



*Copper-Fin<sup>®</sup>  
Commercial  
Gas  
Water Heaters*



*From 495,000 to 2,065,000 BTUs  
81% Thermal Efficiency  
Indoor/Outdoor*

# The Energy-Efficient, Cost-Effective Water Heaters

Lochinvar first introduced Copper-Fin technology to the water heater industry some 40 years ago. Since then, we've continued to refine and perfect it - adding an advanced combustion process and space-age insulating materials.

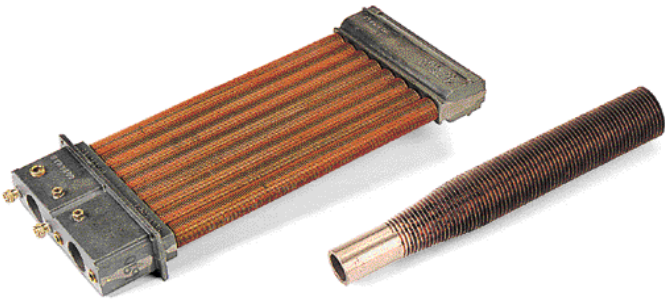
This new line of water heaters offers the same high quality as our other products. This new Copper-Fin was designed and built to our unwavering standards of quality, using the basic components of the Copper-Fin's success - adding fan-assisted combustion, hot surface ignition, and a unique gasketless Copper-Fin heat exchanger.

## Advanced Control System

All Copper-Fin models features state-of-the-art Hot Surface Ignition with direct flame supervision and immersion temperature controls. They are also equipped with indicating lights for all major functions, including call for heat, flame failure and low air.

## Unique Copper-Fin Heat Exchanger

The Lochinvar Copper-Fin water heater design uses a two-pass heat exchanger. Water is circulated through a row of highly-efficient, finned copper tubes. The high rate of water flow creates a scouring action that prevents sediment and lime-scale buildup so common in conventional water heaters, and the finned copper tubes allow maximum heat transfer efficiency. To create this special heat capability, Lochinvar extrudes the fins from thick wall copper tubing to precise specifications - exactly 7 fins per inch.



The result is an integrally-finned tube with a heat transfer ratio 9 times greater than a plain copper tube and 8 times greater than cast iron or steel.

## Heavy-Duty Gasketless Design

What's more, advanced casting processes allowed Lochinvar to develop a unique one-piece header system. This gasketless design provides enhanced reliability, improved durability and optimizes performance - but without the problems or failures so common to O-rings and gaskets. And every surface that comes in contact with the water is protected by a special nonferrous glass coating, it's one reason why we back Copper-Fin water heaters with a five-year limited warranty.

## High Heat Transfer, Low NOx

The high heat transfer ratio of the finned copper tubing, together with the high velocity water flow characteristics of our heat exchanger design, combine to offer yet another benefit: a virtually instantaneous response to the demand for hot water. Demand is always met quickly and accurately-and draw down capabilities are much greater than with other systems.

## Installation Flexibility and Cost-Savings

High efficiency also means these units are compact enough to fit through a standard 36" doorway—an advantage most commercial water heaters can't provide. These new, compact sizes use less floor space than ever before. Plus, thanks to special insulating materials, Copper-Fin units require only 3" clearance from combustible walls. What's more, now we offer a new Multi-Stack frame which allows you to install two units in the area normally required for one. This makes it easier to fit multiple Copper-Fin water heaters into cramped mechanical rooms, providing extra capacity during peak demand periods and a backup system for use in servicing. And you can even use a smaller diameter vent stack - up to 8" smaller than typically required for comparable units - so it saves money as well as valuable mechanical room space. Plus, with Lochinvar, you can select the exact components to meet your needs. Use a Copper-Fin water heater with one of our 80 gallon Lock-Temp® tanks for applications where demand is almost constant and little storage is needed. Or choose larger tanks for balanced loads. Lock-Temp tanks range up to 2,500 gallon for use in high-draw applications.

