

FUTERA II SERIES

Domestic Hot Water Heaters and Boilers

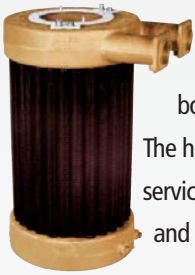


FUTERA II SERIES

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
- 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:

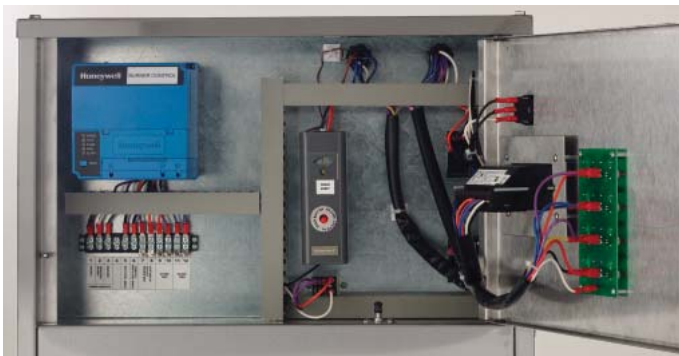
The boiler differential is centered around the setpoint so that when the sensor reads 1/2 of D1 below the setpoint, Stage 1 will be energized. When the sensor reads a temperature 1/2 of D1 above the setpoint, stage will turn off.

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.

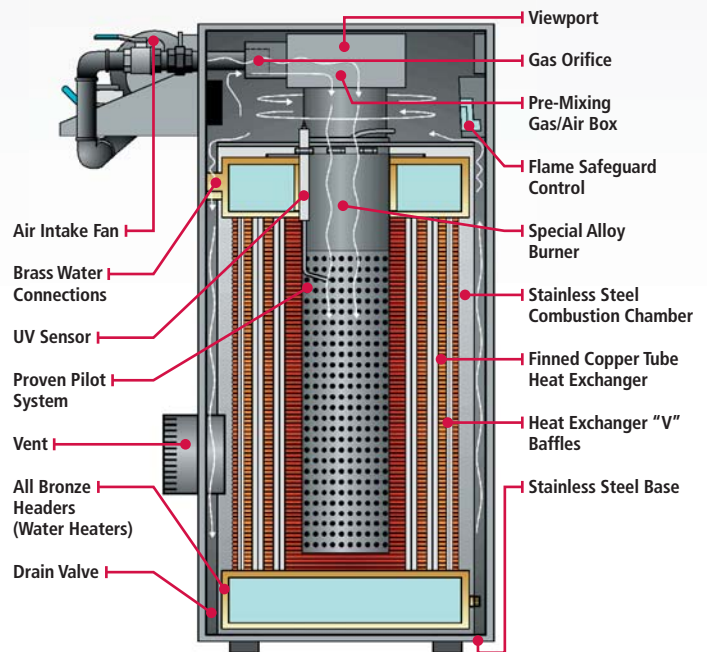


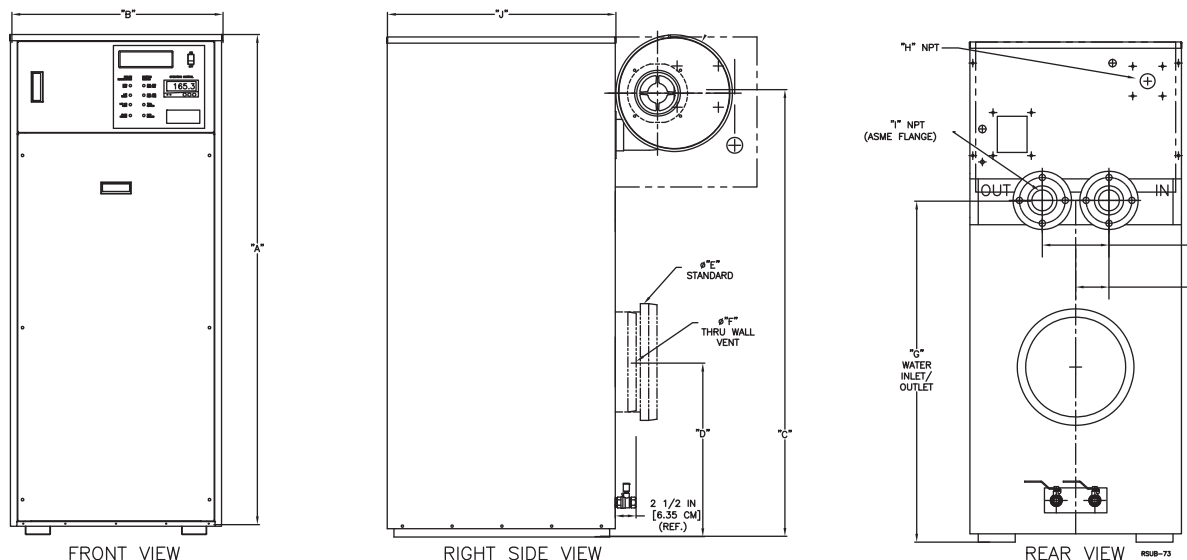
Advanced Diagnostic System

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.





