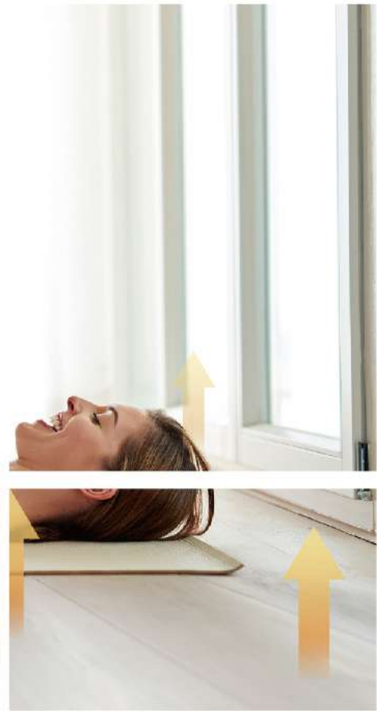
Haier

Haier



Haier Commercial Air Conditioning

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Dec.,2021 Version 1.0

SUPER AQUA

Haier Air to Water Heat Pump

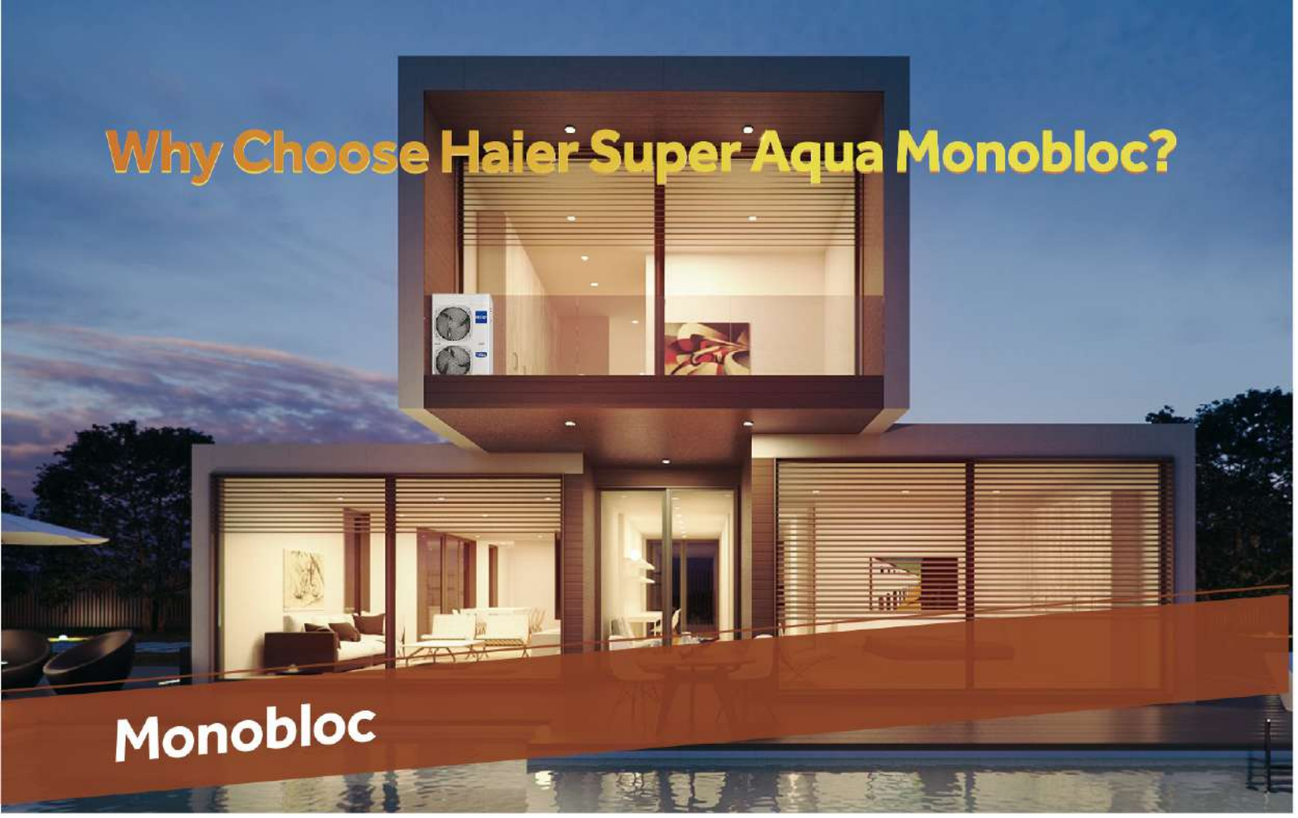
What is Haier Super Aqua?

Haier Super Aqua air to water heat pump uses free renewable energy from the outside air as energy source for space cooling, heating and providing of domestic hot water. This energy efficient and environmentally-friendly solution substantially reduces energy consumption, running cost and CO_2 emissions in heating compared to conventional oil and gas boiler.

Models Line-up

Series	4 kW	5 kW	6 kW	8 kW	10 kW	11 kW	16 kW
Super Aqua Monobloc 1 Phase R32		 AU052FYCRA(HW)		 AU082FYCRA(HW)		 AU112FYCRA(HW)	 AU162FYCRA(HW)
Super Aqua HE Split 1 Phase R32	 AW042SSCHA  HU062WAMNA		 AW062SSCHA  HU062WAMNA	 AW082SNCHA  HU102WAMNA	 AW102SNCHA  HU102WAMNA		

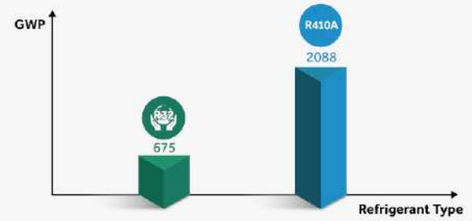
Why Choose Haier Super Aqua Monobloc?



