

# **RLS 280-510/E-/EV Series**

Low NOx Dual Fuel Burners

RLS 280/E-/EV 1050 - 10500 (9450\*) MBtu/hr RLS 310/E-/EV 1375 - 13600 (12240\*) MBtu/hr RLS 410/E-/EV 1635 - 16100 (14490\*) MBtu/hr RLS 510/E-/EV 2000 - 19200 (17280\*) MBtu/hr





<sup>\*</sup> Firing rate for C-ETL Canadian Listing

The high power Burners Series RLS, are the result of intensive activities of technical research and considerable investment, carried out in recent years, which allowed the highest levels of technological development to be achieved in the Industrial Burners context, confirming the historical leadership of Riello in this important area of energy management.

The company's commitment to deliver performance, quality and reliability is once again demonstrated by the introduction of the new 280-310-410 and 510 high power R series burner models, in the 1050 - 20000 MBtu/hr capacity range, able to summarize and concentrate the best technological expertise of Riello.

The new models RLS 280-310-410-510 characterized by Technology, Power and Design, are authentic 'little giants' in the burners scenario; little in size and weight, giants in performance.

This new addition to the R series family of burners is geared to meet the needs of our customer worldwide and specifically in the North American market. Parallel positioning fuel-air ratio control is at heart of the burner and can be enhanced by variable sped drive technology for maximum energy savings. These new models also maintain the Riello product line standards of low excess air operation throughout the firing range and minimal noise emission.



## **Technical Data**

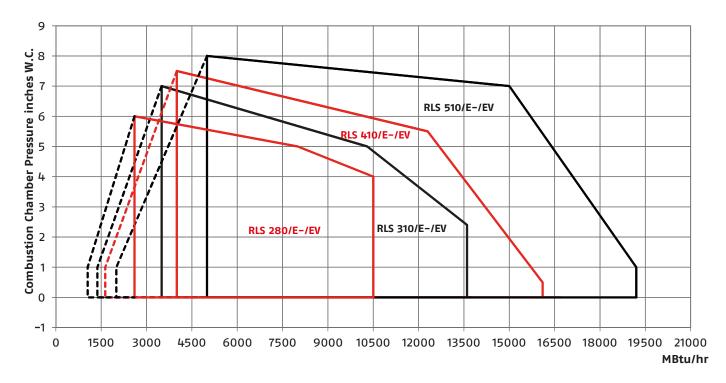
MODEL		RLS 280/E-EV	RLS 310/E-EV	RLS 410/E-EV	RLS 510/E-EV	
Fuel			Natur	ral gas		
Modes of operation	on		Modu	ılating		
Firing Rate	MBtu/hr	1050-10500 (9450*)	1375 <b>-</b> 13600 (12240*)	1635 <b>-</b> 16100 (14490*)	2000 <i>-</i> 19200 (17280*)	
	GPH	7,5 <b>-</b> 75 (67,5*)	10-97 (87,5*)	11,5-115 (103,5*)	14-137 (123,5*)	
Pressure at max. delivery (Natural Gas)	"WC	19,1	19,5	26,0	32,6	
Pump						
- Delivery at 300 PSI	GPH	218	218	290	403	
- Pressure Range	PSI	102-580	102-580	102-435	102-435	
- Max. Fuel Temp.	°F		3	02		
Nozzle	No.			1		
Primary Control			LM	V 36		
Ignition transform	ner	120V-1.6A / 1x8kV-20mA				
Power Supply (+/- 10%)	V/Ph/Hz		208-230/4	60/575/3/60		
	rpm	3510	3540	3545	3535	
Fan Motor	НР	5.5	10,2	12,4	14,8	
Tall Motor	V		Natural gas  Modulating  1375-13600 1635-1610 (12240*) (14490*) (5*) 10-97 (87,5*) 11,5-115 (103  19,5 26,0  218 290  218 290  102-580 102-435  302  1  LMV 36  120V-1.6A / 1x8kV-20mA  208-230/460/575/3/60  3540 3545  10,2 12,4  208-230/460/575	/460/575		
	A	12,4/6,2/5	24/12/9,6	29/14,5/11,6	35,4/17,7/14,2	
	rpm		35	515		
Dump Motor	НР			2		
Pump Motor	V		208-230	)/460/575		
	Α		5,6/2	2,8/2,3		
Power Consumption	kW max	7	10,8	12,7	14,7	
Electrical protecti	on level		NEN	MA 3		
Noise levels	dBA	83,2	79,3	83,4	84,1	
CO Emission	ppm at 3% 0 <sub>2</sub>		less than 5	0 (gas side)		
N0x Emission**	ppm at 3% 0 <sub>2</sub>		less than 3	0 (gas side)		
Approvals			E	TL		

