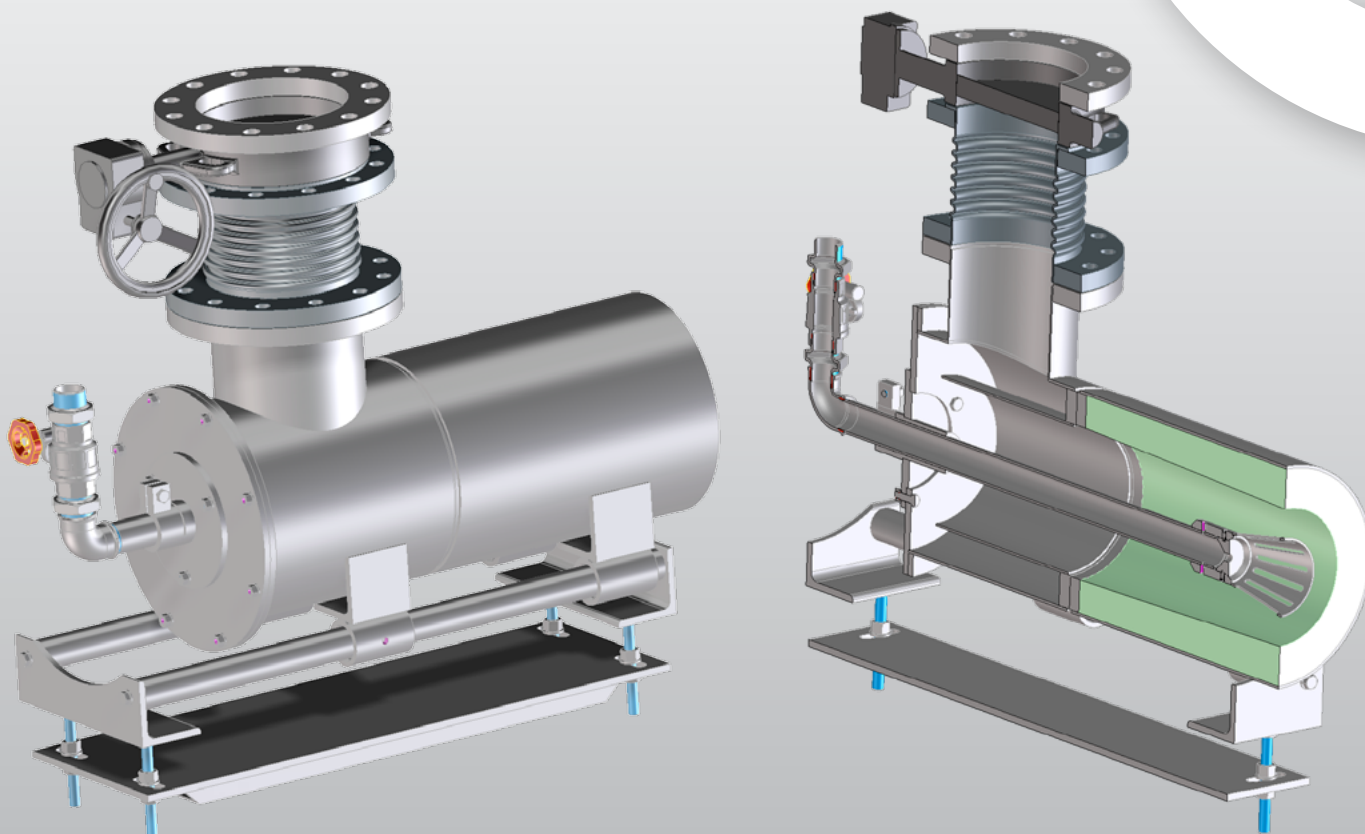




SOLUTIONS FOR THE GLASS INDUSTRY

AIR - GAS BURNER





GENERAL DESCRIPTION

As part of our continuous product development programme, **Glass Service** has developed a number of burners specifically for the glass industry as this is an important part of the melting technology in terms of control, efficiency, etc.

