

BENCHMARK[®]
20 YEARS OF EXCELLENCE

CENTRALIZED
HOT
WATER SYSTEM

HEAT PUMP | GAS | SOLAR | ELECTRIC

Setting new standards

About Benchmark

Since 2004, Benchmark has established itself as the undisputed leader in India's water heating industry. Renowned for quality, service, and relentless innovation, they have fostered a network of engineers and dealers, ensuring unwavering support for all partners. Strategic marketing has solidified their position as the preeminent gas water heater brand, while extensive R&D has led to introduction of high-pressure solar water heater, setting a new industry standard. Recognizing a market gap, Benchmark is offering complete hot water solutions, not just products, culminating in the introduction of wide range of Heat Pumps for residences, hotels, hospitals and commercial establishments, solidifying them as a one-stop shop for hot water systems.

Trust is the bedrock of Benchmark's success. They build strong relationships, fostering collaboration between their team and dealers. This synergy allows them to develop innovative solutions and deliver exceptional experiences. Technology drives their leadership, evident in industry-first products.

Benchmark boasts a comprehensive portfolio catering to diverse needs. Their commitment to cutting-edge technology is evident from rapid market acceptance of the wide range of heat pumps or working closely with city gas distribution companies for gas geysers and offering a range of png gas based water heaters.

Their expertise extends beyond India, with their solar photovoltaic (PV) division serving as technical experts in setting up a manufacturing facility for solar photovoltaic panels in the USA, a stepping stone for their vision to manufacture world-class photovoltaic products in India.

Benchmark is more than a water heating company; it's a symbol of innovation, collaboration, and trust. By harnessing the power of their 3Ts (Trust, Teamwork, Technology), Benchmark continues to redefine hot water solutions in India, offering exceptional value to all stakeholders. As they orchestrate their global expansion, Benchmark promises a future filled with sustainable and efficient green energy hot water solutions.



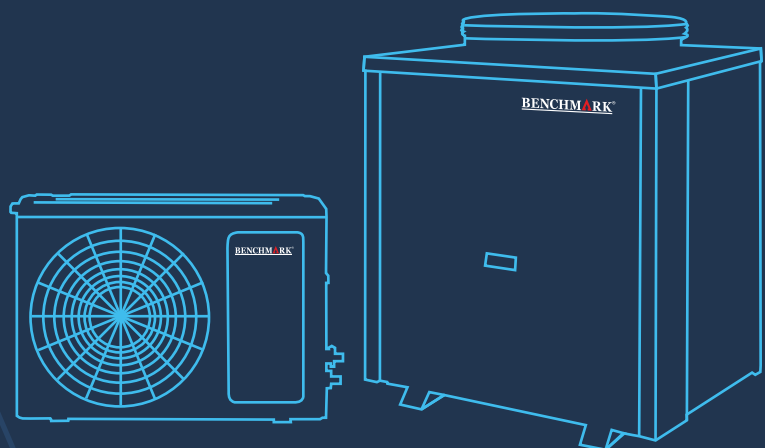


Heat Pump working principle

Benchmark Air Source Heat Pump is a water heater that sources the heat from the air to heat water. Working principle is based on the reversed carnot cycle. Usually, a Heat Pump water heater has four main components: evaporator, compressor, condenser and expansion device. The refrigerant is the medium that connects the four parts. With our technology the liquid refrigerant in the compressor is pumped to high temperature and converted into high pressure gas/vapor by using very little amount of electricity.

Benchmark Heat Pump water heater consumes only $\frac{1}{4}$ electric power compared to regular electric water heater. This way our product not just saves money, it is also an environment friendly new generation water heater.

Benchmark is also a proud supplier of split Heat Pump, swimming pool Heat Pump and high temperature Heat Pump.



Category:

All in One Heat Pump

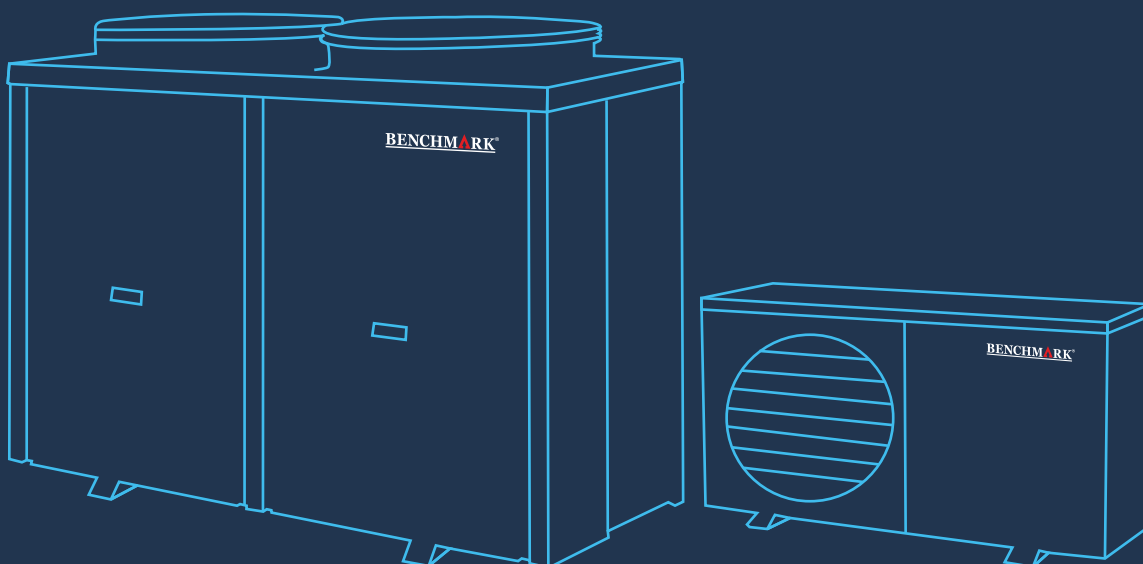
Split Heat Pump (refrigerant based circulation)

Split Heat Pump (water based circulation)

Swimming Pool Heat Pump

High Temperature Heat Pump (80°c deg)

Low Ambient Heat Pump (-25°c deg)
(EVI Heat Pump)



All-in-One Heat Pump

1st in India micro channel heat exchanger

Benchmark has developed external micro channel heat exchanger fitted water tank which avoids direct contact between water and heat exchanger. This helps in preventing scaling problems in hard water regions. Our innovative heat exchanger is wound closely on the outer surface of the water tank resulting in increased contact area, higher heating efficiency, making the system more stable with a longer service life. Our variable programming flow technology maximizes the effectiveness of heat exchanger.