<sup>\*</sup> Firing rate for C-ETL Canadian Listing

\*\* NOx emissions are verified in our Research Center; not all field applications allow similar performance.

If guaranteed emissions are required please contact Riello Burners Commercial and Technical Department.

# **Firing Rates**



The max. firing rates are based on zero furnace backpressure, ambient temperature of 68 °F, barometric pressure 394 inches w.c. an elevation of 329 ft a.s.l.

For more details and final burner selection refer to applicable installation manual.



## **Gas train**

### **GAS TRAINS - SELECTION/DESCRIPTION**

<u>Siemens</u> gas train are supplied with (2) SSOV, (1) manual ball valve, (1) SKP 25 regulating actuator, (1) lubricated plug valve, low gas pressure switch, 3/8" pilot train including (1) pilot regulator, (1) manual ball valve and (1) SSOV and NO vent valve.

OPERATING				INPUT (MBtu/hr)			
PRESSURE (MIN./MAX.)	CODE	SAFETY SHUT-OFF VALVE DESCRIPTION	SIZE	RLS 280/E-EV	RLS 310/E-EV	RLS 410/E-EV	RLS 510/E-EV
3 PSI / 5 PSI	C8317005	Siemens (1) SKP15 (1) SKP25 (2) VGD20.503U	2"			16.100	19.200
	C8316817	Siemens (1) SKP15 (1) SKP25 (2) VGG10.504U		10.500			
2 PSI / 5 PSI	C8317002	Siemens (1) SKP15 (1) SKP25 (2) VGD40.065U	2 <sup>1</sup> / <sub>2</sub> "		13.600		
	C8316820	Siemens (1) SKP15 (1) SKP25 (2) VGG10.654U	2		.51000		
	C8317003	Siemens (1) SKP15 (1) SKP25 (2) VGD40.080U					
1 PSI / 5 PSI	C8316822	Siemens (1) SKP15 (1) SKP25 (2) VGG10.804U	3"				

Major components shipped loose for assembly and wiring by others For lower or higher gas pressure, please contact factory for correct sizing

## Hydraulic circuits .....

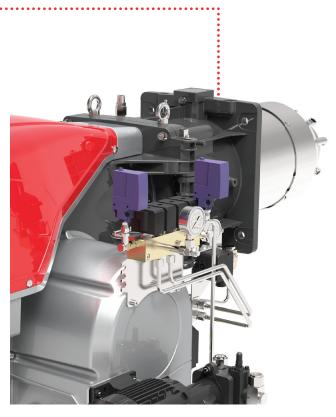
The hydraulic circuit of the RLS 280-310-410-510 series of burners is characterised by a fuel pump with an independent motor.

The burners are fitted with two valves (a safety valve and an operation valve) and a pressure regulator on the return circuit from the nozzle, allows to modulate the fuel flow.

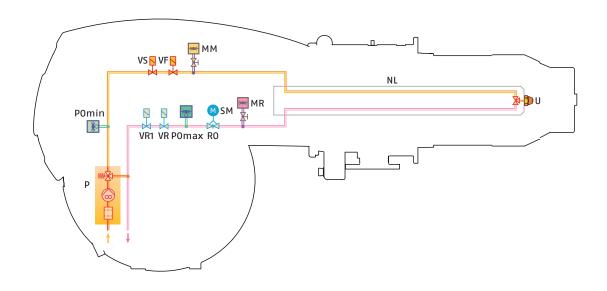
Two safety valves on the return circuit avoid oil leakage from the nozzle when the burner is in standby and prepurge phase.

The models are fitted with a maximum pressure switch on the oil return circuit, and a minimum oil pressure switch on the oil line from the pump to the nozzle.

