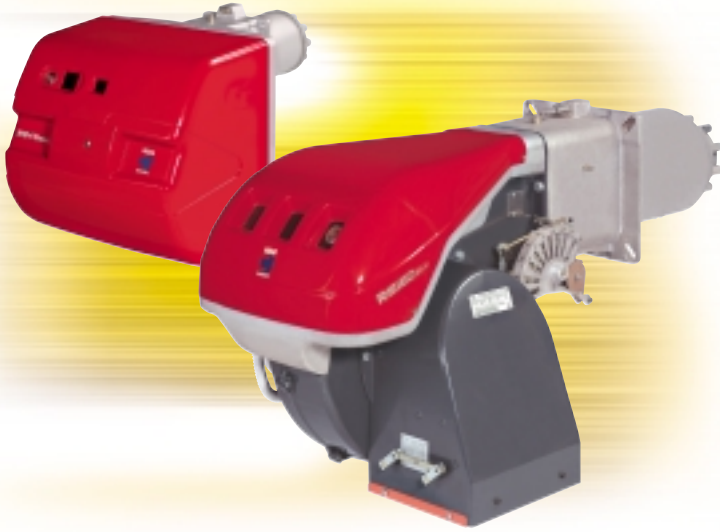




LOW NO_x MODULATING GAS BURNERS

► RS/M BLU SERIES

| | |
|----------------|-------------------|
| ► RS 45/M BLU | 90/190 ÷ 550 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 |



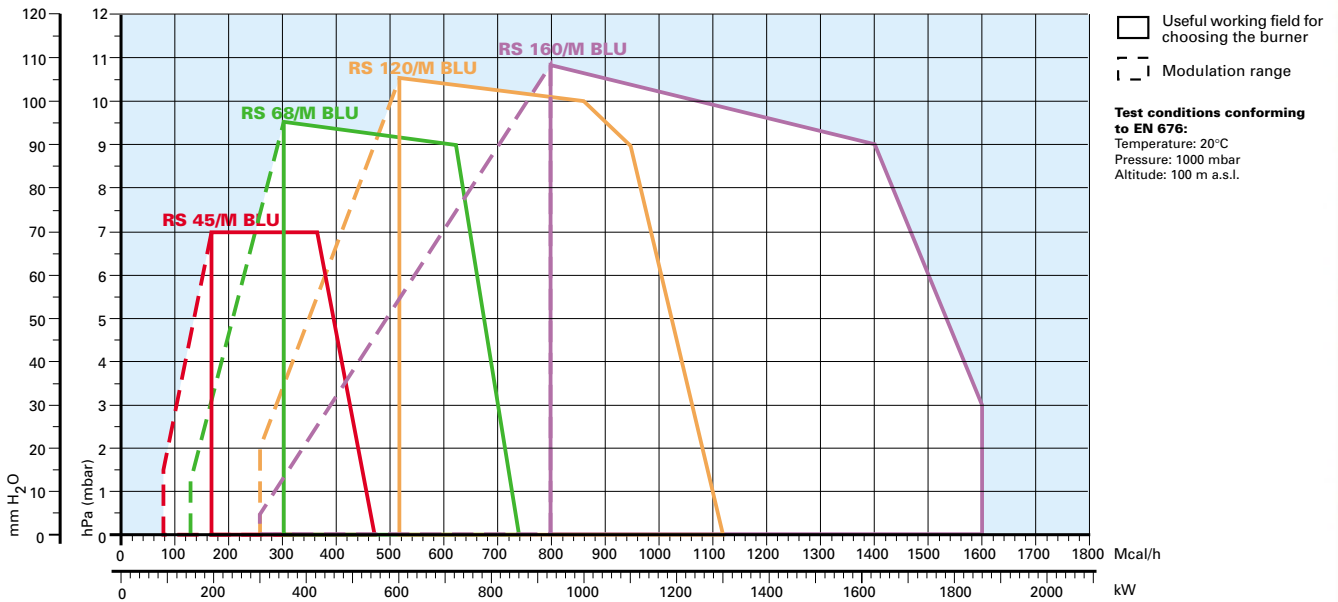
The RS/M BLU series of burners covers a firing range from 90 to 1860 kW, and they have been designed for use in hot or superheated water boilers, hot air or steam generators, diathermic oil boilers.

