



POWER-fin®

**High Efficiency
Commercial Gas
Water Heaters**



**UP TO 87% THERMAL
EFFICIENCY**



**500,000 to 1, 300,000 Btu/hr
Less Than 30 ppm NOx
Up to 87% Thermal Efficiency**

POWER-fin®

The High-Efficiency, High-Output Compact Water Heater



First Power-Fin production model - 1986

The Power-Fin was first introduced nearly two decades ago in 1986. Using time tested fan assisted technology, Lochinvar has raised the bar again, offering you new models with even more installation flexibility than before.

What's more, unit inputs range as high as 1,300,000 Btu/hr but require just 4.6 sq. ft. of floor space. Only the Power-Fin with its high efficiency output can offer such heavyweight performance in a water heater so compact. Plus, with new venting capabilities, the Power-Fin is even more flexible in installation. And it is easy to see how the Power-Fin is performing thanks to a new digital control panel.

Outstanding Thermal Efficiency

Power-Fin water heaters offer up to 87% thermal efficiency and a NOx rating of less than 30 ppm by way of fan-assisted sealed combustion. This means that 87¢ out of every fuel dollar goes into heating the water - dramatically reducing operating costs of the water heater while ensuring clean combustion.

The heat energy from the combustion process is transferred to the water as it passes through the solid copper finned tube heat exchanger. The sealed combustion design eliminates external heat losses, which means that the fuel dollars are used to heat the water, not the mechanical room. It also ensures the jacket stays cooler, providing greater safety and requiring less clearance from combustibles - zero clearance on each side.



Power-Fin Venting Options

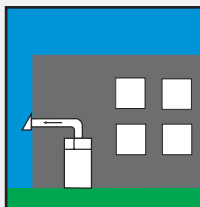
These new models also feature a more flexible two pipe, independent air inlet and exhaust vent piping. When equipped with On/Off firing controls the Power-Fin utilizes Category I, Type B vent material in most cases. When equipped with modulating fire controls the heater utilizes Category IV, AL29-4C corrosion resistant, sealed vent pipe. Factory supplied vent kits are required for some venting configurations - see below.

Exhaust Vent Reducer

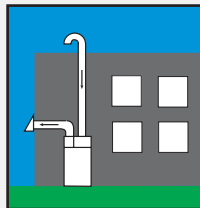
Available for installation with Category IV vent systems, the Vent Reducer kits allow the vent diameter of each Power-Fin model to be reduced by as much as 45%. The vent reducer is made from AL29-4C corrosion resistant material. Because the reduction in vent size creates a "positive" pressure, all reduced vent systems are classified as Category IV systems requiring corrosion resistant, sealed vent pipe.

Reduced Vent Sizes

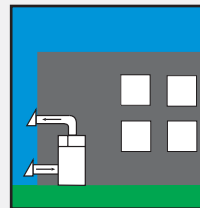
PFN0501	7" to 4"
PFN0751	9" to 5"
PFN1001	10" to 6"
PFN1300	12" to 8"



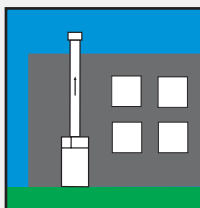
Sidewall*
Vents horizontally up to 50 equivalent feet, using Category IV approved vent material.



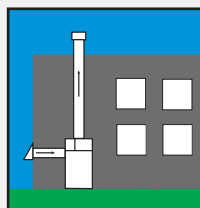
DirectAir Horizontal w/ Rooftop Inlet*
Vents horizontally up to 50 equivalent feet, using Category IV approved vent material. Directly draws combustion air 50 equivalent feet from the roof top.



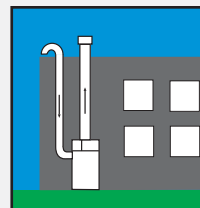
Direct Vent Horizontal*
Vents horizontally up to 50 equivalent feet, using Category IV approved vent material. Directly draws combustion air 50 equivalent feet from a side wall.