P	Pump with filter and pressure regulator
P0 min	Min. oil pressure switch on the delivery circuit
VF	Operating valve
VS	Safety valve on the delivery circuit
MM	Pressure gauge on the delivery circuit
NL	Nozzle pipe
U	Nozzle
MR	Pressure gauge on the return circuit
SM	Servomotor
RO	Pressure regulator on the return circuit
P0 max	Max. oil pressure switch on the return circuit
VR	Safety valve on the return circuit
VR1	Safety valve on the return circuit



Example of the RLS/E-/EV burner hydraulic circuit





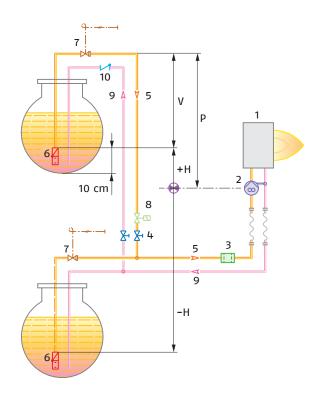
# Selecting the fuel supply lines

The fuel feed must be completed with the safety devices required by the local norms.

The table shows the choice of piping diameter, depending on the difference in heigth between the burner and the tank and their distance.

### MAXIMUM EQUIVALENT LENGTH FOR THE PIPING L [m]

DIAMETER PIPING	RLS 28	30-310-410-510		
+/- H	L (ft)			
(ft)	Ø 1/2"	Ø 5/8"		
+ 13	197	263		
+ 10	164	230		
+ 6.6	132	197		
+ 4.8	115	181		
+ 3.3	99	164		
+ 1.6	82	148		
0	66	132		
- 1.6	59	115		
<b>-</b> 3.3	49	99		
- 4.8	43	82		
- 6.6	33	66		
- 10	16	33		
<b>-</b> 13	-	20		



Н	Pump/Foot valve height difference
L	Piping length
Ø	Inside pipe diameter
1	Burner
2	Pump
3	Filter
4	Manual on/off valve
5	Suction line
6	Foot valve
7	Quick closing manual valve with remote control (Italy only)
8	On/off solenoid valve (Italy only). See electrical layout. Connections to be carried out by the installer (SV).
9	Return line
10	Check valve (only Italy)

With ring distribution oil systems, the feasible drawings and dimensioning are the responsibility of specialised engineering studios, who must check compatibility with the requirements and features of each single installation.

## **Ventilation**

The ventilation unit comes with a sound proofing system.

All the burners are fitted with fans, which give excellent performance and are fitted in line with the combustion head. The air flow and sound-deadening materials used in the construction are designed to reduce sound emissions to the minimum and guarantee high levels of performance in terms of output and air pressure.

A high precision servomotor through the main management module installed on each burner, controls the air dampers position constantly.

The RLS models, avaible on demand are supplied with the "inverter" configuration, which means they are fitted with a device for varying the amount of combustion air through a variable speed action of the fan motor. The burner works at reduced speed, with further benefits in terms of sound emissions, especially during the night when the perception threshold is lower as well decreased power consumption.

#### **New ventilation structure**

A new ventilation structure has been developed in order to reduce the overall dimensions and weight



Simplified Maintenance for motor and fan by direct extraction through opening flange



**Air adjusting dampers** at air inlet side with bearings

## **Combustion Head**

The combustion head adjustment system allows to adapt internal geometry of the head to the output of the burner.

This system guarantees excellent mix on all firing rates range as well as reducing noise and pollutants.



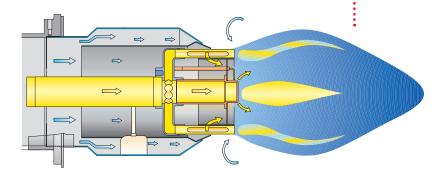
Example of a RLS burner combustion head



## Safe and Green .....

Riello Burners experience in combustion technology is very well demonstrated in the combustion head of New RS burner models and assures smooth ignition, safe operation, and environmentally friendly emissions. Riello burners excels in producing burners which perform well with minimal excess air, this enhances system efficiency and reduces greenhouse gas emissions such as CO2. With oxygen levels of only 3% (\*) typical in the products of combustion and turndown ratios of up to 10-1 (\*) on natural gas, system efficiencies are truly maximised. In addition to our standard product we also have available Low NOx models which use an Advanced Combustion Technology in order to reach NOx values of less than 30ppm (\*) during the combustion of natural gas without the requirement of Flue Gas Recirculation;

this enhances system efficiency in comparison with traditional FGR systems and reduces system/installation costs.