Operation can be "two stage progressive" or, alternatively, "modulating" with the installation of a PID logic regulator and respective probes. RS/M BLU series burners guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs.

Optimisation of sound emissions is guaranteed by the use of fans with reverse curve

blades and sound proofing material incorporated in the air suction circuit. The exclusive design ensures reduced dimensions, simple use and maintenance. A wide range of accessories guarantees elevated working flexibility.

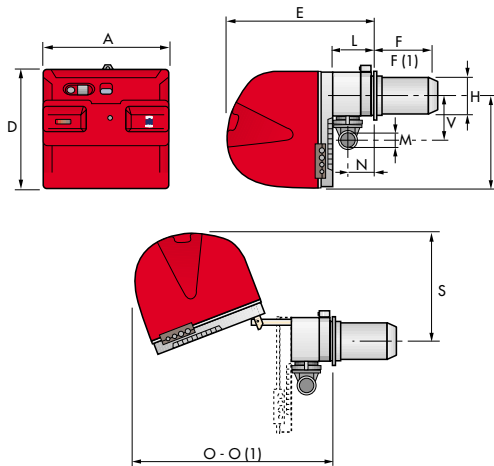
FIRING RATES



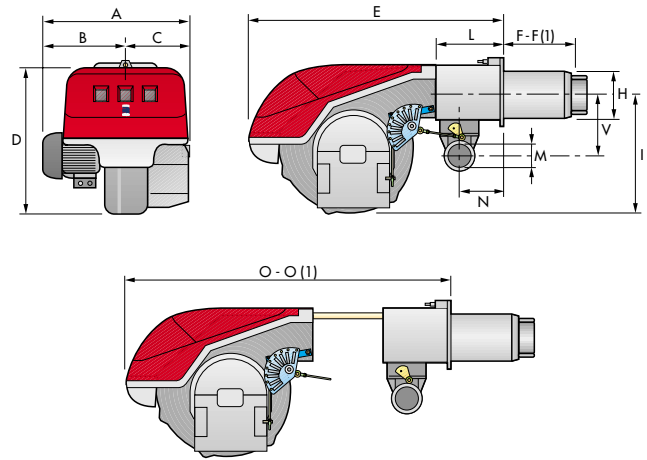
RS/M BLU series - OVERALL DIMENSIONS (mm)

BURNER

RS 45/M BLU



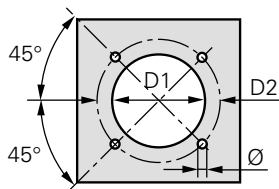
RS 68/M - 120/M - 160/M BLU



| Model | A | B | C | D | E | F - F(1) | H | I | L | M | N | O - O(1) | S | V |
|----------------|-----|-----|-----|-----|-----|-----------|-----|-----|-----|--------|-----|-------------|-----|-----|
| ▶ RS 45/M BLU | 476 | - | - | 474 | 580 | 229 - 354 | 160 | 352 | 164 | 1" 1/2 | 108 | 810 - 810 | 367 | 168 |
| ▶ RS 68/M BLU | 511 | 296 | 215 | 555 | 840 | 255 - 390 | 189 | 430 | 214 | 2" | 134 | 1161 - 1296 | - | 221 |
| ▶ RS 120/M BLU | 553 | 338 | 215 | 555 | 840 | 255 - 390 | 189 | 430 | 214 | 2" | 134 | 1161 - 1296 | - | 221 |
| ▶ RS 160/M BLU | 681 | 366 | 315 | 555 | 847 | 373 - 503 | 221 | 430 | 221 | 2" | 141 | 1395 - 1535 | - | 186 |

