THE WORLD'S OBAIR

In the vast global innovation landscape, "Obair" shines like a brilliant star, leading the wave of technological innovation.

We are not just a company, but also advocates and practitioners of the global upgrade in quality of life.

In the world of Obair, technological innovation is not only a driving force but also the soul.

We firmly believe that "Obair" will resonate in every corner of the world, representing excellence, quality, and dreams.

We cross mountains and seas, connecting the five continents, adding a bright color to the global stage of life, becoming a synonym for beauty in the hearts of people around the world, and together writing a glorious chapter in human civilization.

Haojin Oubo Technology Co.,Ltd

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Website: www.oubokl.com
National Free Service Hotline: 400-915-8448

Note: There may be discrepancies between all product descriptions, data, and actual products in this catalog. Please refer to the actual product. Changes will not be notified separately.

Official WeChat Public Account

OBAIR

GWP |

Full-Flow Water (Ground) Source Heat Pump Unit

OBAIR Central air conditioning

Version NO.: OB-202502A
Haojin Oubo Technology CO., LTD

OBAIR
Haojin Oubo
Techno ogy CO., LTD

COMPANY PROFILE

Haojin Oubo Technology Co., Ltd. is a large-scale purification central air conditioning national high-tech enterprise integrating research and development, production, sales, and service.

Obair has always adhered to technological innovation, participated in the formulation of national and industry standards as a member unit of China's "Cold Standard Committee", and has obtained multiple invention patents and utility model patents. It has established industry-university-research bases with Nanchang University and Jiangxi University of Science and Technology. It is a key demonstration enterprise for deep integration of informatization and industrialization in Jiangxi Province, a demonstration enterprise for service-oriented manufacturing in Jiangxi Province, and the company has successively won honors such as Jiangxi Province Technology Center, Ganzhou City Industrial Design Center, Jiangxi Famous Brand Product, national green factory, and national specialized and innovative "little giant" enterprise.

Obair currently has two phases in Ganzhou, Jiangxi, using digital park management, with over 120 digital production equipment, achieving an annual production capacity of 100,000 units.

Obair currently has more than 1000 models of high-quality air conditioning products independently developed, and the products have obtained energy-saving certification, CRAA, EU CE certification, American AHRI certification and other authoritative institutions' testing and certification, widely used in hospitals, dust-free workshops, pharmaceutical factories, electronics, tobacco, painting, photovoltaic, new energy, semiconductor, laboratory and other industries, and has the industry reputation of "King of Cleanliness" and "King of Constant Temperature and Humidity Non-standard".

Obair strictly implements the ISO9001/ISO14001/ISO45001 management system, always practices the purpose of "willing to explain the price for a while, but not to apologize for the quality for a lifetime", proposes the "6-hour" on-site service concept for all customers and for all customers, and provides the most professional and high-quality technical support and after-sales service.

From the mission, born for purification!

Obair, your regret-free choice!

170,000 square meters of complete machine production base

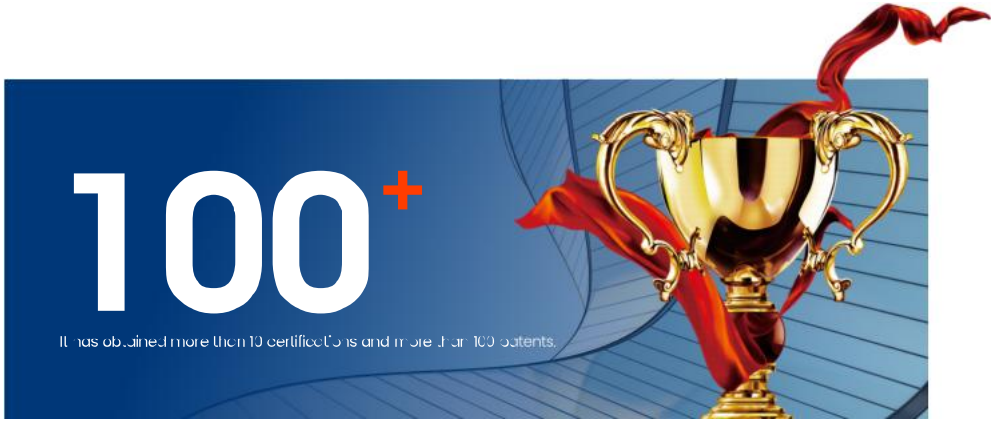
70+ National Service Contact Points

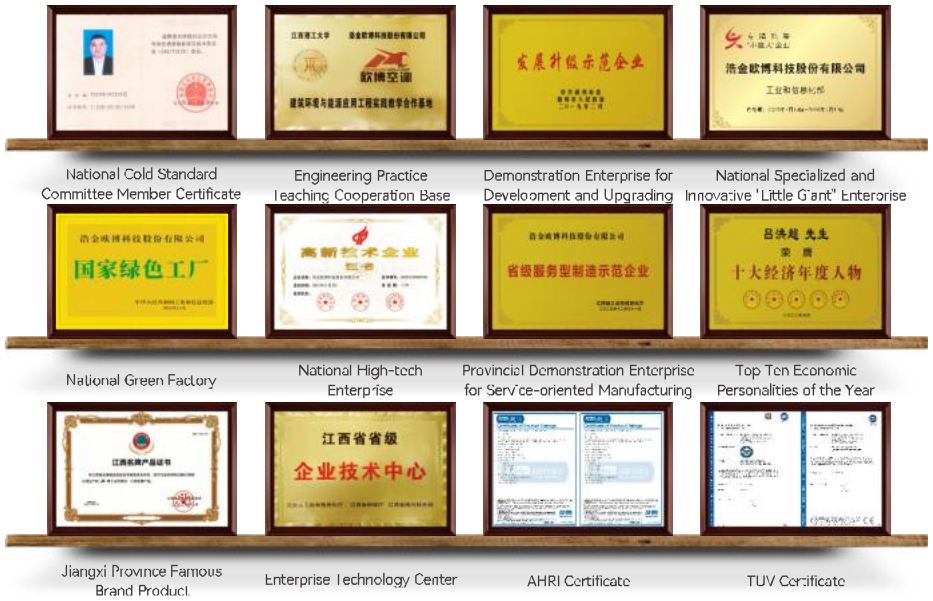
1000+ employees

100,000 Pilot Project Air Conditioning Solutions

HONORARY QUALIFICATIONS

Advanced equipment, professional technology and strict management have created the high quality of "OBAIR" brand products.
It has successively won dozens of honors such as national high-tech enterprise, China's well-known brand, specialized and special new enterprise, cold standard committee enterprise, provincial service-oriented manufacturing demonstration enterprise, provincial enterprise technology center, Jiangxi famous brand product, etc.
"OBAIR" products are your reliable choice.





National Cold Standard Committee Member Certificate | Engineering Practice Teaching Cooperation Base | Demonstration Enterprise for Development and Upgrading | National Specialized and Innovative "Little Giant" Enterprise

National Green Factory | National High-tech Enterprise | Provincial Demonstration Enterprise for Service-oriented Manufacturing | Top Ten Economic Personalities of the Year

Jiangxi Province Famous Brand Product | Enterprise Technology Center | AHRI Certificate | TUV Certificate

GWP | Full-Flow Water (Ground) Source Heat Pump Unit

OBAIR
Hadjin Oubo Techno ogy CO., LTD

All-round Protection System

The system monitors all equipment components in real-time during operation. It automatically raises alarms when abnormal conditions are detected, enabling intelligent control and comprehensive protection of the unit.

Safe and Reliable

When the unit uses a dual - compressor system, it has separate refrigerant circuits. During partial load, they can back each other up, improving overall reliability and safety.

