

## RS SERIES

The RS burners series covers a firing range from 44 to 2290 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers.

Operation is "two stage progressive"; the burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause.

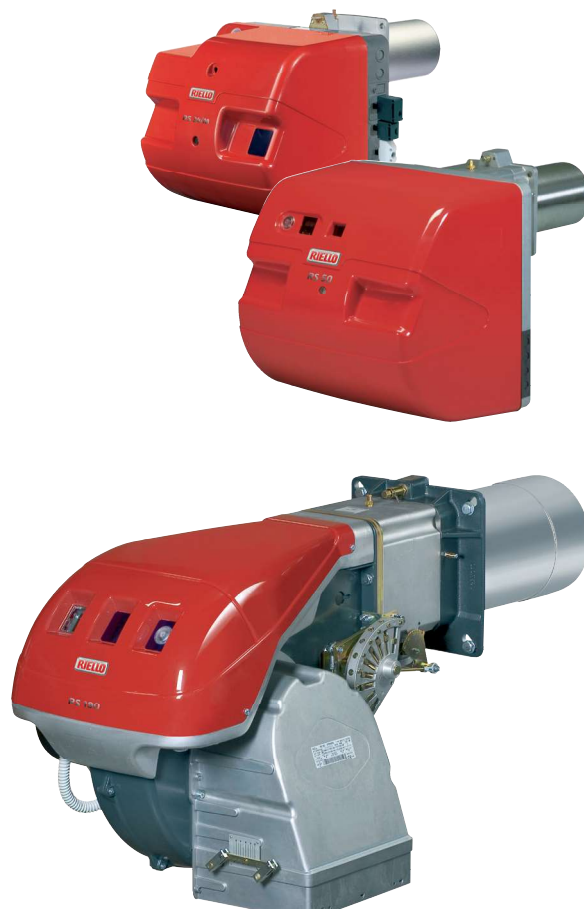
The elevated performance of the fans and combustion head, guarantee flexibility of use and excellent working at all firing rates.

The exclusive design ensures reduced dimensions, simple use and maintenance. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit and by incorporated sound proofing material. A wide range of accessories guarantees elevated working flexibility.

**Guidelines for installation of burners in conformity to EU Regulation:**

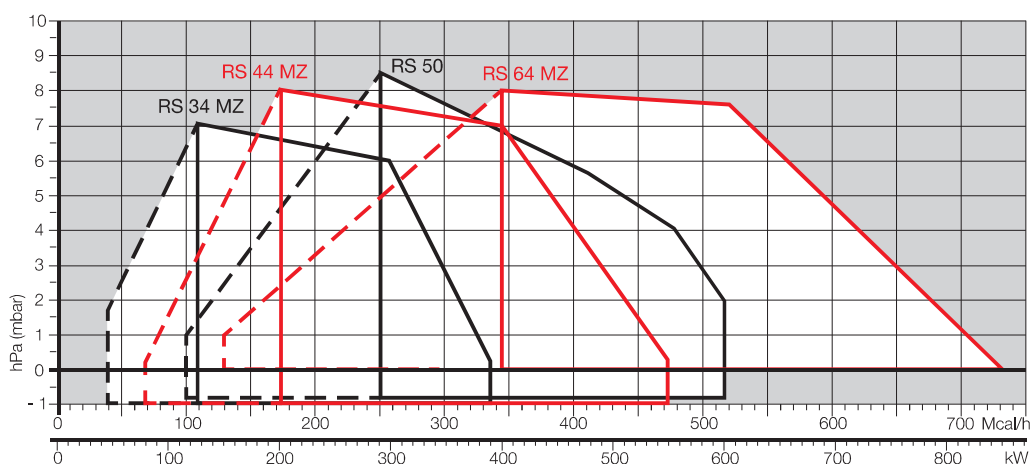
A RIELLO burner (Heat Generator), where it is matched with a water-based boiler (Heater Housing) with a nominal output  $\leq 400$  kW, providing heat for heating purposes and heat to deliver sanitary hot water, can be installed:


- With boilers (heater housings) already in service in the field, for replacement of identical products, in conformity to Article 1, paragraph 2, point (G) of the EU Regulation No. 813/2013;
- With boilers (heater housings) on a new installation, if they have emissions complying with the requirement of Annex II, paragraph 4 of the EU regulation No. 813/2013.




|          |                    |
|----------|--------------------|
| RS 34 MZ | 45/125 ÷ 390 kW    |
| RS 44 MZ | 80/203 ÷ 550 kW    |
| RS 50    | 115/290 ÷ 600 kW   |
| RS 64 MZ | 150/400 ÷ 850 kW   |
| RS 70    | 192/465 ÷ 814 kW   |
| RS 100   | 232/698 ÷ 1163 kW  |
| RS 130   | 372/930 ÷ 1512 kW  |
| RS 150   | 300/900 ÷ 1850 kW  |
| RS 190   | 470/1279 ÷ 2290 kW |