Environmentally-friendly

Haier Super Aqua air to water heat pump uses free renewable energy from the outside air for space heating and domestic hotwater, and cooling source for space cooling. This energy efficient and environmentally-friendly solution substantially reduces energy consumption, running cost and CO_2 emissions in heating compared to conventional oil and gas boiler.

All Super Aqua products use the future refrigerant: R32, which has been shown to have a remarkably reduced environmental impact compared to other refrigerants such as R410A.



Comfort

Total comfort

Haier Super Aqua Monobloc offers an integrated solution to guarantee the total comfort in your home. Leaving water temperature ranges from 5°C to 60°C(5kW unit), which provides comfortable cooling and heating for users. In addition, production of domestic hot water is guaranteed all year. Through the terminal box ATW-A01 is possible to manage the production of domestic hot water with the 3-way valve to be installed externally to the unit.

It' s possible to choose the most suitable type of application for each environment and satisfy every need through the combination of the applications in a system.

Low sound level

Multiple noise reduction measures ensure a low sound level.

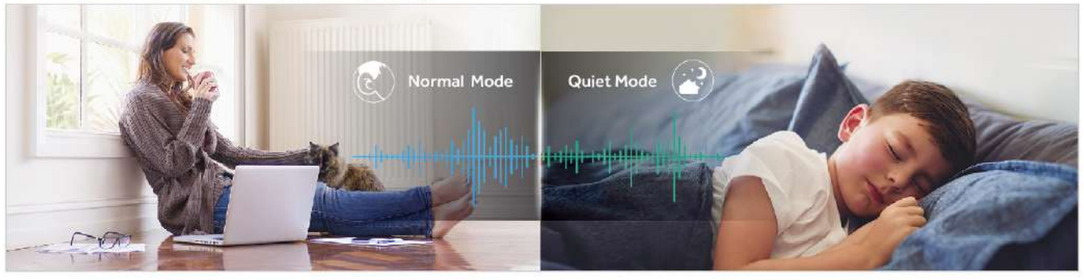
Compressor
Covered by the soundproof material, blocking noise reduction from the compressor; Mounted on the rubber anti-vibration mounts for quite operation and low vibration.

Axial fan
Brushless DC fan motor and aerodynamically optimized impeller for noise and vibration reduction.

Pipeline design
New structure and optimized design of pipeline effectively avoid pipeline noise and vibration.

*Sound power level of the 5kW unit is only 61dB(A).

In addition, quiet mode is available for quiet operation at night.

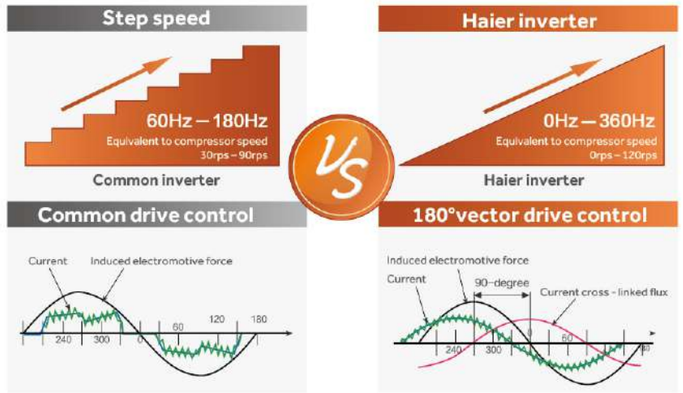


Energy Saving

Full DC inverter technology

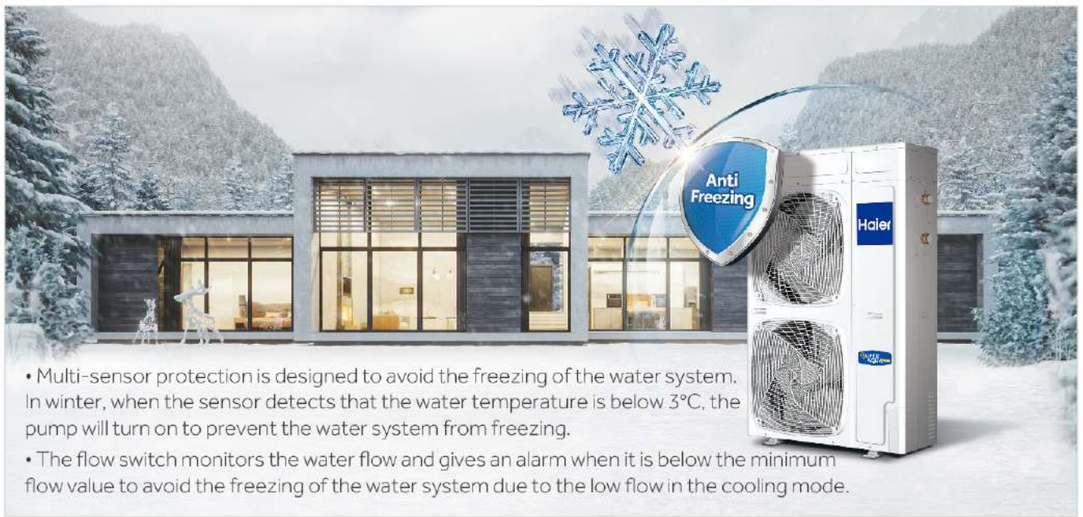
Full DC inverter twin rotary compressor has smaller size and higher efficiency. Variable frequency stepless speed control motor is more energy saving.

