

# Heat Pump

Air to water

► Feature



Saving and Green



Healthy and Comfortable



Total solution



Intelligent operation

► Authentication

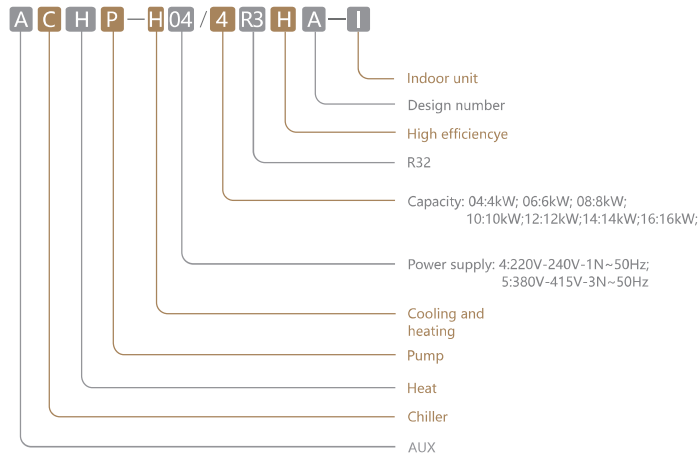


A+++

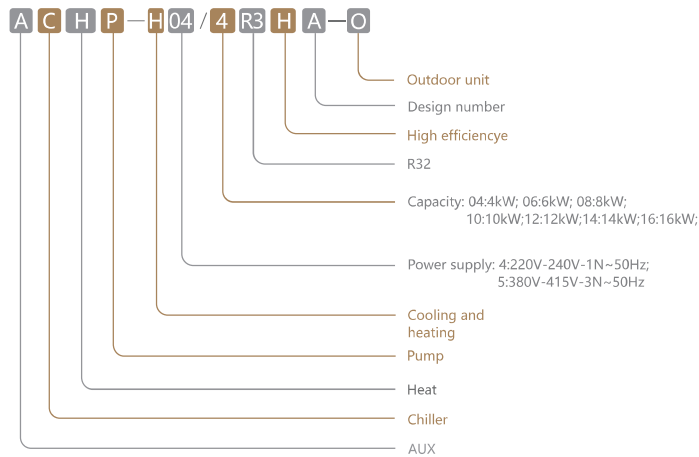


# Nomenclature-Heat Pump

## Indoor Unit



## Outdoor Unit



# Product Lineup

## R290 Monoblock AI-Thermal Heat Pump



Capacity(kW)	4	6	8	10	12	14	16
220-240/1/50(NE)	●	●	●	●	●	●	●
<b>Monoblock</b>							
220-240 /1/50(3kW EH)	●	●	●	●	●	●	●
380-415 /3/ 50(9kW EH)			●	●	●	●	●

## R32 Monoblock AI-Thermal Heat Pump



Capacity(kW)	4	6	8	10	12	14	16
220-240/1/50(NE)	●	●	●	●	●	●	●
<b>Monoblock</b>							
220-240 /1/50(3kW EH)	●	●	●	●	●	●	●
380-415 /3/ 50(9kW EH)			●	●	●	●	●

## R32 Split AI-Thermal Heat Pump



Capacity(kW)	4	6	8	10	12	14	16
220-240/1/50	●	●	●	●	●	●	●
<b>Split</b>							
ODU							
380-415/3/50					●	●	●
<b>Hydraulic</b>							
220-240 /1/ 50(3kW EH)	●	●	●	●	●	●	●
380-415 /3/ 50(9kW EH)			●	●	●	●	●

# HEAT PUMP R290



Green & environmental protection



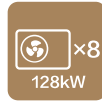
-7°C capacity no damping



High Efficiency



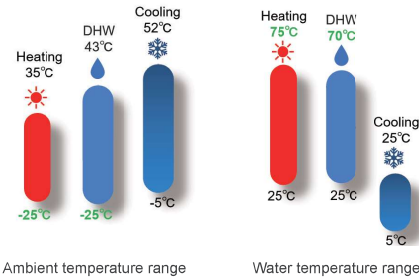
Low noise operation



Combination of 8 units

## Feature

### ► Operation range

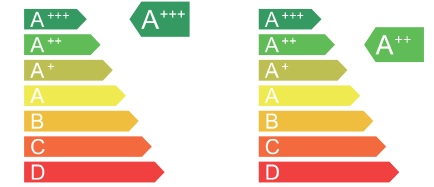


Ambient temperature range

Water temperature range

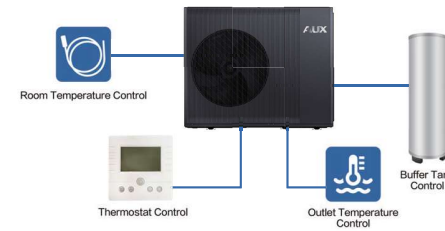
### ► Energy Efficiency

The energy efficiency grade for whole series of Low Average working conditions meets A+++ , and the energy efficiency grade of Medium Average meets A++.



# ErP

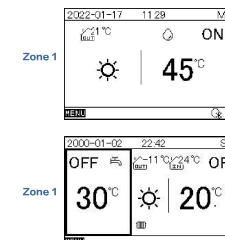
### ► Control way



- Outlet water temperature control
- Buffer tank temperature control
- Thermostat control
- Room temperature control

### ► Product profile-line

We selected high slimmer inner grooved copper tube in the modular chiller, which has improved more than 10% heat exchanging efficiency than the normal one.

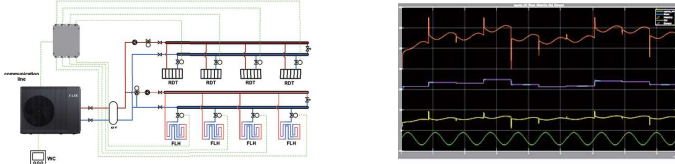


Control way				
	Type ①	Type ②	Type ③	Type ④
Main zone	Water temp	Water temp	Room temp	Room temp
Second zone	Water temp	Room temp	Water temp	Room temp

# Feature

## ► Room temperature control

Connected to KIT, 8 room temperatures can be individually set and control.  
Room temperature wave range  $\pm 0.5\text{ }^{\circ}\text{C}$ , stable adjust of water temperature and compressor frequency.



## ► Double zone control

Double zone set and control separately, avoiding energy waste and Saving cost.

**AUX Heat pump**

**Terminals**

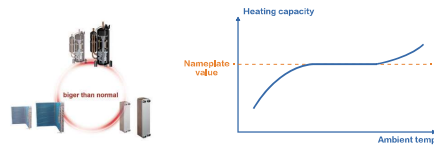
**Dual Temp Zone Control**

Double zone set and control separately

Main zone	ON	ON	OFF	OFF
Second zone	ON	OFF	ON	OFF

## ► -7°C heating capacity does not decay

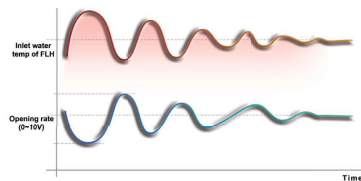
Compressor, condenser and evaporator is bigger than normal, and the heating capacity of ambient temperature is as low as -7°C is same with nameplate nominal value.



