



R-Series Dual-Fuel Burners

Maximum Performance. Minimum Maintenance.

Dual-Fuel

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 and dual-fuel 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



Oil

Gas

Low NOx



Quality engineered for the North American market to Riello's proven world-class standard, R-Series dual-fuel burners are built for maximum uptime. These compact burners are based on a simple, integrated design that provides high-efficiency, low-noise operation while significantly reducing fuel and maintenance costs.

And Riello R-Series dual-fuel burners offer a host of standard features – like compact, light-weight, die-cast aluminum construction; an integrated control panel, and innovative slidebars that make installation and servicing easy.

Riello R-Series dual-fuel burners are available in firing rates from 378 to 5,292 MBtuh (gas) and 2.7 to 37.8 gph (oil), to handle a broad range of commercial, industrial and process applications. Offered in a variety of configurations with optional accessories, our RLS models deliver uncompromising performance and reliability.



RLS 70-130

Modulating Gas • 854 - 5,292 MBtuh
2-Stage Oil • 6.1 - 37.8 gph

With both full modulating gas and low/high, 2-stage oil firing functionality, Riello R-Series dual-fuel 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 high-capacity requirements.

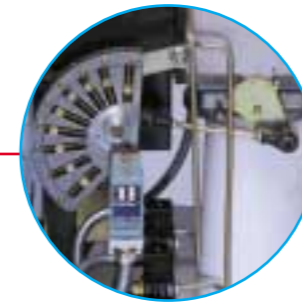


RLS 70



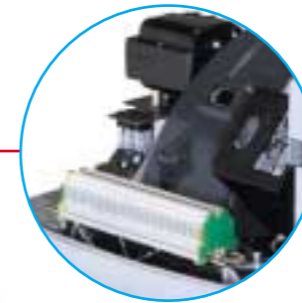
1 Advanced Servomotor (Not in main view)

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



2 Camnetic Gas 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 gas combustion and excellent repeatability.



3 Integrated Control Panels

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



4 Burner-Mounted Oil Pump

The RLS is equipped with a separate, burner-mounted oil pump which is not in use during gas operation. This approach reduces wear on the pump and extends service life.

5 Unique combustion head design

Specifically designed for lower-than-standard emissions, the Riello combustion head is available in various lengths to handle a wide range of applications.

8 Insulated air intake housing

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

6 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.

9 Die-cast aluminum chassis

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

7 Service slidebars

All RLS 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 Flame viewing window

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

11 Exterior drawer assembly adjustment screw

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



RLS 28-50

2-Stage Gas • 378 - 2,198 MBtuh
2-Stage Oil • 2.7 - 15.7 gph

Riello R-Series dual-fuel burners come standard in a low/high, 2-stage firing configuration. These RLS models are quality engineered for high reliability in applications such as hot water and steam boilers, thermal oil heaters and other light industrial processes with low-capacity requirements.

1 Integrated Control Panel

The RLS 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 RLS 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.



RLS 38

3 2-Stage Oil Regulating Assembly

The Riello RLS comes standard with a burner-mounted 2-stage oil fuel train and separate oil pump for easy field installation and simple operation.



4 Unique Combustion Head Design

Specifically designed for lower-than-standard emissions, the Riello combustion head is available in various lengths to handle a wide range of 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.

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

7 Die-cast aluminum chassis

Riello's quality engineered, die-cast aluminum construction allows for the RLS'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 RLS burner's exterior drawer assembly adjustment screw allows service personnel to quick-adjust insertion depth, fine tuning air flow pattern for shaping flame geometry.

10 Reliable servomotor

The servomotor automatically controls combustion air during gas and oil operation.

