

# TORUS

## CONDENSING COMMERCIAL BOILERS & WATER HEATERS

1250 – 4000 MBH





## Condensing Commercial Boilers & Water Heaters

Torus boilers and water heaters bring next level performance in a small compact footprint to today's applications.

The RBI tradition of high quality, performance equipment in a user-friendly design continues with Torus.

Incorporating all industry-proven components including HeatNet 3.0 touchscreen cascade control and our Tru-Flow fuel/air coupling system and capacities to 4000 MBH Torus has the solution for all commercial installations.



### Features and Benefits

- 1250 – 4000 MBH
- Up to 97.5% AHRI Certified Boiler Efficiency
- 4 Pass Double-Row Heat Exchanger (160 psi/ASME (H & HLW) Stamp)
- 316L Stainless Steel
- Variable Volume, Full Flow and Primary/Secondary
- Full Modulation (5:1 water heater / 5:1 boiler)
- HeatNet 3.0 Integrated Control Platform
- Touchscreen Programming and Diagnostics
- Modbus, LonWorks and BACnet BMS Integration
- Low NOx and CO
- Easy Maintenance and Installation
- Category II and IV (up to 160')
- PVC/CPVC, Polypropylene and Stainless Steel Vent Approved

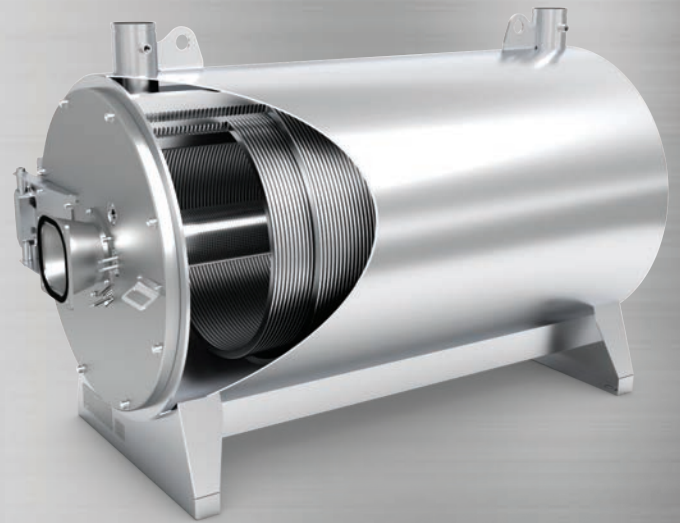


Torus heat exchangers are designed for optimum performance and durability. Made from an industrial quality 316L stainless steel Torus heat exchangers are reliable and robust while being very resistant to both thermal shock and acidic condensate.

A unique 4-pass design works in concert with a new multi-channel manifold and increased tube diameters resulting in ultra-high efficiency with very low pressure drop.