Features:

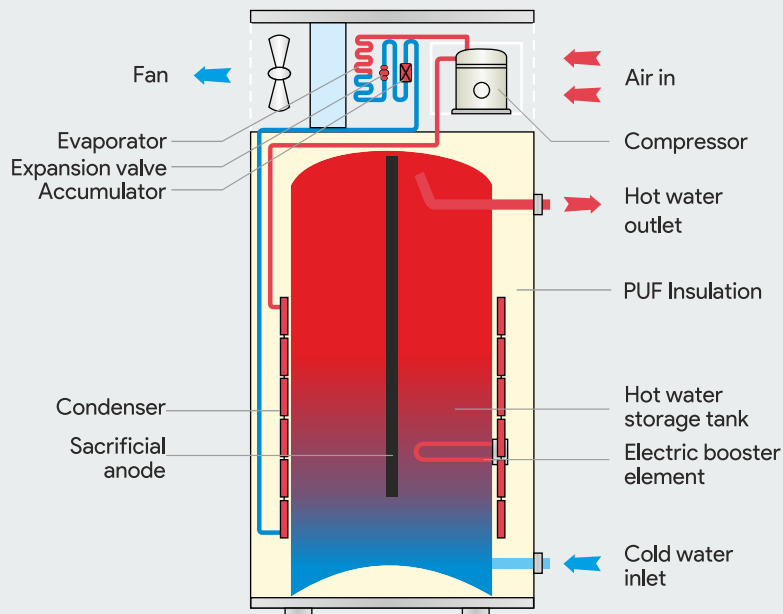
- ◆ Glass enamel tank
- ◆ Eco-friendly refrigerant
- ◆ High COP
- ◆ Panasonic special compressor
- ◆ Low noise
- ◆ Advanced anode protection
- ◆ 360° insulation
- ◆ User friendly controller
- ◆ Suitable for low temperature environment

Safety:

- ◆ High voltage protection
- ◆ Compressor over heating protection
- ◆ Hot water over heating protection
- ◆ High & low refrigerant pressure protection
- ◆ High water pressure protection
- ◆ Circuit failure protection



Working Diagram



Specifications

Model	All in One 100	All in One 160	All in One 200	All in One 300	All in One 420
Capacity (Ltr.)	100 (HWM)	160	200	300	420
Heat Pump					
Heat Pump input power	220W	420W	420W	875W	1300W
Heat Pump output	750W	1780W	1780W	3500W	5300W
Coefficient of performance	3.41	4.28	4.28	4.0	4.07
Electric heater input power	2500W	2500W	2500W	2500W	3000W
Max input power	2800W	3200W	3200W	3700W	5000W
Max current (A)	13 A	16 A	16 A	17 A	23 A
Power supply	220V/1ph/50Hz	220V/1ph/50Hz	220V/1ph/50Hz	220V/1ph/50Hz	220V/1ph/50Hz
Heating capacity in eco mode	16 L/h	38 L/h	38 L/h	78 L/h	118 L/h
Heating capacity in hybrid mode	76 L/h	91 L/h	91 L/h	135 L/h	190 L/h
Max temperature by eco mode	60°C	65°C	65°C	65°C	65°C
Max temperature by hybrid mode	75°C	75°C	75°C	75°C	75°C
Heat pump noise level	40 dBA	40 dBA	40 dBA	45 dBA	45 dBA
Refrigerant/volume	R134a/360g	R134a/870g	R134a/870g	R134a/1000g	R134a/1150g
Water heat exchanger	Micro channel	Micro channel	Micro channel	Micro channel	Micro channel
Operating temperature range	-7°C to 45°C	-7°C to 45°C	-7°C to 45°C	-7°C to 45°C	-7°C to 45°C
Tank					
Tank rated pressure	8 bar	8 bar	8 bar	8 bar	8 bar
Water inlet/outlet connection	1/2"	3/4"	3/4"	1"	1"
T/P valve connection	*	3/4"	3/4"	3/4"	3/4"
Insulation thickness/density	50mm (45kg/m ³)	50mm (45 kg/m ³)	50mm (45 kg/m ³)	50mm (45 kg/m ³)	50mm (45 kg/m ³)
Weight	65kg	102kg	114kg	150kg	207kg
Product size	470x1075 mm	525x1735 mm	525x1955 mm	650x1900 mm	735x1006x1720mm
Magnesium anode protection	300g/M ²	400g/M ²	400g/M ²	400g/M ²	400g/M ²

*Testing condition: Dry-bulb temperature 20°C, wet-bulb temperature 15°C, outlet water temperature 55°C degree.

Company reserves the right to change specifications and models without prior notice.



Split Heat Pump (refrigerant based circulation)



Features:

- ◆ Glass enamel tank
- ◆ Eco-friendly refrigerant
- ◆ High COP
- ◆ HIGHLY special compressor
- ◆ Low noise
- ◆ Advanced anode protection
- ◆ 360° insulation
- ◆ User friendly controller
- ◆ Suitable for low temperature environment

Safety:

