



R-Series Gas Burners

Maximum Performance. Minimum Maintenance.

Gas

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

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Oil

Dual-Fuel

Low NOx



Quality engineered for the North American market to Riello's proven world-class standard, R-Series gas 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 gas 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 gas burners are available in firing rates from 198 to 8,673 MBtuh, to handle a broad range of commercial, industrial and process applications. Offered in a variety of configurations with optional accessories, our RS models deliver uncompromising performance and reliability.



RS / M 70-190

Modulating Gas • 512 - 8,673 MBtuh

Available in both full modulating and progressive 2-stage firing configurations, Riello R-Series 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 high-capacity requirements.



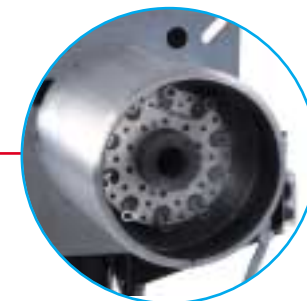
1 Advanced Servomotor (Not in main view)

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



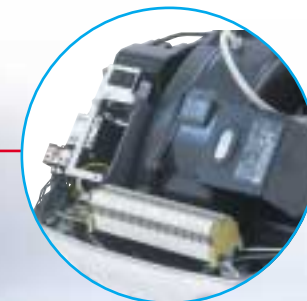
2 Camnetic Regulating Assembly

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 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.



4 Integrated Control Panel

The RS 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.

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's low-noise operation, even at full output.

7 Service slidebars

All RS 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.

8 Die-cast aluminum chassis

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

9 Flame viewing window

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

10 Exterior drawer assembly adjustment screw

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

RS70/M



RS/M 28-50
 Modulating • 198 - 2,201 MBtuh
RS/1 28-38
 On-Off • 617 - 1,761 MBtuh

Riello R-Series gas burners come standard in a full modulating firing configuration, with an on-off version available. Both models are 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-capacity requirements.

1 Integrated Control Panel

The RS 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 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.



RS38/M

3 Modulating Gas Regulating Assembly

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



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.

6 Insulated air intake housing

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

7 Die-cast aluminum chassis

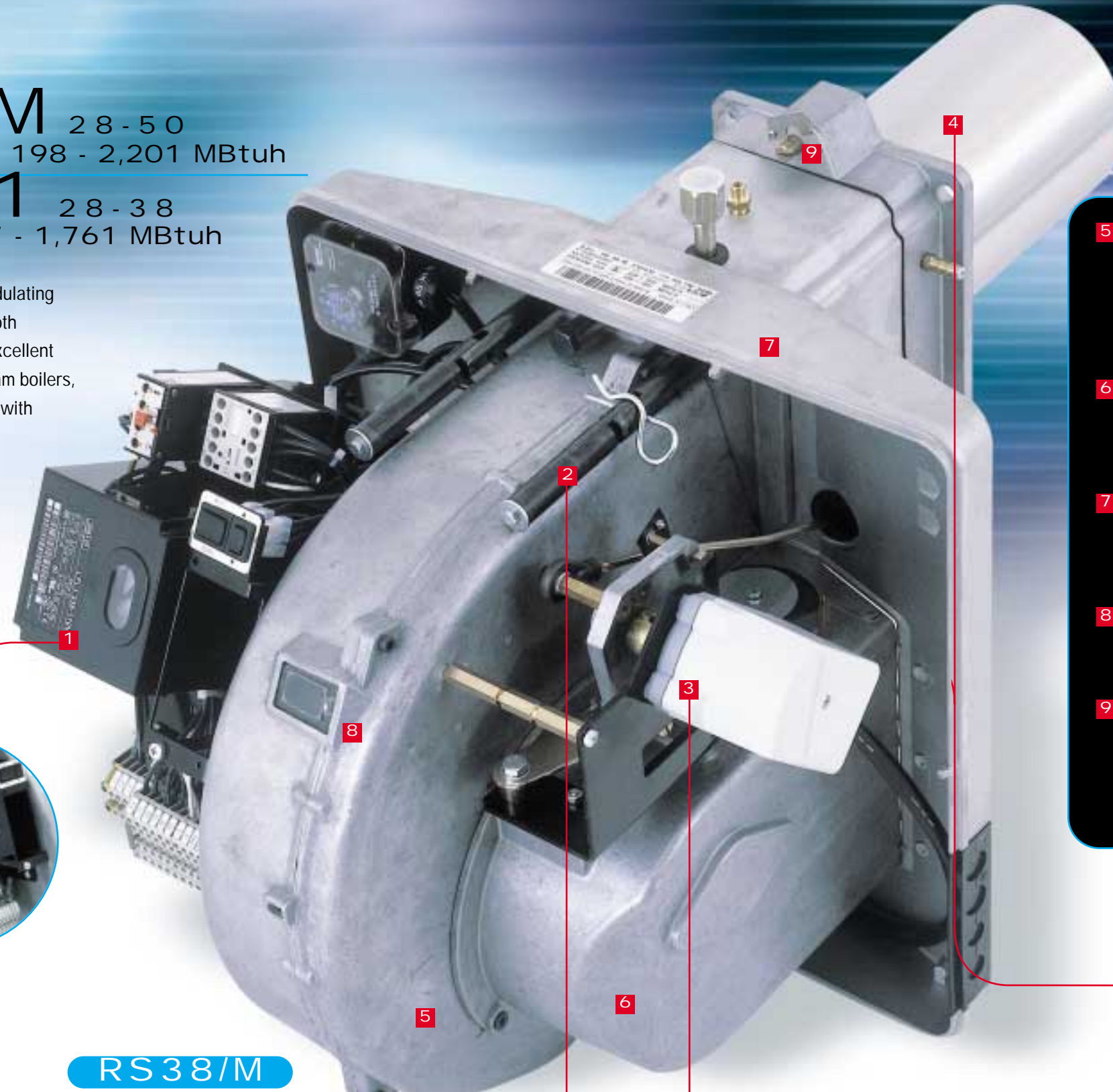
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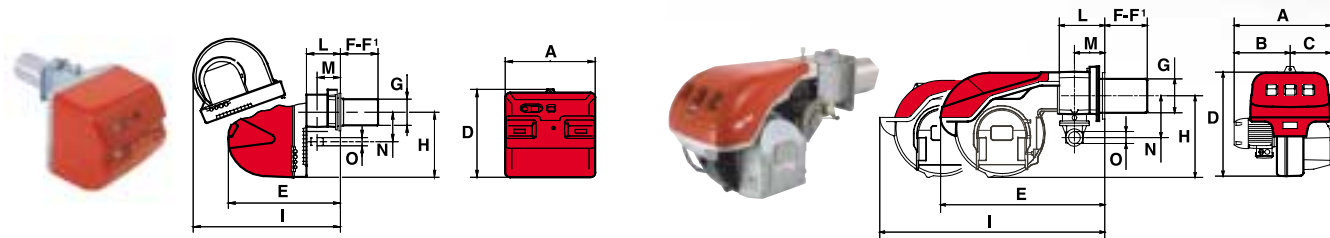
Specifications

