



AIR SOURCE HEATPUMP



IMPORT BRANDS



-  saving energy
-  SAFETY
-  economical
-  environmental friendly
-  comfortable living

HIGH QUALITY PARTS

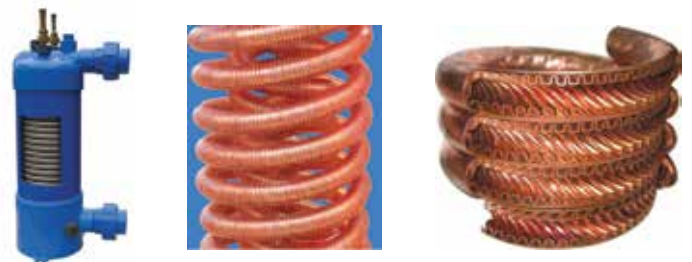
The world's top heat pump compressor COPELAND, PANASONIC, HITACHI

Adopt international famous brand, and enhanced vapor injection technology, reaching the highest level of efficiency within the air source industry. The strong kernel and high stability ensure the long life of the unit and save more operating cost.



Coil heat exchanger TITANIUM / COPPER

Coil heat exchanger, pushes water temperature up to 80 Celsius degree, and thus it can be widely used in both house and water heating, completely replacing the traditional heating equipment. High double pipe heat exchanger is good more than 2 times compared with box exchanger - consists of many red copper pipe or Titanium spring coil and put into metal box coated with high pressure anti-corrosion materials.



Double way condenser - high efficiency

Area of condenser raised to maximum - exchanger fin density increased two times more than other - to reach COP range from 3.8 to 6.5. Compared with plain films and louver fins, the hydrophilic concave-convex fins possess higher thermal efficiency. The corrugated structure makes condensed water turn into channels easily and accelerates the water discharge. Defrosting is effective. The evaporator gets rid of freezing.



Fan and Motor

The high quality of the fan and motor system ensures a quite and stable working condition and sufficient air for heat exchange.



Auto Defrosting System

4-way valve is adopted in automatic defrosting system to reach fast and high efficiency defrosting.



Wiring Connection / Slot type mother board Intelligent LED Controller

Clear and inner wiring connection provides convenience of installation and further maintenance.



Advanced all-in-one technology to realize multi functional usage.