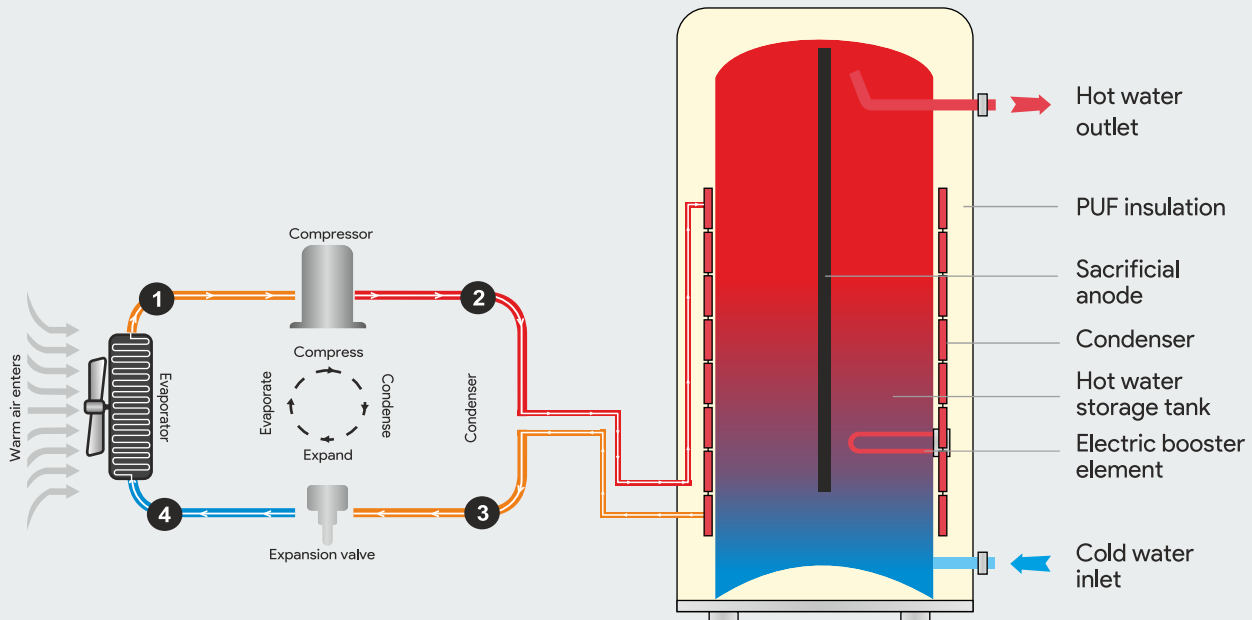
- ◆ High voltage protection
- ◆ Compressor over heating protection
- ◆ Hot water over heating protection
- ◆ High & low refrigerant pressure protection
- ◆ High water pressure protection
- ◆ Circuit failure protection

MFD BY

ISO 9001
ISO 14001



Working Diagram



Specifications

Model		BMHPRC-1P/150	BMHPRC-1P/200	BMHPRC-1P/300	BMHPRC-2P/500
Heat Pump					
Power supply	V-Hz	220V/1PH/50HZ	220V/1PH/50HZ	220V/1PH/50HZ	220V/1PH/50HZ
Working temp	°c	-5°c~43°c	-5°c~43°c	-5°c~43°c	-5°c~43°c
Max outlet water temp	°c	60°c	60°c	60°c	60°c
Output power	W	3360	3360	3360	7200
Input power	W	800	800	800	1750
COP	W/W	4.2	4.2	4.2	4.11
Rated current	A	3.71	3.71	3.71	8.08
Water heating capacity	L/h	75	75	75	155
Max input consumption	W	1190	1190	1190	2600
Max input current	A	5.49	5.49	5.49	12
Max input current in hybrid mode	A	15	15	15	30
Compressor	Type	Rotary compressor	Rotary compressor	Rotary compressor	Rotary compressor
	Brand	HIGHLY	HIGHLY	HIGHLY	HIGHLY
Refrigerant	g	R410a/800g	R410a/800g	R410a/800g	R410a/1760g
Outdoor noise level (1 meter)	dB(A)	52	52	52	55
Weight	kg	28	28	28	48
Dimension (length x width x height)	mm	765x260x530	765x260x530	765x260x530	800x300x540
Tank					
Capacity	L	150	200	300	500
Working pressure	Kg	8	8	8	8
Electric heater	kWh	2	2	2	2
Insulation material/thickness	mm	PUF/50	PUF/50	PUF/50	PUF/50
Inlet/outlet size	inch	3/4"	3/4"	1"	1"
T/P valve connection size	inch	3/4"	3/4"	3/4"	3/4"
Drain connection	inch	3/4"	3/4"	3/4"	3/4"
Size	mm	450x450x1551	470x470x1795	580x580x1845	710x710x1885
Weight	kg	48	60	87	135

*Testing condition: Dry-bulb temperature 20°c, wet-bulb temperature 15°c, outlet water temperature 55°c degree.
Company reserves the right to change specifications and models without prior notice.

Split Heat Pump (water based circulation)

Features:

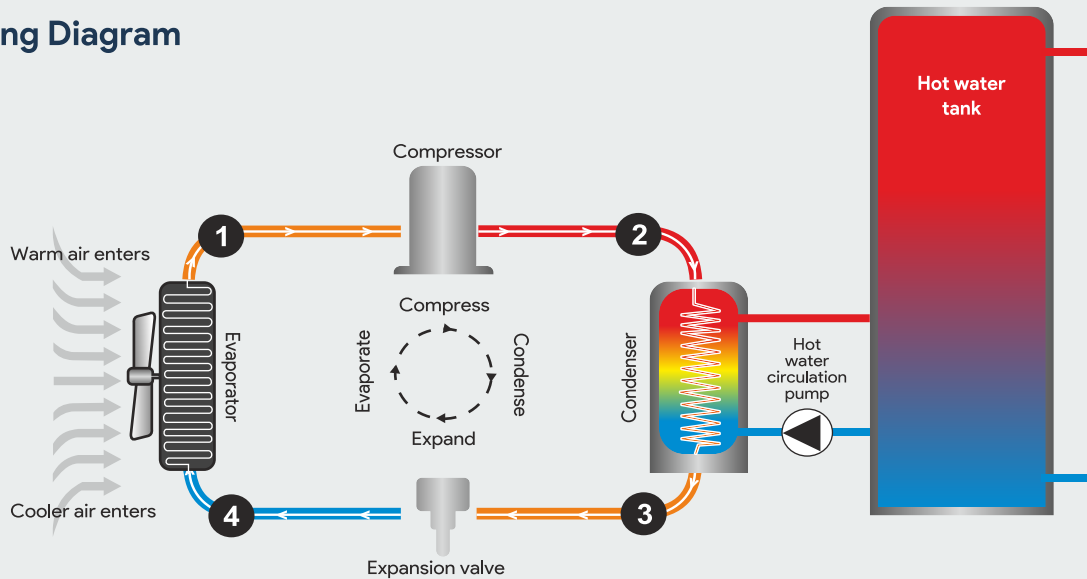
- ◆ Glass enamel tank
- ◆ Eco-friendly refrigerant
- ◆ High COP
- ◆ Panasonic special compressor
- ◆ Low noise
- ◆ Advanced anode protection
- ◆ 360° insulation
- ◆ User friendly controller
- ◆ Suitable for low temperature environment
- ◆ Hot and cold water options

Safety:

- ◆ High voltage protection
- ◆ Compressor over heating protection
- ◆ Hot water over heating protection
- ◆ High & low refrigerant pressure protection
- ◆ High water pressure protection
- ◆ Circuit failure protection



