



Riello Burners – a world of experience in every burner we sell

Across North America and the world over, Riello sets the standard in reliable, high-efficiency, low-maintenance burner technology. With burner capacities from 38 thousand to more than 70 million Btuh, Riello oil, gas, dual-fuel and low NOx burners deliver unbeatable performance across the full range of residential and commercial heating applications, as well as in light industrial processes.

Quality engineered for reliability, combined with fuel and power efficiency, Riello burners are environmentally friendly, and easy to install and service – all hallmarks of Riello's advanced burner technology.

With headquarters in Legnago, Italy, Riello has been manufacturing premium quality burners for over 80 years. Today, to meet its customers' needs, Riello employs more than 2,000 people across four continents, with a sales and support network that spans over 60 countries.

Throughout the United States and Canada, our staff and independent sales and support network are dedicated to providing applications engineering support, commissioning, hands-on training, ongoing technical assistance, and after-sales service.

Riello Burners – delivering reliable combustion solutions for our customers in North America and around the world.



Reliable Combustion Solutions

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R-Series Low NOx Gas Burners

Maximum Performance. Minimum Maintenance.

Low NOx
Gas



Gas

Oil

Dual-Fuel



Quality engineered for North American emission standards, Riello R-Series low NOx gas burners are built for maximum uptime. These compact burners are based on a simple, integrated design that provides high-efficiency operation while significantly reducing fuel and maintenance costs.

And Riello R-Series low NOx gas burners offer a host of standard features – like a unique internal NOx reduction system; an integrated control panel, and innovative slidebars that make installation and servicing easy.

Riello R-Series low NOx burners are available in firing rates from 341 to 7,046 MBtuh, to handle a broad range of low-emission commercial, industrial and process applications. Offered in a variety of configurations with optional accessories, our RS LN models deliver uncompromising performance and reliability.



RS / M LN 68-160

Modulating Low NOx Gas • 570 - 7,046 MBtuh

Equipped for fully modulating operation, Riello R-Series low NOx gas burners come with standard features that deliver high efficiency and reduced fuel consumption for applications such as hot water and steam boilers, thermal oil heaters and other light-industrial processes with low emission requirements.



RS68/MLN

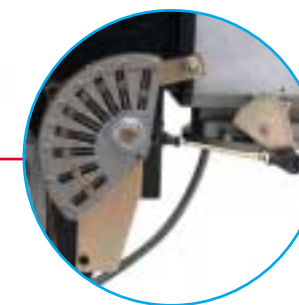
1 Advanced Servomotor (Not in main view)

The servomotor is designed to accept all common types of modulating signals, for maximum control flexibility.



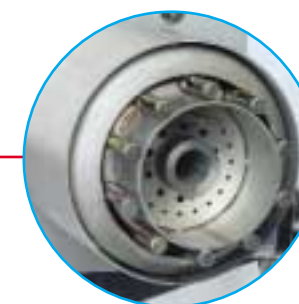
2 Camnetic Regulating Assembly

A characterized, fully adjustable cam assembly with nine lockable adjustment screws and automatic air damper. Provides accurate fuel/air ratio control throughout the firing range for highly reliable combustion and excellent repeatability.



3 Unique Low NOx Combustion Head

Specifically engineered for low emissions, the Riello low NOx combustion head is available in various lengths to handle a wide range of applications (NOx emissions <30 ppm achieved under laboratory conditions. NOx levels may differ in field applications).



4 Integrated Control Panel

The RS LN burner's factory pre-wired, integrated control panel offers user-friendly operation and ease of service while contributing to an extremely compact overall design. Remote and auxiliary panels are available with Siemens, Honeywell or Fireye® controls.



5 High-efficiency reverse-incline fan

The burner's fan blades are set at a reverse incline*. The result is high static pressure capability combined with low-noise operation. A high-efficiency fan motor provides for low power consumption and reduced operating costs.

* Forward-incline fan on RS160/M LN.

8 Die-cast aluminum chassis

Riello's quality-engineered die-cast aluminum construction allows for the RS LN's remarkably compact design, light weight and ease of installation.

6 Insulated air intake housing

Sound deadening material incorporated within the air intake housing further contributes to the RS LN's remarkably low-noise operation, even at full output.

