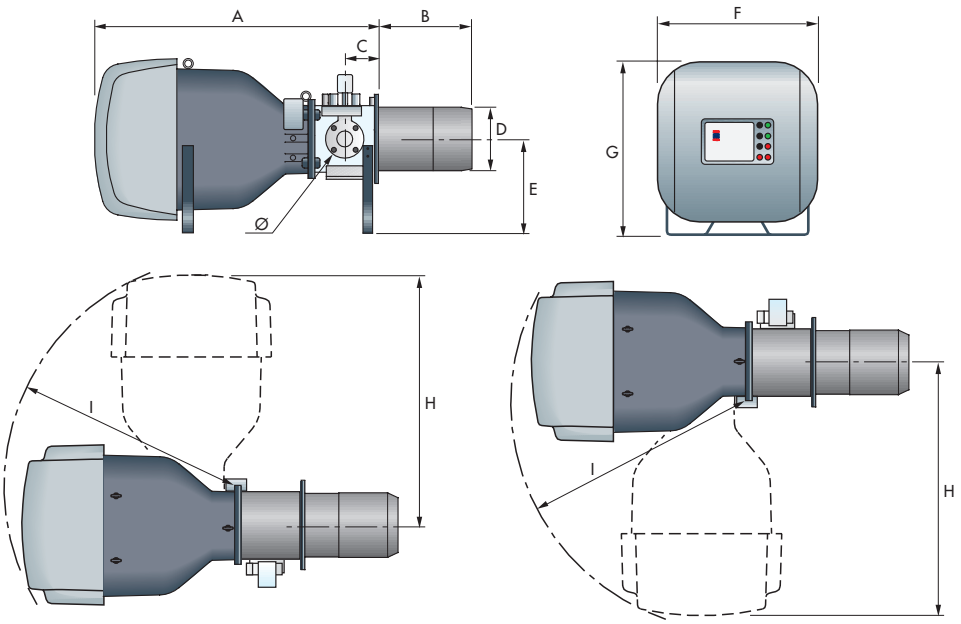
FIRING RATES



MODUBLOC MB SE BLU series - OVERALL DIMENSIONS (mm)

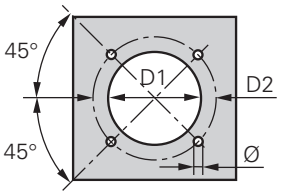
BURNERS

MB 4-6-8-10 SE BLU



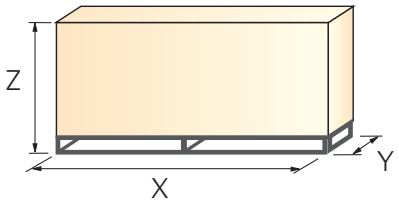
Model	A	B	C	D	E	F	G	H	I	Ø
MB 4 SE BLU	1470	511	183	336	490	840	910	1330	1205	DN80
MB 6 SE BLU	1470	511	183	336	490	840	910	1330	1205	DN80
MB 8 SE BLU	1900	530	208	413	575	1007	1079	1740	1570	DN80
MB 10 SE BLU	1900	530	208	413	575	1007	1079	1740	1570	DN80

BURNER - BOILER MOUNTING FLANGE



Model	D1	D2	Ø
MB 4 SE BLU	350	496	M20
MB 6 SE BLU	350	496	M20
MB 8 SE BLU	418	608	M20
MB 10 SE BLU	418	608	M20

PACKAGING



Model	X	Y	Z	kg
MB 4 SE BLU	2120	1005	1175	300
MB 6 SE BLU	2120	1005	1175	300
MB 8 SE BLU	2590	1170	1350	450
MB 10 SE BLU	2590	1170	1350	450

MODUBLOC MB SE BLU series - SPECIFICATION

DESIGNATION OF SERIES

Series : MB

Size

Fuel :
- S Natural Gas
- L Light oil
- LS Light oil/Methane

Operation :
- E Electronic cam
- V Electronic cam and variable speed (with Inverter)

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

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	S	E	BLU	TC	FR	FS1	3/400/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

MODUBLOC MB SE BLU series - STATE OF SUPPLY

Monoblock forced draught gas 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
- Mobile combustion head, that can be set on the basis of required output
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point
- Module for air/fuel setting and output modulation
- Flame control panel
- Photocell for flame detection
- Star/triangle starter for the fan motor
- 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 motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- 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

MODUBLOC MB SE BLU series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	Natural Gas (Nm^3/h)				
3896400	MB4SE BLU TC FR FS1 3/400/50 230/50-60	1000/2450-4600	100/245-460	13	in progress (CE ...)		
3896401	MB4SE BLU TC FR FS1 3/230/50 230/50-60	1000/2450-4600	100/245-460	13	in progress (CE ...)		
3896405	MB4SE BLU TC FL FS1 3/400/50 230/50-60	1000/2450-4600	100/245-460	13	in progress (CE ...)		
3896406	MB4SE BLU TC FL FS1 3/230/50 230/50-60	1000/2450-4600	100/245-460	13	in progress (CE ...)		
3896500	MB6SE BLU TC FR FS1 3/400/50 230/50-60	1100/3600-5900	110/360-590	15	in progress (CE ...)		
3896501	MB6SE BLU TC FR FS1 3/230/50 230/50-60	1100/3600-5900	110/360-590	15	in progress (CE ...)		
3896505	MB6SE BLU TC FL FS1 3/400/50 230/50-60	1100/3600-5900	110/360-590	15	in progress (CE ...)		
3896506	MB6SE BLU TC FL FS1 3/230/50 230/50-60	1100/3600-5900	110/360-590	15	in progress (CE ...)		
3896600	MB8SE BLU TC FR FS1 3/400/50 230/50-60	1500/4500-7500	150/450-750	26	in progress (CE ...)		
3896601	MB8SE BLU TC FR FS1 3/230/50 230/50-60	1500/4500-7500	150/450-750	26	in progress (CE ...)		
3896605	MB8SE BLU TC FL FS1 3/400/50 230/50-60	1500/4500-7500	150/450-750	26	in progress (CE ...)		
3896606	MB8SE BLU TC FL FS1 3/230/50 230/50-60	1500/4500-7500	150/450-750	26	in progress (CE ...)		
3896700	MB10SE BLU TC FR FS1 3/400/50 230/50-60	2000/6000-8500	200/600-850	26	in progress (CE ...)		
3896701	MB10SE BLU TC FR FS1 3/230/50 230/50-60	2000/6000-8500	200/600-850	26	in progress (CE ...)		
3896705	MB10SE BLU TC FL FS1 3/400/50 230/50-60	2000/6000-8500	200/600-850	26	in progress (CE ...)		
3896706	MB10SE BLU TC FL FS1 3/230/50 230/50-60	2000/6000-8500	200/600-850	26	in progress (CE ...)		

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

The burners of MB SE BLU series are in according to 90/396 - 89/336 - 73/23 EEC Directive and EN 676 Norm.

MODUBLOC MB SE BLU series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter * (code)	Burner (type)	Adapter * (code)		
COMPOSED GAS TRAIN	3970161	CBF 65/1 CT	MB 4 SE BLU MB 6 SE BLU MB 8 SE BLU MB 10 SE BLU	3010221 3010225			(1)	
	3970162	CBF 80/1 CT	MB 4 SE BLU MB 6 SE BLU MB 8 SE BLU MB 10 SE BLU	3010222 3010226			(1)	
	3970163	CBF 100/1 CT	MB 4 SE BLU MB 6 SE BLU MB 8 SE BLU MB 10 SE BLU	3010223 3010227			(1)	
	3970196	CBF 125/1 CT	MB 4 SE BLU MB 6 SE BLU MB 8 SE BLU MB 10 SE BLU	3010224 3010228			(1)	

*** the adapter price is available in the "GAS TRAIN ACCESSORY" section**
(1) Seal control incorporated

The following table shows the frequently matching between SE BLU burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
MB 4 SE BLU	15		3900	CBF 65/1	3900				
MB 6 SE BLU	15		5100	CBF 65/1	5100				
MB 8 SE BLU	12		6500	CBF 80/1	6500				
MB 10 SE BLU	15		7700	CBF 80/1	7700				

MODUBLOC MB SE BLU series - 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	Price
MB 4 - 6 - 8 - 10 SE 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	Price
MB 4 - 6 - 8 - 10 SE BLU	3010233	

I/O analogic module

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

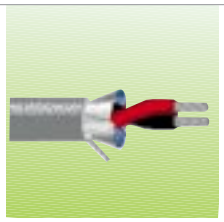
Burner	Module code	Price
MB 4 - 6 - 8 - 10 SE BLU	3010232	

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	Price
MB 4 - 6 - 8 - 10 SE BLU	CO, CO_2, O_2	3010235	
MB 4 - 6 - 8 - 10 SE BLU	CO, CO_2, O_2, NO	3010236	
MB 4 - 6 - 8 - 10 SE BLU	CO, CO_2, O_2, SO_2	3010237	
MB 4 - 6 - 8 - 10 SE 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).

Regulator type	Code	Price
MB 4 - 6 - 8 - 10 SE BLU	3010239	

Accessories for modulating operation

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

PROBE

Burner	Type	Range (°C) (bar)	Code	Price
MB 4 - 6 - 8 - 10 SE BLU	Temperature	0 ÷ 400°C	3010187	
MB 4 - 6 - 8 - 10 SE BLU	Pressure	0 ÷ 3 bar	3010246	
MB 4 - 6 - 8 - 10 SE BLU	Pressure	0 ÷ 18 bar	3010186	
MB 4 - 6 - 8 - 10 SE BLU	Pressure	0 ÷ 30 bar	3010188	

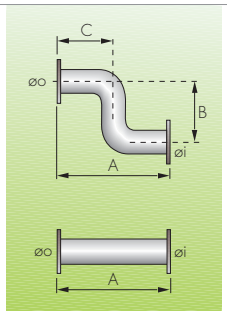
Burner support

For easier maintenance, a mobile burner support has been designed.

Burner	Support code	Price
MB 4 - 6 SE	in progress	
MB 8 - 10 SE	in progress	

MODUBLOC MB SE BLU series - GAS TRAIN ACCESSORIES

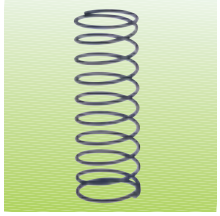
Adapters



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	Dimensions Øo DN	Dimensions A mm	Dimensions B mm	Dimensions C mm	Adapter code	Price
MB 4-6-8-10 SE BLU	CBF 65/1 CT	I	65	80	320	--	--	3010221	
MB 4-6-8-10 SE BLU	CBF 80/1 CT	I	80	80	320	--	--	3010222	
MB 4-6-8-10 SE BLU	CBF 100/1 CT	I	100	80	320	--	--	3010223	
MB 4-6-8-10 SE BLU	CBF 125/1 CT	I	125	80	320	--	--	3010224	
MB 4-6-8-10 SE BLU	CBF 65/1 CT	Z	65	80	400	480	225	3010225	
MB 4-6-8-10 SE BLU	CBF 80/1 CT	Z	80	80	400	480	225	3010226	
MB 4-6-8-10 SE BLU	CBF 100/1 CT	Z	100	80	400	480	225	3010227	
MB 4-6-8-10 SE BLU	CBF 125/1 CT	Z	125	80	500	480	300	3010228	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

Gas train	Spring	Code	Price
CBF 65/1 CT - 80/1 CT	Red from 25 to 55 mbar	3010133	
CBF 100/1 CT	Red from 25 to 55 mbar	3010134	
CBF 125/1 CT	Red from 25 to 55 mbar	in progress	
CBF 65/1 CT - 80/1 CT	Black from 60 to 110 mbar	3010135	
CBF 100/1 CT	Black from 60 to 110 mbar	3010136	
CBF 125/1 CT	Black from 60 to 110 mbar	in progress	
CBF 65/1 CT - 80/1 CT	Pink from 90 to 150 mbar	3090456	
CBF 100/1 CT	Pink from 90 to 150 mbar	3090489	
CBF 125/1 CT	Pink from 90 to 150 mbar	in progress	

CE

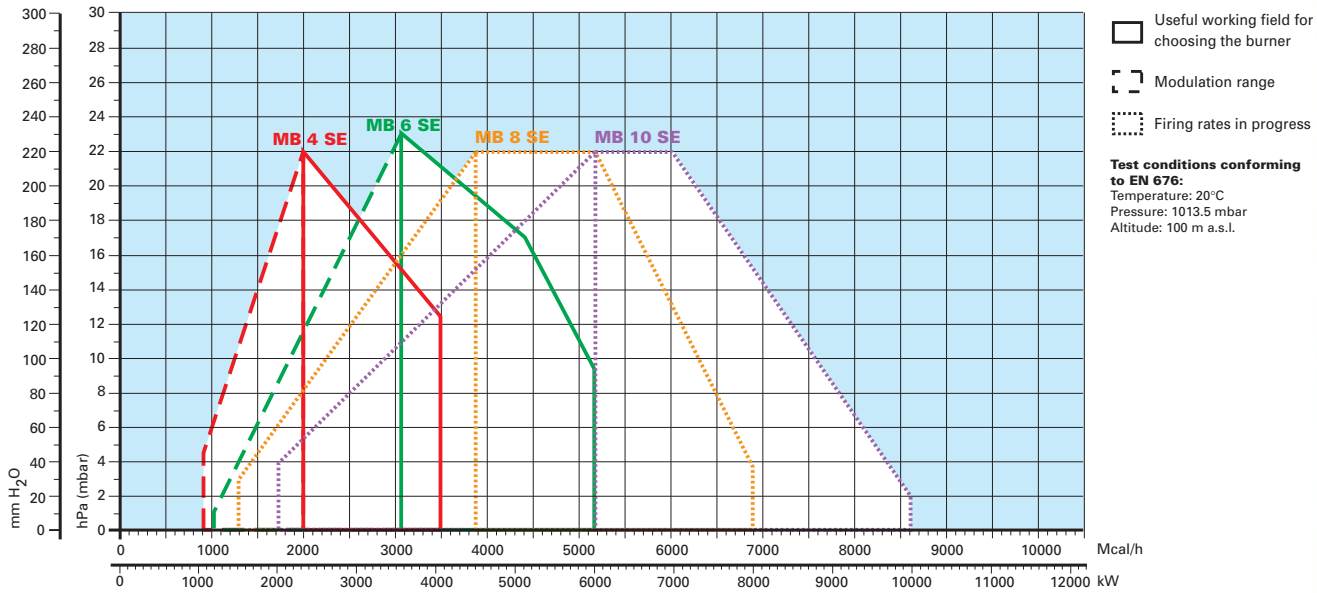
MODULATING GAS BURNERS

MODUBLOC MB SE SERIES

MB 4 SE	1070/2325 ÷	4070	kW
MB 6 SE	1186/3558 ÷	6000	kW
MB 8 SE	1500/4500 ÷	8000	kW
MB 10 SE	2000/6000 ÷	10000	kW

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 1070 to 10000 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 regulation mechanisms enable high modulation ratio to be reached for all firing rates.
The burner output can, therefore, be set precisely as required, ensuring maximum efficiency, reduced fuel consumption and operating costs.
The exclusive design, with fan unit fitted on line with the combustion head, guarantees low sound emissions, reduced dimensions, easy use and maintenance.

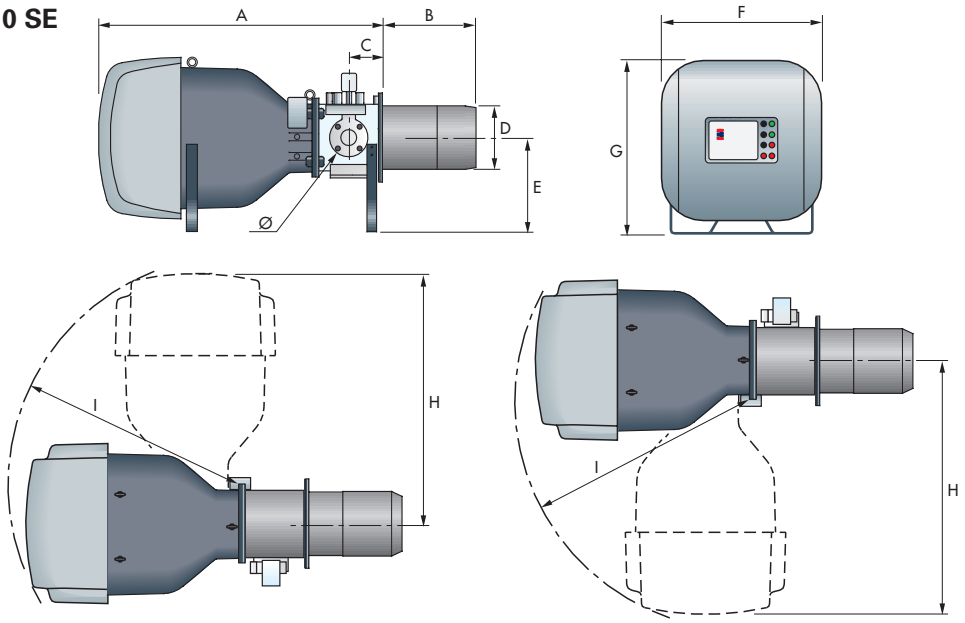
FIRING RATES



MODUBLOC MB SE series - OVERALL DIMENSIONS (mm)

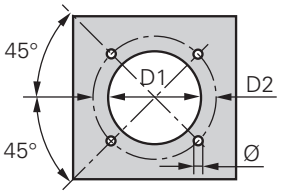
BURNERS

MB 4-6-8-10 SE



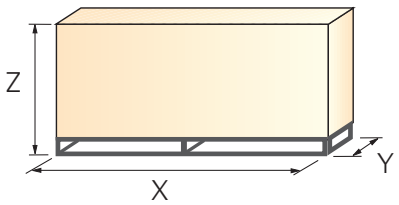
Model	A	B	C	D	E	F	G	H	I	Ø
MB 4 SE	1470	511	183	336	490	840	910	1330	1205	DN80
MB 6 SE	1470	511	183	336	490	840	910	1330	1205	DN80
MB 8 SE	1900	530	208	413	575	1007	1079	1740	1570	DN80
MB 10 SE	1900	530	208	413	575	1007	1079	1740	1570	DN80

BURNER - BOILER MOUNTING FLANGE



Model	D1	D2	Ø
MB 4 SE	350	496	M20
MB 6 SE	350	496	M20
MB 8 SE	418	608	M20
MB 10 SE	418	608	M20

PACKAGING



Model	X	Y	Z	kg
MB 4 SE	2120	1005	1175	300
MB 6 SE	2120	1005	1175	300
MB 8 SE	2590	1170	1350	450
MB 10 SE	2590	1170	1350	450

MODUBLOC MB SE series - SPECIFICATION

DESIGNATION OF SERIES

Series : MB

Size

Fuel :
- S Natural Gas
- L Light oil
- LS Light oil/Methane

Operation :
- E Electronic cam
- V Electronic cam and variable speed (with Inverter)

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

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	S	E		TC	FR	FS1	3/400/50	230/50-60
BASIC DESIGNATION									
EXTENDED DESIGNATION									

MODUBLOC MB SE series - STATE OF SUPPLY

Monoblock forced draught gas 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
- Mobile combustion head, that can be set on the basis of required output
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point
- Module for air/fuel setting and output modulation
- Flame control panel
- Photocell for flame detection
- Star/triangle starter for the fan motor
- 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 motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- 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

MODUBLOC MB SE series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	Natural Gas (Nm^3/h)				
3786000	MB4SE TC FR FS1 3/400/50 230/50-60	1070/2325-4070	107/233-407	13	CE 0085AU2367		
3786001	MB4SE TC FR FS1 3/230/50 230/50-60	1070/2325-4070	107/233-407	13	CE 0085AU2367		
3786005	MB4SE TC FL FS1 3/400/50 230/50-60	1070/2325-4070	107/233-407	13	CE 0085AU2367		
3786006	MB4SE TC FL FS1 3/230/50 230/50-60	1070/2325-4070	107/233-407	13	CE 0085AU2367		
3786100	MB6SE TC FR FS1 3/400/50 230/50-60	1186/3558-6000	119/356-600	15	CE 0085AU2367		
3786101	MB6SE TC FR FS1 3/230/50 230/50-60	1186/3558-6000	119/356-600	15	CE 0085AU2367		
3786105	MB6SE TC FL FS1 3/400/50 230/50-60	1186/3558-6000	119/356-600	15	CE 0085AU2367		
3786106	MB6SE TC FL FS1 3/230/50 230/50-60	1186/3558-6000	119/356-600	15	CE 0085AU2367		
3786200	MB8SE TC FR FS1 3/400/50 230/50-60	1500/4500-8000	150/450-800	26	in progress (CE ...)		
3786201	MB8SE TC FR FS1 3/230/50 230/50-60	1500/4500-8000	150/450-800	26	in progress (CE ...)		
3786205	MB8SE TC FL FS1 3/400/50 230/50-60	1500/4500-8000	150/450-800	26	in progress (CE ...)		
3786206	MB8SE TC FL FS1 3/230/50 230/50-60	1500/4500-8000	150/450-800	26	in progress (CE ...)		
3786300	MB10SE TC FR FS1 3/400/50 230/50-60	2000/6000-10000	200/600-1000	26	in progress (CE ...)		
3786301	MB10SE TC FR FS1 3/230/50 230/50-60	2000/6000-10000	200/600-1000	26	in progress (CE ...)		
3786305	MB10SE TC FL FS1 3/400/50 230/50-60	2000/6000-10000	200/600-1000	26	in progress (CE ...)		
3786306	MB10SE TC FL FS1 3/230/50 230/50-60	2000/6000-10000	200/600-1000	26	in progress (CE ...)		

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

The burners of MB SE series are in according to 90/396 - 89/336 - 73/23 EEC Directive and EN 676 Norm.

MODUBLOC MB SE series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter * (code)	Burner (type)	Adapter * (code)		
COMPOSED GAS TRAIN	3970161	CBF 65/1 CT	MB 4 SE MB 6 SE MB 8 SE MB 10 SE	3010221 3010225	MB 4 SE MB 6 SE MB 8 SE MB 10 SE	3010221 3010225	(1)	
	3970162	CBF 80/1 CT	MB 4 SE MB 6 SE MB 8 SE MB 10 SE	3010222 3010226	MB 4 SE MB 6 SE MB 8 SE MB 10 SE	3010222 3010226	(1)	
	3970163	CBF 100/1 CT	MB 4 SE MB 6 SE MB 8 SE MB 10 SE	3010223 3010227	MB 4 SE MB 6 SE MB 8 SE MB 10 SE	3010223 3010227	(1)	
	3970196	CBF 125/1 CT	MB 4 SE MB 6 SE MB 8 SE MB 10 SE	3010224 3010228	MB 4 SE MB 6 SE MB 8 SE MB 10 SE	3010224 3010228	(1)	

*** the adapter price is available in the "GAS TRAIN ACCESSORY" section**
(1) Seal control incorporated

The following table shows the frequently matching between SE burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
MB 4 SE	16		3500	CBF 65/1	3500		3500	CBF 65/1	3500
MB 6 SE	17		5200	CBF 65/1	5200		5200	CBF 80/1	5200
MB 8 SE	15		6800	CBF 80/1	6800		6800	CBF 80/1	6800
MB 10 SE	9		8700	CBF 100/1	8700		8700	CBF 100/1	8700

MODUBLOC MB SE series - 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	Price
MB 4 - 6 - 8 - 10 SE	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	Price
MB 4 - 6 - 8 - 10 SE	3010233	

I/O analogic module

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

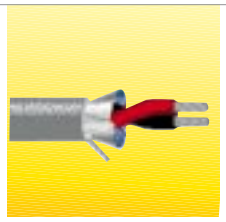
Burner	Module code	Price
MB 4 - 6 - 8 - 10 SE	3010232	

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	Price
MB 4 - 6 - 8 - 10 SE	CO, CO_2, O_2	3010235	
MB 4 - 6 - 8 - 10 SE	CO, CO_2, O_2, NO	3010236	
MB 4 - 6 - 8 - 10 SE	CO, CO_2, O_2, SO_2	3010237	
MB 4 - 6 - 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).