## ► Mix valve 0-10V control

Mixing valve is controlled by 0-10V, under floor heating inlet water temp wave range is  $\pm 0.3\text{ }^{\circ}\text{C}$ , room temp stable and high comfortable.

The wave of water inlet temperature for under floor heating is small, prevent floor cracking and warping.



# Feature

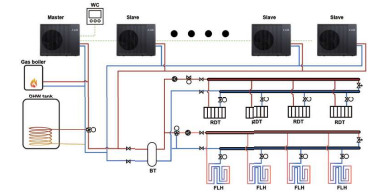
## ► Low noise operation

Optimized air duct design and extensive use of silencing materials, 3m noise as low as 35dB.



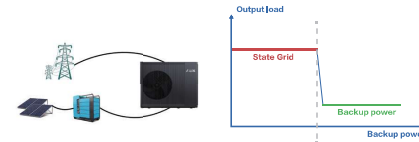
## ► Combination of 8 units

Up to 8 units combination, the maximum heating capacity can reach 128kW, can meet the needs of small apartments, hotels, hospitals, etc.



## ► Backup power identification

When using backup power, the heat pump operates at low load to maintain room temp and prevent room temp too low.



## ► Remote control

Remote setting of operating parameters, monitoring of heat pump operation, early identification of faults, remote after-sales service.



## ► Intelligent APP

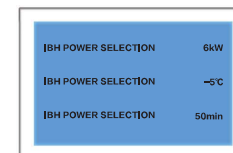
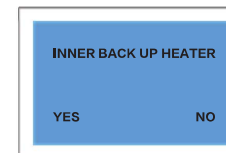
Use APP to switch on and off, temperature setting and related function setting  
Use APP to query running time, power consumption of each mode  
Use APP to upgrade program



## ► Parameter Setting Guidelines(only color screen wired controller)

After installation, guide installer to complete parameters setting step by step.

This will reduce the requirement for the professionalism of the installer, and relieve the shortage of professional installer.



## Specification-Monoblock

Model name			4kW	6kW	8kW
Model			ACMHC-H12B/P24R2DI-C	ACMHC-H24A/P24R2DI-C	ACMHC-H30A/P36R2DI-C
			ACHP-H04/4R2HA-M	ACHP-H06/4R2HA-M	ACHP-H08/4R2HA-M
Power supply		V/Ph/H	220-240/1/50		
Heating2	Capacity	kW	4,5	6,2	8,4
	Rated input	kW	0,87	1,27	1,68
	COP		5,15	4,9	5
Heating3	Capacity	kW	4,6	6,2	7,8
	Rated input	kW	1,44	2,00	2,44
	COP		3,2	3,10	3,2
Cooling4	Capacity	kW	4,5	6,5	8,3
	Rated input	kW	0,82	1,27	1,61
	EER		5,5	5,1	5,15
Cooling5	Capacity	kW	4,7	6,8	7,5
	Rated input	kW	1,29	2,19	2,17
	EER		3,65	3,1	3,45
Seasonal space heating energy efficiency class <sup>7</sup>	LWT at 35°C		A+++	A+++	A+++
	LWT at 55°C		A+++	A+++	A+++
sound pressure level	Monobloc Unit	dB(A)	42	45	51
Sound power level	Monobloc Unit	dB	55	58	63
Packed dimensions (WxDxH)	Hydronic Box	mm	1205*545*860	1205*545*860	1350*545*1210
Body dimensions (WxDxH)	Hydronic Box	mm	1130*420*710	1130*420*710	1280*420*1040
Operating temperature range	Cooling	°C	-5 ~ 43		
	Heating	°C	-25 ~ 35		
	DHW(tank)	°C	-25 ~ 43		
Setting water temperature range	Cooling	°C	5 ~ 25		
	Heating	°C	25 ~ 80		
	DHW(tank)	°C	30 ~ 75		
Water circuit	Piping connections	inch	G1" BSP		
	Safety valve set pressure	MPa	0,3		
	Flow switch	m³/h	0,36		
	Expansion tank Volume	L	5		
	Capacity of the back-up heater	KW	3		
Stuffing Quantity	40H/40/20	Unit	120/78/36	120/78/36	68/33/16

Note:

- 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02/2014,
- 2, Outdoor air temperature 7°C DB, 85% R.H., EWT 30°C, LWT 35°C,
- 3, Outdoor air temperature 7°C DB, 85% R.H., EWT 47°C, LWT 55°C,
- 4, Outdoor air temperature 35°C DB, EWT 23°C, LWT 18°C,
- 5, Outdoor air temperature 35°C DB, EWT 12°C, LWT 7°C,
- 6, Seasonal space heating energy efficiency class tested in average climate conditions.
- 7, Test standard: EN12102-1
- 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5,

## Specification-Monoblock

Model name			10kW	12kW	14kW	16kW
Model			ACMHC-H36A/P60R2DI-C	ACMHC-H42A/P60R2DI-C	ACMHC-H48A/P60R2DI-C	ACMHC-H60A/P60R2DI-C
			ACHP-H10/4R2HA-M	ACHP-H12/4R2HA-M	ACHP-H14/4R2HA-M	ACHP-H16/4R2HA-M
Power supply		V/Ph/H	220-240/1/50			
Heating2	Capacity	kW	10	12	14	15,1
	Rated input	kW	2,13	2,50	3,11	3,36
	COP		4,7	4,8	4,5	4,5
Heating3	Capacity	kW	9,5	12	14	15,1
	Rated input	kW	3,11	3,87	4,67	5,21
	COP		3,05	3,1	3	2,9
Cooling4	Capacity	kW	10	12	14	16
	Rated input	kW	2,11	2,67	3,89	4,10
	EER		4,75	4,5	3,6	3,9
Cooling5	Capacity	kW	8,9	11,5	12,7	14
	Rated input	kW	2,74	3,8	4,38	5,09
	EER		3,25	3,05	2,9	2,75
Seasonal space heating energy efficiency class <sup>7</sup>	LWT at 35°C		A+++	A+++	A+++	A+++
	LWT at 55°C		A+++	A+++	A+++	A+++
sound pressure level	Monobloc Unit	dB(A)	51	53	53	53
Sound power level	Monobloc Unit	dB	63	65	65	65
Packed dimensions (WxDxH)	Hydronic Box	mm	1350*545*1210			
Body dimensions (WxDxH)	Hydronic Box	mm	1280*420*1040			
Operating temperature range	Cooling	°C	-5 ~ 43			
	Heating	°C	-25 ~ 35			
	DHW(tank)	°C	-25 ~ 43			
Setting water temperature range	Cooling	°C	5 ~ 25			
	Heating	°C	25 ~ 80			
	DHW(tank)	°C	30 ~ 75			
Water circuit	Piping connections	inch	G1" BSP			
	Safety valve set pressure	MPa	0,3			
	Flow switch	m³/h	0,6			
	Expansion tank Volume	L	5			
	Capacity of the back-up heater	KW	3			
Stuffing Quantity	40H/40/20	Unit	92/86/42	92/86/42	66/66/32	66/66/32

Note:

