

GULLIVER BS SERIES

The Riello Gulliver BS series of one stage gas burners, is a complete range of Low NOx emission products, developed to respond to any request for home heating, conforming to the most severe standards regarding the reduction of polluting emissions. This series of burners is available in four different models with an output ranging from 16 to 250 kW, divided in four different structures.

All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working. The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

In developing these burners, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.

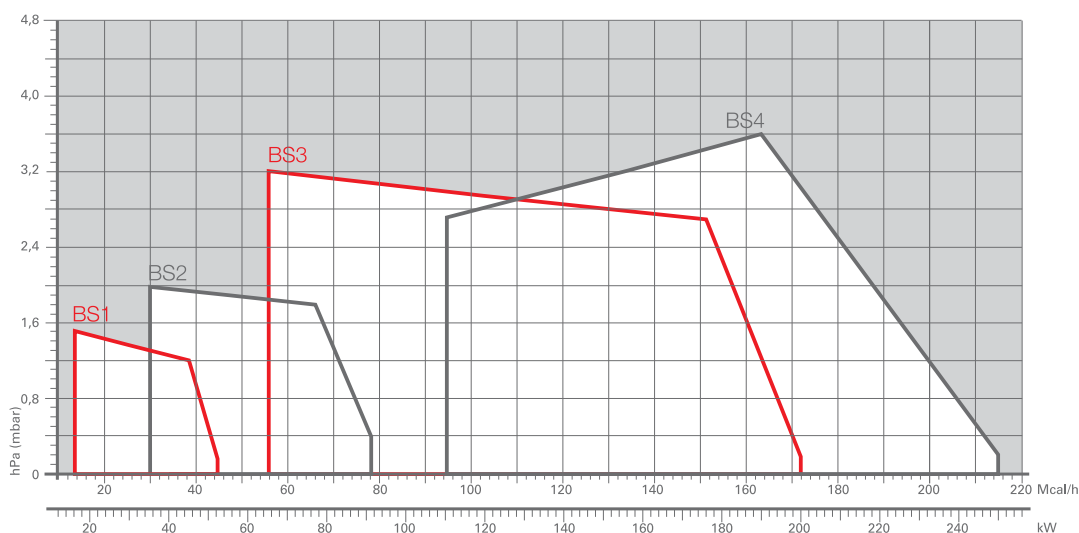
All the models are approved by the EN 676 European Standard and conform to European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.

All the Gulliver BS burners are tested before leaving the factory.



BS1	16 ÷ 52	kW
BS2	35 ÷ 91	kW
BS3	65 ÷ 200	kW
BS4	110 ÷ 250	kW

FIRING RATES



Useful working field for choosing the burner

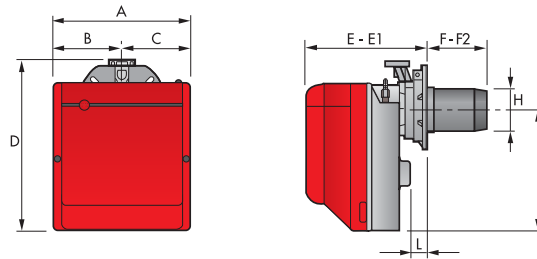
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Low NOx One Stage Gas Burners

GULLIVER BS SERIES

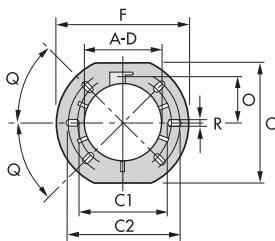
Overall dimensions (mm)

BURNER



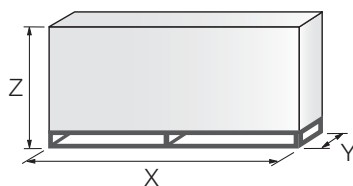
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
► BS1	234	122	112	295	230	276	116	70	89	210	41
► BS2	255	125,5	125,5	325	238	252	114	100	106	230	45
► BS3	300	150	150	391	262	280	128	110	129	285	45
► BS4	300	150	150	392	278	301	168	145	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
► BS1	89	167	140	170	89	192	66	45°	11
► BS2	106	167	140	170	106	192	66	45°	11
► BS3	129	201	160	190	129	216	76,5	45°	11
► BS4	137	203	170	200	137	218	80,5	45°	11

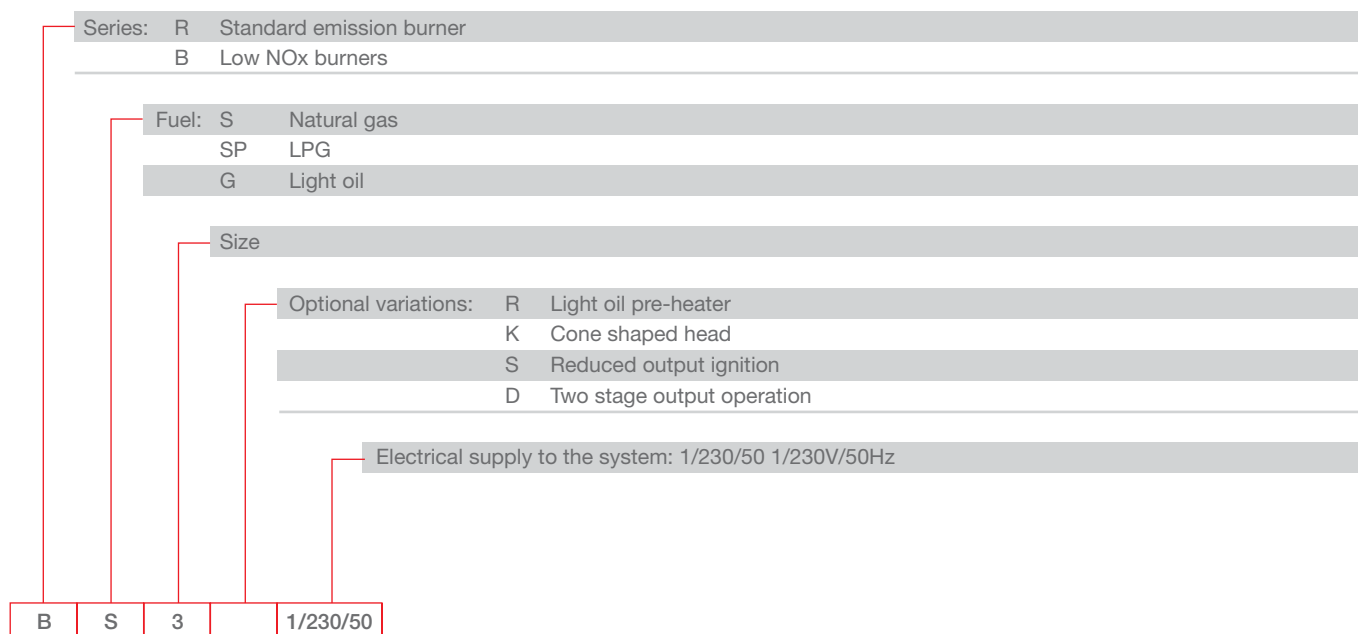
PACKAGING



MODEL	X	Y	Z	kg
BS1	395	278	350	10
BS2	405	298	375	11
BS3	450	345	440	15
BS4	510	345	440	16,5

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, one stage operation, made up of:

- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, with external adjustment, with no need to remove the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx One Stage Gas Burners

GULLIVER BS SERIES

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)			
3761158	BS1 1/230/50	16 - 52	1,6 - 5,2	0,150	CE - 0085 AQ0409	(1)
3761258	BS2 1/230/50	35 - 91	3,5 - 9,1	0,180	CE - 0085 AQ0409	(1)
3761358	BS3 1/230/50	65 - 200	6,5 - 20	0,350	CE - 0085 AQ0409	(1)
3761458	BS4 1/230/50	110 - 250	11 - 25	0,530	CE - 0085 AQ0409	(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.

The burners of BS series are in according to EN 676.

(1) With plug and socket.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC	3970570	MBC 65/1 - F1SD 20	BS1		BS1	(1)
	3970546	MB 405/1 - F1SD 20	BS1		BS1	(1)
	3970547	MB 405/1 - F2SD 20	BS2		BS2	(1)
	3970544	MB 407/1 - F2SD 20	BS2		BS2	(1)
	3970548	MB 407/1 - F3SD 20	BS3 - BS4		BS3 - BS4	(1) (2)
	3970549	MB 410/1 - F3SD 20	BS3 - BS4		BS3 - BS4	(1)
	3970550	MB 412/1 - F3SD 20	BS3 - BS4		BS3 - BS4	(1)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) With installed plug.

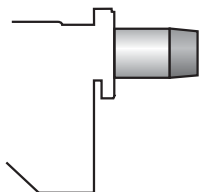
(2) BS3 and BS4 ≤ 150 kW with natural gas.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

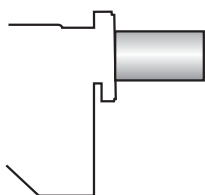
Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ BS1	70 ÷ 116	70 ÷ 160	20031875
▶ BS2 (long)	100 ÷ 114	170 ÷ 180	3001007
▶ BS2 (extra long)	100 ÷ 114	270 ÷ 280	3001008
▶ BS3	110 ÷ 128	267 ÷ 282	3001009
▶ BS4	145 ÷ 168	302 ÷ 317	3001016

Alternative combustion head kit



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

BURNER	KIT CODE
▶ BS1	3001059
▶ BS2	3001064
▶ BS3	3001060
▶ BS4	3001070

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ BS1	3001003	-
▶ BS2	3001004	3001004
▶ BS3	3001005	3001005
▶ BS4	3001011	3001011

Town Gas kit



For burning Town Gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ BS1	3002727	-
▶ BS2	3002728	3002728
▶ BS3	3002729	3002729

(*) Without CE certification

Low NOx One Stage Gas Burners

GULLIVER BS SERIES

Burner accessories

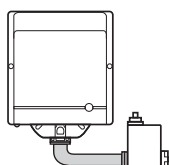
Ground fault interrupter kit



A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ BS1 - BS2 - BS3 - BS4	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ BS1	3001179
▶ BS2	3001177
▶ BS3 - BS4	3001178

7-pin plug kit

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

BURNER	KIT CODE
▶ BS1 - BS2 - BS3 - BS4	3000945

PC interface kit



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

BURNER	KIT CODE
▶ BS1 - BS2 - BS3 - BS4	3002731

Gas train accessories

Seal control kit



To test the valve seals on the gas train, (except for the model with Multibloc MBC 65 DLE) a special “seal control kit” is available.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030

GULLIVER BSD SERIES

The Riello Gulliver BSD series of two stage gas burners, is a complete range of Low NOx emission products, developed to respond to any request for home heating, conforming to the most severe standards regarding the reduction of polluting emissions. This series of burners is available in four different models with an output ranging from 16 to 250 kW, divided in four different structures.

All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working. The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

In developing these burners, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.

Two stage working guarantees high level performance from the thermal unit.

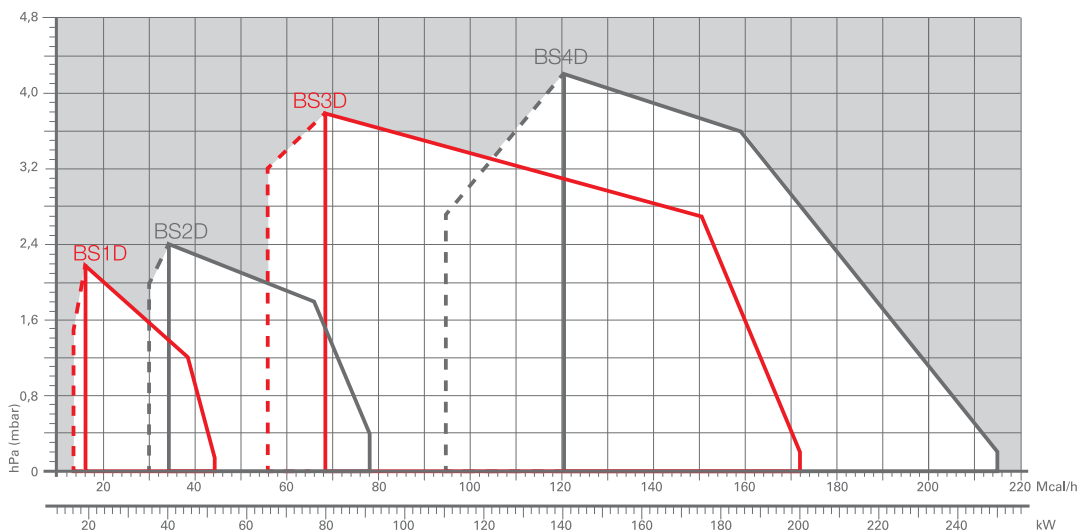
All the models are approved by the EN 676 European Standard and conform to European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.


All the Gulliver BSD burners are tested before leaving the factory.



BS1D	16/19	÷	52	kW
BS2D	35/40	÷	91	kW
BS3D	65/80	÷	200	kW
BS4D	110/140	÷	250	kW

FIRING RATES



 Useful working field for choosing the burner

 1st stage operation range

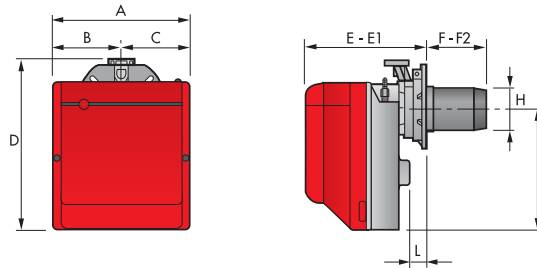
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Low NOx Two Stage Gas Burners

GULLIVER BSD SERIES

Overall dimensions (mm)

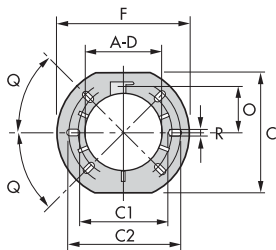
BURNER



MODEL	A	B	C	D	E	E1	F - F(1)	F2 - F2(1)	H	I	L
▶ BS1D	234	122	112	295	230	276	116	70	89	210	41
▶ BS2D	255	125,5	125,5	325	238	252	114 - 270	100 - 280	106	230	45
▶ BS3D	300	150	150	391	262	280	128 - 267	110 - 282	129	285	45
▶ BS4D	300	150	150	392	278	301	168 - 302	145 - 317	137	286	45

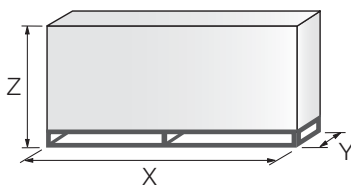
(1) Dimension with extended head

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
▶ BS1D	89	167	140	170	89	192	66	45°	1
▶ BS2D	106	167	140	170	106	192	66	45°	1
▶ BS3D	129	201	160	190	129	216	76,5	45°	1
▶ BS4D	137	203	170	200	137	218	80,5	45°	1

PACKAGING

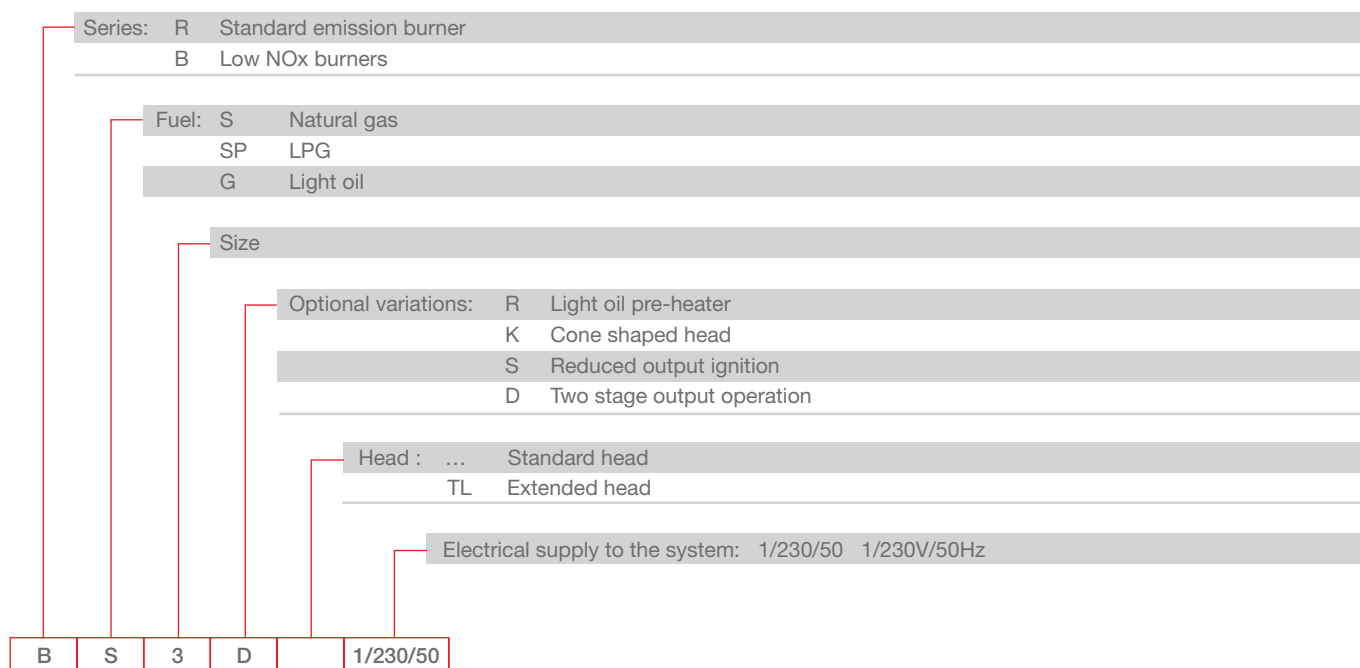


MODEL	X - X(1)	Y - Y(1)	Z - Z(1)	kg - kg(1)
▶ BS1D	395	278	350	11
▶ BS2D	405 - 593	298 - 300	375 - 380	12 - 14
▶ BS3D	450 - 713	345	440 - 445	16 - 18
▶ BS4D	510 - 713	345	440 - 445	18 - 20

(1) Dimension with extended head

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage operation, made up of:

- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, driven by an electric servomotor
- Air damper with 1st and 2nd stage adjustment (2nd stage external adjustment, with no need to remove the cover)
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- 4-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Two Stage Gas Burners

GULLIVER BSD SERIES

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)			
3761558	BS1D	1/230/50	16/19 - 52	1,6/1,9 - 5,2	0,150	CE - 0085 AQ0409 (1)
3761658	BS2D	1/230/50	35/40 - 91	3,5/4 - 9	0,180	CE - 0085 AQ0409 (1)
3761618	BS2D TL	1/230/50	35/40 - 91	3,5/4 - 9	0,180	CE - 0085 AQ0409 (1)
3761758	BS3D	1/230/50	65/80 - 200	6,5/8 - 20	0,350	CE - 0085 AQ0409 (1)
3761718	BS3D TL	1/230/50	65/80 - 200	6,5/8 - 20	0,350	CE - 0085 AQ0409 (1)
3761858	BS4D	1/230/50	110/140 - 250	11/14 - 25	0,530	CE - 0085 AQ0409 (1)
3761818	BS4D TL	1/230/50	110/140 - 250	11/14 - 25	0,530	CE - 0085 AQ0409 (1)
3761559	BSP1D	1/230/50	16/19 - 52	--	0,150	CE - 0085 AQ0409 (1)
3761659	BSP2D	1/230/50	35/40 - 91	--	0,180	CE - 0085 AQ0409 (1)
3761759	BSP3D	1/230/50	65/80 - 200	--	0,350	CE - 0085 AQ0409 (1)
3761859	BSP4D	1/230/50	110/140 - 250	--	0,530	CE - 0085 AQ0409 (1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.

Net calorific value LPG: 25,8 kWh/Nm³ - Density: 2,02 kg/Nm³.

The burners of BS series are in according to EN 676.

(1) With plug and socket.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC	3970539	MB 405/2 - F1SD 20	BS1D		BS1D	(1)
	3970540	MB 405/2 - F2SD 20	BS2D		BS2D	(1)
	3970538	MB 407/2 - F2SD 20	BS2D		BS2D	(1)
	3970541	MB 407/2 - F3SD 20	BS3D - BS4D		BS3D - BS4D	(1) (2)
	3970542	MB 410/2 - F3SD 20	BS3D - BS4D		BS3D - BS4D	
	3970543	MB 412/2 - F3SD 20	BS3D - BS4D		BS3D - BS4D	

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) With installed plug.

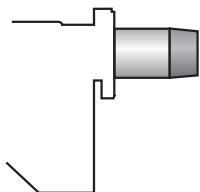
(2) BS3D and BS4D ≤ 150 kW with natural gas.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

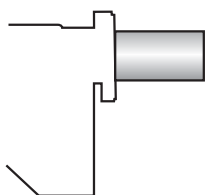
Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ BS1D	70 ÷ 116	70 ÷ 160	20031875
▶ BS2D (long)	100 ÷ 114	170 ÷ 180	3001007
▶ BS2D (extra long)	100 ÷ 114	270 ÷ 280	3001008
▶ BS3D	110 ÷ 128	267 ÷ 282	3001009
▶ BS4D	145 ÷ 168	302 ÷ 317	3001016

Alternative combustion head kit



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

BURNER	KIT CODE
▶ BS1D	3001059
▶ BS2D	3001064
▶ BS3D	3001060
▶ BS4D	3001070

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ BS1D	3001003	-
▶ BS2D	3001004	3001004
▶ BS3D	3001005	3001005
▶ BS4D	3001011	3001011

Town Gas kit



For burning Town Gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ BS1D	3002727	-
▶ BS2D	3002728	3002728
▶ BS3D	3002729	3002729

(*) Without CE certification

Low NOx Two Stage Gas Burners

GULLIVER BSD SERIES

Burner accessories

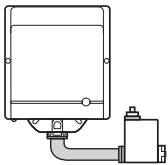
Ground fault interrupter kit



A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ BS1D - BS2D - BS3D - BS4D	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ BS1D	3001179
▶ BS2D	3001177
▶ BS3D - BS4D	3001178

7-pin plug kit

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

BURNER	KIT CODE
▶ BS1D - BS2D - BS3D - BS4D	3000945

PC interface kit



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

BURNER	KIT CODE
▶ BS1D - BS2D - BS3D - BS4D	3002731

Gas train accessories

Seal control kit



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

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030

GULLIVER BS/M SERIES

The Riello Gulliver BS/M series of two stage, progressive or modulating gas burners, is a complete range of Low NOx emission products, developed to respond to any request for home heating, conforming to the most severe standards regarding the reduction of polluting emissions.

This series of burners is available in three different models with an output ranging from 49 to 250 kW, divided in three different structures.

All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.

In developing these burners, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.

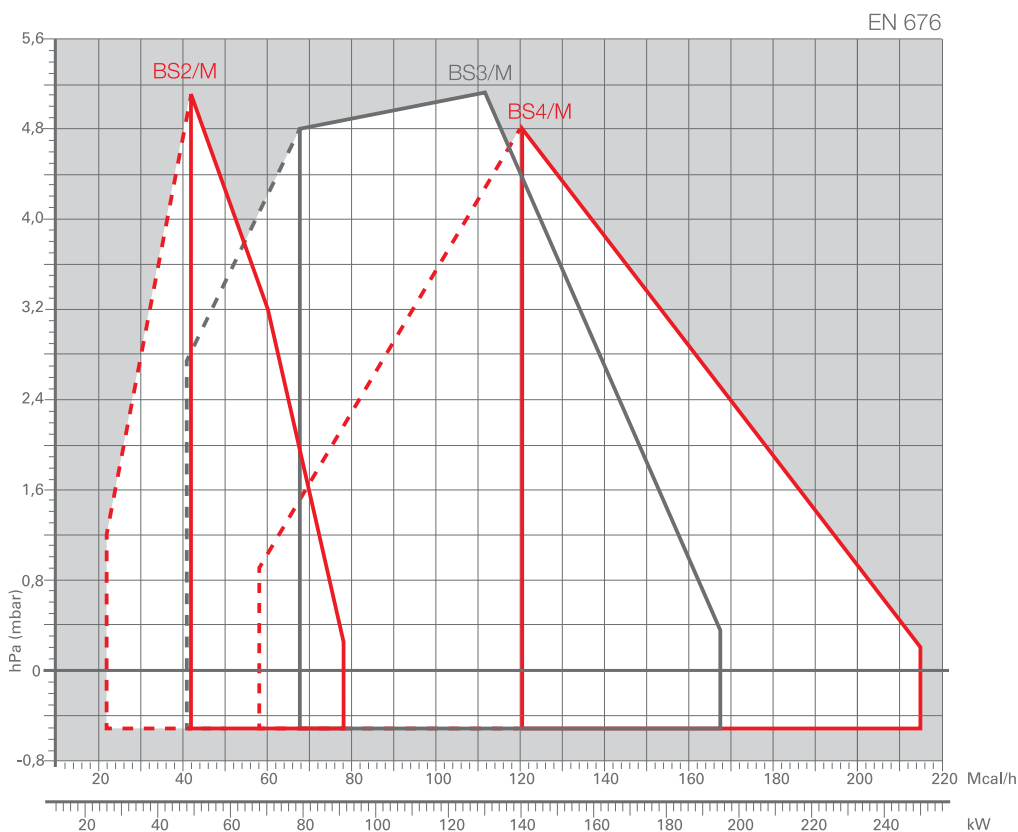
Two stage operation guarantees high level performance from the thermal unit. All the models are approved by the EN 676 European Standard, conform to European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.


All the Gulliver BS/M burners are tested before leaving the factory.



BS2/M	26/49 ÷	91 kW
BS3/M	48/79 ÷	195 kW
BS4/M	68/140 ÷	250 kW

FIRING RATES



 Useful working field for choosing the burner

 Modulation range

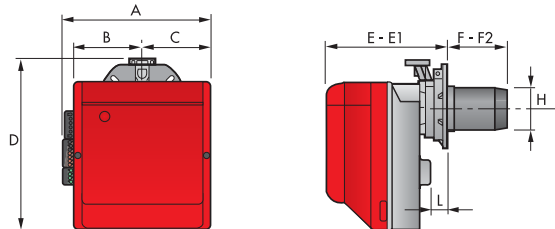
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Low NOx Two Stage Progressive and Modulating Gas Burners

GULLIVER BS/M SERIES

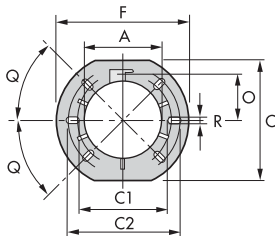
Overall dimensions (mm)

BURNER



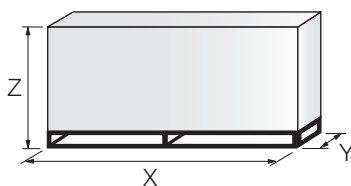
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ BS2/M	285	125,5	125,5	325	238	252	114	100	106	230	46
▶ BS3/M	330	150	150	391	262	280	128	110	129	285	46
▶ BS3/M TL	330	150	150	391	262	270	185	170	129	285	45
▶ BS4/M	330	150	150	392	278	301	168	145	137	286	46

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	F	O	Q	R
▶ BS2/M	106	167	140	170	192	66	45°	11
▶ BS3/M	129	201	160	190	216	76,5	45°	11
▶ BS3/M TL	129	201	160	190	216	76,5	45°	11
▶ BS4/M	137	203	170	200	218	80,5	45°	11

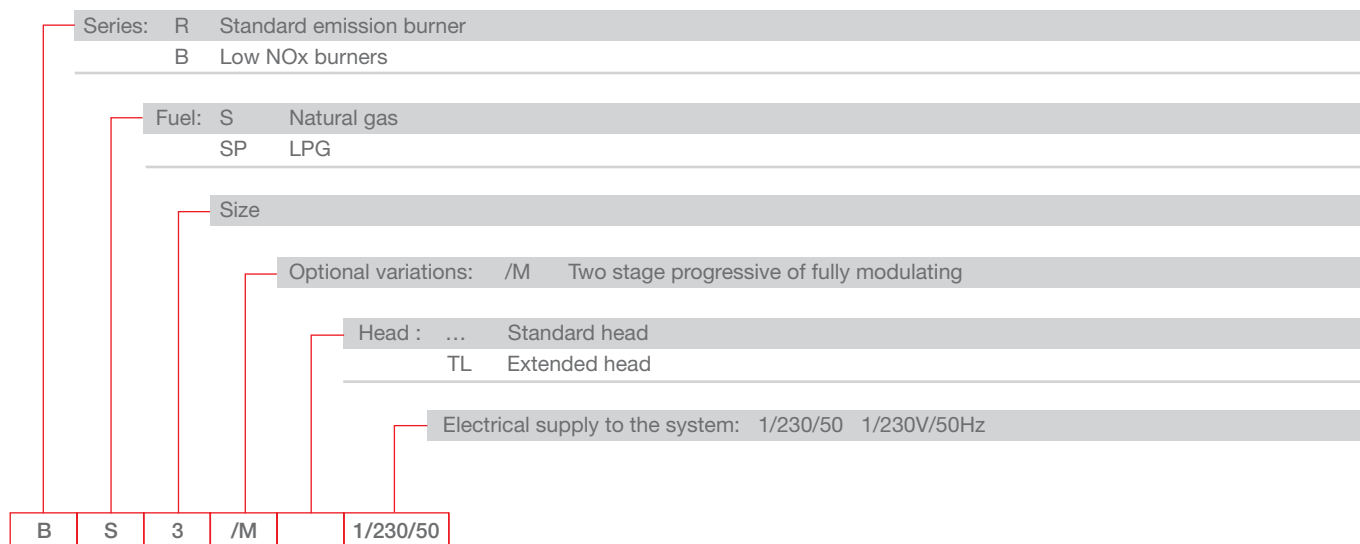
PACKAGING



MODEL	X	Y	Z	kg
▶ BS2/M	405	328	375	12
▶ BS3/M	450	375	440	16
▶ BS3/M TL	510	375	440	18
▶ BS4/M	510	375	440	18

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monobloc, gas burners, completely automatic, high/low progressive operation mode or fully modulating by using a regulator:

- Fan with forward curve blades
- Cover lined with sound proofing material
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Servomotor to drive the air damper to fully closed position at stand by, low and high fire position
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Flange with insulating gasket
- Screws and nuts for flange to be fixed to boiler
- Screw and nut for flange
- Blue plastic tube
- G 1/8 union elbow
- 4-pin plug
- 7-pin plug
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Two Stage Progressive and Modulating Gas Burners

GULLIVER BS/M SERIES

Available models

Burners

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
			(kW)	NATURAL GAS (Nm ³ /h)			
3762250	BS2/M	1/230/50	26/49 - 91	2,6/4,9 - 9,1	0,180	CE - 0085 BN0609	(1)
3762350	BS3/M	1/230/50	48/79 - 195	4,8/7,9 - 19,5	0,350	CE - 0085 BN0609	(1)
3762370	BS3/M TL	1/230/50	48/79 - 195	4,8/7,9 - 19,5	0,350	CE - 0085 BN0609	(1)(2)
3762450	BS4/M	1/230/50	68/140 - 250	6,8/14 - 25	0,530	CE - 0085 BN0609	(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.

The burners of BS/M series are in according to EN 676.

(1) With plug and socket.

(2) Head Length: see quote F-F2 in the Overall Dimensions table.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970587	CG 120/P - F2SM 02	BS2/M		BS2/M		(1)
3970588	CG 220/P - F3SM 02	BS3/M - BS4/M		BS3/M - BS4/M		(1)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

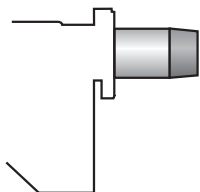
(1) With installed plug.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ BS2/M (long)	100 ÷ 114	170 ÷ 180	3002722
▶ BS2/M (extra long)	100 ÷ 114	270 ÷ 280	3002723
▶ BS3/M	110 ÷ 128	267 ÷ 282	3002724
▶ BS4/M	145 ÷ 168	302 ÷ 317	3002725

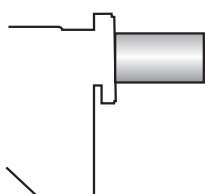
LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in this table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ BS2/M	3002711	3002711
▶ BS3/M	3002712	3002712
▶ BS4/M	3001011	3001011

Alternative combustion head kit



To extend the adaptability of Gulliver BS/M burners to any sort of application, alternative combustion heads have been developed, for example, to overcome situations of combustion instability which could arise with certain heat generators.

These heads cause a very limited increase in NOx emissions, due to the slower air flow.

BURNER	KIT CODE
▶ BS2/M	3001064
▶ BS3/M	3001060
▶ BS4/M	3001070

Ground fault interrupter kit



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

BURNER	KIT CODE
▶ BS2/M - BS3/M - BS4/M	3001180

7-pin plug kit

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

BURNER	KIT CODE
▶ BS2/M - BS3/M - BS4/M	3000945

Low NOx Two Stage Progressive and Modulating Gas Burners

GULLIVER BS/M SERIES

Burner accessories

Accessories for modulating operation



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

BURNER	REGULATOR TYPE	REGULATOR CODE
► BS2/M - BS3/M - BS4/M	RWF 40	3001078



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

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
► BS2/M - BS3/M - BS4/M	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214



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

BURNER	POTENTIOMETER KIT CODE
► BS2/M - BS3/M - BS4/M	3010109

PC interface kit



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

BURNER	KIT CODE
► BS2/M - BS3/M - BS4/M	3002719

GULLIVER BSF SERIES

The Riello Gulliver BSF series of one stage gas burners, is a complete range of products developed to respond to any request for light industrial processes like bakery ovens, spray painting ovens, small steam or thermal boilers and all applications which require a reliable, user-friendly industrial product with enhanced performance and specific functions.

The Gulliver BSF series is available in four different models, with an output ranging from 16 to 246 kW, divided in four different structures.

All the models use the same components designed by Riello for the Gulliver series and have the same ventilation system and overall dimensions as the previous one stage gas models.

The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

This new series can operate on 50 or 60 Hz and a Voltage 220 - 230 Volt (dual frequency).

All these burners conform to the EN 676 Standard (Forced draught gas burners) and to European Directives for EMC, Low Voltage and Gas Appliance.

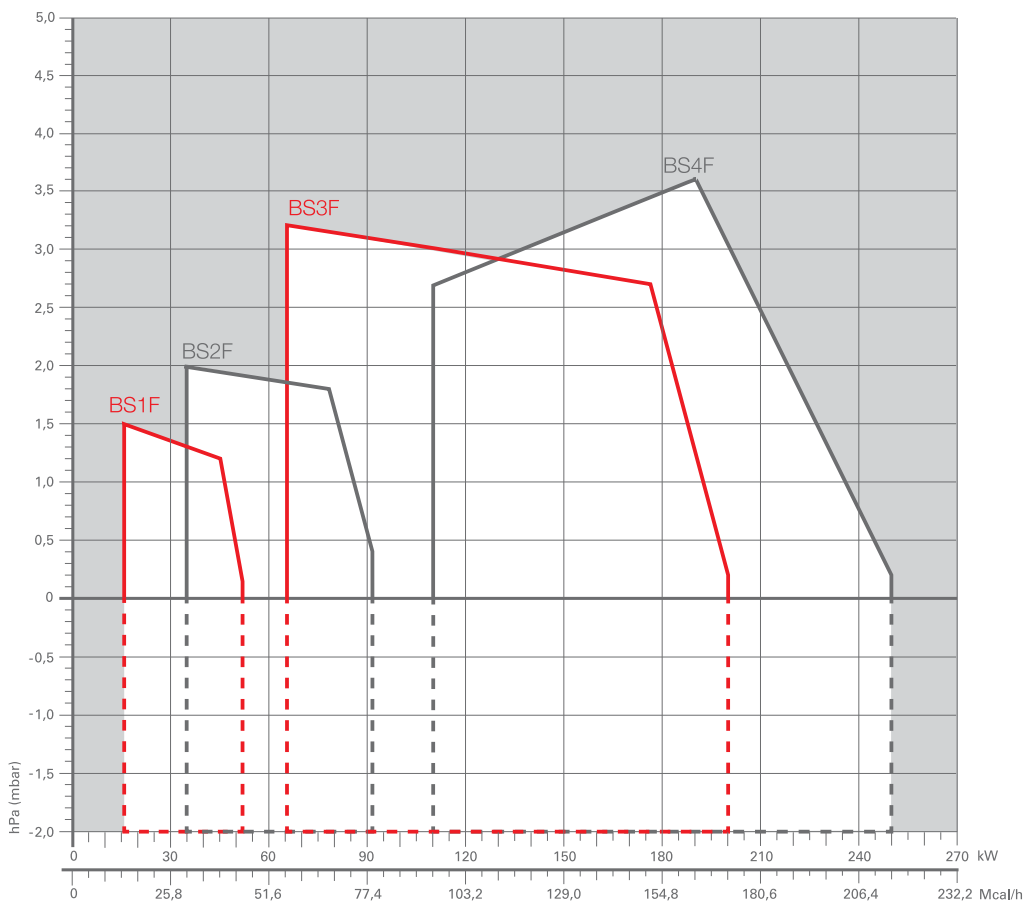
For depressurised working field see EN 746-2 Standard.

All the Gulliver BSF burners are fired before leaving the factory.



BS1F	16 ÷ 52	kW
BS2F	35 ÷ 91	kW
BS3F	65 ÷ 200	kW
BS4F	110 ÷ 250	kW

FIRING RATES



Useful working field for choosing the burner

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

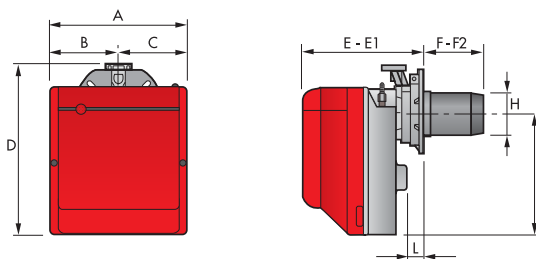
IMPORTANT:
 For the part of the working field that is depressurised, refer to EN 746-2 Standard.

Low NOx One Stage Gas Burners

GULLIVER BSF SERIES

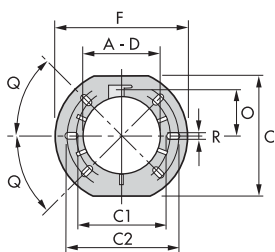
Overall dimensions (mm)

BURNER



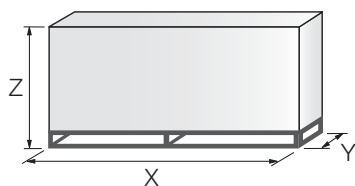
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ BS1F	234	122	112	295	230	276	116	70	89	210	41
▶ BS2F	255	125,5	125,5	325	238	252	114	100	106	230	45
▶ BS3F	300	150	150	391	262	280	128	110	129	285	45
▶ BS4F	300	150	150	392	278	301	168	145	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
▶ BS1F	89	167	140	170	89	192	66	45°	11
▶ BS2F	106	167	140	170	106	192	66	45°	11
▶ BS3F	129	201	160	190	129	216	76,5	45°	11
▶ BS4F	137	203	170	200	137	218	80,5	45°	11

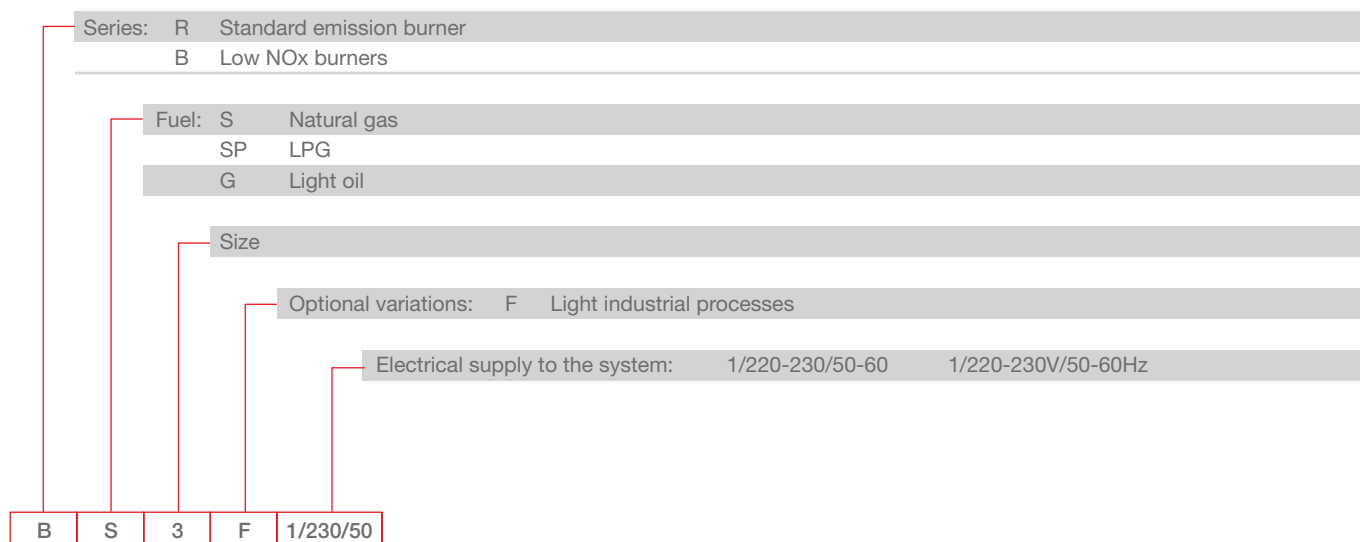
PACKAGING



MODEL	X	Y	Z	kg
▶ BS1F	395	278	350	10
▶ BS2F	405	298	375	11
▶ BS3F	450	345	440	15
▶ BS4F	510	345	440	16,5

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monobloc, gas burners, completely automatic, with one stage operation fitted with:

- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper always open in stand by, with external adjustment, with no need to remove the cover
- Single phase electric motor 220 - 230 V/50 - 60 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Flange with insulating gasket
- Screw and nut for flange
- Screw and nuts for flange to be fixed to the heat generator
- 7-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx One Stage Gas Burners

GULLIVER BSF SERIES

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)			
3761171	BS1F 1/220-230/50-60	16 - 52	1,6 - 5,2	0,135 (at 50Hz) - 0,165 (at 60 Hz)	CE - 0085 AQ0409	(1)
3761271	BS2F 1/220-230/50-60	35 - 91	3,5 - 9,1	0,155 (at 50Hz) - 0,200 (at 60 Hz)	CE - 0085 AQ0409	(1)
3761371	BS3F 1/220-230/50-60	65 - 200	6,5 - 20	0,355 (at 50Hz) - 0,485 (at 60 Hz)	CE - 0085 AQ0409	(1)
3761471	BS4F 1/220-230/50-60	110 - 250	11,0 - 25	0,420 (at 50Hz) - 0,600 (at 60 Hz)	CE - 0085 AQ0409	(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.
 The burners of BSF series are in according to EN 676.
 (1) With plug and socket.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC	3970570	MBC 65/1 - F1SD 20	BS1F		BS1F	(1)
	3970546	MB 405/1 - F1SD 20	BS1F		BS1F	(1)
	3970547	MB 405/1 - F2SD 20	BS2F		BS2F	(1)
	3970544	MB 407/1 - F2SD 20	BS2F		BS2F	(1)
	3970548	MB 407/1 - F3SD 20	BS3F - BS4F		BS3F - BS4F	(1) (2)
	3970549	MB 410/1 - F3SD 20	BS3F - BS4F		BS3F - BS4F	(1)
	3970550	MB 412/1 - F3SD 20	BS3F - BS4F		BS3F - BS4F	(1)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) With installed plug.

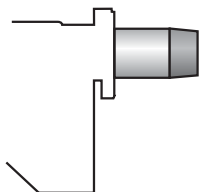
(2) BS3F and BS4F ≤ 150 kW with natural gas.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

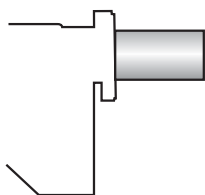
Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ BS2F (long)	100 ÷ 114	170 ÷ 180	3001007
▶ BS2F (extra long)	100 ÷ 114	270 ÷ 280	3001008
▶ BS3F	110 ÷ 128	267 ÷ 282	3001009
▶ BS4F	145 ÷ 168	302 ÷ 317	3001016

Alternative combustion head kit



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

BURNER	KIT CODE
▶ BS1F	3001059
▶ BS2F	3001064
▶ BS3F	3001060
▶ BS4F	3001070

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ BS1F	3001003	-
▶ BS2F	3001004	3001004
▶ BS3F	3001005	3001005
▶ BS4F	3001011	3001011

Town Gas kit



For burning Town Gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ BS1F	3002727	-
▶ BS2F	3002728	3002728
▶ BS3F	3002729	3002729

(*) Without CE certification

Low NOx One Stage Gas Burners

GULLIVER BSF SERIES

Burner accessories

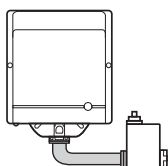
Ground fault interrupter kit



A “ground fault interrupter kit” is available as safety device in case of electrical system fault.

BURNER	KIT CODE
► BS1F - BS2F - BS3F - BS4F	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
BS1F	3001179
BS2F	3001177
BS3F - BS4F	3001178

7-pin plug kit

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

BURNER	KIT CODE
► All models	3000945

PC interface kit



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

BURNER	KIT CODE
► BS1F - BS2F - BS3F - BS4F	3002731

Gas train accessories

Seal control kit



To test the valve seals on the gas train, (except for the model with Multibloc MBC 65 DLE) a special “seal control kit” is available.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
► MB/1 type	3010123	20050030

GULLIVER BSDF SERIES

The Riello Gulliver BSDF series of two stage gas burners, is a complete range of Low NOx emission products, developed to respond to any request for light industrial processes like bakery ovens, spray painting ovens, small steam or thermal boilers and all applications which require a reliable, user-friendly industrial product with enhanced performance and specific functions.

This series of burners is available in two different models with an output ranging from 75 to 246 kW, divided in two different structures.

All the models use the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working. The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

This new series can operate on 50 or 60 Hz and a Voltage 220 - 230 Volt (dual frequency).

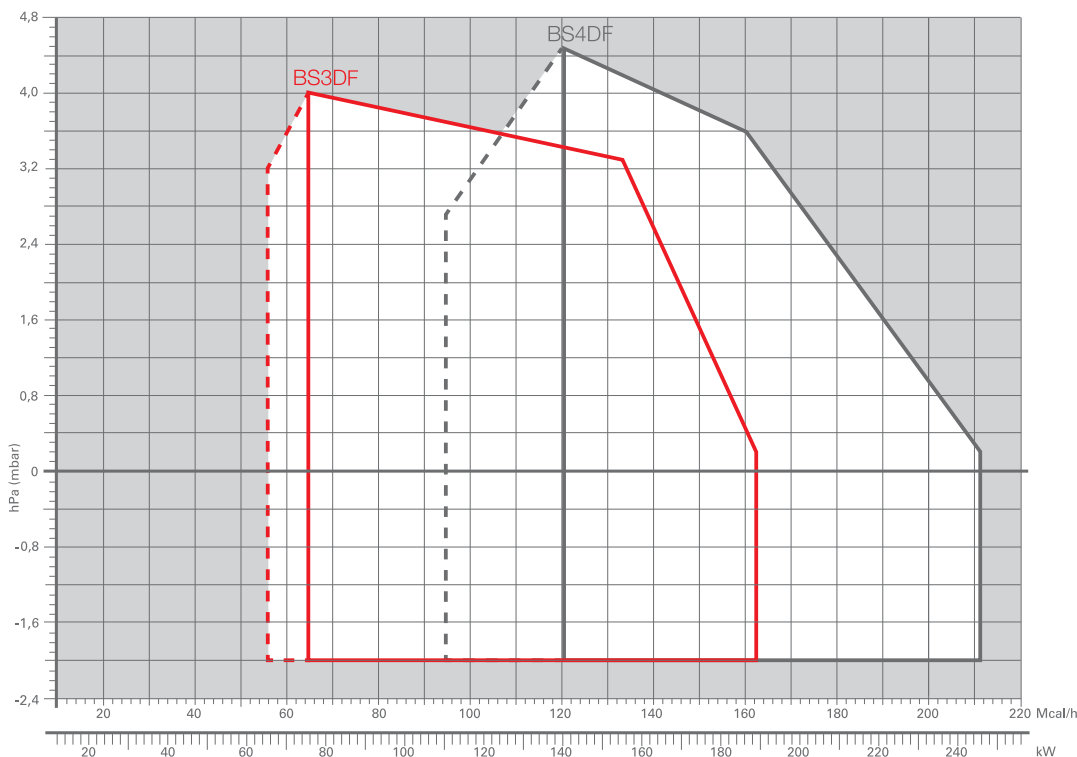
For depressurised working field see EN 746-2 Standard.

All the Gulliver BSD burners are tested before leaving the factory.



BS3DF	65/75	÷	189	kW
BS4DF	110/140	÷	246	kW

FIRING RATES



Useful working field for choosing the burner

1st stage operation range

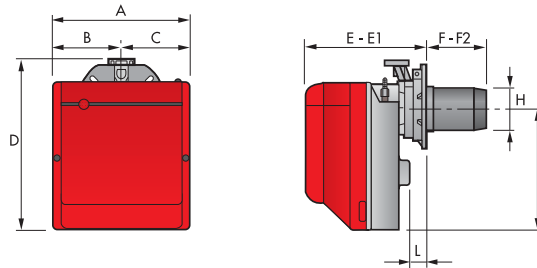
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Low NOx Two Stage Gas Burners

GULLIVER BSDF SERIES

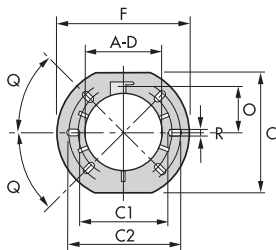
Overall dimensions (mm)

BURNER



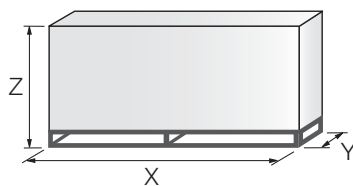
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
► BS3DF	300	150	150	391	262	280	128	110	129	285	45
► BS4DF	300	150	150	392	278	301	168	145	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
► BS3DF	129	201	160	190	129	216	76,5	45°	11
► BS4DF	137	203	170	200	137	218	80,5	45°	11

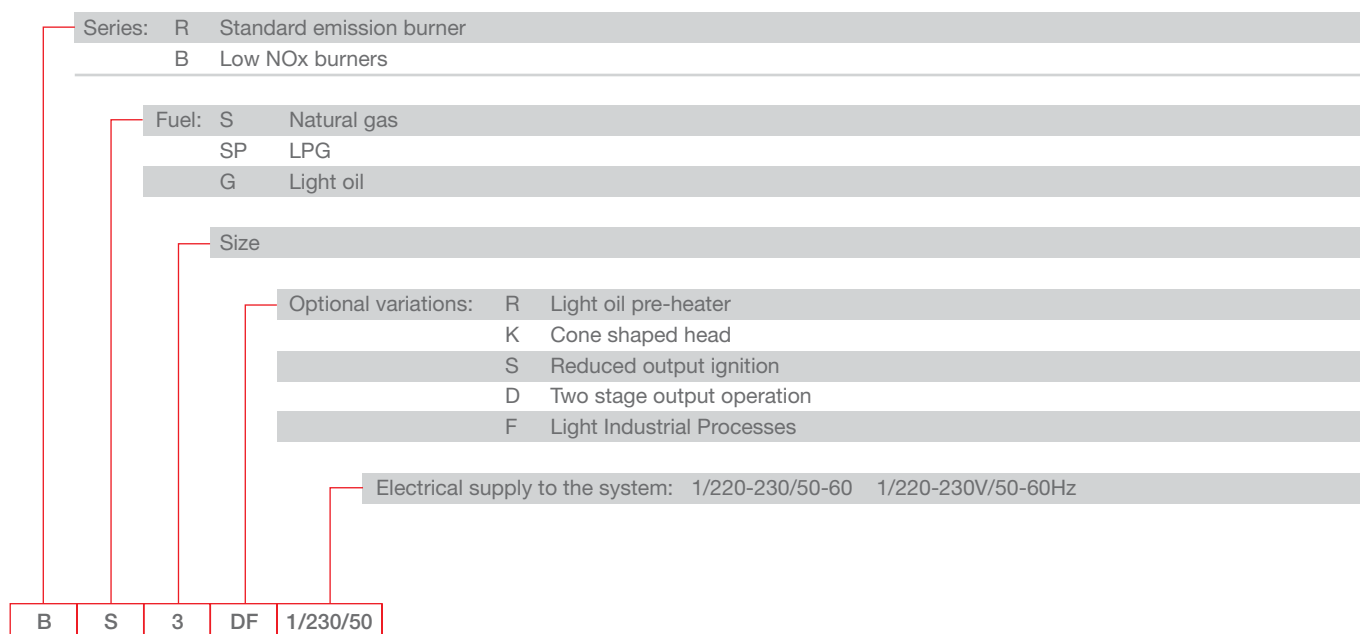
PACKAGING



MODEL	X	Y	Z	kg
► BS3DF	450	345	440	16
► BS4DF	510	345	440	18

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage operation, made up of:

- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper with 1st and 2nd stage adjustment (2nd stage external adjustment, with no need to remove the cover)
- Driven by an electric servomotor
- Single phase electric motor 220-230 V / 50-60 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- 4-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Two Stage Gas Burners

GULLIVER BSDF SERIES

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)			
3761391	BS3DF 1/220-230/50-60	65/75 - 189	6,5/7,5 - 19	0,355 (at 50Hz) 0,485 (at 60 Hz)		(1)
3761491	BS4DF 1/220-230/50-60	110/140 - 246	11/14 - 24,6	0,420 (at 50Hz) 0,600 (at 60 Hz)		(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.
 Net calorific value LPG: 25,8 kWh/Nm³ - Density: 2,02 kg/Nm³.
 The burners of BS series are in according to EN 676.
 (1) With plug and socket.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC	3970541	MB 407/2 - F3SD 20	BS3DF - BS4DF		BS3DF - BS4DF	(1) (2)
	3970542	MB 410/2 - F3SD 20	BS3DF - BS4DF		BS3DF - BS4DF	
	3970543	MB 412/2 - F3SD 20	BS3DF - BS4DF		BS3DF - BS4DF	

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) With installed plug.

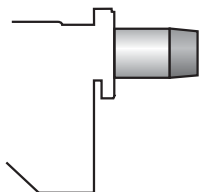
(2) BS3DF and BS4DF ≤ 150 kW with natural gas.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

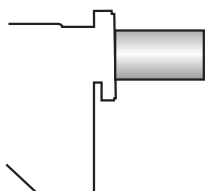
Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ BS3DF	110 ÷ 128	267 ÷ 282	3001009
▶ BS4DF	145 ÷ 168	302 ÷ 317	3001016

Alternative combustion head kit



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

BURNER	KIT CODE
▶ BS3DF	3001060
▶ BS4DF	3001070

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ BS3DF	3001005	3001005
▶ BS4DF	3001011	3001011

Town Gas kit



For burning Town Gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ BS3DF	3002729	3002729

(*) Without CE certification

Ground fault interrupter kit



A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

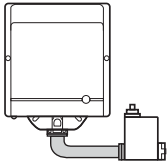
BURNER	KIT CODE
▶ BS3DF - BS4DF	3001180

Low NOx Two Stage Gas Burners

GULLIVER BSDF SERIES

Burner accessories

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
► BS3DF - BS4DF	3001178

7-pin plug kit

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

BURNER	KIT CODE
► BS3DF - BS4DF	3000945

PC interface kit



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

BURNER	KIT CODE
► BS3DF - BS4DF	3002731

Gas train accessories

Seal control kit



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

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
► MB/1 type	3010123	20050030

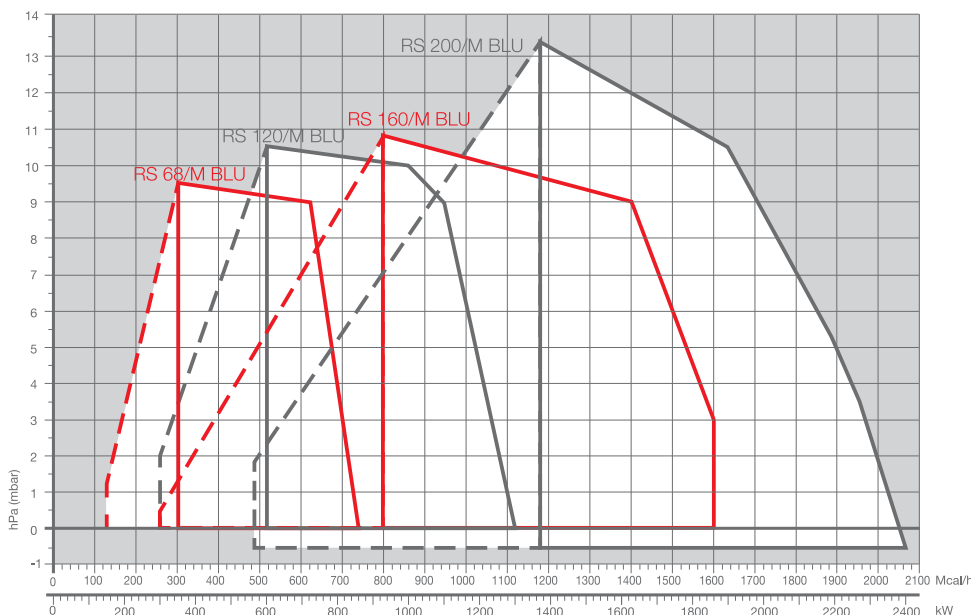
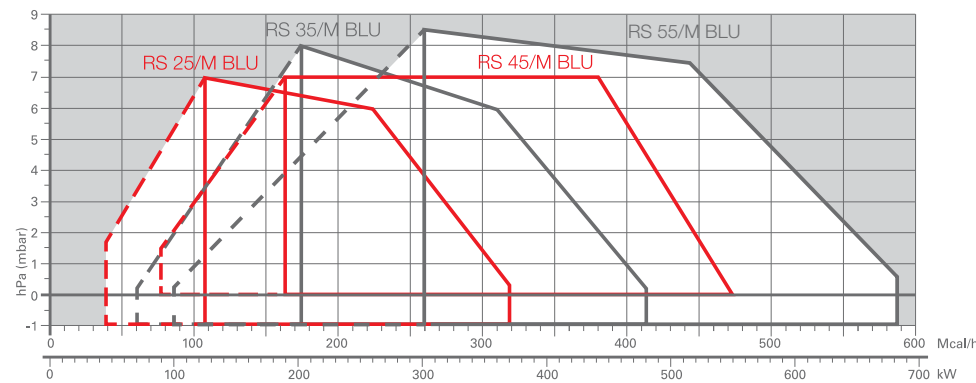
RS 25÷200/M BLU SERIES

The RS/M BLU burners series covers a firing range from 44 to 2400 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers. Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes. RS/M BLU burners series guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs. The exclusive design ensures reduced dimensions, simple use and maintenance. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**. A wide range of accessories guarantees elevated working flexibility.



RS 25/M BLU	44/125 ÷	370 kW
RS 35/M BLU	70/200 ÷	480 kW
RS 45/M BLU	90/190 ÷	550 kW
RS 55/M BLU	100/300 ÷	680 kW
RS 68/M BLU	150/350 ÷	860 kW
RS 120/M BLU	300/600 ÷	1300 kW
RS 160/M BLU	300/930 ÷	1860 kW
RS 200/M BLU	570/1375 ÷	2400 kW

FIRING RATES

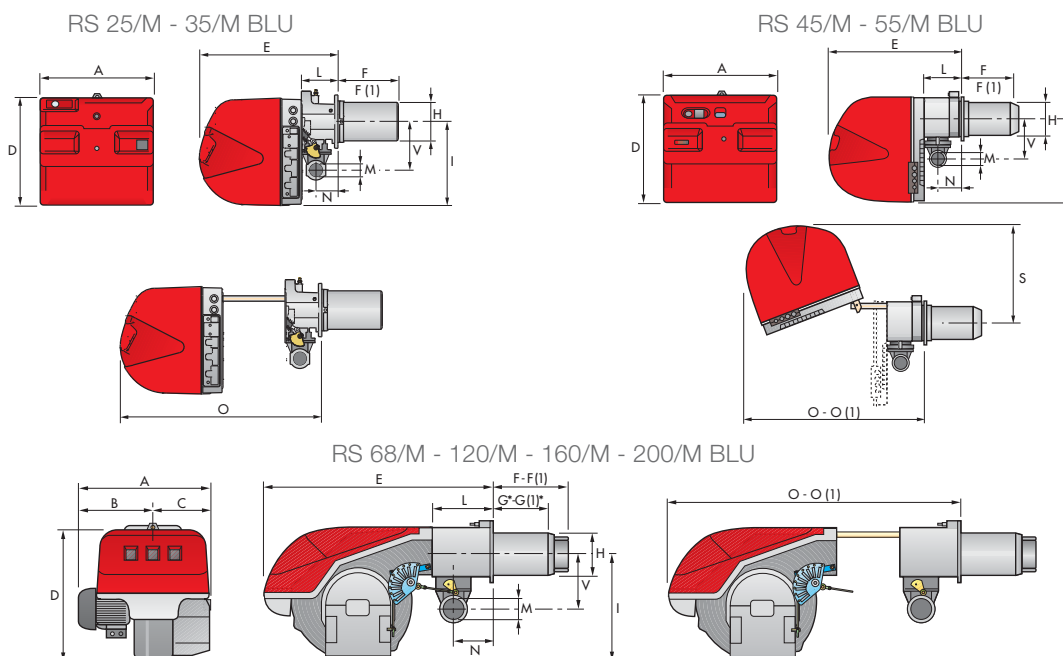


Low NOx Modulating Gas Burners

RS 25÷200/M BLU SERIES

Overall dimensions (mm)

BURNER

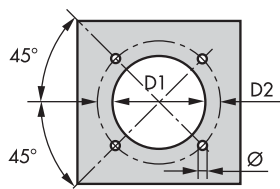


MODEL	A	B	C	D	E	F - F(1)	G* - G(1)*	H	I	L	M	N	O - O(1)	S	V
▶ RS 25/M BLU	442	-	-	422	508	230 - 365	- -	140	305	138	1"1/2	84	780 - -	-	177
▶ RS 35/M BLU	442	-	-	422	508	230 - 365	- -	152	305	138	1"1/2	84	780 - -	-	177
▶ RS 45/M BLU	476	-	-	474	580	229 - 354	- -	160	352	164	1"1/2	108	810 - 810	367	168
▶ RS 55/M BLU	533	300	-	490	640	255 - 390	- -	189	352	222	2"	134	870 - -	-	221
▶ RS 68/M BLU	527	312	215	555	840	255 - 390	200 - 335	189	430	214	2"	134	1161 - 1296	-	221
▶ RS 120/M BLU	553	338	215	555	840	255 - 390	200 - 335	189	430	214	2"	134	1161 - 1296	-	221
▶ RS 160/M BLU	671	366	305	555	863	373 - 503	272 - 402	221	436	237	2"	141	1442 - 1587	-	264
▶ RS 200/M BLU	737	432	305	555	863	373 - 503	272 - 402	221	436	237	2"	141	1442 - 1587	-	264

(1) Length with extended combustion head.

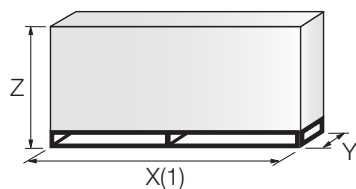
* Maximum depth of the boiler door including the depth of the burner flange insulating gasket.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 25/M BLU	160	224	M8
▶ RS 35/M BLU	160	224	M8
▶ RS 45/M BLU	165	224	M8
▶ RS 55/M BLU	185	275-325	M12
▶ RS 68/M BLU	195	275-325	M12
▶ RS 120/M BLU	195	275-325	M12
▶ RS 160/M BLU	230	325-368	M16
▶ RS 200/M BLU	230	325-368	M16

PACKAGING

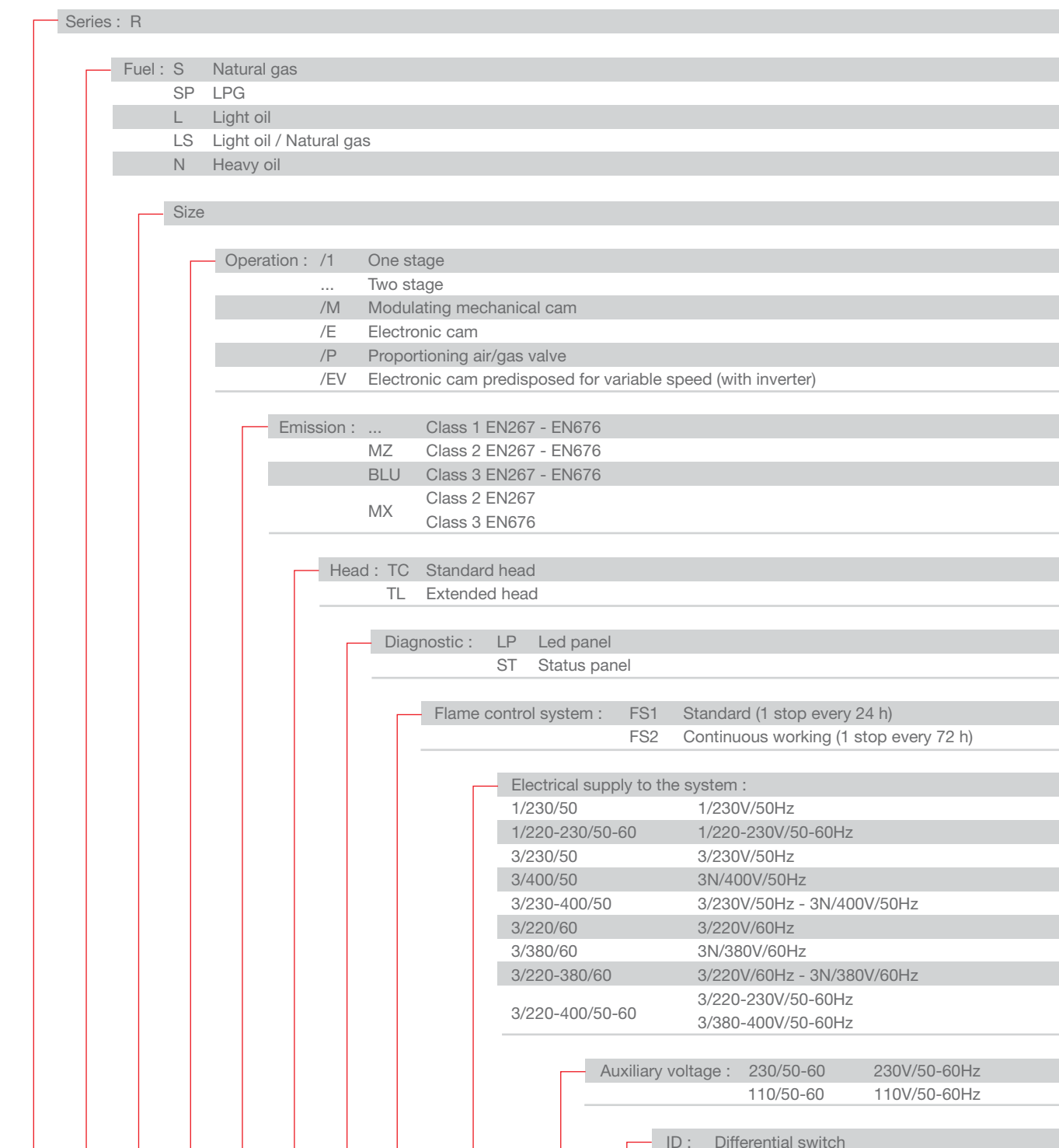


MODEL	X(1)	Y	Z	kg
▶ RS 25/M BLU	1000	485	500	39
▶ RS 35/M BLU	1000	485	500	40
▶ RS 45/M BLU	1015	500	630	48
▶ RS 55/M BLU	1405	700	660	44
▶ RS 68/M BLU	1405	700	660	78
▶ RS 120/M BLU	1405	700	660	84
▶ RS 160/M BLU	1405-1420	1000	660	89
▶ RS 200/M BLU	1405-1420	1000	660	125

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES



R	S	120	/M	BLU	TC		FS1	3/230-400/50	230/50-60	
BASIC DESIGNATION					EXTENDED DESIGNATION					



Low NOx Modulating Gas Burners

RS 25÷200/M BLU SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught Low NOx gas burner, two stage progressive or modulating operation with a kit, made up of:

- Air suction circuit **with sound proofing material**
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by a servomotor with variable cam
- Low emissions combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Burner on/off selection switch
- Manual or automatic output increase/decrease switch
- Microprocessor-based burner safety control box, with diagnostic functions
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference

RS 25-35/M BLU models

- High performance fan with forward curve blades
- Starting motor at 2800 rpm, single-phase / 220-230V / 50-60Hz or three-phase / 380-400V / 50-60Hz
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Plug and socket for electrical connections accessible from the external of the cover
- IP 40 electric protection level.

