

WARMICHKO

AIR SOURCE HEAT PUMP



Tomidivit Holdings B.V.

tomidivit.com

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Many people and companies in the world are working now in an attempt to assure safer and more sustainable future thought cutting CO2 emission and environmental pollution by decreasing the utilization of fossil fuels while maintaining current high standards of living at the same time. One of the possible recognized answers is to change the way we heat our homes. Burning coal or gas is an efficient decision to stay warm but it is not what we all need now in terms of reaching carbon neutrality. Hence, we must come up with a viable alternative and a low-temperature air source heat pump is the one. Aimed at making our contribution into better and more sustainable future we have been examining how we may introduce into European market reasonably priced and highly efficient and reliable heat pumps to replace heat sources based on fossil fuel. As a result, we are proud to present **low-temperature air source heat pumps manufactured by some of the best Chinese producers**. The products are based on the research results of the National Eleventh Five-Year Science and Technology Support Project "Air Source Heat Pump Key Technology Research Project" and through years of continuous innovation and an efficient and environmentally friendly, intelligent air source heat pump products has emerged.



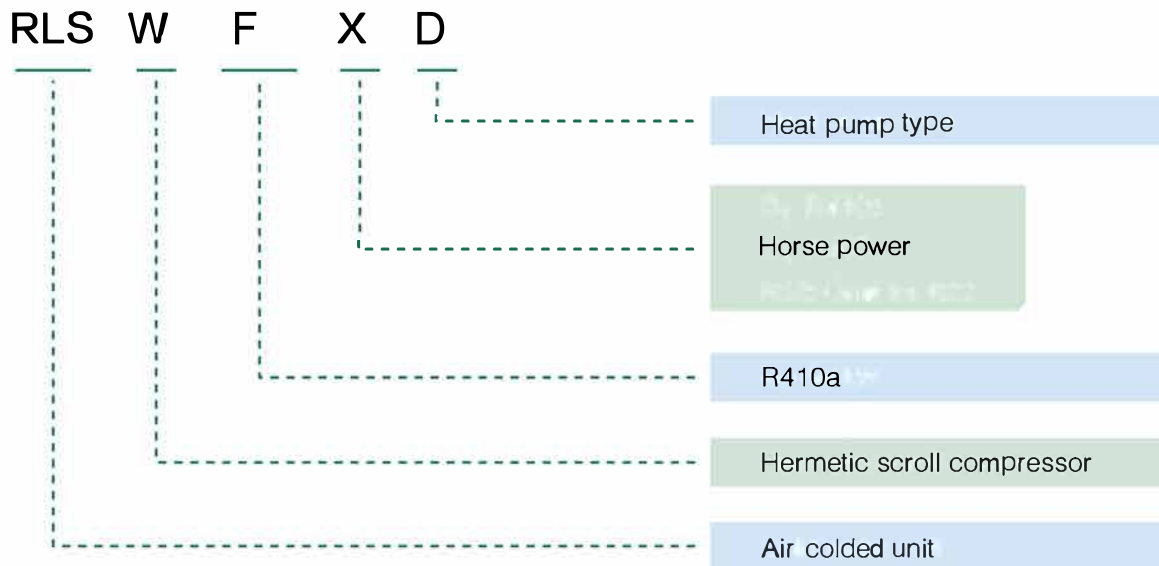
The unit uses R410a environmentally friendly refrigerant, which has outstanding heating effect and can start heating normally at an ambient temperature of -30°C , meeting the heating needs of users even in cold areas. It adopts high-efficiency energy-saving fans and has excellent part-load performance. The entire series of products meet all energy-saving product requirements. The manufacturers hold the policy of constant research and development in order to continue to introduce new, even better, products advanced production equipment and, most importantly, adopt the international ISO9001 quality management system as a strong guarantee for product quality. Precision testing equipment and rigorous testing methods are the fundamental insurance of quality and are timely and thoughtful. We are placing orders with our partner manufacturers on OEM basis and introduce the products into EU market with our full confidence under our own brand - **WARMICHKO**. We are very proud to state that profound expertise, innovations, mass production and low costs of our manufacturing partners enable us to offer very attractive and highly competitive prices making our heat pumps very attractive for all categories of customers. Ones does not make a sacrifice to afford our highly efficient and innovative devices! Interested? Continue reading and learn more!