Futera II Series — Dimensions

Model	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
FB/FW 500	43	1,092	21-1/4	540	37-1/2	953	11-3/4	298	8	203	6	152	26-1/4	667	1	2	22-1/2	572
FB/FW 750	49-9/16	1,257	21-1/4	540	43-3/4	1,111	14-3/4	375	10	254	8	203	33	838	1	2	22-1/2	572
FB/FW 1000	56-1/16	1,422	21-1/4	540	51	1,295	18	457	10	254	9	229	39-1/4	997	1-1/4	2	22-1/2	572
FB/FW 1250	51	1,295	25-1/2	648	44	1,118	17	432	12	305	10	254	32	813	1-1/4	2-1/2	27-1/2	699
FB/FW 1500	55-1/2	1,410	25-1/2	648	49	1,245	19	483	12	305	10	254	36-1/2	927	1-1/4	2-1/2	27-1/2	699
FB/FW 1750	60	1,524	25-1/2	648	53-1/4	1,353	21	533	14	356	12	305	41	1,041	1-1/2	2-1/2	27-1/2	699
FB/FW 1950	64-1/2	1,638	25-1/2	648	57-3/4	1,467	23-3/4	603	14	356	12	305	45-1/2	1,156	1-1/2	2-1/2	27-1/2	699

Futera II Series — Ratings

Model	Input		Output		Net Rating		AMP Draw	Shipping Weight	
	MBH	kW	MBH	kW	MBH	kW		lbs.	kgs.
FB/FW 500	500	147	425	125	370	108	5.9	545	247
FB/FW 750	750	220	638	187	555	163	5.9	590	268
FB/FW 1000	1,000	293	850	249	739	217	5.9	670	304
FB/FW 1250	1,250	366	1,063	311	923	270	8.7	815	370
FB/FW 1500	1,500	440	1,275	374	1,109	325	8.7	855	388
FB/FW 1750	1,750	513	1,488	436	1,294	379	10.7	880	399
FB/FW 1950	1,950	571	1,658	486	1,442	423	10.7	930	422

Note: Certified South Coast Air Quality Management District (SCAQMD) Protocol Rule 1146.2; Ventura County APCD Rule 74.11.1

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

	40°F	22°C	60°F	33°C	80°F	44°C	100°F	56°C	120°F	67°C	140°F	78°C
FB/FW 500	1,276	4,828	850	3,219	638	2,414	510	1,931	425	1,609	364	1,380
FB/FW 750	1,913	7,243	1,276	4,828	957	3,621	765	2,897	638	2,414	547	2,069
FB/FW 1000	2,551	9,657	1,701	6,438	1,276	4,828	1,020	3,863	850	3,219	729	2,759
FB/FW 1250	3,189	12,071	2,126	8,047	1,594	6,035	1,276	4,828	1,063	4,024	911	3,449
FB/FW 1500	3,827	14,485	2,551	9,657	1,913	7,243	1,531	5,794	1,276	4,828	1,093	4,139
FB/FW 1750	4,464	16,899	2,976	11,266	2,232	8,450	1,786	6,760	1,488	5,633	1,276	4,828
FB/FW 1950	4,974	18,831	3,316	12,554	2,487	9,415	1,990	7,532	1,658	6,277	1,421	5,380

Futera II Series — Temperature Rise/Pressure Drop

Model	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	$\Delta L/s$	kPa	GPM	Ft	$\Delta L/s$	kPa	GPM	Ft	$\Delta L/s$	kPa	GPM	Ft	$\Delta L/s$	kPa
FB/FW 500	42.5	.53	2.7	1.5	34.0	0.35	2.1	1.0	—	—	—	—	—	—	—	—
FB/FW 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
FB/FW 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
FB/FW 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
FB/FW 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
FB/FW 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
FB/FW 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



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In the interest of product improvement, RBI reserves the right to make changes without notice.