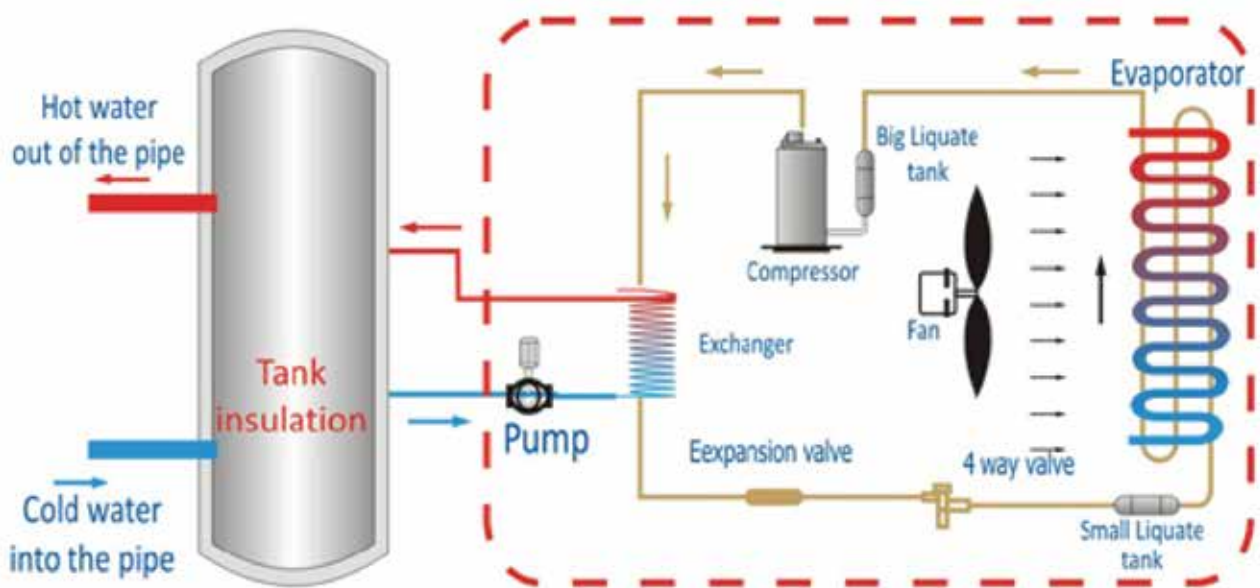
PRINCIPLE & ADVANTAGES

There are two popular types of heat pump: air to water heat pump and water to water heat pump. Air to water heat pump using air as hot source or cold source while water to water heat pump using underground temperature (water or ground heat). Air to water heat pump is the most economic and popular using on home and commercial building.

The principle of heat pump principle that the temperature moves from high temperature to low temperature. The core of heat exchanger at low temperature will compare with environmental temperature and will take the heat from environmental temperature, cooling the environment. Through the heat exchange to environment, heat exchanger will be heated to the higher environmental temperature.

The main components of a heat pump consists of compressors, fan, condenser and evaporator. Compressors requires electric power to compress and evaporate refrigerant. Fan uses a small quantity of power to continuously flow air through evaporator coils in operation. The cost of power is the cost of power to operate compressors and fans to collect freed heat to produce hot water.

OPERATIONAL PRINCIPLE DIAGRAM



Equipment	Heat pump	Diesel boiler	Gas boiler	Electric boiler
Fuel type	Electric	Diesel Oil	Liquid gas	Electric
COP	460%	70%	80%	95%
Consumption	9.04KWh	4.9 kg	1.83 m ³	42.8KWh
Cost	\$1.00	\$5.00	\$5.00	\$4.80
Management	-	Worker	Worker	-
Safety	Safety	Risk of leak, flammable	Risk of leak, flammable	Danger if leak of electric
Environmental issue	No pollution	Highly pollution, Prohibit in large city	Discharge toxic gas	No pollution

COMMERCIAL HEAT PUMP

AIR TO WATER



FEATURES

1. Case made with glavanized steel with powder paint coating (option Stainless steel SUS304)
2. High efficiency scroll heat exchanger
3. Auto ON/OFF timer settings function
4. Water flow protection function
5. Pressure protection function
6. Control box with IPX5 water protection grade
7. Intelligent controller with LCD display
8. Auto defrost to assume working on low temperature environment
9. Circulating pump (option)
10. Insulated water tank (option)

