HITACHI

air H_2O 400

air to Water Heat Pump

Cooling & Heating

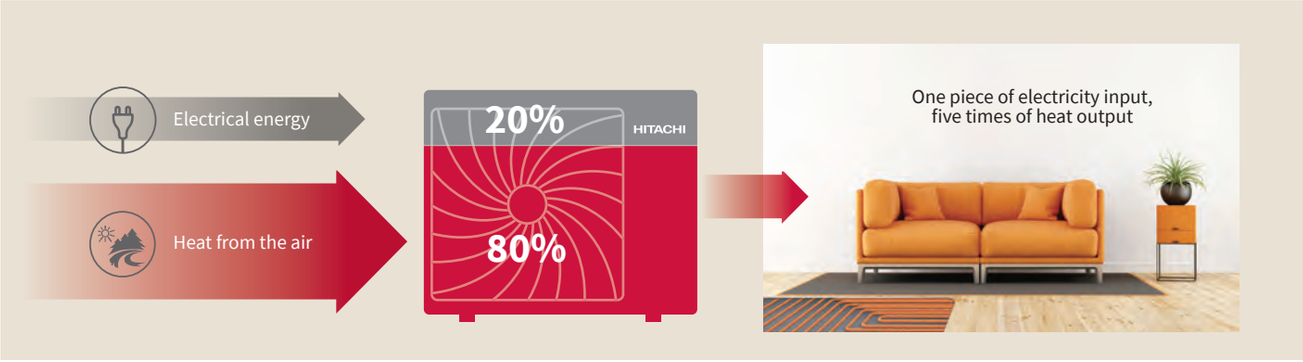
INDEX

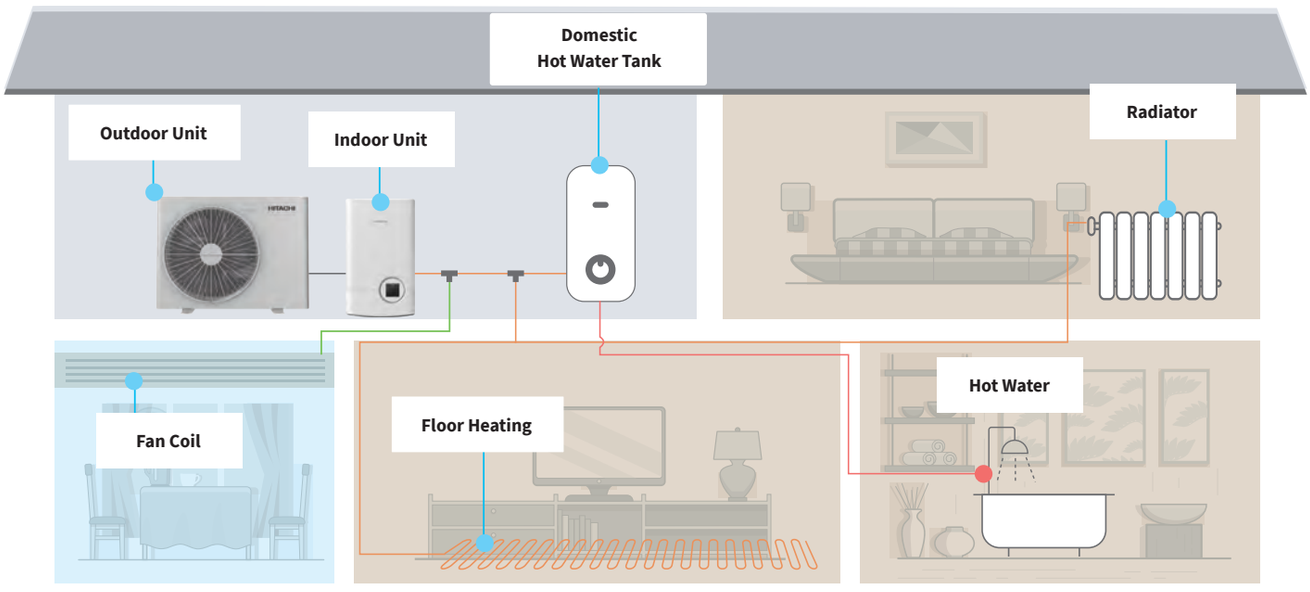
air H_2O 400

air to Water Heat Pump

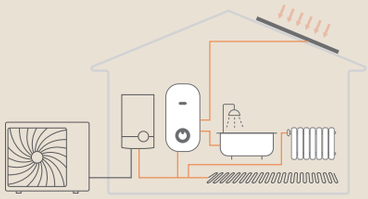
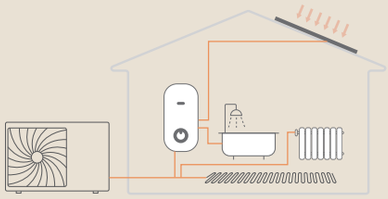
The heat pump system is a device that transforms energy from the air, the soil and the water to useful heat. Compared with the conventional electrical heater and fossil fuel heater, the system is more energy-efficient, eco-friendly.

Thanks to the heat pump technology, the air to water heat pump system can be driven by a small amount of electric energy, extract renewable heat from the outside air, and then supply a large amount of heat to your home. The heat output is greater than the electricity input, thus the system is extremely high efficiency.





Product Lineup Overview

Typye	Split	Monobloc
Series	air H_2O 400 split	air H_2O 400 Mono
Diagram		
Refrigerant Type	R32	R32
Capacities	4.4/6.0/8.0/10.0/12.0/14.0/16.0kW	4.4/8.0kW
Application		
Energy Label Space Heating 35°C	A+++	A+++
Energy Label Space Heating 55°C	A++	A++
Benefit	• A+++ energy efficiency • Stable heating under -25°C • 60°C leaving water • Two separate temp. cycles • Visual display of energy consumption • Centralized control for different water cycles and individual control for rooms • Suitable for different complex application scenarios	• A+++ energy efficiency • Stable heating under -25°C • 60°C leaving water • Two separate temp. cycles • Visual display of energy consumption • Centralized control for different water cycles and individual control for rooms • Suitable for different complex application scenarios • Easy installation without refrigerant operation

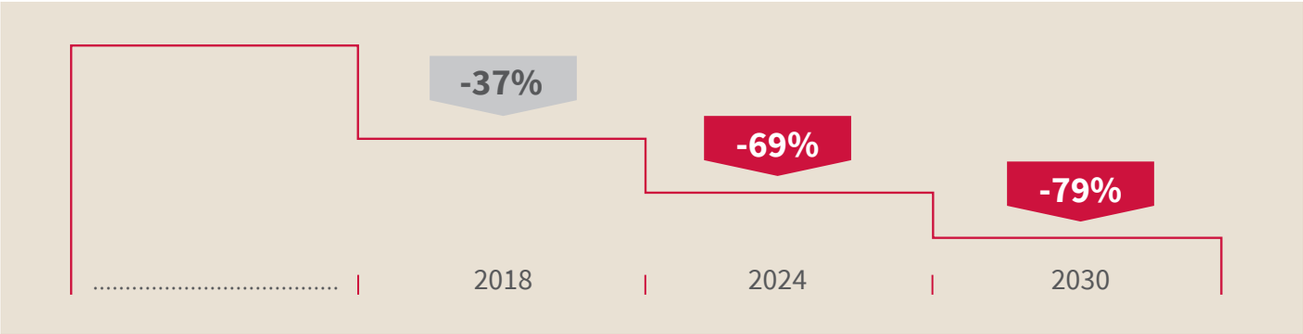
Regulations and Certifications

F-Gas Regulation

European regulation F-GAS (517/2014) came into force on 1st January 2015, in order to reduce greenhouse gas emissions. It aims to reduce the environmental impact of F-gases through the reduction of the amount of HFC (hydrofluorocarbon) refrigerant used in cooling and heating systems.

The regulation 517/2014 prescribes a phase-down of HFCs, where the quantities of HFCs that are placed on the market are gradually reduced through the allocation of quotas by the European Commission. The phase-down targets are expressed in CO2 equivalents (= kg x GWP- Global Warming Potential) and aim to reduce HFC consumption by 79% in 2030.

