

RLS/M MZ SERIES

The RLS/M MZ series of burners covers a firing range from 550 to 2460 kW, and they have been designed for use in hot or superheated water boilers, hot air or steam generators, diathermic oil boilers.

Operation is “two stage” at the oil side and “modulating” at the gas side with the installation of a PID logic regulator and respective probes.

RLS/M MZ series burners guarantees high efficiency levels in all the various applications, thus reducing fuel consumption and running costs.

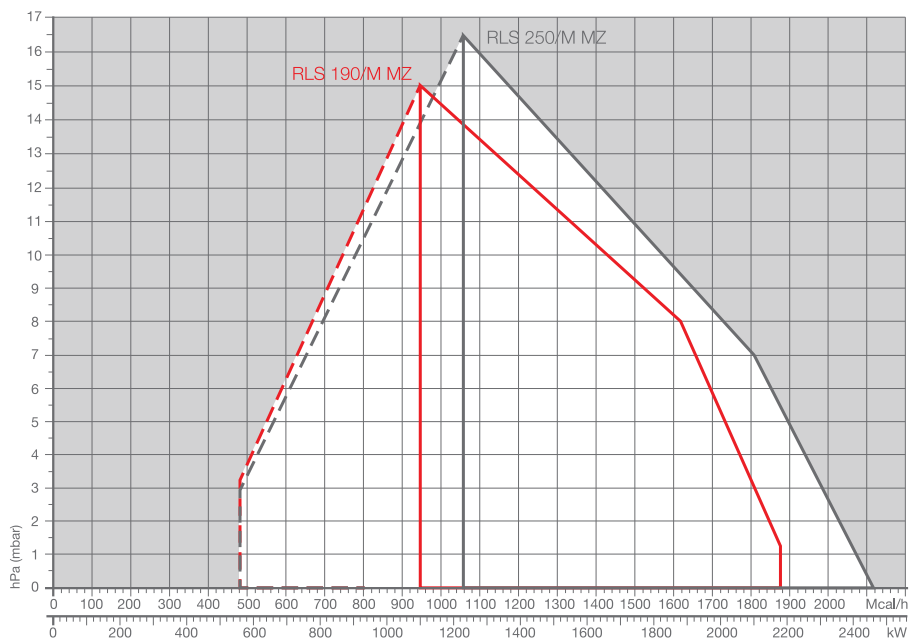
Optimisation of sound emissions is guaranteed by the special design of air suction circuit and the use of sound proofing material.

The exclusive design ensures reduced dimensions, simple use and maintenance. A wide range of accessories guarantees elevated working flexibility.



RLS 190/M MZ	550/1100 ÷ 2150 kW
RLS 250/M MZ	550/1230 ÷ 2460 kW

FIRING RATES



Useful working field for choosing the burner



Modulation range

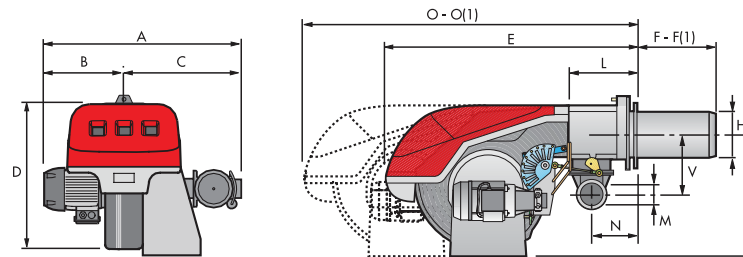
Test conditions conforming to EN267-EN676
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

Modulating Dual Fuel Burners

RLS/M MZ SERIES

Overall dimensions (mm)

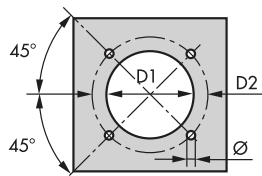
BURNER



MODEL	A	B	C	D	E	F - F(1)	H	I	L	M	N	O - O(1)	V
► RLS 190/M MZ	843	366	477	555	863	412 - 542	222	430	237	Rp2	141	1442 - 1587	186
► RLS 250/M MZ	904	427	477	555	863	412 - 542	222	435	237	Rp2	141	1442 - 1587	186

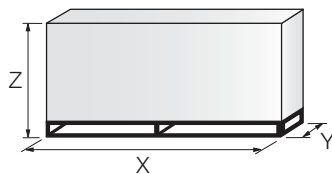
(1) Length with extended combustion head.

BURNER - BOILER MOUNTING FLANGE



Model	D1	D2	Ø
► RLS 190/M MZ	230	325 - 368	M16
► RLS 250/M MZ	230	325 - 368	M16

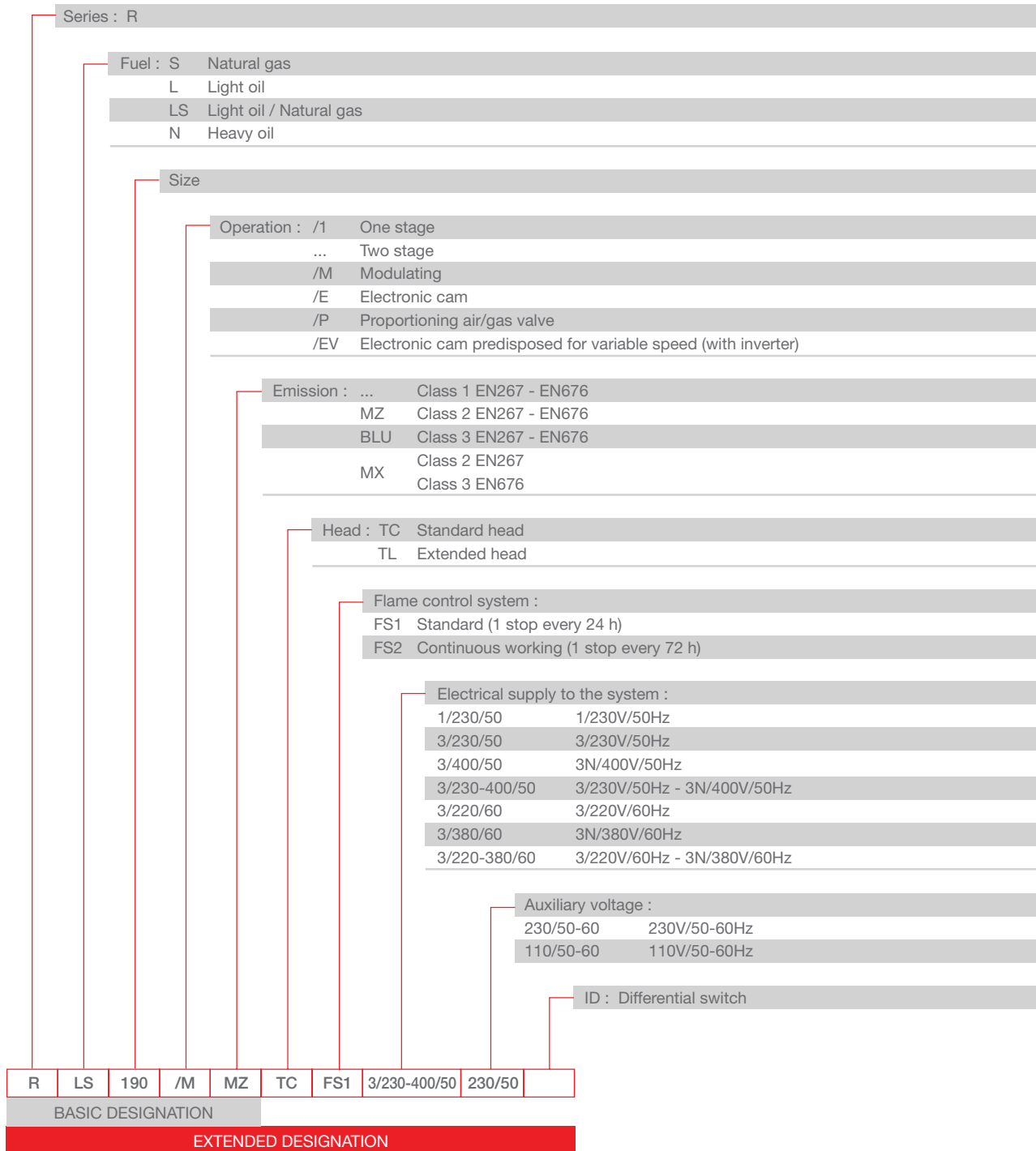
PACKAGING



Model	X	Y	Z	kg
► RLS 190/M MZ	1400	975	645	95
► RLS 250/M MZ	1400	1000	765	100

Specification

DESIGNATION OF SERIES



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Specification

STATE OF SUPPLY

Monoblock forced draught dual fuel burner with two stage operation at the oil side and two stage progressive or modulating operation at the gas side, with a specific kit, fully automatic, made up of:

- air suction circuit lined with sound-proofing material
- centrifugal fan with high performance and low sound emissions
- air damper for air flow setting and butterfly valve for regulating gas output controlled by a servomotor with variable cam
- starting motor at 2800 rpm, three-phase 400V with neutral, 50Hz
- low emission 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
 - gas distributor
 - flame stability disk
- maximum gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line
- minimum air pressure switch stops the burner in case of insufficient air quantity at the combustion head
- gears pump for high pressure fuel supply
- pump starting motor
- oil safety valves
- two oil valves (1st and 2nd stage)
- burner safety control box
- UV photocell for flame detection
- burner on/off selection switch
- manual or automatic output increase/decrease selection switch
- Oil/Gas selector
- flame inspection window
- slide bars for easier installation and maintenance
- protection filter against radio interference
- IP 44 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
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for connection to the pump with gaskets
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

RLS/M MZ SERIES

Available models

Burners

CODE	MODEL	HEAT OUTPUT			TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
		(kW)	LIGHT OIL (kg/h)	NATURAL GAS (Nm ³ /h)			
3488110	RLS 190/M MZ TC FS1 3/400/50 230/50-60	550/1100-2150	46/93-181	55/110-215	6,0	CE 0085BP0439	
20011625	RLS 190/M MZ TC FS1 3/230/50 230/50-60	550/1100-2150	46/93-181	55/110-215	6,0	CE 0085BP0439	
3482810	RLS 250/M MZ TC FS1 3/400/50 230/50-60	550/1230-2460	46/104-208	55/123-246	7,5 (oil) 6,0 (gas)	in progress	
20004704	RLS 250/M MZ TC FS1 3/230/50 230/50-60	550/1100-2150	46/93-181	55/110-215	7,5 (oil) 6,0 (gas)	in progress	

Net calorific value light oil: 11,8 kWh/kg; 10.200 kcal/kg - Viscosity at 20°C: 4-6 mm²/s (cSt).

Net calorific value G20 gas: 10 kWh/Nm³; 8.600 kcal/Nm³ - Density: 0,71 kg/Nm³.

The burners of RLS/M MZ series are in according to 90/396 - 89/336 (2004/108) - 73/23 (2006/95) - 92/42 EC Directive and EN 267 - 676 Norm.

Gas Trains

	GAS TRAIN CODE *	GAS TRAIN MODEL	NATURAL GAS		NOTE
			BURNER (type)	ADAPTER (code)	
MULTILOC GAS TRAIN	3970180	MBD 415	RLS 250/M MZ	3000843	(1)
	3970198	MBD 415 CT	RLS 250/M MZ	3000843	(2)
	3970181	MBD 420	RLS 190-250/M MZ	-	(1)
	3970257 (3)	MBD 420	RLS 250/M MZ	-	(1)
	3970182	MBD 420 CT	RLS 190-250/M MZ	-	(2)
	3970252 (3)	MBD 420 CT	RLS 250/M MZ	-	(2)
COMPOSED GAS TRAIN	3970221	MBC 1200 SE 50	RLS 190-250/M MZ	-	(1)
	3970225	MBC 1200 SE 50 CT	RLS 190-250/M MZ	-	(2)
	3970222	MBC 1900 SE 65 FC	RLS 190-250/M MZ	3000825	(1)
	3970226	MBC 1900 SE 65 FC CT	RLS 190-250/M MZ	3000825	(2)
	3970223	MBC 3100 SE 80 FC	RLS 190-250/M MZ	3000826	(1)
	3970227	MBC 3100 SE 80 FC CT	RLS 190-250/M MZ	3000826	(2)

* gas trains are 230V/50Hz - 220V/60Hz electrical supply

(1) Seal control accessory

(2) Seal control incorporated

(3) Gas Train S5 type for application with high pressure drop

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

Modulating Dual Fuel Burners

RLS/M MZ SERIES

Burner accessories

Nozzles type 60° B



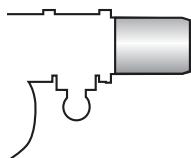
The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output.

NOTE: each burner needs N° 2 nozzles.

BURNER	RATED DELIVERY kg/h (*)	GPH	NOZZLE
▶ RLS 190/M MZ	42,4	10,00	3042292
	46,7	11,00	3042312
	48,37	12,00	3042322
	52,79	13,00	3042332
	56,86	14,00	3042352
	60,92	15,00	3042362
	64,98	16,00	3042382
▶ RLS 190/M MZ RLS 250/M MZ	69,04	17,00	3042392
	73,10	18,00	3042412
	77,16	19,00	3042422
	81,22	20,00	3042442
	89,34	22,00	3042462
	97,47	24,00	3042472
	101,53	26,00	3042482
▶ RLS 250/M MZ	105,59	28,00	3042492
	122	30,00	3042502
	130,1	32,00	3042512
	142,1	35,00	3042522

(*) Nozzle rated delivery is referred to atomized pressure

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
▶ RLS 190/M MZ	412	542	3010366
▶ RLS 250/M MZ	412	542	3010440

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
▶ RLS 190/M - 250/M MZ	102	3000722

Modulating Dual Fuel Burners

RLS/M MZ SERIES

Burner accessories

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
► RLS 190/M - 250/M MZ	3010094

Accessories for modulating operation

REGULATOR



To obtain modulating operation, the RLS/M MZ series of burners requires a regulator with three point outlet controls. The following table lists the accessories for modulating operation with their application range.

BURNER	TYPE	CODE
► RLS 190/M MZ	RWF 40	3010212
► RLS 250/M MZ	RWF 40	3010414

PROBE



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

TYPE	RANGE (°C) (bar)	CODE
Temperature PT 100	-100 ÷ 500°C	3010110
Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214

ANALOG CONTROL SIGNAL CONVERTER



BURNER	TYPE (INPUT SIGNAL)	CODE
► RLS 250/M MZ	0/2 - 10 V (impedance 200 K Ω) 0/4 - 20 mA (impedance 250 Ω)	3010415

POTENTIOMETER KIT



Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor. The KITS available for the various burners are listed below.

BURNER	KIT CODE
► RLS 190/M MZ	3010021
► RLS 250/M MZ	3010416

Sound proofing box



If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
► RLS 190/M MZ	C4/5	10	3010404
► RLS 250/M MZ	C7	10	3010376

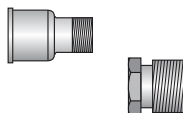
(*) according to EN 15036-1 standard

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RLS/M MZ SERIES

Gas train accessories

Adapters



When the diameter of the gas train is different from the set diameter of the burners, an adapter must be fitted between the gas train and the burner. The following table lists the adapters for various burners.

BURNER	GAS TRAIN	DIMENSIONS	ADAPTER CODE
▶ RLS 190/M MZ	MBC 1900 SE 65 FC MBC 1900 SE 65 FC CT	DN 65 2" 1/2	3000825
	MBC 3100 SE 80 FC MBC 3100 SE 80 FC CT	DN 80 2" 1/2	3000826
	MBD 415	1" 1/2 2"	3000843
▶ RLS 250/M MZ	MBC 1900 SE 65 FC MBC 1900 SE 65 FC CT	DN 65 2" 1/2	3000825
	MBC 3100 SE 80 FC MBC 3100 SE 80 FC CT	DN 80 2" 1/2	3000826

Seal control kit



To test the valve seals on the gas train, a special "seal control kit" is available. The valve seal control device is compulsory (EN 676) on gas trains to burners with a maximum output over 1200 kW. The seal control is type VPS 504.

BURNER	GAS TRAIN	KIT CODE
▶ RLS 190/M - 250/M MZ	MBC without CT	3010367
▶ RLS 190/M - 250/M MZ	MBD without CT	3010123

Stabiliser spring



Accessory springs are available to vary the pressure range of the gas train stabilisers. The following table shows these accessories with their application range. Please refer to the technical manual for the correct choice of spring.

GAS TRAIN	SPRING	SPRING CODE
▶ MBC 1900 SE 65 FC (CT)* ▶ MBC 3100 SE 80 FC (CT)*	White from 4 to 20 mbar	3010381
	Red from 20 to 40 mbar	3010382
	Black from 40 to 80 mbar	3010383
	Green from 80 to 150 mbar	3010384

* with and without seal control