RS 45-55-68-120-160-200/M BLU models

- Fan with reverse curve blades (RS 45-55-68-120/M BLU models) or forward curve blades (RS 160-200/M BLU models)
- Sound-proofing material on air suction circuit
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz (single-phase, 230V, 50Hz for the RS 45/M BLU model)
- Maximum gas pressure switch (on RS 55-68-120-160-200/M BLU models)
- IP 44 electric protection level.

Standard equipment

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Fairleads for the electrical connection (RS 45/M BLU)
- 3 plugs for electrical connection (RS 25-35/M BLU single-phase)
- 4 plugs for electrical connection (RS 35/M BLU three-phase)
- 2 slide bar extensions (for extended head models and RS 160-200/M BLU models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RS 25÷200/M BLU SERIES

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
						(kW)	NATURAL GAS (Nm ³ /h)			
3910510	RS 25/M BLU	TC	FS1	1/220-230/50-60	220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE-0085BR0379	(1)
3910511	RS 25/M BLU	TL	FS1	1/220-230/50-60	220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE-0085BR0379	(1)
3910610	RS 35/M BLU	TC	FS1	1/220-230/50-60	220-230/50-60	70/200÷480	7/20÷48	0,7	CE-0085BR0379	(1)
3910611	RS 35/M BLU	TL	FS1	1/220-230/50-60	220-230/50-60	70/200÷480	7/20÷48	0,7	CE-0085BR0379	(1)
3910640	RS 35/M BLU	TC	FS1	3/220-400/50-60	220-230/50-60	70/200÷480	7/20÷48	0,75	CE-0085BR0379	(1)
3910641	RS 35/M BLU	TL	FS1	3/220-400/50-60	220-230/50-60	70/200÷480	7/20÷48	0,75	CE-0085BR0379	(1)
3910520	RS 25/M BLU	TC	FS2	1/220-230/50-60	220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE-0085BR0379	(1)
3910521	RS 25/M BLU	TL	FS2	1/220-230/50-60	220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE-0085BR0379	(1)
3910620	RS 35/M BLU	TC	FS2	1/220-230/50-60	220-230/50-60	70/200÷480	7/20÷48	0,7	CE-0085BR0379	(1)
3910621	RS 35/M BLU	TL	FS2	1/220-230/50-60	220-230/50-60	70/200÷480	7/20÷48	0,7	CE-0085BR0379	(1)
3910650	RS 35/M BLU	TC	FS2	3/220-400/50-60	220-230/50-60	70/200÷480	7/20÷48	0,75	CE-0085BR0379	(1)
3910651	RS 35/M BLU	TL	FS2	3/220-400/50-60	220-230/50-60	70/200÷480	7/20÷48	0,75	CE-0085BR0379	(1)
3897306	RS 45/M BLU	TC	FS1	1/230/50	230/50-60	90/190-550	9/19-55	0,6	CE 0085 BM0104	(1)
3897307	RS 45/M BLU	TL	FS1	1/230/50	230/50-60	90/190-550	9/19-55	0,6	CE 0085 BM0104	(1)
3897312	RS 45/M BLU	TC	FS2	1/230/50	230/50-60	90/190-550	9/19-55	0,6	CE 0085 BM0104	(1)
3897313	RS 45/M BLU	TL	FS2	1/230/50	230/50-60	90/190-550	9/19-55	0,6	CE 0085 BM0104	(1)
20038484	RS 55/M BLU	TC	FS1	3/230-400/50	230/50-60	100/300-680	10/30-68	1,5	CE 0085CM0293	(1)
20038486	RS 55/M BLU	TL	FS1	3/230-400/50	230/50-60	100/300-680	10/30-68	1,5	CE 0085CM0293	(1)
3897406	RS 68/M BLU	TC	FS1	3/230-400/50	230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(2)
3897407	RS 68/M BLU	TL	FS1	3/230-400/50	230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(2)
3897420	RS 68/M BLU	TC	FS2	3/230-400/50	230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(2)
3897421	RS 68/M BLU	TL	FS2	3/230-400/50	230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(2)
3866211	RS 68/M BLU	TC	FS1	3/230-400/50	230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(1)
3866212	RS 68/M BLU	TL	FS1	3/230-400/50	230/50-60	150/350-860	15/35-86	1,8	CE 0085 BM0452	(1)
3897606	RS 120/M BLU	TC	FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(2)
3897607	RS 120/M BLU	TL	FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(2)
3897620	RS 120/M BLU	TC	FS2	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(2)
3897621	RS 120/M BLU	TL	FS2	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(2)
3866213	RS 120/M BLU	TC	FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(1)
on demand	RS 120/M BLU	TL	FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,6	CE 0085 BM0452	(1)
20009506	RS 120/M BLU	TL	FS1	3/220-380/60	230/50-60	300/600-1300	30/60-130	2,6	-	(2)
3788006	RS 160/M BLU	TC	FS1	3/400/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
20011709	RS 160/M BLU	TC	FS1	3/230/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
3788007	RS 160/M BLU	TL	FS1	3/400/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
20011710	RS 160/M BLU	TL	FS1	3/230/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
3788011	RS 160/M BLU	TC	FS2	3/400/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
20011687	RS 160/M BLU	TC	FS2	3/230/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
3788012	RS 160/M BLU	TL	FS2	3/400/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
20011688	RS 160/M BLU	TL	FS2	3/230/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(2)
3866214	RS 160/M BLU	TC	FS1	3/400/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(1)
20011715	RS 160/M BLU	TC	FS1	3/230/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(1)

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The burners of RS/M BLU series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676 - LRV 92 Norm.

(1) With plug and socket. (2) With terminal board.

Low NOx Modulating Gas Burners

RS 25÷200/M BLU SERIES

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
						(kW)	NATURAL GAS (Nm ³ /h)			
on demand	RS 160/M BLU	TL	FS1	3/400/50	230/50-60	300/930-1860	30/93-186	4,8	CE 0085 BM0452	(1)
20006048	RS 160/M BLU	TC	FS1	3/380/60	230/50-60	300/930-1860	30/93-186	4,8	-	(2)
20006069	RS 160/M BLU	TL	FS1	3/380/60	230/50-60	300/930-1860	30/93-186	4,8	-	(2)
3899710	RS 200/M BLU	TC	FS1	3/400/50	230/50-60	570/1375-2400	57/138-240	8,2	CE 0085 BT0414	(2)
3899711	RS 200/M BLU	TL	FS1	3/400/50	230/50-60	570/1375-2400	57/138-240	8,2	CE 0085 BT0414	(2)
3899740	RS 200/M BLU	TC	FS1	3/230/50	230/50-60	570/1375-2400	57/138-240	8,2	CE 0085 BT0414	(2)
3899741	RS 200/M BLU	TL	FS1	3/230/50	230/50-60	570/1375-2400	57/138-240	8,2	CE 0085 BT0414	(2)
on demand	RS 200/M BLU	TC	FS2	3/400/50	230/50-60	570/1375-2400	57/138-240	8,2	CE 0085 BT0414	(2)
on demand	RS 200/M BLU	TL	FS2	3/400/50	230/50-60	570/1375-2400	57/138-240	8,2	CE 0085 BT0414	(2)
on demand	RS 200/M BLU	TC	FS2	3/230/50	230/50-60	570/1375-2400	57/138-240	8,2	CE 0085 BT0414	(2)
on demand	RS 200/M BLU	TL	FS2	3/230/50	230/50-60	570/1375-2400	57/138-240	8,2	CE 0085 BT0414	(2)
3897344	RS 45/M BLU	TC	FS1	1/230/50	230/50-60 ID	90/190-550	9/19-55	0,6	CE 0085 BM0104	(2)
3897345	RS 45/M BLU	TL	FS1	1/230/50	230/50-60 ID	90/190-550	9/19-55	0,6	CE 0085 BM0104	(2)
3897342	RS 45/M BLU	TC	FS2	1/230/50	230/50-60 ID	90/190-550	9/19-55	0,6	CE 0085 BM0104	(2)
3897343	RS 45/M BLU	TL	FS2	1/230/50	230/50-60 ID	90/190-550	9/19-55	0,6	CE 0085 BM0104	(2)

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The burners of RS/M BLU series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676 - LRV 92 Norm.

(1) With plug and socket.

(2) With terminal board.

RS 25÷200/M BLU SERIES

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE				
	MODEL	Ø	C.T.		RS 25-35-45	RS 55	RS 68	RS 120-160	RS 200
3970500 *	MB 405/1 - RT 20	Rp 3/4"	-	3010123	3000824	●	●	●	●
3970553 *	MB 407/1 - RT 20	Rp 3/4"	-	3010123	3000824	3000824+ 3000843	3000824+ 3000843	●	●
3970599 *	MB 407/1 - RT 52	Rp 3/4"	-	3010123	3000824	3000824+ 3000843	3000824+ 3000843	●	●
3970229 *	MB 407/1 - RSM 20	Rp 3/4"	-	3010123	3000824	3000824+ 3000843	3000824+ 3000843	●	●
3970258 *	MB 410/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843	●
3970554 *	MB 410/1 - RT 20	Rp 3/4"	-	3010123	3000824	3000824+ 3000843	3000824+ 3000843	3000824+ 3000843	●
3970600 *	MB 410/1 - RT 52	Rp 3/4"	-	3010123	3000824	3000824+ 3000843	3000824+ 3000843	3000824+ 3000843	●
3970230 *	MB 410/1 - RSM 20	Rp 3/4"	-	3010123	3000824	3000824+ 3000843	3000824+ 3000843	3000824+ 3000843	●
3970256 *	MB 412/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843			
3970144 *	MB 412/1 - RT 20	Rp 1" 1/2	-	3010123	-	3000843			
3970197 **	MB 412/1 CT RT 20	Rp 1" 1/2	◆	3010123	-	3000843			
3970231 *	MB 412/1 - RSM 20	Rp 1" 1/2	-	3010123	-	3000843			
3970180 *	MB 415/1 - RT 30	Rp 1" 1/2	-	3010123	-	3000843			
3970198 **	MB 415/1 CT RT 30	Rp 1" 1/2	◆	3010123	-	3000843			
3970250 *	MB 415/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843			
3970253 **	MB 415/1 CT RT 52	Rp 1" 1/2	◆	-	-	3000843			
3970232 *	MB 415/1 - RSM 30	Rp 1" 1/2	-	3010123	-	3000843			
3970181 *	MB 420/1 - RT 30	Rp 2"	-	3010123	3000822	-			
3970182 **	MB 420/1 CT RT 30	Rp 2"	◆	3010123	3000822	-			
3970257 *	MB 420/1 - RT 52	Rp 2"	-	3010123	3000822	-			
3970252 **	MB 420/1 CT RT 52	Rp 2"	◆	3010123	3000822	-			
3970233 *	MB 420/1 - RSM 30	Rp 2"	-	3010123	3000822	-			
3970234 **	MB 420/1 CT RSM 30	Rp 2"	◆	-	3000822	-			
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	-	3010367	●	-			
3970225 **	MBC 1200/1 CT RSM 60	Rp 2"	◆	-	●	-			
3970222 *	MBC 1900/1 - FSM 40	DN 65	-	3010367	●	3000825			
3970226 **	MBC 1900/1 CT FSM 40	DN 65	◆	-	●	3000825			
3970223 *	MBC 3100/1 - FSM 40	DN 80	-	3010367	●	3000826			
3970227 **	MBC 3100/1 CT FSM 40	DN 80	◆	-	●	3000826			

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz - 220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

● Not available.

Low NOx Modulating Gas Burners

RS 25÷200/M BLU SERIES

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE				
	MODEL	Ø	C.T.		RS 25-35-45	RS 55	RS 68	RS 120-160	RS 200
3970145 *	CB 512/1 - RSM 30	Rp 1" 1/2	-	3010367	-		3000843		
20045589 **	CB 512/1 CT RSM 30	Rp 1" 1/2	◆	-	-		3000843		
3970146 *	CB 520/1 - RSM 30	Rp 2"	-	3010367	3000822		-		
3970160 **	CB 520/1 CT RSM 30	Rp 2"	◆	-	3000822		-		
20044659 *	CB 525/1 - RSM 30	Rp 2"	-	3010367	3000822		-		
20044660 **	CB 525/1 CT RSM 30	Rp 2"	◆	-	3000822		-		
3970147 *	CB 5065/1 - FSM 30	DN 65	-	3010367	●		3000825		
3970161 **	CB 5065/1 CT FSM 30	DN 65	◆	-	●		3000825		
3970148 *	CB 5080/1 - FSM 30	DN 80	-	3010367	●		3000826		
3970162 **	CB 5080/1 CT FSM 30	DN 80	◆	-	●		3000826		

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz -220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

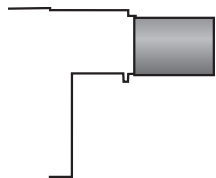
- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.
- ◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

● Not available.

Burner accessories

Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS 25/M BLU	230	365	3010430
▶ RS 35/M BLU	230	365	3010431
▶ RS 45/M BLU	229	354	3010240
▶ RS 55/M BLU	255	390	20040373
▶ RS 68/M - 120/M BLU	255	390	3010177
▶ RS 160/M BLU	373	503	3010442 *
▶ RS 200/M BLU	373	503	3010474

* Kit to be used on burners recognizable by a serial number that is over or equal to 02426XXXXXX, for burners with a serial number that is under or equal to 02416XXXXXX please use the Kit coded 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
▶ RS 25/M - 35/M - 45/M BLU	110	3010095
▶ RS 55/M - 68/M - 120/M BLU	135	3010129
▶ RS 160/M - 200/M BLU	102	3000722

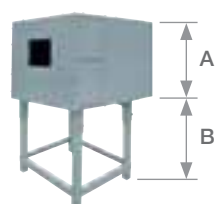
Continuous ventilation kit



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

BURNER	KIT CODE
▶ RS 25/M - 35/M BLU	3010449
▶ RS 45/M - 55/M - 68/M - 120/M - 160/M - 200/M BLU	3010094

Sound proofing box



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

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
▶ RS 25/M - 35/M - 45/M - 55/M BLU	C1/3	650	372 - 980	10	3010403
▶ RS 68/M - 120/M - 160/M - 200/M BLU	C4/5	850	160 - 980	10	3010404

(*) Average noise reduction according to EN 15036-1 standard

Low NOx Modulating Gas Burners

RS 25÷200/M BLU SERIES

Burner accessories

Accessories for modulating operation



To obtain modulating operation, the RS/M BLU series of burners requires a regulator with three point outlet controls. On RS 25/M - 35/M BLU the regulator is connected to the burner electrical wiring by plug-in system in order to make the connection easier and faster.

The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ RS 25/M - 35/M - 45/M BLU	RWF 40	3010417
▶ RS 55/M BLU	RWF 40	3010356 (BASIC) - 3010357 (HIGH)
▶ RS 68/M - 120/M - 160/M BLU	RWF 40	3010212
▶ RS 200/M BLU	RWF 40	3010414



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

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



Modulating operation can also be obtained with an analog control signal converter and a feedback three-pole potentiometer.

Alternatively, the potentiometer can be used to check the servomotor position.

BURNER	TYPE (INPUT SIGNAL)	CODE
▶ RS 25/M - 35/M BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010410
▶ RS 45/M - 55/M - 68/M BLU ▶ RS 120/M - 160/M BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	on demand
▶ RS 200/M BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010415



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

BURNER	POTENTIOMETER KIT CODE
▶ RS 25/M - 35/M BLU	3010420
▶ RS 45/M - 55/M BLU	3010109
▶ RS 68/M - 120/M - 160/M BLU	3010021
▶ RS 200/M BLU	3010416

Burner accessories

Head kit for “reverse flame chamber”



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

BURNER	KIT CODE
▶ RS 68/M BLU	3010247
▶ RS 120/M BLU	3010248
▶ RS 160/M BLU	3010249
▶ RS 200/M BLU	20035848

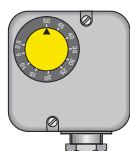
Ground fault interrupter kit



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

BURNER	KIT CODE
▶ RS 25/M - 35/M BLU	3010448
▶ RS 45/M - 55/M - 68/M - 120/M - 160/M - 200/M BLU	3010329

Gas max pressure switch



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring through Plugs & Sockets system.

BURNER	CODE
▶ RS 25/M - 35/M BLU	3010418

Volt free contact kit



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

BURNER	KIT CODE
▶ RS 25/M - 35/M - 55/M BLU	3010419

PC Interface kit



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

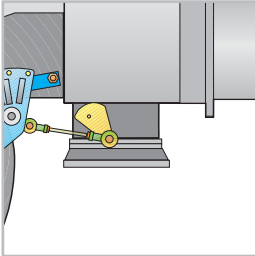
BURNER	KIT CODE
▶ All models	3002719

Low NOx Modulating Gas Burners

RS 25÷200/M BLU SERIES

Burner accessories

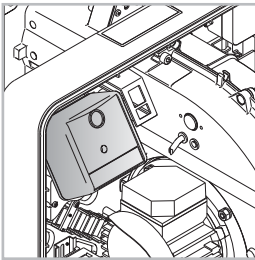
DN80 gas flange kit



To modify the standard 2" burner gas input connection in to DN80 connection, a specific gas flange is available.

BURNER	KIT CODE
► RS 68/M - 120/M - 160/M - 200/M BLU	3010439

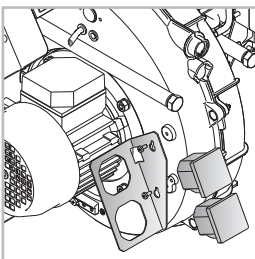
Post-ventilation kit



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

BURNER	KIT CODE
► RS 25/M - 35/M BLU	3010451

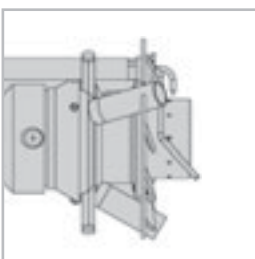
Hours counter kit



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

BURNER	KIT CODE
► RS 25/M - 35/M BLU	3010450

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
► RS 25/M BLU	3010423	3010423
► RS 35/M BLU	3010424	3010424
► RS 45/M BLU	3010432 *	3010432 *
► RS 55/M BLU	in progress	in progress
► RS 68/M BLU	3010433 *	3010433 *
► RS 120/M BLU	on demand	on demand
► RS 160/M BLU	20008971 *	20008971 *
► RS 200/M BLU	3010491	3010491

(*) certification in progress, CE approval on field is required.

Burner accessories

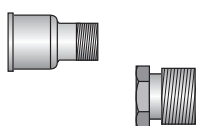
Protection kit (electromagnetic interferences)

When the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m) due for example to INVERTER presence or in systems where the lengths of the thermostat connections is over 20 meters, this specific protection kit is available as an interface between the thermostatic controls and the burner.

BURNER	KIT CODE
► All models	3010386







Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner.

Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
2"  1" 1/2	70	3000822
3/4"  1" 1/2	31	3000824
DN 65  2"	300	3000825
DN 65  1" 1/2	300	3000826
DN 80  2"	300	3000826
1" 1/2  2"	35	3000843

Seal control kit



To test the valve seals on the gas train, a special "seal control kit" is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
► MB/1 type	3010123	20050030
► MBC/1 type	3010367	20029057
► CB/1 type	3010367	20029057

Low NOx Modulating Gas Burners

RS 25÷200/M BLU SERIES

Gas train accessories

Stabiliser spring



To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 512/1	Red	25 - 55	3010131
	Black	60 - 110	3010157
	Pink	90 - 150	3090486
▶ CB 520/1 - 525/1	Red	25 - 55	3010132
	Black	60 - 110	3010158
	Pink	90 - 150	3090487
▶ CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992

RS 25÷200/E-EV BLU SERIES

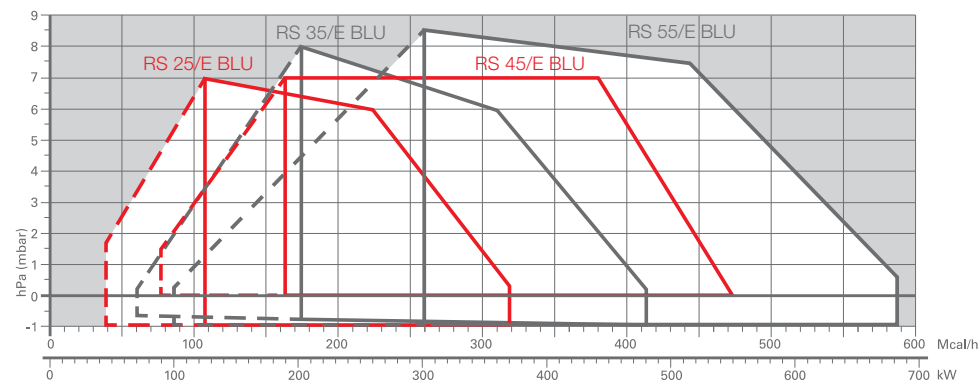
The RS/E BLU and RS/EV BLU burners series covers a firing range from 44 to 2400 kW, and it is based on a new Digital Burner Management System, Riello REC27-37, which is able to manage the air-fuel ratio by independent servomotors in order to obtain a perfect output control and to assure a correct combustion and safe operation on all modulation range. Operation can be "two stage progressive" or, alternatively, "modulating" with the installation of a PID logic regulator and respective probes.

RS/E BLU burners series guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs; specific versions are available to operate with **Variable Speed Drive technology** based on the control of a Frequency Inverter that modifies the air flow through the motor speed variation. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**.

RS 25/E BLU	44/125 ÷	370 kW
RS 35/E BLU	70/200 ÷	480 kW
RS 45/E BLU	90/190 ÷	550 kW
RS 55/E BLU	100/300 ÷	680 kW
RS 68/E BLU-RS 68/EV BLU	150/350 ÷	860 kW
RS 120/E BLU-RS 120/EV BLU	300/600 ÷	1300 kW
RS 160/E BLU-RS 160/EV BLU	300/930 ÷	1860 kW
RS 200/E BLU-RS 200/EV BLU	570/1375 ÷	2400 kW



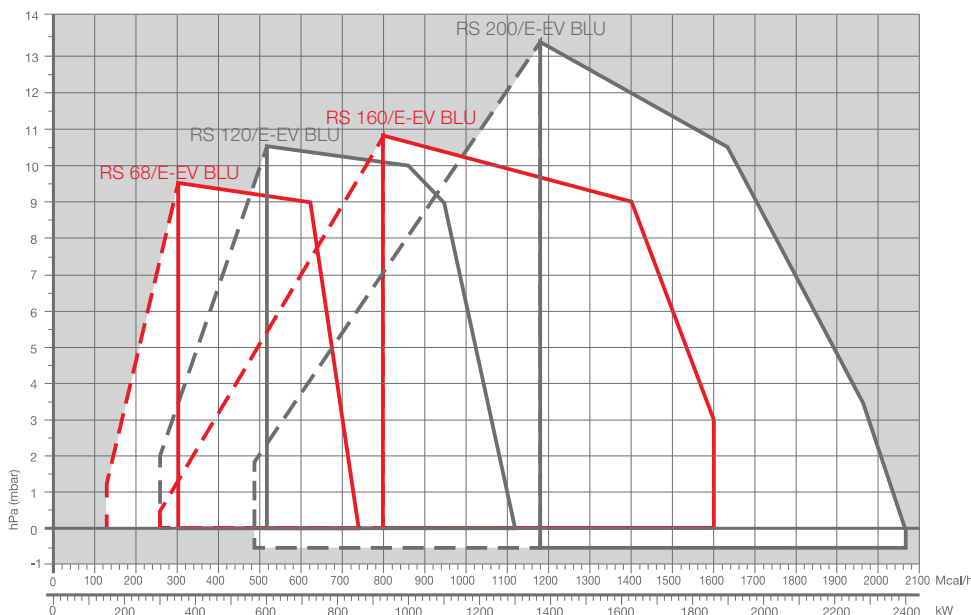
FIRING RATES



□ Useful working field for choosing the burner

--- Modulation range

Test conditions conforming to EN676
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

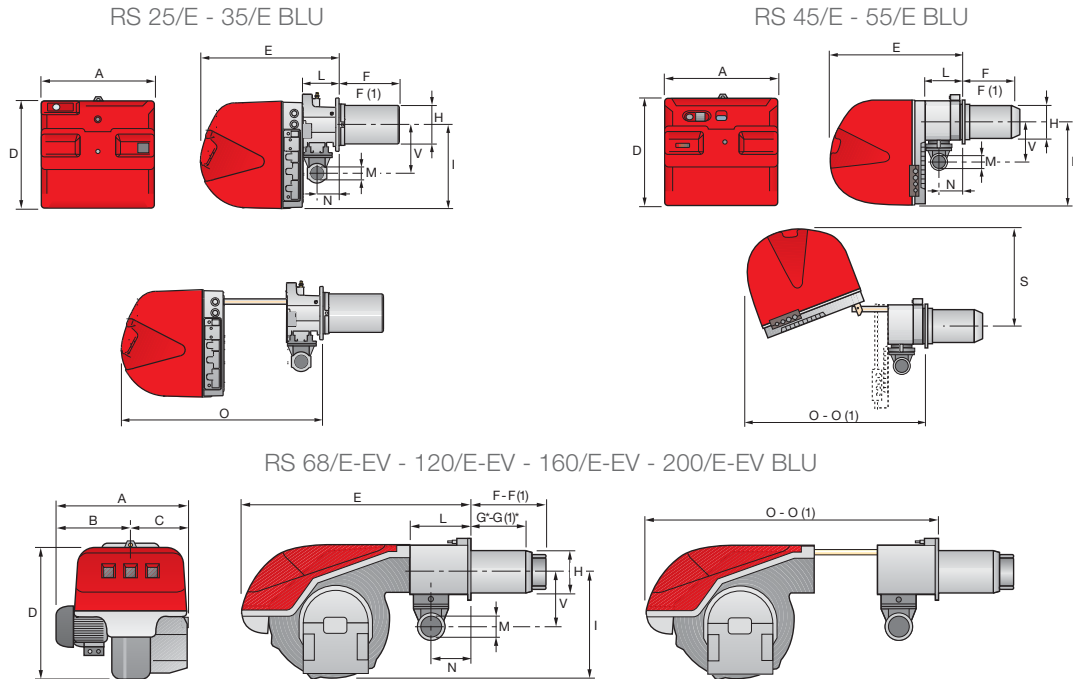


Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

Overall dimensions (mm)

BURNER

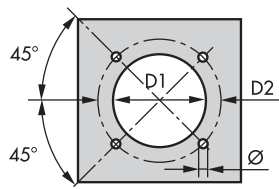


MODEL	A	B	C	D	E	F - F (1)	G* - G(1)*	H	I	L	M	N	O - O(1)	S	V
▶ RS 25/E BLU	442	-	-	422	508	230 - 365	- -	140	305	138	1 1/2"	84	780 - -	-	177
▶ RS 35/E BLU	442	-	-	422	508	230 - 365	- -	152	305	138	1 1/2"	84	780 - -	-	177
▶ RS 45/E BLU	476	-	-	474	580	229 - 354	- -	160	352	164	1 1/2"	108	810 - 810	367	168
▶ RS 55/E BLU	533	300	-	490	640	255 - 390	- -	189	352	222	2"	134	870 - -	-	221
▶ RS 68/E-EV BLU	527	312	215	555	840	255 - 390	200 - 335	189	430	214	2"	134	1161 - 1296	-	221
▶ RS 120/E-EV BLU	553	338	215	555	840	255 - 390	200 - 335	189	430	214	2"	134	1161 - 1296	-	221
▶ RS 160/E-EV BLU	671	366	305	555	863	373 - 503	272 - 402	221	436	221	2"	141	1442 - 1587	-	264
▶ RS 200/E-EV BLU	737	432	305	555	863	373 - 503	272 - 402	221	436	221	2"	141	1442 - 1587	-	264

(1) dimension with extended head.

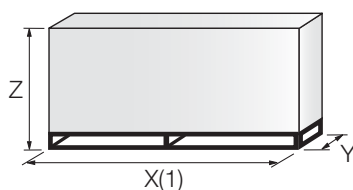
* Maximum depth of the boiler door including the depth of the burner flange insulating gasket.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 25/E BLU	160	224	M8
▶ RS 35/E BLU	160	224	M8
▶ RS 45/E BLU	165	224	M8
▶ RS 55/E BLU	185	275-325	M12
▶ RS 68/E-EV BLU	195	275-325	M12
▶ RS 120/E-EV BLU	195	275-325	M12
▶ RS 160/E-EV BLU	230	325-368	M16
▶ RS 200/E-EV BLU	230	325-368	M16

PACKAGING

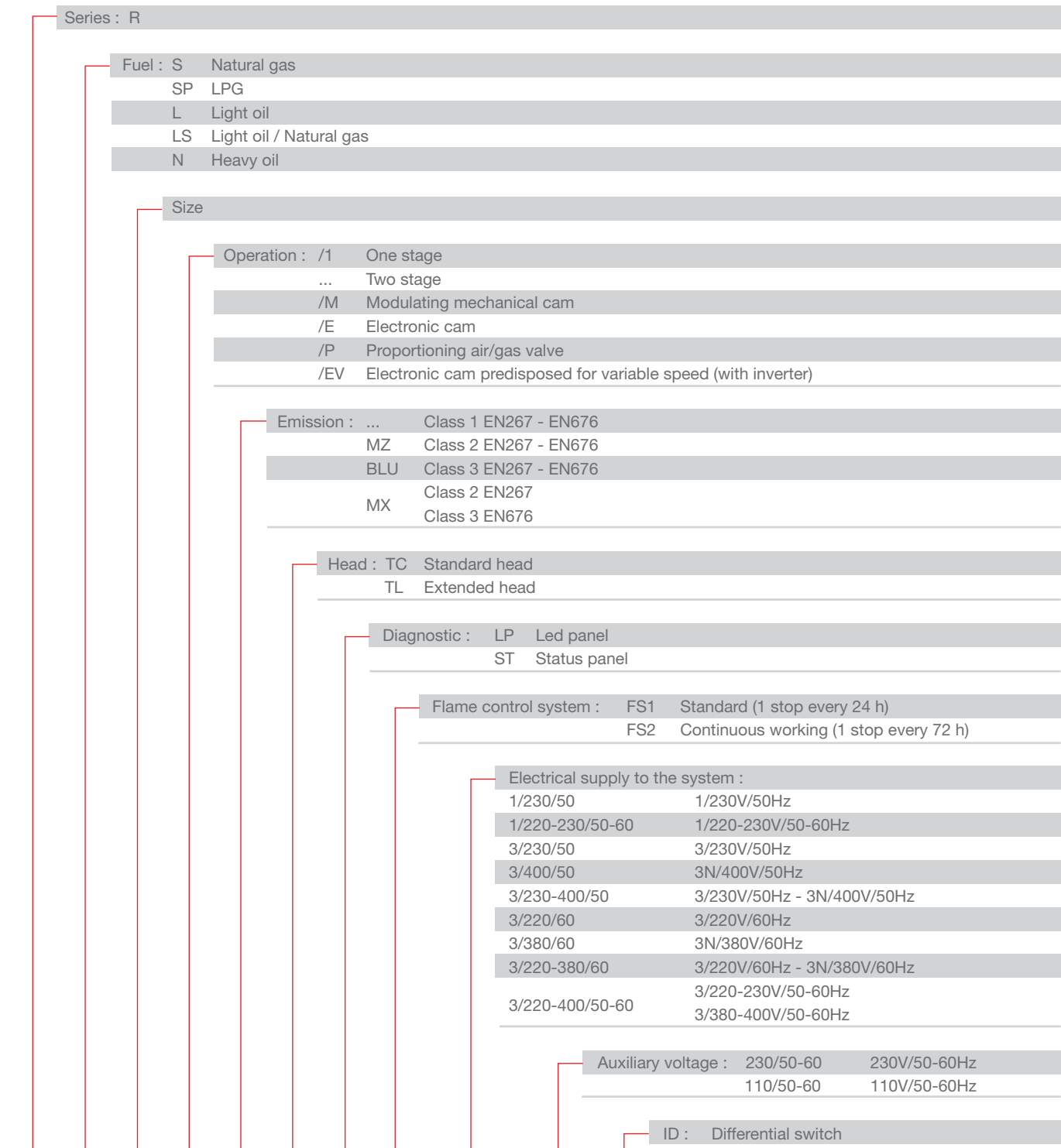


MODEL	X(1)	Y	Z	kg
▶ RS 25/E BLU	1000	485	500	39
▶ RS 35/E BLU	1000	485	500	40
▶ RS 45/E BLU	1015	500	630	48
▶ RS 55/E BLU	1405	700	660	44
▶ RS 68/E-EV BLU	1405	700	660	78
▶ RS 120/E-EV BLU	1405	700	660	84
▶ RS 160/E-EV BLU	1405-1420	1000	660	89
▶ RS 200/E-EV BLU	1405-1420	1000	660	125

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES



R	S	120	/E	BLU	TC		FS1	3/230-400/50	230/50-60	
BASIC DESIGNATION					EXTENDED DESIGNATION					



Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

Specification

STATE OF SUPPLY

RS 25/E - 35/E BLU models

Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:

- Microprocessor-based Digital Burner Management System (RS/E models)
- Display Interface operating unit to adjust the system
- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, single-phase/220-230V/50-60Hz or three-phase/380-400V/50-60Hz
- low emission combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Plugs and sockets for electrical connection, accessible from the external of the cover
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection (RS 25-35/E BLU single-phase)
- 4 plugs for electrical connection (RS 35/E BLU three-phase)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RS 25÷200/E-EV BLU SERIES

Specification

STATE OF SUPPLY

RS 45/E - 55/E - 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU models

Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:

- Microprocessor-based Digital Burner Management System (RS/E BLU models)
- Microprocessor-based Digital Burner Management System with Variable Speed Drive technology for the control of a Frequency Inverter (RS/EV BLU models)
- Display Interface operating unit to adjust the system
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (straight blades on the 160/E-EV - 200/E-EV BLU model) high performance with low sound emissions
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz (single-phase, 230V and 50Hz for the 45/E BLU model)
- Low emission combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line (on RS 55-68-120-160-200/E-EV BLU models)
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for the electrical connection (for RS 45/E BLU model)
- 2 slide bar extensions (for extended head models and RS 160/E-EV - 200/E-EV BLU)
- Pressure switch for valve proofing system (RS 68-120/E-EV BLU models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

Available models

Burners

CODE	MODEL						HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
							(kW)	NATURAL GAS (Nm ³ /h)			
3910710	RS 25/E BLU	TC	FS1	1/220-230/50-60	220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE 0085BS0379	(1)(3)	
3910711	RS 25/E BLU	TL	FS1	1/220-230/50-60	220-230/50-60	44/125÷370	4,5/13÷37	0,6	CE 0085BS0379	(1)(3)	
3910810	RS 35/E BLU	TC	FS1	1/220-230/50-60	220-230/50-60	70/200÷480	7/20÷48	0,7	CE 0085BS0379	(1)(3)	
3910811	RS 35/E BLU	TL	FS1	1/220-230/50-60	220-230/50-60	70/200÷480	7/20÷48	0,7	CE 0085BS0379	(1)(3)	
3910840	RS 35/E BLU	TC	FS1	3/220-400/50-60	220-230/50-60	70/200÷480	7/20÷48	0,75	CE 0085BS0379	(1)(3)	
3910841	RS 35/E BLU	TL	FS1	3/220-400/50-60	220-230/50-60	70/200÷480	7/20÷48	0,75	CE 0085BS0379	(1)(3)	
3897332	RS 45/E BLU	TC	FS1	1/230/50	230/50-60	90/190-550	9/19-55	0,7	CE 0085BS0380	(1)(3)	
3897333	RS 45/E BLU	TL	FS1	1/230/50	230/50-60	90/190-550	9/19-55	0,7	CE 0085BS0380	(1)(3)	
20038491	RS 55/E BLU	TC	FS1	3/230-400/50	230/50-60	100/300-680	10/30-68	1,5	CE 0085CM0293	(1)(3)	
20038492	RS 55/E BLU	TL	FS1	3/230-400/50	230/50-60	100/300-680	10/30-68	1,5	CE 0085CM0293	(1)(3)	
3897432	RS 68/E BLU	TC	FS1	3/230-400/50	230/50-60	150/350-860	15/35-86	2,0	CE 0085BS0267	(2)(3)	
3897433	RS 68/E BLU	TL	FS1	3/230-400/50	230/50-60	150/350-860	15/35-86	2,0	CE 0085BS0267	(2)(3)	
3897632	RS 120/E BLU	TC	FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,8	CE 0085BS0268	(2)(4)	
3897633	RS 120/E BLU	TL	FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,8	CE 0085BS0268	(2)(4)	
3788032	RS 160/E BLU	TC	FS1	3/400/50	230/50-60	300/930-1860	30/93-186	5,3	CE 0085BS0266	(2)(4)	
3788033	RS 160/E BLU	TL	FS1	3/400/50	230/50-60	300/930-1860	30/93-186	5,3	CE 0085BS0266	(2)(4)	
3899810	RS 200/E BLU	TC	FS1	3/400/50	230/50-60	570/1375-2400	57/138-240	6,5	CE 0085BT0419	(2)(4)	
3899811	RS 200/E BLU	TL	FS1	3/400/50	230/50-60	570/1375-2400	57/138-240	6,5	CE 0085BT0419	(2)(4)	
3899840	RS 200/E BLU	TC	FS1	3/230/50	230/50-60	570/1375-2400	57/138-240	6,5	CE 0085BT0419	(2)(4)	
3899841	RS 200/E BLU	TL	FS1	3/230/50	230/50-60	570/1375-2400	57/138-240	6,5	CE 0085BT0419	(2)(4)	
20013995	RS 68/EV BLU	TC	FS1	3/230-400/50	230/50-60	150/350-860	15/35-86	2,0	CE 0085BS0267	(2)(3)(6)	
20014018	RS 68/EV BLU	TL	FS1	3/230-400/50	230/50-60	150/350-860	15/35-86	2,0	CE 0085BS0267	(2)(3)(6)	
20010976	RS 120/EV BLU	TC	FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,8	CE 0085BS0268	(2)(4)(6)	
20014609	RS 120/EV BLU	TL	FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,8	CE 0085BS0268	(2)(4)(6)	
(7)	RS 120/EV BLU	TC	FS1	3/230-400/50	230/50-60	300/600-1300	30/60-130	2,8	in progress	(2)(4)(5)	
(7)	RS 160/EV BLU	TC	FS1	3/400/50	230/50-60	300/930-1860	30/93-186	5,3	in progress	(2)(4)(5)	
(7)	RS 160/EV BLU	TL	FS1	3/400/50	230/50-60	300/930-1860	30/93-186	5,3	in progress	(2)(4)(5)	
20010988	RS 160/EV BLU	TC	FS1	3/400/50	230/50-60	300/930-1860	30/93-186	5,3	CE 0085BS0266	(2)(4)(6)	
(7)	RS 200/EV BLU	TC	FS1	3/400/50	230/50-60	570/1375-2400	57/138-240	6,5	in progress	(2)(4)(5)	
(7)	RS 200/EV BLU	TL	FS1	3/400/50	230/50-60	570/1375-2400	57/138-240	6,5	in progress	(2)(4)(5)	
20006982	RS 200/EV BLU	TC	FS1	3/400/50	230/50-60	570/1375-2400	57/138-240	6,5	CE 0085BT0419	(2)(4)(6)	

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The burners of RS/E BLU series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676.

(1) With plug and socket.

(2) With terminal board.

(3) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit on the gas train as Accessory (see Gas Train Accessories paragraph).

(4) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit (included as burner standard equipment) on the gas train.

(5) Frequency Inverter installed on burner motor.

(6) Frequency Inverter to be ordered as separated accessory; please refer to "Burner Accessories" paragraph.

(7) Please ask for specific code.

Available models

Gas Trains

CODE	GAS TRAIN		ADAPTER CODE				
	MODEL	Ø	RS 25-35-45	RS 55	RS 68	RS 120-160	RS 200
3970599 *	MB 407/1 - RT 52	Rp 3/4"	3000824	3000824+ 3000843	3000824+ 3000843	●	●
3970258 *	MB 410/1 - RT 52	Rp 1" 1/2	-	3000843	3000843	3000843	●
3970600 *	MB 410/1 - RT 52	Rp 3/4"	3000824	3000824+ 3000843	3000824+ 3000843	3000824+ 3000843	●
3970256 *	MB 412/1 - RT 52	Rp 1" 1/2	-	3000843			
3970250 *	MB 415/1 - RT 52	Rp 1" 1/2	-	3000843			
3970257 *	MB 420/1 - RT 52	Rp 2"	3000822	-			
3970233 *	MB 420/1 - RSM 30	Rp 2"	3000822	-			
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	●	-			
3970222 *	MBC 1900/1 - FSM 40	DN 65	●	3000825			
3970223 *	MBC 3100/1 - FSM 40	DN 80	●	3000826			
3970145 *	CB 512/1 - RSM 30	Rp 1" 1/2	-	3000843			
3970146 *	CB 520/1 - RSM 30	Rp 2"	3000822	-			
20044659 *	CB 525/1 - RSM 30	Rp 2"	3000822	-			
3970147 *	CB 5065/1 - FSM 30	DN 65	●	3000825			
3970148 *	CB 5080/1 - FSM 30	DN 80	●	3000826			

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz - 220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valves seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

The seal control function is managed by REC control box, by installation on gas train of a pressure switch (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes); it is included as standard equipment on RS 120/E-EV-160/E-EV-200/E-EV BLU models.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

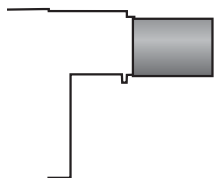
● Not available.

Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

Burner accessories

Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS 25/E BLU	230	365	3010430
▶ RS 35/E BLU	230	365	3010431
▶ RS 45/E BLU	229	354	20006586
▶ RS 55/E BLU	255	390	20040373
▶ RS 68/E-EV - 120/E-EV BLU	255	390	3010177
▶ RS 160/E-EV BLU	373	503	3010442
▶ RS 200/E-EV BLU	373	503	3010474

Spacer kit



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

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 25/E - 35/E - 45/E BLU	110	3010095
▶ RS 55/E - 68/E-EV - 120/E-EV BLU	135	3010129
▶ RS 160/E-EV - 200/E-EV BLU	102	3000722

Continuous ventilation kit

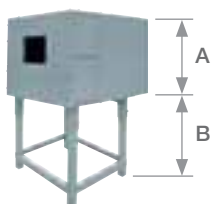


If the burner requires continuous ventilation in the stages without flame, a special kit is available as given in the following table.

BURNER	KIT CODE
▶ RS 25/E - 35/E BLU	3010449
▶ RS 45/E - 55/E - 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	3010094

Note: the Post-ventilation function is obtainable by modification of the Digital Burner Management System parameters (see burner instruction manual).

Sound proofing box



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

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
▶ RS 25/E - 35/E - 45/E - 55/E BLU	C1/3	650	372 - 980	10	3010403
▶ RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	C4/5	850	160 - 980	10	3010404

(*) Average noise reduction according to EN 15036-1 standard

Burner accessories

Accessories for modulating operation



To obtain modulating operation, the RS/E BLU series of burners requires a regulator with three point outlet controls. On RS 25/E - 35/E BLU the regulator is connected to the burner electrical wiring by plug-in system in order to make the connection easier and faster.

The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ RS 25/E - 35/E - 45/E - 55/E BLU	RWF 40	3010417
▶ RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	RWF 40	3010414



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

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

Head kit for “reverse flame chamber”



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

BURNER	KIT CODE
▶ RS 68/E-EV BLU	3010247
▶ RS 120/E-EV BLU	3010248
▶ RS 160/E-EV BLU	3010249
▶ RS 200/E-EV BLU	20035848

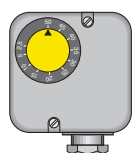
Ground fault interrupter kit



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

BURNER	KIT CODE
▶ RS 25/E - 35/E BLU	3010448
▶ RS 55/E BLU	3010231

Gas max pressure switch



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring through Plugs & Sockets system.

BURNER	CODE
▶ RS 25/E - 35/E BLU	3010418

Low NOx Modulating Gas Burners

RS 25÷200/E-EV BLU SERIES

Burner accessories

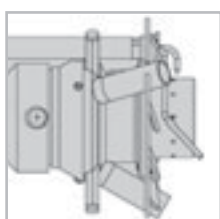
Volt free contact kit



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

BURNER	KIT CODE
► RS 25/E - 35/E BLU	3010419

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

BURNER	KIT CODE FOR 'STANDARD HEAD'	KIT CODE FOR 'EXTENDED HEAD'
► RS 25/E BLU	3010423	3010423
► RS 35/E BLU	3010424	3010424
► RS 45-55-68-120-160-200/E BLU	in progress	in progress
► RS 200/E-EV BLU	3010491	3010491

OCI410 interface for ACS410 software kit



Interface kit between burner management system and PC. It facilitates viewing, handling and recording setting parameters on site.

BURNER	KIT CODE
► All models	3010436

OCI412 interface kit

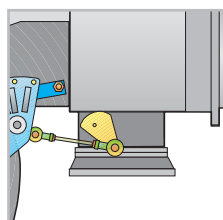


Interface kit between the REC27.100A2 and a Modbus system, such as a building automation and control system (BACS).

The Modbus interface is based on the RS-485 standard.

BURNER	KIT CODE
► All models	3010437

DN80 gas flange kit



To modify the standard 2" burner gas input connection in to DN80 connection, a specific gas flange is available.

BURNER	KIT CODE
► RS 68/E-EV - 120/E-EV - 160/E-EV - 200/E-EV BLU	3010439

Variable Speed Drive (VSD) for RS/EV series only

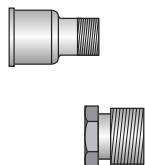


The motor speed variation for the RS/EV BLU burners series is obtained thanks to a frequency converter: variable speed drive (VSD).



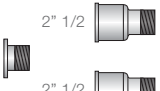



BURNER	MAX POWER (kW)	KIT CODE
► RS 68/EV BLU	1,5	20014168
► RS 120/EV BLU	3,0	20008555
► RS 160/EV - 200/EV BLU	5,5	20011040

Gas train accessories

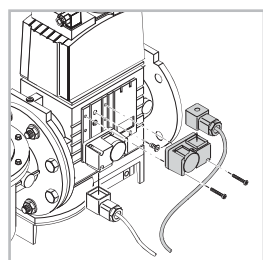
Adapters



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.
Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
2"  1" 1/2	70	3000822
3/4"  1" 1/2	31	3000824
DN 65  2"	300	3000825
2" 1/2  1" 1/2		
DN 80  2"	300	3000826
1" 1/2  2"	35	3000843

PVP (Pressure Valve Proving) kit *



The seal control function is included on Burner Digital Management System, it is only necessary to add the PVP kit on the gas train.
The PVP is included as standard equipment on RS 120/E-EV-160/E-EV-200/E-EV BLU models.

BURNER	KIT CODE
► MB - CB type	3010344

* not necessary for the RS 120/E-EV - 160/E-EV - 200/E-EV BLU models where is included as a standard.

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train composed. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
► MBC 1900/1 - 3100/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
► CB 512/1	Red	25 - 55	3010131
	Black	60 - 110	3010157
	Pink	90 - 150	3090486
► CB 520/1 - 525/1	Red	25 - 55	3010132
	Black	60 - 110	3010158
	Pink	90 - 150	3090487
► CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992

RS/P BLU SERIES

RS/P series burners are characterised by a modular monoblock structure which means that all necessary components can be combined in a single unit thus making installation easier, faster and, above all, more flexible.

The series covers a firing range from 1350 to 4500 kW, and they have been designed for use in hot water boilers or industrial steam generators.

Operation can be “two stage progressive” or alternative “modulating” with the installation of a PID logic regulator.

Using a particular proportioning valve the burner keeps desired air to gas ratio in every working condition.

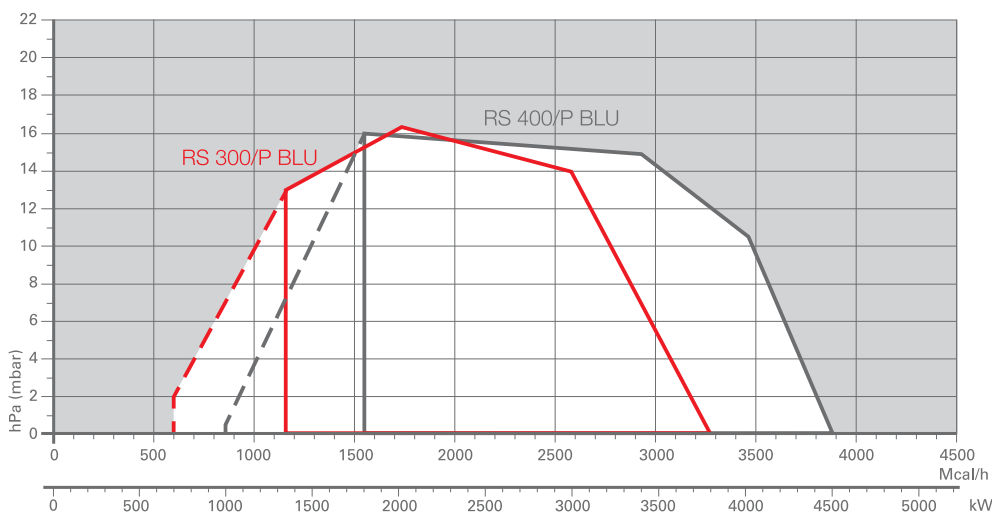
The burner can, also, supply with precision the demanded power, guaranteeing an high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.


The innovative combustion head ensures reducing noise and pollutants.



RS 300/P BLU	500/1350 ÷ 3800 kW
RS 400/P BLU	800/1800 ÷ 4500 kW

FIRING RATES



 Useful working field for choosing the burner

 Modulation range

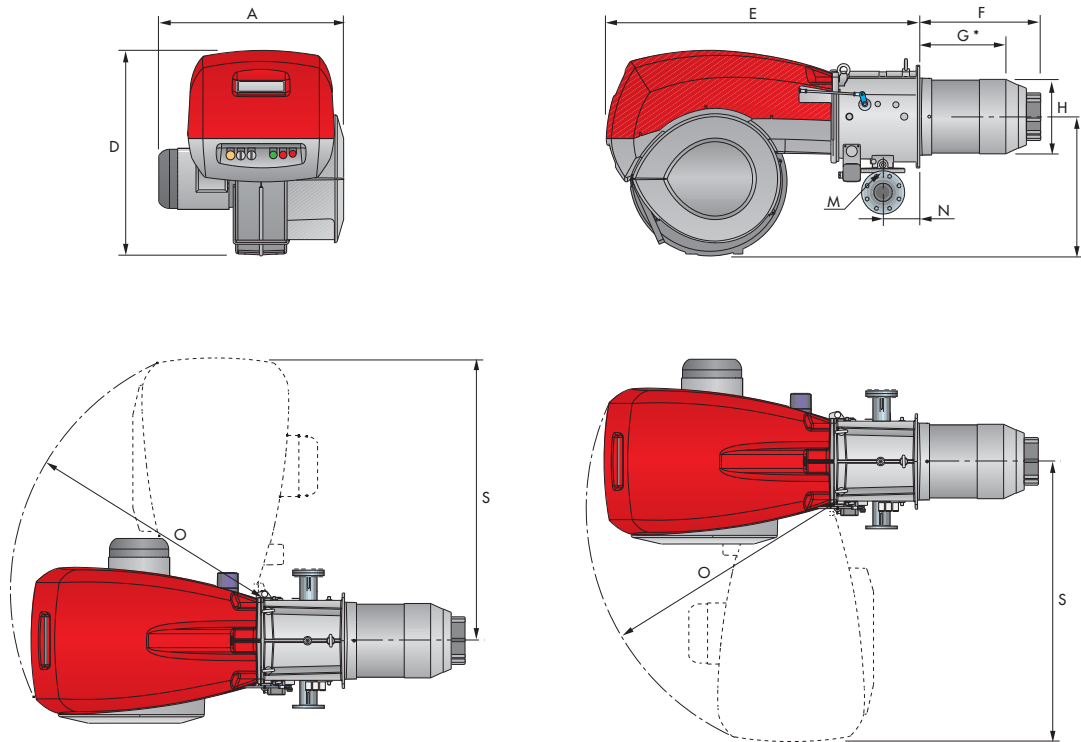
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Low NOx Modulating Gas Burners

RS/P BLU SERIES

Overall dimensions (mm)

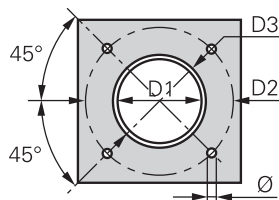
BURNER



MODEL	A	D	E	F	G*	H	I	M	N	O	S
▶ RS 300/P BLU	720	867	1325	521	373	313	588	DN80	164	1055	1175
▶ RS 400/P BLU	775	867	1325	521	373	313	588	DN80	164	1055	1175

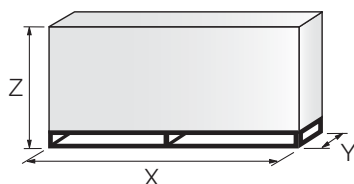
* Maximum depth of the boiler door including the depth of the burner flange insulating gasket.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	D3	Ø
▶ RS 300/P BLU	350	452	354	M18
▶ RS 400/P BLU	350	452	354	M18

PACKAGING



MODEL	X	Y	Z	kg
▶ RS 300/P BLU	1950	960	1100	225
▶ RS 400/P BLU	1950	960	1100	236

Specification

DESIGNATION OF SERIES



Low NOx Modulating Gas Burners

RS/P BLU SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with two stage operation, fully automatic, made up of:

- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - flame stability disk
- Proportional air/gas valve
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with separated PID control of temperature or pressure
- Microprocessor-based burner safety control box, with diagnostic functions
- Ionization probe for flame detector
- Star/triangle starter for the fan motor (version with motor electrical power 7,5 kW)
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level.

Standard equipment:

- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Modulating Gas Burners

RS/P BLU SERIES

RIELLO

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)			
3898310	RS 300/P BLU TC FS1 3/230-400/50 230/50-60	700/1350-3800	70/135-380	6	CE 0085B00341	
20006127	RS 300/P BLU TC FS1 3/220-380/60 220/50-60	700/1350-3800	70/135-380	6	-	
3898410	RS 400/P BLU TC FS1 3/230/50 230/50-60	1000/1800-4500	100/180-450	9	CE 0085B00341	
3898412	RS 400/P BLU TC FS1 3/400/50 230/50-60	1000/1800-4500	100/180-450	9	CE 0085B00341	
20006130	RS 400/P BLU TC FS1 3/380/60 220/50-60	1000/1800-4500	100/180-450	9	-	

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The burners of RS/P BLU series are in according to 90/396 - 2004/108 - 2006/95 EC Directives.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		SEAL CONTROL 50 Hz CODE	NOTE
		BURNER (type)	ADAPTER (code)		
3970215	VGD 50/P - FT 02	RS 300/P RS 400/P	3000826	3010367	(1) (2)
3970212	VGD 65/P - FT 02	RS 300/P RS 400/P	3010221 or 3010369**	3010367	(1) (2)
3970213	VGD 80/P - FT 02	RS 300/P RS 400/P	3010222	3010367	(1) (2)
3970214	VGD 100/P - FT 02	RS 300/P RS 400/P	3010223 or 3010370**	3010367	(1) (2)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

** See adapter length on "Gas trains accessories" paragraph.

(1) Seal control to be ordered separately - see "Gas trains accessories" section.

(2) Adapter is necessary when the gas train has to be installed to the left of the burner to allow maintenance, or if is necessary to space out the gas train from burner.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Low NOx Modulating Gas Burners

RS/P BLU SERIES

Burner accessories

Accessories for modulating operation



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

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ RS 300-400/P BLU	RWF 40 Basic version with 3 position output	3010356
▶ RS 300-400/P BLU	RWF 40 High version with additional modulating output and RS 485 Interface	3010357



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

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ RS 300-400/P BLU	Temperature PT 100	-100 ÷ 500°C	3010110
▶ RS 300-400/P BLU	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ RS 300-400/P BLU	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Analogic control signal converter



BURNER	TYPE (INPUT SIGNAL)	CODE
▶ RS 300-400/P BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010390

Potentiometer



BURNER	CODE
▶ RS 300-400/P BLU	3010393

It is necessary for analog control signal converter operation.

Continuous ventilation kit



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

BURNER	KIT CODE
▶ RS 300-400/P BLU	3010094

Burner accessories

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner.

BURNER	KIT CODE
► RS 300-400/P BLU	3010445

UV cell kit



A UV cell is available for the supervision of the flame alternatively to ionization probe for special applications.

BURNER	KIT CODE
► RS 300-400/P BLU	3010359

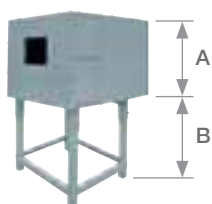
PC Interface kit



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

BURNER	KIT CODE
► RS 300-400/P BLU	3002719

Sound proofing box



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

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
► RS 300-400/P BLU	C7	1255	160 - 980	10	3010376

(*) Average noise reduction according to EN 15036-1 standard

Spacer kit



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

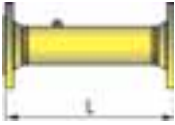
BURNER	SPACER THICKNESS S (mm)	KIT CODE
► RS 300-400/P BLU	180	20008903

Low NOx Modulating Gas Burners


RS/P BLU SERIES

Gas train accessories

Adapters



If is necessary to space out the gas train from burner an extension adapter is available.

BURNER	GAS TRAIN	ADAPTER TYPE	DIMENSIONS	L mm	ADAPTER CODE
► RS 300-400/P BLU	VGD 50/P * VGD 65/P * VGD 80/P * VGD 100/P *	I	DN 80  DN 80	400	3010222

* with and without seal control

Seal control kit



To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
► VGD type	3010367	on demand

RS 300÷800/M BLU SERIES

The RS 300-400-500-650-800/M BLU burners are characterised by a monoblock structure which means that all necessary components are combined in a single unit, making installation easier and faster.

The burners cover a firing range from 1350 to 8100 kW, and it have been designed for use in hot water boilers or industrial steam generators.

Operation can be “two stage progressive” or alternatively “modulating” with the installation of a PID logic regulator or by external 4-20 mA/0-10 V signal.

The mechanical cam device of regulation allows to catch up a high modulation ratio on all firing rates range. The burners can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.

The combustion head, engineered with advanced simulation devices, guarantees reduced polluting emissions (NOx < 80 mg/kWh). FS1 and FS2 versions are available for intermittent and continuous operation applications.

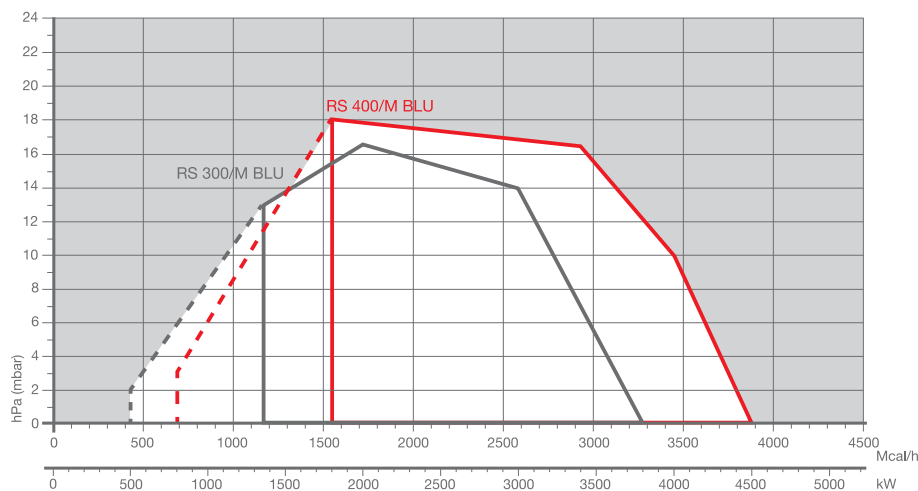
An exclusive design, with reverse blade fan, guarantees low sound emissions, low electrical consumption, easy use and maintenance.



RS 300/M BLU	500/1350 ÷ 3800 kW
RS 400/M BLU	950/1830 ÷ 4590 kW
RS 500/M BLU	1000/2500 ÷ 5170 kW
RS 650/M BLU	1410/3020 ÷ 6500 kW
RS 800/M BLU	1200/3500 ÷ 8100 kW

LOW NOx GAS

FIRING RATES

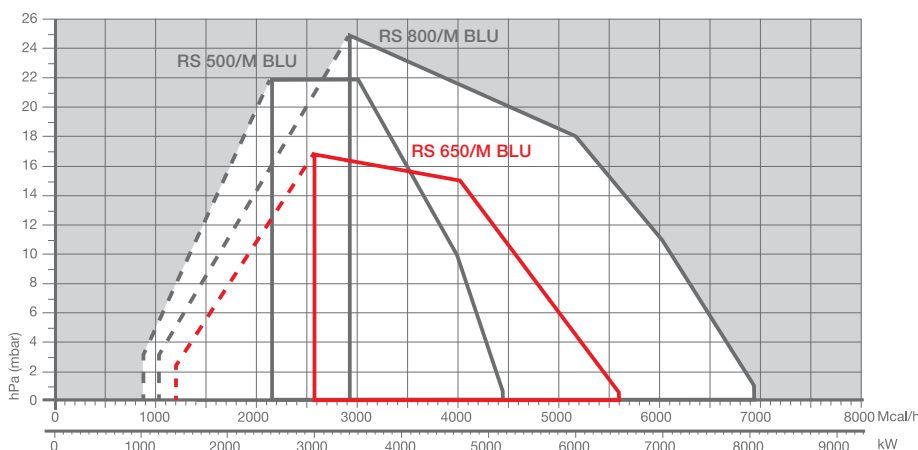


Useful working field for choosing the burner



Modulation range

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

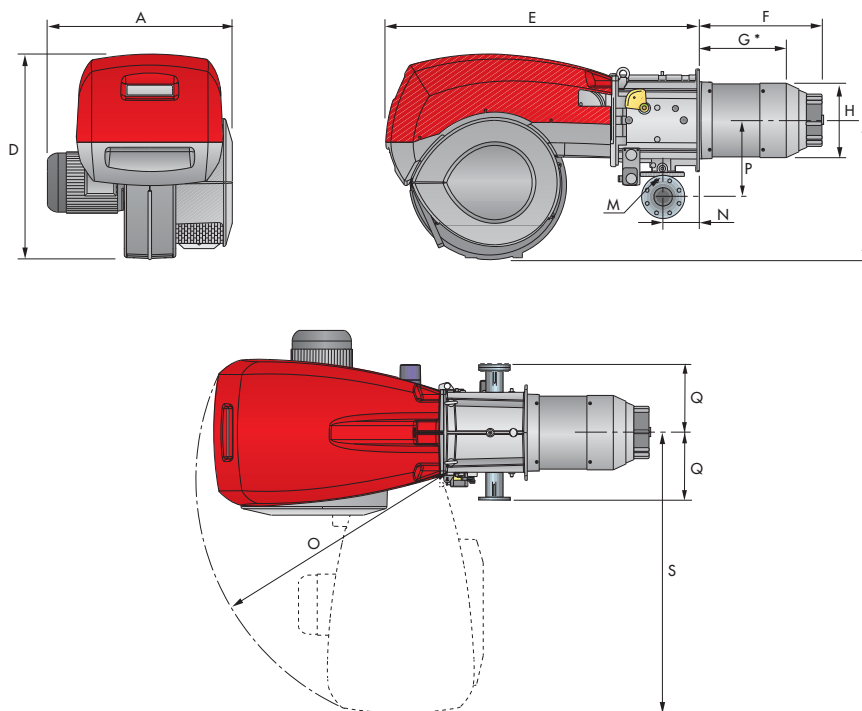


Low NOx Modulating Gas Burners

RS 300÷800/M BLU SERIES

Overall dimensions (mm)

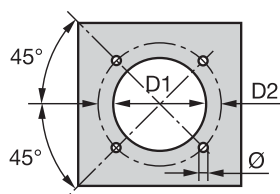
BURNER



MODEL	A	D	E	F	G*	H	I	M	N	O	P	Q	S
▶ RS 300/M BLU	720	867	1325	521	373	313	588	DN80	164	1055	342	320	1175
▶ RS 400/M BLU	775	867	1325	521	373	313	588	DN80	164	1055	342	320	1175
▶ RS 500/M BLU	775	867	1325	521	357	370	588	DN80	164	1055	342	320	1175
▶ RS 650/M BLU	800	950	1325	562	360	410	588	DN80	175	1055	427	320	1175
▶ RS 800/M BLU	940	867	1325	582	418	363	588	DN80	164	1055	427	320	1175

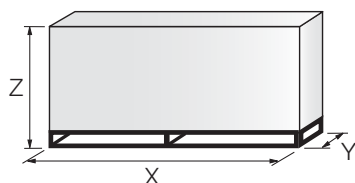
* Maximum depth of the boiler door including the depth of the burner flange insulating gasket.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 300/M BLU	350	452	M18
▶ RS 400/M BLU	350	452	M18
▶ RS 500/M BLU	390	452	M18
▶ RS 650/M BLU	400	495	M18
▶ RS 800/M BLU	400	495	M18

PACKAGING



MODEL	X	Y	Z	kg
▶ RS 300/M BLU	1960	970	1100	225
▶ RS 400/M BLU	1960	970	1100	236
▶ RS 500/M BLU	1960	970	1100	250
▶ RS 650/M BLU	2035	1195	1130	300
▶ RS 800/M BLU	2035	1195	1130	300

Low NOx Modulating Gas Burners

RS 300÷800/M BLU SERIES

RIELLO

Specification

DESIGNATION OF SERIES

Series: R								
Fuel:	S Natural Gas							
	L Light oil							
	LS Light oil/Natural Gas							
	N Heavy oil							
Size								
Setting :	/1 Single stage							
	/B Two stage							
	/M Modulating - Mechanical cam							
	/P Proportioning air/gas valve							
	/E Electronic cam							
	/EV Electronic cam predisposed for variable speed (with inverter)							
Emission :	... Class 1 EN267 - EN676							
	MZ Class 2 EN267 - EN676							
	BLU Class 3 EN267 - EN676							
	MX Class 2 EN267							
	Class 3 EN676							
Head length:	TC standard head							
	TL extended head							
Flame control system:	FS1 Standard (1 stop every 24 h)							
	FS2 Continuous working (1 stop every 72 h)							
Electrical supply to the system:								
	1/230/50 1/230V/50Hz							
	3/230/50 3/230V/50Hz							
	3/400/50 3N/400V/50Hz							
	3/230-400/50 3/230V/50Hz - 3N/400V/50Hz							
	3/220/60 3/220V/60Hz							
	3/380/60 3N/380V/60Hz							
	3/220-380/60 3/220/60Hz - 3N/380V/60Hz							
Auxiliary voltage:	230/50-60 230V/50-60Hz							
	110/50-60 110V/50-60Hz							
R	S	500	/M	BLU	TC	FS1	3/230-400/50	230/50-60
BASIC DESIGNATION					EXTENDED DESIGNATION			

LOW NOx GAS

Low NOx Modulating Gas Burners

RS 300÷800/M BLU SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:

- High performance fan with low sound emissions, reverse curve blades for RS 300-400/M BLU, forward curve blades for RS 500-650-800/M BLU
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50 Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ignition by gas pilot for RS 650 model
 - flame stability disk
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Burner safety control box for controlling the system safety (RMG/M for FS1 intermittent operation - LFL for FS1 intermittent operation for RS 650 model - LGK16 for FS2 continuous operation)
- Ionisation probe for flame detection
- Star/triangle starter for the fan motor (burners with motor electrical power $\geq 7,5$ kW)
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level
- Tee gas supply connector DN 80 for gas train connection (RS 300-400-500 models).

