ABSOLUTE

Spire

COMMERCIAL HIGH EFFICIENCY
GAS CONDENSING BOILER

500 – 8,000 MBH

www.absoluteboilers.com

RELIABILITY THROUGH INNOVATION

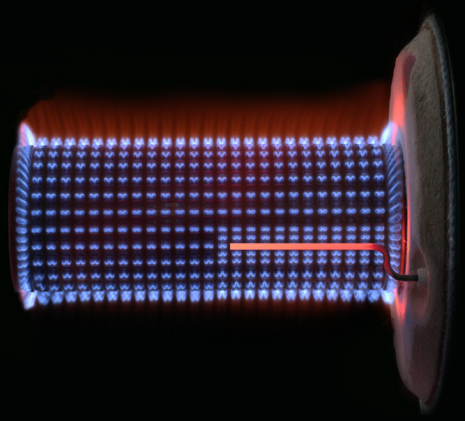
The Absolute SPIRE has been developed for unmatched reliability, durability and cost effectiveness. The water tube heat exchanger design utilizes a proprietary industrial process, a hydroforming technology in a state-of-the-art automated facility ensuring consistent quality / uniform and constant gaps between the stainless-steel tubes. This technology allows the boiler to be compact and lightweight, occupying minimum footprint. This guarantees the highest efficiency across the operating range by incorporating a counterflow four-pass flue design.

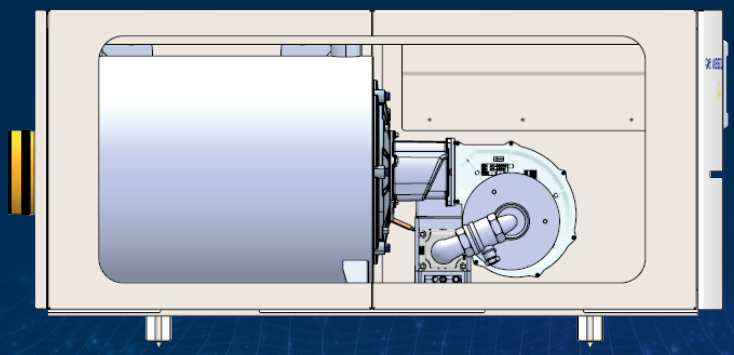
Key Features And Benefits

- 316L STAINLESS STEEL
- INDUSTRY LEADING 10 To 1 TURNDOWN
- UP TO 98% THERMAL EFFICIENCY
- 7" HD TOUCHSCREEN
- COMPACT & LIGHTWEIGHT
- LOW WATER PRESSURE DROP
- 10 MODELS: 500,000 BTU/HR TO 8 MILLION BTU/HR
- 160 MAWP @ DESIGN TEMP OF 210F
- EFFORTLESS SERVICEABILITY
- COUNTERFLOW 4-PASS DESIGN
- LOW NOISE OPERATION

HIGH TURNDOWN RATIO OF 10 TO 1

Linkage-less system consisting of a premix burner integrated with a high performance fan and zero governor gas valve.



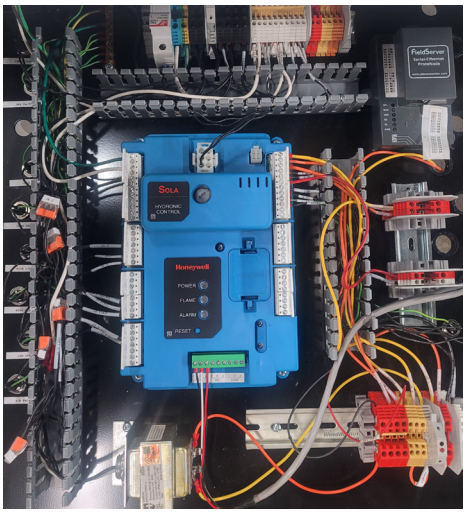


INSTALLATION ADVANTAGES

- Reduced footprint due to heat exchanger hydroforming technology making the units extremely compact and lightweight.
- SP 500, 800, 1000 sizes stackable.
- All models available in left & right hand configurations.