Introduction of water-cooled canned rotor pump realizes lower sound level and higher efficiency.



High Reliability

Intelligent anti-freezing technology

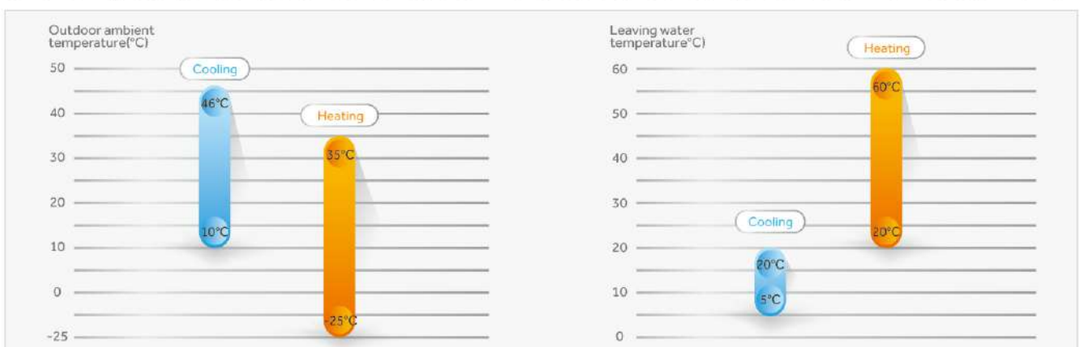


• Multi-sensor protection is designed to avoid the freezing of the water system. In winter, when the sensor detects that the water temperature is below 3°C, the pump will turn on to prevent the water system from freezing.

• The flow switch monitors the water flow and gives an alarm when it is below the minimum flow value to avoid the freezing of the water system due to the low flow in the cooling mode.

Wide operation range

Leaving water temperature ranging from 5°C to 60°C provides comfortable cooling and heating for users. Maximum 60°C leaving water temperature can be realized even when outdoor ambient temperature is down to -25°C(5kW unit).



Convenience

Easy installation

Compact design allows the unit to be installed even when the space is limited.

Easy control

A modern white finish and touch screen design makes the controller clean, clear and fashionable. And the backlight and intuitive icon ensures it is simple and easy to use. The built-in weekly timer allows pre-set automatic control and any error codes are displayed, as well as a historic log being kept, to make maintenance work easier.

Wide Application

Capacity range from 5kW to 16kW, Haier Super Aqua is suitable for both residences and small–sized commercial application scenarios. Small-capacity units are applied mainly in newly built residential buildings with their improved insulation materials whilst. Medium-capacity products are mainly used for refurbishments. Big-capacity products can be installed in small-sized commercial applications, such as Café, restaurant, hair salons and so on.

Specification&Dimensions


AU052FYCRA(HW)


AU082FYCRA(HW)


AU112FYCRA(HW)
AU162FYCRA(HW)

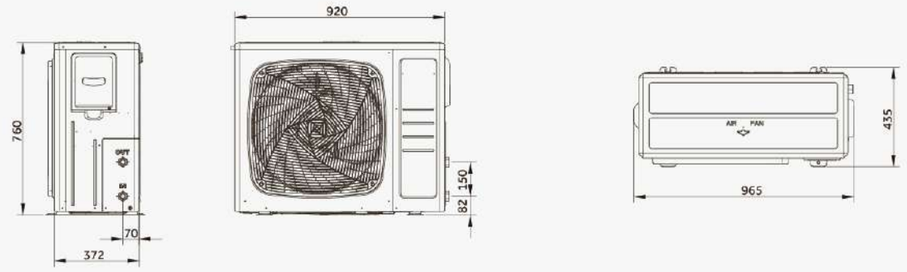

ATW-A01(Optional)

Model			AU052FYCRA(HW)	AU082FYCRA(HW)	AU112FYCRA(HW)	AU162FYCRA(HW)
Heating (LWT 35°C / OAT 7°C)	Capacity	kW	5.00	7.80	11.00	16.00
	Power input	kW	0.99	1.77	2.61	3.86
	COP	-	5.05	4.40	4.22	4.15
Heating (LWT 55°C / OAT 7°C)	Capacity	kW	5.00	7.01	9.99	14.01
	Power input	kW	1.64	2.76	4.40	5.63
	COP	-	3.05	2.54	2.27	2.49
Space heating average climate water outlet 35°C	SCOP	-	4.59	3.87	4.35	4.00
	ηs	%	180	152	171	157
	Energy class	-	A+++	A++	A++	A++
Space heating average climate water outlet 55°C	SCOP	-	3.32	2.90	3.20	3.09
	ηs	%	130	113	125	121
	Energy class	-	A++	A+	A++	A+
Cooling (LWT 18°C / OAT 35°C)	Capacity	kW	5.00	7.00	13.5	16.00
	Power input	kW	1.00	1.89	2.94	3.64
	EER	-	5.00	3.70	4.60	4.40
Cooling (LWT 7°C / OAT 35°C)	Capacity	kW	5.00	5.50	11.5	14.5
	Power input	kW	1.56	2.34	3.83	4.92
	EER	-	3.20	2.35	3.00	2.95
Outdoor operating temperature range	Heating	°C	-25~35	-20~35	-20~35	-20~35
	Cooling	°C	10~46	10~46	10~46	10~46
Leaving water temperature range	Heating	°C	25~60	25~55	25~55	25~55
	Cooling	°C	5~20	5~20	5~20	5~20
Water flow rate		L/min	14.3	23.0	31.5	45.8
Water piping connection	Inlet/Outlet	inch	RC 3/4"	RC 1"	RC 1"	RC 1"
Compressor	Quantity	-	1			
	Type	-	DC inverter twin rotary			
Refrigerant	Type	-	R32			
	Charge/CO_2 Eq.	kg/T	1.00 / 0.675	1.15 / 0.777	2.40 / 1.620	2.60 / 1.755
Net dimension	(H×W×D)	mm	760×920×372	965×950×370	1500×950×370	1500×950×370
Packing dimension	(H×W×D)	mm	875×1045×488	1108×1010×480	1638×1010×480	1638×1010×480
Net/Gross weight		kg	69/80	87/97	145/157	145/157
Sound power level		dB(A)	61	64	67	68
Power supply		~/V/Hz	1, 220-240, 50/60	1, 220-240, 50/60	1, 220-240, 50/60	1, 220-240, 50/60
Max running current		A	13.5	21.3	24.3	31.7
Recommended circuit breaker		A	30	32	32	40
Accessory	Wired controller	/	YR-E27A (Standard)	YR-E27 (Standard)		
	DHW PCB	/	ATW-A01(Optional)			
	Filter	/	Standard			

