

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).

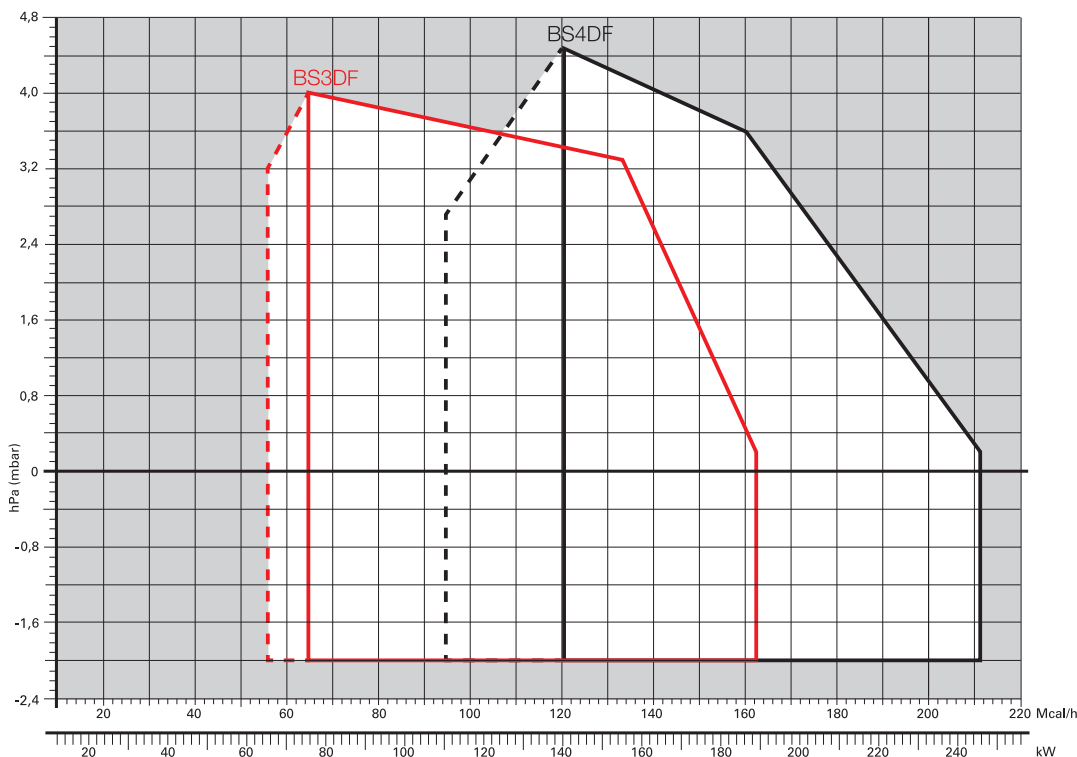
For depressurised working field see EN 746-2 Standard.



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



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

FIRING RATES



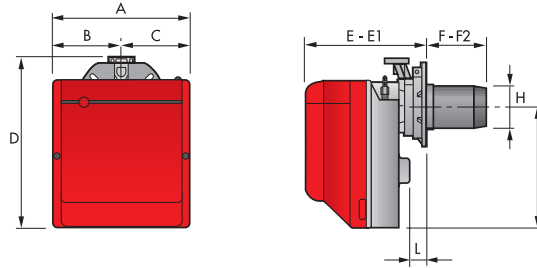
-  Useful working field for choosing the burner
-  1st stage operation range
- Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Low NOx Two Stage Gas Burners

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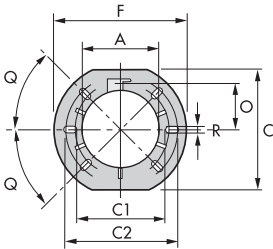
Overall dimensions (mm)

BURNER



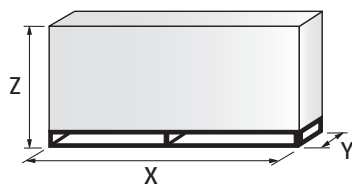
MODEL	A	B	C	D	E	E1	F	F2	H	I	L
► BS3DF	300	150	150	391	262	280	128	110	129	285	45
► BS4DF	300	150	150	392	278	301	168	145	137	286	45

