

**HIGH EFFICIENCY
COMMERCIAL BOILERS**



5 MODELS FROM 399,000 - 999,000 BTU/HR

97% THERMAL EFFICIENCY

10:1 TURNDOWN RATIO

UP TO 150' EQUIVALENT VENT LENGTHS

FEATURES  **SMART TOUCH**™

WITH  **CONXUS**®
REMOTE CONNECT



DESIGNED ★ ENGINEERED ★ ASSEMBLED

USA



THE LOCHINVAR DIFFERENCE



**BROADEST LINE OF
WATER HEATING SOLUTIONS
IN THE INDUSTRY**



**INDUSTRY-LEADING TRAINING
ON CAMPUS AND
ONLINE AT LOCHINVARU.COM**



**A WORLD-CLASS RESEARCH &
DEVELOPMENT DEPARTMENT THAT
CONTINUOUSLY INTRODUCES NEW
AND INNOVATIVE TECHNOLOGY**



**A COMMITMENT TO IN-DEPTH
SERVICE BEFORE, DURING AND
AFTER EVERY SALE**

NO ONE BRINGS IT ALL TOGETHER LIKE LOCHINVAR

For nearly 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.

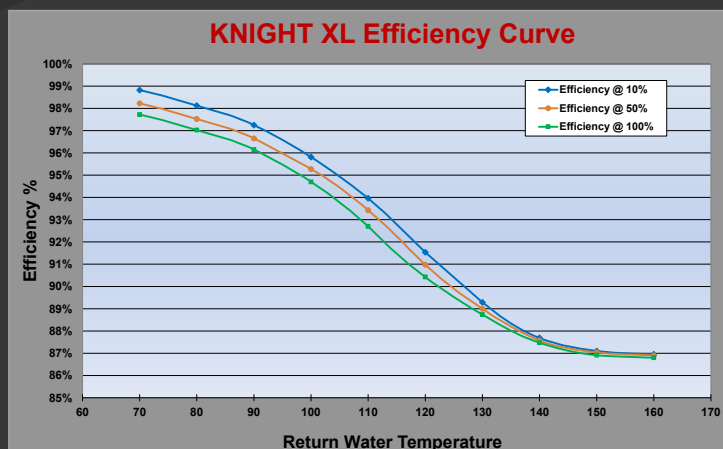
ALWAYS LEADING THE CHARGE

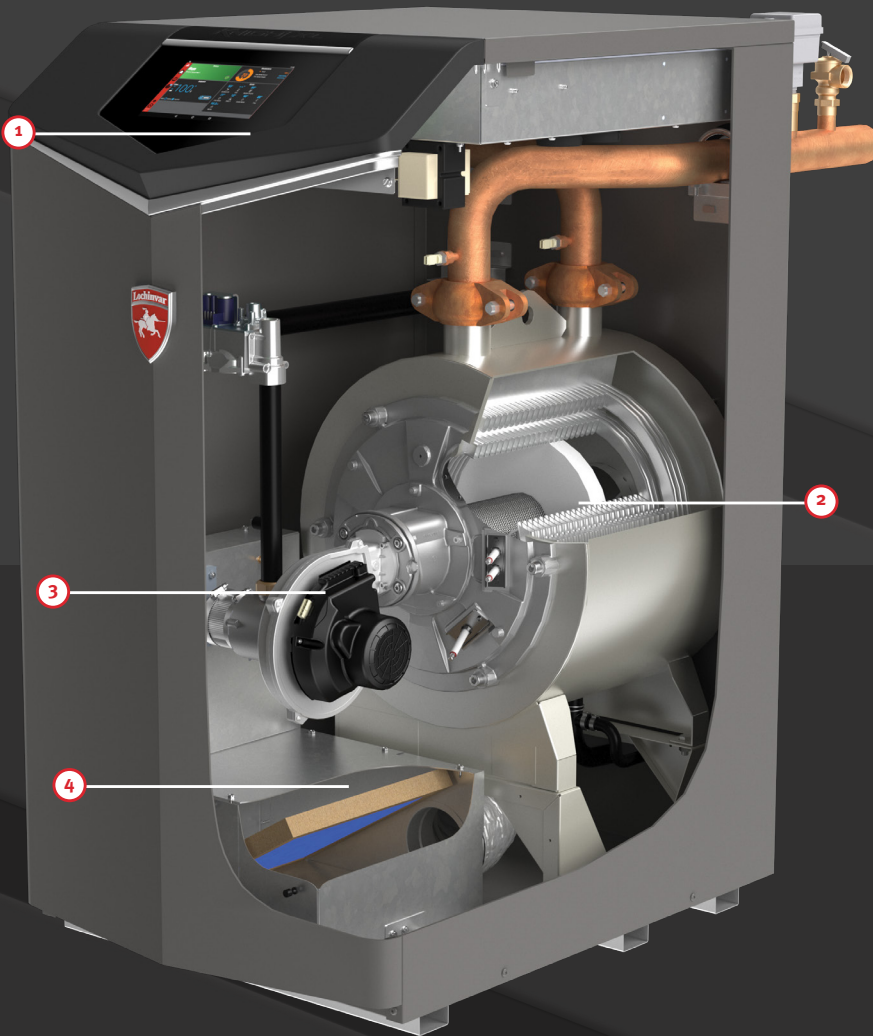
Lochinvar's KNIGHT XL™ has earned a reputation for reliability starting with its initial launch in 2005. Its workhorse heat exchanger performed with little need for service making it a go-to choice for many contractors. Because of Lochinvar's commitment to new product development, any opportunity to make a good product better is always taken. In 2010, the KNIGHT XL's SMART SYSTEM™ was given an upgrade making setup and programming even easier than before. As the timeline continues, the boiler now has a new sleek appearance and a multitude of refinements sure to keep current fans and win over even more.