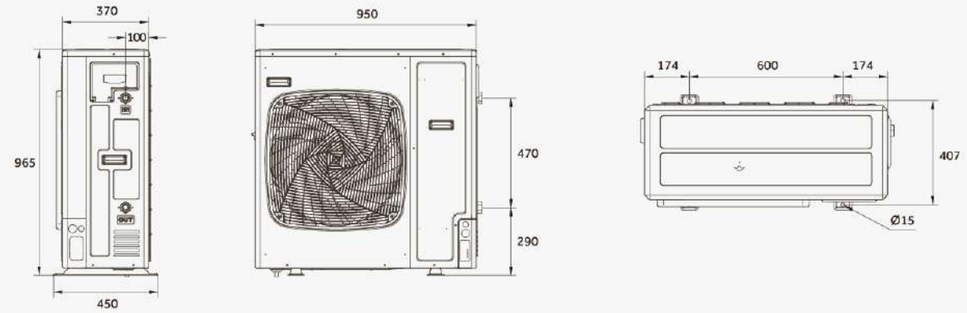
Note: 1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN2102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Outline dimension

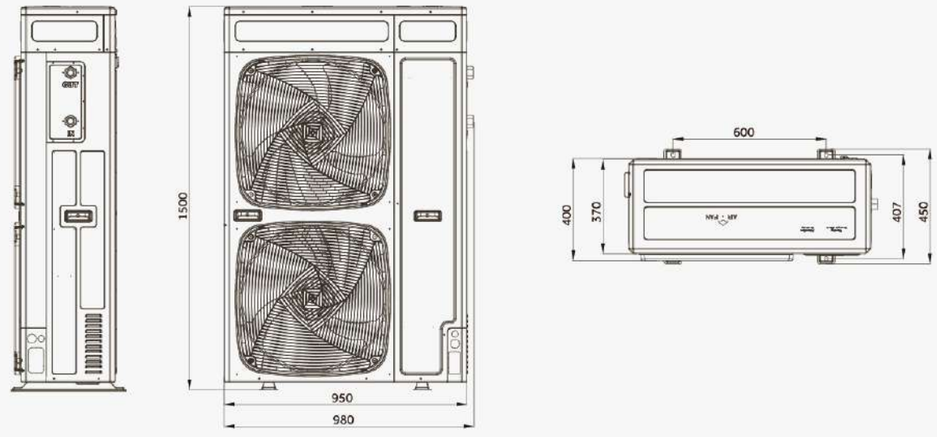
AU052FYCRA(HW)



AU082FYCRA(HW)



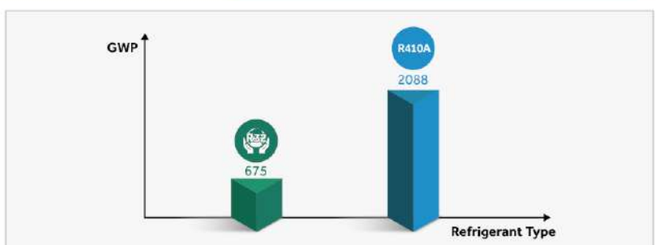
AU112FYCRA(HW)/AU162FYCRA(HW)



Excellent Performance

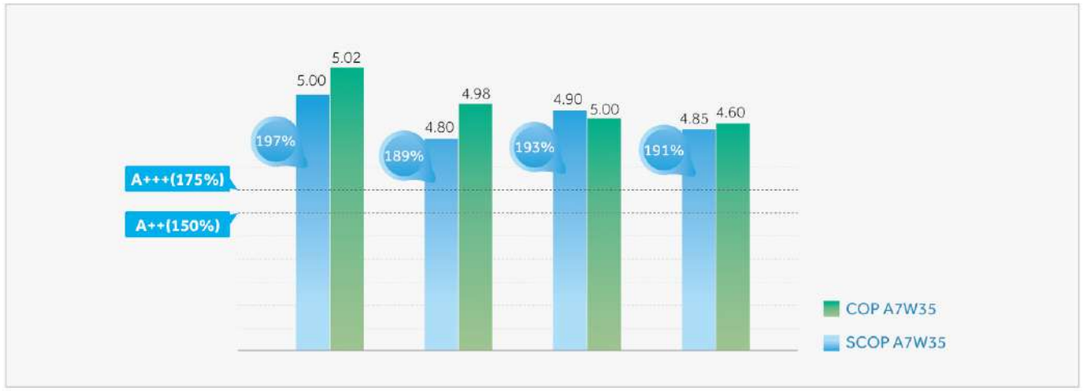
Eco-friendly R32

The unit uses refrigerant R32, which has been shown to have a remarkably reduced environmental impact compared to other refrigerants such as R410A. R32 has just one-third of the GWP of R410A. This environmentally-friendly system substantially reduces CO_2 emissions.



