

## RL/1 SERIES

The RL/1 burners series covers a firing range from 107 to 398 kW, and it has been designed for use in low or medium temperature hot water boilers, hot air or steam boilers, diathermic oil boilers.

Optimisation of sound emissions is guaranteed by the special design of the air suction circuit **and by incorporated sound proofing material**.

Special care has been paid to keeping overall dimensions compact and to easy servicing.

The elevated fans and combustion head performance guarantees flexibility of use and excellent operation at all firing rates. 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:

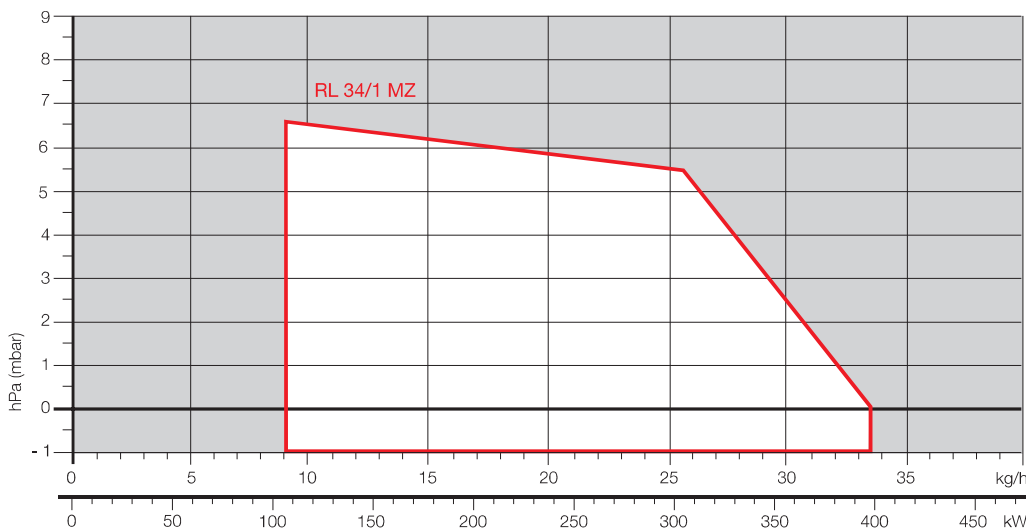
- With boilers (heater housings) already in service in the field, for replacement of identical products, in conformity to Article 1, paragraph 2, point (G) of the EU Regulation No. 813/2013;
- With boilers (heater housings) on a new installation, if they have emissions complying with the requirement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



RL 34/1 MZ

107 ÷ 398 kW

## FIRING RATE



Useful working field for choosing the burner

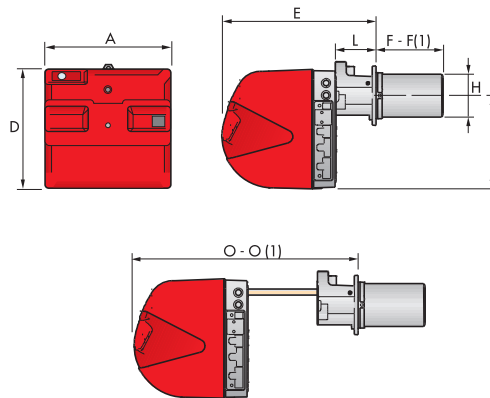
Test conditions conforming to EN267  
 Temperature: 20°C  
 Pressure: 1013,5 mbar  
 Altitude: 0 m a.s.l.

