

DEKON Air to Water Chiller & Heat Pump



Air to Water Chiller & Heat Pump

Outdoor installation

Characteristics

Structure

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

Compressor

Hermetic scroll type compressor, equipped with the crankcase heater and thermal protection with thermal overload cut-out and crankcase heater mounted on rubber vibration isolators

Axial fan

External rotor type axial fans, equipped with single phase direct drive motors, low noise 6 poles, protection level IP54, provided with a protective outlet grille

Evaporator

High efficiency and low pressure drop stainless steel (AISI 316) water exchangers, with anti-freeze heating element (option) and differential pressure switch, factory insulated with flexible close cell material

Condenser

Coils are consisting of seamless copper tubes mechanically expanded into blue hydrophilic aluminum fins, 100% fully quality tested; sub cooling circuit to prevent freezing at the base (optional); protected with metal grill

Desuperheater

High efficiency stainless steel brazed plate heat exchanger, factory insulated with flexible close cell material (optional)

Refrigerant circuit

Copper tube connection with charge valve, filter, sight glass, gas-liquid separator, thermostatic expansion valve, low pressure switch with automatic reset, high pressure switch with manual reset
The heat pump unit is completed also with 4-way valve, liquid receiver and one way valve

Water circuit

Built with air vent valve, water drain connection, and female-threaded hydraulic connectors
Water pump (8kW-30kW), differential pressure switch
Expansion tank (8kW-30kW)

Electric panel

Consists of:

- Compressor contactor
- Compressor protection breaker
- Fan motor protection breaker
- Control circuit protection breaker
- Phase sequence relay (only for 3-phase)
- Programmable microprocessor controller

Optional

Additional electric heater embedded in the coils for defrosting in low temperature ambient. It must be factory installed
Stainless steel covering
Remote condenser
Tube in tube heat exchanger
Water circuit electric heater

Cooling capacity from 8.6 to 51.3 kW
Heating capacity from 9.5 to 58 kW

Functions



Cooling



C&H



Heat Recovery

Technical Data

Model	Unit	08	10	12	16	22	25	30	35	40	50
Cooling *											
Cooling capacity	kW	8.6	11	12.6	15.3	22.8	25.7	30.8	36.3	41.5	51.3
Cooling input (without water pump)	kW	2.91	3.66	4.21	4.92	7.81	8.55	10.2	12.87	14.68	17.52
EER	/	2.96	3.01	2.99	3.11	2.92	3.01	3.02	2.82	2.83	2.93
Heating **											
Heating capacity	kW	9.5	12.1	13.8	16.3	25.2	28.1	33.5	42.5	47.5	58
Heating input (without water pump)	kW	2.91	3.66	4.21	4.92	7.81	8.55	10.2	12.87	14.68	17.52
COP	/	3.26	3.31	3.28	3.31	3.23	3.29	3.28	3.3	3.24	3.31
Hermetic compressor											
Type	/	Scroll(380-415V/3Ph/50Hz)									
Quantity/circuit	/	1	1	1	1	2/2	2/2	2/2	2/2	2/2	2/2
Evaporator											
Type	/	Plate heat exchanger									
Water flow	m³/h	1.5	1.9	2.2	2.6	3.9	4.4	5.3	6.2	7.1	8.8
Water side pressure drop	kPa	33	33	33	36	38	39	42	50	52	52
Water connection size	mm	DN25	DN25	DN25	DN25	DN40	DN40	DN40	DN40	DN40	DN40
Circulating pump											
Power input	kW	0.35	0.35	0.35	0.35	0.75	0.75	0.92	-----	-----	-----
Axial fans											
Quantity	Nr.	1	1	1	2	1	1	1	2	2	2
Airflow	m³/h	4500	4500	4500	9000	9000	9000	12580	17000	17000	22000
Overall dimension											
Length	mm	1250	1250	1250	1250	1600	1600	1600	2000	2000	2000
Width	mm	452	452	452	452	900	900	900	900	900	900
Height	mm	1180	1180	1180	1180	1080	1080	1080	1080	1080	1080
Noise level ***	dB(A)	58	58	60	64	66	66	68	70	70	70
Net weight	kg	145	145	150	190	270	290	310	360	380	465

Technical Data

Model	Unit	08	10	12	16	20	25	30	35	40	50
Cooling *											
Cooling capacity	kW	8.7	10.7	12.5	15.8	21.5	24.8	30	35.6	41	50.6
Cooling input (without water pump)	kW	3.2	4.01	4.56	5.79	8.2	9.03	9.39	13.2	15.02	18.8
EER	/	2.72	2.67	2.74	2.73	2.62	2.75	3.19	2.7	2.73	2.69
Heating **											
Heating capacity	kW	10.3	13.5	14	17.8	26.3	29	34	41.8	47.2	60
Heating input (without water pump)	kW	3.5	4.55	4.58	5.81	8.7	9.23	9.43	14.3	15.57	20.45
COP	/	2.94	2.97	3.06	3.06	3.02	3.14	3.61	2.92	3.03	2.93
Hermetic compressor											
Type	/	Scroll(380-415V/3Ph/50Hz)									
Quantity/ circuit	/	1	1	1	1	2/2	2/2	2/2	2/2	2/2	2/2
Evaporator											
Type	/	Plate heat exchanger									
Water flow	m³/h	1.5	1.8	2.1	2.7	3.7	4.3	5.2	6.1	7.1	8.7
Water side pressure drop	kPa	33	33	33	36	38	39	42	50	52	52
Water connection size	mm	DN25	DN25	DN25	DN25	DN40	DN40	DN40	DN40	DN40	DN40
Circulating pump											
Power input	kW	0.35	0.35	0.35	0.35	0.75	0.75	0.92	-----	-----	-----
Axial fans											
Quantity	Nr.	1	1	1	2	1	1	1	2	2	2
Airflow	m³/h	4500	4500	4500	9000	9000	9000	12580	17000	17000	22000
Overall dimension											
Length	mm	1250	1250	1250	1250	1600	1600	1600	2000	2000	2000
Width	mm	452	452	452	452	900	900	900	900	900	900
Height	mm	1180	1180	1180	1180	1080	1080	1080	1080	1080	1080
Noise level ***	dB(A)	58	58	60	64	66	66	68	70	70	70
Net weight	kg	145	145	150	190	270	290	310	360	380	465

* Ambient temperature 35°C; user side water in/out 12/7°C.

** Ambient temperature 7°C; user side water in/out 40/45°C.

*** Sound pressure measured at a distance of 1 m and a height of 1.5 m above the ground in an ideal field (fan side).