

FUTERA^{XLF}

High Efficiency Water Heaters and Boilers



 **HEATNET^{3.0}**

RBI[®]
RELIABLE. BOLD. INNOVATIVE.

Small Steps – Big Plans

Today's boiler and water heater markets demand high efficiency in smaller spaces – both mechanical room space and equipment size.

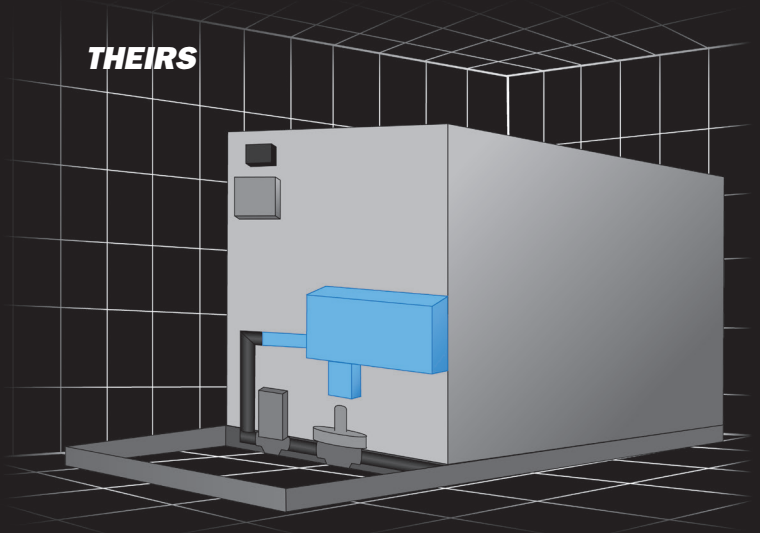
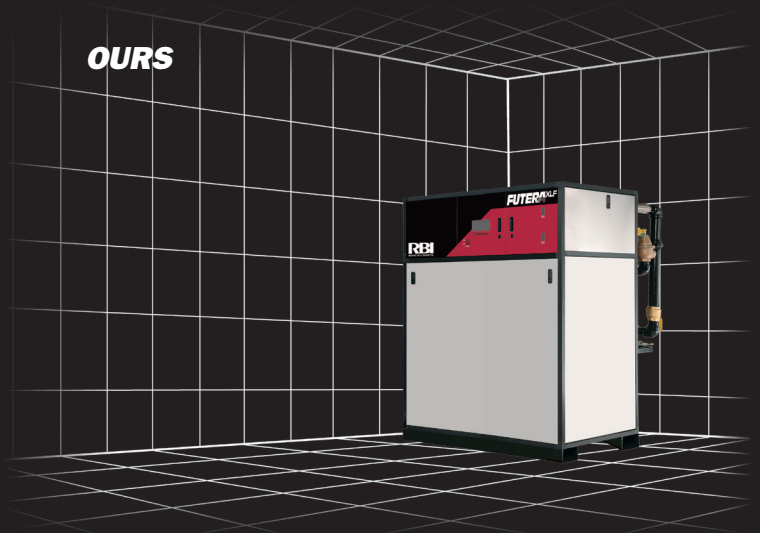
RBI has the solution to both situations.

Engineered performance in a small package is the Futera XLF.

Futera XLF brings a proven history of solid performance to even higher levels. XLF's compact footprint and application flexibility provide solutions for all applications big and small.

When we say big – we mean big. XLF capacities reach 10,000,000 BTU/h occupying the smallest footprint on the market today.

More horsepower – less space.Futera XLF.



XLF 10,000

55"

68"

FUTERA^{XLF}

Efficient Power, Sized to Your Vision

The Futera XLF is designed with 5-to-1 turndown, up to 88% efficiency, and backed by RBI reliability and ease of service. Those are just a few of the ways we are helping you solve today's commercial design challenges. And having double the power in the same compact dimensions — width, depth, and height — doesn't hurt either.