Consumption of HFC compared to CO2 equivalent tonnes



Features & Benefits

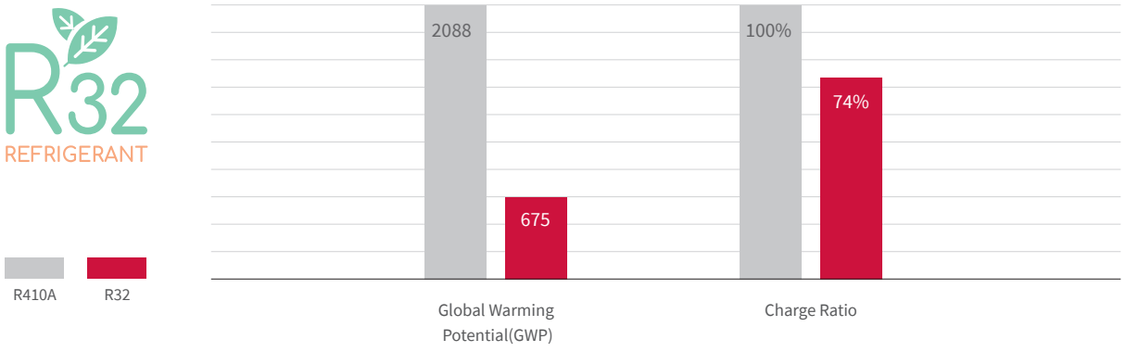
High Efficiency and Excellent Performance

Eco-friendly Refrigerant R32

R32 refrigerant contributes to meeting the F-gas regulation targets as described in EU regulation 517/2014. Hitachi airH2O 400 heat pump system adopts R32 refrigerant, which is a perfect solution for attaining the new European CO2 emission targets.

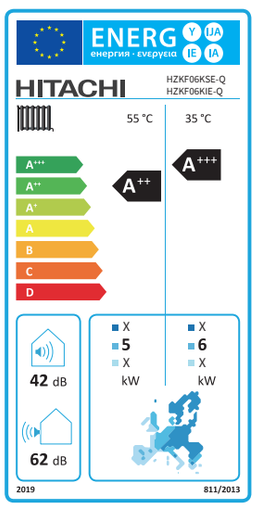
Features

- **Zero Ozone Depletion Potential (ODP)**
- **Lower Global Warming Potential (GWP)**
- **Less charge amount under the same capacity**
- **Single component refrigerant, easy to handle and recycle**



High Efficiency A+++

airH2O 400 offers the best and efficient solution for home heating and hot water supply. It has the top class A+++ energy classification under the low-temperature water condition, and A++ under the mid-temperature water condition, which ensures you make savings on your energy bills, reducing electricity consumption and the impact on the environment.

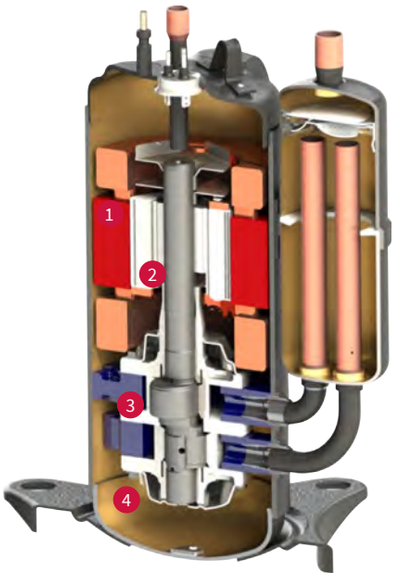


*Take HZKF06KSE-Q, HZKF06KIE-Q as an example.

High-efficiency DC Inverter Compressor

A high-efficiency DC inverter twin rotary compressor is adopted. It features unique dual-pressure chamber design and symmetrical location, which can effectively reduce the vibration and noise and improve the compressor performance, especially the performance under low-frequency operation.

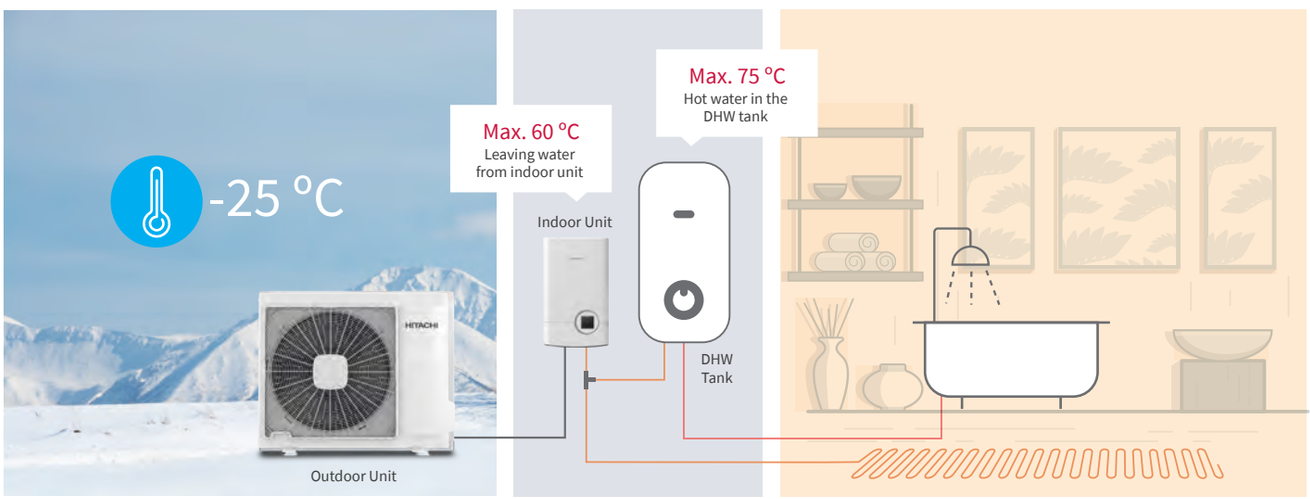
Moreover, the twin rotary compressor has a small lubricating oil injection volume with stable oil return, and comes with a gas-liquid separator, which makes the system more reliable.



1. **High-efficiency motor**
   Optimize the motor design to improve compressor performance.
2. **Optimized rotor design**
   Lower the center of gravity of the compressor to reduce the noise and vibration.
3. **Flat mechanism design**
   Improve the volumetric efficiency and the total performance.
4. **Screw interactive fastening**
   Improve fastening effect and reduce deformation of the core.

