

揚帆

YANGFAN

空氣對水螺旋式  
熱泵熱水機 (冷熱兩用)

*Air to Water Heat Pump Unit  
(Cold/Hot)*



同時供應冰水和熱水，一種能源雙料享用

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榮獲國際品質認證

以蒸氣壓縮方式作成熱泵熱水機，用做產業空調的再熱、農業用溫室加熱、民生用水加熱等，相較於傳統的電熱、天然氣、燃油加熱，消耗電能及燃料費用更低，無環境污染，是一種節能安全又環保的產品。同時製冷及製熱應用，一台機組兩種用途，能源效率大大增加。

#### ■ 壓縮機

選用半密閉螺旋式(熱泵專用)壓縮機，高壓縮比，可依負載大小，分段調整其排氣量，達到加、卸載的功能。

#### ■ 冷凝器

選用殼管式冷凝器，依產業及民生應用之溫度需求、水側材質匹配專屬的冷凝器。

#### ■ 冰水器

選用殼管式冰水器，依使用之溫度需求匹配冰水器。

#### ■ 空氣換熱器

選用高效率鰭片式盤管，當容量已經足夠時，將多餘的容量排出室外，較大的面積，適合不同季節之外氣溫度，以求冷暖供需平衡。

#### ■ 風扇馬達

螺旋槳軸流式風扇馬達，風量大、轉速低，放置於室外噪音低，不影響鄰居安寧。

#### ■ 冷媒流量控制

感溫式膨脹閥，精確控制冷媒系統的過熱度。液噴射電磁閥，確保壓縮機不致過熱。

#### ■ 人性化操控管理

採用 PLC 可程式控制，具備自動啟動前檢查、警報記錄及自我診斷功能，精確控制熱水器回水或出水之溫度。採觸控式液晶中文顯示之 LCD 人機介面、網路監控連線及數位化溫度、耗電量等感測。內建萬年曆及時間功能，可設定整年假日與非假日之開機/停機時間，並記錄運轉狀況、運轉時數與維修保養預警，有效提升系統管理。對溫度、壓力、過載、防止壓縮機頻繁啟動、逆向運轉等作最有效保護，當機組滿載或部份負載時，皆能保持高效率、安全及穩定之運轉。控制配合 RS-485 通訊埠，以 MODBUS (ASCII/RTU) 通訊協定，可配合其他中央監控資訊服務，或使用本公司無線網路監控系統，透過雲端伺服器利用手機或遠控控制面板作開/關機及監控功能。

**Air to water heat pump unit(Cold/Hot)** use the vapor compression cycle for air condition reheating, agricultural greenhouse heating, general water heating etc., to compare savings costs traditional electric heaters, natural gas, fuel heating, consumption of electricity and fuel, will not pollute the environment. It is an energy-conservation, safe and environmentally friendly products. Can made both air-conditioning and heating, two uses for one unit, energy efficiency has been greatly increased.

#### **Compressor**

Use semi-hermetic screw (heat pump special) compressor, high compression ratio, according to the capability of loading to adjustment of its discharge volume, to achieve the function of loading or unloading.

#### **Condenser**

Use shell and tube type. According to the industry and daily application temperature demand, water side material according to the custom-made of condenser.

#### **Chiller**

Use shell and tube type. According to the industry and daily application temperature demand, selective assembly of chiller.

#### **Heat exchanger(Air)**

Use high efficient coil type evaporator. When capacity is sufficient, drain excess capacity outdoors. Large cooling area, suitable for different seasons outside temperature, for the balance between supply and demand between cold and hot.

#### **Fan motor**

Use propeller fan & motor, high air volume desired, low rotational speed. Low noise, can't effect neighbor.

#### **Refrigerant flow control**

Use thermo expansion valve and accurate control super heat of refrigerant system, Use liquid inject magnetic valve and make sure compressor won't be overheating.

#### **Humanized management control**

Adopt PLC programming control intelligent unit to perform a series of pre-start checks, alarm recording and self-diagnosing, and have the processing of the heat pump unit returning or leaving water temperature precisely controlled. Using touch control human-machine LCD interface displayed in Chinese, network monitoring and digital temperature sensors, power meter, etc. The in-built perpetual calendar and clock help you to set the time to start or stop the unit on holidays or non-holidays, and help you to record the unit working status, running hours and notice the maintenance alarm to keep the system managed efficiently. The unit is protected from high temperature, high pressure, compressor frequently ON/OFF and compressor running in reverse so as to keep the operation safely and stable with high efficiency no matter running at full load or partial load. Control with RS-485 communication port, use MODBUS (ASCII/RTU) communication protocol, can be combined with other central monitoring information services, or use the company's wireless network monitoring system, through the cloud server using cell phones or remote control panel for on/off and monitoring functions.