Standard Features

- 2,500 – 10,000 MBH
- Finned copper tube heat exchanger, ASME 160 psi max WP, 4-pass design
- Stainless steel jacket panels
- Cast iron headers (boilers)
- Bronze headers (water heaters)
- Variable speed blower
- Digital text annunciator (2,500 – 5,000 MBH)
- Mounted & wired flow switch
- Mounted & wired low water cutoff
- Quick-release service latches
- Multiple venting options
 - Category I, II and IV
 - Allows differential pressure zones for intake air and exhaust
 - Sealed combustion
 - Direct vent
 - Common venting of multiple boilers
- Seismic restraint base assembly
- HeatNet integrated boiler management system
- Modbus protocol for BMS communications
- Turbo Pilot (patent-pending design)
- Honeywell RM7800 Series flame safeguard



Dependable, Efficient Performance

- High efficiency, up to 88%
- Full modulation with smooth, 5:1 turndown
- Sealed combustion/direct vent
- Symmetrically air/fuel coupled
- Commercial-quality combustion controls
- HeatNet master/member control system – up to 16 boilers
- Gasketless heat exchanger assembly
- Low NOx

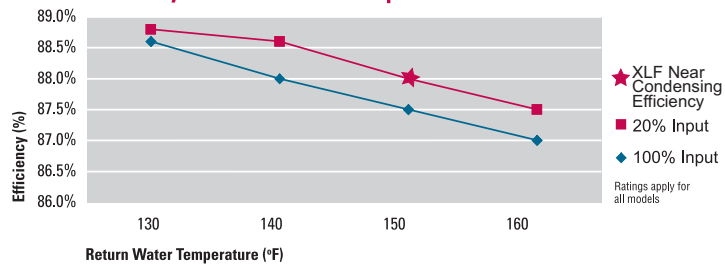
Optional Features

- Cupro-Nickel Finned Tubes
- Freeze protection package
- BACnet or LonWorks interface module
- Honeywell keyboard display module S7800
- Outdoor sensor with housing
- Category I venting
- Full color touchscreen display (standard on 6,000 – 10,000 MBH)



FUTERA^{XLF}

Efficiency vs. Return Water Temperature

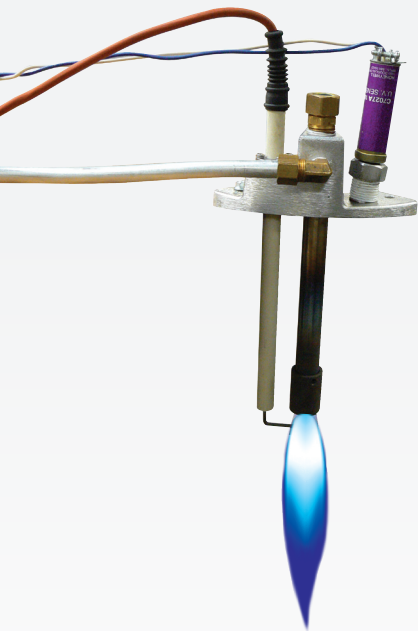


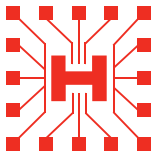
Big-Time Components, Small Diameter Vent

Like all RBI products, the Futera XLF is built with the highest-grade components and materials. The heat exchanger's solid bronze headers prevent rust and corrosion for the life of the unit. XLF's symmetric air/fuel coupling provides a high degree of safety while ensuring consistent combustion quality regardless of changes to fuel or air flow. In addition to its compact dimensions enabling 2.5 to 10 million Btuhs to be installed in a small space, its small vent diameter is easy to work with and reduces vent material costs. Removal of top and front panels is simple, streamlining installation and service.

The Turbo Pilot[®], Rugged & Reliable

Another investment in the reliable performance that's built into the XLF is its patent-pending Turbo Pilot system. Far more durable than any Hot Surface Ignition and more robust than a simple direct spark system, the Turbo Pilot gives burner ignition a sure, powerful source. UV detection keeps system diagnostics informed about performance; a technician can also use the observation port to confirm spark/flame without removing the pilot or burner assembly. And if maintenance does need to be performed, a few seconds is all that's needed to pull, clean, or adjust the pilot.