Working Diagram



Specifications

Heat Pump		BMHP 4.7/300	BMHP 6.5/300	BMHP 6.5/400	BMHP 6.5/500	BMHP 9.3/500
Power supply	V-Hz	220V/1PH/50HZ				
Working temp	°c	-5°c~43°c				
Min/max outlet water temp	°c	55/60°c				
Output heating capacity	kWh	4.64	6.5	6.5	6.5	9.28
Hot water ($\Delta T = 40^\circ$ degree)	L/h	100	140	140	140	200
Input power	kWh	1.22	1.71	1.71	1.71	2.45
COP	W/W	3.80	3.80	3.80	3.80	3.80
Rated current	A	6.3	8	8	8	11.3
Compressor/brand		Rotary/Panasonic				
Refrigerant		R410a				
Condenser		Copper tube in shell				
Evaporator		Ultra gold color hydrophilic aluminium				
Wire controller		Intelligent & LCD				
Set temp range	°c	20~60	20~60	20~60	20~60	20~60
Auto defrosting function		Included	Included	Included	Included	Included
Water pump		Wilco	Wilco	Wilco	Wilco	Wilco
Water flow m3		2	2	2	2	2
Outdoor noise level (1 meter)	dB(A)	52	52	52	52	52
Dimension (length x width x height)	mm	930x360x560	930x360x560	930x360x560	930x360x560	1000x370x630
NW/GW	kg	50/53	55/58	55/58	55/58	70/74
Δ Testing condition: Ambient dry/wet bulb temp: 20°c/15°c; water inlet outlet temp: 15°c/55°c.						
Tank						
Capacity	Ltr	300	300	400	500	500
Working pressure	bar	8	8	8	8	8
Inner coating		Glass enamel coating				
Insulation thickness	mm	50	50	50	50	50
Insulation material		PUF	PUF	PUF	PUF	PUF
Inlet/outlet connection	inch	1"	1"	1"	1"	1"
Heat Pump circulation connection	inch	3/4"	3/4"	3/4"	3/4"	3/4"
Flange	mm	*	*	*	*	*
Electric heater connection	inch	1"	1"	1"	1"	1"
Electric heater	kWh	4	4	4	3x2=6	3x2=6
Dimension (dia x height)	mm	650x1500	650x1500	650x1900	710x1900	710x1900
Weight	kg	89	89	118	155	155

Company reserves the right to change specifications and models without prior notice.

Split Heat Pump (water circulation based)



Features:

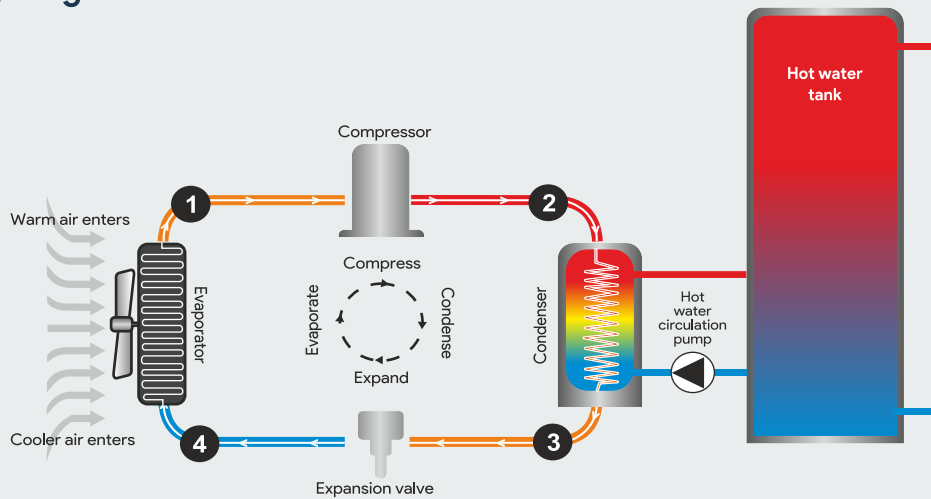
- ◆ Glass enamel tank
- ◆ Eco-friendly refrigerant
- ◆ High COP
- ◆ Low noise
- ◆ Advanced anode protection
- ◆ 360° insulation
- ◆ User friendly controller
- ◆ Suitable for low temperature environment
- ◆ Hot and cold water options

Safety:

- ◆ High voltage protection
- ◆ Compressor over heating protection
- ◆ Hot water over heating protection
- ◆ High & low refrigerant pressure protection
- ◆ High water pressure protection
- ◆ Circuit failure protection



Working Diagram



1. Cold refrigerant absorbs heat from the air/water and becomes warm refrigerant.
2. Warm refrigerant gets compressed as hot refrigerant.
3. Hot refrigerant transfers heat to water.
4. Hot refrigerant becomes cold after expanding.

Specifications

Heat Pump		BMHP 9.3	BMHP 13	BMHP 19	BMHP 39	BMHP 56	BMHP72
Power supply	V-Hz	220V/1PH/50HZ	415/3/50				
Working temp	°c	-5°c~43°c					
Min/max outlet water temp.	°c	55/60°c					
Output heating capacity	kWh	9.28	13	19	39	56	72
Hot water ($\Delta T = 40^\circ$ degree)	L/h	200	280	410	820	1200	1550
Input power	kWh	2.45	2.8	4.3	8.47	12.73	17.5
COP	W/W	3.80	4.60	4.40	4.60	4.40	4.1
Rated current	A	11.3	4	8	15	20	30
Compressor/brand		Rotary/Panasonic		Scroll/Emerson Copeland			
No. of compressor	PCS	1	1	1	2	2	4
Refrigerant		R410a		R417a			
Condenser		Copper tube in shell					
Evaporator		Ultra gold color hydrophilic aluminium					
Wire controller		Intelligent & LCD					
Set temp range	°c	20~60					
Auto defrosting function		Included					
Water pump		Wilo		Extra			
Water flow m3		2	2.5	2.5	7	10	15
Outdoor noise level (1 meter)	dB(A)	52	65	65	65	68	68
Dimension(L*W*H)	mm	1000x370x630	710x710x850	810x810x1050	1450x705x1180	1750x1050x1900	2000x1100x2060
NW/GW	kg	70/74	100/115	147/170	280/320	450/510	650/690
Δ Testing condition: Ambient dry/wet bulb temp: 20°c/15°c; water inlet outlet temp: 15°c/55°c.							

