



AIR SOURCE

HEAT PUMP WATER HEATER

COMMERCIAL USE CIRCULATING TYPE

A02H & A03H Series



ZHEJIANG CEN NEW ENERGY TECHNOLOGY CO., LTD

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Applications



COMPANY PROFILE

Zhejiang CEN New Energy Technology Co., Ltd., is a professional heat pump factory combines R&D, manufacture, installation, trade, and after-sales of heat pumps, with complete performance 25H/P laboratory.

Our main products are air source heat pumps for home and commercial use, ground/water source heat pumps, combine cooling heating & hot water heat pumps, swimming pool heat pumps, etc.

We cooperate with first-class national academic institutions, established the heat pump research and development center, the laboratory, and testing center. With more than 25 engineers working on heat pump design, research and optimization.

Our laboratory can imitate different ambient conditions between -20°C to 50°C , to get the complete parameters from testing. Precise experiments make sure that our product design is reasonable, safe and stable.

We also have a professional installation team, which offers the best solution for installation, and instructions for after-sales. Our aim is to produce high quality product with our best service, and to grow up with our clients. Let's together create a win-win business relationship, and a more prosperous future!



Product Features

Large air volume, low noise fan motor: use airfoil shape, large chord, space distortion alloy blade, efficient internal rotor motor; large air volume, low noise, high efficiency and compact

Use stainless steel 304 material for heat exchanger side cover, fastener and other important parts etc.. Not easy to rust and corrosion, more durable.

Environmental protection refrigerant: protect atmospheric ozone layer, small pressure loss, stronger heating capacity, better heat transfer performance.



Use heat pump water heater professional compressor, wider operation range, enhance the reliability greatly.

Compact Structure: Use the structure of V shape up&down design, convenient maintenance, reduce the occupied area effectively.

High precision electronic expansion valve: use electronic expansion valve to control, reach 500 steps adjustment, adjust super heat degrees accurately, achieve high efficiency operation system.

High efficiency shell and coil heat exchanger : It uses high efficiency fin tube, which heating area is 3.6 times than ordinary smooth tube, large diameter waterway design to make water-flow more smoothly, energy efficiency is more superior.

Heat Pump Water Heater Professional Compressor:

Compressor specially for heat pump water heater:

1. Copeland compressor specially for Heat pump water heater adopts Scroll heating technology.
2. With much wider operation range for different ambient temperature.
3. Not only can produce hot water for daily life use, can also produce high water temperature with 85 degrees C, it can reach the requirement for daily life and industrial use.
4. Specifically design for the heat pump water heater of high suction exhaust temperature and system high condensing temperature and high condensing pressure, performance is stable and efficient, long service life.



Controller:

1. Adopt famous master chip, ensure the unit running stable.
2. The controller has many protection functions: high pressure protection, low pressure protection, antifreeze protection, high temperature protection, overload protection, lose phase protection and reverse phase protection and so on.
3. Modular design, can be combined freely according to the required capacity.
4. Adopt intelligent constant temperature control, multi-point temperature measurement, multistage energy adjustment, automatically adjustment of temperature difference, intelligent loading and unloading compressor according to the changing of



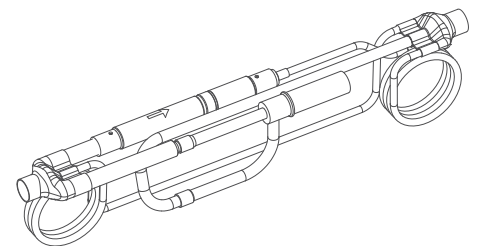
AC Contactor & Relay:

Adopt "Schneider" AC Contactor & relay, model selection according to the current capacity of 1.5 times, to ensure the efficient and stable operation for long time.

Heat pump water heater throttling technology patent

Patent no.: ZL 2013 2 0738203.1

With "special throttling branch for overload", under the bad environment, can effectively control the system refrigerant flow, avoid system high pressure, prevent compressor overload operation;
With "special throttling branch for defrosting", control the refrigerant flow according to defrost, avoid lacking of refrigerant flow when defrosting.



A02H series (Air source heat pump water heater circulation type)

HW-150304

		HW03Ps -E3	HW05Ps -E5	HW03P -E3	HW05P -E5	HW07P -E5	HW10P -C24	HW14P -C24	HW20P -C48	HW24P -C48	HW30P -C48	HW36P -C48	HW48P -C96
Rated heating capacity(kW)		12	19	12	19	25	35	50	75	85	105	125	165
Rated input power(kW)		2.75	4.39	2.75	4.37	5.75	8.10	11.57	17.20	19.60	24.20	28.90	38.10
Rated input current(A)		14.05	23.10	5.17	8.34	10.77	15.00	23.86	31.80	37.00	46.10	53.50	72.30
Maximum input power(kW)		3.38	5.40	3.38	5.38	7.07	9.96	14.23	21.16	24.11	29.77	35.55	46.86
Maximum input current(A)		18.28	29.19	6.43	10.21	13.44	18.93	27.05	40.20	45.81	56.56	67.54	89.04
Performance coefficient(COP)		4.36	4.33	4.36	4.35	4.35	4.33	4.32	4.36	4.34	4.34	4.33	4.33
Rated hot water output temp.(°C)		55											
Max. hot water output temp.(°C)		60											
Rated hot water produce capacity(L/H)		258	408	258	408	537	752.5	1075	1612.5	1827.5	2257.5	2687.5	3547.5
Power supply		1N 220V/50Hz		3N 380V/50Hz									
Compressor	Type	Fully closed scroll type											
	Start Mode	Directly start											
	Quantity(Set)	1	1	1	1	1	2	2	4	2	3	3	4
Water side heat exchanger	Type	Shell & coil(tube) heat exchanger											
	Water flow(m³/h)	2.1	3.3	2.1	3.3	4.3	6.0	8.6	12.9	14.6	18.1	21.5	28.4
	Water Pressure Drop(kPa)	≤50	≤55	≤50	≤55	≤55	<60	<60	<65	<65	<65	<65	<65
	Pipe size(DN)	DN20	DN25	DN20	DN25	DN25	DN32	DN32	DN50	DN50	DN50	DN65	DN80
Protections		1. High pressure and low pressure protection, 2. Anti-freezing protection, 3. High temperature protection, 4. Too big of the water temperature difference for outlet and inlet protection, 5. Overload protection, 6. Lack phase protection, 7. Reverse phase protection, etc..											
Refrigerant	Throttle Type	Electronic expansion valve											
	Quantity(kg)	1.9	2.8	1.9	2.8	4.1	2.8×2	4.1×2	3.2×4	7.6×2	6.2×3	7.6×3	7.6×4
Noise DB(A)		≤55	≤63	≤55	≤63	≤65	≤65	≤68	≤70	≤72	≤73	≤74	≤78
Dimension (mm)	Length(mm)	700	820	700	820	820	1000	1000	2050	2050	2050	2050	2050
	Width(mm)	680	695	680	695	695	1000	1000	1000	1000	1000	1000	2000
	Height(mm)	875	1060	875	1060	1060	1858	1858	1900	1900	1980	1980	1980
Net Weight(kg)		100	160	100	160	190	310	400	605	650	835	840	1230
Testing conditions: 1. Application side initial water temperature: 15°C, end temperature 55°C, max. temperature 60°C. 2. Ambient temperature dry bulb 20°C, wet bulb 15°C.													

The above parameters are based on Refrigerant R410a, for parameters based on other refrigerant please contact us.
The above parameters may have some differences from the final product because of products updating, so above information is not the provision of any business contract. Please refer to final product label when buy, or refer to us for any information. Our company keeps the right to interpret.

A03H (High temperature air source heat pump water heater circulation type)

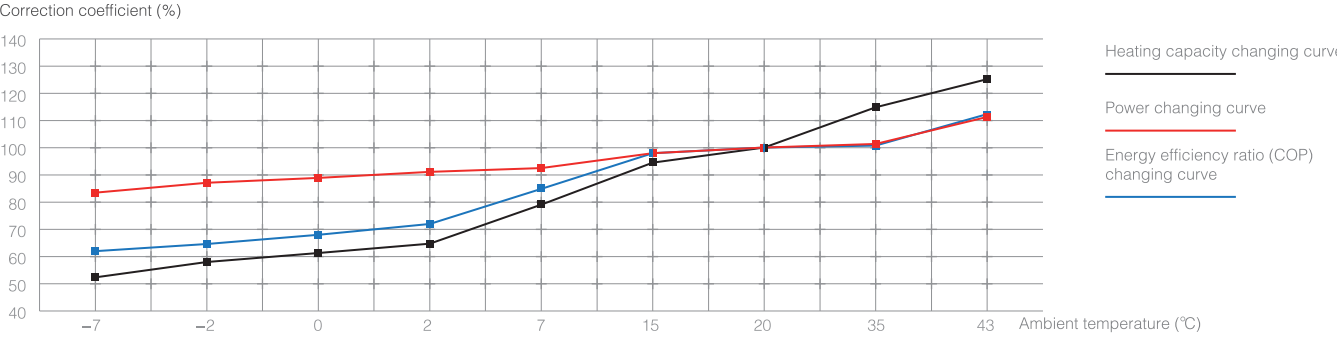
HT-150307

		HT3P-T3	HT5P-T5	HT7P-T5	HT10P-C24	HT14P-C24	HT20P-C48	HT24P-C48	HT30P-C48	HT36P-C48	HT48P-C96
Rated heating capacity(kW)		8	13.5	18	26	35	55	65	80	95	130
Rated input power(kW)		2.19	3.66	4.96	7.11	9.62	14.91	17.81	21.98	26.03	35.81
Rated input current(A)		4.14	6.92	9.37	13.55	18.17	28.17	33.66	41.54	49.19	67.69
Maximum input power(kW)		2.74	4.58	6.20	8.89	12.02	18.63	22.26	27.47	32.53	44.77
Maximum input current(A)		5.34	8.92	12.09	17.33	23.44	36.33	43.41	53.57	63.44	87.29
Performance coefficient(COP)		3.65	3.69	3.63	3.65	3.64	3.69	3.65	3.64	3.65	3.63
Rated hot water output temp.(°C)						75					
Maximum hot water output temp.(°C)						80					
Rated hot water produce capacity	Δt40(L/H)	172.0	290.3	387.0	559.0	752.5	1182.5	1397.5	1720.0	2042.5	2795.0
	Δt60(L/H)	114.7	193.5	258.0	372.7	501.7	788.3	931.7	1146.7	1361.7	1863.3
Power supply		3N 380V/50Hz									
Compressor	Type	Fully closed scroll type									
	Start Mode	Directly start									
	Quantity(Set)	1	1	1	2	2	4	2	3	3	4
Water side heat exchanger	Type	Shell & coil(tube) heat exchanger									
	Water flow(m³/h)	1.4	2.3	3.1	4.5	6.0	9.5	11.2	13.8	16.3	22.4
	Water Pressure Drop(kPa)	<50	<55	<57	<60	<60	<65	<65	<65	<65	<65
	Pipe size(DN)	DN20	DN25	DN25	DN32	DN32	DN50	DN50	DN50	DN65	DN80
Protections		1. High pressure and low pressure protection, 2. Anti-freezing protection, 3. High temperature protection, 4. Too big of the water temperature difference for outlet and inlet protection, 5. Overload protection, 6. Lack phase protection, 7. Reverse phase protection, etc..									
Refrigerant	Type	R134a									
	Throttle Type	Electronic expansion valve									
	Quantity(kg)	2.1	3.3	4.3	2.8×2	4.1×3	3.2×4	7.6×2	6.2×3	7.6×3	7.6×4
Noise DB(A)		≤55	≤63	≤65	≤65	≤68	≤70	≤72	≤73	≤74	≤78
Dimension (mm)	Length(mm)	700	860	860	1000	1000	2050	2050	2050	2050	2050
	Width(mm)	680	820	820	1000	1000	1000	1000	1000	1000	2000
	Height(mm)	875	1080	1080	1858	1858	1900	1900	1980	1980	1980
Net Weight(kg)		100	170	190	310	410	605	650	835	840	1250
Testing conditions: 1. Application side initial water temperature: 15°C, end temperature 75°C, max. temperature 80°C. 2. Ambient temperature dry bulb 20°C, wet bulb 15°C.											

The above parameters are based on Refrigearnt R134a, for parameters based on other refrigerant please contact us.
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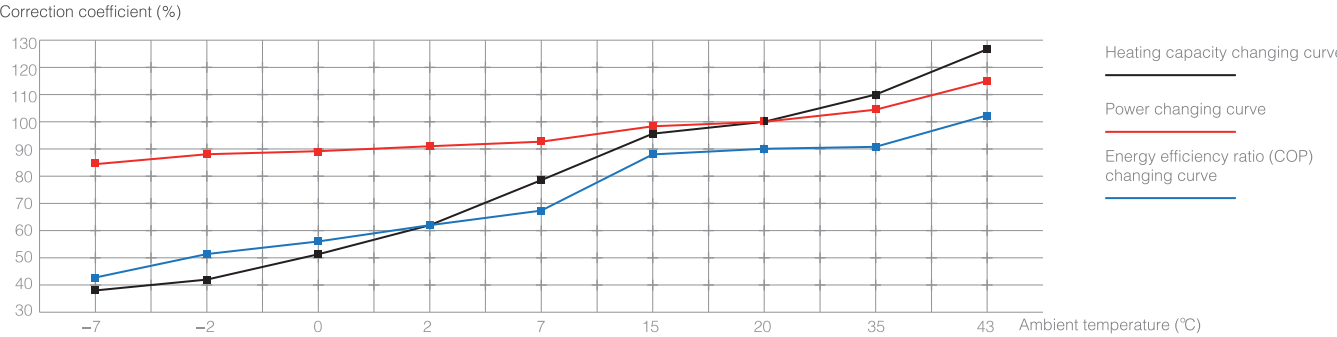
Heating performance correction coefficient (%) –A02H									
Ambient temperature (℃)	–7	–2	0	2	7	15	20	35	43
Heating capacity (%)	54.0	58.8	61.9	66.5	79.8	96.0	100.0	116.0	127.0
Power (%)	85.8	87.3	89.7	90.3	93.6	98.0	100.0	108.9	112.0
Energy efficiency ratio(COP) (%)	62.9	67.4	69.0	73.6	85.3	98.0	100.0	106.5	113.4

Heating performance correction coefficient changing curve

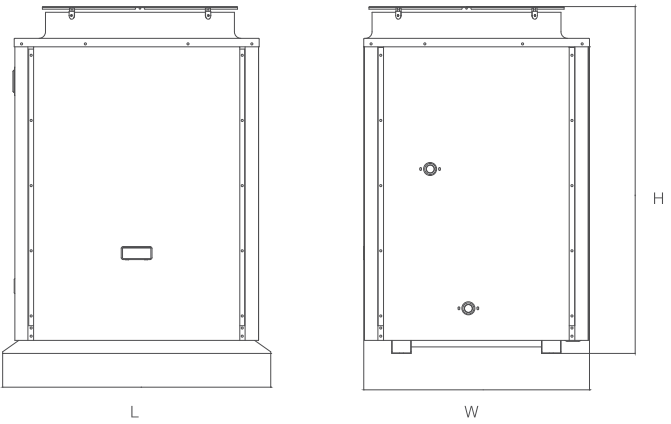


Heating performance correction coefficient (%) –A03H									
Ambient temperature (℃)	–7	–2	0	2	7	15	20	30	43
Heating capacity (%)	38.0	43.8	50.9	61.5	79.8	96.0	100.0	110.0	127.0
Power (%)	85.8	87.3	89.7	90.3	93.6	98.0	100.0	105.0	115.2
Energy efficiency ratio(COP) (%)	44.3	50.2	56.7	68.1	85.3	98.0	100.0	104.8	110.2

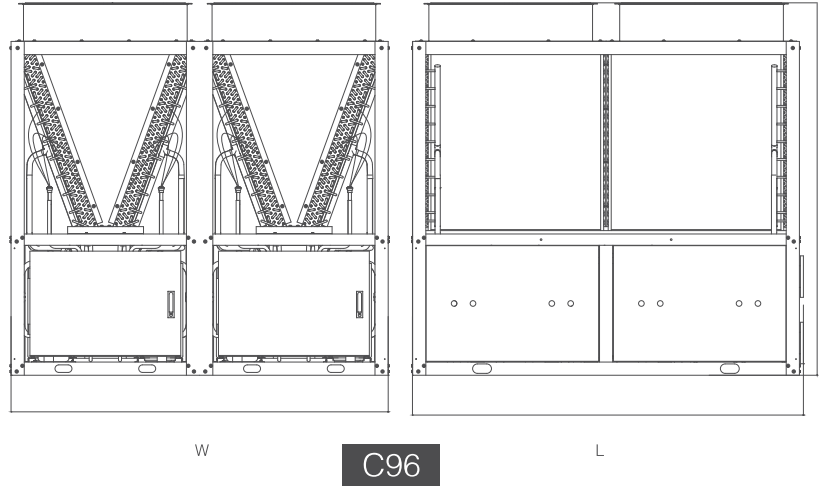
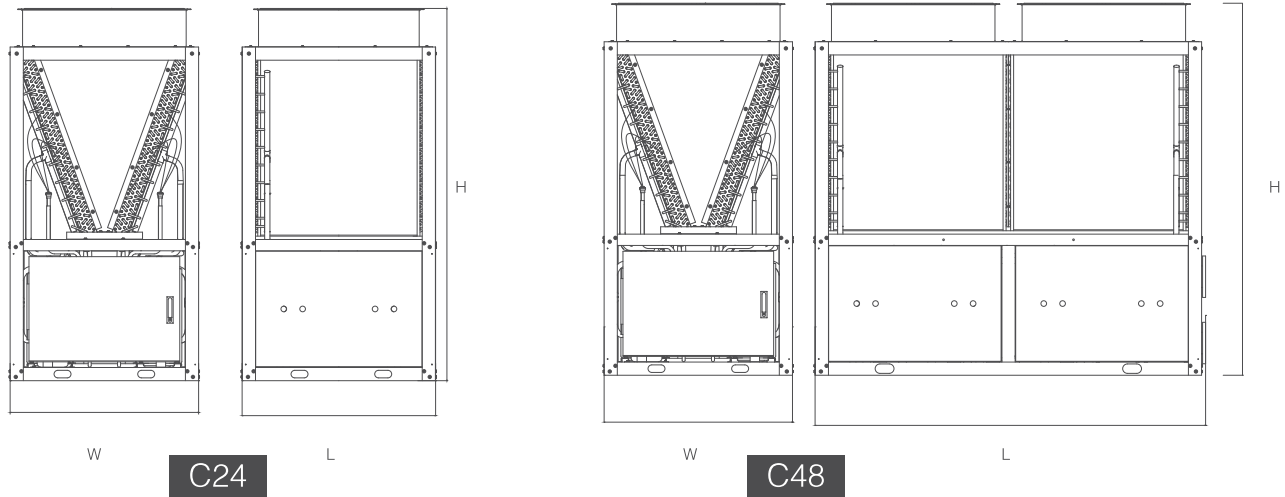
Heating performance correction coefficient changing curve



Product Dimensions -A02H

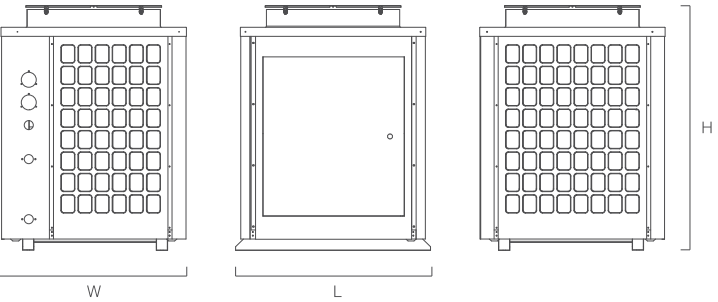


A02H series	
Model	Dimensions (L x W x H)
HW03Ps–E3	700 x 680 x 875
HW05Ps–E5	820 x 695 x 1060
HW03P–E3	700 x 680 x 875
HW05P–E5	820 x 695 x 1060
HW07P–E5	820 x 695 x 1060

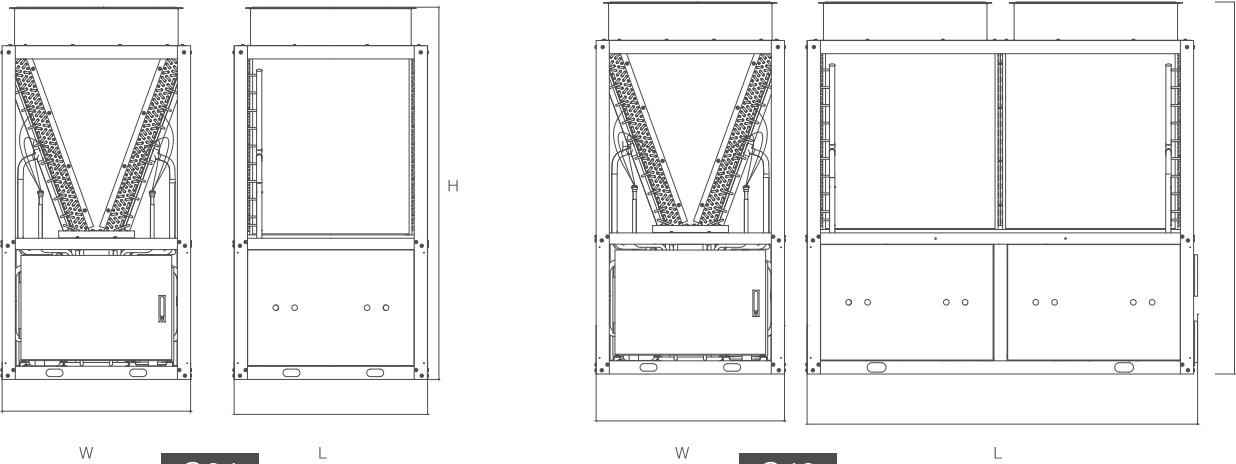


A02H series	
Model	Dimensions (L x W x H)
HW10P–C24	1000 x 1000 x 1858
HW14P–C24	1000 x 1000 x 1858
HW20P–C48	2050 x 1000 x 1900
HW24P–C48	2050 x 1000 x 1900
HW30P–C48	2050 x 1000 x 1980
HW36P–C48	2050 x 1000 x 1980
HW48P–C96	2050 x 2000 x 1980

Product Dimensions -A03H

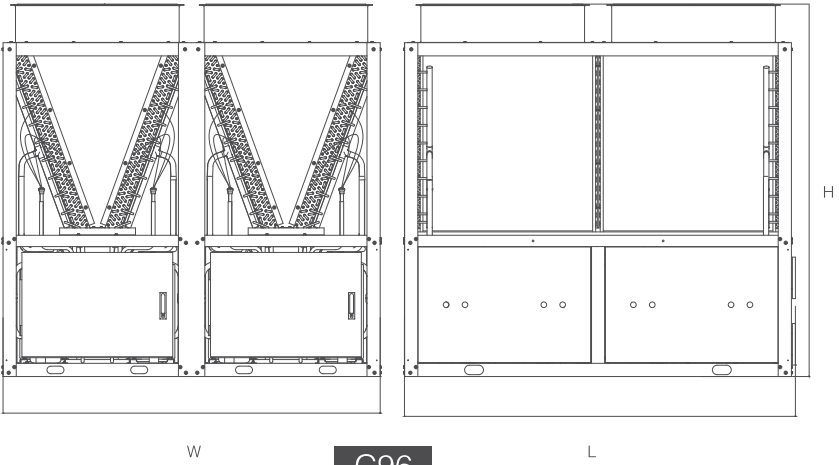


A03H series	
Model	Dimensions (L x W x H)
HT3P-T3	700 × 680 × 875
HT5P-T5	860 × 820 × 1080
HT7P-T5	860 × 820 × 1080



C24

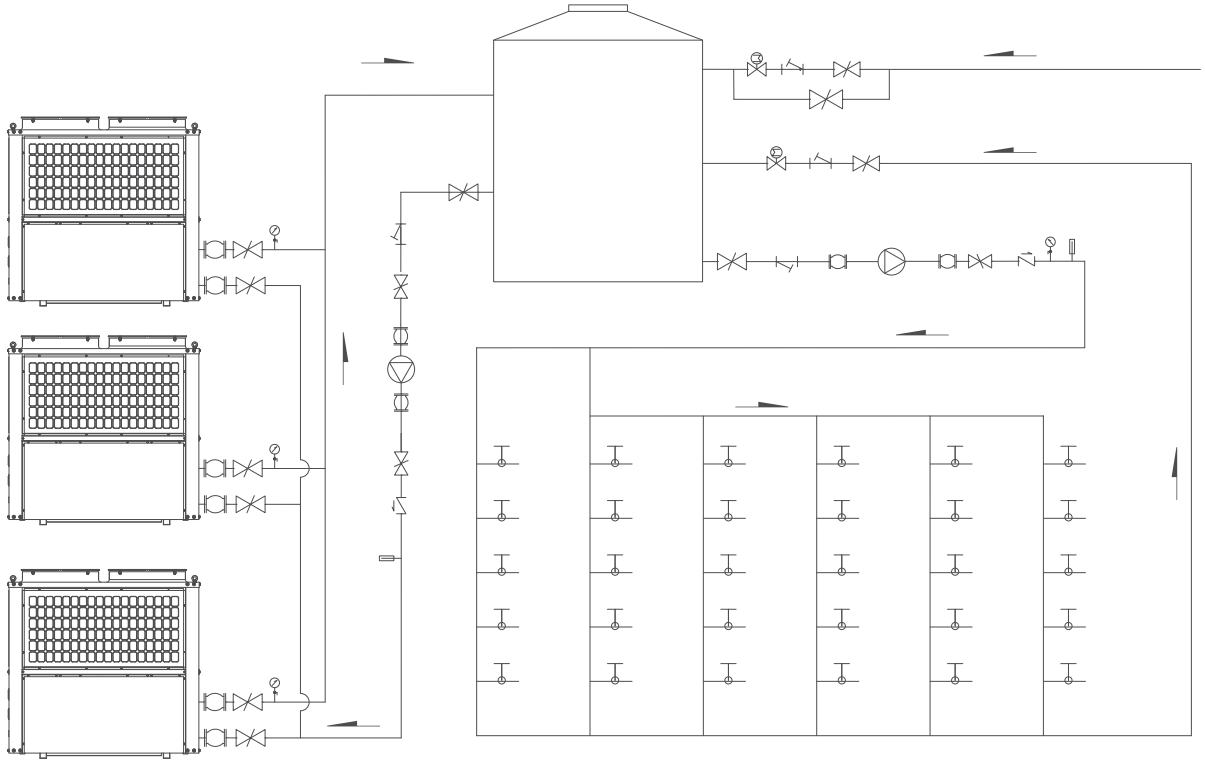
C48



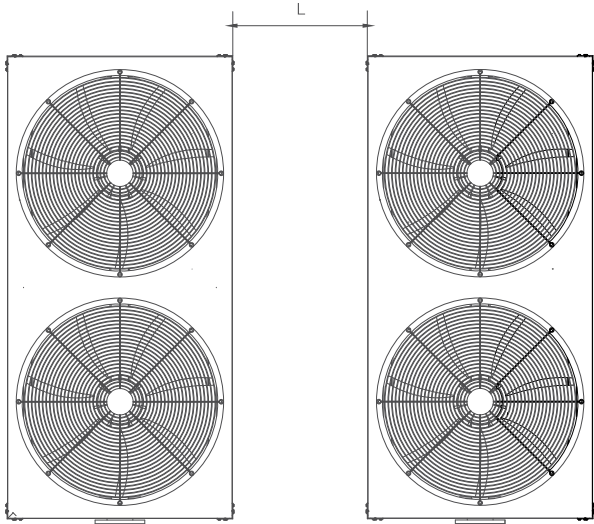
C96

A03H series	
Model	Dimensions (L x W x H)
HT10P-C24	1000 × 1000 × 1858
HT14P-C24	1000 × 1000 × 1858
HT20P-C48	2050 × 1000 × 1900
HT24P-C48	2050 × 1000 × 1900
HT30P-C48	2050 × 1000 × 1980
HT36P-C48	2050 × 1000 × 1980
HT48P-C96	2050 × 2000 × 1980

Running Chart



Spacing Suggestion



Note: Unit spacing "L" according to the scene, suggest not less than 500mm for maintenance and operation.