



BENCHMARK[®]

20 YEARS OF EXCELLENCE

Swimming Pool Heat Pump System

When the latest **Technology**,
advanced **Safety Features**,
and unmatched **Service** come together,
a **Benchmark** is created

Benchmark excels in providing simple installations to customized Water Heating Solutions to discerning buyers.

Be it Heat Pump, Gas, Solar or Electric an amalgamation of technologies.

No wonder why our customers **Trust Us** when it comes to providing Hot Water Solution.



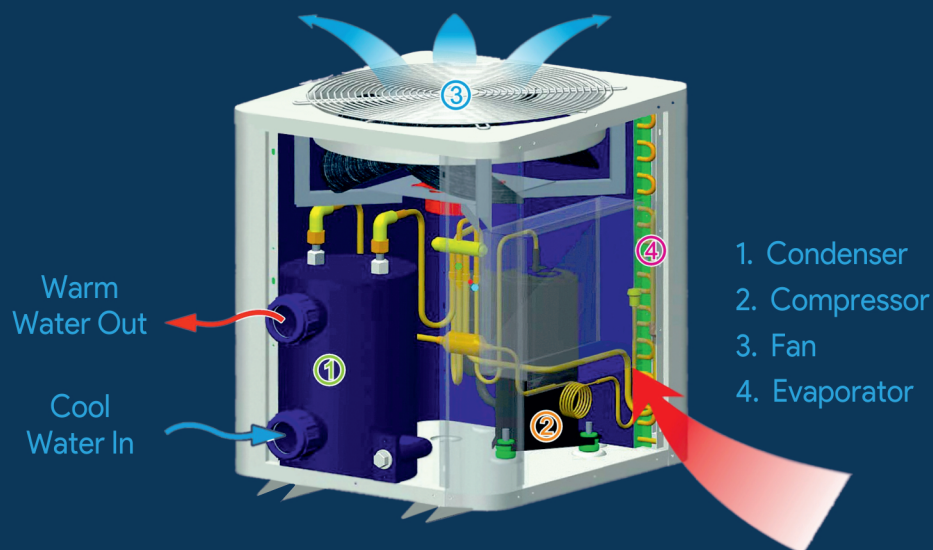
— *Setting new quality standards* —

Heat Pump

Benchmark Agencies Pvt.Ltd. began its operation in 2004 with the objective of providing world class water heaters suitable to Indian water conditions and great value for money to consumers.

- BENCHMARK introduces a Fifth Generation series in water heater with an innovative approach involving a creative design - A HEAT PUMP.
- Ultra-efficient equipment with amazing SEER [Seasonal Energy Efficiency Ratio] of more than 5.0 is the foundation feature of device performance. This reflects in drastic reduction in running cost to $\frac{1}{4}$ of resistive electrical heater, $\frac{1}{3}$ of gas heater and $\frac{1}{2}$ of oil-fired heater
- Using Reverse Carnot cycle as the principle of operation, the device has inbuilt safety feature and fully protected against electrical hazards like shocks, leakages etc.
- Electricity heats the refrigerant through compression and in turn hot refrigerant heats the water. This arrangement of two-step heating completely isolates water from electrical power and thus provides a totally safe operation.
- Can be used as a source to the single point consumer of hot water or as a centralized source for multiple uses at various outlets in the premises. Multiple applications can be supported like bathing, laundries and dish washing.
- Sturdy construction and durable design with life span of 10 to 15 years of trouble free operation with minimum of maintenance.
- Fully automatic digital control hardware and software to regulate the unmanned operation on 365x24x7 basis for temperature, flow and heat buffering of heat energy.
- Fully supporting the de-frosting phenomenon.
- Eco-friendly with zero ozone depletion layer performance and reduction of greenhouse effect.

