

## Control System

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

### Wired Controller

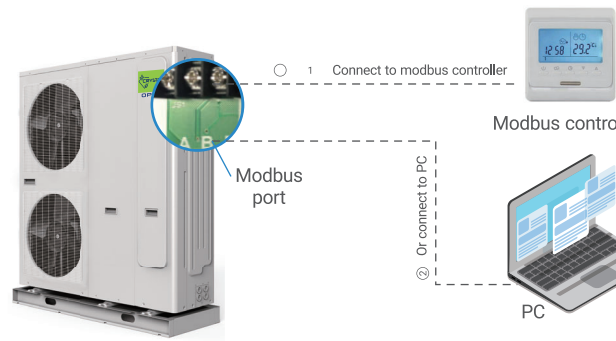


Touch Screen Wired Controller

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

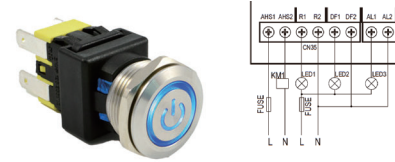
### Modbus control

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

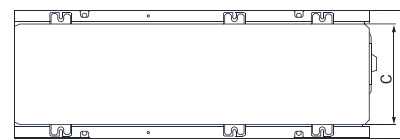
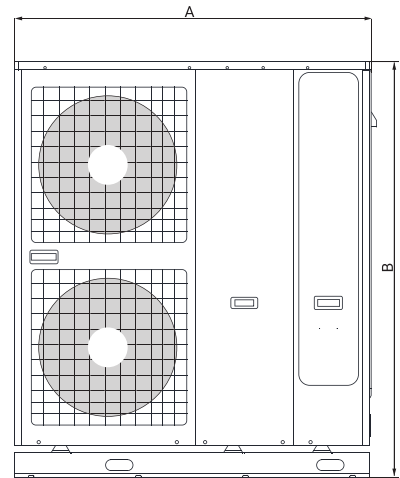
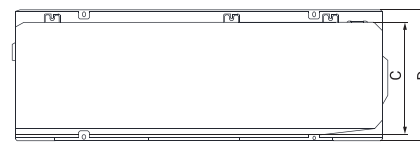
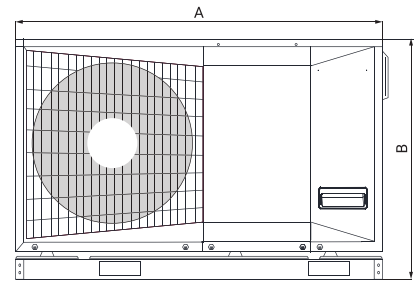


### Dry Contact

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.



## Product Dimension



Model	Phase	Feature	A	B	C	D	Weight(kg)
4-6 kW	1 Ph	Single fan	1335	875	410	475	109.0
8 kW	1 Ph	Single fan	1335	875	410	475	120.0
10 kW	1 Ph	Single fan	1335	875	410	475	126.0
12 kW	1 Ph	Dual fan	1302	1517	370	465	165.5
14-16 kW	1 Ph	Dual fan	1302	1517	370	465	167.7
12 kW	3 Ph	Dual fan	1302	1517	370	465	165.5
14-16 kW	3 Ph	Dual fan	1302	1517	370	465	167.7

NOTE : Dimensions are given in mm

## Product Specification

				4kW	6kW	8kW	10kW	12kW	14kW	16kW
Single Fan 1 Phase	Heating	[Color bar]								
	Cooling	[Color bar]								
Dual Fan 1 Phase	Heating	[Color bar]								
	Cooling	[Color bar]								
Dual Fan 3 Phase	Heating	[Color bar]								
	Cooling	[Color bar]								

Heating Performance Data			4kW	6kW	8kW	10kW	12kW	14kW	16kW
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%
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 30/35		A+++	A+++	A+++	A+++	A+++	A+++	A+++
	Efficiency class 47/55		A++	A++	A++	A++	A++	A++	A++
Cooling Performance Data			4kW	6kW	8kW	10kW	12kW	14kW	16kW
A+35°C; W23/18°C	Capacity	kW	3.80	5.30	6.80	8.80	10.80	13.30	14.30
	EER/SEER		3.82/6.45	3.97/6.39	4.37/6.80	3.97/6.25	3.97/6.60	3.87/6.37	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			4kW	6kW	8kW	10kW	12kW	14kW	16kW
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	1335x475x875	1335x475x875	1335x475x875	1335x475x875	1302x465x1517	1302x465x1517	1302x465x1517
Weight	Weight	kg	109.0	109.0	120.0	126.0	165.5	167.7	167.7
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
	Inlet dia.(MPPT GAS)	inch	1.00	1.00	1.00	1.00	1.25	1.25	1.25
Water connections	Outlet dia.(MPPT GAS)	inch	1.00	1.00	1.00	1.00	1.25	1.25	1.25

\*Note:

1. Values are guidelines only. Refer to the unit nameplate.
2. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-2dB(A)). Measured in accordance with ISO 9614-1.
3. Declared dualnumber noise emission values in accordance with EN12102-1 (with an associated uncertainty of +/-2dB(A)). For information, calculated from the sound power level Lw(A).
4. Min. water-side operating pressure with variable speed hydraulic module is 40 kPa.



