

HIGH EFFICIENCY COMMERCIAL BOILERS

Model #: FBN2000

L: 6' 6"
W: 2' 7"
H: 6' 8"

Shipping Weight: 2,150
Operating Weight: 3,054

CREST[®] CONDENSING BOILER

SMART TOUCH

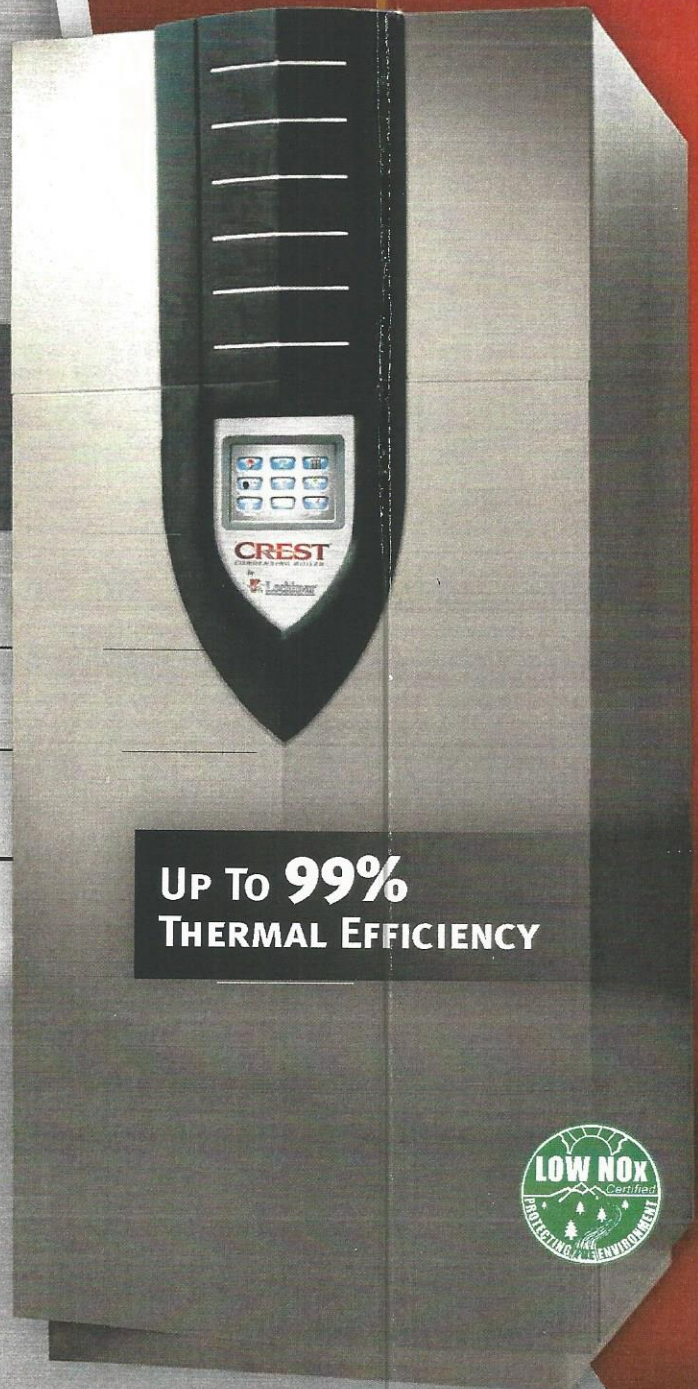
WITH MODBUS PROTOCOL,
CASCADING SEQUENCER AND
FRONT-END LOADING CAPABILITY

7 INPUTS FROM 1.5 TO 5.0 MILLION BTU/HR

FIRING RATE MODULATION UP TO 25:1

DIRECT-VENT FLEXIBILITY TO 100 FEET

FLEXIBLE FLOW RATES UP TO 350 GPM

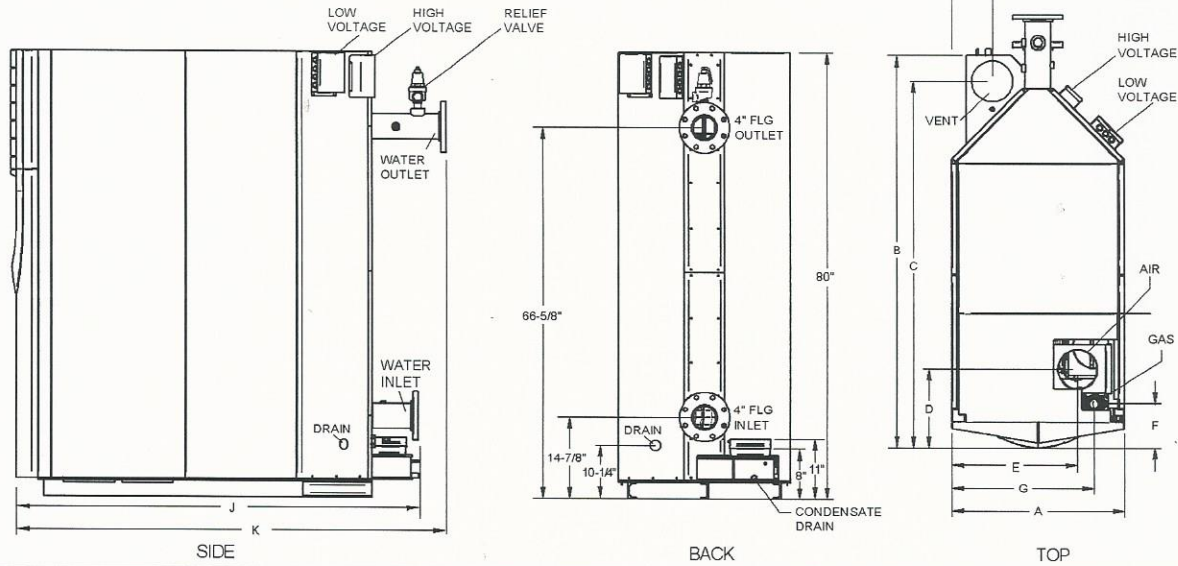


**UP TO 99%
THERMAL EFFICIENCY**



Lochinvar
HIGH EFFICIENCY BOILERS & WATER HEATERS

CREST® BOILER DIMENSIONS AND SPECIFICATIONS



| CREST HEATING BOILER | | | | | | | DIMENSIONS AND SPECIFICATIONS | | | | | | | | | | | | | | |
|----------------------|----------------|----------------|----------------|--------------|---------------------|-------------|-------------------------------|--------|---------|--------|--------|--------|--------|--------|---------|---------|-----------|-----------|-----------|----------------------|---------------------|
| Model Number | Input MBH Min. | Input MBH Max. | AHRI Thermal % | Output MBH | NET AHRI Rating MBH | Turndown | A | B | C | D | E | F | G | H | J | K | Gas Conn. | Air Inlet | Vent Size | Operating Wt. (lbs.) | Shipping Wt. (lbs.) |
| FBN1500 | 60 | 1,500 | 92.0% | 1,380 | 1,200 | 25:1 | 30-3/4 | 71-1/2 | 65-3/4 | 14-3/8 | 22-3/8 | 8-1/2 | 25-1/4 | 7-1/4 | 72-5/8 | 77-5/8 | 1-1/2 | 7 | 7 | 2,496 | 1,900 |