Regulator type	Code	Price
MB 4 - 6 - 8 - 10 SE	3010239	

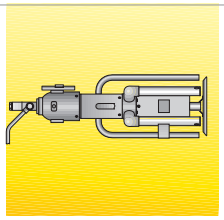
Accessories for modulating operation

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

PROBE

Burner	Type	Range (°C) (bar)	Code	Price
MB 4 - 6 - 8 - 10 SE	Temperature	0 ÷ 400°C	3010187	
MB 4 - 6 - 8 - 10 SE	Pressure	0 ÷ 3 bar	3010246	
MB 4 - 6 - 8 - 10 SE	Pressure	0 ÷ 18 bar	3010186	
MB 4 - 6 - 8 - 10 SE	Pressure	0 ÷ 30 bar	3010188	

LPG kit



For burning LPG gas, a special kit is available.

Burner	Kit code	Price
MB 4 SE	3010189	
MB 6 SE	3010190	
MB 8 SE	in progress	
MB 10 SE	in progress	

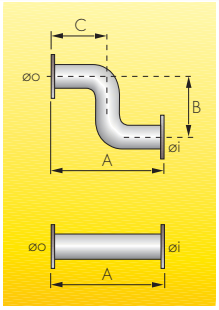
Burner support

For easier maintenance, a mobile burner support has been designed.

Burner	Support code	Price
MB 4 - 6 SE	in progress	
MB 8 - 10 SE	in progress	

MODUBLOC MB SE series - GAS TRAIN ACCESSORIES

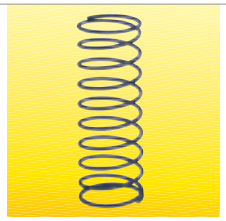
Adapters



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	Dimensions Øo DN	Dimensions A mm	Dimensions B mm	Dimensions C mm	Adapter code	Price
MB 4-6-8-10 SE	CBF 65/1 CT	I	65	80	320	--	--	3010221	
MB 4-6-8-10 SE	CBF 80/1 CT	I	80	80	320	--	--	3010222	
MB 4-6-8-10 SE	CBF 100/1 CT	I	100	80	320	--	--	3010223	
MB 4-6-8-10 SE	CBF 125/1 CT	I	125	80	320	--	--	3010224	
MB 4-6-8-10 SE	CBF 65/1 CT	Z	65	80	400	480	225	3010225	
MB 4-6-8-10 SE	CBF 80/1 CT	Z	80	80	400	480	225	3010226	
MB 4-6-8-10 SE	CBF 100/1 CT	Z	100	80	400	480	225	3010227	
MB 4-6-8-10 SE	CBF 125/1 CT	Z	125	80	500	480	300	3010228	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

Gas train	Spring	Code	Price
CBF 65/1 CT - 80/1 CT	Red from 25 to 55 mbar	3010133	
CBF 100/1 CT	Red from 25 to 55 mbar	3010134	
CBF 125/1 CT	Red from 25 to 55 mbar	in progress	
CBF 65/1 CT - 80/1 CT	Black from 60 to 110 mbar	3010135	
CBF 100/1 CT	Black from 60 to 110 mbar	3010136	
CBF 125/1 CT	Black from 60 to 110 mbar	in progress	
CBF 65/1 CT - 80/1 CT	Pink from 90 to 150 mbar	3090456	
CBF 100/1 CT	Pink from 90 to 150 mbar	3090489	
CBF 125/1 CT	Pink from 90 to 150 mbar	in progress	

CE

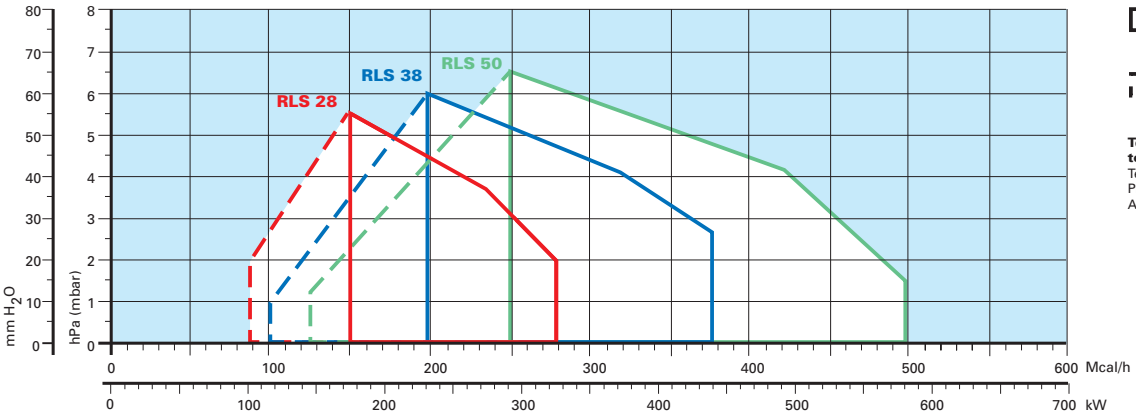
TWO STAGE DUAL FUEL BURNERS

RLS SERIES

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

The RLS series of burners covers a firing range from 100 to 1395 kW, and they have 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 STATUS PANEL, which supplies complete diagnostic: hour meter, ignition meter, identification of trouble shooting.
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 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.

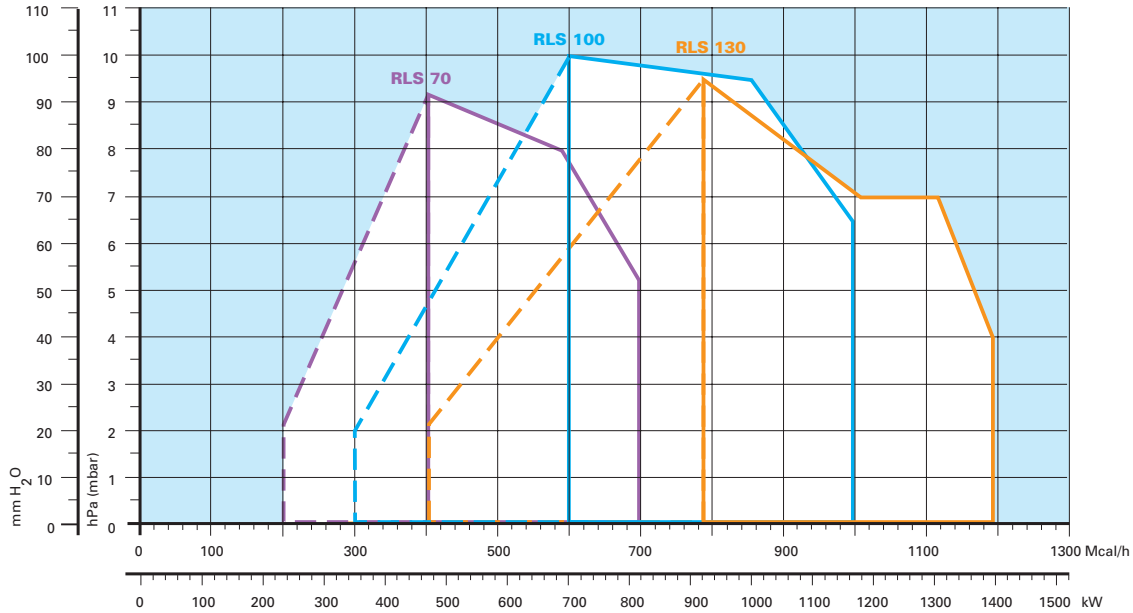
FIRING RATES



Useful working field for choosing the burner

Modulation range

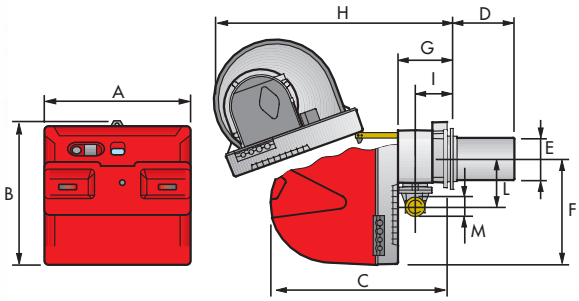
Test conditions conforming to EN 267 - EN 676:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



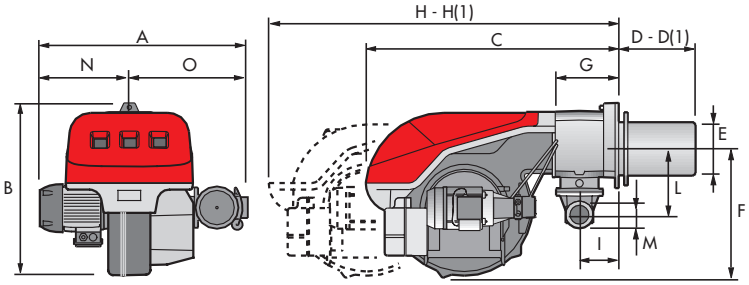
RLS series - OVERALL DIMENSIONS (mm)

BURNERS

RLS 28 - 38 - 50



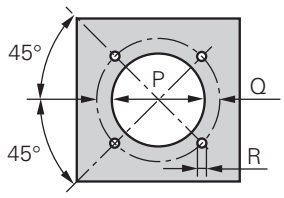
RLS 70 - 100 - 130



Model	A	B	C	D	D(1)	E	F	G	H	H(1)	I	L	M	N	O
▸ **RLS 28**	476	474	580	191	326	140	352	164	810	810	108	168	1"1/2	-	-
▸ **RLS 38**	476	474	580	201	336	152	352	164	810	810	108	168	1"1/2	-	-
▸ **RLS 50**	476	474	580	216	351	152	352	164	810	810	108	168	1"1/2	-	-
▸ **RLS 70**	691	555	840	250	385	179	430	214	1161	1361	134	221	2"	296	395
▸ **RLS 100**	707	555	840	250	385	179	430	214	1161	1361	134	221	2"	312	395
▸ **RLS 130**	733	555	840	250	385	189	430	214	1161	1361	134	221	2"	338	395

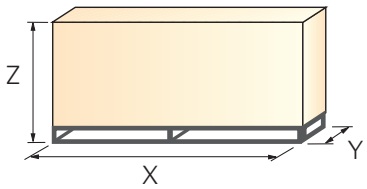
(1) Dimension with "extended head".

BURNER - BOILER MOUNTING FLANGE



Model	P	Q	R
▸ **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**	872	540	550	43
▸ **RLS 38**	872	540	550	45
▸ **RLS 50**	872	540	550	46
▸ **RLS 70**	1190	692	740	70
▸ **RLS 100**	1190	692	740	73
▸ **RLS 130**	1190	692	740	76

RLS series - SPECIFICATION

DESIGNATION OF SERIES

Series : R

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

Size

Operation :
- /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 :
- 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
- 3/230-400/50 3/230V/50Hz - 3N/400V/50Hz

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

ID : Differential switch

R	LS	28			TC		FS1	3/230-400/50	230/50	

BASIC DESIGNATION

EXTENDED DESIGNATION

RLS series - 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)
- Flame control panel
- 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 gasket
- 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/M model)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RLS series - AVAILABLE BURNER MODELS

Code	Model	Heat output			Total electrical power (kW)	Certification	Note	Price
		(kW)	Light oil (kg/h)	Natural Gas (Nm^3/h)				
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)		
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)		
3485001	RLS 70 TC LP FS1 3/230-400/50 230/50	232/465-814	19/39-69	23/47-81	1,8	(2)		
3485201	RLS 100 TC LP FS1 3/230-400/50 230/50	349/698-1163	29,5/59-98	35/70-116	2,2	(2)		
3485401	RLS 130 TC LP FS1 3/230-400/50 230/50	465/930-1395	39/78-118	47/93-140	3,0	(2)		

(1) CE 0063AR4637.

(2) CE 0063AS4863 - DIN 5G835/97 M.

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 - 73/23 - 92/42 CEE Directive and EN 267 - 676 Norm.

RLS series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter* (code)	Burner (type)	Adapter* (code)		
MULTIBLOC	3970046	MBZRDLE 407	RLS 28	3000824	RLS 28	3000824	(1)	
	3970079	MBZRDLE 410	RLS 28 RLS 38 RLS 50	3000824 3000824 3000824	RLS 28 RLS 38 RLS 50	3000824 3000824 3000824	(1)	
	3970152	MBZRDLE 412	RLS 28 RLS 38 RLS 50	- - -	RLS 28 RLS 38 RLS 50	- - -	(1)	
	3970183	MBZRDLE 415	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	- - - 3000843 3000843 3000843	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	- - - 3000843 3000843 3000843	(1)	
	3970184	MBZRDLE 420	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	3000822 3000822 3000822 - - -	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	3000822 3000822 3000822 - - -	(1)	
	3970185	MBZRDLE 420 CT	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	3000822 3000822 3000822 - - -	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	3000822 3000822 3000822 - - -	(2)	
COMPOSED	3970153	CB 40/2	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	- - - 3000843 3000843 3000843	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	- - - 3000843 3000843 3000843	(1)	
	3970154	CB 50/2	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	3000822 3000822 3000822 - - -	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	3000822 3000822 3000822 - - -	(1)	
	3970166	CB 50/2 CT	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	3000822 3000822 3000822 - - -	RLS 28 RLS 38 RLS 50 RLS 70 RLS 100 RLS 130	3000822 3000822 3000822 - - -	(2)	
	3970155	CBF 65/2	RLS 70 RLS 100 RLS 130	3000825 3000825 3000825	RLS 70 RLS 100 RLS 130	3000825 3000825 3000825	(1)	
	3970167	CBF 65/2 CT	RLS 70 RLS 100 RLS 130	3000825 3000825 3000825	RLS 70 RLS 100 RLS 130	3000825 3000825 3000825	(2)	
	3970156	CBF 80/2	RLS 70 RLS 100 RLS 130	3000826 3000826 3000826	RLS 70 RLS 100 RLS 130	3000826 3000826 3000826	(1)	
	3970168	CBF 80/2 CT	RLS 70 RLS 100 RLS 130	3000826 3000826 3000826	RLS 70 RLS 100 RLS 130	3000826 3000826 3000826	(2)	

*** The adapter price is available in the "Gas train accessories" section.**
(1) Seal control accessory. **(2) Seal control incorporated.**

The following table shows the frequently matching between RLS burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
RLS 28	3,5	MBZRDLE 412	270	MBZRDLE 407	270	MBZRDLE 407	270	MBZRDLE 407	270
RLS 38	4,0	MBZRDLE 420	370	MBZRDLE 410	370	MBZRDLE 410	370	MBZRDLE 410	370
RLS 50	4,0	CB 50/2	480	MBZRDLE 410	480	MBZRDLE 410	480	MBZRDLE 410	480
RLS 70	8,0	-	700	CB 40/2	700	CB 40/2	700	CB 40/2	700
RLS 100	9,0	-	1010	CB 40/2	1010	MBZRDLE 415	1010	CB 40/2	1010
RLS 130	7,5	-	1240	CB 40/2	1240	CB 50/2	1240	CB 40/2	1240

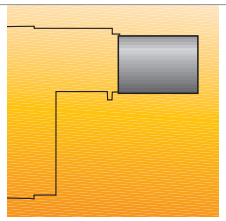
RLS series - BURNER ACCESSORIES

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.

Burner	GPH	Rated output (kg/h) at 10 bar	at 12 bar	at 14 bar	Nozzle code	Price
RLS 28	2,00	7,7	8,5	9,2	3042126	
RLS 28-38	2,50	9,6	10,6	11,5	3042140	
RLS 28-38-50	3,00	11,5	12,7	13,8	3042158	
RLS 28-38-50	3,50	13,5	14,8	16,1	3042162	
RLS 38-50	4,00	15,4	17	18,4	3042172	
RLS 38-50	4,50	17,3	19,1	20,7	3042182	
RLS 38-50-70	5,00	19,2	21,2	23	3042192	
RLS 50-70	5,50	21,1	23,3	25,3	3042202	
RLS 50-70	6,00	23,1	25,5	27,7	3042212	
RLS 50-70	6,50	25	27,6	30	3042222	
RLS 70-100	7,00	26,9	29,7	32,3	3042232	
RLS 70-100	7,50	28,8	31,8	34,6	3042242	
RLS 70-100	8,00	30,8	33,9	36,9	3042252	
RLS 70-100	8,50	32,7	36,1	39,2	3042262	
RLS 70-100-130	9,50	36,5	40,3	43,8	3042282	
RLS 70-100-130	10,00	38,4	42,4	46,1	3042292	
RLS 70-100-130	11,00	42,3	46,7	50,7	3042312	
RLS 100-130	12,00	46,1	50,9	55,3	3042322	
RLS 100-130	13,00	50	55,1	59,9	3042332	
RLS 100-130	14,00	53,8	59,4	64,5	3042352	
RLS 100-130	15,00	57,7	63,6	69,2	3042362	
RLS 100-130	16,00	61,5	67,9	73,8	3042382	
RLS 130	17,00	65,4	72,1	78,4	3042392	

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	Price
RLS 28	191	326	3010154	
RLS 38	201	336	3010155	
RLS 50	216	351	3010156	
RLS 70	250	385	3010162	
RLS 100	250	385	3010163	
RLS 130	250	385	3010164	

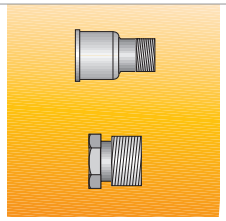
Degasing unit

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

Burner	Degasing unit with filter Code	Degasing unit without filter Code	Price
RLS	3010055	3010054	

RLS series - 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.

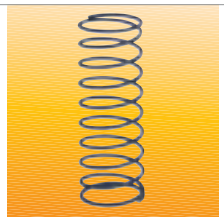
Burner	Gas train	Dimensions	Adapter code	Price
RLS 28	MBZRDLE 407 MBZRDLE 410	3/4" 1" 1/2	3000824	
	CB 50/2 - CB 50/2 CT MBZRDLE 420 MBZRDLE 420 CT	2" 1" 1/2	3000822	
RLS 38	MBZRDLE 410	3/4" 1" 1/2	3000824	
	MBZRDLE 420 MBZRDLE 420 CT CB 50/2 - CB 50/2 CT	2" 1" 1/2	3000822	
RLS 50	MBZRDLE 410	3/4" 1" 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	

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available.

Burner	Gas train	Kit code	Price
RLS 28	MBZRDLE 407 - MBZRDLE 410 - MBZRDLE 412	3010123	
	MBZRDLE 415 - MBZRDLE 420 - CB 40/2 - CB 50/2	3010125	
RLS 38	MBZRDLE 410 - MBZRDLE 412	3010123	
	MBZRDLE 415 - MBZRDLE 420 - CB 40/2 - CB 50/2	3010125	
RLS 50	MBZRDLE 410 - MBZRDLE 412	3010123	
	MBZRDLE 415 - MBZRDLE 420 - CB 40/2 - CB 50/2	3010125	
RLS 70	MBZRDLE 415 - MBZRDLE 420 CB 40/2 - CB 50/2 - CBF 65/2 - CBF 80/2	3010125	
RLS 100	MBZRDLE 415 - MBZRDLE 420 CB 40/2 - CB 50/2 - CBF 65/2 - CBF 80/2	3010125	
RLS 130	MBZRDLE 415 - MBZRDLE 420 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	Code	Price
CBF 65/1 - CBF 80/1	Red from 25 to 55 mbar	3010133	
CBF 65/1 - CBF 80/1	Black from 60 to 110 mbar	3010135	
CBF 65/1 - CBF 80/1	Pink from 90 to 150 mbar	3090456	

CE

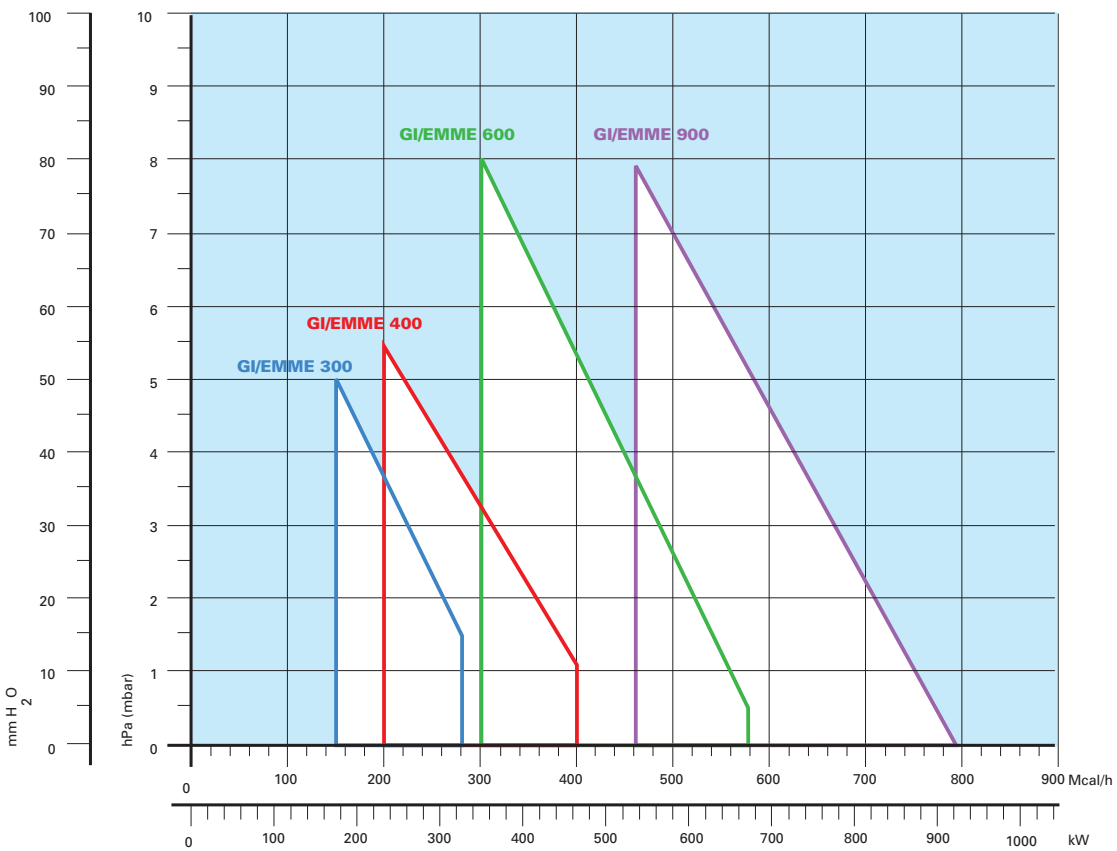
TWO STAGE DUAL FUEL BURNERS

GI/EMME SERIES

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

The GI/EMME 300-900 series of burners covers a firing range from 107 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 due to continuos working, guaranteed from the double fuel supply: this is necessary when gas distribution line isn't able to give continuosly the maximum required output. 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.

