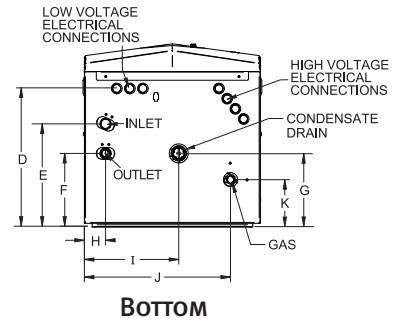
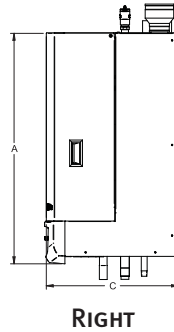
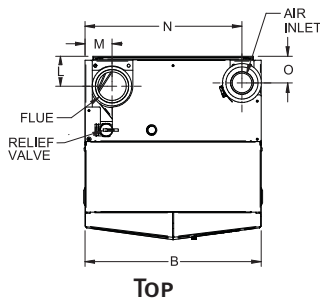


# KNIGHT® WALL-MOUNT BOILER DIMENSIONS AND SPECIFICATIONS



KNIGHT HEATING BOILER						DIMENSIONS AND SPECIFICATIONS																			
Model Number	Max. MBH	Min. MBH	*AFUE %	Heating Capacity MBH	Net MBH	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Gas Conn.	Water Conn.	Air Inlet	Vent Size	Shipping Wt. (lbs.)
WHN055	55	11	95.0	51	44	33-1/4"	18-1/2"	16"	11-3/4"	10-1/2"	6-1/2"	4"	1-1/2"	3"	14-1/2"	5-3/4"	4"	3"	16-1/4"	5"	1/2"	1"	2"	2"	139
WHN085	85	17	95.0	79	69	33-1/4"	18-1/2"	16"	11-3/4"	10-1/2"	6-1/2"	4"	1-1/2"	3"	14-1/2"	5-3/4"	4"	3"	16-1/4"	5"	1/2"	1"	2"	2"	142
WHN110	110	22	95.0	102	89	33-1/4"	18-1/2"	19"	14-1/2"	10-3/4"	7-3/4"	2-1/4"	10"	15-1/2"	5"	3-1/4"	3"	16-1/2"	2-3/4"	1/2"	1"	3"	3"	159	
WHN155	155	31	95.0	144	125	33-1/4"	18-1/2"	19"	14-1/2"	10-3/4"	7-3/4"	2-1/4"	10"	15-1/2"	5"	3-1/4"	3"	16-1/2"	2-3/4"	1/2"	1"	3"	3"	166	
WHN199	199.9	40	95.0	185	161	33-1/4"	18-1/2"	19"	14-1/2"	11-3/4"	8"	8"	1-1/4"	10"	16-3/4"	4-3/4"	3-1/4"	2-3/4"	16-1/2"	3"	1/2"	1-1/4"	3"	3"	175
WHN285	285	57	95.0	264	229	33-1/4"	18-1/2"	19"	14-1/2"	11-3/4"	8"	8"	1-1/4"	10"	16-3/4"	4-3/4"	3-1/4"	2-3/4"	16-1/2"	3"	1/2"	1-1/4"	3"	3"	184
WHN399	399	80	94.4	377	328	35-1/2"	25"	21-3/4"	17-1/2"	12-1/2"	9-1/4"	9-1/2"	2-1/4"	13-1/4"	21-1/2"	9"	4-3/4"	4"	22-1/2"	3-3/4"	3/4"	1-1/2"	4"	4"	213

Notes: Indoor installation only. All information subject to change. Change "N" to "L" for LP gas models. \*WHN399 value is Thermal Efficiency

## SMART SYSTEM™ FEATURES

- ▶ **SMART SYSTEM Digital Operating Control**
  - ▶ Multi-Color Graphic LCD Display with Navigation Dial and Soft Keys
- ▶ **Three Boiler Setpoint Temperature Inputs**
  - ▶ Plus Domestic Hot Water Prioritization
- ▶ **Built-in Cascading Sequencer for up to 8 Boilers**
  - ▶ Multiple Size Boiler Cascade
  - ▶ Lead Lag
  - ▶ Efficiency Optimization
  - ▶ Front End Loading Capability with Copper Fin II
- ▶ **Outdoor Reset Control with Outdoor Air Sensor**
  - ▶ Programmable for Three Reset Temperature Inputs
- ▶ **Programmable System Efficiency Optimizers**
  - ▶ Night Setback
  - ▶ DHW Night Setback\*
  - ▶ Anti-Cycling
  - ▶ Outdoor Air Reset Curve
  - ▶ Ramp Delay
  - ▶ Boost Temperature & Time
- ▶ **Three Pump Control**
  - ▶ System Pump with Parameter for Continuous Operation
  - ▶ Boiler Pump with Variable Speed Pump Control\*
  - ▶ Domestic Hot Water Pump
- ▶ **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 Space Heat/DHW Switching Times\*
- ▶ **Building Management System Integration**
  - ▶ 0-10 VDC Input to Control Modulation or Set Point
  - ▶ 0-10 VDC Modulation Rate Output
  - ▶ 0-10 VDC Input to Enable/Disable call for heat

