



Lochinvar®

HIGH EFFICIENCY BOILERS & WATER HEATERS

OUTDOOR KNIGHT XL HEATING BOILER

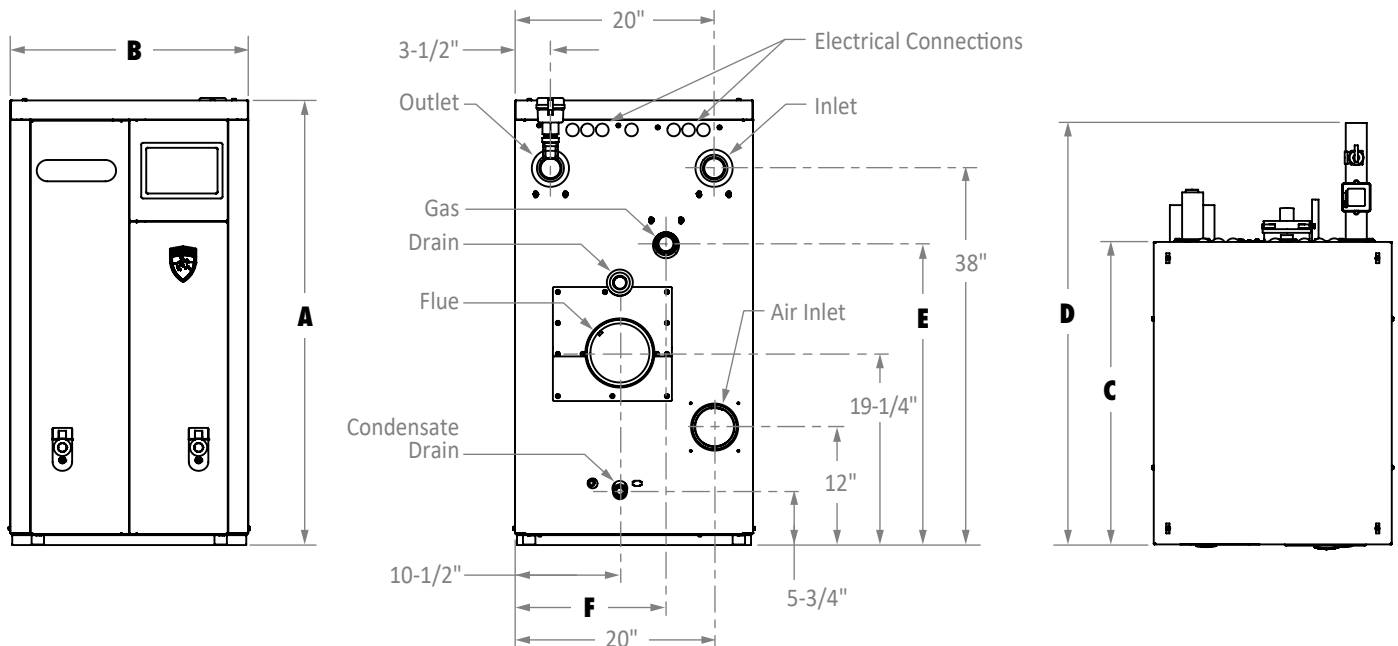
Submittal Sheet

OKB-Sub-03

OUTDOOR KNIGHT® HEATING BOILERS MODELS KBX0400-O – KBX1000-O

Job Name: _____ Model No. _____
Location: _____ Type Gas: _____
Engineer: _____ Equipment Tag(s): _____
Agent/Wholesaler: _____
Contractor: _____

NOTES:



Dimensions and Specifications

Model Number	Input Max. MBH	Input Min. MBH	Dimensions in Inches										Shipping Wt. (lbs.)
			A	B	C	D	E	F	Gas Conn.	Water Conn.	Air Inlet	Vent Size	
KBX0400-0	399	39	45	24	33-1/2	42-1/2	29-3/4	20-1/4	1	2	4	4	373
KBX0500-0	500	50	45	24	33-1/3	42-1/3	29-3/4	20-1/4	1	2	4	4	390
KBX0650-0	650	65	45	24	42-1/2	53	30-1/2	15-1/4	1-1/4	2	4	4	500
KBX0800-0	800	80	45	24	42-1/3	53	30-1/2	15-1/4	1-1/4	2	4	6	500
KBX1000-0	999	99	45	24	50	62	30-1/2	15-1/4	1-1/4	2-1/2	6	6	580



Standard Features

- › **96.3% 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
 - › **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)
 - Custom Maintenance Reminder w/Contact Info
 - Password Security
 - Customizable Freeze Protection Parameters
- M13-CSD-1/FM/GE Gap (KBX0500-KBX1000)
- M7 California Code

Smart TOUCH 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 with 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 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**
 - Building Recirculation Pump Start/Stop
 - 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/BACnet Contacts
- › **Time Clock**
- › **Data Logging**
 - Ignition Attempts
 - Last 10 Lockouts
 - Space Heat Run Hours
 - Domestic Hot Water Run Hours

Optional Equipment

- Constant-Speed Boiler Circulator w/Pump Cover
- Alarm on Any Failure
- Condensate Neutralization Kit
- BMS Gateway to BACnet or LonWorks
- BACnet MSTP
- ModBus Communication
- High and Low Gas Pressure Switches w/ Manual Reset (KBX0500-KBX1000)
- Low Water Cut-Off with Manual Reset
- LP Conversion Kit

Firing Controls

M9-Standard Construction



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