FIRING RATES

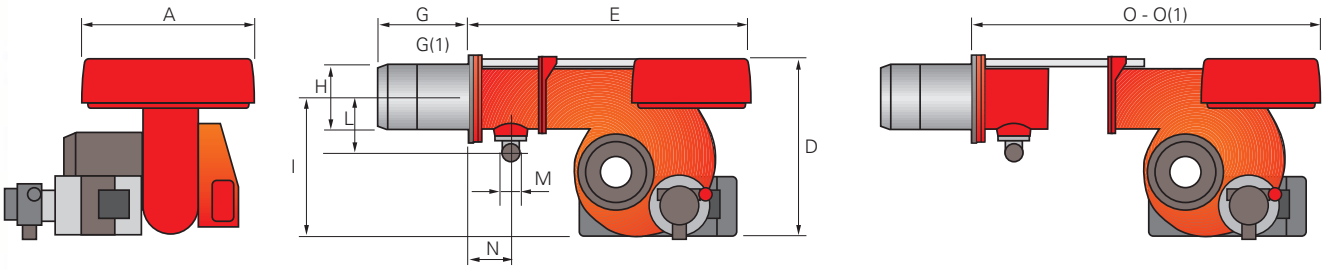


Useful working field for choosing the burner

Test conditions conforming to EN 267 - 676:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

GI/EMME series - OVERALL DIMENSIONS (mm)

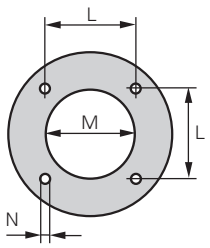
BURNERS



Model	A	E	G	G(1)	D	H	L	M	I	N	O	O(1)
GI/EMME 300	410	610	185	320	397	140	165	1"1/2	292	97	978	978
GI/EMME 400	410	610	187	320	397	150	165	1"1/2	292	97	1018	1018
GI/EMME 600	410	645	187	320	437	155	165	1"1/2	332	97	1063	1063
GI/EMME 900	410	770	227	360	485	175	195	2"	370	131	1260	1260

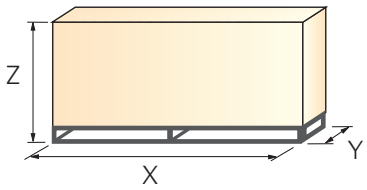
(1) Dimension with "extended head".

BURNER - BOILER MOUNTING FLANGE



Model	L	M	N
GI/EMME 300	160	155	M 10
GI/EMME 400	160	165	M 10
GI/EMME 600	160	165	M 10
GI/EMME 900	195	185	M 12

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	103	530	435	88

GI/EMME series - SPECIFICATION

DESIGNATION OF SERIES

Series : GI/EMME

Size

Emission: Class 1 EN 267

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 / 60 Hz
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						

GI/EMME series - 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
- 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 sinlge 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 40 protection level.

Standard equipment:
- 1 gas train gasket
- 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
- 2 nozzles for light oil
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

GI/EMME series - AVAILABLE BURNER MODELS

Code	Model			Heat output			Total electrical power (kW)	Certification	Note	Price
				(kW)	Light oil (kg/h)	Natural Gas (Nm^3/h)				
3483681	GI/EMME 300 TC FS1	1/220/60	220/60	107/175-340	9/15-29	11/17,5-34	-	-		
3483621	GI/EMME 300 TC FS1	1/230/50	230/50	107/175-332	9/15-28	11/17,5-33	-	-		
3484271	GI/EMME 400 TC FS1	1/210/60	120/60	116/232-465	10/20-39	12/23-46,5	-	-		
3484221	GI/EMME 400 TC FS1	1/230/50	230/50	116/232-465	10/20-39	12/23-46,5	-	-		
3484281	GI/EMME 400 TC FS1	3/220-380/60	220/60	116/232-465	10/20-39	12/23-46,5	-	-		
3484871	GI/EMME 600 TC FS1	3/210/60	120/60	174/348-697	15/30-60	17/35-70	-	-		
3484881	GI/EMME 600 TC FS1	3/220-380/60	220/60	174/348-697	15/30-60	17/35-70	-	-		
3484821	GI/EMME 600 TC FS1	3/230-400/50	230/50	174/348-665	15/30-56	17/35-66,5	-	-		
3485971	GI/EMME 900 TC FS1	3/210/60	120/60	262/523-1045	22/44-88	26/52-105	-	-		
3485981	GI/EMME 900 TC FS1	3/220-380/60	220/60	262/523-1045	22/44-88	26/52-105	-	-		
3485921	GI/EMME 900 TC FS1	3/230-400/50	230/50	250/525-922	21/44-78	25/52,5-92	-	-		

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 89/336, 73/23 Directive and EN 267, EN 676 Norm.

GI/EMME series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter* (code)	Burner (type)	Adapter* (code)		
MULTIBLOC	3970046	MBD 407	GI/EMME 300	3000824	GI/EMME 300	3000824	(1)	
	3970079	MBD 410	GI/EMME 300 GI/EMME 400 GI/EMME 600	3000824 3000824 3000824	GI/EMME 300 GI/EMME 400	3000824 3000824 3000824	(1)	
	3970152	MBD 412	GI/EMME 300 GI/EMME 400 GI/EMME 600 GI/EMME 900	3010124 3010124 3010124 3010126	GI/EMME 300 GI/EMME 400 GI/EMME 600	3000824 3000824 3000824	(1)	
	3970183	MBD 415	GI/EMME 300 GI/EMME 400 GI/EMME 600 GI/EMME 900	- - - 3000843	GI/EMME 300 GI/EMME 400 GI/EMME 600 GI/EMME 900	- - - 3000843	(1)	
	3970184	MBD 420	GI/EMME 400 GI/EMME 600 GI/EMME 900	3000822 3000822 -	GI/EMME 400 GI/EMME 600 GI/EMME 900	3000822 3000822 -	(1)	
	3970185	MBD 420 CT	GI/EMME 400 GI/EMME 600 GI/EMME 900	3000822 3000822 -	GI/EMME 400 GI/EMME 600 GI/EMME 900	3000822 3000822 -	(2)	
COMPOSED	3970153	CB 40/2	GI/EMME 300 GI/EMME 400 GI/EMME 600 GI/EMME 900	 3000843	GI/EMME 300 GI/EMME 400 GI/EMME 600 GI/EMME 900	 3000843	(1)	
	3970154	CB 50/2	GI/EMME 400 GI/EMME 600 GI/EMME 900	 -	GI/EMME 400 GI/EMME 600 GI/EMME 900	 -	(1)	
	3970166	CB 50/2 CT	GI/EMME 400 GI/EMME 600 GI/EMME 900	 -	GI/EMME 400 GI/EMME 600 GI/EMME 900	 -	(2)	
	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)	

*** The adapter price is available in the "Gas train accessories" section.**

(1) Seal control accessory.

(2) Seal control incorporated.

The following table shows the frequently matching between GI/EMME burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
GI/EMME 300	2,7	MBD 412	280	MBD 407	280	MBD 407	280	MBD 407	280
GI/EMME 400	2,8	MBD 415 CB 40/2	380	MBD 410	380	MBD 410	380	MBD410	380
GI/EMME 600	3	MBD 420 CB 50/2	560	MBD 410	560	MBD 412	560	MBD 410	560
GI/EMME 900	3,2	CB 65/2	770	MBD 412	770	MBD 415 CB 40/2	770	MBD 412	770

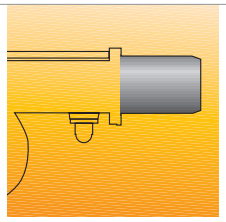
GI/EMME series - BURNER ACCESSORIES

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.

Burner	GPH	Rated output (kg/h)		Nozzle code	Price
		at 10 bar	at 12 bar		
GI/EMME 300	1,75	6,2	6,8	3042114	
GI/EMME 300	2,00	7	7,8	3042126	
GI/EMME 300	2,25	7,9	8,7	3042132	
GI/EMME 300 - 400	2,50	8,8	9,7	3042140	
GI/EMME 300 - 400	3,00	10,6	11,6	3042158	
GI/EMME 300 - 400	3,50	12,3	13,6	3042162	
GI/EMME 300 - 400 - 600	4,00	14	15,6	3042172	
GI/EMME 400 - 600	4,50	15,8	17,5	3042182	
GI/EMME 400 - 600	5,00	17,6	19,4	3042192	
GI/EMME 400 - 600	5,50	19,3	21,3	3042202	
GI/EMME 600 - 900	6,00	21,1	23,3	3042212	
GI/EMME 600 - 900	7,00	24,6	27,1	3042232	
GI/EMME 600 - 900	7,50	26,4	29,1	3042242	
GI/EMME 900	8,50	29,9	33	3042262	
GI/EMME 900	9,50	33,4	36,8	3042282	
GI/EMME 900	10	35,1	38,8	3042292	
GI/EMME 900	11	38,7	42,3	3042312	
GI/EMME 900	12,00	42,2	46,5	3042322	

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	Price
GI/EMME 300	185	320	3000836	
GI/EMME 400	187	320	3010001	
GI/EMME 600	187	320	3010002	
GI/EMME 900	227	360	3010003	

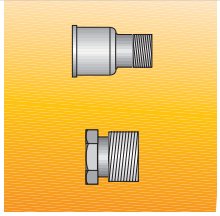
Sound proofing boxes

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

Burner	Box type	Box code	Price
GI/EMME 600	C2	3000777	
GI/EMME 900	C3	3000778	

GI/EMME series - 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.

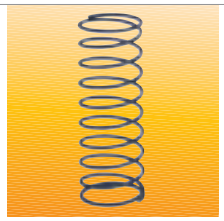
Burner	Gas train	Dimensions	Adapter code	Price
GI/EMME 300	MBZRDLE 407-410	3/4" 1" 1/2	3000824	
	MBZRDLE 412	1"1/4 1" 1/2	3010124	
GI/EMME 400	MBZRDLE 410	3/4" 1" 1/2	3000824	
	MBZRDLE 412	1"1/4 1" 1/2	3010124	
	MBZRDLE 420 - CB 50/1	2" 1" 1/2	3000822	
GI/EMME 600	MBZRDLE 410	3/4" 1" 1/2	3000824	
	MBZRDLE 412	1"1/4 1" 1/2	3010124	
	MBZRDLE 420 - CB 50/1	2" 1" 1/2	3000822	
GI/EMME 900	MBZRDLE 412	1"1/4 2"	3010126	
	MBZRDLE 415 - CB 40/1	1" 1/2 2"	3000843	
	CBF 65	DN 65 2"1/2 1" 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	Price
GI/EMME 300	MBZRDLE 407 - MBZRDLE 410 - MBZRDLE 412	3010123	
	MBZRDLE 415 - CB 40/2 -	3010125	
GI/EMME 400	MBZRDLE 410 - MBZRDLE 412	3010123	
	MBZRDLE 415 - MBZRDLE 420 CB 40/2 - CB 50/2	3010125	
GI/EMME 600	MBZRDLE 410 - MBZRDLE 412	3010123	
	MBZRDLE 415 - MBZRDLE 420 CB 40/2 - CB 50/2	3010125	
GI/EMME 900	MBZRDLE 412	3010123	
	MBZRDLE 415 - MBZRDLE 420 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.

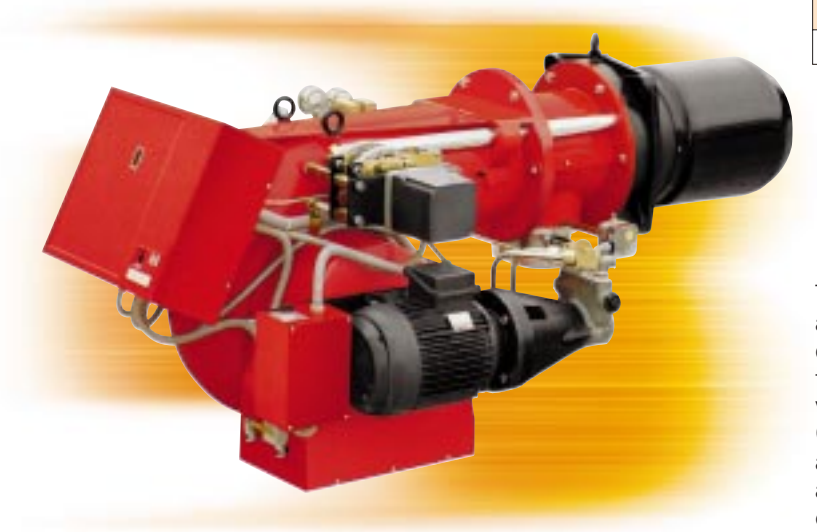
Gas train	Spring	Code	Price
CBF 65/2	Red from 25 to 55 mbar	3010133	
CBF 65/2	Black from 60 to 110 mbar	3010135	
CBF 65/2	Pink from 90 to 150 mbar	3090456	

CE

MODULANTING DUAL FUEL BURNERS

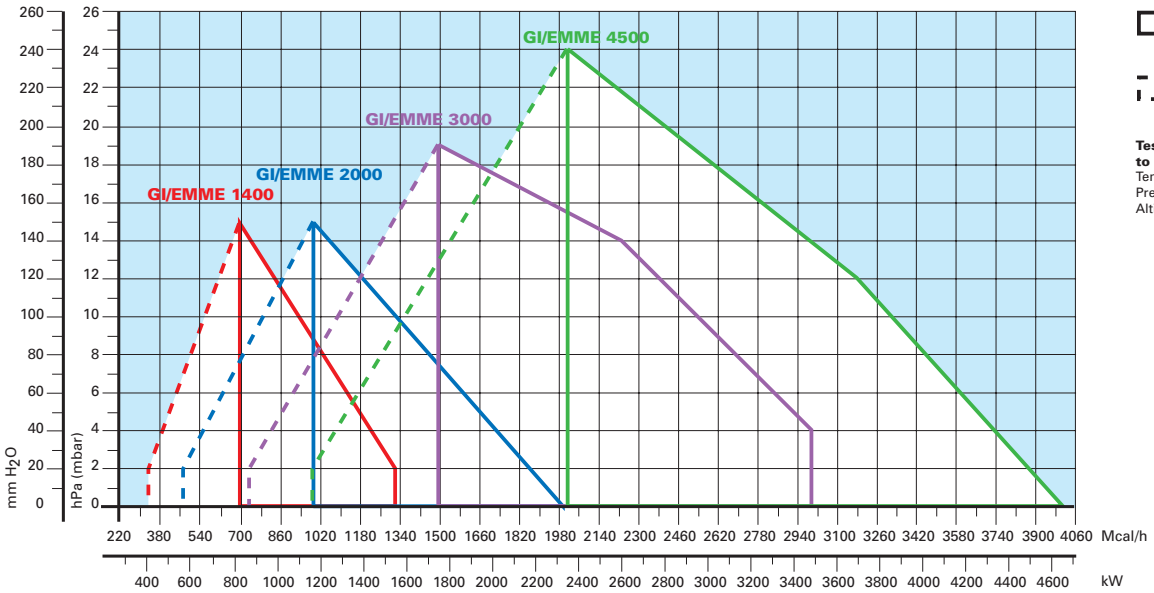
GI/EMME SERIES

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



The GI/EMME 1400-4500 series of burners covers a firing range from 407 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 conmbustion 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.

FIRING RATES



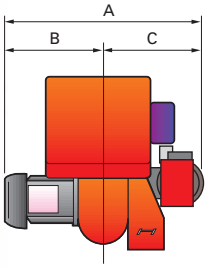
Useful working field for choosing the burner

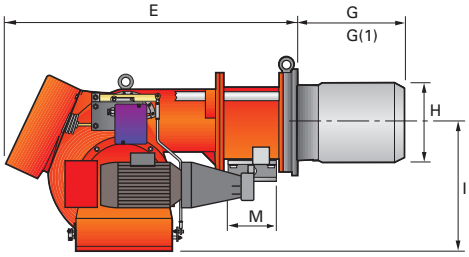
Modulation range

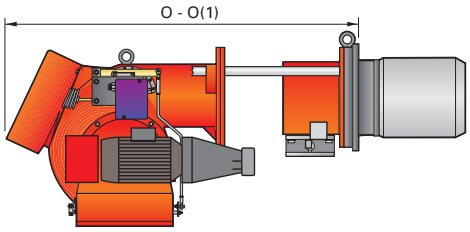
Test conditions conforming to EN 267 - 676:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.

GI/EMME series - OVERALL DIMENSIONS (mm)

BURNERS



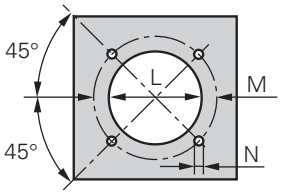




Model	A	B	C	E	G	G(1)	H	M	I	O	O(1)
GI/EMME 1400	858	376	482	1090	385	495	250	2”	467	1407	1585
GI/EMME 2000	878	396	482	1090	385	495	260	DN 80	467	1407	1585
GI/EMME 3000	985	447	538	1320	476	606	336	DN 80	525	1796	2000
GI/EMME 4500	1046	508	538	1320	476	606	336	DN 80	525	1796	1926

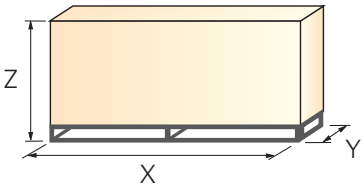
(1) “Extended head” model.

BURNER - BOILER MOUNTING FLANGE



Model	L	M	N
GI/EMME 1400	255	260	M 16
GI/EMME 2000	265	260	M 16
GI/EMME 3000	340	310	M 20
GI/EMME 4500	340	310	M 20

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

GI/EMME series - SPECIFICATION

DESIGNATION OF SERIES

Series : GI/EMME

Size

Emission: Class 1 EN 267

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 / 60 Hz
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						

GI/EMME series - 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 sinlge 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 40 protection level.

Standard equipment:
- 1 flange (for GI/EMME 1400)
- 1 gas train gasket
- 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.

GI/EMME series - AVAILABLE BURNER MODELS

Code	Model	Heat output			Total electrical power (kW)	Certification	Note	Price
		(kW)	Light oil (kg/h)	Natural Gas (Nm^3/h)				
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 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 GI/EMME series are in according to 90/396 - 89/336 - 73/23 EEC Directive and EN 267-676 Norm.

GI/EMME series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter* (code)	Burner (type)	Adapter* (code)		
MULTIBLOC	3970181	MBD 420	GI/EMME 1400 GI/EMME 2000	- 3010128	GI/EMME 1400 GI/EMME 2000	- 3010128	(1)	
MULTIBLOC	3970182	MBD 420 CT	GI/EMME 1400 GI/EMME 2000	- 3010128	GI/EMME 1400 GI/EMME 2000	- 3010128	(2)	
COMPOSED	3971046	CB 50/1	GI/EMME 1400 GI/EMME 2000	- 3010128	GI/EMME 1400 GI/EMME 2000	- 3010128	(1)	
COMPOSED	3970160	CB 50/1 CT	GI/EMME 1400 GI/EMME 2000	- 3010128	GI/EMME 1400 GI/EMME 2000	- 3010128	(2)	
COMPOSED	3970147	CBF 65/1	GI/EMME 1400 GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000825 3000831 3000831 3000831	GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000831 3000831 3000831	(1)	
COMPOSED	3970161	CBF 65/1 CT	GI/EMME 1400 GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000825 3000831 3000831 3000831	GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000831 3000831 3000831	(2)	
COMPOSED	3970148	CBF 80/1	GI/EMME 1400 GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000826 3000832 3000832 3000832			(1)	
COMPOSED	3970162	CBF 80/1 CT	GI/EMME 1400 GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3000826 3000832 3000832 3000832			(2)	
COMPOSED	3970149	CBF 100/1	GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3010127 3010127 3010127			(1)	
COMPOSED	3970163	CBF 100/1 CT	GI/EMME 2000 GI/EMME 3000 GI/EMME 4500	3010127 3010127 3010127			(2)	

*** The adapter price is available in the "Gas train accessories" section.**

(1) Seal control accessory.

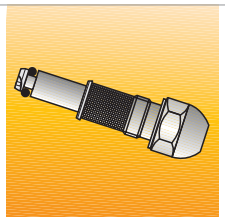
(2) Seal control incorporated.

The following table shows the frequently matching between GI/EMME burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
GI/EMME 1400	6,7	-	-	MBD 420 CB 50/1	1300	-	-	MBD 420 CB 50/1	1300
GI/EMME 2000	5,3	-	-	MBD 420 CB 50/1	1940	-	-	MBD 420 CB 50/1	1940
GI/EMME 3000	12	-	-	CBF 65/1	2900	-	-	CBF 65/1	2900
GI/EMME 4500	10	-	-	CBF 65/1	3880	-	-	CBF 65/1	3880

GI/EMME series - BURNER ACCESSORIES

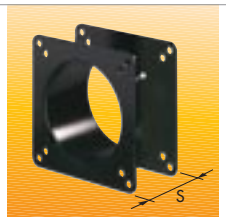
Nozzles type B3-SA 45°



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

Burner	Rated output (kg/h)	Nozzle code	Price
GI/EMME 1400	70	3009713	
GI/EMME 1400	80	3009715	
GI/EMME 1400	90	3009717	
GI/EMME 1400 - 2000	100	3009720	
GI/EMME 1400 - 2000	125	3009723	
GI/EMME 2000 - 3000	150	3009726	
GI/EMME 2000 - 3000	175	3009729	
GI/EMME 2000 - 3000 - 4500	200	3009732	
GI/EMME 3000 - 4500	225	3009735	
GI/EMME 3000 - 4500	250	3009738	
GI/EMME 3000 - 4500	275	3009741	
GI/EMME 3000 - 4500	300	3009744	
GI/EMME 4500	325	3009747	
GI/EMME 4500	350	3009750	
GI/EMME 4500	375	3009753	
GI/EMME 4500	400	3009756	

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	Price
GI/EMME 1400 - 2000	110	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	Box code	Price
GI/EMME 1400 - 2000	C7	3010048	
GI/EMME 3000 - 4500	C8	3010049	

Accessories for modulating operation

To obtain modulating setting, the GI/EMME series of burners requires a regulator.

Burner	Regulator type	Code	Price
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.

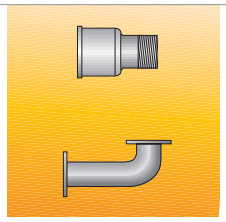
Probe type	Range (°C) (bar)	Code	Price
Temperature PT 100	-100 ÷ 500°C	3010110	
Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213	
Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214	

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	Price
GI/EMME 1400 - 2000 - 3000 - 4500	3010021	

GI/EMME series - 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.

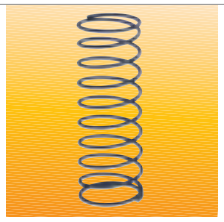
Burner	Gas train	Dimensions	Adapter code	Price
GI/EMME 1400	CBF 65/1	DN 65, 2"1/2, 1" 1/2, 2"	3000825	
	CBF 80/1	DN 80, 2"1/2, 2"	3000826	
GI/EMME 2000	MBD 420 CB 50/1	DN 80, DN 65, 2"1/2, 2"	3010128	
	CBF 65/1	DN 65, DN 80	3000831	
	CBF 80/1	DN 80, DN 80	3000832	
	CBF 100/1	DN 100, DN 80	3010127	
GI/EMME 3000	CBF 65/1	DN 65, DN 80	3000831	
	CBF 80/1	DN 80, DN 80	3000832	
	CBF 100/1	DN 100, DN 80	3010127	
GI/EMME 4500	CBF 65/1	DN 65, DN 80	3000831	
	CBF 80/1	DN 80, DN 80	3000832	
	CBF 100/1	DN 100, DN 80	3010127	

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available.