BURNER - BOILER MOUNTING FLANGE



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

PACKAGING

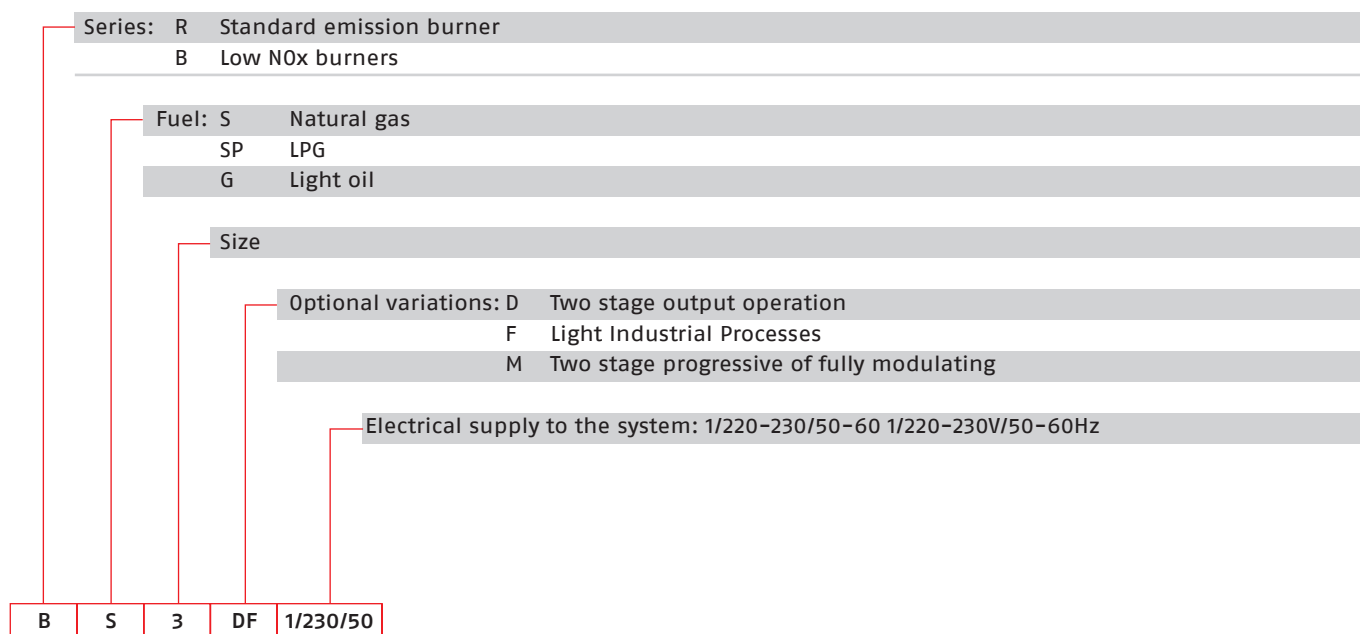


MODEL	X	Y	Z	kg
► BS3DF	450	345	440	16
► BS4DF	510	345	440	18

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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.

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

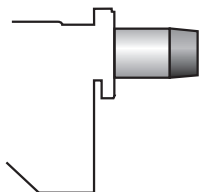
(1) With installed plug.

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

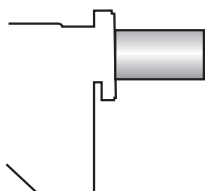
Extended head kit



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. To extend the adaptability of Gulliver BSDF burners to any sort of application, alternative combustion heads have been developed. These heads cause a very limited increase in NOx emissions, due to the slower air flow.

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.

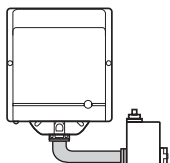
BURNER	KIT CODE
▶ BS3DF - BS4DF	3001180

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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