



BOSCH

Invented for life

Bosch Water Source Heat Pump

LM Models

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





High Efficiency, Best-in-Class

Meet the Bosch LM

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.

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
- ▶ Galvanized steel cabinet
- ▶ Horizontal and vertical configurations
- ▶ Stainless steel drain pan
- ▶ Floating compressor base
- ▶ ECM Constant Torque Fan Motor Standard
- ▶ Removable blower inlet ring for ease of service
- ▶ Freeze protection for the air and water coils
- ▶ Condensate overflow protection
- ▶ Solid state safety circuit



Options Designed for any Application

Optional Features

- ▶ DuoGuard™ air coil protection
- ▶ Hot Gas Reheat
- ▶ Internal electric heat (208/230V only)
5, 10, 15, 20 kW Electric Heaters
- ▶ SmartStart Assist (208-230/60/1 only)
- ▶ Cupro-nickel coaxial heat exchanger
- ▶ ECM constant airflow fan motor
- ▶ 2-Position Solenoid Water Valve
- ▶ External LED status light
- ▶ Phase Monitor 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 (208-230/60/1 only)
- ▶ Flow proving switch (DPS)
- ▶ Unit mounted/wired disconnect switch⁽¹⁾
- ▶ Energy Management Switch (EMS) (ON/OFF)
- ▶ Comfort Alert Module

Additional Features

- ▶ Pump/Valve Relay Kit
- ▶ Wire to 208V
- ▶ Compressor Monitor Relay
- ▶ Blower Monitor Current Sensor
- ▶ Freeze Sensor
- ▶ Disconnect Switch
- ▶ Circulating Pump

DuoGuard™ 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.

Variable Speed ECM Constant CFM 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.





Easy To Service

Panels remove with ample space to work on any component!

Fiber Free Insulation

LM units can be provided with non-fibrous closed cell foam insulation as an option. This insulation provides the zone occupants with the ultimate invisible comfort by reducing sound levels and cabinet air leakage which are contributors to high noise levels. LM units include fiber-free insulation that is cleanable and meets the most stringent requirements for reducing airborne fibers and particles.

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.

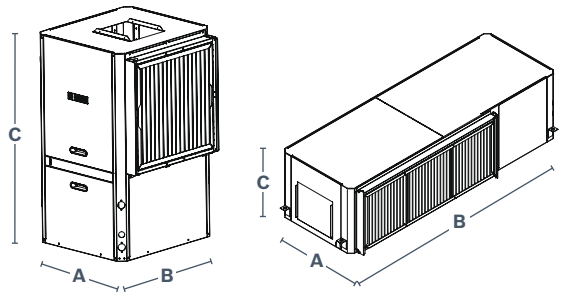
MERV-13 filters

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.



Technical Specifications

DIMENSIONS (IN INCHES)						
MODEL	VERTICAL			HORIZONTAL		
	A (WIDTH)	B (DEPTH)	C (HEIGHT)	A (WIDTH)	B (DEPTH)	C (HEIGHT)
LM024	24.0	27.4	44.7	25.1	64.1	19.7
LM036	25.8	33.4	52.7	28.0	76.0	22.7
LM048	25.8	33.4	52.7	28.0	76.0	22.7
LM060	27.0	33.4	62.1	28.0	83.0	22.7
LM070	27.0	33.4	62.1	28.0	83.0	22.7



ARI/ISO 13256-1 PERFORMANCE DATA														
Model	Entering Water Temperatures												Fluid Flow GPM	Rated Air Flow (CFM)
	Water Loop (WLHP)				Ground Water (GWHP)				Ground Loop (GLHP)					
	86°F		68°F		59°F		50°F		77°F		32°F			
	Capacity and Efficiency Data													
	Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP	Cooling Capacity	EER	Heating Capacity	COP		
LM024														
Part Load	18500	18.90	21200	6.50	21700	30.35	16700	5.10	21000	28.10	14400	4.15	6	800
Full Load	25500	17.40	29200	5.60	29000	26.50	23500	4.90	26600	19.90	18000	3.78	6	950
LM036														
Part Load	29000	20.80	31000	5.60	32600	34.85	25200	4.65	31900	29.20	22400	4.10	9	1100
Full Load	39000	18.20	42800	5.10	43300	26.75	35900	4.60	40800	20.70	28400	3.95	9	1300
LM048														
Part Load	36700	17.95	40900	5.70	42000	32.20	33700	4.80	39900	26.80	29800	4.40	12	1400
Full Load	49200	15.70	56100	5.05	55300	25.20	46300	4.55	51300	19.30	36900	3.90	12	1600
LM060														
Part Load	47500	18.70	53600	5.80	53300	31.20	44300	4.80	51600	26.50	37200	4.11	15	1800
Full Load	63800	16.05	73300	4.90	70200	24.40	60300	4.60	65100	18.90	45500	3.90	15	2000
LM070														
Part Load	55200	16.70	64900	5.40	60800	27.90	52900	4.70	60300	23.40	46900	4.30	18	1900
Full Load	71600	14.80	84000	4.95	78700	21.15	70000	4.50	73700	16.85	55300	3.80	18	2400