Burner	Gas train	Kit code	Price
GI/EMME 1400	MBD 420 - CB 50/1 - CBF 65/1 - CBF 80/1	3010125	
GI/EMME 2000	MBD 420 - CB 50/1 - CBF 65/1 - CBF 80/1- CBF 100/1	3010125	
GI/EMME 3000	CBF 65/1 - CBF 80/1- CBF 100/1	3010125	
GI/EMME 4500	CBF 65/1 - CBF 80/1- CBF 100/1	3010125	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

Gas train	Spring	Code	Price
CBF 65/1 - CBF 80/1	Red from 25 to 55 mbar	3010133	
CBF 100/1	Red from 25 to 55 mbar	3010134	
CBF 65/1 - CBF 80/1	Black from 60 to 110 mbar	3010135	
CBF 100/1	Black from 60 to 110 mbar	3010136	
CBF 65/1 - CBF 80/1	Pink from 90 to 150 mbar	3090456	
CBF 100/1	Pink from 90 to 150 mbar	3090489	

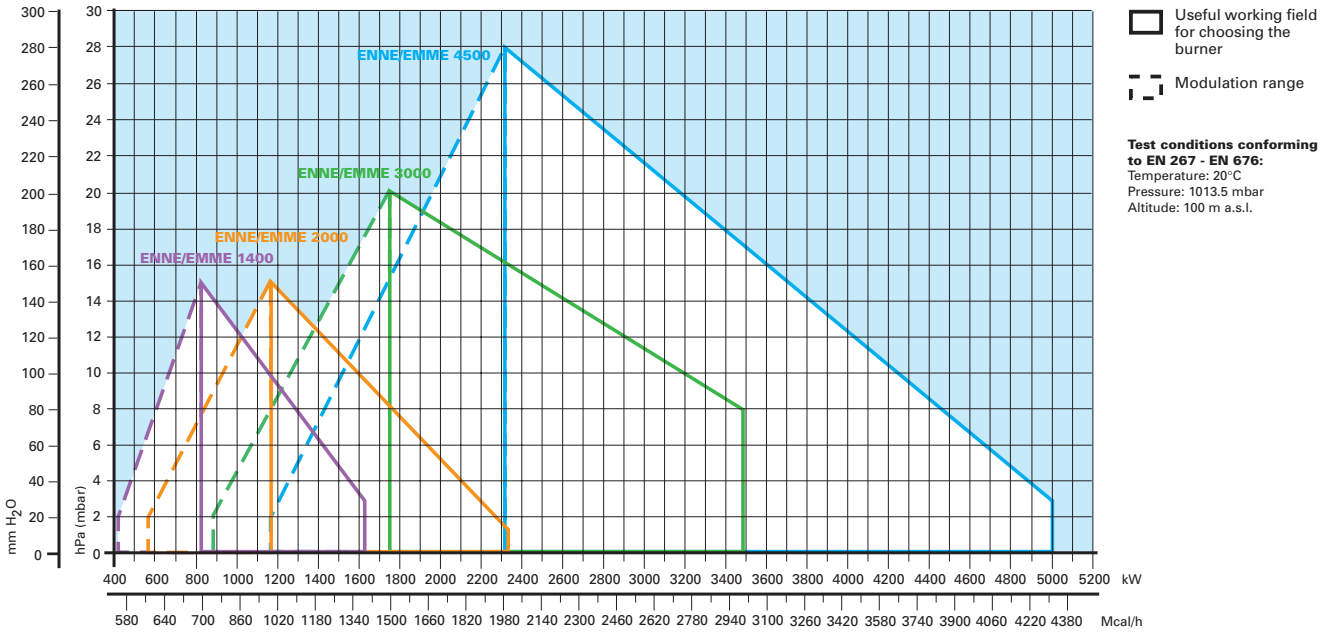
CE

MODULATING DUAL FUEL BURNERS

ENNE/EMME SERIES				
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

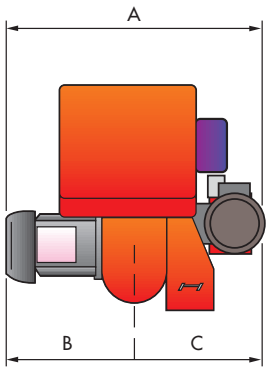
The ENNE/EMME 1400-4500 series of burners covers a firing range from 407 to 5000 kW. They have been designed for high output users and they are suitable for matching with every kind of boilers, with normal or pressurized combustion chamber.
Operation can be "two stage progressive" or, alternatively, "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.

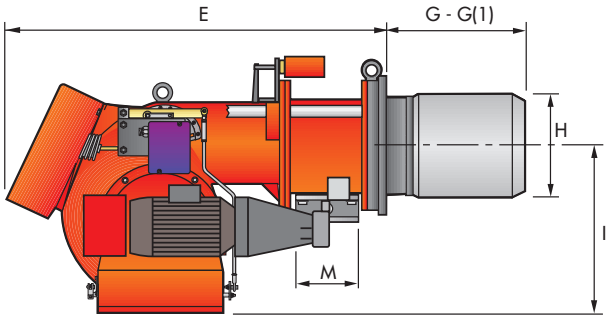
FIRING RATES

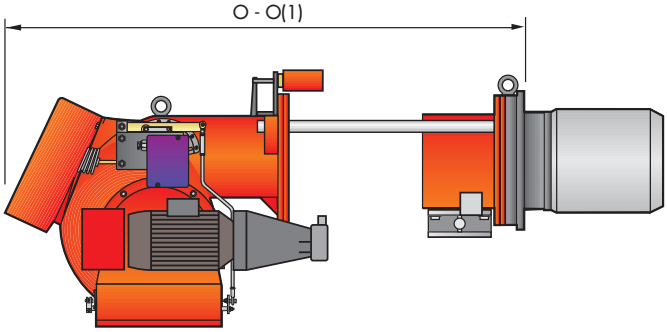


ENNE/EMME series - OVERALL DIMENSIONS (mm)

BURNERS



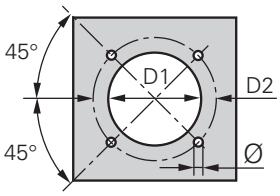




Model	A	B	C	E	G - G(1)	H	I	M	O - O(1)
ENNE/EMME 1400	892	376	516	1090	385 - 495	250	467	2"	1475 - 1585
ENNE/EMME 2000	912	396	516	1090	385 - 495	260	467	DN80	1475 - 1585
ENNE/EMME 3000	1000	447	553	1320	476 - 606	336	525	DN80	1796 - 1926
ENNE/EMME 4500	1061	508	553	1320	476 - 606	336	525	DN80	1796 - 1926

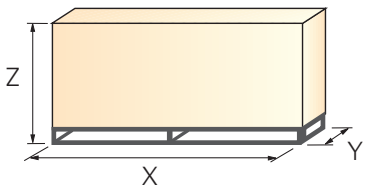
(1) model "extended head"

BURNER - BOILER MOUNTING FLANGE



Model	D1	D2	Ø
ENNE/EMME 1400	255	260	M16
ENNE/EMME 2000	265	260	M16
ENNE/EMME 3000	340	310	M20
ENNE/EMME 4500	340	310	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

ENNE/EMME series - SPECIFICATION

DESIGNATION OF SERIES

Series : ENNE / EMME

Size: 1400 ... 4500

Emission : ... Class 1 EN267

Head :
- TC Standard head
- TL Extended head

Flame control system :
- FS1 Standard (1 stop every 24 h)

Electrical supply to the system :

3/22/50	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

ENNE/EMME series - 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 sinlge 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 40 protection level.

Standard equipment:
- 1 gas train gasket
- 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.

ENNE/EMME series - AVAILABLE BURNER MODELS

Code	Model	Heat output			Total electrical power (kW)	Certification	Note	Price
		(kW)	Heavy Oil (kg/h)	Natural Gas (Nm^3/h)				
3486701	ENNE/EMME 1400 TC FS1 3/220-380/50 220/50	407/814-1628	35/70-140	41/81-163	3 + 1,1	-		
3486702	ENNE/EMME 1400 TL FS1 3/220-380/50 220/50	407/814-1628	35/70-140	41/81-163	3 + 1,1	-		
3487801	ENNE/EMME 2000 TC FS1 3/220-380/50 220/50	581/1163-2325	50/100-200	58/116-233	4 + 1,1	-		
3487802	ENNE/EMME 2000 TL FS1 3/220-380/50 220/50	581/1163-2325	50/100-200	58/116-233	4 + 1,1	-		
3488801	ENNE/EMME 3000 TC FS1 3/220-380/50 220/50	872/1744-3488	75/150-300	87/174-349	9 + 2,2	-		
3488802	ENNE/EMME 3000 TL FS1 3/220-380/50 220/50	872/1744-3488	75/150-300	87/174-349	9 + 2,2	-		
3489201	ENNE/EMME 4500 TC FS1 3/220/50 220/50	1163/2325-5000	100/200-430	116/233-500	12 + 2,2	-	(1)	
3489202	ENNE/EMME 4500 TL FS1 3/220/50 220/50	1163/2325-5000	100/200-430	116/233-500	12 + 2,2	-	(1)	
3489203	ENNE/EMME 4500 TC FS1 3/380/50 220/50	1163/2325-5000	100/200-430	116/233-500	12 + 2,2	-	(1)	
3489204	ENNE/EMME 4500 TL FS1 3/380/50 220/50	1163/2325-5000	100/200-430	116/233-500	12 + 2,2	-	(1)	

(1) Star delta starter.

Net calorific value heavy oil: 11,16 kWh/kg; 9600 kcal/kg - Max Viscosity at 50°C: 390 mm^2/s (cSt).

Net calorific value G20 gas: 10 kWh/Nm^3; 8600 $kcal/Nm^3$ - G20 gas density: 0,71 kg/Nm^3.

The burners of ENNE/EMME series are in according to 90/396 - 89/336 - 73/23 ECC Directive and EN 676-267 Norm.

ENNE/EMME series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price*
			Burner (type)	Adapter (code)	Burner (type)	Adapter (code)		
MULTIBLOC	3970181	MBD 420	ENNE/EMME 1400	-	ENNE/EMME 1400	-	(1)	
	3970181		ENNE/EMME 2000	3010128	ENNE/EMME 2000	3010128		
	3970182	MBD 420 CT	ENNE/EMME 1400	-	ENNE/EMME 1400	-	(2)	
	3970182		ENNE/EMME 2000	3010128	ENNE/EMME 2000	3010128		
COMPOSED	3971046	CBF 50/1	ENNE/EMME 1400	-	ENNE/EMME 1400	-	(1)	
	3971046		ENNE/EMME 2000	3010128	ENNE/EMME 2000	3010128		
	3970160	CBF 50/1 CT	ENNE/EMME 1400	-	ENNE/EMME 1400	-	(2)	
	3970160		ENNE/EMME 2000	3010128	ENNE/EMME 2000	3010128		
	3970147	CBF 65/1	ENNE/EMME 1400	3000825			(1)	
	3970147		ENNE/EMME 2000	3000831	ENNE/EMME 2000	3000831		
	3970147		ENNE/EMME 3000	3000831	ENNE/EMME 3000	3000831		
	3970147		ENNE/EMME 4500	3000831	ENNE/EMME 4500	3000831		
	3970161	CBF 65/1 CT	ENNE/EMME 1400	3000825			(2)	
	3970161		ENNE/EMME 2000	3000831	ENNE/EMME 2000	3000831		
	3970161		ENNE/EMME 3000	3000831	ENNE/EMME 3000	3000831		
	3970161		ENNE/EMME 4500	3000831	ENNE/EMME 4500	3000831		
	3970148	CBF 80/1	ENNE/EMME 1400	3000826			(1)	
	3970148		ENNE/EMME 2000	3000832				
	3970148		ENNE/EMME 3000	3000832				
	3970148		ENNE/EMME 4500	3000832				
	3970162	CBF 80/1 CT	ENNE/EMME 1400	3000826			(2)	
	3970162		ENNE/EMME 2000	3000832				
	3970162		ENNE/EMME 3000	3000832				
	3970162		ENNE/EMME 4500	3000832				
	3970149	CBF 100/1	ENNE/EMME 2000	3010127			(1)	
	3970149		ENNE/EMME 3000	3010127				
	3970149		ENNE/EMME 4500	3010127				
	3970163	CBF 100/1 CT	ENNE/EMME 2000	3010127			(2)	
	3970163		ENNE/EMME 3000	3010127				
	3970163		ENNE/EMME 4500	3010127				

*** The adapter price is available in the "Gas train accessories" section.**

(1) Seal control accessory.

(2) Seal control incorporated.

The following table shows the frequently matching between ENNE/EMME burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
N/M 1400	8	-	-	MBD 420 CB 50/1	1300	-	-	MBD 420 CB 50/1	1300
N/M 2000	6	-	-	MBD 420 CB 50/1	1940	-	-	MBD 420 CB 50/1	1940
N/M 3000	12	-	-	CB 65/1	2900	-	-	CB 65/1	2900
N/M 4500	13	-	-	CB 65/1	3880	-	-	CB 65/1	3880

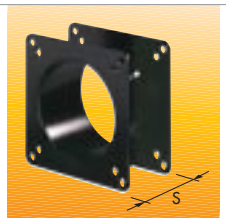
ENNE/EMME series - BURNER ACCESSORIES

Nozzles type B3-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.

Burner	Rated output (kg/h)	Code	Price code
ENNE/EMME 1400	70	3009613	
ENNE/EMME 1400	80	3009615	
ENNE/EMME 1400	90	3009617	
ENNE/EMME 1400 - 2000	100	3009620	
ENNE/EMME 1400 - 2000	125	3009623	
ENNE/EMME 1400 - 2000 - 3000	150	3009626	
ENNE/EMME 2000 - 3000	175	3009629	
ENNE/EMME 2000 - 3000 - 4500	200	3009632	
ENNE/EMME 3000 - 4500	225	3009635	
ENNE/EMME 3000 - 4500	250	3009638	
ENNE/EMME 3000 - 4500	275	3009641	
ENNE/EMME 3000 - 4500	300	3009644	
ENNE/EMME 4500	325	3009647	
ENNE/EMME 4500	350	3009650	
ENNE/EMME 4500	375	3009653	
ENNE/EMME 4500	400	3009656	
ENNE/EMME 4500	425	3009659	
ENNE/EMME 4500	450	3009661	

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	Price
ENNE/EMME 1400 - 2000	110	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	Box code	Price
ENNE/EMME 1400 - 2000	C7	3010048	
ENNE/EMME 3000 - 4500	C8	3010049	

Accessories for modulating operation

To obtain modulating operation, the ENNE/EMME series of burners requires a regulator.

Regulator type	Code	Price
RWF 40	3010211	

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

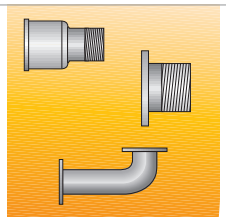
Probe type	Range (°C) (bar)	Code	Price
Temperature PT 100	-100 ÷ 500°C	3010110	
Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213	
Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214	

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	Price
ENNE/EMME 1400 - 2000 - 3000 - 4500	3010021	

ENNE/EMME series - 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.

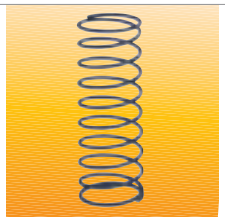
Burner	Gas train	Dimensions	Adapter code	Price
ENNE/EMME 1400	CBF 65	DN 65 2"1/2 1" 1/2 2"	3000825	
	CBF 80	DN 80 2"1/2 2"	3000826	
ENNE/EMME 2000	MBD 420 CB 50/1	DN 80 DN 65 2"1/2 2"	3010128	
	CBF 65	DN 65 DN 80	3000831	
	CBF 80	DN 80 DN 80	3000832	
	CBF 100	DN 100 DN 80	3010127	
ENNE/EMME 3000	CBF 65	DN 65 DN 80	3000831	
	CBF 80	DN 80 DN 80	3000832	
	CBF 100	DN 100 DN 80	3010127	
ENNE/EMME 4500	CBF 65	DN 65 DN 80	3000831	
	CBF 80	DN 80 DN 80	3000832	
	CBF 100	DN 100 DN 80	3010127	

Seal control kit

To test the valve seals on the gas train, a special "seal control kit" is available.

Burner	Gas train	Kit code	Price
ENNE/EMME 1400	MBD 420 CB 50/1 CBF 65/1 - 80/1	3010125	
ENNE/EMME 2000	MBD 420 CB 50/1 CBF 65/1 - 80/1 - 100/1	3010125	
ENNE/EMME 3000 ENNE/EMME 4500	CBF 65/1 - 80/1	3010125	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

Gas train	Spring	Code	Price
CBF 65/1 - CBF 80/1	Red da 25 a 55 mbar	3010133	
CBF 100/1	Red da 25 a 55 mbar	3010134	
CBF 65/1 - CBF 80/1	Black da 60 a 110 mbar	3010135	
CBF 100/1	Black da 60 a 110 mbar	3010136	
CBF 65/1 - CBF 80/1	Pink da 90 a 150 mbar	3090456	
CBF 100/1	Pink da 90 a 150 mbar	3090489	

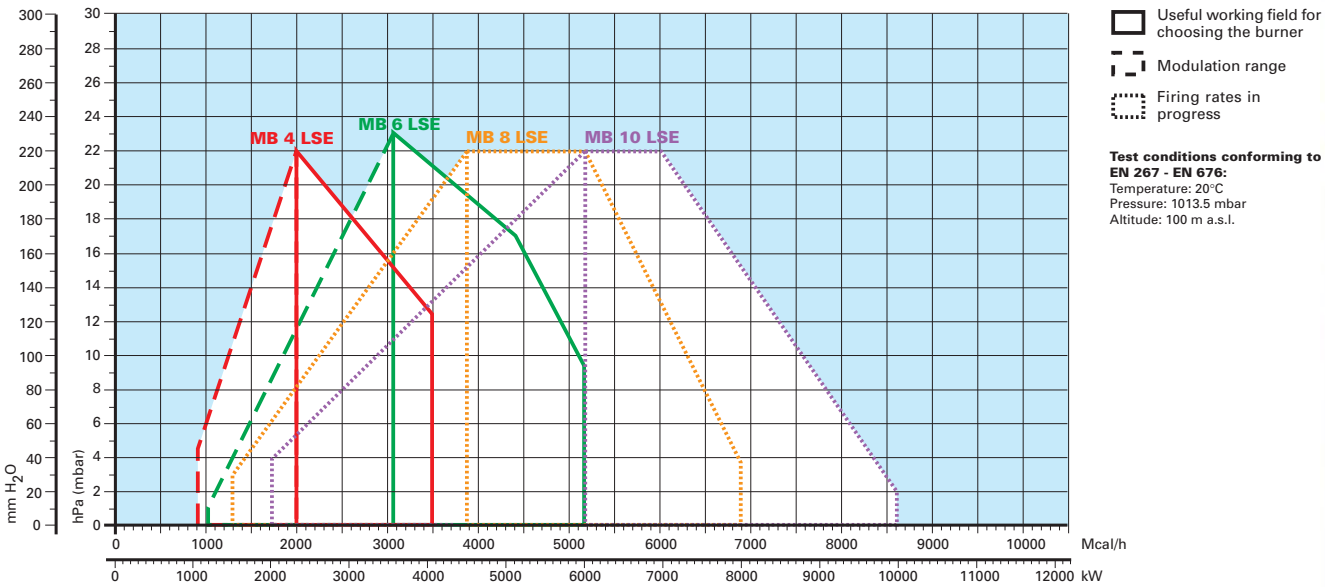
MODULATING DUAL FUEL BURNERS

MODUBLOC MB LSE SERIES

MB 4 LSE	1070/2325 ÷	4070 kW
MB 6 LSE	1186/3558 ÷	6000 kW
MB 8 LSE	1500/4500 ÷	8000 kW
MB 10 LSE	2000/6000 ÷	10000 kW

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 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 regulation mechanisms enable high modulation ratio to be reached for all firing rates. The burner can, therefore, be set precisely as required, ensuring maximum efficiency, reduced fuel consumption and operating costs.
The exclusive design, with fan unit fitted on line with the combustion head, guarantees low sound emissions, reduced dimensions, easy use and maintenance.

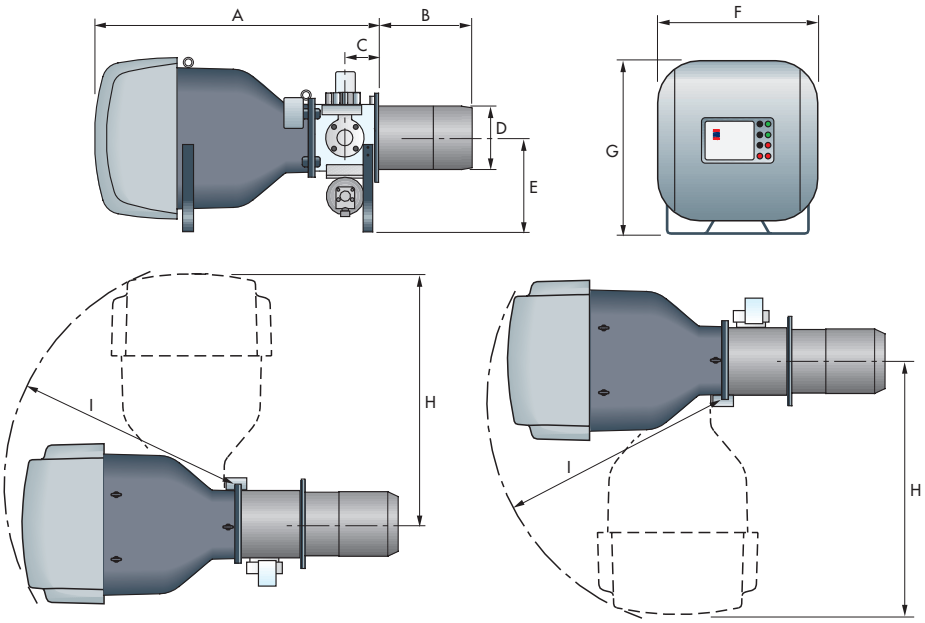
FIRING RATES



MODUBLOC MB LSE series - OVERALL DIMENSIONS (mm)

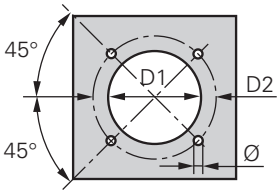
BURNERS

MB 4-6-8-10 LSE



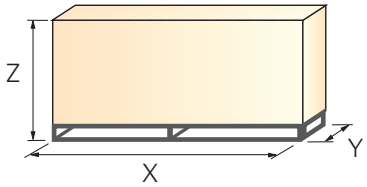
Model	A	B	C	D	E	F	G	H	I
MB 4 LSE	1470	511	183	336	490	840	910	1330	1205
MB 6 LSE	1470	511	183	336	490	840	910	1330	1205
MB 8 LSE	1900	530	208	413	575	1007	1079	1740	1570
MB 10 LSE	1900	530	208	413	575	1007	1079	1740	1570

BURNER - BOILER MOUNTING FLANGE



Model	D1	D2	Ø
MB 4 LSE	350	496	M20
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 4 LSE	2120	1005	1175	300
MB 6 LSE	2120	1005	1175	300
MB 8 LSE	2590	1170	1350	450
MB 10 LSE	2590	1170	1350	450

MODUBLOC MB LSE series - SPECIFICATION

DESIGNATION OF SERIES

Series : MB

Size

Fuel :
- S Natural Gas
- L Light oil
- LS Light oil/Methane

Operation :
- E Electronic cam
- V Electronic cam and variable speed (with Inverter)

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

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	LS	E		TC	FR	FS1	3/400/50	230/50-60
BASIC DESIGNATION									
EXTENDED DESIGNATION									

MODUBLOC MB LSE series - 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
- Flame control panel
- Photocell for flame detection
- Star/triangle starter for the fan motor
- 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 40 electric 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.