- 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02/2014,
- 2, Outdoor air temperature 7°C DB, 85% R.H., EWT 30°C, LWT 35°C,
- 3, Outdoor air temperature 7°C DB, 85% R.H., EWT 47°C, LWT 55°C,
- 4, Outdoor air temperature 35°C DB, EWT 23°C, LWT 18°C,
- 5, Outdoor air temperature 35°C DB, EWT 12°C, LWT 7°C,
- 6, Seasonal space heating energy efficiency class tested in average climate conditions.
- 7, Test standard: EN12102-1
- 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5,

## Specification-Monoblock

Model name			8kW	10kW	12kW
Model			ACMHC-H30A5/P60R2DI5-C	ACMHC-H36A5/P60R2DI5-C	ACMHC-H42A5/P60R2DI5-C
			ACHP-H08/5R2HA-M	ACHP-H10/5R2HA-M	ACHP-H12/5R2HA-M
Power supply		V/Ph/H	380-415/3/50		
Heating2	Capacity	kW	8,4	10	12
	Rated input	kW	1,68	2,13	2,50
	COP		5	4,7	4,8
Heating3	Capacity	kW	7,8	9,5	12
	Rated input	kW	2,44	3,11	3,87
	COP		3,2	3,05	3,1
Cooling4	Capacity	kW	8,3	10	12
	Rated input	kW	1,61	2,11	2,67
	EER		5,15	4,75	4,5
Cooling5	Capacity	kW	7,5	8,9	11,5
	Rated input	kW	2,17	2,74	3,8
	EER		3,45	3,25	3,05
Seasonal space heating energy efficiency class <sup>7</sup>	LWT at 35°C		A+++	A+++	A+++
	LWT at 55°C		A+++	A+++	A+++
sound pressure level	Monobloc Unit	dB(A)	51	51	53
Sound power level	Monobloc Unit	dB	63	63	65
Packed dimensions (WxDxH)	Hydronic Box	mm	1205*545*860	1205*545*860	1350*545*1210
Body dimensions (WxDxH)	Hydronic Box	mm	1130*420*710	1130*420*710	1280*420*1040
Operating temperature range	Cooling	°C	-5 ~43		
	Heating	°C	-25~ 35		
	DHW(tank)	°C	-25~43		
Setting water temperature range	Cooling	°C	5~25		
	Heating	°C	25~80		
	DHW(tank)	°C	30~75		
Water circuit	Piping connections	inch	G1"BSP		
	Safety valve set pressure	MPa	0,3		
	Flow switch	m³/h	0,6		
	Expansion tank Volume	L	5		
	Capacity of the back-up heater	kW	9		
Stuffing Quantity	40H/40/20	Unit	68/33/16		

Note:

- 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02/2014,
- 2, Outdoor air temperature 7°C DB, 85% R<sub>a</sub>, EWT 30°C, LWT 35°C,
- 3, Outdoor air temperature 7°C DB, 85% R<sub>a</sub>, EWT 47°C, LWT 55°C,
- 4, Outdoor air temperature 35°C DB, EWT 23°C, LWT 18°C,
- 5, Outdoor air temperature 35°C DB, EWT 12°C, LWT 7°C,
- 6, Seasonal space heating energy efficiency class tested in average climate conditions.
- 7, Test standard: EN12102-1
- 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5,

## Specification-Monoblock

Model name			14kW	16kW
Model			ACMHC-H48A/P60R2DI5-C	ACMHC-H60A/P60R2DI5-C
			ACHP-H14/5R2HA-M	ACHP-H16/5R2HA-M
Power supply		V/Ph/H	380-415/3/50	
Heating2	Capacity	kW	14	15,1
	Rated input	kW	3,11	3,36
	COP		4,5	4,5
Heating3	Capacity	kW	14	15,1
	Rated input	kW	4,67	5,21
	COP		3	2,9
Cooling4	Capacity	kW	14	16
	Rated input	kW	3,89	4,10
	EER		3,6	3,9
Cooling5	Capacity	kW	12,7	14
	Rated input	kW	4,38	5,09
	EER		2,9	2,75
Seasonal space heating energy efficiency class <sup>7</sup>	LWT at 35°C		A+++	A+++
	LWT at 55°C		A+++	A+++
sound pressure level	Monobloc Unit	dB(A)	53	53
Sound power level	Monobloc Unit	dB	65	65
Packed dimensions (WxDxH)	Hydronic Box	mm	1205*545*860	1205*545*860
Body dimensions (WxDxH)	Hydronic Box	mm	1130*420*710	1130*420*710
Operating temperature range	Cooling	°C	-5 ~43	
	Heating	°C	-25~ 35	
	DHW(tank)	°C	-25~43	
Setting water temperature range	Cooling	°C	5~25	
	Heating	°C	25~80	
	DHW(tank)	°C	30~75	
Water circuit	Piping connections	inch	G1"BSP	
	Safety valve set pressure	MPa	0,3	
	Flow switch	m³/h	0,6	
	Expansion tank Volume	L	5	
	Capacity of the back-up heater	kW	9	
Stuffing Quantity	40H/40/20	Unit	68/33/16	

Note:

- 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02/2014,
- 2, Outdoor air temperature 7°C DB, 85% R<sub>a</sub>, EWT 30°C, LWT 35°C,
- 3, Outdoor air temperature 7°C DB, 85% R<sub>a</sub>, EWT 47°C, LWT 55°C,
- 4, Outdoor air temperature 35°C DB, EWT 23°C, LWT 18°C,
- 5, Outdoor air temperature 35°C DB, EWT 12°C, LWT 7°C,
- 6, Seasonal space heating energy efficiency class tested in average climate conditions.
- 7, Test standard: EN12102-1
- 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5,

# HEAT PUMP R32



Intelligent operation



Intelligent temperature control



Intelligent health



Intelligent control

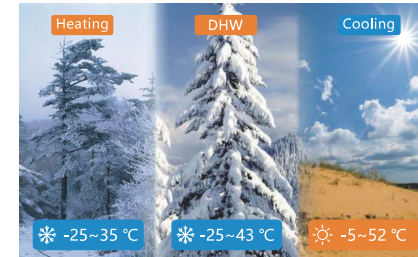


Intelligent combination

## Feature

### ► Wide Operating Range

1. All main components are DC frequency conversion technologies, with electronic expansion valve for precise adjustment, can ensure the stable operation of  $-25^{\circ}\text{C} \sim 35^{\circ}\text{C}$  ambient temperature heating,  $-25^{\circ}\text{C} \sim 43^{\circ}\text{C}$  ambient temperature for hot water,  $-5^{\circ}\text{C} \sim 52^{\circ}\text{C}$  ambient temperature operation for cooling.
2. Only with compressor, the maximum outlet temperature of heating water can reach  $65^{\circ}\text{C}$ , and the maximum water tank temperature of heating water can reach  $57^{\circ}\text{C}$ .



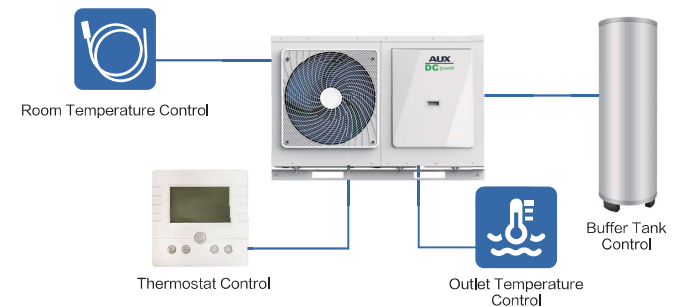
### ► Energy Efficiency

The energy efficiency grade for whole series of Low Average working conditions meets A+++ , and the energy efficiency grade of Medium Average meets A++.