SPECIFICATION

No.	Model No.	MGS-3HP	MGS-5HP	MGS-6HP	MGS-10HP	MGS-15HP	MGS-18HP	MGS-20HP
I	HEATING CAPACITY & POWER INPUT	(Outdoor air temperature at 20 Celcius degree; Outlet water temperature at 55 Celcius degree)						
1	Heating capacity (KW)	10.5	19	22	38	42	52	72
2	Input power (KW)	2.55	4.6	5.3	9.22	10.22	12.44	17.18
3	Productivity (L/h)	226	408	473	817	903	1118	1548
4	Coefficient of performance (COP)	4.12	4.13	4.15	4.12	4.11	4.18	4.19
II	GENERAL INFORMATION							
1	Scroll compressor x pcs	Copeland x 1 pcs	Copeland x 1 pcs	Copeland x 1 pcs	Copeland x 2 pcs	Copeland x 2 pcs	Copeland x 2 pcs	Copeland x 4 pcs
2	No. of Axial fan	1 pcs	1 pcs	1 pcs	2 pcs	2 pcs	2 pcs	2 pcs
3	Refrigerant	R417A						
4	Rated outlet water temperature (°C)	55°C						
5	Max outlet water temperature (°C)	60°C						
6	Working temperature (°C)	0°C to 45°C						
7	Evaporator	Aluminium fins & copper tube - Option: Copper fins & copper tube						
8	Heat exchanger – Condenser	Copper tube in tube or in shell - Option: Double wall heat exchanger						
9	Case materials	Glavanized steel with powder paint coating - Option : Stainless steel SUS304 - Good for sea area						
10	Electric system	Schneider / Siemens						
11	Controller	Auto intelligent controller - Option: RS485, wifi, connect to BMS						
12	Protection	Low Pressure Switch - 0.05/0.15MPa ; High Pressure Switch : 2.6/3.2Mpa - Over current protection, over heat, phase loss, phase reversal, flow switch						
13	Water grade	IPX4						
14	Noise (dB)	≤52	≤55	≤55	≤66	≤66	≤68	≤70
III	ELECTRIC SPECIFICATION							
1	Input power	380V/50HZ						
2	Rate current (A)	5.0	9.0	10.4	18.2	20.1	24.6	33.7
3	Max current (A)	7.5	13.5	15.6	27.3	30.2	36.9	50.6
4	Recommended MCCB (A)	15	20	25	40	50	63	80
5	Recommended cable	3*4mm ² +2*2.5mm ²	3*6mm ² +2*2.5mm ²	3*6mm ² +2*2.5mm ²	3*10mm ² +2*4mm ²	3*10mm ² +2*4mm ²	3*10mm ² +2*4mm ²	3*16mm ² +2*6mm ²
6	Anti-electric shock rate	I	I	I	I	I	I	I
IV	WATER & AIR SPECIFICATION							
1	Water source circulating flow (m3/H)	2.50	4.50	5.00	9.00	10.00	12.00	15.00
2	Water pressure drop (KPa)	≤40	≤65	≤68	≤68	≤70	≤78	≤80
3	Inlet water pipe size (mm)	DN25	DN25	DN25	DN40	DN40	DN40	DN50
4	Nominal air flow (m3/H)	3,950	5,000	6,500	12,000	15,000	17,000	20,000
5	Fan direction	Top fan						
V	DIMENSION & WEIGHT							
1	Case dimension (LxWxH) (mm)	710*710*1070	800*800*1070	800*800*1070	1500*800*1070	1500*800*1070	1500*800*1070	1850*1000*1950
2	Net weight (kg)	90	125	135	280	372	395	482

COMMERCIAL HEAT PUMP

AIR TO WATER



No.	Model No.	MGS-25HP	MGS-30HP	MGS-35HP	MGS-40HP	MGS-44HP	MGS-52HP
I	HEATING CAPACITY & POWER INPUT	(Outdoor air temperature at 20 Celcius degree; Outlet water temperature at 55 Celcius degree)					
1	Heating capacity (KW)	92	106	125	138	158	200
2	Input power (KW)	22.12	25.54	30.34	33.41	38.07	48.19
3	Productivity (L/h)	1978	2278	2687	2966	3396	4299
4	Coefficient of performance (COP)	4.16	4.15	4.12	4.13	4.15	4.15
II	GENERAL INFORMATION						
1	Scroll compressor x pcs	Copeland x 4 pcs	Copeland x 4 pcs	Copeland x 3 pcs	Copeland x 3 pcs	Copeland x 4 pcs	Copeland x 4 pcs
2	No. of Axial fan	2 pcs	2 pcs	2 pcs	3 pcs	4 pcs	4 pcs
3	Refrigerant	R417A					
4	Rated outlet water temperature (°C)	55°C					
5	Max outlet water temperature (°C)	60°C					
6	Working temperature (°C)	0°C to 45°C					
7	Evaporator	Aluminium fins & copper tube - Option: Copper fins & copper tube					
8	Heat exchanger – Condenser	Copper tube in tube or in shell - Option: Double wall heat exchanger					
9	Case materials	Galvanized steel with powder paint coating - Option : Stainless steel SUS304 - Good for sea area					
10	Electric system	Schneider / Siemens					
11	Controller	Auto intelligent controller - Option: RS485, wifi, connect to BMS					
12	Protection	Low Pressure Switch - 0.05/0.15MPa ; High Pressure Switch : 2.6/3.2Mpa - Over current protection, over heat, phase loss, phase reversal, flow switch					
13	Water grade	IPX4					
14	Noise (dB)	≤72	≤75	≤75	≤75	≤80	≤80
III	ELECTRIC SPECIFICATION						
1	Input power	380V/50HZ					
2	Rate current (A)	43.6	50.7	60.2	66.3	75.6	95.7
3	Max current (A)	65.4	76.1	90.3	99.5	113.4	143.6
4	Recommended MCCB (A)	100	120	125	150	200	200
5	Recommended cable	3*16mm ² +2*6mm ²	3*16mm ² +2*10mm ²	3*16mm ² +2*10mm ²	3*16mm ² +2*10mm ²	3*25mm ² +2*10mm ²	3*25mm ² +2*10mm ²
6	Anti-electric shock rate	I	I	I	I	I	I
IV	WATER & AIR SPECIFICATION						
1	Water source circulating flow (m3/H)	20.00	23.00	27.00	30.00	34.00	43.00
2	Water pressure drop (KPa)	≤85	≤85	≤85	≤88	≤88	≤88
3	Inlet water pipe size (mm)	DN65	DN80	DN80	DN80	DN80	DN80
4	Nominal air flow (m3/H)	24,000	34,000	36,000	45,000	48,000	60,000
5	Fan direction	Top fan					
V	DIMENSION & WEIGHT						
1	Case dimension (LxWxH) (mm)	1750*1120*1000	2200*1100*2000	2200*1100*2000	3200*1300*2000	2005*1825*1900	2130*2140*1920
2	Net weight (kg)	582	700	720	850	1050	1200

