adreco™

HEAT PUMP

Air Source Heat Pump

ABOUT US

Adreco™ is a Heat Pump company with focus on developing latest and sustainable technology in the field of Heating, Ventilation & Cooling since 2018. We are driven by extensive research and development to design energy efficient Heat Pump for diverse application such as Hot Water generation, Pool Heating, Space Heating etc. Our dedicated team has done a thorough study of diverse geography of India to be able to design a Heat Pump system which can deliver high performance in any climatic conditions from Bone Chilling mountains of Ladakh, to Hot and Humid South to wettest Northeast.

In recent years Heat Pump market has picked up quite aggressively in a short span of time based on the attractive selling preposition of generating Energy saving up to 60 to 80% as compared to conventional systems. This has allowed many big brands along with unprofessional, unskilled organization or individual to enter the market. This has created a chaotic situation for consumer, to either buy expensive branded Heat pumps with good quality, or cheaper options at your own risk and no after sales services. Also lack of knowledge is common in 80% of Heat Pump suppliers in Indian market and has no clue as how to design the heat pump system based of one's specific requirement, climatic condition, site conditions etc. resulting in failure of system or frequent breakdowns.

Adreco™ is here to bridge the gap between top quality Heat Pump, Practical System design, Services and pocket friendly budget.

Vision: Top quality solutions and services at reasonable cost, accessibility to the remotest location of our country.

Mission: Consistent product innovations based on R&D,Customer feedback and hands on experience.

LET'S UNDERSTAND THE MAGIC BEHIND HEAT PUMP

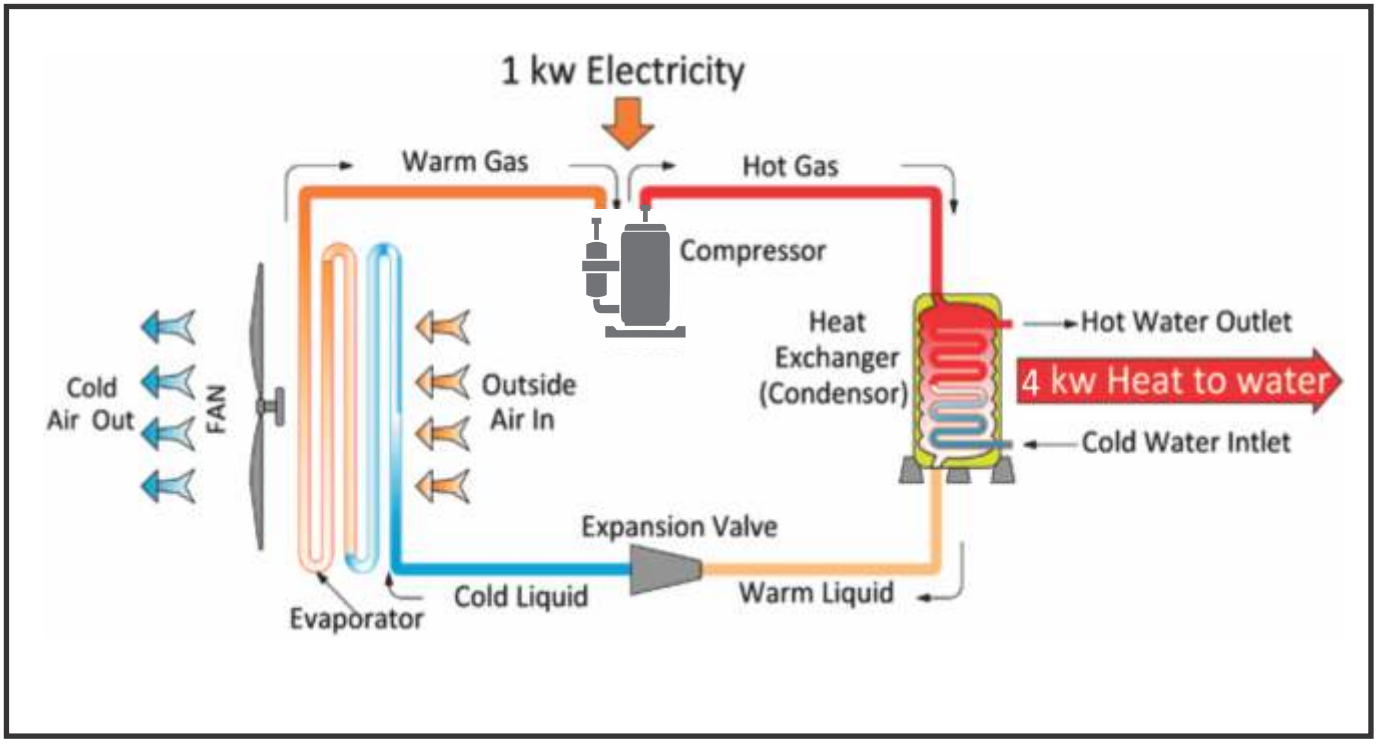
In laymen's terms Heat Pump is a device which can be used to transfer Heat from one medium to another. For example, when we take out chilled water bottle from our Fridge and place it in the room, we will notice after some time that the chilled water has become hot and reached the room temperature without applying any external energy or force. Well this is nothing but application of Law of Thermodynamics, where the Heat will transfer from higher medium to lower medium until both system reaches equilibrium without any external energy source.

