

RS/1 SERIES

The RS/1 series of burners covers a firing range from 70 to 550 kW, and they have been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers.

Operation is "one stage"; the burners are fitted with a microprocessor-based burner safety control box which supplies indication of operation and diagnosis of fault cause. Optimisation of sound emissions is guaranteed by the special design of the air suction circuit.

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:

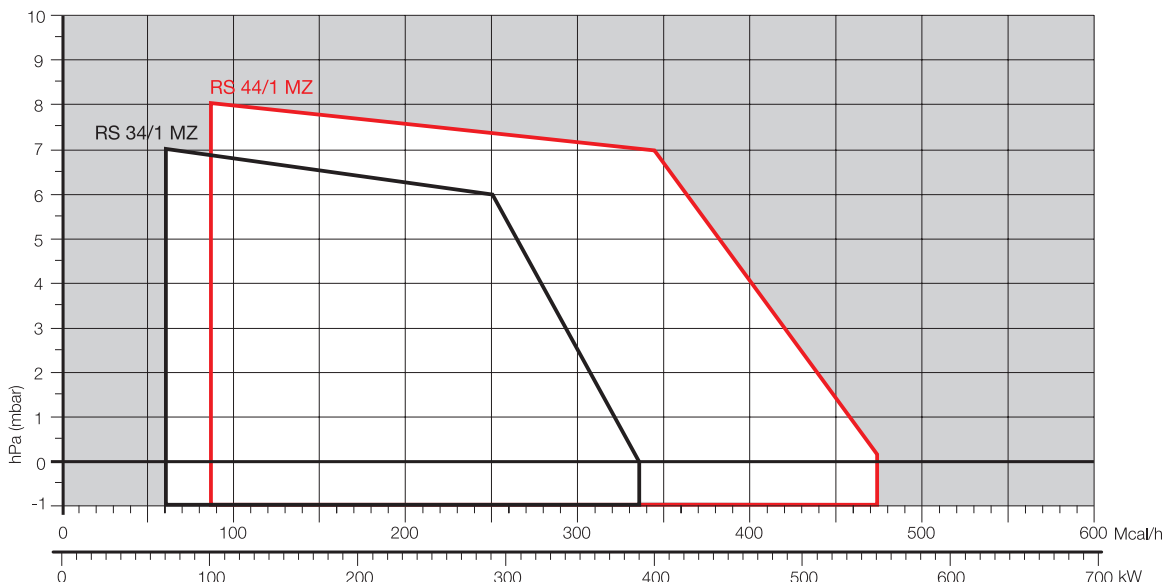
A RIELLO burner (Heat Generator), where it is matched with a water-based boiler (Heater Housing) with a nominal output ≤ 400 kW, providing heat for heating purposes and heat to deliver sanitary hot water, can be installed:

- 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 34/1 MZ	70 ÷ 390 kW
RS 44/1 MZ	100 ÷ 550 kW

FIRING RATES



Useful working field for choosing the burner

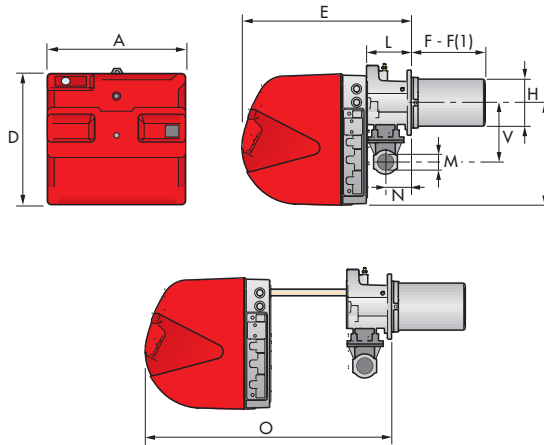
Test conditions conforming to EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

One Stage Gas Burners

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Overall dimensions (mm)

