FHP LV Model

Water Source Heat Pump

1/2 to 6 ton

The new option-rich LV offers one of the smallest cabinets in the industry, making it a great choice for replacement projects

NEW LV MODEL UP TO 17.7 EER UP TO 5.3 COP

Made in the U.S.A.

Commercial Sales Brochure
fhp-mfg.com

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Invented for life

FHP LV Model Benefits

High Efficiency Replacement

FHP's LV Model comes equipped with a compact cabinet designed to fit most commercial replacement projects. This option-rich, single-stage product offering is available in ½ to 6 ton size range and meets or exceeds ASHRAE 90.1 efficiency standards. Outfitted with the latest in compressor, blower motor and heat transfer technologies, this product performs extremely well in both water loop and geothermal applications.

Quiet Operation

The LV Model comes standard with a unique sound package designed to eliminate vibration transmission to the cabinet and reduce unwanted noise in the occupied space. The product is designed with blower wheels that help keep discharge air noise to a minimum.

Cabinet Configuration Flexibility

The LV horizontal cabinets come standard with blower systems that are easily reconfigured on the job site. The blower discharge arrangement can be changed from end to straight discharge in only a matter of minutes.

Environmentally Friendly

These highly efficient units not only reduce your operating cost, but play their part in reducing carbon dioxide emissions, a leading cause of global warming.

Quality & Reliability

Rigorous factory testing virtually assures hassle free operation from the start, while over 40 years of experience in designing heat pumps for commercial applications are your assurance of a state of the art quality product. FHP's ISO 9001-2008 and ISO 14001-2004 certified facilities provide consistent quality in every unit we build.

Key Features

Standard

- **G90 Galvanized Steel Cabinet**
- **Stainless Steel Drain Pan**
- **Floating Base Pan**
- **PSC Blower Motor**
- **Copper Coaxial Heat Exchanger**
- **Inlet Blower-Ring**
- **Unit Protection Module**

Optional

- **Tin Plated Air Coil**
- **Hot Gas Reheat (on/off or modulating)**
- **Hot Gas Bypass**
- **Cupro-nickel Coaxial Heat Exchanger**
- **DDC Controls**
- **Compressor Sound Blankets**
- **Internally Mounted 2-way Motorized Water Valve**
- **Externally Mounted Pump Package**
- **Internal Auto-flow Regulator**
- **Phase Protection Module (for 3-phase unit)**
- **Water Side Economizers**
- **Constant Torque or Constant Airflow ECMs**
- **MERV 8 or MERV 13 Filters (2" nominal thickness)**
- **2" Filter Rack Available**
- **Closed-Cell Foam Insulation**

Options Designed for any Application

2-Way Motorized Water Valves

Opening only on a call for heating or cooling, this option helps to reduce energy usage from the primary loop pumps.

Externally Mounted Water Pumps

Unit mounted circulating pumps are designed to provide the necessary fluid flow through the water source heat pump in single-pipe designs when the local thermostat calls for heating or cooling.

Blower Inlet Ring

Remove the blower motor/fan wheel assembly all in a matter of minutes versus having to remove the entire blower hosing to replace the blower motor.

Hot Gas Reheat Coil

During the dehumidification process, the hot gas reheat coil prevents over-cooling of the occupied space and improves indoor air quality and comfort.

Air Coil Protection

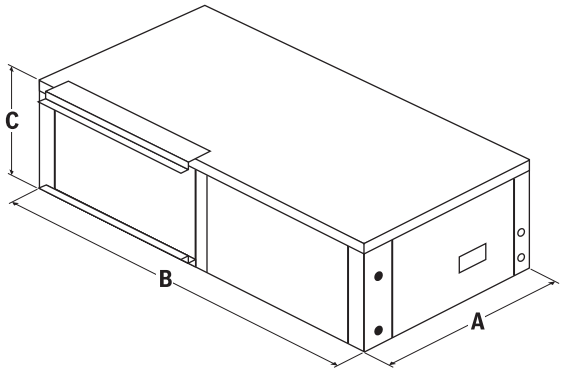
The LV's copper tube tin-plating and polyester-polymer-coated aluminum fins pass 1000 hours of ASTM B117 salt spray testing. These protective coatings offer the best protection against adverse return air conditions.