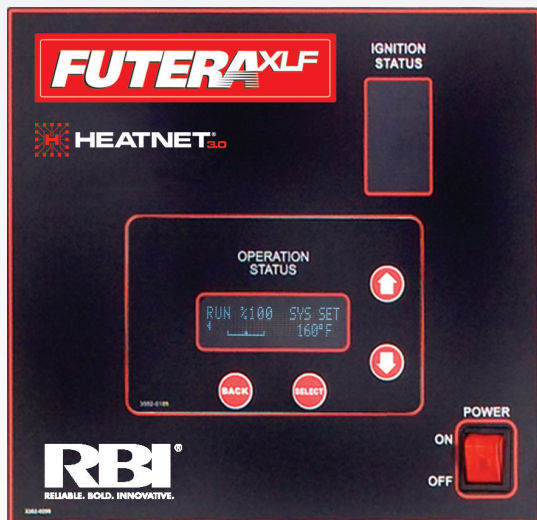
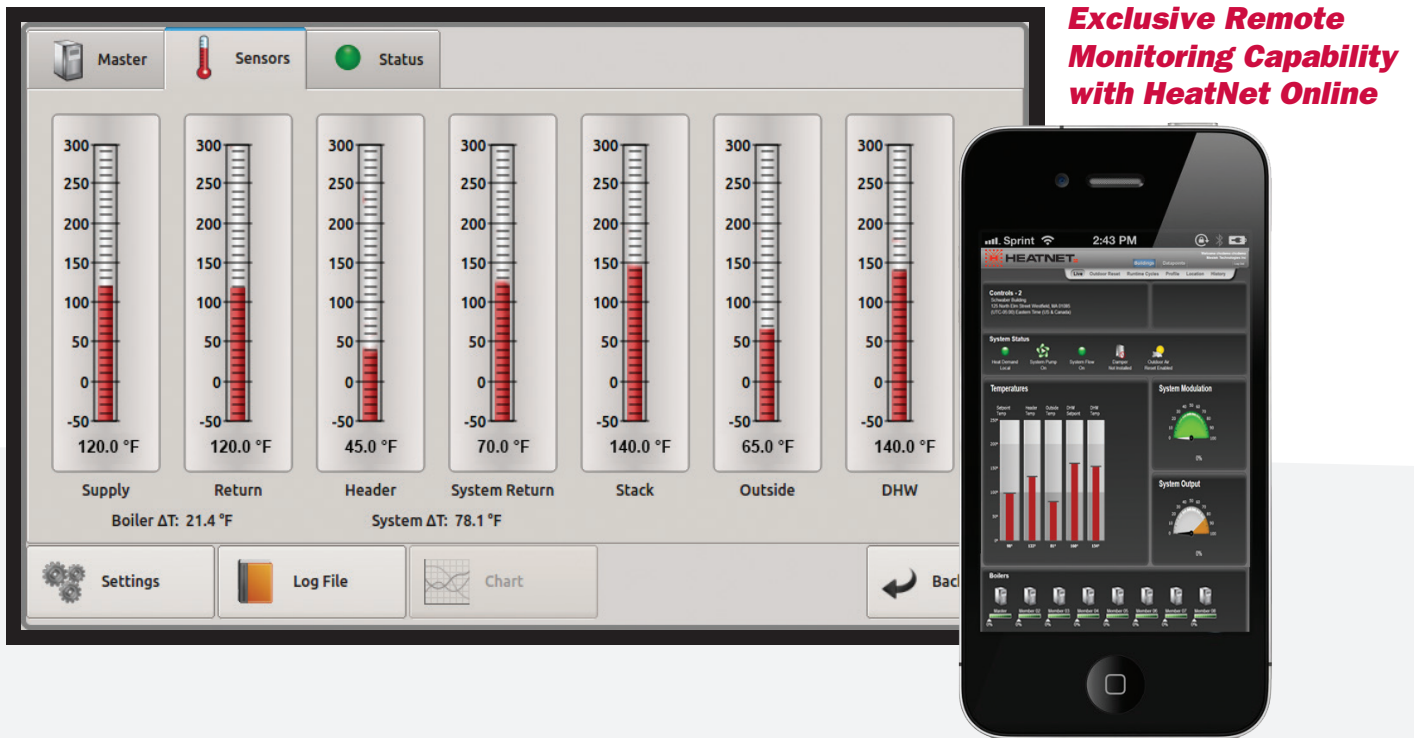




HEATNET[®] 3.0

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.