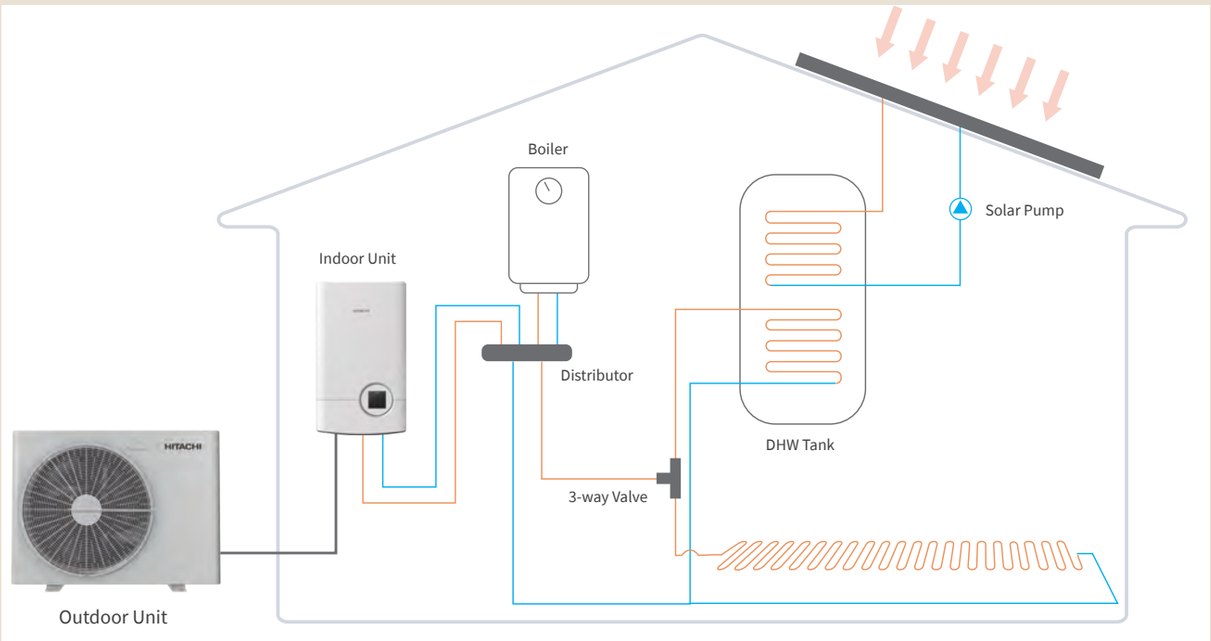
Wide Operation Range

Stable operation is guaranteed, even with outdoor temperatures as low as -25 °C, effectively satisfying the heating demand in extremely cold areas. It can generate up to 60 °C leaving water from the indoor unit. Besides, the operation range of DHW is extended to 40 °C, and the water inside the water tank can achieve max. 75 °C with electric heater, enabling effective sterilization.



Interlock with 3rd Party Heat Source

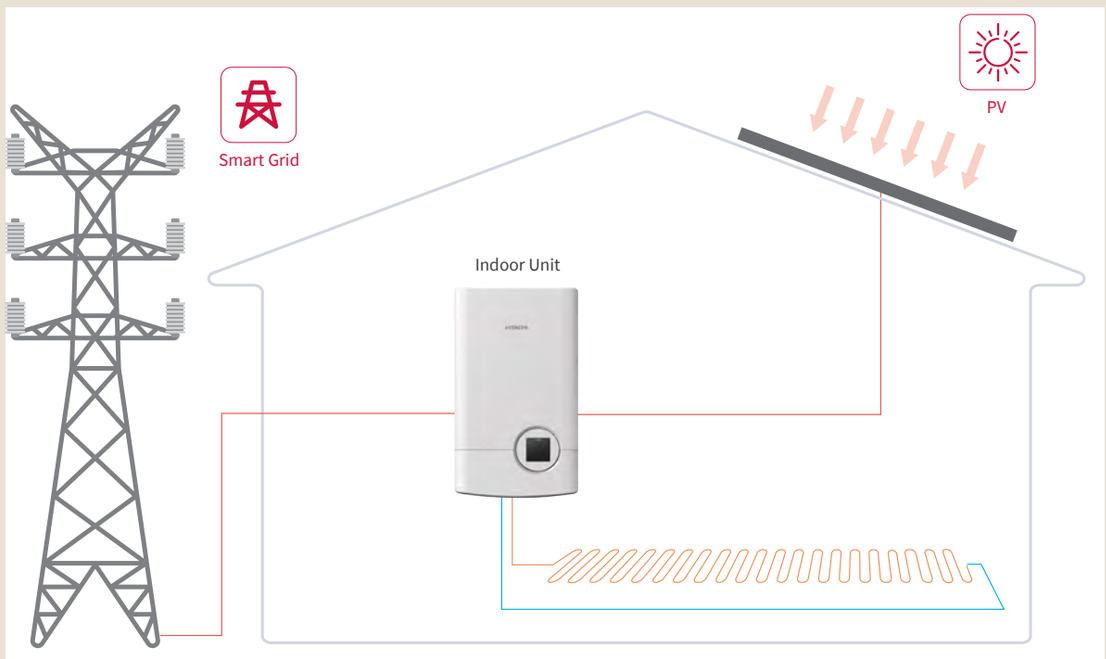
airH2O 400 system can interlock with the 3rd party heat source, like the solar thermal or the boiler which can work as an auxiliary heat source. Thanks to the interlock design, both the user experience and energy efficiency can be optimized.



Smart Grid Interlock and PV Enabled

airH2O 400 system can be integrated into the smart grid, to achieve a low-cost operation required to meet carbon reduction targets. Also, the system can be integrated to the Photovoltaic(PV), saving energy through renewable sources.

The system's potential can be maximised by connecting to Smart Grid or Photovoltaic(PV).

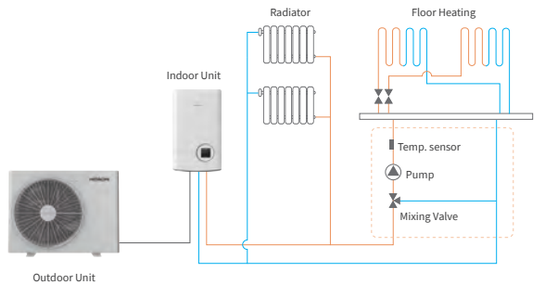


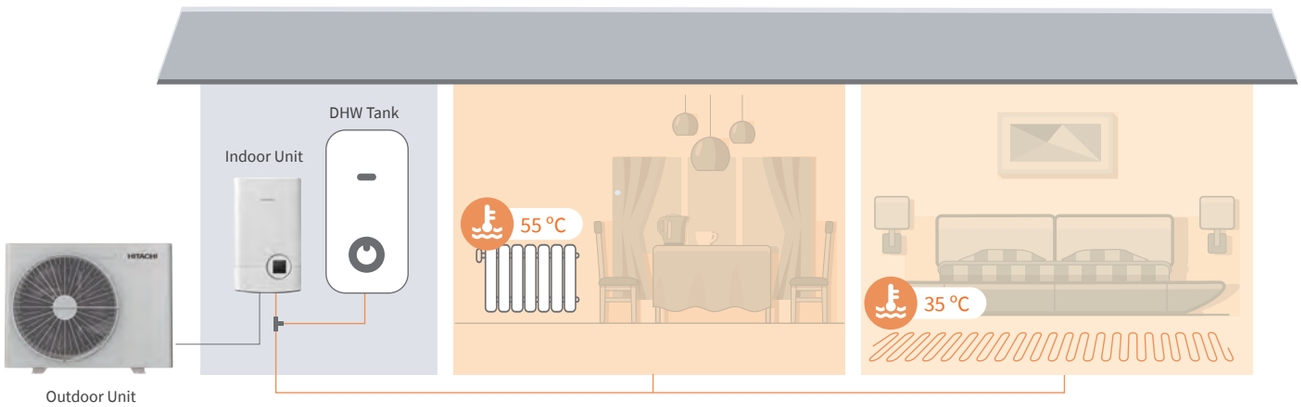
Features & Benefits

User Convenience

Two Separate Temperature Cycles

Two temperature zones through the separate heating cycles is possible with the mixing valve kit, enabling different water temperatures for underfloor heating and the radiator.





Low Noise Operation

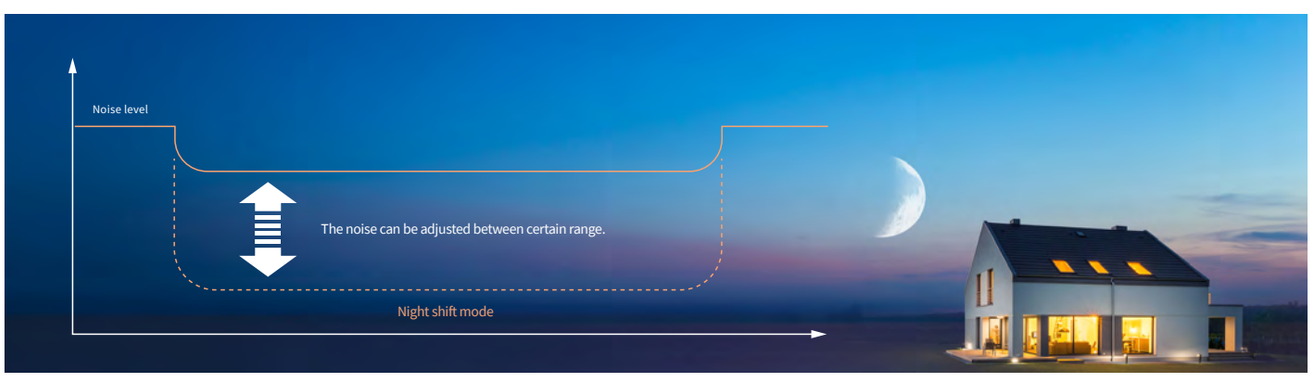
Low Noise Mode

The air to water heat pump system can work in low-noise operation mode for optimal user comfort, which can be achieved just by one touch in the controller or through the setting of input/output. Max.8 dB(A) can be reduced during this mode.