Vertical
Vents vertically through the roof.



DirectAir Vertical w/ Sidewall Inlet*
Vents vertically up to 50 equivalent feet, and directly draws combustion air 50 equivalent feet from a side wall.



Direct Vent Vertical
Vents vertically up to 50 equivalent feet, and directly draws combustion air 50 equivalent feet from the roof top.

Modulating (M9) models require Category IV vent material in any venting configuration.
On/Off (F9) models require Category IV vent materials when exhausting through a sidewall.
Consult I&O manual for exact specifications.

*Requires factory supplied vent kits

Designed for Reliability

To ensure fail-safe operation, every major function of the Power-Fin is automatically controlled and checked by a digital control panel with advanced diagnostic features. The large display is easy to read and makes set up's a snap. The digital display, accurate to +/- 1°F, indicates temperature while the LED indicators prove operation and status. This monitoring system not only warns against failures, it can actually help to pinpoint the source of any problems, leading to faster solutions. In addition, all of the components are field replaceable, so down time is reduced.

**On/Off Firing
and Category I Venting
85% Thermal Efficiency**



On/Off Firing – Standard

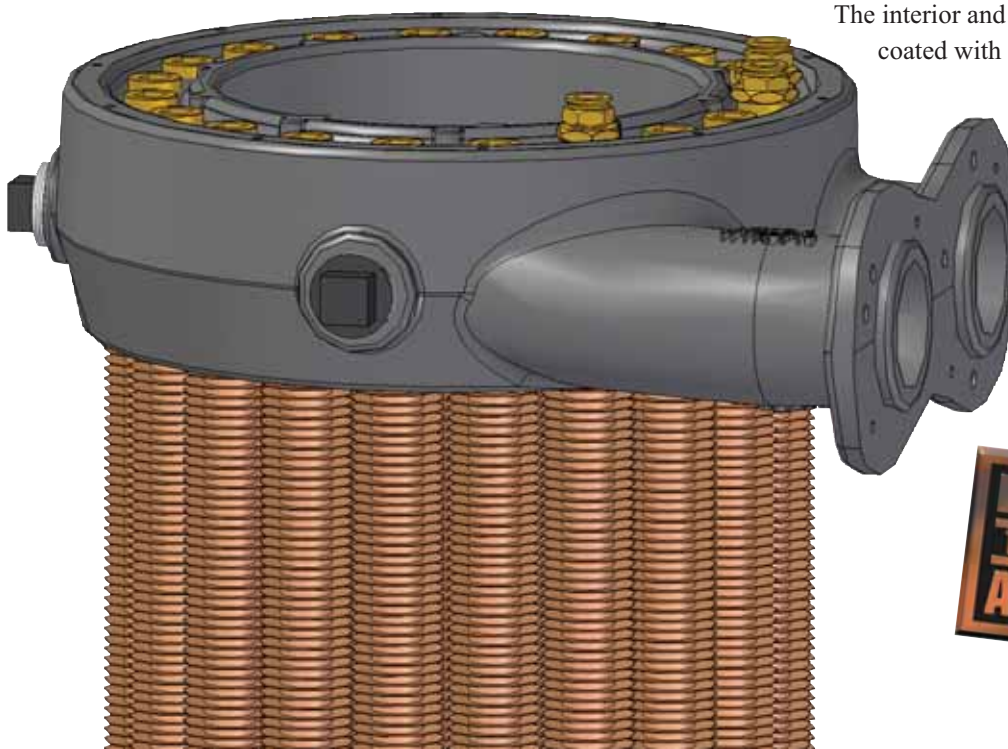
**Modulation with 4:1 Turndown
and Category IV Venting
87% Thermal Efficiency**



Modulating – Optional

Gasketless Heat Exchanger

Lochinvar pioneered gasketless heat exchanger technology in 1989 with the Mini-Fin Boiler. Now we're bringing the same advantages to our vertical chassis Power-Fin - giving you a one piece header design with no gaskets or o-rings to crack and leak. This gasketless design provides enhanced reliability, improved durability and optimizes performance. We're so confident in its performance, we back it up with a 5 year limited warranty against failure and a lifetime warranty against thermal shock.