Standard equipment:

- 1 flange gasket
- 8 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Curve DN 80 for gas train connection (RS 650 and RS 800 models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Modulating Gas Burners

RS 300÷800/M BLU SERIES

RIELLO

Available models

Burners

CODE	MODEL						HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
							(kW)	NATURAL GAS (Nm ³ /h)			
3899410	RS 300/M BLU TC FS1	3/230-400/50	230/50-60	500/1350-3800	50/135-380	6	CE 0085BR0480	(1)			
20008428	RS 300/M BLU TC FS1	3/220-380/60	220/50-60	500/1350-3800	50/135-380	6	-	(1)			
3899510	RS 400/M BLU TC FS1	3/400/50	230/50-60	950/1830-4590	95/183-459	9	CE 0085BR0481	(1)			
20008404	RS 400/M BLU TC FS1	3/380/60	220/50-60	950/1830-4590	95/183-459	9	-	(1)			
3899110	RS 500/M BLU TC FS1	3/400/50	230/50-60	1000/2500-5170	100/250-517	11	CE 0085BO0341	(1)			
3899115	RS 500/M BLU TC FS2	3/400/50	230/50-60	1000/2500-5170	100/250-517	11	CE 0085BO0341	(1)			
20006131	RS 500/M BLU TC FS1	3/380/60	220/50-60	1000/2500-5170	100/250-517	11	-	(1)			
20040330	RS 650/M BLU TC FS1	3/400/50	230/50-60	1410/3020-6500	143/300-655	21,4	CE 0085BT0337	(1)			
3911010	RS 800/M BLU TC FS1	3/400/50	230/50-60	1200/3500-8100	120/350-810	24	CE 0085BT0337	(1)			
3911050	RS 800/M BLU TC FS2	3/400/50	230/50-60	1200/3500-8100	120/350-810	24	CE 0085BT0337	(1)			
20008894	RS 800/M BLU TC FS1	3/380/60	220/50-60	1200/3500-8100	120/350-810	26	-	(1)			

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³
 (1) according to 2009/142 EC - 2004/108 - 2006/95 EC - 2006/42 EC Directives

Low NOx Modulating Gas Burners

RS 300÷800/M BLU SERIES

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE	
	MODEL	Ø	C.T.		RS 300-400	RS 500-650-800
3970180 *	MB 415/1 - RT 30	Rp 1" 1/2	-	3010123	3000843 + 3000826 + 20042324	●
3970198 **	MB 415/1 CT RT 30	Rp 1" 1/2	◆	-	3000843 + 3000826 + 20042324	●
3970250 *	MB 415/1 - RT 52	Rp 1" 1/2	-	3010123	3000843 + 3000826 + 20042324	●
3970253 **	MB 415/1 CT RT 52	Rp 1" 1/2	◆	-	3000843 + 3000826 + 20042324	●
3970232 *	MB 415/1 - RSM 30	Rp 1" 1/2	-	3010123	3000843 + 3000826 + 20042324	●
3970181 *	MB 420/1 - RT 30	Rp 2"	-	3010123	3000826 + 20042324	●
3970182 **	MB 420/1 CT RT 30	Rp 2"	◆	-	3000826 + 20042324	●
3970257 *	MB 420/1 - RT 52	Rp 2"	-	3010123	3000826 + 20042324	●
3970252 **	MB 420/1 CT RT 52	Rp 2"	◆	-	3000826 + 20042324	●
3970233 *	MB 420/1 - RSM 30	Rp 2"	-	3010123	3000826 + 20042324	●
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	-	3010367	3000826 + 20042324	
3970225 **	MBC 1200/1 CT RSM 60	Rp 2"	◆	-	3000826 + 20042324	
3970222 *	MBC 1900/1 - FSM 40	DN 65	-	3010367	3010369	
3970226 **	MBC 1900/1 CT FSM 40	DN 65	◆	-	3010369	
3970223 *	MBC 3100/1 - FSM 40	DN 80	-	3010367	3010222 (1)	
3970227 **	MBC 3100/1 CT FSM 40	DN 80	◆	-	3010222 (1)	
3970224 *	MBC 5000/1 - FSM 80	DN 100	-	3010367	3010370	
3970228 **	MBC 5000/1 CT FSM 80	DN 100	◆	-	3010370	
3970234 **	MB 420/1 CT RSM 30	Rp 2"	◆	-	3000826 + 20042324	●
3970145 *	CB 512/1 - RSM 30	Rp 1" 1/2	-	3010367	3000843 + 3000826 + 20042324	●
20045589 **	CB 512/1 CT RSM 30	Rp 1" 1/2	◆	-	3000843 + 3000826 + 20042324	●
3970146 *	CB 520/1 - RSM 30	Rp 2"	-	3010367	3000826 + 20042324	●
3970160 **	CB 520/1 CT RSM 30	Rp 2"	◆	-	3000826 + 20042324	●
20044659 *	CB 525/1 - RSM 30	Rp 2"	-	3010367	3000826 + 20042324	●
20044660 **	CB 525/1 CT RSM 30	Rp 2"	◆	-	3000826 + 20042324	●
3970147 *	CB 5065/1 - FSM 30	DN 65	-	3010367	3010221 or 3010369	
3970161 **	CB 5065/1 CT FSM 30	DN 65	◆	-	3010221 or 3010369	
3970148 *	CB 5080/1 - FSM 30	DN 80	-	3010367	3010222 (1)	
3970162 **	CB 5080/1 CT FSM 30	DN 80	◆	-	3010222 (1)	
3970149 *	CB 50100/1 - FSM 30	DN 100	-	3010367	3010223 or 3010370	
3970163 **	CB 50100/1 CT FSM 30	DN 100	◆	-	3010223 or 3010370	

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz -220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

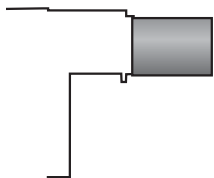
VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

● Not available.

(1) To use if it is necessary to space out the gas train from the burner.

Burner accessories

Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS 300-400/M BLU	521 (1) - 373 (2)	621 (1) - 473 (2)	3091427
▶ RS 300-400/M BLU	521 (1) - 373 (2)	671 (1) - 523 (2)	3091919
▶ RS 300-400/M BLU	521 (1) - 373 (2)	721 (1) - 573 (2)	20022815
▶ RS 500/M BLU	521 (1) - 357 (2)	671 (1) - 507 (2)	20028449

(1) referred to quote F
(2) referred to quote G

Accessories for modulating operation

POWER CONTROLLER



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

BURNER	TYPE	CODE
▶ RS 300-400-500-650-800/M BLU	RWF 40 - Basic version with 3 position output	3010356
	RWF 40 - High version with additional modulating output and RS 485 Interface	3010357

PROBE



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

BURNER	TYPE	RANGE (°C) (bar)	CODE
▶ RS 300-400-500-650-800/M BLU	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

ANALOG CONTROL SIGNAL CONVERTER



BURNER	TYPE (INPUT SIGNAL)	CODE
▶ RS 300-400-500-650-800/M BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010390

POTENTIOMETER



BURNER	KIT CODE
▶ RS 300-400-500-650-800/M BLU FS1 (1)	3010402
▶ RS 300-400-500-650-800/M BLU FS2 (2)	3010021

It is necessary for analogic control signal converter operation.
(1) Standard intermittent operation.
(2) Continuous operation.

Low NOx Modulating Gas Burners

RS 300÷800/M BLU SERIES

Burner accessories

Continuous ventilation kit



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

BURNER	KIT CODE
► RS 300-400-500-650-800/M BLU	3010094

UV cell kit



A UV cell is available for the supervision of the flame alternatively to ionisation probe for special applications.

BURNER	KIT CODE
► RS 300-400-500-650-800/M BLU	3010359

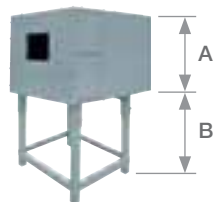
PC interface kit



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

BURNER	KIT CODE
► RS 300-400-500-800/M BLU	3002719

Sound proofing box



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

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
► RS 300-400-500-650-800/M BLU	C7	1255	160 - 980	10	3010376

(*) Average noise reduction according to EN 15036-1 standard

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head of the burner.

BURNER	CODE
► RS 300/M BLU	3010445 (*)
► RS 400-500/M BLU	20012916 (*)
► RS 650/M BLU	in progress
► RS 800/M BLU	20007822 (*)

(*) CE approved.

Burner accessories

Spacer kit



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

BURNER	SPACER THICKNESS S (mm)	KIT CODE
► RS 300-400-500-650-800/M BLU	180	20008903

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.

Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
DN 80 2" 1/2 2"	300	3000826
1" 1/2 2"	35	3000843
1" 1/2 2"	65	20042324
DN 65 DN 80	400	3010221
DN 80 DN 80	400	3010222
DN 100 DN 80	400	3010223
DN 65 DN 80	10	3010369
DN 100 DN 80	50	3010370

Low NOx Modulating Gas Burners

RS 300÷800/M BLU SERIES

Gas train accessories

Stabiliser spring



To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 512/1	Red	25 - 55	3010131
	Black	60 - 110	3010157
▶ CB 520/1 - 525/1	Pink	90 - 150	3090486
	Red	25 - 55	3010132
	Black	60 - 110	3010158
▶ CB 5065/1 - 5080/1	Pink	90 - 150	3090487
	Red	25 - 55	3010133
	Black	60 - 110	3010135
▶ CB 50100/1	Pink	100 - 150	3090456
	Grey	140 - 200	3090992
	Red	25 - 55	3010134
	Black	60 - 110	3010136
	Pink	100 - 150	3090489
	Grey	140 - 200	3092174

Seal control kit



To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MBC/1 type	3010367	20029057
▶ CB/1 type	3010367	20029057

RS 1000-1200/M BLU SERIES

The well-known RS 300-800/M BLU Burner Series, till now available up to 8 MW, has been upgraded with two new powerful burner models, the RS 1000-1200/M BLU models that extend his max output up to 12 MW and make the Burner Series even more complete and suitable for matching with the various Heat and Steam Generators in today's market.

The New Burner Models take the reliability of combustion and the solidity typical of Riello's Burners and match them with the most advanced solutions on Power Output Control and Ventilation Technology; as result a 12 MW output is supplied with a User Friendly monoblock machine assuring easiness of installation and servicing, and safe operation.

An easy access to internal components is ensured by the burner opening hinge.

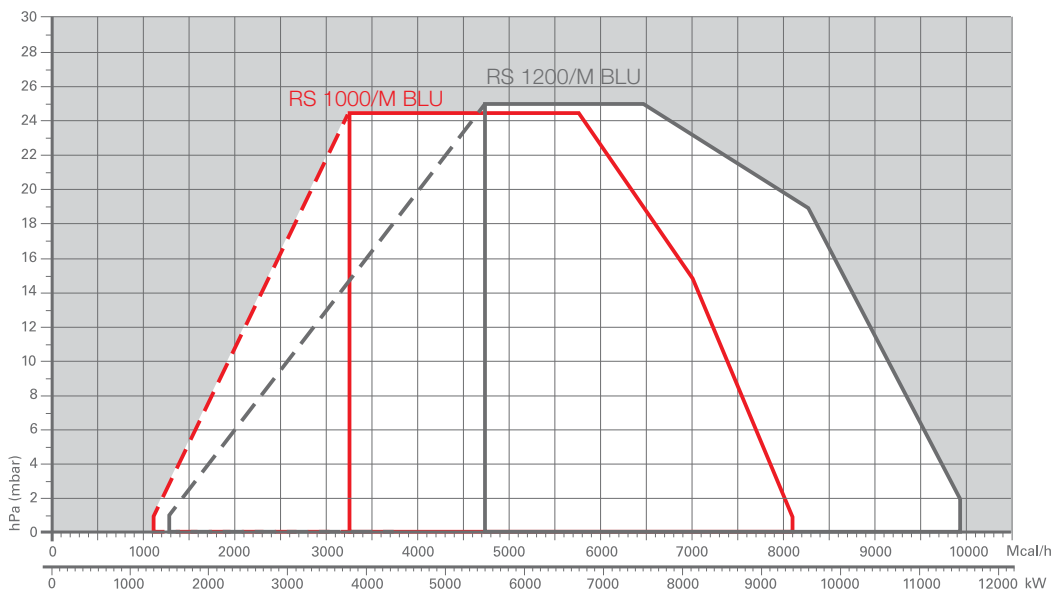
The New Gas Models are available with Modulating operation managed through Mechanical Cam, for a simple commissioning and to supply with precision the demanded power, guaranteeing high efficiency and setting stability, obtaining fuel consumption and operating costs reduction.



RS 1000-1200/M BLU models allow Low NOx, environmentally friendly, emissions according to the Class 3 of EN676 European Standard.



RS 1000/M BLU	1300/3800 ÷ 9400 kW
RS 1200/M BLU	1500/5500 ÷ 11500 kW

FIRING RATES



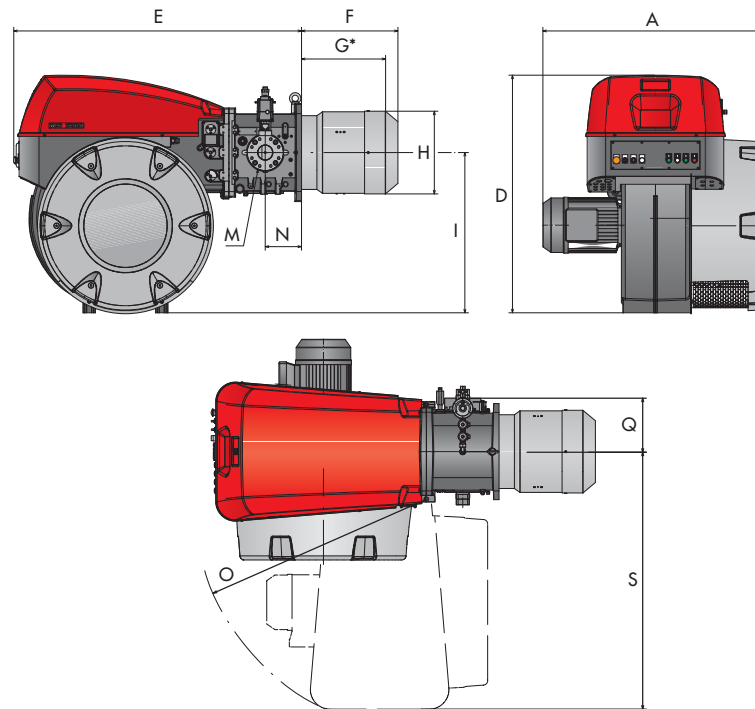
 Useful working field for choosing the burner
 Modulation range
 Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Low NOx Modulating Gas Burners

RS 1000-1200/M BLU SERIES

Overall dimensions (mm)

BURNER

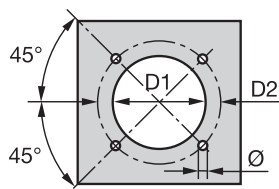


BURNER - BOILER MOUNTING FLANGE

MODEL	A	D	E	F	G*	H	I	M	N	O	Q	S
▶ RS 1000/M BLU	1223	1311	1574	674	485	413	884	DN80	200	1290	312	1422
▶ RS 1200/M BLU	1293	1311	1574	658	464	456	884	DN80	200	1290	312	1422

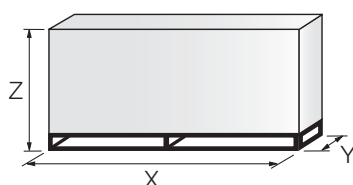
* Maximum depth of the boiler door including the depth of the burner flange insulating gasket.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 1000/M BLU	460	608	M20
▶ RS 1200/M BLU	500	608	M20

PACKAGING



MODEL	X	Y	Z	kg
▶ RS 1000/M BLU	2400	1400	1595	500
▶ RS 1200/M BLU	2400	1400	1595	550

Low NOx Modulating Gas Burners

RS 1000-1200/M BLU SERIES

RIELLO

Specification

DESIGNATION OF SERIES

Series: R											
Fuel: S Natural Gas											
L Light oil											
LS Light oil/Natural Gas											
N Heavy oil											
Size											
Setting : /1 Single stage											
/B Two stage											
/M Modulating - Mechanical cam											
/P Proportioning air/gas valve											
/E Electronic cam											
/EV Electronic cam predisposed for variable speed (with inverter)											
Emission : ... Class 1 EN267 - EN676											
MZ Class 2 EN267 - EN676											
BLU Class 3 EN267 - EN676											
MX Class 2 EN267											
Class 3 EN676											
Head length: TC standard head											
TL extended head											
Flame control system: FS1 Standard (1 stop every 24 h)											
FS2 Continuous working (1 stop every 72 h)											
Electrical supply to the system:											
1/230/50 1/230V/50Hz											
3/230/50 3/230V/50Hz											
3/400/50 3N/400V/50Hz											
3/230-400/50 3/230V/50Hz - 3N/400V/50Hz											
3/220/60 3/220V/60Hz											
3/380/60 3N/380V/60Hz											
3/220-380/60 3/220/60Hz - 3N/380V/60Hz											
Auxiliary voltage: 230/50-60 230V/50-60Hz											
110/50-60 110V/50-60Hz											
R	S	1200	/M	BLU	TC	FS1	3/400/50	230/50-60			
BASIC DESIGNATION								EXTENDED DESIGNATION			

LOW NOx GAS

Low NOx Modulating Gas Burners

RS 1000-1200/M BLU SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:

- Fan with reverse curve blades high performance
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50 Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition pilot burner and gas train
 - flame stability disk
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Burner safety control box for controlling the system safety (LFL for FS1 intermittent operation - LGK16 for FS2 continuous operation)
- UV probe for flame detection
- Star/triangle starter for the fan motor
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 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
- DN 80 gas supply connector for gas train connection
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Modulating Gas Burners

RS 1000-1200/M BLU SERIES

RIELLO

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)		
20034424	RS 1000/M BLU TC FS1 3/400/50 230/50-60	1300/3800-9400	130/380-940	24	
20034425	RS 1200/M BLU TC FS1 3/400/50 230/50-60	1500/5500-11500	150/550-1150	28	

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The RS 1000-1200/M BLU burners are in according to 2009/142 EC - 2004/108 - 2006/95 EC Directives.

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE *** RS 1000-1200
	MODEL	Ø	C.T.		
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	-	3010367	20042324 + 3000826
3970225 **	MBC 1200/1 CT RSM 60	Rp 2"	◆	-	20042324 + 3000826
3970222 *	MBC 1900/1 - FSM 40	DN 65	-	3010367	3010221 or 3010369
3970226 **	MBC 1900/1 CT FSM 40	DN 65	◆	-	3010221 or 3010369
3970223 *	MBC 3100/1 - FSM 40	DN 80	-	3010367	3010222 (1)
3970227 **	MBC 3100/1 CT FSM 40	DN 80	◆	-	3010222 (1)
3970224 *	MBC 5000/1 - FSM 80	DN 100	-	3010367	3010223 or 3010370
3970228 **	MBC 5000/1 CT FSM 80	DN 100	◆	-	3010223 or 3010370
3970147 *	CB 5065/1 - FSM 30	DN 65	-	3010367	3010221 or 3010369
3970161 **	CB 5065/1 CT FSM 30	DN 65	◆	-	3010221 or 3010369
3970148 *	CB 5080/1 - FSM 30	DN 80	-	3010367	3010222 (1)
3970162 **	CB 5080/1 CT FSM 30	DN 80	◆	-	3010222 (1)
3970149 *	CB 50100/1 - FSM 30	DN 100	-	3010367	3010223 or 3010370
3970163 **	CB 50100/1 CT FSM 30	DN 100	◆	-	3010223 or 3010370

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz - 220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

*** see Adapters models on Gas train accessories paragraph.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

(1) To use if it is necessary to space out the gas train from the burner.

Low NOx Modulating Gas Burners

RS 1000-1200/M BLU SERIES

Burner accessories

Accessories for modulating operation

POWER CONTROLLER



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

BURNER	TYPE	CODE
► RS 1000-1200/M BLU	RWF 40 - Basic version with 3 position output	3010356
	RWF 40 - High version with additional modulating output and RS 485 Interface	3010357

PROBE



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

BURNER	TYPE	RANGE (°C) (bar)	CODE
► RS 1000-1200/M BLU	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

ANALOG CONTROL SIGNAL CONVERTER



BURNER	TYPE (INPUT SIGNAL)	CODE
► RS 1000-1200/M BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010390

POTENTIOMETER



BURNER	KIT CODE
► RS 1000-1200/M BLU	in progress

It is necessary for analogic control signal converter operation.

Burner accessories

Continuous ventilation kit



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

BURNER	KIT CODE
► RS 1000-1200/M BLU	3010094

Sound proofing box



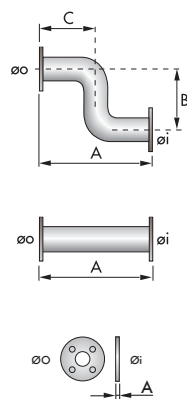
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
► RS 1000-1200/M BLU	10	3010401

(*) according to EN 15036-1 standard

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.

Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	DIMENSIONS			ADAPTER CODE		
	Øi DN	ØO DN	A mm		B mm	C mm
	65	80	400	-	-	3010221
	80	80	400	-	-	3010222
	100	80	400	-	-	3010223
	65	80	400	480	225	3010225
	80	80	400	480	225	3010226
	100	80	400	480	225	3010227
	65	80	10	-	-	3010369
	100	80	50	-	-	3010370
	-	-	300	-	-	3000826
	-	-	65	-	-	20042324

Low NOx Modulating Gas Burners

RS 1000-1200/M BLU SERIES

Gas train accessories

Stabiliser spring



To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 5065/1-5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992
▶ CB 50100/1	Red	25 - 55	3010134
	Black	60 - 110	3010136
	Pink	100 - 150	3090489
	Grey	140 - 200	3092174
▶ CB 50125/1	Red	25 - 55	3010315
	Yellow	30 - 70	3010316
	Black	60 - 110	3010317
	Pink	100 - 150	3010318

Seal control kit



To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MBC/1 type	3010367	20029057
▶ CB/1 type	3010367	20029057

RS 300÷800/E-EV BLU SERIES

The RS/E and RS/EV series burners are characterised by a modular monoblock structure that means all necessary components can be combined in a single unit thus making installation easier, faster and, above all, more flexible.

The series covers a firing range from 1350 to 8100 kW, and they have been designed for use in hot water boilers or industrial steam generators.

Operation can be “two stage progressive” or alternatively “modulating” with the installation of a PID logic regulator on the RS/E series burners while RS/EV series is fully “modulating”.

The mechanisms of regulation allow to catch up a high modulation ratio on all firing rates range.

The burner can, therefore, supply with precision the demanded power, guaranteeing an high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.

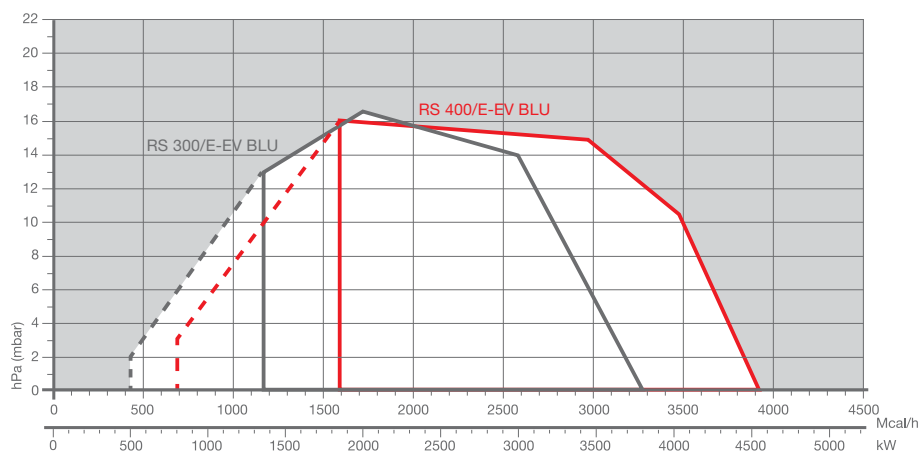
The burner operation can be intermittent or continuous by menu setting.

The innovative combustion head, adjustment system ensures perfect movement during modulation as well as reducing noise and pollutants.



RS 300/E BLU	500/1350 ÷ 3800 kW
RS 400/E BLU	800/1840 ÷ 4550 kW
RS 500/E BLU	1000/2500 ÷ 5170 kW
RS 650/E BLU	1410/3020 ÷ 6500 kW
RS 800/E BLU	1200/3500 ÷ 8100 kW
RS 300/EV BLU	500/1350 ÷ 3800 kW
RS 400/EV BLU	800/1840 ÷ 4550 kW
RS 500/EV BLU	1000/2500 ÷ 5170 kW
RS 650/EV BLU	1410/3020 ÷ 6500 kW
RS 800/EV BLU	1200/3500 ÷ 8100 kW

FIRING RATES

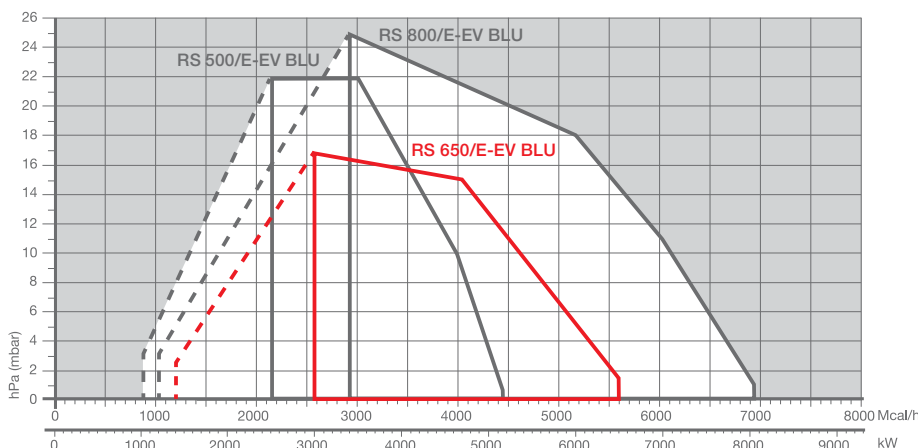


Useful working field for choosing the burner



Modulation range

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

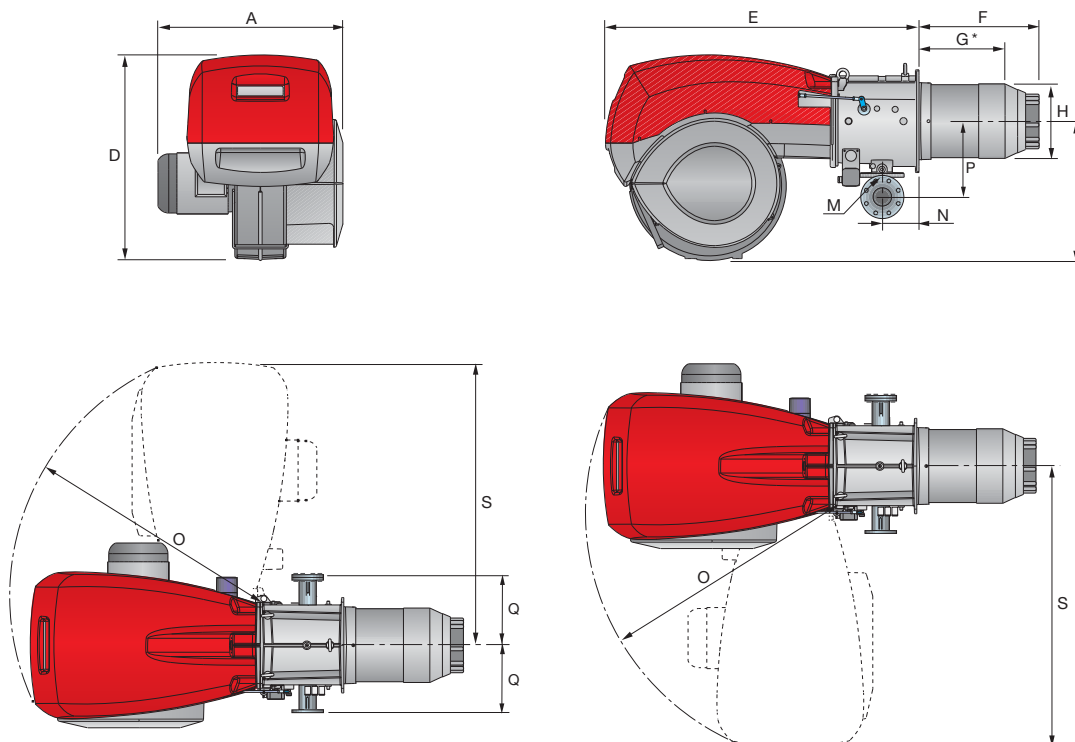


Low NOx Modulating Gas Burners

RS 300÷800/E-EV BLU SERIES

Overall dimensions (mm)

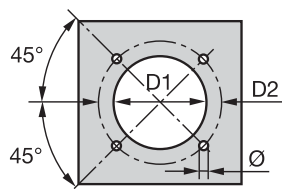
BURNER



MODEL	A	D	E	F	G*	H	I	M	N	O	P	Q	S
▶ RS 300/E-EV BLU	720	867	1325	521	373	313	588	DN80	164	1055	342	320	1175
▶ RS 400/E-EV BLU	775	867	1325	521	373	313	588	DN80	164	1055	342	320	1175
▶ RS 500/E-EV BLU	775	867	1325	521	357	370	588	DN80	164	1055	342	320	1175
▶ RS 650/E-EV BLU	800	950	1325	562	360	410	588	DN80	175	1055	427	320	1175
▶ RS 800/E-EV BLU	940	867	1325	582	418	363	588	DN80	164	1055	427	320	1175

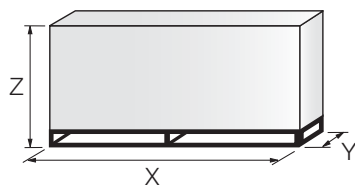
* Maximum depth of the boiler door including the depth of the burner flange insulating gasket.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 300/E-EV BLU	350	452	M18
▶ RS 400/E-EV BLU	350	452	M18
▶ RS 500/E-EV BLU	390	452	M18
▶ RS 650/E-EV BLU	400	495	M18
▶ RS 800/E-EV BLU	400	495	M18

PACKAGING



MODEL	X	Y	Z	kg
▶ RS 300/E-EV BLU	1960	970	1100	230
▶ RS 400/E-EV BLU	1960	970	1100	240
▶ RS 500/E-EV BLU	1960	970	1100	250
▶ RS 650/E-EV BLU	2035	1195	1130	300
▶ RS 800/E-EV BLU	2035	1195	1130	300

Low NOx Modulating Gas Burners

RS 300÷800/E-EV BLU SERIES

RIELLO

Specification

DESIGNATION OF SERIES

Series: R								
Fuel:	S Natural Gas L Light oil LS Light oil/Natural Gas N Heavy oil							
Size								
Setting :	/1 Single stage /B Two stage /M Modulating - Mechanical cam /E Electronic cam /P Proportioning air/gas valve /EV Electronic cam predisposed for variable speed (with inverter)							
Emission :	C11 or ... Class 1 EN267 - EN676 C22 or MZ Class 2 EN267 - EN676 C33 or BLU Class 3 EN267 - EN676 C23 or MX Class 2 EN267 - Class 3 EN676 C13 Class 1 EN267 - Class 3 EN676							
Head length:	TC standard head TL extended head							
Flame control system:	FS1 Standard (1 stop every 24 h) FS2 Continuous working (1 stop every 72 h)							
Electrical supply to the system:								
1/230/50	1/230V/50Hz							
3/230/50	3/230V/50Hz							
3/400/50	3N/400V/50Hz							
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz							
3/220/60	3/220V/60Hz							
3/380/60	3N/380V/60Hz							
3/220-380/60	3/220/60Hz - 3N/380V/60Hz							
Auxiliary voltage:	230/50-60 230V/50-60Hz 110/50-60 110V/50-60Hz							
R	S	300	/E	BLU	TC	FS2	3/230-400/50	230/50-60
BASIC DESIGNATION								
EXTENDED DESIGNATION								

LOW NOx GAS

Low NOx Modulating Gas Burners

RS 300÷800/E-EV BLU SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:

- High performance fan with low sound emissions, reverse curve blades for RS 300-400/E-EV BLU, forward curve blades for RS 500-650-800/E-EV BLU
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission mobile combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ignition by gas pilot for RS 650 model
 - flame stability disk
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with separated PID control of temperature or pressure, available as accessory for RS/E BLU model
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator (RS/EV BLU)
- AZL Display Interface, for combustion system commissioning and monitoring, included in RS/EV models (Available as accessory for RS/E BLU models)
- Burner safety control included on Electronic Cam device
- Ionization probe for flame detector
- Star/triangle starter for the fan motor (burners with motor electrical power > = 7,5 kW, RS/E)
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level
- Tee gas supply connector DN 80 for gas train connection (RS 300-400-500 models)

Standard equipment:

- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Seal control pressure switch (for installation on gas train)
- Curve DN 80 for gas train connection (RS 650 and RS 800 models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Modulating Gas Burners

RS 300÷800/E-EV BLU SERIES

RIELLO

Available models

Burners

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE	
					(kW)	NATURAL GAS (Nm ³ /h)				
3898330	RS 300/E BLU	TC	FS1/FS2	3/230-400/50	230/50-60	500/1350÷3800	50/135÷380	6	CE 0085BO0341	(1)(2)
3898430	RS 400/E BLU	TC	FS1/FS2	3/230/50	230/50-60	800/1840÷4550	80/184÷455	10	CE 0085BO0341	(1)(2)
3898432	RS 400/E BLU	TC	FS1/FS2	3/400/50	230/50-60	800/1840÷4550	80/184÷455	10	CE 0085BO0341	(1)(2)
3899130	RS 500/E BLU	TC	FS1/FS2	3/400/50	230/50-60	1000/2500÷5170	100/250÷517	11	CE 0085BO0341	(1)(2)
20040218	RS 650/E BLU	TC	FS1/FS2	3/400/50	230/50-60	1410/3020÷6500	143/300÷655	21	CE 0085BT0337	(1)(2)
3911030	RS 800/E BLU	TC	FS1/FS2	3/400/50	230/50-60	1200/3500÷8100	120/350÷810	24	CE 0085BT0337	(1)(2)
3898350	RS 300/EV BLU	TC	FS1/FS2	3/230-400/50	230/50-60	500/1350÷3800	50/135÷380	6	CE 0085BO0341	(1)(2)
3898452	RS 400/EV BLU	TC	FS1/FS2	3/400/50	230/50-60	800/1840÷4550	80/184÷455	10	CE 0085BO0341	(1)(2)
3899152	RS 500/EV BLU	TC	FS1/FS2	3/400/50	230/50-60	1000/2500÷5170	100/250÷517	11	CE 0085BS0382	(1)(2)
20040547	RS 650/EV BLU	TC	FS1/FS2	3/400/50	230/50-60	1410/3020÷6500	143/300÷655	21	CE 0085BT0337	(1)(2)
3911090	RS 800/EV BLU	TC	FS1/FS2	3/400/50	230/50-60	1200/3500÷8100	120/350÷810	24	CE 0085BT0337	(1)(2)

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

(1) according to 2009/142 - 2006/42 - 2006/95 - 2004/108 EC Directives

(2) the burners are factory set for FS1 operation (1 stop every 24 h) but they can be switched to FS2 operation (continuous - 1 stop every 72 h) by changing the parameters through the AZL unit menu.

Gas Trains

CODE *	GAS TRAIN		Ø	ADAPTER CODE	
	MODEL			RS 300-400	RS 500-650-800
3970221	MBC 1200/1 - RSM 60		Rp 2"	3000826 + 20042324	
3970222	MBC 1900/1 - FSM 40		DN 65	3010369	
3970223	MBC 3100/1 - FSM 40		DN 80	3010222 (1)	
3970224	MBC 5000/1 - FSM 80		DN 100	3010370	
3970250	MB 415/1 - RT 52		Rp 1" 1/2	3000843 + 3000826 + 20042324	●
3970257	MB 420/1 - RT 52		Rp 2"	3000826 + 20042324	●
3970145	CB 512/1 - RSM 30		Rp 1" 1/2	3000843 + 3000826 + 20042324	●
3970146	CB 520/1 - RSM 30		Rp 2"	3000843 + 3000826 + 20042324	●
20044659	CB 525/1 - RSM 30		Rp 2"	3000843 + 3000826 + 20042324	●
3970147	CB 5065/1 - FSM 30		DN 65	3010221 or 3010369	
3970148	CB 5080/1 - FSM 30		DN 80	3010222 (1)	
3970149	CB 50100/1 - FSM 30		DN 100	3010223 or 3010370	

Please see designation of Gas Train Series in the page before the Catalogue index.

* gas train are 230V/50Hz - 220V/60Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

The seal control function is managed by LMV control box, by installation on gas train of pressure switch supplied, as standard equipment, with the burner.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

● Not available.

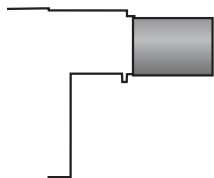
(1) To use if it is necessary to space out the gas train from the burner.

Low NOx Modulating Gas Burners

RS 300÷800/E-EV BLU SERIES

Burner accessories

Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS 300-400/E-EV BLU	521 (1) - 373 (2)	621 (1) - 473 (2)	3091427
▶ RS 300-400/E-EV BLU	521 (1) - 373 (2)	671 (1) - 523 (2)	3091919
▶ RS 300-400/E-EV BLU	521 (1) - 373 (2)	721 (1) - 573 (2)	20022815
▶ RS 500/E-EV BLU	521 (1) - 357 (2)	671 (1) - 507 (2)	20028449

(1) referred to quote F
(2) referred to quote G

Variable Speed Drive (VSD) for RS/EV series only



The motor speed variation for the RS/EV BLU burners series is obtained thanks to a frequency converter: variable speed drive (VSD). It always must be ordered with RS/EV series.

BURNER	MAX POWER (kW)	KIT CODE
▶ RS 300-400/EV BLU	7,5	3010379
▶ RS 500/EV BLU	11	3010455
▶ RS 650/EV BLU	18,5	20027615
▶ RS 800/EV BLU	22	3010468

Accessories for modulating operation



To obtain modulating operation, the RS/E BLU series of burners requires a regulator with three point outlet controls. The following table lists the accessories for modulating operation with their application range. In RS/EV models PID regulator is integrated inside LMV 52 control box.

BURNER	POWER CONTROLLER TYPE	CODE
▶ All models	RWF 40 - Basic version with 3 position output	3010356
	RWF 40 - High version with additional modulating output and RS 485 Interface	3010357

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



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

Burner accessories

Display and Operating Unit (AZL) for RS/E models



This tool is needed for combustion system commissioning and monitoring. The AZL is included in RS/EV models.

BURNER	KIT CODE
▶ RS 300-400-500-650-800/E BLU	3010355
▶ All models *	3010469

* for Russian language only

Infrared Flame Detector (IFD)



For the supervision of gas, oil or other flame that emit infrared radiation, the RS/E-EV BLU series of burners can be equipped with infrared flame detector. The infrared flame detector are suited for burners of any capacity, either in continuous or intermittent operation.

BURNER	CODE
▶ All models	3010354

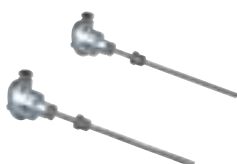
Oxygen Control kit (QGO₂) for RS/EV series only



The QGO₂ is an oxygen analyzer with relevant probe which controls and supervises the residual oxygen content in exhaust gases.

BURNER	KIT CODE
▶ RS 300-400-500-650-800/EV BLU	3010378

Kit efficiency with oxygen control kit (for RS/EV only)



The kit includes two temperature sensors: one for air and one for exhaust gas detection. They must be wired to oxygen control kit interface to allow the LMV 52 efficiency calculation. The value is showed on AZL display.

BURNER	KIT CODE
▶ RS 300-400-500-650-800/EV BLU	3010377

Low NOx Modulating Gas Burners

RS 300÷800/E-EV BLU SERIES

Burner accessories

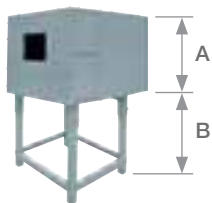
PC Interface Software (ACS 450)



PC tool for convenient programming and burner settings, process visualization, data recording, selection of AZL language, software update AZL.

BURNER	CODE
► All models	3010388

Sound proofing box



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

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
► All models	C7	1255	160 - 980	10	3010376

(*) Average noise reduction according to EN 15036-1 standard

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head of the burner.

BURNER	KIT CODE
► RS 300/E-EV BLU	3010445 (*)
► RS 400-500/E-EV BLU	20012916 (*)
► RS 650/E-EV BLU	in progress
► RS 800/E-EV BLU	20007822 (*)

(*) CE approved.

Continuous ventilation kit



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

BURNER	KIT CODE
► All models	3010094

Spacer kit

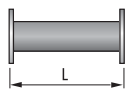


If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

BURNER	SPACER THICKNESS S (mm)	KIT CODE
► All models	180	20008903

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner. Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
DN 80 2" 1/2 2"	300	3000826
1" 1/2 2"	35	3000843
1" 1/2 2"	65	20042324
DN 65 DN 80	400	3010221
DN 80 DN 80	400	3010222
DN 100 DN 80	400	3010223
DN 65 DN 80	10	3010369
DN 100 DN 80	50	3010370

Stabiliser spring



To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 512/1	Red	25 - 55	3010131
	Black	60 - 110	3010157
	Pink	90 - 150	3090486
▶ CB 520/1 - 525/1	Red	25 - 55	3010132
	Black	60 - 110	3010158
	Pink	90 - 150	3090487
▶ CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992
▶ CB 50100/1	Red	25 - 55	3010134
	Black	60 - 110	3010136
	Pink	100 - 150	3090489
	Grey	140 - 200	3092174

RS 1000-1200/E-EV BLU SERIES

The well-known RS 300-800/E-EV BLU Burner Series, till now available up to 8 MW, has been upgraded with two new powerful burner models, the RS 1000-1200/E-EV BLU models that extend his max output up to 12 MW and make the Burner Series even more complete and suitable for matching with the various Heat and Steam Generators in today's market.

The New Burner Models take the reliability of combustion and the solidity typical of Riello's Burners and match them with the most advanced solutions on Power Output Control and Ventilation Technology; as result a 12 MW output is supplied with a User Friendly monoblock machine assuring easiness of installation and servicing, and safe operation.

An easy access to internal components is ensured by the burner opening hinge.

The New Gas Models are available with Modulating operation that can be managed through Electronic Cam, for great performance and efficiency, and through Variable Speed Drive technology, to obtain both low noise emissions and electrical Power Saving.

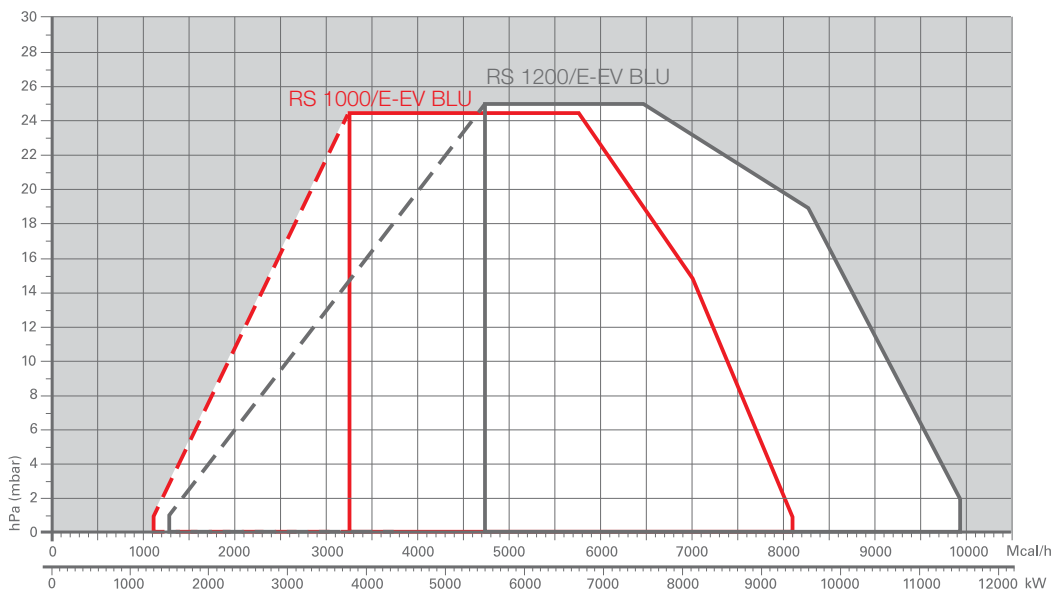
The demanded power is supplied with precision, guaranteeing high efficiency and setting stability, obtaining fuel consumption and operating costs reduction.

RS 1000-1200/E-EV BLU models allow Low NOx, environmentally friendly, emissions according to the Class 3 of EN676 European Standard.



RS 1000/E BLU	1300/3800 ÷ 9400 kW
RS 1200/E BLU	1500/5500 ÷ 11500 kW
RS 1000/EV BLU	1300/3800 ÷ 9400 kW
RS 1200/EV BLU	1500/5500 ÷ 11500 kW

FIRING RATES



Useful working field for choosing the burner



Modulation range

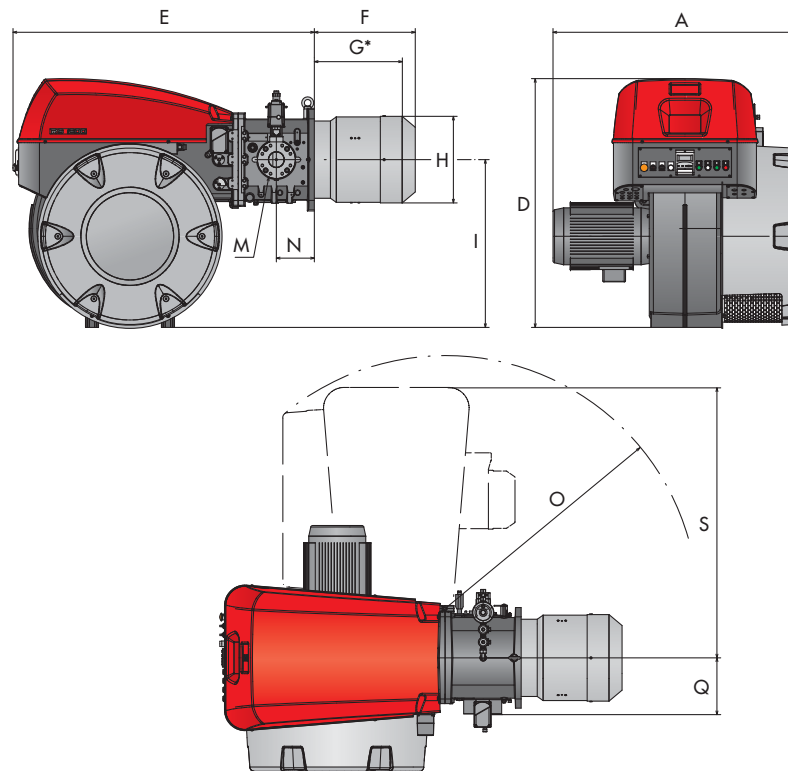
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Low NOx Modulating Gas Burners

RS 1000-1200/E-EV BLU SERIES

Overall dimensions (mm)

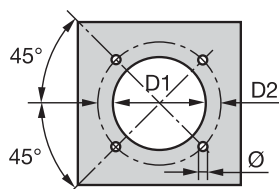
BURNER



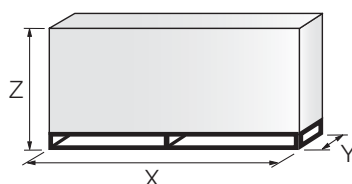
MODEL	A	D	E	F	G*	H	I	M	N	O	Q	S
▶ RS 1000/E-EV BLU	1223	1311	1574	674	485	413	884	DN80	200	1330	299	1422
▶ RS 1200/E-EV BLU	1293	1311	1574	658	464	456	884	DN80	200	1330	299	1422

* Maximum depth of the boiler door including the depth of the burner flange insulating gasket.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 1000/E-EV BLU	460	608	M20
▶ RS 1200/E-EV BLU	500	608	M20



MODEL	X	Y	Z	kg
▶ RS 1000/E-EV BLU	2400	1400	1595	500
▶ RS 1200/E-EV BLU	2400	1400	1595	550

Low NOx Modulating Gas Burners

RS 1000-1200/E-EV BLU SERIES

RIELLO

Specification

DESIGNATION OF SERIES

Series: R								
Fuel:	S Natural Gas L Light oil LS Light oil/Natural Gas N Heavy oil							
Size								
Setting :	/1 Single stage /B Two stage /M Modulating - Mechanical cam /P Proportioning air/gas valve /E Electronic cam /EV Electronic cam predisposed for variable speed (with inverter)							
Emission :	... Class 1 EN267 - EN676 MZ Class 2 EN267 - EN676 BLU Class 3 EN267 - EN676 MX Class 2 EN267 Class 3 EN676							
Head length:	TC standard head TL extended head							
Flame control system:	FS1 Standard (1 stop every 24 h) FS2 Continuous working (1 stop every 72 h)							
Electrical supply to the system:								
1/230/50	1/230V/50Hz							
3/230/50	3/230V/50Hz							
3/400/50	3N/400V/50Hz							
3/230-400/50	3/230V/50Hz - 3N/400V/50Hz							
3/220/60	3/220V/60Hz							
3/380/60	3N/380V/60Hz							
3/220-380/60	3/220/60Hz - 3N/380V/60Hz							
Auxiliary voltage:								
230/50-60	230V/50-60Hz							
110/50-60	110V/50-60Hz							
R	S	1200	/E	BLU	TC	FS1	3/400/50	230/50-60
BASIC DESIGNATION					EXTENDED DESIGNATION			

LOW NOx GAS

Low NOx Modulating Gas Burners

RS 1000-1200/E-EV BLU SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:

- High performance 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 at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission mobile combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition pilot burner and gas train
 - flame stability disk
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator (LMV 51.100 on RS/E BLU, LMV 52 on RS/EV BLU)
- AZL Display Interface, for combustion system commissioning and monitoring, included in both RS1000-1200/E and /EV models
- Burner safety control included on Electronic Cam device
- Ionization probe for flame detector
- Star/triangle starter for the fan motor
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP 54 electric protection level

Standard equipment:

- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Seal control pressure switch (for installation on gas train)
- DN 80 gas supply connector for gas train connection
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Modulating Gas Burners

RS 1000-1200/E-EV BLU SERIES

RIELLO

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	NOTE
						(kW)	NATURAL GAS (Nm ³ /h)		
20034426	RS 1000/E BLU	TC	FS1	3/400/50	230/50-60	1300/3800-9400	130/380-940	23	(1)
20034427	RS 1200/E BLU	TC	FS1	3/400/50	230/50-60	1500/5500-11500	150/550-1150	27	(1)
20034429	RS 1000/EV BLU	TC	FS1	3/400/50	230/50-60	1300/3800-9400	130/380-940	23	(1)
20034430	RS 1200/EV BLU	TC	FS1	3/400/50	230/50-60	1500/5500-11500	150/550-1150	27	(1)

(1) the burners are factory set for FS1 operation (1 stop every 24 h) but they can be switched to FS2 operation (continuous - 1 stop every 72 h) by changing the parameters through the AZL unit menu

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The RS 1000-1200/E-EV BLU burners are in according to 2009/142 EC - 2004/108 - 2006/95 EC Directives

Gas Trains

CODE *	GAS TRAIN		Ø	ADAPTER CODE **
	MODEL			RS 1000-1200
3970221	MBC 1200/1 - RSM 60		Rp 2"	20042324 + 3000826
3970222	MBC 1900/1 - FSM 40		DN 65	3010221 or 3010369
3970223	MBC 3100/1 - FSM 40		DN 80	3010222 (1)
3970224	MBC 5000/1 - FSM 80		DN 100	3010223 or 3010370
3970147	CB 5065/1 - FSM 30		DN 65	3010221 or 3010369
3970148	CB 5080/1 - FSM 30		DN 80	3010222 (1)
3970149	CB 50100/1 - FSM 30		DN 100	3010223 or 3010370

Please see designation of Gas Train Series in the page before the Catalogue index.

* gas train are 230V/50Hz - 220V/60Hz electrical supply.

** see Adapters models on Gas train accessories paragraph.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

The seal control function is managed by LMV control box, by installation on gas train of pressure switch supplied, as standard equipment, with the burner.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

(1) To use if it is necessary to space out the gas train from the burner.

Low NOx Modulating Gas Burners

RS 1000-1200/E-EV BLU SERIES

Burner accessories

Variable Speed Drive (VSD) for RS/EV series only



The motor speed variation for the RS/EV BLU burners series is obtained thanks to a frequency converter: variable speed drive (VSD). It always must be ordered with RS/EV series.

BURNER	MAX POWER (kW)	KIT CODE
► RS 1000/EV BLU	22	3010468
► RS 1200/EV BLU	30	20030338

Accessories for modulating operation



The Module for air/fuel setting (LMV 51.100 on RS/E, LMV 52 on RS/EV) includes the output modulation with incorporated PID control of temperature or pressure of the heat generator.

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

BURNER	PROBE TYPE	RANGE (°C) (bar)	CODE
► All models	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Display and Operating Unit (AZL)



The AZL, Display and Operating Unit, is included in RS1000-1200/E-EV models. This tool is needed for combustion system commissioning and monitoring. A specific version with Russian language is available as accessory.

BURNER	KIT CODE
► All models *	3010469

* for Russian language only

Infrared Flame Detector (IFD)



For the supervision of gas, oil or other flame that emit infrared radiation, the RS/E-EV BLU series of burners can be equipped with infrared flame detector. The infrared flame detector are suited for burners of any capacity, either in continuous or intermittent operation.

BURNER	CODE
► All models	3010354

Burner accessories

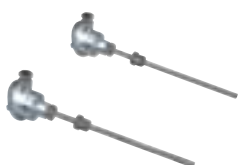
Oxygen Control kit (QGO₂) for RS/EV series only



The QGO₂ is an oxygen analyzer with relevant probe which controls and supervises the residual oxygen content in exhaust gases.

BURNER	KIT CODE
► All models	3010378

Kit efficiency with oxygen control kit (for RS/EV only)



The kit includes two temperature sensors: one for air and one for exhaust gas detection. They must be wired to oxygen control kit interface to allow the LMV 52 efficiency calculation. The value is showed on AZL display.

BURNER	KIT CODE
► All models	3010377

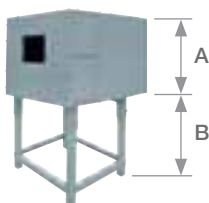
PC Interface Software (ACS 450)



PC tool for convenient programming and burner settings, process visualization, data recording, selection of AZL language, software update AZL.

BURNER	CODE
► All models	3010388

Sound proofing box



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

BURNER	A (mm)	B (mm) min-max	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
► All models	1420	290 - 1000	10	3010401

(*) according to EN 15036-1 standard

Continuous ventilation kit



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

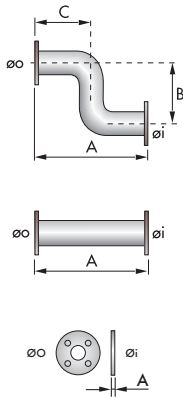
BURNER	KIT CODE
► All models	3010094

Low NOx Modulating Gas Burners

RS 1000-1200/E-EV BLU SERIES

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	DIMENSIONS			ADAPTER CODE		
	Øi DN	ØO DN	A mm		B mm	C mm
	65	80	400	-	-	3010221
	80	80	400	-	-	3010222
	100	80	400	-	-	3010223
	65	80	400	480	225	3010225
	80	80	400	480	225	3010226
	100	80	400	480	225	3010227
	65	80	10	-	-	3010369
	100	80	50	-	-	3010370
	-	-	300	-	-	3000826
	-	-	65	-	-	20042324

Stabiliser spring



To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 5065/1-5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
▶ CB 50100/1	Grey	140 - 200	3090992
	Red	25 - 55	3010134
	Black	60 - 110	3010136
▶ CB 50125/1	Pink	100 - 150	3090489
	Grey	140 - 200	3092174
	Red	25 - 55	3010315
▶ CB 50125/1	Yellow	30 - 70	3010316
	Black	60 - 110	3010317
	Pink	100 - 150	3010318

MODUBLOC MB SM BLU SERIES

The MODUBLOC MB SM BLU series is characterised by a monoblock structure which means that all necessary components are combined in a single unit, making installation easier and faster.

The series covers a firing range from 3450 to 10400 kW, and it has been designed for use in hot water boilers or industrial steam generators.

Operation can be “two stage progressive” or alternatively “modulating” with the installation of a PID logic regulator or by external 4-20 mA/0-10 V signal.

The mechanical cam device of regulation allows to catch up a high modulation ratio on all firing rates range.

The burner can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.

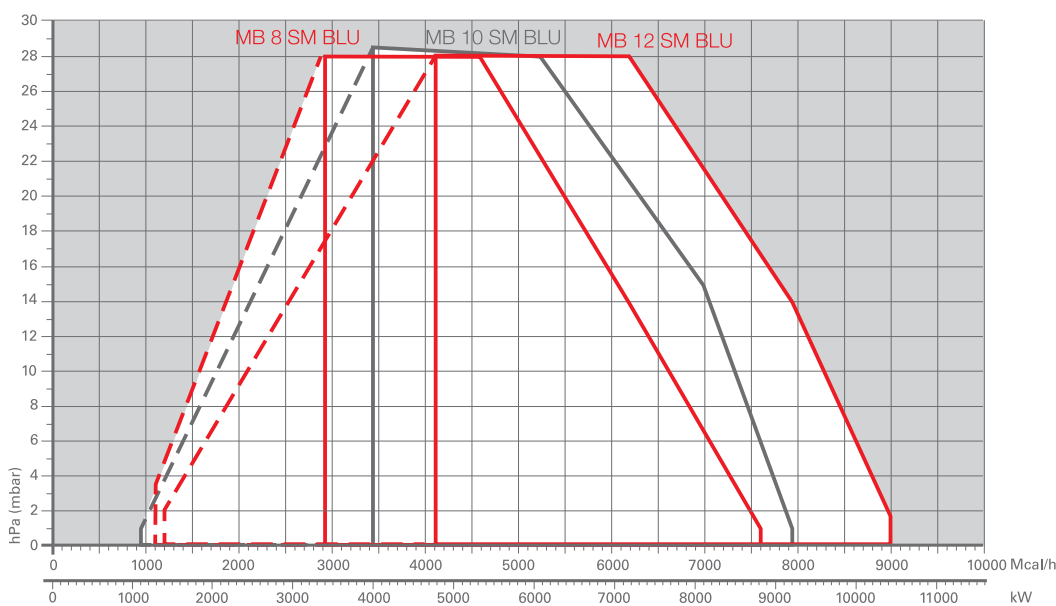
The combustion head, engineered with advanced simulation devices, guarantees reduced polluting emissions.

An exclusive design, with fan unit fitted in axis with the combustion head, guarantees low sound emissions, easy use and maintenance.



MB 8 SM BLU	1300/3450 ÷ 8300 kW
MB 10 SM BLU	1100/4068 ÷ 9200 kW
MB 12 SM BLU	1500/4800 ÷ 10400 kW

FIRING RATES



□ Useful working field for choosing the burner

▭ Modulation range

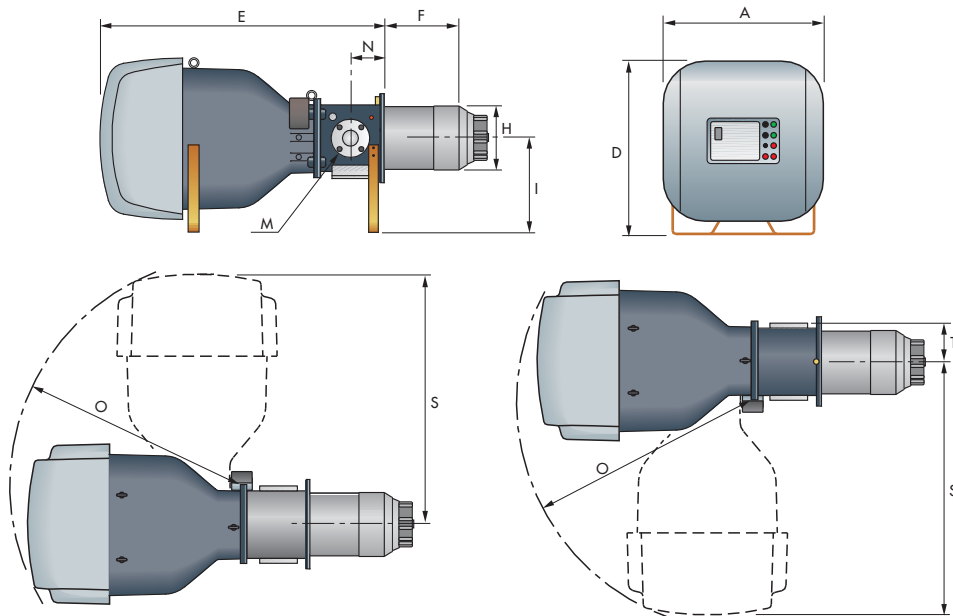
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Low NOx Modulating Gas Burners

MODUBLOC MB SM BLU SERIES

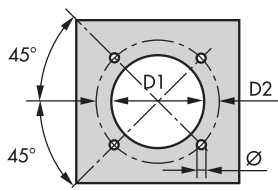
Overall dimensions (mm)

BURNER



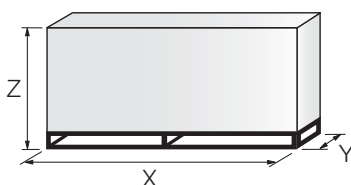
MODEL	A	D	E	F	H	I	M	N	O	S	T
▶ MB 8 SM BLU	1007	1079	1900	475	413	575	DN80	208	1570	1740	221
▶ MB 10 SM BLU	1007	1079	1900	475	413	575	DN80	208	1570	1740	221
▶ MB 12 SM BLU	1007	1079	1900	454	456	575	DN80	208	1570	1740	221

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ MB 8 SM BLU	418	608	M20
▶ MB 10 SM BLU	418	608	M20
▶ MB 12 SM BLU	470	608	M20

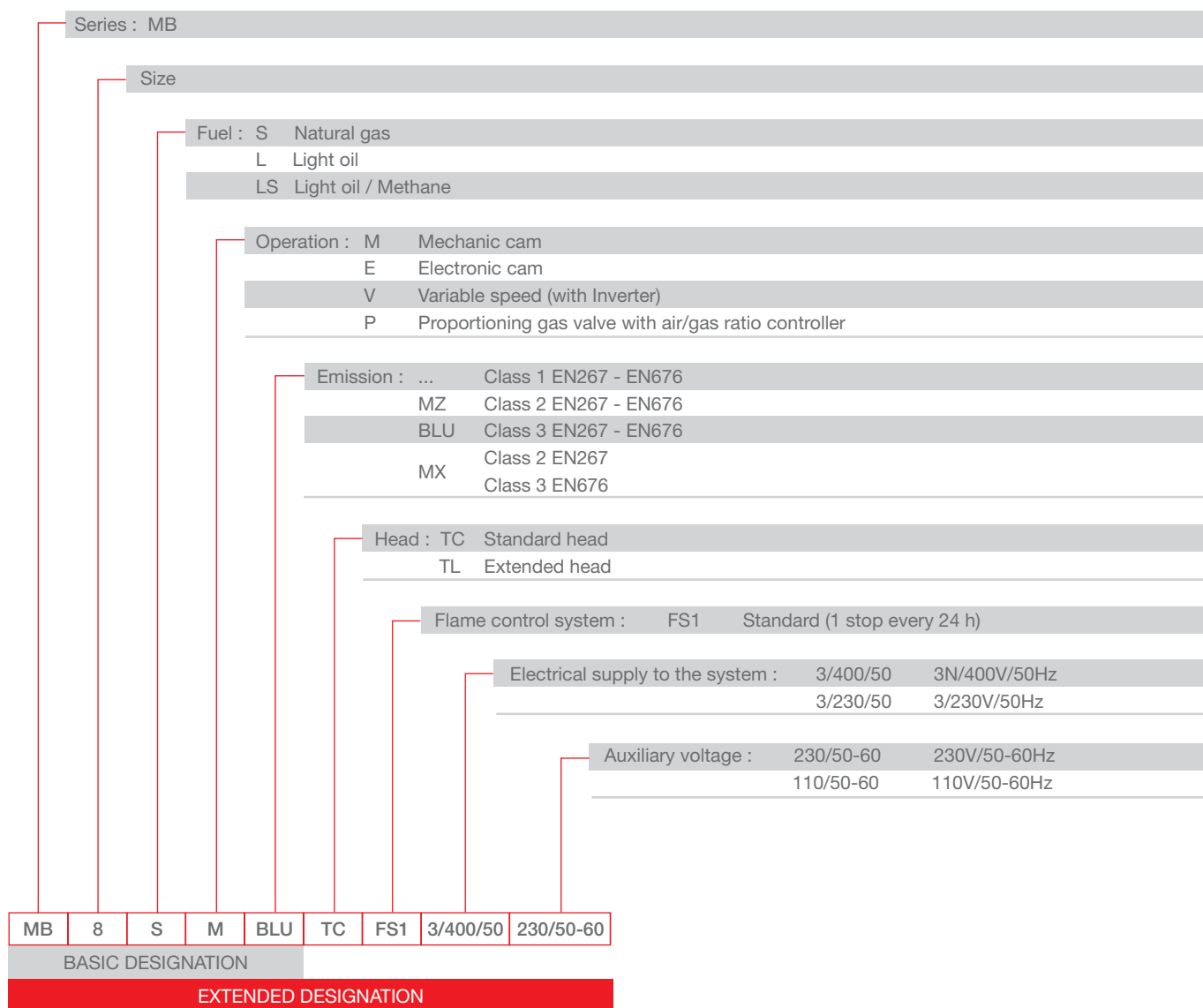
PACKAGING



MODEL	X	Y	Z	kg
▶ MB 8 SM BLU	2690	1170	1350	450
▶ MB 10 SM BLU	2690	1170	1350	450
▶ MB 12 SM BLU	2690	1170	1350	460

Specification

DESIGNATION OF SERIES



Low NOx Modulating Gas Burners

MODUBLOC MB SM BLU SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:

- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - flame stability disk
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Burner safety control box for controlling the system safety
- Photocell for flame detection
- Star/triangle starter for the fan motor
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP X0D (IP 40) electric protection level.