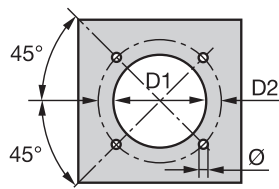
BURNER



MODEL	A	D	E	F - F(1)	H	I	L	M	N	O	S	V
► RS 34/1 MZ	442	422	508	216 - 351	140	305	138	1 1/2	84	780	-	177
► RS 44/1 MZ	442	422	508	216 - 351	152	305	138	1 1/2	84	780	-	177

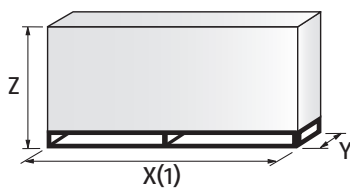
(1) dimension with extended head

BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
► RS 34/1 MZ	160	224	M8
► RS 44/1 MZ	160	224	M8

PACKAGING

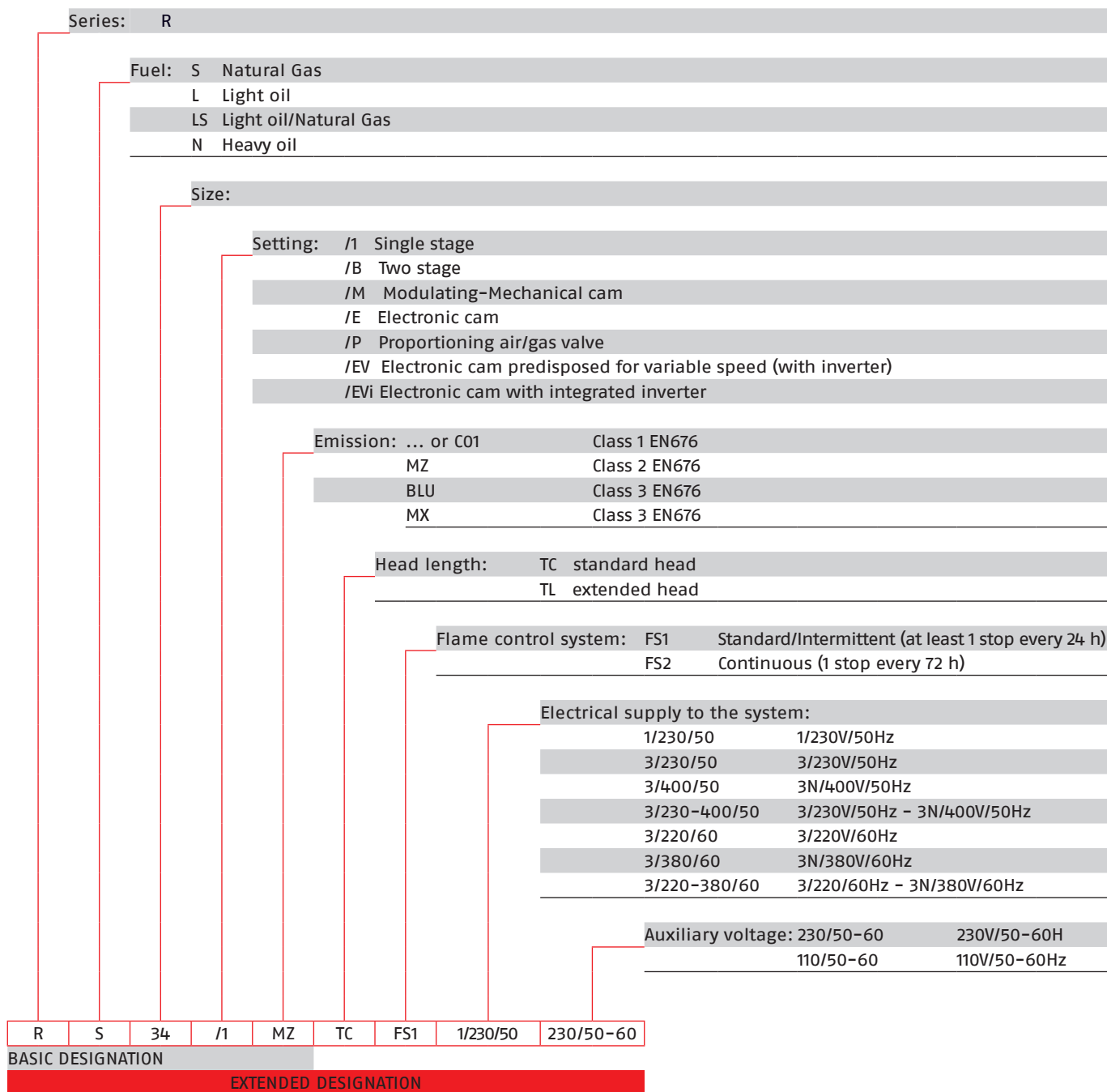


MODEL	X (1)	Y	Z	kg
► RS 34/1 MZ	1000	485	500	32
► RS 44/1 MZ	1000	485	500	33

(1) dimension with standard and extended head

Specification

DESIGNATION OF SERIES



One Stage Gas Burners

RS/1 SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught gas burner with one 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
- Starting motor at 2800 rpm, single-phase / 220-230V / 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
- 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
- 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
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

Available models

Burners

CODE	MODEL				HEAT OUTPUT NATURAL GAS		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE	
					(kW)	(Nm ³ /h)				
3788510	RS 34/1 MZ	TC	FS1	1/230/50-60	230/50-60	70-390	7-39	0,6	CE0085BR0380	
3788511	RS 34/1 MZ	TL	FS1	1/230/50-60	230/50-60	70-390	7-39	0,6	CE0085BR0380	
3788610	RS 44/1 MZ	TC	FS1	1/230/50-60	230/50-60	100-550	10-55	0,7	CE0085BR0380	
3788611	RS 44/1 MZ	TL	FS1	1/230/50-60	230/50-60	100-550	10-55	0,7	CE0085BR0380	

Natural Gas, net calorific value: 10 kWh/Nm³ - Density at 20°C: 0,71 kg/Nm³

The burners of RS/1 series are in according to 2016/426/EU - 2014/30/EU - 2014/35/EU - 2006/42 CE Directive and EN 676 Norm.

Available models

Gas Trains

CODE	GAS TRAIN			VPS CODE	ADAPTER CODE	
	MODEL	∅	C.T.		RS 34/1	RS 44/1
3970500*	MB 405/1 - RT 20	Rp 3/4"	-	3010123	3000824	