Working Principle



Latest generation water heater working on the principle of **Reverse Carnot Cycle**

- Highly energy efficient
- 25% to 30% energy consumption as compared to conventional resistive electric heaters
- COP from 4.5 to 5.8
- Ideally suited for Swimming Pool

World-class Components

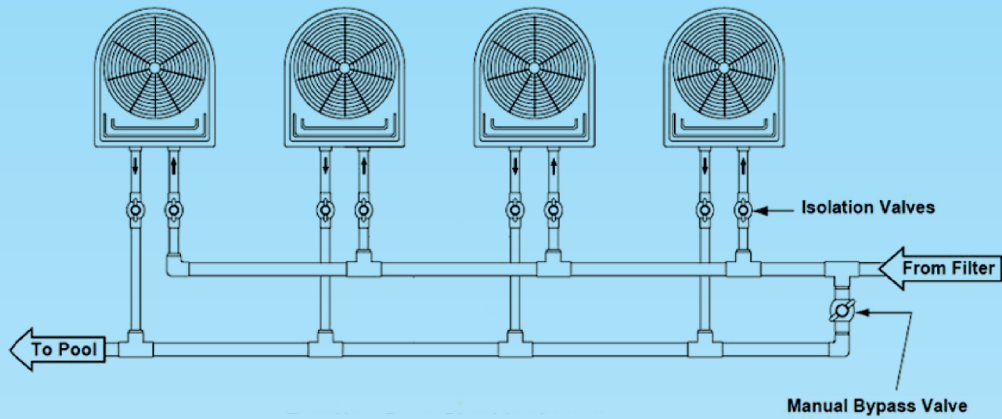
- Copeland or Panasonic scroll compressor
- R410A Refrigerant
- Emerson expansion valve
- High efficiency Titanium Tube heat exchanger
- Multi-function digital control panel