Standard equipment:

- 1 flange gasket
- 8 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Modulating Gas Burners

MODUBLOC MB SM BLU SERIES

RIELLO

Available models

Burners

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
					(kW)	(kg/H)			
3897960	MB	8SM BLU	TC	FS1	3/400/50	1300/3450-8300	110/291-700	19	CE 0085 BR0215
3897965	MB	8SM BLU	TC	FS2	3/400/50	1300/3450-8300	110/291-700	19	CE 0085 BR0215
3896660	MB10SM	BLU	TC	FS1	3/400/50	1100/4068-9200	93/343-776	22	CE 0085 BR0216
3896665	MB10SM	BLU	TC	FS2	3/400/50	1100/4068-9200	93/343-776	22	CE 0085 BR0216
3896760	MB12SM	BLU	TC	FS1	3/400/50	1500/4800-10400	126/405-877	27	CE 0085 BR0217
3896765	MB12SM	BLU	TC	FS2	3/400/50	1500/4800-10400	126/405-877	27	CE 0085 BR0217

G20 net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The burners of MB SM BLU series are produced according to 90/396 - 2004/108 - 2006/95 EC Directive and EN 676 Norm.

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE *** MB 8-10-12 SM BLU
	MODEL	Ø	C.T.		
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	-	3010367	3000826
3970225 **	MBC 1200/1 CT RSM 60	Rp 2"	◆	-	3000826
3970222 *	MBC 1900/1 - FSM 40	DN 65	-	3010367	3010369
3970226 **	MBC 1900/1 CT FSM 40	DN 65	◆	-	3010369
3970223 *	MBC 3100/1 - FSM 40	DN 80	-	3010367	3010222 (1)
3970227 **	MBC 3100/1 CT FSM 40	DN 80	◆	-	3010222 (1)
3970224 *	MBC 5000/1 - FSM 80	DN 100	-	3010367	3010370
3970228 **	MBC 5000/1 CT FSM 80	DN 100	◆	-	3010370
3970147 *	CB 5065/1 - FSM 30	DN 65	-	3010367	3010221 or 3010369
3970161 **	CB 5065/1 CT FSM 30	DN 65	◆	-	3010221 or 3010369
3970148 *	CB 5080/1 - FSM 30	DN 80	-	3010367	3010222 (1)
3970162 **	CB 5080/1 CT FSM 30	DN 80	◆	-	3010222 (1)
3970149 *	CB 50100/1 - FSM 30	DN 100	-	3010367	3010223 or 3010370
3970163 **	CB 50100/1 CT FSM 30	DN 100	◆	-	3010223 or 3010370
20015871 *	CB 50125/1 - FSM 30	DN 125	-	3010367	3010224
3970196 **	CB 50125/1 CT FSM 30	DN 125	◆	-	3010224

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz - 220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

*** see Adapter models on Gas train accessories paragraph.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

(1) To use if it is necessary to space out the gas train from the burner.

Low NOx Modulating Gas Burners

MODUBLOC MB SM BLU SERIES

Burner accessories

Accessories for modulating operation



To obtain modulating operation, the MB series requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ MB 8 - 10 - 12 SM BLU	RWF 40 Basic	3010356
▶ MB 8 - 10 - 12 SM BLU	RWF 40 High	3010357

NOTE: RWF 40 HIGH version with RS435 serial interface.



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

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ MB 8 - 10 - 12 SM BLU	Temperature	0 ÷ 500°C	3010110
▶ MB 8 - 10 - 12 SM BLU	Pressure	0 ÷ 2,5 bar	3010213
▶ MB 8 - 10 - 12 SM BLU	Pressure	0 ÷ 16 bar	3010214

Analogic control signal converter



BURNER	TYPE (INPUT SIGNAL)	CODE
▶ MB 8 - 10 - 12 SM BLU	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010390

Potentiometer



BURNER	CODE
▶ MB 8 - 10 - 12 SM BLU	3010021

It is necessary for analog control signal converter operation.

Burner support



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

BURNER	SUPPORT CODE
▶ MB 8 - 10 - 12 SM BLU	3010385

Burner accessories

Sound proofing box



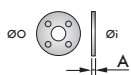
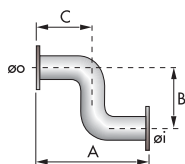
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
► MB 8 - 10 - 12 SM BLU	10	3010401

(*) according to EN 15036-1 standard

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner. Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	DIMENSIONS					ADAPTER CODE
	Øi DN	ØO DN	A mm	B mm	C mm	
	65	80	400	-	-	3010221
	80	80	400	-	-	3010222
	100	80	400	-	-	3010223
	65	80	400	480	225	3010225
	80	80	400	480	225	3010226
	100	80	400	480	225	3010227
	65	80	10	-	-	3010369
	100	80	50	-	-	3010370
	-	-	300	-	-	3000826

Low NOx Modulating Gas Burners

MODUBLOC MB SM BLU SERIES

Gas train accessories

Stabiliser spring



To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
▶ CB 50100/1	Grey	140 - 200	3090992
	Red	25 - 55	3010134
	Black	60 - 110	3010136
▶ CB 50125/1	Pink	100 - 150	3090489
	Grey	140 - 200	3092174
	Red	25 - 55	3010315
▶ CB 50125/1	Yellow	30 - 70	3010316
	Black	60 - 110	3010317
	Pink	100 - 150	3010318

Seal control kit



To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MBC/1 type	3010367	20029057
▶ CB/1 type	3010367	20029057

MODUBLOC MB SE-SV BLU SERIES

The MODUBLOC MB SE BLU and MB SV BLU series of burners are characterised by a monoblock structure that means all necessary components can be combined in a single unit, making installation easier and faster.

The series covers a firing range from 3450 to 10400 kW, and they have been designed for use in hot water boilers or industrial steam generators.

Adjustment is modulating, through an innovative electronic module, which gives control of the air/fuel ratio and PID control of the generator temperature or pressure.

The mechanisms of regulation allow to catch up a high modulation ratio on all firing rates range.

The burner can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.

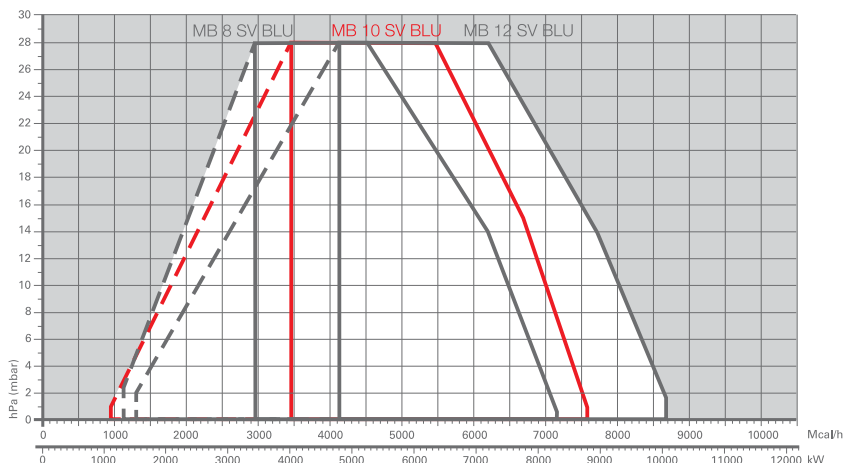
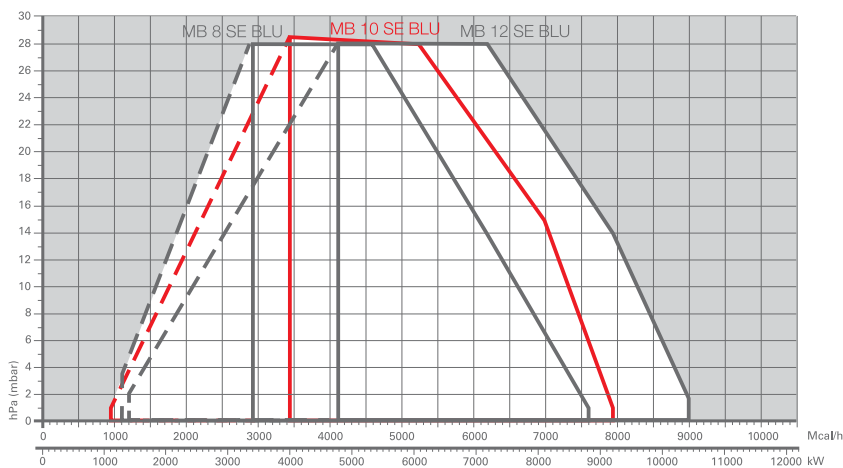
The combustion head, studied with advanced simulation devices, guarantees reduced polluting emissions.

An exclusive design, with fan unit fitted on line with the combustion head, guarantees low sound emissions, reduced dimensions, easy use and maintenance.



MB 8 SE BLU	1300/3450 ÷ 8300 kW
MB 10 SE BLU	1100/4068 ÷ 9200 kW
MB 12 SE BLU	1500/4880 ÷ 10400 kW
MB 8 SV BLU	1300/3450 ÷ 8300 kW
MB 10 SV BLU	1100/4000 ÷ 8800 kW
MB 12 SV BLU	1500/4800 ÷ 10050 kW

FIRING RATES

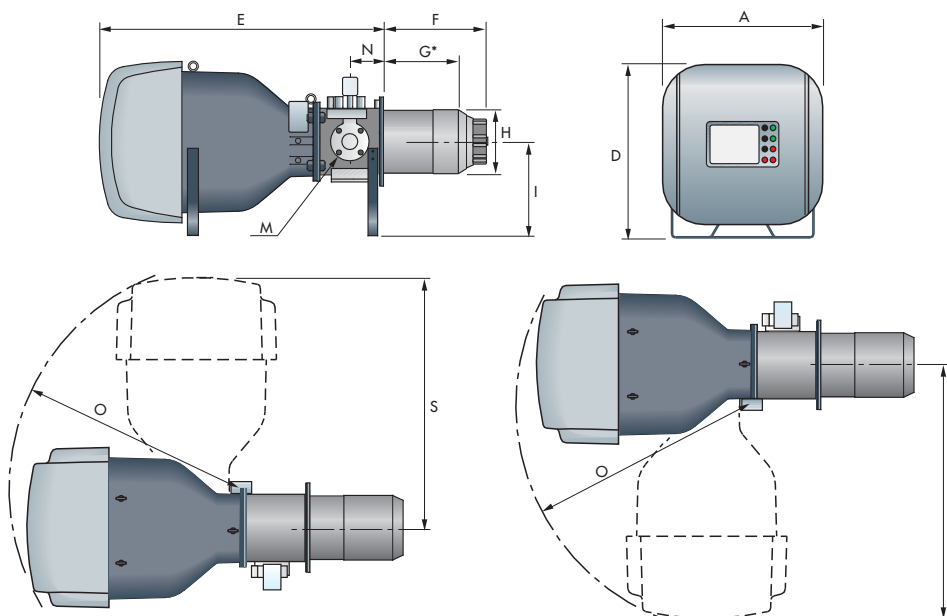


Low NOx Modulating Gas Burners

MODUBLOC MB SE-SV BLU SERIES

Overall dimensions (mm)

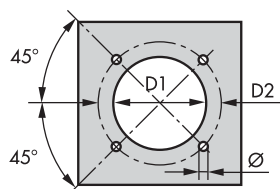
BURNER



MODEL	A	D	E	F	G*	H	I	M	N	O	S
▶ MB 8 SE-SV BLU	1007	1079	1900	670	475	413	575	DN80	208	1570	1740
▶ MB 10 SE-SV BLU	1007	1079	1900	670	475	413	575	DN80	208	1570	1740
▶ MB 12 SE-SV BLU	1007	1079	1900	670	454	456	575	DN80	208	1570	1740

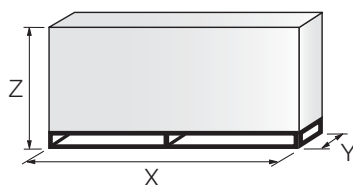
* Maximum depth of the boiler door including the depth of the burner flange insulating gasket.

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ MB 8 SE-SV BLU	418	608	M20
▶ MB 10 SE-SV BLU	418	608	M20
▶ MB 12 SE-SV BLU	470	608	M20

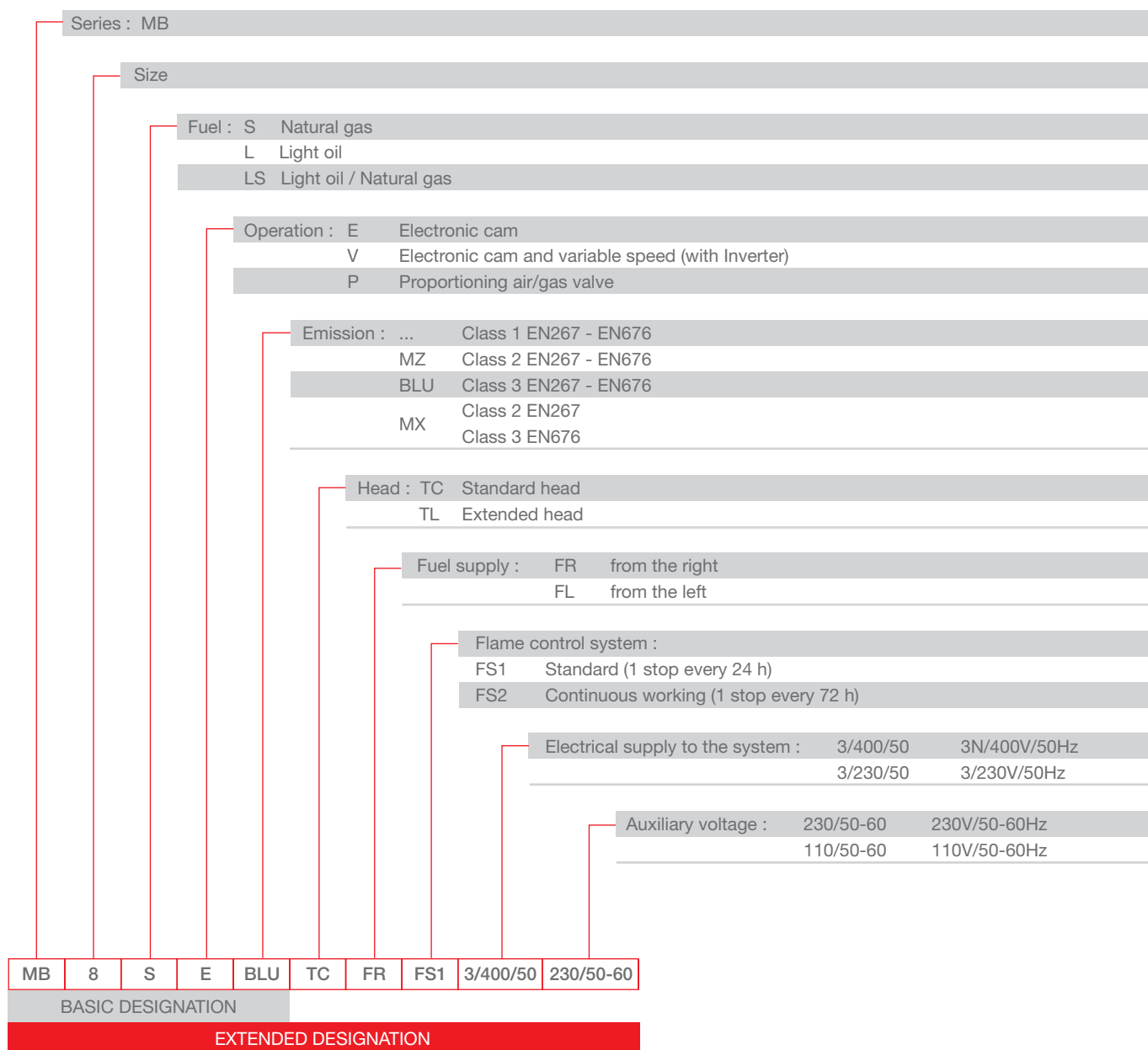
PACKAGING



MODEL	X	Y	Z	kg
▶ MB 8 SE-SV BLU	2690	1170	1350	450
▶ MB 10 SE-SV BLU	2700	1170	1350	450
▶ MB 12 SE-SV BLU	2700	1170	1390	450

Specification

DESIGNATION OF SERIES



Low NOx Modulating Gas Burners

MODUBLOC MB SE-SV BLU SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:

- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission mobile combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - flame stability disk
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator
- Burner safety control box for controlling the system safety
- Photocell for flame detection
- Star/triangle starter for the fan motor
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP X0D (IP 40) protection level.

Standard equipment:

- 1 flange gasket
- 8 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:

- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting at the minimal modulation controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Low emission mobile combustion head, that can be set on the basis of required output, controlled by a high precision dedicated servomotor, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - flame stability disk
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator
- Burner safety control box for controlling the system safety built-in to the air-fuel ratio controller
- Photocell for flame detection
- Terminal board for main supply and inverter connections
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Safety feed back signal fan speed motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP X0D (IP 40) electric protection level
- 6 fairleads Pg11 for electrical connections.

Standard equipment:

- 1 flange gasket
- 8 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 6 fairleads Pg11 for electrical connections
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Low NOx Modulating Gas Burners

MODUBLOC MB SE-SV BLU SERIES

Available models

Burners

CODE	MODEL						HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
							(kW)	NATURAL GAS (Nm ³ /h)			
3897900	MB8SE BLU	TC	FR	FS1	3/400/50	230/50-60	900/3330-8400	90/330-840	18	CE 0085 B00175	
3897910	MB8SE BLU	TC	FR	FS2	3/400/50	230/50-60	900/3330-8400	90/330-840	18	CE 0085 B00175	
3897905	MB8SE BLU	TC	FL	FS1	3/400/50	230/50-60	900/3330-8400	90/330-840	18	CE 0085 B00175	
3897915	MB8SE BLU	TC	FL	FS2	3/400/50	230/50-60	900/3330-8400	90/330-840	18	CE 0085 B00175	
3896600	MB10SE BLU	TC	FR	FS1	3/400/50	230/50-60	1100/4000-9200	110/400-920	22	CE 0085 BM0347	
3896610	MB10SE BLU	TC	FR	FS2	3/400/50	230/50-60	1100/4000-9200	110/400-920	22	CE 0085 BM0347	
3896605	MB10SE BLU	TC	FL	FS1	3/400/50	230/50-60	1100/4000-9200	110/400-920	22	CE 0085 BM0347	
3896615	MB10SE BLU	TC	FL	FS2	3/400/50	230/50-60	1100/4000-9200	110/400-920	22	CE 0085 BM0347	
3896700	MB12SE BLU	TC	FR	FS1	3/400/50	230/50-60	1500/4800-10050	150/480-1000	27	CE 0085 B04400	
3896705	MB12SE BLU	TC	FL	FS1	3/400/50	230/50-60	1500/4800-10050	150/480-1000	27	CE 0085 B04400	
3896710	MB12SE BLU	TC	FR	FS2	3/400/50	230/50-60	1500/4800-10050	150/480-1000	27	CE 0085 B04400	
3896715	MB12SE BLU	TC	FL	FS2	3/400/50	230/50-60	1500/4800-10050	150/480-1000	27	CE 0085 B04400	
3897920	MB8SV BLU	TC	FR	FS1	3/400/50	230/50-60	1300/3380-8000	99/338-800	18	CE 0085 B0230	
3897925	MB8SV BLU	TC	FL	FS1	3/400/50	230/50-60	1300/3380-8000	99/338-800	18	CE 0085 B0230	
3897930	MB8SV BLU	TC	FR	FS2	3/400/50	230/50-60	1300/3380-8000	99/338-800	18	CE 0085 B0230	
3897935	MB8SV BLU	TC	FL	FS2	3/400/50	230/50-60	1300/3380-8000	99/338-800	18	CE 0085 B0230	
3896620	MB10SV BLU	TC	FR	FS1	3/400/50	230/50-60	1100/4000-8860	110/400-886	22	CE 0085 B00231	
3896630	MB10SV BLU	TC	FR	FS2	3/400/50	230/50-60	1100/4000-8860	110/400-886	22	CE 0085 B00231	
3896625	MB10SV BLU	TC	FL	FS1	3/400/50	230/50-60	1100/4000-8860	110/400-886	22	CE 0085 B00231	
3896635	MB10SV BLU	TC	FL	FS2	3/400/50	230/50-60	1100/4000-8860	110/400-886	22	CE 0085 B00231	
3896720	MB12SV BLU	TC	FR	FS1	3/400/50	230/50-60	1505/4800-10050	150/480-1000	27	CE 0085 B004410	
3896725	MB12SV BLU	TC	FL	FS1	3/400/50	230/50-60	1505/4800-10050	150/480-1000	27	CE 0085 B004410	
3896730	MB12SV BLU	TC	FR	FS2	3/400/50	230/50-60	1505/4800-10050	150/480-1000	27	CE 0085 B004410	
3896735	MB12SV BLU	TC	FL	FS2	3/400/50	230/50-60	1505/4800-10050	150/480-1000	27	CE 0085 B004410	

G20 net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The burners of MB SE - SV BLU series are in according to 90/396 - 2004/108 - 2006/95 EC Directive and EN 676 Norm.

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE *** MB 8-10-12 SE-SV BLU
	MODEL	Ø	C.T.		
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	-	3010367	3000826
3970225 **	MBC 1200/1 CT RSM 60	Rp 2"	◆	-	3000826
3970222 *	MBC 1900/1 - FSM 40	DN 65	-	3010367	3010369
3970226 **	MBC 1900/1 CT FSM 40	DN 65	◆	-	3010369
3970223 *	MBC 3100/1 - FSM 40	DN 80	-	3010367	3010222 (1)
3970227 **	MBC 3100/1 CT FSM 40	DN 80	◆	-	3010222 (1)
3970224 *	MBC 5000/1 - FSM 80	DN 100	-	3010367	3010370
3970228 **	MBC 5000/1 CT FSM 80	DN 100	◆	-	3010370
3970147 *	CB 5065/1 - FSM 30	DN 65	-	3010367	3010221 or 3010369
3970161 **	CB 5065/1 CT FSM 30	DN 65	◆	-	3010221 or 3010369
3970148 *	CB 5080/1 - FSM 30	DN 80	-	3010367	3010222 (1)
3970162 **	CB 5080/1 CT FSM 30	DN 80	◆	-	3010222 (1)
3970149 *	CB 50100/1 - FSM 30	DN 100	-	3010367	3010223 or 3010370
3970163 **	CB 50100/1 CT FSM 30	DN 100	◆	-	3010223 or 3010370
20015871 *	CB 50125/1 - FSM 30	DN 125	-	3010367	3010224
3970196 **	CB 50125/1 CT FSM 30	DN 125	◆	-	3010224

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz - 220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

*** see Adapter models on Gas train accessories paragraph.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

(1) To use if it is necessary to space out the gas train from the burner.

Low NOx Modulating Gas Burners

MODUBLOC MB SE-SV 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
MB 8 - 10 - 12 SE - SV BLU	3010234

I/O digital module



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

BURNER	MODULE CODE
▶ MB 8 - 10 - 12 SE - SV BLU	3010233

I/O analogic module



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

BURNER	MODULE CODE
▶ MB 8 - 10 - 12 SE - SV BLU	3010232

EGA module (Exhaust Gas Analyser)



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

BURNER	ANALYSED GAS	MODULE CODE
▶ MB 8 - 10 - 12 SE - SV BLU	CO, CO ₂ , O ₂	on demand
▶ MB 8 - 10 - 12 SE - SV BLU	CO, CO ₂ , O ₂ , NO	20019488
▶ MB 8 - 10 - 12 SE - SV BLU	CO, CO ₂ , O ₂ , SO ₂	on demand
▶ MB 8 - 10 - 12 SE - SV BLU	CO, CO ₂ , O ₂ , NO, SO ₂	on demand

Belden 9501 type leads



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

BURNER	LEAD CODE
▶ MB 8 - 10 - 12 SE - SV BLU	3010239

Burner accessories

Accessories for modulating operation



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

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ MB 8 - 10 - 12 SE - SV BLU	Temperature	0 ÷ 400°C	3010187
▶ MB 8 - 10 - 12 SE - SV BLU	Pressure	0 ÷ 3 bar	3010246
▶ MB 8 - 10 - 12 SE - SV BLU	Pressure	0 ÷ 18 bar	3010186
▶ MB 8 - 10 - 12 SE - SV BLU	Pressure	0 ÷ 30 bar	3010188

Burner support



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

BURNER	SUPPORT CODE
▶ MB 8 - 10 - 12 SE - SV BLU	3010385

Inverter module



The inverter allows the variation of the amount of combustion air through a variable speed action of the fan motor.

BURNER	CODE
▶ MB 8 SV BLU	3010446
▶ MB 10 - 12 SV BLU	3010447

Sound proofing box



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

BURNER	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ MB 8 - 10 - 12 SE - SV BLU	10	3010401

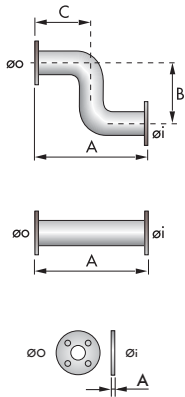
(*) according to EN 15036-1 standard

Low NOx Modulating Gas Burners

MODUBLOC MB SE-SV BLU SERIES

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	DIMENSIONS					ADAPTER CODE
	Øi DN	ØO DN	A mm	B mm	C mm	
	65	80	400	-	-	3010221
	80	80	400	-	-	3010222
	100	80	400	-	-	3010223
	65	80	400	480	225	3010225
	80	80	400	480	225	3010226
	100	80	400	480	225	3010227
	65	80	10	-	-	3010369
	100	80	50	-	-	3010370
	DN 80	-	300	-	-	3000826

Stabiliser spring



To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE	SPRING CODE
		mbar	
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
▶ CB 50100/1	Grey	140 - 200	3090992
	Red	25 - 55	3010134
	Black	60 - 110	3010136
▶ CB 50125/1	Pink	100 - 150	3090489
	Grey	140 - 200	3092174
	Red	25 - 55	3010315
▶ CB 50125/1	Yellow	30 - 70	3010316
	Black	60 - 110	3010317
	Pink	100 - 150	3010318

Seal control kit



To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

GAS TRAIN	KIT CODE	KIT CODE
	for 50 Hz operation	for 60 Hz operation
▶ MBC/1 type	3010367	20029057
▶ CB/1 type	3010367	20029057

RDBS SERIES

The Riello RDBS is a new series of one stage gas burners with integrated gas train, characterised by its small dimensions in spite of its high combustion performance. It is available in conventional flue and balanced flue versions. It has been developed to respond to any request for home heating, conforming to current regulations in force.

The RDBS series is available in two models with an output range from 16 to 48 kW; the difference between the two models are the gas train and the combustion head.

The RDBS1 model is made up of a class A gas train and a standard flame combustion head, the RDBS0.1 model is made up of a class B gas train and a short flame combustion head.

The RDBS burners are fitted with a microprocessor based control box with diagnostic functions.

These models use the same components designed by Riello for RDB series. The high quality level guarantees safe working.

In developing these burners, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.

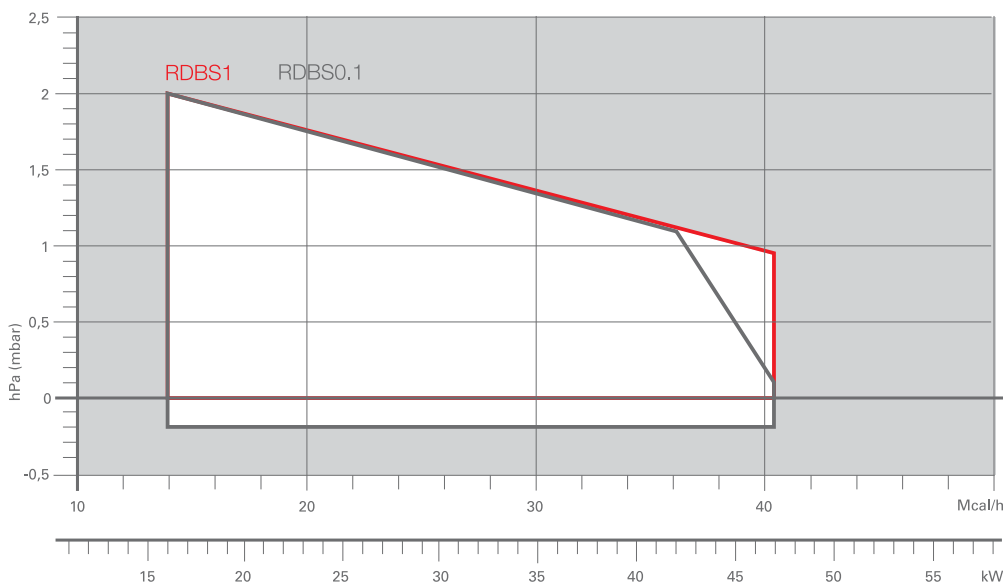
These models are approved by the EN 676 European Standard and European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.

The RDBS burners are tested before leaving the factory.



RDBS1	16 ÷ 47 kW
RDBS0.1	16 ÷ 48 kW

FIRING RATES



Useful working field for choosing the burner

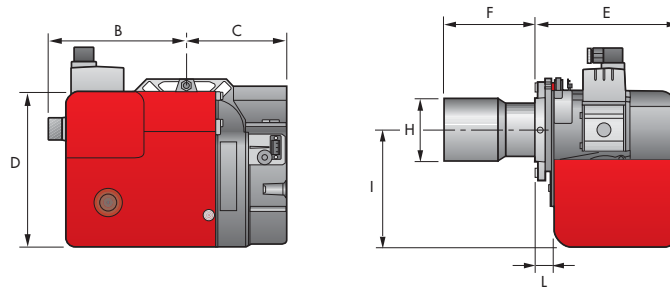
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

One Stage Gas Burners

RDBS SERIES

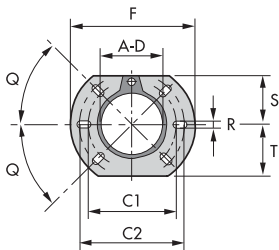
Overall dimensions (mm)

BURNER



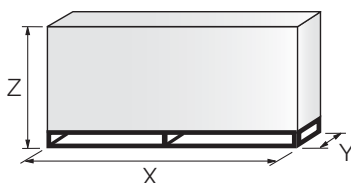
MODEL	B	C	D	E	F	H	I	L
▶ RDBS1	195	141	222	207	115	89	168	20
▶ RDBS0.1	195	141	222	207	94	89	168	20

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C1	C2	D	F	Q	R	S	T
▶ RDBS1	91	130	150	91	180	45°	11	72	72
▶ RDBS0.1	91	130	150	91	180	45°	11	72	72

PACKAGING

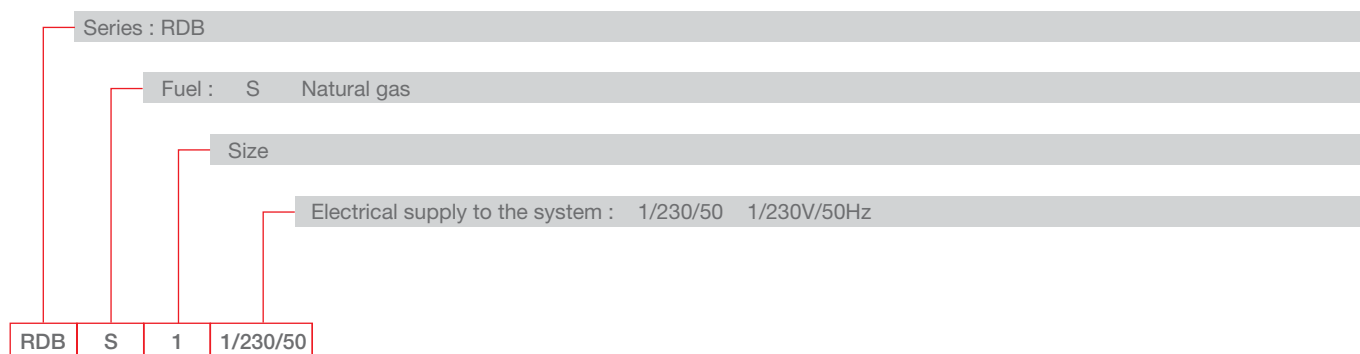


MODEL	X	Y	Z	kg
▶ RDBS1	405	360	350	12
▶ RDBS0.1	405	360	350	12

RDBS SERIES

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burner, completely automatic, with one stage operation made up of:

- Fan with forward curve blades
- Cover lined
- Air damper with external adjustment, with no need to remove the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Incorporated gas train
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based flame control box, with diagnostic functions
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:

RDBS1

- Flange with insulating gasket
- 4-pin plug
- Screws and nuts for flange to be fixed to boiler
- Protection grill for CF application
- 90° manual gate valve
- Tube 1/2"
- Flange 90°
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RDBS0.1

- Flange with insulating gasket
- Screws and nuts for flange to be fixed to boiler
- Flange 90°
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

One Stage Gas Burners

RDBS SERIES

Available models

Burners

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
			(kW)	NATURAL GAS (Nm³/h)			
3768000	RDBS1	1/230/50	16 - 47	1,6 - 4,7	0,090	CE - 0085 BM0490	(1)(2)(5)
3769000	RDBS0.1	1/230/50	16 - 48	1,6 - 4,8	0,090	CE - 0085 BM0490	(1)(3)(4)

The burners of RDBS series are in according to EN 676.

(1) With plug and socket.

(2) Incorporated class A gas train (max. operating pressure 65 mbar).

(3) Incorporated class B gas train (max. operating pressure 65 mbar).

(4) Short flame combustion head.

(5) Standard flame combustion head.

Burner accessories

Balanced-conventional flue conversion kit



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

BURNER	BALANCED FLUE KIT CODE	CONVENTIONAL FLUE KIT CODE
► RDBS1 - RDBS0.1	3062774	3062775

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
► RDBS1 - RDBS0.1	3001076	-

PC interface kit



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

BURNER	KIT CODE
► RDBS1 - RDBS0.1	3002719

RIELLO 40 GS SERIES

The Riello 40 GS series of one stage gas burners, is a complete range of products developed to respond to any request for home heating. The Riello 40 GS series is available in four different models, with an output ranging from 11 to 220 kW, divided in four different structures.

All the models use the same components designed by Riello for the Riello 40 GS series. The high quality level guarantees safe working. The Riello 40 GS burners are fitted with a microprocessor based control box with diagnostic functions.

In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.

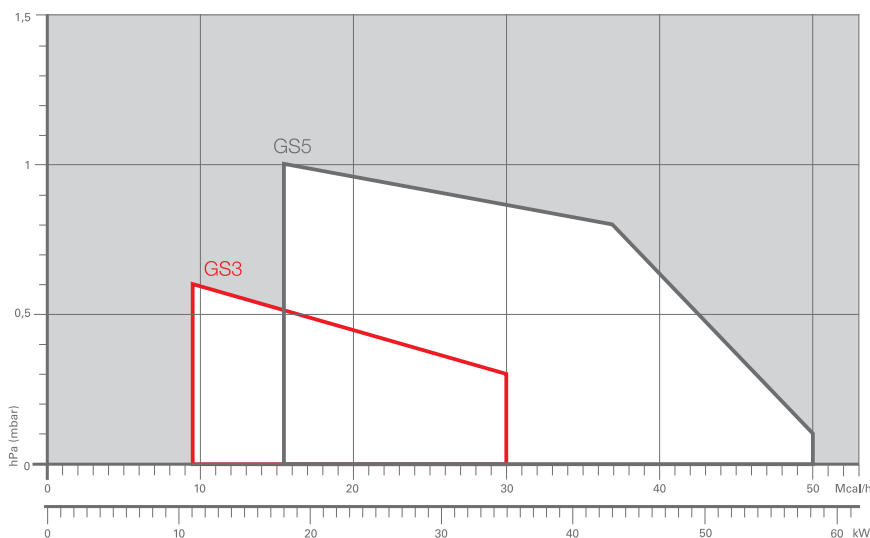
All the models are approved by the EN 676 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.

All the Riello 40 GS burners are tested before leaving the factory.



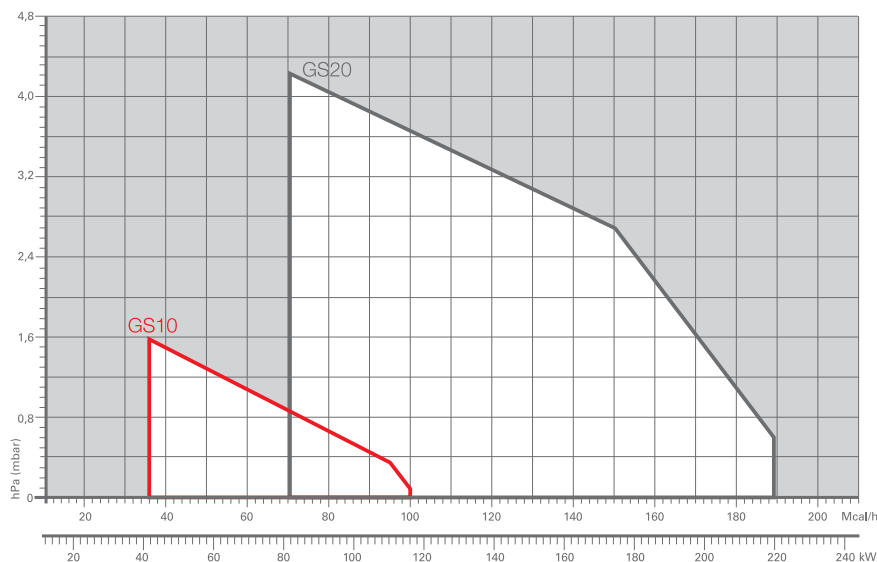
GS3	11 ÷ 35 kW
GS5	18 ÷ 58 kW
GS10	42 ÷ 116 kW
GS20	81 ÷ 220 kW

FIRING RATES



Useful working field for choosing the burner

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

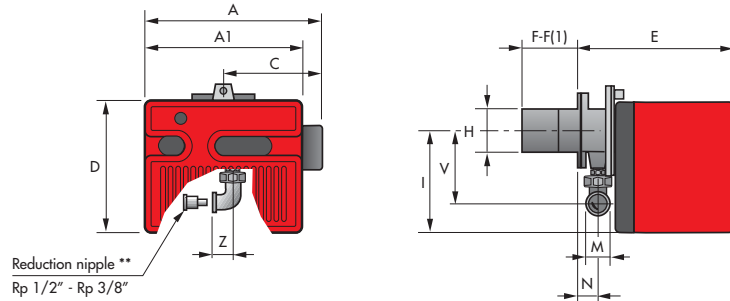


One Stage Gas Burners

RIELLO 40 GS SERIES

Overall dimensions (mm)

BURNER



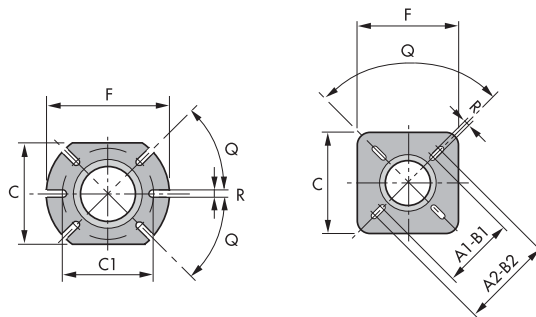
MODEL	A	A1	C	D	E	F - F(1)	H	I	M	N	V	Z
▶ GS3	-	252	-	215	230	100	91	165	Rp 3/8"	37	132	25
▶ GS5	-	272	-	233	295	100	91	180	Rp 1/2"	48	138	28
▶ GS10	341	-	188,5	262	346	110	105	204	Rp 3/4"	61	142	33
▶ GS10 ***	-	305	-	262	346	110 - 170	105	204	Rp 3/4"	61	142	33
▶ GS20	387	-	212	298	389	120 - 280	125	230	Rp 3/4"	67	152	33
▶ GS20 ***	-	350	-	298	389	120	125	230	Rp 3/4"	67	152	33

* With reduction nipple
 ** Standard equipment on R40 GS3
 *** Versions with air damper opening motor inside the cover
 (1) dimension with extended head

BURNER - BOILER MOUNTING FLANGE

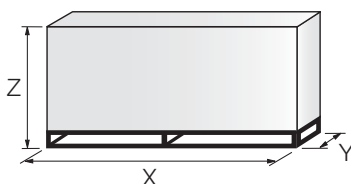
GS3 - GS5 - GS10

GS20



MODEL	A1	A2	B1	B2	C	C1	F	Q	R
▶ GS3	-	-	-	-	140	130	170	45°	10
▶ GS5	-	-	-	-	140	130	170	45°	10
▶ GS10	-	-	-	-	160	130	185	45°	11
▶ GS20	155	200	155	200	170	-	170	90°	11

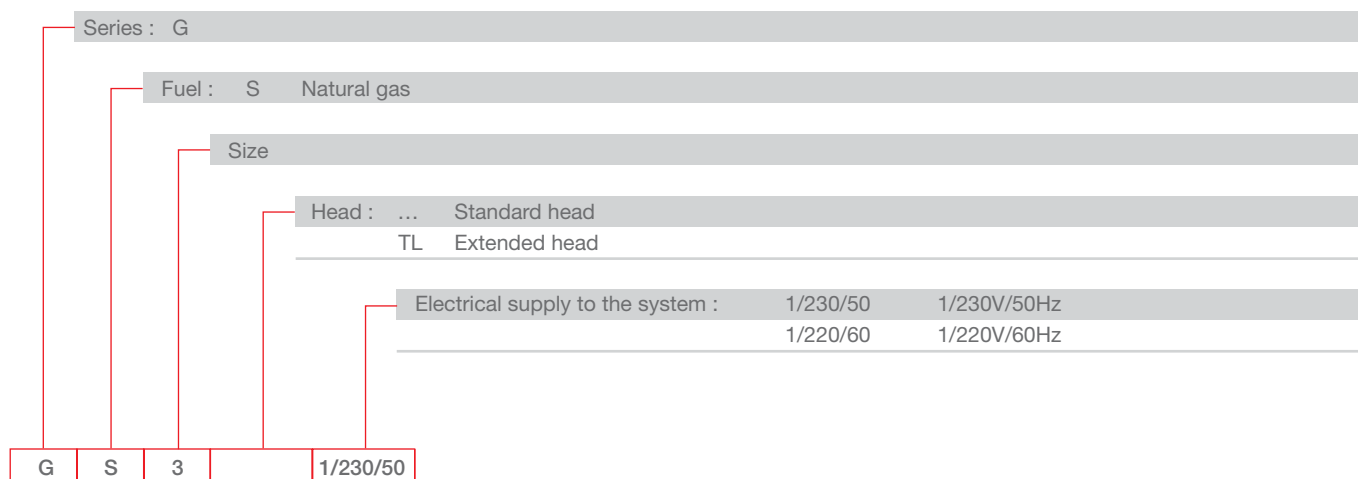
PACKAGING



MODEL	X	Y	Z	kg
▶ GS3	375	335	310	12
▶ GS5	445	355	325	12
▶ GS10	483	423	330	17
▶ GS20	535	463	375	22

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, with one stage settings fitted with:

- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, with adjustment inside the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box MG 557 (with diagnostic, remote reset, continuous purge integrated, recycle, post-purge)
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pole socket
- Hinge
- Reduction nipple Rp 1/2" - Rp 3/8" (for R40 GS3 only)
- Grommet
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

One Stage Gas Burners

RIELLO 40 GS SERIES

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)			
3755119	GS3 1/230/50	11 - 35	1,1 - 3,5	0,100	CE - 0063 AP6680	(1) (5)
3755219	GS5 1/230/50	18 - 58	1,8 - 5,8	0,110	CE - 0063 AP6680	(1) (5)
3755281	GS5 1/220/60	23 - 65	2,3 - 6,5	0,180	-	(2) (4) (5)
3755426	GS10 1/230/50	42 - 116	4,2 - 11,6	0,130	CE - 0063 AP6680	(1)
20034913	GS10 TL 1/230/50	42 - 116	4,2 - 11,6	0,130	CE - 0063 AP6680	(1)
3755444	GS10 1/230/50	42 - 116	4,2 - 11,6	0,130	CE - 0063 AP6680	(2) (3)
3755483	GS10 1/220/60	42 - 116	4,2 - 11,6	0,200	-	(2) (4)
20007527	GS10 1/220/60	42 - 116	4,2 - 11,6	0,200	-	(1) (4) (5)
3755616	GS20 1/230/50	81 - 220	8,1 - 22	0,250	CE - 0063 AP6680	(1)
20033905	GS20 TL 1/230/50	81 - 220	8,1 - 22	0,250	CE - 0063 AP6680	(1)
3755644	GS20 1/230/50	81 - 220	8,1 - 22	0,250	CE - 0063 AP6680	(2) (3)
3755683	GS20 1/220/60	81 - 220	8,1 - 22	0,430	-	(2) (4) (5)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The burners of GS series are in according to EN 676

(1) With plug and socket

(2) With terminal block

(3) Belgium version

(4) Korea version

(5) With air damper opening motor inside the cover

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
MULTIBLOC GAS TRAIN	3970569	MBC 65/1 - RSD 20	GS3 - GS5		GS3 - GS5	(1)
	3970530	MB 405/1 - RSD 20	GS5 - GS10		GS5 - GS10	(1)
	3970500	MB 405/1 - RT 20	GS10		GS10	(1) (2)
	3970531	MB 407/1 - RSD 20	GS5 - GS10 - GS20		GS5 - GS10 - GS20	(1) (3)
	3970532	MB 410/1 - RSD 20	GS10 - GS20		GS10 - GS20	(1)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas train are 230V/50Hz - 220V/60Hz electrical supply

(1) With installed plug (if the plug is not necessary, remove it in accordance with gas train instruction manual indication)

(2) GS10 ≤ 80 kW with natural gas

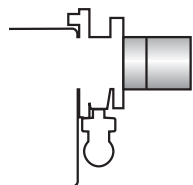
(3) GS20 ≤ 180 kW with natural gas

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



“Standard head” burners can be transformed into “extended head” versions by using the special kit. Below the KITS available for the various burners are listed, showing the original and the extended lengths.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GS3 - GS5	100	125	3000820
▶ GS10	110	170	3001064
▶ GS20	120	280	3000873

Remote reset control kit for MG 557/3/5 control box

The MG 557 control box can be remotely released using an electric command kit. This kit must be installed in conformity with current regulations in force.

BURNER	KIT CODE
▶ GS3 - GS5	3002750

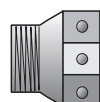
LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

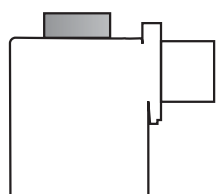
BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GS3	3000881	3000881
▶ GS5	3000882	3000882
▶ GS10	3000884	3000884
▶ GS20	3000886	3000886

Town gas kit



BURNER	KIT CODE
▶ GS3	3000888
▶ GS5	3000889
▶ GS10	3000891
▶ GS20	3000893

Inlet air aspiration kit



This kit allows to channel the external air directly into the burner and is available as accessory for models:

BURNER	KIT CODE
▶ GS3	20027571
▶ GS5	20027576
▶ GS10	20027578
▶ GS20	20027581

One Stage Gas Burners

RIELLO 40 GS SERIES

Burner accessories

End cone with turbulator disk



BURNER	PROJECTION (mm)	KIT CODE
▶ GS5	+15	3000916
▶ GS10	+18	3000918
▶ GS20	+23	3000919

Ground fault interrupter kit



A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ GS3 - GS5 - GS10 - GS20	3001180

7-pin plug kit

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

BURNER	KIT CODE
▶ GS3 - GS5 - GS10 - GS20	3000945

Continuous ventilation kit for RMG control box

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

BURNER	KIT CODE
▶ GS10 - GS20	3010094

PC interface kit



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

BURNER	KIT CODE
▶ GS3 - GS5	3002731
▶ GS10 - GS20	3002719

Gas train accessories

Seal control kit



To test the valve seals on the gas train, (except for the model with Multibloc MBC 65 DLE) a special “seal control kit” is available.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030

Two Stage Gas Burners

RIELLO 40 GSD SERIES

RIELLO

RIELLO 40 GSD SERIES

The Riello 40 GSD series of two stage gas burners, is a complete range of products developed to respond to any request for home heating. The Riello 40 GSD series is available in two different models, with an output ranging from 41 to 220 kW, divided in two different structures.

All the models use the same components designed by Riello for the Riello 40 GSD series. The high quality level guarantees safe working.

In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.

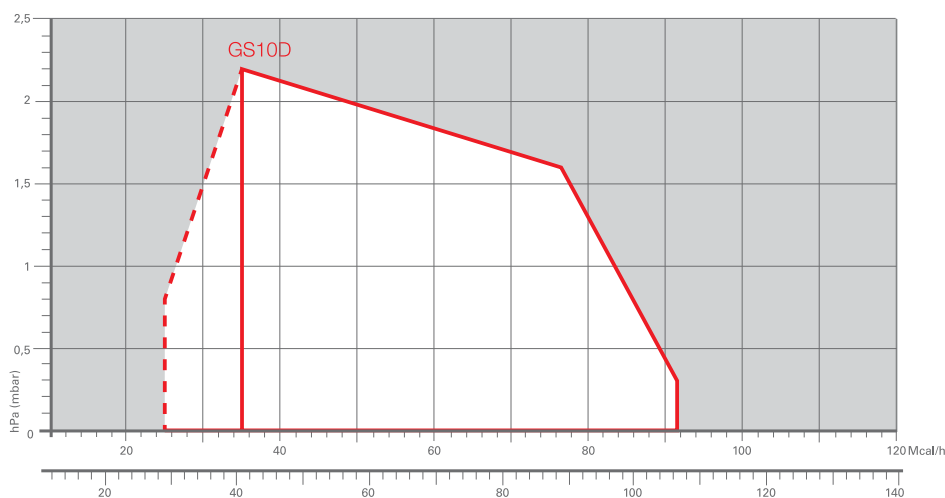
All the models are approved by the EN 676 European Standard and conform to European Directives for EMC, Low Voltage, Gas Appliance and Boiler Efficiency.

All the Riello 40 GSD burners are tested before leaving the factory.



GS10D	29/41 ÷ 106 kW
GS20D	58/81 ÷ 220 kW

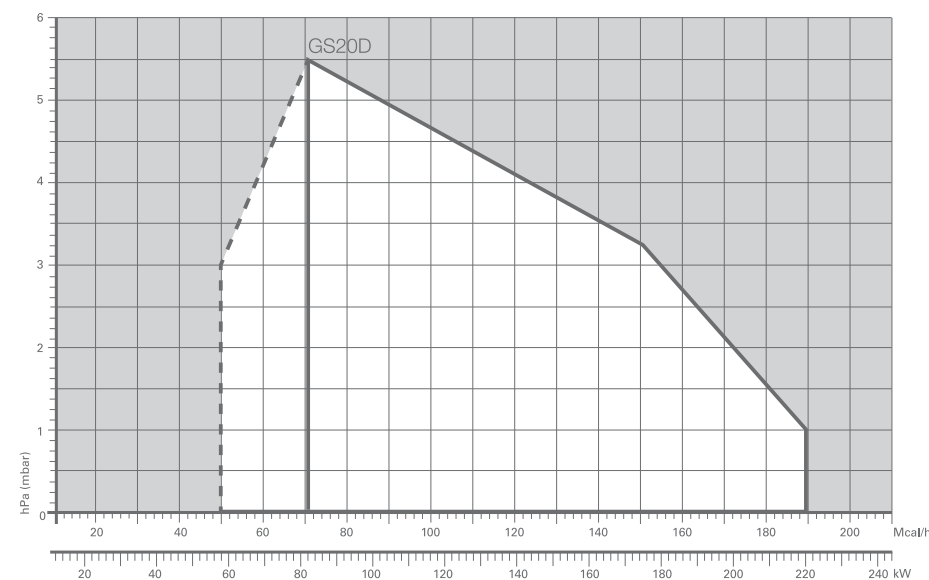
FIRING RATES



□ Useful working field for choosing the burner

▤ 1st stage operation range

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.



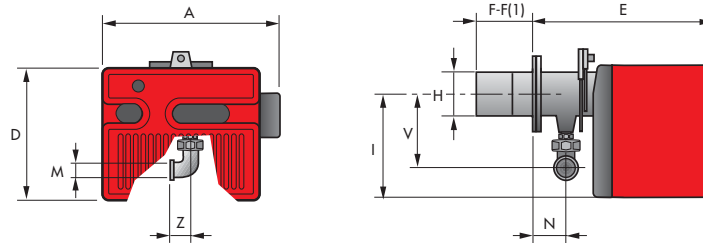
GAS

Two Stage Gas Burners

RIELLO 40 GSD SERIES

Overall dimensions (mm)

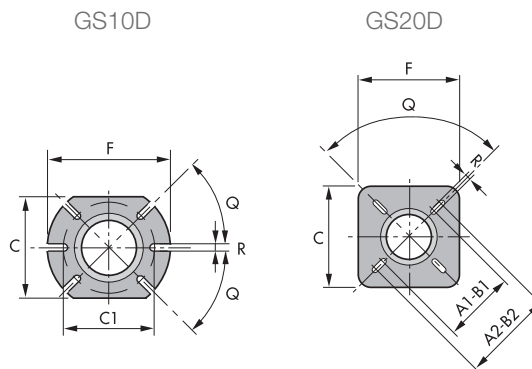
BURNER



MODEL	A	D	E	F - F(1)	H	I	M	N	V	Z
▶ GS10D	368	262	346	110	105	204	Rp 3/4"	61	142	33
▶ GS20D	413	298	389	120 - 280	125	230	Rp 3/4"	67	152	33

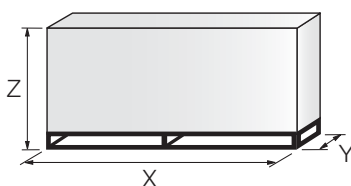
(1) dimension with extended head

BURNER - BOILER MOUNTING FLANGE



MODEL	A1	A2	B1	B2	C	C1	F	Q	R
▶ GS10D	-	-	-	-	160	130	185	45°	11
▶ GS20D	155	200	155	200	170	-	170	90°	11

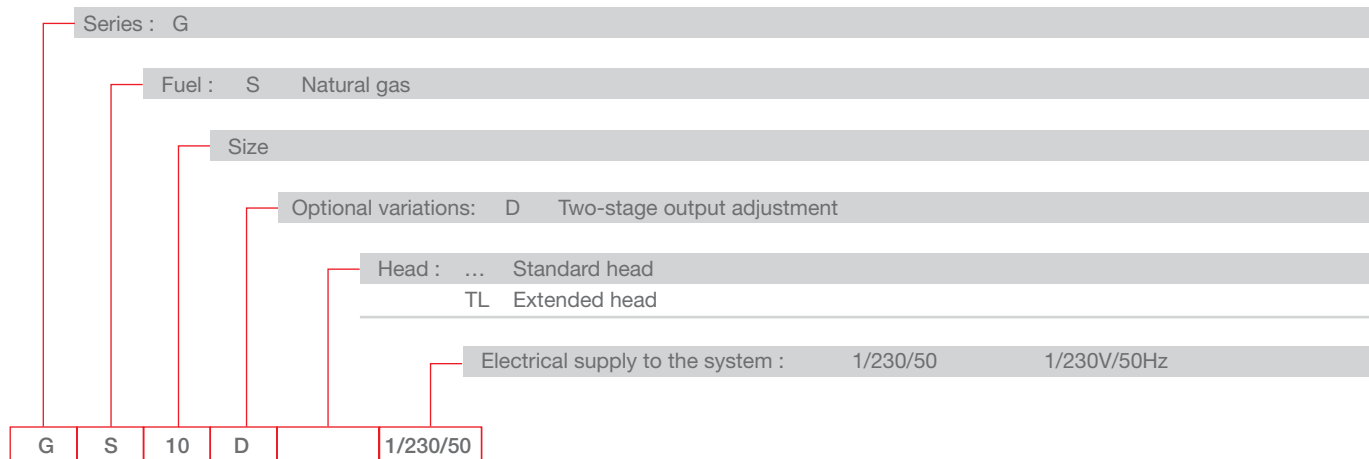
PACKAGING



MODEL	X	Y	Z	kg
▶ GS10D	495	483	330	17
▶ GS20D	535	535	375	22

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage operation, made up of:

- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, driven by an electric servomotor
- Air damper with 1st and 2nd stage 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 X0D (IP 40) electric protection level.

Standard equipment:

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

Two Stage Gas Burners

RIELLO 40 GSD SERIES

Available models

Burners

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
			(kW)	NATURAL GAS (Nm ³ /h)			
3757615	GS10D	1/230/50	29/41 - 106	2,9/4,1 - 10,6	0,130	CE - 0063 AP6680	(1)
3757714	GS20D	1/230/50	58/81 - 220	5,8/8,1 - 22	0,250	CE - 0063 AP6680	(1)
20033973	GS20D TL	1/230/50	58/81 - 220	5,8/8,1 - 22	0,250	CE - 0063 AP6680	(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The burners of GSD series are in according to EN 676

(1) With plug and socket.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970084	MB 405/2 - RSD 20	GS10D		GS10D		(1) (2)
3970537	MB 407/2 - RSD 20	GS10D - GS20D		GS10D - GS20D		(1) (3)
3970534	MB 410/2 - RSD 20	GS20D		GS20D		(1)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas train are 230V/50Hz - 220V/60Hz electrical supply

(1) With installed plug

(2) GS10D ≤ 80 kW with natural gas

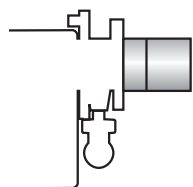
(3) GS20D ≤ 180 kW with natural gas

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



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

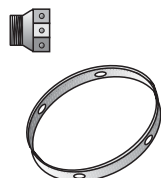
BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GS10D	100	170	3001064
▶ GS20D	120	280	3000873

End cone with turbulator disk



BURNER	PROJECTION (mm)	KIT CODE
▶ GS10D	+18	3000918
▶ GS20D	+23	3000919

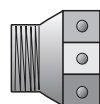
LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GS10D	3000884	3000884
▶ GS20D	3000886	3000886

Town gas kit



BURNER	KIT CODE
▶ GS10D	3000891
▶ GS20D	3000894

Ground fault interrupter kit



A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ GS10D - GS20D	3001180

Two Stage Gas Burners

RIELLO 40 GSD SERIES

Burner accessories

7-pin plug kit

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

BURNER	KIT CODE
▶ GS10D - GS20D	3000945

Continuous ventilation kit for RMG control box

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

BURNER	KIT CODE
▶ GS10D - GS20D	3010094

PC interface kit



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

BURNER	KIT CODE
▶ GS10D - GS20D	3002719

Gas train accessories

Seal control kit



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

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030

RIELLO 40 GS/M SERIES

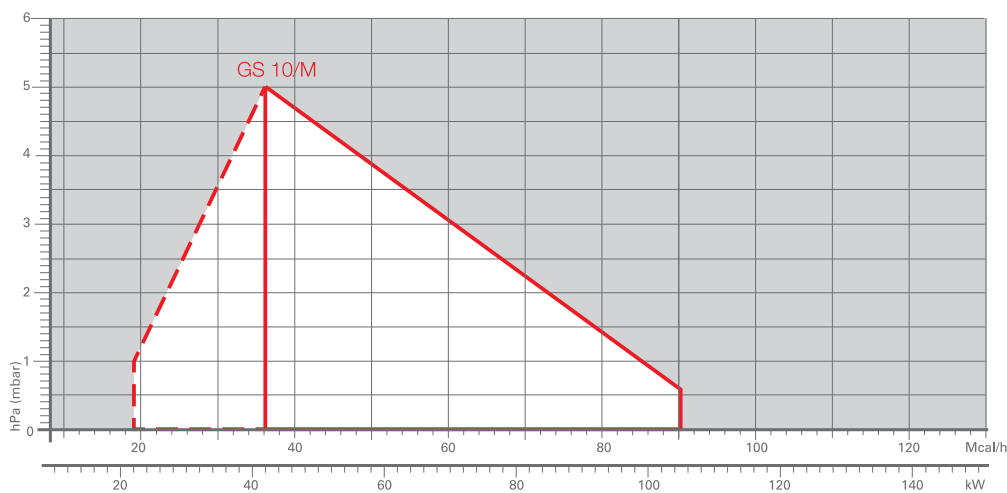
RIELLO 40 GS/M SERIES

The Riello 40 GS/M series of two stage progressive or modulating gas burners, is a complete range of products developed to respond to any request of gas burners for hot air generator according to EN 1020. These new models complete the Riello 40 gas series which prides itself on many years of experience in all the world in the field of residential heating and soft industrial applications. This series of burners is available in two different models with an output ranging from 42 to 194 kW, divided in two different structures. Basic version of these models has two stage progressive operation. A simple modification, adding a component, permits obtaining modulating operation with a rate 1:4. The burners are supplied air fuel ratio control gas trains. This more advanced version can better satisfy market needs for applications where modulation is requested to obtain highest plant efficiency. In developing these burners, special attention was paid to the ease of installation and adjustment, to maintaining the smallest size possible and obtaining high performance for modulating operation to fit into any sort of application available on the market. All the models are approved by the EN 676 European Standard and they conform to European Directives: Gas Appliances, EMC, Low Voltage and Boiler Efficiency.



