

FUTERA II SERIES

Domestic Hot Water Heaters and Boilers

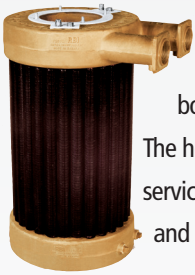


FUTERA II SERIES

Low NOx, High Efficiency, Hot Water Supply and Hydronic Heating Boilers

Futera II Series hot water supply boilers provide dependable performance with 85% near condensing efficiency, with industry-leading NOx levels of less than 10 ppm.

Quality components include a rugged heat exchanger that prevents rust and corrosion for the life of the heater. Finned tubes are industrial grade copper with fins and tubewalls formed as one, providing optimum heat transfer. Each tube is rolled into either all-bronze headers – standard on all Futera II water heaters or cast iron headers – standard on all Futera II boilers. The tubes are individually field replaceable.



The heat exchanger is superior in design, durability and serviceability – each is hydrostatically tested, approved and stamped for 160 psi ASME operation.

Standard Features

- Flame Safeguard Control
- Up to 85% Efficient
- Bronze Headers – Water Heaters
- Cast Iron Headers – Boilers
- Finned Copper Tube Heat Exchanger – Four-Pass
- Gasketless Heat Exchanger Assembly
- Stainless Steel Combustion Chamber
- 2-Stage Digital Operator
- Special Alloy Burner
- Less Than 10 ppm NOx
- Compact, Low Maintenance Design
- Venting Flexibility
- CSA Design Certified & Listed (Formally) AGA/CGA
- Proven Pilot (UV Flame Detection)
- Factory Installed ASME Relief Valve
- Outlet Thermometer
- High Limit Control with Manual Reset
- Factory Mounted and Wired Flow Switch



Futera II Series boilers and water heaters are also available with corrosion-resistant, brushed stainless steel jacket. Ideal for outdoor or indoor installation in harsh environments such as coastal areas and processing applications requiring wash down.

Compact, low maintenance design and venting flexibility permit easy installation and service, making the Futera II the perfect choice for virtually any hot water supply application.

- Low Air Pressure Switch
- Easy Access To All Components
- 5-Year Heat Exchanger Warranty on Water Heaters
- 10-Year Heat Exchanger Warranty on Boilers
- Heat Exchanger Drain
- National Board Certified
- Pump Delay Relay
- CSD-1 and FM Compliant Gas Train

Optional Equipment

- Cupro-Nickel Finned Tubes
- Outdoor Installation
- Thru-Wall Venting
- Direct Venting
- Stainless Steel Jacket
- Barometric Damper
- On-Off Firing
- Freeze Protection Package



*Pool heater applications available in non U.S. markets.

RBI Temperature Controller

SP Setpoint or Target Temperature:

The Setpoint is the inlet water temperature that the operating control will try to match by staging the boiler between 'Off', 'Stage 1' and 'Stage 2.'

D1 Boiler Differential:

The boiler differential is centered around the setpoint so that when the sensor reads 1/2 of D1 below the setpoint, Stage 1 will be energized. When the sensor reads a temperature 1/2 of D1 above the setpoint, stage will turn off.