Together, Copper-Fin water heaters and our Lock-Temp tanks give you the flexibility to precisely match storage demands and recovery requirements for almost any situation. Or ask about our factory-assembled Packaged System.

## Vent Cost Savings

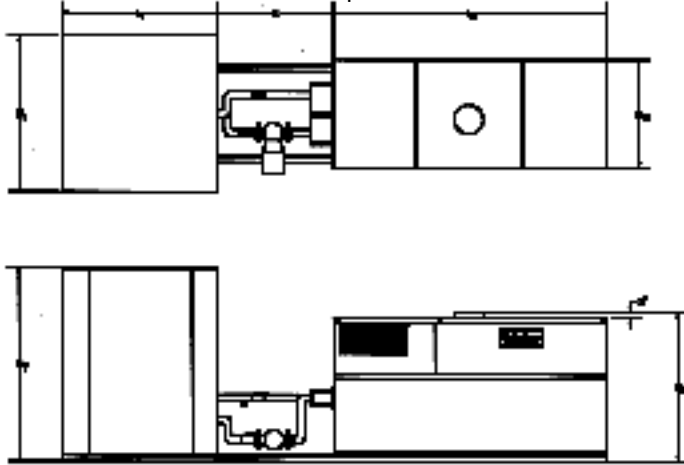
INPUT	ATMOSPHERIC VENT SIZE	COPPER-FIN VENT SIZE	\$\$SAVINGS*
495,000	10"	6"	\$690
645,000	12"	8"	\$768
745,000	14"	8"	\$1523
985,000	16"	10"	\$1880
1,225,000	16"	12"	\$1536
1,435,000	18"	12"	\$2554
1,795,000	20"	14"	\$3702
2,065,000	22"	14"	\$3925

\* Comparison based on 25" vent system using type "B" double wall vent material, storm collar and vent cap.

# Copper-Fin® Packaged System Configurations and Dimensions

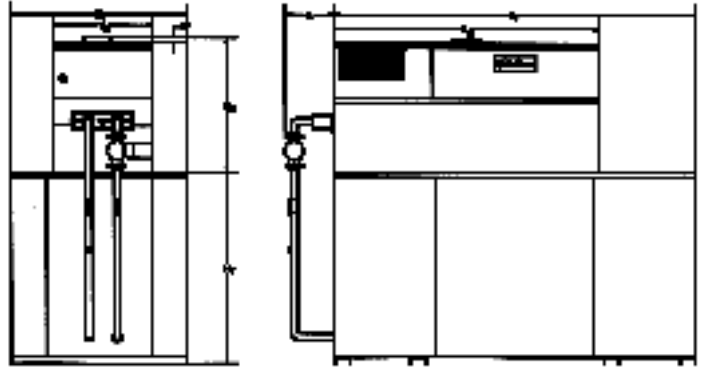
## PS Configuration

CWN 495-2065 with a 119-504 gallon capacity Jacketed and Insulated Lock-Temp Vertical Tank.



## PT Configuration\*

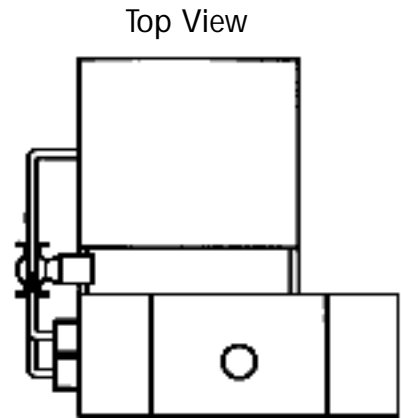
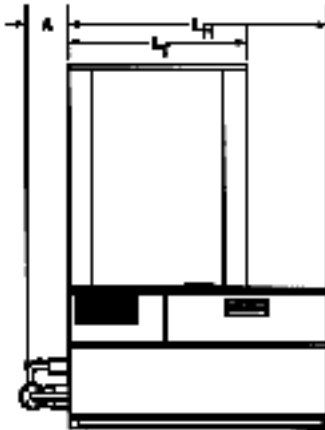
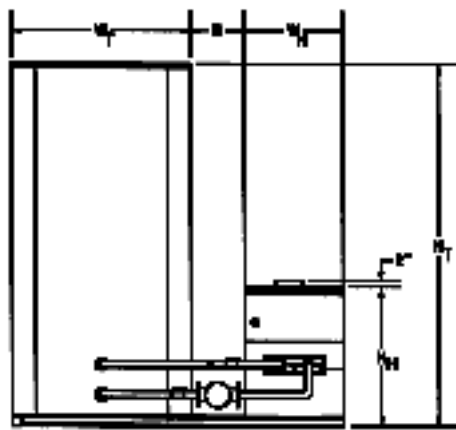
CWN 495-2065 with a 300-2500 gallon capacity Jacketed and Insulated Lock-Temp Horizontal Tank.