3970084*	MB 405/2 - RSD 20	Rp 1/2"	-	3010123	20044756	
3970553*	MB 407/1 - RT 20	Rp 3/4"	-	3010123	3000824	
3970599*	MB 407/1 - RT 52	Rp 3/4"	-	3010123		
3970229*	MB 407/1 - RSM 20	Rp 3/4"	-	3010123		
3970537*	MB 407/2 - RSD 20	Rp 3/4"	-	3010123		
3970556*	MB 407/2 - RT 20	Rp 3/4"	-	3010123		
3970258*	MB 410/1 - RT 52	Rp 1" 1/4	-	3010123	3010124	3010124
3970554*	MB 410/1 - RT 20	Rp 3/4"	-	3010123	3000824	
3970600*	MB 410/1 - RT 52	Rp 3/4"	-	3010123		
3970230*	MB 410/1 - RSM 20	Rp 3/4"	-	3010123		
3970534*	MB 410/2 - RSD 20	Rp 3/4"	-	3010123		
3970557*	MB 410/2 - RT 20	Rp 3/4"	-	3010123		
3970256*	MB 412/1 - RT 52	Rp 1" 1/2	-	3010123	□	□
3970144*	MB 412/1 - RT 20	Rp 1" 1/2	-	3010123	□	□
3970197**	MB 412/1 CT RT 20	Rp 1" 1/2	◆	◆	□	□
3970231*	MB 412/1 - RSM 20	Rp 1" 1/2	-	3010123	□	□
3970152*	MB 412/2 - RT 20	Rp 1" 1/2	-	3010123	□	□
3970180*	MB 415/1 - RT 30	Rp 1" 1/2	-	3010123	□	□
3970198**	MB 415/1 CT RT 30	Rp 1" 1/2	◆	◆	□	□
3970250*	MB 415/1 - RT 52	Rp 1" 1/2	-	3010123	□	□
3970253**	MB 415/1 CT RT 52	Rp 1" 1/2	◆	◆	□	□
3970232*	MB 415/1 - RSM 30	Rp 1" 1/2	-	3010123	□	□
3970183*	MB 415/2 - RT 20	Rp 1" 1/2	-	3010123	□	□
3970181*	MB 420/1 - RT 30	Rp 2"	-	3010123	3000822	
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"	◆	◆	3000822	
3970184*	MB 420/2 - RT 20	Rp 2"	-	3010123		
3970185**	MB 420/2 CT RT 20	Rp 2"	◆	◆		
20137718*	VG D 50/1 - RT 122	Rp 2"	-	3010123+ 20186306	3000822	
20169190**	VG D 50/1 CT RT 122	Rp 2"	◆	◆	3000822	
20140762*	VG D 65/1 - FT 122	DN 65 (1)	-	3010125	●	3000826+3000822
20169191**	VG D 65/1 CT FT 122	DN 65 (1)	◆	◆	●	3000826+3000822
20140763*	VG D 80/1 - FT 122	DN 80	-	●	●	●
20169192**	VG D 80/1 CT FT 122	DN 80	◆	●	●	●
20169193*	VG D 100/1 - FT 122	DN 100	-	●	●	●
20169194**	VG D 100/1 CT FT 122	DN 100	◆	●	●	●
20169195*	VG D 125/1 - FT 122	DN 125	-	●	●	●
20169196**	VG D 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.

