HITACHI

Catalogue 2020

Freedom Heat Pumps

SALES | SERVICE | SUCCESS

.air

Cooling & Heating

Welcome to Hitachi Cooling and Heating, climate control solutions

Freedôm
Heat Pumps
SALES | SERVICE | SUCCESS

Over 100 years of history and culture

Hitachi is the global brand for premium climate control solutions, renowned for its ability to create unique spaces, understand installation requirements and meet customer demands.

Japanese technology

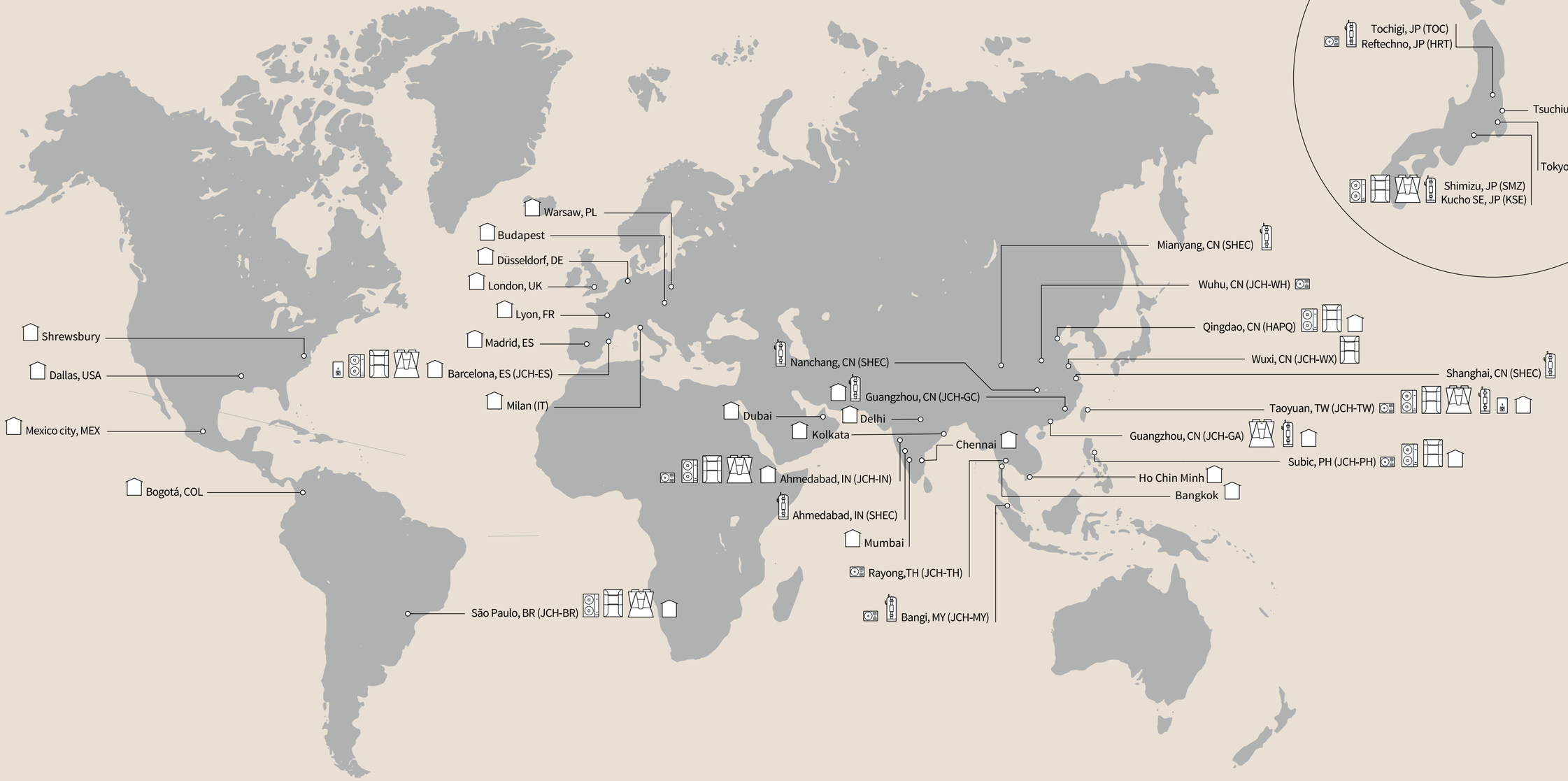
By designing, engineering and manufacturing reliable, efficient, high-quality heating and cooling systems, we help people find their optimal air conditioning solution, always meeting their expectations.

