

ENCORE

FIRETUBE

FIRETUBE STAINLESS STEEL CONDENSING BOILER

350 - 850 MBH

+98% AHRI Certified

Up to 10:1 Turndown

Variable Volume, Full Flow and Primary/Secondary





Condensing Light Commercial Boilers

Encore firetube boilers are the perfect solution for today's smaller commercial applications.

Ultra high efficiency (+98%), a compact footprint and flexible venting options make Encore one of the most versatile firetube boilers on the market.

Incorporating all industry-proven components including HeatNet 3.0 touchscreen cascade control, Tru-Flow fuel/air coupling system with 10:1* turndown and capacities from 350 - 850 MBH (102 - 249kW), Encore has the right equipment for all of today's energy conscious installations.

Encore uses a pressure driven mixing system with no moving parts for the industry's most reliable 10:1* turndown, without lowering the CO₂%, all while avoiding nuisance ignition lockouts.



Features and Benefits

- 350 - 850 MBH (102 - 249kW)
- +98% AHRI Certified*
- Full Modulation (Up to 10:1*)
- Stainless Steel Heat Exchanger (160 PSI/ASME H)
- Variable Volume, Full Flow and Primary/Secondary
- Sika Vortex Flow Sensor
- HeatNet 3.0 Integrated Control Platform
- Touchscreen Programming and Diagnostics
- Remote Monitoring Capable
- Modbus, LonWorks and BACnet BMS Integration
- Category II and IV (up to 100' Direct and Sidewall)
- Concentric Vent (sidewall and vertical 350 - 600 MBH)
- PVC/CPVC, Polypropylene and Stainless Steel Vent Approved
- NG/LP/Dual Fuel
- Easy Maintenance and Installation
- Outdoor Installation
- Low Nox
- Energy Star Certified

*Efficiencies and turndown vary by size.



Heat Exchanger Performance

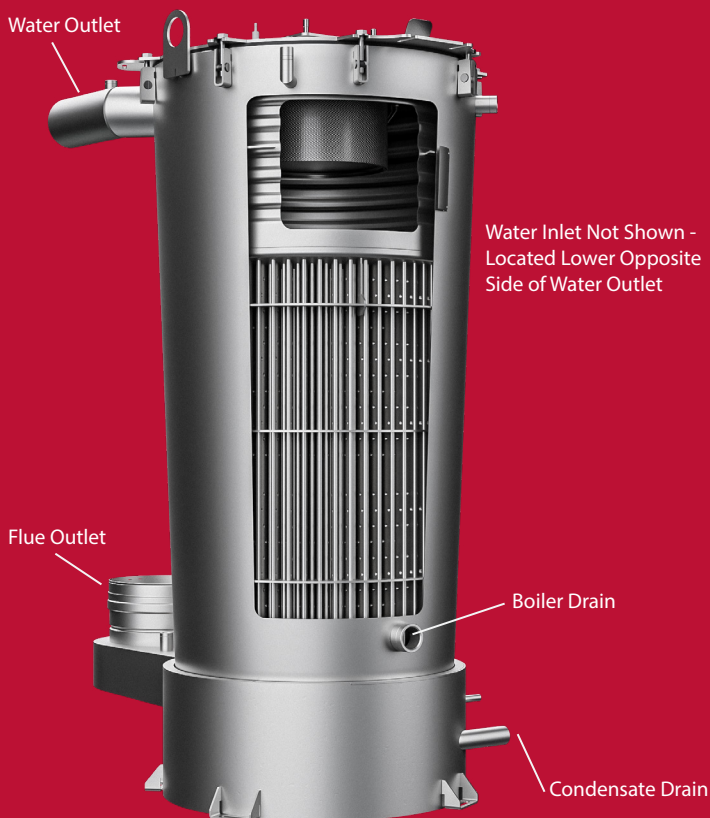
Encore firetube heat exchangers are designed for optimum performance and durability. Made from an industrial quality stainless steel Encore heat exchangers are reliable and robust with superior corrosion resistance.