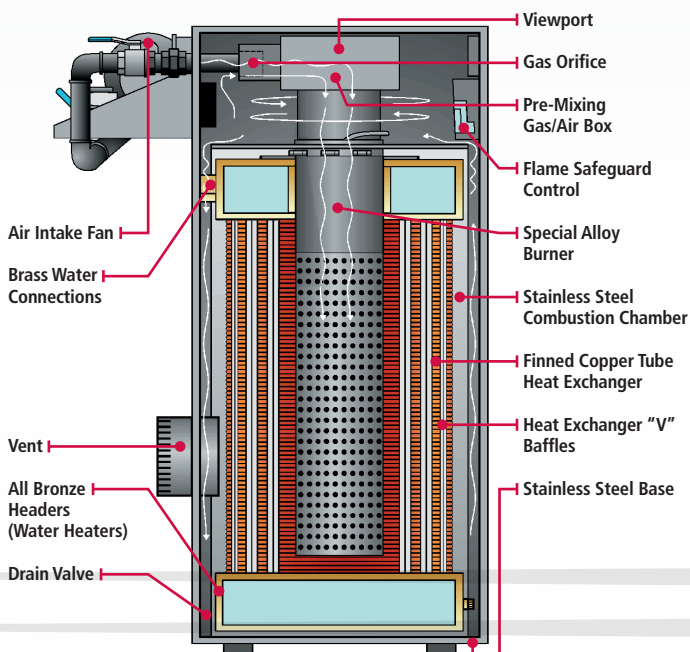
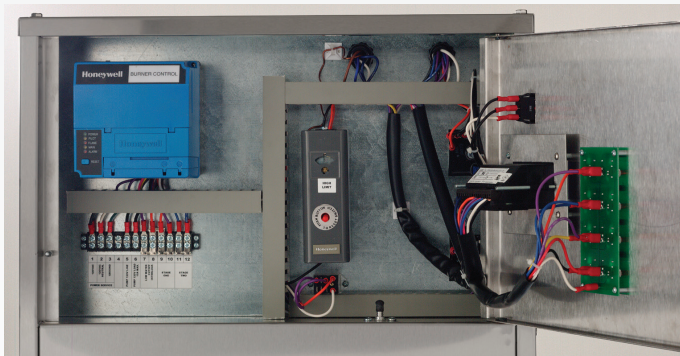
D2 Interstage Differential:

The Interstage Differential is the difference in temperature between Stage 1 being called on, and Stage 2 being called on.



Smart Service Design

A Honeywell RM Series Flame Safeguard, limit controls and terminal strips are neatly arranged and easily accessible in the front-facing panel.



Advanced Diagnostic System

The Futera II features an easy-to-read LCD display that provides clear indication of inlet water temperature or setpoint in Fahrenheit or Celsius. The display also provides information for setting temperature control parameters. Advanced troubleshooting and self-diagnostic control provides a step-by-step cycle of operation. Each step is automatically tested and indicated, allowing for simplified and less costly troubleshooting.