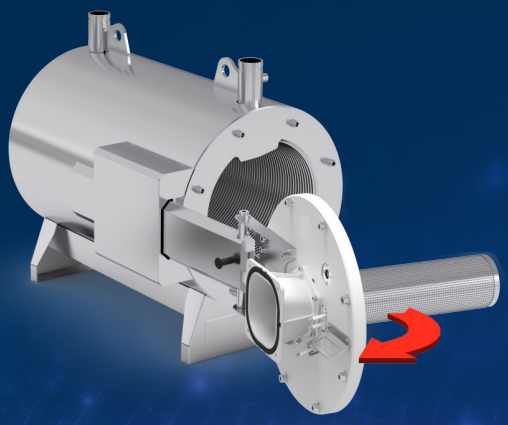
STATE OF THE ART BOILER CONTROL

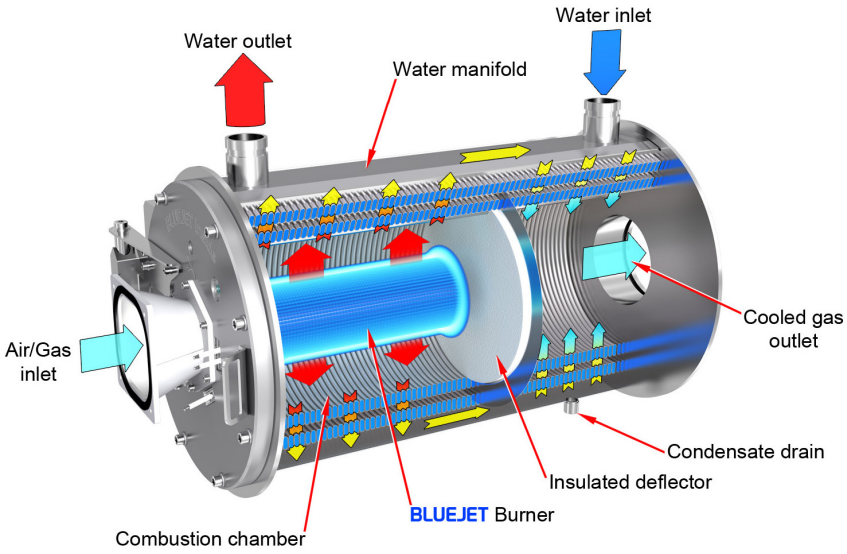
- Quick and easy set-up and boiler start-up.
- Simplified diagnostics: all test points are accessible from the pullout control panel.
- Fault codes replaced with annunciation messages.



SIMPLIFIED SERVICEABILITY & MAINTENANCE

- Side boiler panels can be removed with no tools, providing ease of access to all boiler components for maximum serviceability.
- Burner Door swivels open for full access to the combustion chamber and the burner.
- Control panel conveniently slides out for easy access.
- Most common lock-out code chart & cause /check points adhered to the internal boiler casing for simplified serviceability





DUAL FLUE TEMPERATURE ZONE

The 316L stainless steel heat exchanger features a true four-pass counterflow design comprising of a dual flue temperature zone within the heat exchanger. Dual flue temperature zone is achieved via an insulated partition. Water efficiently flows through both differential temperature zones optimizing water-flue gas heat transfer to the fullest.

STANDARD FEATURES

- Watertube 316L Stainless Steel Heat Exchanger
- Each Boiler Fully Factory Fire Tested
- MAWP 160 PSIG, MWT 210 F
- Fully Modulating Premix Burner Technology
- High Performance Variable Speed Combustion Blower
- Zero Governor Gas Valve
- Lead Lag Cascade
- 10 To 1Turndown Ratio
- Honeywell Combustion Control
- Low NOx Emissions (20ppm or less at all firing rates)
- Direct-Spark Ignition
- Low Noise Level
- Sealed Combustion
- Vertical and Horizontal Direct Venting
- High Limit & Low Water Cutoff (Manual Reset)
- High & Low Gas Pressure Switches w/ Manual Reset
- Low Air Pressure Switches
- Drain Valve, Air Vent, Flow Switch
- ASME Safety Relief Valve
- Pressure and Temperature Gauge