Encore's heat exchanger is manufactured using a unique geometry of firetube design for maximum heat transfer by creating a "turbulent" flow of flue gases allowing Encore to "scrub" every last bit of energy efficiency across its large surface area for peak performance. Its anti-scaling baffling system is essentially self-cleaning, further ensuring product durability and corrosion resistance over the long haul.

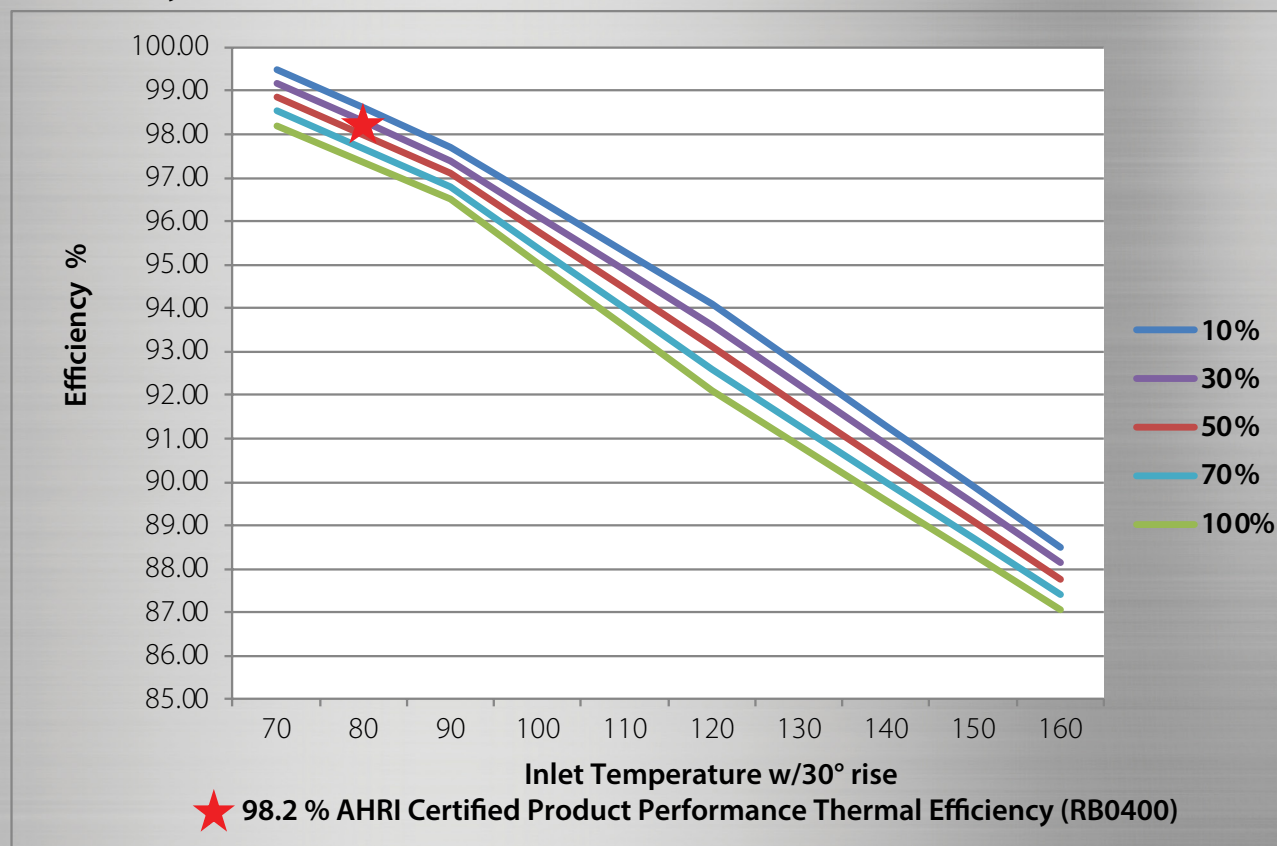
Full Modulation

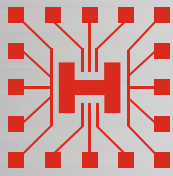
10:1* modulation works in perfect concert with our proven Tru-Flow neg-reg air/fuel combustion control system, insuring not only maximum performance efficiencies, but also clean, safe and reliable combustion always.