9 Flame viewing window

An accurately positioned flame viewing window provides for easy flame monitoring.

7 Service slidebars

All RS LN burners incorporate innovative slidebars which enable the burner assembly to be pulled outwards on two guides, allowing quick access to the combustion head for easy installation and servicing. The result is lower maintenance costs.

10 Exterior drawer assembly adjustment screw

An innovative feature, the RS LN burner's exterior drawer assembly adjustment screw allows service personnel to quick-adjust insertion depth, fine tuning the air flow pattern for shaping the flame geometry.



RS/M LN 45

Modulating Low NOx Gas • 341 - 2,037 MBtuh

The Riello R-Series 45/M LN gas burner comes standard in a full modulation firing configuration. This lower capacity model is quality engineered for high reliability and excellent repeatability in applications such as hot water and steam boilers, thermal oil heaters and other light-industrial processes with low emission requirements.

1 Integrated Control Panel

The RS LN burner's factory pre-wired, integrated control panel offers user-friendly operation and ease of service while contributing to an extremely compact overall design. Remote panels are available with Siemens, Honeywell or Fireye® controls.



2 Service Slidebars

All RS LN burners incorporate innovative slidebars which enable the burner assembly to be pulled outwards on two guides, allowing quick access to the combustion head for easy installation and servicing. The result is lower maintenance costs.



RS45/MLN

3 Modulating Gas Regulating Assembly

A characterized, fully adjustable cam assembly with lockable adjustment screws and automatic air damper on the RS/M LN provides accurate fuel/air ratio control throughout the firing range for highly reliable combustion and excellent repeatability.



4 Unique Low NOx Combustion Head

Specifically engineered for low emissions, the Riello low NOx combustion head is available in various lengths to handle a wide range of applications (NOx emissions <30 ppm achieved under laboratory conditions. NOx levels may differ in field applications).



5 High-efficiency reverse-incline fan

The burner's self-cleaning fan blades are set at a reverse incline. The result is high static pressure capability combined with low-noise operation. A high-efficiency fan motor provides for low power consumption and reduced operating costs.

6 Insulated air intake housing

Sound deadening material incorporated within the air intake housing further contributes to the RS LN's low-noise operation, even at full output.

7 Die-cast aluminum chassis

Riello's quality-engineered die-cast aluminum construction allows for the RS LN's remarkably compact design, light weight and ease of installation.

8 Flame viewing window

An accurately positioned flame viewing window provides for easy flame monitoring.

9 Exterior drawer assembly adjustment screw

An innovative feature, the RS LN burner's exterior drawer assembly adjustment screw allows service personnel to quick-adjust insertion depth, fine tuning the air flow pattern for shaping the flame geometry.