# Air-to-Water Monobloc Heat Pump

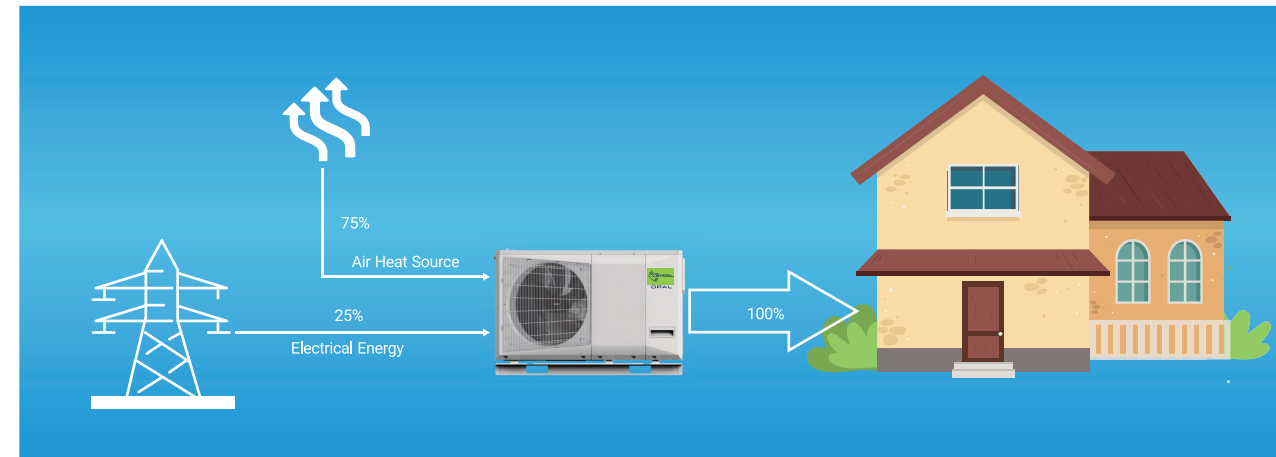
## R32 Eco Friendly Multi-Functional Solution



## Air-to-Water Monobloc Heat Pump

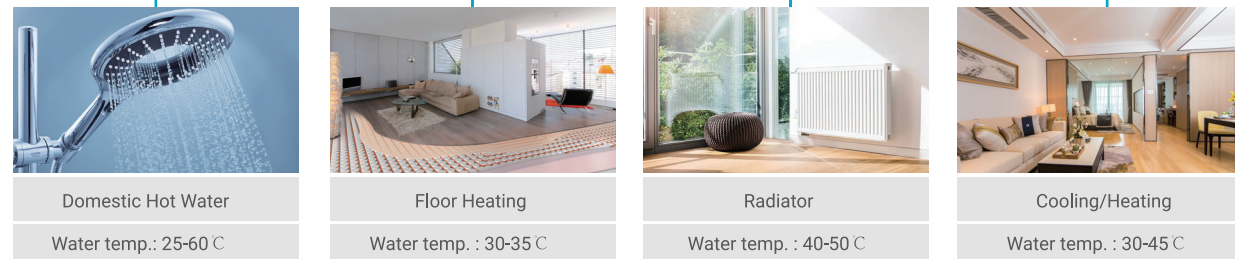
The monobloc heat pump is a compact system with a single unit installed outdoors means the available space indoors remains unchanged, it is designed for installation in any type of property, especially homes with limited space.

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.