HEAT PUMP WORKING PRINCIPAL

Our Air source Heat Pump uses eco-friendly refrigerant R410A, as a lower medium to extract Heat from the atmospheric air temperature as low as -30° Celsius to heat water. Once the small amount of free heat is extracted from the air by refrigerant, the warm gas is passed through compressor to further raise its temperature by applying high pressure so that the heat from the refrigerant can be transferred to heat water using an efficient Heat Exchanger.

This process allows our Air Source Heat Pump to deliver up to 5 kW of Thermal energy while consuming only 1 kW of electrical energy.

Following diagram elaborates working principal of air source heat pump.



ADVANTAGES ADRECO™ HEAT PUMP

1. Upto 80% energy efficient.
2. PCB based intelligent system controls from precise heating.
3. User friendly and advance controls, can be operated by laymen after basic training.
4. Can operate efficiently in extreme climatic condition upto -30 ° C.
5. Automatic system operation with one time input of parameter setting.
6. Heavy duty Compressor from Copeland, Panasonic, and GREE
7. Negligible routine maintenance system.
8. Zero fire and explosive hazards.
9. Helps reduce Carbon footprint.
10. R410A, environment refrigerant which is designed for cold climatic condition.
11. Long equipment life up to 12 years.
12. Smart system which displays specific error code for easier troubleshooting in case of system breakdown.
13. Inbuilt system protection software to avoid damaging system in case of any power fluctuations or any parts failure.
14. Water Flow switch for equipment protection.
15. High pressure protection.

APPLICATION OF ADRECO HEAT PUMP

1. Hot Water Generation
2. Space Heating and Cooling
3. Swimming Pool Heating
4. Drying process for various industry

TYPES OF ADRECO HEAT PUMP MODEL

1. Commercial Heat Pump
2. Domestic Heat Pump
3. Pool Heat Pump
4. High Temperature Heat Pump
5. EVI Heat Pump
6. Inverter Heat Pump
7. Heat Pump Dryer
8. Heating, Cooling and Hot water Heat Pump.

ADRECO ANCILLARY PRODUCTS

1. MS or SS 304 Hot Water Storage Tank
2. Hydro Pneumatic system
3. Hot Water return line pump system
4. Radiators
5. FCU

COMMERCIAL HEAT PUMP FEATURES

1. Operating ambient temperature range upto -7 degree C to 43° C.
2. Hot water temperature upto 60° C.
3. Heavy duty Scroll Compressor from Copeland, Panasonic, and GREE.
4. Electronically controlled Expansion Valve for precise control of Refrigerant flow.
5. High Efficiency Tube in Shell and Tube in tube Heat Exchanger.
6. Advance and user-friendly Control Display.
7. Auto defrost Mode for efficient performance in cold climate.
8. Capable to generate hot and cold water.