*Efficiencies and turndown vary by size.



Efficiency

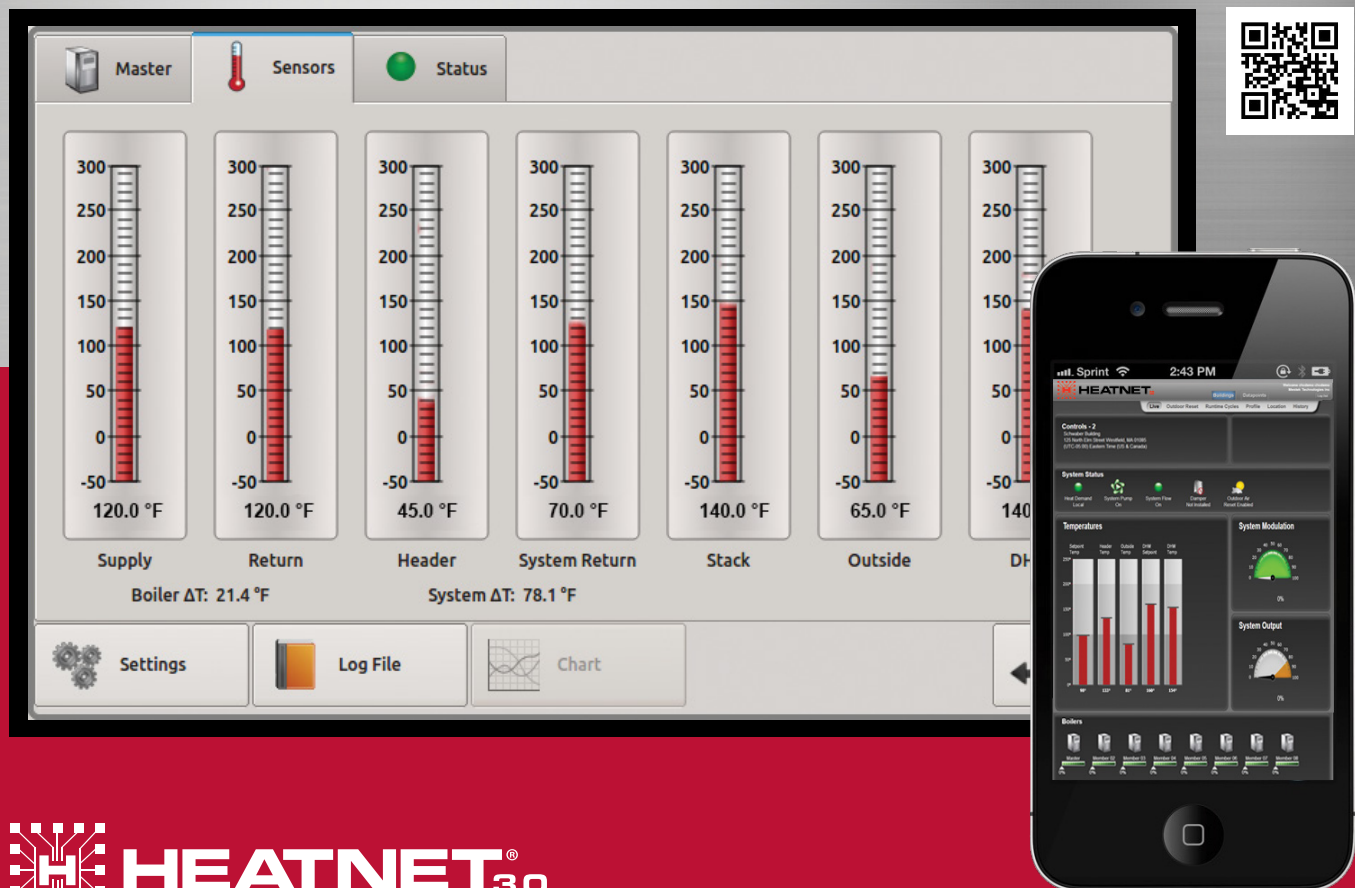




HEATNET[®] 3.0

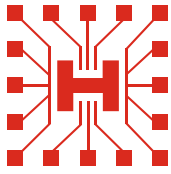
Every premium efficiency boiler manufactured by the Mestek Boiler Group is integrated with HeatNet 3.0[®] – an innovative, digital Boiler Management System that provides consistency and feedback through digital communication. By continuously monitoring several system characteristics, HeatNet 3.0 modulates boiler firing rates to maximize turndown ratios and maintain peak efficiency – no matter the load.

HeatNet 3.0 doesn't just benefit stand-alone boilers; it is a valuable and cost-saving tool in operating a multi-boiler Master/Member network of up to 16 boilers, including mixed-size units. By functioning as a boiler management system, HeatNet 3.0 can incorporate a mixture of condensing boilers and non-condensing boilers to eliminate costly third-party, wall-mounted boiler control platforms.



HEATNET[®] 3.0

- Digital Touch Screen Programming
- Lead/Lag Cascade (16 Units)
- Mixed-Size Unit Communication