Glass Enamel Tank					
Capacity	Ltr	800	1000	1500	2000
Working pressure	bar	8	8	8	8
Inner coating		Glass enamel coating			
Insulation thickness	mm	50	50	50	50
Insulation material		EPS			
Inlet/outlet connection	inch	1"	1.1/2"	2"	2"
Heat Pump circulation connection	inch	1.1/2"	1.1/2"	1.1/2"	1.1/2"
Flange	mm	200	200	200	200
Electric heater connection	inch	1.1/2"	1.1/2"	1.1/2"	1.1/2"
Electric heater	kWh	Optional	Optional	Optional	Optional
Dimension (dia x height)	mm	900x1880	1000x1920	1200x2000	1400x2255
Weight	kg	210	238	367	420

Company reserves the right to change specifications and models without prior notice.

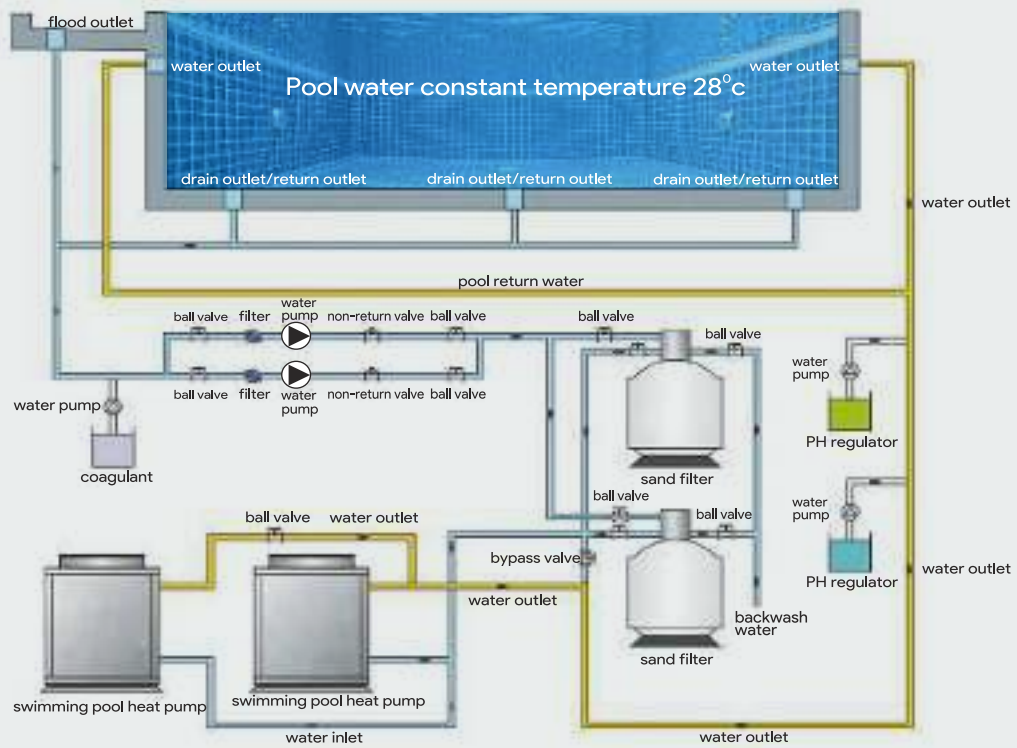
Swimming Pool Heat Pump

World-class components

- ◆ Copeland or Panasonic scroll compressor
- ◆ R410A refrigerant
- ◆ Emerson expansion valve
- ◆ High efficiency titanium tube heat exchanger
- ◆ Multi-function digital control panel



Installation Diagram



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 (kWh)	18.80	31.0	40.0	52.0	70.0	90
	Input power (kWh)	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 (kWh)	15.95	29	31	40	56	81
	Input power (kWh)	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 (kWh)	13.17	22.7	26	33	42.1	70
	Input power (kWh)	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		5 meter 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	400x2	410x2	850x2
Fan power output (w)		250	250	250	250x2	200x2	500x2
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)		810x810x1050	810x810x1350	1580x910x1180	1580x910x1380	1750x1050x1900	2000x1100x2100
Packing dimension (mm)		890x890x1250	890x890x1550	1650x980x1340	1650x980x1540	1900x1160x2110	2200x1300x2350
Net/gross weight (kg)		112/122	160/190	270/300	320/350	460/500	460/500

Company reserves the right to change specifications and models without prior notice.

High Temperature Heat Pump (80°C deg)

High temperature Heat Pumps are for industrial use that can deliver temperature up to 80 degree and co efficient of performance (COP) upto 3.2



Specifications

Model		BMHPHT-9	BMHPHT-14	BMHPHT-28	BMHPHT-42
Power supply	V/PH/HZ	220V/50HZ/1PH	380~415V 3PH 50HZ		
Rated heat production capacity	kWh	9	14	28	42
Rated input	kWh	2.4	3.5	7	11
Max input	kWh	2.8	4.2	8.4	13
Rated input current	A	11	6.5	13	20
Max input current	A	13.5	7.8	15.6	23.5
Outlet water temp	°c	65			
Max outlet water temp	°c	80			
Water heating capacity	L/h	190	270	540	810
Refrigerant		R134A	R134A	R134A	R134A
Compressor brand		Copeland	Copeland	Copeland	Copeland
Compressor model		ZW34KAE	ZW61KSE	ZW61KSE	ZW79KSE
Compressor type		Scroll	Scroll	Scroll	Scroll
Compressor quantity	Unit	1	1	2	2
EEV		DPF2.4	DPF3.0	DPF3.0	DPF3.2
Fan motor		YDK90-6	YDK250-6	YDK250-6	YSWF102L60P6
Fan vane		φ490×125	φ560×167	φ560×167	
Fan qty	Unit	1	1	2	2
High pressure switch	Mpa	2.4Mpa-3.0Mpa	2.4Mpa-3.0Mpa	2.4Mpa-3.0Mpa	2.4Mpa-3.0Mpa
Low pressure switch	Mpa	0.05/0.15Mpa	0.05/0.15Mpa	0.05/0.15Mpa	0.05/0.15Mpa
Ac contactor		CJX3201	CJX3201	CJX3201	CJX3201
Sound level	dB(a)	65	65	68	68
Water inlet/outlet direction	Inch	G1"	G1"	G1½"	G1½"
Water flow rate	m3/h	2.1	3.5	7	10.5
Outdoor unit air outlet		Top Discharge Air Outlet			
Water-refrigerant heat exchanger		Shell Pipe Type Heat Exchanger			
Working ambient temp	°c	0~40			
Outline dimension L*W*H	(mm)	710*710*850	810*810*1050	910*1580*1380	1750×1050×1900
Packing dimension L*W*H	(mm)	840*840*1030	950*950*1250	980*1650*1550	1800×1100×2080
Net weight	kg	100	130	250	460
Gross weight	kg	115	160	300	530

Low Ambient Heat Pump (-25°C deg)

(EVI Heat Pump)



Benchmark air source heat pump EVI technology

Enhance vapor injection (EVI) is the latest scroll compressor technology. Based on EVI compressor, the refrigerant in the EVI circuit enters the compressor again, after the secondary compression and enters the system, increasing the enthalpy of the refrigerant.

