

WWH(R)PC 5 - 140



Heat Pump type "water - water".

Heat Pump completely capable to satisfy the internal need for heating and cooling the premises.

Heat Pump are offered in 38 modifications for using in residential, commercial and industrial facilities.

Anti-freeze thermos water source Heat Pump use underground water or circulated water or brine as main sources.

And with 20-25% of the total capacity sanitary hot water function, to provide every day living water of around 50-60°C.

Programmable electronic circuit board receives commands from the keypad control board installed on the units. The microprocessor control can monitor the operating conditions of the critical parts to avoid the occurrence of the hazardous situations.

The units are factory tested and will complete the installation by connecting water and power supply only.

Heat Pumps are completed by equipment leading world companies.



Constructive particularities

Structure

Panels and frame are made from galvanized steel protected with polyester powder painting to ensure total resistance to atmospheric agents.

Compressor

Single phase rotary compressor are used in model 5-7 and single-phase model 8-12 scroll type compressors, 3-phase scroll compressor model 14-30 with built-in thermal overload cut-out and crankcase heater, mounted on rubber vibration dampers.

Evaporator, condenser

High efficiency plate (model 5-30) and tube-in-tube (model 38-140) type exchanger, factory insulated with flexible close cell material.

Desuperheater (option)

High efficiency stainless steel brazed plate heat exchanger, factory insulated with flexible close cell material are using to provide hot water for every day living .

Refrigerant circuit

Copper tube connection with charge valves, filter drier, thermostatic expansion valve (capillary for model 5-14), gas-liquid separator, high pressure switch and low pressure switch. The heat pump unit is completed also with 4-way valve, liquid receiver and one way valves.

Hydraulic circuit

Built with user side and source side water inlet/outlet connectors, water discharge connectors, air vent valve, model 5-30 the user side is complete also with expansion vessel, water pump and flow switch.

Technical data

WWH(R)PC		5	7	8	10	12	14	16	20	25	30	38	50	56	65	75	90	110	130	140
Normal cooling capacity*	kW	5.2	6.9	9.02	10.82	12.83	14.75	17.18	20.89	26.62	31.93	37.1	50.5	56.4	64.7	75.3	90.4	110	130	140
Normal heating capacity**	kW	6.5	7.38	10.5	13.08	14.79	17.16	20.56	22.36	28.7	34.22	39.5	54	61	72	84	105	128	152	163.9
COP		4	4.4	4.69	4.32	4.3	4	4.6	4.7	4.8	4.9	4.4	4.3	4.5	4.6	4.7	4.5	4.6	4.7	4.7
Compressor																				
Quantity	nr.	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	4	4	4	4
Type		single phase rotary		single phase scroll			3-phase scroll													
Cooling power input*	kW	1.4	1.5	1.6	1.96	2.36	2.64	3.17	3.44	4.42	5.52	6.8	9.2	9.9	11.6	13.5	16.2	19.3	22.8	24.6
Heating power input**	kW	1.6	1.92	2.24	3.03	3.44	4.12	4.47	4.78	5.88	6.96	8.9	12.4	13.6	15.6	18	23	27.4	32.4	34.9
Refrigerant type		R407c																		
Heat exchanger user side																				
Pressure drop	kPa	20			25			20		25		42	38	40	43	45	40	40	42	42
Water flow	m ³ /h	0.77	1.12	1.46	1.75	2.08	2.39	2.79	3.39	4.32	5.18	6.38	8.68	9.7	11.13	12.95	15.5	18.9	22.4	24
Heat exchanger ground side																				
Pressure drop	kPa	8			12/18			12/18		12/18		60	51	53	58	58	41	41	44	45
Water flow	m ³ /h	0.43	0.62	0.8	0.95	1.13	1.32	1.47	1.81	2.31	2.57	7.55	10.27	11.4	13.12	15.27	18.33	22.25	26.29	28.32
Electrical features																				
Voltage/Phase	V/P	230/1	230/1	230/1	230/1	230/1	400/3	400/3	400/3	400/3	400/3	400/3	400/3	400/3	400/3	400/3	400/3	400/3	400/3	400/3
Dimension features																				
Size (mm)	Length	585	585	585	585	585	585	585	585	585	585	880	980	980	980	980	1750	1750	1750	1750
	Width	488	488	488	488	488	488	488	488	520	520	520	730	1010	1010	1010	1010	900	900	900
	High	817	817	817	880	880	880	880	880	1050	1050	1050	1050	1120	1120	1120	1120	1500	1500	1500
Noise and weight features																				
Sound pressure level***	dB	56	56	56	56	58	58	61	68	68	71	63	67	69	70	72	74	77	77	77
Net weight	kg	92	96	110	120	130	140	150	250	280	300	330	450	460	540	540	560	590	630	650

Performance values refer to the following conditions:

* Source side water inlet/outlet temperature 18°C/29°C, user side water inlet/outlet temperature 12°C/7°C,

** Source side glycol inlet/outlet temperature 15°C/8°C, user side water inlet/outlet temperature 40°C/45°C,

*** Sound pressure measured at a distance of 10 m and a height of 1.5 m above the ground in a dear field.