TECHNICAL SPECIFICATION

Model No	ARC/PW/C/10	ARC/PW/C/18	ARC/PW/C/36	ARC/PW/C/47	ARC/PW/C/71	ARC/PW/C/88	ARC/PW/C/102	ARC/PW/C/172
								
Heating Capacity (kW)	10.2	18	37	47	71	88	102	172
Input Power, kW	2.7	4.56	8.9	11	18	20.95	23.7	40.95
COP	3.9	4	4.1	4.2	3.9	4.2	4.3	4.2
Cooling Capacity, kW	4.64	8.11	16.68	21.18	32	39.66	45.97	77.52
Rated Current, A	12.7	8.16	15.9	22.6	31.8	37.4	41.14	72.4
Max Current, A	19	12.3	25	32.7	42	60	65.2	105.5
Max Input Power, kW	4.2	6.8	14	18.3	24	33.5	36.5	59
Hot water output, LPH	221	387	795	1010	1526	1892	2322	3698
Power Supply	220V/50Hz/1PH	380V 3N～/50Hz						
IP Grade	IPX4							
Compressor Brand	Copeland/GMCC			Copeland				
Max Water Temp	60 °C							
Heat Exchanger	Tube in Shell							
Compressor Qty		1	2	1	2	2	2	4
Port Dia, mm	20 MTA	25 MTA	40 MTA	40 MTA	50 MTA	65(Flange)	65(Flange)	65(Flange)
Refrigerant Type	R410A							
Working range ℃	-7 to 43							
Noise((dB)A)	≦55	≦58	≦62	≦63	≦67	≦71	≦73	≦78
Water Circulation m3/h	1.8	3.1	6.4	8.1	12.2	15.1	15.5	29.58
Gross Weight (Kg)	100	147	257	420	590	638		1490
Dimension (LxWxH) mm	810x695x865	750x805x1165	1500x750x1065	1530x790x1100	1705x1005x1250	2000x1000x1310	2000x1000x1310	2400x1300x2270

Rated Working Condition: Dry bulb temperature 20˚C, Wet bulb temperature 15˚C, Inlet water temperature 15˚C, Outlet water temperature 55˚C.
The above specifications are subject to change without prior notice for product improvement. For final parameters, please refer to the nameplate on the machine

EVI HEAT PUMP FEATURES

1. Operating ambient temperature range up to -25° C to 43° C.
2. Hot water temperature upto 60° C.
3. Heavy duty EVI Compressor from Copeland and Danfoss.
4. Electronically controlled Expansion Valve for precise control of Refrigerant flow.
5. High Efficiency Tube in Shell and Tube in tube Heat Exchanger.
6. Advance and user-friendly Control Display.
7. Fast Auto defrost Mode for efficient performance in extreme cold climate.
8. Capable to generate hot and cold water.

TECHNICAL SPECIFICATION

Model No	ARC/PW/EVI/18	ARC/PW/EVI/36	ARC/PW/EVI/53	ARC/PW/EVI/86	ARC/PW/EVI/108	ARC/PW/EVI/172
						
Heating Capacity (kW)	18	36	53	86	108	172
Input Power , kW	4.56	9.1	12.8	20.98	26.34	41.95
COP	3.9	3.9	4.1	4.1	4.1	4.1
Cooling Capacity, kW	9.72	15.05	36.20	47.30	57.24	89.44
Rated Current, A	8.16	16.27	22.89	37.49	47.09	74.99
Max Current, A	12.3	23.2	31.8	51.8	64.5	103.6
Max Input Power, kW	6.9	13	17.8	29	36.1	58
Hot water output, LPH	383	763	1129	1849	2322	3698
Power Supply	380V 3N～/50Hz					
Heat Exchanger	Tube in Shell					
Max Water Temp	60 °C					
IP Grade	IPX4					
Compressor Brand	Copeland					
Compressor Qty	1	2	1	2	2	4
Port Diameter	25 MTA	40 MTA	40 MTA	65(Flange)	65(Flange)	65(Flange)
Refrigerant Type & quantity	R410A/2500g	R410A/2500g*2	R410A/7000g	R410A/6500g*2	R410A/7000g*2	R410A/7000g*4
Working range ℃	-25 to 43					
Noise((dB)A)	≦56	≦60	≦60	≦62	≦62	≦69
Water Circulation m3/h	3.06	6.11	9.03	14.79	18.58	29.58
Gross Weight (Kg)	147	257	420	590	638	1490
Dimension (LxWxH) mm	750x805x1165	1480x917x1070	1020x980x1870	2080x1000x1900	2080x1000x1900	2400x1300x2350