### ► Flexibility

According to the actual installation conditions and using habits, users can choose one of the four control methods: outlet temperature control, indoor temperature sensor control, indoor temperature controller control, and buffer tank control to make the room comfortable and meet the users requirements.



## Feature

### ► The Smart Grid

Flexible response to the change of electricity prices, saving customers' use costs.

Signal	Operation model
Peak electricity	Restricted operation, HP run for certain time(5h) and then turn off.
Valley electricity	Normal operation
Free electricity	DHW mode turn on and setting water tank temperature to 70°C. HP turn on automatically when tank temperature is below 69 °C



▲ FTC — Smart grid controller ▼



### ► Dual-temperature Control

Association control mixing pumps and three-way valves can be supported to ensure that high temperature water (for heating radiator) and medium and low temperature water (for underfloor heating) can be provided at the same time to meet user's requirement.



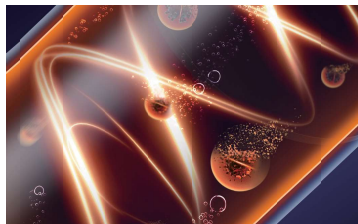
### ► Holiday mode

During the vacation, the heat pump maintains low load operation and saves the use cost while maintaining the indoor temperature.



### ► Disinfect

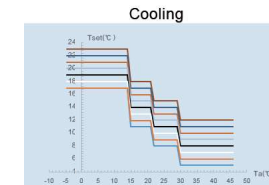
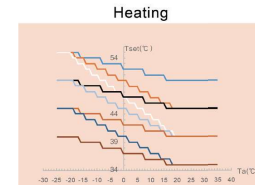
The heat pump will turn on the water tank disinfection function at a fixed time every week to sterilize the water tank and ensure the safety use of domestic hot water.



## Feature

### ► ECO mode

The double temperature zone can control the inlet water temperature independently and automatically according to the change of ambient temperature.



### ► Intelligent

The heat pump unit can be linked with the electric heating of water tank, solar energy, gas heater, etc. It can realize the functions of heat pump and electric heating of water tank, solar energy combined heating of hot water, and heat pump and gas furnace combined heating.



### ► Safety

According to the ambient temperature and climate type, automatically judge whether to carry out pipeline anti-freeze (heating+hot water) to ensure the safe use of the water pipeline.



### ► WiFi/MODBUS

1. The unit has APP control function, which can easily realize remote control through mobile phones, computers and other Internet devices.
2. Open modbus protocol, can be connected to the centralized control system, and can conduct centralized control and information processing for the heat pump through the screen of the command center, the centralized control center, etc.

### ► Silent mode

Two levels of mute function can be freely selected to meet the different needs of different customers.



## Overall Solution

Brand: AUX

Unit model: ACHP-H12/5R3HA-M

With heating function

Heating energy efficiency in seasons of mild and low temperatures: A+++

Nominal noise value of indoor unit: 42 dB

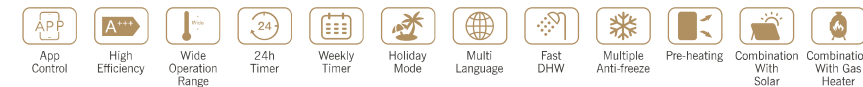
Nominal capacity value in tropical zone, temperate zone, and frigid zone: 42 kW

Nominal noise value of outdoor unit: 60 dB

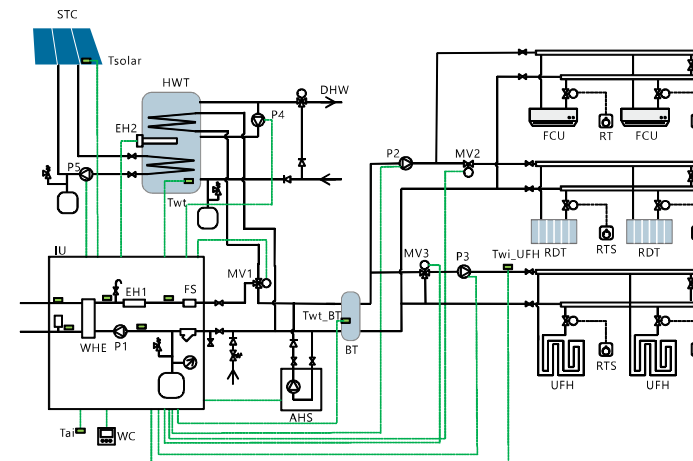
Tropical zone, temperate zone, and frigid zone distribution map of Europe

MONOBLOCK	Energy efficiency at 35°C		Energy efficiency at 55°C	
	Model	Energy efficiency value	Energy efficiency value	A+++/A++
	ACHP-H04/4R3HA-M	4,86	A+++	A++
	ACHP-H06/4R3HA-M	4,96	A+++	A++
	ACHP-H08/4R3HA-M	5,22	A+++	A++
	ACHP-H10/4R3HA-M	5,20	A+++	A++
	ACHP-H12/4R3HA-M	4,82	A+++	A++
	ACHP-H14/4R3HA-M	4,71	A+++	A++
	ACHP-H16/4R3HA-M	4,63	A+++	A++
	ACHP-H12/5R3HA-M	4,82	A+++	A++
	ACHP-H14/5R3HA-M	4,71	A+++	A++
	ACHP-H16/5R3HA-M	4,63	A+++	A++

SPLIT	Energy efficiency at 35°C		Energy efficiency at 55°C	
	Model	Energy efficiency value	Energy efficiency value	A+++/A++
	ACHP-H04/4R3HA-O	4,86	A+++	A++
	ACHP-H06/4R3HA-O	4,96	A+++	A++
	ACHP-H08/4R3HA-O	5,22	A+++	A++
	ACHP-H10/4R3HA-O	5,20	A+++	A++
	ACHP-H12/4R3HA-O	4,82	A+++	A++
	ACHP-H14/4R3HA-O	4,71	A+++	A++
	ACHP-H16/4R3HA-O	4,63	A+++	A++
	ACHP-H12/5R3HA-O	4,82	A+++	A++
	ACHP-H14/5R3HA-O	4,71	A+++	A++
	ACHP-H16/5R3HA-O	4,63	A+++	A++



AUX heat pump unit can be linked with water tank electric heating, solar energy, gas furnace, etc., to achieve the electric heating with water tank, water heating with solar energy, and heating with gas furnace.