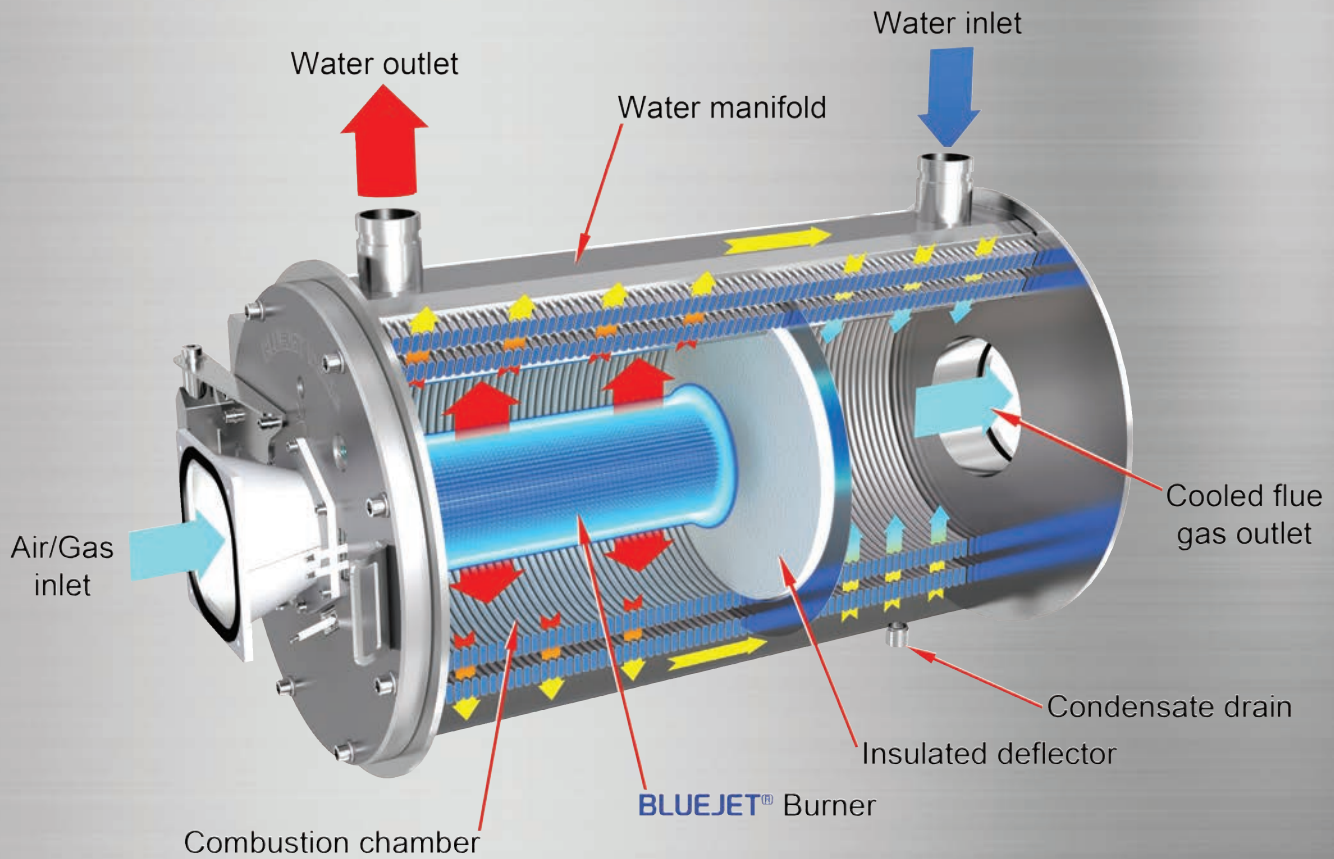
Torus heat exchangers are manufactured with an industrial quality 316L stainless steel through a process called tube hydroforming. Tube hydroforming allows the shaping of stainless steel tubes that are not only stronger and lighter but also have a higher quality surface than competitive heat exchangers maximizing both performance and durability in a compact design.

Hydroforming insures a uniform and consistent gap between the tubes facilitating consistent exhaust gas circulation and uniform heat transfer throughout the entire heat exchanger.



## Ease of Service

Torus just may be the easiest piece of equipment ever to service. A unique burner door system provides easy access to both the burner and heat exchanger tube bundle. All burner doors come with a slide and hinge mechanism that easily slides outwards offering full access to the combustion chamber for annual inspection and service.



Torus' BlueJet® burner offers industry leading modulation capacity, flame retention and combustion quality. Whether natural gas or LP gas, BlueJet's low NOx design works in perfect concert with our Tru-Flow fuel/air system providing consistent reliable operation.

## 4-Pass Heat Exchanger

Torus heat exchangers use a 4-pass system for maximum efficiency. The unique path of water throughout the heat exchanger is designed to absorb as much heat energy as possible.

Pass 1: Return water passes through the first set of inner tubes absorbing residual heat energy.

Pass 2: Water passes through the exhaust gas chamber

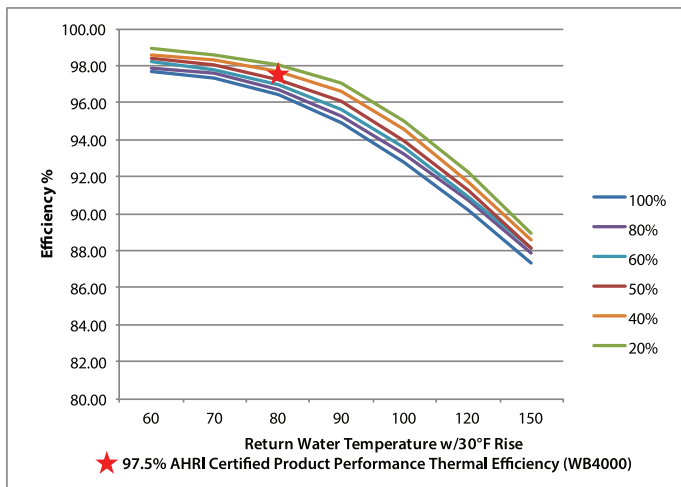
Pass 3: Outer tubes of the combustion chamber