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1. NAMING SCHEME



2. BRIEF INTRODUCTION

Warmichko low-temperature air source heat pump heating unit is based on the research results of the National Eleventh Five-Year Science and Technology Support Project "Air Source Heat Pump Key Technology Research Project", and through years of continuous innovation and optimization, it has successfully developed an efficient and environmentally friendly, intelligent air source heat pump products. Warmichko low-temperature air source heat pump heating unit uses R410a environmentally friendly refrigerant, which has outstanding heating effect and can start heating normally at an ambient temperature of -30°C , meeting the heating needs of users in cold areas. The unit adopts high-efficiency energy-saving fans and has excellent part-load performance. The entire series of products meets the national energy-saving product requirements.

1. Compressor characteristics and components

The scroll compressor itself has excellent anti-liquid impact ability. After installing the oil heating device, it can effectively prevent the machine failure caused by insufficient oil-fluorine separation during operation.

2. Coaxial sleeve heat exchanger, high heat exchange efficiency, antifreeze and anti-blocking.

3. Control system

Includes starting device, overheating protection device and power supply protection. The controller adopts well-known brand wide-temperature electrical components, which can operate reliably at an ambient temperature of -30°C to 55°C . It has perfect automatic control function, equipped with RS-485 standard communication interface.

4. Control method

Microcomputer control features:

- (1) Control of chilled water, return water, outlet water temperature.
- (2) When the load reaches the set stop value of the unit, it automatically stops and starts.
- (3) LCD display screen.
- (4) Inlet and return water temperature display and setting, operating status, compressor operating time.
- (5) Accepts remote start and stop signals.

5. Safety facilities

- Safety valve
- High and low voltage switch
- Antifreeze temperature protection
- Oil heater
- Temperature control
- Pressure gauge
- Overload protector
- Power protector

6. Low noise

Adopting the latest structural shock-absorbing design, the compressor is equipped with shock-absorbing pads, and the fan and compressor are packed with sound insulation cotton. The new outlet grille optimizes the air flow organization and can reduce the fan motor speed. Combined with the automatic air volume adjustment technology, the whole machine is less noisy. Excellent performance and optional silent mode.

3. REFERENCE TABLE FOR RECOMMENDED HEATING AREA

Reference table for recommended heating area (without electric auxiliary)

Model	RLSWFX3D	RLSWF3D	RLSWF4D	RLSWF5D	RLSWF6D	RLSWF8D	RLSWF10D	RLSWF12D	RLSWF15D
HP	Small 3 HP	3 HP	4 HP	5 HP	6 HP	8 HP	10 HP	12 HP	15 HP
Floor heating	60-100m ²	63-130m ²	85-165m ²	113-214m ²	117-228m ²	156-285m ²	206-385m ²	226-457m ²	312-600m ²
Fan coil unit	40-70m ²	42-90m ²	57-115m ²	76-150m ²	78-160m ²	104-200m ²	137-270m ²	150-320m ²	208-420m ²
Column radiator	40-70m ²	42-90m ²	57-115m ²	76-150m ²	78-160m ²	104-200m ²	137-270m ²	150-320m ²	208-420m ²

1. Taking radiator heating as an example, first of all, it is recommended to use low water temperature heat exchange radiators. Secondly, the heat exchange surface must form a reasonable ratio with the room area. The ratio is approximately: the heating area of each column radiator (height is 80cm) is about 0.6 ~0.8 square meters.

2. In the following situations, you need to contact a professional to provide a reasonable design plan for the heating area recommended by the unit based on the actual situation of the house.

- Lack of exterior wall insulation Single glazing House doors and windows face different directions
- Are there air leaks from walls, doors, and windows The ceiling height exceeds 3 meters

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4. WARMICHKO CORE TECHNOLOGY

1. DC variable frequency compressor operates more efficiently

The compressor adopts a unique dual-rotor structure design, which can effectively balance the bearing load and extend the service life of the compressor. At the same time, the vibration and noise of the compressor are also greatly reduced; the use of DC frequency conversion technology can achieve stepless capacity adjustment and accurately realize partial load. Then partial output is used to reduce the energy consumption of the compressor. At the same time, the problem of water temperature fluctuation caused by frequent start and stop capacity adjustment is solved, and the compressor runs more efficiently, smoothly and quietly.



2. Electronic expansion valve throttling, precise temperature control, and more energy-saving operation

The well-known brand electronic expansion valve is used as the throttling mechanism, which has the advantages of rapid action and precise control. Compared with thermal expansion valves, electronic expansion valves have a wider adjustment range, more accurate refrigerant flow control under low ambient temperature conditions and partial load conditions, and can effectively prevent refrigerant liquid backflow and excessive exhaust temperature.

