



## TWO STAGE PROGRESSIVE AND MODULATING GAS BURNERS

▶ RIELLO 40 GS/M SERIES

▶ GS 10/M 22 / 42 ÷ 105 kW

▶ GS 20/M 43 / 82 ÷ 194 kW



The Riello 40 GS/M series of two stage progressive or modulating gas burners, is a complete range of products developed to respond to any request of gas burners for hot air generator according to EN 1020. These new models complete the Riello 40 gas series which prides itself on many years of experience in all the world in the field of residential heating and soft industrial applications.

This series of burners is available in two different models with an output ranging from 22 to 194 kW, divided in two different structures.

Basic version of these models has two stage progressive operation. A simple modification, adding a component, permits obtaining modulating operation with a rate 1:4. The burners are supplied air fuel ratio control gas trains.

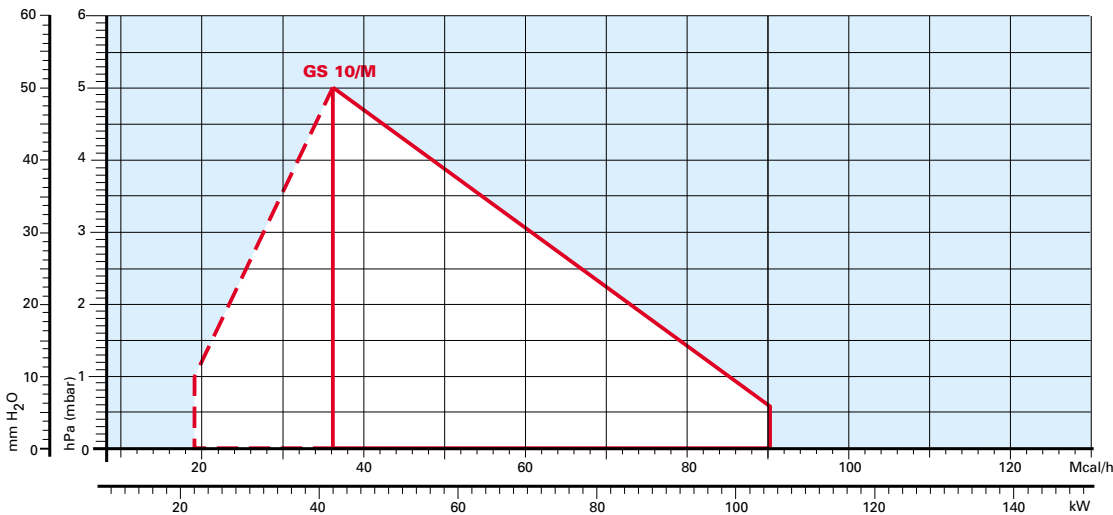
This more advanced version can better satisfy

market needs for applications where modulation is requested to obtain highest plant efficiency.

In developing these burners, special attention was paid to the ease of installation and adjustment, to maintaining the smallest size possible and obtaining high performance for modulating operation to fit into any sort of application available on the market.

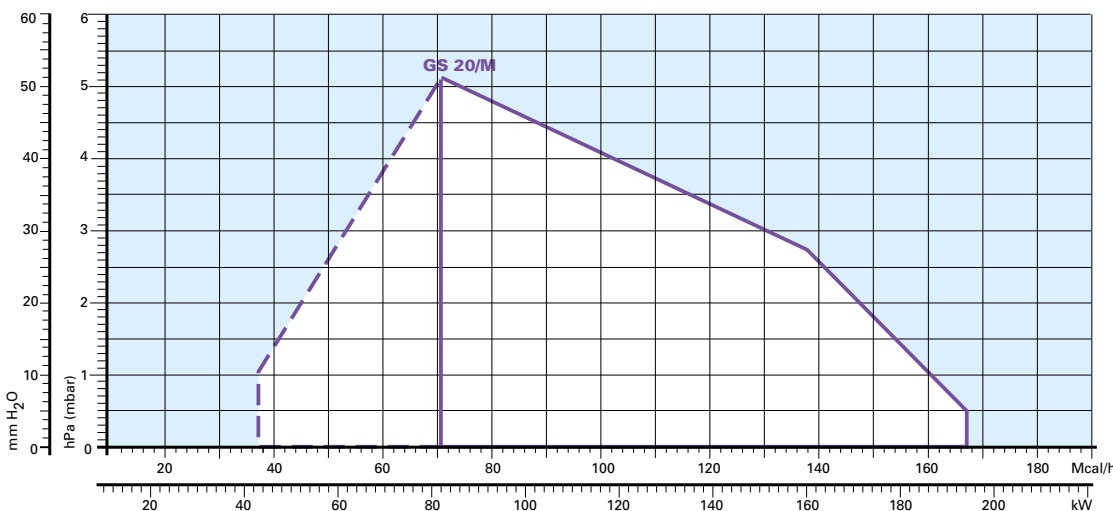
All the models are approved by the EN 676 European Standard and they conform to European Directives: Gas Appliances, EMC, Low Voltage and Boiler Efficiency.