# One Stage Light Oil Burners

## RL/1 SERIES

### Overall dimensions (mm)

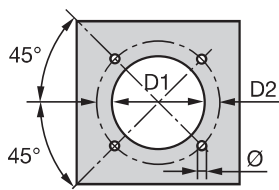
#### BURNER



MODEL	A	D	E	F - F(1)	H	I	L	O - O(1)
► RL 34/1 MZ	442	422	508	216 - 351	140	305	138	780 - 915

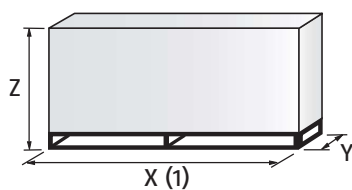
(1) dimension with extended head

#### BURNER - BOILER MOUNTING FLANGE



MODEL	D1	D2	Ø
► RL 34/1 MZ	160	224	M8

#### PACKAGING



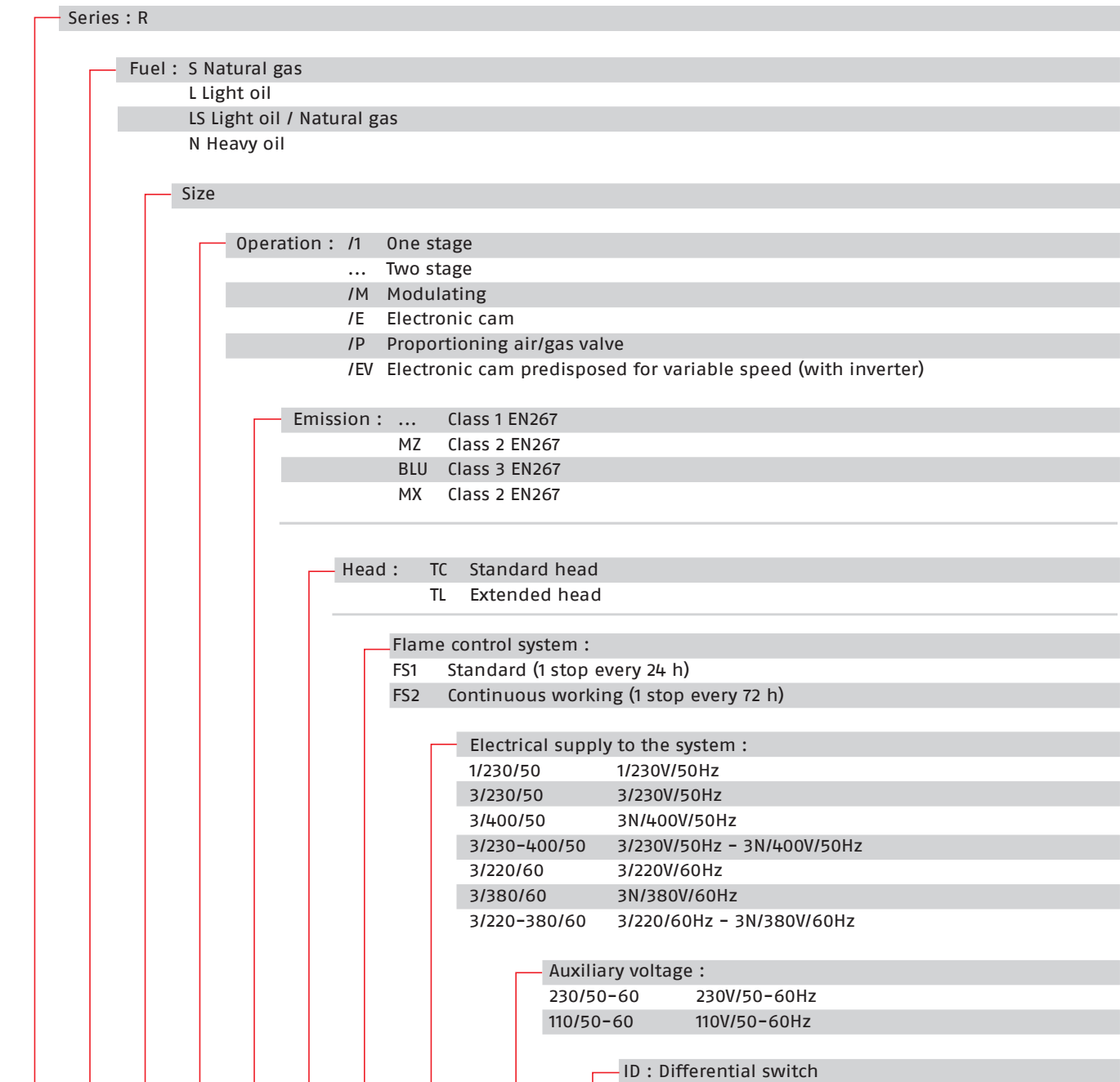
MODEL	X (1)	Y	Z	kg
► RL 34/1 MZ	1000	485	500	32

(1) Length with short and extended head

## RL/1 SERIES

# Specification

## DESIGNATION OF SERIES



R	L	34	/1	MZ	TC	FS1	1/230/50	230/50-60	
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BASIC DESIGNATION

EXTENDED DESIGNATION

# One Stage Light Oil Burners

## RL/1 SERIES

### Specification

#### STATE OF SUPPLY

Monoblock forced draught oil burner with one stage operation, fully automatic, made up of:

- Air suction circuit **with sound proofing material**
- High performance fan with forward curve blades
- Air damper for air setting
- Starting motor at 2800 rpm, single-phase, 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
  - flame stability disk
- Fan pressure test point
- Gears pump for high pressure fuel supply, fitted with:
  - filter
  - pressure regulator
  - connections for installing a pressure gauge and vacuumeter
  - internal by-pass for single pipe installation
- Valve unit with a double oil delivery valve on the output circuit
- Photocell for flame detection
- Microprocessor-based burner safety control box, with diagnostic function
- Plugs 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:

- 2 flexible pipes for connection to the oil supply network
- 2 gaskets for the flexible pipes
- 2 nipples for connection to the pump
- 1 thermal screen
- 2 slide bar extensions (for model with long blast tube)
- 4 screws for fixing the burner flange to the boiler
- 1 7pin plug for electrical connection
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

### Available models

CODE	MODEL	HEAT OUTPUT		TOTAL ELECTRICAL POWER (kW)	NOTE
		(kW)	(kg/h)		
3470110	RL 34/1 MZ TC FS1 1/230/50-60 230/50-60	107 - 398	9 - 34	0,6	
3470111	RL 34/1 MZ TL FS1 1/230/50-60 230/50-60	107 - 398	9 - 34	0,6	

Net calorific value: 11,8 kWh/kg - 10200 kcal/kg - Viscosity at 20°C: 4÷6 mm<sup>2</sup>/s (cSt)

The burners of RL/1 series are in according to 2014/30/EU - 2014/35/EU - 2006/42 EC Directive and EN 267.

## Burner accessories

### Nozzles

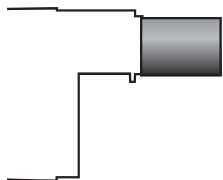


The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N°2 nozzles.

BURNER	NOZZLE TYPE	GPH	RATED OUTPUT (kg/h)			NOZZLE CODE
			at 10 bar	at 12 bar	at 14 bar	
► RL 34/1 MZ	60°A	1,00	4,1	4,5	4,9	3042078
	60°A	1,25	4,7	5,2	5,6	3042094
	60°A	1,50	5,7	6,3	6,8	3042108
	60°A	1,75	6,7	7,3	7,9	3042114
	60°A	2,00	7,7	8,5	9,2	3042124
	60°A	2,50	9,6	10,6	11,5	3042144
	60°A	3,00	11,5	12,7	13,8	3042148
	60°A	3,50	13,5	14,8	16,1	3042164
	60°A	4,00	15,4	17	18,4	3042174

### Extended heads



"Standard head" burners can be transformed into "extended head" versions, by using the special kit. The kit available, giving the original and the extended lengths, is listed below.

BURNER	'STANDARD' HEAD LENGTH (mm)	'EXTENDED' HEAD LENGTH (mm)	KIT CODE
► RL 34/1 MZ	216	351	3010426

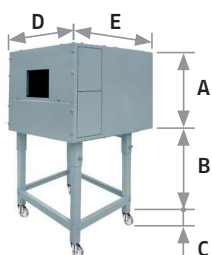
### Spacer kit



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
► RL 34/1 MZ	110	3010095

### 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
► RL 34/1 MZ	C1/3	650	372 - 980	110	690	770	10	3010403

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

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### Burner accessories

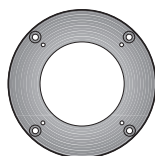
#### Degasing unit



With single pipe systems, you can find air in the oil sucked by the pump that comes from the oil itself due to negative pressure or to a faulty seal. To solve this problem, we recommend fitting a degassing unit near the burner. Two versions are available with or without filter:

BURNER	FILTER	KIT CODE
► RL 34/1 MZ	With filter	3010055

#### Connection flange kit



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

BURNER	KIT CODE
► RL 34/1 MZ	3010138

#### 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 to remote the flame presence signal and the burner lockout indication.

BURNER	KIT CODE
► RL 34/1 MZ	3010419

#### PC interface kit



To connect the 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
► RL 34/1 MZ	3002719

#### Ground fault interrupter kit

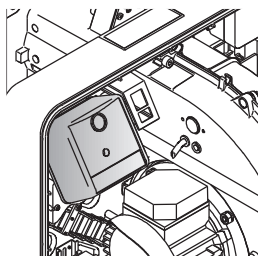


A "Ground fault interrupter kit" is available as a safety device for electrical system fault.

BURNER	KIT CODE
► RL 34/1 MZ	3010448

## Burner accessories

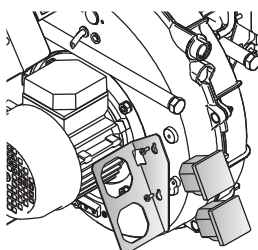
### Post-ventilation kit



To have 20 s ventilation after opening of thermostats chain, a special kit is available.

BURNER	KIT CODE
► RL 34/1 MZ	3010453

### Hours counter kit



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

BURNER	KIT CODE
► RL 34/1 MZ	3010450

### 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
► RL 34/1	319	429	3010178