## FIRING RATES



 Useful working field for choosing the burner

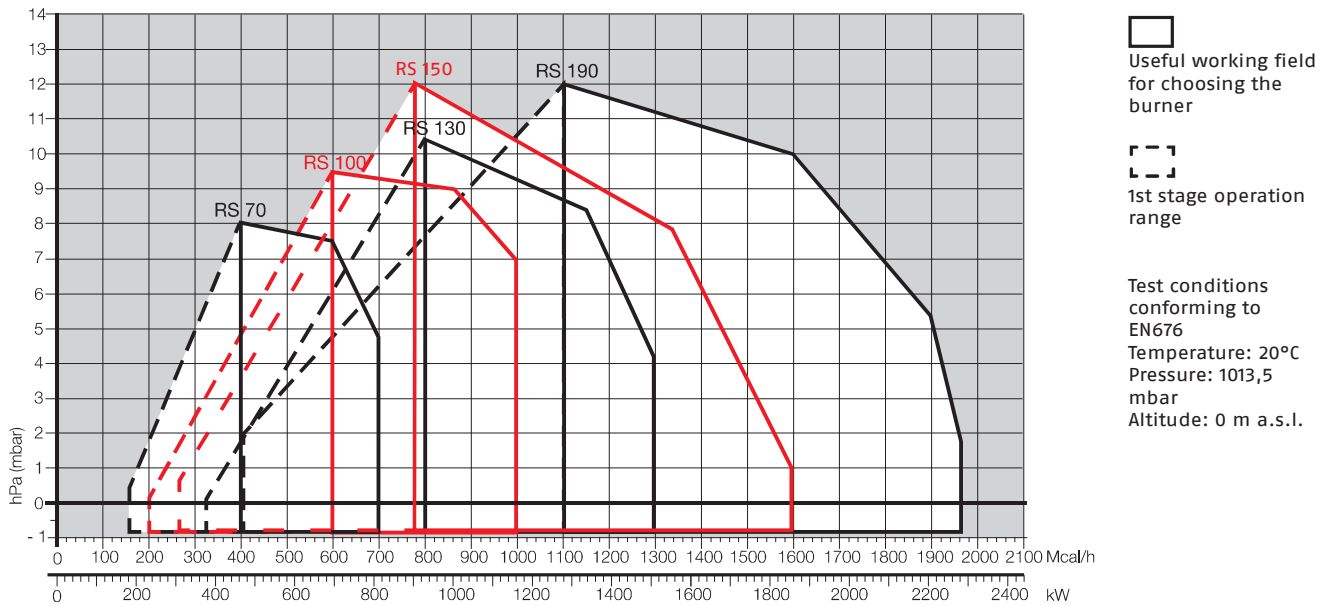
 1st stage operation range

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

# Two Stage Progressive Gas Burners

## RS SERIES

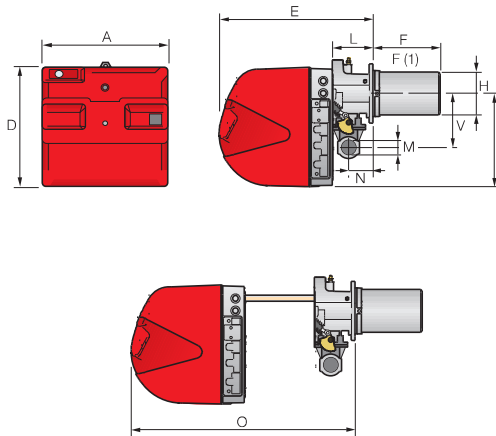
### FIRING RATES



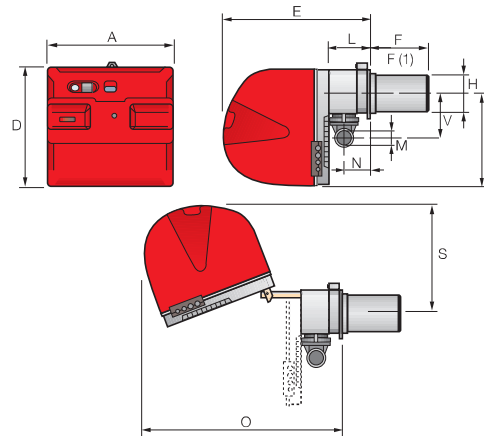
## Overall dimensions (mm)

