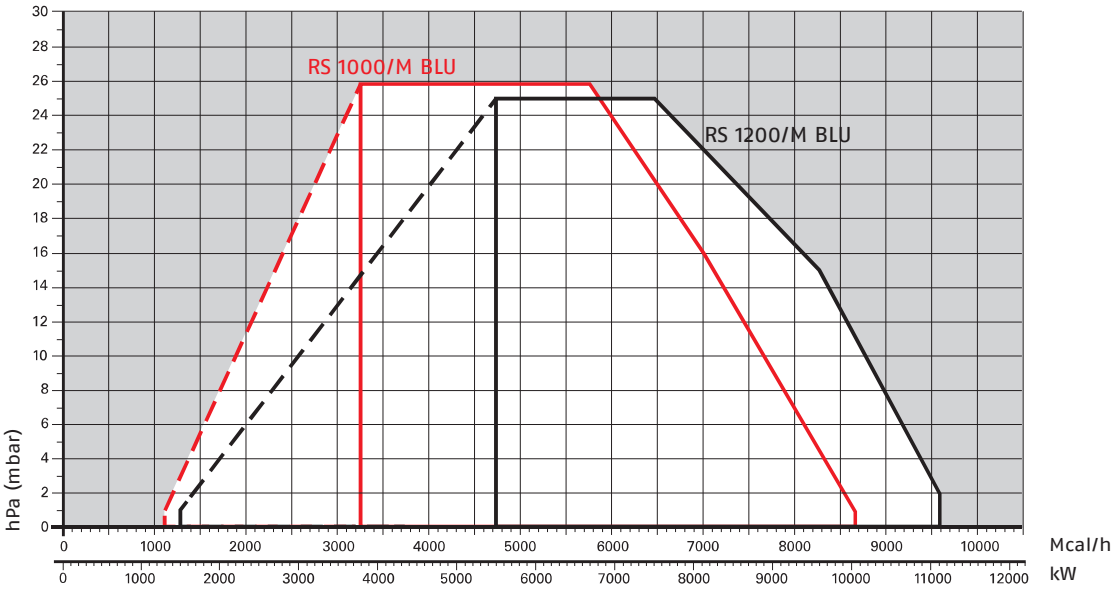
RS 1000÷1200/M BLU SERIES

The RS 1000-1200/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 4000 to 11100 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 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, guarantees low sound emissions, low electrical consumption, easy use and maintenance.

RS 1000/M BLU	1100/4000	÷	10100 kW
RS 1200/M BLU	1500/5500	÷	11100 kW

FIRING RATES



Useful working field for choosing the burner

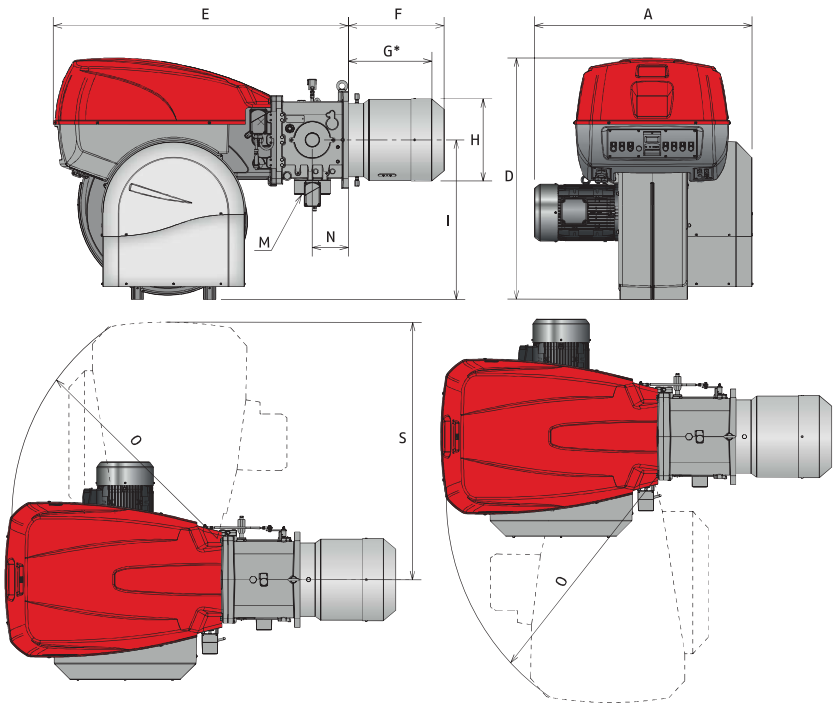
Modulation range

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

Overall dimensions (mm)