(\*) NOx emissions and Modulation ratios are verified in our Research Center; not all field applications allow similar performance. If guaranteed emissions and/or turndown are required please contact Riello Burners Commercial and Technical Department.

## **Operation**

#### **BURNER OPERATION MODE**

The RLS 280-310-410-510/E-/EV series of burners can have "two-stage progressive" or "modulating" operation, based on an air/fuel ratio control managed by an Electronic cam.



LMV36 Digital Burner Management System

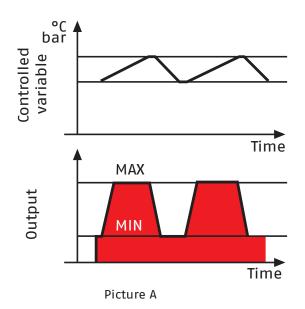


RWF PID Power Controller for modulation control, based on temperature or pressure of the heat generator

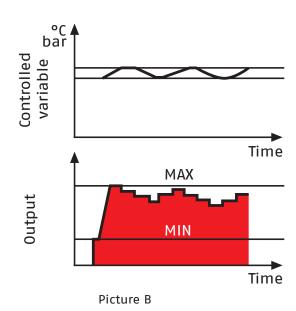
On "two-stage progressive" operation, the burner gradually adapts the output to the requested level, by varying between two pre-set levels (see picture A).

On "modulating" operation, normally required in steam generators, in superheater boilers or diathermic oil burners, a specific regulator and probes are required. These are supplied as accessories that must be ordered separately. The burner can work for long periods at intermediate output levels (see picture B).

#### "TWO-STAGE PROGRESSIVE" OPERATION



#### "MODULATING" OPERATION





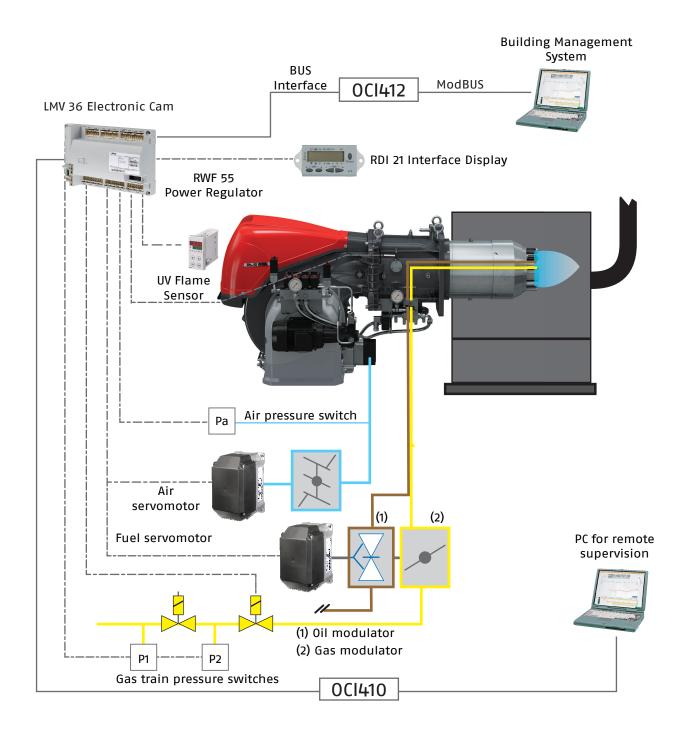
#### LMV 36 - DIGITAL BURNER MANAGEMENT SYSTEM

Combustion systems are in continuous evolution and high tech solutions related to electronic systems are today utilized to obtain better performances and efficiencies.

The Burner is one of the most important components of the combustion system and its evolution is oriented towards the perfect control of operation.

Riello RLS 280-310-410-510/E and /EV burners utilize the LMV 36 digital burner management systems providing precise fuel-air ratio control with independent servomotors for modulating fuel valve(s) and air damper.

The LMV 36 controls are user friendly and provide maximum safety and reliability.



