

ENERGY MASTER

*AIR SOURCE HEAT PUMP WATER HEATER
MODEL B4-HHPM18*



SAVE ENERGY SAVE THE WORLD

AIR SOURCE HEAT PUMP WATER HEATER MODEL B4-HHPM18



1.0 GENERAL SPECIFICATION

Air to Water Heat Pump Hot Water Generator. Unit is included compressor , evaporator , condenser , fan , hot water circulating pump and electrical control panel. Refrigerant is environmental friendly R-134a. Heat Pump function can produce constant 60⁰C hot water temperature relative with entering water temperature range between 25 °C – 55 °C. The heat pump have capability of production no less than 70 °C

Unit is completely assembled and tested from factory certified by ISO9001:2008

2.0 PERFORMANCE

The unit have C.O.P. not less than 4.2 at 30 °C inlet air and 30 °C , 60 °C outlet hot water.(Included all electrical equipments)

3.0 EQUIPMENT SPECIFICATION

3.1 COMPRESSOR “ COPELAND ”

Hermatic Scroll type compressor , suitable for high temperature operation with environmental friendly R134a refrigerant.

3.2 EVAPORATOR

Copper Tube – Fin type made from seamless inner grooved copper tube and poly coated corrugated aluminium fins coated. Fin material are pre-coated prior to fabrication by Hydrophilic PVA Resin to enhance corrosion resistance and mechanically boned to plated seamless copper tubing.

3.3 CONDENSER

The brazed plate heat exchanger consists of a plate package in stainless steel AISI316 and copper brazing material. Refrigerant side is tested at pressure 3140 kPA and water side is tested at pressure 2735 kPA

3.4 FAN

The fan arrangement is draw-through design. Forward Curve Double Inlet Centrifugal Fan with direct driven motor. Fan unit has been approved by Air Movement & Control Association International. Fan motor is totally enclosed type IP55, with seal and permanently lubricated ball bearing.

3.5 WATER PUMP

Water pump is End Suction Closed Couple Centrifugal Pump. Water pump can be operated with water temperature up to 90 °C and be able to delivery design rated flow against external static up to 7 m.

3.6 REFRIGERANT EQUIPMENTS

Refrigerant equipments are included expansion valve (adjustable superheat), filter drier and sight glass.

3.7 CABINET

Heat pump cabinet is entirely of 304 stainless steel. Cabinet have 3 access door for serving, one for compressor and TXV, one for evaporator coil, fan and water pump and one for electrical equipments. Cabinet base and access panel thickness is 1.5 mm. Under evaporator coil have stainless steel drain pan for condensated water. Interior of each compartments are fully insulated with closed cell insulation to prevent condensation during heat pump operation. Heat pump is designed for both indoor and outdoor installation.

3.8 AIR FILTER

Replaceable aluminium air filter with 20 mm. thickness.

3.9 INSULATION

EPDM Close Cell Insulation. Excellent insulator with low thermal conductivity.

3.10 CONTROL FUNCTION

- Heat Pump Micro Controller for controlling constant 60 °C water temperature and allow you to easily adjust hot water temperature as desire.
- Pilot lamp shown status of compressor, blower and hot water circulating pump.
- Operating hours counter. Display accumulated total working hours of heat pump. Easily monitoring and planning for preventive maintenance.
- Timer function. Provide flexible adjustment operating period of heat pump as desire.
- 6 point temperature display inside heat pump. Provide good accuracy for heat pump performance monitoring and easily diagnosis heat pump malfunction.
- Remote control for easily operate heat pump from long distance such as control room. (Optional)
- Defrost system for operate in cold weather area.
- Controller Reserved for external water flow safety switch.
- Controller Reserve for external back up electric heater.

ENERGY MASTER CO.,LTD

HEAD OFFICE : 450/10 SOI PHAHOLYOTHIN 35 LADYAO CHATUCHAK BANGKOK 10900

TEL:(66)2-512-3471 FAX:(66)2-512-3470 E-MAIL : INFO@ENERGYMASTER.CO.TH

WWW.ENERGYMASTER.CO.TH

3.11 PROTECTION FUNCTION

- High Pressure Safety Switch.
- Low Pressure Safety Switch.
- Water Temperature Overheat Safety Switch. Limit water temperature which might harm to user.
- Electrical Phases & Voltage Protection.
- Over Current Compressor Protection.
- Over Current Pump Protection.
- Time delay for compressor protection.
- Auto-restart mode