## 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.

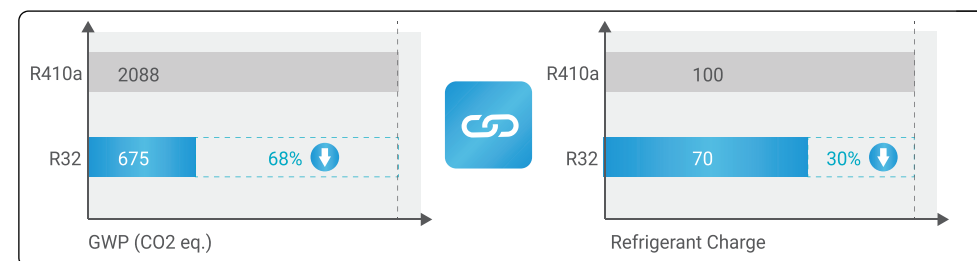


\*If choose the two different temp., which need two zone control, the water setpoint should be the higher one for heating mode;

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

## R32 Eco Friendly Refrigerant

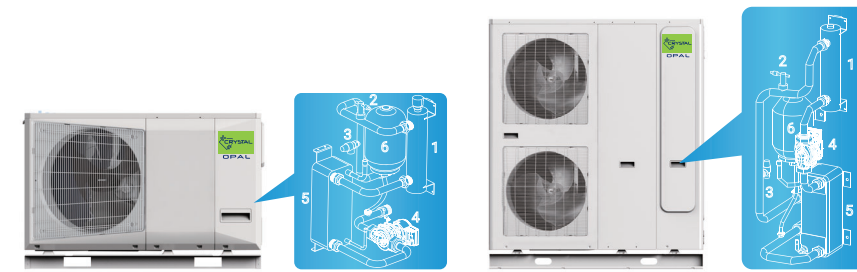
R32(HFC-32) is a highly environmentally friendly refrigerant, with 0 ODP and 675 GWP, low carbon footprint, no harm to the Ozone, and due to the lower GWP and refrigerant charge volume, R32 helps to protect the environment and preserve HFC quotas by reducing 77% of CO<sub>2</sub> emission compared with R410a.



Up to **77%** reduction of equiv.CO2

## Build-in Hydraulic Module

The Monobloc is a fully packaged unit that the indoor and outdoor units 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.

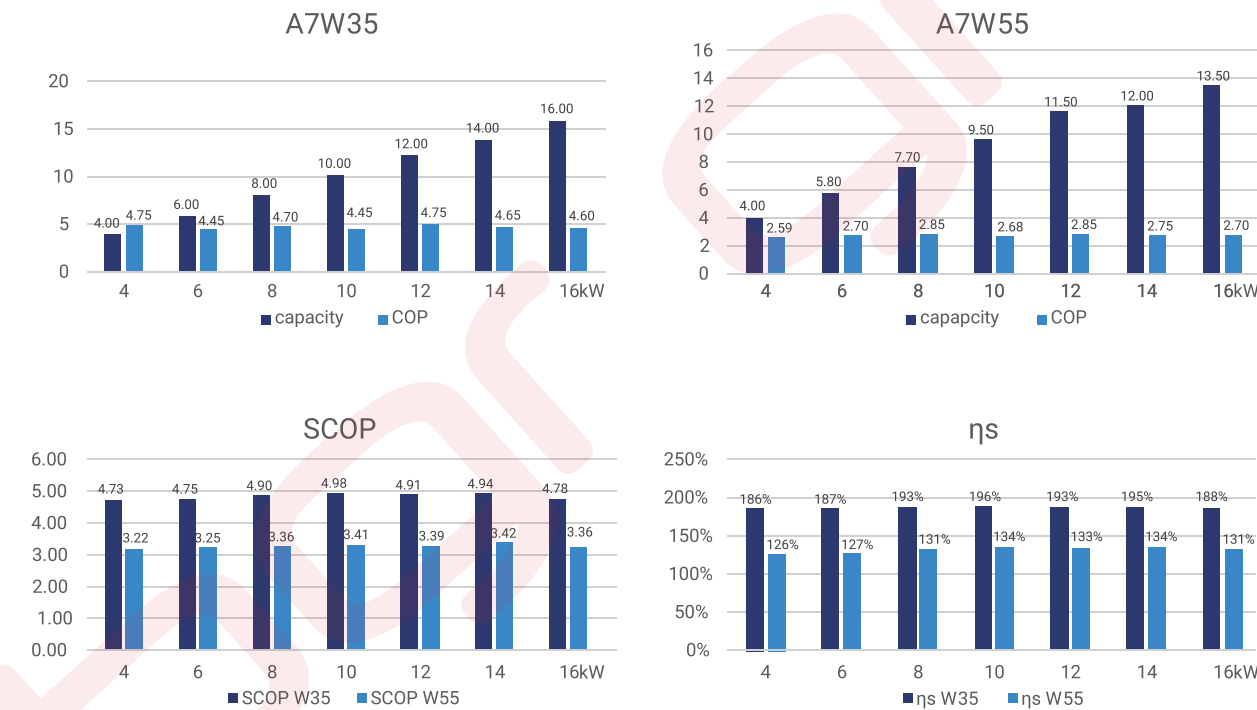


\*Note:

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

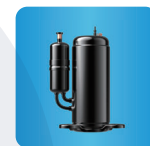
## High Energy Efficiency Performance

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).

