RIELLO BURNERS

CE

LOW NOx MODULATING LIGHT OIL BURNERS

▸ RL/M BLU SERIES

- **RL 42/M BLU** 200/360 ÷ 480 kW
- **RL 85/M BLU** 178/355 ÷ 1000 kW

The RL/M BLU series of burners covers a firing range from 178 to 1000 kW, and they have been designed for use in hot or superheater water boilers, hot air or steam generators, diathermic oil boilers.
Operation can be "two stage progressive" or, alternatively, "modulating" with the installation of a PID logic regulator and respective probes.
RL/M BLU series burners guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs.
Optimisation of sound emissions is guaranteed by the use of fans with forward inclined blades and sound deadening material incorporated in the air suction circuit.
The exclusive design ensures reduced dimensions, simple use and maintenance. A wide range of accessories guarantees elevated working flexibility.

TECHNICAL DATA

	Model			RL 42/M BLU	RL 85/M BLU
	Burner operation mode			Modulating (with regulator and probes accessories)	
	Modulation ratio at max. output			2 ÷ 1	
	Servomotor		type	SQN31	
		run time	s	42	
	Heat output		kW	200/360÷480	178/355÷1000
			Mcal/h	172/310÷412	154/306÷862
			kg/h	15/30÷40	15/30÷85
	Working temperature		°C min./max.	0/40	
Fuel / air data	Net calorific value		kWh/kg	11,8	
			kcal/kg	10200	
	Viscosity		mm^2/s (cSt)	4 ÷ 6 (at 20°C)	
	Pump		type	J 6	
		delivery	kg/h	163 (20 bar)	
	Atomised pressure		bar	20	
	Fuel temperature		Max. °C	90	
	Fuel pre-heater				
	Fan		type	Centrifugal with reverse curve blades60	
	Air temperature		Max. °C	60	
Electrical data	Electrical supply		Ph/Hz/V	3N/50/400~(±10%) ⅄ 3/50/230~(±10%) △	
	Auxiliary electrical supply		Ph/Hz/V	1/50/230~(±10%)	
	Control box		type	LAL 1.25 (Intermittent working) - LOK 16 (Continuous working)	
	Total electrical power		kW	1,4	2,6
	Auxiliary electrical power		kW	0,3	0,3
	Heaters electrical power		kW		
	Protection level		IP	44	
	Pump motor electrical power		kW	--	
	Rated pump motor current		A	--	
	Pump motor start up current		A	--	
	Pump motor protection level		IP	--	
	Fan motor electrical power		kW	1,1	2,2
	Rated fan motor current		A	4,8 - 2,8	8,5 - 4,9
	Fan motor start up current		A	25 - 14,6	42,5 - 20
	Fan motor protection level		IP	54	
	Ignition transformer		type		
			V1 - V2	230V - 2x5 kV	
			I1 - I2	1,9A - 30 mA	
	Operation			Intermittent (at least one stop every 24 h) - Continuous (at least one stop every 72 h)	
Emissions	Sound pressure		dB(A)	75	78,5
	Sound power		W	--	--
	CO emission		mg/kWh	< 10	
	Grade of smoke indicator		N° Bacharach	< 1	
	C_xH_y emission		mg/kWh	<10 (after the first 20 s)	
	NOx emission		mg/kWh	< 120	
Approval	Directive			73/23 - 89/336 - 98/37 EEC	
	Conforming to			EN 267	
	Certification			in progress	in progress

Reference conditions:
Temperature: 20°C
Pressure: 1000 mbar
Altitude: 100 m a.s.l.
Noise measured at a distance of 1 meter.

Since the Company is constantly engaged in the production improvement, the aesthetic and dimensional features, the technical data, the equipment and the accessories can be changed.
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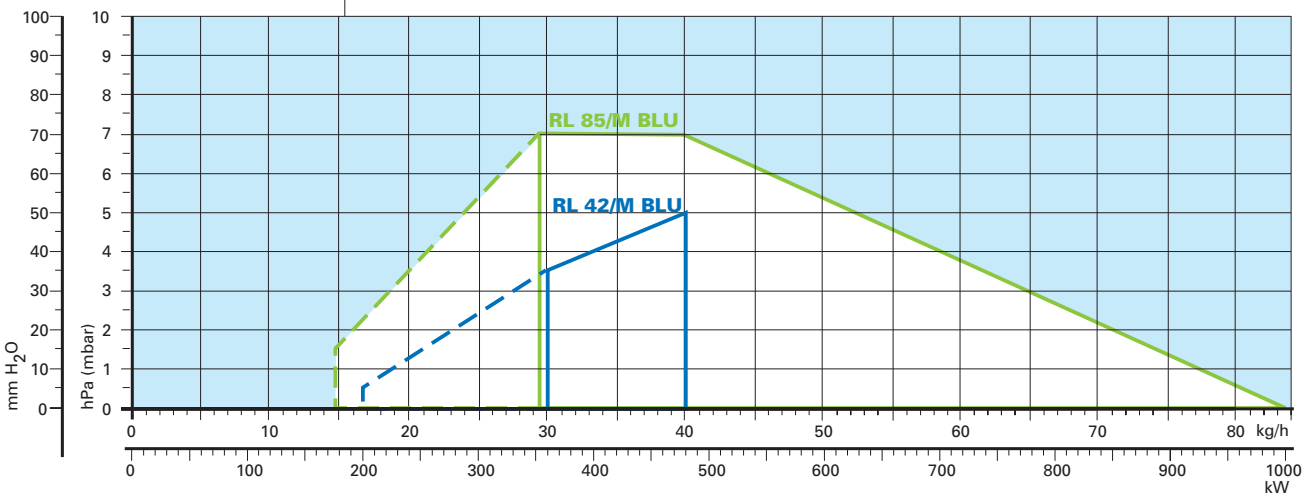
FIRING RATES