Rated Working Condition: Dry bulb temperature 7˚C, Wet bulb temperature 6˚C, Inlet water temperature 9˚C, Outlet water temperature 55˚C.
The above specifications are subject to change without prior notice for product improvement. For final parameters, please refer to the nameplate on the machine

SWIMMING POOL HEAT PUMP FEATURES

1. Operating ambient temperature range up to -15° C to 45° C.
2. Hot water temperature upto 40° C.
3. Heavy duty Scroll Compressor from Panasonic.
4. Electronically controlled Expansion Valve for precise control of Refrigerant flow.
5. High Efficiency Titanium Tube in PVC Shell Heat Exchanger which does not react with Chlorinated pool water.
6. Advance and user-friendly Control Display.
7. Auto defrost Mode for efficient performance in extreme cold climate.
8. Inverter models available with Higher efficiency.
9. Both Heating or cooling option available.

TECHNICAL SPECIFICATION

Model No	ARC/PW/SP/22	ARC/PW/SP/44	ARC/PW/SP/66	ARC/PW/SP/88	ARC/PW/SP/110	ARC/PW/SP/132
						
Heating Capacity (kW)	22	44	66	88	110	132
Input Power , kW	4.5	9	13.6	18.2	22.2	27.3
COP	4.8	4.8	4.8	4.8	4.8	4.8
Rated Current, A	8	16.1	24.3	32.5	39.7	48.8
Max Current, A	11.7	23.3	35.2	47.2	57.5	70.8
Max Input Power, kW	6.5	13.1	19.7	26.4	32.2	39.6
Power Supply		380V 3N~/50Hz				
Max Water Temp	40 °C					
IP Grade	IPX4					
Compressor Brand	Panasonic					
Heat Exchanger	Titanium Tube in PVC Shell					
Port Dia, mm	40 MTA	50 MTA	50 MTA	110(Flange)	110(Flange)	110(Flange)
Refrigerant Type	R410A					
Working range °C	-7 to 43					
Noise((dB)A)	≦56	≦58	≦60	≦62	≦64	≦66
Water Circulation m3/h	9.5	18.9	28.4	37.8	47.3	56.8
Gross Weight (Kg)	145	300	260	370	470	485
Dimension (LxWxH) mm	740x805x1165	1500x750x1075	1530x790x1100	1705x1005x1230	2005x1050x1400	2005x1050x1400

Rated Working Condition: Dry bulb temperature 20˚C, Wet bulb temperature 15˚C, Inlet water temperature 26˚C, Outlet water temperature 28˚C.
The above specifications are subject to change without prior notice for product improvement. For final parameters, please refer to the nameplate on the machine

DOMESTIC HEAT PUMP FEATURES

1. Operating ambient temperature range up to -25° C to 45° C.
2. Hot water temperature upto 60° C.
3. Heavy duty Rotary Compressor from Panasonic.
4. Electronically controlled Expansion Valve for precise control of Refrigerant flow.
5. High Efficiency Tube in Shell Heat Exchanger which avoids clogging due to scaling.
6. Built in circulation pump for easy installation.
7. Advance and user-friendly Control Display.
8. Auto defrost for efficient performance in cold climate.
9. Inverter models available with increased efficiency.