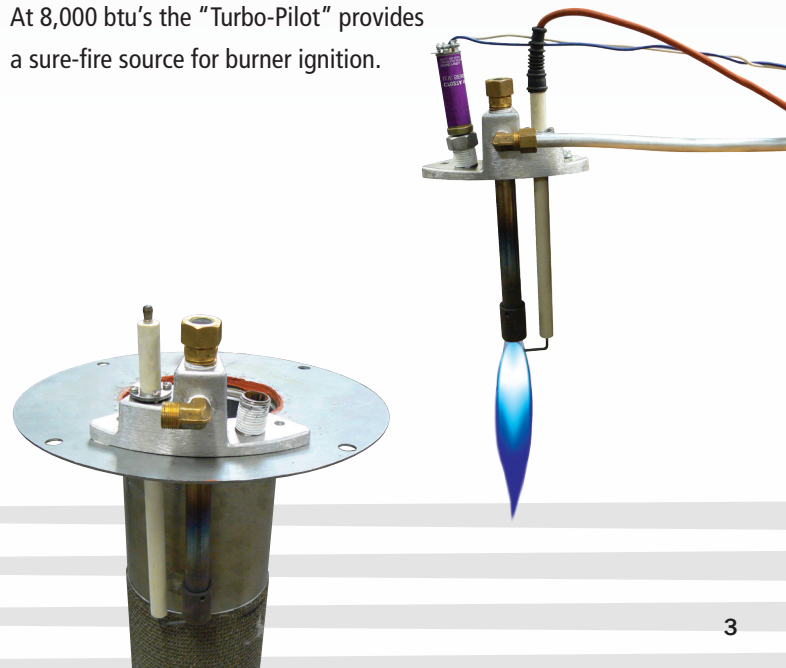
Proven Pilot Ignition System

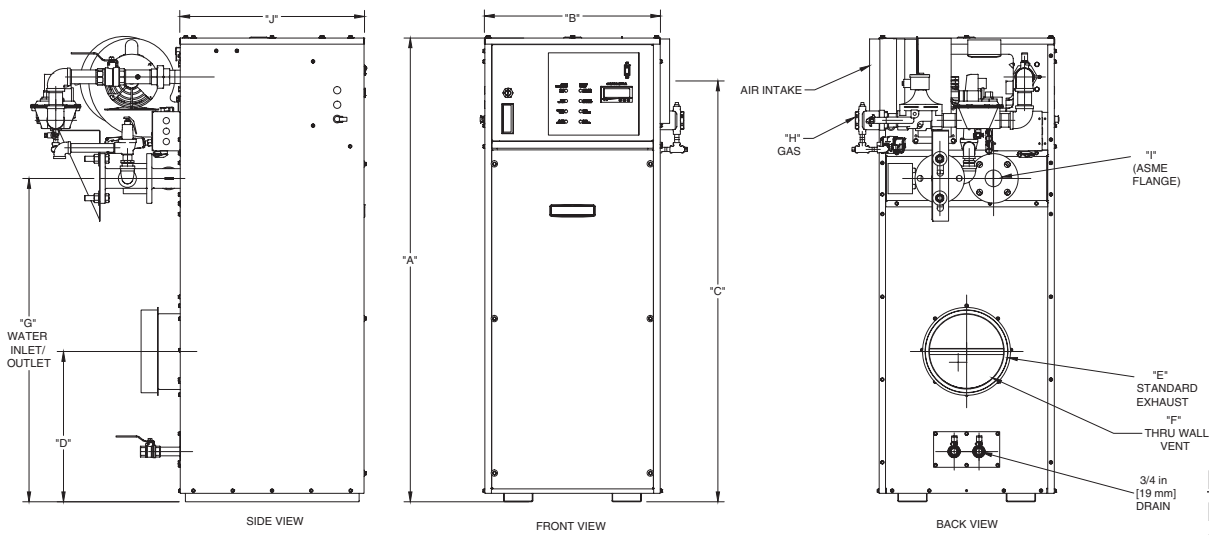
The Futera II Series uses a proven pilot with interrupted spark ignition and UV flame detection. The UV detector and igniter assembly provide highly reliable ignition and easy service. This important design feature provides long-life reliability. An observation port allows easy inspection of the flame at the top of the boiler.

The Turbo Pilot®: Reliability At Its Best

Futera's independent "Turbo-Pilot" system with UV detection is far more durable and reliable than any competitive ignition system available today.

At 8,000 btu's the "Turbo-Pilot" provides a sure-fire source for burner ignition.





Models
FB=Boiler
FW=Water Heater

Futera II Series — Dimensions

Size	A		B		C		D		E		F		G		H	I	J	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	In.	In.	mm
500	43-1/32	1,093	21-9/32	540	37-13/16	960	11-21/32	296	8	203	6	152	26-3/32	663	1	2	22-5/16	567
750	49-17/32	1,258	21-9/32	540	44-9/32	1,125	14-21/32	377	10	254	8	203	32-9/16	827	1	2	22-5/16	567
1000	56-1/32	1,423	21-9/32	540	50-27/32	1,291	18-5/32	461	10	254	9	229	39-1/16	992	1-1/4	2	22-5/16	567
1250	50-11/16	1,287	25-3/16	640	44-13/32	1,128	16-27/32	428	12	305	10	254	31-13/16	808	1-1/4	2-1/2	27-9/32	693
1500	55-3/16	1,402	25-3/16	640	48-25/32	1,239	18-29/32	480	12	305	10	254	36-5/16	922	1-1/4	2-1/2	27-9/32	693
1750	59-11/16	1,516	25-3/16	640	53-29/32	1,369	20-29/32	531	14	356	12	305	40-13/16	1,037	1-1/2	2-1/2	27-9/32	693
1950	64-3/16	1,631	25-3/16	640	58-17/32	1,487	23-21/32	601	14	356	12	305	45-5/16	1,151	1-1/2	2-1/2	27-9/32	693