## 標準規範 Standard Specifications

## 單壓縮機系列 Single compressor series

型號 MODEL	單位 UNIT	YASHWR-			
		300 S	400 S	500 S	600 S
製熱能力 Heating Capacity	kcal/h kW	102,500 119.2	112,100 130.3	151,300 175.9	194,200 225.8
製冷能力 Cooling Capacity	kcal/h kW	72,800 84.6	77,400 90.0	107,200 124.6	138,300 160.8
消耗電力 Power Consumption	kW	40.7	46.7	60.5	74.8
運轉電流 Running Current	A	70.4	83.8	103.1	132.7
<b>壓縮機 Compressor</b>					
型式 Type		半密閉螺旋式 Semi-Hermetic screw type			
電源 Power Source		3 $\phi$ -380V-60Hz			
輸入功率 Power Input	kW	36.1	42.1	53.6	67.9
起動方式 Starting Method		Y- $\Delta$ 啟動 Y- $\Delta$ Starting			
<b>冷凝器 Condenser</b>					
型式 Type		殼管式 Shell and tube			
熱水量 Hot Water Flow	l/min	342	374	504	647
出入管徑 Piping Conn.	In	2-1/2	3	3	4
<b>冰水器 Chiller</b>					
型式 Type		殼管乾式 Shell and tube direct expansion dry type			
冰水量 Chilled Water Flow	l/min	243	258	357	461
出入管徑 Piping Conn.	In	2-1/2	2-1/2	3	3
<b>空氣換熱器 Heat Exchanger (air)</b>					
型式 Type		鰭片盤管式 Copper tube and aluminum fin coil			
<b>風扇 Fan</b>					
型式 Type		螺旋槳式 Propeller type			
出力 Power Output	kW	0.75 $\times$ 4	0.75 $\times$ 4	0.75 $\times$ 6	0.75 $\times$ 8
<b>冷媒控制 Refrigerant Control</b>					
型式 Type		感溫式膨脹閥 Thermal expansion valve			
冷媒 Refrigerant		R-134a			
冷凍油 Lubricate		CPI-120			
油充填量 Oil Charge	L	11	13	13	16
<b>外型尺寸 Dimension</b>					
A		2,080	2,080	3,030	3,984
B	mm	2,145	2,145	2,180	2,180
C		1,930	1,930	2,200	2,200

註:

1. 以上製熱能力依據熱水出水溫度 55°C；入水溫度 50°C；冰水出水溫度 7°C；入水溫度 12°C；環境溫度 20°C 條件測得。

2. 如需變更電壓請洽本公司技術部門。

Note :

1. The heating capacity is measured based on hot water outlet temp. 55°C, hot water inlet temp. 50°C, chilled water outlet temp. 7°C, chilled water inlet temp. 12°C, ambient temp. 20°C.