- Adaptive Modulation
- Circular Pump/VFD/Valve Control
- BMS Integration
- Freeze Protection & Delta T Monitoring
- Hybrid/base Load Capability
- Priority Boiler Control
- Domestic Hot Water Communication
- Web-Based Remote Monitoring/Dashboard
- Diagnostics and Troubleshooting
- Set Points
- Exclusive Remote Monitoring Capability with HeatNet Online



HEATNET[®] 3.0

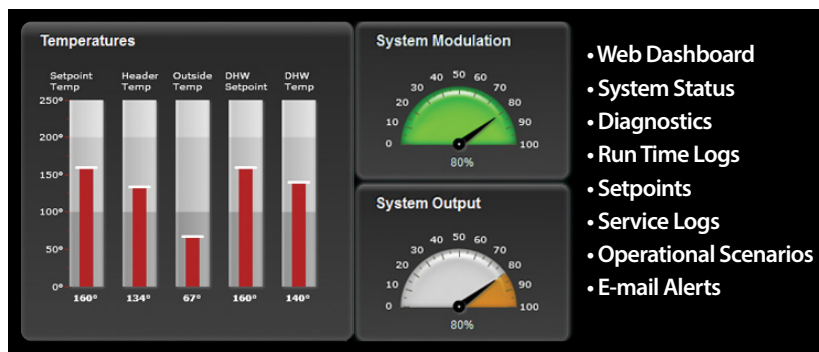
HeatNet Online:

Remote Monitoring, Boiler Performance Control & System Protection

HeatNet Online allows for real-time remote monitoring of boiler temperatures, limit circuit inputs, diagnostics and overall system performance.

HeatNet Online is a completely secure web-based monitoring program that allows visual boiler feedback from anywhere through an easy-to-read dashboard. View boiler set points, service logs and system issues from your office computer, tablet or cell phone.

HeatNet Online sends email text alerts for out-of-specification operation allowing for proactive responses to potentially harmful situations protecting the equipment and your investment.

