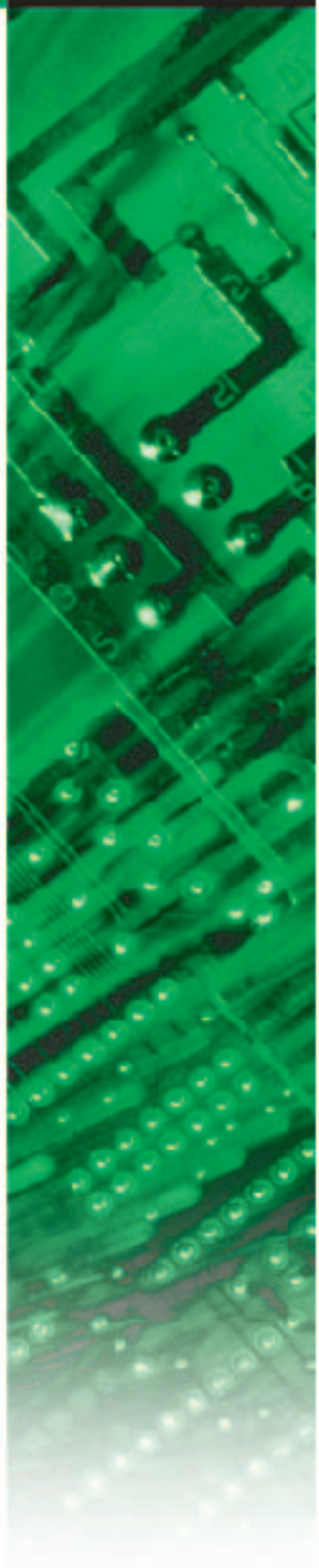
Engineered for flexibility and performance.™

AP - MIP - 06A

Inverter Series



McQuay®
Air Conditioning

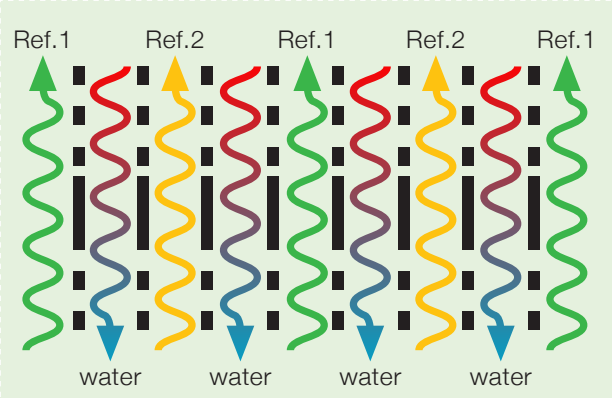
Inverter Chiller

The new series of Inverter Mini Chillers are specially designed / developed to achieve better system energy saving as well as towards perfect control during part load condition.

True Dual Circuits BPHE

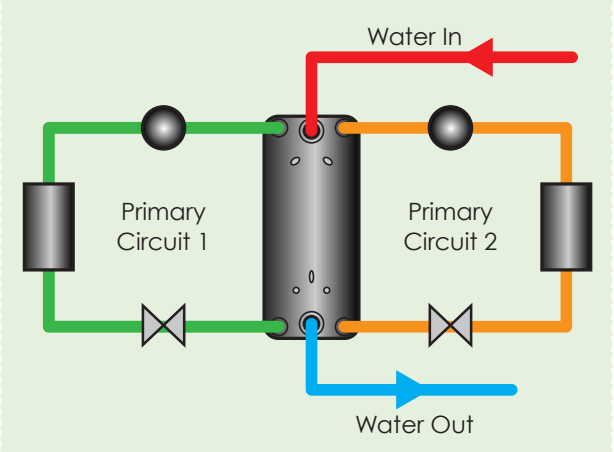
Apply sophisticated technology of true dual circuit BPHE.

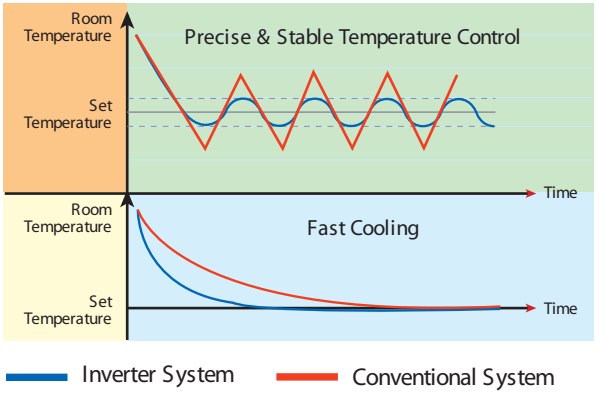
The true dual BPHE puts the secondary circuit (water) in contact with 2 primary circuits (refrigerant). So even if one primary circuit is shut off, each secondary channel is still in contact with a primary channel. These advantages have made the product the natural choice for flexible chillers, climate control applications and high-precision systems food cooling cabinets in supermarkets.



Inverter Compressor

Inverter compressor is programmed to run at the optimum speed, which is regulated by the input frequency as it can varies according to the heat load requirement.





Advantages of inverter compressor applications are:

- **LESS START & STOP** - Frequency regulated compressor resulting in lesser in the sense of start and stop of compressor, which is greatly reduce the energy consumption.
- **FAST COOLING / HEATING** - Unlike the other conventional systems, inverter compressor has the ability to produce faster cooling / heating capacity at the frequency higher than the dominant capacity frequency.
- **SMART LOADING / UNLOADING** - With the integration of built in system algorithm; inverter compressor could control the system loading and unloading sophisticatedly.
- **BETTER COMPRESSOR RELIABILITY** - Reliability of inverter compressor is always better since there is lesser ON/OFF of the system especially during the low load condition.
- **LOW STARTING SURGE** - Inverter compressor require lower starting torque and thus, resulting in lower starting current.