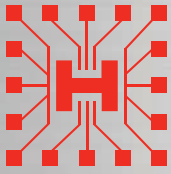
Pass 4: Supply water distribution final pass through the inner tubes of the combustion chamber



# Watertube (WB/WW) Product Summary 1250-4000

	1250	1500	2000	2500 (pending approval)	3000	4000
<b>Ratings and Capacities</b>						
Input BTU/HR - (WB/WW)	1,250,000	1,500,000	1,999,000	2,500,000	3,000,000	4,000,000
Output BTU/HR - Boiler - (WB)	1,206,250	1,447,500	1,929,035	2,437,500	2,925,000	3,900,000
AHRI Thermal Efficiency - Boiler (%)	96.5	96.5	96.5	97.5	97.5	97.5
Water Heater Hourly Recovery Capacity (GPH @ 60 deg f)	2426	2911	3880	4852	5882	7843
Water Heater Hourly Recovery Capacity (GPH @ 100 deg f)	1456	1747	2328	2911	3529	4706
Water Heater Hourly Recovery Capacity (GPH @ 140 deg f)	1040	1248	1663	2079	2521	3361
Turn Down (Boiler) (WB)	5:1	5:1	5:1	5:1	5:1	5:1
Turn Down (Water Heater) (WW)	5:1	5:1	5:1	5:1	5:1	5:1
HP - Boiler	36.04	43.25	57.66	72.45	87.39	116.52
Fuel Type	NG/LP	NG/LP	NG/LP	NG/LP	NG/LP	NG/LP
Category	CAT II/IV	CAT II/IV	CAT II/IV	CAT II/IV	CAT II/IV	CAT II/IV
Water Volume (gal)	11	13	16.9	24.9	24.9	41.3
Design Data - (Max working Press - psig)	160	160	160	160	160	160
Min water pressure (psi)	20	20	20	20	20	20
ASME Sect IV Fireside Htg Surface (sq-ft)	100.17	119.8	153.19	300.69	300.69	402.93
ASME Sect IV Waterside Htg Surface (sq-ft)	92.93	111.08	141.93	277.23	277.23	371.25
Electrical (Standard)	120V-1ph	120V-1ph	230V-1ph	230V-3ph	230V-3ph	230V-3ph
Electrical (Optional - 3ph)	N/A	N/A	208-575V-3ph	208-575V-3ph	208-575V-3ph	208-575V-3ph
FLA (amps)	17.14	17.14	25.6	15.05	15.05	19.9
Min. Gas Pressure (w.c.) N/G	4	4	4	4	4	4
Min. Gas Pressure (w.c.) LP	8	8	8	8	8	8
Max. Gas Pressure (w.c.)	14	14	14	14	14	14
Max Vent (Equiv. ft)	80/160	80/160	160	160	160	160
Max Combustion Air (Equiv. ft)	80/160	80/160	160	160	160	160
<b>Trim</b>						
Number of Relief Valves	1	1	1	1	1	1
Relief Valve Pressure Rating (PSI) (WB/WW)	50/125	50/125	50/125	50/125	50/125	50/125
Inlet Water Connection (in)	2 1/2	2 1/2	2 1/2	4	4	4
Outlet Water Connection (in)	2 1/2	2 1/2	2 1/2	4	4	4
Gas Connection (in)	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2
Vent Outlet Connection (in)	6/8	6/8	8	10	10	12
Standard Vent Material	SS	SS	SS	SS	SS	SS
Optional Non Metallic Vent Material	PVC/CPVC/PP	PVC/CPVC/PP	PVC/CPVC/PP	PVC/CPVC/PP	PVC/CPVC/PP	PVC/CPVC/PP
Combustion Air Connection	8	8	8	10	10	12
<b>Dimensions</b>						
Height (in)	63 5/16	63 5/16	63 3/8	77 27/32	77 27/32	77 27/32
Width (in)	32 9/16	32 9/16	32 9/16	44 1/16	44 1/16	44 1/16
Depth (in)	63 3/8	68	76	87 7/32	87 7/32	96
Operating Weight (lbs.)	1084	1183	1388	2311	2311	2866
Shipping Weight (lbs.)	Pending					
<b>Clearance Service/Combustible</b>						
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)	24/6	24/6	24/6	24/6	24/6	24/6
Left Side (in)	24/6	24/6	24/6	24/6	24/6	24/6
Top (in)	30/6	30/6	30/6	30/6	30/6	30/6