\*PT Configuration package systems requires tank  $W_T$  dimension be larger than the heater  $W_H$  dimension

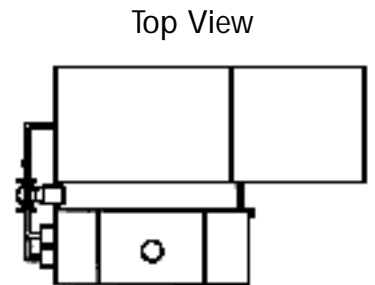
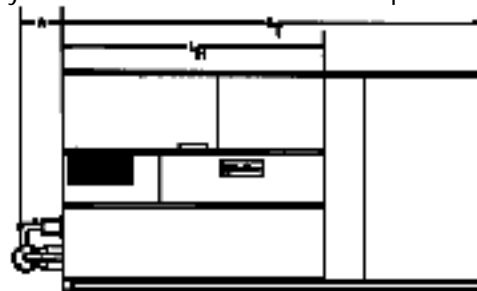
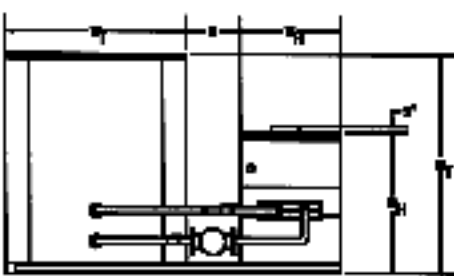
## PU Configuration

CWN 495-2065 with a 119-504 gallon capacity Jacketed and Insulated Lock-Temp Vertical Tank.