3. High-efficiency noise reduction fan, energy saving and low noise

Using a high-efficiency, energy-saving and silent fan with multi-speed adjustment, the motor operating efficiency is greatly improved, especially when running at low speed, the efficiency is even greater. In conjunction with the DC variable frequency compressor, the fan speed is adjusted according to the actual load to further increase the energy saving effect.

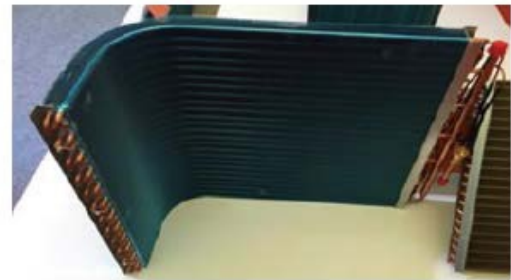




4.Coaxial sleeve heat exchanger, high heat exchange efficiency, anti-freeze and anti-blocking
The condenser adopts a high-efficiency sleeve heat exchanger. The spiral grooves form a highly turbulent flow and enhance the heat transfer coefficient to achieve efficient heat exchange. At the same time, the spiral structure has strong self-cleaning ability, which can effectively prevent the generation of scale, and has good flexibility and anti-freeze ability. Good to prevent the heat exchanger from freezing and cracking.

5.High-efficiency air side heat exchanger with excellent heat exchange effect

It is made of high-quality and high-efficiency internally threaded copper tubes threaded through corrugated aluminum fins, which are mechanically expanded. It is cleaned by an ultrasonic cleaning device and N2 shielded welded, so that it has excellent heat transfer coefficient. The surface of the heat exchanger fins is coated with a hydrophilic coating, which allows defrost water to drain away quickly and improves the efficiency of the heat exchanger. At the same time, the coating has excellent anti-corrosion properties and can greatly extend the service life of the heat exchanger.



6.Intelligent control, 485 interface comes with cloud remote diagnosis service and after-sales service

Adopting a new communication design, the user operation is more convenient and smarter. It can also provide a variety of control methods such as modular control, group control, and home intelligent control according to customer needs. The 485 communication interface is reserved to realize network communication requirements, real-time monitoring, fault response and prevention, unit health diagnosis, and professional maintenance.

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5.SPECIFICATION

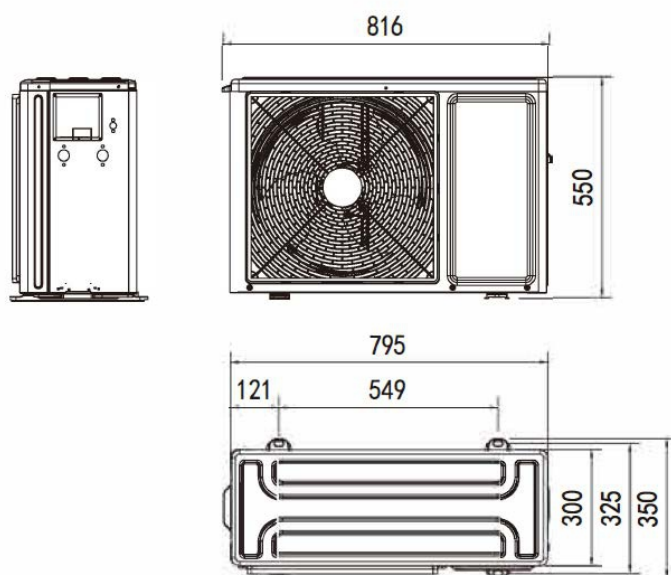
Model			RLSWFX3D	RLSWF3D	RLSWF4D	RLSWF5D	RLSWF6D
Nominal cooling	Cooling capacity	kW	5.00	5.80	7.20	9.50	11.10
	input power	kW	1.99	2.23	2.82	3.63	4.16
	EER	W/W	2.51	2.60	2.55	2.62	2.67
Nominal heating	Heating capacity	kW	5.50	6.20	8.50	10.50	11.50
	input power	kW	2.35	2.61	3.70	4.71	5.18
	COP	W/W	2.34	2.38	2.30	2.23	2.22
Low temperature heating (-20°C)	Heating capacity	kW	4.80	5.00	6.80	9.10	9.40
	input power	kW	2.39	2.48	3.66	4.44	4.56
	COP	W/W	2.01	2.02	1.86	2.05	2.06
Power Specifications		V/Ph/Hz	220/1/50				
Maximum input power (excluding electric heating)		kW	2.8	4.4	4.8	6.6	6.6
Maximum input current (excluding electric heating)		A	13	20	22	30	30
Highest Out of water Temperature (excluding electric heating)		°C	55				
Operating temperature range		°C	Minus 20-40				
Refrigerant		Specification	R410A				
		Charging amount/Kg	1.20	1.30	2.00	2.20	2.20
Water system	Waterway heat exchanger	Specification	Casing heat exchanger				
	Electric heating	kW	Reserve power				
	Water inlet/outlet pipe	inch(mm)	3/4" internal teeth	3/4" internal teeth	1" internal teeth	1" internal teeth	1" Inner teeth
Net size	Host (length*width*height)	mm	795*300*550	920*365*710	947*403*813	940*393*1373	940*393*1373
Package Size	Host (length*width*height)	mm	902*398*594	1025*465*760	1050*490*850	1095*495*1380	1095*495*1380
Net weight	Host	kg	45	60	75	120	130
Gross weight	Host	kg	50	65	90	135	145
Noise	Host	dB(A)	≤59.5	≤59.5	≤61	≤61.5	≤61.5
Note:							
Implementation standard: "GB/T25127.2-2010 Low ambient temperature air source heat pump (chilled water) unit"							
Nominal heating conditions: ambient dry bulb temperature -12°C, wet bulb temperature -14°C.							