High - efficiency and Energy - saving

Using the latest high - efficiency semi - hermetic twin - screw compressors. Motors directly drive rotors, ensuring few parts, high volumetric efficiency, and high energy efficiency.

Intelligent Control

It uses a central - air - conditioning intelligent control system with a true - color HD touch screen, greatly improving user experience.

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Product Overview

The full - flooded water - (ground) - source heat pump unit is an energy - saving air - conditioning unit developed by OBAIR, considering China's geographical, climatic conditions, and the current clean - energy - utilization context. It uses groundwater and surface water (with relatively stable temperatures) for energy conversion, achieving summer cooling and winter heating, and combines energy saving, environmental protection, and high - efficiency features.

The unit consists of a full - flooded semi - hermetic twin - screw compressor, an efficient oil separator, a shell - and - tube condenser, a full - flooded evaporator, an electronic expansion valve, an oil return system, an ejector system, and a smart control system. Its simple system and high reliability are notable.

The unit is suitable for areas with abundant groundwater, surface water, or geothermal resources. It's ideal for the Yangtze River Basin and northern China's summer - hot - winter - cold regions, and can be widely used in large commercial buildings, public buildings, residential apartments, hotels, schools, and hospitals.

Water - source heat pumps are suitable when there's enough nearby surface water (e.g., river, lake, sea, reservoir water, wastewater, reclaimed water, geothermal tailwater, industrial wastewater) with adequate volume and suitable temperature (some water quality treatment may be needed).

Ground - source heat pumps are suitable when there's insufficient water resources near the building but enough space to install "ground - buried pipes" (e.g., office building sites, school playgrounds, villa gardens).

Model Explanation

GWP 1 500 M A R S N

- N: Integrated or not: N : conventional, Y : integrated
- S: Switching between cooling and heating: S : water - side switching, F : refrigerant - side switching
- R: Function codes: R : standard, H : partial heat recovery, V : variable - frequency compressor, T : special heat source temperature
- A: Refrigerant Type: R134a; B: R22
- M: Evaporator type: M : full - flooded
- 500: Nominal cooling capacity: RT
- 1: Number of compressors: 1、2、3、4
- GWP: GWP : ground - source heat pump unit; WHP : water - source heat pump unit

Example: GWP1300MARSN

OBAIR R134a full - flooded ground - source heat pump unit with 1050kW cooling capacity and 1 compressor.

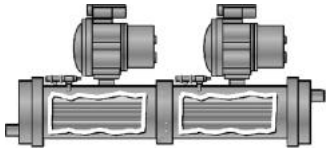
Product Features

High - efficiency Compressor

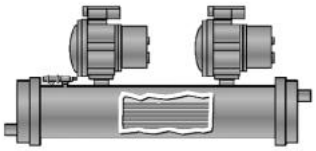
The semi - hermetic twin - screw compressor for full - flooded systems has rotors precision - machined by dedicated high - accuracy rotor grinders, ensuring high precision, stable quality, and minimal leakage. Their new generation rotor teeth are highly rigid. Under long - term operation, they maintain optimal clearance for maximum volumetric efficiency. The compressor's precise slide - valve stepless capacity control ensures water temperature accuracy, providing reliable performance for high - precision applications.

Dual - system Independent Design

When the unit uses a dual - compressor system, it has separate refrigerant circuits. During partial load, they can back each other up, improving overall reliability and safety.



Separate refrigerant circuits, good backup capability



Parallel refrigerant circuits, no backup capability

Oil Return Ejector Technology

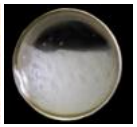
Based on the built-in high - efficiency oil separator in the compressor, OBAIR has added an independent horizontal high - capacity oil separator between the compressor discharge and the water - cooled condenser, achieving an oil separation rate of up to 99.9%.

The real - time oil return ejector system uses the high - pressure gaseous refrigerant in the condenser as power. It employs a dedicated ejector pump. After data collection and analysis by the unit's intelligent control system, it precisely draws back oil from the full - flooded evaporator, ensuring no oil shortage in the compressor. It also guarantees no oil film thermal resistance on the heat - exchange tubes' surface, maintaining the evaporator's optimal heat - exchange efficiency.

Full - flooded Evaporator

The heat exchanger of this series uses super - efficient double - sided enhanced heat - transfer tubes. These tubes are designed with advanced technology for different heat - transfer mechanisms and fluid media, ensuring optimal heat - transfer efficiency and reduced pressure drop. The advanced full - flooded evaporation and cooling technologies make the heat exchange between water and refrigerant approach a small temperature difference, improving heat - transfer and energy efficiency. This maximizes cooling effect and minimizes users' energy consumption.

High - efficiency heat transfer tubes dedicated for full - flooded systems

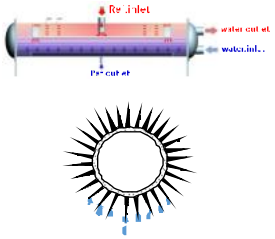


Full - flooded evaporator's refrigerant vaporization process

Product Features

Condenser

The high - efficiency shell - and - tube condenser uses serrated - finned tubes to boost the heat - transfer coefficient. The water side is designed with two passes and straight copper tubes for easy cleaning and maintenance. The end caps on both sides are interchangeable, facilitating on - site water pipe direction changes. The condenser's bottom has a sub - cooling section to ensure refrigerant sub cooling, enhancing the unit's cooling efficiency.



Advanced throttling device

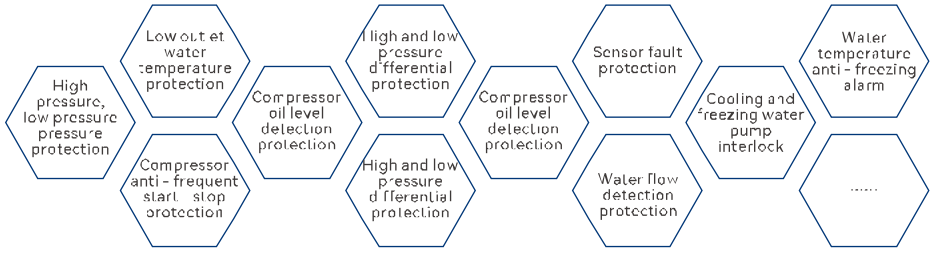
The unit uses advanced electronic expansion valves for precise refrigerant flow control across all conditions. OBAIR's proprietary control logic, based on suction and discharge superheat, fully utilizes the evaporator's heat - transfer capacity while ensuring the compressor operates safely and efficiently.

Intelligent Control System

The unit uses a PLC - based intelligent control system with an LCD touch screen as the local HMI. Users can monitor and control the entire unit via the HMI, achieving high - automation operation and a great user experience. The industrial - grade microcontroller and LCD touch screen form the control core, with world - famous brand electrical control components that are highly reliable and anti - interference, adapting to complex and harsh working conditions.

All-round Protection System

The unit has various sensors and switches (pressure, temperature, flow) and safety devices (safety valves, solenoid valves, oil pressure differential controllers, high - low pressure switches). They form a precise automatic control system with the unit's intelligent controller. During operation, this system real - time monitors all components. If abnormal conditions occur, it automatically alarms and triggers protective measures via control switches, ensuring intelligent operation and comprehensive protection of the unit.