- ▶ **Access to BMS Settings through Graphic LCD Display**
- ▶ **High-Voltage Terminal Strip**
  - ▶ 120 VAC / 60 Hertz / 1 Phase Power Supply
  - ▶ Three Sets of Pump Contacts
- ▶ **Low Voltage Terminal Strip**
  - ▶ 24 VAC Device Relay
  - ▶ Proving Switch Contacts
  - ▶ Flow Switch Contacts
  - ▶ Alarm on Any Failure Contacts
  - ▶ Runtime Contacts
  - ▶ DHW Thermostat Contacts
  - ▶ 3 Space Heat Thermostat Contacts
  - ▶ System Sensor Contacts
  - ▶ DHW Tank Sensor Contacts
  - ▶ Outdoor Air Sensor Contacts
  - ▶ Cascade Contacts
  - ▶ 0-10 VDC BMS External Control Contact
  - ▶ 0-10 VDC Boiler Rate Output Contacts
  - ▶ 0-10 VDC Variable Speed System Pump Signal Input\*
  - ▶ 0-10 VDC Signal to Control Variable Speed Boiler Pump\*
  - ▶ Modbus Contacts
- ▶ **Time Clock**
- ▶ **Data Logging**
  - ▶ Hours Running, Space Heating
  - ▶ Hours Running, Domestic Hot Water
  - ▶ Ignition Attempts
  - ▶ Last 10 Lockouts
- ▶ **Maintenance Reminder**
  - ▶ Custom Maintenance Reminder with Contractor Contact Information
  - ▶ Installer Ability to De-activate Service Reminder
- ▶ **Low-Water Flow Safety Control & Indication**
- ▶ **Password Security**
- ▶ **Customizable Freeze Protection Parameters**

## STANDARD FEATURES

- ▶ **ENERGY STAR Most Efficient Recognition<sup>5</sup>**
- ▶ **95% DOE AFUE Efficiency<sup>5</sup>**
- ▶ **Modulating Burner with 5:1 Turndown**
  - ▶ Direct-Spark Ignition
  - ▶ Low-NOx Operation
  - ▶ Field Convertible from Natural to LP Gas
- ▶ **ASME Stainless Steel Heat Exchanger**
  - ▶ 30 psi ASME Relief Valve
- ▶ **Vertical & Horizontal Direct-Vent**
  - ▶ PVC, CPVC, Polypropylene or SS Venting up to 100 feet
- ▶ **Smart System Control**
- ▶ **Condensate Trap**
- ▶ **Other Features**
  - ▶ Automatic Reset High Limit
  - ▶ Adjustable High Limit w/Manual Reset
  - ▶ Boiler Circulating Pump
  - ▶ Wall-Mount Bracket
  - ▶ Zero Clearances to Combustible Materials
  - ▶ 12-Year Limited Warranty (See Warranty for Details)
  - ▶ 2-Year Parts Warranty

## OPTIONAL EQUIPMENT

- ▶ Modbus Communication
- ▶ Flow Switch
- ▶ Low-Water Cutoff w/Manual Reset & Test
- ▶ Alarm Bell
- ▶ Concentric Vent Kit
- ▶ SMART SYSTEM PC Software
- ▶ Condensate Neutralization Kit
- ▶ BMS Gateway to LON or BacNet
- ▶ Multi-Temperature Loop Control
- ▶ Sidewall Vent Termination
- ▶ Floor Stand

## FIRING CODES

- ▶ M9 Standard Construction
- ▶ M7 California Code

\* Exclusive feature, available only from Lochinvar  
 § WHN 55-285 only



Lochinvar, LLC  
 300 Maddox Simpson Parkway  
 Lebanon, Tennessee 37090  
 P: 615.889.8900 / F: 615.547.1000  
[www.Lochinvar.com](http://www.Lochinvar.com)

Patent Pending