The interior and exterior of all heat exchangers is coated with a porcelain glass lining to prevent external corrosion and provide clean and clear potable water.

Copper-finned tubes are extruded from a thick copper tube, creating a heating transfer ratio 9 times greater than regular copper tube - allowing maximum heat transfer.



Time Tested Performance with

Combustion Air Filter

Creating cleaner combustion the standard size filter is easily replaced by removing from back of the unit.

Hot Surface Ignition

Eliminates the need for a standing pilot. Utilizes the latest and most reliable technology in ignition and flame rectification.

Service Friendly Design

Power-Fin is designed for easy service and maintenance.

ASME Copper-Finned Tube Heat Exchanger

Gasketless design by the company who pioneered the gasketless heat exchanger. ASME construction built to 160 psi working pressure. Finned copper tubes transfer heat nine times faster than regular copper.



Field Electrical Connections

All models require (2) two 120V, 15 Amp single phase connections for heater and pump operation. Single 30 Amp service may be used.

Firing Control System

On/Off (F9) firing is provided as standard equipment. Modulating (M9) with 4:1 turndown is available as an option.

Slide Out Control Panel

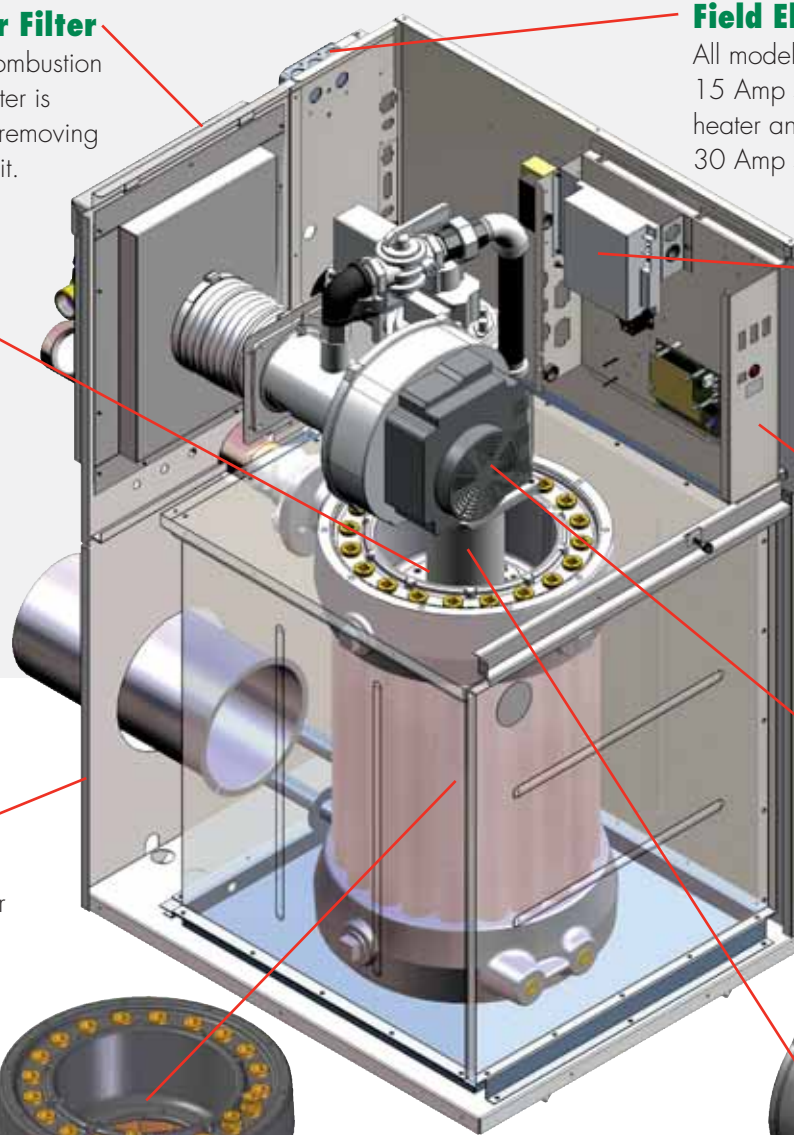
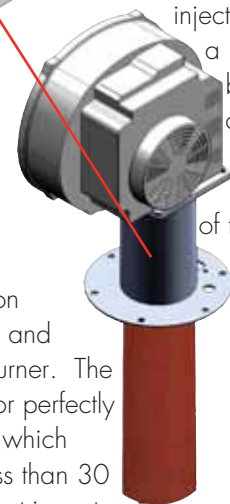
For easy and convenient access to controls.