Unit Operating Range (Under Rated Water Flow)

Project		Unit	Water source heat pump	Ground - source heat pump
Cooling	Service side outlet water temperature	℃	5 ~ 15℃	5 ~ 15℃
	Heat source inlet water temperature	℃	10 ~ 25℃	10 ~ 40℃
Heating	Service side outlet water temperature	℃	40 ~ 60℃	40 ~ 60℃
	Heat source inlet water temperature	℃	10 ~ 25℃	5 ~ 25℃
Water flow rate		m^3/h	70% ~ 110%	70% ~ 110%

Note: If the actual operating conditions of the unit exceed the above mentioned range, it is necessary to carry out special design for the unit or system based on the actual operating conditions. Please contact us for customized design.

Water Quality Requirements

The quality of cooling and chilled water entering the unit should be checked and managed during operation, as water quality varies by region. If the water doesn't meet requirements, treatment is necessary. The table below lists some water - quality parameters for open systems. Regular sampling and testing should be conducted to ensure compliance. Please note that we do not guarantee the use of improperly treated or untreated non - standard water, nor do we guarantee that this series of units can use brine.

Project		Unit	Cooling water & Chilled water	Make - up water	Corrosion	Scaling
Baseline item	PH Value (25℃)	-	6.5~8.0	6.5~8.0	●	●
	Conductivity (25℃)	us/cm	<800	<200	●	●
	Chloride ion	$mgCl^-/L$	<200	<50	●	
	Sulfate ion	$mgSO_4^{2-}/L$	<200	<50	●	
	Acid consumption (PH=4.8)	$mgCaCO_3/L$	<100	<50		
	Total hardness	$mgCaCO_3/L$	<200	<70		●
Reference project	Iron	mgFe/L	<1.0	<0.3	●	
	Sulfide ion	$mgSO_3^{2-}/L$	Not detected	Not detected	●	
	Ammonium ion	$mgNH_4^+/L$	<1.0	<1.0	●	
	Silica	$mgSiO_2/L$	<50	<30		●

Note:

1. Water quality criteria are based on Appendix D of GB/T 18430.1-2007 "Steam Compression Cycle Chilled (Heat Pump) Units' for cooling water.
2. "●" in the table indicates factors related to corrosion or scaling.
3. If water quality doesn't meet the above requirements, treat it according to GB50050-2007 "Industrial Circulating Cooling Water Treatment Design Code'.

Technical Data Sheet (WHP Series Single Compressor)

Mode WHP****MARSN				1080	1090	1110	1120	1135	1150	1170
Cooling Operating Conditions	Cooling Capacity		kW	291	326	387	423	475	531	600
	Cooling Input Power		kW	45.0	50.6	60.0	65.5	73.3	81.9	92.9
	Cooling Input Current		A	79.2	89.1	105.6	115.3	129.0	144.1	164.4
	Cooling Efficiency EER		W/W	6.47	6.44	6.45	6.46	6.48	6.48	6.46
	Evaporator	Water Flow Rate	m³/h	50	56	67	73	82	91	103
		Water Pressure Drop	kPa	47	46	47	50	50	48	57
		Pipe Connection Size	mm	DN100	DN100	DN125	DN125	DN125	DN125	DN125
	Condenser	Water Flow Rate	m³/h	30	34	40	44	49	55	62
		Water Pressure Drop	kPa	23	24	24	24	23	21	24
		Pipe Connection Size	mm	DN100	DN100	DN125	DN125	DN125	DN125	DN125
Heating Operating Conditions	Heating Capacity		kW	299	336	398	435	489	546	618
	Heating Input Power		kW	58.9	64.4	76	85	94.8	104.7	118.8
	Heating Input Current		A	103.7	113.3	133.8	149.6	166.8	184.3	210.3
	Heating Efficiency COP		W/W	5.08	5.22	5.24	5.12	5.16	5.21	5.20
	Evaporator	Water Flow Rate	m³/h	30.0	33.6	39.9	43.6	48.9	54.7	61.8
		Water Pressure Drop	kPa	21	23	27	23	24	23	21
		Pipe Connection Size	mm	DN100	DN100	DN125	DN125	DN125	DN125	DN125
	Condenser	Water Flow Rate	m³/h	50.1	56.1	66.6	72.8	81.7	91.3	103.2
		Water Pressure Drop	kPa	45	47	49	47	49	49	50
		Pipe Connection Size	mm	DN100	DN100	DN125	DN125	DN125	DN125	DN125
Annual Comprehensive Energy Efficiency ACOP			kW/kW	5.85	5.90	5.92	5.87	5.90	5.93	5.91
Energy Efficiency Rating				Level 2	Level 1	Level 1	Level 2	Level 1	Level 1	Level 1
Comerssor	Quantity			1						
	Type			Semi-hermetic Twin-screw Comerssor						
	Startup Method			Y-Δ						
Partial Load Energy Modulation Range				Stepless Energy Modulation						
Unit Maximum Operating Current			A	158	172	203	227	254	280	320
Unit Starting Current			A	242	272	322	352	393	440	502
Refrigerant	Type			R134a						
	Charge		kg	90	101	120	131	147	164	185
Dimensions		L (A)	mm	3000	3000	3010	3010	3010	3010	3010
		W (B)	mm	1300	1300	1350	1350	1350	1350	1350
		H (C)	mm	1800	1800	1850	1850	1850	1850	1850
Unit Weight			kg	2410	2450	2590	2710	2820	2950	3400
Operating Weight			kg	2500	2500	2700	2820	2950	3100	3550

Note:
1. The above parameters are based on the national standard GB/T 19409-2013:
Cooling operating conditions: chilled water outlet temperature 7℃, water flow rate = cooling capacity × 0.172 m³/(h·kW), groundwater inlet temperature 18℃, water flow rate = cooling capacity × 0.103 m³/(h·kW).
Heating operating conditions: hot water outlet temperature 45℃, flow rate same as the evaporator water flow rate at the rated cooling condition, heat source inlet temperature 15℃, flow rate same as the condenser water flow rate at the rated cooling condition.
2. Energy efficiency rating is determined according to standard GB 30721-2014.
3. The evaporator and condenser are designed with two pass, with a maximum operating pressure of 1.0MPa in the water chamber, and use clamp connections.
4. Power supply system: 380V/3N~/50Hz.
5. We reserve the right to modify the samples without prior notice to make our products adaptable to customers.

Technical Data Sheet (WHP Series Single Compressor)