### BURNER

RS 34 MZ - 44 MZ



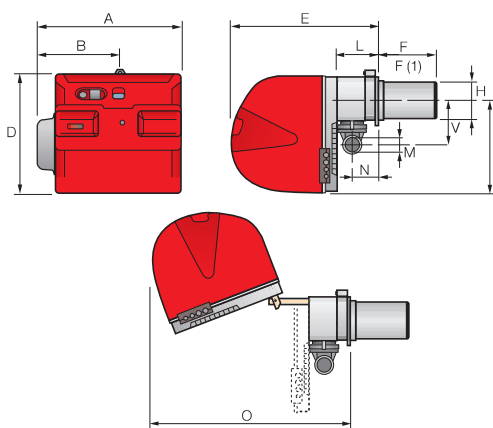
RS 50



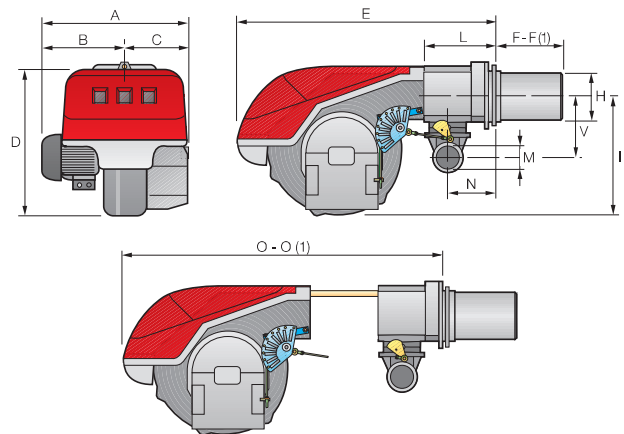
| MODEL      | A   | D   | E   | F - F(1)  | H   | I   | L   | M     | N   | O   | S   | V   |
|------------|-----|-----|-----|-----------|-----|-----|-----|-------|-----|-----|-----|-----|
| ▶ RS 34 MZ | 442 | 422 | 508 | 216 - 351 | 140 | 305 | 138 | 1 1/2 | 84  | 780 | -   | 177 |
| ▶ RS 44 MZ | 442 | 422 | 508 | 216 - 351 | 152 | 305 | 138 | 1 1/2 | 84  | 780 | -   | 177 |
| ▶ RS 50    | 476 | 474 | 580 | 216 - 351 | 152 | 352 | 164 | 1 1/2 | 108 | 810 | 367 | 168 |

(1) dimension with extended head

RS 64 MZ



RS 70 - 100 - 130 - 150 - 190



| MODEL      | A   | B   | C   | D   | E   | F - F(1)  | H   | I   | L   | M  | N   | O - O(1)    | V   |
|------------|-----|-----|-----|-----|-----|-----------|-----|-----|-----|----|-----|-------------|-----|
| ▶ RS 64 MZ | 533 | 300 | -   | 490 | 640 | 250 - 385 | 179 | 352 | 222 | 2" | 134 | 870 - -     | 221 |
| ▶ RS 70    | 511 | 296 | 215 | 555 | 840 | 250 - 385 | 179 | 430 | 214 | 2" | 134 | 1161 - 1296 | 221 |
| ▶ RS 100   | 527 | 312 | 215 | 555 | 840 | 250 - 385 | 179 | 430 | 214 | 2" | 134 | 1161 - 1296 | 221 |
| ▶ RS 130   | 553 | 338 | 215 | 555 | 840 | 280 - 415 | 189 | 430 | 214 | 2" | 134 | 1161 - 1296 | 221 |
| ▶ RS 150   | 675 | 370 | 305 | 590 | 840 | 280 - 415 | 189 | 435 | 214 | 2" | 134 | 1180 - 1315 | 221 |
| ▶ RS 190   | 681 | 366 | 315 | 555 | 872 | 370 - 520 | 222 | 430 | 246 | 2" | 150 | 1328 - -    | 262 |

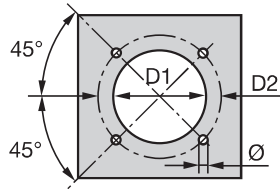
(1) dimension with extended head

# Two Stage Progressive Gas Burners

## RS SERIES

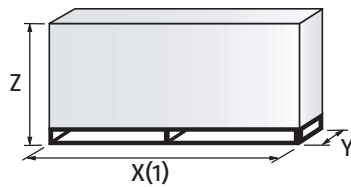
### Overall dimensions (mm)

#### BURNER - BOILER MOUNTING FLANGE



| MODEL      | D1  | D2      | Ø   |
|------------|-----|---------|-----|
| ▶ RS 34 MZ | 160 | 224     | M8  |
| ▶ RS 44 MZ | 160 | 224     | M8  |
| ▶ RS 50    | 160 | 224     | M8  |
| ▶ RS 64 MZ | 185 | 275-325 | M12 |
| ▶ RS 70    | 185 | 275-325 | M12 |
| ▶ RS 100   | 185 | 275-325 | M12 |
| ▶ RS 130   | 195 | 275-325 | M12 |
| ▶ RS 150   | 195 | 275-325 | M12 |
| ▶ RS 190   | 230 | 325-368 | M16 |

#### PACKAGING



| MODEL      | X (1)     | Y    | Z   | kg  |
|------------|-----------|------|-----|-----|
| ▶ RS 34 MZ | 1000      | 485  | 500 | 32  |
| ▶ RS 44 MZ | 1000      | 485  | 500 | 33  |
| ▶ RS 50    | 1200      | 502  | 520 | 41  |
| ▶ RS 64 MZ | 1200      | 580  | 520 | 42  |
| ▶ RS 70    | 1405      | 700  | 660 | 70  |
| ▶ RS 100   | 1405      | 700  | 660 | 73  |
| ▶ RS 130   | 1400      | 700  | 660 | 76  |
| ▶ RS 150   | 1400-1420 | 1000 | 660 | 110 |
| ▶ RS 190   | 1400-1420 | 1000 | 660 | 115 |

(1) dimension with standard and extended head

# Two Stage Progressive Gas Burners

## RS SERIES

**RIELLO**

# 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 | 130 |  |  | TC                         | FS1 | 3/230-400/50 | 230/50-60 |  |
| BASIC DESIGNATION  |   |     |  |  | EXTENDED DESIGNATION       |     |              |           |  |

GAS

# Two Stage Progressive Gas Burners

## RS SERIES

### Specification

#### STATE OF SUPPLY

##### RS 34 MZ – 44 MZ models

Monoblock forced draught gas burner with two stage operation, fully automatic, made up of:

- Air suction circuit **with sound proofing material**
- High performance fan with straight blades
- Air damper for air flow setting and butterfly valve for regulating fuel output on 1<sup>st</sup> and 2<sup>nd</sup> stage controlled by a servomotor with variable cam
- Starting motor at 2800 rpm, single-phase / 220-230V / 50-60Hz or three-phase / 380-400V / 50-60Hz
- 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
  - ionisation probe
  - gas distributor
  - flame stability disk
- Exclusive patented HCS (Housing Cooling System) with high thermal insulation and air circulation with continuous air volume refresh for an active cooling system and avoid heat transfer to the electrical component housing
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Plug and socket for electrical connections accessible from the external of the cover
- Burner on/off selection switch
- 1<sup>st</sup> – 2<sup>nd</sup> stage manual switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

##### Standard equipment

- 1 gas train flange
- 1 flange gasket
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- 3 plugs for electrical connection (RS 34 – 44 MZ single-phase)
- 4 plugs for electrical connection (RS 44 MZ three-phase)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

## RS SERIES

# Specification

### STATE OF SUPPLY

#### RS 50 - 64 MZ - 70 - 100 - 130 - 150 - 190 models

Monoblock forced draught gas burner with two stage operation, fully automatic, made up of:

- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades (RS 50 - 70 - 100 - 130 models) or straight blades (RS 64 MZ - 150-190 models)
- Air damper for air flow setting and butterfly valve for regulating fuel output on 1<sup>st</sup> and 2<sup>nd</sup> stage controlled by a servomotor with variable cam
- Starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- 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
  - ionisation probe
  - gas distributor
  - flame stability disk
- Minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- Microprocessor-based burner safety control box, with diagnostic functions
- Plug and socket for electrical connections (RS 50-64 models)
- Burner on/off selection switch
- 1<sup>st</sup> - 2<sup>nd</sup> stage manual switch
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 electric protection level.

#### Standard equipment

- 1 gas train flange
- 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 (RS 50-64)
- 2 slide bar extensions (for extended head models and RS 150-190 model)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

