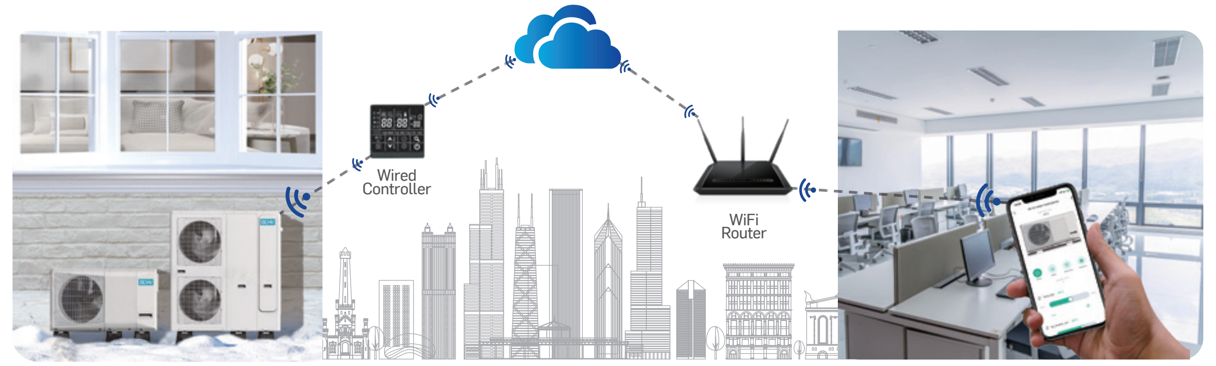
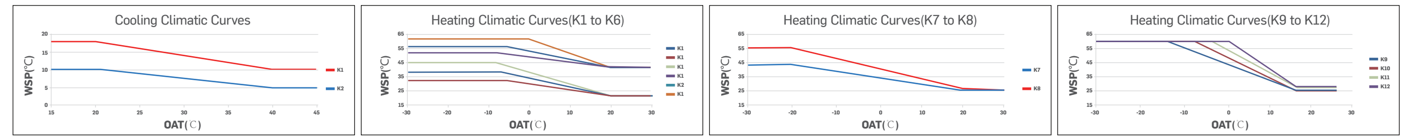
WiFi Control

With the build-in wifi module, remote control is available, you can control the heat pump through the phone easily while you are away from home.



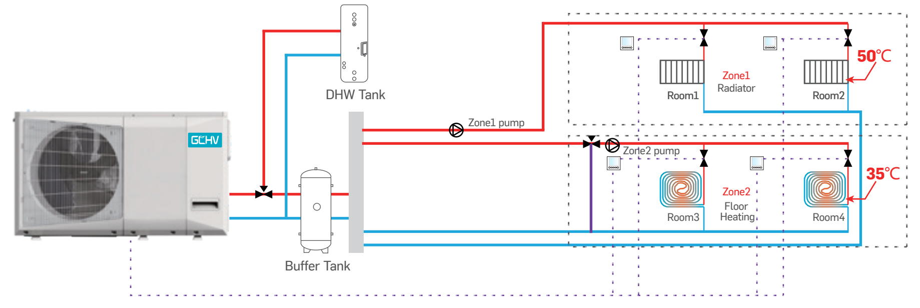
Automatic Control

- Automatic control can be achieved by selecting different climate curves according to ambient temperature and terminals.
- Users can create new climate curves according to specific needs.



2-zone Control

Different temperatures can be set for different zones.