Model WHP****MARSN				1190	1210	1230	1250	1285	1310	1340
Cooling Operating Conditions	Cooling Capacity		kW	674	744	812	893	1015	1104	1215
	Cooling Input Power		kW	104.2	115.2	125.3	138.5	156.9	171.0	186.5
	Cooling Input Current		A	184.4	203.9	223.0	246.5	279.3	304.4	332.0
	Cooling Efficiency EER		W/W	6.47	6.46	6.48	6.45	6.47	6.46	6.51
	Evaporator	Water Flow Rate	m³/h	116	128	140	154	175	190	209
		Water Pressure Drop	kPa	61	71	71	71	73	71	77
		Pipe Connection Size	mm	DN125	DN150	DN150	DN150	DN150	DN200	DN200
	Condenser	Water Flow Rate	m³/h	69	77	84	92	105	114	125
		Water Pressure Drop	kPa	23	26	25	30	33	30	31
		Pipe Connection Size	mm	DN125	DN150	DN150	DN150	DN150	DN200	DN200
Heating Operating Conditions	Heating Capacity		kW	694	766	835	918	1044	1136	1250
	Heating Input Power		kW	136.3	145.9	165.4	175.5	198.9	213.3	234.4
	Heating Input Current		A	241.3	258.2	294.4	312.4	354.0	379.7	417.2
	Heating Efficiency COP		W/W	5.09	5.25	5.05	5.23	5.25	5.33	5.33
	Evaporator	Water Flow Rate	m³/h	69.4	76.6	83.6	92.0	104.5	113.7	125.1
		Water Pressure Drop	kPa	24	29	27	30	30	29	33
		Pipe Connection Size	mm	DN125	DN150	DN150	DN150	DN150	DN200	DN200
	Condenser	Water Flow Rate	m³/h	115.9	128.0	139.7	153.6	174.6	189.9	209.0
		Water Pressure Drop	kPa	50	53	53	57	57	57	59
		Pipe Connection Size	mm	DN125	DN150	DN150	DN150	DN150	DN200	DN200
Annual Comprehensive Energy Efficiency ACOP			kW/kW	5.86	5.93	5.85	5.91	5.93	5.96	5.99
Energy Efficiency Rating				Level 2	Level 1	Level 2	Level 1	Level 1	Level 1	Level 1
Comerssor	Quantity			1						
	Type			Semi-hermetic Twin-screw Compressor						
	Startup Method			Y-Δ						
Partial Load Energy Modulation Range				Stepless Energy Modulation						
Unit Maximum Operating Current			A	368	394	449	476	540	579	638
Unit Starting Current			A	563	622	680	752	852	928	1013
Refrigerant	Type			R134a						
	Charge		kg	208	230	251	276	314	341	375
Dimensions		L (A)	mm	3350	3350	3350	3350	3350	3550	3550
		W (B)	mm	1400	1400	1400	1400	1400	1550	1550
		H (C)	mm	1950	1950	1950	1950	1950	2050	2050
Unit Weight			kg	3530	3600	3750	4230	4830	5250	5755
Operating Weight			kg	3700	3800	3950	4450	5100	5550	6155

Note:
1. The above parameters are based on the national standard GB/T 19409-2013:
Cooling operating conditions: chilled water outlet temperature 7℃, water flow rate = cooling capacity × 0.172 m³/(h·kW), groundwater inlet temperature 18℃, water flow rate = cooling capacity × 0.103 m³/(h·kW).
Heating operating conditions: hot water outlet temperature 45℃, flow rate same as the evaporator water flow rate at the rated cooling condition, heat source inlet temperature 15℃, flow rate same as the condenser water flow rate at the rated cooling condition.
2. Energy efficiency rating is determined according to standard GB 30721-2014.
3. The evaporator and condenser are designed with two pass, with a maximum operating pressure of 1.0MPa in the water chamber, and use clamp connections.
4. Power supply system: 380V/3N~/50Hz.
5. We reserve the right to modify the samples without prior notice to make our products adaptable to customers.

Technical Data Sheet (WHP Series Dual Compressor)

Model WHP****MARSN				2270	2310	2350	2390	2410	2470	2530	2570	2610	2660
Cooling Operating Conditions	Cooling Capacity		kW	950	1067	1201	1348	1489	1623	1785	2030	2208	2430
	Cooling Input Power		kW	146.5	163.8	185.8	208.3	230.3	250.6	277.0	313.9	342.0	376.7
	Cooling Input Current		A	261.5	292.4	331.7	371.8	411.1	448.6	496.8	561.9	612.2	674.3
	Cooling Efficiency EER		W/W	6.48	6.48	6.46	6.47	6.46	6.48	6.44	6.47	6.46	6.45
	Evaporator	Water Flow Rate	m^3/h	163	182	207	232	256	279	307	349	380	418
		Water Pressure Drop	kPa	41	48	41	48	46	49	49	91	88	89
		Pipe Connection Size	mm	DN150	DN200	DN200	DN200	DN200	DN200	DN250	DN250	DN250	DN250
	Condenser	Water Flow Rate	m^3/h	98	109	258	290	320	349	384	436	475	522
		Water Pressure Drop	kPa	26	30	28	28	26	31	31	33	33	34
		Pipe Connection Size	mm	DN150	DN200	DN200	DN200	DN200	DN200	DN250	DN250	DN250	DN250
Heating Operating Conditions	Heating Capacity		kW	978	1092	1236	1388	1537	1670	1837	2089	2272	2500
	Heating Input Power		kW	189.5	209.3	237.6	272.6	291.6	330.9	351.7	397.8	426.6	468.9
	Heating Input Current		A	338.3	373.6	424.1	486.6	520.5	590.7	626.7	710.1	761.5	837.0
	Heating Efficiency COP		W/W	5.16	5.22	5.20	5.09	5.25	5.05	5.23	5.25	5.33	5.33
	Evaporator	Water Flow Rate	m^3/h	97.9	109.3	258.2	289.8	319.9	348.9	383.8	436.5	474.7	522.5
		Water Pressure Drop	kPa	21	29	29	29	28	30	31	33	34	33
		Pipe Connection Size	mm	DN150	DN200	DN200	DN200	DN200	DN200	DN250	DN250	DN250	DN250
	Condenser	Water Flow Rate	m^3/h	163.4	182.5	206.6	231.9	255.9	279.2	307.0	349.2	379.8	418.0
		Water Pressure Drop	kPa	54	57	61	57	55	61	63	67	71	76
		Pipe Connection Size	mm	DN150	DN200	DN200	DN200	DN200	DN200	DN250	DN250	DN250	DN250
Annual Comprehensive Energy Efficiency ACOP			kW/kW	5.90	5.92	5.91	5.86	5.93	5.85	5.91	5.93	5.96	5.96
Energy Efficiency Rating				Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1
Compressor	Quantity			2									
	Type			Semi-hermetic twin-screw Compressor									
	Startup Method			Y-Δ									
Partial Load Energy Modulation Range				Stepless Energy Modulation									
Unit Maximum Operating Current			A	518	572	649	744	796	904	959	1086	1165	1281
Unit Starting Current			A	588	658	746	837	925	1009	1116	1264	1377	1517
Refrigerant	Type			R134a									
	Charge		kg	293	328	371	416	460	501	551	627	682	751
Dimensions		L (A)	mm	4460	4460	4460	4900	4900	4900	4900	4900	5450	5450
		W (B)	mm	1400	1400	1400	1600	1600	1600	1600	1800	1800	1800
		H (C)	mm	2150	2150	2150	2150	2150	2150	2150	2250	2250	2250
Unit Weight			kg	4940	5240	6070	6300	6480	6900	8500	8750	9430	10350
Operating Weight			kg	5250	5600	6450	6700	6900	7400	7950	8140	8820	9650

Note:
1. The above parameters are based on the national standard GB/T 19409-2013:
Cooling operating conditions: chilled water outlet temperature 7℃, water flow rate = cooling capacity × 0.172 $m^3/(h \cdot kW)$, groundwater inlet temperature 18℃, water flow rate = cooling capacity × 0.193 $m^3/(h \cdot kW)$.
Heating operating conditions: hot water outlet temperature 45℃, flow rate same as the evaporator water flow rate at the rated cooling condition, heat source inlet temperature 15℃, flow rate same as the condenser water flow rate at the rated cooling condition.
2. Energy efficiency rating is determined according to standard GB 30721-2014.
3. The evaporator and condenser are designed with two pass, with a maximum operating pressure of 1.0MPa in the water chamber, and use clamp connections.
4. Power supply system: 380V/3N~/50Hz.
5. We reserve the right to modify the samples without prior notice to make our products adaptable to customers.