| FBN2000 | 80 | 2,000 | 92.0% | 1,840 | 1,600 | 25:1 | 30-3/4 | 71-1/8 | 65-1/8 | 14-7/8 | 22-3/8 | 8-1/4 | 25-3/8 | 5-3/4 | 71-7/8 | 76-7/8 | 1-1/2 | 8 | 8 | 3,054 | 2,150 |
| FBN2500 | 125 | 2,500 | 92.0% | 2,300 | 2,000 | 20:1 | 34-1/4 | 76-3/8 | 70-1/4 | 17-3/4 | 26-1/8 | 9-3/4 | 27-3/8 | 6-1/4 | 78 | 83 | 2 | 8 | 9 | 3,652 | 2,560 |
| FBN3000 | 150 | 3,000 | 92.0% | 2,760 | 2,400 | 20:1 | 40-1/2 | 83-5/8 | 76-3/8 | 17-3/8 | 31-3/8 | 9-7/8 | 34-3/4 | 8-1/2 | 82-1/8 | 87-1/8 | 2 | 10 | 10 | 4,126 | 2,920 |
| FBN3500 | 200 | 3,500 | 92.0% | 3,220 | 2,800 | 18:1* | 40-1/2 | 83-1/4 | 75-5/8 | 17-1/4 | 31-3/8 | 9-7/8 | 34-3/4 | 7-1/4 | 81-1/8 | 86-1/8 | 2 | 10 | 10 | 4,744 | 3,225 |
| FBN4000 | 335 | 4,000 | 93.0% | 3,720 | 3,235 | 12:1 | 53-1/2 | 109 | 100-3/4 | 31-1/4 | 40-3/4 | 14-1/2 | 45-3/4 | 12-1/2 | 109-1/4 | 108-1/4 | 2-1/2 | 12 | 12 | 6,900 | 4,750 |
| FBN5000 | 500 | 5,000 | 93.0% | 4,650 | 4,043 | 10:1 | 53-1/2 | 109 | 100-3/4 | 28 | 40-3/4 | 11 | 45-1/2 | 9 | 109-1/4 | 108-1/4 | 2-1/2 | 14 | 14 | 8,000 | 5,550 |

Notes: Indoor installation only. All information subject to change. Change "N" to "L" for LP gas models and to "D" for dual fuel models. For Low NOx on FB2500 - FB5000 models, consult factory. *Turndown rate reduced on LP gas models.