# Specification-Monoblock

Model name			4kW	6kW	8kW	10kW
Model			ACHP-H04/4R3HA-M	ACHP-H06/4R3HA-M	ACHP-H08/4R3HA-M	ACHP-H10/4R3HA-M
Power supply		V/Ph/H	220-240/1/50			
Heating2	Capacity	kW	4.3	6.35	8.4	10
	Rated input	kW	0.83	1.28	1.62	2
	COP		5.2	4.95	5.2	5
Heating3	Capacity	kW	4.36	6.4	8.3	10
	Rated input	kW	1.47	2.13	2.60	3.23
	COP		2.96	3	3.19	3.1
Cooling4	Capacity	kW	4.5	6.6	8.45	10
	Rated input	kW	0.81	1.35	1.67	2.08
	EER		5.56	4.9	5.06	4.8
Cooling5	Capacity	kW	4.75	7.05	7.45	8.3
	Rated input	kW	1.40	2.35	2.20	2.52
	EER		3.4	3	3.39	3.3
Seasonal space heating energy efficiency class <sup>7</sup>	LWT at 35°C		A+++	A+++	A+++	A+++
	LWT at 55°C		A++	A++	A++	A++
SCOP6	LWT at 35°C		4.86	4.96	5.22	5.2
	LWT at 55°C		3.32	3.53	3.37	3.5
plate heat exchanger	Dimension(W*H*D)	mm	331*117*70	331*117*70	331*117*70	331*117*70
	Heat exchange area	m <sup>2</sup>	1.58	1.58	2.04	2.04
Water pump	Pump head	m	9t	9	9	9
	Max Flow	m <sup>3</sup> /h	4.5	4.5	4.5	4.5
	Adapter diameter		DN25	DN25	DN25	DN25
sound pressure level	Monobloc Unit	dB(A)	42	45	46	47
Sound power level	Monobloc Unit	dB	55	58	59	60
Packed dimensions (WxDxH)	Hydronic Box	mm	1330*428*930		1465*550*1095	
Body dimensions (WxDxH)	Hydronic Box	mm	1265*323*765		1385*520*933	
Net/Gross weight	Outdoor Unit	kg	90/98		124/136	
Operating temperature range	Cooling	°C	-5 ~43			
	Heating	°C	-25- 35			
	DHW(tank)	°C	-25-43			
Setting water temperature range	Cooling	°C	5-25			
	Heating	°C	12-65			
	DHW(tank)	°C	30-60			
Water circuit	Piping connections	inch	G1" BSP			
	Safety valve set pressure	MPa	0.3			
	Flow switch	m <sup>3</sup> /h	0.36		0.6	
	Expansion tank Volume	L	8			
Capacity of the back-up heater	kW	3				
Stuffing Quantity	40H/40/20	Unit	92/86/42	92/86/42	66/66/32	66/66/32

Note:  
 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811:2013; (EU) No 813:2013; OJ 2014/C 207/02:2014,  
 2, Outdoor air temperature 7°C DB; 85% R<sub>a</sub>, EWT 30°C, LWT 35°C,  
 3, Outdoor air temperature 7°C DB; 85% R<sub>a</sub>, EWT 47°C, LWT 55°C,  
 4, Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C,  
 5, Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C,  
 6, Seasonal space heating energy efficiency class tested in average climate conditions,  
 7, Test standard: EN12102-1  
 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5,

# Specification-Monoblock

Model name			12kW	14kW	16kW
Model			ACHP-H12/4R3HA-M	ACHP-H14/4R3HA-M	ACHP-H16/4R3HA-M
Power supply		V/Ph/H	220-240/1/50		
Heating2	Capacity	kW	12.2	14.5	16.1
	Rated input	kW	2.44	3.08	3.57
	COP		4.96	4.71	4.51
Heating3	Capacity	kW	12	14	16.1
	Rated input	kW	3.86	4.67	5.53
	COP		3.11	3	2.91
Cooling4	Capacity	kW	12	13.6	15
	Rated input	kW	3	3.78	4.41
	EER		4	3.6	3.4
Cooling5	Capacity	kW	11.7	12.8	14
	Rated input	kW	4.3	5.00	5.7
	EER		2.75	2.56	2.46
Seasonal space heating energy efficiency class <sup>7</sup>	LWT at 35°C		A+++	A+++	A+++
	LWT at 55°C		A++	A++	A++
SCOP6	LWT at 35°C		4.82	4.71	4.63
	LWT at 55°C		3.46	3.48	3.43
plate heat exchanger	Dimension(W*H*D)	mm	331*117*70	331*117*70	331*117*70
	Heat exchange area	m <sup>2</sup>	2.04	2.04	2.04
Water pump	Pump head	m	9	9	9
	Max Flow	m <sup>3</sup> /h	4.5	4.5	4.5
	Adapter diameter		DN25	DN25	DN25
sound pressure level	Monobloc Unit	dB(A)	52	52	55
Sound power level	Monobloc Unit	dB	65	65	68
Packed dimensions (WxDxH)	Hydronic Box	mm	1465*550*1095		
Body dimensions (WxDxH)	Hydronic Box	mm	1465*550*1095		
Net/Gross weight	Outdoor Unit	kg	137/149		
Operating temperature range	Cooling	°C	-5 ~43		
	Heating	°C	-25- 35		
	DHW(tank)	°C	-25-43		
Setting water temperature range	Cooling	°C	5-25		
	Heating	°C	12-65		
	DHW(tank)	°C	30-60		
Water circuit	Piping connections	inch	G1" BSP		
	Safety valve set pressure	MPa	0.3		
	Flow switch	m <sup>3</sup> /h	0.6		
	Expansion tank Volume	L	8		
Capacity of the back-up heater	kW	3			
Stuffing Quantity	40H/40/20	Unit	66/66/32		

Note:  
 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811:2013; (EU) No 813:2013; OJ 2014/C 207/02:2014,  
 2, Outdoor air temperature 7°C DB; 85% R<sub>a</sub>, EWT 30°C, LWT 35°C,  
 3, Outdoor air temperature 7°C DB; 85% R<sub>a</sub>, EWT 47°C, LWT 55°C,  
 4, Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C,  
 5, Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C,  
 6, Seasonal space heating energy efficiency class tested in average climate conditions,  
 7, Test standard: EN12102-1  
 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5,