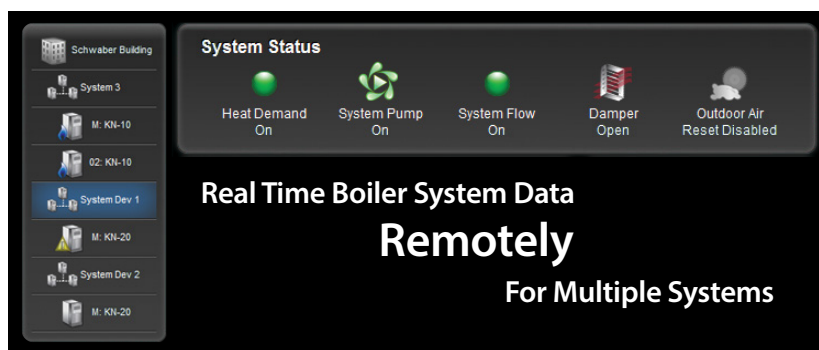


Building Dashboard

- Supports Multiple Systems
- "Live" Data Updated Every 60 Seconds
- Setpoint, Header, DHW Set, DHW (if enabled) Stack (if detected)
- System Modulation, System Output
- Visual Cues for Firing Boilers

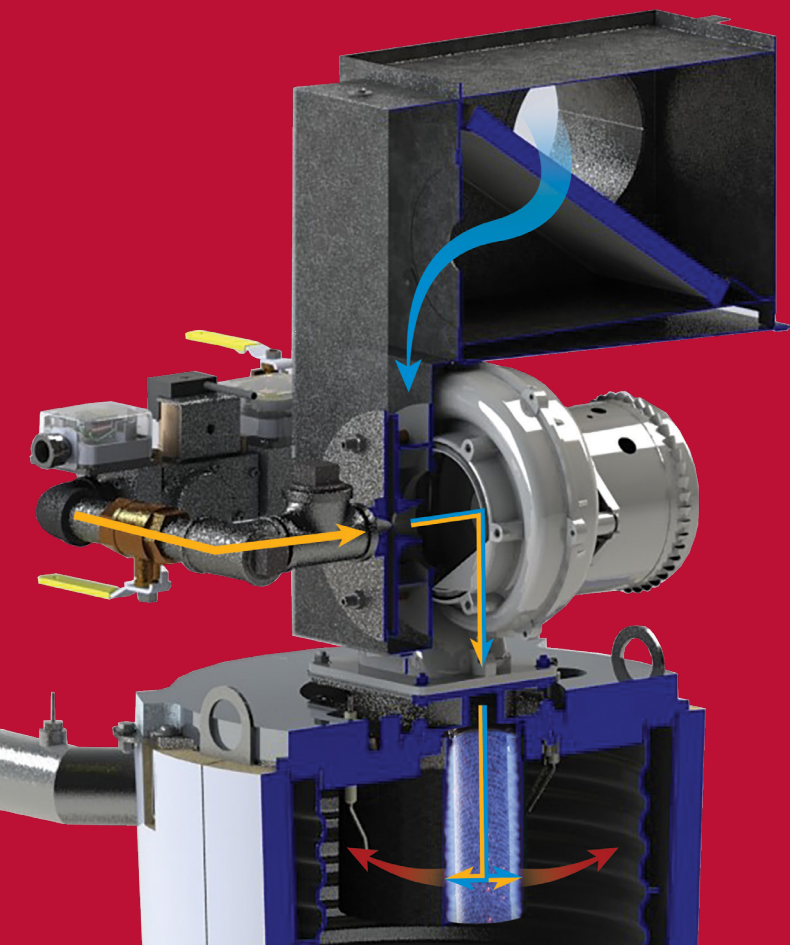
System History

- Visual Trending
 - Header Temp
 - Modulation
 - DHW Temp
 - Setpoints (Operating, DHW)
- "Zoom" Charting Scales from Hour to Minute Interval
- Log Entries
 - Full Log Event
 - Event Description
 - System Detail
 - No 1000 Log Limit



Service Log History

- Individual Entries Can Be Stand Alone or Attached to Warnings, Faults
- File Upload
 - Allows Technicians to Upload Pictures From Phone
- Dynamic Link
 - Links to Product Specific Support Literature