Specifications

RLS Gas/Light-Oil Forced-Draft Burners

Model	Capacity (MBTUH) ⁽¹⁾	Capacity (GPH) ⁽²⁾	Combustion Air Motor			Sound Levels dBA	Max. Chamber Pressure ("w.c.) @ high fire	Min. Gas Pressure ("w.c.) ⁽⁵⁾ (6)
			Voltage ⁽³⁾ (4)	HP	Amperage Draw			
28	378 - 1,232	2.7 - 8.8	120/1/60	1/2	5.2	68.0	0.8	6.0
38	434 - 1,666	3.1 - 11.9	120/1/60	1/2	5.2	70.0	1.1	7.0
50	546 - 2,198	3.9 - 15.7	230-460-575/3/60	3/4	3.2 / 1.6 / 1.3	72.0	0.0	6.0
70	854 - 3,094	6.1 - 22.1	230-460-575/3/60	1 1/2	4.8 / 2.8 / 2.3	74.0	2.0	7.0
100	1,330 - 4,396	9.5 - 31.4	230-460-575/3/60	2 1/2	6.7 / 3.9 / 3.2	77.5	2.6	7.0
130	1,750 - 5,292	12.5 - 37.8	230-460-575/3/60	3	8.8 / 5.1 / 4.1	80.0	1.6	8.0

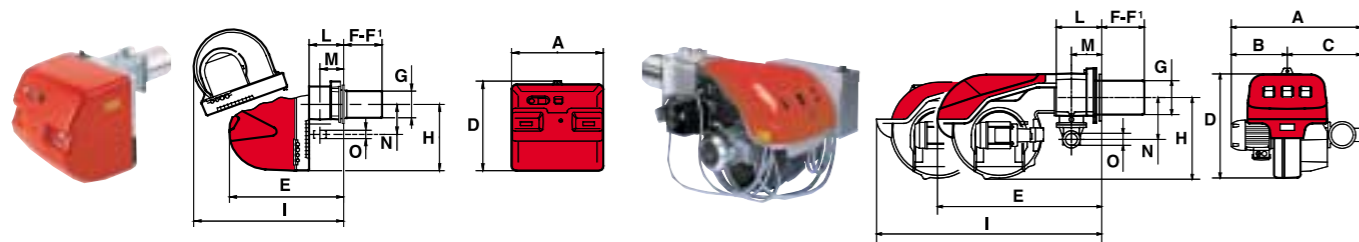
(1) Ratings based on 1,000 Btu/ft.³ and .64 specific gravity.
 (2) Ratings based on 140,000 Btu/gallon for No.2 fuel oil.
 (3) Other voltages available on request.

(4) A separate 120/1/60 control voltage supply is required.
 (5) Based on natural gas.
 (6) Honeywell, Dungs and Siemens gas trains available.

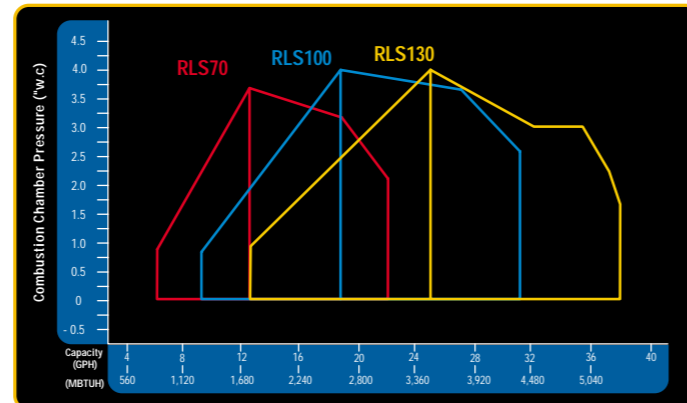
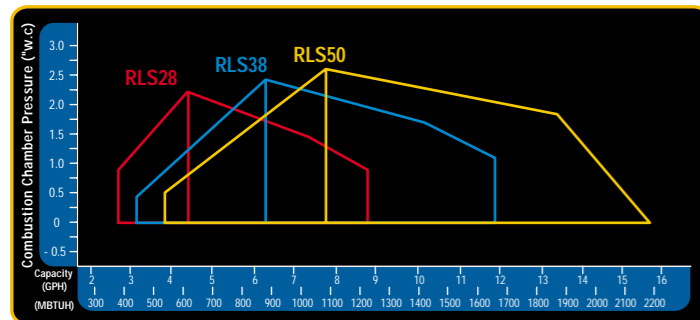
Dimensions