MB LSE series - AVAILABLE BURNER MODELS

Code	Model	Heat output			Total electrical power (kW)	Certification	Note	Price
		(kW)	(kg/h)	Natural gas (Nm^3/h)				
3486000	MB4LSE TC FR FS1 3/400/50 230/50-60	1070/2325-4070	90/196-343	107/233-407	15	(1) - (2)		
3486001	MB4LSE TC FR FS1 3/230/50 230/50-60	1070/2325-4070	90/196-343	107/233-407	15	(1) - (2)		
3486005	MB4LSE TC FL FS1 3/400/50 230/50-60	1070/2325-4070	90/196-343	107/233-407	15	(1) - (2)		
3486006	MB4LSE TC FL FS1 3/230/50 230/50-60	1070/2325-4070	90/196-343	107/233-407	15	(1) - (2)		
3486100	MB6LSE TC FR FS1 3/400/50 230/50-60	1186/3558-6000	100/300-506	119/356-600	17	(1) - (2)		
3486101	MB6LSE TC FR FS1 3/230/50 230/50-60	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)		
3486106	MB6LSE TC FL FS1 3/230/50 230/50-60	1186/3558-6000	100/300-506	119/356-600	17	(1) - (2)		
3486200	MB8LSE TC FR FS1 3/400/50 230/50-60	1500/4500-8000	126/379-675	150/450-800	27,4	(3)		
3486201	MB8LSE TC FR FS1 3/230/50 230/50-60	1500/4500-8000	126/379-675	150/450-800	27,4	(3)		
3486205	MB8LSE TC FL FS1 3/400/50 230/50-60	1500/4500-8000	126/379-675	150/450-800	27,4	(3)		
3486206	MB8LSE TC FL FS1 3/230/50 230/50-60	1500/4500-8000	126/379-675	150/450-800	27,4	(3)		
3486300	MB10LSE TC FR FS1 3/400/50 230/50-60	2000/6000-10000	169/506-843	200/600-1000	27,4	(3)		
3486301	MB10LSE TC FR FS1 3/230/50 230/50-60	2000/6000-10000	169/506-843	200/600-1000	27,4	(3)		
3486305	MB10LSE TC FL FS1 3/400/50 230/50-60	2000/6000-10000	169/506-843	200/600-1000	27,4	(3)		
3486306	MB10LSE TC FL FS1 3/230/50 230/50-60	2000/6000-10000	169/506-843	200/600-1000	27,4	(3)		

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/kg - Density 0,71 kg/Nm^3.
The burners of MB LSE series are in according to 73/23 - 89/336 - 98/37 - 90/396 EEC Directive and EN 267 - 676 Norm.
(1) CE 0085AU2360.
(2) DIN 5G033/99 M.
(3) In progress (CE ... - DIN ...).

MB LSE series - AVAILABLE GAS TRAIN MODELS

	Gas train code	Gas train model	Natural gas		LPG		Note	Gas train price
			Burner (type)	Adapter * (code)	Burner (type)	Adapter * (code)		
COMPOSED GAS TRAIN	3970161	CBF 65/1 CT	MB 4 LSE MB 6 LSE MB 8 LSE MB 10 LSE	3010221 3010225	MB 4 LSE MB 6 LSE MB 8 LSE MB 10 LSE	3010221 3010225	(1)	
COMPOSED GAS TRAIN	3970162	CBF 80/1 CT	MB 4 LSE MB 6 LSE MB 8 LSE MB 10 LSE	3010222 3010226	MB 4 LSE MB 6 LSE MB 8 LSE MB 10 LSE	3010222 3010226	(1)	
COMPOSED GAS TRAIN	3970163	CBF 100/1 CT	MB 4 LSE MB 6 LSE MB 8 LSE MB 10 LSE	3010223 3010227	MB 4 LSE MB 6 LSE MB 8 LSE MB 10 LSE	3010223 3010227	(1)	
COMPOSED GAS TRAIN	3970196	CBF 125/1 CT	MB 4 LSE MB 6 LSE MB 8 LSE MB 10 LSE	3010224 3010228	MB 4 LSE MB 6 LSE MB 8 LSE MB 10 LSE	3010224 3010228	(1)	

*** the adapter price is available in the "GAS TRAIN ACCESSORY" section.**
(1) Seal control incorporated.

The following table shows the frequently matching between LSE burners and the gas train, referred to different inlet gas pressure.

Burner	Reference combustion chamber pressure (mbar)	Natural gas G20 (20 mbar)		Natural gas G20 (300 mbar)		LPG (35 mbar)		LPG (150 mbar)	
		Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)	Gas train	Reference output (kW)
MB 4 LSE	16	-	-	CBF 65/1	3500	-	-	CBF 65/1	3500
MB 6 LSE	17	-	-	CBF 65/1	5200	-	-	CBF 80/1	5200
MB 8 LSE	15	-	-	CBF 80/1	6800	-	-	CBF 80/1	6800
MB 10 LSE	9	-	-	CBF 100/1	8700	-	-	CBF 100/1	8700

MODUBLOC MB LSE series - 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	Price
MB 4 - 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	Price
MB 4 - 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.

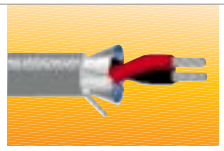
Burner	Module code	Price
MB 4 - 6 - 8 - 10 LSE	3010232	

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	Price
MB 4 - 6 - 8 - 10 LSE	CO, CO_2, O_2	3010235	
MB 4 - 6 - 8 - 10 LSE	CO, CO_2, O_2, NO	3010236	
MB 4 - 6 - 8 - 10 LSE	CO, CO_2, O_2, SO_2	3010237	
MB 4 - 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	Price
MB 4 - 6 - 8 - 10 LSE	3010239	

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)	Code	Price
MB 4 - 6 - 8 - 10 LSE	Temperature	0 ÷ 400°C	3010187	
MB 4 - 6 - 8 - 10 LSE	Pressure	0 ÷ 3 bar	3010246	
MB 4 - 6 - 8 - 10 LSE	Pressure	0 ÷ 18 bar	3010186	
MB 4 - 6 - 8 - 10 LSE	Pressure	0 ÷ 30 bar	3010188	

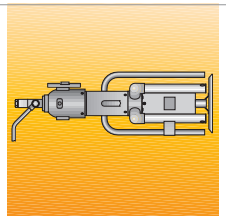
Return nozzles with needle cut-off type B5 45°

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

Burner	Rated output kg/h	Nozzle code	Price
MB 4 LSE	200	3009800	
	225	3009801	
	250	3009802	
	275	3009803	
	300	3009804	
	325	3009805	
MB 6 LSE	350	3009806	
	375	3009807	
	400	3009808	
	425	3009809	
	450	3009810	
	475	3009811	
	500	3009812	
MB 8 LSE	300	3009804	
	325	3009805	
	350	3009806	
	375	3009807	
	400	3009808	
	425	3009809	
	450	3009810	
	475	3009811	
	500	3009812	

Burner	Rated output kg/h	Nozzle code	Price
MB 8 LSE	525	3009813	
	550	3009814	
	575	3009815	
	600	3009816	
	650	3009817	
	700	3009818	
MB 10 LSE	400	3009808	
	425	3009809	
	450	3009810	
	475	3009811	
	500	3009812	
	525	3009813	
	550	3009814	
	575	3009815	
	600	3009816	
	650	3009817	
	700	3009818	
	750	3009819	
	800	3009820	
	850	3009821	
	900	3009822	

LPG kit



For burning LPG gas, a special kit is available.

Burner	Kit code	Price
MB 4 LSE	3010189	
MB 6 LSE	3010190	
MB 8 LSE	In progress	
MB 10 LSE	In progress	

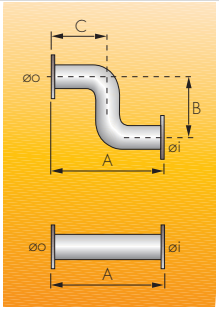
Burner support

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	Price
MB 4 - 6 LSE	In progress	
MB 8 - 10 LSE	In progress	

MODUBLOC MB LSE series - GAS TRAIN ACCESSORIES

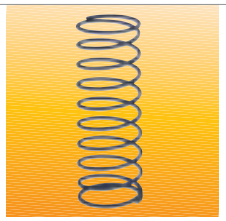
Adapters



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	Dimensions Øo DN	Dimensions A mm	Dimensions B mm	Dimensions C mm	Adapter code	Price
MB 4-6-8-10 LSE	CBF 65/1 CT	I	65	80	320	--	--	3010221	
MB 4-6-8-10 LSE	CBF 80/1 CT	I	80	80	320	--	--	3010222	
MB 4-6-8-10 LSE	CBF 100/1 CT	I	100	80	320	--	--	3010223	
MB 4-6-8-10 LSE	CBF 125/1 CT	I	125	80	320	--	--	3010224	
MB 4-6-8-10 LSE	CBF 65/1 CT	Z	65	80	400	480	225	3010225	
MB 4-6-8-10 LSE	CBF 80/1 CT	Z	80	80	400	480	225	3010226	
MB 4-6-8-10 LSE	CBF 100/1 CT	Z	100	80	400	480	225	3010227	
MB 4-6-8-10 LSE	CBF 125/1 CT	Z	125	80	500	480	300	3010228	

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

Gas train	Spring	Code	Price
CBF 65/1 CT - 80/1 CT	Red from 25 to 55 mbar	3010133	
CBF 100/1 CT	Red from 25 to 55 mbar	3010134	
CBF 125/1 CT	Red from 25 to 55 mbar	being prepared	
CBF 65/1 CT - 80/1 CT	Black from 60 to 110 mbar	3010135	
CBF 100/1 CT	Black from 60 to 110 mbar	3010136	
CBF 125/1 CT	Black from 60 to 110 mbar	being prepared	
CBF 65/1 CT - 80/1 CT	Pink from 90 to 150 mbar	3090456	
CBF 100/1 CT	Pink from 90 to 150 mbar	3090489	
CBF 125/1 CT	Pink from 90 to 150 mbar	being prepared	

industrial burners data sheets section

p. 333 Industrial Burners

p. 343 Pumping Unit Skids

p. 349 Gas Trains

p. 349 Safety Shut-Off Gas Valves

p. 349 Pressure regulating/reducing Gas Unit

p. 357 Fan Unit

p. 369 Control Panel

INDUSTRIAL applications

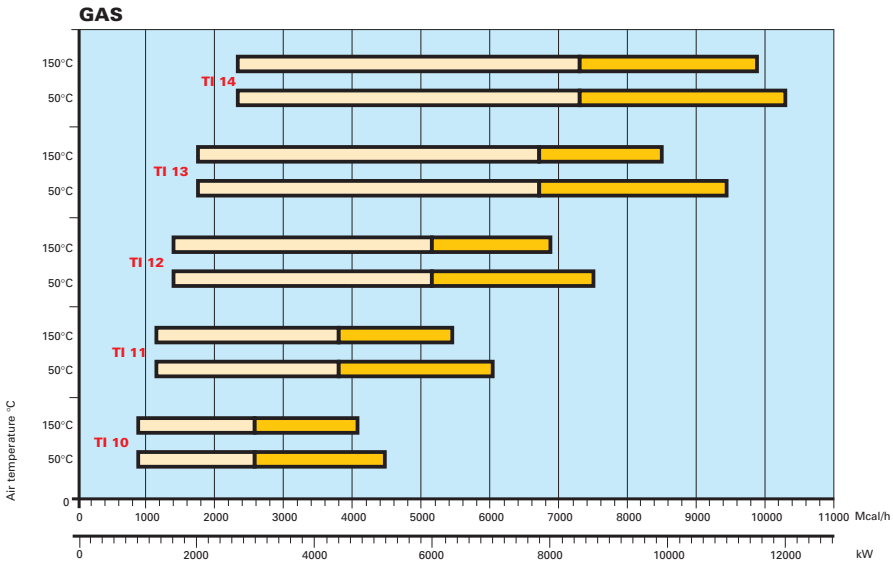
INDUSTRIAL OIL, GAS AND DUAL FUEL BURNERS

TI SERIES

TI 10	930/3000 ÷ 5200	kW
TI 11	1165/4200 ÷ 7000	kW
TI 12	2325/6000 ÷ 8700	kW
TI 13	2600/7800 ÷ 11000	kW
TI 14	6000/8500 ÷ 12000	kW

The industrial burners TI series are designed for large civil installations and industrial processes with high thermal demands.
This series gives 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 in the oil diathermic generators and other heat recovery systems.
The modulating operation, with a variable geometry combustion head, always allows to reach a wide modulation ratio and optimal fluid-dynamics conditions for a good combustion.

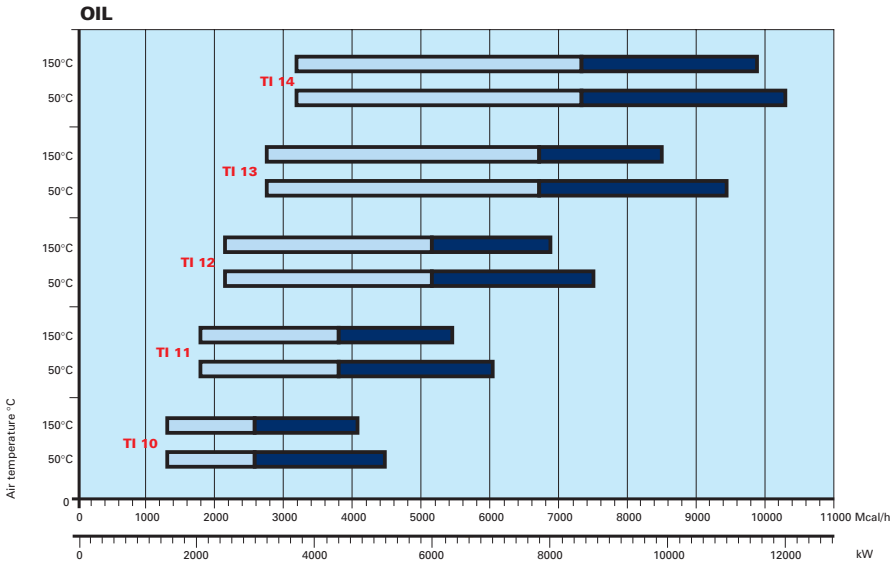
FIRING RATES



Useful working field for choosing the burner

Modulation range

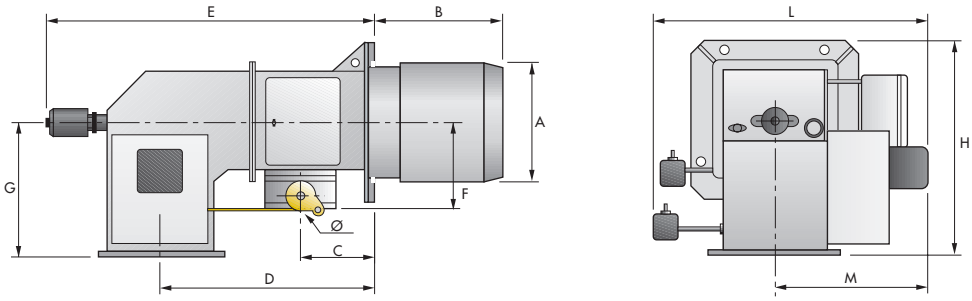
Test conditions conforming to EN 267; EN 676:
Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m.s.l.



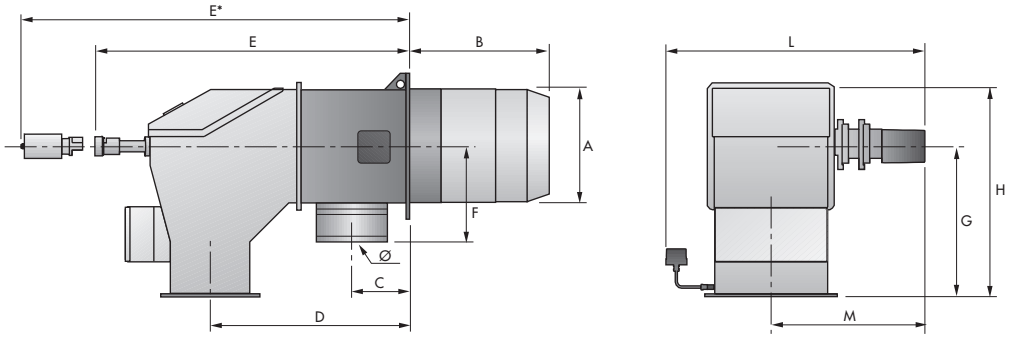
TI series - OVERALL DIMENSIONS (mm)

BURNERS

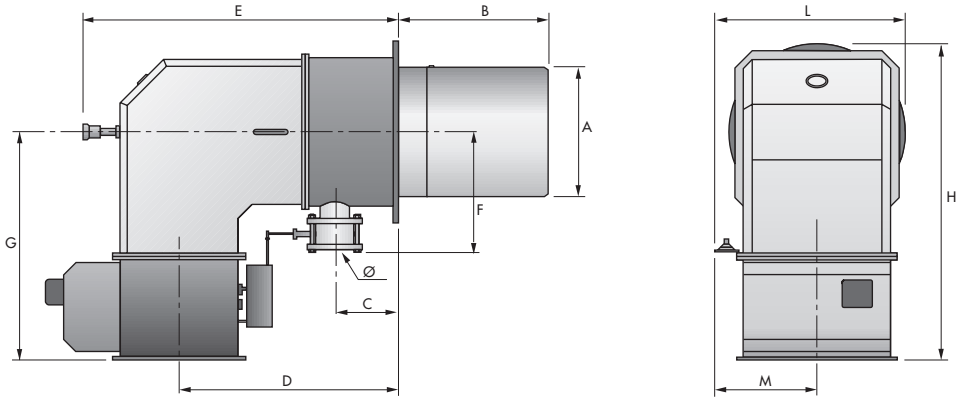
TI 10-11-12



TI 13



TI 14



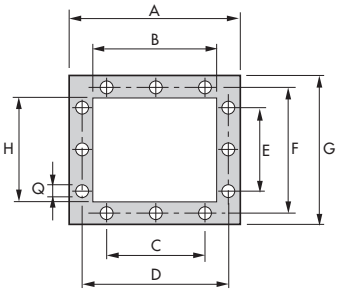
Model	A	B	C	D	E - E*	F	G	H	L	M	Ø
TI 10	336	470	208	604	1080	257	390	590	770	478	DN80
TI 11	336	470	208	604	1080	257	390	590	770	478	DN80
TI 12	386	470	208	604	1080	257	390	590	770	478	DN80
TI 13	416	512	250	720	1140 - 1406	316	546	756	940	558	DN80
TI 14	508	600	250	851	1293 - 1508	478	847	1200	820	400	DN100

E - gas version
E* - oil and dual fuel version

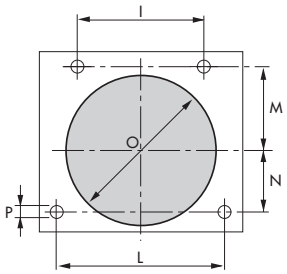
BURNER - BOILER MOUNTING FLANGE

TI 10-11-12

AIR CHANNEL FLANGE

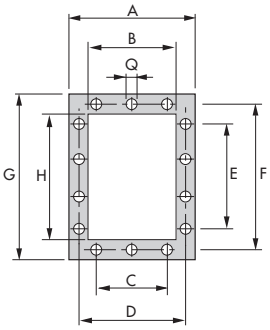


PERFORATION BOILERPLATE

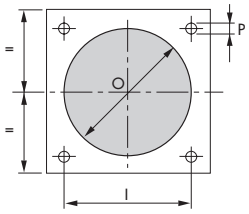


TI 13

AIR CHANNEL FLANGE

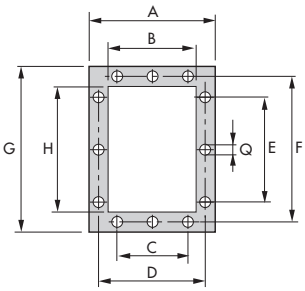


PERFORATION BOILERPLATE

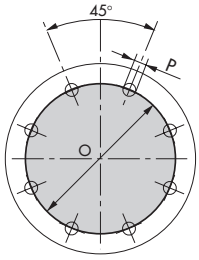


TI 14

AIR CHANNEL FLANGE

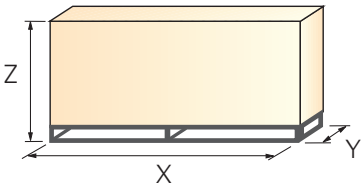


PERFORATION BOILERPLATE



Model	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q
TI 10	368	300	240	340	220	320	348	280	240	350	175	120	350	M16	9
TI 11	368	300	240	340	220	320	348	280	240	350	175	120	350	M16	9
TI 12	368	300	240	340	220	320	348	280	260	390	195	130	400	M16	9
TI 13	360	280	250	332	375	448	480	402	460	-	-	-	430	M18	11
TI 14	542	452	410	510	390	620	652	562	-	-	-	-	645	M14	11

PACKAGING



Model	X	Y	Z	kg
TI 10	1680	960	930	200
TI 11	1680	960	930	200
TI 12	1680	960	930	200
TI 13	2100	1200	1150	240
TI 14	2200	940	1450	270

TI series - SPECIFICATION

DESIGNATION OF SERIES

Series : TI

Size :
10 - 11 - 12 - 13 - 14

Operation :
- P/ progressive (modulating, mechanic cam)
- E/ electronic cam

Fuel :

M	Methane	NM	Heavy oil/Methane
G	Light oil	NAM	Heavy oil steam atomising/Methane
N	Heavy oil	GM	Light oil/Methane
NA	Heavy oil steam atomising	GP	Light oil/LPG
P	LPG	NAP	Heavy oil steam atomising/LPG
NP	Heavy oil/LPG		

Head :
- TC Standard head
- TL Extended head

Air suction supply location :
- A-0 below
- A-90 right
- A-180 above
- A-270 left

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

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

Air suction temperature :
- T50 Room temperature
- T150 Preheated at 150°C

Installation :
- I Internal
- O External

TI	13	P/	M	TC	A-0	FS1	230/50-60	T50	I
BASIC DESIGNATION									
EXTENDED DESIGNATION									

TI series - STATE OF SUPPLY

All burners
Forced draught burners, two stage progressive or modulating operation with a kit, separate supplies, fully automatic, made up of:
- Sheet-steel airlock painted with a cover for access to the internal elements
- Air damper for air setting with variable profile cam controlled by a servomotor
- Mobile combustion head (except for TI 14 model), that can be set on the basis of required output
- Pilot burner (TI13 - TI14 models)
- Minimum air pressure switch
- Flame inspection window
- Shunt box with ignition transformer
- IP 54 electric protection level.