Specifications

Model		BMHPLT-10	BMHPLT-13	BMHPLT-17	BMHPLT-34
Power Supply	V/Ph/Hz	220-240V/1PH/50HZ	220-240V/1PH/50HZ	380-415V/3PH/50HZ	380-415V/3PH/50HZ
*Ambient temp (Dry bulb/wet bulb): 7°C/6°C, water temp (In/out): 30°C/35°C					
Output	kWh	10.3	13.6	17.1	34.2
Input	kWh	2.59	3.43	4.31	8.57
COP	W/W	3.98	3.97	3.97	3.99
**Ambient temp (Dry bulb/wet bulb): 2°C/1°C, water temp (In/out): 30°C/35°C					
Output	kWh	9.1	12	15.1	31
Input	kWh	2.56	3.39	4.24	8.73
COP	W/W	3.55	3.54	3.56	3.55
***Ambient temp (Dry bulb/wet bulb): -7°C/-8°C, water temp (In/out): 30°C/35°C					
Output	kWh	7.3	9.8	12.2	24.5
Input	kWh	2.46	3.28	4.09	8.22
COP	W/W	2.97	2.99	2.98	2.98
****Ambient temp (Dry bulb/wet bulb): -15°C/-16°C, water temp (In/out): 30°C/35°C					
Output	kWh	5.5	7.25	9.1	18.2
Input	kWh	2.32	3.07	3.82	7.62
COP	W/W	2.37	2.36	2.38	2.39
****Ambient temp (Dry bulb/wet bulb): 35°C/24°C, water temp (In/out): 12°C/7°C					
Output	kWh	5.5	7.2	9	18
Input	kWh	2.39	3.13	3.91	7.79
EER	W/W	2.3	2.3	2.3	2.31
Compressor	N/A	Copeland scroll EVI	Copeland scroll EVI	Copeland scroll EVI	Copeland scroll EVI
Compressor model		ZW34KSE	ZW52KSE	ZW61KSE	ZW61KSE
Compressor qty	pc	1	1	1	2
Fan motor	N/A	Side blowing	Side blowing	Side blowing	Side blowing
Fan motor model		YDK-90-6	YDK-100-4M	YDK-100-4M	YDK-200-6
Fan motor qty	pc	1	2	2	2
Refrigerant	N/A	R407C	R407C	R407C	R407C
Exchanger 1		Tube shell type exchanger			
Exchanger 2		Flat type exchanger			
Evaporator heating belt		Included			
Compressor heating belt		Included			
Copper tube insulation		Included			
Inside casing insulation		Included			
Max water temp	°C	55			
Refrigerant control		Electric expansion valve			
Defrosting		4-way valve reverse auto defrosting			
Working temp	°C	Min: -20/Max: +43			
Nozzles size	Inch	1	1	1	1.5
Water flow rate	m3/h	2.5~3.0	3.5~4.0	3.5~4.0	6.0~6.5
Noise	dB(a)	60	65	65	68
Unit dimension	cm	850×520×123	1305×505×1245	1305×505×1245	1565×575×1710
N.W/G.W	kgs	100/120	145/170	145/170	330/370

Company reserves the right to change specifications and models without prior notice.

Storage Gas Water Heater



BRADFORD WHITE & **BENCHMARK**

100% Made in USA

**100% Indian service by
Benchmark**



- ✓ Honeywell ICON system™
- ✓ Vitraglas® lining
- ✓ Hydrojet® total performance system
- ✓ Defender safety system®
- ✓ 6 year warranty on tank*
- ✓ Resettable thermal switch
- ✓ 2" Non-CFC puf insulation
- ✓ T&P relief valve
- ✓ Maintenance free

Manufactured by
No.1 water heater company of USA

Hydrojet® total performance system



Bradford White's Hydrojet® total performance system does much more than clean the tank!



- ◆ Greatly reduces harmful sediment build-up
- ◆ Efficient mixing reduces and balances thermal stratification
- ◆ Improves first hour delivery
- ◆ Improves overall operating efficiency
- ◆ Lengthens the life of the water heater
- ◆ Reduces energy costs
- ◆ Provides more hot water for the money
- ◆ Standard equipment on top connect models - no extra cost

Vitraglas® tested-tough water heater tank protection

In 1951, Bradford White invented a unique tank lining for water heaters and named it Vitraglas®.



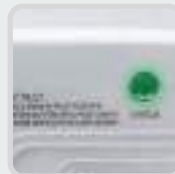
- ◆ Provides unsurpassed protection from the highly corrosive effects of hot water
- ◆ Testing proves that the unique formulation of Vitraglas® is superior to other water heater tank enamel linings
- ◆ Vitraglas® enamel lining is uniquely formulated and applied to the water heater tank, head, base, and heat exchanger tube(s)
- ◆ Automatic spray application system maintains consistent thickness
- ◆ Vitraglas® is bonded to the steel surface by firing at a temperature of over 1600°F producing a superior, durable, corrosion resistant, and long-lasting lining
- ◆ Unique compound structure allows the Vitraglas® lining to expand and contract with the steel tank
- ◆ Suitable for potable hot water applications
- ◆ Separate immersed thermowell



Defender safety system®

Bradford White's defender safety system® is a proven combustion system that resists the ignition of flammable vapors outside the water heater.