Futera II Series — Ratings*

Size	Input		Boiler Output		AMP Draw	Shipping Weight	
	MBH	kW	MBH	kW		lbs.	kgs.
500	500	147	425	125	5.9	535	243
750	750	220	638	187	5.9	578	262
1000	1,000	293	850	249	5.9	690	313
1250	1,250	366	1,062	311	8.7	775	352
1500	1,500	440	1,275	374	8.7	835	379
1750	1,750	513	1,488	436	10.7	900	408
1950	1,950	571	1,658	486	10.7	960	435

Note: Certified South Coast Air Quality Management District (SCAQMD) Protocol Rule 1146.2; Ventura County APCD Rule 74.11.1
 * Ratings reflect boilers only. For boiler efficiency information please visit www.ahridirectory.org

Futera II Series Boilers — Temperature Rise/Pressure Drop

Size	20°F		11.1°C		25°F		13.9°C		30°F		16.7°C		35°F		19.4°C	
	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop
	GPM	Ft	ΔL/s	kPa	GPM	Ft	ΔL/s	kPa	GPM	Ft	ΔL/s	kPa	GPM	Ft	ΔL/s	kPa
500	42.5	.53	2.7	1.5	34.0	0.35	2.1	1.0	-	-	-	-	-	-	-	-
750	63.8	1.57	4.0	4.6	51.0	1.04	3.2	3.1	42.5	0.70	2.7	2.2	36.4	0.60	2.3	1.6
1000	85.0	3.44	5.4	10.1	68.0	2.27	4.3	6.7	56.7	1.60	3.6	4.8	48.6	1.20	3.1	3.6
1250	106.3	2.11	6.7	6.2	85.0	1.40	5.4	4.1	70.8	1.00	4.5	2.9	60.7	0.70	3.8	2.2
1500	127.5	3.57	8.1	10.5	102.0	2.36	6.4	7.0	85.0	1.70	5.4	5.0	72.9	1.30	4.6	3.7
1750	-	-	-	-	119.0	3.67	7.5	10.8	99.2	2.60	6.3	7.7	85.0	2.00	5.4	5.8
1950	-	-	-	-	132.6	5.14	8.4	15.1	110.5	3.70	7.0	10.8	94.7	2.80	6.0	8.1

Futera II Series Water Heaters — Hourly Recovery Capacity ΔT (GPH & LPH)**

Size	40°F	22°C	60°F	33°C	80°F	44°C	100°F	56°C	120°F	67°C	140°F	78°C
500	1,224	4,629	816	3,086	612	2,314	490	1,851	408	1,543	350	1,322
750	1,877	7,096	1,252	4,731	939	3,548	751	2,838	626	2,365	536	2,027
1000	2,500	9,450	1,667	6,300	1,250	4,725	1,000	3,780	833	3,150	714	2,700
1250	3,121	11,798	2,081	7,866	1,561	5,899	1,248	4,719	1,040	3,933	892	3,371
1500	3,741	14,141	2,494	9,427	1,870	7,070	1,496	5,656	1,247	4,714	1,069	4,040
1750	4,359	16,478	2,906	10,985	2,180	8,239	1,744	6,591	1,453	5,493	1,245	4,708
1950	4,976	18,809	3,317	12,539	2,488	9,405	1,990	7,524	1,659	6,270	1,422	5,374

** For water heater efficiency information please visit www.ahridirectory.org.



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