BURNER

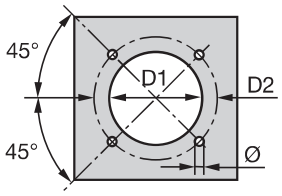
RS 1000-1200/M BLU



MODEL	A	D	E	F	G*	H	I	M	N	O	S
▶ RS 1000/M BLU	1206	1338	1637	669	485	413	885	DN80	200	1350	1493
▶ RS 1200/M BLU	1250	1338	1637	670	454	456	885	DN80	200	1350	1493

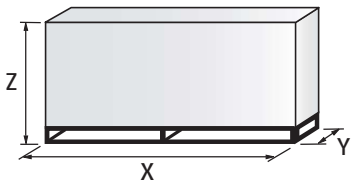
* Maximum depth of the boiler door including the depth of the burner flange insulating gasket.

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

RS 1000÷1200/M BLU SERIES

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)
	/EVi	Electronic cam with integrated inverter
Emission:	... or C01	Class 1 EN676
	MZ	Class 2 EN676
	BLU	Class 3 EN676
	MX	Class 3 EN676
Head length:	TC	standard head
	TL	extended head
Flame control system:	FS1	Standard/Intermittent (at least 1 stop every 24 h)
	FS2	Continuous (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/50-60H
	110/50-60	110V/50-60Hz

R	S	1000	/M	BLU	TC	FS2	3/230-400/50	230/50-60
BASIC DESIGNATION								
EXTENDED DESIGNATION								

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 1000-1200/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; or UV sensor (RS 1000-1200) for flame detection
    - 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 - RFGO for FS1 intermittent operation for RS 1000-1200 model - LGK16 for FS2 continuous operation)
- UV photocell or ionisation probe for flame detection
- Star/delta 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
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL	HEAT OUTPUT NATURAL GAS (kW)	HEAT OUTPUT NATURAL GAS (Nm³/h)	TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
20145840	RS 1000/M BLU TC FS1 3/400/50 230/50-60	1100/4000-10100	130/380-940	24	CE-0085CN0119	(1) (2) (4) (5)
20145959	RS 1000/M BLU TC FS1/FS2 3/400/50 230/50-60	1100/4000-10100	130/380-940	24	CE-0085CN0119	(1) (3) (4) (5)
20145867	RS 1200/M BLU TC FS1 3/400/50 230/50-60	1500/5500-11100	150/550-1150	27,2	CE-0085CN0120	(1) (2) (4) (5)
20145958	RS 1200/M BLU TC FS1/FS2 3/400/50 230/50-60	1500/5500-11100	150/550-1150	27,2	CE-0085CN0120	(1) (3) (4) (5)

Natural gas, net calorific value: 10 kWh/Nm³ - Density: 0,71 kg/Nm³
(1) according to 2016/426/EU - 2014/30/EU - 2014/35/EU - 2006/42 EC Directives and 2014/68/EU Pressure Equipment Directive (only FS2 version)
(2) UV photocell
(3) ionization probe
(4) FS2 operation is allowed with ionization probe only, no other flame sensors can be used.
(5) with RFGO control box
(6) with LFL control box

Due to the improvement of the technical specification of some products, some burner codes have been changed. The table below summarizes the correspondence between the previous and the new code.