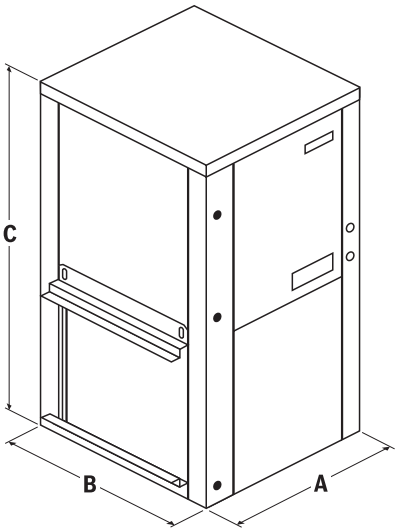
Cupro-Nickel Coaxial Heat Exchangers

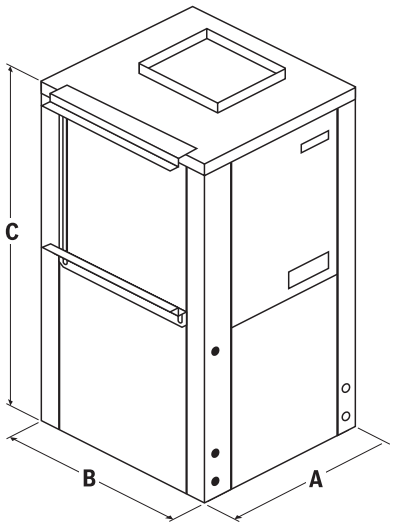
When water quality is in question, cupro-nickel alloy is highly resistant to corrosion in seawater or other environments that could threaten the life of the heat exchanger.

Note: Units configured with Constant Torque X13 motors are able to operate without the need for a neutral wire In 460V/3Ph applications, as the motor is available in 460V/1ph configurations. Units with Constant CFM (EON) motors require a neutral wire in 460V/3Ph applications, as the motors are only available in 265/277V/1Ph configurations.

Technical Data







Horizontal Cabinet		Cabinet Dimensional Data		
		A (Width)	B (Depth)	C (Height)
007 - 012	in	19.0	33.0	11.5
	cm	48.3	83.8	29.2
015 - 030	in	22.0	43.0	17.0
	cm	55.9	109.2	43.2
036, 042	in	22.0	54.5	19.0
	cm	55.9	138.4	48.3
048 - 060	in	25.0	54.5	21.0
	cm	63.5	138.4	53.3
070	in	25.0	65.0	21.0
	cm	63.5	165.1	53.3

Vertical Cabinet		Cabinet Dimensional Data		
		A (Width)	B (Depth)	C (Height)
007 - 012	in	19.0	19.0	24.3
	cm	48.3	48.3	61.6
015 - 018	in	21.5	21.5	21.3
	cm	54.6	54.6	81.9
024, 030, 041	in	21.5	21.5	39.3
	cm	54.6	54.6	99.7
036, 042	in	21.5	26.0	43.3
	cm	54.6	66.0	109.9
048 - 060	in	24.0	32.5	43.3
	cm	61.0	82.6	109.9
070	in	26.0	33.3	58.3
	cm	66.0	84.5	148.0

Model Number	ARI/ISO 13256-1 Performance Data															
	PSC Motor								ECM Motor							
	Water Loop (WLHP)				Ground Loop (GLHP)				Water Loop (WLHP)				Ground Loop (GLHP)			
	Capacity and Efficiency Data															
	Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP
LV007	6100	12.2	7800	5.3	6800	15.1	4900	3.4								
LV009	8200	12.4	9900	4.7	8700	14.6	5700	3.2								
LV012	10900	11.8	13000	4.3	11800	14.0	8700	3.1								
LV015	13400	12.1	16100	4.2	14200	14.0	11300	3.1	13700	13.9	15500	4.4	14400	16.2	10700	3.3
LV018	19400	13.4	22200	4.6	21200	15.8	14300	3.5	19700	14.2	21900	4.7	21500	17.0	14100	3.6
LV024	23400	13.4	26600	4.4	25000	15.5	17000	3.4	23800	14.3	26200	4.6	25400	16.5	16700	3.5
LV030	29200	13.1	33400	4.3	31000	15.3	20900	3.2	30000	14.8	32800	4.6	31600	17.4	20400	3.4
LV036	37900	14.7	41800	4.6	39900	16.9	26900	3.5	38200	15.4	41400	4.7	40200	17.7	26500	3.6
LV041	39500	13.6	44600	4.2	41200	15.6	29400	3.3	40500	15.7	43700	4.4	42200	17.7	28500	3.6
LV042	40000	12.6	46300	4.2	42600	14.5	31000	3.2	40900	14.1	45300	4.4	43500	16.3	30100	3.5
LV048	45900	12.9	56400	4.3	48800	14.9	35400	3.4	46800	14.1	55600	4.5	49600	16.2	34600	3.6
LV060	57900	13.2	67200	4.2	60100	15.0	46900	3.2	59000	14.1	66400	4.2	61100	16.4	46200	3.3
LV070	64000	13.3	72800	4.4	66400	15.0	50800	3.4	65200	14.6	71800	4.6	67600	16.6	50000	3.5

