

HIGH EFFICIENCY COMMERCIAL BOILERS

# POWER-fin®

  
**CONXUS®**

REMOTE CONNECT NOW AVAILABLE

  
**SMART TOUCH™**

TOUCHSCREEN LCD DISPLAY NOW AVAILABLE

**7 MODELS: 500,000 to 2.0 MILLION BTU/HR**

5:1 TURNDOWN RATIO

OUTDOOR INSTALLATION APPROVED

CASCADING SEQUENCER WITH  
CASCADE REDUNDANCY



**85%**  
Thermal Efficiency

 **AHRI CERTIFIED™**  
www.ahricertified.org



**Lochinvar®**  
HIGH EFFICIENCY BOILERS & WATER HEATERS

DESIGNED ★ ENGINEERED ★ ASSEMBLED

**USA**

[Lochinvar.com](http://Lochinvar.com)

# POWER-fin®

## THE ORIGINAL BOILER CONTINUES TO SET THE STANDARD

In 1986, Power-Fin® redefined the industry with its space-saving design, groundbreaking efficiency and venting flexibility. Now, over 30 years later, we continue to raise the standard with an easy to operate touch screen user interface, remote boiler control and enhanced communications. The advanced Smart Touch™ color display includes CON•X•US remote connectivity via WiFi or Ethernet for easy control at your fingertips, from anywhere. And a simple drop in Modbus or BACnet card allows for easy integration into a Building Management System.

### Enhanced Operating Control

The Power-Fin now offers the industry-best Smart Touch™ 8" LCD full color touchscreen with easy-to-understand infographics. It is equipped with CON•X•US® connectivity that lets you remotely monitor and optimize the performance of the entire boiler plant.



Starting with the introduction of Power-Fin product line in 1986, we were able to provide something that other companies weren't focused on, efficiency and footprint.



### BURNER MODULATION BOOSTS EFFICIENCY AND LOWERS COSTS

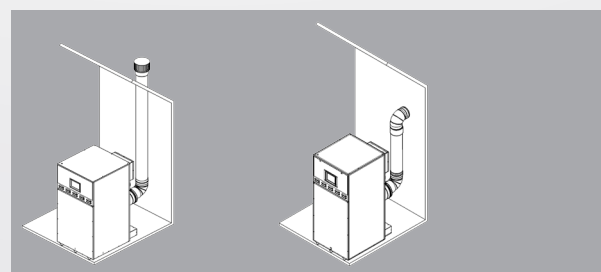
With thermal efficiency of 85%, Power-Fin boilers feature a 5:1 turndown ratio that will precisely match the firing rate to heating load requirements—at any point from 20% to full firing rate. This results in less equipment cycling for greater efficiency and cost savings.

### READY FOR OUTDOOR INSTALLATION

In warm-weather sites where the mechanical room is overcrowded, the Power-Fin can be easily installed either outdoors or on a rooftop. Its optional hood and screen protector make outdoor installation fast and trouble free.

### VENTING SOLUTIONS

The Power-Fin offers seven venting options for ease of installation and venting flexibility to meet the most challenging installation requirements. The Power-Fin permits air intake and exhaust terminations to be horizontal through a sidewall or vertical through a roof. Consult the installation and operation manual for detailed venting guidelines.



ROOM AIR VERTICAL

ROOM AIR SIDEWALL

# CONXUS<sup>®</sup>

## REMOTE CONNECT



### CONTROL FEATURES

BUILT IN WIFI CAPABILITY TO REMOTELY MONITOR AND CONTROL BOILER PLANT

CASCADE COMPATIBILITY WITH CREST CONDENSING BOILER TO CREATE A FRONT END LOADING SYSTEM

PROGRAMMABLE SYSTEM EFFICIENCY OPTIMIZERS

3-PUMP CONTROL FOR OPERATION OF BOILER PUMP, SYSTEM PUMP, DOMESTIC HOT WATER PRIORITIZATION PUMP

OUTDOOR RESET ADJUSTS SETPOINT BASED ON AN OUTDOOR TEMPERATURE

COMPATIBLE WITH LOCHINVAR'S INDIRECT PLATE AND FRAME WATER HEATER AS WELL AS OUR STORAGE TYPE HOT WATER GENERATORS - ONE BOILER IN THE SYSTEM CAN BE ASSIGNED FOR DOMESTIC HOT WATER PRIORITIZATION (DHWP) TO MEET DOMESTIC WATER DEMAND