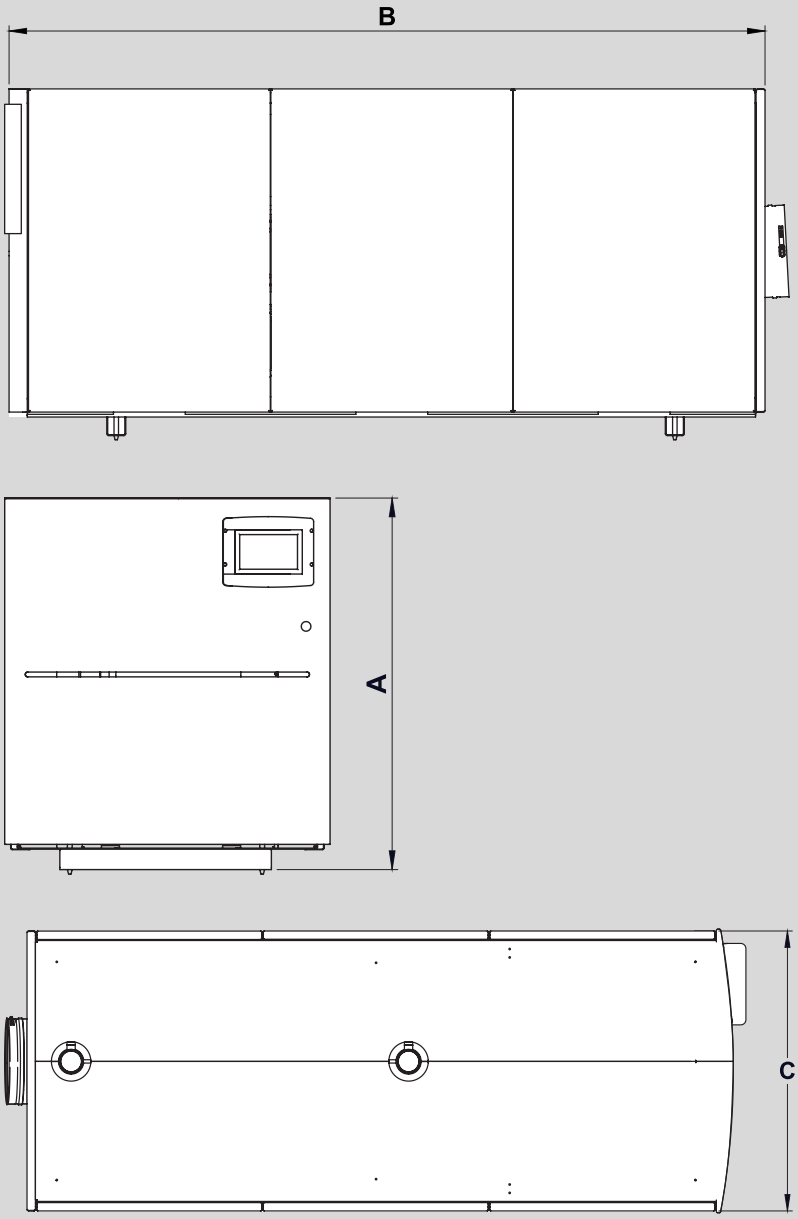
OPTIONAL FEATURES

- BMS Integration
- Communication Gateways – BACnet, ModBus TCP/IP Compatible
- Outdoor Air Sensor
- Local/Remote Switch
- Combustion Air Filter
- Neutralizer Kit
- Low Water Cutoff (Auto Reset)

CODES AND REGISTRATIONS

- ANSI Z21.13/CSA 4.9
- ASME Section IV Certified, “H” Stamp
- Canadian Registration Number (CRN)
- CSD-1 Compliant
- $_{C}UL_{US}$ Listed
- AHRI Certified

Physical Dimensions



	A - Height	B - Length	C - Width
	inch	inch	inch
	mm	mm	mm
SP500	27	41.5	23.9
	686	1,054	607
SP800	27	48.6	23.9
	686	1,234	607
SP 1000	27	56	23.9
	686	1,422	607
SP 1500	27	63.7	23.9
	686	1,618	607
SP 2000	39	72.3	32.8
	991	1,836	833
SP 3000	39	81	32.8
	991	2,057	833
SP 4000	51.5	99.3	43.8
	1,308	2,522	1,112
SP 5000	51.5	99.3	43.8
	1,308	2,522	1,112
SP 6000	51.5	112.8	43.8
	1,308	2,865	1,112
SP 8000	51.5	112.8	43.8
	1,308	2,865	1,112

