

# LM Model

## Water Source Heat Pump

2 to 6 ton

The new fully featured LM with a two capacity scroll compressor and an ECM Motor (electronically commutated) resulting in best-in-class efficiency and comfort.

LM MODEL	PART LOAD		FULL LOAD	
	UP TO 32.0 EER GLHP	UP TO 6.5 COP WLHP	UP TO 22.0 EER GLHP	UP TO 5.6 COP WLHP

 Made in the U.S.A.



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Invented for life

# High Efficiency, Best-in-Class **LM Model**

Introducing the LM Model, a highly efficient package water source heat pump and the ideal solution for high performance buildings. This model offers our customers best-in-class comfort, efficiency and noise levels along with a wide range of available features and options. The LM Model incorporates a number of features and options that benefit our customers and allow the specifying engineer to maximize LEED® credits on high performance projects.

## Standard Key Features

- ▶ Best-in-class 2-stage efficiency
- ▶ Best-in-class sound levels and quiet operation
- ▶ Robust and durable construction with industry leading sound levels
- ▶ Service friendly features for easy repair and installation
- ▶ Extensive options to meet virtually any jobsite requirement
- ▶ LEED® friendly design helps qualify for the most credits possible with a water source HVAC system
- ▶ G-90 galvanized steel cabinet
- ▶ Horizontal and vertical configurations
- ▶ Stainless steel drain pan
- ▶ Floating compressor base
- ▶ ECM constant torque fan motor
- ▶ Removable blower inlet ring for ease of service
- ▶ Freeze protection for the air and water coils
- ▶ Condensate overflow protection
- ▶ Solid state safety circuit

## Optional Features

- ▶ Duo-Guard air coil protection
- ▶ Hot gas reheat
- ▶ Internal electric heat (208/230V only)
  - ▶ 5, 10, 15, 20 kW Electric Heaters
- ▶ SmartStart (208/230V only)
- ▶ Cupro-nickel coaxial heat exchanger
- ▶ ECM constant airflow fan motor
- ▶ 2-Position water valve
- ▶ External LED status light
- ▶ Phase protection
- ▶ DDC Controls
- ▶ MERV-8 and MERV-13 filter
- ▶ 1/2" thick closed cell foam fiber-free insulation
  - ▶ Cabinet leakage rate less than 2%
- ▶ Internal pump (208/230V only)
- ▶ Flow proving switch (DPS)
- ▶ Unit mounted/wired disconnect switch (N/A w/ electric heat)
- ▶ Energy management switch (on/off)
- ▶ Comfort alert module

## Options Designed for any Application

### Duo-Guard Air Coil Protection

The LM is available with this state of the art coil protection option that features 2 layers of corrosion protection. All active copper heat transfer surface on the air coil is coated in a tin plating to resist all common forms of coil corrosion including formicary, salt water and galvanic corrosion. Additionally, the aluminum fins are e-coated in a state of the art protective layer to provide a long service life in the harshest of environments. DuoGuard™ protected coils exceed 1000 hours of ASTM B117 salt spray testing.

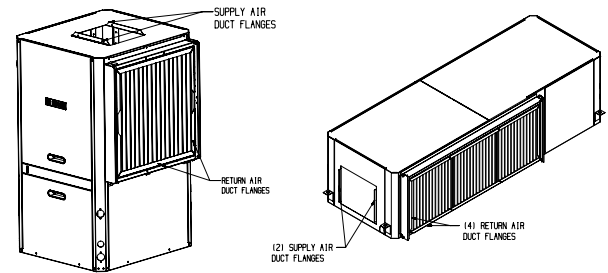
### ECM Constant Airflow Fan Motors

This option combines the efficiency of ECM motor operation along with the ability to automatically adjust to changes in external pressure drop due to factors such as filter loading to provide consistent air delivery. These motors are ideal for use with high efficiency filtration, such as MERV-13 filters. All ECM motors feature gradual ramp-up/ramp-down performance to reduce noise and improve comfort. Additionally, these motors offer the ability to reduce air flow in cooling mode in order to “cool to dehumidify” when combined with a thermostat/humidistat.

# Technical Specifications

Model	Dimensions (in inches)					
	Vertical			Horizontal		
	A (width)	B (depth)	C (height)	A (width)	B (depth)	C (height)
LM024	24.0	27.4	44.6	25.1	64.1	19.7
LM036	25.8	33.4	52.6	28.0	76.0	22.7
LM048	25.8	33.4	52.6	28.0	76.0	22.7
LM060	27.0	33.4	62.0	28.0	83.0	22.7
LM070	27.0	33.4	62.0	28.0	83.0	22.7

All measurements are in inches.



