

**HIGH EFFICIENCY  
COMMERCIAL BOILERS**

# **FTXL™**

**FIRE TUBE BOILER**

399,000 - 999,000 BTU/HR

UP TO 98.3% THERMAL EFFICIENCY

UP TO 10:1 TURN-DOWN RATIO

FLOW RATES FROM 10 TO 150 GPM

FEATURES **SMART TOUCH™**

WITH **CONXUS®**  
REMOTE CONNECT



DESIGNED ★ ENGINEERED ★ ASSEMBLED

**USA**

 **Lochinvar®**



# NO ONE BRINGS IT ALL TOGETHER **LIKE LOCHINVAR**

For over 80 years, Lochinvar has been a leader of innovation and high-efficiency water heating. Through Lochinvar's pride in leadership and commitment to excellence, the company has continually improved year after year.

Today, Lochinvar touts the broadest line of high-efficiency water heating solutions, a world-class research and development department, comprehensive service with every sale, and industry-leading training through Lochinvar University.

**That's why no one brings it all together like Lochinvar.**

## **THE NEW 98% STANDARD**

Lochinvar re-defined the fire-tube boiler category with its KNIGHT® Wall-Mount and CREST® lines. For residential and light commercial applications, the FTXL™ brings models from 399,000 to 999,000 Btu/hr, and takes Lochinvar's fire-tube technology to the next level. FTXL offers best-in-class AHRI Thermal Efficiency and footprints, plus remote connectivity that puts the SMART TOUCH™ control at your fingertips, anywhere!

## **REDUCE INSTALLATION COST WITH VARIABLE FLOW TECHNOLOGY**

FTXL can operate over a wide range of flow rates\* with very low pressure drop. This permits installation of a "full flow" (variable primary) system eliminating the time and materials cost of primary/secondary piping, and pumps needed to maintain flow in a water-tube boiler. Variable flow also makes FTXL more flexible at handling frequent fluctuations in the system flow rate.

\*See back page for minimum and maximum flow rates by model.

## **MINIMUM SUPPLY PRESSURE, INSTALLER-FRIENDLY**

FTXL operates with supply gas pressure as low as 4 inches water column. *Negative Regulation* draws gas into a pre-mix combustion system, instead of relying on utility pressure through the gas valve. The result is steady operation in low gas pressure systems or when peak demand occurs on gas supply. Automatic fan speed control fine-tunes the correct fuel/air ratio entering the burner, providing superior combustion throughout the entire operating range.

## FTXL FEATURES

### 1 7" TOUCH SCREEN WITH BUILT-IN **CONXUS** REMOTE CONNECT

Provides a better end-user experience allowing parameters to be adjusted with minimal effort and provide access to the remote connectivity when required for the installation.

