

**RIELLO**

Energy For Life

**RLS/E\_EV LN**  
Linkage-less Low NOx Power Burner

The RLS/E\_EV LN series has been designed for use in low or medium temperature hot water boilers, steam boilers, diathermic oil boilers, air heaters and other process or industrial applications.

Operation can be two stage progressive or, alternatively, modulating with the installation of a PID logic regulator and respective probes. RLS/E\_EV LN series burners guarantee low NOx emissions, high efficiency, reducing fuel and running costs while the exclusive design provides simple use and maintenance with low sound emissions.

Project	Project Name	
	Site Location	
	Installation Altitude	
	Engineering Firm	
	Installing Contractor	
	Riello Representative	
	Rep. Contact Information	
	RBNA Project Number	
	Job Name	
	Equipment Manufacturer	
	Equipment Model	
	Equipment Type	
	Input	
	Fuel Type	
	Chamber Length	
	Chamber Width	
Chamber Height / Diameter		
Chamber Pressure		

Project Notes:

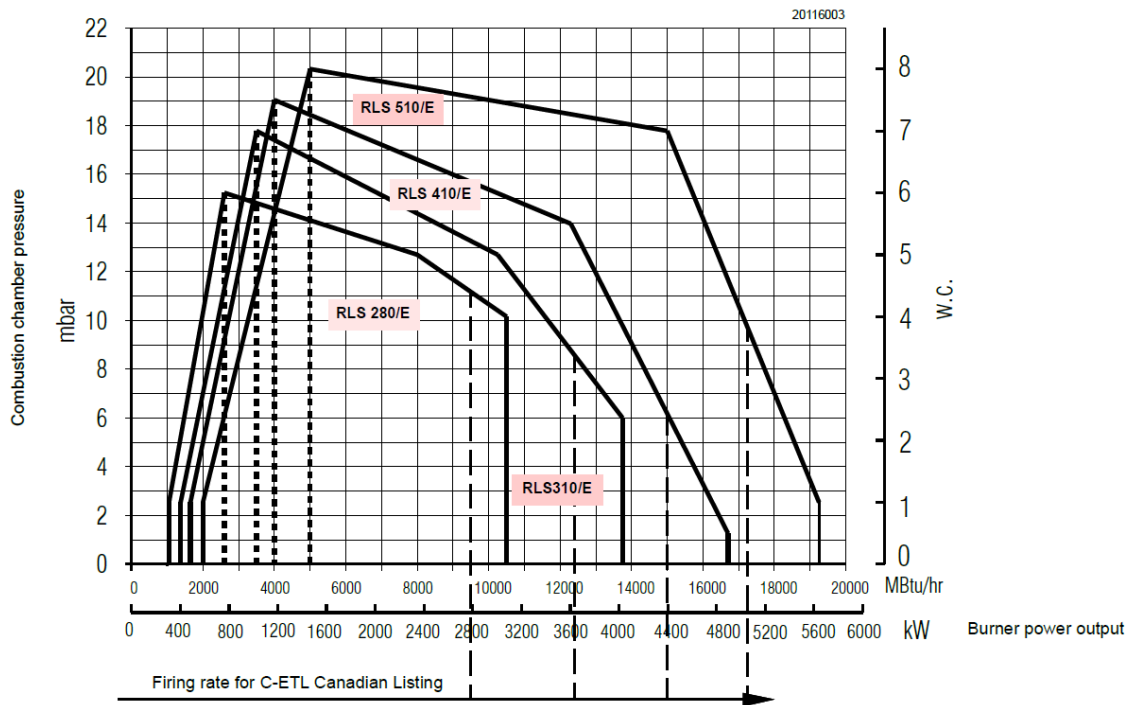
General Burner Data	RLS 280/E_EV	230V/3Ph/60Hz	
		460V/3Ph/60Hz	
		575V/3Ph/60Hz	
	RLS 310/E_EV	460V/3Ph/60Hz	
		575V/3Ph/60Hz	
	RLS 410/E_EV	460V/3Ph/60Hz	
		575V/3Ph/60Hz	
	RLS 510/E_EV	460V/3Ph/60Hz	
575V/3Ph/60Hz			