Model Number	Fluid Flow Rate	ARI/ISO 13256-1 Performance Data											
		Entering Water Temperatures											
		Water Loop (WLHP)				Ground Water (GWHP)				Ground Loop (GLHP)			
		86°F		68°F		59°F		50°F		77°F		32°F	
		Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP
<b>LM024</b>													
Part Load	6.0	18500	18.9	21200	6.5	21700	33.6	16700	5.1	21000	28.1	14400	4.4
Full Load	6.0	25500	17.4	29200	5.6	29000	26.5	23500	4.9	26600	19.9	18000	4.1
<b>LM036</b>													
Part Load	9.0	29000	22.2	31000	6.5	32600	37.0	25200	5.2	31900	32.0	22400	4.7
Full Load	9.0	39000	19.0	42800	5.6	43300	28.0	35900	5.1	40800	22.0	28400	4.3
<b>LM048</b>													
Part Load	12.0	36700	18.9	40900	6.2	42000	33.8	33700	5.2	39900	27.8	29800	4.5
Full Load	12.0	49200	16.6	56100	5.3	55300	25.3	46300	4.7	51300	19.3	36900	4.0
<b>LM060</b>													
Part Load	15.0	47500	18.7	53600	5.8	53300	31.2	44300	4.8	51600	26.5	39800	4.4
Full Load	15.0	63800	17.0	73300	5.2	70200	24.4	60300	4.6	65100	18.9	48000	3.9
<b>LM070</b>													
Part Load	18.0	55200	17.8	64900	5.7	60800	28.5	52900	4.8	60300	25.4	46900	4.3
Full Load	18.0	71600	16.3	84000	5.1	78700	23.1	70000	4.5	73700	18.5	55300	3.8

## MERV-13 filters

Optional MERV-13 filters offer up to 90% dust spot efficiency and are eligible for LEED® credits. These filters represent the state of the art for common commercial HVAC equipment.

## Hot Gas Reheat

Hot gas reheat enables an LM unit to dehumidify on demand without the danger of over-cooling the conditioned space. Hot gas reheat allows the user to not only control space temperature, but also humidity levels within the conditioned space. Excessive moisture in the space can promote mold growth leading to damage in the structure or interior surfaces, as well as reducing the air quality and creating an unhealthy environment.

## DDC Controls

LM units can be factory provided with on-board DDC controls in order to seamlessly integrate with modern building management systems. FHP controls are custom programmed to fully communicate with a front end, providing vital control and diagnostic data in real time. All common communication protocols are supported.

## Fiber Free Insulation

LM units can be provided with non-fibrous closed cell foam insulation as an option. This insulation provides the ultimate for indoor air quality while reducing sound levels and cabinet air leakage to industry leading levels. LM units include fiber-free insulation that is cleanable and meets the most stringent requirements for reducing airborne fibers and particles.

# Electrical Data

## ECM Constant Torque and Constant Air Flow

Model	Voltage Code	Voltage/Hz/Phase	Compressor			ECM Const Torque Motor			ECM Const CFM Motor		
			Quantity	RLA	LRA	Motor FLA	Min Circuit Amps	Max Fuse/HACR	Motor FLA	Min Circuit Amps	Max Fuse/HACR
LM024	1	208-230/1/60	1	11.7	58.3	2.8	17.4	25	2.8	17.4	25
	2	265/1/60	1	9.1	54	2.6	14	20	2.6	14	20
	3	208-230/3/60	1	6.5	55.4	2.8	10.9	15	2.8	10.9	15
	4	460/3/60	1	3.5	28	2.1	6.4	15	2.6	6.9	15
LM036	1	208-230/1/60	1	15.3	83	6	25.1	35	6.8	25.9	35
	2	265/1/60	1	13	72	4.9	21.2	30	5.5	21.8	35
	3	208-230/3/60	1	11.6	73	6	20.5	30	6.8	21.3	30
	4	460/3/60	1	5.7	38	3.2	10.3	15	5.5	12.6	15
LM048	1	208-230/1/60	1	21.2	104	6	32.4	50	6.8	33.2	50
	3	208-230/3/60	1	14	83.1	6	23.5	35	6.8	24.3	35
	4	460/3/60	1	6.4	41	3.2	11.3	15	5.5	13.5	15
LM060	1	208-230/1/60	1	27.1	152.9	7.6	41.5	60	9.1	43	70
	3	208-230/3/60	1	16.5	110	7.6	28.3	40	9.1	29.8	45
	4	460/3/60	1	7.2	52	4	13.1	20	6.9	16	20
LM070	1	208-230/1/60	1	29.7	179.2	7.6	44.7	70	9.1	46.2	70
	3	208-230/3/60	1	17.6	136	7.6	29.6	45	9.1	31.1	45
	4	460/3/60	1	8.5	66.1	4	14.6	20	6.9	17.5	25

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