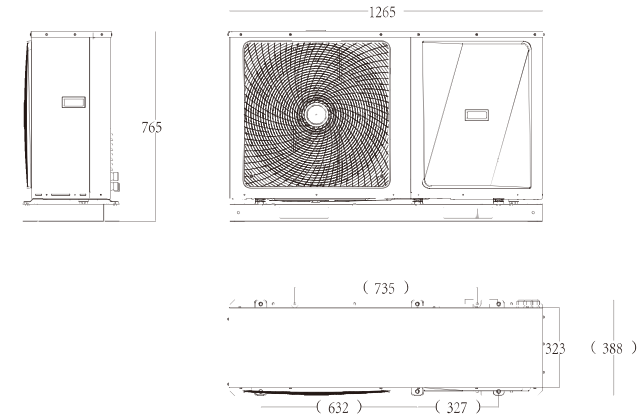
# Specification-Monoblock

Model name			8kW	10kW	12kW	14kW	16kW
Model			ACHP-H08/5R3HA-M	ACHP-H10/5R3HA-M	ACHP-H12/5R3HA-M	ACHP-H14/5R3HA-M	ACHP-H16/5R3HA-M
Power supply			220-240/1/50 380-415/3/50		380-415/3/50		
Heating2	Capacity	kW	8,4	10	12,2	14,5	16,1
	Rated input	kW	1,62	2	2,44	3,08	3,57
	COP		5,2	5	4,96	4,71	4,51
Heating3	Capacity	kW	8,3	10	12	14	16,1
	Rated input	kW	2,60	3,23	3,86	4,67	5,53
	COP		3,19	3,1	3,11	3	2,91
Cooling4	Capacity	kW	8,45	10	12	13,6	15
	Rated input	kW	1,67	2,08	3	3,78	4,41
	EER		5,06	4,8	4	3,6	3,4
Cooling5	Capacity	kW	7,45	8,3	11,7	12,8	14
	Rated input	kW	2,20	2,52	4,3	5,00	5,7
	EER		3,39	3,3	2,75	2,56	2,46
Seasonal space heating energy efficiency class <sup>7</sup>	LWT at 35°C		A+++	A+++	A+++	A+++	A+++
	LWT at 55°C		A++	A++	A++	A++	A++
SCOP6	LWT at 35°C		5,22	5,2	4,82	4,71	4,63
	LWT at 55°C		3,37	3,5	3,46	3,48	3,43
plate heat exchanger	Dimension(W*H*D)	mm	331*117*70	331*117*70	331*117*70	331*117*70	331*117*70
	Heat exchange area	m <sup>2</sup>	2,04	2,04	2,04	2,04	2,04
Water pump	Pump head	m	9	9	9	9	9
	Max Flow	m <sup>3</sup> /h	4,5	4,5	4,5	4,5	4,5
	Adapter diameter		DN25	DN25	DN25	DN25	DN25
sound pressure level	Monobloc Unit	dB(A)	46	47	52	52	55
Sound power level	Monobloc Unit	dB	59	60	65	65	68
Packed dimensions (WxDxH)	Hydronic Box	mm	1465*550*1095		1465*550*1095		
Body dimensions (WxDxH)	Hydronic Box	mm	1385*520*933		1385*520*933		
Net/Gross weight	Outdoor Unit	kg	128/140		140/151		
Operating temperature range	Cooling	°C					-6 ~43
	Heating	°C					-25 ~ 35
	DHW(tank)	°C					-25~43
Setting water temperature range	Cooling	°C					5~25
	Heating	°C					12~65
	DHW(tank)	°C					30~60
Water circuit	Piping connections	inch					G1" BSP
	Safety valve set pressure	MPa					0,3
	Flow switch	m <sup>3</sup> /h	0,36		0,6		
	Expansion tank Volume	L					8
	Capacity of the back-up heater	kW					9
Stuffing Quantity	40H/40/20	Unit					66/66/32

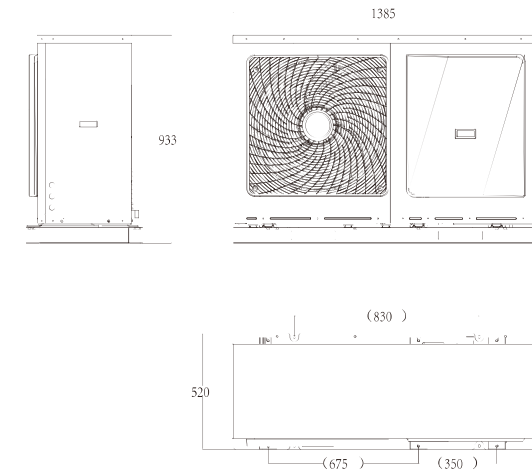
Note:  
 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 813:2013; (EU) No 813:2013; OJ 2014/C 207/02:2014;  
 2, Outdoor air temperature 7°C DB; 85% RH; EWT 30°C; LWT 35°C;  
 3, Outdoor air temperature 7°C DB; 85% RH; EWT 47°C; LWT 55°C;  
 4, Outdoor air temperature 35°C DB; EWT 23°C; LWT 18°C;  
 5, Outdoor air temperature 35°C DB; EWT 12°C; LWT 7°C;  
 6, Seasonal space heating energy efficiency class tested in average climate conditions.  
 7, Test standard: EN12102-1  
 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5.

# Dimension

ACHP-HO4/4R3HA-M, ACHP-HO6/4R3HA-M



ACHP-H08/4R3HA-M, ACHP-H10/4R3HA-M, ACHP-H12/4R3HA-M  
 ACHP-H14/4R3HA-M, ACHP-H16/4R3HA-M  
 ACHP-H08/5R3HA-M, ACHP-H10/5R3HA-M, ACHP-H12/5R3HA-M  
 ACHP-H14/5R3HA-M, ACHP-H16/5R3HA-M



# Specification-Split-outdoor

Model name			4kW	6kW	8kW	10kW
market model			ACHP-H04/4R3HA-O	ACHP-H06/4R3HA-O	ACHP-H08/4R3HA-O	ACHP-H10/4R3HA-O
ODU Power Supply		V/Ph/H	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Heating2	Capacity	kW	4.3	6.25	8.4	10
	Rated input	kW	0.83	1.25	1.62	2
	COP		5.2	5	5.2	5
Heating3	Capacity	kW	4.36	6.4	8.3	10
	Rated input	kW	1.47	2.13	2.60	3.23
	COP		2.96	3	3.19	3.1
Cooling4	Capacity	kW	4.5	6.6	8.45	10
	Rated input	kW	0.81	1.35	1.67	2.08
	EER		5.56	4.9	5.06	4.8
Cooling5	Capacity	kW	4.75	7.05	7.45	8.3
	Rated input	kW	1.40	2.35	2.20	2.52
	EER		3.4	3	3.39	3.3
Seasonal space heating energy efficiency class <sup>7</sup>	LWT at 35°C		A+++	A+++	A+++	A+++
	LWT at 55°C		A++	A++	A++	A++
SCOP6	LWT at 35°C		4.86	4.96	5.22	5.2
	LWT at 55°C		3.32	3.53	3.37	3.5
sound pressure level	H	dB(A)	38	38	45	48
sound power level	H	dB(A)	56	58	58	61
Dimension(W*D*H)	Net	mm	700×350×900	700×350×900	805×395×970	805×395×970
	Packing	mm	770×430×1020	770×430×1020	895×495×1105	895×495×1105
Wight	Net	kg	51	51	61.5	61.5
	Gross	kg	55	55	66	66
Refrigerant Piping	Liquid Side	mm	9.52	9.52	9.52	9.52
	Gas Side	mm	15.88	15.88	15.88	15.88
	MAX length	m	30	30	30	30
	MIN length	m	2	2	2	2
Installation height difference	ODU above	m	20	20	20	20
	ODU below	m	20	20	20	20
Operating temperature range	Cooling	°C	-5~52	-5~52	-5~52	-5~52
	Heating	°C	-25~35	-25~35	-25~35	-25~35
	DHW	°C	-25~43	-25~43	-25~43	-25~43
Stuffing Quantity	20/40/40H	Unit	87/183/183	87/183/183	44/96/144	44/96/144

Note:  
 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811:2013; (EU) No 813:2013; OJ 2014/C 207/02:2014,  
 2, Outdoor air temperature 7°C DB; 85% R.H., EWT 30°C, LWT 35°C,  
 3, Outdoor air temperature 7°C DB; 85% R.H., EWT 47°C, LWT 55°C,  
 4, Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C,  
 5, Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C,  
 6, Seasonal space heating energy efficiency class tested in average climate conditions,  
 7, Test standard: EN12102-1  
 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5,

