

HIGH EFFICIENCY COMMERCIAL WATER HEATERS

POWER-fin®

SMART SYSTEM™

OPERATING CONTROL FEATURING
A BUILT-IN CASCADING SEQUENCER

UP TO 87% THERMAL EFFICIENCY

500,000 TO 2,000,000 BTU/HR

MODELS AVAILABLE IN 100% ON/OFF,
2:1 TURNDOWN OR 5:1 TURNDOWN

LESS THAN 30 ppm NOx



UP TO 87%
THERMAL EFFICIENCY

POWER-FIN®

A SYMBOL OF LOCHINVAR'S COMMITMENT TO EXCELLENCE!

Since its introduction in 1986, the Power-Fin® water heater has carried on the Lochinvar tradition of always giving more to our customers. The latest generation of Power-Fin continues to evolve, with new "Built-in Advantages" from Lochinvar Corporation®. These include expanded burner modulation and the advanced SMART SYSTEM™ operating control, including a built-in cascading sequencer for up to eight water heaters.

Power-Fin water heaters can be installed with Lochinvar's advanced Lock-Temp® storage tanks, in a wide variety of combinations to meet system sizing requirements. "Factory packaged" water heater/storage tank systems can be built to your specifications, with all piping installed, and shipped on I-beam skids.



First Power-Fin in 1986

INFINITE MODULATION

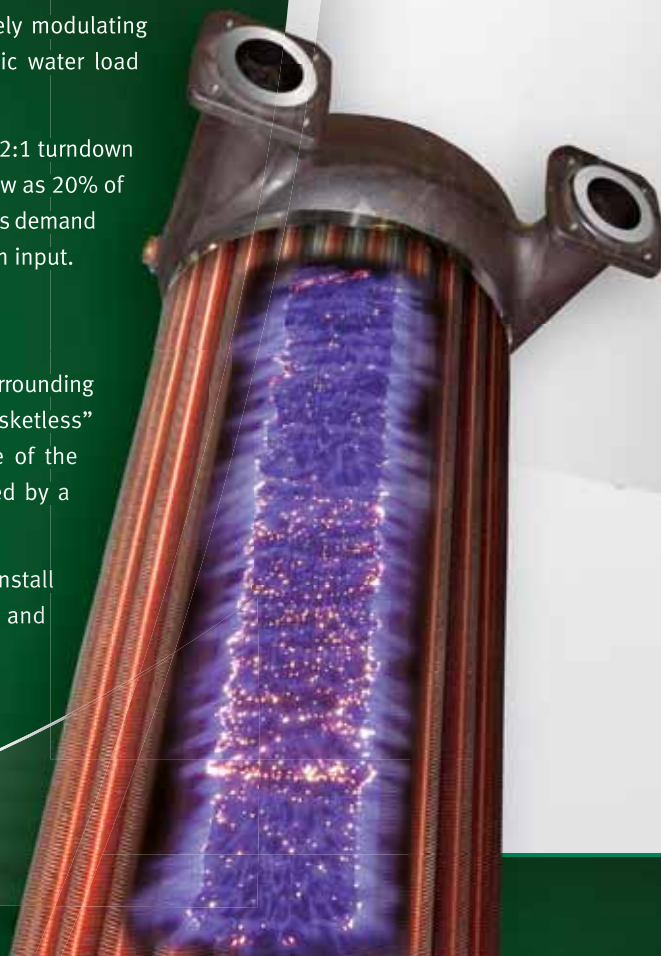
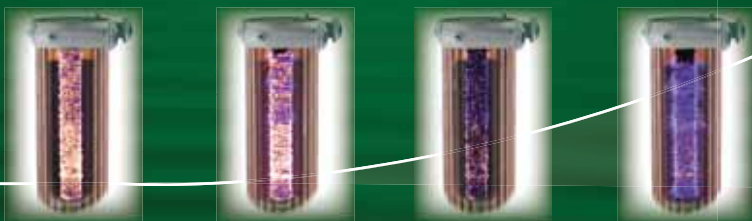
With thermal efficiencies up to 87%, Power-Fin water heaters feature infinitely modulating burner firing rates (turndown), precisely matching the firing rate to domestic water load requirements. The result is better overall efficiency and less cycling.

Power-Fin water heaters may be specified as either 5:1 turndown (502 - 2001), 2:1 turndown (1501 - 2001), or ON/OFF (502 - 1302). With 5:1 turndown the burner fires as low as 20% of maximum input when demand is lowest and increases the firing rate up to 100% as demand increases. Models with 2:1 turndown modulate from 50% to 100% of maximum input.