### FIRING RATES



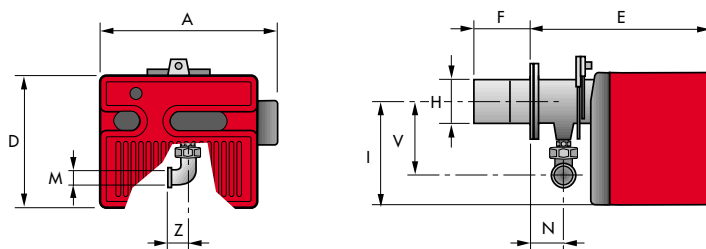
□ Useful working field for choosing the burner  
 - - - Modulation range

**Test conditions conforming to EN 676:**  
 Temperature: 20°C  
 Pressure: 1013 mbar  
 Altitude: 0 meters a.s.l.



## RIELLO 40 GS/M series - OVERALL DIMENSIONS (mm)

### BURNER

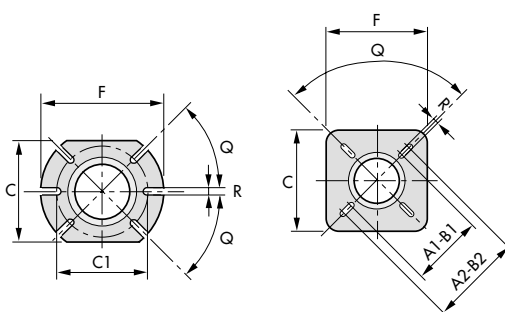


Model	A	D	E	F	H	I	M	N	V	Z
▶ GS 10/M	425	262	347	110	105	204	Rp 3/4"	61	142	33
▶ GS 20/M	488	298	389	120	125	230	Rp 3/4"	67	152	33

### BURNER - BOILER MOUNTING FLANGE

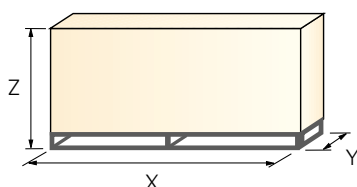
GS 10/M

GS 20/M



Model	A1	A2	B1	B2	C	C1	F	Q	R
▶ GS 10/M	-	-	-	-	160	130	185	45	11
▶ GS 20/M	155	200	155	200	170	-	170	90	11

### PACKAGING



Model	X	Y	Z	kg
▶ GS 10/M	505	490	330	17
▶ GS 20/M	560	535	375	17

## RIELLO 40 GS/M series - SPECIFICATION

### DESIGNATION OF SERIES

Series: G

Fuel: Natural gas

Size

Operation mode: /M two stage progressive of fully modulating

Electrical supply to the system: 1/230/50 1/230V/50Hz

**G S 10 /M 1/230/50**

## RIELLO 40 GS/M series - STATE OF SUPPLY

Monoblock, gas burners, completely automatic, two stage progressive or modulating operation with a kit, made up of:

- Ratio air/fuel controlled by checking both the air and the gas flows
- Two pressure switches on the burner, to make sure the burner operation, detecting both the fan and the chimney functions
- Remote reset available
- Servomotor to drive the air damper to fully closed position at stand-by, low and high fire position
- Turn down fire 1:4
- Fan with forward curve blades
- Single phase electric motor 230 V, 50 Hz
- Combustion head fitted with:
  - stainless steel head cone, resistant to high temperatures
  - ignition electrodes
  - ionisation probe
  - gas distributor
  - flame stability disk
  - additional device, to keep short the flame shape
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

### Standard equipment:

- Hinge to turn the burner left-side or right-side for the maintenance position
- Flange insulation screen
- Screws and nuts for fixing the flange to the boiler
- 7-pin plug with capacitor for EMC
- 4-pin plug to connect the high-low thermostat
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

## RIELLO 40 GS/M series - AVAILABLE BURNER MODELS

Code	Model	Heat output		Total electrical power (kW)	Certification	Note	Price
		(kW)	Natural Gas (Nm <sup>3</sup> /h)				
3755556	GS10/M 1/230/50	22/42 - 105	2,2/4,2 - 10,5	0,130	CE - 0085 BM0453	(1)	
3755756	GS20/M 1/230/50	43/82 - 194	4,3/8,2 - 19,4	0,250	CE - 0085 BM0453	(1)	

(1) With installed plug.

Net calorific value G20 gas: 10 kWh/Nm<sup>3</sup>; 8600 kcal/Nm<sup>3</sup> - Density: 0,71 kg/Nm<sup>3</sup>.

## RIELLO 40 GS/M series - AVAILABLE GAS TRAIN MODELS

Gas train code *	Gas train model	Natural gas		LPG		Note	Gas train price
		Burner (type)	Adapter (code)	Burner (type)	Adapter (code)		
MULTIBLOC 3970535	MB-VEF 407	GS10/M		GS10/M		(1)	
		GS20/M		GS20/M			
3970536	MB-VEF 412	GS20/M		GS20/M		(1)(2)	

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

(1) With plug and socket.

(2) ≥120 kW.

The following table shows the frequently matching between GS/M 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 (150 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)
GS10/M	2,2	MB-VEF 407	84	MB-VEF 407	84	MB-VEF 407	84	MB-VEF 407	84
GS20/M	2,9	MB-VEF 407	156,6	MB-VEF 407	156,6	MB-VEF 407	156,6	MB-VEF 407	156,6

## RIELLO 40 GS/M series - BURNER ACCESSORIES

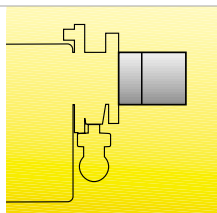
### LPG kit



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	Price
GS 10/M	3000884	3000884	
GS 20/M	3000886	3000886	

### 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	Price
GS 10/M	128	188	3000864	
GS 20/M	120	280	3000873	

### Accessories for modulating operation



To obtain modulating setting, the GS/M series of burners requires a regulator.

Regulator type	Regulator code	Price
RWF 40	3001074	



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

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	

## 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	Price
GS10/M - GS20/M	3001180	

## 7-pin plug kit

If necessary a 7-pin plug kit is available (in packaging of n. 5 pieces).

Burner	Kit code	Price
All models	3000945	