Night Shift Mode

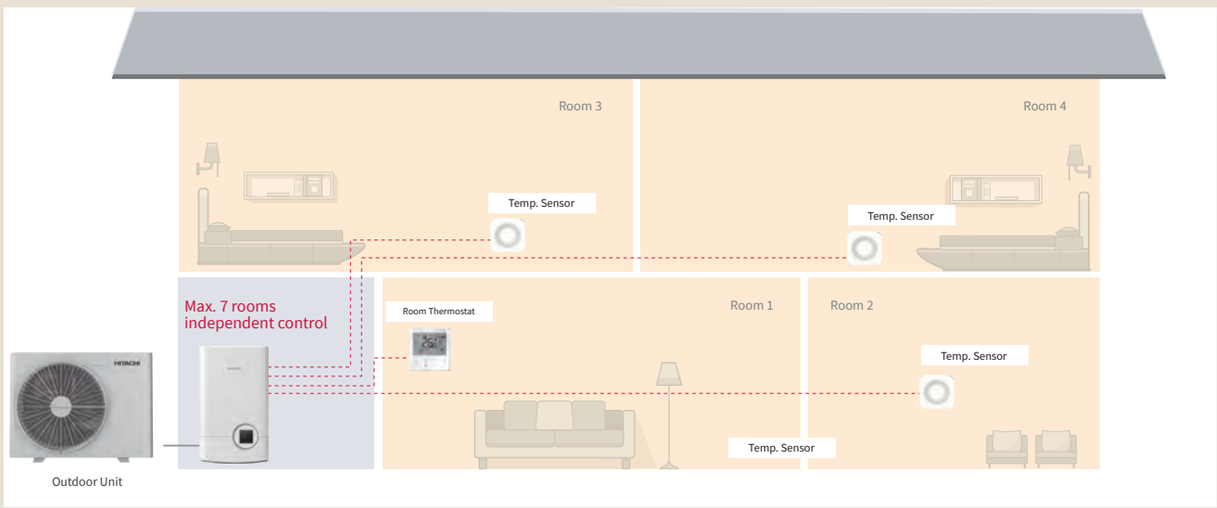
Under the night shift mode, the operation period can be set according to users' demand freely. The sound pressure level can be reduced to 35dB(A)*. All these settings can be achieved in the controller or through the setting of input/output.

*Take the unit airH2O 400 HZKF04KSE-Q as an example.



Up to 7 Rooms with Independent Temperature Control

In one airH2O 400 system, the temperature of up to 7 rooms can be independently controlled, through installing temperature sensors or room thermostats in the rooms, satisfying the diverse needs of customers.

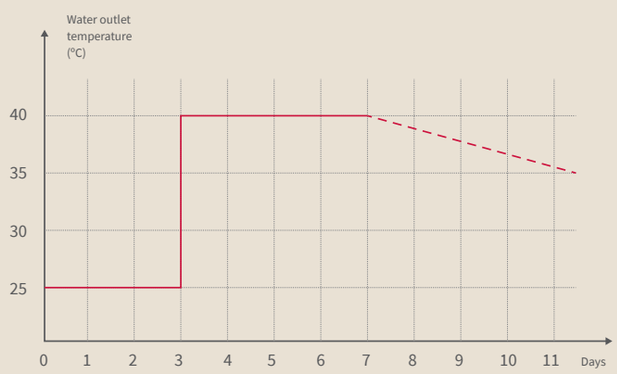


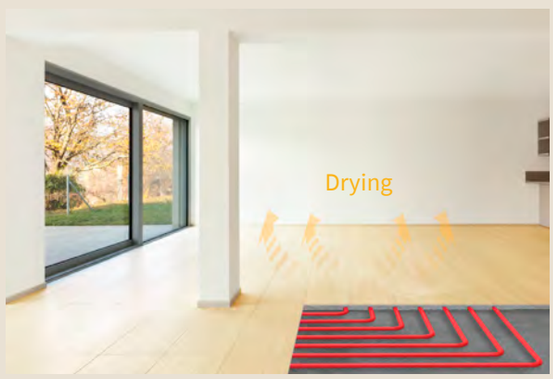
Note: In one airH2O 400 system, up to 2 room thermostats and max. 6 wall mounted temp. sensors can be connected.

Screed Drying Function

airH2O 400 air to water heat pump unit has an automatic program for drying out the screed during the construction of a house with the floor heating underfloor.

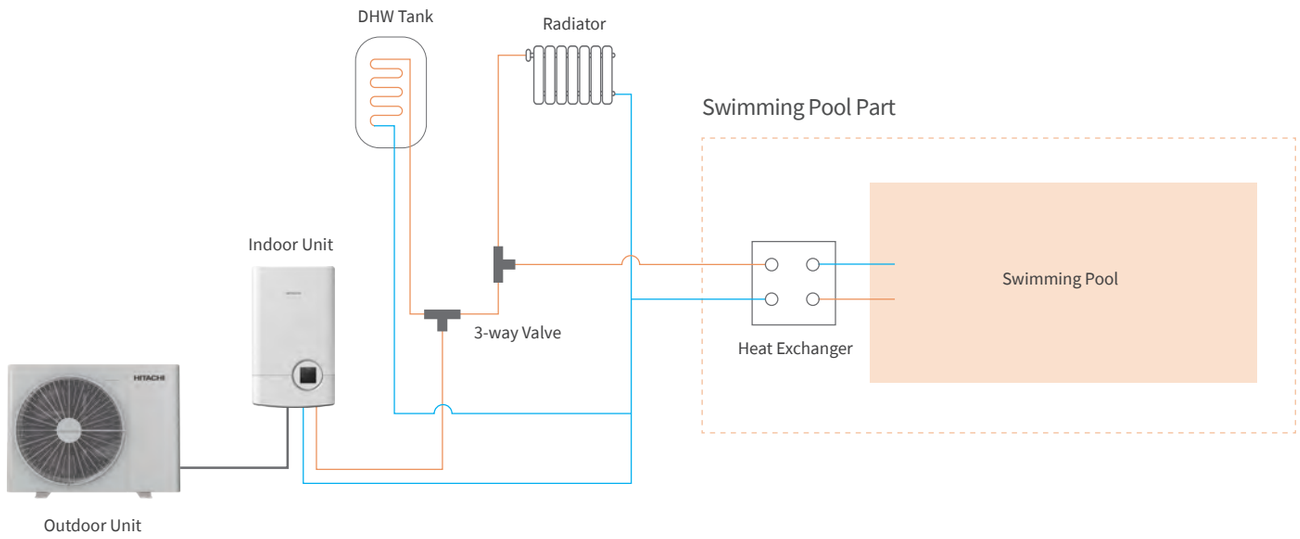
The screed drying process lasts for 7 days. In the first three days, the system operates with the outlet water temperature of 25 °C, and in the next four days, the system operates with the presetting maximum outlet water temperature.





Swimming Pool Heating

airH2O 400 heat pump system can also achieve heating swimming pools. When the swimming pool operation is activated, the hot water will go into the swimming pool heat exchanger, allowing to heat the swimming pool water temperature to a comfortable water temperature between 24 and 33 °C.