2. Please contact with Yangfan tech. dept. if you want to change the power voltage.

## 標準規範 Standard Specifications

## 雙壓縮機系列 Daual compressor series

型號 MODEL	單位 UNIT	YASHWR-			
		600 D	800 D	10H D	12H D
製熱能力 Heating Capacity	kcal/h kW	205,000 238.4	224,100 260.6	302,700 351.9	388,600 451.8
製冷能力 Cooling Capacity	kcal/h kW	145,600 169.3	154,800 180.0	214,400 249.3	276,600 321.6
消耗電力 Power Consumption	kW	81.3	95.6	121.0	152.1
運轉電流 Running Current	A	140.8	172.2	206.2	261.2
<b>壓縮機</b> Compressor					
型式 Type	半密閉螺旋式 Semi-Hermetic screw type				
電源 Power Source	3 $\phi$ -380V-60Hz				
輸入功率 Power Input	kW	72.1	84.1	107.2	135.9
起動方式 Starting Method	Y- $\Delta$ 啟動 Y- $\Delta$ Starting				
<b>冷凝器</b> Condenser					
型式 Type	殼管式 Shell and tube				
熱水量 Hot Water Flow	l/min	683	747	1,009	1,295
出入管徑 Piping Conn.	In	4	4	4	5
<b>冰水器</b> Chiller					
型式 Type	殼管乾式 Shell and tube direct expansion dry type				
冰水量 Chilled Water Flow	l/min	485	516	715	922
出入管徑 Piping Conn.	In	3	4	4	4
<b>空氣換熱器</b> Heat Exchanger (air)					
型式 Type	鰭片盤管式 Copper tube and aluminum fin coil				
<b>風扇</b> Fan					
型式 Type	螺旋槳式 Propeller type				
出力 Power Output	kW	0.75 $\times$ 8	0.75 $\times$ 10	0.75 $\times$ 12	0.75 $\times$ 14
<b>冷媒控制</b> Refrigerant Control					
型式 Type	感溫式膨脹閥 Thermal expansion valve				
冷媒 Refrigerant	R-134a				
冷凍油 Lubricate	CPI-120				
油充填量 Oil Charge	L	22	26	26	32
<b>外型尺寸</b> Dimension					
A		3,984	4,985	5,940	6,892
B	mm	2,180	2,222	2,222	2,222
C		2,200	2,200	2,200	2,200

註:

1. 以上製熱能力依據熱水出水溫度 55°C；入水溫度 50°C；冰水出水溫度 7°C；入水溫度 12°C；環境溫度 20°C 條件測得。

2. 如需變更電壓請洽本公司技術部門。

Note :

1. The heating capacity is measured based on hot water outlet temp. 55°C, hot water inlet temp. 50°C, chilled water outlet temp. 7°C, chilled water inlet temp. 12°C, ambient temp. 20°C.

2. Please contact with Yangfan tech. dept. if you want to change the power voltage.

◆ 水溫變化性能表 Water Temperature Performance

單位 Unit : kW

型號 Model		YASHWR					
		300 S			400 S		
		熱水出水溫度 Hot water outlet temp.			熱水出水溫度 Hot water outlet temp.		
冰水出水溫度 Chilled water outlet temp.		45°C	50°C	55°C	45°C	50°C	55°C
5°C	製熱能力 Heating Capacity	114.0	113.2	112.3	131.1	126.5	121.7
	製冷能力 Cooling Capacity	86.6	82.6	78.1	98.2	90.2	82.0
	壓縮機耗電 Power Consumption	28.6	32.0	35.7	34.3	37.8	41.5
7°C	製熱能力 Heating Capacity	121.0	120.1	119.2	140.4	135.4	130.3
	製冷能力 Cooling Capacity	93.5	89.3	84.7	107.1	98.8	90.0
	壓縮機耗電 Power Consumption	28.8	32.2	36.1	34.8	38.3	42.1
9°C	製熱能力 Heating Capacity	128.2	127.3	126.4	150.4	145.0	139.5
	製冷能力 Cooling Capacity	100.6	96.4	91.6	116.6	107.8	98.6
	壓縮機耗電 Power Consumption	29.0	32.4	36.3	35.2	38.7	42.7

型號 Model		YASHWR					
		500 S			600 S		
		熱水出水溫度 Hot water outlet temp.			熱水出水溫度 Hot water outlet temp.		
冰水出水溫度 Chilled water outlet temp.		45°C	50°C	55°C	45°C	50°C	55°C
5°C	製熱能力 Heating Capacity	151.9	146.7	165.9	215.8	214.4	213.0
	製冷能力 Cooling Capacity	113.4	104.2	115.0	164.0	156.6	148.4
	壓縮機耗電 Power Consumption	40.2	44.3	53.2	54.1	60.3	67.3
7°C	製熱能力 Heating Capacity	178.6	177.2	176.0	228.9	227.4	225.9
	製冷能力 Cooling Capacity	137.5	131.4	124.6	176.6	169.1	160.8
	壓縮機耗電 Power Consumption	42.8	47.9	53.6	54.6	60.9	67.9
9°C	製熱能力 Heating Capacity	174.3	187.9	186.6	242.6	241.0	239.4
	製冷能力 Cooling Capacity	134.7	141.7	134.8	189.9	182.2	173.6
	壓縮機耗電 Power Consumption	41.3	48.3	54.0	55.0	61.4	68.6