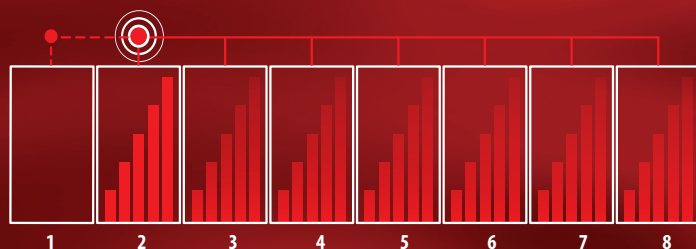
0-10 VDC BMS INPUT FOR EASY INTEGRATION INTO BUILDING MANAGEMENT SYSTEMS

RED LOCKOUT SCREEN DISPLAYING THE FAULT CODE IN PLAIN ENGLISH

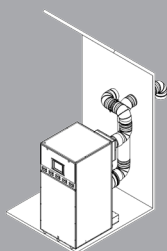
### PEACE OF MIND, WHEN IT MATTERS MOST

Cascade Redundancy provides peace of mind because it helps ensure that a Power-Fin boiler system will always deliver reliable performance with no downtime. If the lead boiler is turned off for maintenance, Cascade Redundancy automatically shifts the lead role to the second sequenced boiler. Up to eight Power-Fin boilers can be sequenced using a 2-wire daisy-chain connection. Cascade sequencing can be programmed for Lead-Lag or Efficiency Optimized operation.

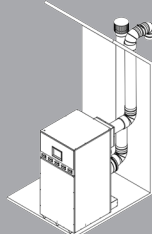
With Lead-Lag operation, one lead boiler modulates to capacity on demand. As load increases, the system then cascades to additional lag boilers in sequence. The first-on role shifts daily, distributing equal runtimes to each unit.



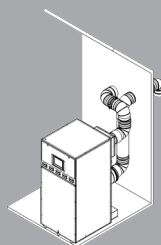
In an Efficiency Optimized system (see illustration left), all boilers fire and modulate simultaneously at the same Btu/hr input rates.



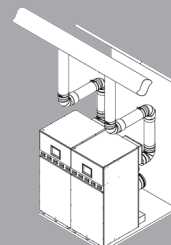
DIRECT VENT SIDEWALL



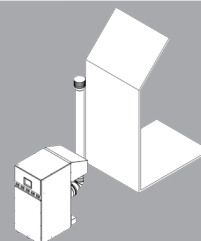
DIRECT VENT VERTICAL



VERTICAL SIDEWALL AIR



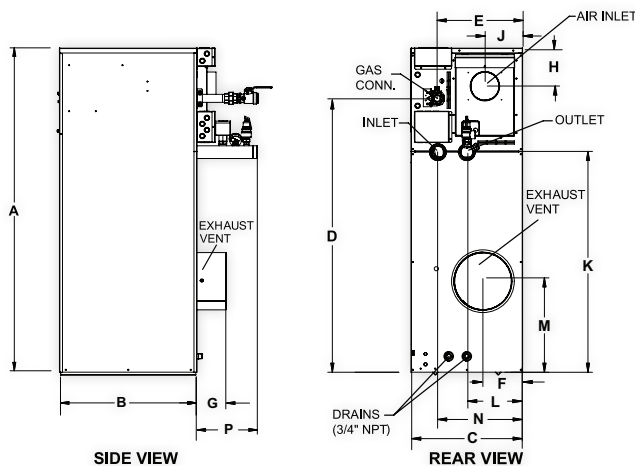
COMMON VENTING



OUTDOOR



# POWER-FIN® BOILER DIMENSIONS AND SPECIFICATIONS



## Model Number Guide

PB	N	1501	M9
Model	Natural Gas	Btu/hr Input	Firing Controls

Power-Fin Boiler,  
Natural Gas,  
1,500,000 Btu/hr input,  
M9 firing controls

POWER-FIN BOILER								DIMENSIONS AND SPECIFICATIONS							
Model Number	Input MBH	(B)/(F) Thermal Efficiency	Output MBH	Net AHRI Rating MBH	(M) Thermal Efficiency	Output MBH	Net AHRI Rating MBH	A	B	C	D	(B)/(F) E	(M) E	F	G
PBN0502	500	85.0%	425	370	85.0%	425	370	44-1/2"	28-1/2"	23-1/4"	34"	18-3/4"	18-1/2"	6-1/2"	6"
PBN0752	750	85.0%	638	554	85.0%	638	554	52"	28-1/2"	23-1/4"	41-3/4"	19"	18-3/4"	6-3/4"	6"
PBN1002	999	85.0%	850	739	85.0%	850	739	59-1/4"	28-1/2"	23-1/4"	48-3/4"	17"	18-3/4"	7-1/4"	6"
PBN1302	1,300	85.0%	1,105	961	85.0%	1,105	961	67-3/4"	28-1/2"	23-1/4"	57-1/4"	17"	18-3/4"	8-1/4"	6"
PBN1501	1,500	84.0%	1,260	1,096	85.0%	1,275	1,109	65-1/2"	29-3/4"	27-1/4"	59"	21"	20-3/4"	13-1/2"	8"
PBN1701	1,700	84.0%	1,428	1,242	85.0%	1,445	1,257	70"	29-3/4"	27-1/4"	63-1/2"	21"	20-3/4"	13-1/2"	8"
PBN2001	2,000	84.0%	1,680	1,461	85.0%	1,700	1,478	76-3/4"	29-3/4"	27-1/4"	70"	21"	20-3/4"	13-1/2"	8"