GASKETLESS HEAT EXCHANGER

The Power-Fin heat exchanger features an array of 20 or 24 copper-finned tubes surrounding the burner for maximum heat transfer. Lochinvar also pioneered the "gasketless" heat exchanger, which eliminates the use of O-rings and gaskets. Because of the time-proven reliability of this design, the Power-Fin heat exchanger is backed by a 5-year limited warranty.

The vertical heat exchanger also makes Power-Fin compact and easy to handle, install and service. All access for installation or service is through the front or back, and multiple units can line up side-by-side with zero clearance to combustibles.



SMART SYSTEM™

CONTROL FEATURES

EASY TO USE – MAKES SETUP AND SERVICE A BREEZE

2-LINE 16-CHARACTER LCD DISPLAY OF SETUP, SYSTEM STATUS AND DIAGNOSTIC DATA IN WORDS, NOT CODES

WATER HEATER PUMP CONTROL:

- > PUMP DELAY W/FREEZE PROTECTION
- > PUMP EXERCISE

HIGH-VOLTAGE TERMINAL STRIP:

- > 110 VAC INPUT TO WATER HEATER
- > 110 VAC OUTPUT TO PUMP

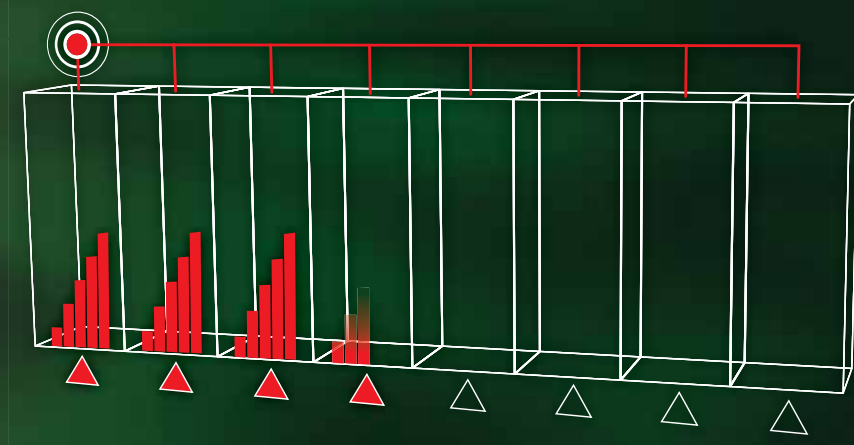
LOW-VOLTAGE TERMINAL STRIP WITH 22 POINTS OF CONNECTION

BUILT-IN CASCADING SEQUENCER CONTROLS UP TO 8 UNITS WITHOUT THE ADDED COST OF A SEPARATE THIRD-PARTY SEQUENCER

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

PASSWORD SECURITY

INTERFACE FOR OPTIONAL SMART SYSTEM PC SOFTWARE FOR ADVANCED SETUP AND DIAGNOSTICS



LEAD-LAG ROTATION

Every 24 hours, the SMART SYSTEM automatically shifts the lead water heater role to the next unit in the sequence. This rotation ensures long life by distributing “lead-lag” run times equally over each unit in the system.



23-1/4" (502 - 1302)

27-1/4" (1501 - 2001)

zero clearance
to combustibles



ENGINEERED AND PACKAGED SYSTEMS FOR ULTIMATE FLEXIBILITY

Lochinvar's unique "engineered systems" approach to water heating provides the flexibility to package the heating unit(s) with the exact size and capacity storage tank that is needed for any given application.

For example: Use a high-output Power-Fin with a small tank for applications where the demand is almost constant, or team a low-output water heater with a large tank for short-term, high draw situations. Whatever the need, Lochinvar has a Lock-Temp tank to match it – from 100 to 5000 gallons.

Each package system can be custom-configured to the exact specifications and available space of each job.

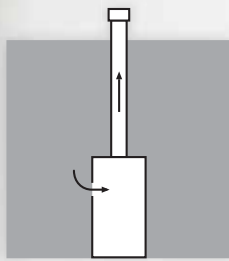
POWER-FIN PACKAGE SYSTEMS ARE:

- › Pre-engineered
- › Pre-piped
- › Pre-tested
- › Pre-assembled and shipped on "I"-beam skids – ready for installation



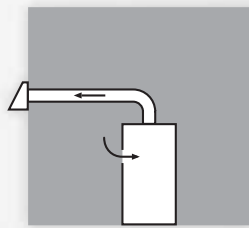
VENTING SOLUTIONS

Power-Fin features flexible two-pipe, independent air inlet and exhaust vent piping. When equipped with 100% On/Off (F#) Firing Controls (502 - 1302), 2:1 (B#) Modulating Firing Controls (1501 - 2001), the Power-Fin utilizes Category I, Type B vent material and is ideal for replacement/retrofit applications with an existing vent stack. When equipped with 5:1 (M#) Modulating Firing Controls (502 - 2001), the Power-Fin requires Category IV, corrosion-resistant, sealed vent pipe. Category IV models provide more venting flexibility and expanded turndown. In addition, (M#) Modulating units may be installed as Category II appliances, allowing multiple units to be manifolded together into a common vent stack – giving you even more design options!