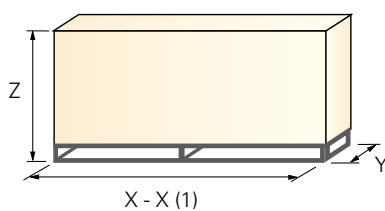
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



| Model | D1 | D2 | Ø |
|----------------|-----|---------|-----|
| ▶ RS 45/M BLU | 165 | 224 | M8 |
| ▶ RS 68/M BLU | 195 | 275-325 | M12 |
| ▶ RS 120/M BLU | 195 | 275-325 | M12 |
| ▶ RS 160/M BLU | 230 | 325-368 | M16 |

PACKAGING

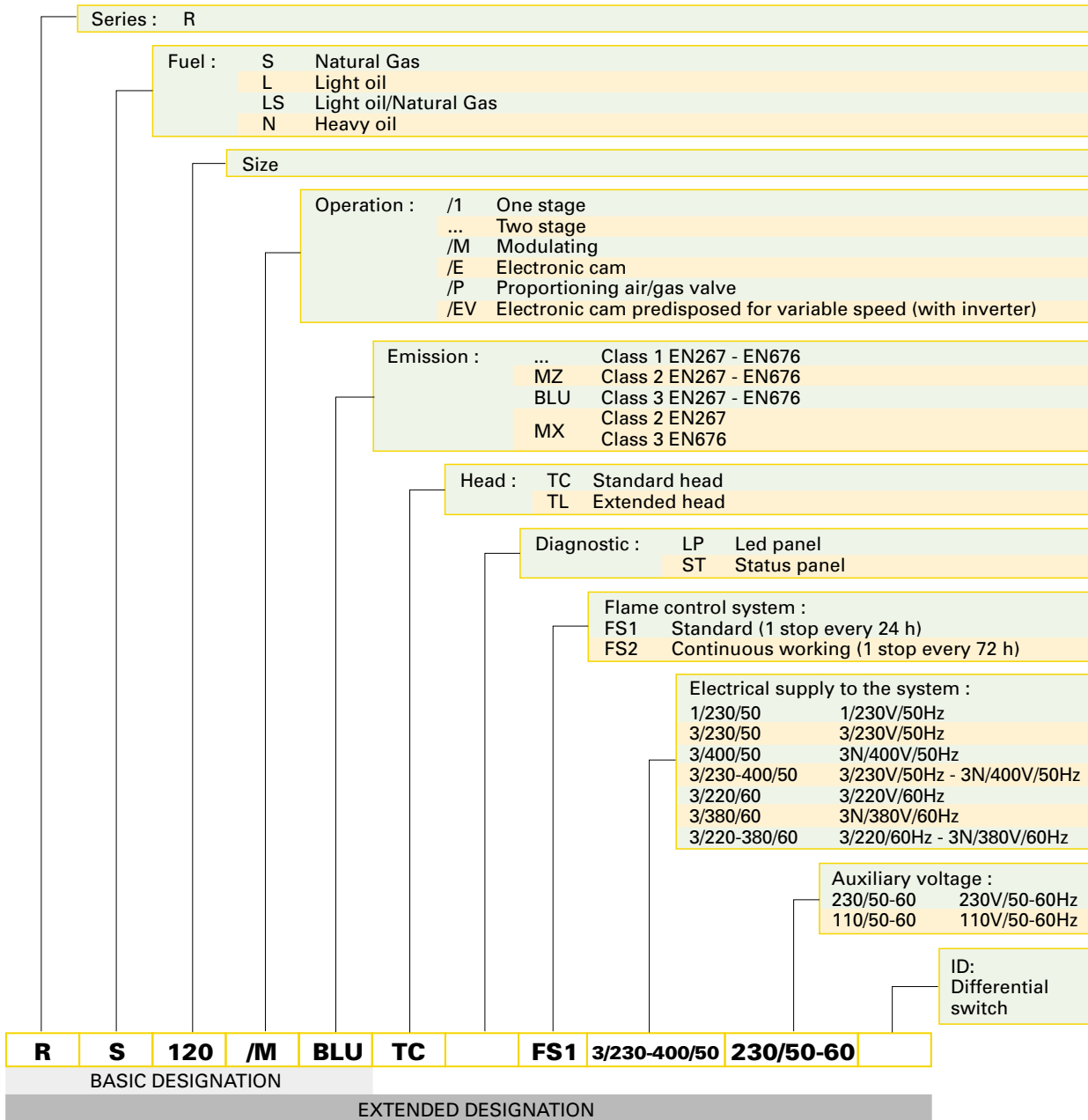


| Model | X - X(1) | Y | Z | kg |
|----------------|-------------|-----|-----|----|
| ▶ RS 45/M BLU | 1015 - 1015 | 500 | 630 | 41 |
| ▶ RS 68/M BLU | 1190 - 1340 | 692 | 740 | 70 |
| ▶ RS 120/M BLU | 1190 - 1340 | 692 | 740 | 76 |
| ▶ RS 160/M BLU | 1250 - 1400 | 785 | 725 | 89 |

(1) Length with extended combustion head

RS/M BLU series - SPECIFICATION

DESIGNATION OF SERIES



► RS/M BLU series - STATE OF SUPPLY

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

- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (forward curve blades on the 160/M BLU model)
- Air damper for air setting and butterfly valve for regulating fuel output controlled by a servomotor with variable cam
- Low emission combustion head, that can be set on the basis of required output
- Maximum gas pressure switch
- Minimum air pressure switch
- Flame control panel, fitted with control functions for the correct positioning of the servomotor
- Burner on/off switch
- Flame inspection window
- Manual or automatic output increase/decrease switch
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

Standard equipment:

- 1 gas train gasket
- 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/M BLU model)
- 2 slide bar extensions (for extended head models and RS 160/M BLU)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

► RS/M BLU series - AVAILABLE BURNER MODELS

| Code | Model | Heat output | | Total electrical power (kW) | Certification | Note | Price |
|---------|---|--------------|----------------------------------|-----------------------------|----------------|------|-------|
| | | (kW) | Natural Gas (Nm ³ /h) | | | | |