All of the burners have low momentum flame path without any peak temperature. This special design solution for glass melting furnace avoids the peak temperature on the furnace crown and relative rat holes.

The flame radiation is concentrated in the visible spectrum range improving the energy transmitted by radiation to the melting glass and to the furnace efficiency.

Burners have the following characteristics:

- Low momentum
- High flame radiation in the visible spectrum (500-2000 nanometres)

- Continuous external regulation of flame length for a correct flame path adjustment with dual impulse model
- Easily removed for maintenance
- Available for natural gas or LPG
- Several sizes

For each burner **Glass Service** has developed all of the necessary accessories and can supply to the customer a complete burner solution including:

- Air and gas valves
- Air and gas flexible joints /connections
- Air and gas orifice plates for flow balance and/or flow measurement
- Thermally insulated pipework when required for preheated primary air

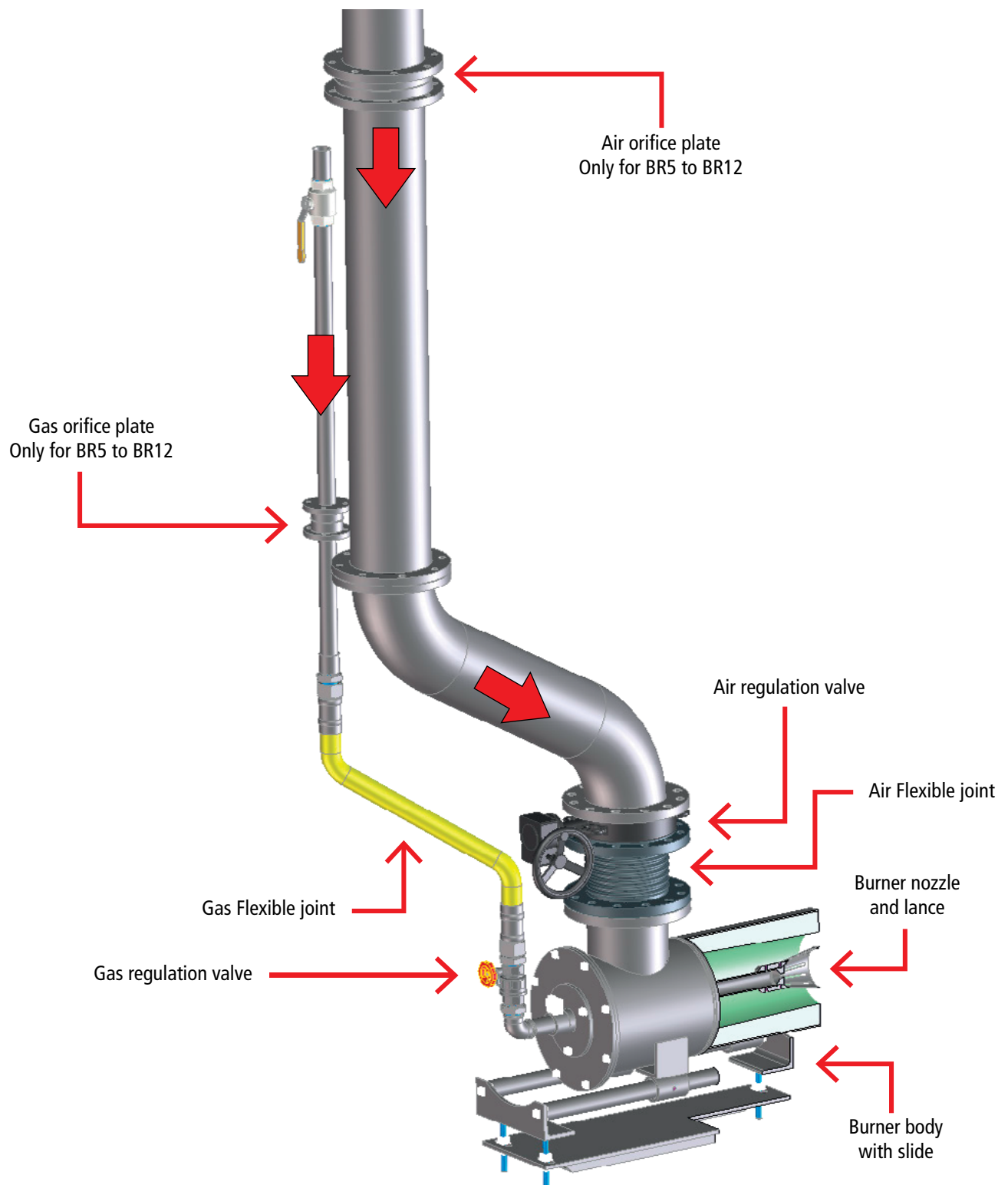
A range of burners sizes are available with outputs of from 145 to 1600 kW and with luminous flame pattern for the melting area (LF type) or clear (NF type) for the distributor.