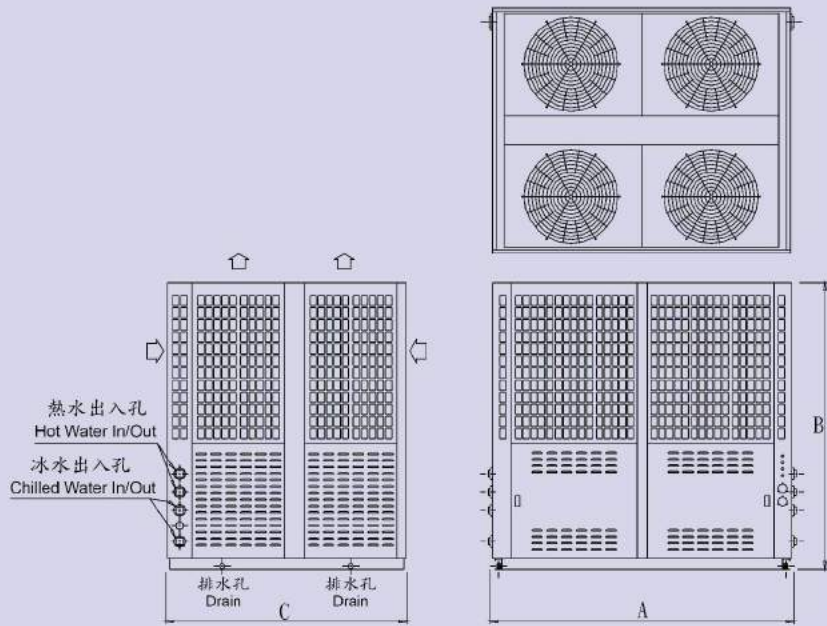
◆ 水溫變化性能表 Water Temperature Performance

單位 Unit : kW

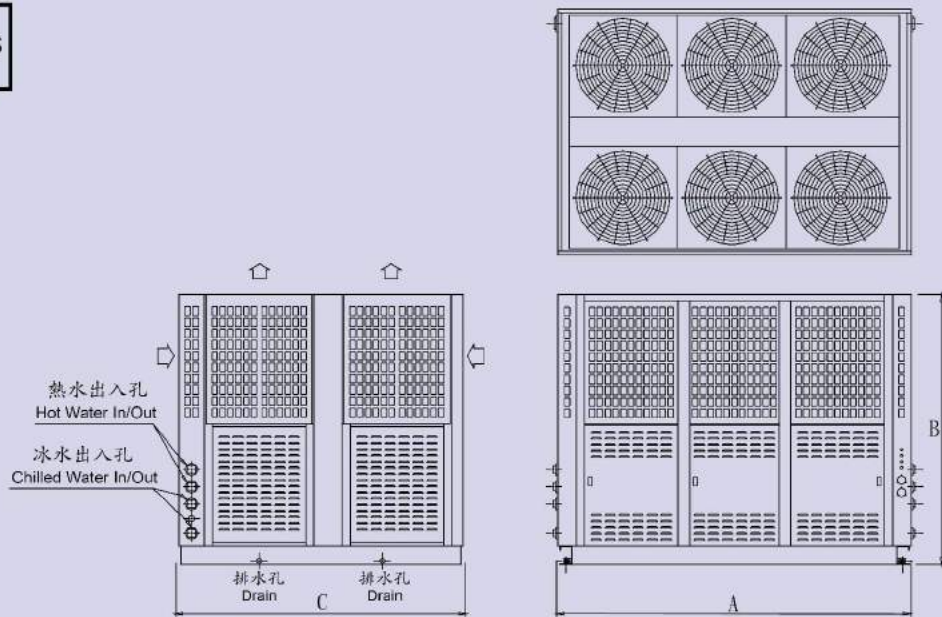
型號 Model		YSHW					
		600 D			800 D		
		熱水出水溫度 Hot water outlet temp.			熱水出水溫度 Hot water outlet temp.		
冰水出水溫度 Chilled water outlet temp.		45°C	50°C	55°C	45°C	50°C	55°C
5°C	製熱能力 Heating Capacity	228.0	226.3	224.7	262.2	253.0	243.3
	製冷能力 Cooling Capacity	173.2	165.2	156.2	196.4	180.4	164.0
	壓縮機耗電 Power Consumption	57.1	64.0	71.5	68.7	75.5	83.6
7°C	製熱能力 Heating Capacity	241.9	240.3	238.4	280.9	270.8	260.6
	製冷能力 Cooling Capacity	187.0	178.6	169.3	214.2	197.6	180.0
	壓縮機耗電 Power Consumption	57.6	64.4	72.1	69.6	76.6	84.1
9°C	製熱能力 Heating Capacity	256.5	254.6	252.8	300.7	290.1	279.0
	製冷能力 Cooling Capacity	201.1	192.7	183.3	233.3	215.7	197.2
	壓縮機耗電 Power Consumption	58.0	64.8	72.5	70.4	77.5	85.4