| 3897302 | RS 45/M BLU TC FS1 1/230/50 230/50-60 | 90/190-550 | 9/19-55 | 0,6 | CE 0085 BM0104 | | |
| 3897303 | RS 45/M BLU TL FS1 1/230/50 230/50-60 | 90/190-550 | 9/19-55 | 0,6 | CE 0085 BM0104 | | |
| 3897312 | RS 45/M BLU TC FS2 1/230/50 230/50-60 | 90/190-550 | 9/19-55 | 0,6 | CE 0085 BM0104 | | |
| 3897313 | RS 45/M BLU TL FS2 1/230/50 230/50-60 | 90/190-550 | 9/19-55 | 0,6 | CE 0085 BM0104 | | |
| 3897402 | RS 68/M BLU TC FS1 3/230-400/50 230/50-60 | 150/350-860 | 15/35-86 | 1,8 | CE 0085 BM0452 | | |
| 3897403 | RS 68/M BLU TL FS1 3/230-400/50 230/50-60 | 150/350-860 | 15/35-86 | 1,8 | CE 0085 BM0452 | | |
| 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 | | |
| 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 | | |
| 3897602 | RS 120/M BLU TC FS1 3/230-400/50 230/50-60 | 300/600-1300 | 30/60-130 | 2,6 | CE 0085 BM0452 | | |
| 3897603 | RS 120/M BLU TL FS1 3/230-400/50 230/50-60 | 300/600-1300 | 30/60-130 | 2,6 | CE 0085 BM0452 | | |
| 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 | | |
| 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 | | |
| 3788002 | RS 160/M BLU TC FS1 3/230-400/50 230/50-60 | 300/930-1860 | 30/93-186 | 4,8 | CE 0085 BM0452 | | |
| 3788003 | RS 160/M BLU TL FS1 3/230-400/50 230/50-60 | 300/930-1860 | 30/93-186 | 4,8 | CE 0085 BM0452 | | |
| 3788011 | RS 160/M BLU TC FS2 3/230-400/50 230/50-60 | 300/930-1860 | 30/93-186 | 4,8 | CE 0085 BM0452 | | |
| 3788012 | RS 160/M BLU TL FS2 3/230-400/50 230/50-60 | 300/930-1860 | 30/93-186 | 4,8 | CE 0085 BM0452 | | |
| 3897340 | RS 45/M BLU TC FS1 1/230/50 230/50-60 ID | 90/190-550 | 9/19-55 | 0,6 | CE 0085 BM0104 | | |
| 3897341 | RS 45/M BLU TL FS1 1/230/50 230/50-60 ID | 90/190-550 | 9/19-55 | 0,6 | CE 0085 BM0104 | | |
| 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 | | |
| 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 | | |
| 3788040 | RS 160/M BLU TC FS1 3/230-400/50 230/50-60 ID | 300/930-1860 | 30/93-186 | 4,8 | CE 0085 BM0452 | | |