24 factories around the world

Our goal is to create a world where, thanks to our cutting-edge Japanese technology, people can live in harmony with themselves, with their families, and with the environment around them.

Born in Japan, with a global presence

To ensure it reaches all over the world, Hitachi has 24 factories around the globe to produce its different climate control ranges and components: residential, commercial, heating, VRF, chillers and compressors.

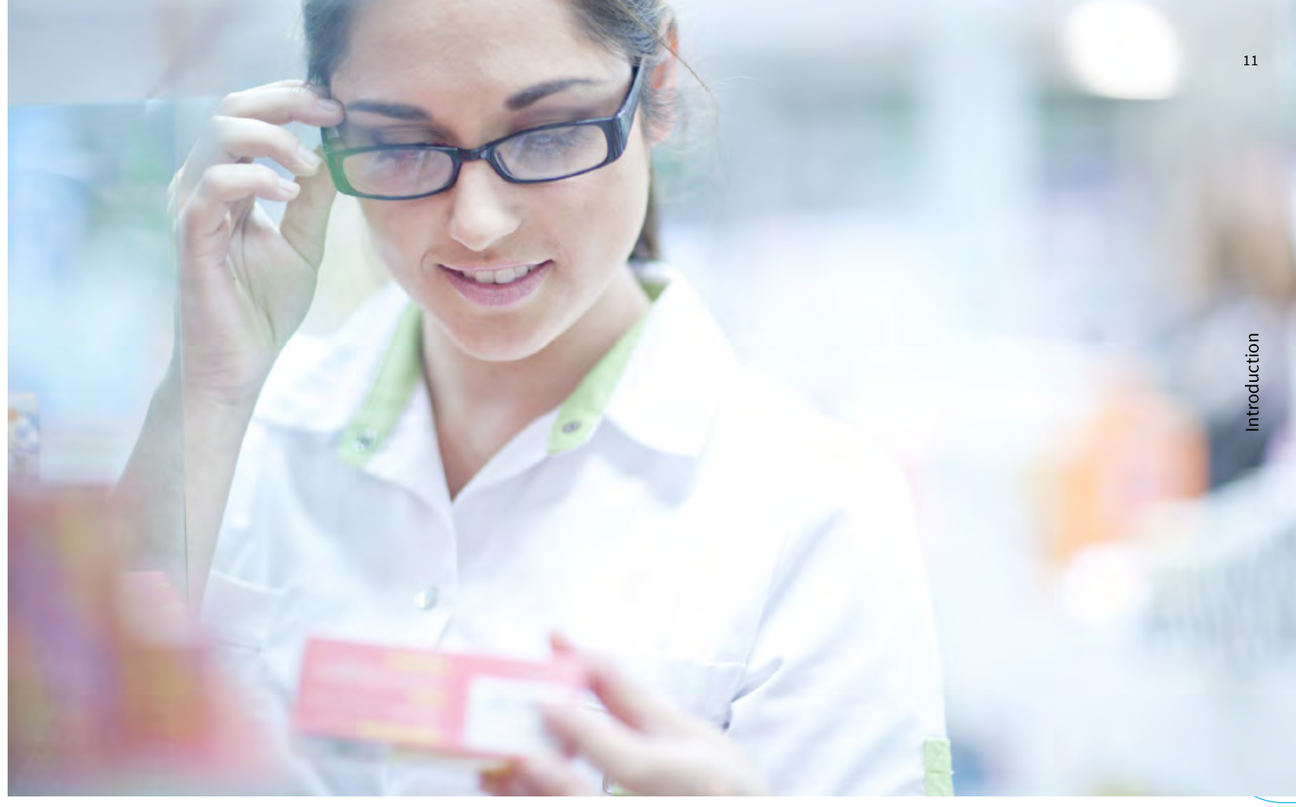

Tochigi, JP (TOC)
Reftechno, JP (HRT)
Tsuchiura, JP (TSU)
Tokyo Headquarters, JP
Shimizu, JP (SMZ)
Kucho SE, JP (KSE)
Warsaw, PL
Budapest
Düsseldorf, DE
London, UK
Lyon, FR
Madrid, ES
Barcelona, ES (JCH-ES)
Milan (IT)
Shrewsbury