#### LMV 36 ELECTRONIC CAM SYSTEM

#### **Function**

Intermittent

Two stage progressive operation

Modulating operation with the installation of a PID electronic regulator

Variable speed drive operation

Valve proofing system

Air fuel mixing control

**Independent Ignition Point Position** 

Closed air damper during burner stand-by

Password protection levels

Burner status display

Error message

**Error hystory** 

Remote lockout reset

**Continuous Ventilation** 

Start without pre-purging

Remote Connections by external OCI410-412 modules

Fuel remote selection

4/20 mA Remote Analogue Control signal

Indication of current burner output DC 0 ... 10 V (alternative to VSD control)

### FAN SPEED CONTROL

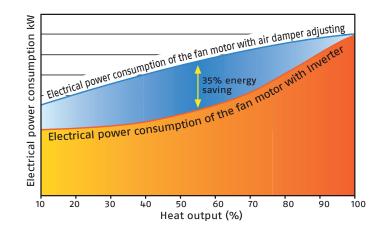
The inverter device fitted to the RLS/EV series burner acts on the electrical supply frequency of the fan motor to adjust the air flow through the motor speed variation.

The main advantages of speed control:

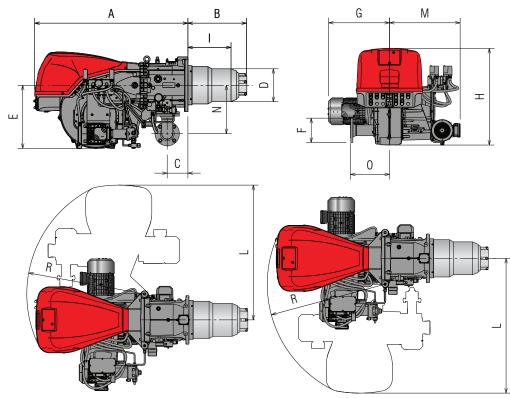
- lower sound emissions
- electric power saving.

The fan motor supplies just the necessary air flow, thus reducing sound emissions and avoiding energy loss due to the air damper regulation mechanism. The inverter technology can save up to 35% of the energy costs.

A safety device to verify the correct speed of the motor is mounted on the air suction circuit of the burner.



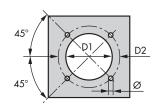
# **Overall Dimensions (inch)**



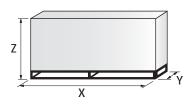
MODEL	Α	В	С	D	E	F	G
RLS 280/E-/EV	49 3/4"	19 9/32"	6 11/16"	10 5/8"	20 13/32"	ANSI 3"	19 7/8"
RLS 310/E-/EV	49 ³/ <sub>4</sub> "	20 23/64"	6 <sup>11</sup> / <sub>16</sub> "	12 21/64"	20 <sup>13</sup> / <sub>32</sub> "	ANSI 3"	20 2/7"
RLS 410/E-/EV	49 ³/ <sub>4</sub> "	20 23/64"	6 11/16"	12 21/64"	20 <sup>13</sup> / <sub>32</sub> "	ANSI 3"	22 1/4"
RLS 510/E-/EV	49 ³/ <sub>4</sub> "	20 23/64"	6 11/16"	12 21/64"	20 13/32"	ANSI 3"	22 1/4"
MODEL	Н	I	L	М	N	0	R
MODEL RLS 280/E-/EV	H 31"	14"	L 43 <sup>25</sup> / <sub>32</sub> "	<u>.</u>	N 15 <sup>5</sup> / <sub>8</sub> "	12 19/32"	R 38"
		I	43 <sup>25</sup> / <sub>32</sub> " 43 <sup>25</sup> / <sub>32</sub> "	М	-		
RLS 280/E-/EV	31"	14"	. ———	M 22 <sup>27</sup> / <sub>32</sub> "	15 <sup>5</sup> / <sub>8</sub> "	12 19/32"	38"

<sup>\*</sup> Maximum depth of the boiler door including the depth of the burner head thermal gasket.

