Two stage light oil burners

RL 34-44



- Two stage light oil burners

RL 34-44 series of burners covers a firing range from 97 to 485 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”; the burners are fitted with a microprocessor-based control panel, which supplies indication of burner status and fault causes.
Optimization of sound emissions is guaranteed by the special design of the air suction circuit and by incorporated sound proofing material. 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. A wide range of accessories guarantees elevated working flexibility.

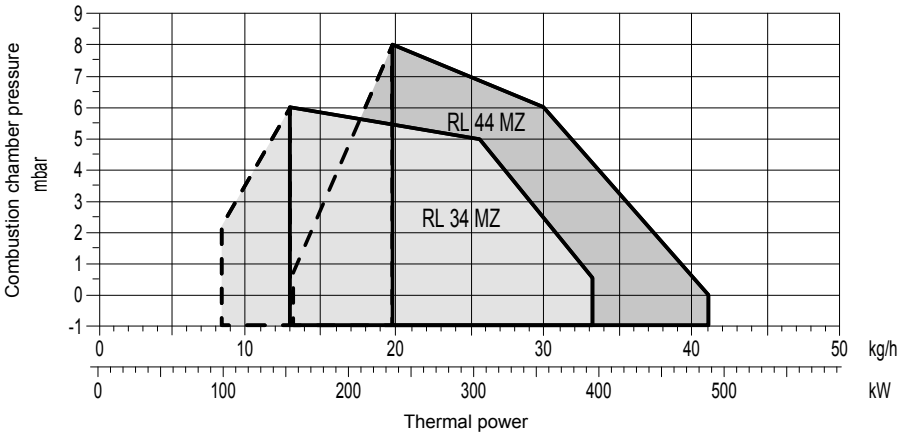
Guidelines for installation of burners in conformity to EU Regulation:
A RIELLO burner (Heat Generator), where it is matched with a water-based boiler (Heater Housing) with a nominal output ≤ 400 kW, providing heat for heating purposes and heat to deliver sanitary hot water, can be installed:
– With 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.

TECHNICAL DATA

Description	Heat output		Total electrical power	Electric power supply		Note	Code
	kW	kg/h	kW	Ph/V/Hz	V/Hz		
RL 34 MZ TC FS1	97/154-395	8,3/13-33,6	0,6	1/220-230/50-60	220-230/50-60	(1)	**3470210**
RL 34 MZ TL FS1	97/154-395	8,3/13-33,6	0,6	1/220-230/50-60	220-230/50-60	(1)	**3470211**
RL 44 MZ TC FS1	155/235-485	13/20-41	0,7	1/220-230/50-60	220-230/50-60	(1)	**3470310**
RL 44 MZ TL FS1	155/235-485	13/20-41	0,7	1/220-230/50-60	220-230/50-60	(1)	**3470311**
RL 44 MZ TC FS1	155/235-485	13/20-41	0,75	3/400/50-60	220-230/50-60	(1)	**3470340**
RL 44 MZ TL FS1	155/235-485	13/20-41	0,75	3/400/50-60	220-230/50-60	(1)	**3470341**

Net calorific value of light oil: 11.86 kWh/kg - Viscosity at 20 °C: 4-6 mm^2/s (cSt).
The burners comply with 2014/30/EU - 2014/35/EU - 2006/42/EC Directives and EN 267 Standard.
(1) Model with plug and socket.
Attention: the nozzles are supplied as accessories which must be ordered separately; please refer to the "NOZZLES" section.

FIRING RATES

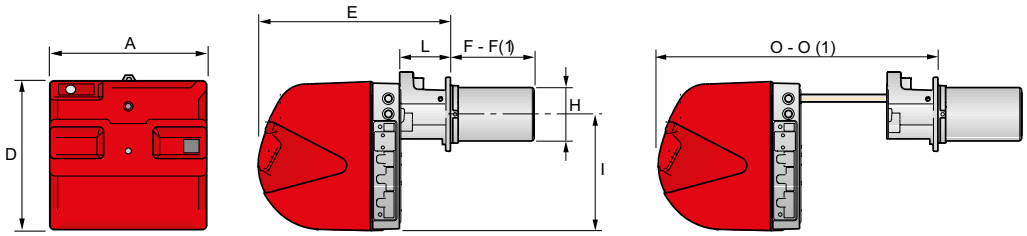


Useful working field for choosing the burner

Modulation range

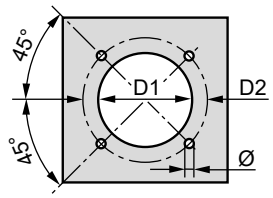
Test conditions conforming to EN267
Temperature: 20 °C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

OVERALL DIMENSIONS

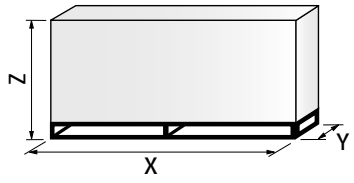


Description	A mm	D mm	E mm	F - F(1) mm	H mm	I mm	L mm	O - O(1) mm
RL 34 MZ	442	422	508	216 - 351	140	305	138	780 - 915
RL 44 MZ	442	422	508	216 - 351	152	305	138	780 - 915

(1) Dimension with extended head.



