



Models SP500, SP800, SP1000 & SP1500.

Submittal

Project:		Name:	
Location:		Phone:	
Contractor:		Email:	
Model:		Date:	

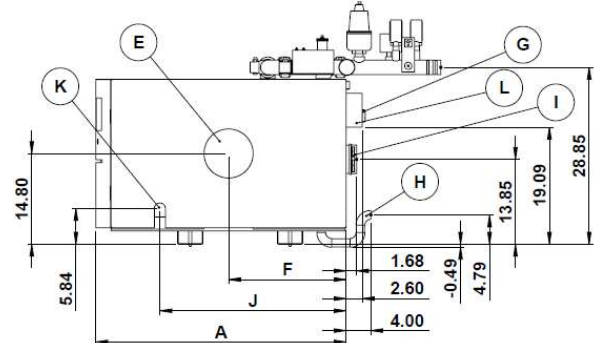
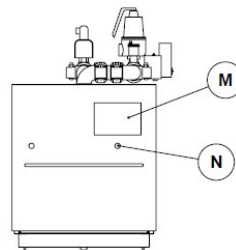
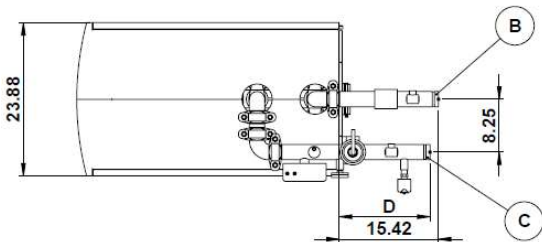


ANSI Z21.13-22/
CSA 4.9-2022 Low-
Pressure Boiler
MH542835

Top

Front

Side



Spire Gas-Fired Condensing Boiler Model Selection		<input type="checkbox"/> SP500	<input type="checkbox"/> SP800	<input checked="" type="checkbox"/> SP1000	<input type="checkbox"/> SP1500
AHRI Certified Performance Data	units				
Maximum gas input	MBH (KW)	470(138)	800(234)	1000(293)	1500(440)
Minimum gas input	MBH (KW)	47(13.8)	80(23.4)	100(29.3)	150(44)
Rated heat output at 180°F supply/80°F return	MBH (KW)	454(133)	787(231)	974(285)	1467(430)
Minimum heat output	MBH (KW)	45.4(13)	78.7(23.1)	97.4(28.5)	146.7(43)
ANSI/AHRI Standard 1500 Rated Thermal Efficiency	%	96.5	98.4	97.4	97.8
Firing sequence – turndown ratio	Full Modulation – 10:1				
Physical Data					
(A) Overall Length	Inches (mm)	40.8 (1036)	48 (1218)	55.4 (1407.2)	63 (1600)
(B) Water Return	Inches (mm)	2 Nominal (Grooved per Victaulic OGS 25.01)			
(C) Water Supply	Inches (mm)	2 Nominal (Grooved per Victaulic OGS 25.01)			
(D) Distance to Water Supply	Inches (mm)	14.1 (358)	6.9 (175)	2.2 (56)	-5.5 (-140)
Maximum allowable working pressure MAWP	PSIG (Bar)	160 (11)			
Water content	Gallons (Liter)	4.7(17.8)	8(30.3)	9.5(36)	12.9(48.8)
Shipping weight	Pounds (Kg)	413(188)	467(212)	500(227)	555(251)
Operating weight	Pounds (Kg)	452(205)	534(243)	579(263)	662(301)
(E) Combustion Air Inlet – Diameter	Inches (mm)	8 (203)			
(F) Position of Air Inlet	Inches (mm)	19.2 (488)	22.7 (577)	39.7 (1008)	45.4 (1153)
(G) Drain Valve	Inches	3/4 Male hose			
(H) Condensate Drain – Diameter	Inches	1" Nominal			
Vent / Gas Connection Sizes					
(I) Flue Gas Vent – Diameter	Inches (mm)	4 (102)	6 (152)	6 (152)	8 (152)
(J) Position of Gas Inlet	Inches (mm)	30.4 (772)	28.1 (714)	32.9 (836)	40.6 (1031)
(K) Gas inlet – Diameter	Inches (mm)	1 Nominal	1 Nominal	1 Nominal	1-1/2 Nominal
Electrical Data					
Electrical main supply	V/P/H	120VAC/1P/15A	240VAC/1P/15A		
(L) Main Power Switch and Electrical Connection					