Built In Fan Speed

Fan speed is now controlled by the built in algorithm, resulting in cost saving since installation of external FSC (Fan Speed Controller) can be exempted. It is regulated at 100%, 70% and 50% based on the ambient and outdoor condensing temperature.

Safety Protection

- High & Low Pressure Switches
- Anti-Freeze Protection Sensor
- Discharge Temperature Sensor
- Over Pressure Relief Valve
- Water Pressure Differential Switch
- Anti-Freeze Heater on BPHE
- Compressor, Water Pump Overload Protector

Elimination Of Water Tank

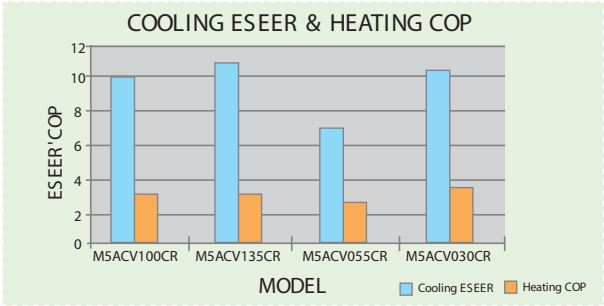
Inverter system provide constant water temperature band, or much lesser water temperature fluctuation. With this, water tank of the mini chiller system can be eliminated.

Anti Corrosion Heat Exchanger

Gold Aluminum fin is offered as the standard material of the condenser heat exchanger of this series of chiller.

High Cooling ESEER And Heating COP

The ability of the compressor to regulate at different frequency has lead to the outstanding figure in term of Cooling ESEER as well as the Heating COP of the inverter mini chiller.



Chiller Panel comes as the standard controller.

Compatible with Smartmanager

Modular Installation

A network up to 50 chillers in a system is possible. Control on the operation of the chillers will be done through the microprocessor controller. The external water piping connection can be made either from the left or right side of the unit.

INVERTER MINI CHILLER

MODEL			M5ACV030CR	M5ACV055CR	M5ACV075CR	M5ACV100CR	M5ACV135CR
NOMINAL CAPACITY (COOLING / HEATING)		btu/hr	27075 / 33000	50000 / 55000	70000 / 75000	95000 / 100000	130300 / 135500
		kcal/hr	68223 / 8461	12601 / 13861	17640 / 18900	23940 / 25200	32840 / 34150
		watt	7935 / 9841	14654 / 16120	20515 / 21981	27800 / 29300	38200 / 39700
CASING	MATERIAL		ELECTRO-GALVANIZED MILD STEEL				
	FINISH		POLYESTER POWDER				
	THICKNESS	mm	1.5				
DIMENSION	HEIGHT (H)	mm	790	1410	1460	1260	1260
	WIDTH (W)	mm	1010	1010	1150	1500	1800
	DEPTH (D)	mm	460	460	550	900	1150
WEIGHT		kg	195	198.4	215	360	560
NOISE LEVEL		db-A	58	59	60	62	64
CONDENSER							
CONDENSER COIL TYPE			CROSS FINNED TUBES				
CONDENSER FAN TYPE/DRIVE			PROPELLER/DIRECT				
FAN QUANTITY			1	2			
EVAPORATOR							
TYPE			BRAZED PLATE HEAT EXCHANGER				
PLATE MATERIAL			STAINLESS STEEL				
NOMINAL WATER FLOW		l/s	0.35 / 0.46	0.71 / 0.84	0.94 / 1.03	1.3 / 1.4	1.7 / 1.9
WATER LINE (HYDRAULIC KIT)							
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION				
	MAX. WATER OPER. PRESSURE	kPa	1000		1000	1000	
	RUNNING CURRENT	Amp	0.91	0.96	1.37	1.81	2.33
	WATER FLOW RATE (COOLING / HEATING)	GPM	5.76 / 6.6	10.9 / 11.9	15.0 / 16.3	21 / 22	27 / 30
PIPING	INSTALLATION PIPE CONNECTION	mm(in)	25.4 BSPT (1)			31.75 BSPT(1 1/4)	
	HEAD (COOLING / HEATING)	m	10.3 / 10.1	17.5 / 15	25 / 24	17.2 / 15.8	16.7 / 15.8
COMPRESSOR							
TYPE			SCROLL				
POWER SUPPLY		v/ph/Hz	380-415 / 3 / 50				
PROTECTION DEVICES			OVELOAD PROTECTION, DIFFERENTIAL AND H/L PRESSURE SWITCH				
STAGE OF CAPACITY CONTROL			0~28700	0~55000	0~75000	73000~122000	99000~149000
REFRIGERANT							
TYPE			R410A				
CONTROL			ELECTRONIC EXPANSION VALVE / CAPILLARY TUBE				

NOTE : NOMINAL VALUES ARE BASED ON 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE , 35°C AIR AMBIENT TEMPERATURE.
NOTE : NOMINAL VALUES ARE BASED ON 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE , 7°C AIR AMBIENT TEMPERATURE.
NOTE: UNIT DIMENSION WITHOUIT HYDRAULIC KIT.

* READINGS TAKEN AT RATED COMPRESSOR FREQUENCY. THE POWER INPUT AND CURRENT DIFFER DEPENDING ON THE COMBINATION OF OUTDOOR TEMPERATURE AND ENTERING WATER TEMPERATURE. FOR FURTHER DETAILS, PLEASE REFER TO TECHNICAL MANUAL.