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 - 89/336 - 73/23 - 92/42 EEC Directive and EN 676 - LRV 92 Norm.

RS/M BLU series - AVAILABLE GAS TRAIN MODELS

| Gas train code* | Gas train model | Natural gas | | Note | Gas train price |
|-----------------|-----------------|-----------------------------|--------------------|------|-----------------|
| | | Burner (type) | Adapter ** (code) | | |
| 3970076 | MBD 407 | RS 45/M BLU | 3000824 | (1) | |
| 3970077 | MBD 410 | RS 45/M BLU | 3000824 | (1) | |
| 3970144 | MBD 412 | RS 45/M BLU | - | (1) | |
| | | RS 68/M BLU RS 120/M BLU | 3000843 3000843 | | |
| 3970197 | MBD 412 CT | RS 45/M BLU | - | (2) | |
| | | RS 68/M BLU | 3000843 | | |
| | | RS 120/M BLU | 3000843 | | |
| 3970180 | MBD 415 | RS 45/M BLU | - | (1) | |
| | | RS 68/M BLU | 3000843 | | |
| | | RS 120/M BLU | 3000843 | | |
| 3970198 | MBD 415 CT | RS 45/M BLU | - | (2) | |
| | | RS 68/M BLU | 3000843 | | |
| | | RS 120/M BLU | 3000843 | | |
| 3970181 | MBD 420 | RS 45/M BLU | 3000822 | (1) | |
| | | RS 68/M BLU | - | | |
| | | RS 120/M BLU | - | | |
| | | RS 160/M BLU | - | | |
| 3970182 | MBD 420 CT | RS 45/M BLU | 3000822 | (2) | |
| | | RS 68/M BLU | - | | |
| | | RS 120/M BLU | - | | |
| | | RS 160/M BLU | - | | |
| 3970145 | CB 40/1 | RS 45/M BLU | - | (1) | |
| | | RS 68/M BLU | 3000843 | | |
| | | RS 120/M BLU | 3000843 | | |
| 3970146 | CB 50/1 | RS 45/M BLU | 3000822 | (1) | |
| | | RS 68/M BLU | - | | |
| | | RS 120/M BLU | - | | |
| | | RS 160/M BLU | - | | |
| 3970160 | CB 50/1 CT | RS 45/M BLU | 3000822 | (2) | |
| | | RS 68/M BLU | - | | |
| | | RS 120/M BLU | - | | |
| | | RS 160/M BLU | - | | |
| 3970147 | CBF 65/1 | RS 68/M BLU | 3000825 | (1) | |
| | | RS 120/M BLU | 3000825 | | |
| | | RS 160/M BLU | 3000825 | | |
| 3970161 | CBF 65/1 CT | RS 68/M BLU | 3000825 | (2) | |
| | | RS 120/M BLU | 3000825 | | |
| | | RS 160/M BLU | 3000825 | | |
| 3970148 | CBF 80/1 | RS 120/M BLU | 3000826 | (1) | |
| | | RS 160/M BLU | 3000826 | | |
| 3970162 | CBF 80/1 CT | RS 120/M BLU | 3000826 | (2) | |
| | | RS 160/M BLU | 3000826 | | |
| 3970149 | CBF 100/1 | RS 160/M BLU | 3010127 | (1) | |
| 3970163 | CBF 100/1 CT | RS 160/M BLU | 3010127 | (2) | |