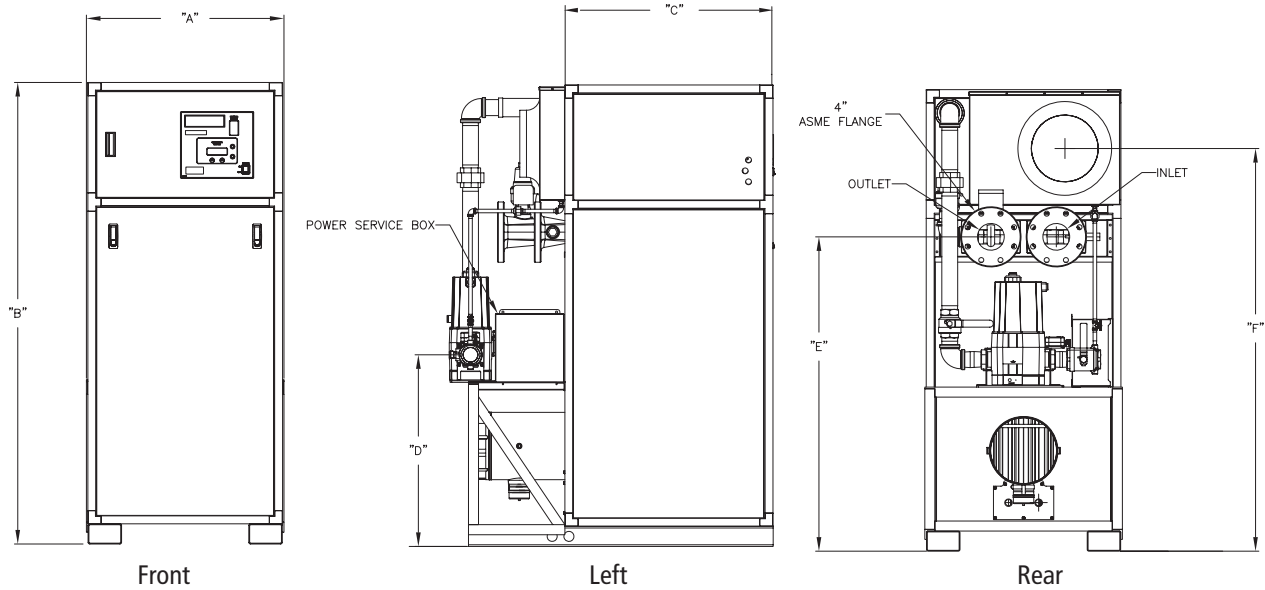
Four-button touchpad with plain-English display and intuitive menus simplifies programming and diagnostics. Standard on sizes 2,500 thru 5,000, optional touchscreen available. Touchscreen standard on sizes 6,000 thru 10,000.

- 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

FUTERA XLF BOILERS AND WATER HEATERS - 2,500 – 5,000

Dimensions & Ratings

NOTE: Dimensions are approximate and should not be used to "rough-in" equipment.



Models

MB = Boiler

MW = Water Heater

Futera XLF Series — Dimensions

Size	A		B		C		D		E		F	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
2500	29-1/8	740	55-1/2	1410	31-1/8	791	40-1/4	1022	33-5/16	848	46-1/2	1181
3000	29-1/8	740	60	1524	31-1/8	791	44-3/4	1137	37-13/16	960	51	1295
3500	29-1/8	740	64-1/2	1638	31-1/8	791	25-9/16	649	42-5/16	1075	55-1/2	1410
4000	29-1/8	740	69	1753	31-1/8	791	28-5/8	727	46-13/16	1189	60	1524
5000	29-1/8	740	78	1981	31-1/8	791	28-5/8	727	55-13/16	1418	69	1753

Futera XLF Series — Dimensions and Ratings*

Size	Input		Boiler Output		Flue Vent ⁽¹⁾			Connections			Shipping Weight	
	MBH	kW	MBH	kW	Cat I Negative	Cat II Negative	Cat IV Positive	Gas		Water	lbs.	kgs.
								Nat	LP			
2500	2500	733	2148	629	10"	12"	8"	1-1/2"	1-1/2"	4"	1300	590
3000	3000	879	2622	768	10"	12"	8"	1-1/2"	1-1/2"	4"	1400	635
3500	3500	1026	3052	894	12"	14"	10"	2"	1-1/2"	4"	1510	685
4000	4000	1172	3480	1020	12"	14"	10"	2"	1-1/2"	4"	1570	712
5000	5000	1465	4255	1247	14"	14"	12"	2"	1-1/2"	4"	2000	908

*Ratings reflect boilers only. For boiler efficiency information please visit www.ahridirectory.org.