Dallas, USA
Mexico city, MEX
Bogotá, COL
São Paulo, BR (JCH-BR)
Mianyang, CN (SHEC)
Wuhu, CN (JCH-WH)
Qingdao, CN (HAPQ)
Wuxi, CN (JCH-WX)
Shanghai, CN (SHEC)
Nanchang, CN (SHEC)
Guangzhou, CN (JCH-GC)
Taoyuan, TW (JCH-TW)
Dubai
Delhi
Kolkata
Chennai
Guangzhou, CN (JCH-GA)
Subic, PH (JCH-PH)
Ho Chin Minh
Bangkok
Ahmedabad, IN (JCH-IN)
Ahmedabad, IN (SHEC)
Mumbai
Rayong,TH (JCH-TH)
Bangi, MY (JCH-MY)

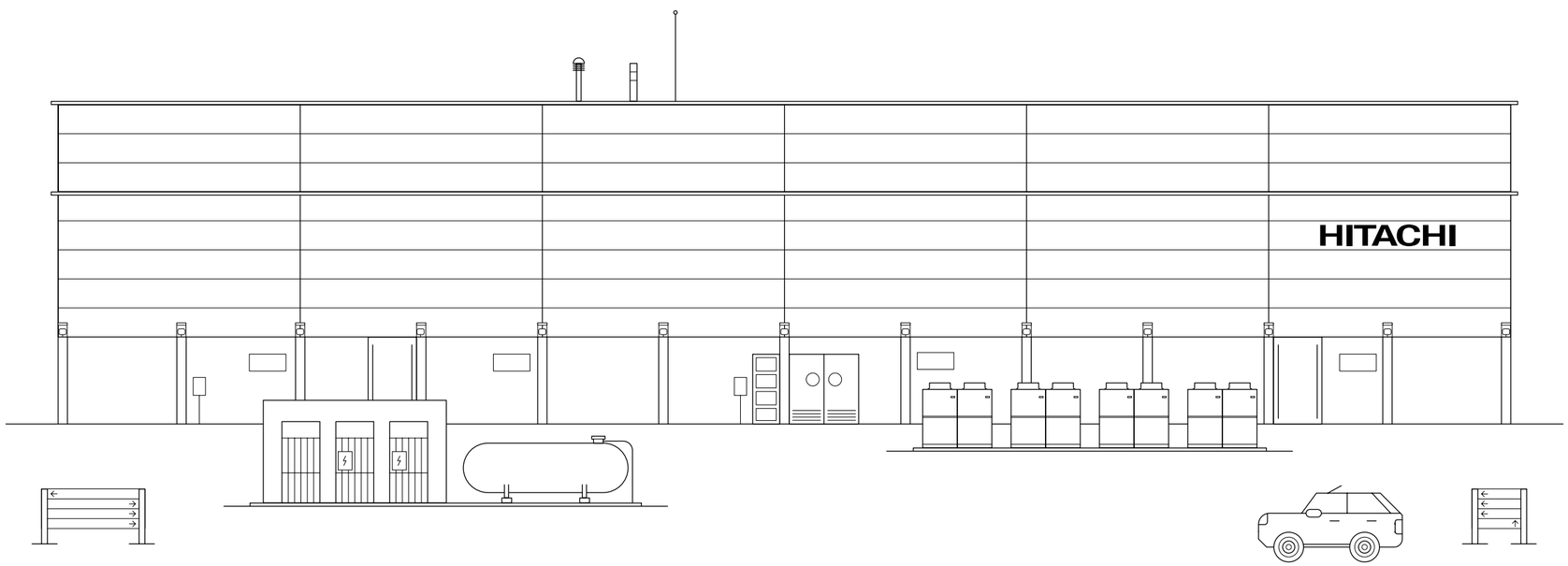
Hitachi's European climate control solutions factory, based in Spain

The Spanish factory in Vacarisses, Barcelona is responsible for designing, manufacturing and quality checking all climate control equipment made in Europe. It also supplies equipment to Africa, Australasia and parts of South America.