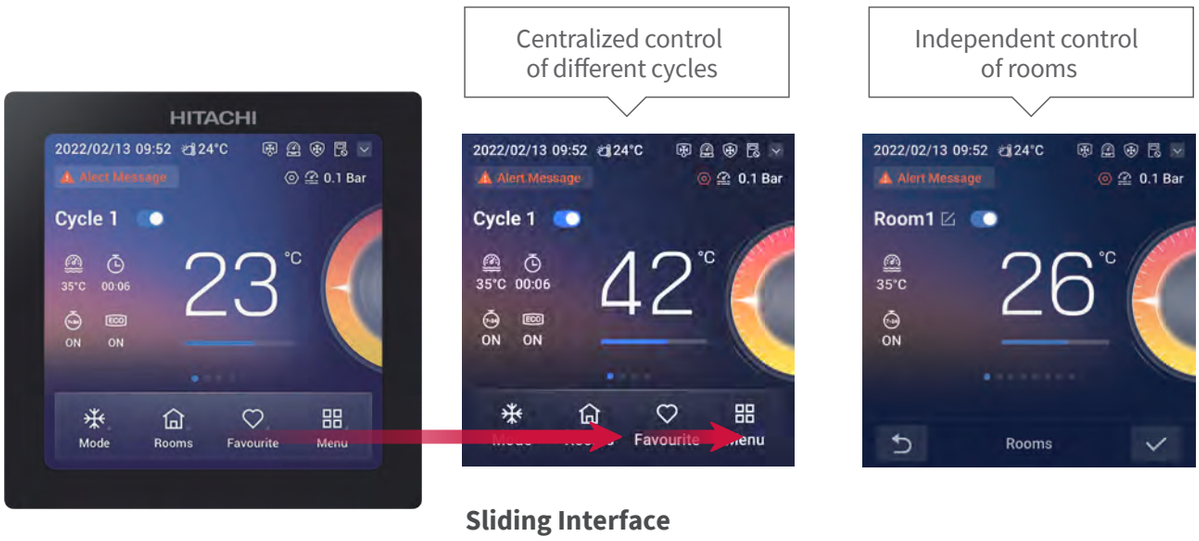


Features & Benefits

High Intelligence

Colorful Touch Controller HAQ-CTR-01*

Access and customize your device's important settings with ease through the colorful touch controller, enabling precise temperature and mode adjustments with just a few taps.



Sliding Interface

Quick switching between different interfaces can be easily achieved by sliding the screen left and right.

- **Sleek and elegant design**
- **Compact, measures only 90×90mm**
- **Intuitive touch-screen control**

Predefined Configuration

Configure your device with ease using the new "Predefined configuration" feature that allows for quick setup in just 3 simple steps, with the ability to preset up to 6 scenarios for ultimate convenience and simplicity.

*Note: It can be demounted and used as a room thermostat, please consult the details with local technician or refer to TC.

Room Thermostat HAQ-RTU-01

It can not only set the rooms' temperature, but also accurately link with indoor unit, to feedback the room's load change in real time, ensuring comfortable indoor temperature and high-efficiency operation.

- **Sleek and elegant design**
- **Compact, measures only 86×86mm**
- **Intuitive touch-button control**

General Features

- Compact body and stylish appearance
- Convenient room temp. & DHW setting
- Flat backboard, easy-to-install
- ECO/DHW boost/Timer(0.5-24h)

One-button Switch to DHW Setting

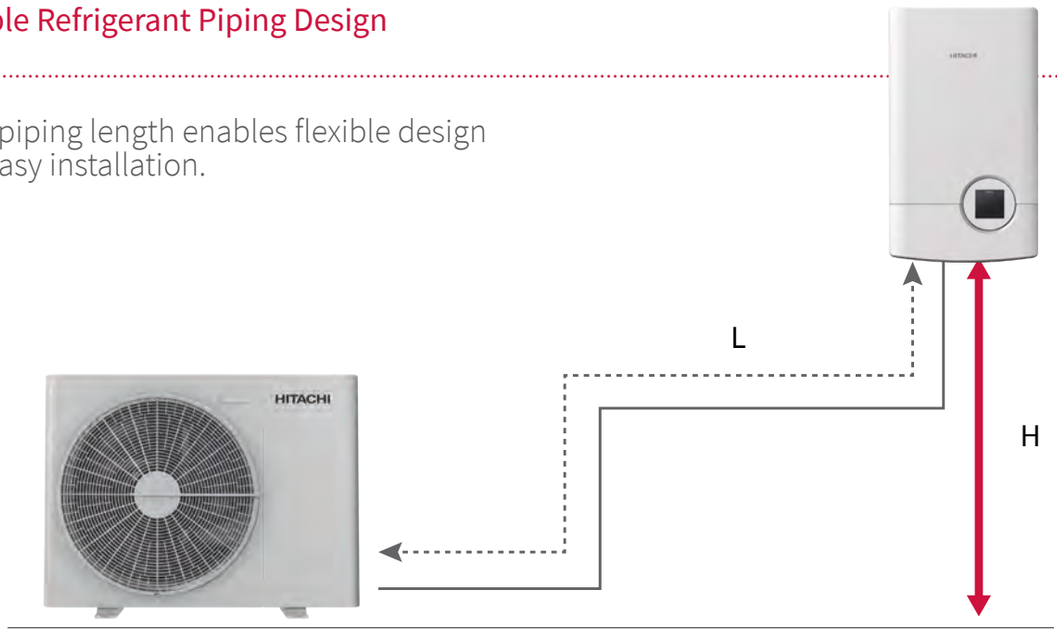
Users can switch to the domestic hot water mode setting with one touch to realize the control of the water system, which is very convenient, no need to do the setting in other controllers.

Features & Benefits

Easy Installation and Maintenance

Flexible Refrigerant Piping Design

Long piping length enables flexible design and easy installation.



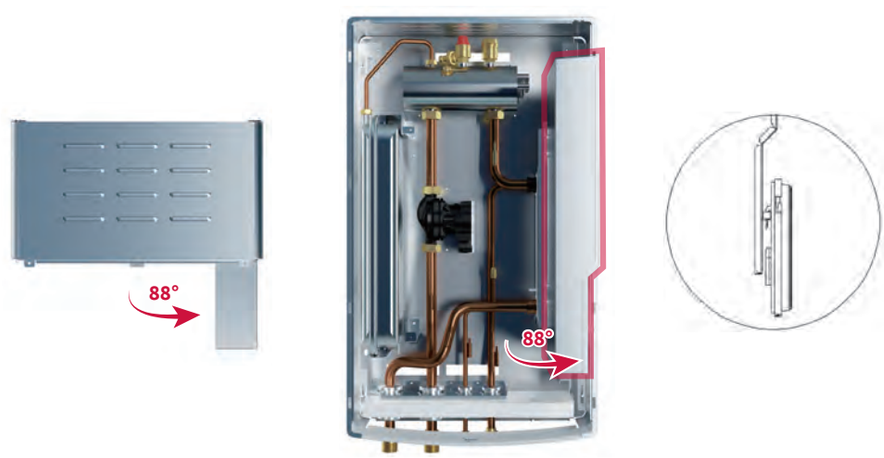
Max. piping length L: 45(50*1)m Max. height difference H: 20/30*2m

*1 When the piping length is 50m, the ambient temperature of the outdoor unit shall be ≥10 °C, and the refrigerant charge of the unit shall be less than the max. refrigerant charge allowed by the unit.

*2 When the outdoor unit is higher than the indoor unit, the max. height difference is 30m, otherwise is 20m.