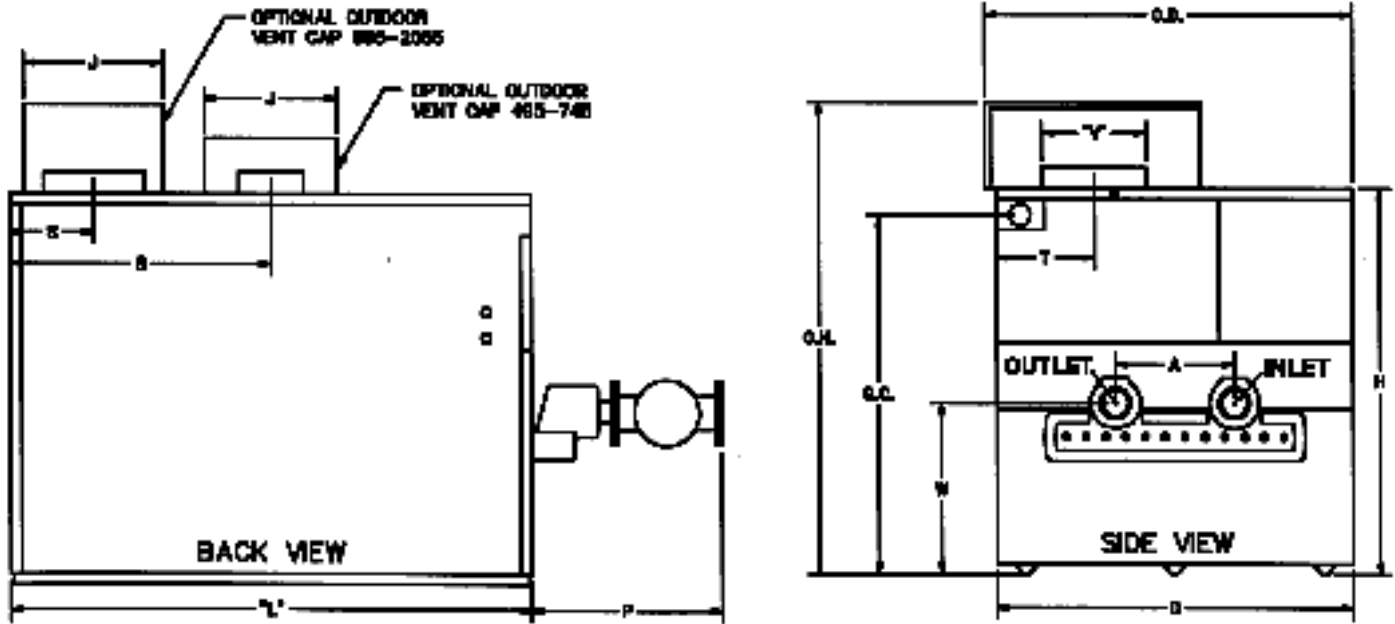
## PW Configuration

CWN 495-2065 with a 300-2500 gallon capacity Jacketed and Insulated Lock-Temp Horizontal Tank.



HEATER DIMENSIONS				VERTICAL TANK DIMENSIONS				HORIZONTAL TANK DIMENSIONS			
MODEL	$W_H$	$L_H$	$H_H$	TANK SIZE	$W_T$	$L_T$	$H_T$	TANK SIZE	$W_T$	$L_T$	$H_T$
CWN0495 PM	22 1/4"	45 1/4"	33 1/16"	220	38 5/8"	34 1/8"	84"	300	42 1/4"	78 1/8"	48 1/2"
CWN0645 PM	22 1/4"	56 5/8"	33 1/16"	318	42 3/8"	42 3/8"	84"	400	42 1/4"	102 1/8"	48 1/2"
CWN0745 PM	22 1/4"	63 7/8"	33 1/16"	432	48 3/8"	48 3/8"	84"	500	48 1/4"	90 5/8"	54 1/2"
CWN0985 PM	33 1/2"	48 3/16"	35 15/16"	500	48 3/8"	48 3/8"	84"	600	48 1/4"	114 1/8"	54 1/2"
CWN1255 PM	33 1/2"	58 1/2"	35 15/16"	SPECIAL DIMENSIONS			800	54 1/4"	124 1/8"	60 1/2"	
CWN1435 PM	33 1/2"	68 5/8"	35 15/16"				1000	54 1/4"	138 1/8"	60 1/2"	
CWN1795 PM	33 1/2"	82 1/8"	35 15/16"	A	B	C	1250	60 1/4"	130 1/8"	66 1/2"	
CWN2065 PM	33 1/2"	92 3/8"	35 15/16"	12"	12"	35"	1500	66 1/4"	126 1/8"	75 1/2"	
				For total package system dimensions, add appropriate dimension from each chart above				2000	72 1/4"	138 1/8"	78 1/2"
								2500	78 1/4"	144 1/8"	33 1/2"