Optional Accessories	RWF 55 PID Modulating Control	X
	Air Intake Adaptor	
	Propane Conversion Kit	
	Alarm Horn with Silence Switch	X
	Local/ Remote control Switch	X
	Additional Indicating Light	
	3 Dry Contact Relays	X
	Combustion Head Extension	
	Pre-Wire and Assembled Gas Train	
	UV Scanner	X
	Temperature Sensor	
	Pressure Sensor	
	4.3" HMI	
Control Circuit Transformer		

Standard Features

- Siemens LMV36 microprocessor flame safeguard
- UV scanner flame detection
- Premium efficiency motor
- Aluminum combustion air fan
- Die cast aluminum mono-bloc construction
- Air suction circuit lined with sound-proofing material
- Fan with reverse curve blades
- Fully independent air and fuel actuators featuring air damper for air setting and butterfly valve for regulating fuel
- Combustion head that can be set based on the required output
- 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
- Post-ventilation through parameter setting
- Burner on/off switch
- Flame inspection window
- Manual or automatic output increase/decrease switch
- Slide bars for easier installation and maintenance
- NEMA 1 electric protection level. - Single point 3 ph power connection with optional Control Circuit Transformer Installed
- 5 indicator lights: Power ON, Main Fuel ON, Call for Heat, Ignition, Flame failure.
- 1 three-way switch: off/local/remote
- 1 three-way switch fuel selection: Gas/Off/Oil Auto/Off/Oil (Keyspan)
- 1 Alarm Horn
- 1 Alarm silence push-button
- 3 dry contact relays

Output Capacity Chart



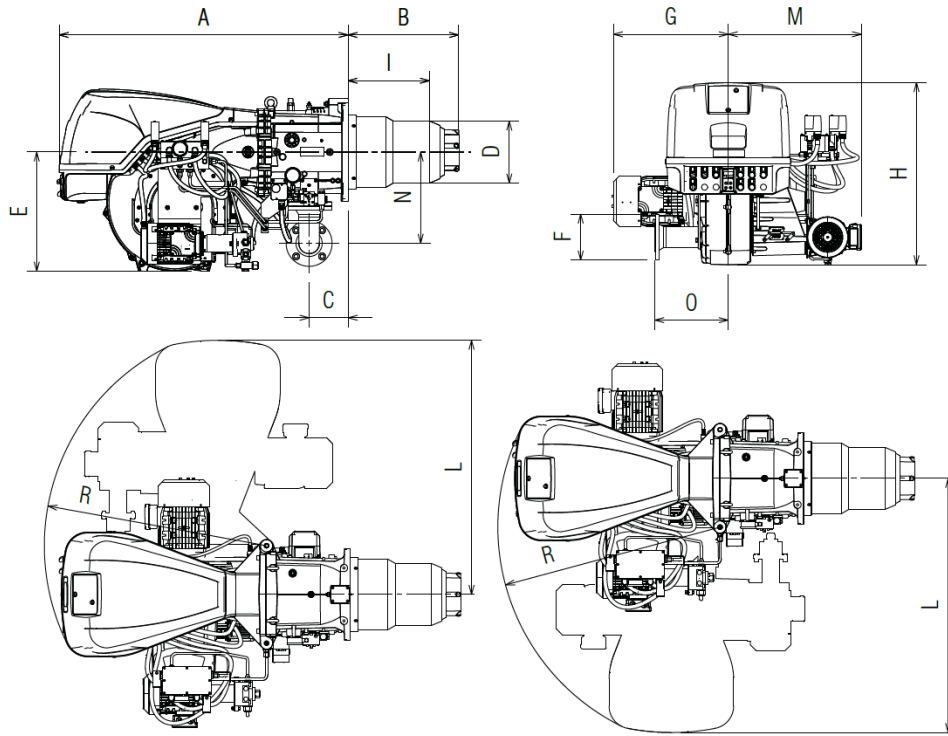
Max. firing rates are based on zero furnace backpressure, ambient temperature of 68 °F, barometric pressure 394 inches WC, 329 ft. elevation a.s.l. For more details and final burner selection refer to applicable installation manual.