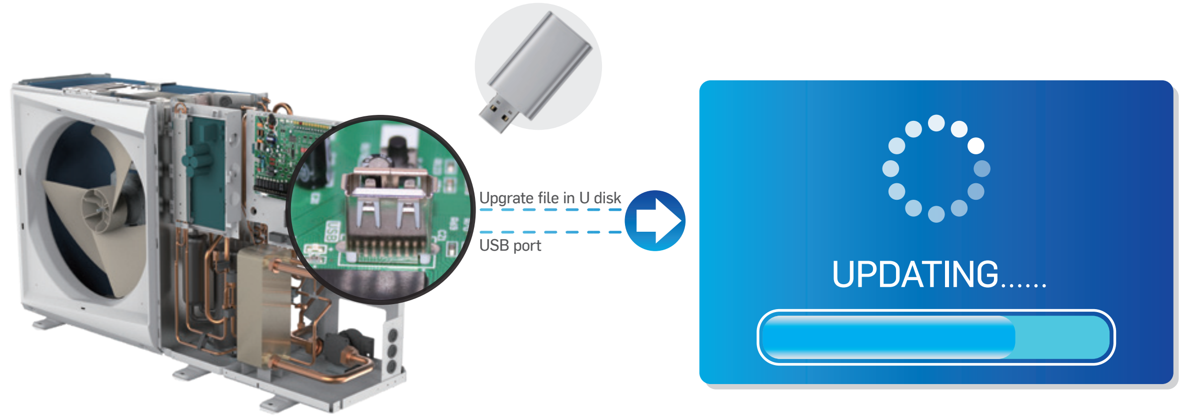


*Note: Different water temperatures for different terminals

Terminal Type	Water Temp. Range
Floor Heating	30-35℃
Radiator	40-50℃
FCU	30-45℃

USB Port

The system upgrade port is reserved on the PCB board. When the system needs to be upgraded, the relevant upgrade can be completed immediately through this port with the upgrade file in the U disk. This port can also be used to record the running parameters.



Auxiliary Heaters

There are multi auxiliary heat sources could be added to the heat pump system to meet an increased demand for hot water.

Electrical heater for primary water circuit

Backup heat source to heat the leaving water, provides another 2 ports to connect field supply electrical heater, 3kw standard.

Gas boiler for primary water circuit

Backup heat source to heat the leaving water, provides 1 port to connect to the gas boiler with 220V signal.

Electrical heater for DHW tank

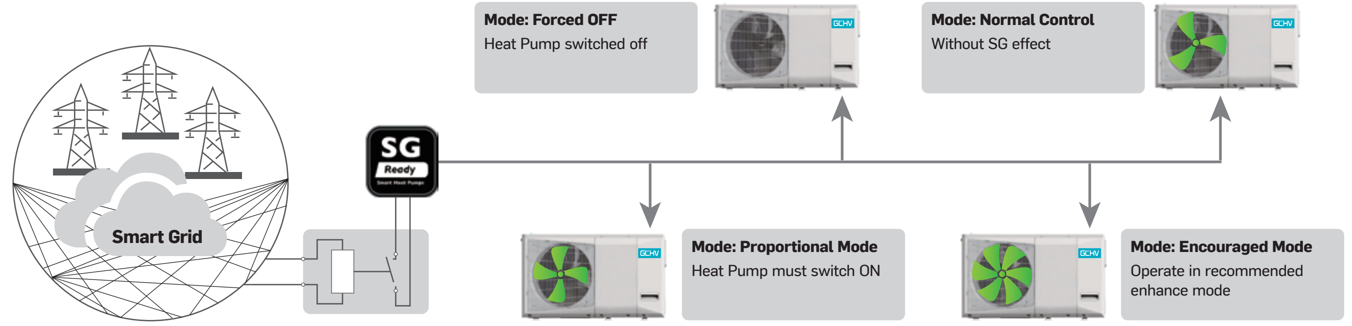
Backup heat source to heat the water in DHW tank, provides 2 ports to connect field supply electrical heater.

Solar water heaters for DHW tank

Solar water heater is applied to heat the water in DHW tank or buffer tank, saving the energy consumption.