High efficiency

The seasonal space heating energy efficiency class is up to A+++ at 35°C leaving water temperature and A++ at 55°C leaving water temperature .

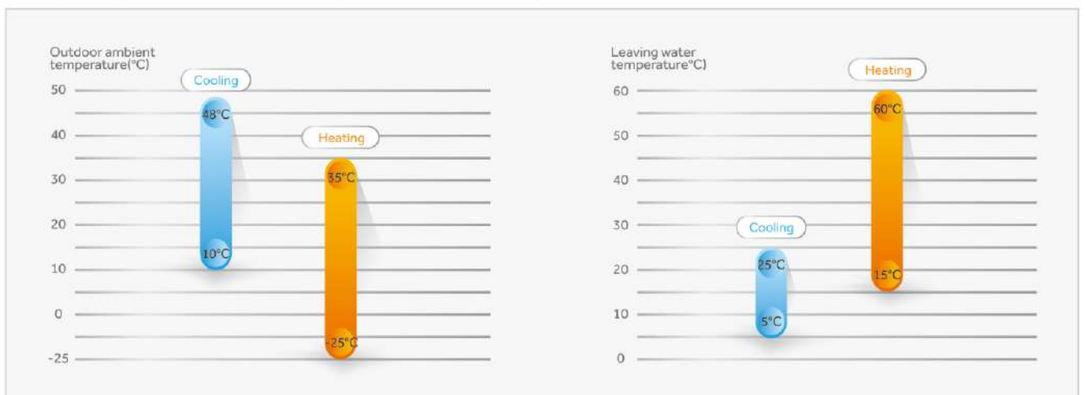


High leaving water temperature

Haier Super Aqua is suitable for both underfloor heating and radiators. High leaving water temperature of 60°C is guaranteed without using a backup heaters even when the outdoor temperature is down to -14°C.

Wide operation range

The operating outdoor ambient temperature of the heating mode is as low as -25°C.



Ultimate Comfort

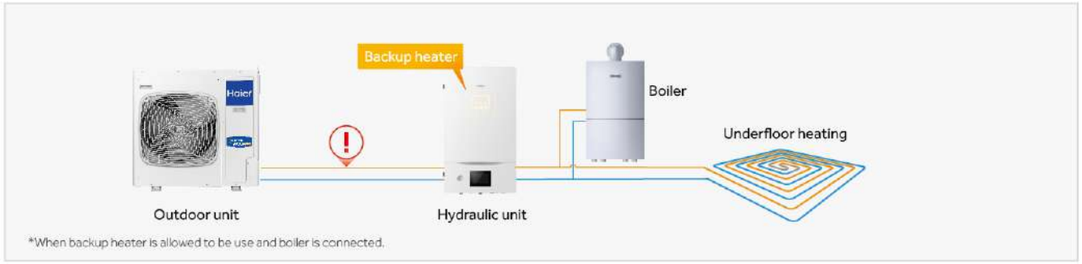
Guaranteed heating

Backup heater

Whether the backup heater is allowed to be turned on can be set on the wire controller. It is recommended that backup heater can be allowed to use in some cold or high-humidity regions. When outdoor temperature is too low and the leaving water temperature cannot meet the set temperature, the heater can be automatically turned on to ensure the water temperature.

Emergency operation

Except for the backup heater, Haier Super Aqua allows the system to be combined with an existing boiler. In the event of the unit not working due to some unforeseen problem, the boiler or backup heater can be used alone or together as a back-up, thereby preventing the heating system operation from stopping completely.

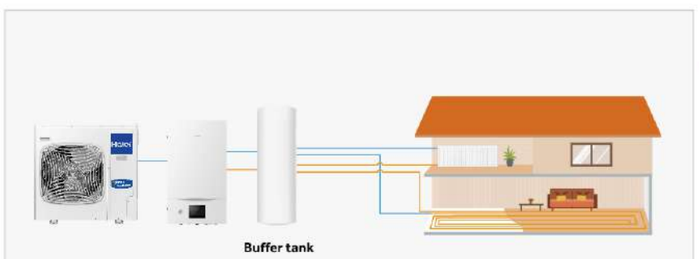


*When backup heater is allowed to be use and boiler is connected.

Fast DHW

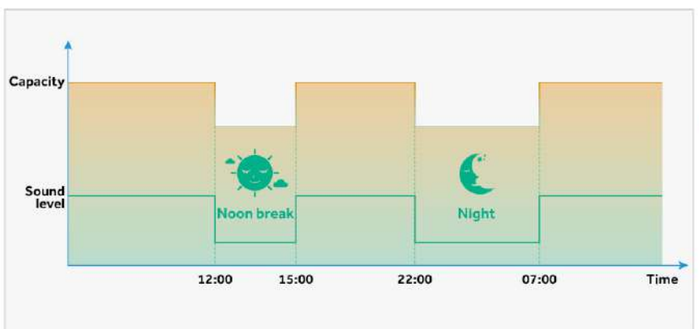
When Fast DHW is activated, the backup heater or auxiliary heating source will be activated at the same time together heat pump in order to reach DHW setting point as soon as possible, which will not affected by outdoor ambient temperature and compressor running time.