Technical Data Sheet (GWP Series Single Compressor)

Model GWP****MARSN				1080	1090	1110	1120	1135	1150	1170
Cooling Operating Conditions	Cooling Capacity		kW	288	323	383	418	470	525	594
	Cooling Input Power		kW	45.9	51.0	60.6	65.5	74.2	82.8	94.5
	Cooling Input Current		A	80.8	89.8	106.7	115.3	130.6	145.7	167.3
	Cooling Efficiency EER		W/W	6.27	6.33	6.32	6.38	6.33	6.34	6.29
	Evaporator	Water Flow Rate	m^3/h	50	56	66	72	81	90	102
		Water Pressure Drop	kPa	47	46	47	50	50	48	57
		Pipe Connection Size	mm	DN100	DN100	DN125	DN125	DN125	DN125	DN125
	Condenser	Water Flow Rate	m^3/h	62	69	82	90	101	113	128
		Water Pressure Drop	kPa	47	48	46	45	45	61	64
		Pipe Connection Size	mm	DN100	DN100	DN125	DN125	DN125	DN125	DN125
Heating Operating Conditions	Heating Capacity		kW	294	326	387	431	484	536	606
	Heating Input Power		kW	58.4	63.9	75.4	87.1	98.7	107.3	118.8
	Heating Input Current		A	102.8	112.5	132.7	153.3	172.7	188.8	210.3
	Heating Efficiency COP		W/W	5.03	5.10	5.13	4.95	4.93	5.00	5.10
	Evaporator	Water Flow Rate	m^3/h	62	69	82	90	101	113	128
		Water Pressure Drop	kPa	55	54	64	69	69	67	75
		Pipe Connection Size	mm	DN100	DN100	DN125	DN125	DN125	DN125	DN125
	Condenser	Water Flow Rate	m^3/h	50	56	66	72	81	90	102
		Water Pressure Drop	kPa	45	47	49	47	49	49	50
		Pipe Connection Size	mm	DN100	DN100	DN125	DN125	DN125	DN125	DN125
Annual Comprehensive Energy Efficiency ACOP			kW/kW	5.73	5.79	5.80	5.75	5.72	5.75	5.76
Energy Efficiency Rating				Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1
Compressor	Quantity			1						
	Type			Semi-hermetic twin-screw Compressor						
	Startup Method			Y-Δ						
Partial Load Energy Modulation Range				Stepless Energy Modulation						
Unit Maximum Operating Current			A	156	171	202	233	262	287	320
Unit Starting Current			A	246	274	325	352	398	444	510
Refrigerant	Type			R134a						
	Charge		kg	90	101	120	131	147	164	185
Dimensions		L (A)	mm	3000	3000	3010	3010	3010	3010	3010
		W (B)	mm	1300	1300	1350	1350	1350	1350	1350
		H (C)	mm	1800	1800	1850	1850	1850	1850	1850
Unit Weight			kg	2410	2450	2590	2710	2820	2950	3400
Operating Weight			kg	2500	2500	2700	2820	2950	3100	3550

Note:
1. The above parameters are based on the national standard GB/T 19409-2013:
Cooling operating conditions: chilled water outlet temperature 7℃, water flow rate = cooling capacity × 0.172 $m^3/(h \cdot kW)$, groundwater inlet temperature 25℃, water flow rate = cooling capacity × 0.215 $m^3/(h \cdot kW)$.
Heating operating conditions: hot water outlet temperature 45℃, flow rate same as the evaporator water flow rate at the rated cooling condition, heat source inlet temperature 10℃, flow rate same as the condenser water flow rate at the rated cooling condition.
2. Energy efficiency rating is determined according to standard GB 30721-2014.
3. The evaporator and condenser are designed with two pass, with a maximum operating pressure of 1.0MPa in the water chamber, and use clamp connections.
4. Power supply system: 380V/3N~/50Hz.
5. We reserve the right to modify the samples without prior notice to make our products adaptable to customers.

Technical Data Sheet (GWP Series Single Compressor)

Model GWP****MARSN				1190	1210	1230	1250	1285	1310	1340
Cooling Operating Conditions	Cooling Capacity		kW	667	736	803	883	1004	1092	1202
	Cooling Input Power		kW	105.4	116.5	127.8	140.1	158.8	173.0	191.8
	Cooling Input Current		A	186.6	206.2	227.5	249.4	282.7	307.9	341.4
	Cooling Efficiency EER		W/W	6.33	6.32	6.28	6.30	6.32	6.31	6.27
	Evaporator	Water Flow Rate	m^3/h	115	127	138	152	173	188	207
		Water Pressure Drop	kPa	61	71	71	71	73	71	77
		Pipe Connection Size	mm	DN125	DN150	DN150	DN150	DN150	DN200	DN200
	Condenser	Water Flow Rate	m^3/h	143	158	173	190	216	235	258
		Water Pressure Drop	kPa	66	64	67	67	64	67	67
		Pipe Connection Size	mm	DN125	DN150	DN150	DN150	DN150	DN200	DN200
Heating Operating Conditions	Heating Capacity		kW	687	751	827	901	1024	1114	1226
	Heating Input Power		kW	136.3	148.3	166.8	180	200.5	215	236.3
	Heating Input Current		A	241.3	262.5	296.9	320.4	356.9	382.1	420.6
	Heating Efficiency COP		W/W	5.04	5.06	4.96	5.01	5.11	5.18	5.19
	Evaporator	Water Flow Rate	m^3/h	143	158	173	190	216	235	258
		Water Pressure Drop	kPa	78	87	87	87	89	87	93
		Pipe Connection Size	mm	DN125	DN150	DN150	DN150	DN150	DN200	DN200
	Condenser	Water Flow Rate	m^3/h	115	127	138	152	173	188	207
		Water Pressure Drop	kPa	50	53	53	57	57	57	59
		Pipe Connection Size	mm	DN125	DN150	DN150	DN150	DN150	DN200	DN200
Annual Comprehensive Energy Efficiency ACOP			kW/kW	5.76	5.77	5.70	5.73	5.79	5.81	5.79
Energy Efficiency Rating				Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1
Compressor	Quantity			1						
	Type			Semi-hermetic twin-screw Compressor						
	Start-up Method			Y-Δ						
Partial Load Energy Modulation Range				Stepless Energy Modulation						
Unit Maximum Operating Current			A	368	400	463	489	544	594	677
Unit Starting Current			A	569	629	694	761	862	939	1041
Refrigerant	Type			R134a						
	Charge		kg	208	230	251	276	314	341	375
Dimensions	L (A)		mm	3350	3350	3350	3350	3350	3550	3550
	W (B)		mm	1400	1400	1400	1400	1400	1550	1550
	H (C)		mm	1950	1950	1950	1950	1950	2050	2050
Unit Weight			kg	3530	3600	3750	4230	4830	5250	5455
Operating Weight			kg	3700	3800	3950	4450	5100	5550	6155

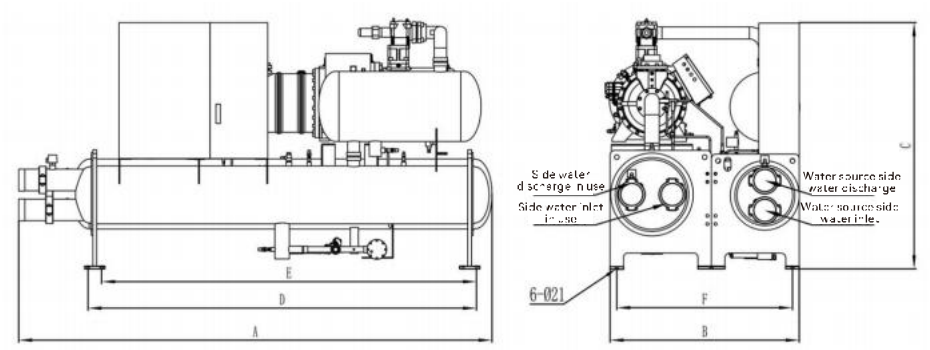
Note:
1. The above parameters are based on the national standard GB/T 19409-2013:
Cooling operating conditions: chilled water outlet temperature 7℃, water flow rate = cooling capacity × 0.172 $m^3/(h \cdot kW)$, groundwater inlet temperature 25℃, water flow rate = cooling capacity × 0.215 $m^3/(h \cdot kW)$.
Heating operating conditions: hot water outlet temperature 45℃, flow rate same as the evaporator water flow rate at the rated cooling condition, heat source inlet temperature 10℃, flow rate same as the condenser water flow rate at the rated cooling condition.
2. Energy efficiency rating is determined according to standard GB 30721-2014.
3. The evaporator and condenser are designed with two pass, with a maximum operating pressure of 1.0MPa in the water chamber, and use clamp connections.
4. Power supply system: 380V/3N~/50Hz.
5. We reserve the right to modify the samples without prior notice to make our products adaptable to customers.