All units are in inches

RLS	A	B	C	D	E	F-F ⁽¹⁾	G	H	I	L	M	N	O
28	18 ^{23/32}	-	-	18 ^{21/32}	22 ^{13/16}	7 ^{1/2} - 12 ^{7/8}	5 ^{1/2}	13 ^{27/32}	31 ^{7/8}	6 ^{7/16}	4 ^{1/4}	6 ^{5/8}	1 ^{1/2}
38	18 ^{23/32}	-	-	18 ^{21/32}	22 ^{13/16}	7 ^{29/32} - 13 ^{1/4}	5 ^{31/32}	13 ^{27/32}	31 ^{7/8}	6 ^{7/16}	4 ^{1/4}	6 ^{5/8}	1 ^{1/2}
50	18 ^{23/32}	-	-	18 ^{21/32}	22 ^{13/16}	8 ^{1/2} - 13 ^{13/16}	5 ^{31/32}	13 ^{27/32}	31 ^{7/8}	6 ^{7/16}	4 ^{1/4}	6 ^{5/8}	1 ^{1/2}
70	27 ^{1/2}	11 ^{3/8}	16 ^{1/8}	21 ^{27/32}	33 ^{3/32}	9 ^{27/32} - 15 ^{3/16}	7 ^{1/16}	16 ^{15/16}	45 ^{23/32}	8 ^{7/16}	5 ^{9/32}	8 ^{23/32}	2
100	28 ^{7/8}	12 ^{25/32}	16 ^{1/8}	21 ^{27/32}	33 ^{3/32}	9 ^{27/32} - 15 ^{3/16}	7 ^{1/16}	16 ^{15/16}	45 ^{23/32}	8 ^{7/16}	5 ^{9/32}	8 ^{23/32}	2
130	28 ^{7/8}	12 ^{25/32}	16 ^{1/8}	21 ^{27/32}	33 ^{3/32}	9 ^{27/32} - 15 ^{3/16}	7 ^{7/16}	16 ^{15/16}	45 ^{23/32}	8 ^{7/16}	5 ^{9/32}	8 ^{23/32}	2



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.



Standard Features - RLS Models	L-H-L Gas / L-H Oil	Full Modulation Gas / L-H Oil
	RLS28 - RLS50	RLS70 - RLS130
General		
Combustion air motor with reverse-incline fan	■	■
Service slidebars	■	■
UV scanner	■	■
Gas pilot ignition		On gas firing
Direct spark ignition	■	On oil firing
Fuel ignition transformer(s)	■	■
Flame retention combustion head	■	■
Servomotor (fuel / air ratio adjustment)	■	■
Flame inspection window	■	■
Air pressure switch	■	■
Air pressure test point	■	■
Gas pressure test point	■	■
Gas System		
Burner		
Camnetic regulating assembly with butterfly valve		■
High pressure switch	Optional	■
Elbow connector	■	■
Main shut-off valve	■	■
Main regulator	■	■
Main safety shut-off valve	■	■
Auxiliary safety shut-off valve	■	■
Leak test shut-off valve	■	■
Low pressure switch	■	■
Pilot		
Pilot shut-off valve		■
Pilot regulator		■
Pilot solenoid shut-off valves (2)		■
Oil System		
Separate burner-mounted pump with motor	■	■
Drawer & nozzle assembly with diffuser	■	■
Nozzle(s)	2	2
Main safety shut-off valve	■	■
1-stage valve	■	■
2nd stage shut-off valve	■	■
Integrated Control Panel		
Siemens LFL 1.335 flame safeguard	■	■
Starter with overload	■	■
Terminal strip	■	■
Fuel selector switch	■	■
Auto / manual / off switch	■	■
Manual firing rate switch	■	■
PID modulating controller		Optional
Remote Panel (Optional)		
Siemens LFL 1.335 flame safeguard	■	■
Honeywell RM7800 Series flame safeguard	■	■
Fireye E-110 flame safeguard	■	■
Starter with overload	■	■
Terminal strip	■	■
Fuel selector switch	■	■
On-off switch	■	■
Fuses	■	■
Indicating lights:		
Power on	■	■
Main flame on	■	■
Flame failure	■	■
Options		
Alarm horn with silencing switch	■	■
Additional light	■	■
Set of dry contacts	■	■
Panel front-mounted flame safeguard display	■	■
2-position switch (maintained contact)	■	■



Represented By:

Power Equipment Company

2011 Williamsburg Road

Richmond, VA 23231

Ph: 804-236-3800

Fx: 804-236-3882

www.peconet.com