⁽¹⁾ Diameters may vary based on system design.

Futera XLF 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 GPM	Pres Drop Ft	Flow Rate ΔL/s	Pres Drop kPa	Flow Rate GPM	Pres Drop Ft	Flow Rate ΔL/s	Pres Drop kPa	Flow Rate GPM	Pres Drop Ft	Flow Rate ΔL/s	Pres Drop kPa	Flow Rate GPM	Pres Drop Ft	Flow Rate ΔL/s	Pres Drop kPa
2500	214.8	10.05	13.5	29.6	171.8	6.45	10.8	19.0	143.2	3.71	9.0	10.9	122.7	2.79	7.7	8.2
3000	262.2	15.20	16.5	44.8	209.8	9.73	13.2	28.7	174.8	6.75	11.0	19.9	149.8	4.65	9.5	13.7
3500	305.2**	20.26	19.3	59.7	244.2	13.40	15.4	39.5	203.5	9.56	12.8	28.2	174.4	7.19	11.0	21.2
4000	-	-	-	-	278.4**	17.30	17.6	51.0	232.0	12.00	14.6	35.4	198.9	10.48	12.5	30.9
5000***	-	-	-	-	-	-	-	-	283.7	21.20	17.9	62.5	243.1	19.70	15.3	58.0

**Flow exceeds recommended maximum; use a greater temperature rise or consult manufacturer. Cupronickel heat exchanger should be considered.

***Cupronickel heat exchanger standard on 5000 model only.

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

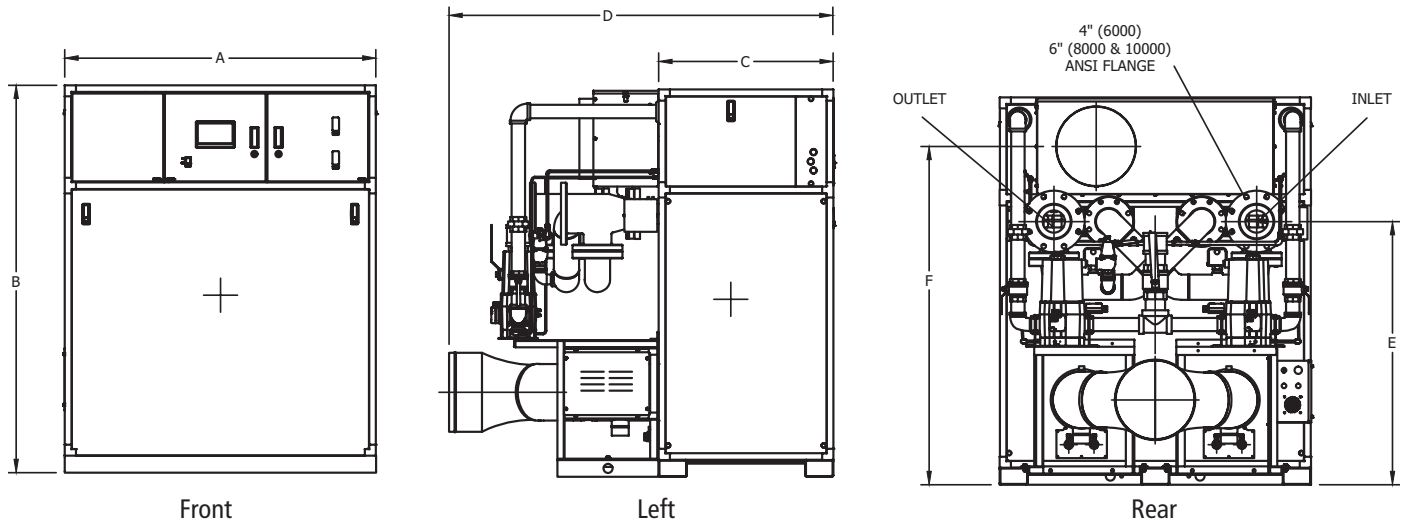
Size	40°F	22°C	60°F	33°C	80°F	44°C	100°F	56°C	120°F	67°C	140°F	78°C
2500	6355	24022	4237	16015	3178	12011	2542	9609	2118	8007	1816	6863
3000	7590	28690	5060	19127	3795	14345	3036	11476	2530	9563	2169	8197
3500	8813	33313	5875	22209	4407	16657	3525	13325	2938	11104	2518	9518
4000	10168	38435	6779	25624	5084	19218	4067	15374	3389	12812	2905	10982
5000	Pending											