GS 10/M	22 / 42 ÷ 105 kW
GS 20/M	43 / 82 ÷ 194 kW

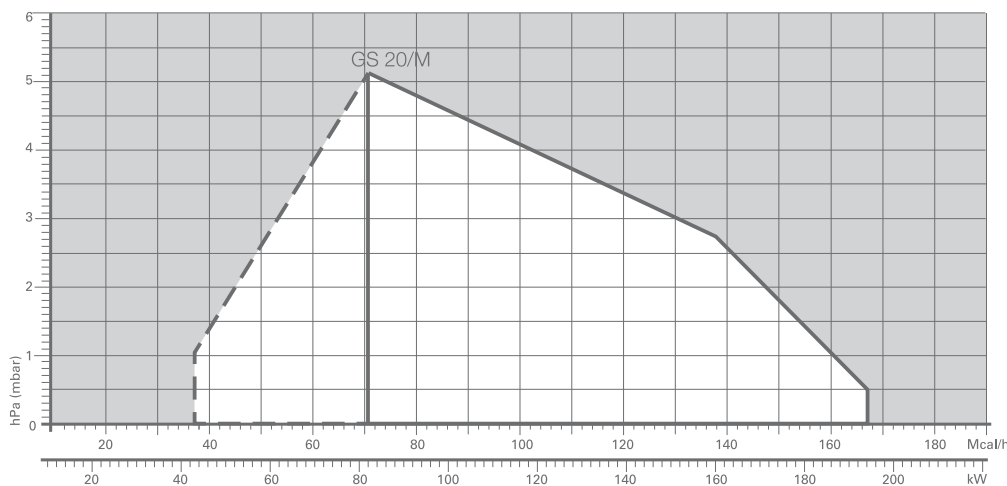
FIRING RATES



□ Useful working field for choosing the burner

▤ Modulation range

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

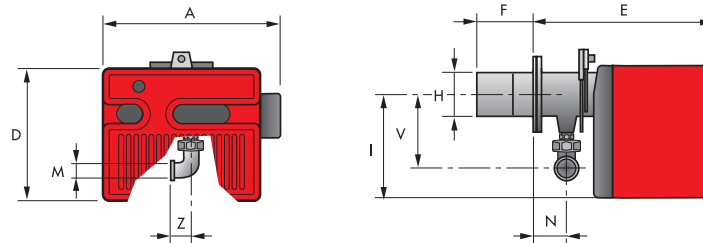


Two Stage Progressive and Modulating Gas Burners

RIELLO 40 GS/M SERIES

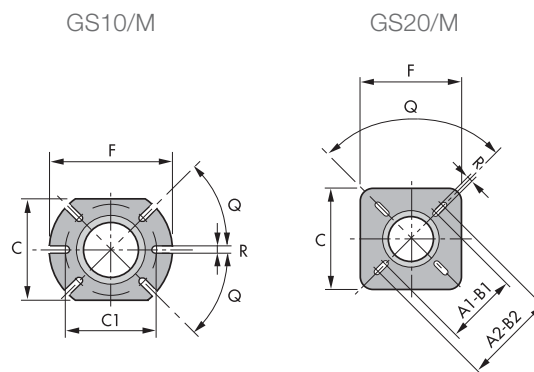
Overall dimensions (mm)

BURNER



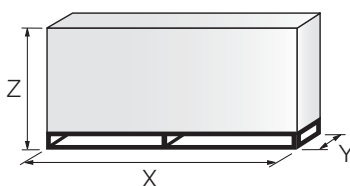
MODEL	A	D	E	F	H	I	M	N	V	Z
▶ GS10/M	425	262	347	110	105	204	Rp 3/4"	61	142	33
▶ GS20/M	488	298	389	120	125	230	Rp 3/4"	67	152	33

BURNER - BOILER MOUNTING FLANGE



MODEL	A1	A2	B1	B2	C	C1	F	Q	R
▶ GS10/M	-	-	-	-	160	130	185	45°	11
▶ GS20/M	155	200	155	200	170	-	170	90°	11

PACKAGING



MODEL	X	Y	Z	kg
▶ GS10/M	505	490	330	17
▶ GS20/M	560	535	375	17

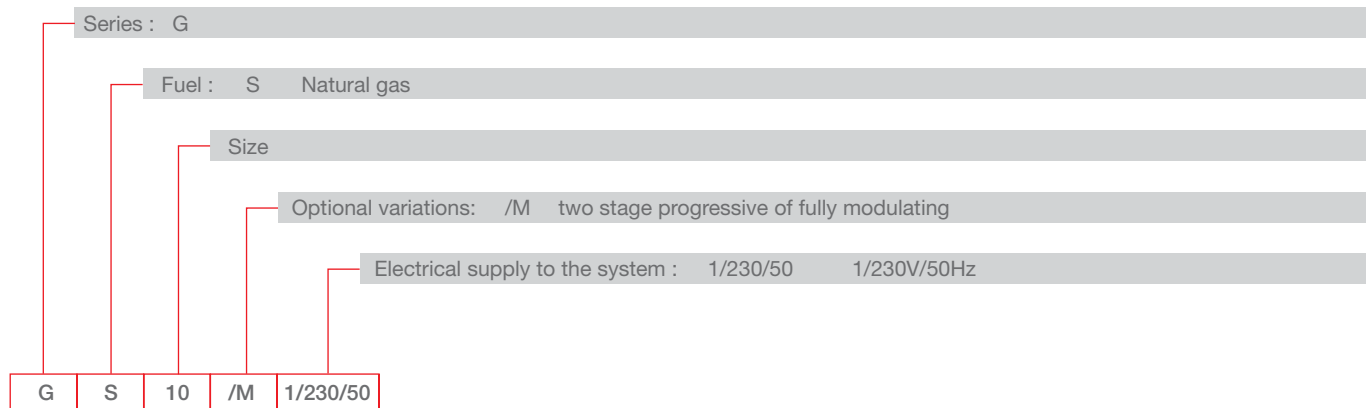
Two Stage Progressive and Modulating Gas Burners

RIELLO 40 GS/M SERIES

RIELLO

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage progressive or modulating operation with a kit, made up of:

- Ratio air/fuel controlled by checking both the air and the gas flows
- Two pressure switches on the burner, to make sure the burner operation, detecting both the fan and the chimney functions
- Remote reset available
- Servomotor to drive the air damper to fully closed position at stand-by, low and high fire position
- Turn down fire 1:4
- Fan with forward curve blades
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
 - additional device, to keep short the flame shape
- Protection filter against radio interference
- Microprocessor-based flame control box, with diagnostic functions
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Hinge to turn the burner left-side or right-side for the maintenance position
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug with capacitor for EMC
- 4-pin plug to connect the high-low thermostat
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Two Stage Progressive and Modulating Gas Burners

RIELLO 40 GS/M SERIES

Available models

Burners

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
			(kW)	NATURAL GAS (Nm ³ /h)			
3755556	GS10/M	1/230/50	22/42 - 105	2,2/4,2 - 10,5	0,130	CE – 0085 BM0453	(1)
3755756	GS20/M	1/230/50	43/82 - 194	4,3/8,2 - 19,4	0,250	CE – 0085 BM0453	(1)
3091960	GS20/M	1/220/60	43/82 - 194	4,3/8,2 - 19,4	0,250	-	(1)

(1) With installed plug.

Net calorific value G20 gas: 10 kWh/Nm³; 8600 kcal/Nm³ - Density: 0,71 kg/Nm³.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970535	MB 407/P - RSD 00	GS10/M		GS10/M		(1)
		GS20/M		GS20/M		
3970536	MB 412/P - RSD 00	GS20/M		GS20/M		(1) (2)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas train are 230V/50Hz - 220V/60Hz electrical supply

(1) With plug and socket.

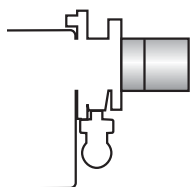
(2) ≥120 kW.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

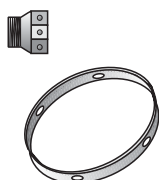
Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GS10/M	128	188	3001064
▶ GS20/M	120	280	3000873

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GS10/M	3000884	3000884
▶ GS20/M	3000886	3000886

Ground fault interrupter kit



A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ GS10/M - GS20/M	3001180

7-pin plug kit

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

BURNER	KIT CODE
▶ GS10/M - GS20/M	3000945

Accessories for modulating operation



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

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ GS10/M - GS20/M	RWF 40	3001074

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



BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ GS10/M - GS20/M	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

Two Stage Progressive and Modulating Gas Burners

RIELLO 40 GS/M SERIES

Burner accessories

PC interface kit



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

BURNER	KIT CODE
▶ GS10/M - GS20/M	3002719

RIELLO 40 FS SERIES

The Riello 40 FS series of one stage gas burners, is a complete range of products developed to respond to any request for light industrial application. The Riello 40 FS series is available in five different models, with an output ranging from 11 to 220 kW, divided in four different structures.

All the models use the same components designed by Riello for the Riello 40 FS series. The high quality level guarantees safe working.

The Riello 40 FS burners are fitted with a microprocessor - based control box, with diagnostic functions.

In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.

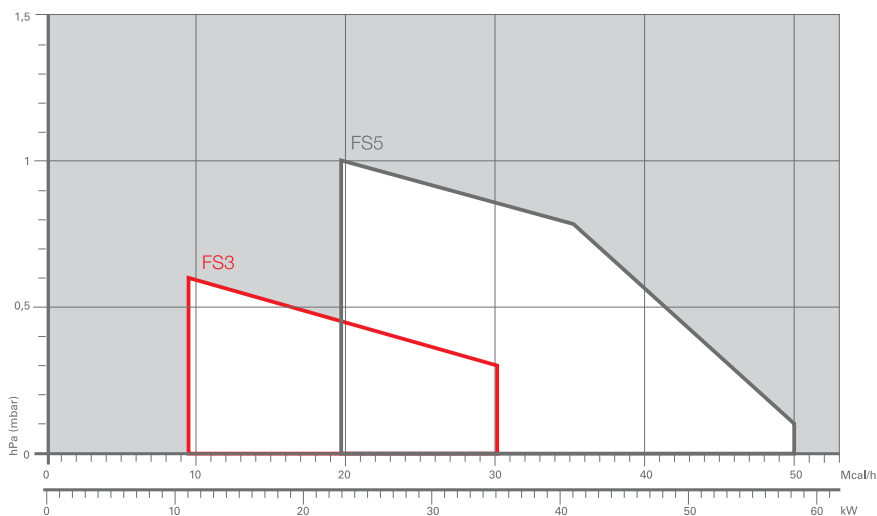
All the models are approved by the EN 676 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency.

All the Riello 40 FS burners are tested before leaving the factory.



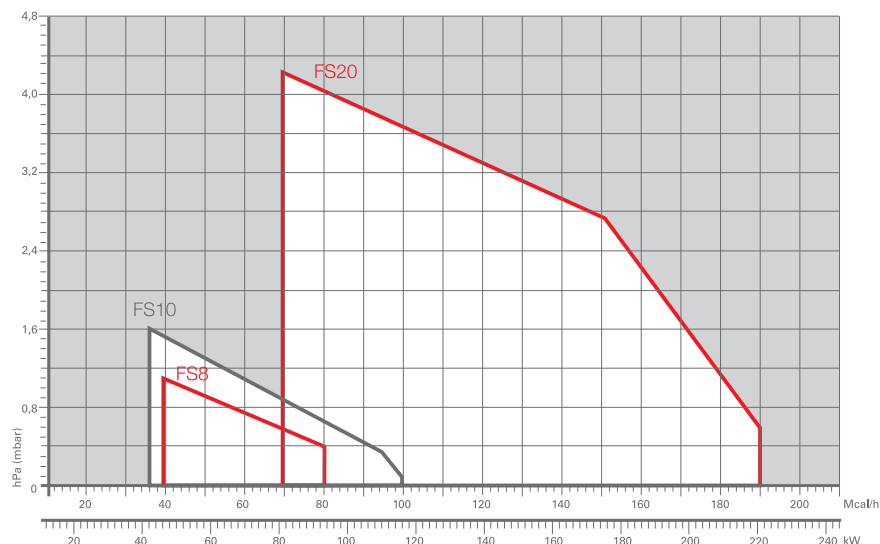
FS3	11 ÷ 35 kW
FS5	23 ÷ 58 kW
FS8	46 ÷ 93 kW
FS10	42 ÷ 116 kW
FS20	81 ÷ 220 kW

FIRING RATES



Useful working field for choosing the burner

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

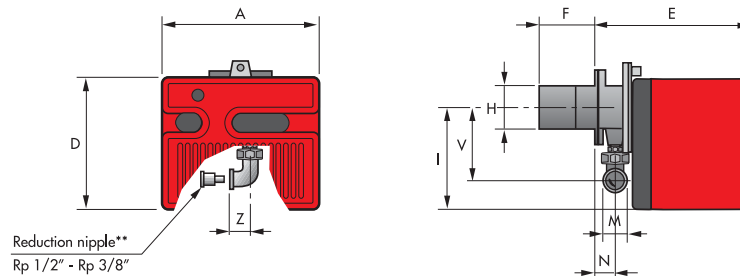


One Stage Gas Burners

RIELLO 40 FS SERIES

Overall dimensions (mm)

BURNER



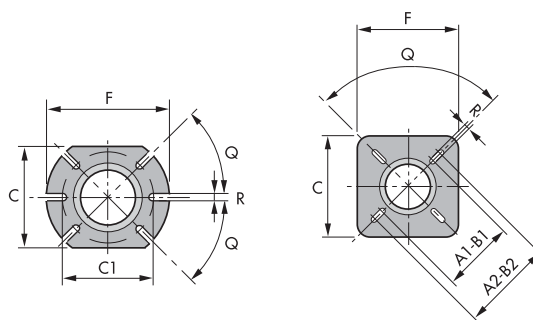
MODEL	A	D	E	F	H	I	M	N	V	Z
▶ FS3	252	215	230	100	91	165	Rp 3/8"	37	132	25
▶ FS5	272	233	295	100	91	180	Rp 1/2"	48	138	28
▶ FS8	305	262	347	110	105	204	Rp 3/4"	61	142	33
▶ FS10	305	262	346	110	105	204	Rp 3/4"	61	142	33
▶ FS20	350	298	389	120	125	230	Rp 3/4"	67	152	33

* With reduction nipple
 ** Standard equipment on R40 FS3

BURNER - BOILER MOUNTING FLANGE

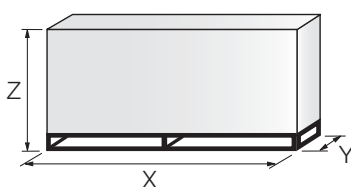
FS3 - FS5 - FS8 - FS10

FS20



MODEL	A1	A2	B1	B2	C	C1	F	Q	R
▶ FS3	-	-	-	-	140	130	170	45°	10
▶ FS5	-	-	-	-	140	130	170	45°	10
▶ FS8	-	-	-	-	160	130	185	45°	11
▶ FS10	-	-	-	-	160	130	185	45°	11
▶ FS20	155	200	155	200	170	-	170	90°	11

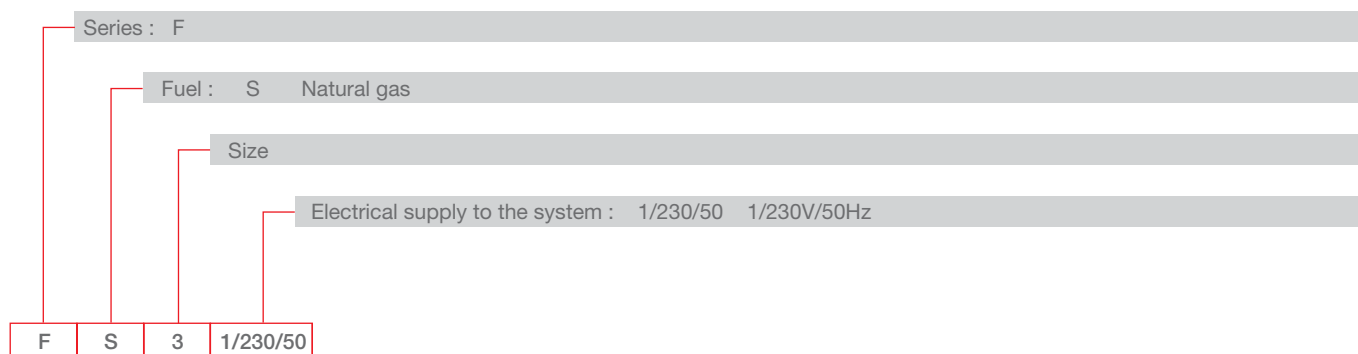
PACKAGING



MODEL	X	Y	Z	kg
▶ FS3	375	335	310	9,5
▶ FS5	445	355	335	11
▶ FS8	483	495	330	13,6
▶ FS10	483	495	330	17
▶ FS20	535	535	375	20

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, with one stage settings fitted with:

- Fan with forward curve blades
- Cover lined with sound-deadening material
- Metallic and fixed air damper with adjustment
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
 - flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based flame control box, with diagnostic functions
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pole socket
- Hinge
- Reduction nipple Rp 1/2" - Rp 3/8" (for R40 FS3 only)
- Grommet
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

One Stage Gas Burners

RIELLO 40 FS SERIES

Available models

Burners

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
			(kW)	NATURAL GAS (Nm ³ /h)			
3756506	FS3	1/230/50	11 - 35	1,1 - 3,5	0,150	CE - 0063 AP6680	
3756606	FS5	1/230/50	23 - 58	2,3 - 5,8	0,150	CE - 0063 AP6680	(1)
3756706	FS8	1/230/50	46 - 93	4,6 - 9,3	0,150	CE - 0063 AP6680	(1)
3756435	FS10	1/230/50	42 - 116	4,2 - 11,6	0,130	CE - 0063 AP6680	(1) (2)
3756935	FS20	1/230/50	81 - 220	8,1 - 22	0,250	CE - 0063 AP6680	(1) (2)

Models for LPG applications

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
			(kW)	LPG (Nm ³ /h)			
3756439	FSP10	1/230/50	42 - 116	1,6 - 4,4	0,130	CE - 0063AP6680	(1) (2)
3756939	FSP20	1/230/50	81 - 220	3,1 - 8,5	0,250	CE - 0063AP6680	(1) (2)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

Net calorific value G31 (LPG): 25,8 kWh/Nm³ - Density: 2,02 kg/Nm³

The burners of FS series are in according to EN 676

(1) With plug and socket

(2) French version

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970569	MBC 65/1 - RSD 20	FS3 - FS5		FS3 - FS5		(1)
3970530	MB 405/1 - RSD 20	FS5 - FS8 - FS20		FS5 - FS8 - FS20		(1) (2)
3970500	MB 405/1 - RT 20	FS10		FS10		(1) (3)
3970531	MB 407/1 - RSD 20	FS5 - FS8 - FS10 - FS20		FS5 - FS8 - FS10 - FS20		(1) (4)
3970532	MB 410/1 - RSD 20	FS10 - FS20		FS10 - FS20		(1)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas train are 230V/50Hz - 220V/60Hz electrical supply

(1) With installed plug (if the plug is not necessary, remove it in accordance with gas train instruction manual indication)

(2) FS8 ≤ 80 kW with natural gas

(3) FS10 ≤ 80 kW with natural gas

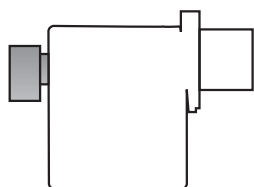
(4) FS20 ≤ 180 kW with natural gas

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

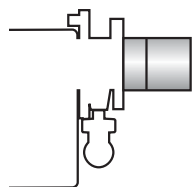
Remote reset control kit for MG 557/3/5 control box



The MG 557 control box can be remotely released using an electric command kit. This kit must be installed in conformity with the local authority.

BURNER	KIT CODE
▶ FS3 - FS5 - FS8	3002750

Extended head kit



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

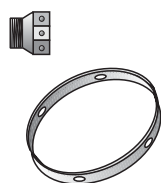
BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ FS3 - FS5	100	125	3000820
▶ FS8 - FS10	110	170	3001064
▶ FS8	110	278	3000920
▶ FS20	120	280	3000873

End cone with turbulator disk



BURNER	PROJECTION (mm)	KIT CODE
▶ FS5	+15	3000916
▶ FS8	+18	3000917
▶ FS10	+18	3000918
▶ FS20	+23	3000919

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

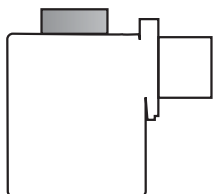
BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ FS3	3000881	3000881
▶ FS5	3000882	3000882
▶ FS8	3000927	3000927
▶ FS10	3000884	3000884
▶ FS20	3000886	3000886

One Stage Gas Burners

RIELLO 40 FS SERIES

Burner accessories

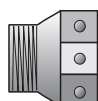
Inlet air aspiration kit



This kit allows to channel the external air directly into the burner and is available as accessory for models:

BURNER	KIT CODE
▶ FS3	20027571
▶ FS5	20027576
▶ FS8 - FS10	20027578
▶ FS20	20027581

Town gas kit



BURNER	KIT CODE
▶ FS3	3000888
▶ FS5	3000889
▶ FS8	3000890
▶ FS10	3000891
▶ FS20	3000893

Ground fault interrupter kit



A “Ground fault interrupter kit” is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ FS5 - FS8 - FS10 - FS20	3001180

7-pin plug kit

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

BURNER	KIT CODE
▶ All models	3000945

Continuous ventilation kit for RMG control box

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

BURNER	KIT CODE
▶ FS10 - FS20	3010094

Burner accessories

PC interface kit



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

BURNER	KIT CODE
▶ FS3 - FS5 - FS8	3002731
▶ FS10 - FS20	3002719

Gas train accessories

Seal control kit



To test the valve seals on the gas train, (except for the model with Multibloc MBC 65 DLE) a special "seal control kit" is available.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030



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Two Stage Gas Burners

RIELLO 40 FSD SERIES

RIELLO

RIELLO 40 FSD SERIES

The Riello 40 FSD series of two stage gas burners, is a complete range of products developed to respond to any request for light industrial process. The Riello 40 FSD series is available in two different models, with an output ranging from 12 to 220 kW, divided in two different structures.

All the models use the same components designed by Riello for the Riello 40 FSD series. The high quality level guarantees safe working.

The Riello 40 FSD burners are fitted with a microprocessor - based control box, with diagnostic functions.

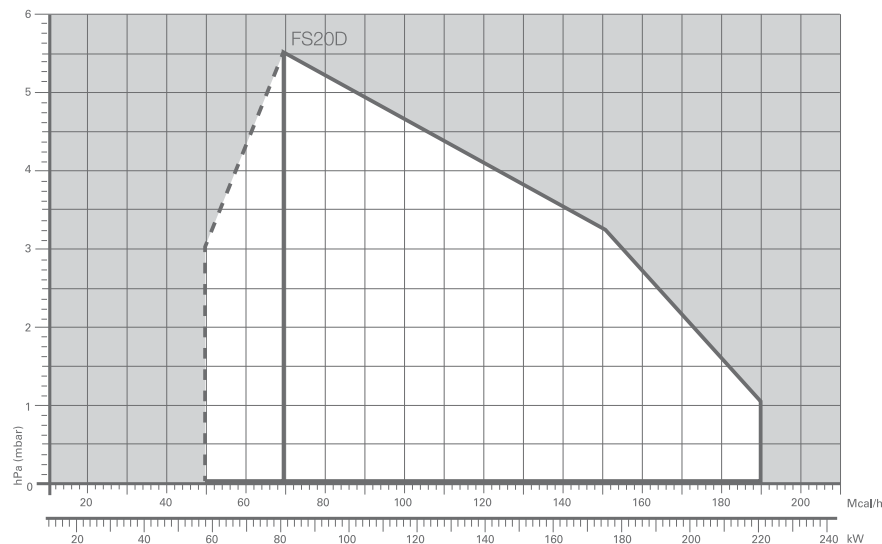
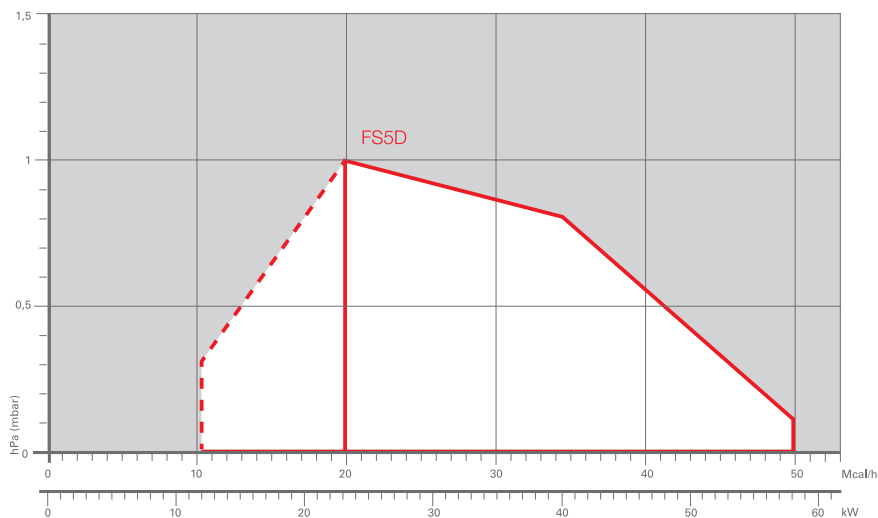
In developing these burners, special attention was paid to reducing noise, to the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.

All the models are approved by the EN 676 European Standard and conform to European Directives for EMC, Low Voltage, Machinery and Boiler Efficiency. All the Riello 40 FSD burners are tested before leaving the factory.



FS5D	12/23 ÷	58 kW
FS20D	58/81 ÷	220 kW

FIRING RATES



□ Useful working field for choosing the burner

⋯ 1st stage operation range

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

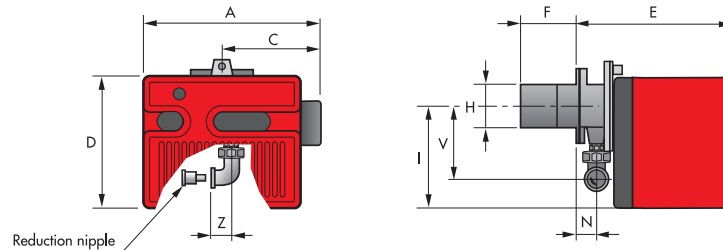
GAS

Two Stage Gas Burners

RIELLO 40 FSD SERIES

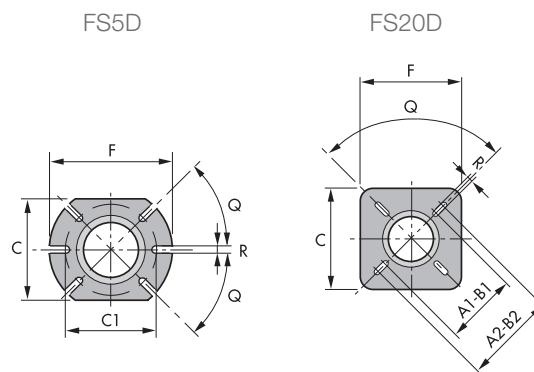
Overall dimensions (mm)

BURNER



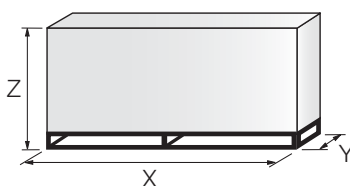
MODEL	A	C	D	E	F	H	I	N	V	Z
▶ FS5D	306	170	233	295	100	91	180	48	138	28
▶ FS20D	413	238	298	389	120	125	230	67	152	33

BURNER - BOILER MOUNTING FLANGE



MODEL	A1	A2	B1	B2	C	C1	F	Q	R
▶ FS5D	-	-	-	-	140	130	170	45°	10
▶ FS20D	155	200	155	200	170	-	170	90°	11

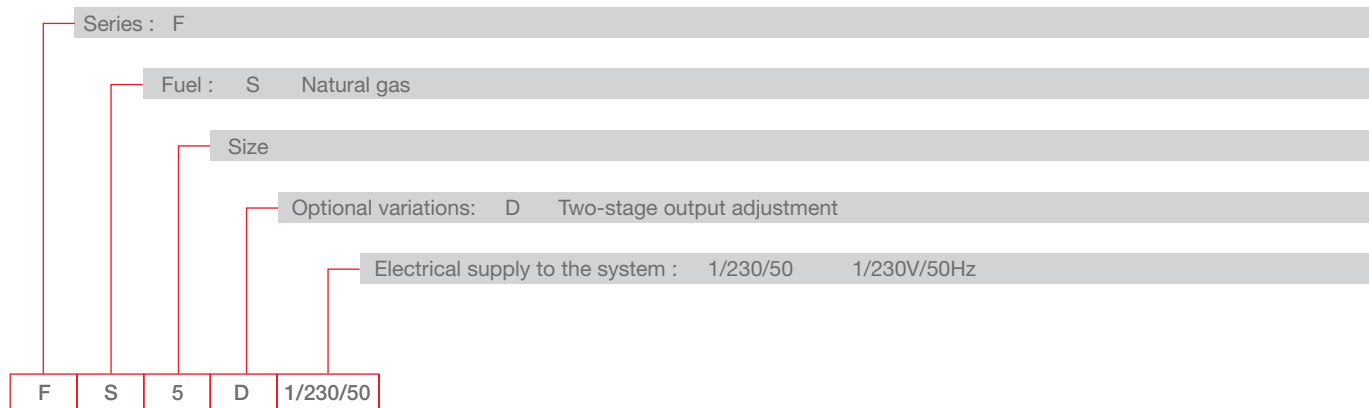
PACKAGING



MODEL	X	Y	Z	kg
▶ FS5D	445	355	325	11
▶ FS20D	535	535	375	22

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burners, completely automatic, with two stage settings fitted with:

- Fan with forward curve blades
- Metallic cover
- Air damper, open in stand by, driven by an electric servomotor
- Air damper with 1st and 2nd stage 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
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box MG 557 (with diagnostic, remote reset, continuous purge integrated, recycle, post-purge)
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Insulating gasket
- Screws and nuts for fixing the flange to the boiler
- Hinge
- Cable grommet
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Two Stage Gas Burners

RIELLO 40 FSD SERIES

Available models

Burners

CODE	MODEL		HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
			(kW)	NATURAL GAS (Nm³/h)			
3758705	FS5D	1/230/50	12/23 - 58	1,2/2,3 - 5,8	0,110	CE – 0063 AP6680	(1)
3759105	FS20D	1/230/50	58/81 - 220	5,8/8,1 - 22	0,250	CE – 0063 AP6680	(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³

The burners of FSD series are in according to EN 676

(1) With terminal block.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970084	MB 405/2 - RSD 20	FS5D		FS5D		(1)
3970537	MB 407/2 - RSD 20	FS20D		FS20D		(1) (2)
3970534	MB 410/2 - RSD 20	FS20D		FS20D		(1)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas train are 230V/50Hz - 220V/60Hz electrical supply

(1) With installed plug (if the plug is not necessary, remove it in accordance with gas train instruction manual indication)

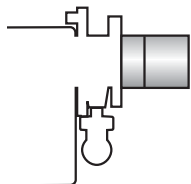
(2) FS20D ≤ 180 kW with natural gas

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ FS5D	100	125	3000820
▶ FS20D	120	280	3000873

End cone with turbulator disk



BURNER	PROJECTION (mm)	KIT CODE
▶ FS5D	+15	3000916
▶ FS20D	+23	3000919

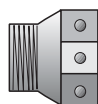
LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ FS5D	3000882	3000882
▶ FS20D	3000886	3000886

Town gas kit



BURNER	KIT CODE
▶ FS5D	3000889
▶ FS20D	3000894

7-pin plug kit

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

BURNER	KIT CODE
▶ FS5D - FS20D	3000945

Two Stage Gas Burners

RIELLO 40 FSD SERIES

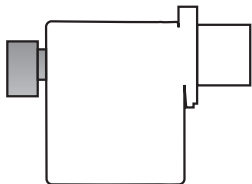
Burner accessories

Continuous ventilation kit for RMG control box

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

BURNER	KIT CODE
► FS20D	3010094

Remote reset control kit for MG 557/3 control box



The MG 557 control box can be remotely released using an electric command kit. This kit must be installed in conformity with the local authority.

BURNER	KIT CODE
► FS5D	3002750

PC interface kit



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

BURNER	KIT CODE
► FS5D	3002731
► FS20D	3002719

Gas train accessories

Seal control kit



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

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
► MB/1 type	3010123	20050030

GULLIVER RS SERIES

The Riello Gulliver RS5 is a new model of the series of one stage gas burners, characterized for its small dimensions in spite of its high combustion performance. It has been developed to respond to any request for home heating, conforming to current regulations in force.

This model uses the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.

The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

In developing this burner, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.

This model is approved by the EN 676 European Standard and European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.

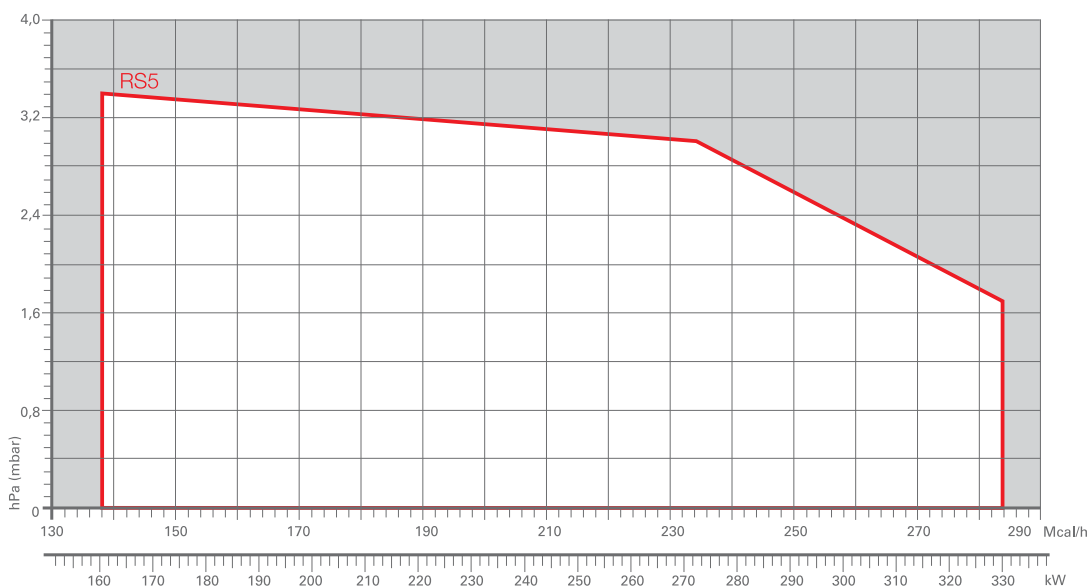
The Gulliver RS5 burner is tested before leaving the factory.



RS5

160 ÷ 330 kW

FIRING RATES



Useful working field for choosing the burner

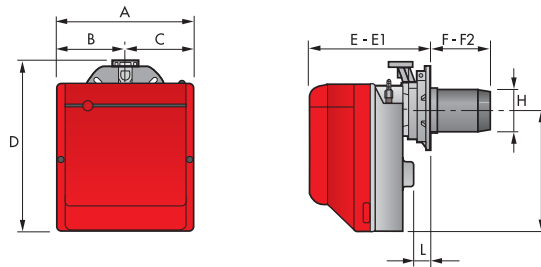
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

One Stage Gas Burners

GULLIVER RS SERIES

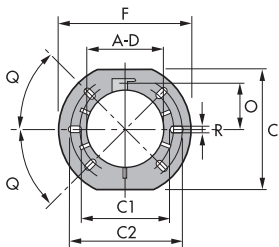
Overall dimensions (mm)

BURNER



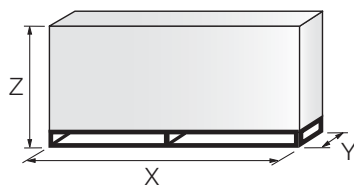
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
► RS5	300	150	150	392	278	300	225	203	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
► RS5	137	203	170	200	137	218	80,5	45°	11

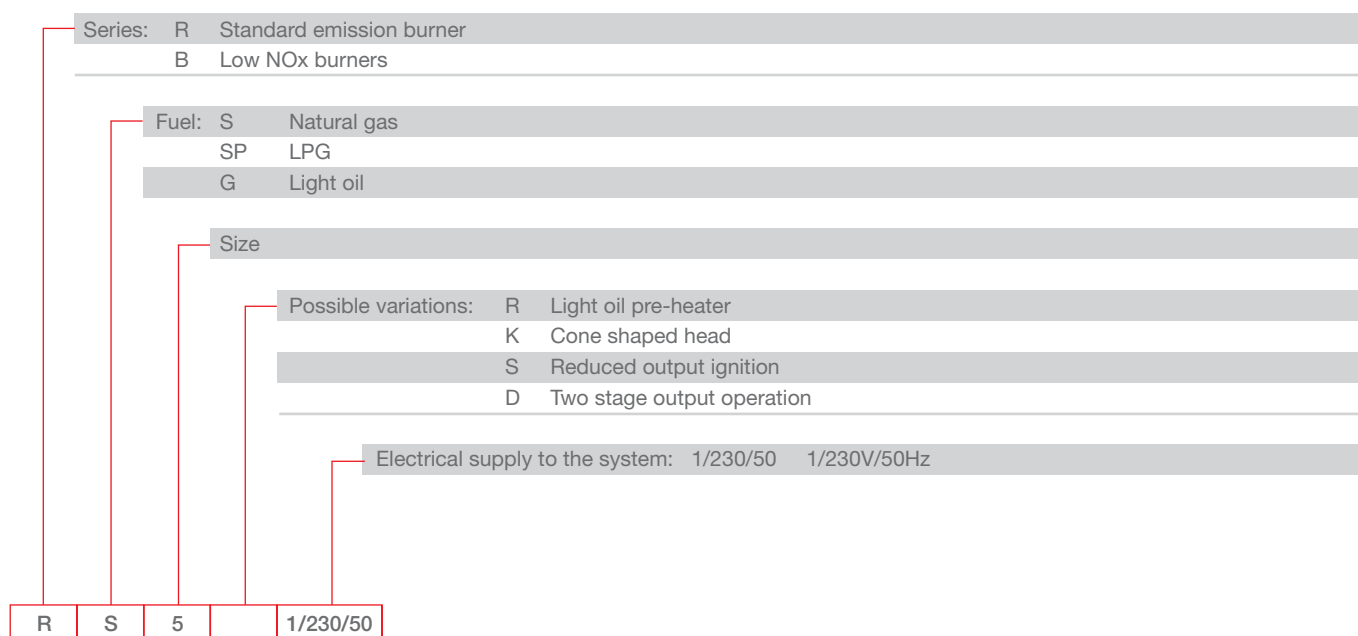
PACKAGING



MODEL	X	Y	Z	kg
► RS5	600	345	430	18

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burner, completely automatic, one stage operation, made up of:

- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, completely closed in stand by, with external adjustment, with no need to remove the cover
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

One Stage Gas Burners

GULLIVER RS SERIES

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)			
3761958	RS5 1/230/50	160 - 330	16 - 33	0,430	CE - 0085 BM0114	(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.

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

(1) With plug and socket.

Gas Trains

MULTIBLOC	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
			BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
	3970549	MB 410/1 - F3SD 20	RS5		RS5		
3970550	MB 412/1 - F3SD 20	RS5		RS5		(1) (3)	
3970558	MB 415/1 - F3SD 30	RS5		RS5		(1)	

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) With installed plug.

(2) RS5 ≤ 200 kW with natural gas.

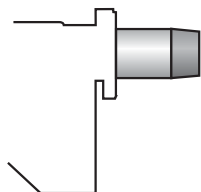
(3) RS5 ≤ 300 kW with natural gas.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



Burners standard head can be transformed into "extended head" versions by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS5	203 ÷ 225	357 ÷ 372	3001016

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ RS5	3001011	3001011

Burner accessories

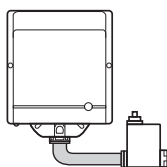
Ground fault interrupter kit



A "Ground fault interrupter kit" is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ RS5	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ RS5	3001178

7-pin plug kit

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

BURNER	KIT CODE
▶ RS5	3000945

PC interface kit



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

BURNER	KIT CODE
▶ RS5	3002731

Gas train accessories

Seal control kit



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

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030

GULLIVER RSD SERIES

The Riello Gulliver RS5D is a new model of the series of two stage gas burners, characterized for its small dimensions in spite of its high combustion performance. It has been developed to respond to any request for home heating, conforming to current regulations in force. This model uses the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.

The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

In developing this burner, special attention was paid to reducing noise, the ease of installation and adjustment, to obtaining the smallest size possible to fit into any sort of boiler available on the market.

This model is approved by the EN 676 European Standard and European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.

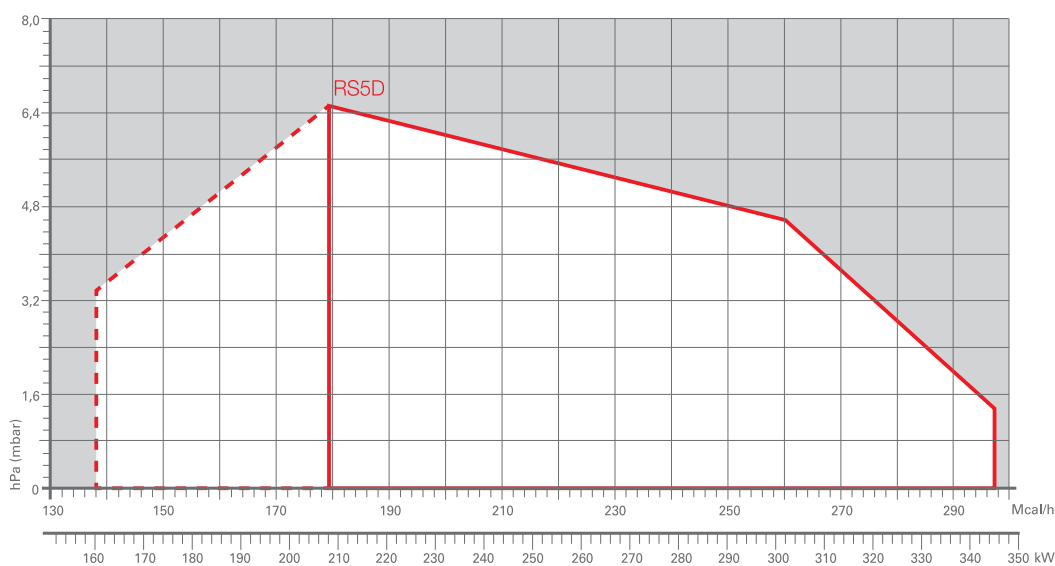
The Gulliver RS5D burner is tested before leaving the factory.



RS5D

160/208 ÷ 345 kW

FIRING RATES



Useful working field for choosing the burner

1st stage operation range

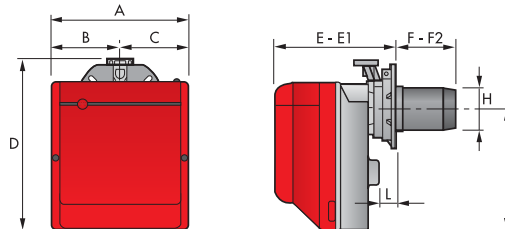
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Two Stage Gas Burners

GULLIVER RSD SERIES

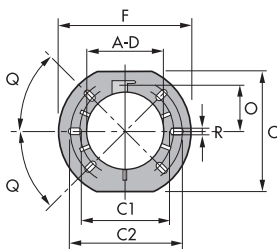
Overall dimensions (mm)

BURNER



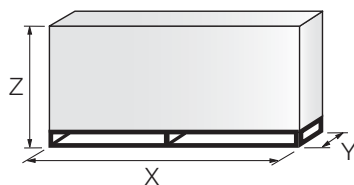
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
► RS5D	300	150	150	392	278	300	203	225	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
► RS5D	137	203	170	200	137	218	80,5	45°	11

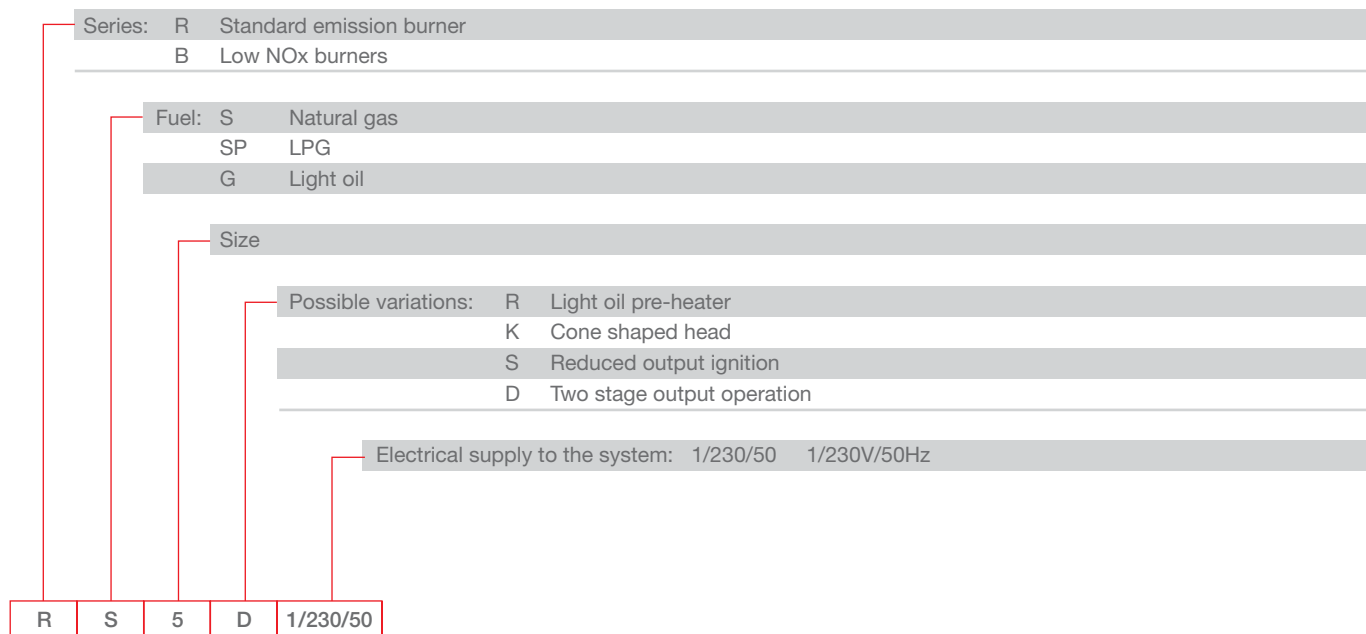
PACKAGING



MODEL	X	Y	Z	kg
► RS5D	600	345	430	18

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burner, completely automatic, with two stage settings fitted with:

- Fan with forward curve blades
- Cover lined with sound - proofing material
- Air damper, with 1st and 2nd stage adjustment, driven by an electric servomotor
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- 4-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Two Stage Gas Burners

GULLIVER RSD SERIES

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)			
3762058	RS5D 1/230/50	160/208 - 345	16/20,8 - 34,5	0,450	CE - 0085 BN0325	(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.
The burners of RSD series are in according to EN 676.
(1) With plug and socket.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970542	MB 410/2 - F3SD 20	RS5D		RS5D		(1) (2)
3970543	MB 412/2 - F3SD 20	RS5D		RS5D		(1) (3)
3970582	MB 415/2 - F3SD 20	RS5D		RS5D		(1)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) With installed plug.

(2) RS5D ≤ 200 kW with natural gas.

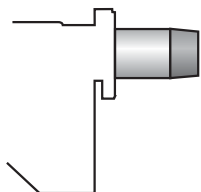
(3) RS5D ≤ 300 kW with natural gas.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



Burners standard head can be transformed into "extended head" versions by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS5D	203 ÷ 225	357 ÷ 372	3001016

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ RS5D	3001011	3001011

Burner accessories

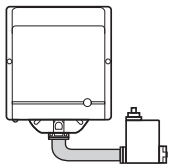
Ground fault interrupter kit



A "Ground fault interrupter kit" is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
► RS5D	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
► RS5D	3001178

7-pin plug kit

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

BURNER	KIT CODE
► RS5D	3000945

PC interface kit



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

BURNER	KIT CODE
► RS5D	3002731

Gas train accessories

Seal control kit



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

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
► MB/1 type	3010123	20050030

GULLIVER RSF SERIES

The Riello Gulliver RS5F, is a new model of the series of one stage gas burners, developed to respond to any request for light industrial processes like bakery ovens, spray painting ovens, small steam or thermal boilers and all applications which require a reliable, user-friendly industrial product with enhanced performance and specific functions.

The Gulliver RS5F series has an output ranging from 160 to 330 kW, uses the same components designed by Riello for the Gulliver series and have the same ventilation system and overall dimensions as the previous one stage gas model.

The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

This new burner can operate on 50 or 60 Hz and a Voltage 220 - 230 Volt (dual frequency) and it is conform to the EN 676 Standard (Forced draught gas burners) and to European Directives for EMC, Low Voltage and Machinery. For depressurised working field see EN 746-2 Standard.

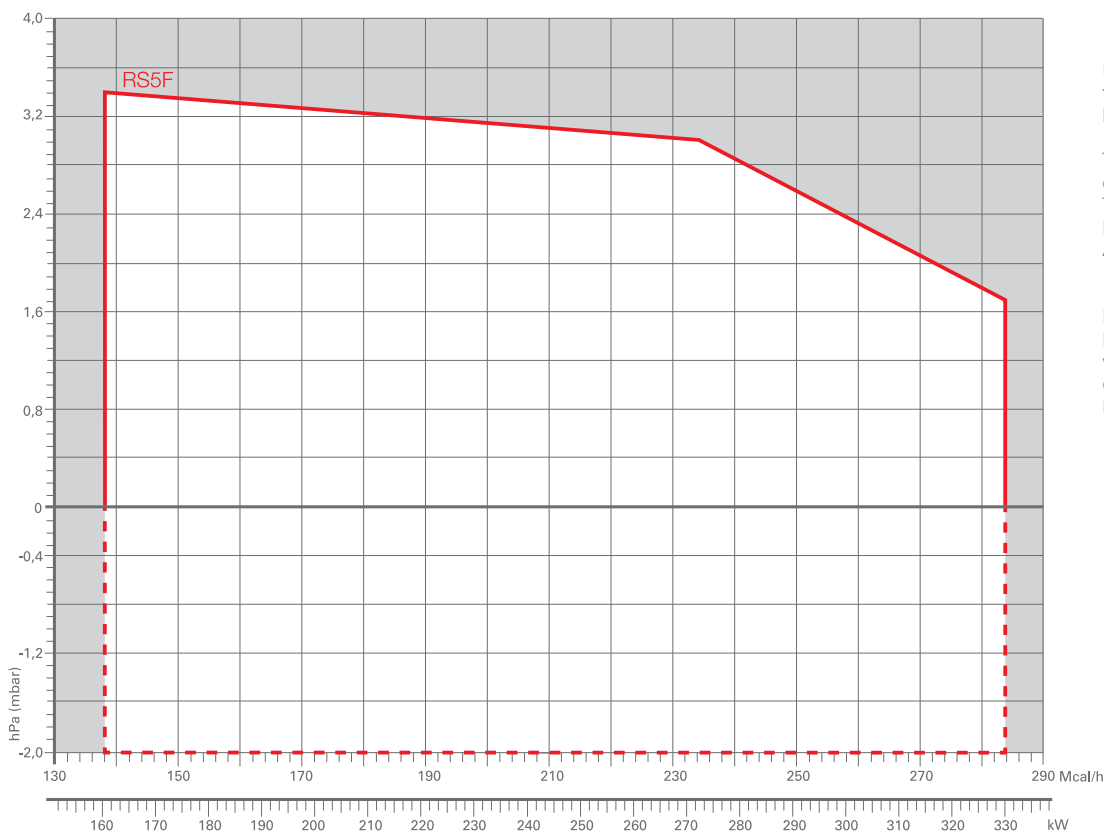
All the Gulliver RS5F burners are fired before leaving the factory.



RS5F

160 ÷ 330 kW

FIRING RATES



Useful working field for choosing the burner

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

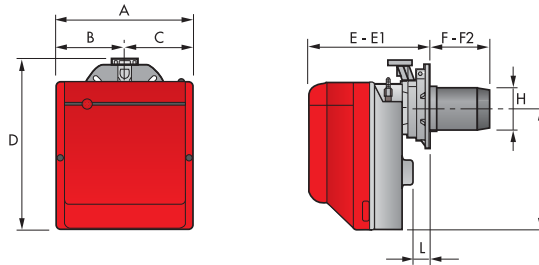
IMPORTANT:
 For the part of the working field that is depressurised, refer to EN 746-2 Standard.

One Stage Gas Burners

GULLIVER RSF SERIES

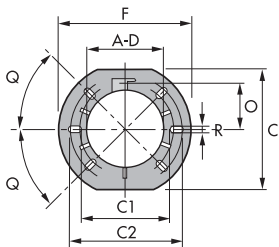
Overall dimensions (mm)

BURNER



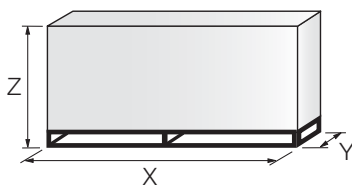
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
► RS5F	300	150	150	392	278	300	225	203	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
► RS5F	137	203	170	200	137	218	80,5	45°	11

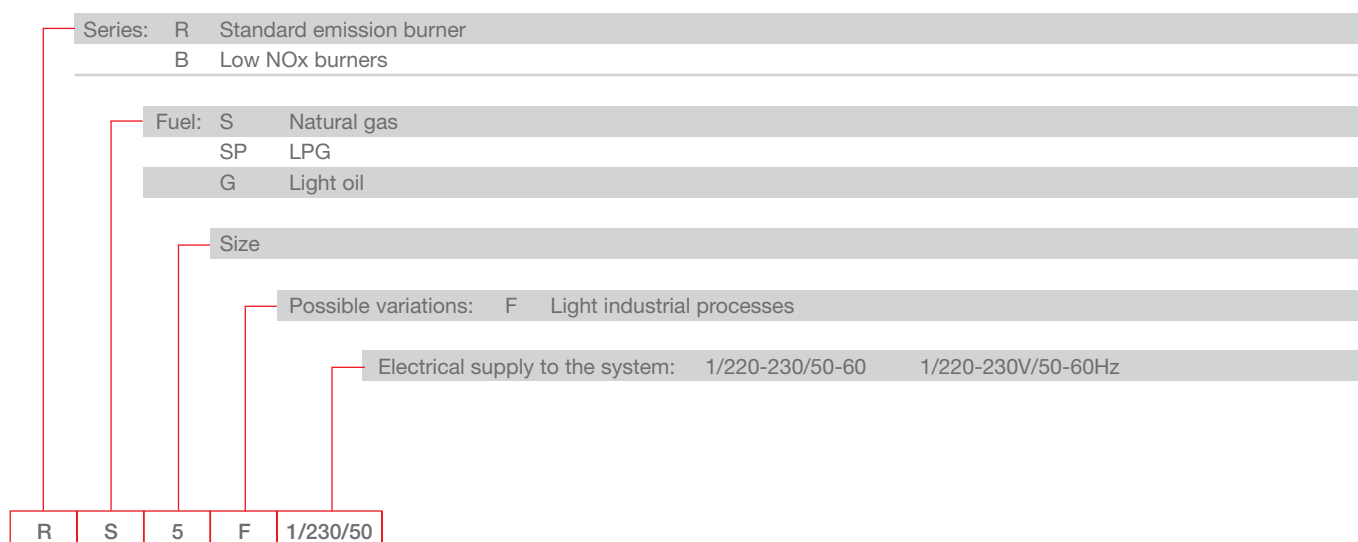
PACKAGING



MODEL	X	Y	Z	kg
► RS5F	600	345	430	18

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monobloc, gas burner, completely automatic, one stage operation, made up of:

- Fan with forward curve blades
- Cover lined with sound-proofing material
- Air damper, always open in stand by, with external adjustment, with no need to remove the cover
- Single phase electric motor 220-230 V, 50-60 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Flange with insulating gasket
- Screw and nut for flange
- Screws and nuts for flange to be fixed to the heat generator
- 7-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

One Stage Gas Burners

GULLIVER RSF SERIES

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)			
3761971	RS5F 1/220-230/50-60	160 - 330	16,0 - 33,0	0,430 (at 50 Hz) - 0,600 (at 60 Hz)	CE - 0085 BM0114	(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.
The burners of RSF series are in according to EN 676.
(1) With plug and socket.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970549	MB 410/1 - F3SD 20	RS5F		RS5F		(1) (2)
3970550	MB 412/1 - F3SD 20	RS5F		RS5F		(1) (3)
3970558	MB 415/1 - F3SD 30	RS5F		RS5F		(1)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) With installed plug.

(2) RS5F ≤ 200 kW with natural gas.

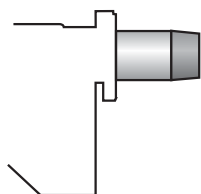
(3) RS5F ≤ 300 kW with natural gas.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



Burners standard head can be transformed into "extended head" versions by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS5F	203 ÷ 225	302 ÷ 317	3001016

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ RS5F	3001011	3001011

Burner accessories

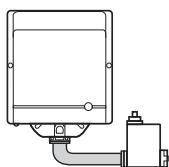
Ground fault interrupter kit



A "Ground fault interrupter kit" is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ RS5F	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ RS5F	3001178

7-pin plug kit

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

BURNER	KIT CODE
▶ RS5F	3000945

PC interface kit



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

BURNER	KIT CODE
▶ RS5F	3002731

Gas train accessories

Seal control kit



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

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030

GULLIVER RSDF SERIES

The Riello Gulliver RS5DF is a new model of the series of two stage gas burners, characterized for its small dimensions in spite of its high combustion performance. It has been developed to respond to any request for light industrial processes like bakery ovens, spray painting ovens, small steam or thermal boilers and all applications which require a reliable, user-friendly industrial product with enhanced performance and specific functions.

This model uses the same components designed by Riello for the Gulliver series. The high quality level guarantees safe working.

The burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

This new burner can operate on 50 or 60 Hz and a Voltage 220 - 230 Volt (dual frequency) and it is conform to the EN 676 Standard (Forced draught gas burners) and to European Directives for EMC, Low Voltage and Machinery. For depressurised working field see EN 746-2 Standard.

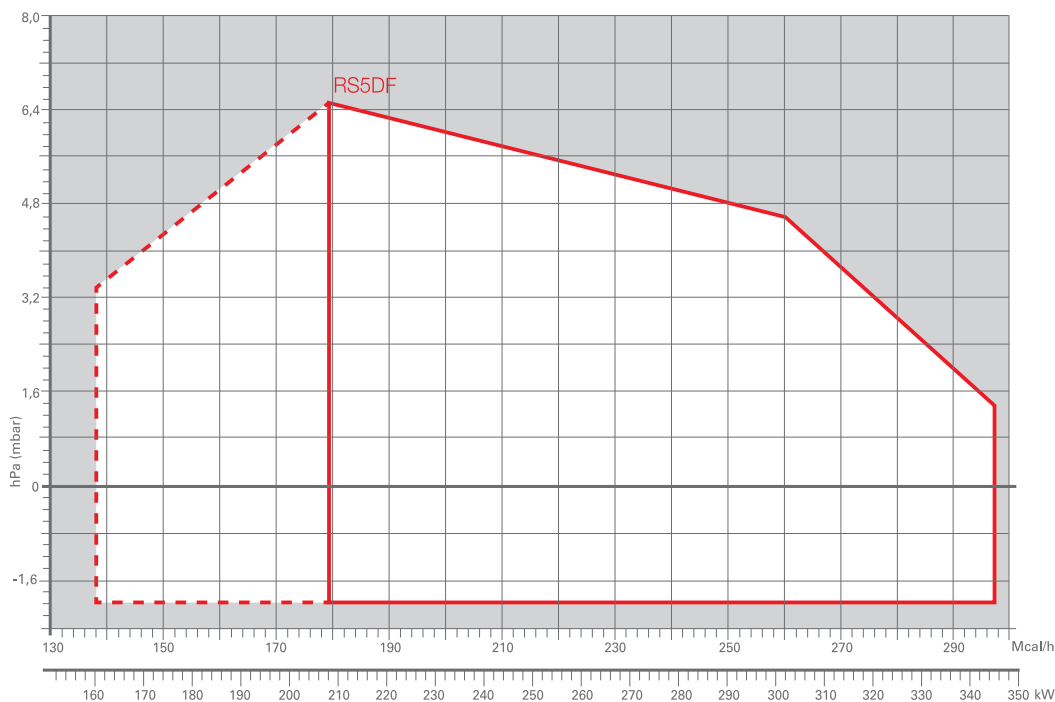
The Gulliver RS5DF burner is tested before leaving the factory.



RS5DF

160/208 ÷ 345 kW

FIRING RATES



Useful working field for choosing the burner

1st stage operation range

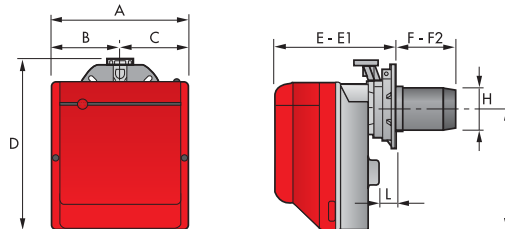
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Two Stage Gas Burners

GULLIVER RSDF SERIES

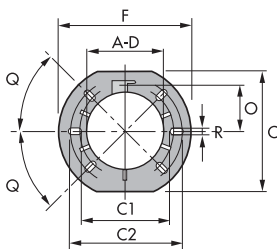
Overall dimensions (mm)

BURNER



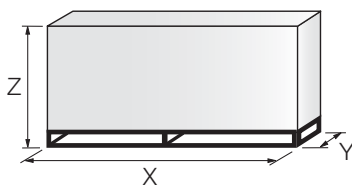
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
► RS5DF	300	150	150	392	278	300	203	225	137	286	45

BURNER - BOILER MOUNTING FLANGE



MODEL	A	C	C1	C2	D	F	O	Q	R
► RS5DF	137	203	170	200	137	218	80,5	45°	11

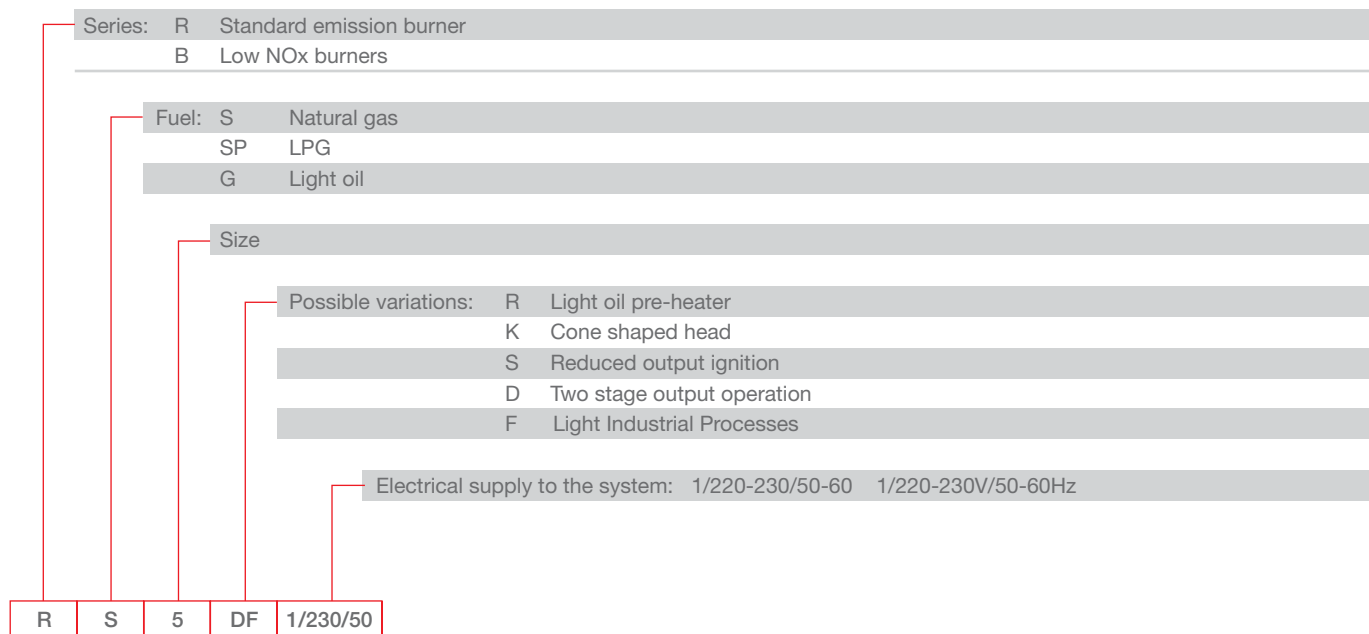
PACKAGING



MODEL	X	Y	Z	kg
► RS5DF	600	345	430	18

Specification

DESIGNATION OF SERIES



STATE OF SUPPLY

Monoblock, gas burner, completely automatic, with two stage settings fitted with:

- Fan with forward curve blades
- Cover lined with sound - proofing material
- Air damper, with 1st and 2nd stage adjustment, driven by an electric servomotor
- Single phase electric motor 220-230 V / 50-60 Hz
- Combustion head fitted with:
 - stainless steel head cone, resistant to high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Flame inspection window
- Adjustable air pressure switch, with graduated selector, to guarantee burner lock out in the case of insufficient combustible air
- Microprocessor-based burner safety control box, with diagnostic and remote reset functions
- Protection filter against radio interference (included into burner safety control box)
- IP X0D (IP 40) electric protection level.

Standard equipment:

- Sliding flange
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug
- 4-pin plug
- Remote control release kit
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Two Stage Gas Burners

GULLIVER RSDF SERIES

Available models

Burners

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	NATURAL GAS (Nm ³ /h)			
3761991	RS5DF 1/220-230/50-60	160/208 - 345	16/20,8 - 34,5	0,450 (at 50 Hz) - 0,60 (at 60 Hz)		(1)

Net calorific value G20: 10 kWh/Nm³ - Density: 0,71 kg/Nm³.
The burners of RSD series are in according to EN 676.
(1) With plug and socket.

Gas Trains

GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		LPG		NOTE
		BURNER (type)	ADAPTER (code)	BURNER (type)	ADAPTER (code)	
3970542	MB 410/2 - F3SD 20	RS5DF		RS5DF		(1) (2)
3970543	MB 412/2 - F3SD 20	RS5DF		RS5DF		(1) (3)
3970582	MB 415/2 - F3SD 20	RS5DF		RS5DF		(1)

Please see Designation of Gas Train Series in the page before the Catalogue index.

* Gas trains are 230V/50Hz - 220V/60Hz electrical supply.

(1) With installed plug.

(2) RS5D ≤ 200 kW with natural gas.

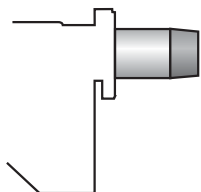
(3) RS5D ≤ 300 kW with natural gas.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

Burner accessories

Extended head kit



Burners standard head can be transformed into "extended head" versions by using the special kit.

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ RS5DF	203 ÷ 225	357 ÷ 372	3001016

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as shown in the following table.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ RS5DF	3001011	3001011

Burner accessories

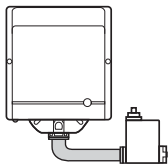
Ground fault interrupter kit



A "Ground fault interrupter kit" is available as a safety device in case of electrical system fault. It is supplied with burners with pin plug.

BURNER	KIT CODE
▶ RS5DF	3001180

Multibloc rotation kit



There is a special kit available that can be used to install the burner turned 180°. This kit is designed to ensure the gas train valve properly.

BURNER	KIT CODE
▶ RS5DF	3001178

7-pin plug kit

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

BURNER	KIT CODE
▶ RS5DF	3000945

PC interface kit



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

BURNER	KIT CODE
▶ RS5DF	3002731

Gas train accessories

Seal control kit



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

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030

GAS SERIES

The GAS series of burners cover a firing range from 130 to 1050 kW.

Operation is "one stage"; the combustion head, that can be set on the basis of required output, allows optimal performance ensuring good combustion and reducing fuel consumption.