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

** the adapter price is available in the "Gas train accessories" section

(1) Seal control accessory

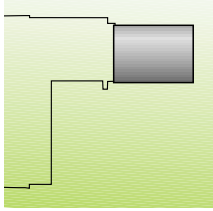
(2) Seal control incorporated

The following table shows the frequently matching between RS/M BLU burners and the gas train, referred to different inlet gas pressure.

| Burner | Reference combustion chamber pressure (mbar) | Natural gas G20 (20 mbar) | | Natural gas G20 (300 mbar) | | LPG (35 mbar) | | LPG (150 mbar) | |
|--------------|--|---------------------------|-----------------------|----------------------------|-----------------------|---------------|-----------------------|----------------|-----------------------|
| | | Gas train | Reference output (kW) | Gas train | Reference output (kW) | Gas train | Reference output (kW) | Gas train | Reference output (kW) |
| RS 45/M BLU | 7 | | | MBD 412 | 430 | | | | |
| RS 68/M BLU | 9 | | | MBD 412 | 690 | | | | |
| RS 120/M BLU | 9,5 | | | MBD 415 | 1070 | | | | |
| RS 120/M BLU | 9,5 | | | CB 40/1 | 1070 | | | | |
| RS 160/M BLU | 9,5 | | | MBD 420 | 1550 | | | | |
| RS 160/M BLU | 9,5 | | | CB 50/1 | 1550 | | | | |

RS/M BLU series - BURNER ACCESSORIES

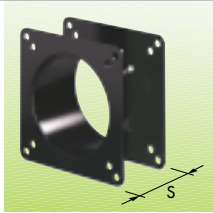
Extended head kit



"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 | Price |
|--------------|---------------------------|---------------------------|----------|-------|
| RS 45/M BLU | 229 | 354 | 3010240 | |
| RS 68/M BLU | 255 | 390 | 3010177 | |
| RS 120/M BLU | 255 | 390 | 3010177 | |
| RS 160/M BLU | 373 | 503 | 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 | Price |
|---------------------|-------------------------|----------|-------|
| RS 45/M BLU | 90 | 3010095 | |
| RS 68/M - 120/M BLU | 135 | 3010129 | |
| RS 160/M BLU | 110 | 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 | Price |
|-----------------------------|----------|-------|
| RS 45/M BLU | 3010094 | |
| RS 68/M - 120/M - 160/M BLU | 3010094 | |

Sound proofing box



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

| Burner | Box type | Average noise reduction [dB(A)] | Box code | Price |
|-----------------------------|----------|---------------------------------|----------|-------|
| RS 45/M BLU | C2 | 11 | 3000777 | |
| RS 68/M - 120/M - 160/M BLU | C3 | 14 | 3000778 | |

Head kit for "reverse flame chamber"



| Burner | Kit code | Price |
|--------------|----------|-------|
| RS 68/M BLU | 3010247 | |
| RS 120/M BLU | 3010248 | |
| RS 160/M BLU | 3010249 | |

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

Accessories for modulating operation



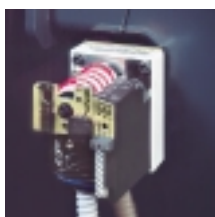
| Regulator type | Regulator code | Price |
|----------------|----------------|-------|
| RWF 40 | 3010212 | |