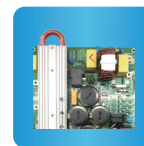
## High Efficiency Components



**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.

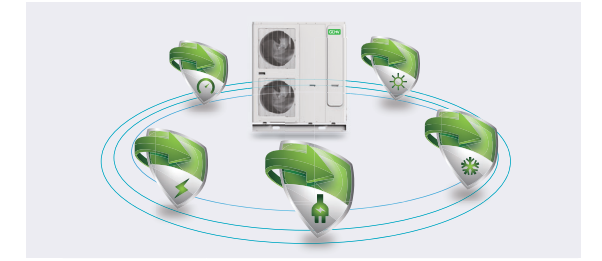


**Inverter water pump**  
High efficiency inverter water pump, with high water pressure head up to 9m.

## Multi Protections

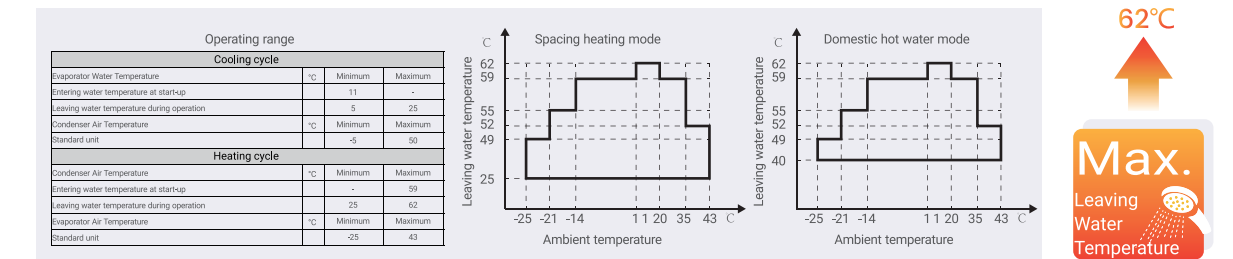
there are various built-in protection measures to ensure the long-term stable and safe operation of the entire heat pump system.

- 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



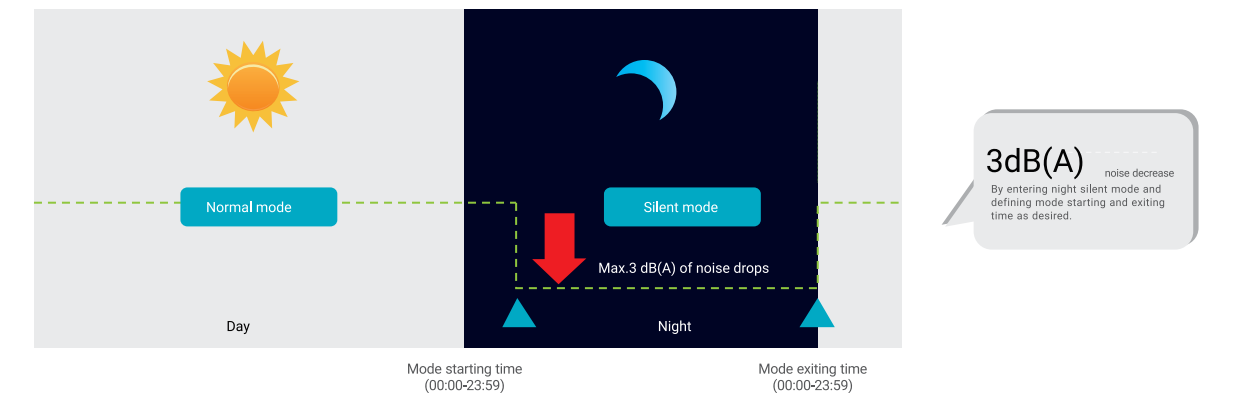
## High Leaving Water Temperature

The monobloc heat pump has a wide operation ambient temperature range from -25°C to 43°C for heating/DHW, it provides 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.



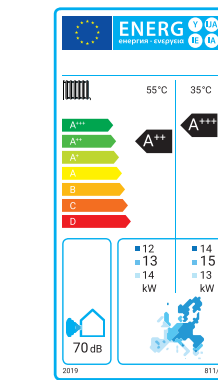
## Night Silent Mode

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 monobloc 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