# Copper-Fin® Commercial Gas Water Heaters / Dimensions & Specifications



MODEL #	BTU INPUT	GPH @ 100° TEMP. RISE	GAS CONN.	WATER CONN.	CAP					VENT					WT.			
					A	D	O.D.	G.C.	H	O.H.	J	L	P	V		W	S	T
CWN0495	495,000	486	1 1/4"	2"	6 1/2"	22 1/4"	22 7/8"	30 13/16"	33 3/16"	42 3/16"	9 1/2"	45 1/4"	18 1/2"	6"	12 9/16"	22 5/8"	9 7/16"	500
CWN0645	645,000	633	1 1/4"	2"	6 1/2"	22 1/4"	22 7/8"	30 13/16"	33 3/16"	42 3/16"	16"	56 5/8"	18 1/2"	8"	12 9/16"	22 5/16"	9 7/16"	555
CWN0745	745,000	731	1 1/2"	2"	6 1/2"	22 1/4"	22 7/8"	30 13/16"	33 3/16"	42 3/16"	16"	63 7/8"	18 1/2"	8"	12 9/16"	31 15/16"	9 7/16"	612
CWN0985	985,000	967	1 1/2"	2 1/2"	11 5/32"	33 1/2"	34 1/8"	33 13/16"	35 15/16"	47 15/16"	18 1/8"	48 3/16"	20 1/2"	10"	15 13/16"	8"	9 7/16"	850
CWN1255	1,255,000	1232	2"	2 1/2"	11 5/32"	33 1/2"	34 1/8"	33 13/16"	35 15/16"	47 15/16"	20 1/8"	58 1/2"	20 1/2"	12"	15 13/16"	9"	10 1/4"	970
CWN1435	1,435,000	1409	2"	2 1/2"	11 5/32"	33 1/2"	34 1/8"	33 13/16"	35 15/16"	47 15/16"	20 1/8"	68 5/8"	20 1/2"	12"	15 13/16"	9"	10 1/4"	1,071
CWN1795	1,795,000	1762	2"	2 1/2"	11 5/32"	33 1/2"	34 1/8"	33 13/16"	35 15/16"	47 15/16"	22 1/8"	82 1/8"	20 1/2"	14"	15 13/16"	10"	11 1/2"	1,193
CWN2065	2,065,000	2027	2"	2 1/2"	11 5/32"	33 1/2"	34 1/8"	33 13/16"	35 15/16"	47 15/16"	22 1/8"	92 3/8"	20 1/2"	14"	15 13/16"	10"	11 1/2"	1,334

Note: Recovery based on actual heater performance at 81%. • Change 'N' to 'L' to denote L.P. model. • No deration on L.P. models.

## Standard Features

- 81% Thermal Efficiency
- Fan-Assisted Combustion
- Sealed Combustion Chamber
- Hot Surface Ignition
- Stainless Steel Burners
- Redundant Gas Valves
- Unique Gasketless Copper-Fin Heat Exchanger
- Loch-Heat™ Ceramic Tile Combustion Chamber
- ASME 160# W.P.
- Adjustable Operator and High Limit Control
- 150# ASME Temperature and Pressure Relief Valve
- Low NOx Emissions
- On/Off Switch with Indicator Lights
- Dial-Type Temperature Gauge
- 24v Controls
- Air Pressure Switch
- Bronze-Fitted Circulating Pump
- Scale-Free Operation
- 5-Year Warranty
- Guaranteed Against Thermal Shock
- Stackable
- Fits Through Standard 36" Doorframe
- 3" Clearance To Combustible Walls
- Terminal Strip

## Optional Equipment

- Cupro-Nickel Heat Exchanger
- Manual Reset High Limit
- Alarm Bell (Specify Function)
- Flow Switch
- Low Water Cut-Off
- Mod-U-Pak Sequencer (See Accessories)
- All Bronze Pump
- Multi-Stack Stand (See Accessories)

## Available Firing Systems

495-745	985-2065
F9	F9
M9	M9
F13	M13
F14	M14
F7	M7

- Electronic Control With Hot Surface Ignition (Standard)
- 2 Stage Electronic Ignition HSI(Optional)
- FM Approved\* (Factory Mutual)
- IRI\*(Industrial Risk Insurers)
- California Code
- \*Indoor Only

Patent Pending

FOR EASE IN ORDERING  
BY MODEL NUMBER

CW N 0495 PM F9



This heater is 495,000 BTU natural gas Copper-Fin water heater. It is pump mounted and has F9 firing controls.



The Built-In Advantage™