Convenient Maintenance for the Indoor Unit

The position of the components in indoor unit has been fully optimized, and the electrical box can be rotated 88°, which facilitates the maintenance of the parts behind the electrical box, and greatly simplifies the maintenance. Besides, there is a hook on the outer sheet metal of the electrical box, and the controller can be conveniently hung during on-site maintenance.



air H_2O 400 Checker

Intelligent service tool, improve your service

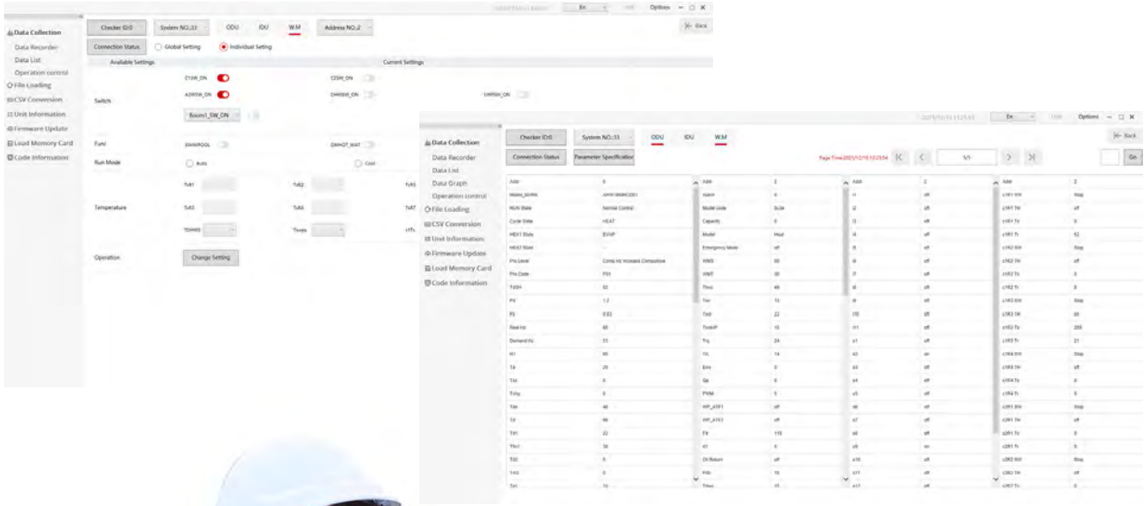
airH2O 400 Checker is a plug and play service tool, with which service engineers can access the system and monitor operation status or data, very convenient for system communication and maintenance.

Small and Portable Body

Black Box Function

Multi-language

Different water cycles in multiple rooms control



Up to 130 parameters of the water system can be displayed intuitively.

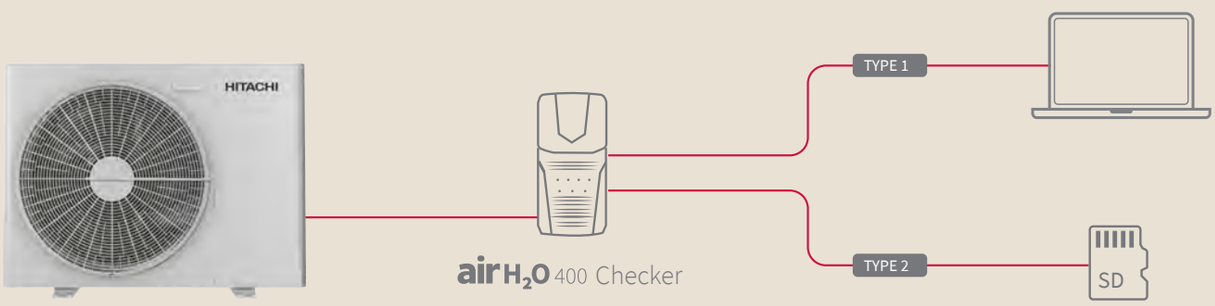
Easy to use

- Compact size which allows high portability and space saving.
- Capable to slot in a 32G memory card for data collection and storage. Also the memory card and card reader are standard with airH2O 400 Checker.
- Multiple choices of power supply types. It can be powered by the standard adapter (DC 5V), computers or power banks.

Easy to access

2 ways to access the operation data

- Conventional connection type. The simplest and reliable way by just connecting the airH2O 400 Checker to your computer directly through type C USB.
- SD card storage type. airH2O 400 Checker equipped with SD card can be connected to the air conditioning system all the time without computer, so that all the operation data can be stored in the card for later analysis.



Specifications

Model	Size (L×W×H) mm	Net Weight (g)	Power Suppy
HAQ-SVT-01	138×68×28	130	5V 500mA

Accessories & Engineering Tools

Accessories

Ambient Temperature Sensor

HAQ-ATS-01

Measure the outdoors ambient temperature in the area where the outdoor unit is installed.

Compatibility: airH2O 400 series

Water Temperature Sensor

HAQ-WTS-01

Water temperature sensor for pipeline, tank and hydraulic components

Compatibility: airH2O 400 series

Wall Mount Temperature Sensor

HAQ-RTS-01

Wall mounted room temperatu-re sensor, with communication to heat pump system.

Compatibility: airH2O 400 series

Room Thermostat

HAQ-RTU-01

Room thermostat for room temperature control, with communication to heat pump system.

Compatibility: airH2O 400 series

3-way Valve

HAQ-3WV-01

Valve to allow operation in heating/hot water

Compatibility: airH2O 400 series

Water Tank (200L, 300L)

