

Air to Water DC Inverter Heat Pump

**AKL**



HEAT PUMP



**AKL Air Conditioning (Zhejiang) Co., LTD**

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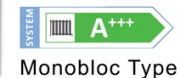
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# The new generation of Air-to-water heat pumps.

We need air to breathe. And now also for future-proof heating. Modern heat pumps use the inexhaustible energy source air for sustainable heating and hot water convenience. With the air-water heat pump AKL, the energy is drawn from the air and fed into Heat converted.



# Energy efficiency for even more comfort.



## ◆ VR Series Air to Water heat pump.

The Optimization of DC Inverter Technology, EVI Low Temperature Technology and Refrigerant and Control System has Improved Energy Efficiency and Achieved High Performance and High Efficiency. Even at Lower Ambient Temperature, Higher Outlet Water Temperature and Higher Heating Capacity can be Achieved. Higher Water Temperature Can Guarantee Room Temperature in Cold Areas.

- ◆ Monobloc Design, Installation simple, Flexible and Conveniently.
- ◆ Fashionable design, compact structure, multiple soundproofing protection and running in lower noise.
- ◆ Meet Cold Regions Heating in Winter, Cooling in Summer, and whole Years Domestic Hot Water Demand.
- ◆ Outdoor Heating in Low Temperature Environment of -20°C, Without Using electric Auxiliary Heating device, the Maximum Water Temperature can Reach 60°C.
- ◆ EVI Low Temperature DC Inverter Compressor, Enlarged Heat Exchanger, Optimized System Design, Reliable Heating at Outdoor Temperature of -35°C, Reliable Cooling at Outdoor Temperature of 50°C.
- ◆ Unit Includes:

- Panasonic EVI Low Temp DC Inverter Compressor
- Germany WITA Water Pump (Heat exchange between unit and water tank)
- Danfoss Electric Expansion Valve,
- SANHUA Four-way valve
- Sensate Pressure Transducer
- DC Inverter Motor
- Expansion tank
- Differential Pressure Water Switch
- Controller, hydrophilic Aluminum foil & Inner-Grooved Copper Evaporator
- Brazed Plate Heat Exchanger
- De-Ice Heater

Model		DAH-08CHW/VR		DAH-10CHW/VR	
Power Supply	V/Hz	230V/30~80Hz		230V/30~90Hz	
ErP Level / SCOP	35°C	A+++ / 4.51		A+++ / 4.51	
ErP Level / SCOP	55°C	A+ / 3.5		A+ / 3.5	
(1) Heating Conditions : Ambient Air temp: 7°C, Water inlet 30°C, Water outlet 35°C					
Heating (1)	Rated Heating Capacity (7°C/35°C)	kW	8	10	
	Rated Input Power	kW	1.95	2.47	
	COP	w/w	4.1	4.05	
(2) Heating Conditions : Ambient Air temp: 7°C, Water inlet 50°C, Water outlet 55°C					
Heating (2)	Rated Heating Capacity (7°C/55°C)	kW	6.5	8.8	
	Rated Input Power	kW	2.36	3.22	
	COP	w/w	2.76	2.73	
(3) Heating Conditions : Ambient Air temp: 2°C, Water inlet 30°C, Water outlet 35°C					
Heating (3)	Rated Heating Capacity (2°C/35°C)	kW	6.5	8.6	
	Rated Input Power	kW	1.78	2.38	
	COP	w/w	3.65	3.62	
(4) Heating Conditions : Ambient Air temp: 2°C, Water inlet 50°C, Water outlet 55°C					
Heating (4)	Rated Heating Capacity (2°C/55°C)	kW	6.3	8.5	
	Rated Input Power	kW	2.68	3.66	
	COP	w/w	2.35	2.32	
(5) Heating Conditions : Ambient Air temp: -7°C, Water inlet 30°C, Water outlet 35°C					
Heating (5)	Rated Heating Capacity (-7°C/35°C)	kW	6.2	8.3	
	Rated Input Power	kW	1.85	3.55	
	COP	w/w	3.35	2.34	
(6) Heating Conditions : Ambient Air temp: -7°C, Water inlet 50°C, Water outlet 55°C					
Heating (6)	Rated Heating Capacity (-7°C/55°C)	kW	5.8	7.6	
	Rated Input Power	kW	2.66	3.52	
	COP	w/w	2.18	2.16	
(7) Heating Conditions : Ambient Air temp: -12°C, Water inlet 36°C, Water outlet 41°C					
Heating (7)	Rated Heating Capacity (-12°C/41°C)	kW	6.8	6.8	
	Rated Input Power	kW	2.83	2.85	
	COP	w/w	2.4	2.39	
(8) Heating Conditions : Ambient Air temp: -20°C, Water inlet 36°C, Water outlet 41°C					
Heating (8)	Rated Heating Capacity (-20°C/41°C)	kW	5.5	5.5	
	Rated Input Power	kW	0.27	2.78	
	COP	w/w	20.2	1.98	
Cooling Conditions : Ambient Air temp: 35°C, Water inlet 12°C, Water outlet 7°C					
Cooling	Rated Cooling Capacity (35°C/7°C)	kW	6	8	
	Rated Input Power	kW	2.26	3.04	
	EER	w/w	2.65	2.63	
Refrigerant	Type	<b>R32/R410A</b>			
Heating & Hot Water Temp	°C	30°C~60°C			
Cooling Water Temp	°C	7°C~30°C			
Outdoor Temperature limit	°C	-35°C~50°C			
Noise Level	dB(A)	53		53	
Net Weight/Gross Weight	kg	75/85		80/90	
Net Dimension(L*W*H)	mm	1000x410x860		1000x410x860	
Packing Dimension(L*W*H)	mm	1150*500*990		1150*500*990	
★According to EN14825, the data was tested in SGS approved AKL low temperature air to water heat pump laboratory.					