### 2 STAINLESS STEEL FIRE TUBE HEAT EXCHANGER

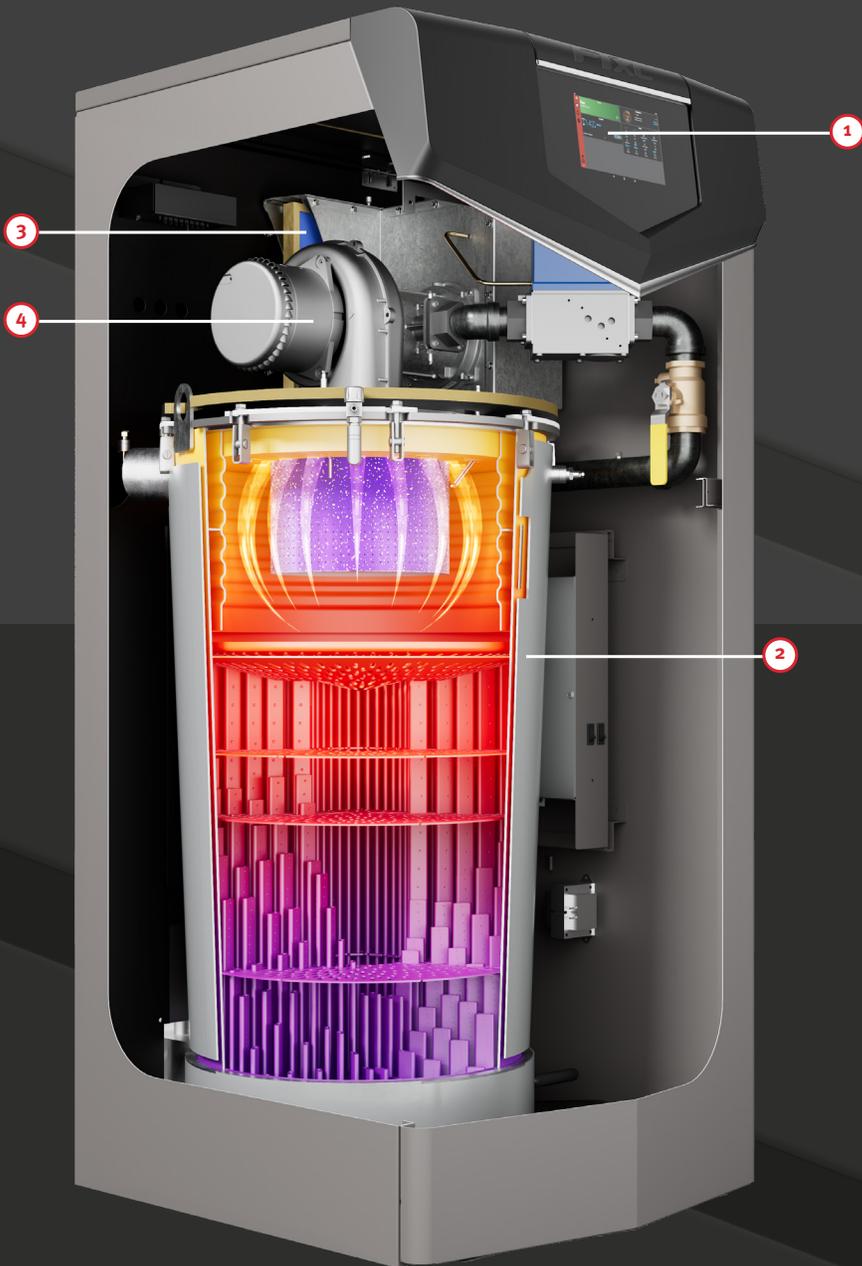
FTXL can operate over a wide range of flow rates with very low pressure drop and can be installed in "full flow" (variable primary) systems.

### 3 COMBUSTION AIR FILTER

Collects debris from combustion make up air, potentially extending time between burner and heat exchanger cleanings. (FTX1000 only)

### 4 UP TO 10:1 MODULATION TURN-DOWN

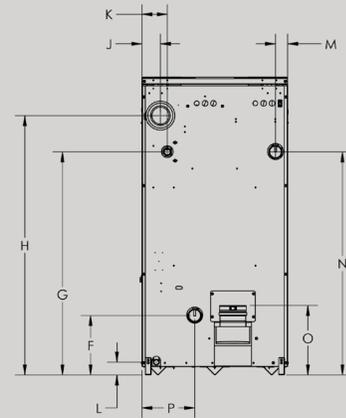
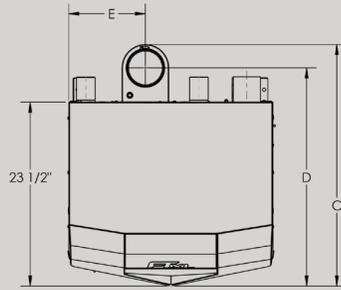
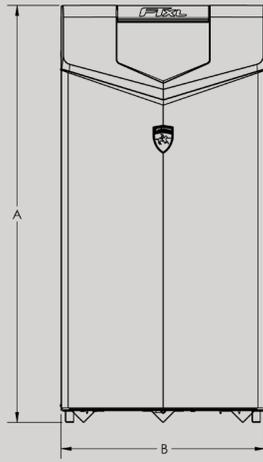
The FTX1000 has an operating range from 999,000 BTU/HR input all the way down to 99,900 BTU/HR input matching the majority of commercial heating load requirements, eliminating short cycling of the heating system.