Model Number	H	J	K	L	M	N	(B)/(F) P	(M) P	Gas Conn.	Air Inlet	(B)/(F) Cat I	(M) Cat II	(M) Cat IV	Shipping Wt. (lbs)
PBN0502	8"	7-3/4"	23"	11-1/2"	11-1/4"	17-1/2"	15-1/4"	15-1/4"	1"	5"	7"	7"	4"	505
PBN0752	8"	7-3/4"	30-1/2"	11-1/2"	11-1/4"	17-1/2"	15-1/4"	15-1/4"	1-1/4"	5"	9"	9"	5"	554
PBN1002	8"	7-3/4"	37-3/4"	11-1/2"	11-1/4"	17-1/2"	15-1/4"	15-1/4"	1-1/4"	6"	10"	10"	6"	603
PBN1302	8"	7-3/4"	46-1/4"	11-1/2"	19-1/2"	17-1/2"	15-1/4"	15-1/4"	1-1/4"	6"	12"	12"	8"	652
PBN1501	10"	9-1/2"	43-1/2"	5-3/4"	22-1/4"	21-1/2"	24-1/2"	19-1/2"	1-1/2"	6"	12"	8"	6"	1,065
PBN1701	10"	9-1/2"	48"	5-3/4"	25"	21-1/2"	24-1/2"	19-1/2"	1-1/2"	7"	14"	9"	7"	1,100
PBN2001	10"	9-1/2"	54-3/4"	5-3/4"	27-1/2"	21-1/2"	24-1/2"	19-1/2"	1-1/2"	8"	14"	10"	8"	1,127

Notes: Change 'N' to 'L' for LP Gas Model. No deration on LP models. All water connections are 2-1/2" \*w/CAT II conversion kit

## STANDARD FEATURES

- 85% Thermal Efficiency
- Outdoor Ready
- Modulating Burner with 5:1 Turndown
  - Hot Surface Ignition
  - Low NOx Operation
  - Sealed Combustion
  - Low Gas Pressure Operation
- Vertical & Horizontal Venting
  - Venting up to 50 Feet
  - Category I or Category IV Venting
  - Cat IV converts to Cat II w/optional vent kit
- ASME Copper-Finned Tube Heat Exchanger
  - ASME Certified, "H" Stamped
  - Gasketless design
  - 160 psi working pressure
- On/Off Switch
- Adjustable High Limit w/ Manual Reset
- Flow Switch
- Low Air Pressure Switch
- Downstream Test Cocks
- 50 psi ASME Relief Valve
- Combustion Air Filtration
- Temperature & Pressure Gauge
- Zero Clearances to Combustible Material
- 1 Year Warranty on Parts
- 10 Year Limited Warranty (See Warranties for Details)

## SMART TOUCH™ FEATURES

- SMART TOUCH Operating Control
  - Full-Color 8" Touchscreen LCD Display
  - CON-X-US Remote Connect
  - Front-End Loading Capability with Crest Boilers
  - Building Management System Integration with 0-10 VDC Input
  - Outdoor Reset Control
  - Dual Level Password Security
  - Inlet & Outlet Temperature Readout
  - Freeze Protection
  - Service Reminder
  - Time Clock
- Built-in Cascading Sequencer for up to 8 Boilers
  - Built-in Redundancy
  - Cascade Multiple Sized Boilers
  - Lead/Lag Cascade
  - Efficiency Optimized Cascade
- 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
- 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
- Modulation Factor Control
- Three Pump Control Contacts
  - System Pump
  - Boiler Pump
  - Domestic Hot Water Pump
- High-Voltage Terminal Strip
  - 120V/60 Hertz/1 Phase Power Supply
- 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 Contacts
  - Louver Proving Contacts
  - System Sensor Contacts
  - DHW Tank Sensor Contacts
  - Outdoor Air Sensor Contacts
  - Cascade Contacts
  - 0-10 VDC BMS External Control Contact
  - 3 Way Valve Contacts

## FIRING CODES

- M Indicates 5:1 Turndown, Category IV
- B Indicates 2:1 Turndown, Category I
- F Indicates 100% On/Off Fire, Category I
- M9 Standard
- B9 or F9 Special Order Factory Trimmed

## OPTIONAL EQUIPMENT

- Cupro-Nickel Heat Exchanger
- High and Low Gas Pressure Switches
  - w/Manual Reset (required for CSD-1/FM/GE Gap)
- Low Temperature Valve
- Motorized Mixing Valve
- Outdoor Kit
- Low Water Cutoff
  - w/ Manual Reset & Test(required for California Code)
- Alarm Bell
- Modbus Communications
- BACnet MSTP Communications
- BMS Gateway to LON or BacNet IP
- Wireless Outdoor Sensor
- Vent Kit
  - Horizontal Exhaust Cap
  - Horizontal Air Intake Cap
  - Horizontal Direct Vent Cap
  - Category IV to Category II Conversion Kit

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