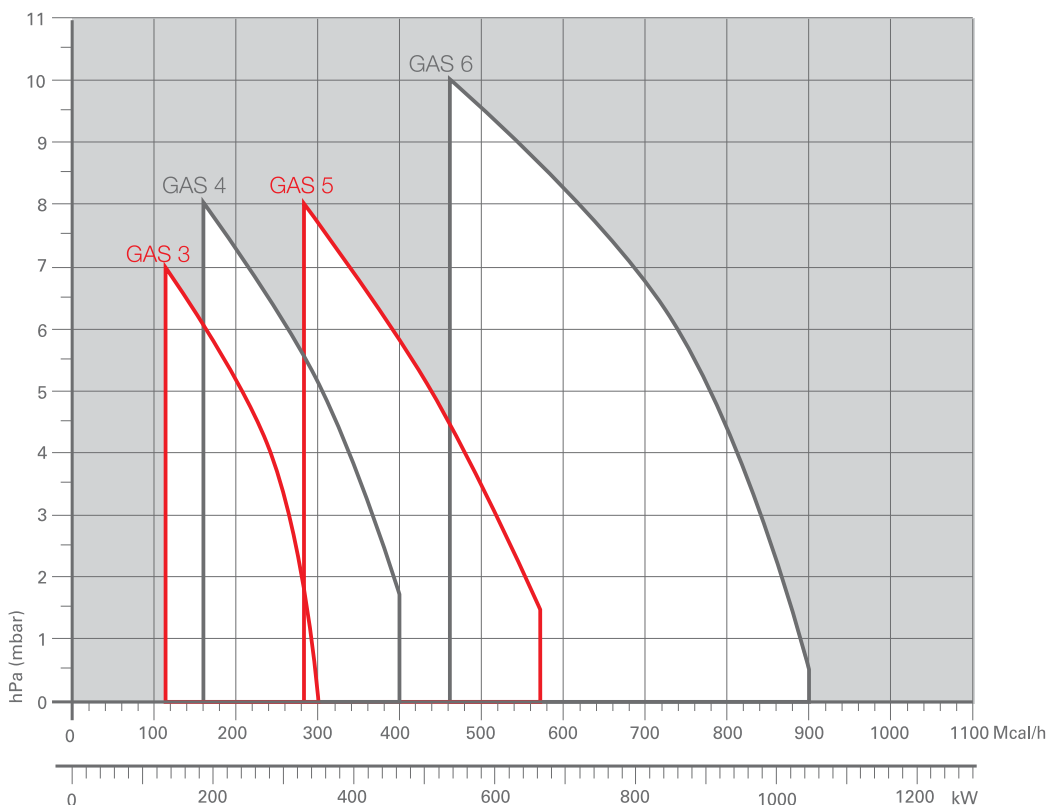
The GAS series are extremely reliable burners, featured by a simple use and an operation without particular maintenance intervention.

Simplified maintenance is achieved by the slide bar system, which allows easy access to all of the essential components of the combustion head. All electrical components are easily accessible only by dismounting a protection panel, thus guaranteeing a quick and simple intervention on components.



GAS 3	130 ÷ 350 kW
GAS 4	185 ÷ 465 kW
GAS 5	325 ÷ 660 kW
GAS 6	525 ÷ 1050 kW

FIRING RATES



Useful working field for choosing the burner

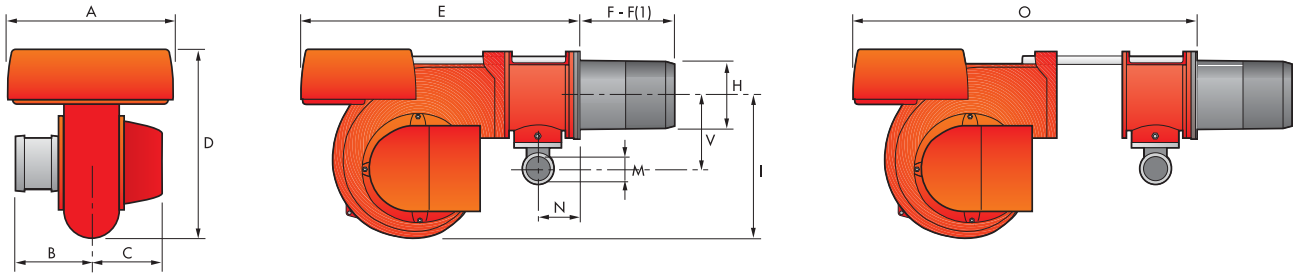
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

One Stage Gas Burners

GAS SERIES

Overall dimensions (mm)

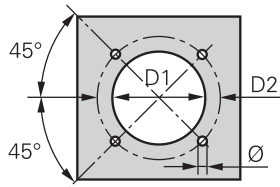
BURNER



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

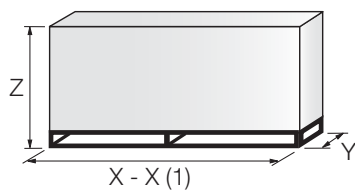
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ GAS 3	155	226	M10
▶ GAS 4	165	226	M10
▶ GAS 5	165	226	M10
▶ GAS 6	185	276	M12

PACKAGING

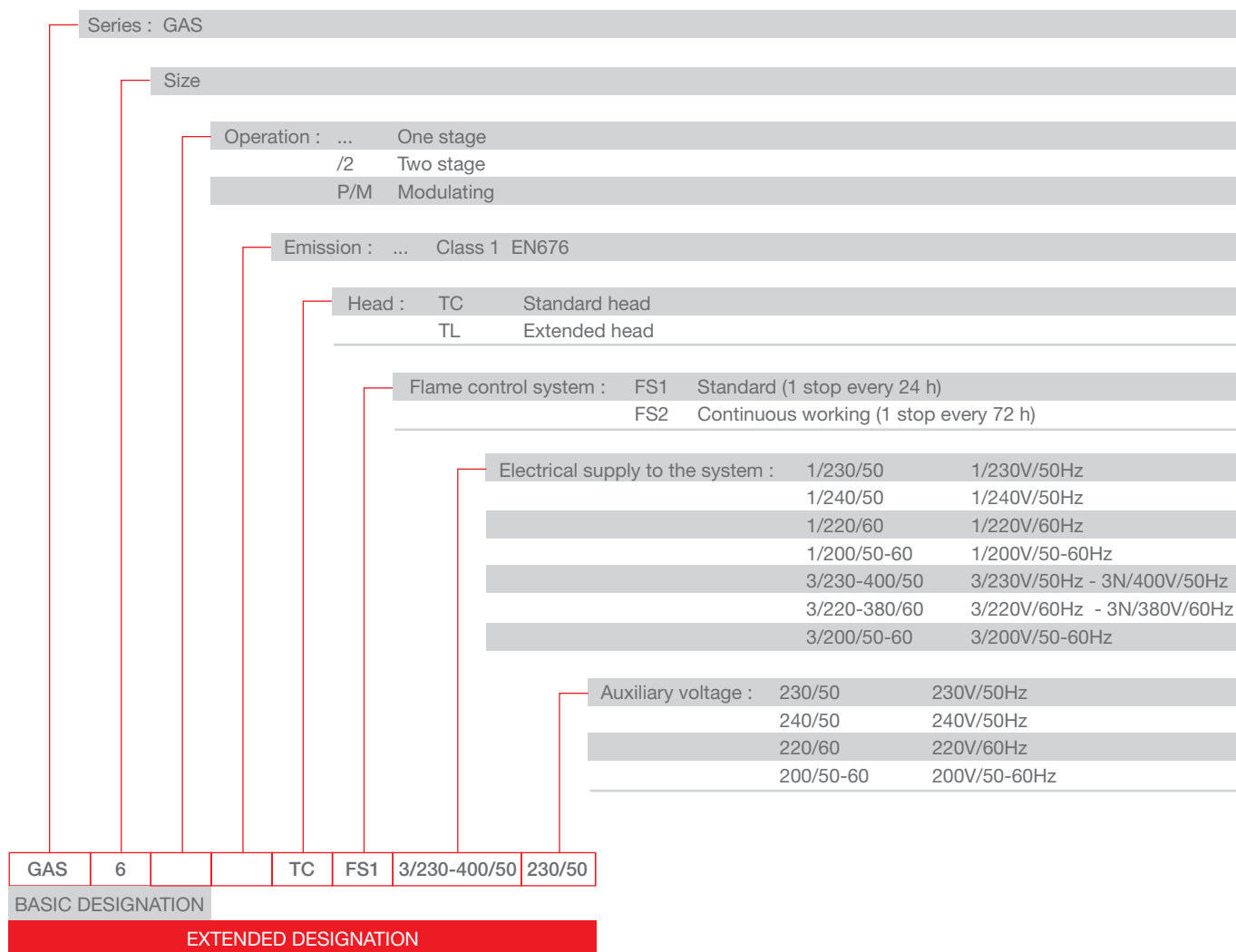


MODEL	X - X (1)	Y	Z	kg
▶ GAS 3	850	545	473	32
▶ GAS 4	850	545	473	38
▶ GAS 5	895	543	520	41
▶ GAS 6	1045	543	555	58

(1) Length with extended combustion head

Specification

DESIGNATION OF SERIES



One Stage Gas Burners

GAS SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner, one stage operation, made up of:

- Air suction circuit
- Fan with forward curved blades
- Air damper for air setting
- Combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - flame stability disk
 - Minimum air pressure switch
 - Single phase or three phases electrical motor
 - Microprocessor-based burner safety control box, with diagnostic function
 - Flame inspection window
 - Slide bars for easier installation and maintenance
 - Protection filter against radio interference
 - IP X0D (IP 40) protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 1 insulating screen
- 8 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
						(kW)	NATURAL GAS (Nm ³ /h)			
3751987	GAS 3	TC	FS1	1/200/50-60	200/50-60	130-350	13-35	0,48-0,6	-	
3751982	GAS 3	TC	FS1	1/220/60	220/60	130-350	13-34	0,4	-	
3751918	GAS 3	TC	FS1	1/230/50	230/50	130-350	13-35	0,4	CE 0085AQ0707	
3751960	GAS 3	TC	FS1	1/240/50	240/50	130-350	13-35	0,4	-	
3751961	GAS 3	TL	FS1	1/240/50	240/50	130-350	13-36	0,4	-	
3751617	GAS 4	TC	FS1	1/230/50	230/50	185-465	18,5-46,5	0,54	-	
3751687	GAS 4	TC	FS1	3/200/50-60	200/50-60	180-470	18-47	0,6	-	
3751682	GAS 4	TC	FS1	3/220-380/60	220/60	180-470	18-47	0,6	-	
3751787	GAS 5	TC	FS1	3/200/50-60	200/50-60	320-660	32-66	0,85	-	
3751782	GAS 5	TC	FS1	3/220-380/60	220/60	320-660	32-66	1,1	-	
3751717	GAS 5	TC	FS1	3/230-400/50	230/50	325-660	32,5-66	0,85	-	
3751887	GAS 6	TC	FS1	3/200/50-60	200/50-60	525-1050	52-105	1,7	-	
3751882	GAS 6	TC	FS1	3/220-380/60	220/60	525-1050	52-105	1,7	-	
3751817	GAS 6	TC	FS1	3/230-400/50	230/50	525-1050	52,5-105	1,7	-	

Natural gas G20 net calorific value: 10 kWh/Nm³ - Density gas G20: 0,71 kg/Nm³
 The burners of GAS series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676 Norm.

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE	
	MODEL	Ø	C.T.		GAS 3-4-5	GAS 6
3970084 *	MB 405/2 - RSD 20	Rp 1/2"	-	3010123	20044756	20044756 + 3000843
3970537 *	MB 407/2 - RSD 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843
3970556 *	MB 407/2 - RT 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843
3970534 *	MB 410/2 - RSD 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843
3970557 *	MB 410/2 - RT 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843
3970152 *	MB 412/2 - RT 20	Rp 1" 1/2	-	3010123	-	3000843
3970183 *	MB 415/2 - RT 20	Rp 1" 1/2	-	3010123	-	3000843
3970184 *	MB 420/2 - RT 20	Rp 2"	-	3010123	3000822	-
3970185 **	MB 420/2 CT RT 20	Rp 2"	◆	-	3000822	-
3970153 *	CB 512/2 - RT 32	Rp 1" 1/2	-	3010367	-	3000843
20045590 **	CB 512/2 CT RT 32	Rp 1" 1/2	◆	-	-	3000843
3970154 *	CB 520/2 - RT 32	Rp 2"	-	3010367	3000822	-
20045591 **	CB 520/2 CT RT 32	Rp 2"	◆	-	3000822	-
3970155 *	CB 5065/2 - FT 32	DN 65	-	3010367	3000825	3000825
3970167 **	CB 5065/2 CT FT 32	DN 65	◆	-	3000825	3000825
3970156 *	CB 5080/2 - FT 32	DN 80	-	3010367	3000826 + 3000822	3000826
3970168 **	CB 5080/2 CT FT 32	DN 80	◆	-	3000826 + 3000822	3000826

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz - 220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

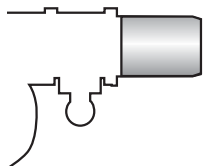
VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

One Stage Gas Burners

GAS SERIES

Burner accessories

Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GAS 3	185	320	3000605
▶ GAS 4	187	320	3000606
▶ GAS 5	207	365	3000607
▶ GAS 6	227	360	3000608

Spacer kit



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

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ GAS 3 - 4 - 5 - 6	142	3000755

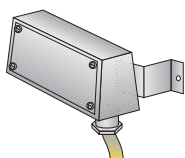
Continuous ventilation kit



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

BURNER	KIT CODE
▶ GAS 3 - 4 - 5 - 6	3010030

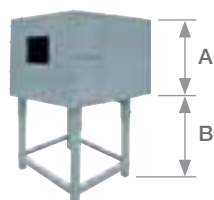
Post-ventilation kit



To prolong ventilation for approximately 5 seconds after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ GAS 3 - 4 - 5 - 6	3010004

Sound proofing box



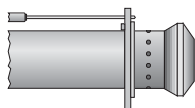
If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
▶ GAS 3 - 4 - 5 - 6	C1/3	650	372 - 980	10	3010403

(*) Average noise reduction according to EN 15036-1 standard

Burner accessories

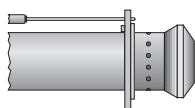
LPG kit



For burning LPG gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GAS 3	3000657	3000807
▶ GAS 4	3000658	3000808
▶ GAS 5	3000659	3000809
▶ GAS 6	3000753	3000810

Town Gas kit



For burning Town Gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD(*)
▶ GAS 3	3000742	-
▶ GAS 4	3000754	-
▶ GAS 5	3000759	-
▶ GAS 6	3000768	-

(*) Without CE certification

PC Interface kit



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

BURNER	KIT CODE
▶ GAS 3 - 4 - 5 - 6	3002719

Protection kit (electromagnetic interferences)

When the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m) due for example to INVERTER presence or in systems where the lengths of the thermostat connections is over 20 meters, this specific protection kit is available as an interface between the thermostatic controls and the burner.

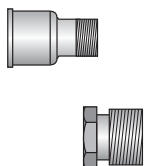
BURNER	KIT CODE
▶ All models	3010386

One Stage Gas Burners










GAS SERIES

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner. Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
2"  1" 1/2	70	3000822
3/4"  1" 1/2	31	3000824
DN 65  2" 1/2  2" 2" 1/2  1" 1/2	300	3000825
DN 80  2" 1/2  2"	300	3000826
1" 1/2  2"	35	3000843
1/2"  1" 1/2	31	20044756

Seal control kit



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

BURNER	GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ GAS 3	MB 407/2 - 410/2 - 412/2 - 415/2	3010123	20050030
	CB 512/2	3010125	20050033
▶ GAS 4	MB 410/2 - 412/2 - 415/2 - 420/2	3010123	20050030
	CB 512/2 - 520/2	3010125	20050033
▶ GAS 5	MB 410/2 - 412/2 - 415/2 - 420/2	3010123	20050030
	CB 512/2 - 520/2	3010125	20050033
▶ GAS 6	MB 410/2 - 412/2 - 415/2 - 420/2	3010123	20050030
	CB 512/2 - 520/2 - 5065/2	3010125	20050033

Stabiliser spring



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

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ CB 512/2	Red	25 - 55	3010131
	Black	60 - 110	3010157
	Pink	90 - 150	3090486
▶ CB 520/2	Red	25 - 55	3010132
	Black	60 - 110	3010158
	Pink	90 - 150	3090487
▶ CB 5065/2 - 5080/2	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992

GAS/2 SERIES

The GAS/2 series of burners covers a firing range from 130 to 3200 kW and they have been designed for use in civil installations of average dimensions, like building areas and large apartment groups or for use in industrial applications, like small or medium plants.

Operation is two stage; the combustion head, that can be set on the basis of required output, allows optimal performance ensuring good combustion and reducing fuel consumption.

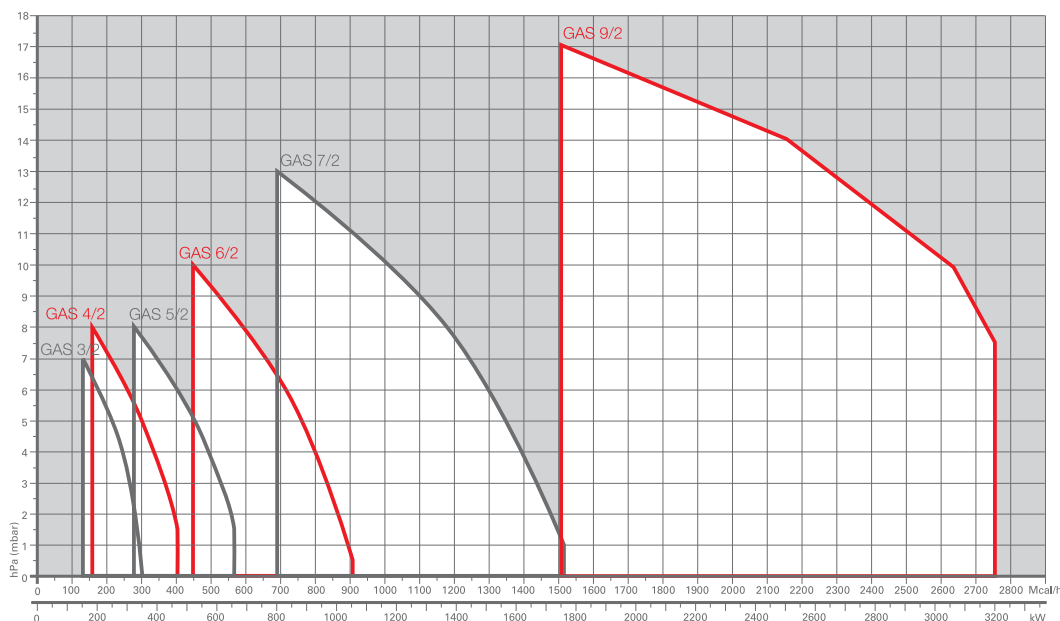
The main feature of these burners is their reliability due to a simple and strong construction, which permits operation without particular maintenance intervention.

Simplified maintenance is achieved by the slide bar system, which allows easy access to all of the essential components of the combustion head. All electrical components are easily accessible only by dismounting a protection panel, thus guaranteeing a quick and simple intervention on components.



GAS 3/2	80/130 ÷	350 kW
GAS 4/2	120/180 ÷	470 kW
GAS 5/2	155/320 ÷	660 kW
GAS 6/2	300/520 ÷	1050 kW
GAS 7/2	400/800 ÷	1760 kW
GAS 9/2	1000/1750 ÷	3200 kW

FIRING RATES



Useful working field for choosing the burner

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

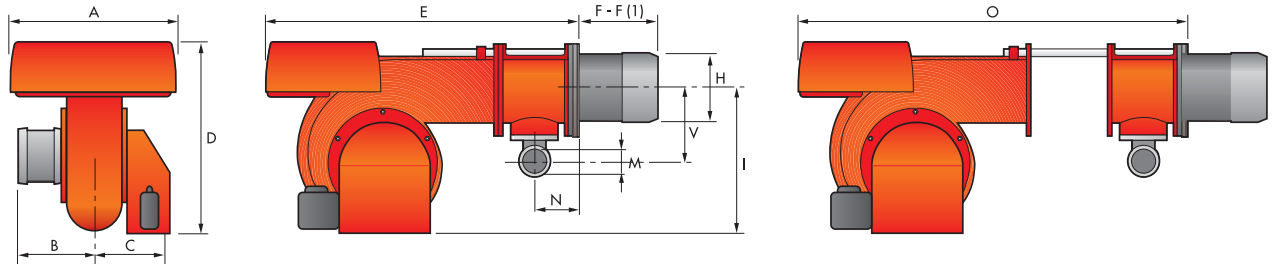
Two Stage Gas Burners

GAS/2 SERIES

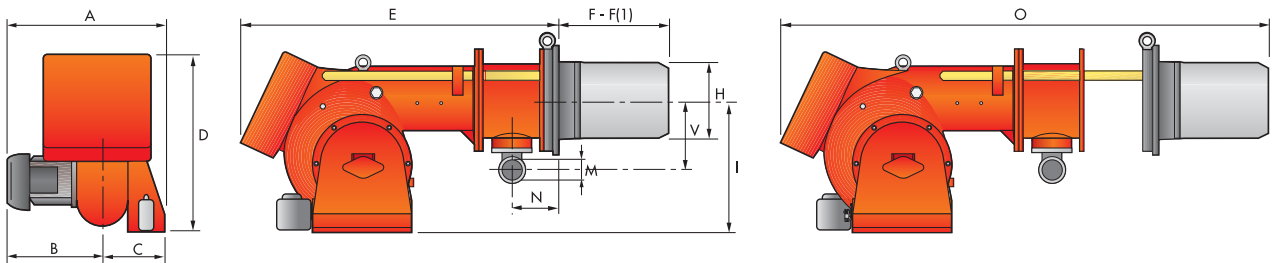
Overall dimensions (mm)

BURNER

GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2



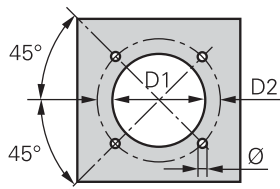
GAS 9/2



MODEL	A	B	C	D	E	F - F (1)	H	I	M	N	O	V
▶ GAS 3/2	410	205	205	397	610	185 - 320	140	292	1 1/2"	97	775	165
▶ GAS 4/2	410	205	205	397	610	187 - 320	150	292	1 1/2"	97	775	165
▶ GAS 5/2	431	226	205	437	645	207 - 365	155	332	1 1/2"	97	810	165
▶ GAS 6/2	463	258	205	485	770	227 - 360	175	370	2"	131	966	195
▶ GAS 7/2	606	358	248	590	920	240 - 400	220	445	2"	140	1142	245
▶ GAS 9/2	780	445	335	680	1200	444 - 574	295	495	2"	168	1627	210

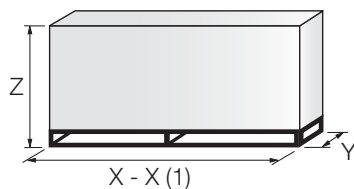
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ GAS 3/2	155	226	M10
▶ GAS 4/2	165	226	M10
▶ GAS 5/2	165	226	M10
▶ GAS 6/2	185	276	M12
▶ GAS 7/2	230	325	M12
▶ GAS 9/2	300	368	M18

PACKAGING

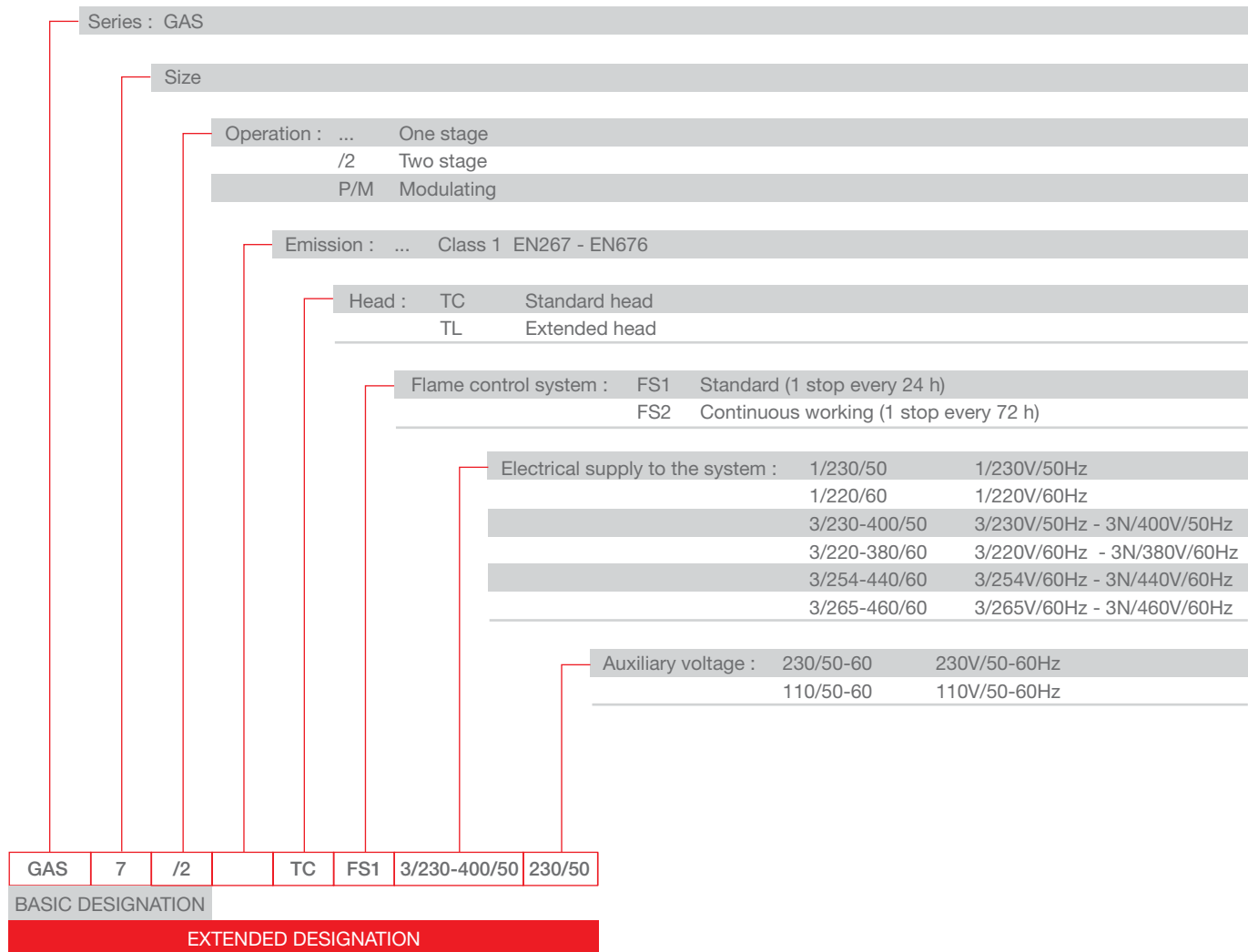


MODEL	X - X (1)	Y	Z	kg
▶ GAS 3/2	850	545	473	34
▶ GAS 4/2	850	545	473	40
▶ GAS 5/2	895	543	520	43
▶ GAS 6/2	1045	543	555	60
▶ GAS 7/2	1245	727	665	98
▶ GAS 9/2	1870	920	910	240

(1) Length with extended combustion head

Specification

DESIGNATION OF SERIES



Two Stage Gas Burners

GAS/2 SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner, two stage operation, made up of:

- Air suction circuit
- Fan with forward curved blades
- Air damper for air setting
- Combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - flame stability disk
 - Minimum air pressure switch
 - Single phase or three phases electrical motor
 - Microprocessor-based burner safety control box, with diagnostic function
 - Flame inspection window
 - Slide bars for easier installation and maintenance
 - Protection filter against radio interference
 - IP X0D (IP 40) protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 1 insulating screen
- 8 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
						(kW)	NATURAL GAS (Nm ³ /h)			
3752182	GAS 3/2	TC	FS1	1/220/60	220/60	80/130-340	8/13-34	0,4	-	
3752118	GAS 3/2	TC	FS1	1/230/50	230/50	80/130-350	8/13-35	0,4	CE 0085AQ0707	
3752218	GAS 4/2	TC	FS1	1/230/50	230/50	120/180-470	12/18-47	0,54	CE 0085AQ0707	
3752282	GAS 4/2	TC	FS1	3/220-380/60	220/60	115/180-470	11,5/18-47	0,6	-	
3752382	GAS 5/2	TC	FS1	3/220-380/60	220/60	155/320-660	15,5/32-66	1,1	-	
3752318	GAS 5/2	TC	FS1	3/230-400/50	230/50	155/320-660	15,5/32-66	0,85	CE 0085AQ0707	
3752482	GAS 6/2	TC	FS1	3/220-380/60	220/60	300/520-1050	30/52-105	1,9	-	
3752418	GAS 6/2	TC	FS1	3/230-400/50	230/50	300/520-1050	30/52-105	1,7	CE 0085AQ0707	
3752582	GAS 7/2	TC	FS1	3/220-380/60	220/60	400/800-1760	40/80-176	3,8	-	
3752518	GAS 7/2	TC	FS1	3/230-400/50	230/50	400/800-1760	40/80-176	3,4	CE 0085AQ0707	
20014057	GAS 9/2	TC	FS1	3/230-400/50		1000/1750-3200	100/175-320	9	-	
20014058	GAS 9/2	TL	FS1	3/230-400/50		1000/1750-3200	100/175-320	9	-	
on demand	GAS 9/2	TC	FS1	3/254-440/60		1000/1750-3200	100/175-320	9	-	
on demand	GAS 9/2	TL	FS1	3/254-440/60		1000/1750-3200	100/175-320	9	-	

Natural gas G20 net calorific value: 10 kWh/Nm³ - Density gas G20: 0,71 kg/Nm³

The burners of GAS/2 series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676 Norm.

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE			
	MODEL	Ø	C.T.		GAS 3/2-4/2-5/2	GAS 6/2	GAS 7/2	GAS 9/2
3970084 *	MB 405/2 - RSD 20	Rp 1/2"	-	3010123	20044756	20044756 + 3000843	●	●
3970537 *	MB 407/2 - RSD 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●	●
3970556 *	MB 407/2 - RT 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●	●
3970534 *	MB 410/2 - RSD 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	3000824 + 3000843	●
3970557 *	MB 410/2 - RT 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	3000824 + 3000843	●
3970152 *	MB 412/2 - RT 20	Rp 1" 1/2	-	3010123	-	3000843	3000843	●
3970183 *	MB 415/2 - RT 20	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970184 *	MB 420/2 - RT 20	Rp 2"	-	3010123	3000822	-	-	-
3970185 **	MB 420/2 CT RT 20	Rp 2"	◆	-	3000822	-	-	-
3970153 *	CB 512/2 - RT 32	Rp 1" 1/2	-	3010367	-	3000843	3000843	3000843
20045590 **	CB 512/2 CT RT 32	Rp 1" 1/2	◆	-	-	3000843	3000843	3000843
3970154 *	CB 520/2 - RT 32	Rp 2"	-	3010367	3000822	-	-	-
20045591 **	CB 520/2 CT RT 32	Rp 2"	◆	-	3000822	-	-	-
3970155 *	CB 5065/2 - FT 32	DN 65	-	3010367	3000825	3000825	3000825	3000825
3970167 **	CB 5065/2 CT FT 32	DN 65	◆	-	3000825	3000825	3000825	3000825
3970156 *	CB 5080/2 - FT 32	DN 80	-	3010367	3000826 + 3000822	3000826	3000826	3000826
3970168 **	CB 5080/2 CT FT 32	DN 80	◆	-	3000826 + 3000822	3000826	3000826	3000826

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz - 220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

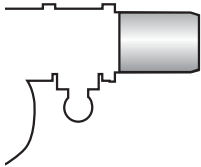
● Not available.

Two Stage Gas Burners

GAS/2 SERIES

Burner accessories

Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GAS 3/2	185	320	3000605
▶ GAS 4/2	187	320	3000606
▶ GAS 5/2	207	365	3000607
▶ GAS 6/2	227	360	3000608
▶ GAS 7/2	240	400	3000678

Spacer kit



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

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2	142	3000755
▶ GAS 7/2	102	3000722
▶ GAS 9/2	130	3000723

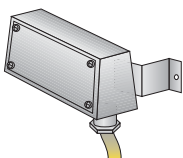
Continuous ventilation kit



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

BURNER	KIT CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2 - 9/2	3010030

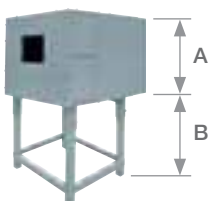
Post-ventilation kit



To prolong ventilation for approximately 5 seconds after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2 - 9/2	3010004

Sound proofing box



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

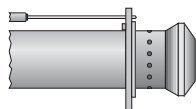
BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2	C1/3	650	372 - 980	10	3010403
▶ GAS 7/2	C4/5	850	160 - 980	10	3010404
▶ GAS 9/2	C7	1255	160 - 980	10	3010376

(*) Average noise reduction according to EN 15036-1 standard

GAS/2 SERIES

Burner accessories

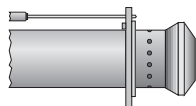
LPG kit



For burning LPG gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GAS 3/2	3000657	3000807
▶ GAS 4/2	3000658	3000808
▶ GAS 5/2	3000659	3000809
▶ GAS 6/2	3000753	3000810
▶ GAS 7/2	3000806	3000811
▶ GAS 9/2	3000876	3010028

Town Gas kit



For burning Town Gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ GAS 3/2	3000742	-
▶ GAS 4/2	3000754	-
▶ GAS 5/2	3000759	-
▶ GAS 6/2	3000768	-
▶ GAS 7/2	3000769	-
▶ GAS 9/2	3010298	-

(*) Without CE certification

PC Interface kit



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

BURNER	KIT CODE
▶ GAS 3/2 - 4/2 - 5/2 - 6/2 - 7/2 - 9/2	3002719

Protection kit (electromagnetic interferences)

When the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m) due for example to INVERTER presence or in systems where the lengths of the thermostat connections is over 20 meters, this specific protection kit is available as an interface between the thermostatic controls and the burner.

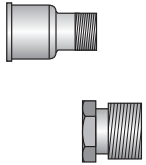
BURNER	KIT CODE
▶ All models	3010386

Two Stage Gas Burners










GAS/2 SERIES

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner. Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
2"  1" 1/2	70	3000822
3/4"  1" 1/2	31	3000824
DN 65  2" 1/2  2"	300	3000825
DN 80  2" 1/2  1" 1/2	300	3000826
 1" 1/2  2"	35	3000843
1/2"  1" 1/2	31	20044756

Seal control kit



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

BURNER	GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ GAS 3/2	MB 407/2 - 410/2 - 412/2	3010123	20050030
	MB 415/2 - CB 512/2	3010125	20050033
▶ GAS 4/2	MB 410/2 - 412/2	3010123	20050030
	MB 415/2 - 420/2 - CB 512/2 - 520/2	3010125	20050033
▶ GAS 5/2	MB 410/2 - 412/2	3010123	20050030
	MB 415/2 - 420/2 - CB 512/2 - 520/2	3010125	20050033
▶ GAS 6/2	MB 410/2 - 412/2	3010123	20050030
	MB 415/2 - 420/2 - CB 512/2 - 520/2 - 5065/2	3010125	20050033
▶ GAS 7/2	MB 415/2 - 420/2 - CB 512/2 - 520/2 - 5065/2 - 5080/2	3010123	20050030
	MB 420/2	3010125	20050033
▶ GAS 9/2	CB 520/2 - 5065/2 - 5080/2	3809900	20050034

Gas train accessories

Stabiliser spring



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

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ CB 512/2	Red	25 - 55	3010131
	Black	60 - 110	3010157
	Pink	90 - 150	3090486
▶ CB 520/2	Red	25 - 55	3010132
	Black	60 - 110	3010158
	Pink	90 - 150	3090487
▶ CB 5065/2 - 5080/2	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992



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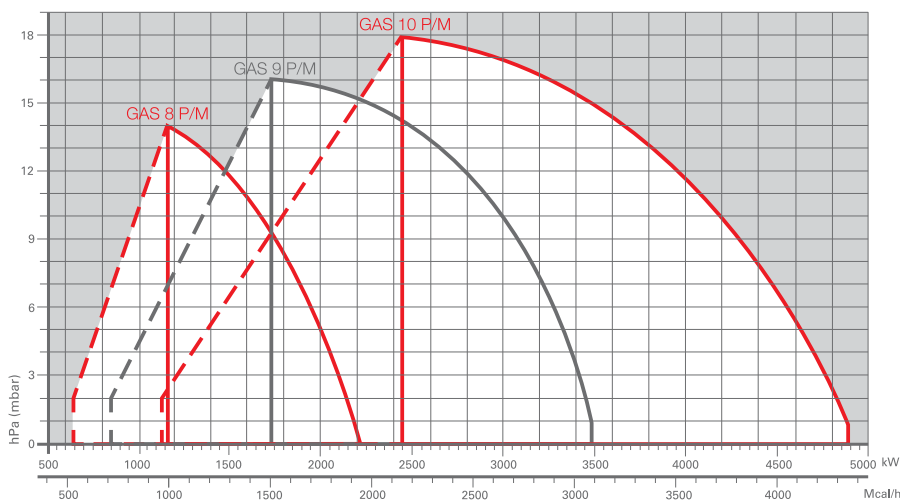
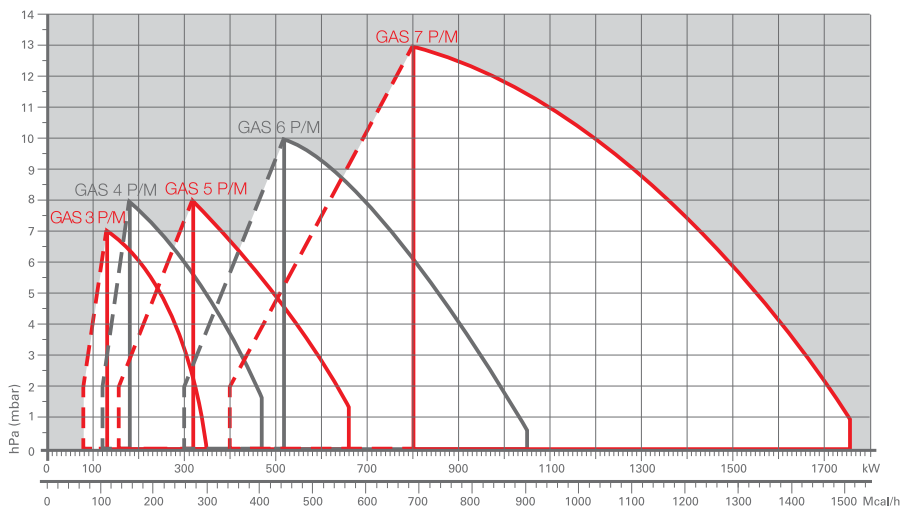
GAS P/M SERIES

The GAS P/M series covers a firing range from 130 to 4885 kW. Operation is featured by progressive two stage operation or full modulation, with an advanced modulating control system and probes. The burners of GAS P/M series are well suited for applications requiring versatility of control (process, steam, refrigerating absorption) where a variable output is needed. Due to their metal sheet structures, they are specifically suitable for process applications where plastic materials could be easily damaged or deformed. Simplified maintenance is achieved by sliding bars which permit the access to the combustion head without need of removing the burner from the boiler.



GAS 3 P/M	80/130 ÷ 350 kW
GAS 4 P/M	120/180 ÷ 470 kW
GAS 5 P/M	155/320 ÷ 660 kW
GAS 6 P/M	300/520 ÷ 1050 kW
GAS 7 P/M	400/800 ÷ 1760 kW
GAS 8 P/M	640/1163 ÷ 2210 kW
GAS 9 P/M	870/1744 ÷ 3488 kW
GAS 10 P/M	1140/2441 ÷ 4885 kW

FIRING RATES



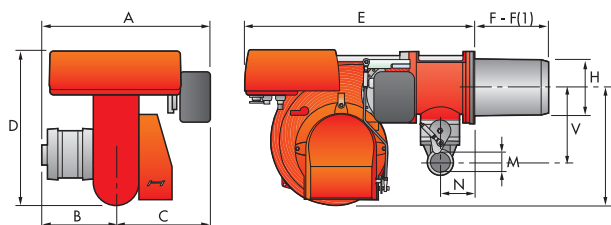
Modulating Gas Burners

GAS P/M SERIES

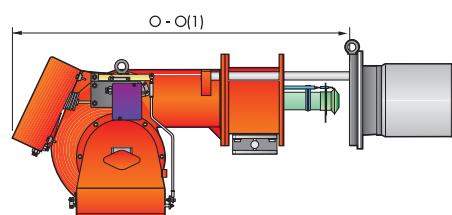
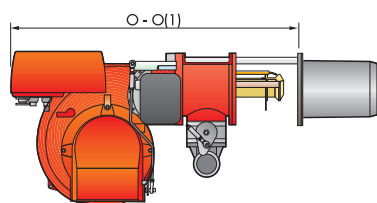
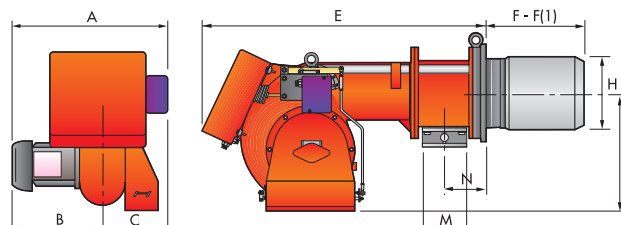
Overall dimensions (mm)

BURNER

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



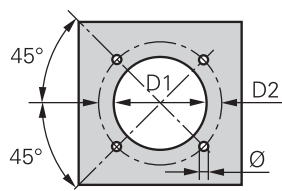
GAS 8 - 9 - 10 P/M



MODEL	A	B	C	D	E	F - F(1)	H	I	M	N	O - O(1)	V
▶ GAS 3 P/M	585	205	380	397	610	185 - 320	140	292	1 1/2"	97	775	225
▶ GAS 4 P/M	585	205	380	397	610	187 - 320	150	292	1 1/2"	97	775	225
▶ GAS 5 P/M	581	226	355	437	645	207 - 365	155	332	1 1/2"	97	810	225
▶ GAS 6 P/M	628	258	370	485	770	227 - 360	175	370	2"	131	966	250
▶ GAS 7 P/M	758	358	400	590	920	240 - 400	220	445	2"	140	1142	305
▶ GAS 8 P/M	755	396	359	-	1090	391 - 501	260	467	DN 80	158	1541 - 1644	-
▶ GAS 9 P/M	817	447	370	-	1200	444 - 574	295	496	DN 80	168	1627 - 1757	-
▶ GAS 10 P/M	917	508	409	-	1320	476 - 606	336	525	DN 80	203	1730 - 1860	-

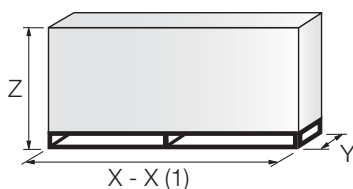
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ GAS 3 P/M	155	226	M10
▶ GAS 4 P/M	165	226	M10
▶ GAS 5 P/M	165	226	M10
▶ GAS 6 P/M	185	276	M12
▶ GAS 7 P/M	230	325	M12
▶ GAS 8 P/M	265	368	M16
▶ GAS 9 P/M	300	368	M18
▶ GAS 10 P/M	350	438	M20

PACKAGING

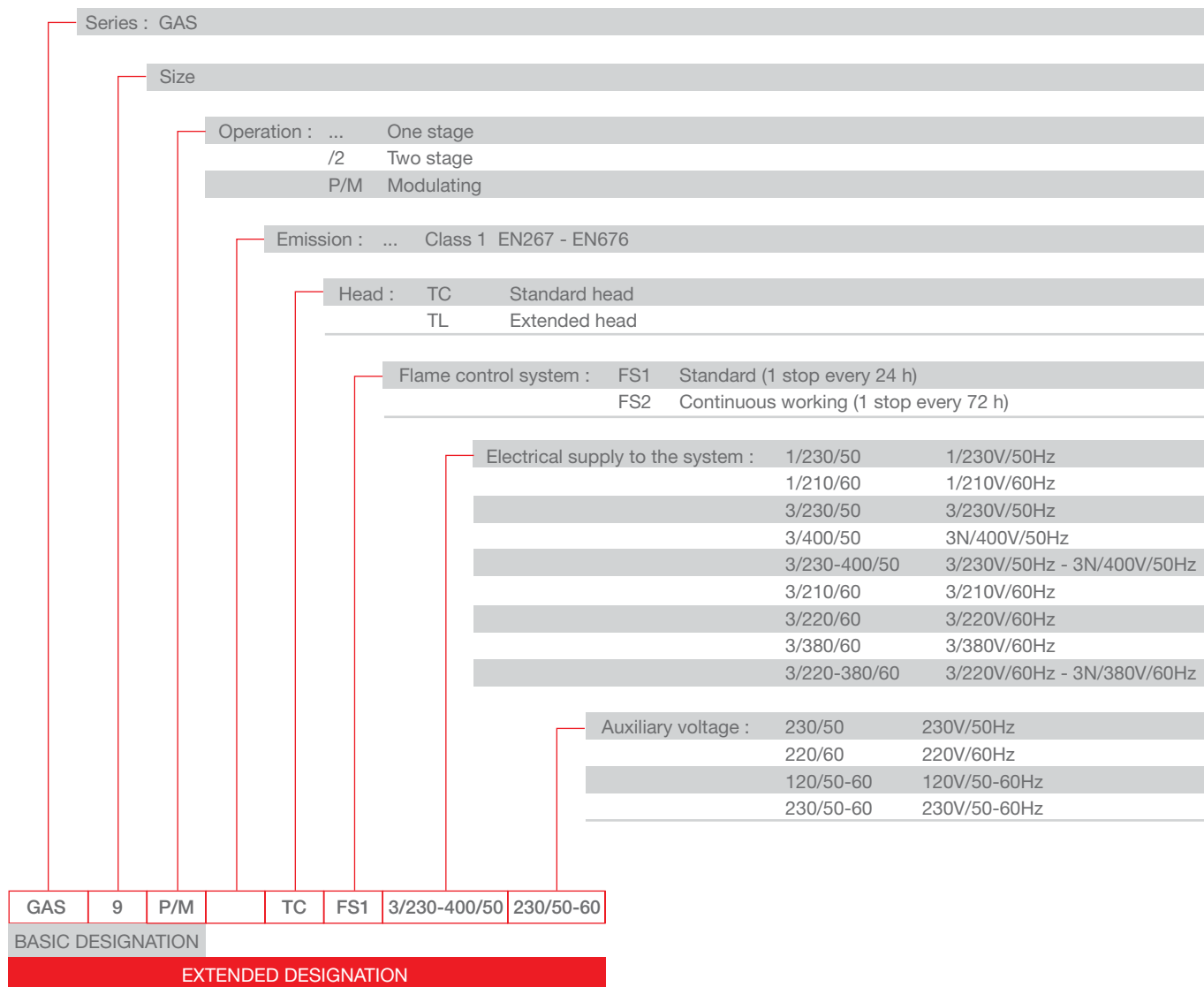


MODEL	X (1)	Y	Z	kg
▶ GAS 3 P/M	930	705	555	37
▶ GAS 4 P/M	930	705	555	43
▶ GAS 5 P/M	930	705	555	46
▶ GAS 6 P/M	1045	705	555	63
▶ GAS 7 P/M	1230	865	665	101
▶ GAS 8 P/M	1660	830	760	195
▶ GAS 9 P/M	1840	890	810	240
▶ GAS 10 P/M	2010	980	810	290

(1) Length with extended combustion head

Specification

DESIGNATION OF SERIES



Modulating Gas Burners

GAS P/M SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner, two stage progressive operation or modulating with a kit, made up of:

- Air suction circuit
- Fan with forward curved blades
- Air damper for air setting controlled by a servomotor;
- Combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - flame stability disk
 - Servomotor for air and gas delivery regulation
 - Maximum gas pressure switch (except for GAS 3 P/M model)
 - Minimum air pressure switch
 - Single phase or three phases electrical motor
 - Ionisation probe
 - Flame inspection window
 - Slide bars for easier installation and maintenance
 - Protection filter against radio interference
 - IP X0D (IP 40) protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 1 insulating screen
- 8 screws for fixing the burner flange to the boiler (12 for GAS 8 P/M - GAS 9 P/M and GAS 10 P/M)
- 4 wiring looms for electrical connections
- 1 star delta starter (for GAS 8 P/M - GAS 9 P/M and GAS 10 P/M)
- 2 wiring looms for electrical connections to the star delta starter (for GAS 8 P/M - GAS 9 P/M and GAS 10 P/M)
- 8 washers (for GAS 8 P/M - GAS 9 P/M and GAS 10 P/M)
- 2 bar extensions (only for extended head versions of GAS 8 P/M - GAS 9 P/M and GAS 10 P/M)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

GAS P/M SERIES

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
						(kW)	NATURAL GAS (Nm ³ /h)			
3753371	GAS 3 P/M	TC	FS1	1/210/60	120/50-60	80/130-340	8/13-34	0,4	-	
3753321	GAS 3 P/M	TC	FS1	1/230/50	230/50-60	80/130-350	8/13-35	0,4	CE 0085AQ0710	
3753421	GAS 4 P/M	TC	FS1	1/230/50	230/50-60	120/180-470	12/18-47	0,54	CE 0085AQ0710	
3753471	GAS 4 P/M	TC	FS1	3/210/60	120/50-60	115/180-470	11,5/18-47	0,54	-	
3753481	GAS 4 P/M	TC	FS1	3/220-380/60	220/60	115/180-470	11,5/18-47	0,6	-	
3753571	GAS 5 P/M	TC	FS1	3/210/60	120/50-60	155/320-660	15,5/32-66	0,85	-	
3753581	GAS 5 P/M	TC	FS1	3/220-380/60	220/60	155/320-660	15,5/32-66	0,85	-	
3753521	GAS 5 P/M	TC	FS1	3/230-400/50	230/50-60	155/320-660	15,5/32-66	0,85	CE 0085AQ0710	
3753671	GAS 6 P/M	TC	FS1	3/210/60	120/50-60	300/520-1050	30/52-105	1,7	-	
3753681	GAS 6 P/M	TC	FS1	3/220-380/60	220/60	300/520-1050	30/52-105	1,7	-	
3753621	GAS 6 P/M	TC	FS1	3/230-400/50	230/50-60	300/520-1050	30/52-105	1,7	CE 0085AQ0710	
3753771	GAS 7 P/M	TC	FS1	3/210/60	120/50-60	400/800 -1760	40/80-176	3,4	-	
3753781	GAS 7 P/M	TC	FS1	3/220-380/60	220/60	400/800-1760	40/80-176	3,4	-	
3753721	GAS 7 P/M	TC	FS1	3/230-400/50	230/50-60	400/800-1760	40/80-176	3,4	CE 0085AQ0710	
3753883	GAS 8 P/M	TC	FS1	3/220-380/60	220/60	580/1163-2325	58/116-232,5	5	-	
3753840	GAS 8 P/M	TC	FS1	3/230-400/50	230/50	640/1163-2210	64/116-221	5	CE 0085AP0941	
3753833	GAS 8 P/M	TC	FS1	3/230-400/50	230/50-60	640/1163-2210	64/116-221	5	CE 0085AP0941	
3753884	GAS 8 P/M	TL	FS1	3/220-380/60	220/60	580/1163-2325	58/116-232,5	5	-	
3753841	GAS 8 P/M	TL	FS1	3/230-400/50	230/50	640/1163-2210	64/116-221	5	CE 0085AP0941	
3753834	GAS 8 P/M	TL	FS1	3/230-400/50	230/50-60	640/1163-2210	64/116-221	5	CE 0085AP0941	
3754083	GAS 9 P/M	TC	FS1	3/220-380/60	220/60	870/1744-3488	87/174-349	10,5	-	
3754046	GAS 9 P/M	TC	FS1	3/230/50	230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1) (2)
3754039	GAS 9 P/M	TC	FS1	3/230/50	230/50-60	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1)
3754044	GAS 9 P/M	TC	FS1	3/230-400/50	230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(2)
3754037	GAS 9 P/M	TC	FS1	3/230-400/50	230/50-60	870/1744-3488	87/174-349	10,5	CE 0085AP0942	
3754048	GAS 9 P/M	TC	FS1	3/400/50	230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1) (2)
3754041	GAS 9 P/M	TC	FS1	3/400/50	230/50-60	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1)
3754084	GAS 9 P/M	TL	FS1	3/220-380/60	220/60	870/1744-3488	87/174-349	10,5	-	
3754047	GAS 9 P/M	TL	FS1	3/230/50	230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1) (2)
3754040	GAS 9 P/M	TL	FS1	3/230/50	230/50-60	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1)
3754045	GAS 9 P/M	TL	FS1	3/230-400/50	230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(2)
3754038	GAS 9 P/M	TL	FS1	3/230-400/50	230/50-60	870/1744-3488	87/174-349	10,5	CE 0085AP0942	
3754049	GAS 9 P/M	TL	FS1	3/400/50	230/50	870/1744-3488	87/174-349	10,5	CE 0085AP0942	(1) (2)
3754042	GAS 9 P/M	TL	FS1	3/400/50	230/50-60	870/1744-3488	87/174-349	9	CE 0085AP0942	(1)
3754185	GAS 10 P/M	TC	FS1	3/220/60	220/60	1140/2441-5000	114/244-500	14	-	(1)
3754140	GAS 10 P/M	TC	FS1	3/230/50	230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1) (2)
3754135	GAS 10 P/M	TC	FS1	3/230/50	230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)
3754187	GAS 10 P/M	TC	FS1	3/380/60	220/60	1140/2441-5000	114/244-500	14	-	(1)
3754142	GAS 10 P/M	TC	FS1	3/400/50	230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1) (2)
3754137	GAS 10 P/M	TC	FS1	3/400/50	230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)
3754186	GAS 10 P/M	TL	FS1	3/220/60	220/60	1140/2441-5000	114/244-500	14	-	(1)
3754141	GAS 10 P/M	TL	FS1	3/230/50	230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1) (2)
3754136	GAS 10 P/M	TL	FS1	3/230/50	230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)
3754188	GAS 10 P/M	TL	FS1	3/380/60	220/60	1140/2441-5000	114/244-500	14	-	(1)
3754143	GAS 10 P/M	TL	FS1	3/400/50	230/50	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1) (2)
3754138	GAS 10 P/M	TL	FS1	3/400/50	230/50-60	1140/2441-4885	114/244-489	14	CE 0085AP0943	(1)

(1) Star delta starter

(2) With ground fault interrupter kit

Natural gas G20 net calorific value: 10 kWh/Nm³ - Density gas G20: 0,71 kg/Nm³

The burners of GAS P/M series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676 Norm.

Modulating Gas Burners

GAS P/M SERIES

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE		
	MODEL	Ø	C.T.		GAS 3-4-5 P/M	GAS 6-7 P/M	GAS 8-9-10 P/M
3970500 *	MB 405/1 - RT 20	Rp 3/4"	-	3010123	3000824	●	●
3970553 *	MB 407/1 - RT 20	Rp 3/4"	-	3010123	3000824	●	●
3970599 *	MB 407/1 - RT 52	Rp 3/4"	-	3010123	3000824	●	●
3970229 *	MB 407/1 - RSM 20	Rp 3/4"	-		3000824	●	●
3970258 *	MB 410/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843	●
3970554 *	MB 410/1 - RT 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●
3970600 *	MB 410/1 - RT 52	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●
3970230 *	MB 410/1 - RSM 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●
3970256 *	MB 412/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843	●
3970144 *	MB 412/1 - RT 20	Rp 1" 1/2	-	3010123	-	3000843	●
3970197 **	MB 412/1 CT RT 20	Rp 1" 1/2	◆	-	-	3000843	●
3970231 *	MB 412/1 - RSM 20	Rp 1" 1/2	-	3010123	-	3000843	●
3970180 *	MB 415/1 - RT 30	Rp 1" 1/2	-	3010123	-	3000843	-
3970198 **	MB 415/1 CT RT 30	Rp 1" 1/2	◆	-	-	3000843	3000826 + 3010495 + 3000843
3970250 *	MB 415/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843	3000826 + 3010495 + 3000843
3970253 **	MB 415/1 CT RT 52	Rp 1" 1/2	◆	-	-	3000843	3000826 + 3010495 + 3000843
3970232 *	MB 415/1 - RSM 30	Rp 1" 1/2	-	3010123	-	3000843	3000826 + 3010495 + 3000843
3970181 *	MB 420/1 - RT 30	Rp 2"	-	3010123	3000822	-	3000826 + 3010495
3970182 **	MB 420/1 CT RT 30	Rp 2"	◆	-	3000822	-	3000826 + 3010495
3970257 *	MB 420/1 - RT 52	Rp 2"	-	3010123	3000822	-	3000826 + 3010495
3970252 **	MB 420/1 CT RT 52	Rp 2"	◆	-	3000822	-	3000826 + 3010495
3970233 *	MB 420/1 - RSM 30	Rp 2"	-	3010123	3000822	-	3000826 + 3010495
3970234 **	MB 420/1 CT RSM 30	Rp 2"	◆	-	3000822	-	3000826 + 3010495
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	-	3010367	3000822	-	3000826 + 3010495
3970225 **	MBC 1200/1 CT RSM 60	Rp 2"	◆	-	3000822	-	3000826 + 3010495
3970222 *	MBC 1900/1 - FSM 40	DN 65	-	3010367	3000825	3000825	3000831
3970226 **	MBC 1900/1 CT FSM 40	DN 65	◆	-	3000825	3000825	3000831
3970223 *	MBC 3100/1 - FSM 40	DN 80	-	3010367	3000826 + 3000822	3000826	3000832
3970227 **	MBC 3100/1 CT FSM 40	DN 80	◆	-	3000826 + 3000822	3000826	3000832
3970224 *	MBC 5000/1 - FSM 80	DN 100	-	3010367	●	●	3010127
3970228 **	MBC 5000/1 CT FSM 80	DN 100	◆	-	●	●	3010127

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz -220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

● Not available.

GAS P/M SERIES

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE		
	MODEL	Ø	C.T.		GAS 3-4-5 P/M	GAS 6-7 P/M	GAS 8-9-10 P/M
3970145 *	CB 512/1 - RSM 30	Rp 1" 1/2	-	3010367	-	3000843	●
20045589 **	CB 512/1 CT RSM 30	Rp 1" 1/2	◆	-	-	3000843	●
3970146 *	CB 520/1 - RSM 30	Rp 2"	-	3010367	3000822	-	3000826 + 3010495
3970160 **	CB 520/1 CT RSM 30	Rp 2"	◆	-	3000822	-	3000826 + 3010495
20044659 *	CB 525/1 - RSM 30	Rp 2"	-	3010367	3000822	-	3000826 + 3010495
20044660 **	CB 525/1 CT RSM 30	Rp 2"	◆	-	3000822	-	3000826 + 3010495
3970147 *	CB 5065/1 - FSM 30	DN 65	-	3010367	3000825	3000825	3000831
3970161 **	CB 5065/1 CT FSM 30	DN 65	◆	-	3000825	3000825	3000831
3970148 *	CB 5080/1 - FSM 30	DN 80	-	3010367	3000826 + 3000822	3000826	3000832
3970162 **	CB 5080/1 CT FSM 30	DN 80	◆	-	3000826 + 3000822	3000826	3000832
3970149 *	CB 50100/1 - FSM 30	DN 100	-	3010367	●	●	3010127
3970163 **	CB 50100/1 CT FSM 30	DN 100	◆	-	●	●	3010127

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz - 220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

The seal control function is managed by LMV control box, by installation on gas train of pressure switch supplied, as standard equipment, with the burner.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

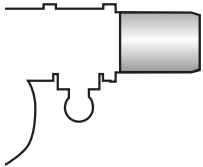
● Not available.

Modulating Gas Burners

GAS P/M SERIES

Burner accessories

Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ GAS 3 P/M	185	320	3000605
▶ GAS 4 P/M	187	320	3000606
▶ GAS 5 P/M	207	365	3000607
▶ GAS 6 P/M	227	360	3000608
▶ GAS 7 P/M	240	400	3000678

Spacer kit



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

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ GAS 3 - 4 - 5 - 6 P/M	142	3000755
▶ GAS 7 - 8 P/M	102	3000722
▶ GAS 9 P/M	130	3000723
▶ GAS 10 P/M	130	3000751

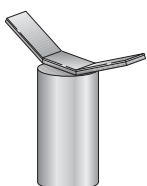
Continuous ventilation kit



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

BURNER	KIT CODE
▶ GAS 3 - 4 - 5 - 6 - 7 P/M	3010030

Burner support

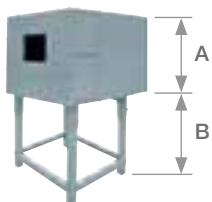


For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need of forklift trucks.

BURNER	SUPPORT CODE
▶ GAS 8 P/M - GAS 10 P/M	3000731

Burner accessories

Sound proofing box

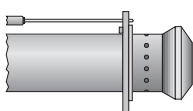


If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
▶ GAS 3 - 4 - 5 - 6 P/M	C1/3	650	372 - 980	10	3010403
▶ GAS 7 - 8 P/M	C4/5	850	160 - 980	10	3010404
▶ GAS 9 - 10 P/M	C7	1255	160 - 980	10	3010376

(*) Average noise reduction according to EN 15036-1 standard

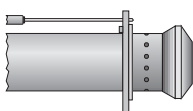
LPG kit



For burning LPG gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD	KIT CODE FOR EXTENDED HEAD
▶ GAS 3 P/M	3000657	3000807
▶ GAS 4 P/M	3000658	3000808
▶ GAS 5 P/M	3000659	3000809
▶ GAS 6 P/M	3000753	3000810
▶ GAS 7 P/M	3000806	3000811
▶ GAS 8 P/M	3000875	3010029
▶ GAS 9 P/M	3000876	3010028
▶ GAS 10 P/M	3010152	3010153

Town Gas kit



For burning Town Gas, a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ GAS 3 P/M	3000742	-
▶ GAS 4 P/M	3000754	-
▶ GAS 5 P/M	3000759	-
▶ GAS 6 P/M	3000768	-
▶ GAS 7 P/M	3000769	-
▶ GAS 8 P/M	-	-
▶ GAS 9 P/M	3010298	3010298
▶ GAS 10 P/M	3010300	3010300

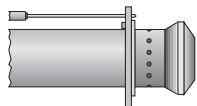
(*) Without CE certification

Modulating Gas Burners

GAS P/M SERIES

Burner accessories

Butane Gas kit



For burning Butane Gas ($C_3H_8 = 25\% - C_4H_{10} = 75\%$), a special kit is available.

BURNER	KIT CODE FOR STANDARD HEAD (*)	KIT CODE FOR EXTENDED HEAD (*)
▶ GAS 8 P/M	20013604	20013673
▶ GAS 9 P/M	20012268	20013674
▶ GAS 10 P/M	20012270	20013675

(*) Without CE certification

Accessories for modulating operation



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

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ GAS 3 - 4 - 5 - 6 - 7 P/M	RWF 40	3010210
▶ GAS 8 - 9 - 10 P/M	RWF 40	3010211



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

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ GAS 3 - 4 - 5 - 6 - 7 P/M GAS 8 - 9 - 10 P/M	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

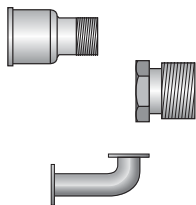


Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.














BURNER	POTENTIOMETER KIT CODE
▶ GAS 3 - 4 - 5 - 6 - 7 P/M GAS 8 - 9 - 10 P/M	3010021

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner. Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
2"  1" 1/2	70	3000822
3/4"  1" 1/2	31	3000824
DN 65  2" 1/2  2"	300	3000825
DN 65  2" 1/2  1" 1/2	300	3000826
DN 80  2" 1/2  2"	300	3000826
1" 1/2  2"	35	3000843
DN 65  DN 80	320	3000831
DN 80  DN 80	320	3000832
DN 100  DN 80	320	3010127
2"  2"	58	3010495

Seal control kit



To test the valve seals on the gas train, a special "seal control kit" is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030
▶ MBC/1 type	3010367	20029057
▶ CB/1 type	3010367	20029057

Gas train accessories

Stabiliser spring



To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 512/1	Red	25 - 55	3010131
	Black	60 - 110	3010157
	Pink	90 - 150	3090486
▶ CB 520/1 - 525/1	Red	25 - 55	3010132
	Black	60 - 110	3010158
	Pink	90 - 150	3090487
▶ CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992
▶ CB 50100/1	Red	25 - 55	3010134
	Black	60 - 110	3010136
	Pink	100 - 150	3090489
	Grey	140 - 200	3092174

RS/1 SERIES

The RS/1 series of burners covers a firing range from 70 to 550 kW, and they have been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers.

Operation is "one stage"; the burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit.

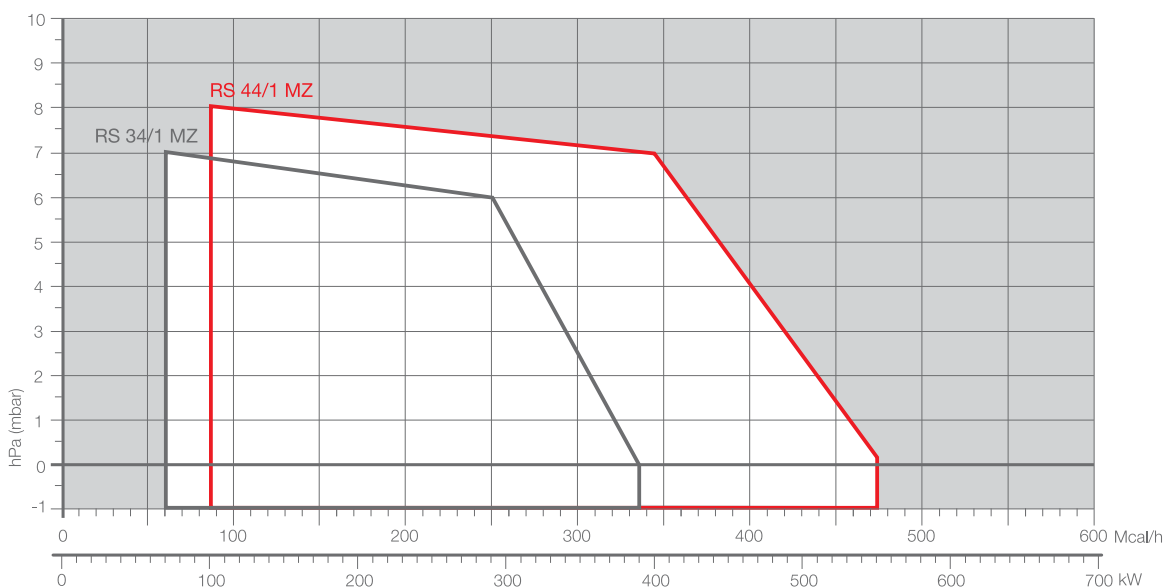
The elevated performance of the fans and combustion head, guarantee flexibility of use and excellent working at all firing rates.