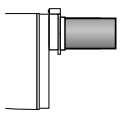
Description	D1 mm	D2 mm	Ø mm
RL 34 MZ	160	224	M8
RL 44 MZ	160	224	M8

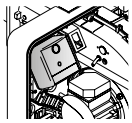
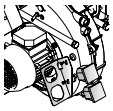


Description	X(1) mm	Y mm	Z mm	Net weight kg
RL 34 MZ	1010	520	510	32
RL 44 MZ	1010	520	510	33

(1) Length with short and extended head.

ACCESSORIES

Drawing	Burner model	Specification	Code
		**EXTENDED HEAD KIT** "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.	
	RL 34 MZ	Standard head length = 216 mm - Extended head length = 351 mm	**3010426**
	RL 44 MZ	Standard head length = 216 mm - Extended head length = 351 mm	**3010425**
	All models	**SPACER KIT** If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the following table: Spacer thickness S = 110 mm	**3010095**

Drawing	Burner model	Specification	Code
	All models	**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. Box type: C1/3 Dimensions: A = 650 mm, B (min-max) = 372-980 mm, C = 110 mm, D = 690 mm, E = 770 mm Average noise reduction according to EN 15036-1 Standard = 10 dB(A).	**3010403**
	All models	**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 degasing unit near the burner. Kit code with filter; filtering degree 50 - 75 µm. Max capability 80 kg/h (more filters are needed for higher flow).	**3010055**
	All models	**CONNECTION FLANGE KIT** A kit is available for use where the burner opening on the boiler is of excessive diameter.	**3010138**
	All models	**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.	**3010419**
	All models	**GROUND FAULT INTERRUPTER KIT** A “Ground fault interrupter kit” is available as a safety device for electrical system fault.	**3010448**
	All models	**POST-VENTILATION KIT** To have 20 s ventilation after opening of thermostats chain, a special kit is available.	**3010453**
	All models	**HOURS COUNTER KIT** To measure the burner working time a hours counter kit is available.	**3010450**
	All models	**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.	**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.	
	RL 34 MZ	Standard head length with cylinder 319 mm - Extended head length with cylinder 429 mm	**3010178**
	RL 44 MZ	Standard head length with cylinder 319 mm - Extended head length with cylinder 429 mm	**3010179**
	All models	**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.	**3002719**

NOZZLES

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

Drawing	Burner model	Type	Specification				Note	Code
			GPH	Rated delivery (kg/h)				
				10 bar	12 bar	14 bar		
	RL 34 MZ	60°A	1.00	4.1	4.5	4.9	(1)	**3042078**
		60°A	1.25	4.7	5.2	5.6	(1)	**3042094**
		60°A	1.50	5.7	6.3	6.8	(1)	**3042108**
		60°A	1.75	6.7	7.3	7.9	(1)	**3042114**
		60°A	2.00	7.7	8.5	9.2	(1)	**3042124**
		60°A	2.50	9.6	10.6	11.5	(1)	**3042144**
		60°A	3.00	11.5	12.7	13.8	(1)	**3042148**
		60°A	3.50	13.5	14.8	16.1	(1)	**3042164**
		60°A	4.00	15.4	17	18.4	(1)	**3042174**
		60°A	4.50	17.3	19.1	20.7	(1)	**3042184**

Drawing	Burner model	Type	Specification				Note	Code
			GPH	Rated delivery (kg/h)				
				10 bar	12 bar	14 bar		
	RL 44 MZ	45°A	1.50	5.7	6.3	6.8	(1)	**20011655**
		45°A	1.75	6.7	7.3	7.9	(1)	**20011658**
		45°A	2.00	7.7	8.5	9.2	(1)	**20011662**
		45°A	2.50	9.6	10.6	11.5	(1)	**20011666**
		45°A	3.00	11.5	12.7	13.8	(1)	**20011669**
		45°A	3.50	13.5	14.8	16.1	(1)	**20011672**
		45°A	4.00	15.4	17	18.4	(1)	**20011674**
		45°A	4.50	17.3	19.1	20.7	(1)	**20009760**
		45°A	5.00	19.2	21.2	23	(1)	**20011677**
		45°A	5.50	21.1	23.3	25.3	(1)	**20011678**
		45°A	6.00	23.1	25.5	27.7	(1)	**20011679**

(1) Each burner needs N° 2 nozzles.

STATE OF SUPPLY

Monoblock forced draught oil 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 setting controlled by an adjustable hydraulic ram
- 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
  - 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
- Gears pump for high pressure fuel supply, fitted with:
  - filter
  - pressure regulator
  - connections for installing a pressure gauge and vacuometer
  - internal by-pass for single pipe installation
- Valve unit with an oil safety valve and two delivery oil valves on the output circuit
- Photocell for flame detection
- Microprocessor-based burner safety control box, with diagnostic function
- Plugs and Sockets for electrical connection, accessible from the external of the cover
- Burner on/off switch
- Flame inspection window
- 1st - 2nd stage manual switch
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 44 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
- 4 screws for fixing the burner flange to the boiler
- 1 thermal screen
- 2 Plugs for electrical connection (RL 34-44 MZ single-phase)
- 3 Plugs for electrical connection (RL 44 MZ three-phase)
- 2 slide bar extensions (for the extended head models)
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue