

## RX 180÷1000 S/PV ULN SERIES

In order to comply the increasing demand of very low NOx emissions, Riello has developed a new product range for medium and high power combustion, based on PREMIX low emission technology, suitable to achieve the most restrictive emission limits.

Riello RX S/PV ULN Premix Range from 30 to 970 is based on a platform with Brushless Motors, which provides high modulation ratios and low pollution emissions, representing the ideal solution for condensing boilers and industrial processes.

In the RX S/PV ULN range, the gas and air are delivered into the fan simultaneously and the mixing occurs inside the aspiration circuit; the ventilation structures are airtight in order to avoid air-gas leaks.

The Ultra Low NOx emission performance is achieved while maintaining high reliability of operation; a high ignition reliability is assured by a Pilot Ignition system.

All burner's components are integrated in order to facilitate and make extremely easy the installation and maintenance.



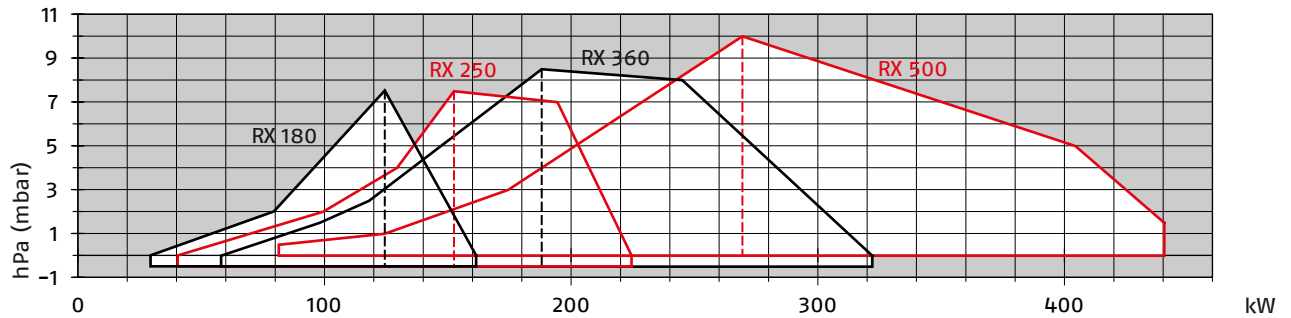
RX 180 S/PV ULN	30 ÷ 160	kW
RX 250 S/PV ULN	42 ÷ 225	kW
RX 360 S/PV ULN	65 ÷ 325	kW
RX 500 S/PV ULN	82 ÷ 440	kW
RX 700 S/PV ULN	140 ÷ 630	kW
RX 850 S/PV ULN	170 ÷ 790	kW
RX 1000 S/PV ULN	180 ÷ 970	kW

# Ultra Low NOx Modulating Premix Gas Burners

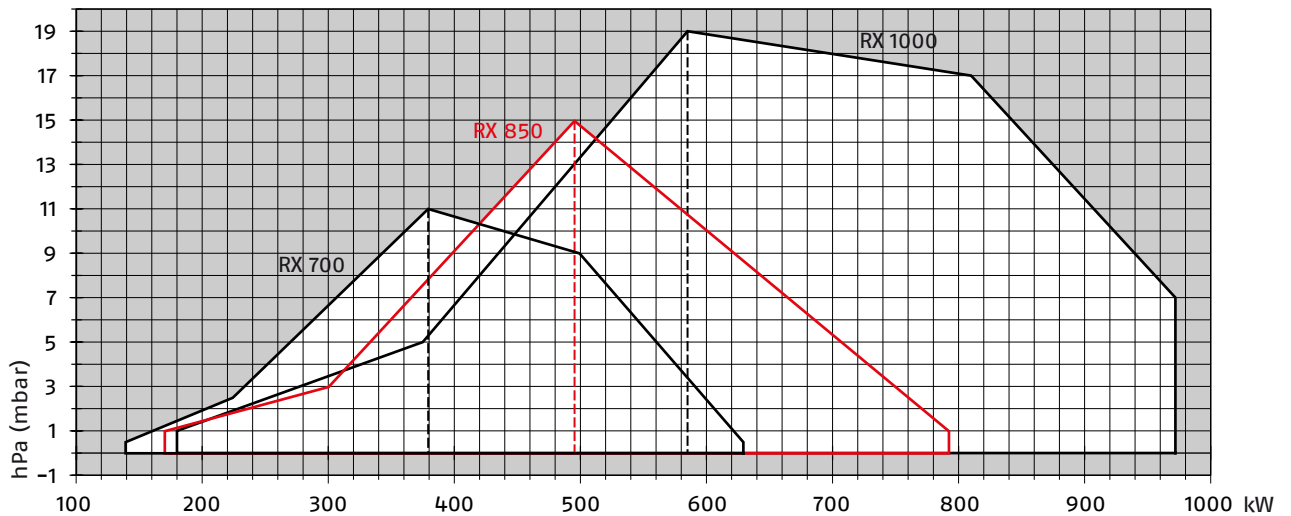
## RX 180÷1000 S/PV ULN SERIES

### FIRING RATES

RX 180-250-360-500 S/PV ULN



RX 700-850-1000 S/PV ULN



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.

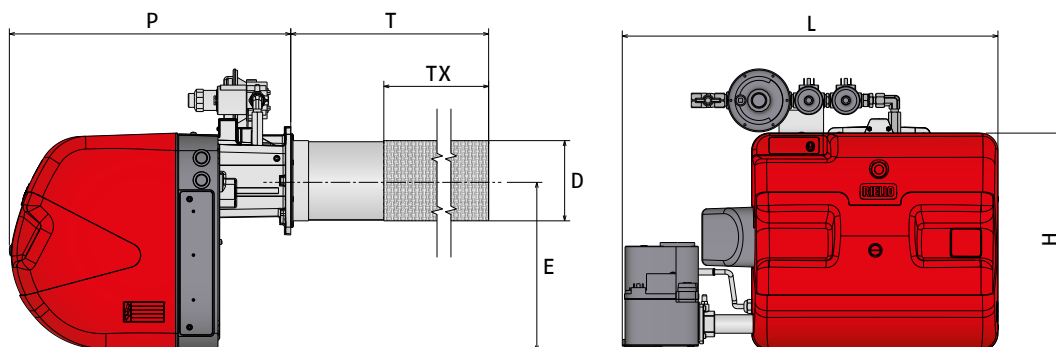
Please note: it is important to be aware that in order to achieve an ULTRA Low NOx emission performance, it is required to work with a high excess air; as consequence the combustion chamber back pressure could increase up to roughly 30% more.

## RX 180÷1000 S/PV ULN SERIES

### Overall dimensions (mm)

#### BURNER

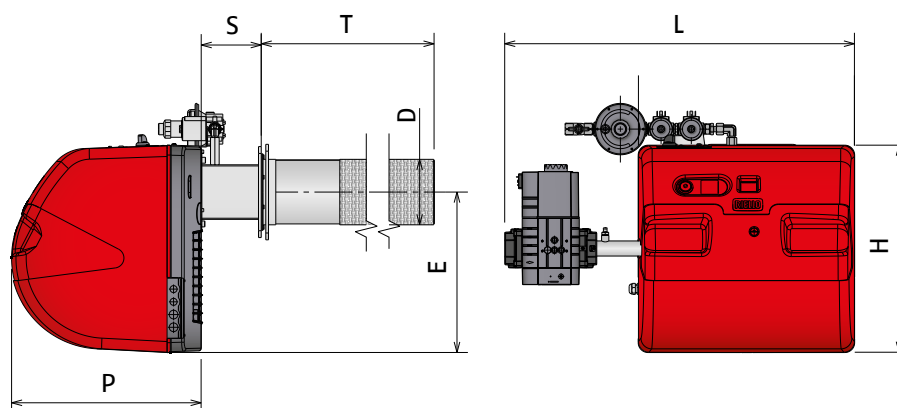
RX 180-250 S/PV ULN  
RX 360 S/PV ULN



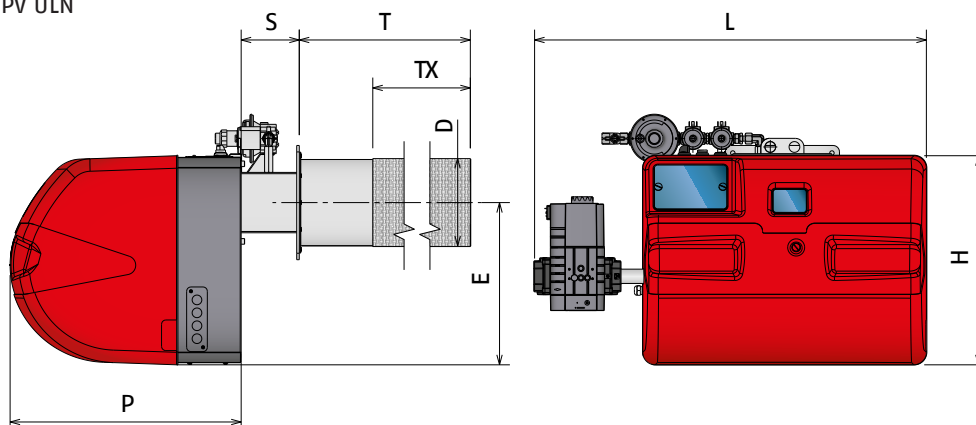
MODEL	H	L	P	T	TX	D	E
▶ RX 180 S/PV ULN	390	640	503	465	320	119	306
▶ RX 250 S/PV ULN	390	640	503	465	320	119	306
▶ RX 360 S/PV ULN	390	675	503	635	442	144	306

TX: flame zone length; the non combustion area (T-TX) must be greater than the thickness of the boiler door complete with refractory.

RX 500 S/PV ULN



RX 700-850-1000 S/PV ULN



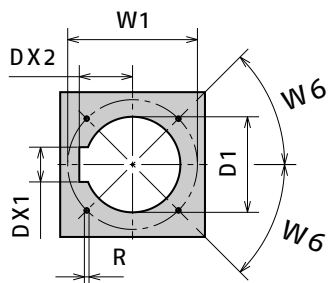
MODEL	H	L	P	T	TX	D	E	S
▶ RX 500 S/PV ULN	456	770	550	635	442	144	353	-
▶ RX 700 S/PV ULN	490	910	520	540	367	200	370	135
▶ RX 850 S/PV ULN	490	910	520	660	460	200	370	135
▶ RX 1000 S/PV ULN	490	910	520	660	460	200	370	135

# Ultra Low NOx Modulating Premix Gas Burners

## RX 180÷1000 S/PV ULN SERIES

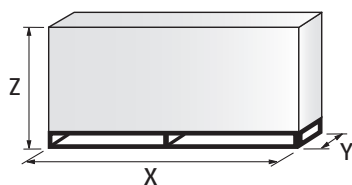
### Overall dimensions (mm)

#### BURNER - BOILER MOUNTING FLANGE



MODEL	D1	W1	R	DX2	DX1	W6
▶ RX 180 S/PV ULN	163	224	M8	94	68	45°
▶ RX 250 S/PV ULN	163	224	M8	94	68	45°
▶ RX 360 S/PV ULN	163	224	M8	94	68	45°
▶ RX 500 S/PV ULN	163	224	M8	100	68	45°
▶ RX 700 S/PV ULN	240	75 - 325	M10	135	75	45°
▶ RX 850 S/PV ULN	240	75 - 325	M10	135	75	45°
▶ RX 1000 S/PV ULN	240	75 - 325	M10	135	75	45°

#### PACKAGING

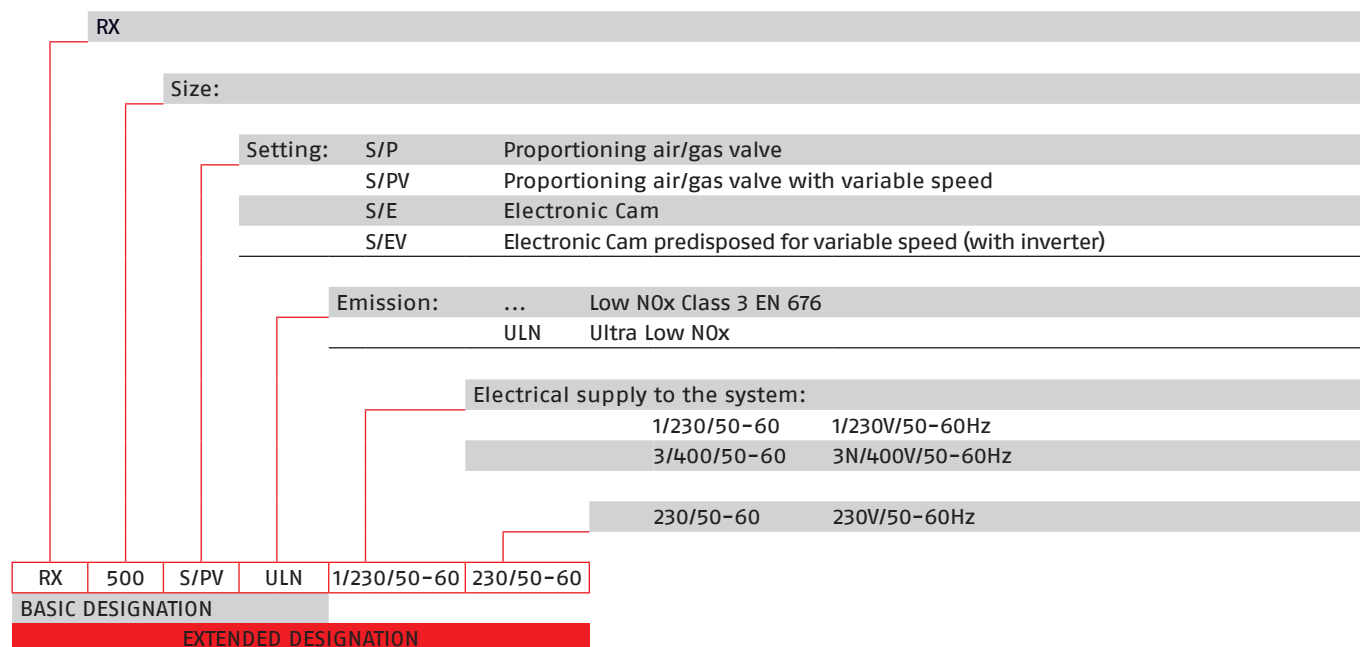


MODEL	X	Y	Z	kg
▶ RX 180 S/PV ULN	730	530	550	33
▶ RX 250 S/PV ULN	730	530	550	33
▶ RX 360 S/PV ULN	1190	530	550	35
▶ RX 500 S/PV ULN	1280	530	565	43
▶ RX 700 S/PV ULN	1420	580	695	50
▶ RX 850 S/PV ULN	1420	580	695	50
▶ RX 1000 S/PV ULN	1420	580	695	60

## RX 180÷1000 S/PV ULN SERIES

### Specification

#### DESIGNATION OF SERIES



#### STATE OF SUPPLY

Monoblock forced draught Premix Ultra Low NOx gas burner with two stage progressive or modulating operation, with a specific kit, fully automatic, made up of:

- Cylindrical flame shape premix combustion heads fitted with:
  - highly heat resistant cylinder
  - special metallic fiber mesh resistant to thermal stress
  - ignition electrodes
  - ionization probe
- Variable speed fan with Brushless Motors
- Pneumatic proportioning gas train integrated in the burner, which supply the correct gas quantity in proportion to the airflow produced by the fan
- Air/gas mixer (venturi) in the suction line circuit to support Gas and air mixing
- Airtight ventilation structures for air and gas mixing
- Pilot Ignition system to assure a high ignition reliability
- Microprocessor-based LME 71 burner safety control box
  - manages the variable speed of the fan and all safety phases of the burner
  - allows to modify the operation point of the burner
  - with diagnostic functions for operational state and fault state messages, based on multicolor indication via 3-colored LED
- Burner on/off selection switch
- Flame inspection window
- IP 2XD electric protection level
- AZL 21 LCD display connected to the LME 71 control box to get indication of the operating status, to activate the diagnostic functions and to change the password-protected parameters

#### Standard equipment:

- Insulating screen and gasket
- Screws, nuts and washers for burner assembly
- Gas valve
- Flange for gas valve
- Valve fixing screws
- Electrical plugs (for model RX 180-250-360 S/PV ULN)
- Gas train for pilot ignition system
- Instruction booklet
- Spare parts list

# Ultra Low NOx Modulating Premix Gas Burners

## RX 180÷1000 S/PV ULN SERIES

### Available models

#### Burners

CODE	MODEL		HEAT OUTPUT NATURAL GAS		TOTAL ELECTRICAL POWER (kW)	CERTIFICATION	NOTE
			(kW) (1)	(kW) (2)			
20160021	RX 180 S/PV ULN	1/230/50-60 230/50-60	30 - 160	30-180	0,51	CE-0123CT1618	(3)(4)(5)(6)
20160022	RX 250 S/PV ULN	1/230/50-60 230/50-60	42 - 225	42-250	0,51	CE-0123CT1618	(3)(4)(5)(6)
20148871	RX 360 S/PV ULN	1/230/50-60 230/50-60	65 - 325	65-360	0,51	CE-0123CT1618	(3)(4)(5)(6)(8)
20171627	RX 360 S/PV ULN	1/230/50-60 230/50-60	65 - 325	65-360	0,51	CE-0123CT1618	(3)(4)(5)(6)(9)
20148872	RX 500 S/PV ULN	1/230/50-60 230/50-60	82 - 440	82-490	1	CE-0123CT1618	(3)(4)(5)(7)
20148874	RX 700 S/PV ULN	1/230/50-60 230/50-60	140 - 630	140 - 700	1,2	CE-0123CT1618	(3)(4)(5)(7)
20148875	RX 850 S/PV ULN	1/230/50-60 230/50-60	170 - 790	170 - 880	1,2	CE-0123CT1618	(3)(4)(5)(7)
20148877	RX 1000 S/PV ULN	3/400/50-60 230/50-60	180 - 970	180-1080	2,7	CE-0123CT1618	(3)(4)(5)(7)

(1) Power range referred to an Ultra Low NOx performance of 30 mg/Nm<sup>3</sup>

(2) Power range referred to a Low NOx performance conforming to the Class 3 of EN676 European Standard

(3) The burners cannot be used on inversion flame boilers

(4) Modulation input factory setting is 3 Points; to change the external modulation parameter to analogue signal it is necessary to access the password-protected list of parameters using the AZL 21 display kit

(5) Gas train included

(6) With plug and socket

(7) With terminal board

(8) Compatible with natural gas use only

(9) Compatible with LPG use only

## Burner accessories

### Accessories for modulating operation

#### POWER CONTROLLER



To obtain modulating operation, the RX S/PV 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	REGULATOR TYPE	REGULATOR CODE
▶ RX 180 S/PV ULN		
▶ RX 250 S/PV ULN	RWF 50.2 - 3-point outlet	20086840
▶ RX 360 S/PV ULN		
▶ RX 500 S/PV ULN	RWF 50.2 - 3-point outlet	20095185
▶ RX 700 S/PV ULN		
▶ RX 850 S/PV ULN	RWF 50.2 - 3-point outlet	20094733
▶ RX 1000 S/PV ULN		

#### PROBE



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

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ All models	Temperature PT 100	-100 ÷ 500°C	3010110
	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214
	Pressure 4 ÷ 20 mA	0 ÷ 25 bar	3090873