The exclusive design ensures reduced dimensions, simple use and maintenance. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**. A wide range of accessories guarantees elevated working flexibility.



RS 34/1 MZ	70 ÷ 390 kW
RS 44/1 MZ	100 ÷ 550 kW

FIRING RATES



Useful working field for choosing the burner

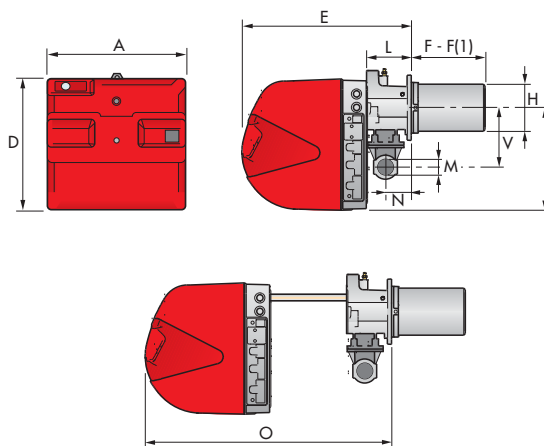
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

One Stage Gas Burners

RS/1 SERIES

Overall dimensions (mm)

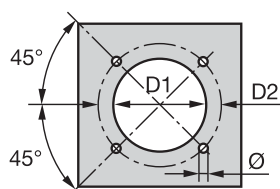
BURNER



MODEL	A	D	E	F - F(1)	H	I	L	M	N	O	S	V
► RS 34/1 MZ	442	422	508	216 - 351	140	305	138	1"1/2	84	780	-	177
► RS 44/1 MZ	442	422	508	216 - 351	152	305	138	1"1/2	84	780	-	177

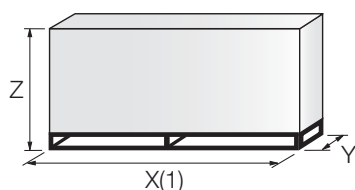
(1) dimension with extended head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
► RS 34/1 MZ	160	224	M8
► RS 44/1 MZ	160	224	M8

PACKAGING

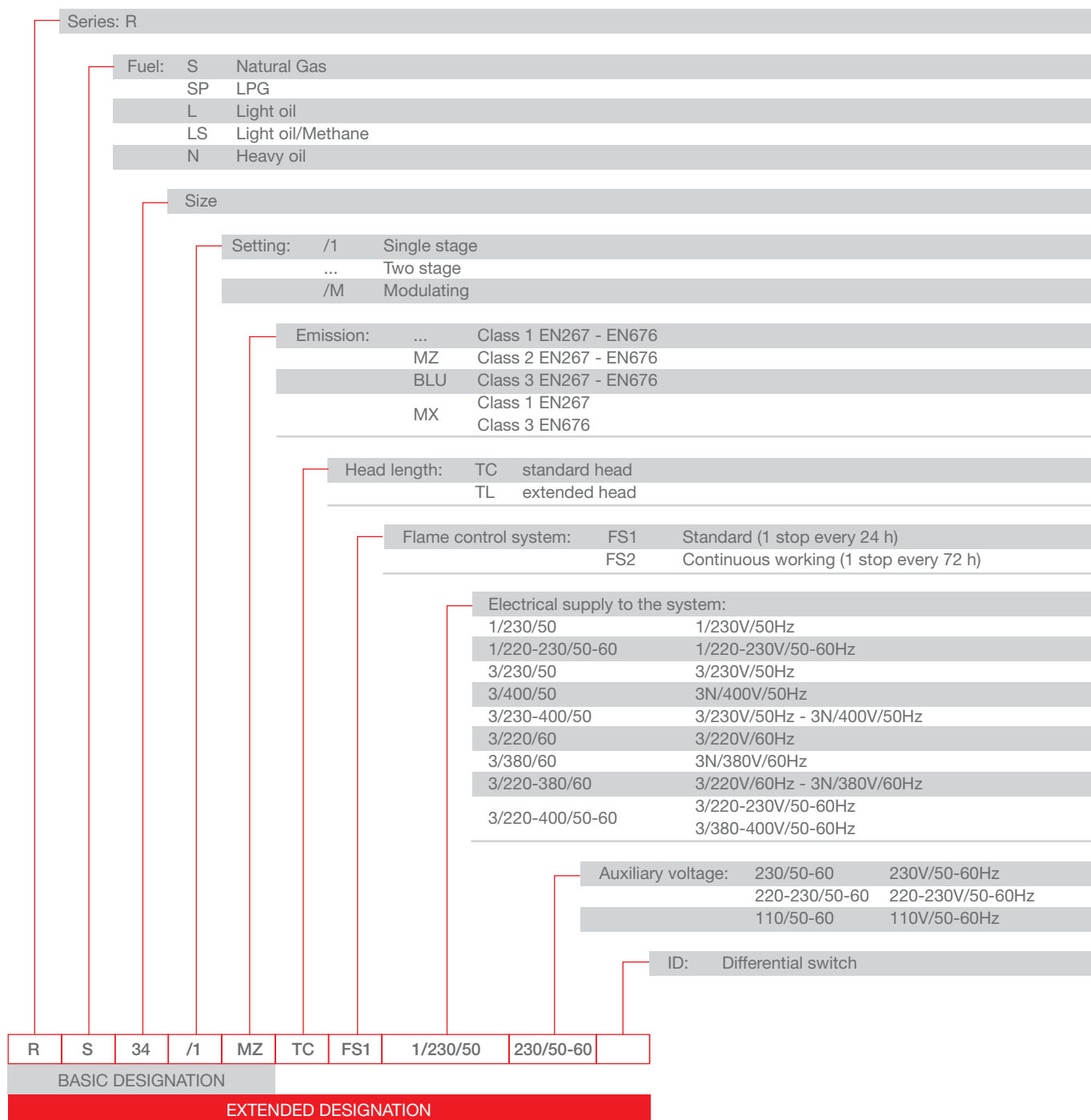


MODEL	X (1)	Y	Z	kg
► RS 34/1 MZ	1000	485	500	32
► RS 44/1 MZ	1000	485	500	33

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES



One Stage Gas Burners

RS/1 SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with one stage operation, fully automatic, made up of:

- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting
- Starting motor at 2800 rpm, single-phase / 220-230V / 50-60Hz
- Combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Plug and socket for electrical connections accessible from the external of the cover
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL						HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
							(kW)	NATURAL GAS (Nm ³ /h)			
3788510	RS 34/1 MZ	TC	FS1	1/230/50-60	230/50-60	70-390	7-39	0,6	CE0085BR0380		
3788511	RS 34/1 MZ	TL	FS1	1/230/50-60	230/50-60	70-390	7-39	0,6	CE0085BR0380		
3788610	RS 44/1 MZ	TC	FS1	1/230/50-60	230/50-60	100-550	10-55	0,7	CE0085BR0380		
3788611	RS 44/1 MZ	TL	FS1	1/230/50-60	230/50-60	100-550	10-55	0,7	CE0085BR0380		

Natural Gas, net calorific value: 10 kWh/Nm³ - Density at 20°C: 0,71 kg/Nm³

The burners of RS/1 series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676 Norm.

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE RS 34/1-44/1
	MODEL	Ø	C.T.		
3970500 *	MB 405/1 - RT 20	Rp 3/4"	-	3010123	3000824
3970084 *	MB 405/2 - RSD 20	Rp 1/2"	-	3010123	20044756
3970553 *	MB 407/1 - RT 20	Rp 3/4"	-	3010123	3000824
3970599 *	MB 407/1 - RT 52	Rp 3/4"	-	3010123	3000824
3970229 *	MB 407/1 - RSM 20	Rp 3/4"	-	3010123	3000824
3970537 *	MB 407/2 - RSD 20	Rp 3/4"	-	3010123	3000824
3970258 *	MB 410/1 - RT 52	Rp 1" 1/2	-	3010123	-
3970554 *	MB 410/1 - RT 20	Rp 3/4"	-	3010123	3000824
3970600 *	MB 410/1 - RT 52	Rp 3/4"	-	3010123	3000824
3970230 *	MB 410/1 - RSM 20	Rp 3/4"	-	3010123	3000824
3970534 *	MB 410/2 - RSD 20	Rp 3/4"	-	3010123	3000824
3970557 *	MB 410/2 - RT 20	Rp 3/4"	-	3010123	3000824
3970256 *	MB 412/1 - RT 52	Rp 1" 1/2	-	3010123	-
3970144 *	MB 412/1 - RT 20	Rp 1" 1/2	-	3010123	-
3970197 **	MB 412/1 CT RT 20	Rp 1" 1/2	◆	-	-
3970231 *	MB 412/1 - RSM 20	Rp 1" 1/2	-	3010123	-
3970152 *	MB 412/2 - RT 20	Rp 1" 1/2	-	3010123	-
3970180 *	MB 415/1 - RT 30	Rp 1" 1/2	-	3010123	-
3970198 **	MB 415/1 CT RT 30	Rp 1" 1/2	◆	-	-
3970250 *	MB 415/1 - RT 52	Rp 1" 1/2	-	3010123	-
3970253 **	MB 415/1 CT RT 52	Rp 1" 1/2	◆	-	-
3970232 *	MB 415/1 - RSM 30	Rp 1" 1/2	-	3010123	-
3970183 *	MB 415/2 - RT 20	Rp 1" 1/2	-	3010123	-
3970181 *	MB 420/1 - RT 30	Rp 2"	-	3010123	3000822
3970182 **	MB 420/1 CT RT 30	Rp 2"	◆	-	3000822
3970257 *	MB 420/1 - RT 52	Rp 2"	-	3010123	3000822
3970252 **	MB 420/1 CT RT 52	Rp 2"	◆	-	3000822
3970233 *	MB 420/1 - RSM 30	Rp 2"	-	3010123	3000822
3970234 **	MB 420/1 CT RSM 30	Rp 2"	◆	-	3000822
3970184 *	MB 420/2 - RT 20	Rp 2"	-	3010123	3000822
3970185 **	MB 420/2 CT RT 20	Rp 2"	◆	-	3000822
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	-	3010367	3000822
3970225 **	MBC 1200/1 CT RSM 60	Rp 2"	◆	-	3000822

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz -220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

The seal control function is managed by LMV control box, by installation on gas train of pressure switch supplied, as standard equipment, with the burner.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

One Stage Gas Burners

RS/1 SERIES

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE RS 34/1-44/1
	MODEL	Ø	C.T.		
3970145	CB 512/1 - RSM 30	Rp 1" 1/2	-	3010367	-
20045589	CB 512/1 CT RSM 30	Rp 1" 1/2	◆	-	-
3970153	CB 512/2 - RT 32	Rp 1" 1/2	-	3010367	-
20045590	CB 512/2 CT RT 32	Rp 1" 1/2	◆	-	-
3970146	CB 520/1 - RSM 30	Rp 2"	-	3010367	3000822
3970160	CB 520/1 CT RSM 30	Rp 2"	◆	-	3000822
3970154	CB 520/2 - RT 32	Rp 2"	-	3010367	3000822
20045591	CB 520/2 CT RT 32	Rp 2"	◆	-	3000822
20044659	CB 525/1 - RSM 30	Rp 2"	-	3010367	3000822
20044660	CB 525/1 CT RSM 30	Rp 2"	◆	-	3000822

Please see designation of Gas Train Series in the page before the Catalogue index.

* gas train are 230V/50Hz - 220V/60Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

The seal control function is managed by LMV control box, by installation on gas train of pressure switch supplied, as standard equipment, with the burner.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

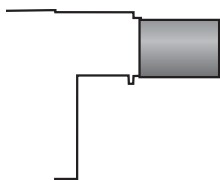
- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

Burner accessories

Extended head kit



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

BURNER	'STANDARD HEAD' LENGTH (mm)	'EXTENDED HEAD' LENGTH (mm)	KIT CODE
▶ RS 34/1 MZ	216	351	3010428
▶ RS 44/1 MZ	216	351	3010429

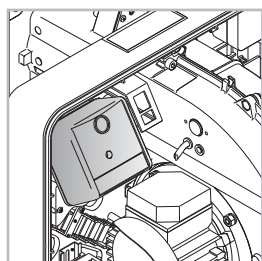
Spacer kit



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

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	110	3010095

Post-ventilation kit



To prolong ventilation for approximately 5 seconds after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010452

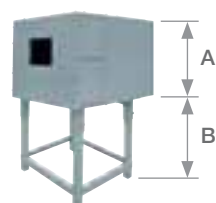
Continuous ventilation kit



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

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010449

Sound proofing box



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

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
▶ RS 34/1 MZ - 44/1 MZ	C1/3	650	372 - 980	10	3010403

(*) Average noise reduction according to EN 15036-1 standard

One Stage Gas Burners

RS/1 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 given in the following table:

BURNER	KIT CODE
▶ RS 34/1 MZ	3010423
▶ RS 44/1 MZ	3010424

Town gas kit

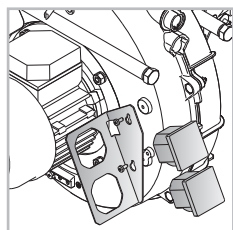


For burning Town gas, a special kit is available:

BURNER	KIT CODE FOR 'STANDARD HEAD' (*)	KIT CODE FOR 'EXTENDED HEAD' (*)
▶ RS 34/1 MZ	3010502	3010502
▶ RS 44/1 MZ	3010503	3010503

(*) Without CE certification

Hours counter kit



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

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010450

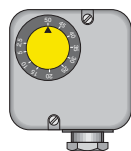
Ground fault interrupter kit



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

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010448

Gas max pressure switch



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring through Plugs & Sockets system.

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010418

Burner accessories

Volt free contact kit



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

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010419

PC interface kit



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

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3002719

Protection kit (electromagnetic interferences)

When the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m) due for example to INVERTER presence or in systems where the lengths of the thermostat connections is over 20 meters, this specific protection kit is available as an interface between the thermostatic controls and the burner.

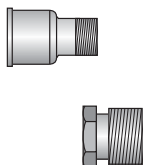
BURNER	KIT CODE
▶ All models	3010386

One Stage Gas Burners




RS/1 SERIES

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner. Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
2"  1" 1/2	70	3000822
3/4"  1" 1/2	31	3000824
1/2"  1" 1/2	31	20044756

Seal control kit



To test the valve seals on the gas train, a special "seal control kit" is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The sealing control is type VPS 504.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB 405/1 - MB 407/1 - MB 407/2 - MB 410/1 - MB 410/2 MB 412/1 - MB 412/2 - MB 415/1 - CB 512/1	3010123	20050030
▶ MB 415/2 - CB 512/2 - MB 420/2 - CB 520/2	3010125	20050033

Stabiliser spring



To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ CB 512/1 - 512/2	Red	25 - 55	3010131
	Black	60 - 110	3010157
	Pink	90 - 150	3090486
▶ CB 520/1 - 520/2 - 525/1	Red	25 - 55	3010132
	Black	60 - 110	3010158
	Pink	90 - 150	3090487

RS SERIES

The RS burners series covers a firing range from 44 to 2290 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers. Operation is "two stage progressive"; the burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

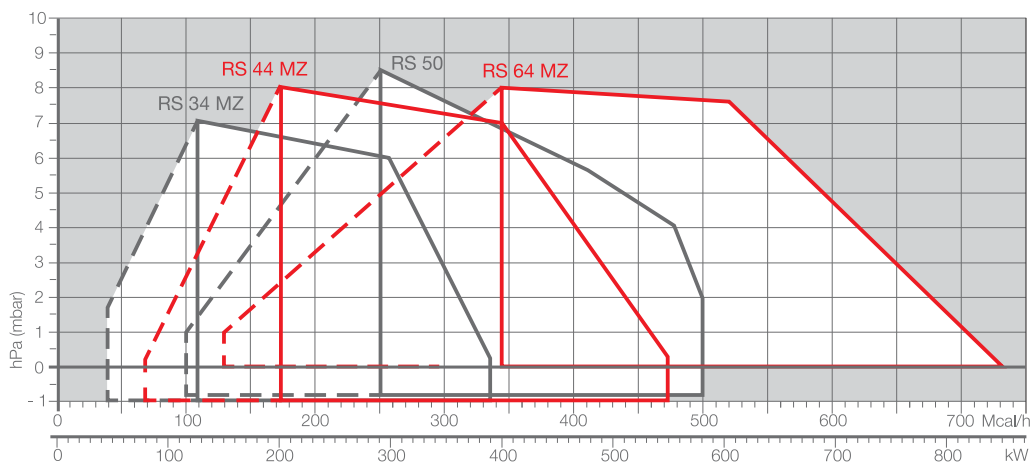
The elevated performance of the fans and combustion head, guarantee flexibility of use and excellent working at all firing rates.


The exclusive design ensures reduced dimensions, simple use and maintenance. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**. A wide range of accessories guarantees elevated working flexibility.




RS 34 MZ	45/125 ÷	390 kW
RS 44 MZ	80/203 ÷	550 kW
RS 50	116/290 ÷	580 kW
RS 64 MZ	150/400 ÷	850 kW
RS 70	192/465 ÷	814 kW
RS 100	232/698 ÷	1163 kW
RS 130	372/930 ÷	1512 kW
RS 150	300/900 ÷	1850 kW
RS 190	470/1279 ÷	2290 kW

FIRING RATES



 Useful working field for choosing the burner

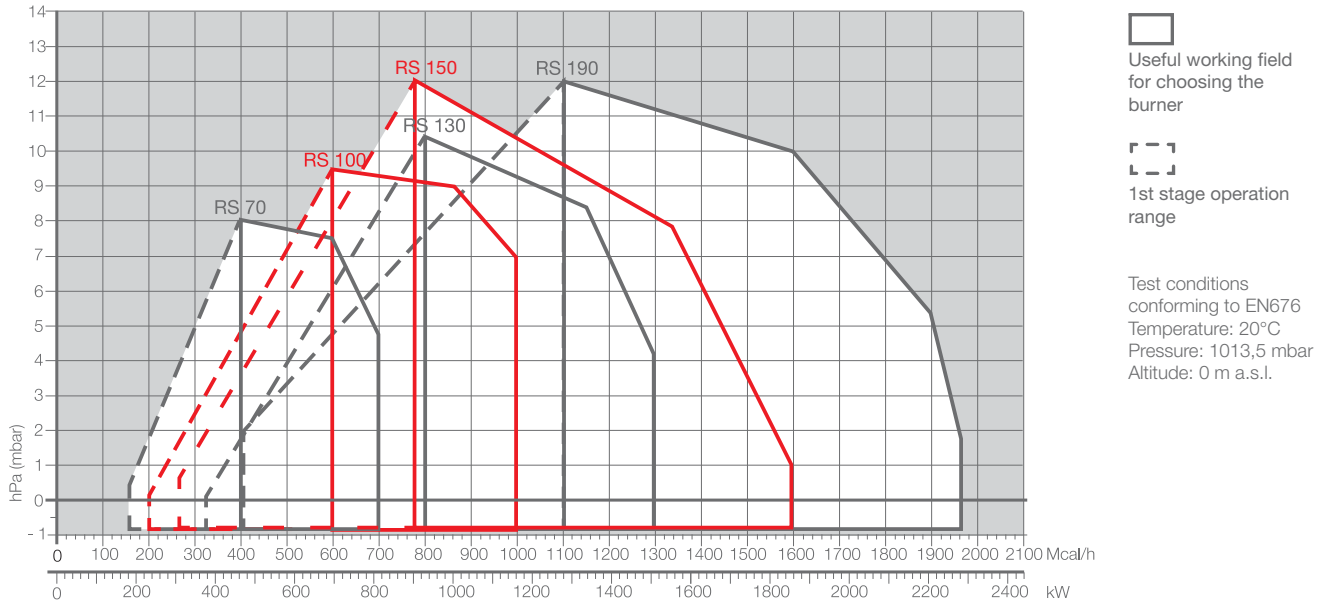
 1st stage operation range

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Two Stage Progressive Gas Burners

RS SERIES

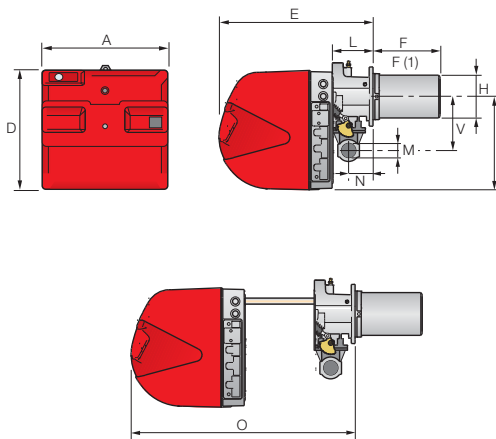
FIRING RATES



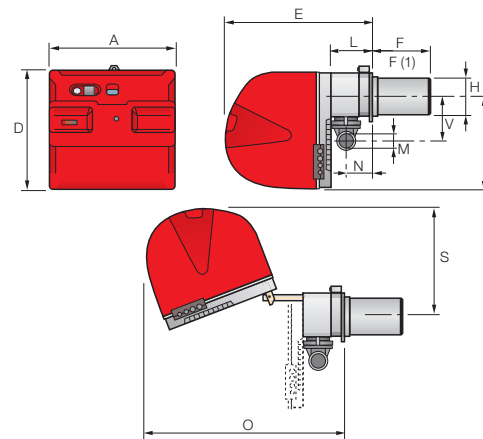
Overall dimensions (mm)

BURNER

RS 34 MZ - 44 MZ



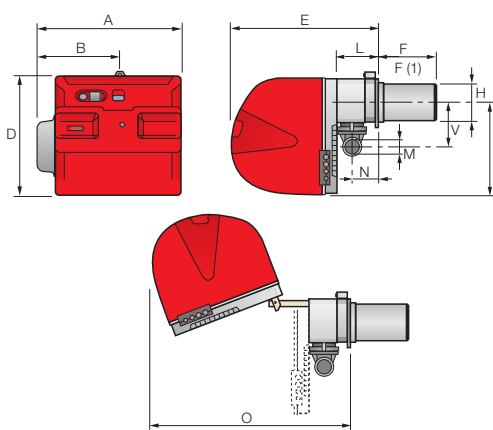
RS 50



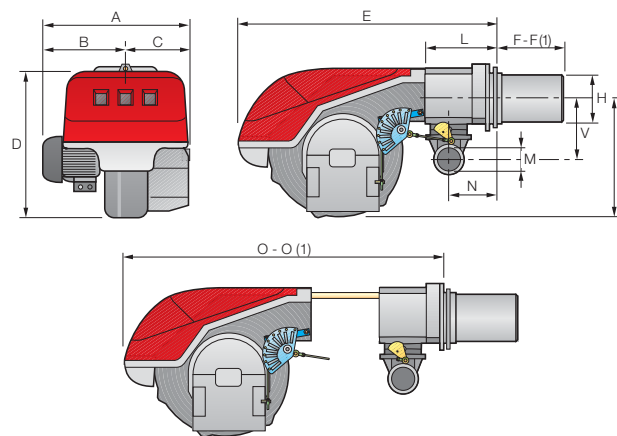
MODEL	A	D	E	F - F(1)	H	I	L	M	N	O	S	V
▶ RS 34 MZ	442	422	508	216 - 351	140	305	138	1"1/2	84	780	-	177
▶ RS 44 MZ	442	422	508	216 - 351	152	305	138	1"1/2	84	780	-	177
▶ RS 50	476	474	580	216 - 351	152	352	164	1"1/2	108	810	367	168

(1) dimension with extended head

RS 64 MZ



RS 70 - 100 - 130 - 150 - 190



MODEL	A	B	C	D	E	F - F(1)	H	I	L	M	N	O - O(1)	V
▶ RS 64 MZ	533	300	-	490	640	250 - 385	179	352	222	2"	134	870 - -	221
▶ RS 70	511	296	215	555	840	250 - 385	179	430	214	2"	134	1161 - 1296	221
▶ RS 100	527	312	215	555	840	250 - 385	179	430	214	2"	134	1161 - 1296	221
▶ RS 130	553	338	215	555	840	280 - 415	189	430	214	2"	134	1161 - 1296	221
▶ RS 150	675	370	305	590	840	280 - 415	189	435	214	2"	134	1180 - 1315	221
▶ RS 190	681	366	315	555	872	370 - 520	222	430	246	2"	150	1328 - -	262

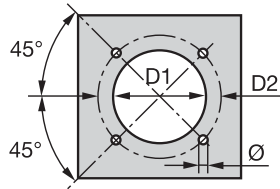
(1) dimension with extended head

Two Stage Progressive Gas Burners

RS SERIES

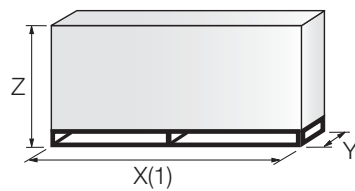
Overall dimensions (mm)

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 34 MZ	160	224	M8
▶ RS 44 MZ	160	224	M8
▶ RS 50	160	224	M8
▶ RS 64 MZ	185	275-325	M12
▶ RS 70	185	275-325	M12
▶ RS 100	185	275-325	M12
▶ RS 130	195	275-325	M12
▶ RS 150	185	275-325	M12
▶ RS 190	230	325-368	M16

PACKAGING



MODEL	X (1)	Y	Z	kg
▶ RS 34 MZ	1000	485	500	32
▶ RS 44 MZ	1000	485	500	33
▶ RS 50	1200	502	520	41
▶ RS 64 MZ	1200	580	520	42
▶ RS 70	1405	700	660	70
▶ RS 100	1405	700	660	73
▶ RS 130	1400	700	660	76
▶ RS 150	1400-1420	1000	660	110
▶ RS 190	1400-1420	1000	660	115

(1) dimension with standard and extended head

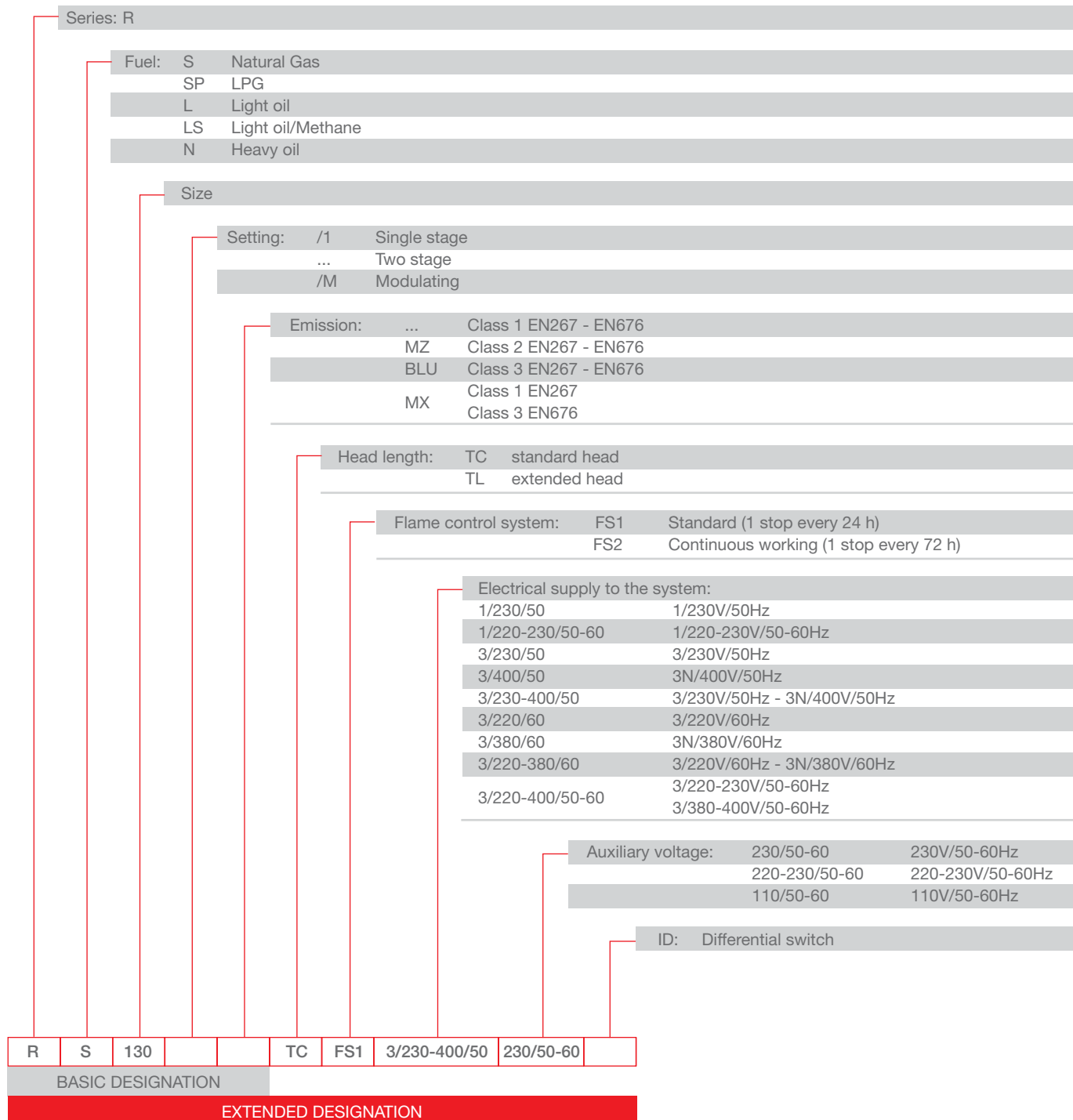
Two Stage Progressive Gas Burners

RS SERIES

RIELLO

Specification

DESIGNATION OF SERIES



GAS

Two Stage Progressive Gas Burners

RS SERIES

Specification

STATE OF SUPPLY

RS 34 MZ - 44 MZ models

Monoblock forced draught gas burner with two stage operation, fully automatic, made up of:

- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting and butterfly valve for regulating fuel output on 1st and 2nd stage controlled by a servomotor with variable cam
- Starting motor at 2800 rpm, single-phase / 220-230V / 50-60Hz or three-phase / 380-400V / 50-60Hz
- Combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Plug and socket for electrical connections accessible from the external of the cover
- Burner on/off selection switch
- 1st - 2nd stage manual switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection (RS 34 - 44 MZ single-phase)
- 4 plugs for electrical connection (RS 44 MZ three-phase)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY

RS 50 - 64 MZ - 70 - 100 - 130 - 150 - 190 models

Monoblock forced draught gas burner with two stage operation, fully automatic, made up of:

- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (RS 50 - 70 - 100 - 130 models) or straight blades (RS 64 MZ - 150-190 models)
- Air damper for air flow setting and butterfly valve for regulating fuel output on 1st and 2nd stage controlled by a servomotor with variable cam
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- Combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Plug and socket for electrical connections (RS 50-64 models)
- Burner on/off selection switch
- 1st - 2nd stage manual switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for the electrical connection (RS 50-64)
- 2 slide bar extensions (for extended head models and RS 150-190 model)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Two Stage Progressive Gas Burners

RS SERIES

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
						(kW)	NATURAL GAS (Nm ³ /h)			
3789010	RS 34 MZ	TC	FS1	1/230/50-60	230/50-60	44/130-390	4,5/13-39	0,6	CE 0085BR0381	(1)
3789011	RS 34 MZ	TL	FS1	1/230/50-60	230/50-60	44/130-390	4,5/13-39	0,6	CE 0085BR0381	(1)
20008266	RSP 34	TC	FS1	1/230/50-60	230/50-60	44/130-390	4,5/13-39	0,6	CE 0085BR0381	(1)
3789110	RS 44 MZ	TC	FS1	1/230/50-60	230/50-60	80/200-550	8/20-55	0,7	CE 0085BR0381	(1)
3789111	RS 44 MZ	TL	FS1	1/230/50-60	230/50-60	80/200-550	8/20-55	0,7	CE 0085BR0381	(1)
3789140	RS 44 MZ	TC	FS1	3/230-400/50-60	230/50-60	80/200-550	8/20-55	0,8	CE 0085BR0381	(1)
3789141	RS 44 MZ	TL	FS1	3/230-400/50-60	230/50-60	80/200-550	8/20-55	0,8	CE 0085BR0381	(1)
3784702	RS 50	TC	FS1	3/230-400/50	230/50-60	116/290-581	12/29-58	0,75	CE 0085AP0735	(1)
3784703	RS 50	TL	FS1	3/230-400/50	230/50-60	116/290-581	12/29-58	0,75	CE 0085AP0735	(1)
3784720	RS 50	TC	FS1	3/230-460/60	230/50-60	116/290-581	12/29-58	0,75	-	(1)
3784721	RS 50	TL	FS1	3/230-460/60	230/50-60	116/290-581	12/29-58	0,75	-	(1)
3789310	RS 64 MZ	TC	FS1	3/230-400/50	230/50-60	150/400-850	15/40-85	1,5	CE 0085BR0558	(1)
3789311	RS 64 MZ	TL	FS1	3/230-400/50	230/50-60	150/400-850	15/40-85	1,5	CE 0085BR0558	(1)
3789380	RS 64 MZ	TC	FS1	3/230-460/60	230/50-60	150/400-850	15/40-85	1,5	-	(1)
3789381	RS 64 MZ	TL	FS1	3/230-460/60	230/50-60	150/400-850	15/40-85	1,5	-	(1)
3785102	RS 70	TC	FS1	3/230-400/50	230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944	(2)
3785103	RS 70	TL	FS1	3/230-400/50	230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944	(2)
3785104	RS 70	TC	FS1	3/230-400/50	230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944	(1) (2)
3785105	RS 70	TL	FS1	3/230-400/50	230/50-60	192/465-814	19/46,5-81	1,4	CE 0085AP0944	(1) (2)
3785120	RS 70	TC	FS1	3/230-460/60	230/50-60	192/465-814	19/46,5-81	1,4	-	(2)
3785121	RS 70	TL	FS1	3/230-460/60	230/50-60	192/465-814	19/46,5-81	1,4	-	(2)
3785302	RS 100	TC	FS1	3/230-400/50	230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945	(2)
3785303	RS 100	TL	FS1	3/230-400/50	230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945	(2)
3785304	RS 100	TC	FS1	3/230-400/50	230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945	(1) (2)
3785305	RS 100	TL	FS1	3/230-400/50	230/50-60	232/698-1163	23/70-116	1,8	CE 0085AP0945	(1) (2)
3785320	RS 100	TC	FS1	3/230-460/60	230/50-60	232/698-1163	23/70-116	1,8	-	(2)
3785321	RS 100	TL	FS1	3/230-460/60	230/50-60	232/698-1163	23/70-116	1,8	-	(2)
3785502	RS 130	TC	FS1	3/230-400/50	230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946	(2)
3785503	RS 130	TL	FS1	3/230-400/50	230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946	(2)
3785504	RS 130	TC	FS1	3/230-400/50	230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946	(1) (2)
3785505	RS 130	TL	FS1	3/230-400/50	230/50-60	372/930-1512	37/93-151	2,6	CE 0085AP0946	(1) (2)
3785520	RS 130	TC	FS1	3/230-460/60	230/50-60	372/930-1512	37/93-151	2,6	-	(2)
3785521	RS 130	TL	FS1	3/230-460/60	230/50-60	372/930-1512	37/93-151	2,6	-	(2)
20044636	RS 150	TC	FS1	3/230-400/50	230/50-60	300/900÷1850	30/90÷185	3,5	in progress	(2)
20044637	RS 150	TL	FS1	3/230-400/50	230/50-60	300/900÷1850	30/90÷185	3,5	in progress	(2)
3785813	RS 190	TC	FS1	3/400/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
20030087	RS 190	TL	FS1	3/400/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
20011698	RS 190	TC	FS1	3/230/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
3785814	RS 190	TC	FS1	3/400/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(1) (2)
20011705	RS 190	TC	FS1	3/230/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(1) (2)
3785820	RS 190	TC	FS1	3/460/60	230/50-60	470/1279-2290	47/128-229	5,5	-	(2)
20011699	RS 190	TC	FS1	3/220/60	220/60	470/1279-2290	47/128-229	5,5	-	(2)

Natural Gas, net calorific value: 10 kWh/Nm³ - Density at 20°C: 0,71 kg/Nm³

The burners of RS series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676 Norm.

(1) With plug and socket.

(2) With terminal board.

Two Stage Progressive Gas Burners

RS SERIES

RIELLO

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE			
	MODEL	Ø	C.T.		RS 34-44-50	RS 64	RS 70-100-130	RS 150-190
3970500 *	MB 405/1 - RT 20	Rp 3/4"	-	3010123	3000824	●	●	●
3970553 *	MB 407/1 - RT 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●	●
3970599 *	MB 407/1 - RT 52	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●	●
3970229 *	MB 407/1 - RSM 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●	●
3970258 *	MB 410/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843	3000843	●
3970554 *	MB 410/1 - RT 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	3000824 + 3000843	●
3970600 *	MB 410/1 - RT 52	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	3000824 + 3000843	●
3970230 *	MB 410/1 - RSM 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	3000824 + 3000843	●
3970256 *	MB 412/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970144 *	MB 412/1 - RT 20	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970197 **	MB 412/1 CT RT 20	Rp 1" 1/2	◆	-	-	3000843	3000843	3000843
3970231 *	MB 412/1 - RSM 20	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970180 *	MB 415/1 - RT 30	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970198 **	MB 415/1 CT RT 30	Rp 1" 1/2	◆	-	-	3000843	3000843	3000843
3970250 *	MB 415/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970253 **	MB 415/1 CT RT 52	Rp 1" 1/2	◆	-	-	3000843	3000843	3000843
3970232 *	MB 415/1 - RSM 30	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970181 *	MB 420/1 - RT 30	Rp 2"	-	3010123	3000822	-	-	-
3970182 **	MB 420/1 CT RT 30	Rp 2"	◆	-	3000822	-	-	-
3970257 *	MB 420/1 - RT 52	Rp 2"	-	3010123	3000822	-	-	-
3970252 **	MB 420/1 CT RT 52	Rp 2"	◆	-	3000822	-	-	-
3970233 *	MB 420/1 - RSM 30	Rp 2"	-	3010123	3000822	-	-	-
3970234 **	MB 420/1 CT RSM 30	Rp 2"	◆	-	3000822	-	-	-
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	-	3010367	3000822	-	-	-
3970225 **	MBC 1200/1 CT RSM 60	Rp 2"	◆	-	3000822	-	-	-
3970222 *	MBC 1900/1 - FSM 40	DN 65	-	3010367	●	3000825	3000825	3000825
3970226 **	MBC 1900/1 CT FSM 40	DN 65	◆	-	●	3000825	3000825	3000825
3970223 *	MBC 3100/1 - FSM 40	DN 80	-	3010367	●	3000826	3000826	3000826
3970227 **	MBC 3100/1 CT FSM 40	DN 80	◆	-	●	3000826	3000826	3000826
3970224 *	MBC 5000/1 - FSM 80	DN 100	-	3010367	●	●	3000826	3000826
3970228 **	MBC 5000/1 CT FSM 80	DN 100	◆	-	●	●	3000826	3000826

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz -220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

● Not available.

Two Stage Progressive Gas Burners

RS SERIES

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE			
	MODEL	Ø	C.T.		RS 34-44-50	RS 64	RS 70-100-130	RS 150-190
3970145 *	CB 512/1 - RSM 30	Rp 1" 1/2	-	3010367	-	3000843	3000843	3000843
20045589 **	CB 512/1 CT RSM 30	Rp 1" 1/2	◆	-	-	3000843	3000843	3000843
3970146 *	CB 520/1 - RSM 30	Rp 2"	-	3010367	3000822	-	-	-
3970160 **	CB 520/1 CT RSM 30	Rp 2"	◆	-	3000822	-	-	-
20044659 *	CB 525/1 - RSM 30	Rp 2"	-	3010367	3000822	-	-	-
20044660 **	CB 525/1 CT RSM 30	Rp 2"	◆	-	3000822	-	-	-
3970147 *	CB 5065/1 - FSM 30	DN 65	-	3010367	●	3000825	3000825	3000825
3970161 **	CB 5065/1 CT FSM 30	DN 65	◆	-	●	3000825	3000825	3000825
3970148 *	CB 5080/1 - FSM 30	DN 80	-	3010367	●	●	3000826	3000826
3970162 **	CB 5080/1 CT FSM 30	DN 80	◆	-	●	●	3000826	3000826

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz -220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

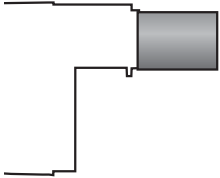
- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.
- ◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

● Not available.

Burner accessories

Extended head kit



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

BURNER	'STANDARD HEAD' LENGTH (mm)	'EXTENDED HEAD' LENGTH (mm)	KIT CODE
▶ RS 34 MZ	216	351	3010428
▶ RS 44 MZ	216	351	3010429
▶ RS 50	216	351	3010078
▶ RS 64 MZ	250	385	3010427
▶ RS 70	250	385	3010117
▶ RS 100	250	385	3010118
▶ RS 130	280	415	3010119
▶ RS 150	280	415	in progress
▶ RS 190	370	520	3010443 *

* Kit to be used on burners recognizable by a serial number that is over or equal to 02426XXXXXX, for burners with a serial number that is under or equal to 02416XXXXXX please use the Kit coded 3010196

Spacer kit



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

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 34 MZ - 44 MZ - 50	110	3010095
▶ RS 64 MZ - 70 - 100 - 130 - 150	135	3010129
▶ RS 190	102	3000722

Continuous ventilation kit



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

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ	3010449
▶ RS 50 - 64 - 70 - 100 - 130 - 150 - 190	3010094

Post-ventilation kit



To prolong ventilation after opening of thermostats chain, a special kit is available.

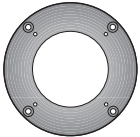
BURNER	POST-VENTILATION TIME (s)	KIT CODE
▶ RS 34 MZ - 44 MZ	5	3010452
▶ RS 50 - 70 - 100 - 130 - 150 - 190	20	3010452

Two Stage Progressive Gas Burners

RS SERIES

Burner accessories

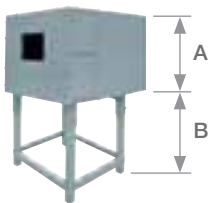
Connection flange kit



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

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

Sound proofing box



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

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
▶ RS 34 MZ - 44 MZ - RS 50 - RS 64 MZ	C1/3	650	372 - 980	10	3010403
▶ RS 70 - 100 - 130 - 150 - 190	C4/5	850	160 - 980	10	3010404

(*) Average noise reduction according to EN 15036-1 standard

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

BURNER	KIT CODE FOR 'STANDARD HEAD'	KIT CODE FOR 'EXTENDED HEAD'
▶ RS 34 MZ	3010423	3010423
▶ RS 44 MZ	3010424	3010424
▶ RS 50	20008173	20008173
▶ RS 64 MZ	3010434	3010435
▶ RS 70	20008175	20008176
▶ RS 100	20008177	20008178
▶ RS 130	20008179	20008180
▶ RS 150	in progress	in progress
▶ RS 190	3010166	3010166

Town gas kit



For burning Town gas, a special kit is available:

BURNER	KIT CODE FOR 'STANDARD HEAD' (*)	KIT CODE FOR 'EXTENDED HEAD' (*)
▶ RS 34 MZ	3010502	3010502
▶ RS 44 MZ	3010503	3010503
▶ RS 50	3010285	3010285
▶ RS 70	3010286	3010286
▶ RS 100	3010287	3010287
▶ RS 130	3010288	3010288
▶ RS 190	3010297	3010297

(*) Without CE certification

Burner accessories

Vibration reduction kit



The kit allow you to improve flame stability in some applications, where the boiler/flue assembly is liable to resonate.

BURNER	KIT CODE
▶ RS 50 TC - RS 50 TL	3010200
▶ RS 70 TC - RS 70 TL	3010201
▶ RS 100 TC - RS 100 TL	3010202
▶ RS 130 TC	3010373
▶ RS 130 TL	3010374
▶ RS 190 TC	3010375

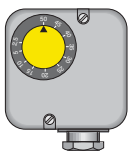
Ground fault interrupter kit



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

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ	3010448
▶ RS 50 - RS 64 MZ	3010321
▶ RS 70 - 100 - 130 - 150 - 190	3010329

Gas max pressure switch kit



If necessary a Gas max pressure Switch kit is available.

BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ*	3010418
▶ RS 50 - 64 MZ - 70 - 100 - 130 - 150 - 190	3010493

* Connectable to the burner electrical wiring through Plugs & Sockets system

Volt free contact kit



A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals.

Every burner can be equipped with a single kit for a remote check of the flame presence signal and the burner lockout indication.

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

PC interface kit



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

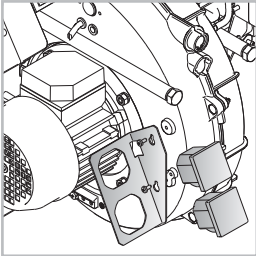
BURNER	KIT CODE
▶ RS 34 MZ - 44 MZ - 50 - 64 MZ - 70 - 100 - 130 - 150 - 190	3002719

Two Stage Progressive Gas Burners

RS SERIES

Burner accessories

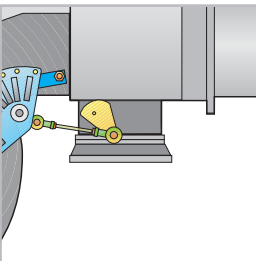
Hours counter kit



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

BURNER	KIT CODE
► RS 34 MZ - 44 MZ	3010450

DN80 gas flange kit



To modify the standard 2" burner gas input connection in to DN80 connection, a specific gas flange is available.

BURNER	KIT CODE
► RS 64 MZ - 70 - 100 - 130 - 150 - 190	3010439

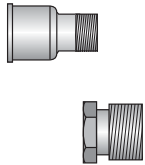
Protection kit (electromagnetic interferences)

When the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m) due for example to INVERTER presence or in systems where the lengths of the thermostat connections is over 20 meters, this specific protection kit is available as an interface between the thermostatic controls and the burner.

BURNER	KIT CODE
► All models	3010386

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner. Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
2" 1 1/2"	70	3000822
3/4" 1 1/2"	31	3000824
DN 65 2" 1/2 2"	300	3000825
2" 1/2 1 1/2"		
DN 80 2" 1/2 2"	300	3000826
1" 1/2 2"	35	3000843

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 512/1	Red	25 - 55	3010131
	Black	60 - 110	3010157
	Pink	90 - 150	3090486
▶ CB 520/1 - 525/1	Red	25 - 55	3010132
	Black	60 - 110	3010158
	Pink	90 - 150	3090487
▶ CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992

Seal control kit



To test the valve seals on the gas train, a special "seal control kit" is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030
▶ MBC/1 type	3010367	20029057
▶ CB/1 type	3010367	20029057

RS/M SERIES

The RS/M burners series covers a firing range from 45 to 2650 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers. Operation can be "two stage progressive" or, alternatively, "modulating" with the installation of a PID logic regulator and respective probes.

RS/M burners series guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs.

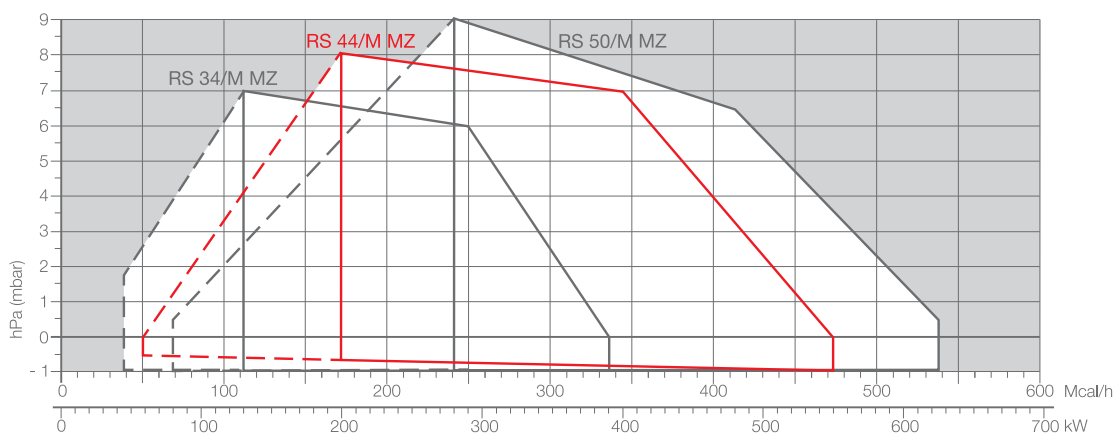
The exclusive design ensures reduced dimensions, simple use and maintenance. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**.


A wide range of accessories guarantees elevated working flexibility.



RS 34/M MZ	45/125 ÷	390 kW
RS 44/M MZ	80/203 ÷	550 kW
RS 50/M MZ	80/285 ÷	630 kW
RS 64/M MZ	150/400 ÷	850 kW
RS 70/M	150/470 ÷	930 kW
RS 100/M	150/700 ÷	1340 kW
RS 130/M	240/920 ÷	1600 kW
RS 150/M	300/900 ÷	1850 kW
RS 190/M	470/1279 ÷	2290 kW
RS 250/M MZ	600/1250 ÷	2650 kW

FIRING RATES



 Useful working field for choosing the burner

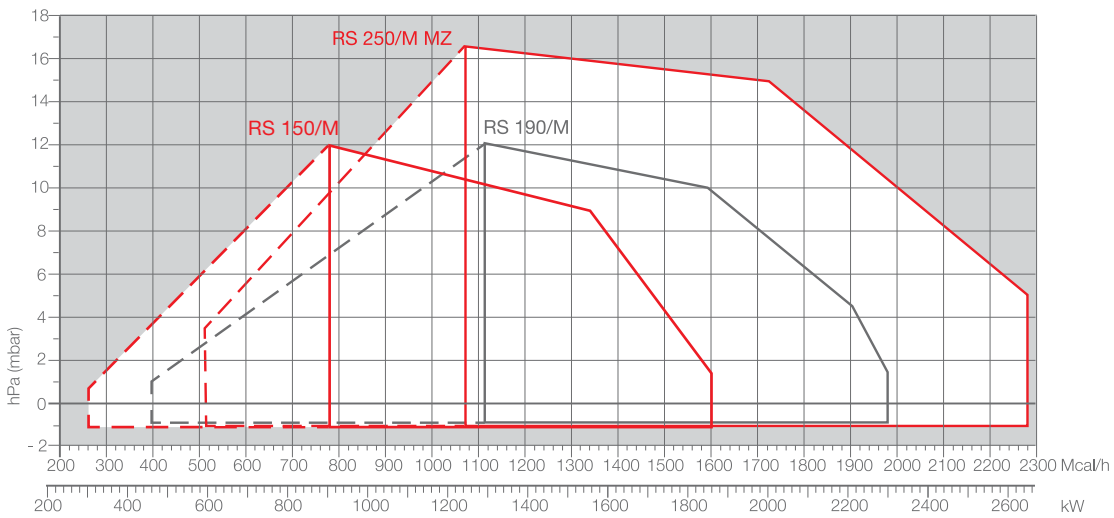
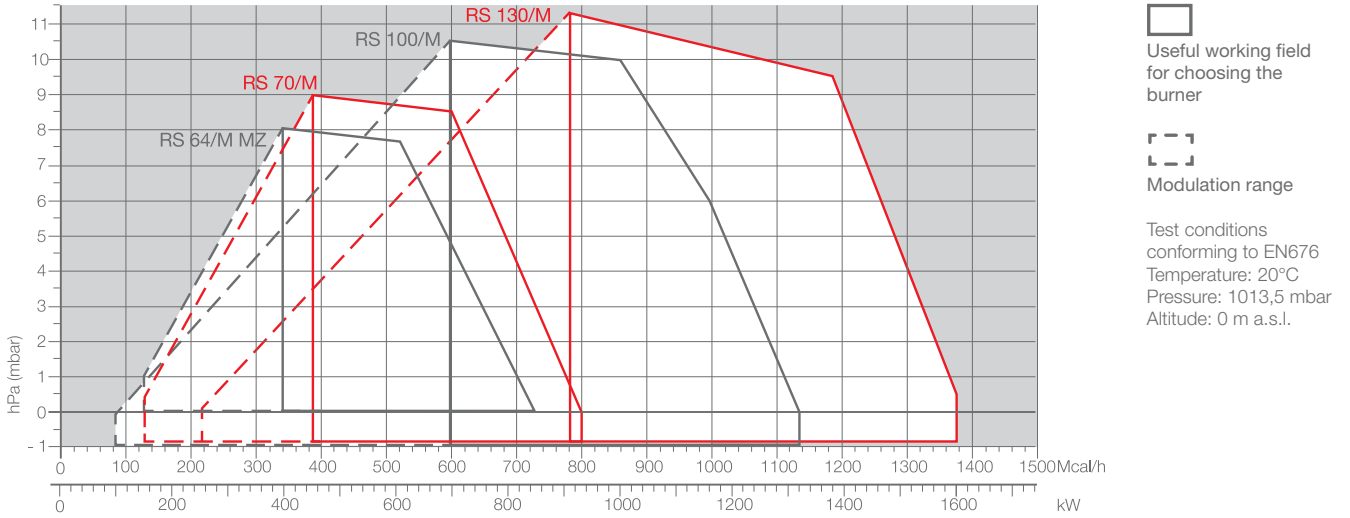
 Modulation range

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Modulating Gas Burners

RS/M SERIES

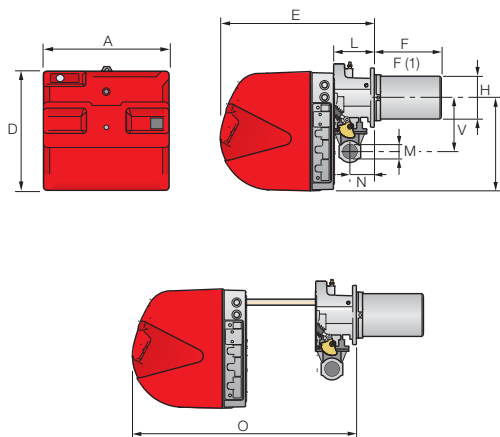
FIRING RATES



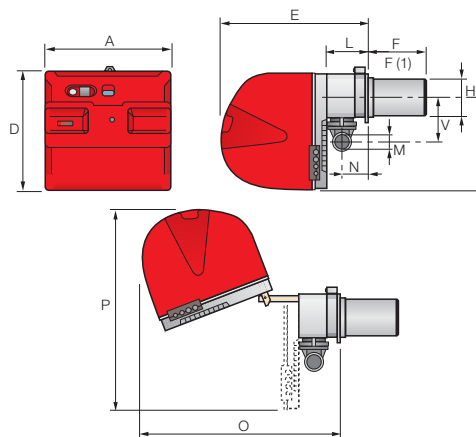
Overall dimensions (mm)

BURNER

RS 34/M MZ - 44/M MZ



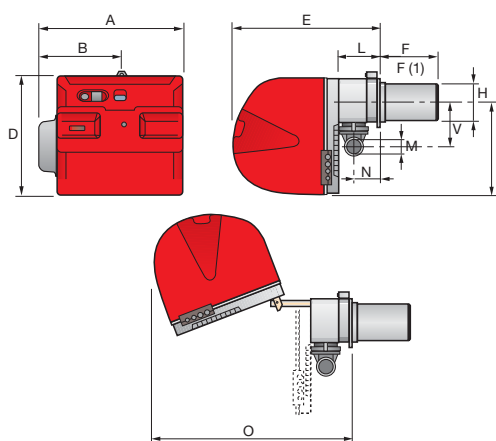
RS 50/M MZ



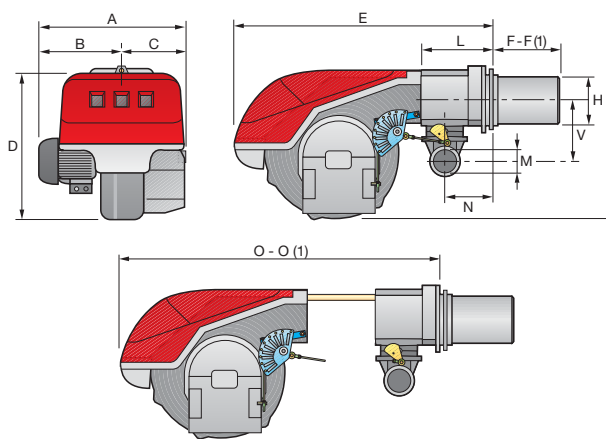
MODEL	A	D	E	F - F(1)	H	I	L	M	N	O	P	V
▶ RS 34/M MZ	442	422	508	216 - 351	140	305	138	1"1/2	84	780	-	177
▶ RS 44/M MZ	442	422	508	216 - 351	152	305	138	1"1/2	84	780	-	177
▶ RS 50/M MZ	476	474	580	216 - 351	152	352	164	1"1/2	108	810	719	168

(1) dimension with extended head

RS 64/M MZ



RS 70/M - 100/M - 130/M - 150/M - 190/M - 250/M MZ



MODEL	A	B	C	D	E	F - F(1)	H	I	L	M	N	O - O(1)	V
▶ RS 64/M MZ	533	300	-	490	640	250 - 385	179	352	222	2"	134	870 - -	221
▶ RS 70/M	511	296	215	555	840	250 - 385	179	430	214	2"	134	1161 - 1296	221
▶ RS 100/M	527	312	215	555	840	250 - 385	179	430	214	2"	134	1161 - 1296	221
▶ RS 130/M	553	338	215	555	840	280 - 415	189	430	214	2"	134	1161 - 1296	221
▶ RS 150/M	675	370	305	590	840	280 - 415	189	435	214	2"	134	1180 - 1315	221
▶ RS 190/M	681	366	315	555	872	370 - 520	222	430	230	2"	150	1328 - -	221
▶ RS 250/M MZ	732	427	305	555	872	370 - 520	222	430	230	2"	150	1328 - -	262

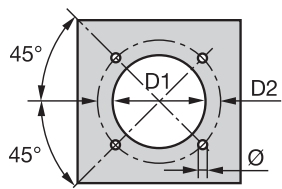
(1) dimension with extended head

Modulating Gas Burners

RS/M SERIES

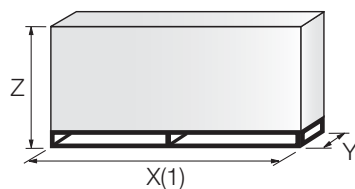
Overall dimensions (mm)

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ RS 34/M MZ	160	224	M8
▶ RS 44/M MZ	160	224	M8
▶ RS 50/M MZ	160	224	M8
▶ RS 64/M MZ	185	275-325	M12
▶ RS 70/M	185	275-325	M12
▶ RS 100/M	185	275-325	M12
▶ RS 130/M	195	275-325	M12
▶ RS 150/M	185	275-325	M12
▶ RS 190/M	230	325-368	M16
▶ RS 250/M MZ	230	325-368	M16

PACKAGING

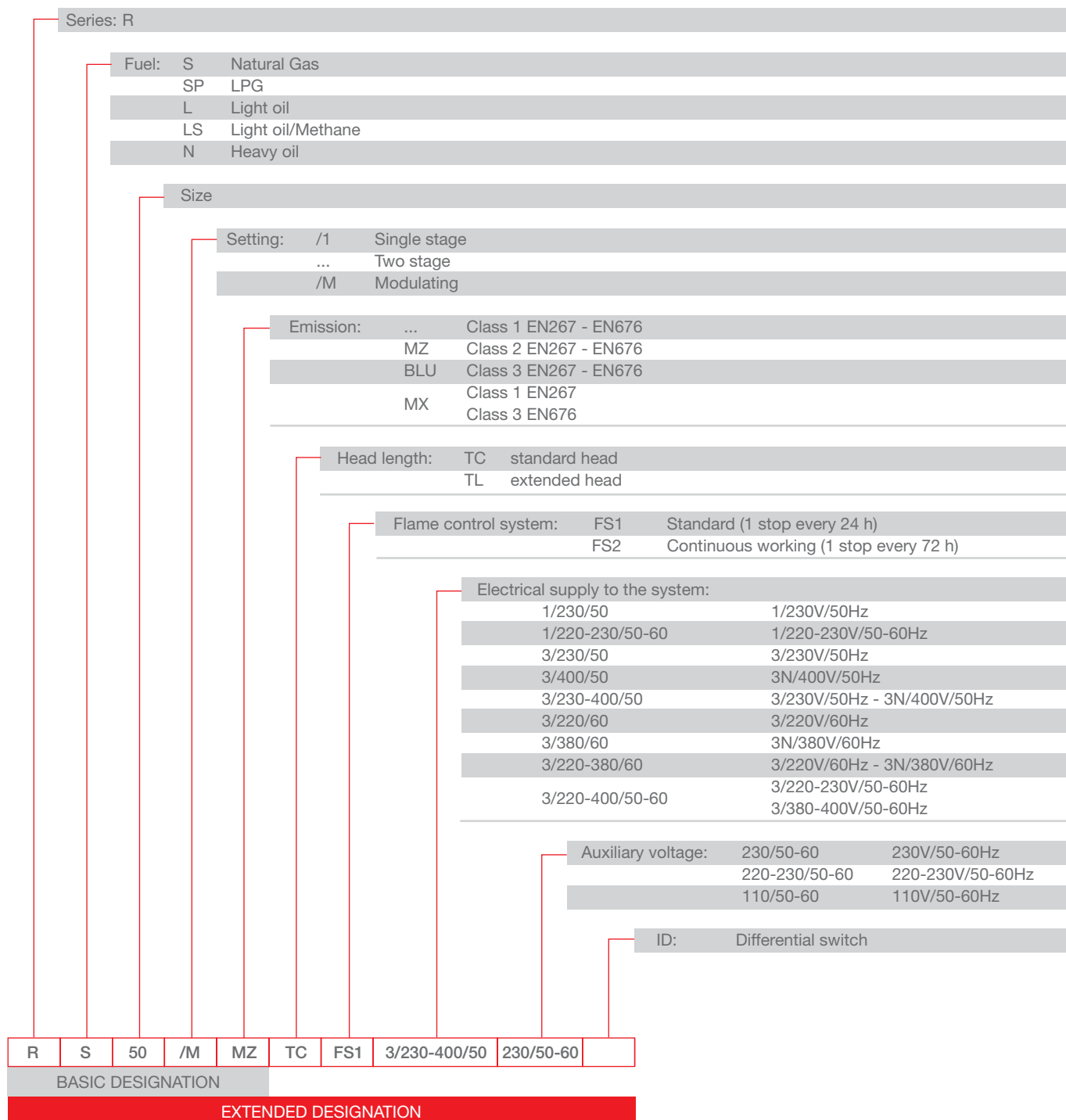


MODEL	X (1)	Y	Z	kg
▶ RS 34/M MZ	1000	485	500	32
▶ RS 44/M MZ	1000	485	500	33
▶ RS 50/M MZ	1200	502	520	41
▶ RS 64/M MZ	1200	580	520	42
▶ RS 70/M	1405	700	660	70
▶ RS 100/M	1405	700	660	73
▶ RS 130/M	1405	700	660	76
▶ RS 150/M	1400-1420	1000	660	110
▶ RS 190/M	1400-1420	1000	660	115
▶ RS 250/M MZ	1400-1420	1040	725	117

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES



Modulating Gas Burners

RS/M SERIES

Specification

STATE OF SUPPLY

RS 34/M MZ - 44/M MZ models

Monoblock forced draught gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:

- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by a servomotor with variable cam
- Starting motor at 2800 rpm, single-phase / 230V / 50-60Hz or three-phase / 230-400V / 50-60Hz
- Combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Plugs and Sockets for electrical connection, accessible from the external of the cover
- Burner on/off selection switch
- Manual or automatic output increase/decrease selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 40 electric protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection (RS 34-44/M MZ single-phase)
- 4 plugs for electrical connection (RS 44/M MZ three-phase)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RS/M SERIES

Specification

STATE OF SUPPLY

RS 50/M MZ - 64/M MZ - 70/M - 100/M - 130/M - 150/M - 190/M - 250/M MZ models

Monoblock forced draught gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:

- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (RS 50 - 70 - 100 - 130/M models) or straight blades (RS 64/M MZ - 150/M - 190/M - 250/M MZ models)
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by a servomotor with variable cam
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- Combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Burner on/off selection switch
- Manual or automatic output increase/decrease selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for the electrical connection (RS 64-50/M MZ)
- 2 slide bar extensions (for extended head models and RS 150-190/M models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Modulating Gas Burners

RS/M SERIES

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
						(kW)	NATURAL GAS (Nm ³ /h)			
3788710	RS 34/M MZ	TC	FS1	1/230/50-60	230/50-60	45/125÷390	4,5/12,5÷39	0,6	CE 0085BR0378	(1)
3788711	RS 34/M MZ	TL	FS1	1/230/50-60	230/50-60	45/125÷390	4,5/12,5÷39	0,6	CE 0085BR0378	(1)
3788810	RS 44/M MZ	TC	FS1	1/230/50-60	230/50-60	80/203÷550	8/20,3÷55	0,7	CE 0085BR0378	(1)
3788811	RS 44/M MZ	TL	FS1	1/230/50-60	230/50-60	80/203÷550	8/20,3÷55	0,7	CE 0085BR0378	(1)
3788840	RS 44/M MZ	TC	FS1	3/230-400/50-60	230/50-60	80/203÷550	8/20,3÷55	0,75	CE 0085BR0378	(1)
3788841	RS 44/M MZ	TL	FS1	3/230-400/50-60	230/50-60	80/203÷550	8/20,3÷55	0,75	CE 0085BR0378	(1)
3781622	RS 50/M MZ	TC	FS1	3/230-400/50	230/50-60	80/285÷630	8/29÷63	0,75	CE 0085AQ0709	(1)
3781623	RS 50/M MZ	TL	FS1	3/230-400/50	230/50-60	80/285÷630	8/29÷63	0,75	CE 0085AQ0709	(1)
3781682	RS 50/M MZ	TC	FS1	3/230-460/60	230/50-60	80/285÷630	8/29÷63	0,66	-	(1)
3781683	RS 50/M MZ	TL	FS1	3/230-460/60	230/50-60	80/285÷630	8/29÷63	0,66	-	(1)
3788910	RS 64/M MZ	TC	FS1	3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,5	CE 0085BR0558	(1)
3788911	RS 64/M MZ	TL	FS1	3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,5	CE 0085BR0558	(1)
3788920	RS 64/M MZ	TC	FS2	3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,5	CE 0085BR0558	(1)
3788921	RS 64/M MZ	TL	FS2	3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,5	CE 0085BR0558	(1)
3788980	RS 64/M MZ	TC	FS1	3/230-460/60	230/50-60	150/400÷850	15/40÷85	1,5	-	(1)
3788981	RS 64/M MZ	TL	FS1	3/230-460/60	230/50-60	150/400÷850	15/40÷85	1,5	-	(1)
3789610	RS 70/M	TC	FS1	3/230-400/50	230/50-60	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(2)
3787040	RS 70/M	TC	FS1	3/230-400/50	230/50-60 ID	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(2)
3789611	RS 70/M	TL	FS1	3/230-400/50	230/50-60	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(2)
3787041	RS 70/M	TL	FS1	3/230-400/50	230/50-60 ID	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(2)
3866203	RS 70/M	TC	FS1	3/230-400/50	230/50-60	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(1)
on demand	RS 70/M	TL	FS1	3/230-400/50	230/50-60	150/470÷930	15/47÷93	1,4	CE 0085AQ0708	(1)
3787082	RS 70/M	TC	FS1	3/230-460/60	230/50-60	150/470÷930	15/47÷93	1,4	-	(2)
3787083	RS 70/M	TL	FS1	3/230-460/60	230/50-60	150/470÷930	15/47÷93	1,4	-	(2)
3789710	RS 100/M	TC	FS1	3/230-400/50	230/50-60	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(2)
3787240	RS 100/M	TC	FS1	3/230-400/50	230/50-60 ID	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(2)
3789711	RS 100/M	TL	FS1	3/230-400/50	230/50-60	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(2)
3787241	RS 100/M	TL	FS1	3/230-400/50	230/50-60 ID	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(2)
3866204	RS 100/M	TC	FS1	3/230-400/50	230/50-60	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(1)
on demand	RS 100/M	TL	FS1	3/230-400/50	230/50-60	150/700÷1340	15/70÷134	1,8	CE 0085AQ0708	(1)
3787282	RS 100/M	TC	FS1	3/230-460/60	230/50-60	150/700÷1340	15/70÷134	2,1	-	(2)
3787283	RS 100/M	TL	FS1	3/230-460/60	230/50-60	150/700÷1340	15/70÷134	2,1	-	(2)

Natural Gas, net calorific value: 10 kWh/Nm³ - Density at 20°C: 0,71 kg/Nm³

The burners of RS/M series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676 Norm.