With years of proven experience, the KNIGHT XL expands on its already tried and true feature set. Making hard work look easy, this commercial boiler steps out front. Available in five models ranging from 399,000 to 999,000 Btu/hr, the advanced units feature 97% thermal efficiency and 10:1 turndown.

Line these boilers up side by side in any new construction or retrofit because zero side clearances make maximizing available footprints a snap. All the utility connections are located in the back of the units including vent, which can extend up to 150 feet for both intake and exhaust.

Set-up KNIGHT XL quickly and accurately using the SMART TOUCH™ control. The LED touch screen display clearly leads technicians through features like Ramp Delay and controlling the 0-10 volt pump. And with CON·X·US® remote connect being standard, making adjustments remotely are easy from any wireless device.





KNIGHT XL FEATURES

1 7" TOUCH SCREEN WITH BUILT-IN CON-X-US[®] 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 WATER TUBE HEAT EXCHANGER

Enhanced design provides a 3% increase in Thermal Efficiency over previous KNIGHT XL design. Lowering operating cost and boiler emissions.

3 10:1 MODULATION TURNDOWN

The KBX1000 has an operating range from 999,000 BTU/HR input all the way down to 99,000 BTU/HR input matching the majority of commercial heating load requirements, eliminating short cycling of the heating system.

4 COMBUSTION AIR FILTER

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

KNIGHT XL PRODUCT TIMELINE



2005

KBN399 & KBN500 INTRODUCED.

2007

KNIGHT XL FAMILY INTRODUCTION.
ADDED KBN600, KBN700 & KBN800



2010

ENHANCED USER INTERFACE AND CONTROL
FEATURES ADDED.

2015

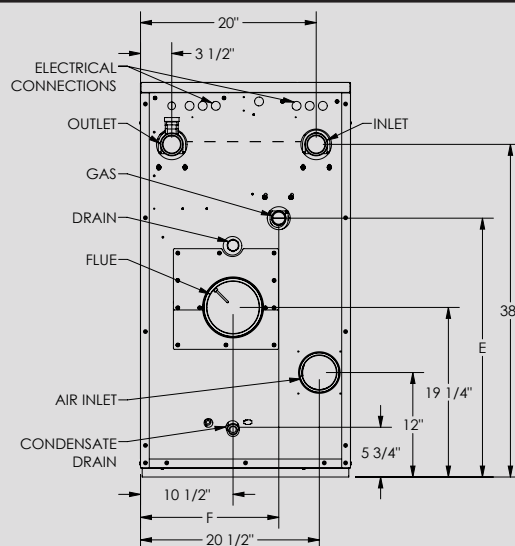
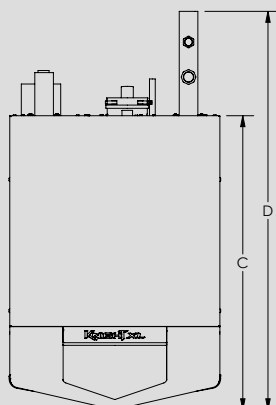
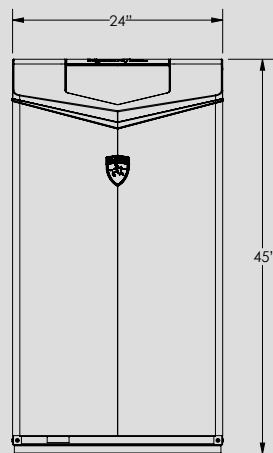
CON-X-US REMOTE CONNECTIVITY
OPTION ADDED.