Smart Grid

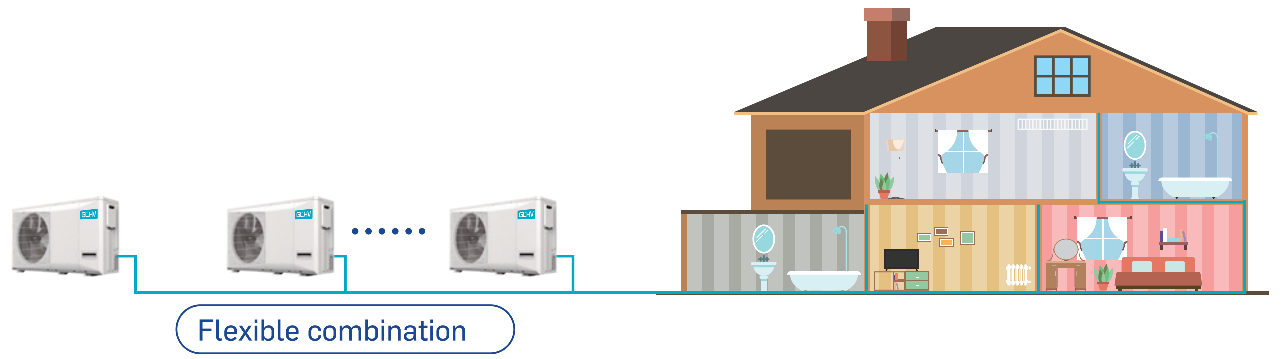
The heat pump can connect to smart grid. The unit provides two dry contacts, creating four different operation modes, encouraged operation, proportional operation, normal control and forced OFF.



Cascade Control*

Up to 15 units can be connected to one system for larger areas use

*: Available in June, 2024



Product Specification

Split Type

Outdoor unit model			CS-D004H/R4-D01	CS-D006H/R4-D01	CS-D008H/R4-D01	CS-D010H/R4-D01	CS-D012H/R4-F01 CS-D012H/ZR4-F01	CS-D014H/R4-F01 CS-D014H/ZR4-F01	CS-D016H/R4-F01 CS-D016H/ZR4-F01
Hydronic model			CHD-006EP/R4	CHD-006EP/R4	CHD-010EP/R4	CHD-010EP/R4	CHD-016EP/R4	CHD-016EP/R4	CHD-016EP/R4
Heating Performance Data									
A+7°C; W30/35°C	Capacity/COP	kW/COP	4.00/4.80	6.00/4.60	8.00/5.05	10.00/4.80	12.10/4.80	14.00/4.75	16.00/4.50
A+2°C; W30/35°C	Capacity/COP	kW/COP	4.00/3.50	5.70/3.25	7.80/3.45	9.50/3.30	10.00/3.45	12.00/3.45	13.00/3.40
A-7°C; W30/35°C	Capacity/COP	kW/COP	4.00/2.90	6.00/2.74	8.00/2.70	9.00/2.70	10.50/2.70	12.50/2.80	12.90/2.70
A+7°C; W40/45°C	Capacity/COP	kW/COP	4.00/3.60	6.00/3.45	8.00/3.75	10.00/3.70	11.50/3.65	13.50/3.65	16.00/3.60
A+7°C;W47/55°C	Capacity/COP	kW/COP	4.00/2.60	5.80/2.70	7.70/2.85	9.50/2.70	11.00/2.85	12.00/2.85	13.50/2.95
A+2°C;W47/55°C	Capacity/COP	kW/COP	4.00/2.18	5.80/2.05	8.00/2.30	9.00/2.20	10.00/2.25	11.00/2.35	11.50/2.30
A-7°C; W47/55°C	Capacity/COP	kW/COP	3.50/1.76	5.00/1.74	7.00/1.95	8.00/1.85	10.00/1.95	10.50/2.00	10.50/2.00
A+7°C; W35°C (ErP-average)	Prated-NET/SCOP-NET		6.00/4.73	6.00/4.73	8.00/4.90	9.50/4.88	12.00/4.7	13.50/4.7	14.00/4.63
	ηs 30/35-NET	%	186%	186%	190%	189%	185%	185%	182%
	Efficiency class 30/35		A+++	A+++	A+++	A+++	A+++	A+++	A+++
A+7°C; W55°C (ErP-average)	Prated-NET/SCOP-NET		5.50/3.25	5.50/3.25	7.50/3.30	9.00/3.27	11.60/3.32	12.00/3.48	13.00/3.4
	ηs 47/55-NET	%	127%	127%	129%	128%	130%	136%	133%
	Efficiency class 47/55		A++	A++	A++	A++	A++	A++	A++
Cooling Performance Data									
A+35°C; W23/18°C	Capacity	kW	4.00	5.50	7.00	9.00	11.00	13.50	14.00
	EER/SEER		3.90/7.50	4.00/8.00	4.40/6.80	4.10/7.32	4.25/6.60	3.95/6.37	3.80/6.14
	ηs 23/18	%	297%	317%	270%	290%	261%	252%	243%
A+35°C; W12/7°C	Capacity	kW	4.00	5.00	6.50	8.00	11.00	12.50	13.50
	EER/SEER		2.85/4.70	2.80/4.70	2.95/4.79	2.90/5.10	2.75/5.05	2.70/5.05	2.60/5.05
	ηs 12/7	%	185%	185%	189%	201%	199%	199%	199%
Cooling Performance Data									
Sound noise	Indoor Unit	dB(A)	41	41	42	42	43	43	43
	Outdoor Unit	dB(A)	63	65	66	67	69	69	70
Dimension	Net(LxWxH)	mm	1032x445x807	1032x445x807	1032x445x807	1032x445x807	1098x528x869	1098x528x869	1098x528x869
	Packing(LxWxH)	mm	1075x495x875	1075x495x875	1075x495x875	1075x495x875	1140x545x1010	1140x545x1010	1140x545x1010
Refrigerant	Type/charge	kg	R32/1.2	R32/1.2	R32/1.7	R32/2	R32/2	R32/2.1	R32/2.1
Water connections	Inlet dia.(MPT GAS)	inch	1	1	1	1	1-1/4	1-1/4	1-1/4
	Outlet dia.(MPT GAS)	inch	1	1	1	1	1-1/4	1-1/4	1-1/4