Its location within Europe means we can control the design and manufacturing process to ensure we meet the specific needs of our market. We also offer high availability of spare parts for fast replenishments.

The factory currently produces the following lines: Samurai L Chillers, VRF systems, Yutaki heat pumps, IVX commercial range and the System Free indoor units. This represents almost the entire Hitachi portfolio manufactured here in Europe for the European market.





We design cutting-edge technology to meet your needs and desires

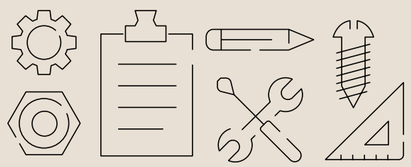
Introduction

Freedom Heat Pumps - www.freedomhp.co.uk - sales@freedomhp.co.uk - 02380 274833

Quality you can count on

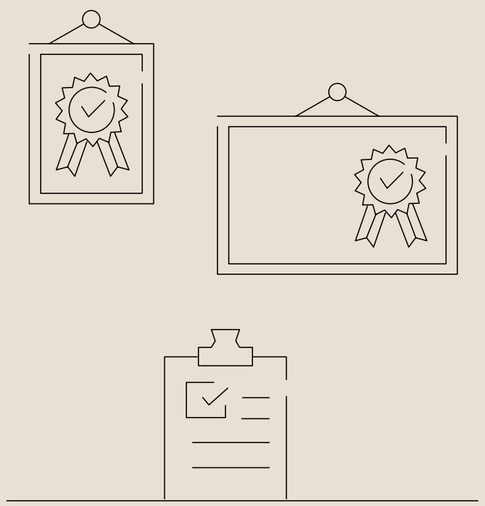
Quality guarantee

How do our products achieve this quality?



All components in our equipment are manufactured with the highest quality materials, provided by carefully selected suppliers. This guarantees the durability of our systems for lifetime climate control.

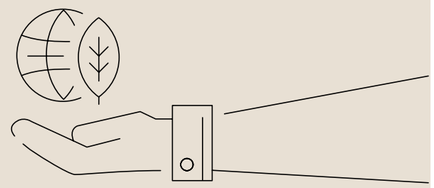
Quality assurance



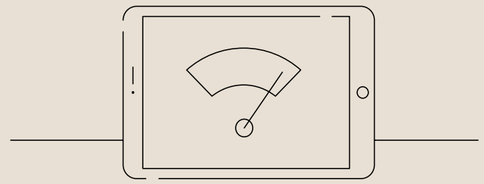
All air conditioning systems are tested one by one rather than by sampling, ensuring the required quality standards and the reliability of all our units.

We support you to support the environment

Environmental management certificate



Certified performance

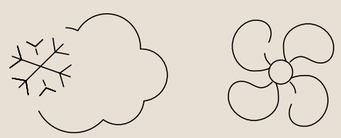


Several Hitachi ranges have the best seasonal performance on the market.

No waste goes to landfill

100% of waste generated in the factory is recycled or recovered. Our factory puts all waste to good use, helping to ensure the sustainability of the environment.

Refrigerant



As a sign of Hitachi's commitment to the environment, many of our systems require less refrigerant to operate, making a positive contribution to both nature and society.

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Discover the meaning of the technology icons.

We make your work selecting which units are suitable for your project easy by using technology icons to differentiate our models from each other.

Refer back to these icons to understand the unique features of each product.

Heating
This unit can operate in heating mode.

A+++
The highest possible energy class as certified by Eurovent.

Energy saving
The unit will operate in the most energy efficient way possible.

Power consumption
The consumption of your device will be displayed in heating and cooling modes.

Compatible with H-Link
The unit has an H-Link interface for connection to centralised controllers and a common communication bus.

Free Cooling
The unit uses the outside air for cooling.

External Expansion Valve
The external expansion valve can be installed away from the unit (in an adjoining corridoor) in order to reduce noise.

Independent Louvre Control
Individual control of the exhaust louvres to manage the airflow.