# Two Stage Progressive Gas Burners

## RS SERIES

### Available models

#### Burners

| CODE     | MODEL    |    |     |                  |           | HEAT OUTPUT   |                      | TOTAL ELECTRICAL POWER (kW) | CERTIFICATION | NOTE    |
|----------|----------|----|-----|------------------|-----------|---------------|----------------------|-----------------------------|---------------|---------|
|          |          |    |     |                  |           | NATURAL GAS   |                      |                             |               |         |
|          |          |    |     |                  |           | (kW)          | (Nm <sup>3</sup> /h) |                             |               |         |
| 3789010  | RS 34 MZ | TC | FS1 | 1/230/50-60      | 230/50-60 | 44/130-390    | 4,5/13-39            | 0,6                         | CE 0085BR0381 | (1)     |
| 3789011  | RS 34 MZ | TL | FS1 | 1/230/50-60      | 230/50-60 | 44/130-390    | 4,5/13-39            | 0,6                         | CE 0085BR0381 | (1)     |
| 20008266 | RSP 34   | TC | FS1 | 1/230/50-60      | 230/50-60 | 44/130-390    | 4,5/13-39            | 0,6                         | CE 0085BR0381 | (1)     |
| 3789110  | RS 44 MZ | TC | FS1 | 1/230/50-60      | 230/50-60 | 80/200-550    | 8/20-55              | 0,7                         | CE 0085BR0381 | (1)     |
| 3789111  | RS 44 MZ | TL | FS1 | 1/230/50-60      | 230/50-60 | 80/200-550    | 8/20-55              | 0,7                         | CE 0085BR0381 | (1)     |
| 3789140  | RS 44 MZ | TC | FS1 | 3/230-400/50-60  | 230/50-60 | 80/200-550    | 8/20-55              | 0,8                         | CE 0085BR0381 | (1)     |
| 3789141  | RS 44 MZ | TL | FS1 | 3/230-400/50-60  | 230/50-60 | 80/200-550    | 8/20-55              | 0,8                         | CE 0085BR0381 | (1)     |
| 3784702  | RS 50    | TC | FS1 | 3/230-400/50     | 230/50-60 | 115/290-600   | 12/29-58             | 0,75                        | CE 0085AP0735 | (1)     |
| 3784703  | RS 50    | TL | FS1 | 3/230-400/50     | 230/50-60 | 115/290-600   | 12/29-58             | 0,75                        | CE 0085AP0735 | (1)     |
| 3784720  | RS 50    | TC | FS1 | 3/220-380/60     | 230/50-60 | 115/290-600   | 12/29-58             | 0,75                        | -             | (1)     |
| 3784721  | RS 50    | TL | FS1 | 3/220-380/60     | 230/50-60 | 115/290-600   | 12/29-58             | 0,75                        | -             | (1)     |
| 3789310  | RS 64 MZ | TC | FS1 | 3/230-400/50     | 230/50-60 | 150/400-850   | 15/40-85             | 1,5                         | CE 0085BR0558 | (1)     |
| 3789311  | RS 64 MZ | TL | FS1 | 3/230-400/50     | 230/50-60 | 150/400-850   | 15/40-85             | 1,5                         | CE 0085BR0558 | (1)     |
| 3789380  | RS 64 MZ | TC | FS1 | 3/220-380/60     | 230/50-60 | 150/400-850   | 15/40-85             | 1,5                         | -             | (1)     |
| 3785102  | RS 70    | TC | FS1 | 3/230-400/50     | 230/50-60 | 192/465-814   | 19/46,5-81           | 1,4                         | CE 0085AP0944 | (2)     |
| 3785103  | RS 70    | TL | FS1 | 3/230-400/50     | 230/50-60 | 192/465-814   | 19/46,5-81           | 1,4                         | CE 0085AP0944 | (2)     |
| 3785104  | RS 70    | TC | FS1 | 3/230-400/50     | 230/50-60 | 192/465-814   | 19/46,5-81           | 1,4                         | CE 0085AP0944 | (1) (2) |
| 3785105  | RS 70    | TL | FS1 | 3/230-400/50     | 230/50-60 | 192/465-814   | 19/46,5-81           | 1,4                         | CE 0085AP0944 | (1) (2) |
| 3785120  | RS 70    | TC | FS1 | 3/220-380/60     | 230/50-60 | 192/465-814   | 19/46,5-81           | 1,4                         | -             | (2)     |
| 3785121  | RS 70    | TL | FS1 | 3/220-380/60     | 230/50-60 | 192/465-814   | 19/46,5-81           | 1,4                         | -             | (2)     |
| 3785302  | RS 100   | TC | FS1 | 3/230-400/50     | 230/50-60 | 232/698-1163  | 23/70-116            | 1,8                         | CE 0085AP0945 | (2)     |
| 3785303  | RS 100   | TL | FS1 | 3/230-400/50     | 230/50-60 | 232/698-1163  | 23/70-116            | 1,8                         | CE 0085AP0945 | (2)     |
| 3785304  | RS 100   | TC | FS1 | 3/230-400/50     | 230/50-60 | 232/698-1163  | 23/70-116            | 1,8                         | CE 0085AP0945 | (1) (2) |
| 3785305  | RS 100   | TL | FS1 | 3/230-400/50     | 230/50-60 | 232/698-1163  | 23/70-116            | 1,8                         | CE 0085AP0945 | (1) (2) |
| 3785320  | RS 100   | TC | FS1 | 3/220/380-460/60 | 230/50-60 | 232/698-1163  | 23/70-116            | 1,8                         | -             | (2)     |
| 3785321  | RS 100   | TL | FS1 | 3/220/380-460/60 | 230/50-60 | 232/698-1163  | 23/70-116            | 1,8                         | -             | (2)     |
| 3785502  | RS 130   | TC | FS1 | 3/230-400/50     | 230/50-60 | 372/930-1512  | 37/93-151            | 2,6                         | CE 0085AP0946 | (2)     |
| 3785503  | RS 130   | TL | FS1 | 3/230-400/50     | 230/50-60 | 372/930-1512  | 37/93-151            | 2,6                         | CE 0085AP0946 | (2)     |
| 3785504  | RS 130   | TC | FS1 | 3/230-400/50     | 230/50-60 | 372/930-1512  | 37/93-151            | 2,6                         | CE 0085AP0946 | (1) (2) |
| 3785505  | RS 130   | TL | FS1 | 3/230-400/50     | 230/50-60 | 372/930-1512  | 37/93-151            | 2,6                         | CE 0085AP0946 | (1) (2) |
| 3785520  | RS 130   | TC | FS1 | 3/220/380-460/60 | 230/50-60 | 372/930-1512  | 37/93-151            | 2,6                         | -             | (2)     |
| 3785521  | RS 130   | TL | FS1 | 3/220/380-460/60 | 230/50-60 | 372/930-1512  | 37/93-151            | 2,6                         | -             | (2)     |
| 20044636 | RS 150   | TC | FS1 | 3/400/50         | 230/50-60 | 300/900÷1850  | 30/90÷185            | 3,5                         | CE 0085CS0428 | (2)     |
| 20044637 | RS 150   | TL | FS1 | 3/400/50         | 230/50-60 | 300/900÷1850  | 30/90÷185            | 3,5                         | CE 0085CS0428 | (2)     |
| 3785813  | RS 190   | TC | FS1 | 3/400/50         | 230/50-60 | 470/1279-2290 | 47/128-229           | 5,5                         | CE 0085AT0042 | (2)     |
| 20030087 | RS 190   | TL | FS1 | 3/400/50         | 230/50-60 | 470/1279-2290 | 47/128-229           | 5,5                         | CE 0085AT0042 | (2)     |
| 3785814  | RS 190   | TC | FS1 | 3/400/50         | 230/50-60 | 470/1279-2290 | 47/128-229           | 5,5                         | CE 0085AT0042 | (1) (2) |
| 3785820  | RS 190   | TC | FS1 | 3/380/60         | 230/50-60 | 470/1279-2290 | 47/128-229           | 5,5                         | -             | (2)     |
| 20011699 | RS 190   | TC | FS1 | 3/220/60         | 220/60    | 470/1279-2290 | 47/128-229           | 5,5                         | -             | (2)     |

Natural Gas, net calorific value: 10 kWh/Nm<sup>3</sup> – Density at 20°C: 0,71 kg/Nm<sup>3</sup>

The burners of RS series are in according to 2016/426/EU – 2014/30/EU – 2014/35/EU – 2006/42 CE Directive and EN 676 Norm.

(1) With plug and socket. (2) With terminal board.