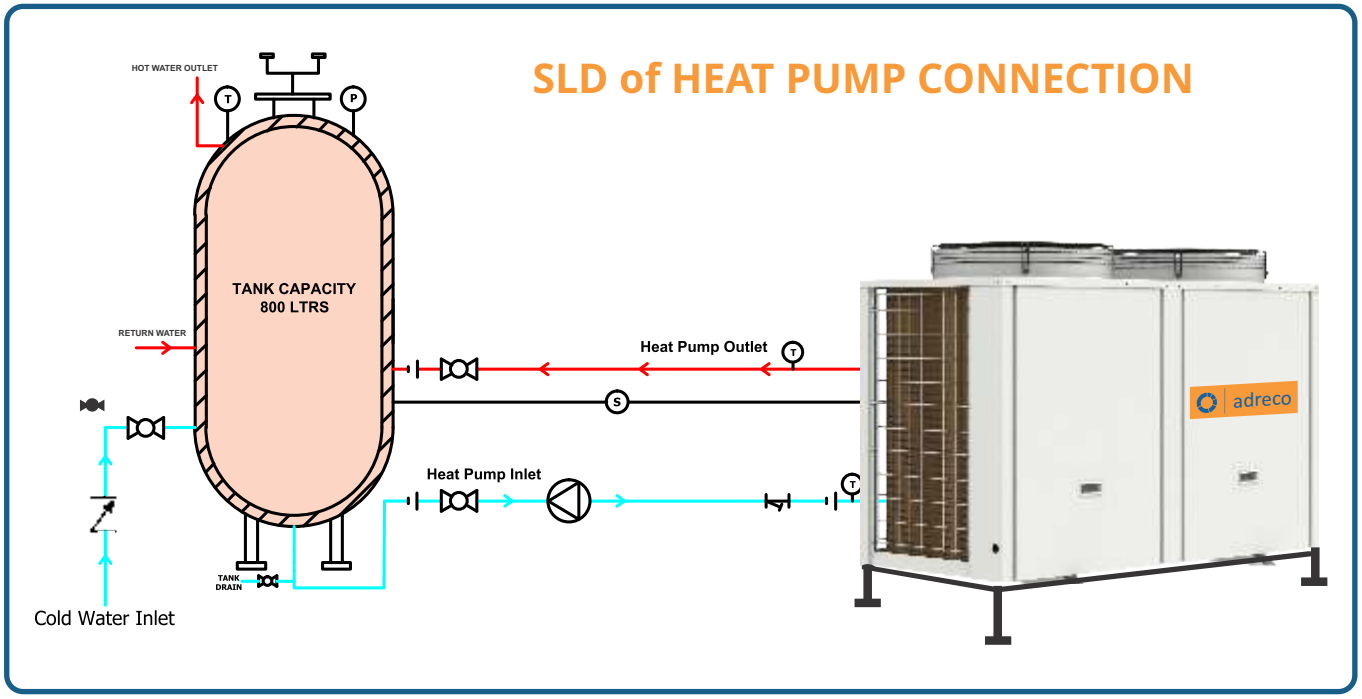
TECHNICAL SPECIFICATION

Model No	ARC/PW/D/5	ARC/PW/D/7	ARC/PW/D/10
			
Heating Capacity (kW)	4.9	6.8	9.5
Input Power , kW	1.34	1.87	2.61
COP	3.6	3.6	3.6
Rated Current, A	6.2	8.6	12
Hot water output, LPH	105	146	204
Power Supply	220V/50Hz/1PH		
IP Grade	IPX4		
Compressor Brand	Panasonic		
Max Water Temp	60 °C		
Heat Exchanger	Tube in Shell		
Compressor Qty		1	2
Port Dia, mm	20 MTA	20 MTA	20 MTA
Refrigerant Type	R410A		
Working range °C	-7 to 43		
Noise((dB)A)	≦ 50	≦ 50	≦ 50
Water Circulation m3/h	1.8	3.1	6.4
Gross Weight (Kg)	60	64	89
Dimension (LxWxH) mm	985x305x520	985x305x520	960x385x560

Rated Working Condition: Dry bulb temperature 20˚C, Wet bulb temperature 15˚C, Inlet water temperature 15˚C, Outlet water temperature 55˚C.
The above specifications are subject to change without prior notice for product improvement. For final parameters, please refer to the nameplate on the machine

HIGH TEMPERATURE HEAT PUMP FEATURES

1. Operating ambient temperature range up to -7 degree C to 45° C.
2. Hot water temperature upto 80° C.
3. Heavy duty Scroll Compressor from Copeland.
4. Designed for industrial hot water generation.
5. Suitable for industries like Pharma, Automotive, Textile, Food processing etc.



DRYER HEAT PUMP FEATURES

1. Operating ambient temperature range up to -7 degree C to 45° C.
2. Hot air temperature upto 80° C.
3. Heavy duty Scroll Compressor from Copeland.
4. Automated drying process ensure minimal human intervention.
5. Insulated Drying rooms available based on customer requirements.
6. Suitable for industries like Agriculture, Food processing, Incense Stick, Textile etc

OUR SITE INSTALLATIONS

adreco™

HEAT PUMP

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