Specifications

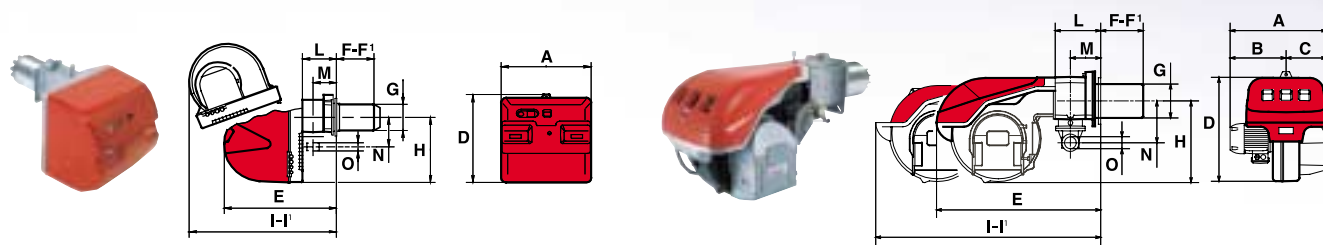
RS/M LN Gas Forced-Draft Burners

Dimensions

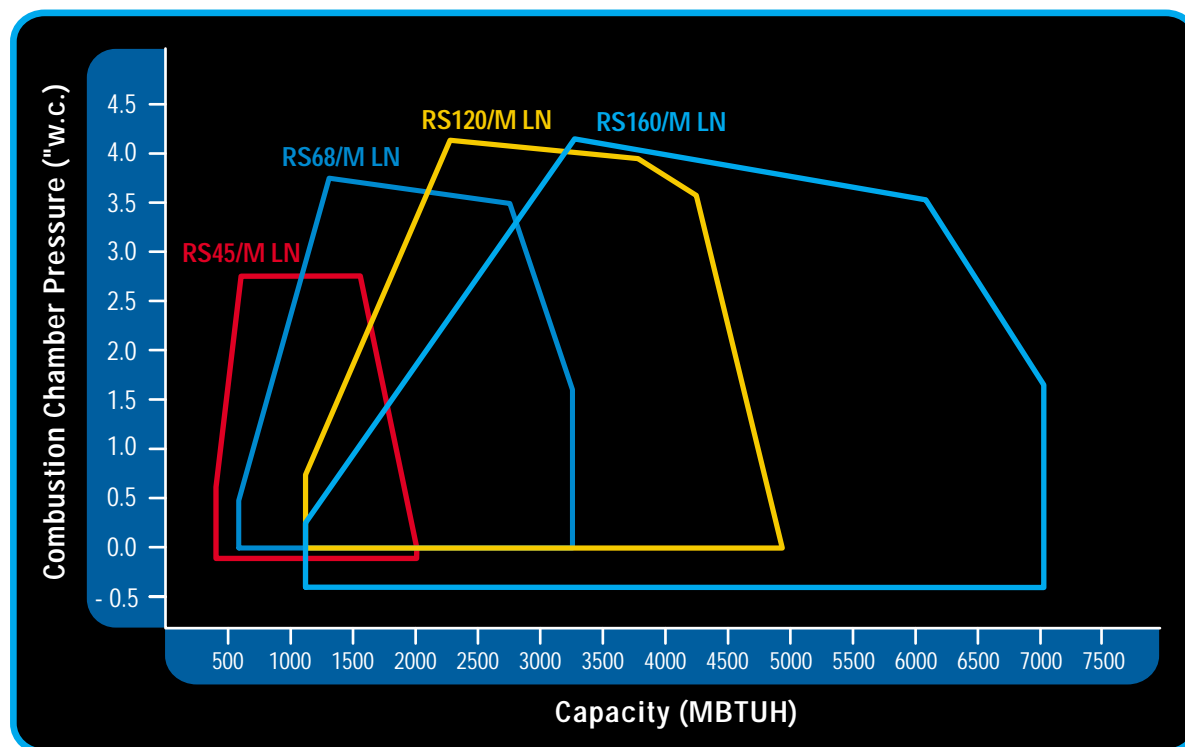
All units are in inches

RS/M LN	A	B	C	D	E	F-F'*	G	H	I-I'*	L	M	N	O
45	18 ^{23/32}	-	-	18 ^{21/32}	22 ^{13/16}	9 ^{1/32} - 13 ^{15/16}	6 ^{9/32}	13 ^{27/32}	6 ^{7/16}	31 ^{7/8}	4 ^{1/4}	6 ^{5/8}	1 ^{1/2}
68	20 ^{3/4}	12 ^{9/32}	8 ^{15/32}	21 ^{27/32}	33 ^{1/16}	10 - 15 ^{3/8}	7 ^{7/16}	16 ^{29/32}	45 ^{11/16} - 51 ^{1/32}	8 ^{13/32}	5 ^{9/32}	8 ^{11/16}	2
120	21 ^{25/32}	13 ^{5/16}	8 ^{15/32}	21 ^{27/32}	33 ^{1/16}	10 - 15 ^{3/8}	7 ^{7/16}	16 ^{29/32}	45 ^{11/16} - 51 ^{1/32}	8 ^{13/32}	5 ^{9/32}	8 ^{11/16}	2
160	26 ^{13/16}	14 ^{13/32}	12 ^{13/32}	21 ^{27/32}	33 ^{1/16}	14 ^{11/16} - 19 ^{13/16}	8 ^{11/16}	16 ^{15/16}	55 - 60	8 ^{11/16}	5 ^{29/32}	7 ^{5/16}	2

* F and I' Lengths with combustion head extension.