### **BURNER - BOILER MOUNTING FLANGE**



### **PACKAGING**



MODEL	D1	D2	Ø
RLS 280/E-EV	13³/ <sub>16</sub> "	17 <sup>13</sup> / <sub>16</sub> "	³/ <sub>4</sub> "coarse
RLS 310/E-EV	13³/ <sub>16</sub> "	17 <sup>13</sup> / <sub>16</sub> "	³/ <sub>4</sub> " coarse
RLS 410/E-EV	13 <sup>3</sup> / <sub>16</sub> "	17 <sup>13</sup> / <sub>16</sub> "	³/ <sub>4</sub> " coarse
RLS 510/E-EV	13³/ <sub>16</sub> "	17 <sup>13</sup> / <sub>16</sub> "	³/ <sub>4</sub> " coarse

MODEL	Х	Υ	7	lbs
RLS 280/E-EV	 80"	47 1/,"	<u>-</u> 45	620
RLS 310/E-EV	80"	47 1/4"	45	660
RLS 410/E-EV	80"	47 1/4"	45	660
RLS 510/E-EV	80"	47 1/,"	45	660

## **Burner accessories**

### **TEMPERATURE/PRESSURE SENSORS**

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

### **PROBE**



BURNER	PROBE TYPE	RANGE	PROBE	CODE	
	_	Water NI 1000 RTD	C533	C5332020	
	Temperature sensor	Air NI 1000 RTD	C533	C5332021	
	3611301	Water QAE 2020 RTD	C5332027		
	Pressure sensor		4-20 mA	0-10 V	
All models		0 - 15 PSI	C5332040	C5332050	
		0 - 60 PSI	C5332041	C5332051	
		sensor 0 - 150 PSI		C5332052	
		0 - 200 PSI		C5332053	
		0 - 300 PSI	C5332044	C5332054	

#### **STEP-DOWN TRANSFORMERS**

BURNER	DESCRIPTION	CODE	NOTE
	Stepdown Transformer 208V - 120V	C7000510	(1)
	Stepdown Transformer 230V - 120V	C7000511	(1)
All models	Stepdown Transformer 460V - 120V	C7000512	(1)
	Stepdown Transformer 575V - 120V	C7000513	(1)

<sup>(1)</sup> Including fuses, mounted to burner

#### LPG KIT



For burning LPG gas, a special kit is available to be fitted to the combustion head on the burner, as given in the following table:

MODEL	CODE
RLS 280/E-EV	20121154
RLS 310/E-EV	In progress
RLS 410/E-EV	In progress
RLS 510/E-EV	20124020

# PROOF OF CLOSURE SAFETY SHUT-OFF VALVE





The P.O.C. (Proof of Closure Safety Shut-Off Valve) valves are required by the NFPA8501 standard for burners having an output of 12.500 Mbtu/hr or greater (RLS 310-410-510).

#### **VARIABLE SPEED DRIVES FOR EV CHASSIS**

VSD 208-230-460-575/3/60 are available. Please consult factory.



#### **NOZZLES TYPE**



The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required fuel output. Each burner needs No. 1 nozzle.

### Standard nozzle selection chart for RLS/E-/EV burners

	MBtu/hr	Nozzle			Supply Pressure	High	Fire	Low	Fire
	(GCV)	Type	GPH	kg/h	PSI	By-pass Pressure	Flow rate GPH	By-pass Pressure	Flow rate GPH
	2.600		12			172	18,6	110	6,7
	3.500		16			195	25,0	110	8,7
	4.500	flo )°)	24			169	32,1	130	11,9
	5.500	Delavan Variflo (30°–45°–60°)	26			150	39,3	70	16
	6.500	an \ 45°	28		300	150	46,4	75	18,3
	7.500	lava 0°-	35			160	53,6	70	21,5
	8.500	De (3(	40			155	60,7	70	24,7
	9.500		40			160	67,9	75	28,8
280	10.500		45			160	75,0	80	30,4
RLS	2.600			60		246	18,6	90	6,7
_	3.500			80		229	25,0	90	8,7
	4.500	Bergonzo A4 Fluidics KC2 (30°-45°-60°)		100		225	32,1	90	11,9
	5.500			130		218	39,3	80	16,0
	6.500	onz dics 45°		150	300	215	46,4	80	18,3
	7.500	erg Iui		170		210	53,6	80	21,5
	8.500	B F		190		203	60,7	80	24,7
	9.500			220		185	67,9	80	28,8
	10.500			240		185	75,0	80	30,4
	3.500			90		245	25,0	100	7,4
	4.500			125		160	32,1	100	8,6
	5.500			150		268	39,3	100	11,8
	6.500	N (		175		253	46,4	100	13,4
310	7.500	2 & 60°		200		253	53,6	100	14,7
Ν̈́	8.500	Fluidics N2 & N4 ( 45° – 60° )		200	300	267	60,7	100	14,7
RLS	9.500	idic 45°		225		268	67,9	100	15
	10.500	Hui )		275		263	75,0	100	18,6
	11.500			300		258	82,1	100	20,8
	12.500			325		258	89,3	100	21,8
	13.600			350		258	97,1	100	23,4