## RS SERIES

## Available models

### Gas Trains

| CODE       | GAS TRAIN           |           |      | VPS CODE         | ADAPTER CODE |                   |         |         |        |                   |        |        |
|------------|---------------------|-----------|------|------------------|--------------|-------------------|---------|---------|--------|-------------------|--------|--------|
|            | MODEL               | Ø         | C.T. |                  | RS 34        | RS 44-50          | RS 64   | RS 70   | RS 100 | RS 130            | RS 150 | RS 190 |
| 3970500*   | MB 405/1 - RT 20    | Rp ¾"     | -    | 3010123          | 3000824      | ●                 | ●       | ●       | ●      | ●                 | ●      |        |
| 3970553*   | MB 407/1 - RT 20    | Rp ¾"     | -    | 3010123          |              | ●                 | ●       | ●       | ●      | ●                 | ●      |        |
| 3970599*   | MB 407/1 - RT 52    | Rp ¾"     | -    | 3010123          |              | ●                 | ●       | ●       | ●      | ●                 | ●      |        |
| 3970229*   | MB 407/1 - RSM 20   | Rp ¾"     | -    | 3010123          |              | ●                 | ●       | ●       | ●      | ●                 | ●      |        |
| 3970258*   | MB 410/1 - RT 52    | Rp 1" ¼"  | -    | 3010123          | 3010124      | 3000843           |         | ●       | ●      | ●                 | ●      |        |
| 3970554*   | MB 410/1 - RT 20    | Rp ¾"     | -    | 3010123          | 3000824      | 3000824 + 3000843 |         | ●       | ●      | ●                 | ●      |        |
| 3970600*   | MB 410/1 - RT 52    | Rp ¾"     | -    | 3010123          |              | ●                 | ●       | ●       | ●      | ●                 | ●      |        |
| 3970230*   | MB 410/1 - RSM 20   | Rp ¾"     | -    | 3010123          |              | ●                 | ●       | ●       | ●      | ●                 | ●      |        |
| 3970256*   | MB 412/1 - RT 52    | Rp 1" ½"  | -    | 3010123          | □            | □                 | 3000843 |         |        |                   |        |        |
| 3970144*   | MB 412/1 - RT 20    | Rp 1" ½"  | -    | 3010123          | □            | □                 |         |         |        |                   |        |        |
| 3970197**  | MB 412/1 CT RT 20   | Rp 1" ½"  | ◆    | ◆                | □            | □                 |         |         |        |                   |        |        |
| 3970231*   | MB 412/1 - RSM 20   | Rp 1" ½"  | -    | 3010123          | □            | □                 |         |         |        |                   |        |        |
| 3970180*   | MB 415/1 - RT 30    | Rp 1" ½"  | -    | 3010123          | □            | □                 |         |         |        |                   |        |        |
| 3970198**  | MB 415/1 CT RT 30   | Rp 1" ½"  | ◆    | ◆                | □            | □                 |         |         |        |                   |        |        |
| 3970250*   | MB 415/1 - RT 52    | Rp 1" ½"  | -    | 3010123          | □            | □                 |         |         |        |                   |        |        |
| 3970253**  | MB 415/1 CT RT 52   | Rp 1" ½"  | ◆    | ◆                | □            | □                 |         |         |        |                   |        |        |
| 3970232*   | MB 415/1 - RSM 30   | Rp 1" ½"  | -    | 3010123          | □            | □                 | 3000822 |         |        |                   |        |        |
| 3970181*   | MB 420/1 - RT 30    | Rp 2"     | -    | 3010123          | □            | □                 |         |         |        |                   |        |        |
| 3970182**  | MB 420/1 CT RT 30   | Rp 2"     | ◆    | ◆                | □            | □                 |         |         |        |                   |        |        |
| 3970257*   | MB 420/1 - RT 52    | Rp 2"     | -    | 3010123          | □            | □                 |         |         |        |                   |        |        |
| 3970252**  | MB 420/1 CT RT 52   | Rp 2"     | ◆    | ◆                | □            | □                 |         |         |        |                   |        |        |
| 3970233*   | MB 420/1 - RSM 30   | Rp 2"     | -    | 3010123          | □            | □                 |         |         |        |                   |        |        |
| 3970234**  | MB 420/1 CT RSM 30  | Rp 2"     | ◆    | ◆                | □            | □                 |         |         |        |                   |        |        |
| 20137718*  | VGD 50/1 - RT 122   | Rp 2"     | -    | 3010123+20186306 | 3000822      |                   | □       | □       | □      | □                 | □      |        |
| 20169190** | VGD 50/1 CT RT 122  | Rp 2"     | ◆    | ◆                | 3000822      |                   | □       | □       | □      | □                 | □      |        |
| 20140762*  | VGD 65/1 - FT 122   | DN 65 (1) | -    | 3010123          | ●            | 3000826 + 3000822 |         | 3000826 |        |                   |        |        |
| 20169191** | VGD 65/1 CT FT 122  | DN 65 (1) | ◆    | ◆                | ●            | 3000826 + 3000822 |         | 3000826 |        |                   |        |        |
| 20140763*  | VGD 80/1 - FT 122   | DN 80     | -    | 3010123          | ●            | ●                 | ●       | 3000826 |        |                   |        |        |
| 20169192** | VGD 80/1 CT FT 122  | DN 80     | ◆    | ◆                | ●            | ●                 | ●       | 3000826 |        |                   |        |        |
| 20169193*  | VGD 100/1 - FT 122  | DN 100    | -    | 3010123          | ●            | ●                 | ●       | ●       | ●      | 3000826 + 3010223 |        |        |
| 20169194** | VGD 100/1 CT FT 122 | DN 100    | ◆    | ◆                | ●            | ●                 | ●       | ●       | ●      | 3000826 + 3010223 |        |        |
| 20169195*  | VGD 125/1 - FT 122  | DN 125    | -    | 3010123          | ●            | ●                 | ●       | ●       | ●      | ●                 | ●      |        |
| 20169196** | VGD 125/1 CT FT 122 | DN 125    | ◆    | ◆                | ●            | ●                 | ●       | ●       | ●      | ●                 | ●      |        |

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

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.

