

## 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.

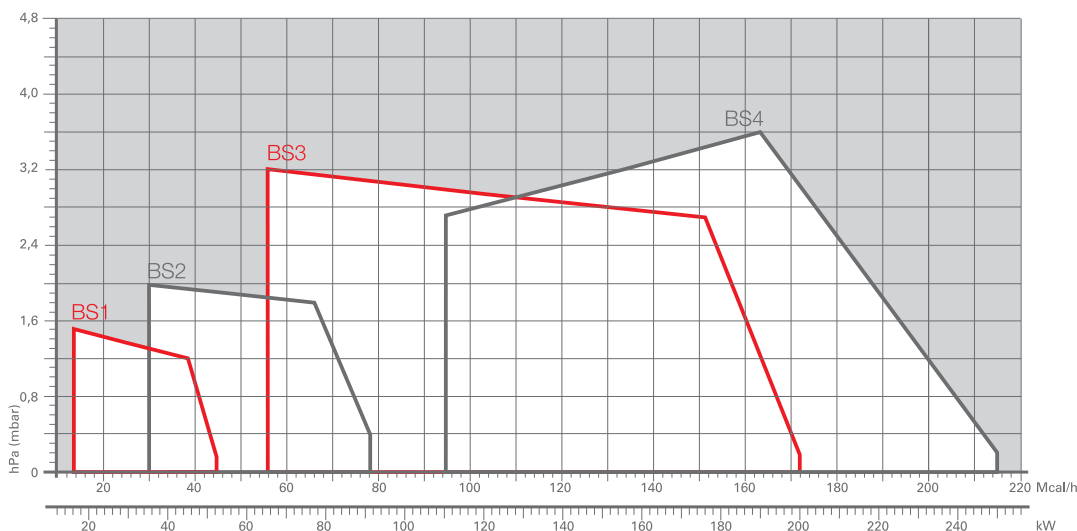
All the models are approved by the EN 676 European Standard and conform to European Directives, Gas Appliance, EMC, Low Voltage, Boiler Efficiency.

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



<b>BS1</b>	16 ÷ 52	kW
<b>BS2</b>	35 ÷ 91	kW
<b>BS3</b>	65 ÷ 200	kW
<b>BS4</b>	110 ÷ 250	kW

## FIRING RATES



Useful working field for choosing the burner

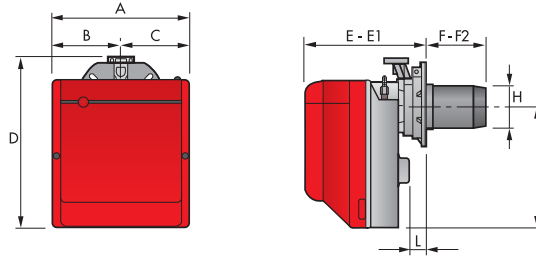
Test conditions conforming to EN676  
 Temperature: 20°C  
 Pressure: 1013,5 mbar  
 Altitude: 0 m a.s.l.

# Low NOx One Stage Gas Burners

## GULLIVER BS SERIES

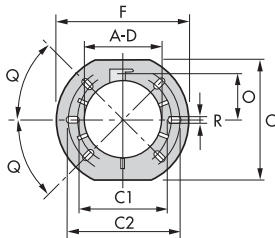
### Overall dimensions (mm)

#### BURNER



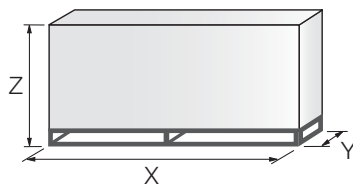
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
▶ BS1	234	122	112	295	230	276	116	70	89	210	41
▶ BS2	255	125,5	125,5	325	238	252	114	100	106	230	45
▶ BS3	300	150	150	391	262	280	128	110	129	285	45
▶ BS4	300	150	150	392	278	301	168	145	137	286	45