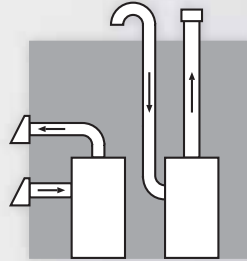
VERTICAL VENTING

Using Category I or Category IV vent materials



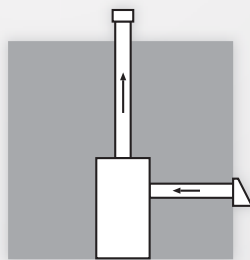
SIDEWALL VENTING*

Horizontal venting up to 50 equivalent feet using Category IV vent materials. This option only available with 5:1 (M#) firing code models.



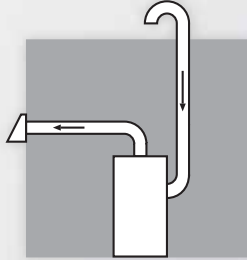
DIRECT VENTING*

Horizontal or vertical venting up to 50 equivalent feet. Draws combustion air up to 50 feet from the same pressure zone using Category IV vent materials. This option only available with 5:1 (M#) firing code models.



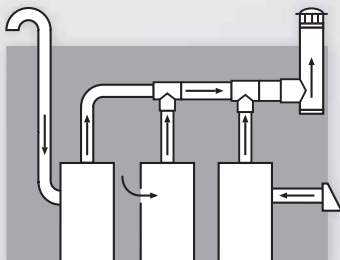
DIRECTAIRE VERTICAL*

Vertical venting up to 50 equivalent feet. Draws combustion air up to 50 feet from a different pressure zone using Category I or IV vent materials.



DIRECTAIRE HORIZONTAL*

Vents horizontally up to 50 equivalent feet and draws combustion air up to 50 feet from a different pressure zone using Category IV vent materials. This option only available with 5:1 (M#) firing code models.



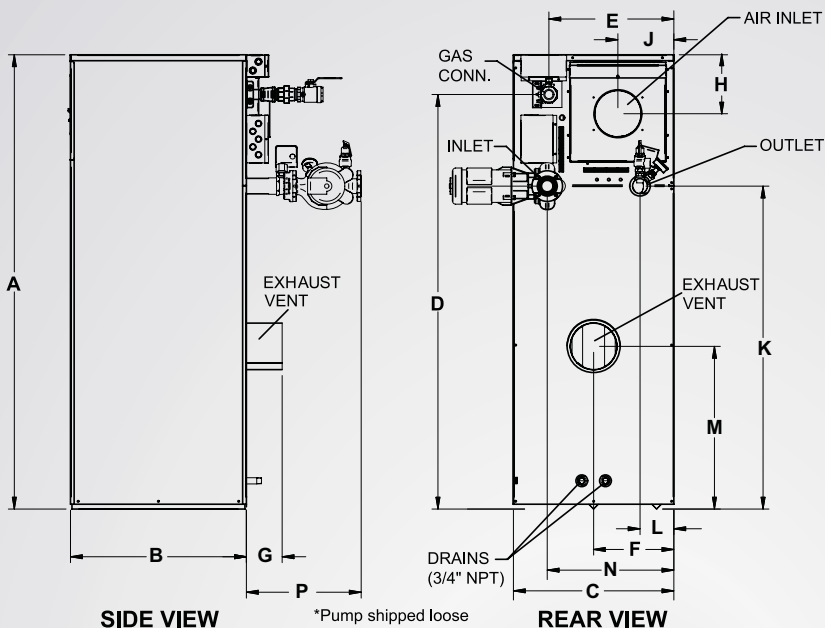
COMMON VENTING*

Vents multiple units horizontally through one vent termination and draws combustion air from the room, roof or sidewall. Category IV to II conversion kit required with (M#) firing code models.

*Requires factory-supplied vent kit with M firing code models.

See Specification Chart for specific venting sizes based on venting materials category type.