The above specification can be changed without any notice.

SWIMMING POOL HEAT PUMP



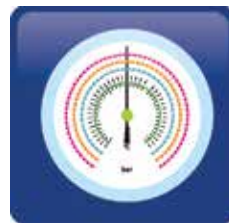
TWO TITANIUM COILS
HEAT EXCHANGER



ELECTRIC
EXPANSION VALVE



RIPPLE FIN
AIR EXCHANGER

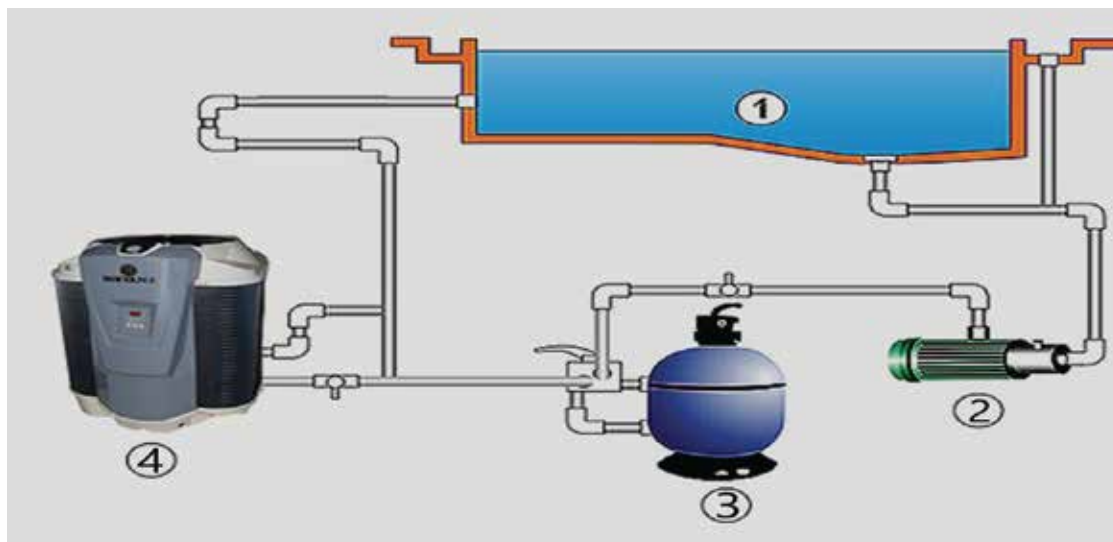


PRESSURE PROTECTION



WATER FLOW SWITCH

CONNECTION DIAGRAM



NOTES:

1. Swimming pool;
2. Pump;
3. Sand filter;
4. Heat pump

SWIMMING POOL HEAT PUMP

FEATURES

R417A

- Designed based on French NF414 standard
- Frame and case made by gavanized steel
- Simple structure and easy to install
- High anti-corrosive Titanium heat exchanger to working more than 15 years
- High efficiency compressor with R410A/R417A/R407A
- Lock water to protect current
- Smart controller and settings using high speed processor
- Touch LCD screen
- Wet coated air exchanger
- Auto defrost with inside circulatin valve
- All products checked and tested before delivery