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



| Probe type | Range (°C) (bar) | Probe code | Price |
|--------------------|------------------|------------|-------|
| Temperature PT 100 | -100 ÷ 500°C | 3010110 | |
| Pressure 4 ÷ 20 mA | 0 ÷ 2,5 bar | 3010213 | |
| Pressure 4 ÷ 20 mA | 0 ÷ 16 bar | 3010214 | |

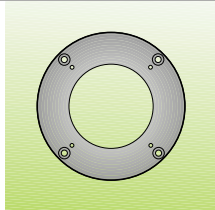
The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.



| Burner | Potentiometer kit code | Price |
|-----------------------------|------------------------|-------|
| RS 45/M BLU | 3010109 | |
| RS 68/M - 120/M - 160/M BLU | 3010021 | |

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

Connection flange kit

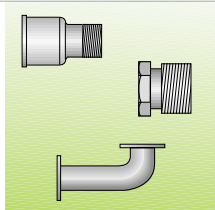


| Burner | Kit code | Price |
|-------------|----------|-------|
| RS 45/M BLU | 3010138 | |

A kit is available for use where the burner opening on the boiler is of excessive diameter.

RS/M BLU series - 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.

| Burner | Gas train | Dimensions | Adapter code | Price |
|--------------|---------------------|---------------------------|--------------|-------|
| RS 45/M BLU | MBD 407 - 410 | 3/4" 1" 1/2 | 3000824 | |
| | MBD 420 - CB 50/1 | 2" 1" 1/2 | 3000822 | |
| RS 68/M BLU | MBD 412-415-CB 40/1 | 1" 1/2 2" | 3000843 | |
| | CBF 65/1 | DN 65 2" 1/2 2" | 3000825 | |
| RS 120/M BLU | MBD 415 - CB 40/1 | 1" 1/2 2" | 3000843 | |
| | CBF 65/1 | DN 65 2" 1/2 1" 1/2 2" | 3000825 | |
| | CBF 80/1 | DN 80 2" 1/2 2" | 3000826 | |
| RS 160/M BLU | CBF 65/1 | DN 65 2" 1/2 1" 1/2 2" | 3000825 | |
| | CBF 80/1 | DN 80 2" 1/2 2" | 3000826 | |
| | CBF 100/1 | DN 100 DN 80 | 3010127 | |

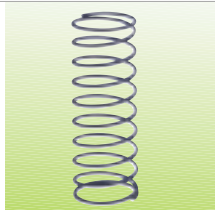
Seal control kit



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

| Burner | Gas train | Kit code | Price |
|--------------|--|----------|-------|
| RS 45/M BLU | CB 40/1 - 50/1 - MBD 407 - 410 - 412 - 415 - 420 | 3010123 | |
| RS 68/M BLU | CB 40/1 - 50/1 - MBD 412 - 415 - 420 - CBF 65/1 | 3010123 | |
| RS 120/M BLU | CB 40/1 - 50/1 - MBD 415 - 420 - CBF 65/1 - 80/1 | 3010123 | |
| RS 160/M BLU | CB 50/1 - MBD 420 - CBF 65/1 - 80/1 - 100/1 | 3010123 | |

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers.

| Gas train | Spring | Code | Price |
|---------------------|---------------------------|---------|-------|
| CBF 65/1 - CBF 80/1 | Red from 25 to 55 mbar | 3010133 | |
| CBF 100/1 | Red from 25 to 55 mbar | 3010134 | |
| CBF 65/1 - CBF 80/1 | Black from 60 to 110 mbar | 3010135 | |
| CBF 100/1 | Black from 60 to 110 mbar | 3010136 | |
| CBF 65/1 - CBF 80/1 | Pink from 100 to 150 mbar | 3090456 | |
| CBF 100/1 | Pink from 100 to 150 mbar | 3090489 | |