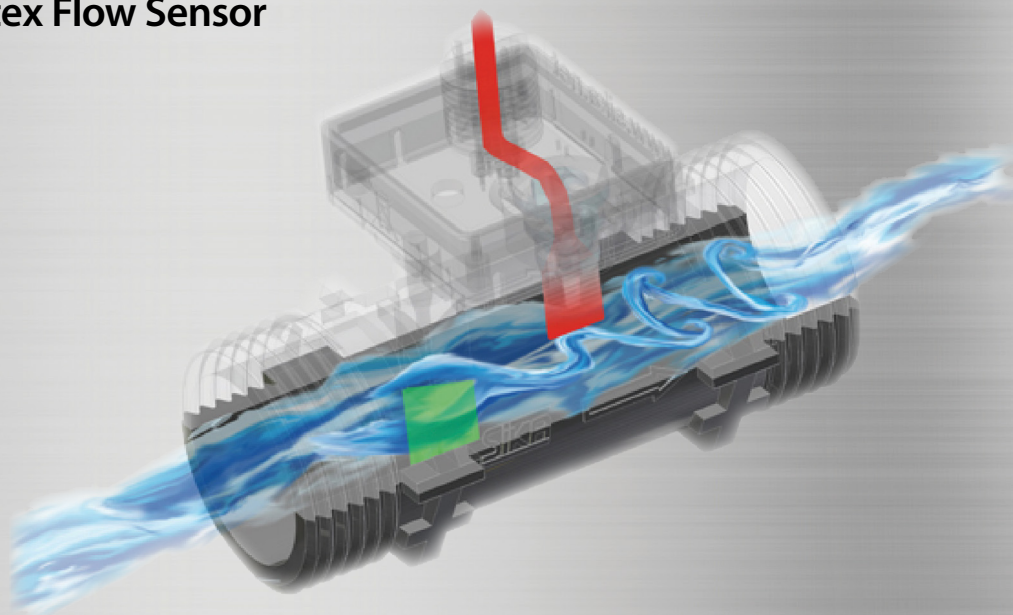


Tru-Flow Air/Fuel

Tru-Flow is instantly responsive and completely adaptable. The system reacts to changes in air and instantly compensates fuel supply by adjusting input to maintain a constant air/fuel mixture across the modulation range, while increasing combustion efficiency and maintaining low emissions.

Encore boilers are capable of reliable full-fire performance at just 4" of gas pressure.

SIKA Vortex Flow Sensor



All Encore Series boilers include a SIKA vortex flow sensor mounted in a by-pass configuration and mapped to indicate the boiler flow in (gpm).

SIKA flow sensors utilize vortex technology which is then converted to an electrical signal sent directly to the HeatNet Boiler Management System for real time flow annunciation.

Flow sensors are fully adjustable throughout the boiler model operating range.