Patented Exchanger

High Efficiency

OPTION

- Stainless steel or plastic cover
- Wireless controller
- Wireless controller with monochrome display
- Wireless controller with color display



SPECIFICATION

No.	Model No.	MGS-2HP-S	MGS-3HP-S	MGS-5HP-S	MGS-6HP-S	MGS-10HP-S	MGS-15HP-S	MGS-20HP-S	MGS-25HP-S	
I	HEATING CAPACITY & POWER INPUT (Outdoor air temperature at 25 Celcius degree; Water temperature at 30 Celcius degree)									
1	Heating capacity (KW)	9.2	12.5	22.7	26.2	45.4	62.0	85.9	109.7	
2	Input power (KW)	1.6	2.2	3.9	4.5	7.8	10.6	14.6	18.8	
3	Coefficient of performance (COP)	5.67	5.79	5.81	5.83	5.79	5.87	5.89	5.85	
II	GENERAL INFORMATION									
1	Scroll compressor x pcs	Panasonic x 1 pcs	Copeland x 1 pcs	Copeland x 1 pcs	Copeland x 1 pcs	Copeland x 2 pcs	Copeland x 2 pcs	Copeland x 4 pcs	Copeland x 4 pcs	
2	No. of Axial fan	1 pcs	1 pcs	1 pcs	1 pcs	2 pcs	2 pcs	2 pcs	2 pcs	
3	Refrigerant	R417A /R407C								
4	Rated outlet water temperature (°C)	35°C								
5	Max outlet water temperature (°C)	40°C (Option max 55°C)								
6	Working temperature (°C)	0°C to 45°C								
7	Evaporator	Aluminium fins & copper tube - Option : Copper fins & copper tube								
8	Heat exchanger - Condenser	Titanium – specialized for swimming pool								
9	Case materials	Glavanized steel with powder paint coating - Option : Stainless steel SUS304 - Good for sea area								
10	Electric system	Schneider								
11	Controller	Auto intelligent controller - Option: RS485, connect to BMS								
12	Protection	Low Pressure Switch - 0.05/0.15MPa ; High Pressure Switch : 2.6/3.2Mpa - Over current protection, over heat, phase loss, phase reversal, flow switch								
13	Water grade	IPX4								
14	Noise (dB)	≤52	≤52	≤55	≤55	≤66	≤66	≤68	≤70	
III	ELECTRIC SPECIFICATION									
1	Input power	220V / 50 Hz			380V / 50Hz					
2	Rate current (A)	3.1	4.1	7.4	8.5	14.9	20.1	27.7	35.6	
3	Max current (A)	4.6	6.2	11.1	12.8	22.3	30.1	41.5	53.4	
4	Recommended MCCB (A)	15	15	20	25	40	50	63	80	
5	Recommended cabbale	2*3+1*1.5mm ²	3*4+2*2.5mm ²	3*6+2*2.5mm ²	3*6+2*2.5mm ²	3*10mm ² +2*4mm ²	3*10mm ² +2*4mm ²	3*10mm ² +2*4mm ²	3*16mm ² +2*6mm ²	
6	Anti-electric shock rate	I	I	I	I	I	I	I	I	
IV	WATER & AIR SPECIFICATION									
1	Water source circulating flow (m3/H)	2.50	2.50	4.50	5.00	9.00	10.00	12.00	15.00	
2	Water pressure drop (KPa)	≤40	≤40	≤65	≤68	≤68	≤70	≤78	≤80	
3	Inlet water pipe size (mm)	DN25	DN25	DN25	DN25	DN40	DN40	DN40	DN50	
4	Nominal air flow (m3/H)	3,000	3,950	5,000	6,500	12,000	15,000	20,000	24,000	
5	Fan direction	Top fan								
V	DIMENSION & WEIGHT									
1	Case dimension (LxWxH) (mm)	960*320*600	710*710*1070	800*800*1070	800*800*1070	1500*800*1070	1500*800*1070	1850*1000*1949	1850*1000*1950	
2	Net weight (kg)	50	90	125	135	280	372	482	582	

The above specification can be changed without any notice.

for a

GREEN PLANET

SAVING ENERGY

FROM TODAY



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DEALER

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