RS Gas Forced-Draft Burners

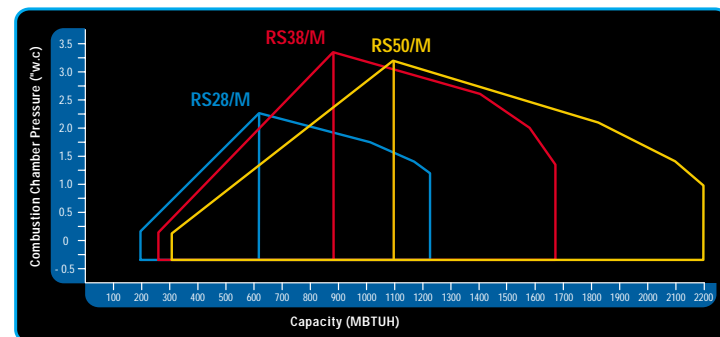
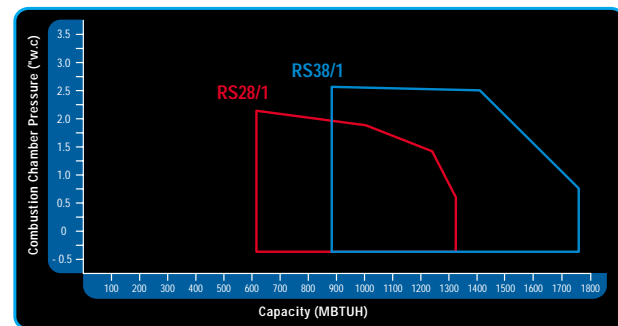
Dimensions All units are in inches

	A	B	C	D	E	F-F ¹ *	G	H	I	L	M	N	O
RS/1													
28	18 ^{23/32}	-	-	18 ^{21/32}	22 ^{13/16}	8 ^{1/2} - 13 ^{13/16}	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}	8 ^{1/2} - 13 ^{13/16}	5 ^{1/2}	13 ^{27/32}	31 ^{7/8}	6 ^{7/16}	4 ^{1/4}	6 ^{5/8}	1 ^{1/2}
RS/M													
28	18 ^{23/32}	-	-	18 ^{21/32}	22 ^{13/16}	8 ^{1/2} - 13 ^{13/16}	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}	8 ^{1/2} - 13 ^{13/16}	5 ^{1/2}	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	20 ^{1/8}	11 ^{21/32}	8 ^{15/32}	21 ^{27/32}	33 ^{1/16}	9 ^{27/32} - 15 ^{5/32}	7 ^{1/32}	16 ^{29/32}	45 ^{11/16}	8 ^{13/32}	5 ^{9/32}	8 ^{11/16}	2
100	20 ^{3/4}	12 ^{9/32}	8 ^{15/32}	21 ^{27/32}	33 ^{1/16}	9 ^{27/32} - 15 ^{5/32}	7 ^{1/32}	16 ^{29/32}	45 ^{11/16}	8 ^{13/32}	5 ^{9/32}	8 ^{11/16}	2
130	21 ^{25/32}	13 ^{5/16}	8 ^{15/32}	21 ^{27/32}	33 ^{1/16}	11 ^{1/32} - 16 ^{11/32}	7 ^{3/32}	16 ^{29/32}	45 ^{11/16}	8 ^{13/32}	5 ^{9/32}	8 ^{11/16}	2
190	26 ^{13/16}	14 ^{13/32}	12 ^{13/32}	21 ^{27/32}	33 ^{1/16}	14 ^{21/32}	8 ^{3/4}	16 ^{15/16}	51 ^{21/32}	9 ^{1/16}	5 ^{29/32}	7 ^{5/16}	2