Fan Assembly

The Combustion Air Fan draws a precise ratio of gas and air into the combustion chamber based on heat load and injects the mixture into a 360° ceramic burner, which contributes to the overall quiet operation of the appliance.

360° Ceramic Burner

At the center of the combustion chamber is the highly flexible and efficient Power-Fin ceramic burner. The new ceramic burner allows for perfectly even gas and air distribution which results in a NOx Rating of less than 30 ppm - far exceeding the most stringent air quality standards. What's more - the Power-Fin burner is perfect in installations with low supply gas pressure, operating without hesitation as low as four inches of water column.



th Cutting Edge Technology

Ultimate Flexibility

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

For example: Use a low output Power-Fin with a large tank for short term, high draw situations, or team a high-output water heater with a small tank for applications where the demand is almost constant. Whatever the need, Lochinvar has a Lock-Temp tank to match it—from our 119 gallon vertical to the 2500 gallon horizontal model.

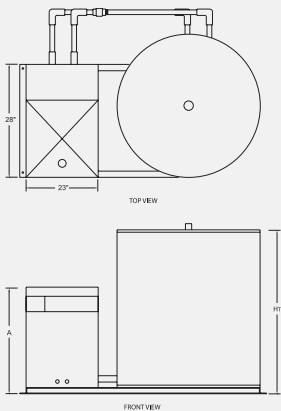
Each package system can be custom-configured to the exact specifications and available space of each job. These Power-Fin package systems are pre-engineered, pre-piped, pre-tested and shipped pre-assembled on "I-Beam" skids ready for installation.



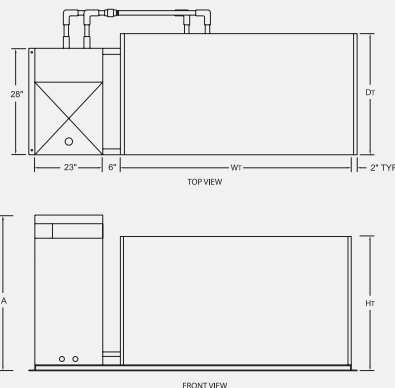
Power-Fin water heaters are custom packaged with our Lock-Temp tank(s) to meet your exact specifications. All package systems are completely pre-piped, pre-tested and shipped on a pre-assembled I-beam skid – ready for installation.

Package System Configurations & Dimensions

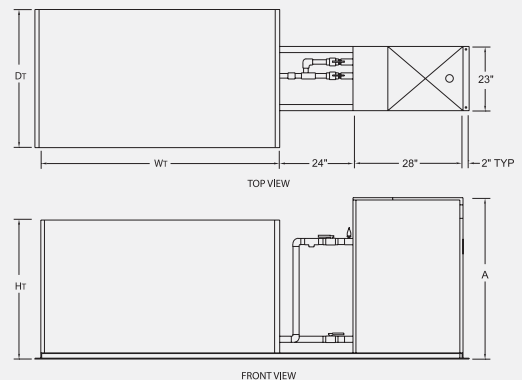
V1 Configuration



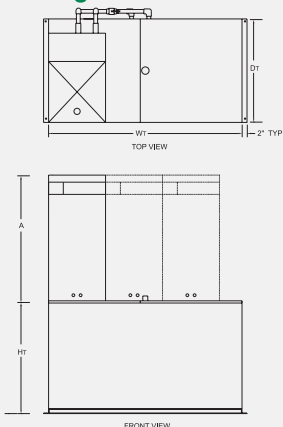
H1 Configuration



H2 Configuration



H3 Configuration



H3 configuration is offered with Square Jacketed Tank only.