Monobloc Type

Outdoor unit model			HRL-4/BPDR4Y	HRL-6/BPDR4Y	HRL-8/BPDR4Y	HRL-10/BPDR4Y	HRL-12/BPDR4Y HRL-12/BPDSR4Y	HRL-14/BPDR4Y HRL-14/BPDSR4Y	HRL-16/BPDR4Y HRL-16/BPDSR4Y
Heating Performance Data									
A+7°C; W30/35°C	Capacity/COP	kW/COP	4.00/4.75	6.00/4.45	8.00/4.70	10.00/4.45	12.00/4.75	14.00/4.65	16.00/4.60
A+2°C; W30/35°C	Capacity/COP	kW/COP	4.00/3.50	5.70/3.25	7.80/3.40	10.00/3.35	12.00/3.40	13.70/3.40	14.50/3.30
A-7°C; W30/35°C	Capacity/COP	kW/COP	3.80/2.83	5.80/2.72	7.80/2.70	8.80/2.70	11.80/2.83	12.30/2.78	13.30/2.70
A+7°C; W40/45°C	Capacity/COP	kW/COP	4.00/3.50	6.00/3.45	8.00/3.60	10.00/3.50	12.00/3.55	14.00/3.55	16.00/3.50
A+7°C; W47/55°C	Capacity/COP	kW/COP	4.00/2.59	5.80/2.70	7.70/2.85	9.50/2.68	11.50/2.85	12.00/2.75	13.50/2.70
A+2°C; W47/55°C	Capacity/COP	kW/COP	4.00/2.20	6.00/2.12	8.00/2.30	9.50/2.25	11.00/2.45	12.00/2.40	13.50/2.35
A-7°C; W47/55°C	Capacity/COP	kW/COP	3.50/1.76	5.00/1.74	7.00/1.95	8.00/1.91	10.00/2.05	10.50/2.00	11.50/1.95
A+7°C; W35°C (ErP-average)	Prated-NET/SCOP-NET		4.00/4.73	6.05/4.75	8.09/4.90	9.73/4.98	11.94/4.91	14.03/4.94	14.79/4.78
	ηs 30/35-NET	%	186%	187%	193%	196%	193%	195%	188%
	Efficiency class 30/35		A+++	A+++	A+++	A+++	A+++	A+++	A+++
A+7°C; W55°C (ErP-average)	Prated-NET/SCOP-NET		4.01/3.22	5.59/3.25	7.61/3.36	9.09/3.41	11.96/3.39	11.99/3.42	13.06/3.36
	ηs 47/55-NET	%	126%	127%	131%	134%	133%	134%	131%
	Efficiency class 47/55		A++	A++	A++	A++	A++	A++	A++
Cooling Performance Data									
A+35°C; W23/18°C	Capacity	kW	4.00	5.50	7.00	9.00	11.00	13.50	14.50
	EER/SEER		3.85/6.45	4.00/6.39	4.40/6.80	4.00/6.25	4.00/6.60	3.90/6.37	3.80/6.14
	ηs 23/18	%	255%	253%	270%	247%	261%	252%	243%
A+35°C; W12/7°C	Capacity	kW	4.00	5.00	6.50	8.00	10.50	12.00	14.00
	EER/SEER		2.85/4.52	2.75/4.51	2.90/4.79	3.00/4.89	2.75/5.04	2.70/5.05	2.65/5.06
	ηs 23/18	%	178%	177%	189%	193%	199%	199%	199%
Physical Features									
Sound noise	Power level	dB(A)	61	64	65	66	69	69	70
	Pressure level	dB(A)	50	53	54	55	56	56	58
Dimension	LxWxH	mm	1335×459×816	1335×459×816	1335×459×816	1335×459×816	1302×456×1425	1302×456×1425	1302×456×1425
Refrigerant	Type/charge	kg	R32/1.0	R32/1.1	R32/1.6	R32/1.8	R32/2.2	R32/2.6	R32/2.6
Water connections	Inlet dia.(MPT GAS)	inch	1.00	1.00	1.00	1.00	1.25	1.25	1.25
	Outlet dia.(MPT GAS)	inch	1.00	1.00	1.00	1.00	1.25	1.25	1.25