Note:
1.Only valid when DHW mode is selected.
2.Backup heater is allowed to be use or boiler is connected.



2 zones control

When there are different room temperature requirements, two zones temperature control through separate heating or cooling circuits is possible. Adjust and maintain two different water temperatures to achieve intelligent control and saving energy.



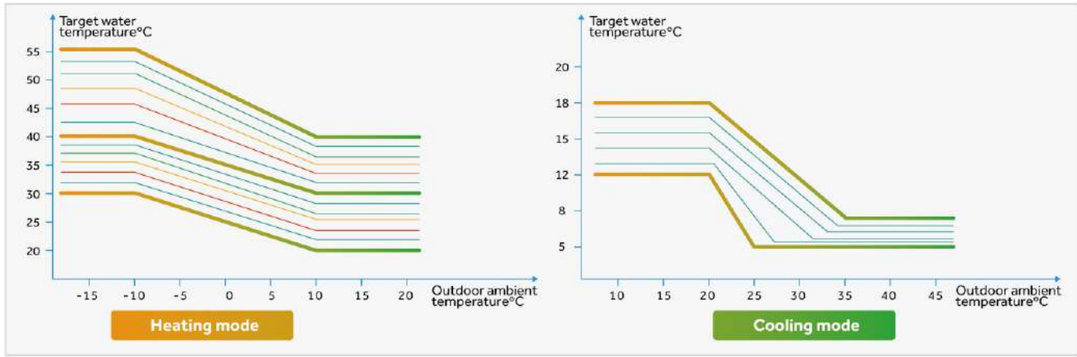
Quiet mode

The Quiet mode can work together with timer function. There are two periods of timer can be set freely by users.

Super Convenience

Climate curves

Through climate curve function, Zone1 and Zone2 temperatures can be automatically controlled based on the outdoor ambient temperature. A personalized climate curve can designed through setting the outdoor ambient temperature and leaving water temperature. It will be more comfortable and energy-saving.



Sterilization

Users can directly turn on the sterilization function, and set the date and time on the controller. The water of the domestic water tank can be automatically heated to 75°C to kill the legionella at fixed periods. During the process of sterilization, the controller screen will display the icon to remind users that the system is conducting sterilization.

Note: Only when the electric heater in the domestic water tank is allowed to be controlled by Haier unit.

Check error information

When error occurs, the service man can not only check the current errors, but also the historical error records, which is convenient for fast troubleshooting.

Check system parameters

Many important parameters about the system can be check through the 'System Status' function, including the system parameters, indoor unit parameters and outdoor units parameters. These parameters are helpful for service man to diagnose the system.

Easy Control

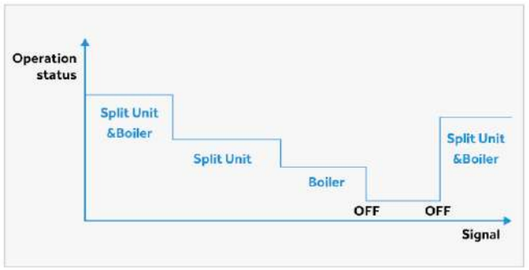
There is a 5-inch colorful controller on the front panel of indoor unit . It can be easily operated through the touch screen and intuitive icons.

Besides, an optional wired controller is available that can be installed in the living room or bedroom.

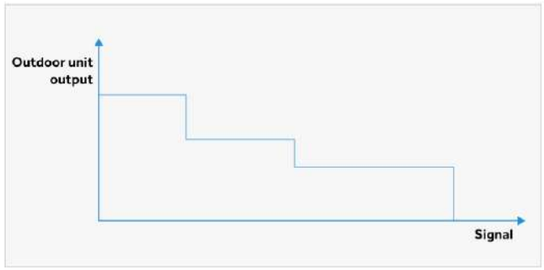
Intelligence

Smart grid

Based on the signal from power grid company, the indoor unit will adjust the operation status of the outdoor unit and the boiler.



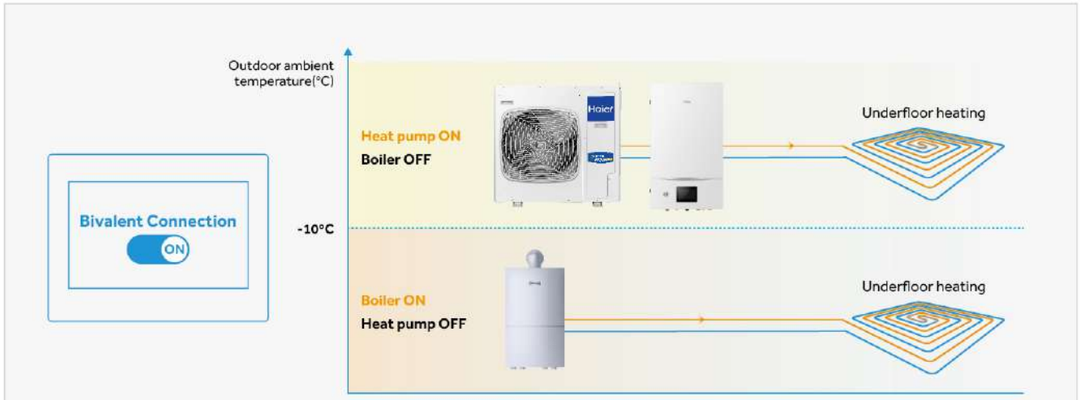
Based on the signal from power grid company, the outdoor unit will adjust the capacity output.