(1) With plug and socket.

(2) With terminal board.

Available models

Burners

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE	
					(kW)	NATURAL GAS (Nm ³ /h)				
3789810	RS 130/M	TC	FS1	3/230-400/50	230/50-60	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(2)
3787440	RS 130/M	TC	FS1	3/230-400/50	230/50-60 ID	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(2)
3789811	RS 130/M	TL	FS1	3/230-400/50	230/50-60	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(2)
3787441	RS 130/M	TL	FS1	3/230-400/50	230/50-60 ID	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(2)
3866205	RS 130/M	TC	FS1	3/230-400/50	230/50-60	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(1)
on demand	RS 130/M	TL	FS1	3/230-400/50	230/50-60	240/920÷1600	24/92÷160	2,6	CE 0085AQ0708	(1)
3787482	RS 130/M	TC	FS1	3/230-460/60	230/50-60	240/920÷1600	24/92÷160	2,6	-	(2)
3787483	RS 130/M	TL	FS1	3/230-460/60	230/50-60	240/920÷1600	24/92÷160	2,6	-	(2)
20044638	RS 150/M	TC	FS1	3/230-400/50	230/50-60	300/900÷1850	30/90÷185	3,5	in progress	(2)
20044639	RS 150/M	TL	FS1	3/230-400/50	230/50-60	300/900÷1850	30/90÷185	3,5	in progress	(2)
3787623	RS 190/M	TC	FS1	3/400/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
3787622	RS 190/M	TC	FS1	3/230/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
3787640	RS 190/M	TC	FS1	3/400/50	230/50-60 ID	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
20011675	RS 190/M	TC	FS1	3/230/50	230/50-60 ID	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(2)
3866206	RS 190/M	TC	FS1	3/400/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(1)
on demand	RS 190/M	TL	FS1	3/400/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(1)
20011708	RS 190/M	TC	FS1	3/230/50	230/50-60	470/1279-2290	47/128-229	5,5	CE 0085AT0042	(1)
3787682	RS 190/M	TC	FS1	3/460/60	230/50-60	470/1279-2290	47/128-229	5,5	-	(2)
3787681	RS 190/M	TC	FS1	3/220/60	220/60	470/1279-2290	47/128-229	5,5	-	(2)
3788410	RS 250/M MZ	TC	FS1	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788411	RS 250/M MZ	TL	FS1	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788440	RS 250/M MZ	TC	FS1	3/230/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788441	RS 250/M MZ	TL	FS1	3/230/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788420	RS 250/M MZ	TC	FS2	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788421	RS 250/M MZ	TL	FS2	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788450	RS 250/M MZ	TC	FS2	3/230/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
3788451	RS 250/M MZ	TL	FS2	3/230/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BS0114	(2)
20008162	RS 250/M MZ	TC	FS1	3/220-380/60	220/60	600/1250÷2650	60/125÷265	6,5	-	(2)

Natural Gas, net calorific value: 10 kWh/Nm³ - Density at 20°C: 0,71 kg/Nm³

The burners of RS/M series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676 Norm.

(1) With plug and socket.

(2) With terminal board.

Modulating Gas Burners

RS/M SERIES

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE			
	MODEL	Ø	C.T.		RS 34-44-50	RS 64	RS 70-100-130	RS 150-190-250
3970500 *	MB 405/1 - RT 20	Rp 3/4"	-	3010123	3000824	●	●	●
3970553 *	MB 407/1 - RT 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●	●
3970599 *	MB 407/1 - RT 52	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●	●
3970229 *	MB 407/1 - RSM 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	●	●
3970258 *	MB 410/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843	3000843	●
3970554 *	MB 410/1 - RT 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	3000824 + 3000843	●
3970600 *	MB 410/1 - RT 52	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	3000824 + 3000843	●
3970230 *	MB 410/1 - RSM 20	Rp 3/4"	-	3010123	3000824	3000824 + 3000843	3000824 + 3000843	●
3970256 *	MB 412/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970144 *	MB 412/1 - RT 20	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970197 **	MB 412/1 CT RT 20	Rp 1" 1/2	◆	-	-	3000843	3000843	3000843
3970231 *	MB 412/1 - RSM 20	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970180 *	MB 415/1 - RT 30	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970198 **	MB 415/1 CT RT 30	Rp 1" 1/2	◆	-	-	3000843	3000843	3000843
3970250 *	MB 415/1 - RT 52	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970253 **	MB 415/1 CT RT 52	Rp 1" 1/2	◆	-	-	3000843	3000843	3000843
3970232 *	MB 415/1 - RSM 30	Rp 1" 1/2	-	3010123	-	3000843	3000843	3000843
3970181 *	MB 420/1 - RT 30	Rp 2"	-	3010123	3000822	-	-	-
3970182 **	MB 420/1 CT RT 30	Rp 2"	◆	-	3000822	-	-	-
3970257 *	MB 420/1 - RT 52	Rp 2"	-	3010123	3000822	-	-	-
3970252 **	MB 420/1 CT RT 52	Rp 2"	◆	-	3000822	-	-	-
3970233 *	MB 420/1 - RSM 30	Rp 2"	-	3010123	3000822	-	-	-
3970234 **	MB 420/1 CT RSM 30	Rp 2"	◆	-	3000822	-	-	-
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	-	3010367	3000822	-	-	-
3970225 **	MBC 1200/1 CT RSM 60	Rp 2"	◆	-	3000822	-	-	-
3970222 *	MBC 1900/1 - FSM 40	DN 65	-	3010367	●	3000825	3000825	3000825
3970226 **	MBC 1900/1 CT FSM 40	DN 65	◆	-	●	3000825	3000825	3000825
3970223 *	MBC 3100/1 - FSM 40	DN 80	-	3010367	●	3000826	3000826	3000826
3970227 **	MBC 3100/1 CT FSM 40	DN 80	◆	-	●	3000826	3000826	3000826
3970224 *	MBC 5000/1 - FSM 80	DN 100	-	3010367	●	●	3000826	3000826
3970228 **	MBC 5000/1 CT FSM 80	DN 100	◆	-	●	●	3000826	3000826

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz - 220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

● Not available.

Available models

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE			
	MODEL	Ø	C.T.		RS 34-44-50	RS 64	RS 70-100-130	RS 150-190-250
3970145 *	CB 512/1 - RSM 30	Rp 1" 1/2	-	3010367	-	3000843	3000843	3000843
20045589 **	CB 512/1 CT RSM 30	Rp 1" 1/2	◆	-	-	3000843	3000843	3000843
3970146 *	CB 520/1 - RSM 30	Rp 2"	-	3010367	3000822	-	-	-
3970160 **	CB 520/1 CT RSM 30	Rp 2"	◆	-	3000822	-	-	-
20044659 *	CB 525/1 - RSM 30	Rp 2"	-	3010367	3000822	-	-	-
20044660 **	CB 525/1 CT RSM 30	Rp 2"	◆	-	3000822	-	-	-
3970147 *	CB 5065/1 - FSM 30	DN 65	-	3010367	●	3000825	3000825	3000825
3970161 **	CB 5065/1 CT FSM 30	DN 65	◆	-	●	3000825	3000825	3000825
3970148 *	CB 5080/1 - FSM 30	DN 80	-	3010367	●	●	3000826	3000826
3970162 **	CB 5080/1 CT FSM 30	DN 80	◆	-	●	●	3000826	3000826

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz -220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

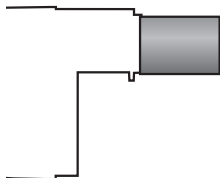
● Not available.

Modulating Gas Burners

RS/M SERIES

Burner accessories

Extended heads



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

BURNER	'STANDARD HEAD' LENGTH (mm)	'EXTENDED HEAD' LENGTH (mm)	KIT CODE
▶ RS 34/M MZ	216	351	3010428
▶ RS 44/M MZ	216	351	3010429
▶ RS 50/M MZ	216	351	3010078
▶ RS 64/M MZ	250	385	3010427
▶ RS 70/M	250	385	3010117
▶ RS 100/M	250	385	3010118
▶ RS 130/M	280	415	3010119
▶ RS 150/M	280	415	in progress
▶ RS 190/M	370	520	3010443 *
▶ RS 250/M MZ	370	520	3010412

* Kit to be used on burners recognizable by a serial number that is over or equal to 02426XXXXXX, for burners with a serial number that is under or equal to 02416XXXXXX please use the Kit coded 3010196

Spacer kit



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

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 34/M MZ - 44/M MZ - RS 50/M MZ	110	3010095
▶ RS 64/M MZ - RS 70/M - 100/M - 130/M - 150/M	135	3010129
▶ RS 190/M - 250/M MZ	102	3000722

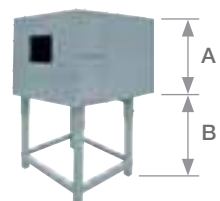
Continuous ventilation kit



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

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ	3010449
▶ RS 50/M MZ - 64/M MZ - 70/M - 100/M - 130/M - 150/M - 190/M - 250/M	3010094

Sound proofing box



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

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
▶ RS 34/M MZ - 44/M MZ - RS 50/M MZ - RS 64/M MZ	C1/3	650	372 - 980	10	3010403
▶ RS 70/M - 100/M - 130/M - 150/M - 190/M - RS 250/M MZ	C4/5	850	160 - 980	10	3010404

(*) Average noise reduction according to EN 15036-1 standard

Burner accessories

Accessories for modulating operation



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

The following table lists the accessories for modulating operation with their application range.

BURNER	TYPE	CODE
▶ RS 34/M MZ - 44/M MZ	RWF 40	3010417
▶ RS 50/M MZ - 64/M MZ	RWF 40	3010212
▶ RS 70/M - 100/M - 130/M - 150/M - 190/M - 250/M MZ	RWF 40	3010414

PROBE



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

ANALOG CONTROL SIGNAL CONVERTER



Modulating operation can also be obtained with an analog control signal converter and a feedback three-pole potentiometer.

Alternatively, the potentiometer can be used to check the servomotor position.

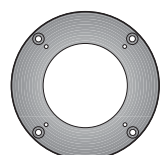
BURNER	TYPE (INPUT SIGNAL)	CODE
▶ RS 34/M MZ - 44/M MZ	0/2 - 10 V (impedance 200 KΩ)	3010410
	0/4 - 20 mA (impedance 250 Ω)	
▶ RS 50/M MZ - RS 64/M MZ	0/2 - 10 V (impedance 200 KΩ)	on demand
	0/4 - 20 mA (impedance 250 Ω)	
▶ RS 70/M - 100/M - 130/M 150/M - RS 190/M - 250/M MZ	0/2 - 10 V (impedance 200 KΩ)	3010415
	0/4 - 20 mA (impedance 250 Ω)	

POTENTIOMETER KIT



BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ	3010420
▶ RS 50/M MZ - RS 64/M MZ	3010109
▶ RS 70/M - 100/M - 130/M - 150/M - 190/M - 250/M MZ	3010416

Connection flange kit



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

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ - RS 50/M MZ	3010138

Modulating Gas Burners

RS/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 given in the following table:

BURNER	KIT CODE FOR 'STANDARD HEAD'	KIT CODE FOR 'EXTENDED HEAD'
▶ RS 34/M MZ	3010423	3010423
▶ RS 44/M MZ	3010424	3010424
▶ RS 50/M MZ	20008173	20008173
▶ RS 64/M MZ	3010434	3010435
▶ RS 70/M	20008175	20008176
▶ RS 100/M	20008177	20008178
▶ RS 130/M	20008179	20008180
▶ RS 150/M	in progress	in progress
▶ RS 190/M	3010166	3010166
▶ RS 250/M MZ	3010411	3010411

Town gas kit



For burning Town gas, a special kit is available:

BURNER	KIT CODE FOR 'STANDARD HEAD' (*)	KIT CODE FOR 'EXTENDED HEAD' (*)
▶ RS 34/M MZ	3010502	3010502
▶ RS 44/M MZ	3010503	3010503
▶ RS 50/M MZ	3010285	3010285
▶ RS 70/M	3010286	3010286
▶ RS 100/M	3010287	3010287
▶ RS 130/M	3010288	3010288
▶ RS 190/M	3010297	3010297
▶ RS 250/M MZ	3010472	3010472

(*) Without CE certification

Vibration reduction kit



The kit allow you to improve flame stability in some applications, where the boiler/flue assembly is liable to resonate.

BURNER	KIT CODE
▶ RS 50/M MZ TC - RS 50/M MZ TL	3010200
▶ RS 70/M TC - RS 70/M TL	3010201
▶ RS 100/M TC - RS 100/M TL	3010202
▶ RS 130/M TC	3010373
▶ RS 130/M TL	3010374
▶ RS 190/M TC	3010375

Burner accessories

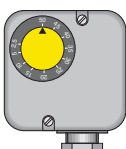
Ground fault interrupter kit



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

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ	3010448
▶ RS 50/M MZ - RS 64/M MZ	3010321
▶ RS 70/M - 100/M - 130/M - 150/M - 190/M - RS 250/M MZ	3010329

Gas max pressure switch kit



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring through Plugs & Sockets system.

BURNER (*)	KIT CODE
▶ RS 34/M MZ - 44/M MZ	3010418

(*) Gas max pressure switch is installed as a standard on RS 50/M MZ - 64/M MZ - 70/M - 100/M - 130/M - 190/M - 250/M MZ

Volt free contact kit



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

BURNER	KIT CODE
▶ RS 34/M MZ - 44/M MZ - 50/M MZ - 64/M MZ	3010419

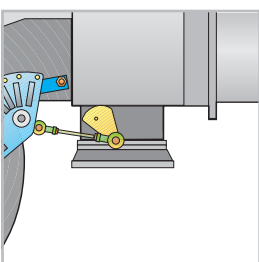
PC interface kit



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

BURNER	KIT CODE
▶ All models	3002719

DN80 gas flange kit



To modify the standard 2" burner gas input connection in to DN80 connection, a specific gas flange is available.

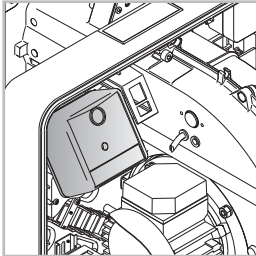
BURNER	KIT CODE
▶ All models	3010439

Modulating Gas Burners

RS/M SERIES

Burner accessories

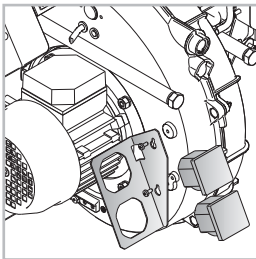
Post-ventilation kit



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

BURNER	KIT CODE
► RS 34/M MZ - 44/M MZ	3010451

Hours counter kit



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

BURNER	KIT CODE
► RS 34/M MZ - 44/M MZ	3010450

Protection kit (electromagnetic interferences)

When the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m) due for example to INVERTER presence or in systems where the lengths of the thermostat connections is over 20 meters, this specific protection kit is available as an interface between the thermostatic controls and the burner.








BURNER	KIT CODE
► All models	3010386

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
2"  1" 1/2	70	3000822
3/4"  1" 1/2	31	3000824
DN 65  2" 1/2  2"	300	3000825
DN 80  2" 1/2  1" 1/2	300	3000826
1" 1/2  2"	35	3000843

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.
The following table shows these accessories with their application range.
Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 512/1	Red	25 - 55	3010131
	Black	60 - 110	3010157
	Pink	90 - 150	3090486
▶ CB 520/1 - 525/1	Red	25 - 55	3010132
	Black	60 - 110	3010158
	Pink	90 - 150	3090487
▶ CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992

Modulating Gas Burners

RS/M SERIES

Gas train accessories

Seal control kit



To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

GAS TRAIN	KIT CODE for 50 Hz operation	KIT CODE for 60 Hz operation
▶ MB/1 type	3010123	20050030
▶ MBC/1 type	3010367	20029057
▶ CB/1 type	3010367	20029057

RS/E-EV MZ SERIES

The RS/E-EV MZ burners series covers a firing range from 44 to 2650 kW, and it is based on a new Digital Burner Management System, Riello REC27, which is able to manage the air-fuel ratio by independent servomotors in order to obtain a perfect output control and to assure a correct combustion and safe operation on all modulation range. Operation can be “two stage progressive” or, alternatively, “modulating” with the installation of a PID logic regulator and respective probes. RS/E MZ burners series guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs.

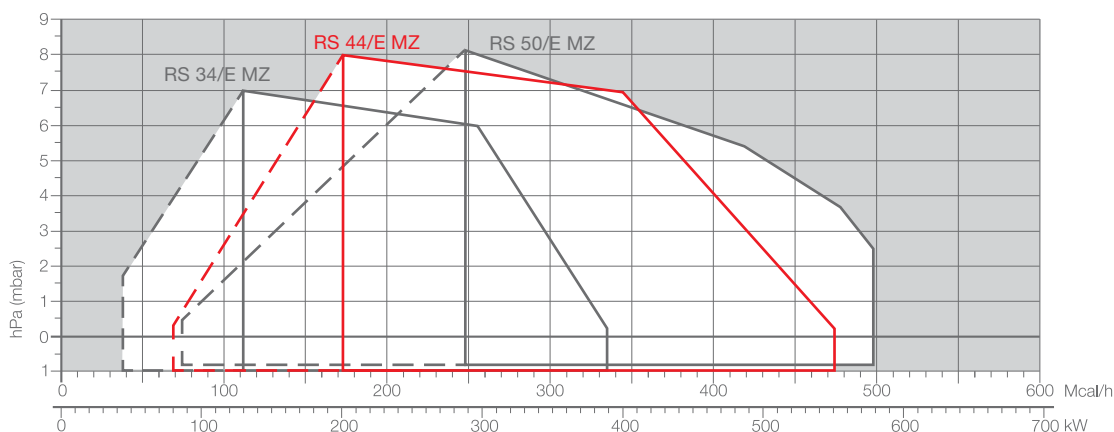
The RS 250/EV MZ model, equipped with REC37, is available to operate with **Variable Speed Drive technology** base on the control of a Frequency Inverter that modifies the air flow through the motor speed variation.


Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by **incorporated sound proofing material**.



RS 34/E MZ	44/130 ÷	390 kW
RS 44/E MZ	80/200 ÷	550 kW
RS 50/E MZ	85/290 ÷	580 kW
RS 64/E MZ	150/400 ÷	850 kW
RS 70/E	135/465 ÷	814 kW
RS 100/E	150/698 ÷	1163 kW
RS 130/E	160/930 ÷	1512 kW
RS 190/E	470/1279 ÷	2290 kW
RS 250/E MZ	600/1250 ÷	2650 kW
RS 250/EV MZ	600/1250 ÷	2650 kW

FIRING RATES



 Useful working field for choosing the burner

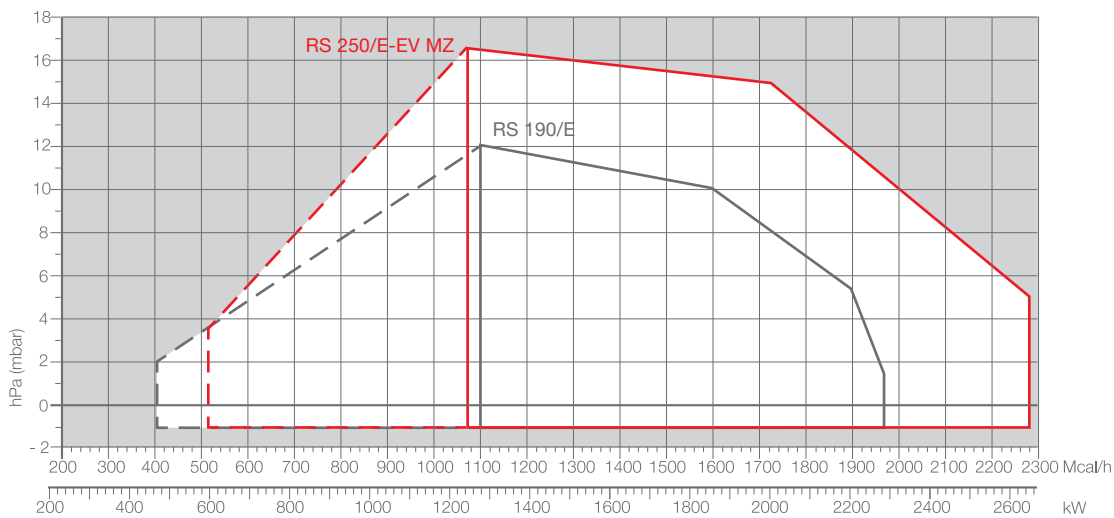
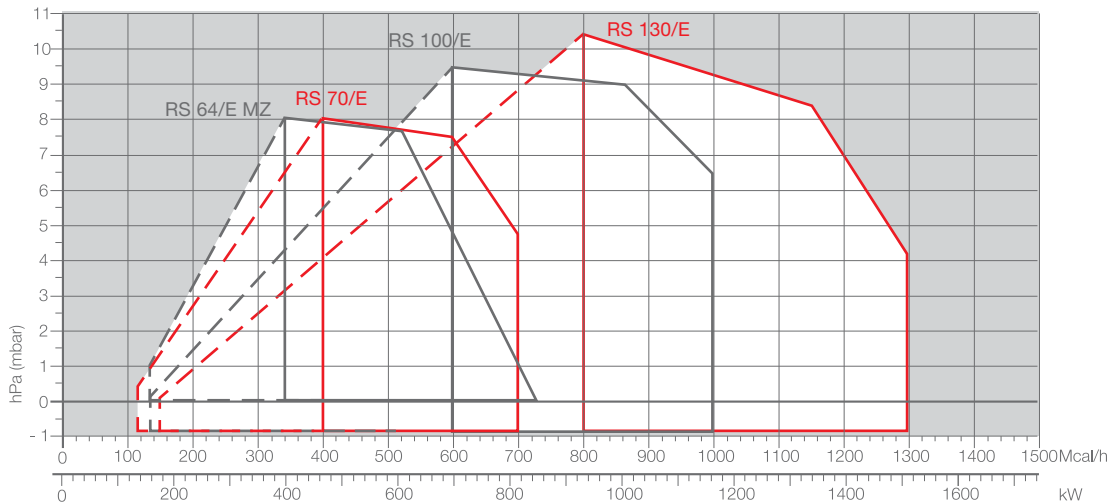
 Modulation range

Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Modulating Gas Burners

RS/E-EV MZ SERIES

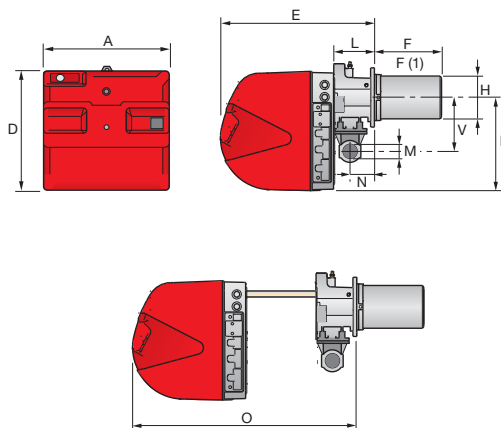
FIRING RATES



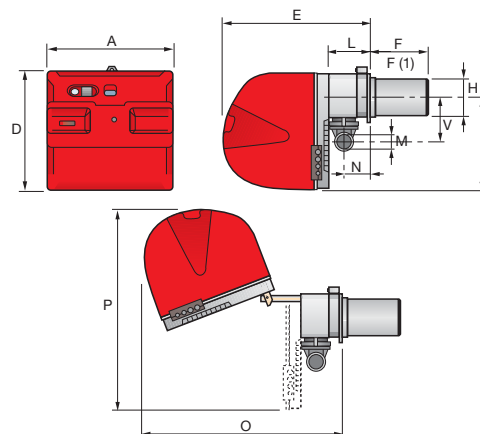
Overall dimensions (mm)

BURNER

RS 34-44/E MZ



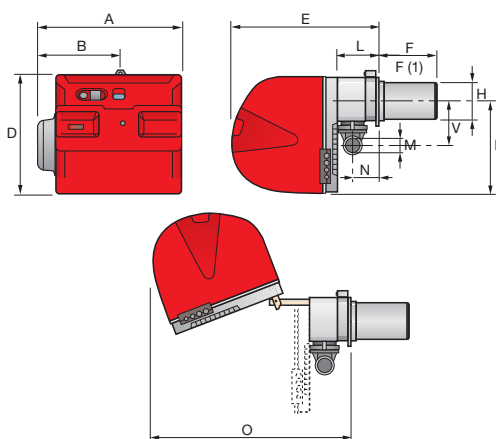
RS 50/E MZ



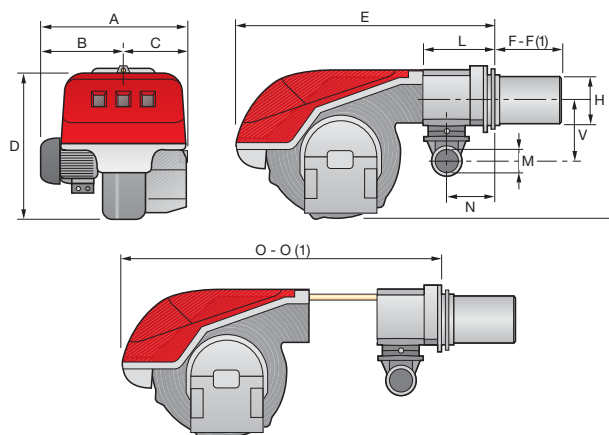
MODEL	A	D	E	F - F(1)	H	I	L	M	N	O	P	V
▶ RS 34/E MZ	442	422	508	216 - 351	140	305	138	1"1/2	84	780	-	177
▶ RS 44/E MZ	442	422	508	216 - 351	152	305	138	1"1/2	84	780	-	177
▶ RS 50/E MZ	476	474	580	216 - 351	152	352	164	1"1/2	108	810	719	168

(1) dimension with extended head

RS 64/E MZ



RS 130/E - RS 250/E MZ - RS 70-100-190/E



MODEL	A	B	C	D	E	F - F(1)	H	I	L	M	N	O - O(1)	V
▶ RS 64/E MZ	533	300	-	490	640	250 - 385	179	352	222	2"	134	810 - -	221
▶ RS 70/E	527	312	215	555	840	250 - 385	179	430	214	2"	134	1161 - 1296	221
▶ RS 100/E	527	312	215	555	840	250 - 385	179	430	214	2"	134	1161 - 1296	221
▶ RS 130/E	553	338	215	555	840	280 - 415	189	430	214	2"	134	1161 - 1296	221
▶ RS 190/E	675	370	305	555	856	372 - 530	222	436	230	2"	150	1328 - -	264
▶ RS 250/E-EV MZ	732	427	305	555	872	370 - 520	222	436	230	2"	150	1322 - 1467	264

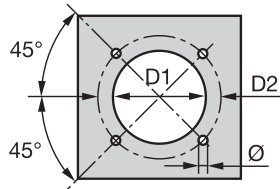
(1) dimension with extended head

Modulating Gas Burners

RS/E-EV MZ SERIES

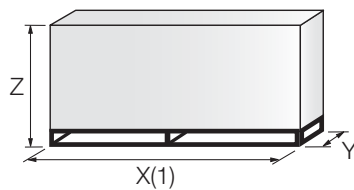
Overall dimensions (mm)

BURNER - BOILER MOUNTING FLANGE



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

PACKAGING

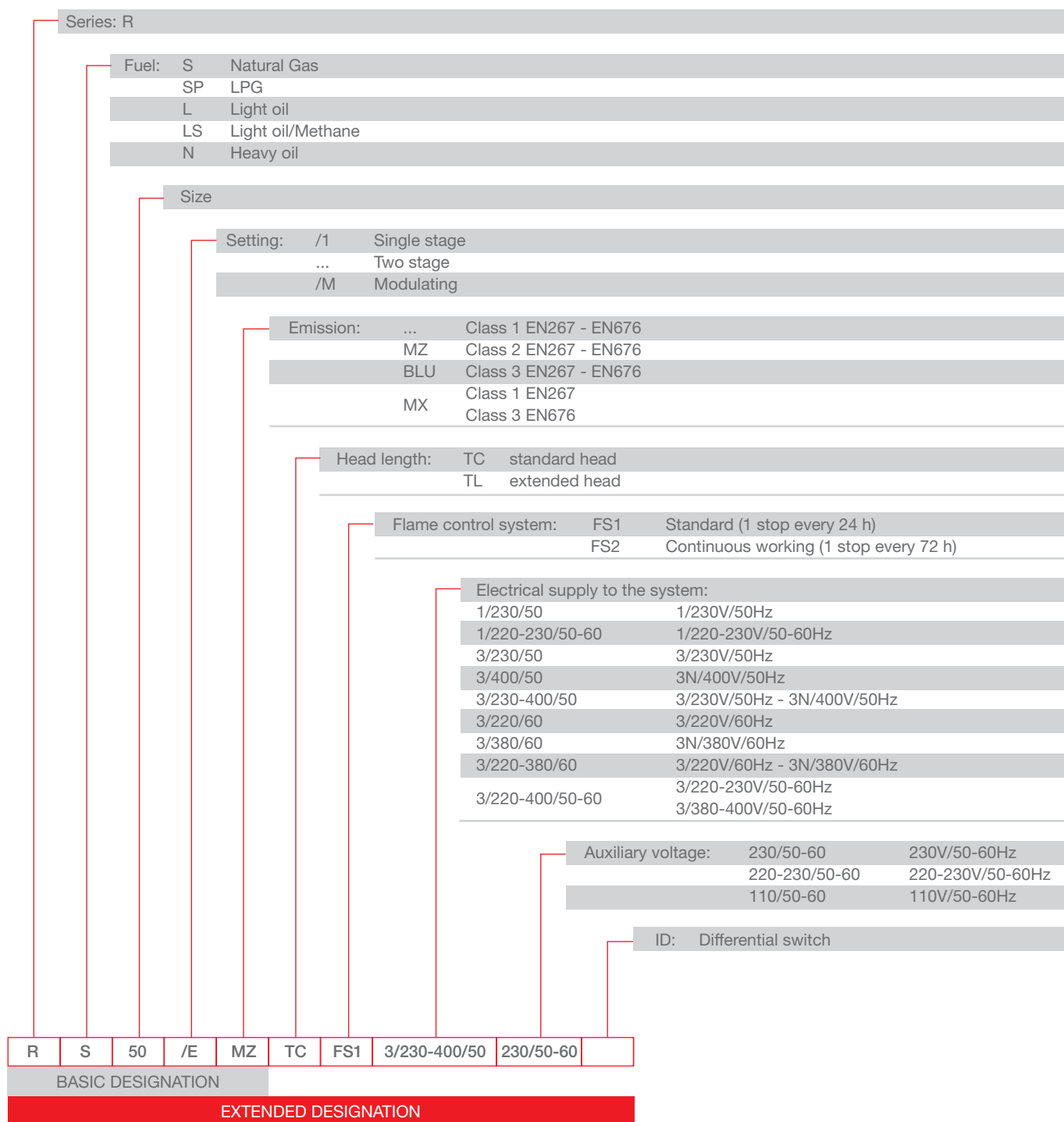


MODEL	X (1)	Y	Z	kg
▶ RS 34/E MZ	1000	485	500	39
▶ RS 44/E MZ	1000	485	500	40
▶ RS 50/E MZ	1200	502	630	48
▶ RS 64/E MZ	1200	580	630	50
▶ RS 70/E	1405	700	660	78
▶ RS 100/E	1405	700	660	81
▶ RS 130/E	1405	700	660	84
▶ RS 190/E	1405	1000	660	89
▶ RS 250/E-EV MZ	1405-1420	1000	660	125

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES



Modulating Gas Burners

RS/E-EV MZ SERIES

Specification

STATE OF SUPPLY

RS 34/E MZ - 44/E MZ models

Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:

- Microprocessor-based Digital Burner Management System (Electronic Cam)
- Display Interface operating unit to adjust the system
- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, single-phase/220-230V/50-60Hz or three-phase/380-400V/50-60Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Plugs and sockets for electrical connection, accessible from the external of the cover
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection (RS 34-44/E MZ single-phase)
- 4 plugs for electrical connection (RS 44/E MZ three-phase)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Specification

STATE OF SUPPLY

RS 50/E MZ - 64/E MZ - 70/E - 100/E - 130/E - 190/E - 250/E-EV MZ models

Monoblock forced draught Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:

- Microprocessor-based Digital Burner Management System (Electronic Cam)
- Display Interface operating unit to adjust the system
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (straight blades on the RS 64/E MZ - 190/E - 250/E-EV MZ models) high performance with low sound emissions
- Air damper for air flow setting and butterfly valve for regulating fuel output controlled by independent stepper motor actuators
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- Low emission combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - ionisation probe
 - gas distributor
 - flame stability disk
- Maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Burner on/off selection switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Wiring loom fittings for the electrical connection
- 2 slide bar extensions (for extended head models and RS 190/E - 250/E-EV MZ models)
- Pressure switch for valve proofing system (RS 130/E - 190/E - 250/E-EV MZ models models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Modulating Gas Burners

RS/E-EV MZ SERIES

Available models

Burners

CODE	MODEL					HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
						(kW)	NATURAL GAS (Nm ³ /h)			
3789410	RS 34/E MZ	TC	FS1	1/220-230/50-60	220-230/50-60	44/130÷390	4,5/13÷39	0,6	CE 0085BS0378	(1)(3)
3789411	RS 34/E MZ	TL	FS1	1/220-230/50-60	220-230/50-60	44/130÷390	4,5/13÷39	0,6	CE 0085BS0378	(1)(3)
3789510	RS 44/E MZ	TC	FS1	1/220-230/50-60	220-230/50-60	80/200÷550	8/20÷55	0,7	CE 0085BS0378	(1)(3)
3789511	RS 44/E MZ	TL	FS1	1/220-230/50-60	220-230/50-60	80/200÷550	8/20÷55	0,7	CE 0085BS0378	(1)(3)
3789540	RS 44/E MZ	TC	FS1	3/220-400/50-60	220-230/50-60	80/200÷550	8/20÷55	0,75	CE 0085BS0378	(1)(3)
3789541	RS 44/E MZ	TL	FS1	3/220-400/50-60	220-230/50-60	80/200÷550	8/20÷55	0,75	CE 0085BS0378	(1)(3)
3781632	RS 50/E MZ	TC	FS1	3/230-400/50	230/50-60	85/290-580	8,5/29-58	0,75	CE 0085AQ0709	(1)(3)
3781633	RS 50/E MZ	TL	FS1	3/230-400/50	230/50-60	85/290-580	8,5/29-58	0,75	CE 0085AQ0709	(1)(3)
3789910	RS 64/E MZ	TC	FS1	3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,2	in progress	(1)(3)
3789911	RS 64/E MZ	TL	FS1	3/230-400/50	230/50-60	150/400÷850	15/40÷85	1,2	in progress	(1)(3)
3787032	RS 70/E MZ	TC	FS1	3/230-400/50	230/50-60	135/465-814	13,5/46,5-81	1,6	CE 0085AQ0708	(2)(3)
3787033	RS 70/E MZ	TL	FS1	3/230-400/50	230/50-60	135/465-814	13,5/46,5-81	1,6	CE 0085AQ0708	(2)(3)
3787232	RS 100/E MZ	TC	FS1	3/230-400/50	230/50-60	150/698-1163	15/70-116	2,0	CE 0085AQ0708	(2)(3)
3787233	RS 100/E MZ	TL	FS1	3/230-400/50	230/50-60	150/698-1163	15/70-116	2,0	CE 0085AQ0708	(2)(3)
3787432	RS 130/E	TC	FS1	3/230-400/50	230/50-60	160/930-1512	16/93-151	2,8	CE 0085AQ0708	(2)(4)
3787433	RS 130/E	TL	FS1	3/230-400/50	230/50-60	160/930-1512	16/93-151	2,8	CE 0085AQ0708	(2)(4)
3787632	RS 190/E MZ	TC	FS1	3/400/50	230/50-60	470/1279-2290	47/128-229	5,3	in progress	(2)(4)
on demand	RS 190/E MZ	TC	FS1	3/230/50	230/50-60	470/1279-2290	47/128-229	5,3	in progress	(2)(4)
3789210	RS 250/E MZ	TC	FS1	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BT0061	(2)(4)
3789211	RS 250/E MZ	TL	FS1	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BT0061	(2)(4)
3789240	RS 250/E MZ	TC	FS1	3/230/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BT0061	(2)(4)
3789241	RS 250/E MZ	TL	FS1	3/230/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BT0061	(2)(4)
20010541	RS 250/E MZ	TC	FS1	3/380/60	220/60	600/1250÷2650	60/125÷265	6,5	--	(2)(4)
20014098	RS 250/EV MZ	TC	FS1	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BT0061	(2)(4)
20014515	RS 250/EV MZ	TL	FS1	3/400/50	230/50-60	600/1250÷2650	60/125÷265	6,5	CE 0085BT0061	(2)(4)

Natural Gas, net calorific value: 10 kWh/Nm³ - Density at 20°C: 0,71 kg/Nm³

The burners of RS/E MZ series are in according to 90/396 - 2004/108 - 2006/95 - 92/42 EC Directive and EN 676 Norm.

(1) With plug and socket.

(2) With terminal board.

(3) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit on the gas train as Accessory (see Gas Train Accessories paragraph).

(4) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit (included as burner standard equipment) on the gas train.

Available models

Gas Trains

CODE *	GAS TRAIN		ADAPTER CODE			
	MODEL	Ø	RS 34-44-50	RS 64	RS 70-100-130	RS 150-190-250
3970599	MB 407/1 - RT 52	Rp 3/4"	3000824	3000824 + 3000843	●	●
3970258	MB 410/1 - RT 52	Rp 1" 1/2	-	3000843	3000843	●
3970600	MB 410/1 - RT 52	Rp 3/4"	3000824	3000824 + 3000843	3000824 + 3000843	●
3970256	MB 412/1 - RT 52	Rp 1" 1/2	-	3000843	3000843	3000843
3970250	MB 415/1 - RT 52	Rp 1" 1/2	-	3000843	3000843	3000843
3970257	MB 420/1 - RT 52	Rp 2"	3000822	-	-	-
3970221	MBC 1200/1 - RSM 60	Rp 2"	3000822	-	-	-
3970222	MBC 1900/1 - FSM 40	DN 65	●	3000825	3000825	3000825
3970223	MBC 3100/1 - FSM 40	DN 80	●	3000826	3000826	3000826
3970224	MBC 5000/1 - FSM 80	DN 100	●	●	3000826	3000826
3970145	CB 512/1 - RSM 30	Rp 1" 1/2	-	3000843	3000843	3000843
3970146	CB 520/1 - RSM 30	Rp 2"	3000822	-	-	-
20044659	CB 525/1 - RSM 30	Rp 2"	3000822	-	-	-
3970147	CB 5065/1 - FSM 30	DN 65	●	3000825	3000825	3000825
3970148	CB 5080/1 - FSM 30	DN 80	●	●	3000826	3000826

Please see designation of Gas Train Series in the page before the Catalogue index.

* gas train are 230V/50Hz - 220V/60Hz electrical supply.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

The seal control function is managed by LMV control box, by installation on gas train of pressure switch supplied, as standard equipment, with the burner.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

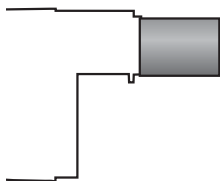
● Not available.

Modulating Gas Burners

RS/E-EV MZ SERIES

Burner accessories

Extended heads



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

BURNER	'STANDARD HEAD' LENGTH (mm)	'EXTENDED HEAD' LENGTH (mm)	KIT CODE
▶ RS 34/E MZ	216	351	3010428
▶ RS 44/E MZ	216	351	3010429
▶ RS 50/E MZ	216	351	20008182
▶ RS 64/E MZ	250	385	3010427
▶ RS 70/E MZ	250	385	3010117
▶ RS 100/E MZ	250	385	3010118
▶ RS 130/E	280	415	3010119
▶ RS 190/E	372	530	3010443
▶ RS 250/E-EV MZ	370	520	3010412

Spacer kit



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

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ RS 34/E MZ - 44/E MZ - RS 50/E MZ	110	3010095
▶ RS 64/E MZ - RS 70/E MZ - 100/E MZ - 130/E	135	3010129
▶ RS 190/E - 250/E-EV MZ	102	3000722

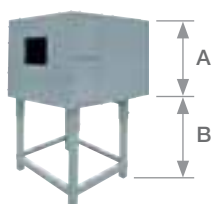
Continuous ventilation kit



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

BURNER	KIT CODE
▶ RS 34/E MZ - 44/E MZ	3010449
▶ RS 50/E MZ - 64/E MZ - 70/E MZ - 100/E MZ - 130/E - 190/E - 250/E-EV MZ	3010094

Sound proofing box



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

BURNER	BOX TYPE	A (mm)	B (mm) min-max	[dB(A)] (*)	BOX CODE
▶ RS 34-44-50-64/E MZ	C1/3	650	372 - 980	10	3010403
▶ RS 70/E MZ - 100/E MZ - 130/E RS 190/E - RS 250/E-EV MZ	C4/5	850	160 - 980	10	3010404

(*) Average noise reduction according to EN 15036-1 standard

Burner accessories

Accessories for modulating operation



To obtain modulating operation, the RS/E series of burners requires a regulator with three point outlet controls. On RS 34/E MZ - 44/E MZ - 250/E MZ the regulator is connected to the burner electrical wiring by plug-in system in order to make the connection easier and faster.

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

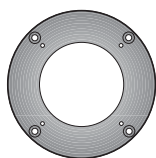
The following table lists the accessories for modulating operation with their application range.

BURNER	REGULATOR TYPE	CODE
▶ RS 34/E MZ - 44/E MZ - RS 64/E	RWF 40	3010417
▶ RS 50-70-100-130/E-250/E-EV MZ - RS 190/E	RWF 40	3010414



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

Connection flange kit



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

BURNER	KIT CODE
▶ RS 34/E MZ - 44/E MZ - RS 50/E MZ	3010138

LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

BURNER	KIT CODE FOR 'STANDARD HEAD'	KIT CODE FOR 'EXTENDED HEAD'
▶ RS 34/E MZ	3010423	3010423
▶ RS 44/E MZ	3010424	3010424
▶ RS 50/E MZ	20008173	20008173
▶ RS 64/E MZ	3010434	3010435
▶ RS 70/E MZ	20008175	20008176
▶ RS 100/E MZ	20008177	20008178
▶ RS 130/E	20008179	20008180
▶ RS 190/E	3010166	3010166
▶ RS 250/E-EV MZ	3010411	3010411

Modulating Gas Burners

RS/E-EV MZ SERIES

Burner accessories

Town gas kit



For burning Town gas, a special kit is available:

BURNER	KIT CODE FOR 'STANDARD HEAD' (*)	KIT CODE FOR 'EXTENDED HEAD' (*)
▶ RS 34/E MZ	3010502	3010502
▶ RS 44/E MZ	3010503	3010503
▶ RS 50/E MZ	3010285	3010285
▶ RS 70/E MZ	3010286	3010286
▶ RS 100/E MZ	3010287	3010287
▶ RS 130/E	3010288	3010288
▶ RS 190/E	3010297	3010297

(*) Without CE certification

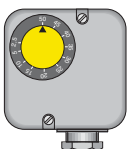
Ground fault interrupter kit



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

BURNER	KIT CODE
▶ RS 34/E MZ - 44/E MZ	3010448
▶ RS 50/E MZ - RS 64/E MZ	3010321
▶ RS 70-100-130/E-250/E-EV MZ - RS 190/E	3010329

Gas max pressure switch



If necessary a Gas max pressure Switch kit is available and connectable to the burner electrical wiring through Plugs & Sockets system.

BURNER	KIT CODE
▶ RS 34/E MZ - 44/E MZ	3010418

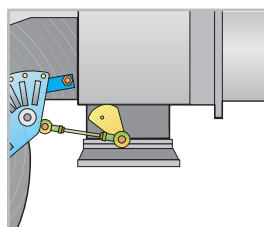
Volt free contact kit



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

BURNER	KIT CODE
▶ RS 34/E MZ - 44/E MZ	3010419

DN80 gas flange kit



To modify the standard 2" burner gas input connection in to DN80 connection, a specific gas flange is available.

BURNER	KIT CODE
▶ RS 64-70-100-130/E-250/E EV MZ - RS 190/E	3010439

Burner accessories

Variable Speed Drive (VSD) for RS/EV series only



The motor speed variation for the RS/EV MZ burners series is obtained thanks to a frequency converter: variable speed drive (VSD). It always must be ordered with RS/EV series.

BURNER	MAX POWER (kW)	KIT CODE
► RS 250/EV MZ	5,5	20011040

OCI410 interface for ACS410 software kit



Interface kit between burner management system and PC. It facilitates viewing, handling and recording setting parameters on site.

BURNER	KIT CODE
► RS 34-44-64-70-100-130/E-250/E-EV MZ - RS 190/E	3010436

OCI412 interface kit



Interface kit between the REC27.100A2 and a Modbus system, such as a building automation and control system (BACS). The Modbus interface is based on the RS-485 standard.

BURNER	KIT CODE
► RS 34-44-64-70-100-130/E-250/E-EV MZ - RS 190/E	3010437

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.

Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	LENGTH mm	ADAPTER CODE
2" 1" 1/2	70	3000822
3/4" 1" 1/2	31	3000824
DN 65 2" 1/2 2"	300	3000825
2" 1/2 1" 1/2		
DN 80 2" 1/2 2"	300	3000826
1" 1/2 2"	35	3000843

Modulating Gas Burners

RS/E-EV MZ SERIES

Gas train accessories

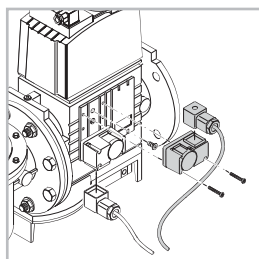
Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 512/1	Red	25 - 55	3010131
	Black	60 - 110	3010157
	Pink	90 - 150	3090486
▶ CB 520/1 - 525/1	Red	25 - 55	3010132
	Black	60 - 110	3010158
	Pink	90 - 150	3090487
▶ CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992

PVP (Pressure Valve Proving) kit *



The seal control function is included on Burner Digital Management System, it is only necessary to add the PVP kit on the gas train. The PVP is included as standard equipment on RS 130/E-250/E-EV MZ and RS 190/E models.

BURNER	KIT CODE
▶ MB - MBC - CB type	3010344

* not necessary for the RS 130/E-250/E MZ and RS 190/E models where is included as a standard.

MODUBLOC MB SE SERIES

The MODUBLOC MB SE series of burners are characterised by a monoblock structure that means all necessary components can be combined in a single unit, making installation easier and faster. The series covers a firing range from 3300 to 9580 kW, and they have been designed for use in hot water boilers or industrial steam generators.

Adjustment is modulating, through an innovative electronic module, which gives control of the air/fuel ratio and PID control of the generator temperature or pressure.

The mechanisms of regulation allow to catch up a high modulation ratio on all firing rates range.

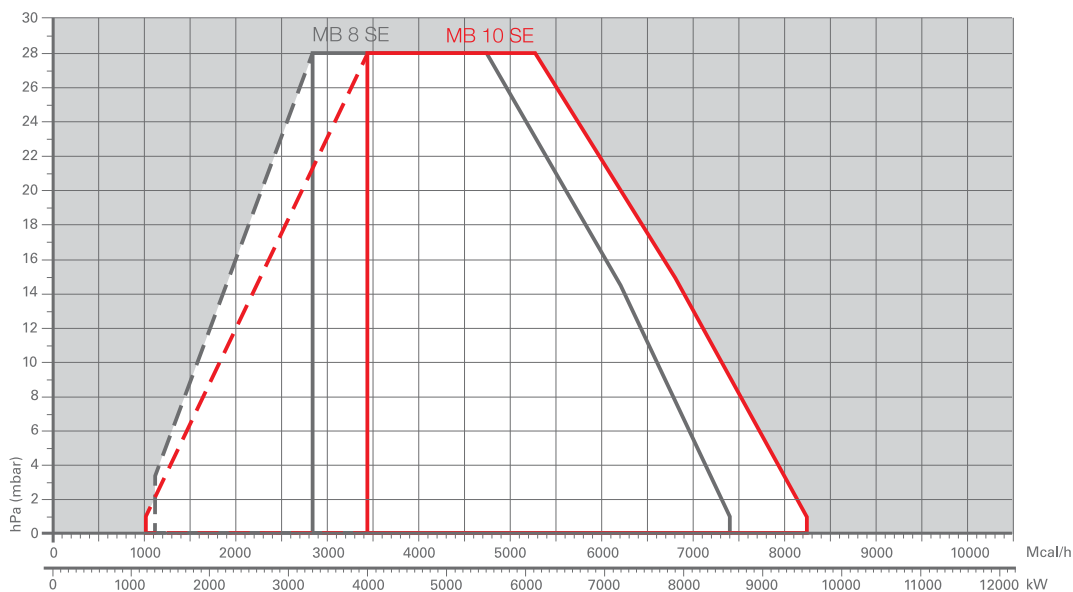
The burner can, therefore, supply with precision the demanded power, guaranteeing a high efficiency system level and the stability setting, obtaining fuel consumption and operating costs reduction.


An exclusive design, with fan unit fitted on line with the combustion head, guarantees low sound emissions, reduced dimensions, easy use and maintenance.



MB 8 SE	1300/3300 ÷ 8600 kW
MB 10 SE	1185/4000 ÷ 9580 kW

FIRING RATES



 Useful working field for choosing the burner

 Modulation range

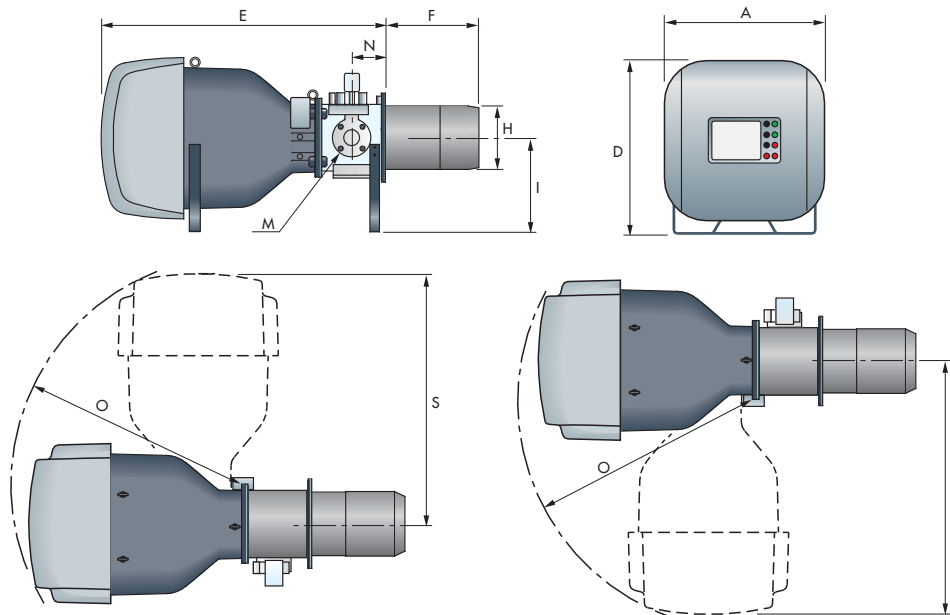
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Modulating Gas Burners

MODUBLOC MB SE SERIES

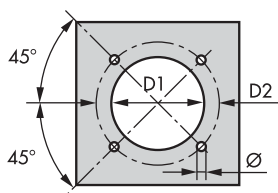
Overall dimensions (mm)

BURNER



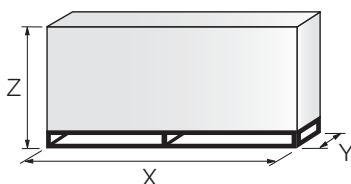
MODEL	A	D	E	F	H	I	M	N	O	S
▶ MB 8 SE	1007	1079	1900	530	413	575	DN80	208	1570	1740
▶ MB 10 SE	1007	1079	1900	530	413	575	DN80	208	1570	1740

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
▶ MB 8 SE	418	608	M20
▶ MB 10 SE	418	608	M20

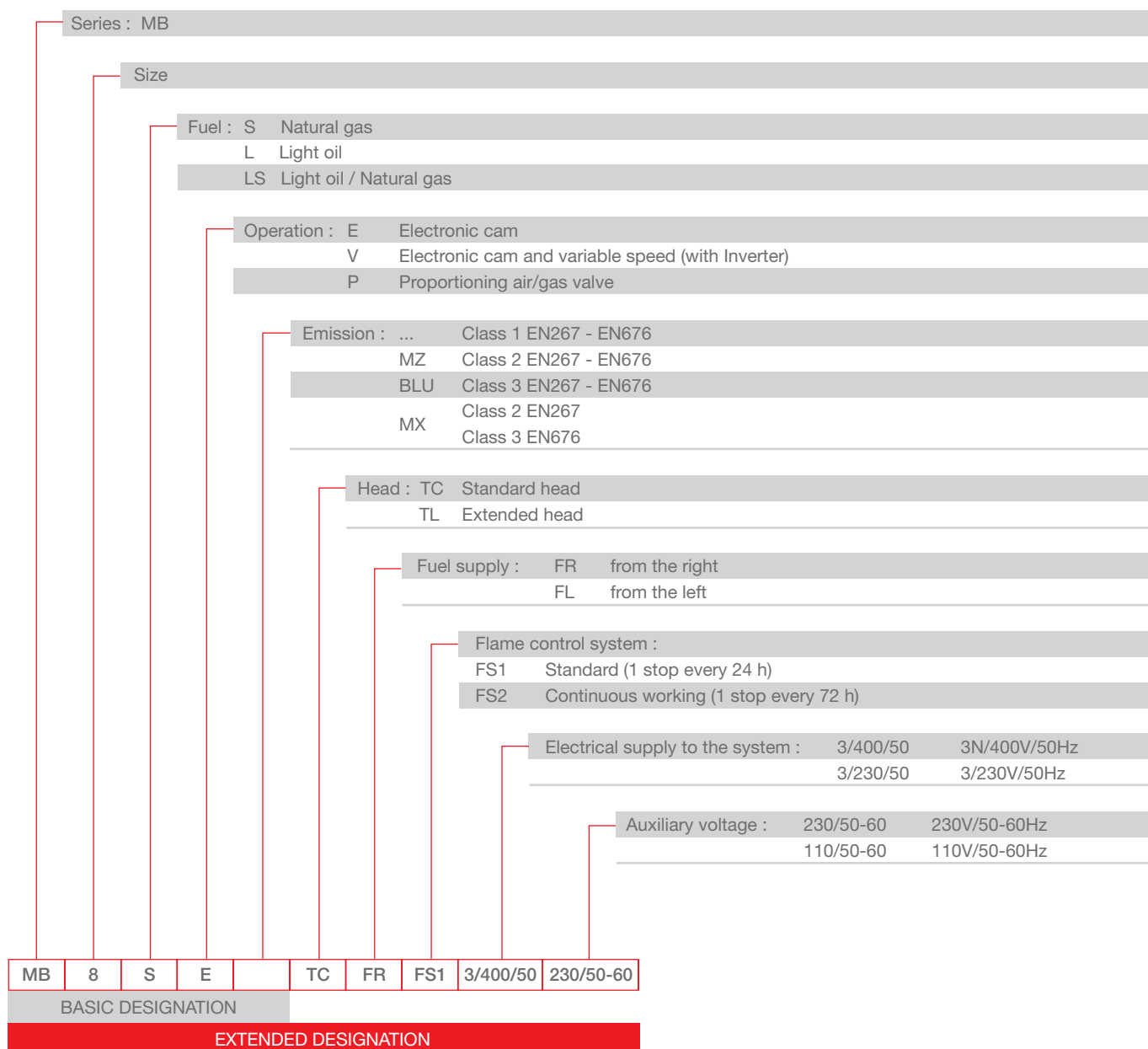
PACKAGING



MODEL	X	Y	Z	kg
▶ MB 8 SE	2700	1170	1350	450
▶ MB 10 SE	2700	1170	1350	450

Specification

DESIGNATION OF SERIES



Modulating Gas Burners

MODUBLOC MB SE SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with modulating operation, fully automatic, made up of:

- Fan with reverse curve blades high performance with low sound emissions
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Air pressure switch
- Fan starting motor at 2900 rpm, three-phase 230/400 - 400/690 V with neutral, 50Hz
- Mobile combustion head, that can be set on the basis of required output, fitted with:
 - stainless steel end cone, resistant to corrosion and high temperatures
 - ignition electrodes
 - flame stability disk
- Automatic regulator for gas delivery, controlled by a high precision servomotor
- Maximum gas pressure switch, with pressure test point, for halting the burner in the case of over pressure on the fuel supply line
- Module for air/fuel setting and output modulation with incorporated PID control of temperature or pressure of the heat generator
- Burner safety control box for controlling the system safety
- Photocell for flame detection
- Star/triangle starter for the fan motor
- Main electrical supply terminal board
- Burner on/off switch
- Auxiliary voltage led signal
- Manual or automatic output increase/decrease switch
- Burner working led signal
- Contacts motor and thermal relay with release button
- Motor internal thermal protection
- Motor failure led signal
- Burner failure led signal and lighted release button
- Led signal for correct rotation direction of fan motor
- Emergency button
- Coded connection plugs-sockets
- Burner opening hinge
- Lifting rings
- IP X0D (IP 40) protection level.

Standard equipment:

- 1 flange gasket
- 8 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL						HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
							(kW)	NATURAL GAS (Nm ³ /h)			
3786200	MB8SE	TC	FR	FS1	3/400/50	230/50-60	1300/3300-8600	130/330-860	18	CE 0085BO0169	
3786210	MB8SE	TC	FR	FS2	3/400/50	230/50-60	1300/3300-8600	130/330-860	18	CE 0085BO0169	
3786205	MB8SE	TC	FL	FS1	3/400/50	230/50-60	1300/3300-8600	130/330-860	18	CE 0085BO0169	
3786215	MB8SE	TC	FL	FS2	3/400/50	230/50-60	1300/3300-8600	130/330-860	18	CE 0085BO0169	
3786300	MB10SE	TC	FR	FS1	3/400/50	230/50-60	1185/4000-9580	119/400-958	22	CE 0085BO0162	
3786310	MB10SE	TC	FR	FS2	3/400/50	230/50-60	1185/4000-9580	119/400-958	22	CE 0085BO0162	
3786305	MB10SE	TC	FL	FS1	3/400/50	230/50-60	1185/4000-9580	119/400-958	22	CE 0085BO0162	
3786315	MB10SE	TC	FL	FS2	3/400/50	230/50-60	1185/4000-9580	119/400-958	22	CE 0085BO0162	

G20 net calorific value 10 kWh/Nm³ - Density 0,71 kg/Nm³

The burners of MB SE series are in according to 90/396 - 2004/108 - 2006/95 EC Directive and EN 676 Norm.

Gas Trains

CODE	GAS TRAIN			VPS 50 Hz CODE	ADAPTER CODE *** MB 8-10 SE
	MODEL	Ø	C.T.		
3970221 *	MBC 1200/1 - RSM 60	Rp 2"	-	3010367	3000826
3970225 **	MBC 1200/1 CT RSM 60	Rp 2"	◆	-	3000826
3970222 *	MBC 1900/1 - FSM 40	DN 65	-	3010367	3010369
3970226 **	MBC 1900/1 CT FSM 40	DN 65	◆	-	3010369
3970223 *	MBC 3100/1 - FSM 40	DN 80	-	3010367	3010222 (1)
3970227 **	MBC 3100/1 CT FSM 40	DN 80	◆	-	3010222 (1)
3970224 *	MBC 5000/1 - FSM 80	DN 100	-	3010367	3010370
3970228 **	MBC 5000/1 CT FSM 80	DN 100	◆	-	3010370
3970147 *	CB 5065/1 - FSM 30	DN 65	-	3010367	3010221 or 3010369
3970161 **	CB 5065/1 CT FSM 30	DN 65	◆	-	3010221 or 3010369
3970148 *	CB 5080/1 - FSM 30	DN 80	-	3010367	3010222 (1)
3970162 **	CB 5080/1 CT FSM 30	DN 80	◆	-	3010222 (1)
3970149 *	CB 50100/1 - FSM 30	DN 100	-	3010367	3010223 or 3010370
3970163 **	CB 50100/1 CT FSM 30	DN 100	◆	-	3010223 or 3010370
20015871 *	CB 50125/1 - FSM 30	DN 125	-	3010367	3010224
3970196 **	CB 50125/1 CT FSM 30	DN 125	◆	-	3010224

Please see designation of Gas Train Series in the page before the Catalogue index.

* 230V/50Hz - 220V/60Hz electrical supply.

** 230V/50Hz electrical supply.

*** see Adapter models on Gas train accessories paragraph.

The valve seal control device is compulsory (conforming to EN 676) on gas trains to burners with a maximum output over 1200 kW.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

C.T. Gas valve leak detection control device:

- gas train not equipped with leak detection control device; this device can be ordered separately - see VPS column - and installed later.

◆ gas train equipped with leak detection control device.

VPS Valve leak detection control device. Supplied separately from the gas train (please see Gas train accessories paragraph for both 50 Hz and 60 Hz codes).

(1) To use if it is necessary to space out the gas train from the burner.

Modulating Gas Burners

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
▶ MB 8 - 10 SE	3010234

I/O digital module



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

BURNER	MODULE CODE
▶ MB 8 - 10 SE	3010233

I/O analogic module



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

BURNER	MODULE CODE
▶ MB 8 - 10 SE	3010232

EGA module (Exhaust Gas Analyser)



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

BURNER	ANALYSED GAS	MODULE CODE
▶ MB 8 - 10 SE	CO, CO ₂ , O ₂	on demand
▶ MB 8 - 10 SE	CO, CO ₂ , O ₂ , NO	20019488
▶ MB 8 - 10 SE	CO, CO ₂ , O ₂ , SO ₂	on demand
▶ MB 8 - 10 SE	CO, CO ₂ , O ₂ , NO, SO ₂	on demand

Belden 9501 type leads



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

BURNER	LEAD CODE
▶ MB 8 - 10 SE	3010239

Burner accessories

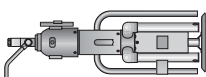
Accessories for modulating operation



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

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

LPG kit



For burning LPG gas, a special kit is available.

BURNER	KIT CODE
▶ MB 8 - 10 SE	3010296

Burner support



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

BURNER	SUPPORT CODE
▶ MB 8 - 10 SE	3010385

Sound proofing box



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

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

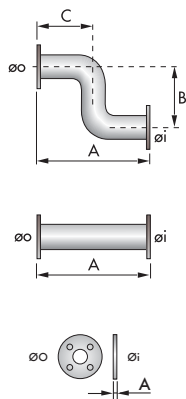
(*) according to EN 15036-1 standard

Modulating Gas Burners

MODUBLOC MB SE SERIES

Gas train accessories

Adapters



In certain cases, an adapter must be fitted between the gas train and the burner, when the diameter of the gas train is different from the set diameter of the burner.
Below are given the available adapters; please see on the Gas Train list the correct adapter codes to select.

ADAPTER	DIMENSIONS					ADAPTER CODE
	Øi DN	ØO DN	A mm	B mm	C mm	
	65	80	400	-	-	3010221
	80	80	400	-	-	3010222
	100	80	400	-	-	3010223
	65	80	400	480	225	3010225
	80	80	400	480	225	3010226
	100	80	400	480	225	3010227
	65	80	10	-	-	3010369
	100	80	50	-	-	3010370
	DN 80	-	-	-	-	3000826

Stabiliser spring



To vary the pressure range of the gas train stabilisers, accessory springs are available. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING COLOUR	SPRING PRESSURE RANGE mbar	SPRING CODE
▶ MBC 1900/1 - 3100/1 MBC 5000/1	White	4 - 20	3010381
	Red	20 - 40	3010382
	Black	40 - 80	3010383
	Green	80 - 150	3010384
▶ CB 5065/1 - 5080/1	Red	25 - 55	3010133
	Black	60 - 110	3010135
	Pink	100 - 150	3090456
	Grey	140 - 200	3090992
▶ CB 50100/1	Red	25 - 55	3010134
	Black	60 - 110	3010136
	Pink	100 - 150	3090489
▶ CB 50125/1	Grey	140 - 200	3092174
	Red	25 - 55	3010315
	Yellow	30 - 70	3010316
	Black	60 - 110	3010317
	Pink	100 - 150	3010318

Seal control kit



To test the valve seals on the gas train, a special “seal control kit” is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

GAS TRAIN	KIT CODE	KIT CODE
	for 50 Hz operation	for 60 Hz operation
▶ MBC/1 type	3010367	20029057
▶ CB/1 type	3010367	20029057