## Burner Data Chart

		RLS 280/E_EV		RLS 310/E_EV		RLS 410/E_EV		RLS 510/E_EV		
<b>General Data</b>										
Burner operation		Progressive 2 stage or low-high-low / full modulation with supply of modulating signal								
Servomotor	Make & Model		Siemens SQM33							
Fire Input Range (min / max)		MBtu/Hr	1050 – 10500 (9450*)	1375 – 13600 (12240*)	1635 – 16100 (14490*)	2000 – 19200 (17280*)				
		GPH	7.5 – 75 (67.5*)	9.8 – 97.1 (87.4*)	11.7 – 115 (103.5*)	14.3 – 137.1 (123.4*)				
Working temperature range	min / max	°C	0-40							
		°F	32-104							
Combustion air fan type		Centrifugal with reverse incline blades								
Combustion air temperature	max.	°C	60							
		°F	140							
Approvals		cETLus (UL795, CSA 3.4) CSD-1 Compliant								
Pump Delivery at 300 PSI		GPH	218		290		403			
Pressure Range		psi	102 - 580				102 - 435			
Max Fuel Temp		°F/°C	302 / 150							
Nozzles qty		1								
<b>Fuel Data</b>										
Fuel heating value	Natural gas	Btu/ft <sup>3</sup>	1000							
	No. 2 Oil	Btu/GPH	140,000							
Specific gravity	Natural gas		0.64							
<b>Electrical Data</b>										
Main voltage	volts / phase / hertz		460-575/3/60 (230-460-575/3/60 for RLS 280/E_EV only)							
Control voltage	volts / phase / hertz		120/1/60 (separate control voltage supply required on 3 phase integral flame safeguard units)							
Fan motor size	HP		8.5	13.5	16.0	18.7				
Amperage draw	Motor	Amps	17.8 – 8.9 – 7.1	12.0 – 9.6	14.5 – 11.6	17.7 – 14.2				
Pump motor size	HP		2	2	2	2				
Amperage draw	Motor	Amps	5.6 – 2.8 – 2.3	2.8 – 2.3	2.8 – 2.3	2.8 – 2.3				
FLA			21.8 – 10.5 – 8.4	16.4 – 13.2	18.9 – 15.2	22.1 – 17.8				
MCA			27.0 – 13.0 – 11.0	20.0 – 16.0	23.0 – 19.0	27.0 – 22.0				
MOCP			40.0 – 20.0 – 15.0	30.0 – 25.0	35.0 – 30.0	40.0 – 35.0				
Motor type	TEFC									
Ignition transformer	Gas pilot		V1 – V2: 120V – 1 x 8 kV I1 – I2: 1.6 A – 20 mA							
Flame safeguard	Riello	Model	Siemens LMV36							
Burner protection level	NEMA		3							
Operation	Intermittent (1 stop minimum every 24hr of continuous operation)									
<b>Emissions</b>										
Sound level	dBa		83.2	79.3	83.4	84.1				
CO <sub>2</sub> operating range	%		9 – 10.5%							
CO emission (@ 3.0% O <sub>2</sub> )	ppm		<25							
NOx emission (@ 3.0% O <sub>2</sub> ) on natural gas	ppm		<40							
All emission values are based on laboratory conditions and are for reference only. Emissions testing conducted on European DIN combustion test chambers.										
Maximum input ratings based on furnace pressure of 0" w.c. Contact factory if required input is outside of that shown in operating charts located in the burner manuals.										
Reference conditions: Ambient temperature 68°F (20°C). Barometric pressure 394" w.c. Altitude <2000 fasl. Contact factory for higher altitude selection.										
*Firing rate for C - ETL Canadian Listing										

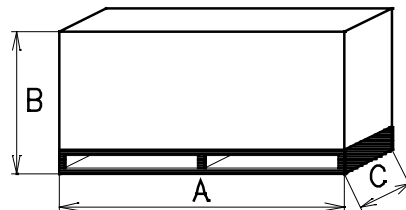
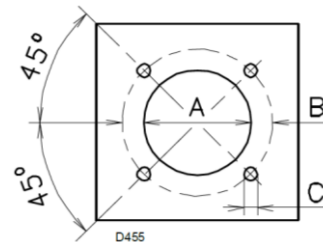
General Dimensions & Weight