HAQT-200
HAQT-300

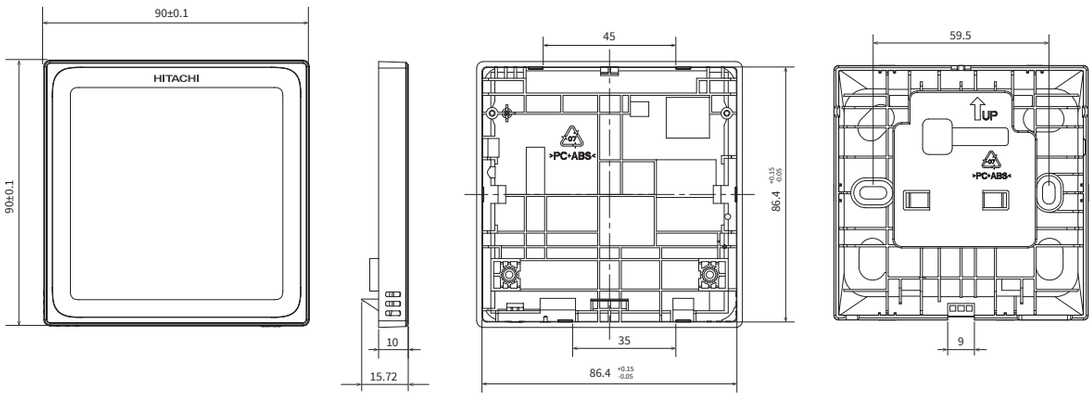
Domestic hot water tank

Compatibility: airH2O 400 series

Dimensions

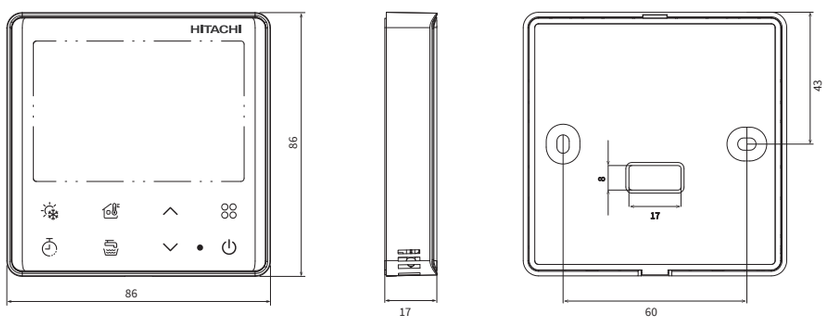
HAQ-CTR-01

unit:mm



HAQ-RTU-01

unit:mm



Technical data

Split (4~8kW) Preliminary data

Series				Split		
Power Suply	AC 1Φ 220~240V/50Hz		-	HZKF04KSE-Q	HZKF06KSE-Q	HZKF08KSE-Q
OAT (DB/WB)	IWT/OWT	-	Unit	Heating Operation		
7/6°C	30 / 35°C	Capacity (Min./Nom./Max.)	kW	1.85 / 4.40 / 7.00	1.95 / 6.00 / 8.90	2.10/ 8.00 / 11.0
		COP (Nom.)	-	5.10	5.00	4.90
	47 / 55°C	Capacity (Nom./Max.)	kW	4.40 / 6.00	6.00/7.50	8.00/9.00
		COP (Nom.)	-	3.00	3.05	2.80
-7/-8°C	30 / 35°C	Capacity (Nom./Max.)	kW	4.40 / 5.00	5.30/5.90	5.80/7.30
		COP (Nom.)	-	3.26	3.16	3.14
	47 / 55°C	Capacity (Nom./Max.)	kW	4.00 / 4.20	4.70/5.10	5.00/6.40
		COP (Nom.)	-	1.97	2.04	1.94
35/ --°C	12 / 7°C	Nominal Capacity	kW	4.40	5.00	6.00
		EER	-	3.90	3.70	3.60
	23 / 18°C	Nominal Capacity	kW	5.60	6.00	7.00
		EER	-	5.60	5.60	5.10
Water Outlet 35°C	SCOP		-	5.00	4.93	4.92
	Seasonal Heating Efficiency (ηs)		%	197	194	194
	Energy Rating		-	A+++	A+++	A+++
Water Outlet 55°C	SCOP		-	3.23	3.33	3.42
	Seasonal Heating Efficiency (ηs)		%	126	130	134
	Energy Rating		-	A++	A++	A++
Water Outlet 18°C	SEER		-	8.87	8.73	8.54
	Seasonal Cooling Efficiency (ηs)		%	352	346	339
Water Outlet 7°C	SEER		-	5.75	5.85	5.73
	Seasonal Cooling Efficiency (ηs)		%	227	231	226
Normal Mode (Heating/Cooling)			dB(A)	47 / 47	48/47	50/47
Low Noise Mode (Heating/Cooling)			dB(A)	39 / 39	42/42	43/43
Night Shift Mode (Heating/Cooling)			dB(A)	35 / 35	38/38	39/39
Normal Mode (Heating/Cooling)			dB(A)	61 / 61	62/61	64/61
Condenser Fan Quantity			-	1	1	1
Air Flow Rate			m3/h	2700	2700	2700
Recommended Fuse			A	16	16	20
Height×Width×Depth			mm	750×900×340		
Compressor	Type		-	Rotary		
Refrigerant	Type		-	R32		
	Charge Before Shipment		kg	0.98	0.98	1.05
Piping	Gas Pipe		mm(in.)	Φ12.7(1/2)	Φ12.7(1/2)	Φ15.88(1/5)
	Liquid Pipe		mm	Φ6.35(1/4)	Φ6.35(1/4)	Φ6.35(1/4)
Min. Piping Length			m	4		
Max. Chargeless Piping Length			m	8		
Max. Piping Length			m	40	40	45 50*5
Height Difference between ODU and IDU	ODU is Higher		m	30	30	30
	IDU is Higher		m	20	20	20
Heating	Outdoor Ambient Temperature		°C (DB)	-25~35		
	Outlet Water Temperature		°C	15~60		
DHW	Outdoor Ambient Temperature		°C (DB)	-25~40		
	Tank Water Temperature		°C	30~55(75*6)		
Cooling	Outdoor Ambient Temperature		°C (DB)	5~46		
	Outlet Water Temperature		°C	5~22		

Indoor Unit		HZKF04KIE-Q	HZKF06KIE-Q	HZKF08KIE-°Q
-		AC 1Φ, 220~240V/50Hz		
IWT: 30°C / OWT: 35°C ΔT: 5°C	m3/h	0.76	1.03	1.38
	m3/h	0.50	0.60	0.60
Net Lift Pressure	m	6.2	4.7	3.2
Max. Lift Pressure	m	7.6		
Max. Water Flow Rate	m3/h	3.5		
Energy Efficiency Class	-	A		
Speed	-	Inverter		
Max. Power Input	W	50		
Water Electric Heater (3 Steps)	kW	1/2/3		
Material	-	Brass		
Diameter	in.	1"		
Mesh Filter	-	50		
Type Filter	-	Self-cleaning (with back flush)		
Safety Valve	bar	3		
Shut-off Valve	-	2 pcs Supplied		
Sound Pressure	dB(A)	28		
Sound Power	dB(A)	42		
Recommended Fuse	A	20(40*7)		
Height×Width×Depth	mm	890×520×320		
Connection Type	-	Flare Nut Connection		
Gas Pipe	mm(in.)	Φ12.7(1/2)		Φ15.88 5/8
Liquid Pipe	mm(in.)	Φ6.35(1/4)		Φ6.35(1/4)
Connection type	-	Screwed Connection		
Shutdown valves	in.	G1"- G1"(female)		
Inlet pipe diameter	in.	G1"(male)		
Outlet pipe diameter	in.	G1"(male)		

NOTES:
1: Heating/Cooling nominal performances at full load conditions according to EN 14511. Pipe length 7.5 m; height difference ODU/IDU 0 m; heating performance are integrated (included defrost cycles).
2: According to EN14825. Climate Zone AVERAGE. Energy efficiency scale from A +++ to D.
3: The data is TBC.
4: The noise values are measured in the anechoic chamber without reflected echo, in accordance with the standard EN12102.
5: The ambient temperature of the outdoor unit shall be ≥10°C, and the refrigerant charge of the unit shall be less than the maximum refrigerant charge allowed by the unit.
6: When there is an DHW electric heater mounted in the DHW tank ,the setting temperature can reach 75°C.
7: The value is the data when electric heater is working.
OAT: Outdoor ambient temperature; IWT: Inlet water temperature; OWT: Outlet water temperature.

air H_2O 400

Split (10~16kW) Preliminary data

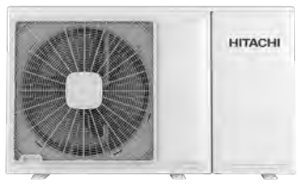
Series					Split			
Outdoor Unit	Power Suply	AC 3Φ, 380-415V/50Hz		-	HZKF10KSE-Q	HZKF12KSE-Q	HZKF14KSE-Q	HZKF16KSE-Q
		AC 1Φ, 220~240V/50Hz,		-	HZKF10KSO-Q	HZKF12KSO-Q	HZKF14KSO-Q	HZKF16KSO-Q
Heating Operation[1]	OAT (DB/WB)	IWT/OWT	-	Unit	Heating Operation			
	7/6°C	30 / 35°C	Capacity (Min./Nom./Max.)	kW	10.00/12.50	12.00/14.50	14.00/16.00	16.00/18.00
			COP (Nom.)	-	5.10	4.95	4.80	4.60
		47 / 55°C	Capacity (Nom./Max.)	kW	10.00/11.00	12.00/13.00	14.00/15.00	15.50/17.00
			COP (Nom.)	-	3.10	3.05		2.95
	-7/-8°C	30 / 35°C	Capacity (Nom./Max.)	kW	9.50	10.80	13.50	14.00
			COP (Nom.)	-	3.10	3.00	2.85	2.80
		47 / 55°C	Capacity (Nom./Max.)	kW	8.0	8.5	10.0	11.0
			COP (Nom.)	-	2.15	2.10	2.05	2.00
Cooling Operation[1]	35/ --°C	12 / 7°C	Nominal Capacity	kW	8.5	10.0	11.0	13.0
			EER	-	3.00	2.85		2.70
		23 / 18°C	Nominal Capacity	kW	9.0	11.0	14.0	15.5
			EER	-	4.5	4.1	4.2	3.9
Seasonal Performance[2]	Water Outlet 35°C	SCOP		-	4.8	4.7	4.6	4.5
		Seasonal Heating Efficiency (ηs)		%	188	185	180	177
		Energy Rating		-	A+++			
	Water Outlet 55°C	SCOP		-	3.4	3.35	3.3	
		Seasonal Heating Efficiency (ηs)		%	133	130	128	127
		Energy Rating		-	A++			
Sound Pressure[3]	Normal Mode			dB(A)	51		54	
	Low Noise Mode			dB(A)	42	45	46	47
	Night Shift Mode			dB(A)	41		43	
Sound Power[4]	Normal Mode			dB(A)	63	64	66	67
Fan	Condenser Fan Quantity			-	1			
	Air Flow Rate			m3/h	5200		4700	
Outer Dimensions	Height×Width×Depth			mm	840×1100×390			
Refrigerant System	Compressor	Type		-	Rotary			
	Refrigerant	Type		-	R32			
		Charge Before Shipment		kg	1.8		2.7	
	Piping	Gas Pipe		mm(in.)	15.88 (5/8)			
		Liquid Pipe		mm	9.53 (3/8)			
	Min. Piping Length			m	5			
	Max. Chargeless Piping Length			m	15			
	Max. Piping Length			m	50			
	Height Difference between ODU and IDU	ODU is Higher		m	30			
		IDU is Higher		m	20			
Operation Range	Heating	Outdoor Ambient Temperature		°C (DB)	-25~35			
		Outlet Water Temperature		°C	20~65			
	DHW	Outdoor Ambient Temperature		°C (DB)	-25~43			
		Tank Water Temperature		°C	30~60(75)[4]			
	Cooling	Outdoor Ambient Temperature		°C (DB)	5~46			
		Outlet Water Temperature		°C	5~22			