ECM CONSTANT TORQUE AND CONSTANT AIR FLOW												
MODEL	VOLTAGE CODE	VOLTAGE/HZ/ PHASE	VOLTAGE MIN/MAX	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	208-230/60/1	197/253	1	11.7	58.3	2.8	17.4	25	2.8	17.4	25
	2	265-277/ 60 / 1	-	1	9.1	54.0	2.6	14.0	20	2.6	14.0	20
	3	208-230/ 60 / 3	197/253	1	6.5	55.4	2.8	10.9	15	2.8	10.9	15
	4	460/60/3	-	1	3.5	28.0	2.1	6.4	15	2.6	6.9	15
LM036	1	208-230/60/1	197/253	1	15.3	83.0	6.0	25.1	35	6.8	25.9	35
	2	265-277/ 60 / 1	-	1	13.0	72.0	4.9	21.2	30	5.5	21.8	35
	3	208-230/ 60 / 3	197/253	1	11.6	73.0	6.0	20.5	30	6.8	21.3	30
	4	460/60/3	-	1	5.7	38.0	3.2	10.4	15	5.5	12.6	15
LM048	1	208-230/60/1	197/253	1	21.2	104.0	6.0	32.4	50	6.8	33.2	50
	3	208-230/ 60 / 3	197/253	1	14.0	83.1	6.0	23.5	35	6.8	24.3	35
	4	460/60/3	-	1	6.4	41.0	3.2	11.3	15	5.5	13.5	15
LM060	1	208-230/60/1	197/253	1	27.1	152.9	7.6	41.5	60	9.1	43.0	70
	3	208-230/ 60 / 3	197/253	1	16.5	110.0	7.6	28.3	40	9.1	29.8	45
	4	460/60/3	-	1	7.2	52.0	4.0	13.1	20	6.9	16.0	20
LM070	1	208-230/60/1	197/253	1	29.7	179.2	7.6	44.7	70	9.1	46.2	70
	3	208-230/ 60 / 3	197/253	1	17.6	136.0	7.6	29.6	45	9.1	31.1	45
	4	460/60/3	-	1	8.5	66.1	4.0	14.6	20	6.9	17.5	25

About **Bosch**

Bosch Group

The Bosch Group is a leading global supplier of technology and services in the areas of Automotive, Industrial Technology, Consumer Goods and Building Technology. The company was founded in Stuttgart, Germany, in 1886 and presently has more than 440 subsidiaries and is represented in over 150 countries.

In the U.S., Canada and Mexico, the Bosch Group manufactures and markets automotive original equipment and aftermarket solutions, industrial drives and control technology, power tools, security and communication systems, packaging technology, thermotechnology, household appliances and software solutions. The Bosch Group's products and services are designed to improving quality of life by providing innovative and beneficial solutions. In this way, the company offers technology worldwide that is "Invented for life." Additional information is available online at boschheatingandcooling.com and bosch.ca.

Bosch Thermotechnology in North America

Bosch Thermotechnology is a leading source of high quality water heating and comfort systems. The company offers gas tankless, electric whole house and point-of-use water heaters, Bosch and Buderus floor-standing and wall mounted boilers, Bosch and FHP geothermal, water-source and air-source systems as well as controls and accessories for all product lines. Bosch Thermotechnology is committed to being Simply Smart by offering products that work together as integrated systems that enhance quality of life in an ultra-efficient and environmentally friendly manner. For more information, visit boschheatingandcooling.com.



Heating



Cooling



Hot Water



Controls

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