Oil Burner
- Photocell for flame detection
- Nozzle pipe
- Safety nozzle valve
- Valves group with safety oil valves
- Automatic regulator of oil capacity controlled by a servomotor
- Maximum oil pressure switch on the return circuit
- Pressure gauge on the delivery and return circuit.

Gas Burner
- Ionisation probe
- Maximum gas pressure switch
- Butterfly valve for the dosage of the fuel with a variable profile cam controlled by a servomotor
- Gas pressure test point to the combustion head.

Dual Fuel Burner (Oil/Gas)
- Photocell for flame detection
- Nozzle pipe
- Safety nozzle valve
- Valves group with safety oil valves
- Automatic regulator of oil capacity controlled by a servomotor
- Maximum oil pressure switch on the return circuit
- Pressure gauge on the delivery and return circuit
- Maximum gas pressure switch
- Butterfly valve for the dosage of the fuel with a variable profile cam controlled by a servomotor
- 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 and dual fuel burner)
- Gas train gasket (gas and dual fuel burner)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

TI series - AVAILABLE BURNER MODELS

Code	Model	Fuel	Heat output (kW)	Heat output Light oil (kg/h)	Heat output Natural gas (Nm^3/h)	Air ** (m^3/h)	Note	Price
3857450	TI 10 P/ M TC A-0 FS1 230/50-60 T50 I	Natural gas	930/3000÷5200	-	525	6300		
3857455	TI 10 P/ M TC A-180 FS1 230/50-60 T50 I	Natural gas	930/3000÷5200	-	525	6300		
3857600	TI 11 P/ M TC A-0 FS1 230/50-60 T50 I	Natural gas	1165/4200÷7000	-	710	8400		
3857605	TI 11 P/ M TC A-180 FS1 230/50-60 T50 I	Natural gas	1165/4200÷7000	-	710	8400		
3857750	TI 12 P/ M TC A-0 FS1 230/50-60 T50 I	Natural gas	2325/6000÷8700	-	880	10500		
3857755	TI 12 P/ M TC A-180 FS1 230/50-60 T50 I	Natural gas	2325/6000÷8700	-	880	10500		
3851300	TI 13 P/ M TC A-0 FS1 230/50-60 T50 I	Natural gas	2600/7800÷11000	-	1090	13200		
3851305	TI 13 P/ M TC A-180 FS1 230/50-60 T50 I	Natural gas	2600/7800÷11000	-	1090	13200		
3857800	TI 14 P/ M TC A-0 FS1 230/50-60 T50 I	Natural gas	6000/8500÷12000	-	1215	14600		
3854450	TI 10 P/ G TC A-0 FS1 230/50-60 T50 I	Light Oil	930/3000÷5200	78÷441	-	6300		
3854455	TI 10 P/ G TC A-180 FS1 230/50-60 T50 I	Light Oil	930/3000÷5200	78÷441	-	6300		
3854600	TI 11 P/ G TC A-0 FS1 230/50-60 T50 I	Light Oil	1165/4200÷7000	98÷590	-	8400		
3854605	TI 11 P/ G TC A-180 FS1 230/50-60 T50 I	Light Oil	1165/4200÷7000	98÷590	-	8400		
3854750	TI 12 P/ G TC A-0 FS1 230/50-60 T50 I	Light Oil	2325/6000÷8700	196÷735	-	10500		
3854755	TI 12 P/ G TC A-180 FS1 230/50-60 T50 I	Light Oil	2325/6000÷8700	196÷735	-	10500		
3851400	TI 13 P/ G TC A-0 FS1 230/50-60 T50 I	Light Oil	2600/7800÷11000	220÷910	-	12800		
3851405	TI 13 P/ G TC A-180 FS1 230/50-60 T50 I	Light Oil	2600/7800÷11000	220÷910	-	12800		
3851200	TI 14 P/ G TC A-0 FS1 230/50-60 T50 I	Light Oil	6000/8500÷12000	506÷1012	-	14200	(1)	
3851210	TI 14 P/ G TC A-0 FS1 230/50-60 T50 I	Light Oil	6000/8500÷12000	506÷1012	-	14200	(2)	
3854450	TI 10 P/ N TC A-0 FS1 230/50-60 T50 I	Heavy Oil	930/3000÷5200	80÷450	-	6700		
3854455	TI 10 P/ N TC A-180 FS1 230/50-61 T50 I	Heavy Oil	930/3000÷5200	80÷450	-	6700		
3854600	TI 11 P/ N TC A-0 FS1 230/50-62 T50 I	Heavy Oil	1165/4200÷7000	100÷600	-	9500		
3854605	TI 11 P/ N TC A-180 FS1 230/50-63 T50 I	Heavy Oil	1165/4200÷7000	100÷600	-	9500		
3854750	TI 12 P/ N TC A-0 FS1 230/50-64 T50 I	Heavy Oil	2325/6000÷8700	200÷750	-	11700		
3854755	TI 12 P/ N TC A-180 FS1 230/50-65 T50 I	Heavy Oil	2325/6000÷8700	200÷750	-	11700		
3851410	TI 13 P/ N TC A-0 FS1 230/50-66 T50 I	Heavy Oil	2600/7800÷11000	233÷970	-	14600		
3851415	TI 13 P/ N TC A-180 FS1 230/50-67 T50 I	Heavy Oil	2600/7800÷11000	233÷970	-	14600		
3851200	TI 14 P/ N TC A-0 FS1 230/50-68 T50 I	Heavy Oil	6000/8500÷12000	538÷1075	-	16200	(1)	
3851210	TI 14 P/ N TC A-0 FS1 230/50-69 T50 I	Heavy Oil	6000/8500÷12000	538÷1075	-	16200	(2)	
3090589	TI 10 P/ P TC A-0 FS1 230/50-60 T50 I	LPG	930/3000÷5200	-	200	6000		
3090300	TI 11 P/ P TC A-0 FS1 230/50-60 T50 I	LPG	1165/4200÷7000	-	267	8010		
3090561	TI 12 P/ P TC A-0 FS1 230/50-60 T50 I	LPG	2325/6000÷8700	-	332	9960		
3851310	TI 13 P/ P TC A-0 FS1 230/50-60 T50 I	LPG	2600/7800÷11000	-	413	12390		
3851325	TI 13 P/ P TC A-180 FS1 230/50-60 T50 I	LPG	2600/7800÷11000	-	413	12390		
3857810	TI 14 P/ P TC A-0 FS1 230/50-60 T50 I	LPG	6000/8500÷12000	-	458	13740		
3090688	TI 10 P/ NP TC A-0 FS1 230/50-60 T50 I	Heavy Oil + LPG	930/3000÷5200	80÷465	200	6700		
3090761	TI 11 P/ NP TC A-0 FS1 230/50-60 T50 I	Heavy Oil + LPG	1165/4200÷7000	100÷627	267	9500		
3090700	TI 12 P/ NP TC A-0 FS1 230/50-60 T50 I	Heavy Oil + LPG	2325/6000÷8700	200÷781	332	11700		
3841911	TI 13 P/ NP TC A-0 FS1 230/50-60 T50 I	Heavy Oil + LPG	2600/7800÷11000	233÷970	413	14600		
3841906	TI 13 P/ NP TC A-180 FS1 230/50-60 T50 I	Heavy Oil + LPG	2600/7800÷11000	233÷970	413	14600		
3090869	TI 10 P/ NM TC A-0 FS1 230/50-60 T50 I	Heavy Oil + Natural gas	930/3000÷5200	80÷465	525	6700		
3090542	TI 10 P/ NM TC A-180 FS1 230/50-60 T50 I	Heavy Oil + Natural gas	930/3000÷5200	80÷465	525	6700		
3090605	TI 11 P/ NM TC A-0 FS1 230/50-60 T50 I	Heavy Oil + Natural gas	1165/4200÷7000	100÷627	710	9500		
3090389	TI 12 P/ NM TC A-0 FS1 230/50-60 T50 I	Heavy Oil + Natural gas	2325/6000÷8700	200÷781	880	11700		
3841901	TI 13 P/ NM TC A-0 FS1 230/50-60 T50 I	Heavy Oil + Natural gas	2600/7800÷11000	233÷970	1090	14600		
3841906	TI 13 P/ NM TC A-180 FS1 230/50-60 T50 I	Heavy Oil + Natural gas	2600/7800÷11000	233÷970	1090	14600		
3090507	TI 14 P/ NM TC A-0 FS1 230/50-60 T50 I	Heavy Oil + Natural gas	6000/8500÷12000	538÷1075	1215	16100		
3841450	TI 10 P/ GM TC A-0 FS1 230/50-60 T50 I	Light Oil + Natural gas	930/3000÷5200	78÷441	525	6300		
3841455	TI 10 P/ GM TC A-180 FS1 230/50-60 T50 I	Light Oil + Natural gas	930/3000÷5200	78÷441	525	6300		
3841600	TI 11 P/ GM TC A-0 FS1 230/50-60 T50 I	Light Oil + Natural gas	1165/4200÷7000	98÷590	710	8400		
3841605	TI 11 P/ GM TC A-180 FS1 230/50-60 T50 I	Light Oil + Natural gas	1165/4200÷7000	98÷590	710	8400		
3841750	TI 12 P/ GM TC A-0 FS1 230/50-60 T50 I	Light Oil + Natural gas	2325/6000÷8700	196÷735	880	\		
3841755	TI 12 P/ GM TC A-180 FS1 230/50-60 T50 I	Light Oil + Natural gas	2325/6000÷8700	196÷735	880	10500		
3841900	TI 13 P/ GM TC A-0 FS1 230/50-60 T50 I	Light Oil + Natural gas	2600/7800÷11000	220÷910	1090	13200		
3841905	TI 13 P/ GM TC A-180 FS1 230/50-60 T50 I	Light Oil + Natural gas	2600/7800÷11000	220÷910	1090	13200		
3841800	TI 14 P/ GM TC A-0 FS1 230/50-60 T50 I	Light Oil + Natural gas	6000/8500÷12000	506÷1012	1215	14600		
3841910	TI 13 P/ GP TC A-0 FS1 230/50-60 T50 I	Light Oil + LPG	2600/7800÷11000	220÷910	413	13200		
3841915	TI 13 P/ GP TC A-0 FS1 230/50-60 T50 I	Light Oil + LPG	2600/7800÷11000	220÷910	413	13200		
3090692	TI 10 E/ M TC A-180 FS1 230/50-60 T50 I	Natural gas	930/3000÷5200	-	525	6300		
3090832	TI 11 E/ M TC A-180 FS1 230/50-60 T50 I	Natural gas	1165/4200÷7000	-	710	8400		
3090746	TI 12 E/ M TC A-180 FS1 230/50-60 T50 I	Natural gas	2325/6000÷8700	-	880	10500		
3090533	TI 14 E/ M TC A-0 FS1 230/50-60 T50 I	Natural gas	6000/8500÷12000	-	1215	14600		
3090713	TI 10 E/ NM TC A-0 FS1 230/50-60 T50 I	Heavy Oil + Natural gas	930/3000÷5200	80÷465	525	6700		

*** 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

**** Air flow is related to max burner output**

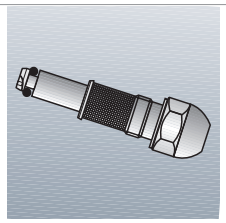
(1) Low pressure pilot gas train max 500 mbar
(2) High pressure pilot gas train max 7000 mbar

High pressure flexible tubes

To connect the burner to the fuel line adduction some flexible tubes are available.

Burner	Tube diameter	Tube length (mm)	Maximum working pressure (bar)	Tube code	Price
TI 10	1/2"	1500	40	3094227	
TI 11	1/2"	1500	40	3094227	
TI 12	1/2"	1500	40	3094227	
TI 13	3/4"	2000	40	3094226	
TI 14	3/4"	2000	40	3094226	

Return nozzles



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

	Nozzles type "B3-30-AA" 30°			Nozzles type "B3-45-AA" 45°		
Burner	Nominal output (kg/h)	Nozzle code	Price	Nominal output (kg/h)	Nozzle code	Price
TI 10-11-12	150	3009625		150	3009626	
	175	3009628		175	3009629	
	200	3009631		200	3009632	
	225	3009634		225	3009635	
	250	3009637		250	3009638	
	275	3009640		275	3009641	
	300	3009643		300	3009644	
	325	3009646		325	3009647	
	350	3009649		350	3009650	
	375	3009652		375	3009653	
	400	3009655		400	3009656	
	425	3009658		425	3009659	
	450	3009661		450	3009662	
	475	3009664		475	3009665	
	500	3009667		500	3009668	
	525	3009670		525	3009671	
	550	3009673		550	3009674	
	575	3009676		575	3009677	
	600	3009679		600	3009680	
	650	3009682		650	3009683	
	700	3009685		700	3009686	
	750	3009688		750	3009689	
	800	3009691		800	3009692	
	850	3009694		850	3009695	
	900	3009697		900	3009698	

Return nozzles type “B5-45-AA” 45°

Burner	Nominal output (kg/h)	Nozzle code	Price
TI 13	250	3009802	
	275	3009803	
	300	3009804	
	325	3009805	
	350	3009806	
	375	3009807	
	400	3009808	
	425	3009809	
	450	3009810	
	475	3009811	
	500	3009812	
	525	3009813	
	550	3009814	
	575	3009815	
	600	3009816	
	650	3009817	
	700	3009818	
	750	3009819	
	800	3009820	
	850	3009821	
	900	3009822	
	950	3009823	

Return nozzles type “M14/3” 45°

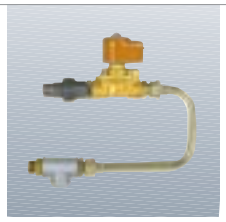
Burner	Nominal output (kg/h)	Nozzle code	Price
TI 14	600	3009900	
	650	3009901	
	700	3009902	
	750	3009903	
	800	3009904	
	850	3009905	
	900	3009906	
	950	3009907	
	1000	3009908	
	1050	3009909	
	1100	3009910	
	1150	3009911	
	1200	3009912	

High pressure oil filter

In order to protect the hydraulic circuit of the burner these filters are available.

Burner	Filter diameter	Filtering degree (μ)	Filter Code	Price
TI 10	1/2″	500	In progress	
TI 11	1/2″	500	In progress	
TI 12	1/2″	500	In progress	
TI 13	3/4″	500	In progress	
TI 14	3/4″	500	In progress	

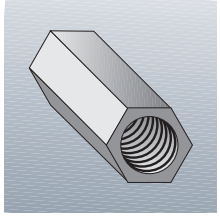
Circulation group (by-pass valve)



Some circulation groups, that allow the circulates of the heated fuel during the stand-by phase, are available.

Burner	Group diameter	Group code	Price
TI 10	1/2″	In progress	
TI 11	1/2″	In progress	
TI 12	1/2″	In progress	
TI 13	3/4″	In progress	
TI 14	3/4″	In progress	

Check valve



In order to avoid fuel return, “check valve” are available.

Burner	Valve diameter	Valve code	Price
TI 10	1/2″	In progress	
TI 11	1/2″	In progress	
TI 12	1/2″	In progress	
TI 13	3/4″	In progress	
TI 14	3/4″	In progress	

Potentiometer kit

A three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

Burner	Kit code	Price
TI 10-11-12-13-14	3010021	

LIGHT OIL PUMPING UNIT SKIDS
HEAVY OIL HEATING AND PUMPING UNIT SKIDS
FOR INDUSTRIAL BURNERS

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

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 DG SN DN series - 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 (standard)
- SC direct connection

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

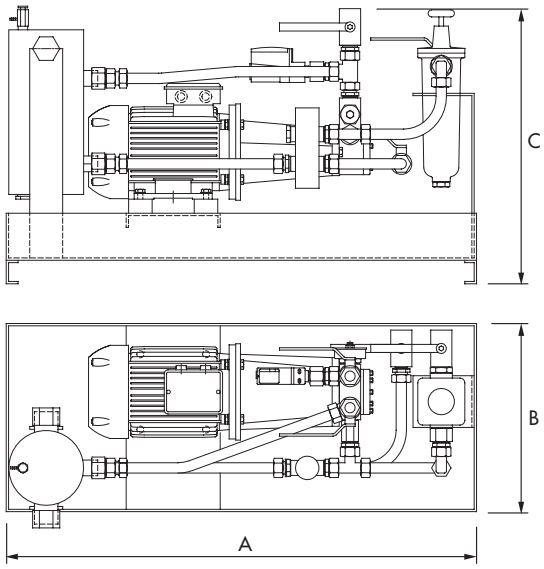
BASIC DESIGNATION

EXTENDED DESIGNATION — OPTIONS AVAILABLE ON REQUEST

SG DG SN DN series - OVERALL DIMENSIONS (mm)

PUMPING UNIT

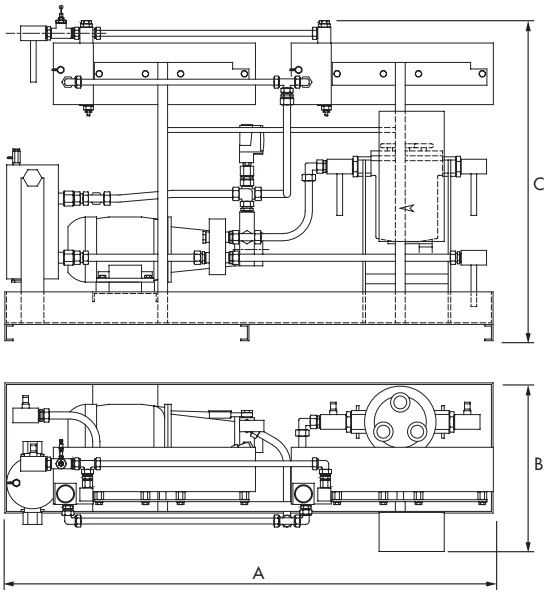
LIGHT OIL



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

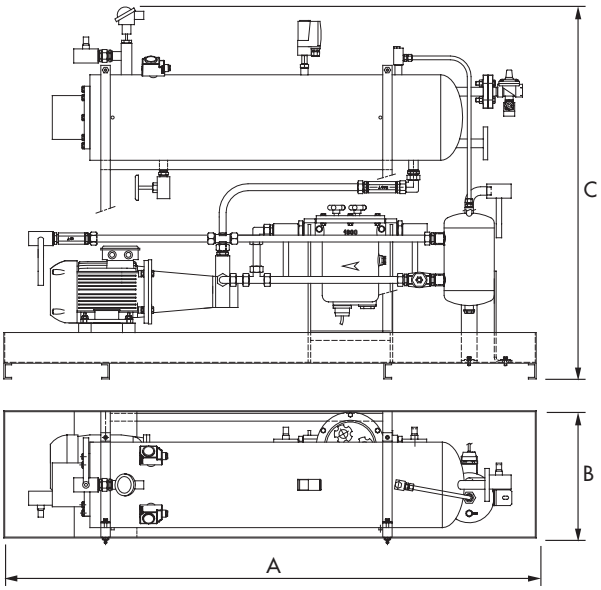
HEAVY OIL

Electrical heater



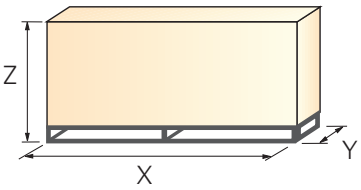
Model	A	B	C
SN 250 EP	1400	400	985
SN 320 EP	1400	400	985
SN 400 EP	1500	400	1100
SN 650 EP	1500	400	1100
SN 800 EP	1500	400	1100
SN 1000 EP	1500	600	1100
SN 1500 EP	1500	600	1100
DN 250 EP	1400	700	985
DN 320 EP	1400	700	985
DN 400 EP	1500	700	1100
DN 650 EP	1500	700	1100
DN 800 EP	1500	700	1100
DN 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

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

SG DG SN DN series - AVAILABLE PUMPING UNIT MODELS

Code	Models	Fuel	Port Size	Delivery at 15 bar * (l/h)	Delivery at 28 bar * (l/h)	Motor power * (kW)	Price
3090545	SG 400 SB 3/400/50-3/440/60 230/50-60	Light oil	1/2"	1270	1140	2,2	
3090549	SG 800 SB 3/400/50-3/440/60 230/50-60	Light oil	3/4"	1960	1700	3,0	

* 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 output * (kg/h)	Price
3090732	SN 250 EP SB 3/400/50-3/440/60 230/50-60	Heavy oil	1/2"	580	540	1,1	14	265	
3090714	SN 320 EP SB 3/400/50-3/440/60 230/50-60	Heavy oil	3/4"	950	700,0	1,5	20	350	
3090615	SN 650 EP SB 3/400/50-3/440/60 230/50-60	Heavy oil	3/4"	1400	1200	2,2	40	590	
3090851	DN 800 EP SB 3/400/50-3/440/60 230/50-60	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 output * (kg/h)	Price
3090835	SN 250 EV SB 3/400/50-3/440/60 230/50-60	Heavy oil	1/2"	580	540	1,1	100	265	
3090722	SN 500 EV SB 3/400/50-3/440/60 230/50-60	Heavy oil	3/4"	1400	1200	2,2	65	590	
3090759	SN 650 EV SB 3/400/50-3/440/60 230/50-60	Heavy oil	3/4"	1900	1700	3,0	70	700	
3090815	SN 800 EV SB 3/400/50-3/440/60 230/50-60	Heavy oil	3/4"	1900	1700	3,0	70	800	
3090791	SN 1000 EV SB 3/400/50-3/440/60 230/50-60	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.

STATE OF SUPPLY - Pumping and heater unit skids

- 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.