V1, H1 & H2 Configurations are standard with Round Jacketed Tanks

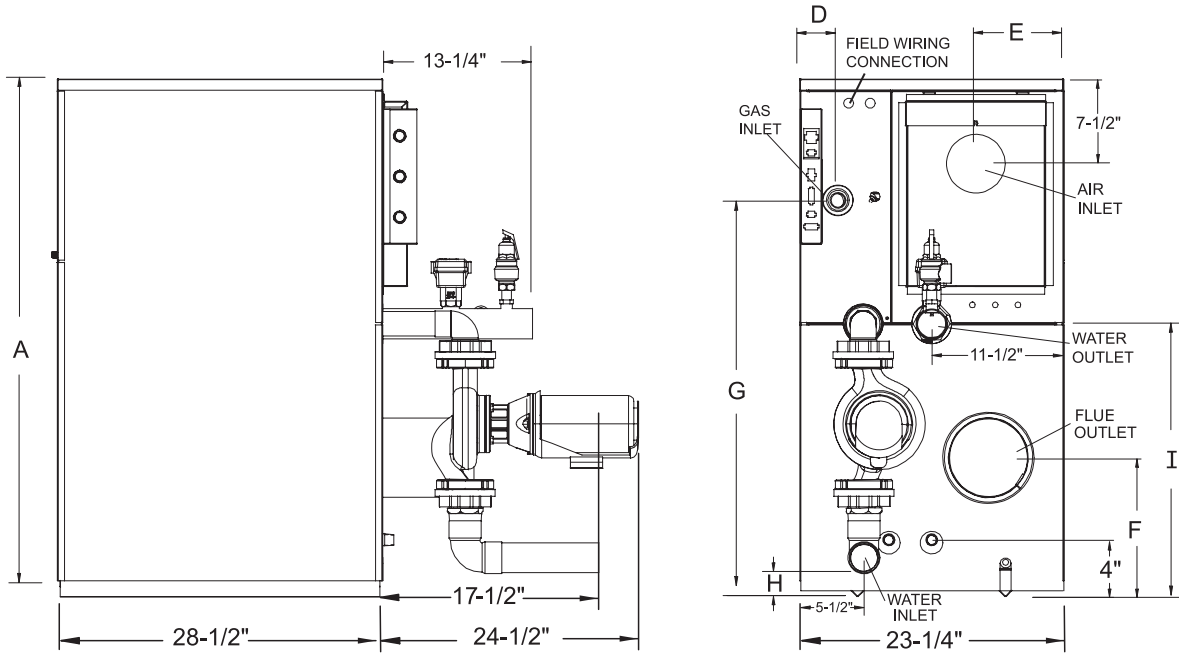
Gallons	HORIZONTAL TANK DIMENSIONS			Weight
	H _T	W _T	D _T	
300	50-1/2"	78-1/4"	42-1/4"	1,700
400	50-1/2"	102-1/4"	42-1/4"	2,250
500	56-1/2"	90-3/4"	48-1/4"	2,450
600	56-1/2"	114-1/4"	48-1/4"	3,350
700	56-1/2"	130-1/4"	48-1/4"	4,000
800	62-1/2"	124-1/4"	54-1/4"	4,800
1,000	62-1/2"	138-1/4"	54-1/4"	5,100
1,250	68-1/2"	130-1/4"	60-1/4"	5,900
1,500	77-1/2"	126-1/4"	66-1/4"	6,500
2,000	80-1/2"	138-1/4"	72-1/4"	9,000
2,500	86-1/2"	144-1/4"	78-1/4"	10,000

Gallon	VERTICAL TANK DIMENSIONS		
	H _T	Dia.	Weight
119	62-1/2"	28"	345
200	77-1/4"	32"	600
257	92"	34"	902
318	81"	40"	993
432	81"	46"	1,269
504	92"	46"	1,373

NOTE: Add heater dimensions to tank dimensions to get overall package dimensions or consult factory if measurements are critical.