#### 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



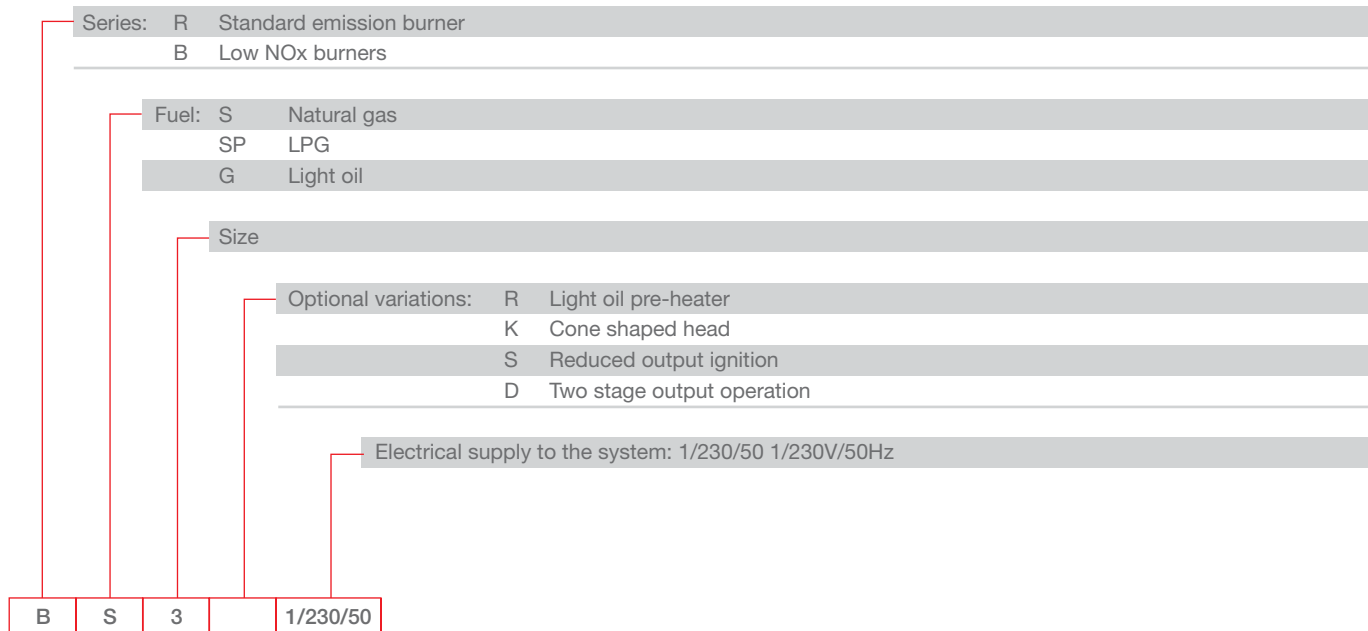
MODEL	X	Y	Z	kg
BS1	395	278	350	10
BS2	405	298	375	11
BS3	450	345	440	15
BS4	510	345	440	16,5

# Low NOx One Stage Gas Burners

## GULLIVER BS SERIES

# 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 <sup>3</sup> /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/Nm<sup>3</sup> - Density: 0,71 kg/Nm<sup>3</sup>.

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)	
3970570	MBC 65 DLE	BS1		BS1		(1)
3970546	MBDLE 405	BS1		BS1		(1)
3970547	MBDLE 405	BS2		BS2		(1)
3970544	MBDLE 407	BS2		BS2		(1)
3970548	MBDLE 407	BS3 - BS4		BS3 - BS4		(1) (2)
3970549	MBDLE 410	BS3 - BS4		BS3 - BS4		(1)
3970550	MBDLE 412	BS3 - BS4		BS3 - BS4		(1)

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

(1) With installed plug.

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

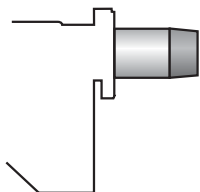
To select the gas train please refer to the technical data leaflet and/or instruction manual.

# Low NOx One Stage Gas Burners

## GULLIVER BS SERIES

### Burner accessories

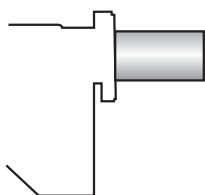
#### Extended head kit



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

BURNER	STANDARD HEAD LENGTH (mm)	EXTENDED HEAD LENGTH (mm)	KIT CODE
▶ 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

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### Burner accessories

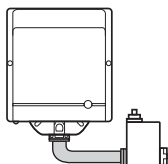
#### Ground fault interrupter kit



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

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

#### Multibloc rotation kit



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

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

#### 7-pin plug kit

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

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

#### PC interface kit



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

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

### Gas train accessories

#### Seal control kit



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

BURNER	KIT CODE
▶ BS1 - BS2 - BS3 - BS4	3010123