Technical Specifications

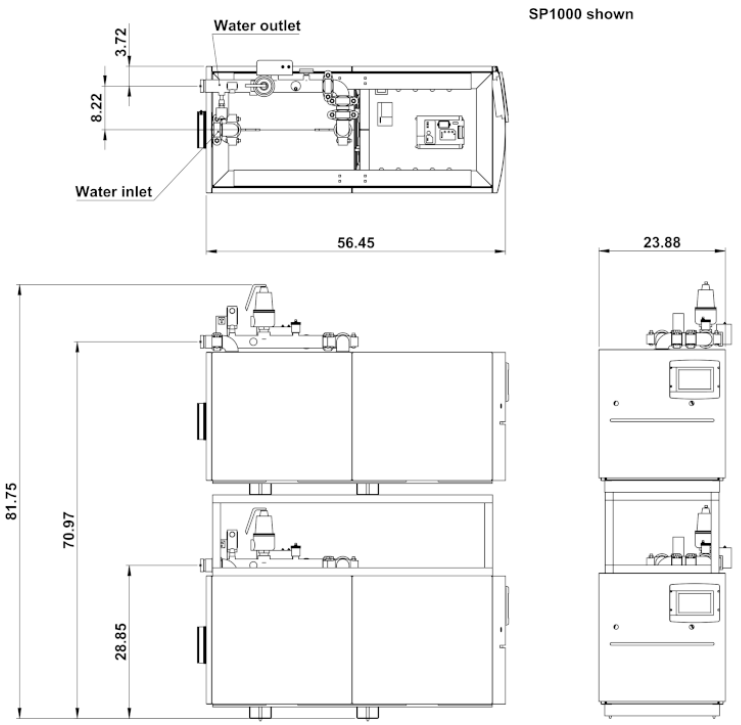
Model	Unit	SP 500	SP 800	SP 1000	SP 1500	SP 2000	SP 3000
Max Input Rate	Btu/hr (kW)	470,000 (138)	800,000 (235)	1,000,000 (293)	1,500,000 (440)	2,000,000 (586)	3,000,000 (879)
Min Input Rate	Btu/hr (kW)	47,000 (13.8)	80,000 (23.4)	100,000 (29.3)	150,000 (44)	200,000 (58.6)	300,000 (87.9)
Max Output Rate	Btu/hr (kW)	454,000 (133)	787,000 (231)	974,000 (285)	1,467,000 (430)	1,956,000 (565.4)	2,943,000 (862)
Min Output Rate	Btu/hr (kW)	45,500 (13)	78,700 (23.1)	97,400 (28.5)	146,700 (43)	195,600 (57.3)	294,300 (86.2)
Efficiency	%	96.5	98.4	97.4	97.8	97.8	98.1
Turndown	Rate	10:1	10:1	10:1	10:1	10:1	10:1
Fuel Type				Natural Gas			
Boiler Category				ASME Sect. IV			
Gas Connections	Ø Inch (Ø mm)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.25 (31.8)	2.0 (50.8)	2.0 (50.8)
Max Inlet Gas Pressure	Inch w.c (mbar)	14 (34.8)	14 (34.8)	14 (34.8)	14 (34.8)	14 (34.8)	14 (34.8)
Min Inlet Gas Pressure	Inch w.c (mbar)	7 17.4	7 17.4	7 17.4	7 17.4	7 17.4	7 17.4
Water Connections	Ø Inch (Ø mm)	2 (50.8)	2 (50.8)	2 (50.8)	2 (50.8)	2.5 (63.5)	2.5 (63.5)
Max. Allowable Working Pressure (MAWP)	PSI (bar)	160 (11)	160 (11)	160 (11)	160 (11)	160 (11)	160 (11)
Water Volume	Gallon (liter)	4.7 (17.8)	8.0 (30.3)	9.5 (36)	12.9 (48.8)	16.2 (61.3)	27 (102.2)
Vent / Air Inlet Connections	Ø Inch (Ø mm)	4 / 4 100 / 100	6 / 6 152 / 152	6 / 6 152 / 152	8 / 8 203 / 203	8 / 8 203 / 203	10 / 10 254 / 254
Venting Materials				Approved UL 1978/ULC 636 - AL-294C, Polypropylene, CPVC			
Max. Operating Temp.	°F (°C)	194 (90)	194 (90)	194 (90)	194 (90)	194 (90)	194 (90)
Max HE Allowable Temp.	°F (°C)	210 (99)	210 (99)	210 (99)	210 (99)	210 (99)	210 (99)
Heating Surface Area - water side	SQFT (m^2)	39.1 (3.63)	60.9 (5.66)	75.4 (7)	98.6 (9.16)	153.19 (14.23)	188.54 (17.52)
Electrical Requirement	V/Ph/Hz Amps	120/1/60 15	240/1/60 15	240/1/60 15	240/1/60 15	240/1/60 15	480/3/60 15
Weight (Dry)	Lbs (kg)	413 (187)	467 (212)	500 (227)	555 (252)	955 (433)	1,077 (489)
Dimensions, LxWxH	Inch	41.5x23.9x27	48.6x23.9x27	56x23.9x27	63.7x23.9x27	72.25x32.75x39	81x32.75x39