Bivalent connection

When the system is combined with a boiler, the 'bivalent connection' can be set by the controller. When bivalent connection is turned on, the heat pump will have full control of all aspects of the system and will run the boiler when required, depending on system design and settings.

When bivalent connection is turned off, both boiler and heat pump conduct automatic control.



Easy 3rd party bms solution

The indoor unit integrates the MODBUS RTU communication protocol, can be connected to 3rd party BMS or BAS directly, no additional Modbus gateway needed.

Scheduling programs

Users can create schedule programs , including naming the programs, timer on/off operation, mode selection, leaving temperature setting and the frequency etc.

Once the schedule program is set, the system will run according the pre-set program automatically.

Mode selection

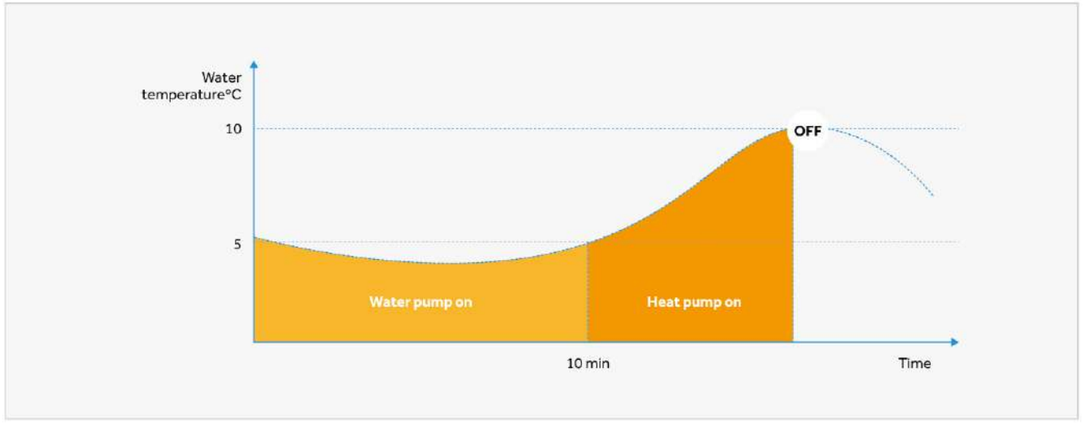
- 5 single operation modes: Cool, Heat, AUTO, DHW, Pool
- 5 combinations: Auto+Heat, Auto+Cool, Cool+DHW, Heat+DHW, Pool+DHW
- Default DHW first Priority

Note:
Cool mode can be disabled during installation. Only when it is activated, cool mode can participate the mode circulation;
Pool mode is involved in the mode loop only when the pool function is available.

High Reliability

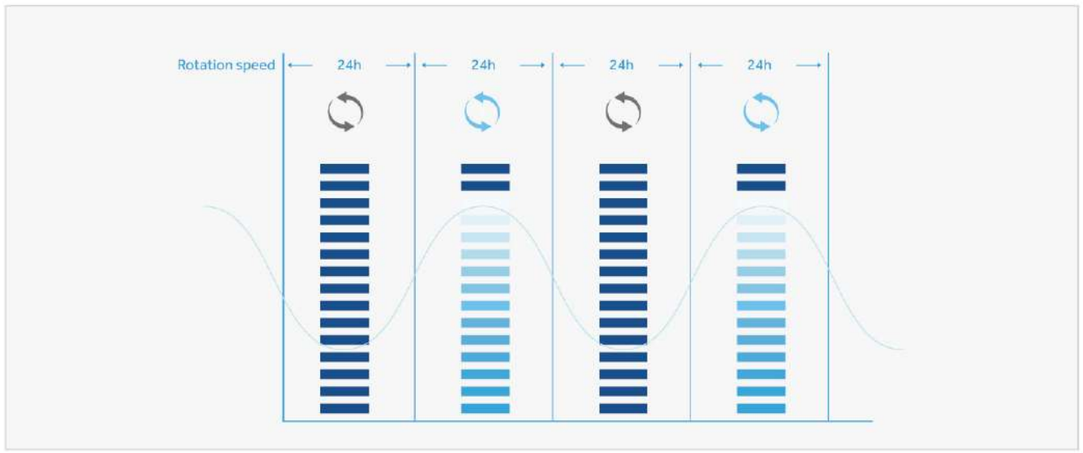
Anti-freeze

The anti-freeze program protects hydraulic parts from damage. Water pump will turn on when water temperature below 5°C. And when the water temperature is below 5 °C for more than 10 minutes, the heat pump is turned on.



Anti-rust and corrosion of water pump

Water pump will automatically run 60s without any working within 24h, as the following curve shows and conduct one circulation per 24h.