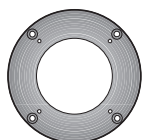
□ Additional adapter not necessary, the gas train may be connected directly to the burner.

# Two Stage Progressive Gas Burners

## RS SERIES

### Burner accessories

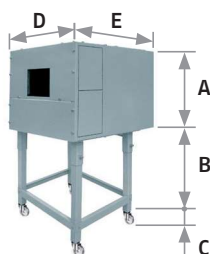
#### Connection flange kit



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

| BURNER                  | KIT CODE |
|-------------------------|----------|
| ► RS 34 MZ - 44 MZ - 50 | 3010138  |

#### 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 34 MZ - 44 MZ<br>RS 50 - RS 64 MZ | C1/3     | 650    | 372 - 980      | 110    | 690    | 770    | 10          | 3010403  |
| ► RS 70 - 100 - 130 - 150 - 190        | C4/5     | 850    | 160 - 980      | 110    | 980    | 930    | 10          | 3010404  |

(\*) Average noise reduction according to EN 15036-1 standard

#### LPG kit



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

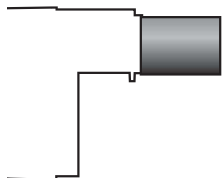
| BURNER     | KIT CODE FOR 'STANDARD HEAD' | KIT CODE FOR 'EXTENDED HEAD' |
|------------|------------------------------|------------------------------|
| ► RS 34 MZ | 3010423                      | 3010423                      |
| ► RS 44 MZ | 3010424                      | 3010424                      |
| ► RS 50    | 20008173                     | 20008173                     |
| ► RS 64 MZ | 3010434                      | 3010435                      |
| ► RS 70    | 20008175                     | 20008176                     |
| ► RS 100   | 20008177                     | 20008178                     |
| ► RS 130   | 20008179                     | 20008180                     |
| ► RS 150   | 20050064                     | 20050065                     |
| ► RS 190   | 3010166                      | 3010166                      |

#### Clean contacts kit

| BURNER          | KIT CODE |
|-----------------|----------|
| ► RS 70-100-130 | 20123294 |

## Burner accessories

### Extended head kit



“Standard head” burners can be transformed into “extended head” versions, by using the special kit. The KITS available for the various burners, giving the original and the extended lengths, are listed below.

| BURNER     | 'STANDARD HEAD' LENGTH (mm) | 'EXTENDED HEAD' LENGTH (mm) | KIT CODE  |
|------------|-----------------------------|-----------------------------|-----------|
| ▶ RS 34 MZ | 216                         | 351                         | 3010428   |
| ▶ RS 44 MZ | 216                         | 351                         | 3010429   |
| ▶ RS 50    | 216                         | 351                         | 3010078   |
| ▶ RS 64 MZ | 250                         | 385                         | 3010427   |
| ▶ RS 70    | 250                         | 385                         | 3010117   |
| ▶ RS 100   | 250                         | 385                         | 3010118   |
| ▶ RS 130   | 280                         | 415                         | 3010119   |
| ▶ RS 150   | 280                         | 415                         | 20052186  |
| ▶ RS 190   | 370                         | 520                         | 3010443 * |

\* Kit to be used on burners recognizable by a serial number that is over or equal to 02426XXXXXX, for burners with a serial number that is under or equal to 02416XXXXX please use the Kit coded 3010196

### Spacer kit



If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table:

| BURNER                            | SPACER THICKNESS S (mm) | KIT CODE |
|-----------------------------------|-------------------------|----------|
| ▶ RS 34 MZ - 44 MZ - 50           | 110                     | 3010095  |
| ▶ RS 64 MZ - 70 - 100 - 130 - 150 | 135                     | 3010129  |
| ▶ RS 190                          | 102                     | 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 |
|---|----------|
| ▶ RS 34 MZ - 44 MZ                        | 3010449  |
| ▶ RS 50 - 64 - 70 - 100 - 130 - 150 - 190 | 3010094  |

### Post-ventilation kit



To prolong ventilation after opening of thermostats chain, a special kit is available.

| BURNER                | POST-VENTILATION TIME (s) | KIT CODE |
|-----------------------|---------------------------|----------|
| ▶ RS 34 MZ - RS 44 MZ | 20                        | 3010452  |

# Two Stage Progressive Gas Burners

## RS SERIES

### Burner accessories

#### Volt free contact kit



A volt free contact kit is available for installation onto the burner. It can be used for a remote interface between burner operating signals. Every burner can be equipped with a single kit for a remote check of the flame presence signal and the burner lockout indication.

| BURNER                     | KIT CODE |
|----------------------------|----------|
| ► RS 34 MZ - 44 MZ - 64 MZ | 3010419  |