POWER-FIN® WATER HEATER DIMENSIONS AND SPECIFICATIONS



Model Number Guide

PF	N	1501	PM	M9
Model	Natural Gas	Btu/hr Input	Pump Mounted	Firing Controls

Power-Fin Water Heater,
 Natural Gas,
 1,500,000 Btu/hr input,
 Pump Mounted, M9 firing controls

Model Number	Btu/Hr Input	GPH @ 100°F Rise		A	B	C	D	E		F	G	H	J
		F9	M9					B9/F9	M9				
PFN0502PM	500,000	515	527	44-1/2"	28-1/2"	23-1/4"	34"	17-3/4"	19-1/2"	6-1/2"	6"	8"	7-3/4"
PFN0752PM	750,000	773	791	52"	28-1/2"	23-1/4"	41-1/2"	17-3/4"	19-1/2"	6-3/4"	6"	8"	7-3/4"
PFN1002PM	1,000,000	1,030	1,054	59-1/4"	28-1/2"	23-1/4"	48-3/4"	17-3/4"	19-1/2"	7-1/4"	6"	8"	7-3/4"
PFN1302PM	1,300,000	1,323	1,371	67-3/4"	28-1/2"	23-1/4"	57-1/4"	17-3/4"	19-1/2"	8-1/4"	6"	8"	7-3/4"
PFN1501PM	1,500,000	1,527	1,582	65-1/2"	29-3/4"	27-1/4"	58-3/4"	21"	21"	13-1/2"	8"	10"	9-1/2"
PFN1701PM	1,700,000	1,731	1,793	70"	29-3/4"	27-1/4"	63-1/4"	21"	21"	13-1/2"	8"	10"	9-1/2"
PFN2001PM	2,000,000	2,036	2,109	76-3/4"	29-3/4"	27-1/4"	70"	21"	21"	13-1/2"	8"	10"	9-1/2"

Model Number	K	L	M	N	P		Gas Conn.	Air Inlet	Vent Sizes			Wt. (lbs)
					B9/F9	M9			Cat I B9/F9	Cat II M9	Cat IV M9	
PFN0502PM	23"	11-1/2"	11-1/4"	17-1/2"	15-1/4"	15-1/4"	1"	5"	7"	7"	4"	601
PFN0752PM	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"	650
PFN1002PM	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"	699
PFN1302PM	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"	714
PFN1501PM	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"	1,187
PFN1701PM	48"	5-3/4"	25"	21-1/2"	24-1/2"	19-1/2"	1-1/2"	7"	14"	9"	7"	1,222
PFN2001PM	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"	2,117

Notes: Change 'N' to 'L' for LP Gas Model. No deration on LP models. Temperature rise calculations based on firing rate of 100%. All water connections are 2-1/2"

STANDARD FEATURES

- Up to 87% Thermal Efficiency (M#)
- Up to 84% Thermal Efficiency (B# / F#)
- 160 psi ASME Copper-Finned Tube Heat Exchanger
- Gasketless Heat Exchanger Design
- SMART SYSTEM Control, with:
 - 2-Line 16-Character LCD Display
 - Password Security
 - Built-in Sequencing for 2-8 Water Heaters
 - 0-10Vdc BMS Input
 - Product Service Indicator
 - Time Clock
 - PC Connection Port
 - Water Heater Pump Control
 - Pump Delay w/ Freeze Protection
 - Pump Exercise
- Selectable Supply/Return Temperature Controls
- Slideout Control Panel
- Low-NOx Operation
- Low Gas Pressure Operation

- Zero Clearance to Combustible Materials
- ASME Temperature & Pressure Relief Valve
- Downstream Test Cock
- Line Voltage Terminal Strip
- Low Voltage Terminal Strip
- Contacts on Any Failure
- Alarm Contacts
- Runtime Contacts
- Contacts for Air Louvers
- Adjustable High Limit with Manual Reset
- All Bronze Circulating Pump
- Flow Switch
- 120V Power Supply
- On/Off Switch
- Combustion Air Filtration
- 5-Year Limited Warranty on Heat Exchanger
- 1-Year Limited Warranty on Parts
- Category I and Category IV Venting

FIRING CONTROL SYSTEMS

(M#) indicates 5:1 turndown, Category IV
 (B#) indicates 2:1 turndown, Category I
 (F#) indicates On/Off, Category I

M9, B9 or F9 Hot Surface Ignition with Electronic Supervision (Standard)

M7, B7 or F7 California Code

OPTIONAL EQUIPMENT

- Alarm Bell
- Cupro-Nickel Heat Exchanger
- High and Low Gas Pressure Switch
- Low-Water Cutoff with Manual Reset
- SMART SYSTEM PC Software
- Venting Options:
 - Horizontal Air Intake Cap
 - Horizontal Vent Cap
 - Category IV to II Vent Conversion Kit