Monobloc Type

Easy to use:  
high power heat pump.

Model		DAH-15CHW/VR	DAH-18CHW/VR	DAH-25CHW/VR	DAH-30CHW/VR	
Power Supply	V/Hz	230V/30-90Hz	400V/30-90Hz	400V/30-85Hz	400V/30-90Hz	
ErP Level / SCOP	35°C	A+++ / 4.51	A+++ / 4.49	A+++ / 4.48	A+++ / 4.5	
ErP Level / SCOP	55°C	A++ / 3.5	A++ / 3.46	A++ / 3.43	A++ / 3.47	
(1) Heating Conditions : Ambient Air temp : 7°C, Water inlet 30°C, Water outlet 35°C						
Heating (1)	Rated Heating Capacity (7°C/35°C)	kW	15	18	25	30
	Rated Input Power	kW	3.68	4.50	6.16	7.48
	COP	w/w	4.08	4	4.06	4.01
(2) Heating Conditions : Ambient Air temp : 7°C, Water inlet 50°C, Water outlet 55°C						
Heating (2)	Rated Heating Capacity (7°C/55°C)	kW	13.2	16	23	27.3
	Rated Input Power	kW	4.80	5.90	8.46	10.11
	COP	w/w	2.75	2.71	2.72	2.7
(3) Heating Conditions : Ambient Air temp : 2°C, Water inlet 30°C, Water outlet 35°C						
Heating (3)	Rated Heating Capacity (2°C/35°C)	kW	13	15.5	22.2	26.5
	Rated Input Power	kW	3.58	4.31	6.12	7.38
	COP	w/w	3.63	3.6	3.63	3.59
(4) Heating Conditions : Ambient Air temp : 2°C, Water inlet 50°C, Water outlet 55°C						
Heating (4)	Rated Heating Capacity (2°C/55°C)	kW	12.5	15	22	25
	Rated Input Power	kW	5.34	6.49	9.44	10.87
	COP	w/w	2.34	2.31	2.33	2.3
(5) Heating Conditions : Ambient Air temp : -7°C, Water inlet 30°C, Water outlet 35°C						
Heating (5)	Rated Heating Capacity (-7°C/35°C)	kW	12.2	14.8	21.6	24.5
	Rated Input Power	kW	3.65	4.47	6.55	7.66
	COP	w/w	3.34	3.31	3.3	3.2
(6) Heating Conditions : Ambient Air temp : -7°C, Water inlet 50°C, Water outlet 55°C						
Heating (6)	Rated Heating Capacity (-7°C/55°C)	kW	11.5	14	20.5	22.8
	Rated Input Power	kW	5.35	6.60	9.49	10.70
	COP	w/w	2.15	2.12	2.16	2.13
(7) Heating Conditions : Ambient Air temp : -12°C, Water inlet 36°C, Water outlet 41°C						
Heating (7)	Rated Heating Capacity (-12°C/41°C)	kW	11.5	12.5	17.5	20.5
	Rated Input Power	kW	4.77	5.30	7.35	8.72
	COP	w/w	2.41	2.36	2.38	2.35
(8) Heating Conditions : Ambient Air temp : -20°C, Water inlet 36°C, Water outlet 41°C						
Heating (8)	Rated Heating Capacity (-20°C/41°C)	kW	9.3	10	14.2	16.5
	Rated Input Power	kW	4.65	5.05	7.17	8.46
	COP	w/w	2	1.98	1.98	1.95
Cooling Conditions : Ambient Air temp : 35°C, Water inlet 12°C, Water outlet 7°C						
Cooling	Rated Cooling Capacity (35°C/7°C)	kW	12	14	19	24
	Rated Input Power	kW	4.60	5.43	7.25	9.41
	EER	w/w	2.61	2.58	2.62	2.55
Refrigerant	Type					
Heating & Hot Water Temp	°C					
Cooling Water Temp	°C					
Outdoor Temperature limit	°C					
Noise Level	dB(A)	55	56	62	65	
Net Weight/Gross Weight	kg	105/117	108/120	158/172	175/189	
Net Dimension(L*W*H)	mm	1000x410x1387	1000x410x1387	1238*435*1630	1238*435*1630	
Packing Dimension(L*W*H)	mm	1150*500*1520	1150*500*1520	1360*525*1760	1360*525*1760	