All package systems are skid mounted.

Power-Fin® Water Heater Dimensions & Specifications



Model Number	GPH @			Dimensions									Shipping			
	Btu/Hr Input	100°F Rise (F9)	100°F Rise (M9)	A	D (F9)	D (M9)	E	F	G	H	I	J	Gas Conn.	Air Inlet	Vent Size	Wt. (lbs)
PFN0501PM	500,000	515	527	44-1/2"	5-1/4"	3-1/4"	7-3/4"	11-1/4"	33-3/4"	2-1/4"	23-1/4"	6-3/4"	1"	5"	7"	571
PFN0751PM	750,000	773	791	52-1/4"	5-1/4"	3-1/4"	7-3/4"	11-1/4"	41-1/4"	9-3/4"	30-3/4"	7"	1-1/4"	5"	9"	620
PFN1001PM	1,000,000	1,030	1,054	59-1/4"	4-1/4"	3-1/4"	7-3/4"	11-1/4"	48-1/2"	16-3/4"	37-3/4"	7-1/4"	1-1/4"	6"	10"	669
PFN1300PM	1,300,000	1,323	1,371	67-3/4"	4-1/4"	3-1/4"	7-3/4"	19-1/2"	57"	25-1/4"	46-1/4"	8-1/4"	1-1/4"	6"	12"	718

Notes: Change "N" to "L" for LP Gas Model.

Water Connections are 2-1/2" on 6" centers.

No deration on LP Gas Models.

Performance Data Based on Manufacturer Test Results.

Standard Features

- Up to 87% Thermal Efficiency
- Aquastat with Adjustable Differential
- Sequential & Diagnostic Control Panel
- Radial Ceramic Burner
- Digital Display with Alarm Status LEDs
- Low NOx Operation Exceeds the most Stringent Air Quality Requirements
- ASME Copper Finned Tube Heat Exchanger
- Gasketless Heat Exchanger Design
- 160 psi Working Pressure
- All Bronze Circulating Pump
- ASME Temperature & Pressure Relief Valve
- Remote Tank Thermostat
- Glass-Lined Water Surfaces
- Digital Temperature Gauges
- Combustion Air Filter
- Slide Out Control Panel
- Redundant Gas Valves
- Hot Surface Ignition
- Pump Delay
- Freeze Protection

- Zero Clearance to Combustible Materials
- Adjustable High Limit w/ Manual Reset
- Flow Switch
- Flame View Port
- Small Footprint
- 24 Volt Control System
- 5 Year Limited Warranty on Heat Exchanger (See warranty for details)

Optional Equipment

- Alarm Bell
- Contacts for Air Louvers
- Contacts on any Failure
- Cupro-Nickel Heat Exchanger
- High and Low Gas Pressure Switch
- Low Gas Pressure Switch
- Low Water Cut-Off w/ Manual Reset
- MP² Sequencer (F9 models only)
- Harmony Sequencer (M9 models only)
- Vent Diameter Reducer

Available Firing Systems

F = On/Off

M = Modulating

F9	HSI (Standard)
M9	Hot Surface Ignition with Modulation
F/M13	GE GAP/FM/IRI
F/M7	California Code

FOR EASE IN ORDERING BY MODEL NUMBER

PF	N	0501	PM	F9
Model	Natural Gas	MBH Input	Pump Mounted	Firing Controls

This is a 500,000 Btu/hr natural gas Power-Fin water heater with F9 firing controls.



Lochinvar
High Efficiency Water Heaters, Boilers and Pool Heaters



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