SG DG SN DN series - AVAILABLE ACCESSORIES

Pumping unit for main ring

Model	Electrical supply Ph/V/Hz	Connection IN/OUT	Output at 9 bar [l/h]	Electric motor power [kW]	Motor speed [rpm]	Code	Price
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	3093225	
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	In progress	
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	3093229	
RGS 3000	3/400/50 3/440/60	Rp 1 1/4	3000 3600	3 3,5	950 1100	3093230	
RGS 4000	3/400/50 3/440/60	Rp 1 1/4	4000 4800	4 4,8	950 1100	3093231	

Automatic gas separator

Type	Connection IN/OUT	Max working delivery [l/h]	Code	Price
GS 150	1″ 1/2 x 1″	1000	3000248	
GS 250	1″ 1/2 x 1″1/2	2000	3010012	

Heating cartridge

Type	Electrical power [W]	Code	Price
HC 100	100	3090620	
HC 160	160	3090621	
HC 280	280	3090622	

Line filter

Type	Electrical power [W]	Connection IN / OUT	Max output [l/h]	Code	Price
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 output [l/h]	Code	Price
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	3090852	

CE

PRESSURE REGULATING / REDUCING UNITS
SAFETY / REGULATING GAS TRAINS
SAFETY / SHUT-OFF VALVES

HPRT	Pin = 0,5÷4 bar
LPRT	Pin <= 0,5 bar
CB	Pin <= 0,5 bar
DMV	Pin <= 0,5 bar

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 LPRT CB DMV series - SPECIFICATION

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 : CB

Port : ... threaded
F flanged

Size : 40 - 50 - 65 - 80 - 100 - 125

Regulation : /1 one stage

Seal control : CT integrated
... accessory (mountable)
CQ valve with additional gas pressure switch to be connected to the seal control system installed on the control panel

Power supply : 230V/50-60Hz
110V/50-60Hz

CB	F	65	/1	CT	230/50-60

Series : DMV

Size : 40 - 50 - 65 - 80 - 100 - 125 - 150

Regulation : /1 one stage

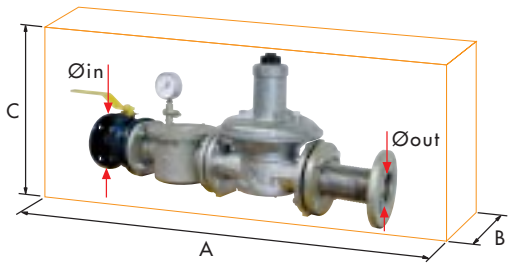
Seal control : CT integrated
CQ valve with additional gas pressure switch to be connected to the seal control system installed on the control panel

Power supply : 230V/50-60Hz
110V/50-60Hz

DMV	65	/1	CT	230/50-60

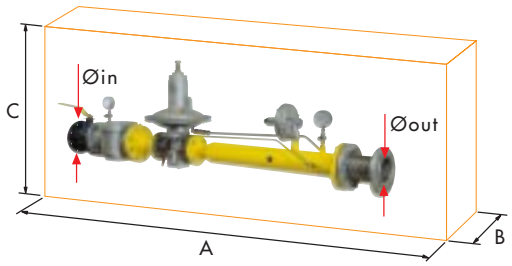
HPRT LPRT CB DMV series - OVERALL DIMENSIONS (mm)

LOW PRESSURE REGULATING / REDUCING UNITS (LPRT series)



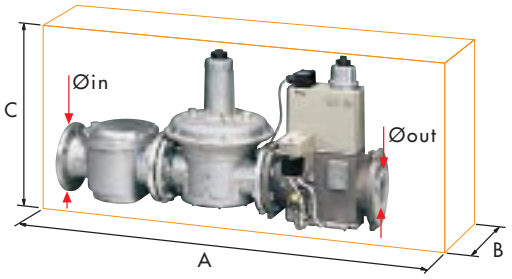
Model	A	B	C	Ø IN	Ø OUT
LPRT 40	532	245	292	Rp 3/4	R 3/4
LPRT 80	310	290	397	Rp 1	R 1
LPRT 160	350	307	449	Rp 1 1/2	R 1 1/2
LPRT 250	400	333	554	Rp 2	R 2
LPRT 500	532	150	292	DN 65	DN 65
LPRT 750	535	165	292	DN 80	DN 80
LPRT 1000	290	185	338	DN 100	DN 100
LPRT 1500	310	200	397	DN 125	DN 125
LPRT 2000	350	220	449	DN 150	DN 150

HIGH PRESSURE REGULATING / REDUCING UNITS (HPRT series)



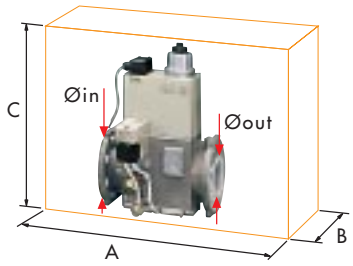
Model	A	B	C	Ø IN	Ø OUT
HPRT 80	1223	180	400	Rp 1 1/2	R 1 1/2
HPRT 160	1275	180	410	Rp 1 1/2	R 2
HPRT 250	1200	280	560	Rp 2	DN 65
HPRT 500	1750	280	560	DN 65	DN 65
HPRT 750	1890	280	560	DN 80	DN 80
HPRT 1000	2070	380	560	DN 100	DN 100
HPRT 1500	2120	500	650	DN 100	DN 100
HPRT 2000	2150	500	650	DN 125	DN 125

SAFETY / REGULATING GAS TRAINS (CB series)



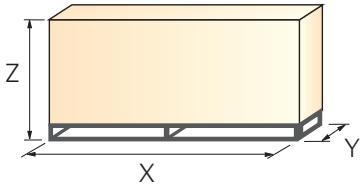
Model	A	B	C	Ø IN	Ø OUT
CB 40/1	891	195	261	Rp 1 1/2	R 1 1/2
CB 50/1	986	250	328	Rp 2	R 2
CBF 65/1	874	285	356	DN 65	DN 65
CBF 80/1	934	285	416	DN 80	DN 80
CBF 100/1	1054	350	501	DN 100	DN 100
CBF 125/1	1164	400	780	DN 125	DN 125
CB 50/1 CT	986	250	328	Rp 2	R 2
CBF 65/1 CT	874	285	356	DN 65	DN 65
CBF 80/1 CT	934	285	416	DN 80	DN 80
CBF 100/1 CT	1054	350	501	DN 100	DN 100
CBF 125/1 CT	1164	400	780	DN 125	DN 125

SAFETY SHUT-OFF VALVES (DMV series)



Model	A	B	C	Ø IN	Ø OUT
DMV 40/1 CT	532	245	292	Rp 1 1/2	Rp 1 1/2
DMV 50/1 CT	535	255	292	Rp 2	Rp 2
DMV 65/1 CT	290	270	338	DN 65	DN 65
DMV 80/1 CT	310	290	397	DN 80	DN 80
DMV 100/1 CT	350	307	449	DN 100	DN 100
DMV 125/1 CT	400	333	554	DN 125	DN 125
DMV 40/1 CQ	532	150	292	Rp 1 1/2	Rp 1 1/2
DMV 50/1 CQ	535	165	292	Rp 2	Rp 2
DMV 65/1 CQ	290	185	338	DN 65	DN 65
DMV 80/1 CQ	310	200	397	DN 80	DN 80
DMV 100/1 CQ	350	220	449	DN 100	DN 100
DMV 125/1 CQ	400	255	554	DN 125	DN 125

PACKAGING (LPRT series) - (HPRT series) - (CB series) - (DMV 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
CB 40/1	1050	370	320
CB 50/1	1050	370	320
CBF 65/1	940	480	530
CBF 80/1	1120	570	580
CBF 100/1	1120	570	580
CBF 125/1	1390	710	795
CB 50/1 CT	1050	370	320
CBF 65/1 CT	940	480	530
CBF 80/1 CT	1120	570	580
CBF 100/1 CT	1120	570	580
CBF 125/1 CT	1390	710	795
DMV 40/1 CT	940	480	530
DMV 50/1 CT	940	480	530
DMV 65/1 CT	940	480	530
DMV 80/1 CT	940	480	530
DMV 100/1 CT	940	480	530
DMV 125/1 CT	940	480	530
DMV 40/1 CQ	500	380	200
DMV 50/1 CQ	500	380	200
DMV 65/1 CQ	500	380	200
DMV 80/1 CQ	500	380	200
DMV 100/1 CQ	940	480	530
DMV 125/1 CQ	940	480	530

HPRT LPRT CB DMV series - 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 mm
- 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 mm
- 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.

CB series
Safety/regulating gas train for gas of 1st - 2nd - 3rd family, with MAX supply pressure of 500 mbar made up of:
- 1 gas filter with filtering degree lower than 50 mm
- 1 pressure regulator-stabilizer, for stabilizing gas inlet pressure to the burner with a ±5% max. tolerance respect the fixed value
- 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
    - anti-dust filter with net
- 1 minimum gas pressure switch that allows system working only with a suited pressure in the gas distribution line
- 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).

DMV series
Safety shut-off valve for gas of 1st - 2nd - 3rd family, with MAX supply pressure of 500 mbar made up of:
- 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
    - 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.

HPRT LPRT CB DMV series - AVAILABLE UNIT MODELS

Code	Model	Ø		Pressure ranges (mbar)		Note	Price
		IN	OUT	MAX inlet	outlet (4)		
3970145	CB 40/1 230/50-60	1"1/2	1"1/2	500	10-30	(1)	
3970146	CB 50/1 230/50-60	2"	2"	500	10-30	(1)	
3970160	CB 50/1 CT 230/50-60	2"	2"	500	10-30	(2)	
3970161	CBF 65/1 CT 230/50-60	DN 65	DN 65	500	10-30	(2)	
3970162	CBF 80/1 CT 230/50-60	DN 80	DN 80	500	10-30	(2)	
3970163	CBF 100/1 CT 230/50-60	DN 100	DN 100	500	10-30	(2)	
3970196	CBF 125/1 CT 230/50-60	DN 125	DN 125	500	10-30	(2)	
3090672	CBF 65/1 CQ 230/50-60	DN 65	DN 65	500	10-30	(3)	
3090436	CBF 80/1 CQ 230/50-60	DN 80	DN 80	500	10-30	(3)	
3090327	CBF 100/1 CQ 230/50-60	DN 100	DN 100	500	10-30	(3)	
In progress	CBF 125/1 CQ 230/50-60	DN 125	DN 125	500	10-30	(3)	
3090315	DMV 65/1 CQ 230/50-60	DN 65	DN 65	500	-	(3)	
3090244	DMV 80/1 CQ 230/50-60	DN 80	DN 80	500	-	(3)	
In progress	DMV 100/1 CQ 230/50-60	DN 100	DN 100	500	-	(3)	
3090566	DMV 40/1 CT 230/50-60	1"1/2	1"1/2	500	-	(2)	
3090466	DMV 50/1 CT 230/50-60	2"	2"	500	-	(2)	
3090363	DMV 65/1 CT 230/50-60	DN 65	DN 65	500	-	(2)	
3090352	DMV 80/1 CT 230/50-60	DN 80	DN 80	500	-	(2)	
3090337	DMV 100/1 CT 230/50-60	DN 100	DN 100	500	-	(2)	
In progress	DMV 125/1 CT 230/50-60	DN 125	DN 125	500	-	(2)	
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	-	
In progress	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	-	

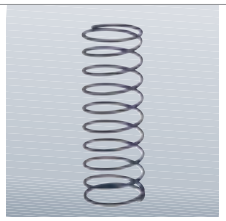
(1) Seal control accessory

(2) Seal control incorporated

(3) Seal control on control panel

(4) For CB, CBF and LPRT units, for different outlet pressure ranges, it is possible to match the correct springs selecting them from accessories section.

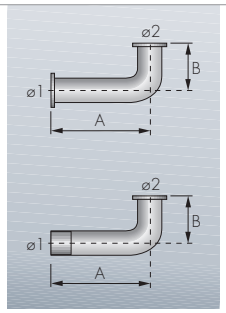
Springs for pressure regulators CB and LPRT series



Accessories springs are available for varying pressure range of the regulator-stabilizer included in the regulating/reducing unit or in CB train.
In the following table, the springs are listed with their application range.

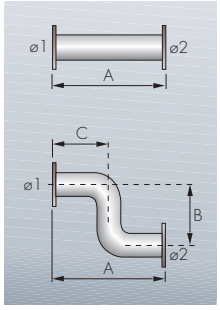
Type	Type	Spring	Port	Outlet pressure (mbar)	Code	Price
	LPRT 40	red	Rp 3/4″	25÷55	in progress	
	LPRT 40	yellow	Rp 3/4″	30÷70	in progress	
	LPRT 40	black	Rp 3/4″	60÷110	in progress	
	LPRT 40	pink	Rp 3/4″	90÷150	in progress	
	LPRT 80	red	Rp 1″	25÷55	in progress	
	LPRT 80	yellow	Rp 1″	30÷70	in progress	
	LPRT 80	black	Rp 1″	60÷110	in progress	
	LPRT 80	pink	Rp 1″	90÷150	in progress	
CB 40	LPRT 160	red	Rp 1″1/2	25÷55	3010131	
CB 40	LPRT 160	yellow	Rp 1″1/2	30÷70	in progress	
CB 40	LPRT 160	black	Rp 1″1/2	60÷110	3010157	
CB 40	LPRT 160	pink	Rp 1″1/2	90÷150	3090486	
CB 50	LPRT 250	red	Rp 2″	25÷55	3010132	
CB 50	LPRT 250	yellow	Rp 2″	30÷70	in progress	
CB 50	LPRT 250	black	Rp 2″	60÷110	3010158	
CB 50	LPRT 250	pink	Rp 2″	90÷150	3090487	
CBF 65/80	LPRT 500/750	red	DN 65/80	25÷55	3010133	
CBF 65/80	LPRT 500/750	yellow	DN 65/80	30÷70	in progress	
CBF 65/80	LPRT 500/750	black	DN 65/80	60÷110	3010135	
CBF 65/80	LPRT 500/750	pink	DN 65/80	90÷150	3090456	
CBF 100	LPRT 1000	red	DN 100	25÷55	3010134	
CBF 100	LPRT 1000	yellow	DN 100	30÷70	in progress	
CBF 100	LPRT 1000	black	DN 100	60÷110	3010136	
CBF 100	LPRT 1000	pink	DN 100	90÷150	3090489	
CBF 125	LPRT 1500	red	DN 125	25÷55	in progress	
CBF 125	LPRT 1500	yellow	DN 125	30÷70	in progress	
CBF 125	LPRT 1500	black	DN 125	60÷110	in progress	
CBF 125	LPRT 1500	pink	DN 125	90÷150	in progress	
	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	

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	Price
L 65/80 - 320	DN 65	DN 80	320	174	3000831	
L 65/65 - 320	DN 65	DN 65	320	174	3090788	
L 80/80 - 320	DN 80	DN 80	320	174	3000832	
L 80/65 - 320	DN 80	DN 65	320	174	3090787	
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	in progress	



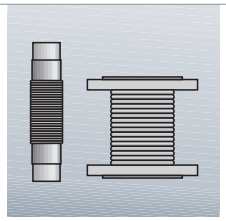
Type	Ø 1	Ø 2	A	B	C	Code	Price
I 65/80 - 320	DN 65	DN 80	320	-	-	3010221	
I 80/80 - 320	DN 80	DN 80	320	-	-	3010222	
I 100/80 - 320	DN 100	DN 80	320	-	-	3010223	
I 125/80 - 320	DN 125	DN 80	320	-	-	3010224	
Z 65/80 - 400/480/225	DN 65	DN 80	400	480	225	3010225	
Z 80/80 - 400/480/225	DN 80	DN 80	400	480	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 valve

Ball shut-off manual valves are available in different sizes and listed in the following table.

Model	MAX operating pressure (bar)	Port	Code	Price
GBV 1/2"	5	1/2"	in progress	
GBV 3/4"	5	3/4"	in progress	
GBV 1"	5	1"	in progress	
GBV 1"1/2	5	1"1/2	in progress	
GBV 2"	5	2"	in progress	
GBV DN65	16	DN65	in progress	
GBV DN80	16	DN80	in progress	
GBV DN100	16	DN100	in progress	
GBV DN125	16	DN125	in progress	
GBV DN150	16	DN150	in progress	

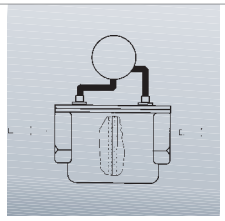
Anti-vibrating joints



Anti-vibrating joints to damp vibrations and facilitate application of the gas train to the gas distribution line are available in different sizez listed in the table below.

Type	Port size	Inlet max pressure (bar)	Code	Price
GA 50	2"	6	3891053	
GAF 65	DN65	6	3891013	
GAF 80	DN80	6	3891003	
GAF 100	DN100	6	3891023	
GAF 125	DN125	6	in progress	

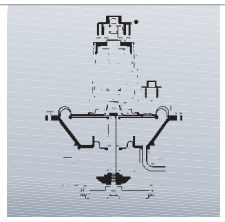
Filters



A series of gas filters of different sizes are avilable and listed in the following table.

Port IN/OUT	Code	Price
1"1/2	3012198	
2"	3012199	
DN 65	3012200	
DN 100	3012201	
DN 125	3012202	

Pressure regulators



A series of pressure regulators of different sizes are avilable and listed in the following table.

Port IN/OUT	Code	Price
1"1/2	3012203	
2"	3012204	
DN 65	3012205	
DN 100	3012206	
DN 125	3012207	

Pressure gauge kit + push-buttom 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	Price
NGPG 1	60	3090062	
NGPG 2	100	in progress	
NGPG 3	300	in progress	
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	Price
GW 1500	300 ÷ 1500	in progress	
GW 6000	1000 ÷ 6000	in progress	

Seal control kit

A seal control kit is available as assessory to be installed on the gas train to verify seal control.

Type	Code	Price
VPS 504 (mounting on gas train)	3010125	

CENTRIFUGAL AIR FANS FOR INDUSTRIAL BURNERS

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

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 GCM GBJ series - SPECIFICATION

DESIGNATION OF AIR FAN MODELS

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 :
- 3Ph / 380 VΔ / 60 Hz
- 3Ph / 400 VΔ / 50 Hz
- 3Ph / 440 VΔ / 60 Hz
- 3Ph / 220 VΔ / 60 Hz
- 3Ph / 230 VΔ / 50 Hz

Installation :
- I Indoor
- O Outdoor

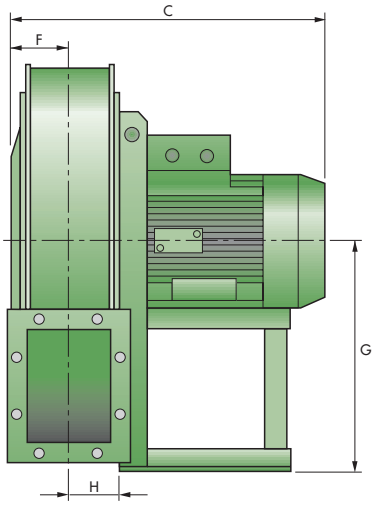
Motor certification :
- CE
- EEX PROOF
- RINA (Naval approval)
- ...

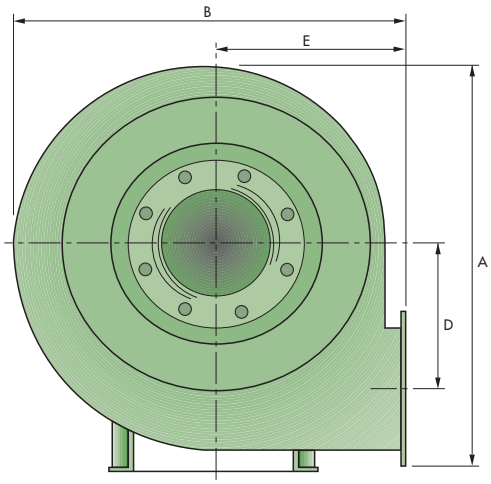
GBJ	H05630	LG 0	3Ph / 380 VΔ / 50 Hz	I	CE
BASIC DESIGNATION					
EXTENDED DESIGNATION					

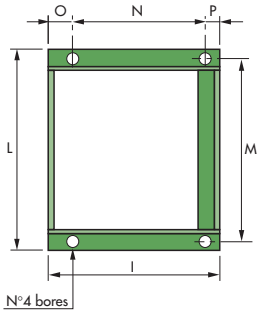
GCH GCM GBJ series - OVERALL DIMENSIONS (mm)

GCH series

Fan and basement

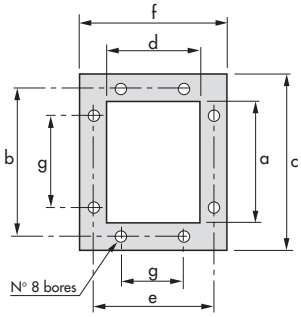






Model	A	B	C	D	E	F	G	H	I	L	M	N	O	P
GCH 04020	660	580	400	230	280	80	375	67	215	270	245	137	60	18
GCH 05020	800	735	570	290	355	100	450	85	320	392	360	250	45	25
GCH 05040	800	735	570	290	355	100	450	85	320	392	360	250	45	25

Outlet flange

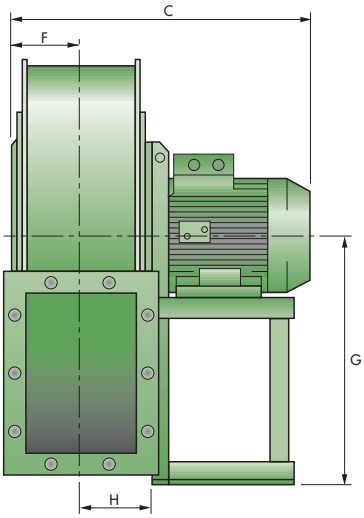


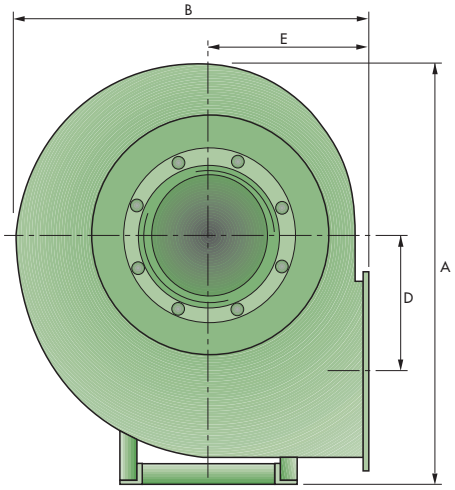
Model	a	b	c	d	e	f	g
GCH 04020	180	219	250	125	167	195	112
GCH 05020	224	265	294	160	200	230	112
GCH 05040	224	265	294	160	200	230	112

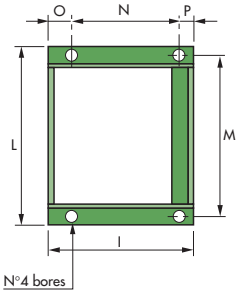
GCH GCM GBJ series - OVERALL DIMENSIONS (mm)

GCM series

Fan and basement

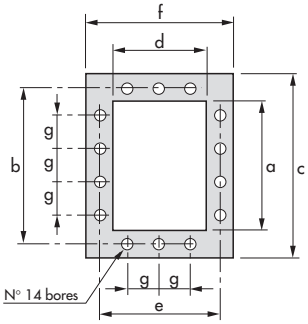






Model	A	B	C	D	E	F	G	H	I	L	M	N	O	P
▸ GCM 04540	930	750	720	328	335	140	560	132	320	392	360	250	45	25
▸ GCM 05020	1010	840	750	365	355	160	630	148	320	392	360	250	45	25
▸ GCM 05040	1010	840	820	365	355	160	630	148	425	440	400	340	55	30

Outlet flange

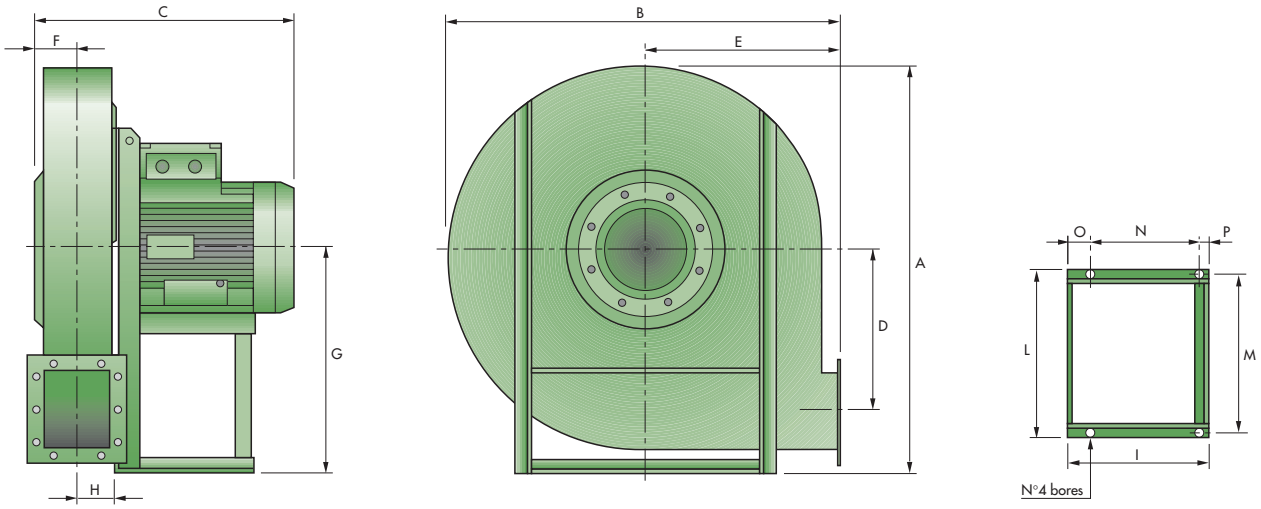


Model	a	b	c	d	e	f	g
▸ GCM 04540	355	405	435	250	300	330	125
▸ GCM 05020	400	448	480	280	332	360	125
▸ GCM 05040	400	448	480	280	332	360	125

GCH GCM GBJ series - OVERALL DIMENSIONS (mm)

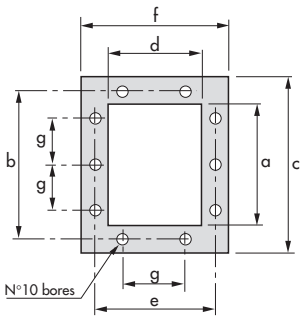
GBJ series

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

GCH GCM GBJ series - 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				329	373	433	547	642		642									1,2
80				311	361	427	525	641	656	641	656		691						1,3
90				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 %

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.