Boiler Product Specifications RB0350-RB0850

MODEL	RB0350	RB0400	RB0500	RB0600	RB0725	RB0850
Boiler Ratings and Capacities						
Input BTU/HR	349,000	399,000	500,000	600,000	725,000	850,000
Output BTU/HR (High Fire)	342,020	391,818	490,000	586,800	707,600	823,650
AHRI Thermal Efficiency (%)	98	98.2	98	97.8	97.6	96.9
Turn Down (NG)	8:1	10:1	10:1	10:1	10:1	10:1
Turn Down (LP)	7:1	8:1	8:1	8:1	8:1	8:1
Boiler HP	10.2	11.7	14.6	17.5	21.1	24.6
Fuel Type	NG/LP/Dual Fuel	NG/LP/Dual Fuel	NG/LP/Dual Fuel	NG/LP/Dual Fuel	NG/LP/Dual Fuel	NG/LP/Dual Fuel
Category	CAT II/IV	CAT II/IV	CAT II/IV	CAT II/IV	CAT II/IV	CAT II/IV
Water Volume (gal)	13.4	13.4	12.4	12.4	17.4	16.4
Design Data - (Max allowable working Press)	160 psig	160 psig	160 psig	160 psig	160 psig	160 psig
ASME Sect IV Fireside Heating Surface (sq-ft)	55.31	55.31	72.91	72.91	84.6	99.88
ASME Sect IV Waterside Heating Surface (sq-ft)	77.72	77.72	95.8	95.8	112.16	127.87
Electrical (Standard)	120V-1ph	120V-1ph	120V-1ph	120V-1ph	120V-1ph	120V - 1ph
Boiler FLA (amps)	11.2	11.2	11.2	17.1	17.1	17.1
Min. Gas Pressure - LP (w.c.)	4	4	4	4	4	4
Min. Gas Pressure - NG (w.c.)	4	4	4	4	4	4
Max. Gas Pressure - NG/LP (w.c.)	14	14	14	14	14	14
Boiler Temp Rise/Press Drop						
Max. Flow Rate (gpm)	45.6	52.2	65.3	78.2	94.3	109.8
Min. Flow Rate (gpm)	13.7	13.1	16.3	19.6	23.6	27.5
20 deg f - delta t (Flow Rate, gpm)	34.2	39.2	49.0	58.7	70.8	82.4
Pressure drop (ft-hd)	3.3	3.6	4.3	5.1	5.0	5.7
40 deg f - delta t (Flow Rate, gpm)	17.1	19.6	24.5	29.3	35.4	41.2
Pressure drop (ft-hd)	2.5	2.6	2.8	3.1	3.2	3.4
Max Vent (Equiv. ft)	100	100	100	100	100	100
Max Combustion Air (Equiv. ft)	100	100	100	100	100	100
Boiler Trim						
Number of Relief Valves	1	1	1	1	1	1
Relief Valve Pressure Rating (PSI)	50	50	50	50	50	50
Inlet Water Connection (in)	2	2	2	2	2-1/2	2-1/2
Outlet Water Connection (in)	2	2	2	2	2-1/2	2-1/2
Gas Connection - NG (in)	1	1	1	1-1/4	1-1/4	1-1/4
Gas Connection - LP (in)	3/4	3/4	3/4	3/4	3/4	3/4
Vent Outlet Connection (in)	4	4	4	4	6	6
Standard Vent Material	PVC/CPVC	PVC/CPVC	PVC/CPVC	PVC/CPVC	PVC/CPVC	PVC/CPVC
Optional Vent Material	SS/PP	SS/PP	SS/PP	SS/PP	SS/PP	SS/PP
Combustion Air Connection (in)	5	5	5	5	5	5
Dimensions						
Height (in)	66.09	66.09	66.09	66.09	66.09	66.09
Width (in)	26.97	26.97	26.97	26.97	27.94	27.94
Depth (in)	39.38	39.38	39.38	39.38	39.31	39.31
Operating Weight (lbs.)	526	526	554	554	618	642
Shipping Weight (lbs.)	612	612	642	642	700	725
Clearance Service/Combustible						
Front (in)	36/6	36/6	36/6	36/6	36/6	36/6
Rear (in)	24/6	24/6	24/6	24/6	24/6	24/6
Right Side (in)	1/1	1/1	1/1	1/1	1/1	1/1
Left Side (in)	1/1	1/1	1/1	1/1	1/1	1/1
Top (in)	30/6	30/6	30/6	30/6	30/6	30/6