Technical Data Sheet (GWP Series Dual Compressor)

Model GWP****MARSN				2270	2310	2350	2390	2410	2470	2530	2570	2610	2660
Cooling Operating Conditions	Cooling Capacity		kW	940	1050	1188	1334	1472	1654	1863	2008	2140	2404
	Cooling Input Power		kW	148.4	165.5	189.1	210.7	233.0	260.7	294.1	317.6	335.6	379.7
	Cooling Input Current		A	264.9	295.4	337.5	376.1	415.9	466.7	526.4	568.5	600.7	679.7
	Cooling Efficiency EER		W/W	6.33	6.34	6.28	6.33	6.32	6.34	6.33	6.32	6.38	6.33
	Evaporator	Water Flow Rate	m^3/h	162	181	204	229	253	284	320	345	368	413
		Water Pressure Drop	kPa	71	78	71	78	76	79	79	81	88	89
		Pipe Connection Size	mm	DN150	DN200	DN200	DN200	DN200	DN200	DN250	DN250	DN250	DN250
	Condenser	Water Flow Rate	m^3/h	202	226	255	287	316	356	401	432	460	517
		Water Pressure Drop	kPa	44	57	56	56	60	58	67	71	73	71
		Pipe Connection Size	mm	DN150	DN200	DN200	DN200	DN200	DN200	DN250	DN250	DN250	DN250
Heating Operating Conditions	Heating Capacity		kW	968	1071	1212	1374	1501	1704	1919	2048	2228	2452
	Heating Input Power		kW	196.1	214.5	237.6	272.6	296.6	333.6	370.7	401.0	430.0	472.7
	Heating Input Current		A	350.0	382.9	424.1	486.6	529.4	595.5	661.7	715.8	767.6	843.8
	Heating Efficiency COP		W/W	4.94	4.99	5.10	5.04	5.06	5.11	5.18	5.11	5.18	5.19
	Evaporator	Water Flow Rate	m^3/h	202	226	255	287	316	356	401	432	460	517
		Water Pressure Drop	kPa	67	85	83	91	91	94	94	94	97	99
		Pipe Connection Size	mm	DN150	DN200	DN200	DN200	DN200	DN200	DN250	DN250	DN250	DN250
	Condenser	Water Flow Rate	m^3/h	162	181	204	229	253	284	320	345	368	413
		Water Pressure Drop	kPa	54	57	61	57	55	61	63	67	71	76
		Pipe Connection Size	mm	DN150	DN200	DN200	DN200	DN200	DN200	DN250	DN250	DN250	DN250
Annual Comprehensive Energy Efficiency ACOP			kW/kW	5.72	5.75	5.76	5.76	5.76	5.80	5.83	5.79	5.85	5.83
Energy Efficiency Rating				Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1	Level 1
Compressor	Quantity			2									
	Type			Semi-hermetic twin-screw Compressor									
	Start-up Method			Y-Δ									
Partial Load Energy Modulation Range				Stepless Energy Modulation									
Unit Maximum Operating Current			A	536	586	649	744	810	911	1012	1095	1174	1291
Unit Starting Current			A	596	665	759	846	936	1050	1184	1279	1352	1529
Refrigerant	Type			R134a									
	Charge		kg	293	328	371	416	460	501	551	627	682	751
Dimensions	L (A)		mm	4460	4460	4460	4900	4900	4900	4900	4900	5450	5450
	W (B)		mm	1400	1400	1400	1600	1600	1600	1600	1800	1800	1800
	H (C)		mm	2150	2150	2150	2150	2150	2150	2150	2250	2250	2250
Unit Weight			kg	4940	5240	6070	6330	6480	6900	8500	8750	9430	10350
Operating Weight			kg	5250	5600	6450	6700	6900	7400	7950	8140	8820	9650

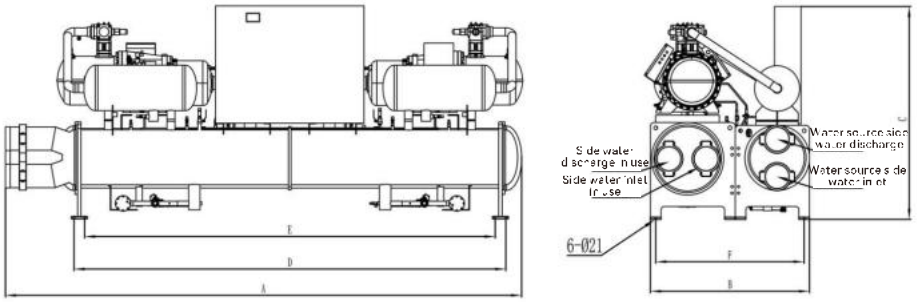
Note:
1. The above parameters are based on the national standard GB/T 19409-2013:
Cooling operating conditions: chilled water outlet temperature 7℃, water flow rate = cooling capacity × 0.172 $m^3/(h \cdot kW)$, groundwater inlet temperature 25℃, water flow rate = cooling capacity × 0.215 $m^3/(h \cdot kW)$.
Heating operating conditions: hot water outlet temperature 45℃, flow rate same as the evaporator water flow rate at the rated cooling condition, heat source inlet temperature 10℃, flow rate same as the condenser water flow rate at the rated cooling condition.
2. Energy efficiency rating is determined according to standard GB 30721-2014.
3. The evaporator and condenser are designed with two pass, with a maximum operating pressure of 1.0MPa in the water chamber, and use clamp connections.
4. Power supply system: 380V/3N~/50Hz.
5. We reserve the right to modify the samples without prior notice to make our products adaptable to customers.

Unit Outline Drawing (WHP Series Single Compressor)