MODEL	NEW CODE		OLD CODE	
RS 1000/M BLU TC FS1/FS2 3/400/50	20145840	(5)	20051940	(6)
RS 1000/M BLU TC FS1/FS2 3/400/50	20145959	(5)	20072966	(6)
RS 1200/M BLU TC FS1/FS2 3/400/50	20145867	(5)	20051941	(6)
RS 1200/M BLU TC FS1/FS2 3/400/50	20145958	(5)	20072965	(6)

Gas Trains

GAS TRAIN CODE	GAS TRAIN MODEL	GAS TRAIN Ø	GAS TRAIN C.T.	VPS CODE	ADAPTER CODE RS 1000	ADAPTER CODE RS 1200
20137718*	VGD 50/1 - RT 122	Rp 2"	-	3010123+ 20186306	●	●
20169190**	VGD 50/1 CT RT 122	Rp 2"	◆	◆	●	●
20140762*	VGD 65/1 - FT 122	DN 65 (1)	-	3010123	●	●
20169191**	VGD 65/1 CT FT 122	DN 65 (1)	◆	◆	●	●
20140763*	VGD 80/1 - FT 122	DN 80	-	3010123	20066268 / (3010222 + 20066268) (2)	
20169192**	VGD 80/1 CT FT 122	DN 80	◆	◆	20066268 / (3010222 + 20066268) (2)	
20169193*	VGD 100/1 - FT 122	DN 100	-	3010123	20066278 / (3010223 + 20066268) (2)	
20169194**	VGD 100/1 CT FT 122	DN 100	◆	◆	20066278 / (3010223 + 20066268) (2)	
20169195*	VGD 125/1 - FT 122	DN 125	-	3010123	20066284 / (3010224 + 20066268) (2)	
20169196**	VGD 125/1 CT FT 122	DN 125	◆	◆	20066284 / (3010224 + 20066268) (2)	

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.
(1) øin = DN 65, øout = DN 80
(2) To be used with gas train and burner opening on the left (fan motor side).
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.
□ Additional adapter not necessary, the gas train may be connected directly to the burner.

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.
For remote setpoint use RWF 55.

BURNER	TYPE	CODE
▶ All models	RWF 50.2	20101190
	RWF 55.5	20101191

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
▶ 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
	Pressure 4 ÷ 20 mA	0 ÷ 25 bar	3090873

ANALOG CONTROL SIGNAL CONVERTER

BURNER	TYPE (INPUT SIGNAL)	CODE
▶ All models	0/2 - 10 V (impedance 200 KΩ) 0/4 - 20 mA (impedance 250 Ω)	3010390

POTENTIOMETER

BURNER	KIT CODE
▶ RS 1000-1200/M BLU	-

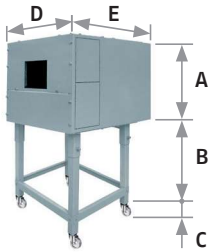
Continuous ventilation kit

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	20086519

Burner accessories

Sound proofing box



If noise emission needs reducing even further, sound-proofing boxes are available.
When a lower "B" dimension is required, it is available the Box Support Kit code 20065135 which allows to reduce it at the fixed dimension of 55 mm.
The sound-proofing boxes are not suitable for outdoor use.

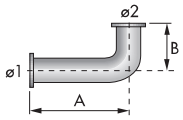
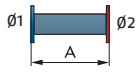
BURNER	BOX TYPE	A (mm)	B (mm) min-max	C (mm)	D (mm)	E (mm)	[dB(A)] (*)	BOX CODE
▶ RS 1000-1200/M BLU	C8	1425	285 - 1000	110	1500	1800	10	3010401

(*) Average noise reduction 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 Ø1 DN	Ø2 DN	A mm	B mm	ADAPTER CODE
	80	65 / 80	230	375	20066268
	100	65 / 80	230	375	20066278
	125	65 / 80	245	375	20066284
	80	80	400	-	3010222
	100	80	400	-	3010223
	125	80	320	-	3010224

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
	Neutral	0 - 22	20181839
▶ **VGD/1 series**	Yellow	15 - 120	20141900
	Red	100 - 250	20141901

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
▶ **VGD 50/1**	3010123+20186306	20050030+20186306
▶ **VGD 65/1 - 80/1 - 100/1 - 125/1**	3010123	20050030