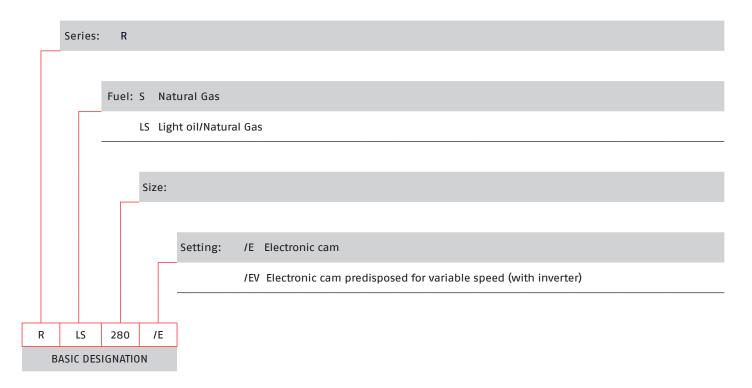
	MBtu/hr	Nozzle			Supply Pressure	High Fire		Low Fire	
	(GCV)	Туре	GPH	kg/h	PSI	By-pass Pressure	Flow rate GPH	By-pass Pressure	Flow rate GPH
	4.000	7N (		100		275	28,6	100	8,3
	5.500			150		268	39,3	100	11,8
	6.500			175		253	46,4	100	13,4
	7.500			200 200 225 275	300	253	53,6	100	14,7
	8.500					267	60,7	100	14,7
9	9.500	S N2 & N				268	67,9	100	15
RLS 410	10.500	N S				263	75,0	100	18,6
RIS	11.500	Fluidics N2 & N4 (45° - 60°)		300		258	82,1	100	20,8
	12.500	] III )		325		258	89,3	100	21,8
	13.500			350		255	96,4	100	23,4
	14.500	]		350 375		261	103,6	100	23,4
	15.500					255	110,7	100	29,5
	16.100			400		240	115	100	35,2
	5.000		125 175 200 200 225 275 300 325	125		268	35,7	100	8,6
	6.500	Fluidics N2 Bergonzo B3 & B5 ( 45° – 60° )		175		253	46,4	100	13,4
	7.500			200		253	53,6	100	14,7
	8.500			200		267	60,7	100	14,7
	9.500			225		268	67,9	100	15,0
	10.500			275		263	75,0	100	18,6
510	11.500				258	82,1	100	20,8	
	12.500			325	300	258	89,3	100	21,8
RLS	13.500			350		255	96,4	100	23,4
	14.500		350 375 400 450		261	103,6	100	23,4	
	15.500			375	-	255	110,7	100	29,5
	16.500			400		236	117,9	100	35,2
	17.500			450		261	125,0	100	36,8
	18.500			500		253	132,1	100	38,1
	19.200			500		258	137,1	100	38,1



# **Specification**

#### **DESIGNATION OF SERIES**

A specific index guides your choice of burner from the various models available in the RLS/E-/EV series. Below is a clear and detailed specification description of the product.