Specification&Dimensions


AW042SSCHA
AW062SSCHA


AW082SNCHA
AW102SNCHA


HU062WAMNA
HU102WAMNA

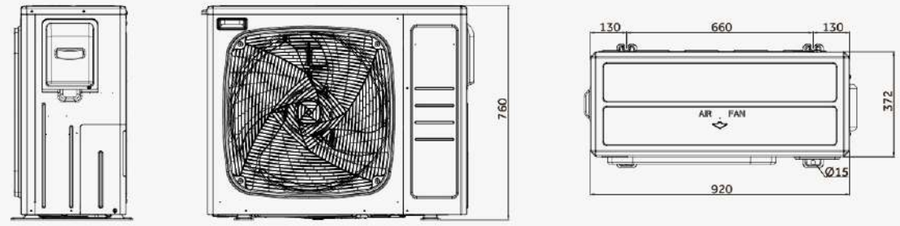

HW-WA101DBT(Optional)

Efficiency Data			Super Aqua HE S 4	Super Aqua HE S 6	Super Aqua HE S 8	Super Aqua HE S 10
Heating (LWT 35°C / OAT 7°C)	Capacity	kW	4	6	8	10
	Power input	kW	0.80	1.20	1.60	2.17
	COP	W/W	5.02	4.98	5.00	4.60
Heating (LWT 55°C / OAT 7°C)	Capacity	kW	4	6	8	10
	Power input	kW	1.40	2.05	2.65	3.45
	COP	W/W	2.86	2.92	3.02	2.90
Space heating average climate water outlet 35°C	SCOP (A+++ to D)	-	5.00	4.80	4.90	4.85
	ηs	%	197	189	193	191
	Energy Class	-	A+++	A+++	A+++	A+++
Space heating average climate water outlet 55°C	SCOP (A+++ to D)	-	3.45	3.38	3.32	3.30
	ηs	%	135	132	130	129
	Energy Class	-	A++	A++	A++	A++
Cooling (LWT 18°C / OAT 35°C)	Capacity	kW	4	6	8	10
	Power input	kW	0.85	1.26	1.9	2.50
	EER	W/W	4.70	4.75	4.20	4.00
Cooling (LWT 7°C / OAT 35°C)	Capacity	kW	4	6	8	9
	Power input	kW	1.29	1.97	2.63	3.00
	EER	W/W	3.10	3.05	3.04	3.00
Indoor Unit			**HU062WAMNA**	**HU062WAMNA**	**HU102WAMNA**	**HU102WAMNA**
Leaving water temperature range	Heating	°C	15~60	15~60	15~60	15~60
	Cooling	°C	5~25	5~25	5~25	5~25
Sound power level		dB(A)	42	42	42	42
Backup electric heater	Capacity	kW	1+3	1+3	1+3	1+3
	Steps	-	3	3	3	3
Expansion vessel capacity		L	5	5	5	5
Pump	Type	-	Variable speed	Variable speed	Variable speed	Variable speed
	Power input	W	75	75	75	75
Water flow rate		L/min	11.5	17	23	28.7
Water pipe connection	Inlet/Outlet	inch	R 1	R 1	R 1	R 1
Pipe diameter	Liquid	mm(inch)	6.35 (1/4)	6.35 (1/4)	9.52 (3/8)	9.52 (3/8)
	Gas	mm(inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
Net dimension	H×W×D	mm	850×480×310	850×480×310	850×480×310	850×480×310
Packing dimension	H×W×D	mm	1020×580×460	1020×580×460	1020×580×460	1020×580×460
Net/Gross weight		kg	41 / 53	41 / 53	43 / 55	43 / 55
Power supply		~/V/Hz	1/220-240/50	1/220-240/50	1/220-240/50	1/220-240/50
Max running current		A	20	20	20	20
Built-in circuit breaker		A	63	63	63	63
Outdoor Unit			**AW042SSCHA**	**AW062SSCHA**	**AW082SNCHA**	**AW102SNCHA**
Outdoor operating temperature range	Cooling	°C	10~48	10~48	10~48	10~48
	Heating	°C	-25~35	-25~35	-25~35	-25~35
Compressor	Quantity	-	1			
	Type	-	DC inverter twin rotary			
Refrigerant	Type	-	R32			
	Charge/CO_2 Eq.	kg/T	1.2 / 0.81	1.2 / 0.81	1.6 / 1.08	1.6 / 1.08
Pipe diameter	Liquid	mm(inch)	6.35 (1/4)	6.35 (1/4)	9.52 (3/8)	9.52 (3/8)
	Gas	mm(inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
Max refrigerant pipe length		m	30	30	50	50
Max height difference between ODU&IDU		m	20	20	30	30
Pipe length without additional charge		m	10	10	10	10
Additional charging volume		g/m	20	20	38	38
Sound pressure level	H×W×D	dB(A)	44	45	49	53
Sound power level	H×W×D	dB(A)	58	61	65	68
Net dimension		mm	760×920×372	760×920×372	965×950×370	965×950×370
Packing dimension		mm	980×1050×500	980×1050×500	1090×1030×480	1090×1030×480
Net / Gross weight		kg	55 / 67	55 / 67	76 / 86	76 / 86
Power supply		~/V/Hz	1/220-240/50	1/220-240/50	1/220-240/50	1/220-240/50
Max running current		A	12.5	13	19	22
Recommended circuit breaker		A	25	25	32	32
External wired cntroller			HW-WA101DBT (Optional)			

Note: 1. Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN2102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

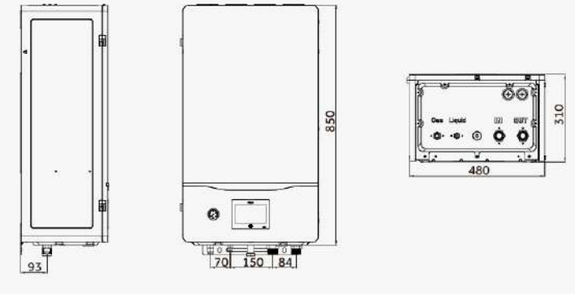
Outline dimension

AW042/062SSCHA



AW082/102SNCHA

HU062/102WAMNA



Date / /