SMART TOUCH™ FEATURES

- ▶ **SMART TOUCH™ Touchscreen Operating Control**
- ▶ **Full-Color 8" Touchscreen LCD Display**
- ▶ **Built-in Cascading Sequencer for up to 8 Boilers**
- ▶ Cascade Multiple Sized Boilers
- ▶ Lead/Lag Cascade
- ▶ Efficiency Optimized Cascade
- ▶ **Front-End Loading Capability with CopperFin II and Powerfin Boilers**
- ▶ **Building Management System Integration with 0-10 VDC Input**
- ▶ **Modbus Communications**
- ▶ **Outdoor Reset Control with Outdoor Air Sensor**
- ▶ **Password Security**
- ▶ **Domestic Hot Water Prioritization**
- ▶ DHW tank piped with priority in the boiler loop
- ▶ DHW tank piped as a zone in the system with the pumps controlled by the Smart System
- ▶ DHW Modulation Limiting
- ▶ Separately Adjustable SH/DHW Switching Times
- ▶ Low Water Flow Safety Control & Indication
- ▶ Inlet & Outlet Temperature Readout
- ▶ Freeze Protection
- ▶ Service Reminder
- ▶ Time Clock
- ▶ **Data Logging**
- ▶ Hours Running, Space Heating
- ▶ Hours Running, Domestic Hot Water
- ▶ Hours Running, Modulation Rate
- ▶ Ignition Attempts
- ▶ Last 10 Lockouts
- ▶ **Programmable System Efficiency Optimizers**
- ▶ Night Setback
- ▶ Anti-Cycling
- ▶ Outdoor Air Reset Curve
- ▶ Ramp Delay
- ▶ Boost Temperature & Time
- ▶ **Three Pump Control**
- ▶ System Pump
- ▶ Boiler Pump
- ▶ Domestic Hot Water Pump

High-Voltage Terminal Strip

- ▶ 120 VAC / 60 Hertz / 1 Phase Power Supply (FB1500-3500)
- ▶ 208 VAC / 60 Hertz / 3 Phase Power Supply (FB4000-5000)
- ▶ System Pump, Boiler Pump and DHW Pump Power

Low-Voltage Terminal Strip

- ▶ 24 VAC Auxiliary Device Relay
- ▶ Auxiliary Proving Switch Contacts
- ▶ Alarm on Any Failure Contacts
- ▶ Runtime Contacts
- ▶ DHW Thermostat Contacts
- ▶ Unit Enable/Disable Contacts
- ▶ System Sensor Contacts
- ▶ DHW Tank Sensor Contacts
- ▶ Outdoor Air Sensor Contacts
- ▶ Cascade Contacts
- ▶ 0-10 VDC BMS External Control Contact

OPTIONAL EQUIPMENT

- ▶ Alarm Bell
- ▶ BMS Gateway - BACnet or LonWorks
- ▶ Condensate Neutralization Kit
- ▶ SMART TOUCH PC Software
- ▶ Common Vent Kits
- ▶ Dual Fuel Gas Train
- ▶ Electrical Options (Shipped Loose):
 - 208V/3Ø/60Hz (Models FB1500-3500 only)
 - 480V/3Ø/60Hz
 - 600V/3Ø/60Hz
- ▶ Motorized Isolation Valve
- ▶ Variable Speed Boiler Pump

CODES & REGISTRATIONS

- ▶ ANSI Z21.13/CSA Certified
- ▶ ASME certified, "H" Stamp / National Board
- ▶ California Code Compliant
- ▶ CSD1 / Factory Mutual / GE Gap Compliant
- ▶ South Coast Air Quality Management District Qualified
- ▶ Canadian Registration Number (CRN)
- ▶ AHRI Certified

STANDARD FEATURES

- ▶ Up to 93% Thermal Efficiency (AHRI)
- ▶ Up to 99% Thermal Efficiency in Low Temperature Applications
- ▶ Modulating Burner with up to 25:1 Turndown
- ▶ Direct-Spark Ignition
- ▶ Low-NOx Operation
- ▶ Sealed Combustion
- ▶ Low Gas Pressure Operation
- ▶ Vertical or Horizontal Venting
- ▶ Category IV Venting up to 100 Feet
- ▶ ASME "H" Stamped Heat Exchanger
- ▶ 316L Stainless Steel Fire Tubes
- ▶ 160 psi Working Pressure
- ▶ On/Off Switch
- ▶ Adjustable High Limit with Manual Reset
- ▶ Low Water Cutoff with Manual Reset & Test
- ▶ High & Low Gas Pressure Switches w/Manual Reset
- ▶ Low Air Pressure Switches
- ▶ Condensate Trap w/ Blocked Drain Switch
- ▶ Drain Valve
- ▶ System Sensor
- ▶ Outdoor Air Sensor
- ▶ Inlet & Outlet Temperature Sensors
- ▶ High Voltage Terminal Strip
- ▶ Low Voltage Terminal Strip
- ▶ Downstream Gas Test Cocks
- ▶ 50 psi ASME Relief Valve
- ▶ Temperature & Pressure Gauge
- ▶ Zero Clearances to Combustible Materials
- ▶ 10-Year Limited Warranty (See Warranty for Details)
- ▶ 1-Year Warranty on Parts (See Warranty for Details)

Registered Under U.S. Patent #8286594



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