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

FUTERA XLF BOILERS - 6,000 – 10,000

Dimensions & Ratings

NOTE: Dimensions are approximate and should not be used to "rough-in" equipment.



Models

MB = Boiler

NOTE: These sizes are only available as MB.

Futera XLF Series Boilers — Dimensions

Size	A		B		C		D		E		F	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
6000	55-1/3	1406	59-15/16	1522	31-1/16	789	68-3/8	1737	37-13/16	960	51-3/16	1300
8000	55-1/3	1406	68-15/16	1751	31-1/16	789	68-3/8	1737	46-13/16	1189	60-3/16	1528
10000	55-1/3	1406	77-15/16	1979	31-1/16	789	68-3/8	1737	55-13/16	1418	69-3/16	1757

Futera XLF Series Boilers — Dimensions and Ratings

Size	Input		Boiler Output		Flue Vent			Connections		Shipping Weight	
	MBH	kW	MBH	kW	Cat I Negative	Cat II Negative	Cat IV Positive	Gas	Water	lbs.	kgs.
6000	6000	1758	5244	1537	12"	12"	12"	2 1/2"	4"	2726	1238
8000	8000	2345	6824	2000	14"	14"	14"	3"	6"	3176	1442
10000	10000	2931	8510	2494	16"	16"	16"	3"	6"	3450	1566

Futera XLF 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 GPM	Pres Drop Ft	Flow Rate ΔL/s	Pres Drop kPa	Flow Rate GPM	Pres Drop Ft	Flow Rate ΔL/s	Pres Drop kPa	Flow Rate GPM	Pres Drop Ft	Flow Rate ΔL/s	Pres Drop kPa	Flow Rate GPM	Pres Drop Ft	Flow Rate ΔL/s	Pres Drop kPa
6000	524.6	13.2	33.1	39.6	419.7	8.5	26.5	25.3	349.7	5.9	22.1	17.6	299.8	4.3	18.9	12.9
8000	-	-	-	-	546.1*	28.6	34.5	85.6	455.1	19.9	28.7	59.5	390.1	14.6	24.6	43.7
10000**	-	-	-	-	-	-	-	-	567.6	33.0	35.8	98.7	486.5	24.3	30.7	72.5

*Flow exceeds recommended maximum; use a greater temperature rise or consult manufacturer. Cupronickel heat exchanger should be considered.

**Cupronickel heat exchanger standard.



XLF Boiler Product Summary (2500 - 10000)