Boiler Product Specifications - Metric RB0350-RB0850

MODEL	RB0350	RB0400	RB0500	RB0600	RB0725	RB0850
Boiler Ratings and Capacities						
Input kW	102	117	147	176	212	249
Output kW (High Fire)	100	115	144	172	207	241
AHRI Thermal Efficiency (%)	98.0	98.2	98.0	97.8	97.6	96.9
Turn Down (NG)	8:1	10:1	10:1	10:1	10:1	10:1
Turn Down (LP)	7:1	8:1	8:1	8:1	8:1	8:1
Boiler HP	10.2	11.7	14.6	17.5	21.1	24.6
Fuel Type	NG/LP/Dual Fuel	NG/LP/Dual Fuel	NG/LP/Dual Fuel	NG/LP/Dual Fuel	NG/LP/Dual Fuel	NG/LP/Dual Fuel
Category	CAT II/IV	CAT II/IV	CAT II/IV	CAT II/IV	CAT II/IV	CAT II/IV
Water Volume (L)	50.7	50.7	46.9	46.9	65.8	62.1
Design Data - (Max working Press - psig)	160	160	160	160	160	160
ASME Sect IV Fireside Htg Surface (sq-m)	5.13	5.13	6.77	6.77	7.85	9.27
ASME Sect IV Waterside Htg Surface (sq-m)	7.22	7.22	8.90	8.90	10.42	11.88
Electrical (Standard)	120V-1ph	120V-1ph	120V-1ph	120V-1ph	120V-1ph	120V-1ph
Boiler FLA (amps)	11.2	11.2	11.2	17.1	17.1	17.1
Min. Gas Pressure - LP (w.c.)	4	4	4	4	4	4
Min. Gas Pressure - NG (w.c.)	4	4	4	4	4	4
Max. Gas Pressure NG/LP (w.c.)	14	14	14	14	14	14
Boiler Temp Rise/Press Drop						
Max. Flow Rate (L/s)	2.9	3.3	4.1	4.9	6.0	6.9
Min. Flow Rate (L/s)	0.9	0.8	1.0	1.2	1.5	1.7
11.1 deg c - delta t (Flow Rate, L/s)	2.2	2.5	3.1	3.7	4.5	5.2
Pressure drop (kPa)	9.9	10.9	12.9	15.3	14.8	17.1
22.2 deg c - delta t (Flow Rate, L/s)	1.1	1.2	1.5	1.9	2.2	2.6
Pressure drop (kPa)	7.3	7.7	8.4	9.1	9.5	10.2
Max Vent (Equiv. ft)	100	100	100	100	100	100
Max Combustion Air (Equiv. ft)	100	100	100	100	100	100
Boiler Trim						
Number of Relief Valves	1	1	1	1	1	1
Relief Valve Pressure Rating (PSI)	50	50	50	50	50	50
Inlet Water Connection (in)	2	2	2	2	2-1/2	2-1/2
Outlet Water Connection (in)	2	2	2	2	2-1/2	2-1/2
Gas Connection - NG (in)	1	1	1	1-1/4	1-1/4	1-1/4
Gas Connection - LP (in)	3/4	3/4	3/4	3/4	3/4	3/4
Vent Outlet Connection (in)	4	4	4	4	6	6
Standard Vent Material	PVC/CPVC	PVC/CPVC	PVC/CPVC	PVC/CPVC	PVC/CPVC	PVC/CPVC
Optional Vent Material	SS/PP	SS/PP	SS/PP	SS/PP	SS/PP	SS/PP
Combustion Air Connection (in)	5	5	5	5	5	5
Dimensions						
Height (mm)	1672	1672	1672	1672	1672	1672
Width (mm)	685	685	685	685	710	710
Depth (mm)	1000	1000	1000	1000	1000	1000
Operating Weight (kg)	239	239	251	251	280	291
Shipping Weight (kg)	278	278	291	291	318	329
Clearance Service/Combustible						
Front (mm)	153/914	153/914	153/914	153/914	153/914	153/914
Rear (mm)	153/610	153/610	153/610	153/610	153/610	153/610
Right Side (mm)	25/25	25/25	25/25	25/25	25/25	25/25
Left Side (mm)	25/25	25/25	25/25	25/25	25/25	25/25
Top (mm)	153/762	153/763	153/764	153/765	153/766	153/767



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