Note: The specifications of this catalogue may change for further improvement on quality and performance without prior notice to allow us to incorporate the latest innovations for its customers. The information contained in this catalogue is merely informative.

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GCHV

A+++ ATW Heat Pump Product Brochure

2024-2025

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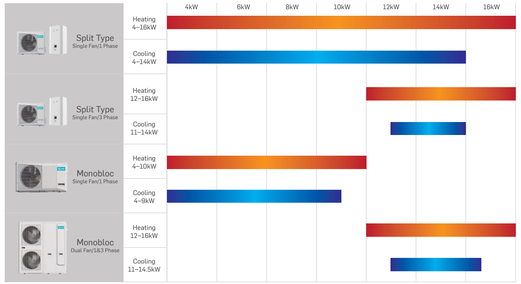
Product Lineup

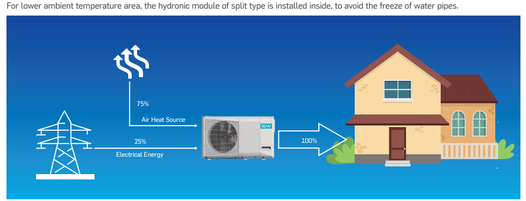


Air-to-Water Heat Pump

The monobloc heat pump is a compact system with a single unit installed outdoors means the available space indoors remains unchanged, it is designed for installation in any type of property, especially homes with limited space.

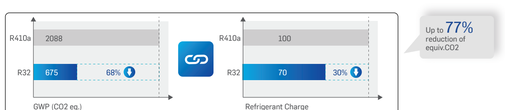
Based on Air to Water heat pump technology, it captures heat energy from the ambient air and transfers it to heat the water that is used to warm your home and supply domestic hot water , it can even cool your home as required. Compared to other technologies, up to 75% of the heat energy required is taken from the ambient air.

For lower ambient temperature area, the hydronic module of split type is installed inside, to avoid the freeze of water pipes.



R32 Environmentally Balanced Refrigerant

R32(HFC-32) is a highly environmentally balanced refrigerant, with 0 ODP and 675 GWP, low carbon footprint, non-ozone depleting and due to the lower GWP and refrigerant charge volume, R32 helps to protect the environment and preservie HFC quotas by reducing 77% of CO_2 emission compared with R410a.



Multi Applications In One System

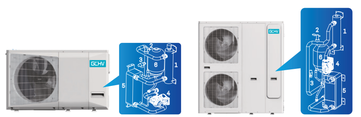
The system can realize heating in winter and cooling in summer, and can produce domestic hot water throughout the year. Various terminal equipment, floor heating, radiators and fan coils can be connected.

*If connect radiator and floor heating together, it needs to configure 2-zone control function;

* If cooling and heating terminals are both equipped, please install the 2-way valve in the heating terminal loop which should control by the heat pump to cut off the heating water loop while running cooling mode.