Electrical Data Table - Standard Blower Motor

Model	Voltage Code	Rated Voltage	Voltage Min/ Max	Compressor			Fan Motor FLA	Fan Motor HP	Total Unit FLA	Min Circuit Amps	Max Fuse/ HACR
				QTY	RLA	LRA					
LV007	1	208-230/60/1	187/253	1	2.6	17.7	0.96	0.1	3.6	4.2	15
	2	265/60/1	238/292	1	2.6	13.5	0.96	0.1	3.6	4.2	15
LV009	1	208-230/60/1	187/253	1	3.4	22.2	0.96	0.1	4.4	5.2	15
	2	265/60/1	238/292	1	2.9	18.8	0.85	0.1	3.8	4.5	15
LV012	0	115/60/1	103/126	1	9.6	58.4	2.2	0.1	11.8	14.2	20
	1	208-230/60/1	187/253	1	4.6	28.0	0.96	0.1	5.6	6.7	15
	2	265/60/1	238/292	1	3.8	22.2	0.85	0.1	4.7	5.6	15
LV015	1	208-230/60/1	187/253	1	5.6	29.0	0.96	0.1	6.6	8.0	15
	2	265/60/1	238/292	1	4.6	20.0	0.85	0.1	5.5	6.6	15
LV018	1	208-230/60/1	187/253	1	6.5	43.0	1.8	0.25	8.3	9.9	15
	2	265/60/1	238/292	1	5.8	46.0	1.6	0.25	7.4	8.9	15
LV024	1	208-230/60/1	187/253	1	7.4	43.0	1.8	0.25	9.2	11.1	15
	2	265/60/1	238/292	1	6.7	46.0	1.6	0.25	8.3	10.0	15
	3	208-230/60/3	187/253	1	5.9	63.0	1.8	0.25	7.7	9.2	15
	4	460/60/3	414/506	1	2.9	30.0	0.9	0.25	3.8	4.5	15
LV030	1	208-230/60/1	187/253	1	9.9	54.0	1.8	0.25	11.7	14.2	20
	2	265/60/1	238/292	1	8.5	46.0	1.6	0.25	10.1	12.2	20
	3	208-230/60/3	187/253	1	6.9	63.0	1.8	0.25	8.7	10.4	15
	4	460/60/3	414/506	1	5.4	30.0	0.9	0.25	6.3	7.7	15
LV036	1	208-230/60/1	187/253	1	13.0	74.0	4.4	0.5	17.4	20.7	30
	2	265/60/1	238/292	1	11.3	67.0	3.3	0.5	14.6	17.4	25
	3	208-230/60/3	187/253	1	7.8	68.0	4.4	0.5	12.2	14.2	20
	4	460/60/3	414/506	1	3.9	34.0	1.8	0.5	5.7	6.7	15
LV041	1	208-230/60/1	187/253	1	13.6	88.0	4.4	0.5	18.0	21.4	35
	3	208-230/60/3	187/253	1	8.8	68.0	4.4	0.5	13.2	15.4	20
	4	460/60/3	414/506	1	4.4	34.0	1.8	0.5	6.2	7.3	15
LV042	1	208-230/60/1	187/253	1	13.6	88.0	4.4	0.5	18.0	21.4	35
	3	208-230/60/3	187/253	1	8.8	68.0	4.4	0.5	13.2	15.4	20
	4	460/60/3	414/506	1	4.4	34.0	1.8	0.5	6.2	7.3	15
LV048	1	208-230/60/1	187/253	1	15.7	84.0	4.4	0.75	20.1	24.0	35
	3	208-230/60/3	187/253	1	11.0	88.0	4.4	0.75	15.4	18.2	25
	4	460/60/3	414/506	1	5.4	44.0	2.8	0.75	8.2	9.6	15
	5	575/60/3	517/633	1	4.4	36.0	2.6	0.75	7.0	8.1	15
LV060	1	208-230/60/1	187/253	1	26.3	134.0	5.5	0.75	31.8	38.4	60
	3	208-230/60/3	187/253	1	15.6	110.0	5.5	0.75	21.1	25.0	40
	4	460/60/3	414/506	1	7.8	52.0	2.8	0.75	10.6	12.6	20
	5	575/60/3	517/633	1	5.8	38.9	2.6	0.75	8.4	9.9	15
LV070	1	208-230/60/1	187/253	1	28.3	178.0	5.5	0.75	33.8	40.9	60
	3	208-230/60/3	187/253	1	19.2	136.0	5.5	0.75	24.7	29.5	45
	4	460/60/3	414/506	1	8.7	66.1	2.8	0.75	11.5	13.7	20
	5	575/60/3	517/633	1	6.9	55.3	2.6	0.75	9.5	11.2	15