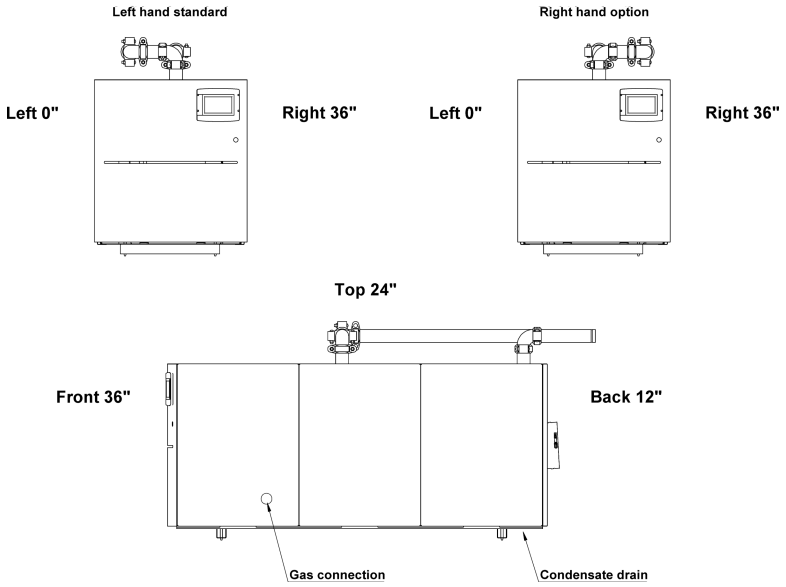
Technical Specifications

Model	Unit	SP 4000	SP 5000	SP 6000	SP 8000
Max Input Rate	Btu/hr (kW)	4,000,000 (1,172)	5,000,000 (1,465)	6,000,000 (1,758)	8,000,000 (2,345)
Min Input Rate	Btu/hr (kW)	400,000 (117.2)	500,000 (146.5)	600,000 (175.8)	800,000 (234.4)
Max Output Rate	Btu/hr (kW)	3,884,000 (1,138)	4,860,000 (1,424)	5,850,000 (1,714)	7,808,000 (2,288)
Min Output Rate	Btu/hr (kW)	388,400 (113.8)	486,000 (142.4)	585,000 (171.4)	780,800 (228.8)
Efficiency	%	97.1%	97.2%	97.7%	97.5%
Turndown	Rate	10:1	10:1	10:1	10:1
Fuel Type		Natural Gas			
Boiler Category		ASME Sect. IV			
Gas Connections	Ø Inch (Ø mm)	2.0 (50.8)	2.5 (63.5)	2.5 (63.5)	2.5 (63.5)
Max Inlet Gas Pressure	Inch w.c (mbar)	14 (34.8)	14 (34.8)	14 (34.8)	14 (34.8)
Min Inlet Gas Pressure	Inch w.c (mbar)	7 17.4	7 17.4	7 17.4	7 17.4
Water Connections	Ø Inch (Ø mm)	4 (101.6)	4 (101.6)	4 (101.6)	4 (101.6)
Max. Allowable Working Pressure (MAWP)	PSI (bar)	160 (11)	160 (11)	160 (11)	160 (11)
Water Volume	Gallon (liter)	35 (132.4)	45 (170.3)	60 (227.1)	80 (302)
Vent / Air Inlet Connections	Ø Inch (Ø mm)	12/12 305/305	12/12 305/305	14 / 14 356 / 356	14 / 14 356 / 356
Venting Materials		Approved UL 1978/ULC 636 - AL-294C, Polypropylene, CPVC			
Max. Operating Temp.	°F (°C)	194 (90)	194 (90)	194 (90)	194 (90)
Max HE Allowable Temp.	°F (°C)	210 (99)	210 (99)	210 (99)	210 (99)
Heating Surface Area - water side	SQFT (m^2)	402.93 (37.42)	445.02 (41.34)	487.12 (45.25)	649.5 (60.34)
Electrical Requirement	V/Ph/Hz Amps	480/3/60 15	480/3/60 15	480/3/60 15	480/3/60 15
Weight (Dry)	Lbs (kg)	2,133 (968)	2,133 (968)	2,316 (1,050)	2,316 (1,050)
Dimensions, LxWxH	Inch	99.25x43.75x51.5	99.25x43.75x51.5	112.75x43.75x51.5	112.75x43.75x51.5

NOTE: Specifications and dimensions are for reference only. The manufacturer strives for continuous product improvement and as such reserves the rights to make the product changes without prior notice.

Dimensions/Service Clearances





Please consult your local sales representative for details.

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