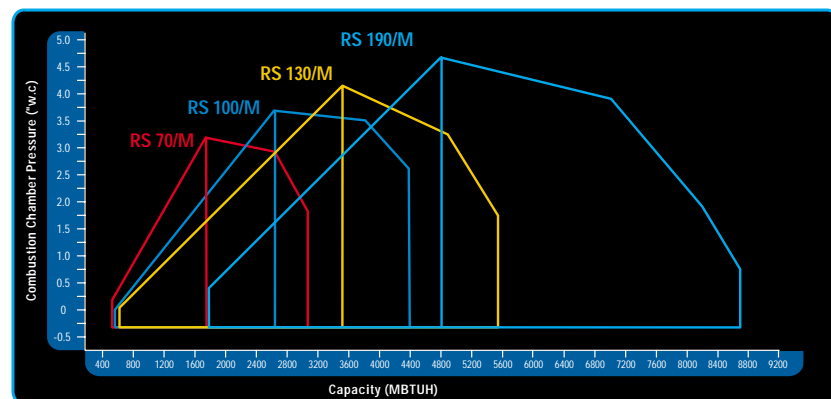
* F¹ Length with combustion head extension. Not available on the RS190/M.



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) (5)}	
		Voltage ^{(2) (3)}	HP	Amperage Draw				
RS/1	28	617 - 1,320	120/1/60	1/2	5.2	70.0	0.6	6.0
	38	880 - 1,761	120/1/60	1/2	5.2	72.0	0.7	7.0
RS/M	28	198 - 1,232	120/1/60	1/2	5.2	68.0	1.2	6.0
	38	266 - 1,665	120/1/60 or 230-460-575/3/60	1/2 or 3/4	5.2 / 3.2 / 1.6 / 1.3	70.0	1.4	7.0
	50	321 - 2,201	230-460-575/3/60	3/4	3.2 / 1.6 / 1.3	72.0	1.0	6.0
	70	512 - 3,084	230-460-575/3/60	1 1/2	4.8 / 2.8 / 2.3	75.0	2.0	7.0
	100	570 - 4,405	230-460-575/3/60	2 1/2	6.7 / 3.9 / 3.2	77.0	2.8	7.0
	130	607 - 5,545	230-460-575/3/60	3	8.8 / 5.1 / 4.1	78.5	1.6	8.0
190	1,781 - 8,673	230-460-575/3/60	5 1/2	15.8 / 9.1 / 7.3	83.1	0.8	7.0	

(1) Ratings based on 1,000 Btu/ft.³ 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) Honeywell, Dungs and Siemens gas trains available.

Standard Features - RS Models	On - Off		2-Stage / Full Modulation	
	RS28/1 - RS38/1	RS28/M - RS50/M	RS70/M - RS190/M	
General				
Combustion air motor with reverse-incline fan ⁽¹⁾	■	■	■	
Service slidebars	■	■	■	
Flame rod	■	■	■	
Gas pilot ignition	■	■	■	
Fuel ignition transformer(s)	■	■	■	
Flame retention combustion head	■	■	■	
Flame inspection window	■	■	■	
Air pressure switch	■	■	■	
Air pressure test point	■	■	■	
Gas pressure test point	■	■	■	
Burner				
Camnetic regulating assembly with butterfly valve		■	■	
High pressure switch	Optional	Optional	■	
Elbow connector	■	■	■	
Main Train				
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)	■	■	■	
Control Panel				
Siemens LFL 1.335 flame safeguard	■	■	■	
Starter with overload	■	■	■	
Terminal strip	■	■	■	
On-off switch	■			
Auto / manual / off switch		■	■	
Manual firing rate switch		■	■	
PID modulating controller		Optional	Optional	
Optional Panel				
Siemens LFL 1.335 flame safeguard	■	■	■	
Honeywell RM7800 Series flame safeguard	■	■	■	
Fireye E-110 flame safeguard		■	■	
Fireye MEC120 flame safeguard	■			
Starter with overload	■	■	■	
Terminal strip	■	■	■	
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)	■	■	■	

(1) Forward-incline fan on RS190/M.