Firing Rates



Reference Conditions
 Ambient temperature: 68°F (20°C)
 Barometric pressure: 394" w.c.
 Altitude: 329 ft. a.s.l.

R-Series burners are UL, cUL and MEA320-01-E (New York) approved.



Model	Capacity (MBTUH) ⁽¹⁾	Combustion Air Motor			Sound Levels dBA	Max. Chamber Pressure ("w.c.) @ high fire	Min. Gas Pressure ("w.c.) ⁽⁴⁾	
		Voltage ⁽²⁾ (3)	HP	Amperage Draw				
RS/M LN	45	341 - 2,037 ⁽⁶⁾	120/1/60	1/2	5.2	72.0	0.0	6.4
	68	570 - 3,258	208 - 230 / 460 / 575 / 3 / 60	2 1/2	6.7 / 3.9 / 3.2	75.0	1.7	7.4
	120	1,136 - 4,924	208 - 230 / 460 / 575 / 3 / 60	3	8.8 / 5.1 / 4.1	77.0	0.0	11.9
	160	1,136 - 7,046 ⁽⁶⁾	208 - 230 / 460 / 575 / 3 / 60	5 1/2	15.8 / 9.1 / 7.3	83.1	1.6	12.2

(1) Ratings based on 1,000 Btu/ft³ and .64 specific gravity. (2) Other voltages available on request. (3) A separate 120/1/60 control voltage supply is required. (4) Based on natural gas.
 (5) Minimum gas pressure for RS160/MLN cUL capacity is 10.21 "w.c. (6) Firing rate for cUL is 1,969 MBtu/h. (7) Firing rate for cUL is 6,302 MBtu/h.

Standard Features - RS LN Models	Full Modulation	
	RS45/M LN	RS68/M LN - RS160/M LN
General		
Combustion air motor with reverse-incline fan ⁽¹⁾	■	■
Internal NOx reduction system	■	■
Service slidebars	■	■
Flame rod	■	■
UV scanner	Optional	Optional
Gas pilot ignition	■	■
Ignition transformer	■	■
Flame retention combustion head	■	■
Flame inspection window	■	■
Air pressure switch	■	■
Air pressure test point	■	■
Gas pressure test point	■	■
Gas Trains		
Main		
Camnetic regulating assembly with butterfly valve	■	■
Siemens SQN 70 servomotor	■	■
Siemens SQM 50 servomotor	■	■
Gas elbow connector	■	■
Shut-off valve	■	■
Main regulator	■	■
Safety shut-off valve(s)	■	■
Safety shut-off valve with P.O.C.	Optional	Optional
N.O. vent valve	Optional	Optional
Leak test valves	Optional	Optional
Low pressure switch	■	■
High pressure switch	Optional	■
Pilot		
Pilot shut-off valve	■	■
Pilot regulator	■	■
Pilot safety shut-off valves (2)	■	■
Integral Controls		
Siemens LFL 1.335 flame safeguard	■	■
Starter with overload	■	■
Terminal strip	■	■
Auto-manual-off switch	■	■
Manual firing rate switch	■	■
PID modulating controller	Optional	Optional
Auxiliary Burner / Remote Mounted Controls (All items are optional supplied to specification) ⁽²⁾		
Siemens LMV 51 fuel / air ratio control system	■	■
Siemens LFL 1.335 flame safeguard	■	■
Honeywell RM7840 flame safeguard	■	■
Honeywell RM7800 flame safeguard	■	■
Fireye® E-110 flame safeguard	■	■
Starter with overload	■	■
Terminal strip	■	■
Auto-manual-off switch	■	■
Manual firing rate switch	■	■
Main power fusing	■	■
Control power fusing	■	■
Indicating lights:		
Power On	■	■
Fuel On	■	■
Flame Failure	■	■
Call for Heat	■	■
Additional lights	■	■
Alarm horn with silencing switch	■	■
Dry contacts	■	■
Communication interface (remote only)	■	■
Expanded annunciation (remote only)	■	■
Front-mounted flame safeguard display	■	■
Control transformer	■	■
Lead/lag system (remote only)	■	■

(1) Forward-incline fan on RS160/MLN. (2) Remote panel only on RS45/M LN