## SMOOTH-RUNNING, **MODULATING COMBUSTION**

FTXL boilers have a top-mounted, micro-metal fiber burner, with a blower/gas valve assembly that drives heat energy downward, through stainless steel fire tubes, with exhaust venting through the bottom of the unit. With up to 10:1 modulation turn-down, the burner automatically changes its firing rate as building heat loads vary. An FTX1000 fires at its maximum 999,000 Btu/hr rate when heat load is highest, then gradually "turns down" to as low as 10% (99,900 Btu/hr) as load decreases. A modulating system runs smoothly and efficiently, without frequent on/off cycling.

# FTXL COMMERCIAL GAS BOILER DIMENSIONS & SPECIFICATIONS



FTXL HEATING BOILER							DIMENSIONS & SPECIFICATIONS											
Model Number	Input MBH		Gross Output MBH	Net AHRI Rating		Therm. Eff. %	Turn-Down	Flow (GPM)		Hex Water Vol (Gal)	A	B	C	D	E	F	G	H
	Min Btu/Hr	Max Btu/Hr		Water MBH	Therm. MBH			Min	Max									
FTX400(N,L)	39.9	399	392	341	98.0	10:1	10	105	13	53-1/4"	26-1/4"	31"	28"	9-3/4"	10-3/4"	40"	46-1/2"	
FTX500(N,L)	50	500	489	425	97.7	10:1	15	105	12	53-1/4"	26-1/4"	31"	28"	9-3/4"	10-3/4"	39-3/4"	46-1/2"	
FTX600(N,L)	85.7	600	585	509	97.5	7:1	15	105	12	53-1/4"	26-1/4"	31"	28"	9-3/4"	10-3/4"	40-3/4"	48-1/4"	
FTX725(N,L)	103.6	725	705	613	97.2	7:1	20	150	17	53-1/4"	26-1/4"	33-1/4"	29"	10"	11"	40-3/4"	48-1/4"	
FTX850(N,L)	121.4	850	825	717	97.0	7:1	25	150	16	53-1/4"	26-1/4"	33-1/4"	29"	10"	11"	40-3/4"	48-1/4"	
FTX1000(N,L)	99.9	999	982	854	98.3	10:1	30	150	19	61-1/4"	26-1/4"	38-1/4"	34"	10-3/4"	11"	40-1/4"	50-1/2"	

Model Number	J	K	L	M	N	O	P	Water Conn.	Vent Size	Air Inlet	Gas Conn.	Ship Wt. (lbs.)	Operating Wt. (lbs.)
FTX400(N,L)	3-1/4"	2-1/4"	2-1/4"	2-1/4"	40"	12-1/2"	9-1/2"	2"	4"	4"	1"	478	542
FTX500(N,L)	3-1/4"	2-1/4"	2-1/4"	2-1/4"	40"	12-1/2"	9-1/2"	2"	4"	4"	1"	504	560
FTX600(N,L)	3-1/4"	3-3/4"	2-1/4"	2-1/4"	40"	12-1/2"	9-1/2"	2"	4"	4"	1"	504	560
FTX725(N,L)	3"	3-1/2"	2-1/4"	2-1/4"	40"	12-1/2"	9"	2-1/2"	6"	4"	1"	575	672
FTX850(N,L)	3"	3-1/2"	2-1/4"	2-1/4"	40"	12-1/2"	9"	2-1/2"	6"	4"	1"	604	693
FTX1000(N,L)	6-3/4"	2-1/2"	2-1/2"	2-1/2"	40"	12-1/2"	7-1/2"	2-1/2"	6"	6"	1-1/4"	670	750

Information subject to change without notice. Dimensions shown are approximate and should not be used for construction purposes. Dimensions are in inches. Select "N" or "L" for Natural or LP gas. \*The Net AHRI Water Ratings shown are based on a piping and pickup allowance of 1.15. \*\*Lochinvar should be consulted before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc. \*\*\*The ratings have been determined under the provisions governing forced draft burners.