Model			RLSWF8D	RLSWF10D	RLSWF12D	RLSWF15D
Nominal cooling	Cooling capacity	kW	11.60	19.50	22.50	25.00
	input power	kW	4.64	7.41	8.62	11.20
	EER	W/W	2.50	2.63	2.61	2.60
Nominal heating	Heating capacity	kW	14.50	19.50	22.50	27.00
	input power	kW	6.02	7.86	9.34	11.44
	COP	W/W	2.41	2.48	2.41	2.36
Low temperature heating (-20°C)	Heating capacity	kW	12.50	16.50	18.10	23.50
	input power	kW	6.25	7.89	9.28	9.50
	COP	W/W	2.00	2.09	1.95	2.05
Power Specifications		V/Ph/Hz	220/1/50	380/3/50		
Maximum input power (excluding electric heating)		kW	7.1	10.5	12.5	19
Maximum input current (excluding electric heating)		A	32.5	20	23.5	34
Highest Out of water Temperature (excluding electric heating)		*C	55			
Operating temperature range		*C	Minus 20-40			
Refrigerant		Specification	R410A			
		Charging amount/Kg	2.50	4.00	4.30	7.00
Water system	Waterway heat exchanger	Specification	Casing heat exchanger			
	Electric heating	kW	Reserve power			
	Water inlet/outlet pipe	inch(mm)	1" internal teeth	5/4" outer teeth	5/4" outer teeth	DN40 (external teeth)
Net size	Host (length*width*height)	mm	940*393*1373	1118*425*1556	1118*425*1556	933*933*1880
Package Size	Host (length*width*height)	mm	1095*495*1380	1260*485*1571	1260*485*1571	990*960*1940
Net weight	Host	kg	140	160	165	260
Gross weight	Host	kg	155	180	185	290
Noise	Host	dB(A)	≤62	≤64	≤64	≤62
Note:						
Implementation standard: *GB/T25127.2-2010 Low ambient temperature air source heat pump (chilled water) unit*						
Nominal heating conditions: ambient dry bulb temperature -12°C, wet bulb temperature -14°C.						

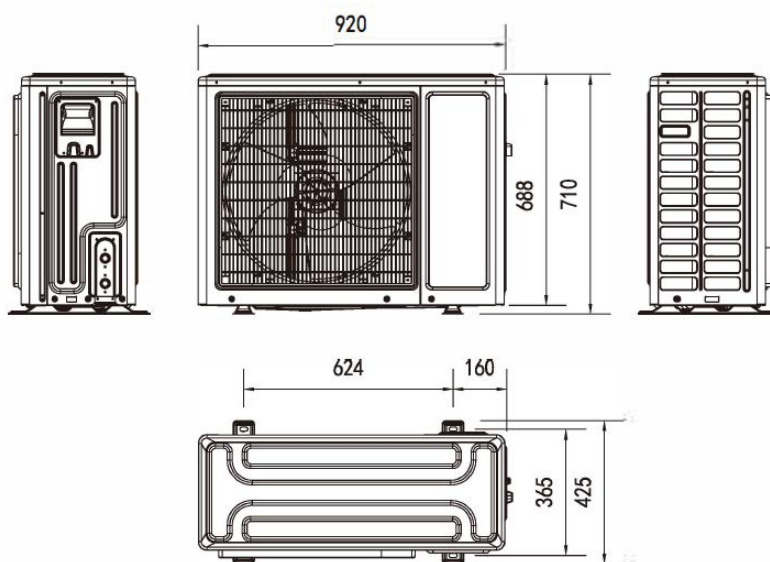
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6. STRUCTURE DIAGRAM