	2500	3000	3500	4000	5000*	6000*	8000*	10000*
Boiler Ratings and Capacities								
Input BTU/HR	2,500,000	3,000,000	3,500,000	4,000,000	5,000,000	6,000,000	8,000,000	10,000,000
Output BTU/HR (High Fire)	2,147,500	2,622,000	3,052,000	3,480,000	4,255,000	5,244,000	6,824,000	8,510,000
AHRI Thermal Efficiency (%)	85.9	87.4	87.2	87.0	85.1	87.4	85.3	85.1
Turn Down	5:1	5:1	5:1	5:1	5:1	5:1	5:1	5:1
Boiler HP	64	78	91	104	127	157	204	254
Fuel Type	NG/LPG	NG/LPG	NG/LPG	NG/LPG	NG/LPG	NG/LPG	NG/LPG	NG/LPG
Category	CAT I/II/IV	CAT I/II/IV	CAT I/II/IV	CAT I/II/IV	CAT I/II/IV	CAT I/II/IV	CAT I/II/IV	CAT I/II/IV
Water Volume (gal)	12.1	12.8	13.4	14	15.6	25.6	28	31.2
Design Data - (Max working Press)	160 psig	160 psig	160 psig	160 psig	160 psig	160 psig	160 psig	160 psig
ASME Sect IV Htg Surface (Sq Ft)	267.5	325.0	377.0	435.0	544.3	650.0	870.0	1088.6
Cv GPM (1PSIG)	n/a	n/a	n/a	n/a	n/a	219	155	150
Electrical (Standard)	230V - 1ph	230V - 1ph	230V - 1ph	230V - 1ph	230V - 3ph	230V - 3ph	230V - 3ph	230V - 3ph
Electrical (Optional - 3ph)	208V-575V	208V-575V	208V-575V	208V-575V	208V-575V	208V-575V	208V-575V	208V-575V
Boiler FLA (amps) @230 Volt - 3ph	10.5	10.5	10.5	10.5	9.5	16.9	16.9	26.9
Min. Gas Pressure (w.c.)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Max. Gas Pressure (w.c.)	14	14	14	14	14	14	14	14
Boiler Temp Rise/Press Drop								
Max. Flow Rate (gpm) - Copper HX	260					520		
Max. Flow Rate (gpm) - Cupro Nickel HX	315					630		
20°F - delta t (Flow Rate, gpm)	214.8	262.2	305.2**	N/A	N/A	524.6	N/A	N/A
Pressure drop (ft-hd)	10.05	15.20	20.26			13.2		
25°F - delta t (Flow Rate, gpm)	171.8	209.8	244.2	278.4**		419.7	546.1**	
Pressure drop (ft-hd)	6.45	9.73	13.40	17.30		8.5	28.6	
30°F - delta t (Flow Rate, gpm)	143.2	174.8	203.5	232.0	283.7**	349.7	455.1	567.6**
Pressure drop (ft-hd)	3.71	6.75	9.56	12.00	21.20	5.9	19.9	33
35°F - delta t (Flow Rate, gpm)	122.7	149.8	174.4	198.9	243.1**	299.8	390.1	486.5**
Pressure drop (ft-hd)	2.79	4.65	7.19	10.48	19.70	4.3	14.6	24.3
Max Vent (Equiv. ft)	100	100	100	100	100	100	100	100
Max Combustion Air (Equiv. ft)	100	100	100	100	100	100	100	100
Boiler Trim								
Number of Relief Valves	1	1	1	1	1	2	2	2
Relief Valve Pressure Rating (PSI)	50	50	50	50	50	50	50	50
Inlet Water Connection (in)	4	4	4	4	4	4	6	6
Outlet Water Connection (in)	4	4	4	4	4	4	6	6
Gas Connection (in)	2	2	2	2	2	2-1/2	3	3
Vent Outlet Connection (in)	10	10	12	12	14	12	14	16
Vent Material	SS	SS	SS	SS	SS	SS	SS	SS
Combustion Air Connection	8	8	10	10	12	12	14	18
Dimensions								
Height (in)	55.5	60	64.5	69	78	60	69	78
Width (in)	29.125	29.125	29.125	29.125	29.125	55.35	55.35	55.35
Depth (in)	49	49	50.5	49.71	49.75	68.37	68.37	68.37
Operating Weight (lbs.)	1249	1355	1470	1535	1684	2958	3388	3641
Shipping Weight (lbs.)	1300	1400	1510	1570	2000	2726	3176	3450
Clearance Service/Combustible								
Front (in)	30/6	30/6	30/6	30/6	30/6	36/6	36/6	36/6
Rear (in)	24/6	24/6	24/6	24/6	24/6	24/6	24/6	24/6
Right Side (in)	12/6	12/6	12/6	12/6	12/6	24/6	24/6	24/6
Left Side (in)	12/6	12/6	12/6	12/6	12/6	24/6	24/6	24/6
Top (in)	30/6	30/6	30/6	30/6	30/6	36/6	36/6	36/6

* Boiler Only

** Cupro-Nickel Heat Exchanger



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