Indoor Unit	Power Suply	AC 1Φ, 220~240V/50Hz, AC 3Φ, 380-415V/50Hz	- -	HZKF10KIE-Q HZKF10KIO-Q	HZKF12KIE-Q HZKF12KIO-Q	HZKF14KIE-Q HZKF14KIO-Q	HZKF16KIE-Q HZKF16KIO-Q
Water Flow Rate		IWT: 30℃ / OWT: 35℃ ΔT: 5℃	m3/h	1.72	2.06	2.40	2.76
Min. Water Flow Rate			m3/h	0.8	0.9	1.1	1.2
DC Water Pump		Max. Lift Pressure	m	12			
		Max. Water Flow Rate	m3/h	5.6			
		Speed	-	Inverter			
		Max. Power Input	W	180			
Water Electric Heater (3 Steps)			kW	2/4/6			
Shut-off Valve with Filter		Diameter	in.	1"			
		Mesh Filter	-	50			
Safety Valve			bar	3			
Shut-off Valve			-	2 pcs Supplied			
Sound Pressure			dB(A)	36			
Sound Power			dB(A)	42			
Outer Dimensions (with connections)		Height×Width×Depth	mm	890×520×320			
Refrigerating Installation		Connection Type	-	Flare Nut			
		Gas Pipe	mm(in.)	15.88 (5/8)			
		Liquid Pipe	mm(in.)	9.53 (3/8)			
Water Installation		Connection type	-	Screwed Connection			
		Shutdown valves	in.	G1"- G1"(female)			
		Inlet pipe diameter	in.	G1"(male)			
		Outlet pipe diameter	in.	G1"(male)			

NOTES:
1: Heating/Cooling nominal performances at full load conditions according to EN 14511. Pipe length 7.5 m; height difference ODU/IDU 0 m; heating performance are integrated (included defrost cycles).
2: According to EN14825. Climate Zone AVERAGE. Energy efficiency scale from A +++ to D.
3: The data is TBC.
4: The noise values are measured in the anechoic chamber without reflected echo, in accordance with the standard EN12102.
OAT: Outdoor ambient temperature; IWT: Inlet water temperature; OWT: Outlet water temperature.

air H_2O 400

Mono (4~8kW) Preliminary data



Series					Monobloc	
HP					2.0	3.0
Model		Outdoor Unit			HZKF04KME-Q	HZKF08KME-Q
Power Supply					AC 1Φ, 220~240V/50Hz	
	OAT (DB/WB)	IWT/OWT	-	Unit	Heating Operation	
Heating Operation[1]	7/6°C	30 / 35°C	Capacity (Min./Nom./Max.)	kW	1.85 / 4.40 / 7.00	2.10/ 8.00 / 11.0
			COP (Nom.)	-	5.10	4.90
		47 / 55°C	Capacity (Nom./Max.)	kW	4.40/6.00	8.00/9.00
			COP (Nom.)	-	3.00	2.80
	-7/-8°C	30 / 35°C	Capacity (Nom./Max.)	kW	4.40/5.00	5.80/7.30
			COP (Nom.)	-	3.26	3.14
		47 / 55°C	Capacity (Nom./Max.)	kW	4.00/4.20	5.00/6.40
			COP (Nom.)	-	1.97	1.94
Cooling Operation[1]	35/ --°C	12 / 7°C	Nominal Capacity	kW	4.40	6.50
			EER	-	4.00	3.35
		23 / 18°C	Nominal Capacity	kW	5.60	7.00
			EER	-	5.60	5.10
Seasonal Performance[2]	Water Outlet 35°C	SCOP		-	5.17	5.00
		Seasonal Heating Efficiency (ηs)		%	204	197
		Energy Rating		-	A+++	
	Water Outlet 55°C	SCOP		-	3.47	3.50
		Seasonal Heating Efficiency (ηs)		%	136	137
		Energy Rating		-	A++	
	Water Outlet 18°C	SEER		-	10.06	7.38
		Seasonal Cooling Efficiency (ηs)		%	399	292
	Water Outlet 7°C	SEER		-	5.75	5.83
		Seasonal Cooling Efficiency (ηs)		%	227	230
Sound Pressure[3]	Normal Mode			dB(A)	47/47	50/47
	Low Noise Mode			dB(A)	40/40	43/43
	Night Shift Mode			dB(A)	36/36	39/39
Sound Power[4]	Normal Mode			dB(A)	61/61	64/61
Fan	Condenser Fan Quantity			-	1	
	Air Flow Rate			m3/h	2700	
Recommended Fuse				A	16	20
Outer Dimensions	Height×Width×Depth			mm	815×1270×340	
Refrigerant System	Compressor	Type		-	Rotary	
	Refrigerant	Type		-	R32	
		Charge Before Shipment		kg	1.17	1.21
Operation Range	Heating	Outdoor Ambient Temperature		°C (DB)	-25~35	
		Outlet Water Temperature		°C	15~60	
	DHW	Outdoor Ambient Temperature		°C (DB)	-25~40	
		Tank Water Temperature		°C	30~55(75)[5]	
	Cooling	Outdoor Ambient Temperature		°C (DB)	5~46	
		Outlet Water Temperature		°C	5~22	

Indoor Unit			Hydraulic Components	
Water Flow Rate	IWT: 30°C / OWT: 35°C ΔT: 5°C	m3/h	0.77	1.38
Min. Water Flow Rate		m3/h	0.50	0.60
DC Water Pump	Net Lift Pressure	m	8.40	7.40
	Max. Lift Pressure	m	9	
	Max. Water Flow Rate	m3/h	4.5	
	Energy Efficiency Class	-	A	
	Speed	-	Inverter	
	Max. Power Input	W	87	
Water Electric Heater (3 Steps)		kW	External (optional)	
Shut-off Valve with Filter	Material	-	Brass	
	Diameter	in.	1"	
	Mesh Filter	-	50	
	Type Filter	-	Self-cleaning (with back flush)	
Safety Valve		bar	3	
Shut-off Valve		-	2 pcs supplied	
Water Installation	Connection type	-	Screwed Connection	
	Shutdown valves	in.	G1"- G1"(female)	
	Inlet pipe diameter	in.	G1"(female)	
	Outlet pipe diameter	in.	G1"(female)	

NOTES:
1: Heating/Cooling nominal performances at full load conditions according to EN 14511. Pipe length 7.5 m; height difference ODU/IDU 0 m; heating performance are integrated (included defrost cycles).
2: According to EN14825. Climate Zone AVERAGE. Energy efficiency scale from A +++ to D.
3: The data is TBC.
4: The noise values are measured in the anechoic chamber without reflected echo, in accordance with the standard EN12102.
5: When there is an DHW electric heater mounted in the DHW tank ,the setting temperature can reach 75°C.
OAT: Outdoor ambient temperature; IWT: Inlet water temperature; OWT: Outlet water temperature.

Notes

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