# **Available models**

### BURNERS - RLS 280-310-410-510/E-/EV

BURNER MODEL	POWER SUPPLY	HEAT OUTPUT NATURAL GAS		
BORNER MODEL	V/Ph/Hz	MBtu/hr		
RLS 280/E	230/3/60	1050-10500 (9450*)		
RLS 280/E	460/3/60	1050-10500 (9450*)		
RLS 280/E	575/3/60	1050-10500 (9450*)		
RLS 280/EV	230-460/3/60	1050-10500 (9450*)		
RLS 280/EV	575/3/60	1050-10500 (9450*)		
RLS 310/E	230/3/60	1375-13600 (12240*)		
RLS 310/E	460/3/60	1375-13600 (12240*)		
RLS 310/E	575/3/60	1375-13600 (12240*)		
RLS 310/EV	230-460/3/60	1375-13600 (12240*)		
RLS 310/EV	575/3/60	1375-13600 (12240*)		
RLS 410/E	230/3/60	1635-16100 (14490*)		
RLS 410/E	460/3/60	1635-16100 (14490*)		
RLS 410/E	575/3/60	1635-16100 (14490*)		
RLS 410/EV	230-460/3/60	1635-16100 (14490*)		
RLS 410/EV	575/3/60	1635-16100 (14490*)		
RLS 510/E	230/3/60	2000-19200 (17280*)		
RLS 510/E	460/3/60	2000-19200 (17280*)		
RLS 510/E	575/3/60	2000-19200 (17280*)		
RLS 510/EV	230-460/3/60	2000-19200 (17280*)		
RLS 510/EV	575/3/60	2000-19200 (17280*)		

<sup>\*</sup> Firing rate for C-ETL Canadian Listing



## **Specifications**

#### STATE OF SUPPLY - RLS 280-310-410-510/E-/EV

Monoblock forced draught dual fuel burner with modulating operation at both gas and oil side, fully automatic, made up of:

- High performance fan with low sound emissions
- reverse curve blades for RLS 280/E-EV
- forward curve blades for RLS 310-410-510/E-EV
- Air suction circuit lined with sound-proofing material
- Air damper for air setting controlled by a high precision servomotor
- Fan driving motor at 3500 rpm, three-phase 230/460 or 575V, 60Hz
- 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 by gas pilot with gas train
  - flame stability disk
- High gas pressure switch to stop the burner in the case of excess pressure on the fuel supply line
- Low air pressure switch, stops the burner in case of insufficient air quantity at the combustion head
- LMV36 Electronic cam for air/fuel setting
- Burner safety control included on Electronic Cam device
- Display Interface module for burner commissioning and monitoring
- Modulation by PID load controller with temperature or pressure (sensor available as accessories)
- Flame detection by UV sensor
- Fan motor starting by Star/Delta device or electronic Soft Start (Direct start for RLS 280/E)
- Main electrical supply terminal strip
- "OFF-LOCAL-REMOTE" switch
- "POWER ON" signal
- "CALL FOR HEAT" signal
- "IGNITION ON" signal
- "FUEL ON" signal
- "ALARM SILENCE" button
- "BURNER LOCK-OUT and RESET" push-button
- Burner opening hinge
- Lifting rings
- Gears pump for high pressure fuel atomizing
- Pump starting motor
- Oil safety valves
- Flame inspection window
- Gas supply port ANSI 3" for gas train connection

#### Standard equipment:

- 1 flange gasket for gas train adaptor
- 1 adaptor for gas train
- 4 screws for fixing the flange
- 1 thermal screen
- 4 screws for fixing the burner flange to the boiler
- Instruction handbook for installation, use and maintenance and spare parts catalogue

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## Riello Burners a world of experience in every burner we sell.



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[2]

- [1] BURNERS PRODUCTION PLANT S. PIETRO, LEGNAGO (VERONA) - ITALIA
- [2] HEADQUARTER BURNERS DIVISION S. PIETRO, LEGNAGO (VERONA) ITALIA

Across the world, Riello sets the standard in reliable and high efficiency burner technology.

With burner capacity from 17 thousand to 163 million Btu/hr, Riello gas, oil, dual fuel and Low NOx burners deliver unbeatable performance across the full range of residential and commercial heating applications, as well as in industrial processes.

With headquarter in Legnago, Italy, Riello has been manufacturing premium quality burners for over 90 years. The manufacturing plant is equipped with the most innovative systems of assembling lines and modern manufacturing cells for a quick and flexible response to the market.

Besides, the Riello Combustion Research Centre, located in Angiari, Italy, represents one of the most modern facility in Europe and one of the most advanced in the world for the development of the combustion technology.

Today, the company's presence on worldwide markets is distinguished by a well-constructed and efficient sales network, alongside many important Training Centres located in various countries to meet its customers' needs. Riello has 13 operational branches abroad (in Europe, America and Asia), with customers in over 60 countries.

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