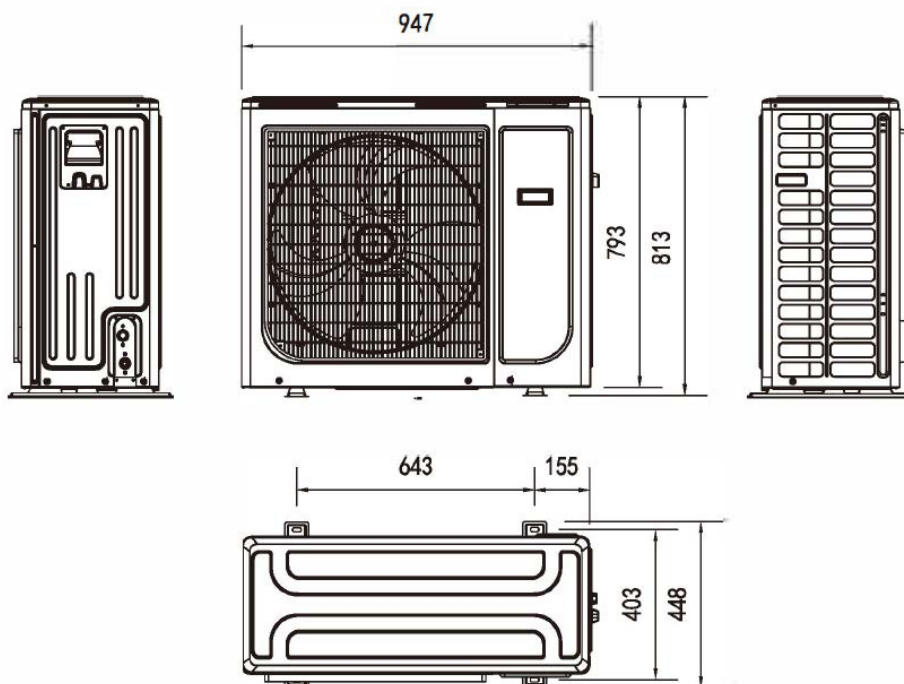
RLSWFX3D



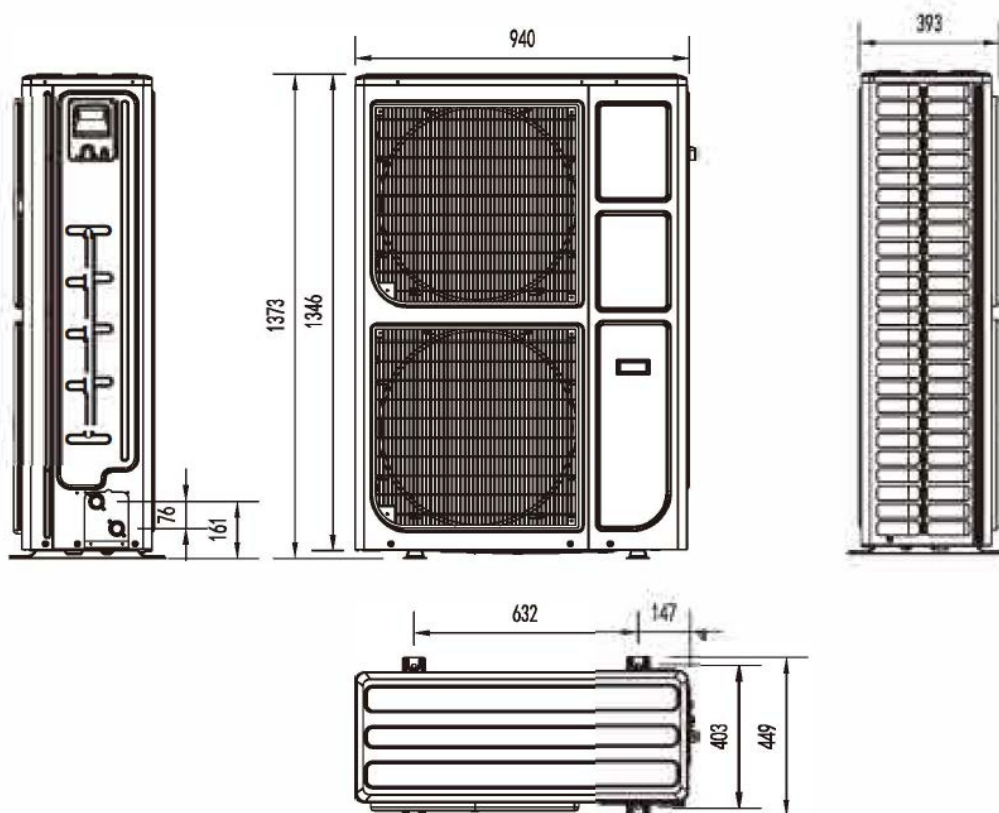
RLSWF3D



RLSWF4D

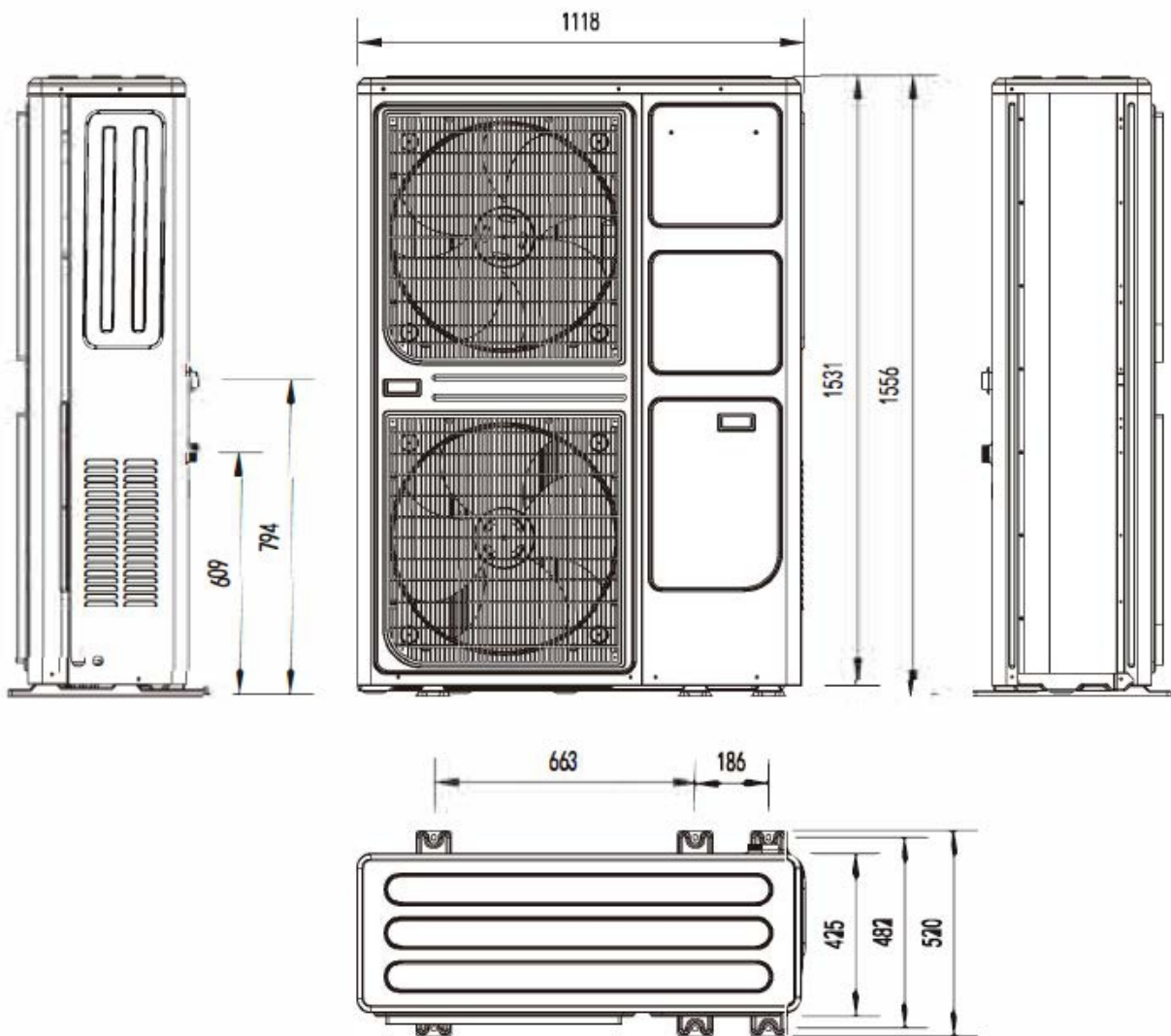


RLSWF5 \ 6 \ 8D

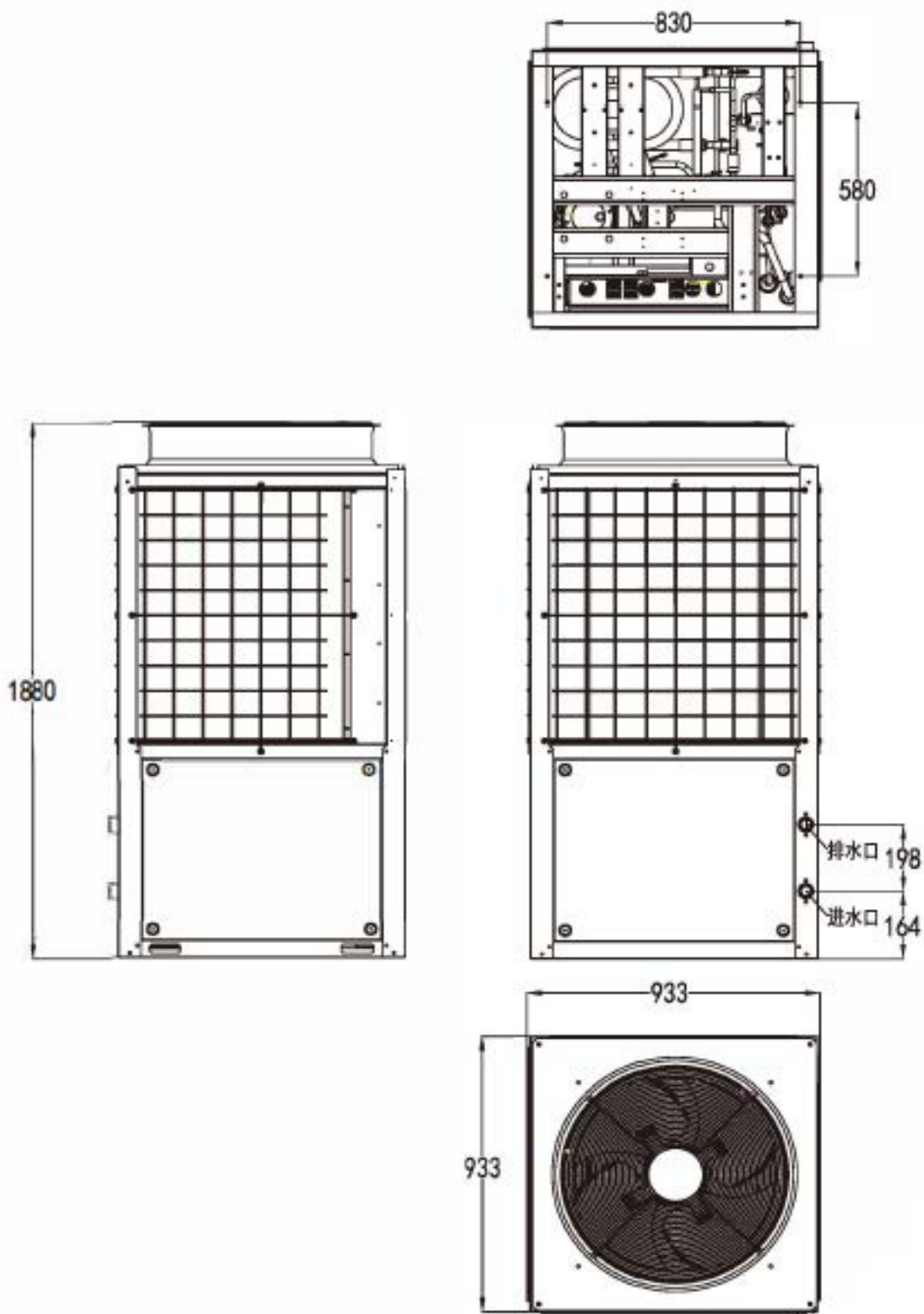