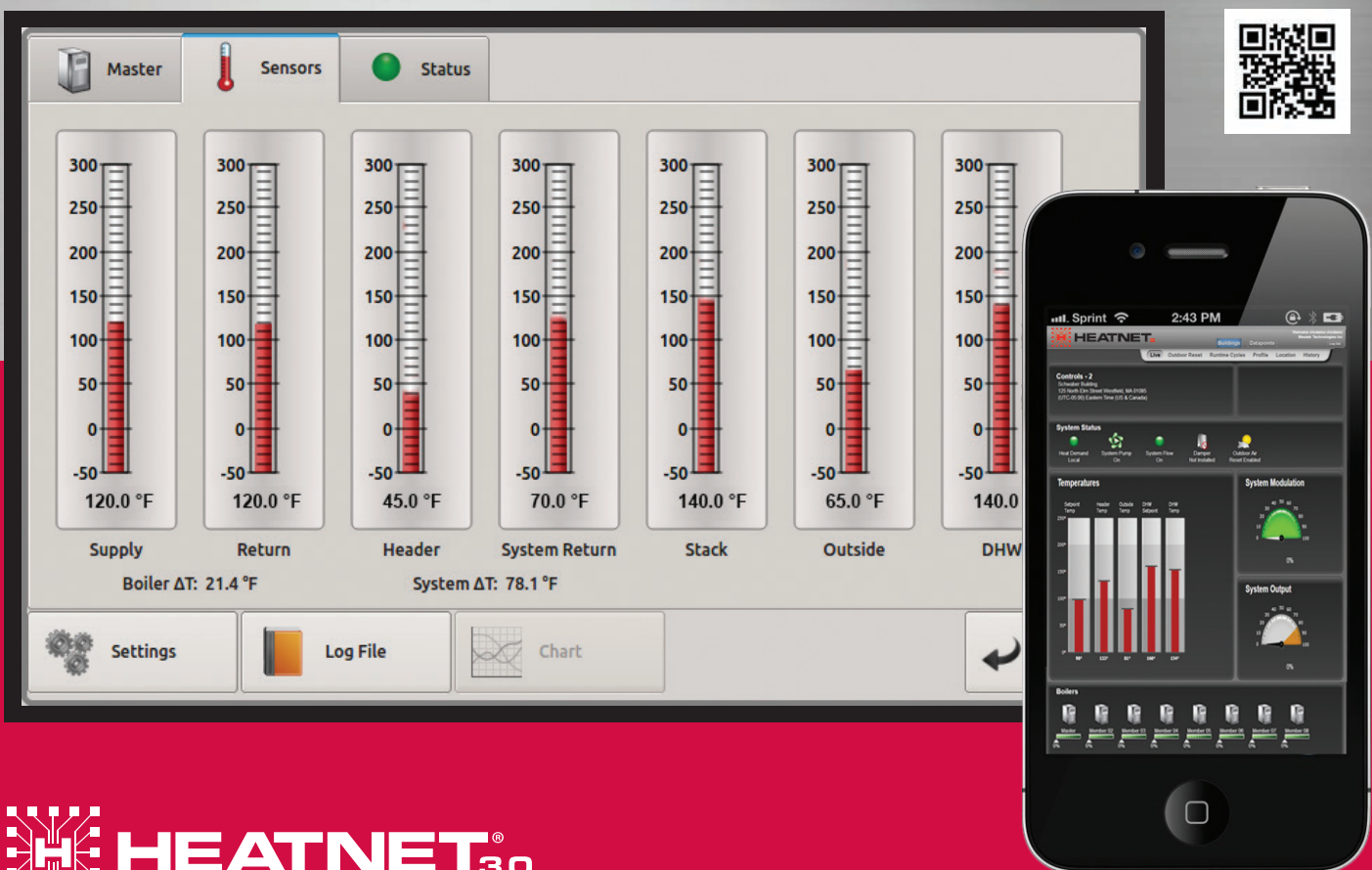




# HEATNET<sup>®</sup> 3.0

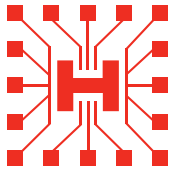
Every premium efficiency boiler manufactured by the Mestek Boiler Group is integrated with HeatNet 3.0<sup>®</sup> – an innovative, digital Boiler Management System that provides consistency and feedback through digital communication. By continuously monitoring several system characteristics, HeatNet 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<sup>®</sup> 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



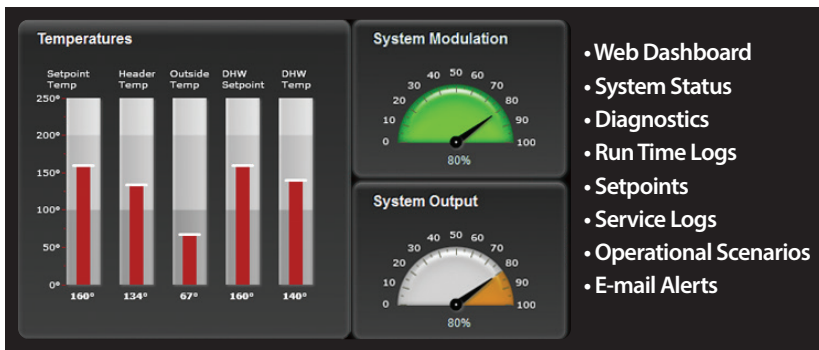