Burner Dimensions							
Model	A	B	C	D	E	F	G
RLS 280/E_EV	49-3/4"	19-9/32"	6-11/16"	10-5/8"	20-1/2"	ANSI 3"	19-7/8"
RLS 310/E_EV	49-3/4"	20-23/64"	6-11/16"	12-21/64"	20-1/2"	ANSI 3"	20-1/4"
RLS 410/E_EV	49-3/4"	20-23/64"	6-11/16"	12-21/64"	20-1/2"	ANSI 3"	22-1/4"
RLS 510/E_EV	49-3/4"	20-23/64"	6-11/16"	12-21/64"	20-1/2"	ANSI 3"	22-1/4"
	H	I	L	M	N	O	R
RLS 280/E_EV	31"	14"	43-25/32"	22-27/32"	15-5/8"	12-19/32"	38"
RLS 310/E_EV	31"	14-11/16"	43-25/32"	25"	15-5/8"	12-19/32"	38"
RLS 410/E_EV	31"	14-11/16"	43-25/32"	25"	15-5/8"	12-19/32"	38"
RLS 510/E_EV	31"	14-11/16"	43-25/32"	25"	15-5/8"	12-19/32"	38"



Mounting Plate Details			
Model	A	B	C
RLS 280/E_EV	13-1/4"	17-13/16"	3/4" coarse
RLS 310/E_EV	13-1/4"	17-13/16"	3/4" coarse
RLS 410/E_EV	13-1/4"	17-13/16"	3/4" coarse
RLS 510/E_EV	13-1/4"	17-13/16"	3/4" coarse

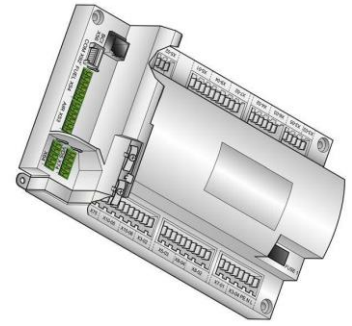
Model	Dimensions - inches			Weight lbs
	A	B	C	
RLS 280/E_EV	71-21/32"	41"	41-3/4"	620
RLS 310/E_EV	94-1/2"	62-13/16"	60-1/4"	660
RLS 410/E_EV	94-1/2"	62-13/16"	60-1/4"	660
RLS 510/E_EV	94-1/2"	62-13/16"	60-1/4"	660



Flame Safeguard

<b>Model</b>		<b>LMV36</b>
Electrical Supply	V/Ph/Hz	120/3/50-60
Primary fuse	A	6
Ambient Conditions	%RH	95 (no condensation)
	°F	-4-140
Flame Detection	Type	UV
Approval		cURus

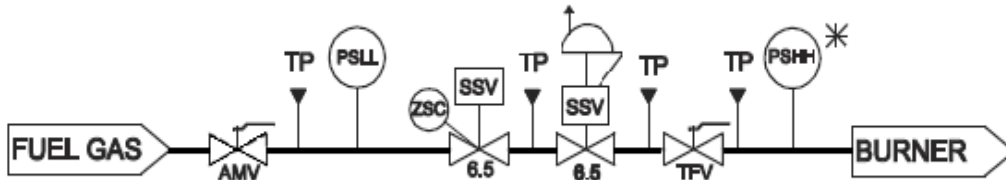
The Siemens LMV36 flame safeguard control is a microprocessor based parallel positioning system



Gas Train

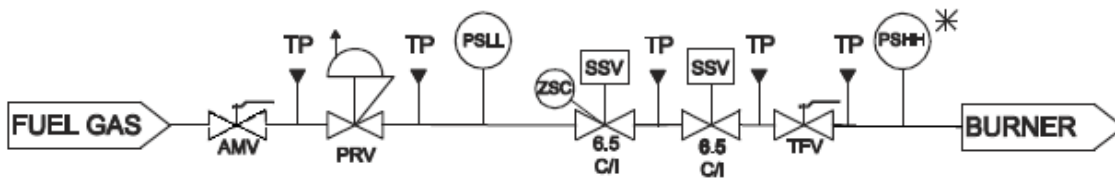
CSD-1 and UL compliance Gas Train

SEE PROJECT FILE FOR FULL GASTRAIN DRAWING.



\*USA installation excluding Massachusetts

OR



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