# Specification-Split-outdoor

Model name			12kW	14kW	16kW
market model			ACHP-H12/4R3HA-O	ACHP-H14/4R3HA-O	ACHP-H16/4R3HA-O
ODU Power Supply		V/Ph/H	220-240/1/50	220-240/1/50	220-240/1/50
Heating2	Capacity	kW	12.2	14.5	16.1
	Rated input	kW	2.44	3.08	3.57
	COP		4.96	4.71	4.51
Heating3	Capacity	kW	12	14	16.1
	Rated input	kW	3.86	4.67	5.53
	COP		3.11	3	2.91
Cooling4	Capacity	kW	12	13.6	15
	Rated input	kW	3	3.78	4.41
	EER		4	3.6	3.4
Cooling5	Capacity	kW	11.7	12.8	14
	Rated input	kW	4.3	5.00	5.7
	EER		2.75	2.56	2.46
Seasonal space heating energy efficiency class <sup>7</sup>	LWT at 35°C		A+++	A+++	A+++
	LWT at 55°C		A++	A++	A++
SCOP6	LWT at 35°C		4.82	4.71	4.63
	LWT at 55°C		3.46	3.48	3.43
sound pressure level	H	dB(A)	49	50	54
sound power level	H	dB(A)	64	65	68
Dimension(W*D*H)	Net	mm	870×480×1060	870×480×1060	870×480×1060
	Packing	mm	980×545×1100	980×545×1100	980×545×1100
Wight	Net	kg	87	87	87
	Gross	kg	95	95	95
Refrigerant Piping	Liquid Side	mm	9.52	9.52	9.52
	Gas Side	mm	15.88	15.88	15.88
	MAX length	m	30	30	30
	MIN length	m	2	2	2
Installation height difference	ODU above	m	20	20	20
	ODU below	m	20	20	20
Operating temperature range	Cooling	°C	-5~52	-5~52	-5~52
	Heating	°C	-25~35	-25~35	-25~35
	DHW	°C	-25~43	-25~43	-25~43
Stuffing Quantity	20/40/40H	Unit	40/84/84	40/84/84	40/84/84

Note:  
 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811:2013; (EU) No 813:2013; OJ 2014/C 207/02:2014,  
 2, Outdoor air temperature 7°C DB; 85% R.H., EWT 30°C, LWT 35°C,  
 3, Outdoor air temperature 7°C DB; 85% R.H., EWT 47°C, LWT 55°C,  
 4, Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C,  
 5, Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C,  
 6, Seasonal space heating energy efficiency class tested in average climate conditions,  
 7, Test standard: EN12102-1  
 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5,

# Specification-Split-outdoor

Model name			12kW	14kW	16kW
market model			ACHP-H12/5R3HA-O	ACHP-H14/5R3HA-O	ACHP-H16/5R3HA-O
ODU Power Supply		V/Ph/H	380-415/3/50	380-415/3/50	380-415/3/50
Heating2	Capacity	kW	12.2	14.5	16.1
	Rated input	kW	2.44	3.08	3.57
	COP		4.96	4.71	4.51
Heating3	Capacity	kW	12	14	16.1
	Rated input	kW	3.86	4.67	5.53
	COP		3.11	3	2.91
Cooling4	Capacity	kW	12	13.6	15
	Rated input	kW	3	3.78	4.41
	EER		4	3.6	3.4
Cooling5	Capacity	kW	11.7	12.8	14
	Rated input	kW	4.3	5.00	5.7
	EER		2.75	2.56	2.46
Seasonal space heating energy efficiency class <sup>7</sup>	LWT at 35°C		A+++	A+++	A+++
	LWT at 55°C		A++	A+	A+
SCOP <sup>6</sup>	LWT at 35°C		4.82	4.71	4.63
	LWT at 55°C		3.46	3.48	3.43
sound pressure level	H	dB(A)	49	50	54
sound power level	H	dB(A)	64	65	68
Dimension(W*D*H)	Net	mm	870*480*1060	870*480*1060	870*480*1060
	Packing	mm	980*545*1100	980*545*1100	980*545*1100
Wight	Net	kg	88	88	88
	Gross	kg	94	94	94
	Liquid Side	mm	9.52	9.52	9.52
Refrigerant Piping	Gas Side	mm	15.88	15.88	15.88
	MAX length	m	30	30	30
	MIN length	m	2	2	2
	ODU above	m	20	20	20
Installation height difference	ODU below	m	20	20	20
	Cooling	°C	-5-52	-5-52	-5-52
Operating temperature range	Heating	°C	-25-35	-25-35	-25-35
	DHW	°C	-25-43	-25-43	-25-43
	Stuffing Quantity	20/40/40H	Unit	40/84/84	40/84/84

Note:  
 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811:2013; (EU) No 813:2013; (EU) 2014/C 207/02:2014;  
 2, Outdoor air temperature 7°C DB, 85% R.H., EWT 30°C, LWT 35°C;  
 3, Outdoor air temperature 7°C DB, 85% R.H., EWT 47°C, LWT 55°C;  
 4, Outdoor air temperature 35°C DB, EWT 23°C, LWT 18°C;  
 5, Outdoor air temperature 35°C DB, EWT 12°C, LWT 7°C;  
 6, Seasonal space heating energy efficiency class tested in average climate conditions;  
 7, Test standard: EN12102-1  
 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5.

# Specification-Split-Hydraulic module

Model name			4kW	6kW	8kW	10kW	
market model			ACHP-H04/4R3HA-I	ACHP-H06/4R3HA-I	ACHP-H08/4R3HB-I	ACHP-H10/4R3HA-I	
ODU Power Supply		V-, Hz, Ph	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	
plate heat exchanger	Dimension (W*H*D)	mm	331*117*70	331*117*70	331*117*87	331*117*87	
	Heat exchange area	m²	1.58	1.58	2.04	2.04	
Water Pump	Pump head	m	9	9	9	9	
	Max Flow	m³/h	4.5	4.5	4.5	4.5	
	Adapter diameter		DN25	DN25	DN25	DN25	
Indoor Unit	Sound Pressure Noise Level (Hi/Mi/Lo)	dB(A)	30	30	31	31	
	Sound Power Noise Level (Hi/Mi/Lo)	dB(A)	42	42	43	43	
	Net Dimension (W*D*H)	mm	420*270*790	420*270*790	420*270*790	420*270*790	
	Packing Dimension (W*D*H)	mm	515*1045*350	515*1045*350	515*1045*350	515*1045*350	
	Net Weight	Kg	38	38	38	38	
Setting water temperature range	Gross Weight	Kg	44	44	43	43	
	Cooling	°C	5-25	5-25	5-25	5-25	
	Heating	°C	25-65	25-65	25-65	25-65	
Water circuit	DHW(tank)	°C	25-60	25-60	25-60	25-60	
	Piping connections	inch	R1"	R1"	R1"	R1"	
	Safety valve set pressure	MPa	0.3	0.3	0.3	0.3	
	Flow switch	m³/h	0.36	0.36	0.6	0.6	
	Drainage pipe connection	mm	φ25	φ25	φ25	φ25	
	Expansion tank	L	8	8	8	8	
	Capacity of the back-up heater	kW	3	3	3	3	
	Water pump head	m	9	9	9	9	
	Refrigerant Pipe	Liquid Side	mm	15.88	15.88	15.88	15.88
		Gas Side	mm	9.52	9.52	9.52	9.52
Drainage		mm	DN25	DN25	DN25	DN25	
Qty per 20' & 40' & 40HQ			Set	132/264/322	132/264/322	132/264/322	