型號 Model		YSHW					
		10H D			12H D		
		熱水出水溫度 Hot water outlet temp.			熱水出水溫度 Hot water outlet temp.		
冰水出水溫度 Chilled water outlet temp.		45°C	50°C	55°C	45°C	50°C	55°C
5°C	製熱能力 Heating Capacity	303.8	293.4	331.9	431.5	428.9	426.0
	製冷能力 Cooling Capacity	226.7	208.5	230.0	328.0	313.2	296.8
	壓縮機耗電 Power Consumption	80.5	88.6	106.4	108.3	120.7	134.6
7°C	製熱能力 Heating Capacity	357.1	354.4	352.0	457.8	454.9	451.8
	製冷能力 Cooling Capacity	274.9	262.8	249.3	353.2	338.3	321.6
	壓縮機耗電 Power Consumption	85.6	95.9	107.2	109.1	121.8	135.9
9°C	製熱能力 Heating Capacity	348.5	375.8	373.1	485.2	482.0	478.9
	製冷能力 Cooling Capacity	269.4	283.3	269.6	379.9	364.5	347.3
	壓縮機耗電 Power Consumption	82.6	96.5	108.1	110.0	122.8	137.2

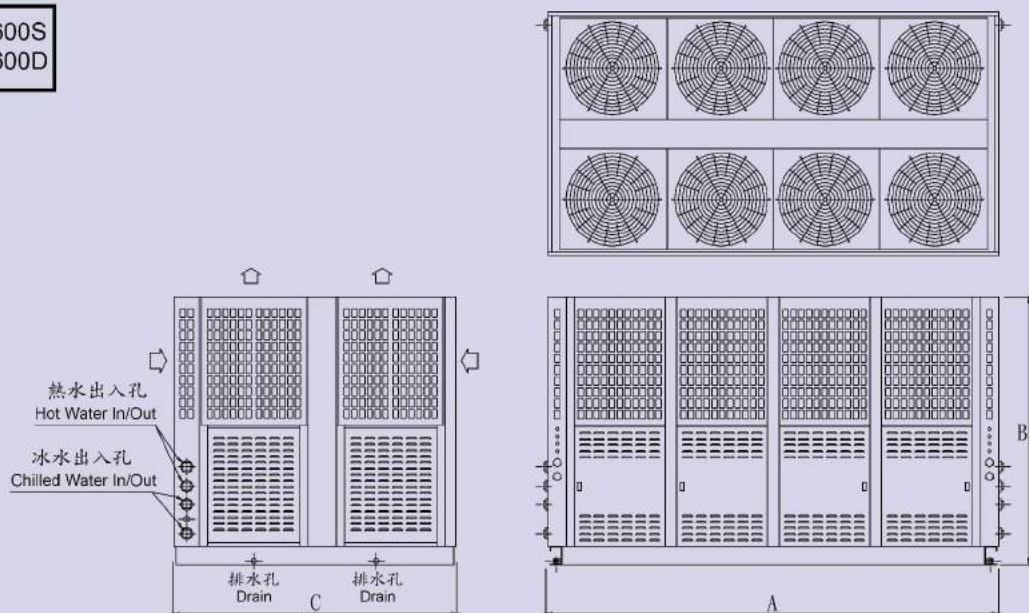
YASHWR-300S  
YASHWR-400S



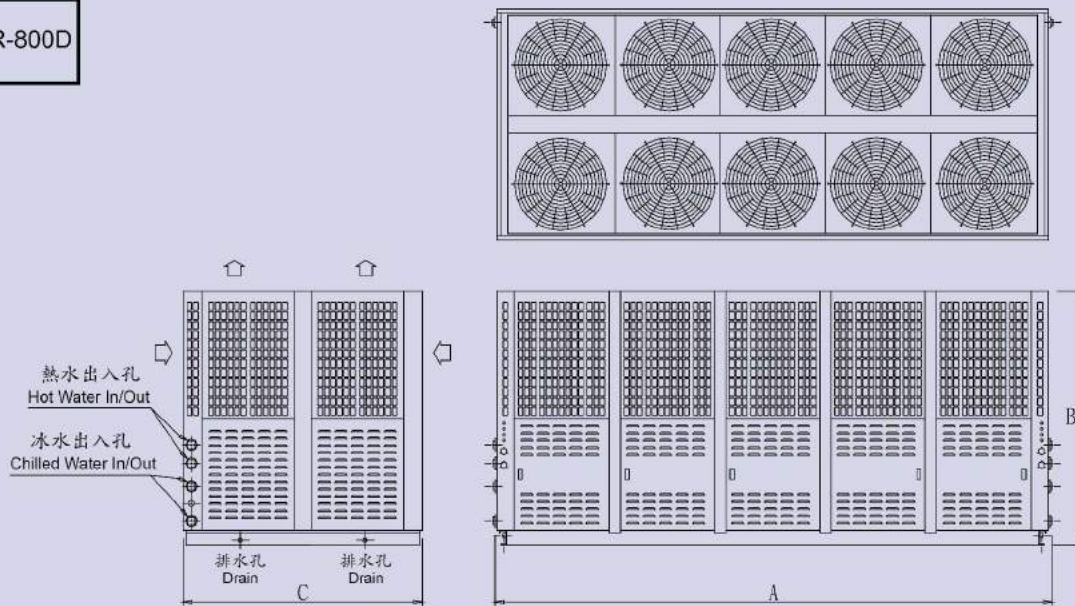
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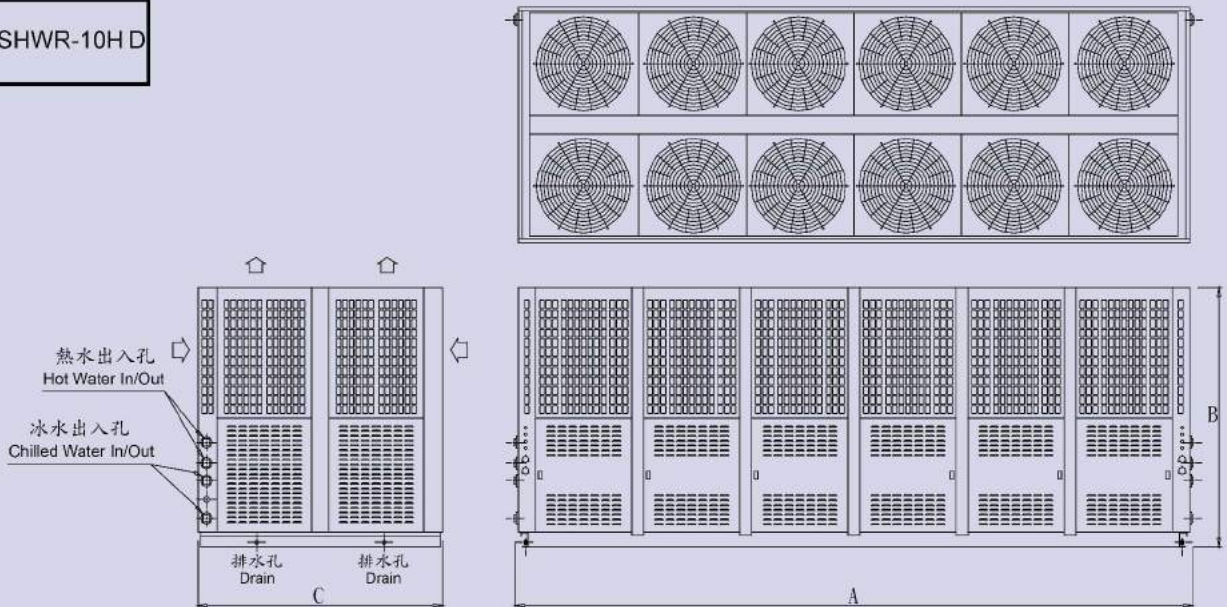
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YASHWR-600D



YASHWR-800D



YASHWR-10HD



YASHWR-12HD