Specifications

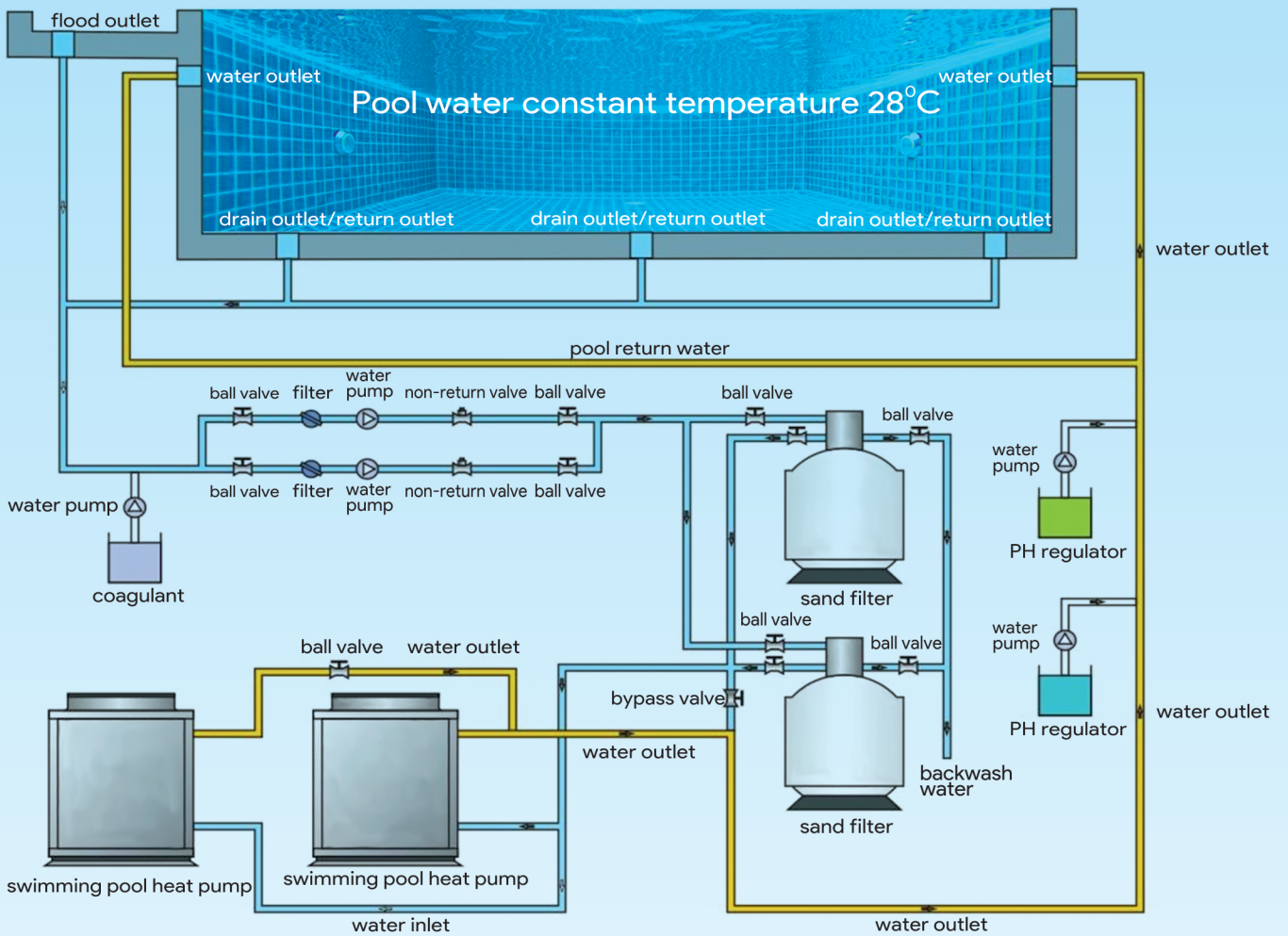
Model		BMHPSW18	BMHPSW31	BMHPSW40	BMHPSW52	BMHPSW70	BMHPSW90
		25m ³	50m ³	75m ³	100m ³	125m ³	150m ³
Air /Water 24°C/26°C	Output Power (KW)	18.80	31.0	40.0	52.0	70.0	90
	Input Power(KW)	3.16	5.85	7.5	9.8	13.2	17
	COP	5.98	5.3	5.3	5.3	5.3	5.3
	Current	14.61	11	13	16.5	25	29
Air /Water 15°C /26°C	Output Power (KW)	15.95	29	31	40	56	81
	Input Power(KW)	3.13	5.8	6.2	8.1	11.2	16.9
	COP	5.09	5.0	5.0	5	5.0	4.8
	Current	14.83	10.3	11	14	20	28.4
Air /Water 7°C /26°C	Output Power (KW)	13.17	22.7	26	33	42.1	70
	Input Power(KW)	3.10	5.27	6	7.8	9.8	16.3
	COP	4.25	4.3	4.3	4.3	4.3	4.3
	Current	14.64	9.4	10	12.6	18.56	26.9
Electric Power		220V/50Hz		380V/50Hz			
Compressor		Panasonic Scroll*1	Panasonic Scroll*1	Panasonic Scroll*2	Panasonic Scroll*2	Panasonic Scroll*2	Panasonic Scroll*4
Fan Vane		φ560×167	φ560×167	φ560×167	φ560×167	φ560×167	φ560×167
Heat Exchanger		Titanium Tube Heat Exchanger					
Refrigerant		R410A /2000g	R410A /3400g	R410A /4200g	R410A /4600g	R410A /7200g	R410A /8400g
Electric Expansion Valve		DPF3.0	DPF3.0	DPF3.0	DPF3.0	DPF3.2	DPF3.0
Defrost		Included					
Remote		5meter Signal Wire					
Cabinet		Galvanized steel sheet and sprayed baking paint					
Water Connection Port(mm)		Exterior 50mm/ Interior 40mm	Exterior 60mm/ Interior 50mm			Exterior 70mm/ Interior 60mm	
Fan Power Input (w)		400	400	400	400*2	410*2	850
Fan Power Output(w)		250	250	250	250*2	200*2	550
Fan (RPM)		850	850	850	850	930	940
Noise dB(A)		49	58	58	58	58	65
Water Flow Rate(m ³ /h)		10~12	12~15	20~25	25-30	30~40	40-50
Water Pressure Drop (Kpa)		14	15	16	18	20	30
Product Dimension(mm)		810*810*1050	810*810*1350	1580*910*1180	1580*910*1380	1750*1050*1900	2000*1100*2100
Packing Dimension(mm)		890*890*1250	890*890*1550	1650*980*1340	1650*980*1540	1900*1160*2110	2200*1300*2350
Net/Gross Weight (kg)		112/122	160/190	270/300	320/350	460/500	460/500



Multiple Heat Pump Plumbing Layout



Installation Diagram



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