## STANDARD FEATURES

- ▶ **97% -98.3% Thermal Efficiency**
- ▶ **Modulating Burner with up to 10:1 Turn-down**
  - Direct Spark Ignition
  - Low NOx Operation
  - Sealed Combustion
  - Low Gas Pressure Operation
- ▶ **Stainless Steel Fire Tube Heat Exchanger**
  - ASME-Certified, "H" Stamped
  - 160 psi Working Pressure
  - 50 psi Relief Valve
  - Combustion Analyzer Test Port
  - Fully Welded Design
- ▶ **Vertical and Horizontal Direct Vent**
  - Direct Vent up to 100 feet
  - PVC, CPVC, Polypropylene or AL29-4C
  - Factory Supplied Sidewall Vent Termination
- ▶ **Smart Touch**
- ▶ **Other Features**
  - On/Off Switch
  - Adjustable High Limit with Manual Reset
  - Automatic Reset High Limit
  - Manual Reset Low Water Cutoff
  - Flue Temperature Sensor
  - Temperature and Pressure Gauge
  - Condensate Trap
  - Zero Service Clearance
  - 10-Year Limited Warranty (See Warranty)
- ▶ **3 Reset Temperatures Inputs w/Independent Outdoor Reset Curves for Each Outdoor Sensor**
- ▶ **Four-Pump Control**
  - System Pump with Parameter for Continuous Operation
  - Boiler Pump with Variable-Speed Control
  - Domestic Hot Water Boiler Pump
  - Domestic Hot Water Recirculation Pump Control with Sensor
- ▶ **Building Management System Integration**
  - 0-10 VDC Input to Control Modulation or Set-point
  - 0-10 VDC Input from Variable-Speed System Pump
  - 0-10 VDC Modulation Rate Output Signal
  - 0-10 VDC Enable/Disable Signal
- ▶ **Programmable System Efficiency Optimizers**
  - Space Heating Night Setback
  - DHW Night Setback
  - Anti-Cycling
  - Ramp Delay
  - Boost Time and Temperature
- ▶ **High-Voltage Terminal Strip**
  - 120 VAC/60 Hertz/1 Phase
  - Pump Contacts for 3 Pumps
- ▶ **Low-Voltage Terminal Strip**
  - Building Recirculation Pump Start/Stop
  - Building Recirculation Return Temp Sensor
  - Contacts
  - Proving Switch Contacts
  - Flow Switch Contacts
  - Alarm Contacts
  - Runtime Contacts
  - 3 Space Heat Thermostat Contacts
  - Tank Thermostat Contacts
  - System Sensor Contacts
  - Tank Sensor Contacts
  - Cascade Contacts
  - 0-10 VDC BMS Contacts
  - 0-10 VDC Boiler Rate Output Contacts
  - 0-10 VDC Boiler Pump Speed Contacts

- 0-10 VDC System Pump Speed Contacts
- ModBus Contacts
- ▶ **Time Clock**
- ▶ **Data Logging**
  - Ignition Attempts
  - Last 10 Lockouts
  - Space Heat Run Hours
  - Domestic Hot Water Run Hours
  - Custom Maintenance Reminder with Contact Info
  - Password Security
  - Customizable Freeze Protection Parameters

## OPTIONAL EQUIPMENT

- Alarm Bell
- BACnet MSTP Communications Kit
- BMS Gateway to BACnet or LonWorks
- Common Vent Kit
- Condensate Neutralization Kit
- Constant-Speed Boiler Circulator
- Flow Switch
- High and Low Gas Pressure Switches w/Manual Reset
- ModBus Communication
- Motorized Isolation Valve
- Variable-Speed Boiler Circulator
- Wireless Outdoor Temperature Sensor
- 30 psi ASME Relief Valve
- 75 psi ASME Relief Valve
- 100 psi ASME Relief Valve
- 125 psi ASME Relief Valve
- 150 psi ASME Relief Valve
- ▶ **Firing Controls**
  - M9-Standard Construction
  - M13-CSD-1/FM/GE Gap

## SMART SYSTEM FEATURES

- ▶ **CON-X-US Remote Connect**
- ▶ **Smart Touch Touchscreen Operating Control**
- ▶ **Full Color 7" Touchscreen LCD Display**
- ▶ **Cascading Sequencer with Built-in Redundancy**
  - Selectable Cascade Type:
    - Lead Lag/Efficiency Optimization
  - Multiple Size Boilers
  - Front-End Loading

For technical information call 800-722-2101. Lochinvar, LLC reserves the right to make product changes or improvements without prior notice.



Lochinvar, LLC  
 300 Maddox Simpson Parkway  
 Lebanon, Tennessee 37090  
 P: 615.889.8900 / F: 615.547.1000  
 f i n o Lochinvar.com