★According to EN14825, the data was tested in SGS approved AKL low temperature air to water heat pump laboratory.





For every need  
correct solution.



- ◆ VE Series Split Type DC Inverter Air to Water Heat Pump, is operating steadily under -35°C~50°C ambient temperature, for cold regions Heating in Winter, Cooling in Summer, and with 5 optional functions: Domestic hot water, Heating, Cooling, Heating&Hot Water, Cooling&Hot Water.
- ◆ Split Model, Heating & Hot Water & Cooling Type, Indoor Unit and Outdoor Unit be Connected by Copper pipe, Installation With Simple, Flexible and Conveniently
- The Indoor Unit can be Installed in Kitchen, Bathroom or basement, Ensuring less Energy loss, Also Prevent Water Pipes From Freezing in Cold Winter and sun Exposure in Summer.
- ◆ Indoor Unit Mainly Components Includes: Germany WITA Brand Water Pump, AKL Brand Expansion tank, AKL Brand Differential Pressure Water Switch, Honeywell Brand Electric Three Way Valve, Brazed Plate Heat Exchanger, Auxiliary electric heater.
- ◆ Outdoor Unit Mainly Components Includes:
  - Panasonic Brand Rotary
  - Twin-Cylinder EVI Low Temp DC Inverter Compressor
  - Danfoss Brand Electric Expansion Valve
  - SANHUA Brand Four way valve
  - Sensata Brand Pressure Transducer
  - DC Inverter Motor
  - Hydrophilic Aluminium foil & Inner-Grooved Copper Evaporator
  - Refrigerant valve and De-Ice Heater