Electrical Data Table - Constant CFM ECM Blower Motor

Model	Voltage Code	Rated Voltage	Voltage Min/ Max	Compressor			Fan Motor FLA	Fan Motor HP	Total Unit FLA	Min Circuit Amps	Max Fuse/ HACR
				QTY	RLA	LRA					
LV015	1	208-230/60/1	187/253	1	5.6	29	2.8	0.33	8.4	9.8	15
	2	265/60/1	238/292	1	4.6	20	2.6	0.33	7.2	8.4	15
LV018	1	208-230/60/1	187/253	1	6.5	43	2.8	0.33	9.3	10.9	15
	2	265/60/1	238/292	1	5.8	46	2.6	0.33	8.4	9.9	15
LV024	1	208-230/60/1	187/253	1	7.4	43	2.8	0.33	10.2	12.1	15
	2	265/60/1	238/292	1	6.7	46	2.6	0.33	9.3	11.0	15
	3	208-230/60/3	187/253	1	5.9	63	2.8	0.33	8.7	10.2	15
	4	460/60/3	414/506	1	2.9	30	2.6	0.33	5.5	6.2	15
LV030	1	208-230/60/1	187/253	1	9.9	54	2.8	0.33	12.7	15.2	25
	2	265/60/1	238/292	1	8.5	46	2.6	0.33	11.1	13.2	20
	3	208-230/60/3	187/253	1	6.9	63	2.8	0.33	9.7	11.4	15
	4	460/60/3	414/506	1	5.4	30	2.6	0.33	8.0	9.4	15
LV036	1	208-230/60/1	187/253	1	13.0	74	4.3	0.5	17.3	20.6	30
	2	265/60/1	238/292	1	11.3	67	4.1	0.5	15.4	18.2	25
	3	208-230/60/3	187/253	1	7.8	68	4.3	0.5	12.1	14.1	20
	4	460/60/3	414/506	1	3.9	34	4.1	0.5	8.0	9.0	15
LV041	1	208-230/60/1	187/253	1	13.6	88	6.8	0.75	20.4	23.8	35
	3	208-230/60/3	187/253	1	8.8	68	6.8	0.75	15.6	17.8	25
	4	460/60/3	414/506	1	4.4	34	5.5	0.75	9.9	11.0	15
LV042	1	208-230/60/1	187/253	1	13.6	88	6.8	0.75	20.4	23.8	35
	3	208-230/60/3	187/253	1	8.8	68	6.8	0.75	15.6	17.8	25
	4	460/60/3	414/506	1	4.4	34	5.5	0.75	9.9	11.0	15
LV048	1	208-230/60/1	187/253	1	15.7	84	6.8	0.75	22.5	26.4	40
	3	208-230/60/3	187/253	1	11.0	88	6.8	0.75	17.8	20.6	30
	4	460/60/3	414/506	1	5.4	44	5.5	0.75	10.9	12.3	15
LV060	1	208-230/60/1	187/253	1	26.3	145	9.1	1	35.4	42.0	60
	3	208-230/60/3	187/253	1	15.6	123	9.1	1	24.7	28.6	45
	4	460/60/3	414/506	1	7.8	70	6.9	1	14.7	16.7	20
LV070	1	208-230/60/1	187/253	1	28.3	158	9.1	1	37.4	44.5	70
	3	208-230/60/3	187/253	1	19.2	155	9.1	1	28.3	33.1	50
	4	460/60/3	414/506	1	8.7	75	6.9	1	15.6	17.8	25

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