TECHNICAL SPECIFICATION

B4-HHPM18



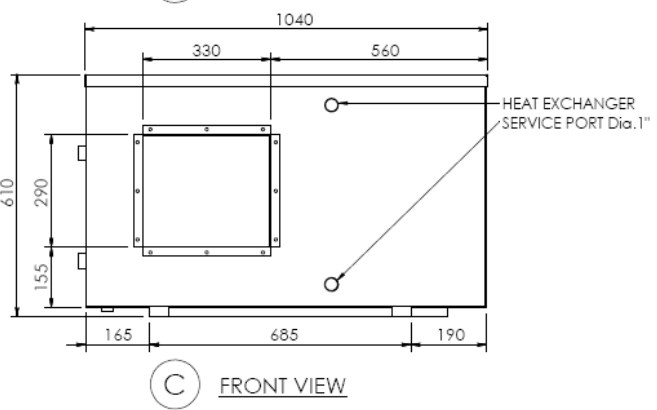
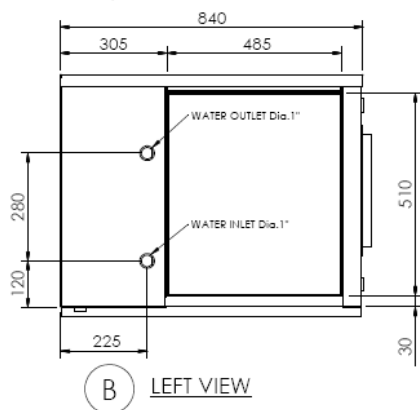
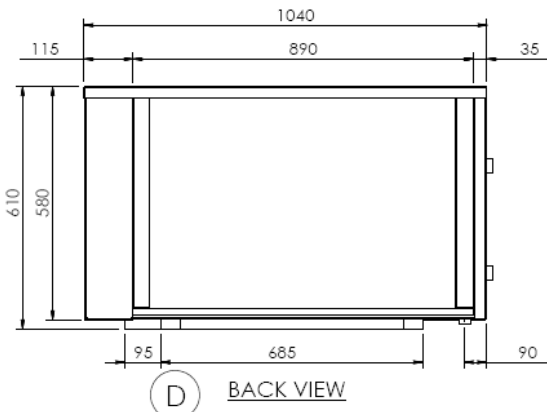
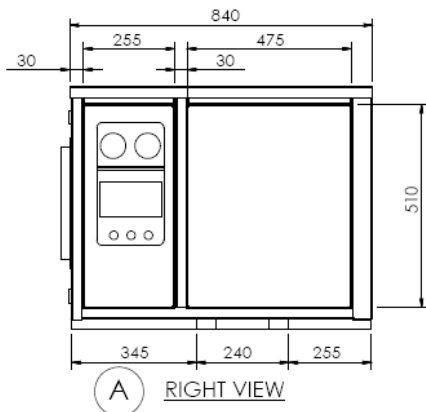
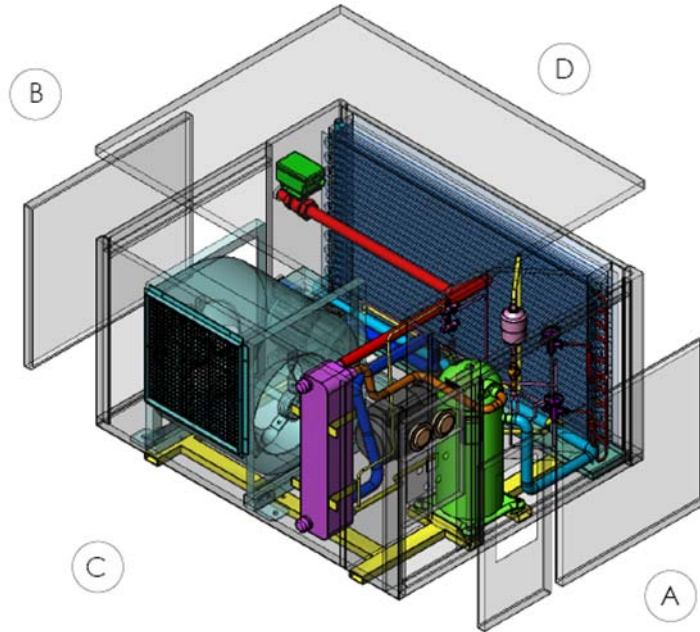
MODEL		B4-HHPM18
HEATING CAPACITY	kW.	18.4
COOLING CAPACITY	kW. (Btu/h)	15.1 (51,771)
HOT WATER RECOVERY RATE	Lph	527
WATER IN TEMPERATURE	°C	30
WATER OUT TEMPERATURE	°C	60
MAX. HOT WATER OUTLET TEMP.	°C	70
AIR FLOW RATE	m3/H (cfm)	2,890 (1,700)
COMPRESSOR	TYPE	SCROLL
	REFRIGERATION	R-134a
ELECTRICAL	V/Ph/Hz	380/3/50
POWER AT RECOVERY RATE (Included all electrical parts)	kW.	4.2
RLA (@ RECOVERY RATE)	Amp	8.2
FLA	Amp	12.1
CASING MATERIAL		STAINLESS STEEL
DIMENSION (W X D X H)	mm.	1040x780x605
NET WEIGHT (approx.)	kg.	186
WATER INLET	inch	1"
WATER OUTLET	inch	1"
CONDENSATED DRAIN	inch	3/4"

Note: Energy Master Reserves the right to make changes in specification without prior notice.

: Maximum operating air temperature is 50 °C. Minimum operating air temperature is 5 °C.

: Performance rated at ambient 30 °C. , 75% RH

HEAT PUMP CABINET MODEL B4-HHPM18



Material : SUS304 - 1.5 mm. thickness