2021

THE NEW REFINED
KNIGHT XL IS RELEASED.

KNIGHT XL COMMERCIAL GAS BOILER DIMENSIONS & SPECIFICATIONS



KNIGHT XL HEATING BOILER							DIMENSIONS & SPECIFICATIONS									
Model Number	Input MBH			Gross Output MBH	Net AHRI Rating, Water, MBH	Combustion Efficiency %	Thermal Efficiency %	C	D	E	F	Gas Conn.	Water Conn.	Air Inlet	Vent Size	Ship Wt. (lbs.)
	Min	Max	Turn Down													
KBX0400N	39.9	399	10:1	387	337	97.0	97.0	33-1/2"	42-1/2"	29-3/4"	20-1/4"	1"	2"	4"	4"	365
KBX0500N	50	500	10:1	485	422	97.0	97.0	33-1/2"	42-1/2"	29-3/4"	20-1/4"	1"	2"	4"	4"	377
KBX0650N	65	650	10:1	631	549	97.0	97.0	42-1/2"	53"	30-1/2"	15-1/4"	1-1/4"	2"	4"	6"	456
KBX0800N	80	800	10:1	776	675	97.0	97.0	42-1/2"	53"	30-1/2"	15-1/4"	1-1/4"	2"	4"	6"	484
KBX1000N	99.9	999	10:1	969	843	97.0	97.0	50"	62"	30-1/2"	15-3/4"	1-1/4"	2-1/2"	6"	6"	567

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% Thermal Efficiency**
- › **Modulating Burner with 10:1 Turndown**
 - Direct Spark Ignition
 - Low NOx Operation
 - Sealed Combustion
 - Low Gas Pressure Operation
- › **Stainless Steel Water 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 150 feet
 - PVC, CPVC, Polypropylene or AL29-4C
 - Factory Supplied Sidewall Vent Termination
- › **Smart System Control**
- › **Other Features**
 - On/Off Switch
 - Adjustable High Limit with Manual Reset
 - Automatic Reset High Limit
 - Flow Switch
 - Flue Temperature Sensor
 - Low Air Pressure Switch
 - Temperature and Pressure Gauge
 - Condensate Trap
 - 10-Year Limited Warranty (See Warranty)

SMART SYSTEM FEATURES

- › **CON-X-US Remote Connect**
- › **Smart Touch Touchscreen Operating Control**
- › **Full Color 7" Touchscreen LCD Display**
- › **Loch-N-Link® USB Thumb Drive Port for Easy Programming**
- › **Cascading Sequencer with Built-in Redundancy**
 - Selectable Cascade Type:
 - Lead Lag/Efficiency Optimization
 - Multiple Size Boilers

- Front-End Loading
- › **3 Reset Temperatures Inputs w/Independent Outdoor Reset Curves for Each Outdoor Sensor**
- › **Three-Pump Control**
 - System Pump with Parameter for Continuous Operation
 - Boiler Pump with Variable-Speed Control
 - Domestic Hot Water Boiler Pump
- › **Building Management System Integration**
 - 0-10 VDC Input to Control Modulation or Setpoint
 - 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**
 - Proving 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/BACnet 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

- Wireless Outdoor Temperature Sensor
- Multi-Temperature Loop Control
- Variable-Speed Boiler Circulator
- Constant-Speed Boiler Circulator
- Common Vent Damper Kit
- ModBus Communication
- BMS Gateway to BACnet or LonWorks
- BACnet MSTP
- Alarm Bell
- Condensate Neutralization Kit
- Concentric Vent Kit (KBX0400-KBX500)
- Low Water Cutoff w/Manual Reset & Test
- High and Low Gas Pressure Switches w/Manual Reset (KBX0500-KBX1000)
- › **Firing Controls**
 - M9-Standard Construction
 - M13-CSD-1/FM/GE Gap (KBX0500-KBX1000)
 - M7 California Code

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



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