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Operational Data					
Typical flow rate at 36°F ΔT and max rated output	GPM (lpm)	25(94.6)	40(151.4)	50(189.3)	75.2(284.7)
Water pressure drop at 36°F ΔT and typical flow rate	ft. H ₂ O (mbar)	3.35(100.1)	3.68(110)	4.18(124.9)	5.3(158.4)
Maximum flow rate	GPM (lpm)	46.5(176)	74.5(282)	93(352)	140(530)
Minimum flow rate at ignition	GPM (lpm)	5(18.9)	7.5(28.3)	9.5(36)	14(53)
Maximum supply temperature at 22 psi minimum	°F(°C)	200(95)			
Normal operating temperature range	°F(°C)	68(20) – 194(90)			
Maximum pressure loss in vent (sealed combustion)	Inch W.C. (mbar)	+0.2(0.5)			
Maximum pressure loss (combustion air duct)	Inch W.C. (mbar)	-0.22(0.55)			
Required combustion air CSA B-149- Forced Draft	CFM (LPS)	103(48.6)	165(77.9)	206(97.2)	309(145.8)
Gas inlet pressure range	Inch W.C. (mbar)	4-14(8.8-34.8)			
IP-IEC NEMA protection	Rating	IP20 – NEMA type I			
Boiler operating control	Honeywell Sola R910A				
Touch screen	Honeywell 7" S7999D1006				
General Data					
Heat Exchanger Construction	316L Stainless Steel				
Boiler Category	Gas-Fired Low Pressure Condensing Commercial Boiler				
Venting Category	II or IV				
Venting Material	Approved UL 1978/ULC 636 – AL-294C, Polypropylene, CPVC				

	Set Pressure	Temperature Limit
<input type="checkbox"/>	15 PSIG (103.4 kPa)	250 °F (121 °C)
<input type="checkbox"/>	30 PSIG (206.8 kPa)	250 °F (121 °C)
<input type="checkbox"/>	50 PSIG (344.7 kPa)	250 °F (121 °C)
<input type="checkbox"/>	100 PSIG (689.5 kPa)	250 °F (121 °C)
<input type="checkbox"/>	125 PSIG (861.8 kPa)	250 °F (121 °C)
<input type="checkbox"/>	150 PSIG (1034.2 kPa)	250 °F (121 °C)

*Other pressures available upon request.

Front – 36 (914)	Rear – 12 (305)	Top – 12 (305)
Right Side – 36 (914)	Left Side – 0	
Minimum clearance to combustibles – 24 (610) all sides		
Do not install on carpet		

Item	Description
Flow Switch	Water flow proving switch.
High Limit Switch	Water temperature high limit switch.
Safety Relief Valve	Safety relief valve factory set for your systems pressure limits.
Temperatures Sensors	Supply and return water temperature sensors.
Automatic Air Bleeder	Automatic air bleeder for removing air entrapped in the system.
Low Water Cut-Off	Prevents burner from firing when water level drops below normal level.

<input type="checkbox"/>	Local/Remote Switch	Factory installed switch allows for easy switch from local to BMS boiler control.
<input type="checkbox"/>	BACnet Gateway	Modbus RTU to BACnet Gateway. Supports BACnet/IP, BACnet MS/TP, LonWorks and Johnson Controls Metasys N2 systems.
<input type="checkbox"/>	Sealed Combustion Stub	Stub for connection combustion air supply piping to the boiler.
<input type="checkbox"/>	Stacking Kit	Kit with a frame and fittings allowing one boiler to be installed on top of another.
<input type="checkbox"/>	Vertical Manifold	Allows control manifolds to be installed vertically on supply and return of boiler.
<input type="checkbox"/>	Condensate Neutralizer	Controls the PH of the boiler condensate for safe discharge to drain.