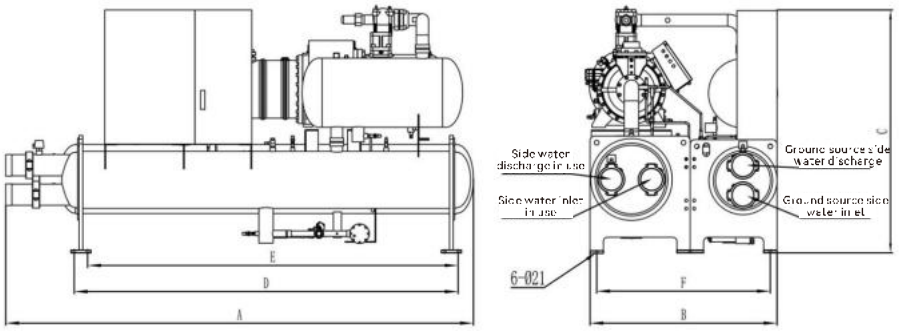
Model	Dimensions						Pipe Connection Specifications	
	A	B	C	D	E	F	Using Side	Heat Source Side
WHP1080MARSN	3000	1300	1800	2540	2340	1200	DN100	DN100
WHP1090MARSN	3000	1300	1800	2540	2340	1200	DN100	DN100
WHP1110MARSN	3010	1350	1850	2540	2340	1250	DN125	DN125
WHP1120MARSN	3010	1350	1850	2540	2340	1250	DN125	DN125
WHP1135MARSN	3010	1350	1850	2540	2340	1250	DN125	DN125
WHP1150MARSN	3010	1350	1850	2540	2340	1250	DN125	DN125
WHP1170MARSN	3010	1350	1850	2540	2340	1250	DN125	DN125
WHP1190MARSN	3350	1400	1950	2870	2670	1300	DN125	DN125
WHP1210MARSN	3350	1400	1950	2870	2670	1300	DN150	DN150
WHP1230MARSN	3350	1400	1950	2870	2670	1300	DN150	DN150
WHP1285MARSN	3350	1400	1950	2870	2670	1300	DN150	DN150
WHP1310MARSN	3550	1550	2050	2870	2670	1450	DN150	DN150
WHP1340MARSN	3550	1550	2050	2870	2670	1450	DN200	DN200

Unit Outline Drawing (WHP Series Dual Compressor)



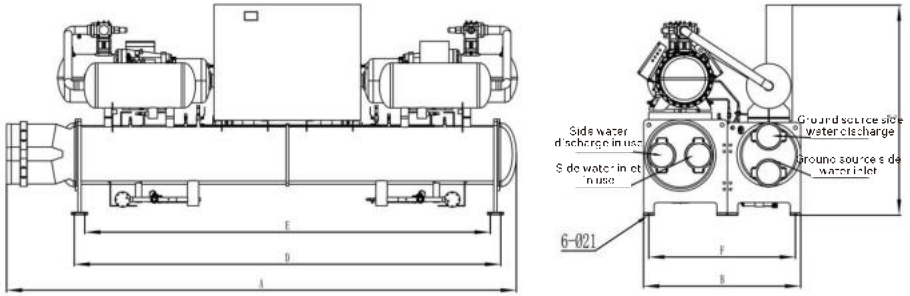
Model	Dimensions						Pipe Connection Specifications	
	A	B	C	D	E	F	Using Side	Heat Source Side
WHP2270MARSN	7460	1400	2250	4070	3870	1300	DN150	DN150
WHP2310MARSN	7460	1400	2250	4070	3870	1300	DN200	DN200
WHP2350MARSN	7460	1400	2250	4070	3870	1300	DN200	DN200
WHP2380MARSN	7900	1600	2250	4270	4070	1500	DN200	DN200
WHP2410MARSN	7900	1600	2250	4270	4070	1500	DN200	DN200
WHP2470MARSN	7900	1600	2250	4270	4070	1500	DN200	DN200
WHP2530MARSN	7900	1600	2250	4270	4070	1500	DN250	DN250
WHP2570MARSN	7950	1800	2250	4270	4070	1700	DN250	DN250
WHP2610MARSN	8450	1850	2250	4670	4470	1750	DN250	DN250
WHP2660MARSN	8450	1850	2250	4670	4470	1750	DN250	DN250

Unit Outline Drawing (GWP Series Single Compressor)



Model	Dimensions						Pipe Connection Specifications	
	A	B	C	D	E	F	Using Side	Heat Source Side
GWP1080MARSN	3000	1300	1800	2540	2340	1200	DN100	DN100
GWP1090MARSN	3000	1300	1800	2540	2340	1200	DN100	DN100
GWP1110MARSN	3010	1350	1850	2540	2340	1250	DN125	DN125
GWP1120MARSN	3010	1350	1850	2540	2340	1250	DN125	DN125
GWP1135MARSN	3010	1350	1850	2540	2340	1250	DN125	DN125
GWP1150MARSN	3010	1350	1850	2540	2340	1250	DN125	DN125
GWP1170MARSN	3010	1350	1850	2540	2340	1250	DN125	DN125
GWP1190MARSN	3350	1400	1950	2870	2670	1300	DN125	DN125
GWP1210MARSN	3350	1400	1950	2870	2670	1300	DN150	DN150
GWP1230MARSN	3350	1400	1950	2870	2670	1300	DN150	DN150
GWP1285MARSN	3350	1400	1950	2870	2670	1300	DN150	DN150
GWP1310MARSN	3550	1550	2050	2870	2670	1450	DN150	DN150
GWP1340MARSN	3550	1550	2050	2870	2670	1450	DN200	DN200

Unit Outline Drawing (GWP Series Dual Compressor)

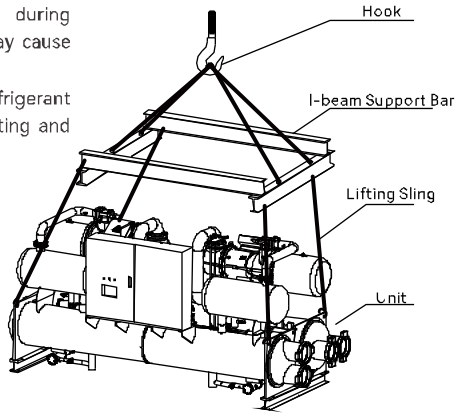


Model	Dimensions						Pipe Connection Specifications	
	A	B	C	D	E	F	Using Side	Heat Source Side
GWP2270MARSN	4460	1400	2250	4070	3870	1300	DN150	DN150
GWP2310MARSN	4460	1400	2250	4070	3870	1300	DN200	DN200
GWP2350MARSN	4460	1400	2250	4070	3870	1300	DN200	DN200
GWP2380MARSN	4900	1600	2250	4270	4070	1500	DN200	DN200
GWP2410MARSN	4900	1600	2250	4270	4070	1500	DN200	DN200
GWP2470MARSN	4900	1600	2250	4270	4070	1500	DN200	DN200
GWP2530MARSN	4900	1600	2250	4270	4070	1500	DN250	DN250
GWP2570MARSN	4950	1800	2250	4270	4070	1700	DN250	DN250
GWP2510MARSN	5450	1850	2250	4670	4470	1750	DN250	DN250
GWP2660MARSN	5450	1850	2250	4670	4470	1750	DN250	DN250

Unit Hoisting and Moving

Do not allow the unit to collide with the ground during transportation or entry into the engine room, as this may cause excessive impact force.

Avoid having the steel cable contact and damage the refrigerant piping, insulation materials, and control panel during lifting and transportation.



Installation Foundation

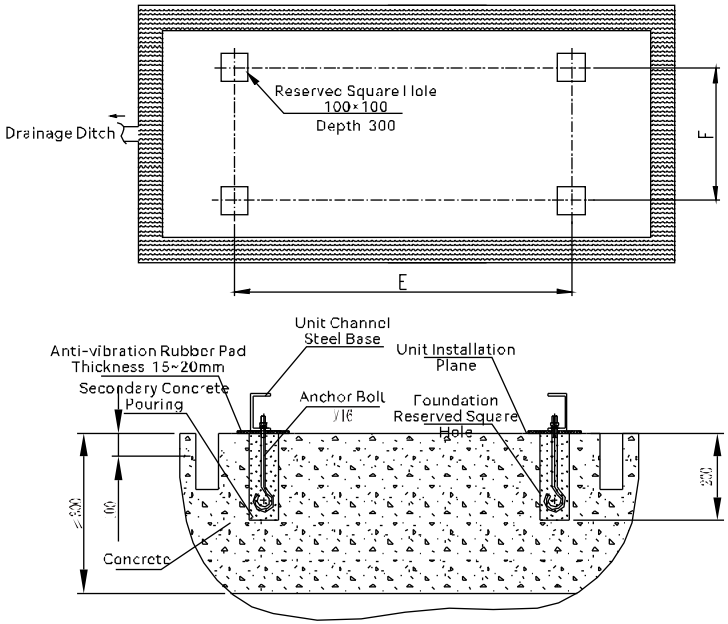
This foundation plan is for reference only. Users should adjust the design according to concrete strength and local soil conditions.