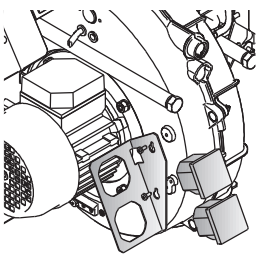
#### PC interface kit



To connect the RMG 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 |
|--|----------|
| ► RS 34 MZ - 44 MZ - 50 - 64 MZ - 70 - 100 - 130 - 150 - 190 | 3002719  |

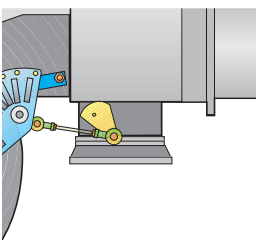
#### Hours counter kit



To measure the burner working time a hours counter kit is available.

| BURNER             | KIT CODE |
|--------------------|----------|
| ► RS 34 MZ - 44 MZ | 3010450  |

#### DN80 gas flange kit



To modify the standard 2" burner gas input connection in to DN80 connection, a specific gas flange is available.

| BURNER                                  | KIT CODE |
|---|----------|
| ► RS 64 MZ - 70 - 100 - 130 - 150 - 190 | 3010439  |

## Burner accessories

### Town gas kit



For burning Town gas, a special kit is available:

| BURNER     | KIT CODE FOR 'STANDARD HEAD' (*) | KIT CODE FOR 'EXTENDED HEAD' (*) |
|------------|----------------------------------|----------------------------------|
| ▶ RS 34 MZ | 3010502                          | 3010502                          |
| ▶ RS 44 MZ | 3010503                          | 3010503                          |
| ▶ RS 50    | 3010285                          | 3010285                          |
| ▶ RS 70    | 3010286                          | 3010286                          |
| ▶ RS 100   | 3010287                          | 3010287                          |
| ▶ RS 130   | 3010288                          | 3010288                          |
| ▶ RS 190   | 3010297                          | 3010297                          |

(\*) Without CE certification

### Vibration reduction kit



The kit allow you to improve flame stability in some applications, where the boiler/flue assembly is liable to resonate.

| BURNER                   | KIT CODE | NOTE |
|--------------------------|----------|------|
| ▶ RS 34 MZ (Natural Gas) | 20098750 | (1)  |
| ▶ RS 34 MZ (LPG)         | 20098753 | (2)  |
| ▶ RS 44 MZ (Natural Gas) | 20098746 | (1)  |
| ▶ RS 50 TC - RS 50 TL    | 3010200  | (1)  |
| ▶ RS 70 TC - RS 70 TL    | 3010201  | (1)  |
| ▶ RS 100 TC - RS 100 TL  | 3010202  | (1)  |
| ▶ RS 130 TC              | 3010373  | (1)  |
| ▶ RS 130 TL              | 3010374  | (1)  |
| ▶ RS 190 TC              | 3010375  | (1)  |

(1) CE approved

(2) CE approval on field is required

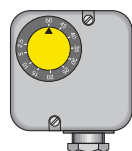
### Ground fault interrupter kit



A "Ground fault interrupter kit" is available as a safety device for electrical system fault.

| BURNER                          | KIT CODE |
|---------------------------------|----------|
| ▶ RS 34 MZ - 44 MZ              | 3010448  |
| ▶ RS 50 - RS 64 MZ              | 3010321  |
| ▶ RS 70 - 100 - 130 - 150 - 190 | 3010329  |

### Gas max pressure switch kit



If necessary a Gas max pressure Switch kit is available.

| BURNER                                       | KIT CODE |
|--|----------|
| ▶ RS 34 MZ - 44 MZ*                          | 3010418  |
| ▶ RS 50 - 64 MZ - 70 - 100 - 130 - 150 - 190 | 3010493  |

\* Connectable to the burner electrical wiring through Plugs & Sockets system

# Two Stage Progressive Gas Burners

## RS SERIES

### Burner accessories

#### Protection kit (electromagnetic interferences)

When the burner is installed in a room particularly subject to electromagnetic interference (signals emitted over 10 V/m) due for example to INVERTER presence or in systems where the lengths of the thermostat connections is over 20 meters, this specific protection kit is available as an interface between the thermostatic controls and the burner.

| BURNER       | KIT CODE |
|--------------|----------|
| ► All models | 3010386  |

#### Head kit for “reverse flame chamber”



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










| BURNER   | STANDARD HEAD LENGTH WITH CYLINDER (mm) | EXTENDED HEAD LENGTH WITH CYLINDER (mm) | KIT CODE (*) |
|----------|---|---|--------------|
| ► RS 190 | 493                                     | -                                       | 3010241      |

(\*) CE approval on field is required

### 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   | LENGTH mm | ADAPTER CODE |
|---|-----------|--------------|
| 2"  1" 1/2   | 70        | 3000822      |
| 3/4"  1" 1/2   | 31        | 3000824      |
| DN 65  2" 1/2  2"     | 300       | 3000825      |
| DN 80  2" 1/2  1" 1/2 | 300       | 3000826      |
| 1" 1/2  2"   | 35        | 3000843      |
| 1" 1/4  1" 1/2   | 35        | 3010124      |
| 1" 1/4  2"   | 35        | 3010126      |

## RS SERIES

## Gas train accessories

## Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers. 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 |
|----------------|---------------|----------------------------|-------------|
| ▶ VGD/1 series | Neutral       | 0 - 22                     | 20181839    |
|                | 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                     |