The seal control function is managed by LMV control box, by installation on gas train of pressure switch supplied, as standard equipment, with the burner.

To select the gas train please refer to the technical data leaflet and/or instruction manual.

(1) ∅in = DN 65, ∅out = 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.

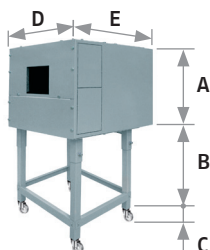
□ Additional adapter not necessary, the gas train may be connected directly to the burner.

One Stage Gas Burners

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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 34/1 MZ RS 44/1 MZ	C1/3	650	372 - 980	110	690	770	10	3010403

(*) 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
▶ RS 34/1 MZ	3010423
▶ RS 44/1 MZ	3010424

Town gas kit

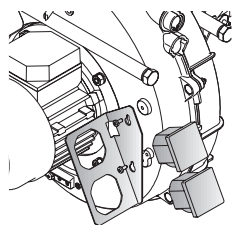


For burning Town gas, a special kit is available:

BURNER	KIT CODE FOR 'STANDARD HEAD' (*)	KIT CODE FOR 'EXTENDED HEAD' (*)
▶ RS 34/1 MZ	3010502	3010502
▶ RS 44/1 MZ	3010503	3010503

(*) Without CE certification

Hours counter kit



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

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010450

Ground fault interrupter kit

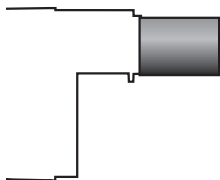


A "Ground fault interrupter kit" is available as a safety device for electrical system fault.

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010448

Burner accessories

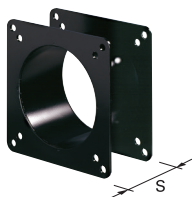
Extended head kit



"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 34/1 MZ	216	351	3010428
▶ RS 44/1 MZ	216	351	3010429

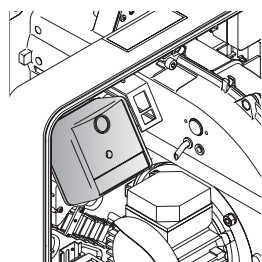
Spacer kit



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 34/1 MZ - 44/1 MZ	110	3010095

Post-ventilation kit



To prolong ventilation for approximately 20 seconds after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
▶ RS 34/1 MZ - 44/1 MZ	3010452

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 34/1 MZ - 44/1 MZ	3010449