- ◆ Featuring advanced ScreenLok®
- ◆ Technology flame arrestor
- ◆ Air scrubbing water heater jacket and combustion chamber base
- ◆ Resettable thermal switch
- ◆ Proven low NOx design
- ◆ Virtually maintenance free
- ◆ Combustion chamber sight window



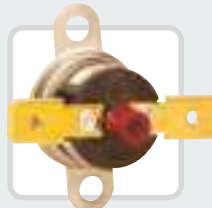
Gas control valve with exclusive green LED indicator



Integrated piezo igniter



Sight window to combustion chamber



Resettable thermal switch



Thermopile (no electricity required)

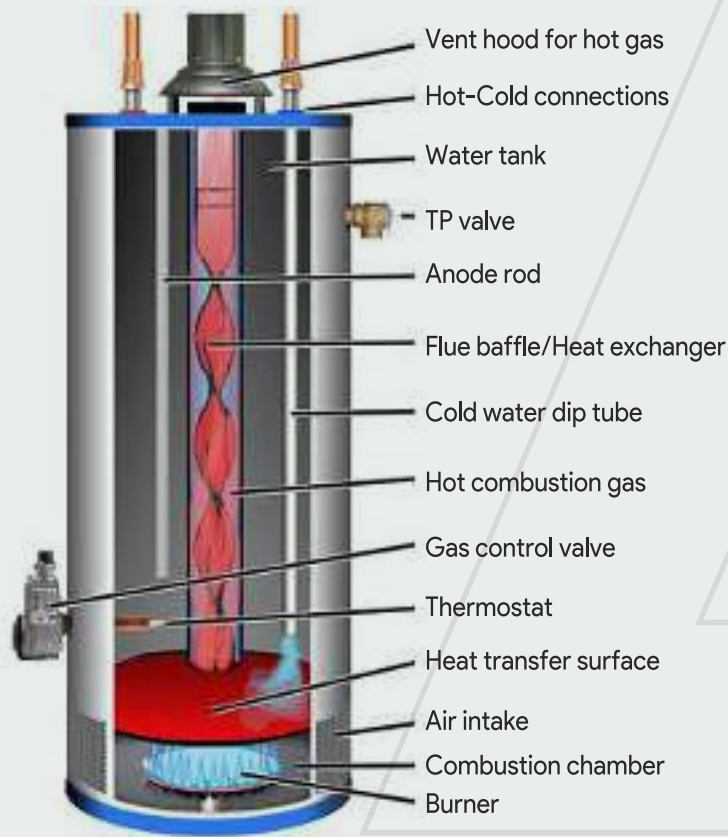
ICON system™ gas control

Bradford White's ICON system™ is much more than a gas valve. It's a revolutionary advance in water heating control technology available only to the professional installer and wholesaler.



BRADFORD WHITE
ICON
System™

- ◆ Advanced control system for accurate water temperatures
- ◆ Exclusive software for enhanced operational performance
- ◆ Intelligent diagnostics to assist in troubleshooting
- ◆ Exclusive "green LED" Indicator
- ◆ Pilot-ON indication
- ◆ Millivolt powered control requires no external electricity
- ◆ Separate immersed thermowell



American Certified



Storage gas water heater							
Model	RG230T6N(TALL)	RG230S6N(SHORT)	RG240T6N(TALL)	RG240S6N(SHORT)	RG2350T6N	RG275H6N	RG2100H6N
Capacity (liter)	114	114	151	151	189	284	379
BTU/hr. input	32000	30000	40000	40000	40000	76000	80000
kWh input	9.4	8.8	11.7	11.7	11.7	22.3	23.4
Flow rate ($\Delta T 50^{\circ}C$)ltr/hr.	129	121	163	163	163	310	322
Gas type	Pipe natural gas						
Gas pressure	20 mbar						
Working pressure/test pressure	10/20 bar						
Water inlet/outlet size (inch)	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1 1/4"
Gas inlet size	1/2"						
Product dimension (inches) height	60	50	60	52	60	62	71
Diameter	18	20	20	22	22	26	28
Weight (kg)	53	52	61	63	70	109	188

• For commercial installations warranty on tank for 3 years
 Company reserves the right to change specifications and models without prior notice.

Solar Water Heater



A closed loop jacketed solar water heater

Close loop double enameled boiler technical data

- ◆ **Water storage tank:** Consists of hot rolled steel, 2.5mm thick with double internal layer of enamel, processed at 860°C, according to DIN 4753 Standard.
- ◆ **Double jacket heat exchanger:** Consisting of cold rolled steel, 1.5mm thick, for the function of the closed loop circuit.
- ◆ **Thermal insulation:** Ecological, incombustible and water-soluble high-density (>50kg/m³) expanded polyurethane surrounds the water storage tank and jacket for minimum heat loss, maintaining the hot water temperature.
- ◆ **Cathode protection:** Magnesium anode rods for protection against corrosion and mineral deposits caused by electrolytic reactions.
- ◆ **Heating element:** Auxiliary energy back up with inbuilt electric heater of 2000watts.

Flat Plate Collectors

- ◆ **Header:** Copper tubes $\varnothing 22 \times 0.7$ mm (99,90% minimum copper content).
- ◆ **Risers:** Copper tubes $\varnothing 8 \times 0.4$ mm (99,90% minimum copper content).
- ◆ **Absorbing surface:** High selective treatment (with $\alpha=95\%$, $\epsilon=5\%$) on aluminum surface with minimum thickness 0.5mm. Laser welding between copper risers and aluminum absorbing surface.
- ◆ **Back insulation:** Rock wool special for solar thermal collectors. Thickness 30mm.
- ◆ **Side insulation:** Rock wool special for solar thermal collectors. Thickness 20mm.
- ◆ **Glazing:** Tempered solar glass, with 91.00% minimum solar transmittance measured in SPF laboratory.
- ◆ **Encasing:** Aluminum frame, powder coated in metallic color RAL9006.

Technical data			
Model	200	300	500
Capacity [lt]	200	300	500
Dimensions of tank [dia x length] (mm)	580x1356	580x1970	696x2120
Maximum tested pressure [bars]	15	15	15
Maximum working pressure [bars]	10	10	10
Collector gross area [m ²]	2.37	2.00	2.00
Collector absorber area [m ²]	2.23	1.87	1.87
Collector total dimensions [mm]	1930x1230x86	1980x1010x86	1980x1010x86
No of collector	1	2	3
System dimensions (length x dia x Height)	1200x2100x1950	2100x2100x1950	3000x2200x1500
Weight empty [kg]	150kg	220kg	310kg



Solar water heater projects

BENCHMARK offers a total turnkey solution for centralized **Solar hot water heater systems** for community (residential), commercial as well as Industrial needs. A dedicated and specialized team of skilled engineers provide a strong technical platform from conceptualization/design at a starting point of project to integration/commissioning to end with. We have picked up the state of the art solar modules/equipments from the global market to suit the Indian condition for best performance coupled with the latest technology and assembly techniques.