Model name			12kW	14kW	16kW	
market model			ACHP-H12/4R3HA-I	ACHP-H14/4R3HA-I	ACHP-H16/4R3HA-I	
ODU Power Supply		V-, Hz, Ph	220-240/1/50	220-240/1/50	220-240/1/50	
plate heat exchanger	Dimension (W*H*D)	mm	331*117*87	331*117*87	331*117*87	
	Heat exchange area	m²	2.04	2.04	2.04	
Water Pump	Pump head	m	9m	9m	9m	
	Max Flow	m³/h	4.5m³/h	4.5m³/h	4.5m³/h	
	Adapter diameter		DN25	DN25	DN25	
Indoor Unit	Sound Pressure Noise Level (Hi/Mi/Lo)	dB(A)	31	31	31	
	Sound Power Noise Level (Hi/Mi/Lo)	dB(A)	43	43	43	
	Net Dimension (W*D*H)	mm	420*270*790	420*270*790	420*270*790	
	Packing Dimension (W*D*H)	mm	515*1045*350	515*1045*350	515*1045*350	
	Net Weight	Kg	38	38	38	
Setting water temperature range	Gross Weight	Kg	43	43	43	
	Cooling	°C	5-25	5-25	5-25	
	Heating	°C	25-65	25-65	25-65	
Water circuit	DHW(tank)	°C	25-60	25-60	25-60	
	Piping connections	inch	R1"	R1"	R1"	
	Safety valve set pressure	MPa	0.3	0.3	0.3	
	Flow switch	m³/h	0.6	0.6	0.6	
	Drainage pipe connection	mm	φ25	φ25	φ25	
	Expansion tank	L	8	8	8	
	Capacity of the back-up heater	kW	3	3	3	
	Water pump head	m	9	9	9	
	Refrigerant Pipe	Liquid Side	mm	15.88	15.88	15.88
		Gas Side	mm	9.52	9.52	9.52
Drainage		mm	DN25	DN25	DN25	
Qty per 20' & 40' & 40HQ			Set	132/264/322	132/264/322	

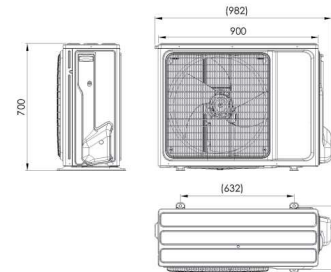
# Specification-Split-Hydraulic module

Model name		8kW	10kW	12kW	14kW	16kW
market model		ACHP-H08/4R3HA-I	ACHP-H10/5R3HA-I	ACHP-H12/5R3HA-I	ACHP-H14/5R3HA-I	ACHP-H16/5R3HA-I
ODU Power Supply	V-, Hz, Ph	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
plate heat exchanger	Dimension (W*H*D)	mm 331*117*87	331*117*87	331*117*87	331*117*87	331*117*87
	Heat exchange area	m <sup>2</sup> 2,04	2,04	2,04	2,04	2,04
Water Pump	Pump head	m 9m	9m	9m	9m	9m
	Max Flow	m <sup>3</sup> /h 4,5m <sup>3</sup> /h	4,5m <sup>3</sup> /h	4,5m <sup>3</sup> /h	4,5m <sup>3</sup> /h	4,5m <sup>3</sup> /h
	Adapter diameter	DN25	DN25	DN25	DN25	DN25
Indoor Unit	Sound Pressure Noise Level (Hi/Mi/Lo)	dB(A) 31	31	31	31	31
	Sound Power Noise Level (Hi/Mi/Lo)	dB(A) 43	43	43	43	43
	Net Dimension (W*D*H)	mm 420*270*790	420*270*790	420*270*790	420*270*790	420*270*790
	Packing Dimension (W*D*H)	mm 515*1045*350	515*1045*350	515*1045*350	515*1045*350	515*1045*350
	Net Weight	Kg 39	39	39	39	39
	Gross Weight	Kg 45	45	45	45	45
Setting water temperature range	Cooling	°C 5-25	5-25	5-25	5-25	5-25
	Heating	°C 25-65	25-65	25-65	25-65	25-65
	DHW(tank)	°C 25-60	25-60	25-60	25-60	25-60
Water circuit	Piping connections	inch R1"	R1"	R1"	R1"	R1"
	Safety valve set pressure	MPa 0,3	0,3	0,3	0,3	0,3
	Flow switch	m <sup>3</sup> /h 0,6	0,6	0,6	0,6	0,6
	Drainage pipe connection	mm φ25	φ25	φ25	φ25	φ25
	Expansion tank	L 8	8	8	8	8
	Capacity of the back-up heater	kW 9	9	9	9	9
	Water pump head	m 9	9	9	9	9
Refrigerant Pipe	Liquid Side	mm 15,88	15,88	15,88	15,88	15,88
	Gas Side	mm 9,52	9,52	9,52	9,52	9,52
	Drainage	mm DN25	DN25	DN25	DN25	DN25
	Qty per 20' & 40' & 80HQ	Set 132/264/322	132/264/322	132/264/322	132/264/322	132/264/322

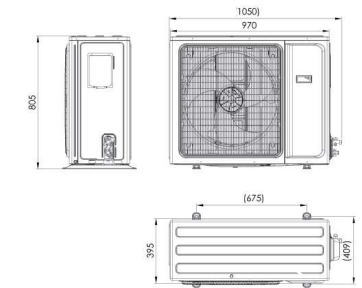
Note:  
 1, Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; (EU) 2014/C 207/02/2014,  
 2, Outdoor air temperature 7°C DB, 85% RH, EWT 30°C, LWT 35°C,  
 3, Outdoor air temperature 7°C DB, 85% RH, EWT 47°C, LWT 55°C,  
 4, Outdoor air temperature 35°C DB, EWT 23°C, LWT 18°C,  
 5, Outdoor air temperature 35°C DB, EWT 12°C, LWT 7°C,  
 6, Seasonal space heating energy efficiency class tested in average climate conditions,  
 7, Test standard: EN12102-1  
 8, Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5,

# Dimension

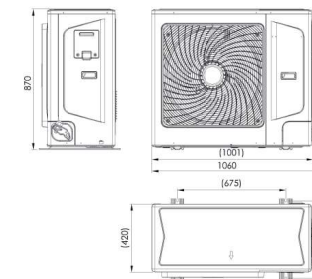
ACHP-H04/4R3HA-O, ACPH-H06/4R3HA-O



ACHP-H08/4R3HA-O, ACPH-H10/4R3HA-O



ACHP-H12/5R3HA-O, ACPH-H14/5R3HA-O, ACPH-H16/5R3HA-O



ACHP-H04/4R3HA-I, ACPH-H06/4R3HA-I, ACPH-H08/4R3HA-I, ACPH-H10/5R3HA-I, ACPH-H12/5R3HA-I, ACPH-H14/5R3HA-I, ACPH-H16/5R3HA-I