Build-in Hydraulic Module

The monobloc is a fully packaged unit that the refrigerant part and hydronic part are combined as one module. It does not require refrigerant piping work since the Monobloc's outdoor unit is connected exclusively to water piping. Further, hydronic components such as plate heat exchanger, expansion tank and water pump are included in the package.



*Note:
1: Electrical heater component ;
2: Flow switch;
3: Safety valve outlet ;
4: Circulation pump ;
5: BPHE;
6 :Expansion vessel.

High Efficiency Components

DC inverter compressor
Pressure ratio up to 13, Good performance in low ambient environment.

DC motor
DC brushless fan motor, higher efficiency, lower noise.

Refrigerant cooling
Make sure the main PCB operates in proper temperature range to improve its reliability.

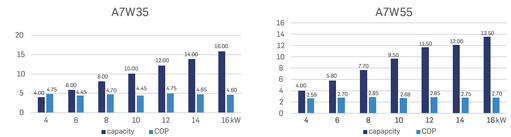
High efficiency BPHE
Excellent air path design, withstand high temperatures and high pressures.

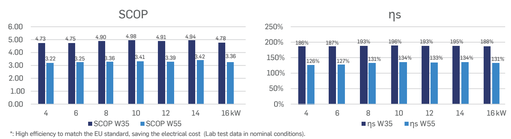
EXV
Precise control and regulation of the refrigerant flow, 0-480 pulses.

Inverter water pump
High efficiency inverter water pump, with high water head up to 9m.

High Energy Efficiency Performance

The use of advanced components and technologies such as high-pressure ratio DC inverter compressors, DC fan motors, PHE, EXV, etc., the monobloc heat pump system achieves high-efficiency performance in low ambient temperature environment.





*: High efficiency to match the EU standard, saving the electrical cost (Lab test data in nominal conditions).

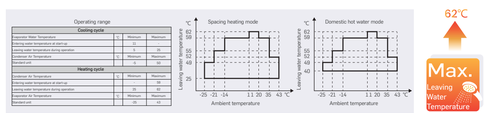
Multi Protections

There are various built-in protection measures to ensure the long-term stable and safe operation of the entire heat pump system.

- Current protection
  - System over-current protection
- Voltage protection
  - System over high voltage protection
  - System over low voltage protection
- Pressure protection
  - High pressure protection
  - Low pressure protection
- Over-heat protection
  - Discharged temperature
  - Condenser coil temperature
  - IPM over-heat protection
- Anti-frozen protection
  - Water temperature detect
  - Refrigerant temperature detect

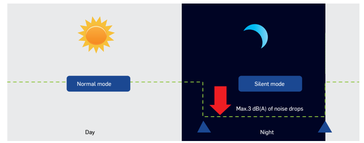
High Leaving Water Temperature

The heat pump has a wide operation ambient temperature range from -25°C to 43°C for heating/DHW, it prodives the hot water all year round and the leaving water temp. up to 62°C, it is very suitable for residential and light commercial projects.



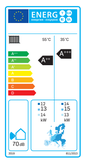
Night Mode

By simple setting on the controller, the heat pump system can be timed to enter night silent mode that reduce noises by 3 dB(A).



Energy Labeling and Certificate

As an mainstream energy efficient and reliable heat pump product, the have obtained a series of certification that meet the needs of different market.



*: 16kW model

ERP directive:
ηs , Seasonal space heating energy efficiency
ηs average up to A+++ @ 35°C
ηs average up to A++ @ 55°C

PED
Pressure Equipment

Keymark

Control System

The ATW heat pump has 3 different kinds of control system to meet the specific requirement of customers.

Wired Controller

The built-in Wi-Fi module allows for easy remote control via your mobile phone when you are away from home.

Touch Screen Wired Controller

- Mode control
- Weekly timer function
- Electric heater
- Forced defrosting
- Anti-freezing protection
- WiFi function

Dry Contact

The heat pump reserves 3 dry contacts as standard and 4 dry contacts as customized, as well as 3 standard output contacts and 3 customized outputs which are 230V output terminals.

Modbus Control

The PCB of heat pump unit has a built-in Modbus control port, so that it can be connected to the third party controllers or computer through Modbus protocol.