Different architecture involving **Evacuated Vacuum Tubes, Heat Pipes, and Solar Thermal Panels** as per the project suitability is our expertise based out of our rich experience in the field. We also offer consulting /auditing of the piping design for the efficient project implementation as part of our services.

Advance controls including supplementary energy (gas or electricity) management, data acquisition, remote monitoring and maintenance is also offered.

A **time tested fully automated and integrated** solar and hybrid water heating system for builders for public and private colonies, institutes and various types of industries.



Storage Electric Water Heater

- ✔ Glass coated steel inner tank
- ✔ Adjustable thermostat and cutout
- ✔ PUF insulation
- ✔ T/P valve protection
- ✔ High pressure tolerance
- ✔ Magnesium anodes for hard water
- ✔ Non return and pressure relief valve



MFD BY
ISO 9001
ISO 14001



Features

Glass coated steel inner tank

Unique glass coated inner tank made from thick steel and glass coated by baking process at 860°C to withstand high water pressure and prevent corrosion.

Adjustable thermostat and cutout

Adjustable **EMERSON** thermostat with high accuracy and precision to regulate water temperature up to 75°C to optimize energy consumption. A secondary protective device fitted on all water heaters to cut off the electrical heating in case of excessive high temperature with “manual reset” to avoid any hazardous situation.

Heating element

In water heaters, the heating element is made from a special alloy, incoloy, which prevents scale formation and corrosion for a longer period of time, especially in areas with hard water.

PUF insulation

All water heaters are insulated with polyurethane foam (PUF)

T/P valve protection

All water heaters are fitted with high temperature and high pressure safety valve.

High pressure tolerance

All water heaters are designed to withstand the high working water pressure up to 7 bars, make them ideal for high rise buildings and pressure pump applications.

Magnesium anodes for hard water

Non return and pressure relief valve

Specifications					
Model	E200/3	E300/4	E400/4	E500/6	E500/18
Capacity (L)	200	300	400	500	500
Max working pressure (bar)	8				
Electric heater (kWh)	3kWh	4kWh	4kWh	3x2=6kWh	6x3=18kWh
Rated working current (A)	23	19	19	28	28
Power supply	220/1/50				415/3/50
Insulation thickness (mm)	30	50	50	50	50
Insulation material	Polyurethane foam (PUF)				
Waterproofing grade	IPX4				
Connection (inch)					
Inlet/outlet	3/4"	1"	1"	1"	1"
Heat Pump circulation	*	3/4"	3/4"	3/4"	3/4"
T/P valve	3/4"	3/4"	3/4"	3/4"	3/4"
Drain	3/4"	3/4"	3/4"	3/4"	3/4"
Dimensions					
Dia x Height (mm)	480x1640	650x1500	650x1900	710x1900	710x1900
Weight (kg)	66	89	118	155	155

Company reserves the right to change specifications and models without prior notice.

Heat Pump installations



SVP hospital (1700 beds) - Ahmedabad

PLC based multi-energy hot water systems
14000 lpd solar, 4000 lph heat pump &
12000 lph gas system with
35000Ltr storage PLC based system

Sardardham (400 rooms/1600 students) Ahmedabad

5000Ltr x 39kWh (2nos) x 3nos
heat pump system



Hotel Park Inn (100 rooms) - Surat

6000Ltr x 39kWh (2W + 1S)
heat pump system

Suzuki motors (125 rooms) Mehsana

4000Ltr x 45kWh x 4nos
heat pump



**Hotel Regenta (110 rooms)
Ahmedabad**

PLC based solar water heater
controlled temperature
10000Ltr solar with heat pump backup



**Hotel Radisson (100 rooms)
Nashik**

6000Ltr x 39kWh (2W + 1S)
heat pump system

**Radhika beach resort (20 cottages)
Diu**

420Ltr All in one heat pump x 24 nos



SNK school - Rajkot

250000Ltr x 52kWh x 3nos
swimming pool heat pump

Gas water heater installation



Vallabh ashram - Valsad

284Ltr x 4nos
for 200 students hostel

Vallabh ashram - Valsad

380Ltr x 9nos
for 600 students hostel



GCS medical hostel - Ahmedabad

189Ltr x 3nos
for 35 rooms/75 students

Enem hospital - Surat

189 x 4nos
for 40 rooms hospital



Solar water heater installation

SVP hospital (1700 beds) - Ahmedabad

500Ltr x 28nos
14000 lpd solar water heating system
(part of comprehensive hot water system)



GCS hospital - Ahmedabad

300Ltr x 20nos
6000 lpd solar system



Hotel 'K' - Entebbe, Uganda

3000 lpd split solar system



Enjoy residency - Surat

PLC based 9000 lpd solar with
gas back up system

Some of our esteemed clients

Builder & Developer



Hotel & Resort






Hospital

	 B.T. Savani Kidney Hospital	 CIMS Care Institute of Medical Sciences	 CENTURY CANCER HOSPITAL	 GCS Medical College Hospital & Research Centre
	LG Hospital Ahmedabad	 MAHAVIR HOSPITALS	 Mission Health Physiotherapy Fitness Nutrition	Nagri Eye Hospital
 PUNISKA Puniska Healthcare Private Limited	 SVP	 Sterling HOSPITALS	 TATA MEDICAL CENTER	 Vidhayabharti Trust, Bardoli

Corporate & Industries

Trusts

				
				
Nathdwara Temple Board Shrinathji				



BENCHMARK[®]

Benchmark Agencies Pvt. Ltd.

Regd. Office: 1017-18, Sakar IX, Ashram road,
Ahmedabad.-380 009, Gujarat, INDIA. +91 79 48 95 3001

Showroom : Basement, 'Shantam' Nr. Havmor, Navrangpura,
Ahmedabad-380 009, Gujarat, INDIA, +91 79 26 40 9007

Ahmedabad 93138 05205, 93138 05204 • Surat 98241 99344
Rajkot 99241 48318 • Vadodara 93138 05205
North India 93138 05202 • Madhya Pradesh 93138 05209
Maharashtra & Goa 92720 68656 • Mumbai 9699361888, 9892488030
South India 99241 48303

e-mail: sales@benchmarkagencies.com
Website: www.benchmarkagencies.com