GCH GCM GJB series - AVAILABLE FAN MODELS

Code	Models	Total electrical power		Sound pressure dB(A)	Note	Price
		Installed kW	Absorbed kW			
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		
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		

GCH GCM GJB series - AVAILABLE FAN MODELS

Code	Models	Total electrical power		Sound pressure dB(A)	Note	Price
		Installed kW	Absorbed kW			
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		
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		

GCH GCM GJB series - AVAILABLE FAN MODELS

Code	Models	Total electrical power		Sound pressure dB(A)	Note	Price
		Installed kW	Absorbed kW			
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		
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		

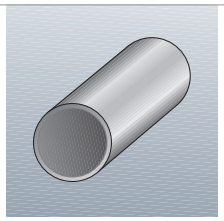
GCH GCM GJB series - AVAILABLE FAN MODELS

Code	Models	Total electrical power		Sound pressure dB(A)	Note	Price
		Installed kW	Absorbed kW			
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		
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 silencers for GCM and GBJ models



Cylindrical 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	Price
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	Outlet flange	Fan models	Lenght (m)	Noise reduction (dBA)	Code	Price
GXS A 1028	GXS B28	GWA 0286L	GBJ H05630	1	3-4	In progress	
GXS A 1032	GXS B32	GWA 0321L	GBJ H06320	1	3-4	In progress	
GXS A 1032	GXS B32	GWA 0321L	GBJ H06330	1	3-4	In progress	
GXS A 1032	GXS B32	GWA 0321L	GBJ H06380	1	3-4	In progress	
GXS A 1035	GXS B35	GWA 0361L	GBJ H0712	1	3-4	In progress	
GXS A 1035	GXS B35	GWA 0361L	GBJ H0717	1	3-4	In progress	
GXS A 1035	GXS B35	GWA 0361L	GBJ I06310	1	3-4	In progress	
GXS A 1035	GXS B35	GWA 0361L	GBJ I06320	1	3-4	In progress	
GXS A 1035	GXS B35	GWA 0361L	GBJ I06360	1	3-4	In progress	
GXS A 1040 P	GXS B41	GWA 0405L	GBJ I0710	1	3-4	In progress	
GXS A 1040 P	GXS B41	GWA 0405L	GBJ I0712	1	3-4	In progress	
GXS A 1050	GXS B50	GWA 0506P	GBJ I0800A	1	3-4	In progress	

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.

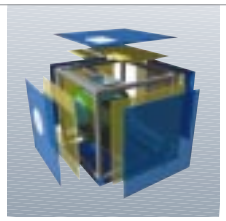
Circular DAPO' flow regulators for GCM models

Type	Bores n°	Weight (kg)	Fan models	Code	Price
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	Price
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	

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	Price
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.

CONTROL PANELS FOR INDUSTRIAL BURNERS

QA SERIES

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

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 series - SPECIFICATION

DESIGNATION OF SERIES

Series : QA

Size : 10...14

Setting :
- 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 / 50 Hz
3/400/50	3 / 400V / 50 Hz
3/208/60	3 / 208V / 60 Hz
3/220/60	3 / 220V / 60 Hz
3/254/60	3 / 254V / 60 Hz
3/265/60	3 / 265V / 60 Hz
3/380/60	3 / 380V / 60 Hz
3/440/60	3 / 440V / 60 Hz
3/460/60	3 / 460V / 60 Hz

Auxiliary and control supply:

110/50-60	110 V (+10%/-15%) / 50-60Hz
230/50-60	230 V (+10%/-15%) / 50-60Hz

QA	11	P/	N	1	A	3/230/50	230/50-60

BASIC DESIGNATION

EXTENDED DESIGNATION

QA series - 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

QA series - AVAILABLE CONTROL PANEL MODELS

Code	Model	Max. Burner power (kW)	Note	Price
	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		
	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		

QA series - AVAILABLE CONTROL PANEL ACCESSORIES

The following options or accessories are available on request:	
Option or accessory	**Price**
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	

request of 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 TECHNICAL OFFICE

RIELLO BURNERS

Customer:	**Name:**	**Riello project ref.:**

Type of application

☐ Hot water ☐ Superheated water ☐ Thermal oil ☐ Hot air
☐ High pressure steam ☐ Low pressure steam ☐ Superheated steam ☐ Direct exchange
☐ ----------

Boiler model ---------- **Manufacturer** ---------- **Year** ----------

Max working press ---------- bar Max working temp ----------°C Steam ---------- ton/h

System design Firetube ☐ 3-pass ☐ Reversed flame ☐ Twin chamber
Watertube ☐ ☐ Heat recovery Air temper ----------°C

Type of Process application ----------

Thermal power

System nominal output ---------- [KW] ---------- [Kcal/h] ---------- [Btu/h] Effic. %

Burner required output ---------- [KW] ---------- [Kcal/h] ---------- [Btu/h]

Combustion chamber data

Combustion chamber resistance ---------- [mbar] ---------- [mm W.C.] ---------- [in W.C.]

Length ---------- [mm] High ---------- [mm] Min burner head

Diameter ---------- [mm] Width ---------- [mm] projection ---------- [mm]

Fuel ☐ Natural gas ☐ LPG ☐ Town gas ☐ Biogas
☐ Light oil ☐ Heavy oil ☐ Kerosene ☐ ----------

Gas supply

Net calorific value ---------- [kJ/Nmc] ---------- [kcal/Nmc] ---------- [Btu/ft^3]

Gas supply pressure ---------- [mbar] ---------- [Bar] ---------- [PSI]

Oil supply

Viscosity ☐ 6 cSt at 20°C ☐ 3°C at 50°C ☐ 20°E at 50°C ☐ 50°E at 50°C

Net calorific value ---------- [kJ/Kg] ---------- [kcal/Kg] ---------- [Btu/lb]

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 ☐ / /

Burner control options ☐ Full modulating ☐ O_2 control ☐ Fan speed control

Burner pumping unit ☐ Fully assembled ☐ Freestanding parts

☐ Single pump ☐ Double pump ☐ Single filter ☐ Double filter

Oil preheater ☐ Electrical ☐ Steam ☐ Dual (El+St) ☐ Oil flowmeter

Gas train ☐ Regulating gas train ☐ Safety gas train ☐ Leakage control ☐ Gas flowmeter

Other requirements ----------

Date ---------- Signature ----------

WEST EUROPE AREA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	Riello40 - Gulliver REG			RL / RS / RN / RLS			PRESS - GAS N/M - G/M			TI - MB		
			Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service
BENELUX	**Name:** Geveke heating tecnology **Address:** Ekkersrijt 4102B **City:** 5692 Son & Breugel	**Office Phone:** +31 499 462070 **Office Fax:** +31 499 462079 **e-mail:** mario.sleegers@wtb.geveke.nl	■	■	■	■	■	■	■	■	■	■	■	■
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 **Cell 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	■	■	■	■	■	■	■	■	■			
FRANCE	**Name:** Riello S.A. **Address:** 16, Rue du Clos des Charmes - Z.I. des Portes de la Foret **City:** 77090 Collegien	**Office Phone:** +33 1 64113800 **Office Fax:** +33 1 60058565 **e-mail:** riellotechnique@wanadoo.fr	■	■	■	■	■	■	■	■	■			
GERMANY	**Name:** Riello GmbH **Address:** Philipp-Reis-Str. 15 **City:** D-63128 Dietzenbach	**Office Phone:** +49-6074-821129 **Office Fax:** +49-6074-44535 **e-mail:** heideroth@rielloburners.de	■	■	■	■	■	■	■	■	■	■	■	■
GREECE	**Name:** Caloria S.A. **Address:** 57 Ifestoy str. 194 00 Korobi **City:** Athens	**Office Phone:** +30-1-6628068/69/70/71/72/73 **Office Fax:** +30-1-6623784 **Cell Phone:** 0035-944-841974 **e-mail:** caloria@otenet.gr	■	■	■	■	■	■	■	■	■			
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ITALIA	**Name:** Riello S.p.A. **Address:** Via Caterina Visconti, 11 **City:** 37045 Legnago (VR)	**Office Phone:** +39 0442 630142 **Office Fax:** +39 0442 630391 **e-mail:** ivano.berardo@riello.it										■	■	■
MALTA	**Name:** Anthony Falzon **Address:** 18, Gube Ebejer Str - Dingli Rbt 14 **City:** Malta	**Office Phone:** +356 452798 **Office Fax:** +356 451689 **Cell Phone:** 0356 9495860 **e-mail:** energyprojects@mailò.global.net.mt	■	■	■	■	■	■	■	■	■			

WEST EUROPE AREA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	Riello40 - Gulliver REG			RL / RS / RN / RLS			PRESS - GAS N/M - G/M			TI - MB		
			Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service
PORTUGAL	**Name:** Galacia S.A **Address:** Rua dos Combatentes, 681 **City:** 4485 - 093 Fajozes - Vila do Conde	**Office Phone:** +351 252 660500 **Office Fax:** +351 252 660501 **e-mail:** galecia@netc.pt	■			■								
PORTUGAL	**Name:** Soc. FRAMAR LDA **Address:** Av. Brasil, 22 **City:** 1707 - 001 Lisbon	**Office Phone:** +351 217 971722 **Office Fax:** +351 217 961023	■			■								
PORTUGAL	**Name:** Soc. FRAMAR LDA **Address:** R. Breyner, 72 **City:** 4050 - 124 Porto	**Office Phone:** +351 222050812 **Office Fax:** +351 222050662	■			■								
SWEDEN	**Name:** MILTON SVERIGE AB **Address:** Box 50440 - 202 14 Malmo **City:** Malmo	**Office Phone:** +46 406605050 **Office Fax:** +46 40931180 **Cell Phone:** +46 070480721 **e-mail:** milton@milton.se	■	■		■	■							
SUISSE	**Name:** Riello SA **Address:** Centro Vedeggio 2 **City:** CH-6814 Lamone	**Office Phone:** +41/91/6045022 **Office Fax:** +41/91/6045024 **Cell Phone:** +41/79/2070551 **e-mail:** gbezler@rielloburners.ch	■	■	■	■	■	■						
UK	**Name:** Riello Ltd **Address:** The Ermine Centre Ermine business park **City:** Huntingdon Cambridgeshire PE29 6WX	**Office Phone:** +1480432144 **Office Fax:** +1480432191 **Cell Phone:** 07733306711 **e-mail:** rsully@rielloburners.co.uk	■	■	■	■	■	■	■	■	■	■	■	■

EAST EUROPE AREA

BULGARIA	**Name:** Caloria LTD. **Address:** 40, Youry Venelin, str. **City:** 1142 Sofia	**Office Phone:** +359 2 980 49 53/987 01 73 **Office Fax:** +359 2 989 19 83/987 01 72 **Cell Phone:** +359 48 939 848 **e-mail:** riello@tecchno-link.com	■	■		■	■		■	■				
CZECH REPUBLIC	**Name:** Šlitr GFE **Address:** Obránců Míru 132 **City:** 503 02 Předměřice nad Labem (Hradec Králové)	**Office Phone:** +420-49-5581864 **Office Fax:** +420-49-5581864 **Cell Phone:** +420-602 241 353 **e-mail:** gfe@finet.cz	■	■	■	■	■	■	■	■	■			

EAST EUROPE AREA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	Riello40 - Gulliver REG			RL / RS / RN / RLS			PRESS - GAS N/M - G/M			TI - MB		
			Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service
HUNGARY	**Name:** Fahrenheit Plus Kft. **Address:** Lomb u. 37-39 **City:** Budapest	**Office Phone:** +36 1 3599573 **Office Fax:** +36 1 3599574 **Cell Phone:** +36 30 2808505 **e-mail:** ttolnay@fahrenheitplus.hu	■	■	■	■	■	■	■	■	■	■	■	■
LITHUANIA	**Name:** Manfula UAB **Address:** PRAMONĖS 21 **City:** KAUNAS, 3031	**Office Phone:** +3707 45 21 62 **Office Fax:** +3707 45 21 52 **Cell Phone:** +37098 77498 **e-mail:** manfula.m@manfula.lt	■	■	■	■	■	■	■	■	■			
POLAND	**Name:** Riello Burners Polska **Address:** Kamienskiego 201-219 **City:** 51-126 wroclaw	**Office Phone:** +48 71 352 81 93 **Office Fax:** +48 71 352 81 95 **Cell Phone:** +48 604 443554 **e-mail:** tengli@rielloburners.wroc.pl	■	■	■	■	■	■	■	■	■	■	■	■
ROMANIA	**Name:** Alpem exim SRL **Address:** Bdul Regina Elisabeta 23, bl. A, sc. A, ap. 15, sector 5 **City:** Bucarest	**Office Phone:** +40-1-312.17.27 +40-1-311.03.99 **Office Fax:** +40-1-314.20.24 **e-mail:** alpem@pcnet.ro	■	■	■	■	■	■	■	■	■	■	■	■

MEADLE EAST AND NORTH AFRICA AREAS

EGYPT	**Name:** Mohamed Ahmed Omar **Address:** 11 Darb Shaikh Faraq Block Ela **City:** Cairo	**Office Phone:** +202 5 762898 **Office Fax:** +202 5 779503 **e-mail:** hageco@email.com	■	■		■	■		■	■				
LEBANON	**Name:** Hage Group **Address:** B.P. 4991 **City:** Beyrouth - R.C. 9312	**Office Phone:** +961 1 339209 **Office Fax:** +961 1 339209	■						■					
MAROCCO	**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	■			■			■					
SYRIA	**Name:** TAHAMAZ CO **Address:** P.O. Box 316 **City:** Damascus	**Office Phone:** +963 11 2121533 **Office Fax:** +963 11 2121294	■	■		■	■		■	■				

MEADLE EAST AND NORTH AFRICA AREAS

COUNTRY	COMPANY	REFERENCES FOR CONTACT	Riello40 - Gulliver REG			RL / RS / RN / RLS			PRESS - GAS N/M - G/M			TI - MB		
			Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service
TUNISIA	**Name:** SOTUCEP SA. **Address:** 8, Rue Abou El Hassen Gabsi **City:** Cité El Khadra - 1003 Tunis	**Office Phone:** +216 1 772506 **Office Fax:** +216 1 770476 **Cell Phone:** +21609342132	■	■		■	■							

AFRICA AREAS

ERITREA	**Name:** SEFERIAN & Co. **Address:** Street De j. Nessibu Zeamanual n° 9/12 P.O. BOX, 341 **City:** Asmara	**Office Phone:** +291 1 121874 +291 1 120568 **Office Fax:** +291 1 120196 **e-mail:** seferian@eol.com.er	■						■					
ETHIOPIA	**Name:** SEFERIAN & Co. (Ethiopia) Ltd. , S.C. **Address:** P.O. Box 64 **City:** Addis Abeba	**Office Phone:** +251 1 511419 **Office Fax:** +251 1 510279	■						■					
SOUTH AFRICA	**Name:** Combustion Technology (PTY) LTD **Postal Address:** P.O. BOX 30047, Tokai, 7966, Cape Town, SOUTH AFRICA **Physical Address:** UNIT 28E, 60 White Road, RETREAT, 7945, Cape Town, SOUTH AFRICA	**Office Phone:** +27 (21) 7153171 **Office Fax:** +27 (21) 7156297 **Cell Phone:** +27 82 568 4012 **e-mail:** riello@iafrica.com	■	■	■	■	■	■	■	■	■	■	■	■

FAR EAST AND OCEANIA AREAS

AUSTRALIA	**Name:** Rayson Industries PTY LTD **Address:** PO BOX 100, BURWOOD 3125 **City:** MELBOURNE, VICTORIA	**Office Phone:** +61 3 9808 5999 **Office Fax:** +61 3 9808 0113 **Cell Phone:** +61 414 413 431 **e-mail:** richardhingley@bigpond.com	■	■	■				■	■	■			
CHINA	**Name:** Riello China **Address:** Office C404, Office Building, Beijing Lufthansa Centre n. 50 Liangmaqiao Rd., Chaoyang District **City:** Beijing 100016	**Office Phone:** +86 10 64651814 **Office Fax:** +86 10 64651858 **e-mail:** lsolari@rielloburners.com.cn	■	■	■	■	■	■	■	■	■	■	■	■
PHILIPPINES	**Name:** Willshine Enterprise Company **Address:** CRI Building, Unit C 665 Pres. E. Quirino Ave. **City:** 1004 Malate, Manila	**Office Phone:** +63 2 5238215 - 5222833 **Office Fax:** +63 2 5366925 **e-mail:** powill@unet.net.ph	■						■					

FAR EAST AND OCEANIA AREAS

COUNTRY	COMPANY	REFERENCES FOR CONTACT	Riello40 - Gulliver REG			RL / RS / RN / RLS			PRESS - GAS N/M - G/M			TI - MB		
			Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service
INDIA	**Name:** SUNTEC ENERGY SYSTEM **Address:** Moonlight Complex Drive-in Road **City:** Ahmedabad 380052	**Office Phone:** +91 79 7456621 **Office Fax:** +91 79 7455033 **e-mail:** suntec@ad1.vsnl.net.in	■			■			■					
INDONESIA	**Name:** Pt. Unitek Standarindo **Address:** Jl. Pangeran Jayakarta 44/29, Complex Hotel Mercure **City:** Jakarta 10730	**Office Phone:** +62 21 6289456 - 6264806 **Office Fax:** +62 21 62664807 **e-mail:** unitek@cbn.net.id	■			■			■					
JAPAN	**Name:** RIELLO JAPAN INC **Address:** 1-53 2chome shitte turumiku **City:** yokohama **Zip:** 230-0003	**Office Phone:** +81 45-575-8097 **Office Fax:** +81 45-575-8099 **e-mail:** info@rielloburners.co.jp	■		■	■	■	■	■	■	■			
KOREA	**Name:** R&B Tech. **Address:** 1, Bangbea Dong B/D, 812 - Dong Seocho - Gu **City:** Seoul	**Office Phone:** +82 2 5329096 **Office Fax:** +82 2 5378939 **e-mail:** imkweon@burner.co.kr	■						■					
MALAYSIA	**Name:** Unimech Eng. Sdn Bhd. **Address:** No. 4934, Jalan Chain Ferry **City:** 12100 Butterworth, Penang	**Office Phone:** +60 4 328822 - 328823 **Office Fax:** +60 4 325176 **e-mail:** unimech@mailworld.net	■						■					
NEW ZEALAND	**Name:** Aquaheat Industries Limited **Address:** 92 - 96 Main Road, Tawa **City:** WELLINGTON	**Office Phone:** +64 4 232 5179 **Office Fax:** +64 4 232 4170 **Cell Phone:** +64 21 421 056 **e-mail:** sales@aquaheat.co.nz	■	■	■	■	■	■	■	■	■	■	■	■
SINGAPORE	**Name:** Asse Technologies Pte. Ltd. **Address:** 1, Kian Tech Way **City:** 02262 Jurong	**Office Phone:** +65 2641722 **Office Fax:** +65 2684080 **e-mail:** assesin@singnet.com.sg	■			■			■					
THAILAND	**Name:** Euro-Thai **Address:** 79/7 Moo 2, Srinakarin Road Nongborn, Pravej **City:** 10260 Bangkok	**Office Phone:** +662 3660408 **Office Fax:** +662 3660410 **e-mail:** eurothai@bkk.loxinfo.co.th							■					
VIETNAM	**Name:** DINH HAI EQUIPMENT Co. Ltd-DHE **Address:** 1C Street No 10, Tan binh Industrial Park **City:** Ho Chi Minh, VIETNAM	**Office Phone:** +848 962 2079 **Office Fax:** +848 962 2051 **Cell Phone:** +84 90701 289 **e-mail:** dinhhai@hcm.vnn.vn	■	■	■	■	■	■	■	■	■	■	■	■

AMERICA AREA

COUNTRY	COMPANY	REFERENCES FOR CONTACT	Riello40 - Gulliver REG			RL / RS / RN / RLS			PRESS - GAS N/M - G/M			TI - MB		
			Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service	Spare parts	Start up	After sale service
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ARGENTINA	**Name:** Auto-Quem S.A. **Address:** Panamà 2344 - 1640 Martinez **City:** Buenos Aires	**Office Phone:** +54 11 47175810 **Office Fax:** +54 11 47170123 **e-mail:** marinka@autoquem.com.ar	■						■					
BRAZIL	**Name:** Auto-Ferr Ind. e Com. de Queimadores Ltda. **Address:** Av. Álvaro Guimarães, 302 **City:** São Bernardo do Campo - SP	**Office Phone:** +55 11 4341-4894 **Office Fax:** +55 11 4341-6501 **e-mail:** auto-ferr@auto-ferr.com.br	■	■	■	■	■	■	■	■	■	■	■	■
CHILE	**Name:** ANWO S.A. **Address:** Los Orfebres 380 **City:** Santiago de Chile	**Office Phone:** +56-2-2730303 **Office Fax:** +56-2-2731101 **Cell Phone:** 096791004 **e-mail:** deptotecnico@anwo.cl	■	■	■	■	■	■	■	■	■	■	■	■
CHILE	**Name:** IONOX LTDA. **Address:** Los Ceramistas 8724 **City:** Santiago	**Office Phone:** +56 2 273 3434 **Office Fax:** +56 2 273 5476 **e-mail:** ionox@netup.cl	■	■	■	■	■	■	■	■	■	■	■	■
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URUGUAY	**Name:** Tecnosolar S.A. **Address:** Calle Florida 1159/63 **City:** Montevideo	**Office Phone:** +598 2 90 28 146 **Office Fax:** +598 2 901 20 835 **e-mail:** tecnosolar@adinet.com.uy	■			■			■					
VENEZUELA	**Name:** Combustech C.A. **Address:** Mail boxes CCS 111 64 - Nivel Acceso, local AC 05 Centro Empresarial Torre Humboldt - Prados del Este **City:** Caracas 1080	**Office Phone:** +58 2 97 50 473 **Office Fax:** +58 2 97 50 617	■						■					

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