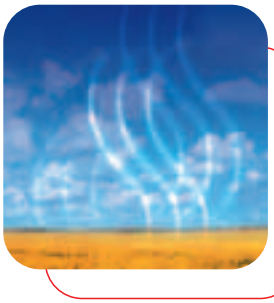


Useful working field for choosing the burner

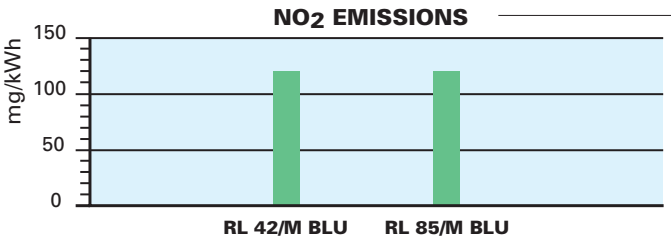
Modulation range

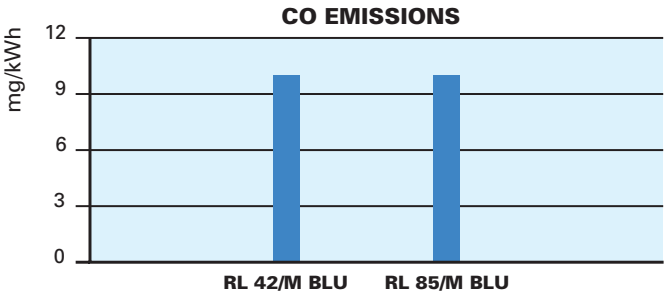
Test conditions conforming to EN 267:
Temperature: 20°C
Pressure: 1000 mbar
Altitude: 100 m a.s.l.

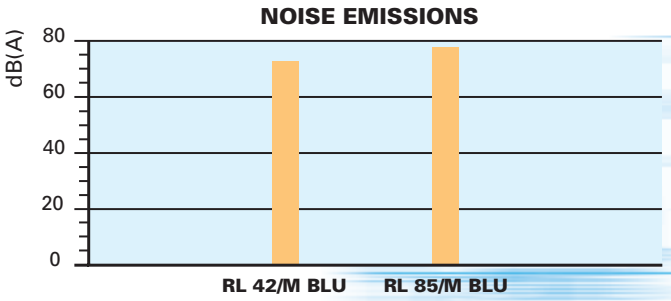
note *The RL 42-85/M BLU burners are designed exclusively for combustion chambares with flue flue gas outlet from the bottom, for exemple three flue gas passes (not reverse flame boiler) accesible through the door. Max thickness of the frontal boiler wall: 250 mm.*
Exhaust gases ducts must be always and exclusively directed upwards; change in directions must be realized only by bent elements; the angle betwen the acs of the stroke coming out of the combustion chamber and the acs of the chimney must be smaller than 45°.



EMISSIONS

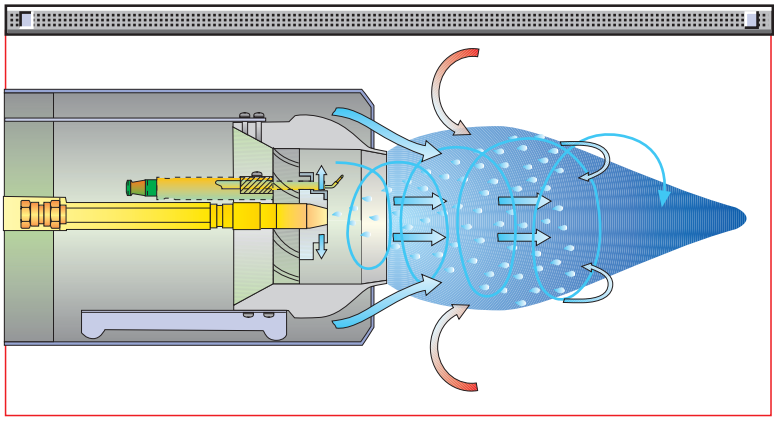






The emission data has been measured in the various models at maximum output, according to EN 267 standard.

Combustion head operating diagram



The combustion head on the RL 42-85/M BLU burners is a conical type, and its operating principle is based on recirculating the combustion exaust gas; even distribution of air to the head garantees optimum mix to the elements.
The special design of the central diffuser also allows optimum ignition and air control.
The first quantity of air is aimed towards the centre of the head, where combustion develops to avoid strong flame oxidation.
A second part is directed towards the flame stability disc where, due to the conic shape of the mobile shutter, it gains speed and activates smoke recirculation.
All this aids reduction of polluting emissions, obtaining values lower than the levels allowed by the strictest regulations norms.