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RLSWF10 \ 12D

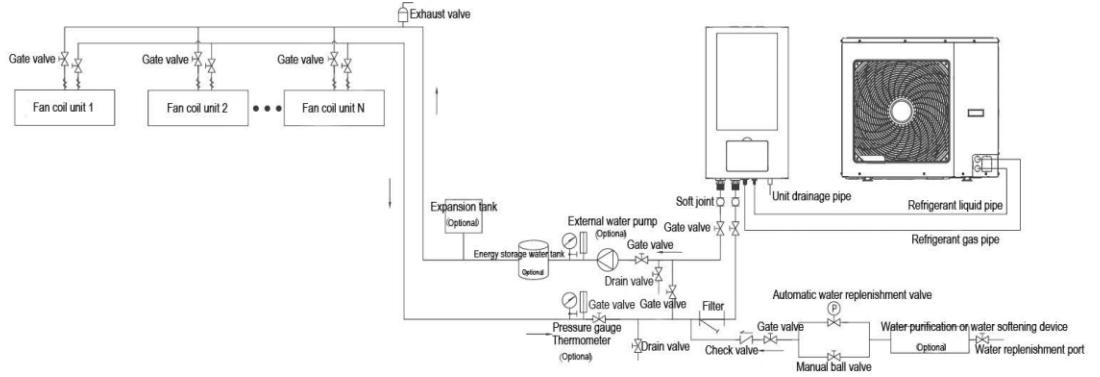


RLSWF15D

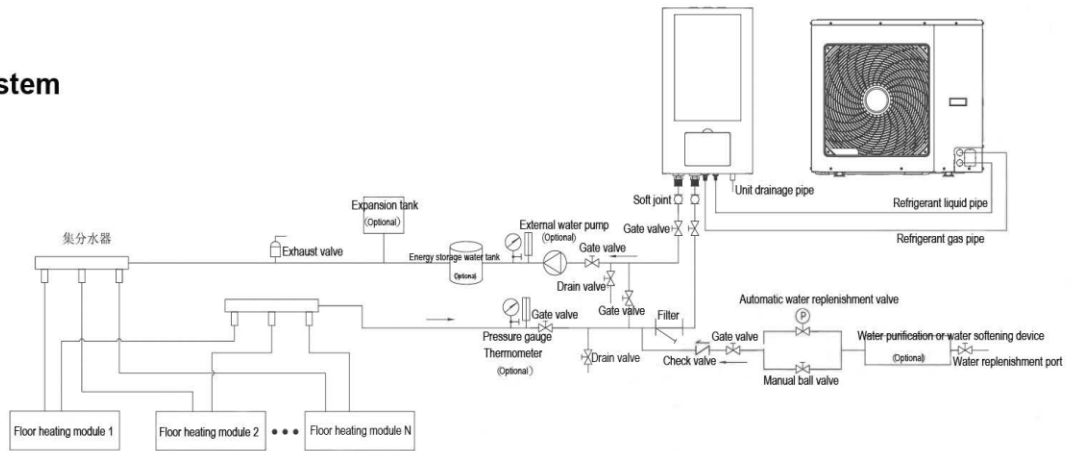


7. INSTALLATION DIAGRAM

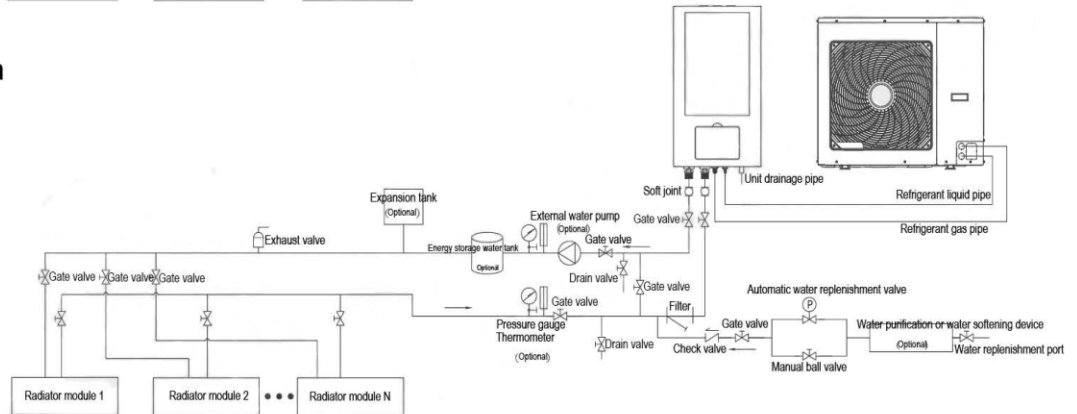
Fan coil system



Floor heating system



Radiator system



Gate valve		Exhaust valve	
Automatic water replenishment valve		Water pump	
Thermometer		Pressure gauge	
Filter		Soft joint	
Energy storage water tank		Expansion tank	
Check valve			

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For more information, please visit our website www.tomidivit.com.

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