Ensure the foundation is level, with a maximum height difference of ≤5mm across the platform.

Install vibration isolators when placing the unit on intermediate or top floors to prevent noise and vibration transfer.

Consider adding a circular drainage ditch around the foundation for water drainage during maintenance.

Refer to the example below for foundation installation and fixing methods.



Engine Room Requirements

01. The unit must be installed in a dedicated engine room, not outdoors. Measures should be taken to discharge the heat generated during operation, keeping the room temperature below 40℃.

02. Adequate space should be left around the unit for maintenance. No pipes or conduits should be laid above it.

03. The unit should be installed on a non - deforming rigid base or concrete foundation, capable of supporting its operating weight.

04. The engine room must have sufficient space for installation and maintenance, allowing personnel unrestricted access. It should also have enough space for lifting compressor parts and tube pulling during repairs.

05. There should be enough well - installed, outward - opening doors with over - 1 - hour fire resistance. If on the building's interior side, they should auto - close. This ensures free exit in emergencies.

06. Ground - level engine rooms need natural ventilation with an area of at least $0.14G^{1/2}$ (square meters), where G is the refrigerant charge weight (kg). The airflow should not be hindered.

07. Underground engine rooms need mechanical ventilation with an exhaust rate of at least $13.88G^{1/3}$ (liters/second), where G is the refrigerant charge weight. Multi - speed fans are recommended. The exhaust fan's inlet or duct should be near the unit with proper protection.

08. An emergency stop or power - off switch should be installed near the engine room. A switch to control the emergency operation of the mechanical ventilation fan should also be provided.

09. No flammable or explosive substances except the refrigerant in the unit can be stored. The maximum allowed refrigerant storage is 150kg.

10. The engine room should be designed for easy water drainage and smooth refrigerant discharge when the safety valve activates.

11. The design should meet local noise - level requirements. Measures should be taken during installation and piping to prevent vibration transmission.

Water System Piping

01. When installing a water source heat pump system, pay attention to the positions of the using side and the heat source side to avoid incorrect pipe connections. The system must be equipped with a diverter valve to switch between cooling in summer and heating in winter.

02. Install filtering devices on the pipes entering the unit and set up blowdown outlets in suitable positions to prevent impurities in the water from corroding the unit.

03. Filtering devices need to be checked and replaced regularly, and adequate space for installation and maintenance should be considered.

04. To ensure efficient operation, users are advised to clean the pipes regularly and remove scale from inside the equipment pipes. For professional maintenance, contact the Oubo after-sales service.

05. The inlet and outlet pipes and valves of the unit should be properly insulated to avoid heat loss and condensation.

06. When using two or more units in parallel, try to make the resistance of the supply and return pipes of each unit equal to keep the flow rate the same and prevent uneven flow.

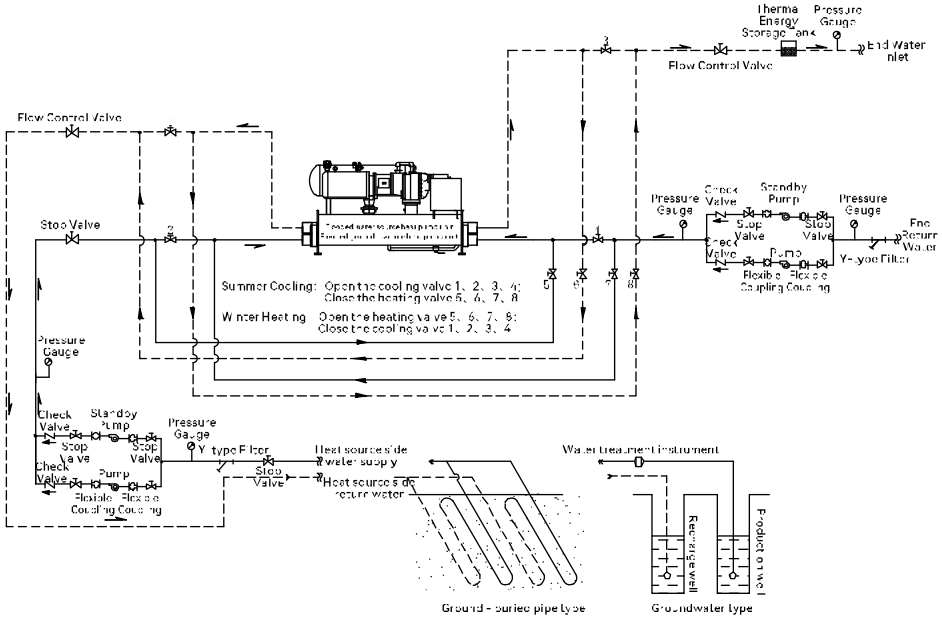
07. For the water pipes on the using side, if a closed loop system is used, install an expansion tank at the highest point of the water pipes to mitigate water volume changes due to temperature and isolate the impact of make-up water pressure. The water level in the expansion tank should be at least 1m above the highest point of the water pipes.

08. Connect the unit's inlet and outlet to the corresponding water pipes using anti - vibration hoses or rubber joints to isolate vibrations, noise, and interference.

09. When the unit is running, the water flow rate on the heat source side and the using side must not be less than 70% of the rated flow rate to prevent accidents.

10. Install coupling seats on the inlet and outlet pipes of the heat source side and the using side for easy separation from the water pipes during future maintenance.

Water System Piping Drawing

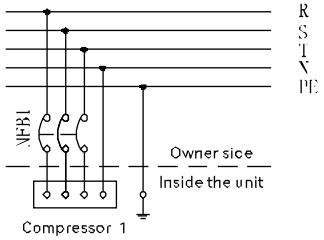


Electrical Wiring

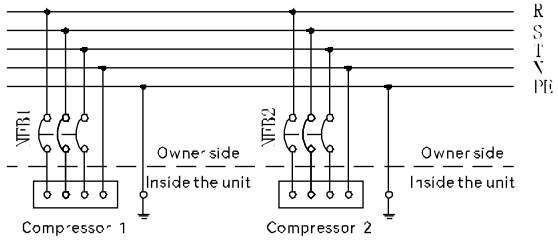
The power supply must match the unit's nameplate ratings, typically 380V/3N~/50Hz for standard products. During operation, the voltage must be stable, with the frequency within ±2% of the nameplate rating. The working voltage should be within ±10% of the rated value, the phase - to - phase voltage difference within ±2% of the rated value, and the difference between the highest and lowest phase currents less than 3% of the rated value.

Wiring from the power supply to the unit must follow electrical codes and have good insulation. After wiring, use a 500V megohmmeter to test the insulation resistance between electrical components' terminals and the unit body, which should be at least 5MΩ.

For safety, the unit's casing must have a reliable grounding device to prevent electric shock, installed in line with electrical codes.



Single compressor unit wiring diagram



Dual compressor unit wiring diagram

For specific operations regarding the installation, use, and maintenance of the unit, please refer to the **Installation and Operation Manual** and **Electrical Operation Instructions** provided with the unit.

Note: Since OBAIR products are subject to continuous improvement and innovation, any changes to the product models, specifications, and parameters shown in this material will not be notified separately.
Your understanding is appreciated.