Model		LKH-08CHW/VE		LKH-10CHW/VE	
Power Supply	V/Hz	230V/30~90Hz		230V/30~90Hz	
ErP Level / SCOP	35°C	A+++ / 4.51		A+++ / 4.51	
ErP Level / SCOP	55°C	A++ / 3.5		A++ / 3.5	
(1) Heating Conditions : Ambient Air temp : 7°C, Water inlet 30°C, Water outlet 35°C					
Heating (1)	Rated Heating Capacity (7°C/35°C)	kW	8	10	
	Rated Input Power	kW	1.95	2.47	
	COP	w/w	4.1	4.05	
(2) Heating Conditions : Ambient Air temp : 7°C, Water inlet 50°C, Water outlet 55°C					
Heating (2)	Rated Heating Capacity (7°C/55°C)	kW	6.5	8.8	
	Rated Input Power	kW	2.36	3.22	
	COP	w/w	2.76	2.73	
(3) Heating Conditions : Ambient Air temp : 2°C, Water inlet 30°C, Water outlet 35°C					
Heating (3)	Rated Heating Capacity (2°C/35°C)	kW	6.5	8.6	
	Rated Input Power	kW	1.78	2.38	
	COP	w/w	3.65	3.62	
(4) Heating Conditions : Ambient Air temp : 2°C, Water inlet 50°C, Water outlet 55°C					
Heating (4)	Rated Heating Capacity (2°C/55°C)	kW	6.3	8.5	
	Rated Input Power	kW	2.68	3.66	
	COP	w/w	2.35	2.32	
(5) Heating Conditions : Ambient Air temp : -7°C, Water inlet 30°C, Water outlet 35°C					
Heating (5)	Rated Heating Capacity (-7°C/35°C)	kW	6.2	8.3	
	Rated Input Power	kW	1.85	3.55	
	COP	w/w	3.35	2.34	
(6) Heating Conditions : Ambient Air temp : -7°C, Water inlet 50°C, Water outlet 55°C					
Heating (6)	Rated Heating Capacity (-7°C/55°C)	kW	5.8	7.6	
	Rated Input Power	kW	2.66	3.52	
	COP	w/w	2.18	2.16	
(7) Heating Conditions : Ambient Air temp : -12°C, Water inlet 36°C, Water outlet 41°C					
Heating (7)	Rated Heating Capacity (-12°C/41°C)	kW	6.8	8.8	
	Rated Input Power	kW	2.83	3.85	
	COP	w/w	2.4	2.29	
(8) Heating Conditions : Ambient Air temp : -20°C, Water inlet 36°C, Water outlet 41°C					
Heating (8)	Rated Heating Capacity (-20°C/41°C)	kW	5.5	7.5	
	Rated Input Power	kW	0.27	2.78	
	COP	w/w	20.2	1.98	
Cooling Conditions : Ambient Air temp : 35°C, Water inlet 12°C, Water outlet 7°C					
Cooling	Rated Cooling Capacity (35°C/7°C)	kW	6	8	
	Rated Input Power	kW	2.26	3.04	
	EER	w/w	2.65	2.63	
Refrigerant	Type	R32/R410A			
Heating & Hot Water Temp	°C	30°C~60°C			
Cooling Water Temp	°C	7°C~30°C			
Outdoor Temperature limit	°C	*-35°C~50°C			
Indoor Unit	Auxiliary Heating	kW	3	3	
	Water Connection	Inch	1.2/DN32		
	Copper Pipe Connection	Inch	1/2&3/4		
	Noise Level	dB(A)	33		
	Net Weight/Gross Weight	kg	47/52	47/52	
	Net Dimension(L*W*H)	mm	552*330*850		
	Packing Dimension(L*W*H)	mm	582*360*900		
	Noise Level	dB(A)	53	53	
Outdoor Unit	Net Weight/Gross Weight	kg	75/85	80/90	
	Net Dimension(L*W*H)	mm	1000x410x860	1000x410x860	
	Packing Dimension(L*W*H)	mm	1150*500*990	1150*500*990	

★According to EN14825, the data was tested in GSG approved AKL low temperature air to water heat pump laboratory.



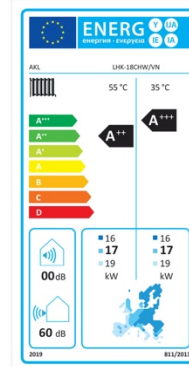
Split Type

Model		LKH-15CHWVE	LKH-18CHWVE	LKH-25CHWVE	LKH-30CHWVE	
Power Supply	V/Hz	230V/30~90Hz	400V/30~90Hz	400V/30~85Hz	400V/30~90Hz	
ErP Level / SCOP	35°C	A+++ / 4.51	A+++ / 4.49	A+++ / 4.48	A+++ / 4.5	
ErP Level / SCOP	55°C	A++ / 3.5	A++ / 3.46	A++ / 3.43	A++ / 3.47	
(1) Heating Conditions : Ambient Air temp : 7°C, Water inlet 30°C, Water outlet 35°C						
Heating (1)	Rated Heating Capacity (7°C/35°C)	kW	15	18	25	30
	Rated Input Power	kW	3.68	4.50	6.16	7.48
	COP	w/w	4.08	4	4.06	4.01
(2) Heating Conditions : Ambient Air temp : 7°C, Water inlet 50°C, Water outlet 55°C						
Heating (2)	Rated Heating Capacity (7°C/55°C)	kW	13.2	16	23	27.3
	Rated Input Power	kW	4.80	5.90	8.46	10.11
	COP	w/w	2.75	2.71	2.72	2.7
(3) Heating Conditions : Ambient Air temp : 2°C, Water inlet 30°C, Water outlet 35°C						
Heating (3)	Rated Heating Capacity (2°C/35°C)	kW	13	15.5	22.2	26.5
	Rated Input Power	kW	3.58	4.31	6.12	7.38
	COP	w/w	3.63	3.6	3.63	3.59
(4) Heating Conditions : Ambient Air temp : 2°C, Water inlet 50°C, Water outlet 55°C						
Heating (4)	Rated Heating Capacity (2°C/55°C)	kW	12.5	15	22	25
	Rated Input Power	kW	5.34	6.49	9.44	10.87
	COP	w/w	2.34	2.31	2.33	2.3
(5) Heating Conditions : Ambient Air temp : -7°C, Water inlet 30°C, Water outlet 35°C						
Heating (5)	Rated Heating Capacity (-7°C/35°C)	kW	12.2	14.8	21.6	24.5
	Rated Input Power	kW	3.65	4.47	6.55	7.66
	COP	w/w	3.34	3.31	3.3	3.2
(6) Heating Conditions : Ambient Air temp : -7°C, Water inlet 50°C, Water outlet 55°C						
Heating (6)	Rated Heating Capacity (-7°C/55°C)	kW	11.5	14	20.5	22.8
	Rated Input Power	kW	5.35	6.60	9.49	10.70
	COP	w/w	2.15	2.12	2.16	2.13
(7) Heating Conditions : Ambient Air temp : -12°C, Water inlet 36°C, Water outlet 41°C						
Heating (7)	Rated Heating Capacity (-12°C/41°C)	kW	11.5	12.5	17.5	20.5
	Rated Input Power	kW	4.77	5.30	7.35	8.72
	COP	w/w	2.41	2.36	2.38	2.35
(8) Heating Conditions : Ambient Air temp : -20°C, Water inlet 36°C, Water outlet 41°C						
Heating (8)	Rated Heating Capacity (-20°C/41°C)	kW	9.3	10	14.2	16.5
	Rated Input Power	kW	4.65	5.05	7.17	8.46
	COP	w/w	2	1.98	1.98	1.95
Cooling Conditions : Ambient Air temp : 35°C, Water inlet 12°C, Water outlet 7°C						
Cooling	Rated Cooling Capacity (35°C/7°C)	kW	12	14	19	24
	Rated Input Power	kW	4.60	5.43	7.25	9.41
	EER	w/w	2.61	2.58	2.62	2.55
Refrigerant	Type					
Heating & Hot Water Temp	°C					
Cooling Water Temp	°C					
Outdoor Temperature limit	°C					
Indoor Unit	Auxiliary Heating	kW	3	3	3	3
	Water Connection	Inch				
	Copper Pipe Connection	Inch				
	Noise Level	dB(A)	33	33	35	35
	Net Weight/Gross Weight	kg	50/55	50/55	52/57	53/58
	Net Dimension(L*W*H)	mm				
	Packing Dimension(L*W*H)	mm				
Outdoor Unit	Noise Level	dB(A)	55	56	62	65
	Net Weight/Gross Weight	kg	105/117	108/120	158/172	175/189
	Net Dimension(L*W*H)	mm	1000x410x1387	1000x410x1387	1238*435*1630	1238*435*1630
	Packing Dimension(L*W*H)	mm	1150*500*1520	1150*500*1520	1360*525*1760	1360*525*1760

\*According to EN14825, the data was tested in GSG approved AKL low temperature air to water heat pump laboratory.

# The advantages at a glance:

- networked, efficient, future-proof
- optionally with external or internal heat pump unit
- highly efficient thanks to speed control and inverter technology
- convenient thanks to the AKL controller
- with Internet interface as standard
- light and compact design



## Information about energy efficiency.

- has been valid throughout Europe since September 26, 2015 \*
- for heat generators up to 70 kW and storage tanks up to 500 liters
- shows the energy efficiency: in nine efficiency classes from A+++ to G.

## More efficient in the AKL system.

- You can rely on our highly efficient and pre-labeled systems
- Switch to our energy-efficient condensing technology now
- Always pay attention to the investment and life cycle costs

Further information at [www.aklhp.en.alibaba.com](http://www.aklhp.en.alibaba.com)





# A good Teamwork.

The system plus control of AKL with the display control unit is with the clear display and the one-button operation. Set your individual heating comfort. The scheme is your expert on the system integration of modern and regenerative heat generators. In addition, the AKL App enables convenient heating control - always and everywhere.

## Convenient to use.

This is included for uncomplicated operation and diagnosis of the heat pump the system plus control of AKL and the display control unit. The LCD display and the self-explanatory. Menu navigation make the operation of the air-water heat pump a Child's play.

## With an integrated internet interface.

The connection to the Internet is also increasingly gaining in heating technology in importance. Thanks to the innovative technology from AKL, you can always more heat generators connected to the Internet and very conveniently with can be operated with a smartphone or tablet. This enables you to have a optimal online monitoring and control of the heating system.



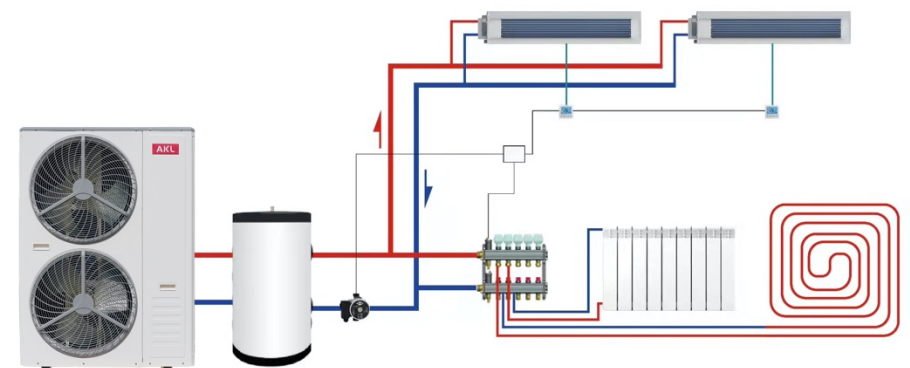
## The system plus of AKL.

We are the system experts. We convince with perfect one another coordinated components. Our sustainable System solutions are solid, modular, networked - and yours Adjusted as required.

Because we are convinced of the special quality of our system solutions we give you a 5-year system guarantee on all AKL products AKL systems and Wi-Fi packages! Your heating contractor will present you. Your personal guarantee certificate, among other things, also with all the information about the system energy efficiency according to the EU directive. Further information and system guarantee conditions can be obtained from your heating contractor.



# Drawing of the operation of the heat pump system.





## Heating systems with a future.

As system experts, we have been developing top-quality products for a long time. Whether regenerative or traditionally operated - our heating systems are solid, modular, networked and perfectly coordinated. With this we set standards in Heating technology. We value holistic, personal advice and ensure with our comprehensive service for tailor-made, sustainable solutions.