AIR-GAS BURNER

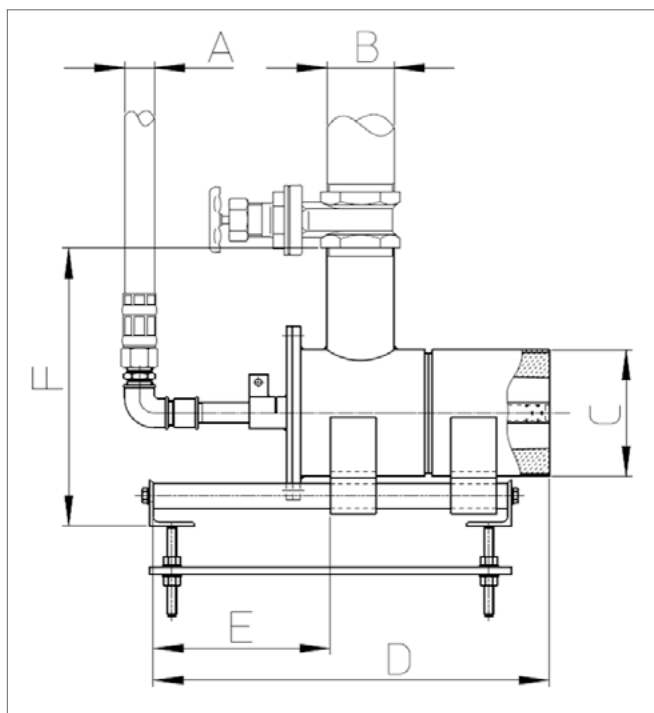
The **Glass Service** burners are available in different sizes, all of which can be operated in the distributor zone with a clear flame or with a luminous flame in the furnace melting zone.

A typical burner arrangement is as follows:

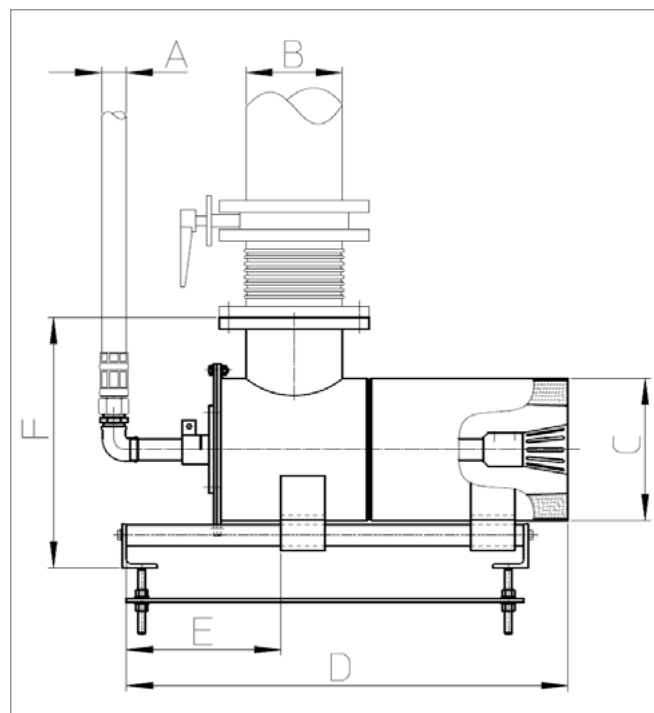


TECHNICAL FEATURES

Model		BR 3	BR 4	BR 5	BR 6	BR 8	BR 12
Size	Inch	3	4	5	6	8	12
Nominal power	kW	145	220	290	365	730	1600
Max. air temperature	°C	400		600			
Air pressure	mbar	30			35		
Gas pressure		25			30		
Flame length	m	0.3 to 0.7	0.5 to 1	0.7 to 2	1 to 2.5	1.2 to 3	1.5 to 4.5
Gas inlet piping - A -	Inch	1"			1" ¼	1" ½	2"
Air inlet piping - B -		3"	4"	5"	6"	8"	12"
Dimension - C -	mm	168	219	244	273	324	457
Dimension - D -		540	550	750	920	1020	1063
Dimension - E -		250	250	260	320	370	365
Dimension - F -		384	435	455	480	570	700



BR 3 & BR 4 type



BR 5 to BR 12 type



BR 5 to BR 12 type



BR 3 & BR 4 type

The flame length can be adjusted by changing the nozzle size.

The flame shape (luminous or clear) can be changed by changing the nozzle type.

The burners can be installed with the pipework from above as illustrated, or from the bottom.

The burner block is an integral part of the burner design and can be supplied by **Glass Service** or by the customer to **Glass Service** drawing and specification.

The air and gas orifice plate can be used for the flow control and for the pipe pressure loss balancing.

A special version for temperature upto 800 °C is also available. The model name is BR – HT.

DUAL IMPULSE BURNER MODEL

The dual impulse burner model BR-DI is a new version of the BR model. This burner incorporates a special nozzle design that allows the flame length to be easily changed without any modification of the burner nozzle. The flame

length being simply changed using the manual valve installed on the burner-lance.

The dual impulse technology is only available for high luminous flame burners.

TECHNICAL FEATURES

Model		BR DI 5	BR DI 6	BR DI 8	BR DI 12
Size	Inch	5	6	8	12
Nominal power	kW	290	365	730	1600
Max. air temperature	°C	600			
Air pressure	mbar	30			
Gas pressure		30			
Flame length	m	0.7 to 2	1 to 2.5	1.2 to 3	1.5 to 4.5
Gas inlet piping - A -	Inch		1" ¼	1" ½	2"
Air inlet piping - B -		5"	6"	8"	12"
Dimension - C -	mm	244	273	324	457
Dimension - D -		750	920	1020	1063
Dimension - E -		260	320	370	365
Dimension - F -		455	480	570	700

BURNER CODE

BR	HT	DI	6	LF
Air temperature :				
LT max 600 °C				
HT max 800 °C				
Nozzle type:				
SN - standard type				
DI - dual impulse				
Burner size:				
3 ; 4 ; 5 ; 6 ; 8 ; 12 inches				
Flame shape:				
LF - luminous flame				
NF - clear flame				



CUSTOMERS WORLD WIDE

GBR-17-01-E



turn key project

batch plants

furnaces:

recuperative

regenerative

gas fired

oil fired

oxy-fuel fired

mixed fuel

electric

forehearth:

colouring forehearth

combustion systems

day tanks

mini melters

boosters

bubblers

metallic recuperators

batch chargers

stirring machines

glass level controls

frit dosing and transport

control cabinets

SCADA and DCS

cooling systems

robotics

gathering - 4 or 5 axis

services:

installation and supervision

commissioning

training

preheating

technology transfer

assistance

laboratory and analysis

refractory consulting

project financing



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