# HEATNET<sup>®</sup> 3.0

## 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.

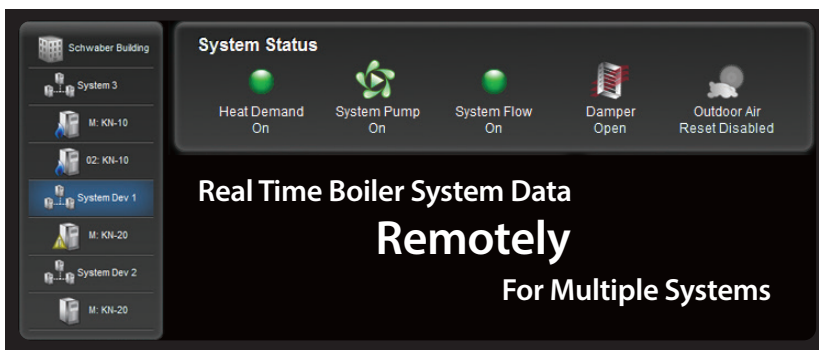
HeatNet Online is a completely secure web-based monitoring program that allows visual boiler feedback from anywhere through an easy-to-read dashboard. View boiler set points, service logs and system issues from your office computer, tablet or cell phone.

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.



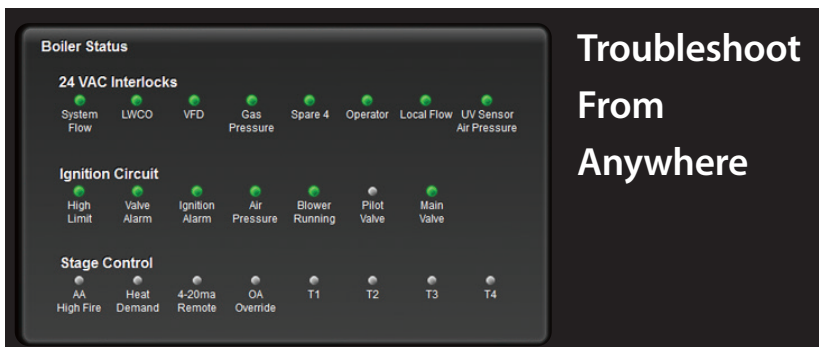
### Building Dashboard

- 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



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