Compatible with all System Free indoor units
Flexibility in the combination of indoor units and outdoor units.

Passivhaus Ready
Suitable for use in passive houses.

Wide operating range
Systems can perform in a wide range of ambient temperatures.

Cooling
This unit can operate in cooling mode.

Smart Cascade
Adjusts the operation automatically according to the thermal requirements.

80ºC
The Yutaki S80 produces water up to 80ºC.

Automatic filter cleaning
Integrated filter self-cleaning robot.

4 Way Swing
For ideal air distribution, the air can be distributed in 4 different directions.

External Pressure
Adaptive pressure that allows installation with different sizes and lengths of ducts.

Constant air flow
The fan motor adjusts the air pressure whilst maintaining a constant air flow.

Adaptable
Change the air outlet easily depending on installation requirements.

Independent Control
Control the individual temperature from each indoor unit.

Air Curtain
Compatible with a range of commercially available air curtains.

R32
Equipment uses new sustainable R32 refrigerant.

Hot water
Produces hot water for your house.

ECO-Motion sensor
Detects movements in the room and adjusts the operation of the unit to save energy.

Hi-Kumo
Compatible with the control app from Hitachi.

7 day schedule
Program the units operation for a whole week.

CO2-Sensor
Control the air quality with connection to CO2-Sensors.

Compact
The cassette panel fits perfectly into a standard ceiling tile.

Guaranteed comfort
The new louvres guarantee the best comfort for users.

Independent louvres control
Amend the louvre direction to adjust the air flow.

Energy Recovery
Produces hot water for free by the use of heat recovery.

Product Certification
Eurovent and Keymark certification ensure products are tested to the highest standards in Europe for piece of mind installations.

Reduced dimensions
Compact and lightweight equipment for easier more aesthetic installations.

Renewable technologies
Climate friendly solutions without direct CO2 emissions.

Silent
Unit has very quiet operation.

Energy Class
Unit meets the high requirements of EU directives.

Integral H-Link
Integrated H-link control protocol and ability to connect to central controls.

Multizone compatibility
Indoor unit is compatible with Multizone outdoor units.

Exclusive to Hitachi
Unique and exclusive products to Hitachi.

Smooth Drive
Compressor speed is regulated in steps of 0.1Hz. This enables pinpoint accuracy in power control and comfort.

Heat pump or Heat recovery
Units can be used as either 2 pipe heat pumps or as 3 pipe heat recovery systems with CH boxes.

High H Speed
An extra speed setting has been added to make 4 in total. Ideal for applications with high ceilings.

New to Hitachi
Discover Hitachi's latest range of innovative products.

Frost Wash
Automatic cleaning of the heat exchanger in the indoor unit for fresher air.

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New products for 2019

RAC

R32 PREMIUM WALL

Exclusive design and features to meet new market opportunities

RAK-PSE(W/S) 2.5~5.0kW

RAC-WSE 2.5~5.0kW

R32 STANDARD WALL

The most discreet and flexible unit on the market

RAK-(Q/R)PE 1.5~5.0kW

RAC-WPE 1.5~5.0kW

R32 HI-END WALL

Economic heating solution with a differentiated design

RAK-(Q/R)XE 1.8~5.0kW

RAC-WXE 1.8~5.0kW

R32 HI-END FLOOR

Exclusive design and high performance to match end-user requirements

RAF-RXE 2.5~5.0kW

RAC-FXE 2.5~5.0kW

R32 DUCTED

Wide, complete and consistent range to match all applications

RAD-(Q/R)PE 2.0~7.0kW

RAC-NPE 2.0~7.0kW

R32 CASSETTE

Wide complete and consistent range to match light commercial applications requirements

RAI-RPE 2.5~6.0kW

RAC-NPE 2.5~6.0kW

R32 MULTI SPLIT

One of the widest R32 multi ranges on the market

RAM-NP-E 3.3~10.6kW

MULTI + YUTAMPO

The first multi on the market providing triple comfort heating, cooling and domestic hot water

Tanks available in 190 litre & 270 litre*

* Hot water tank shown is not currently available in the UK

RAM-90NYP5B 8.5 kW

CONTROLS

HI-KUMO PRO

An intuitive web platform to remotely check the status of Hitachi units from anywhere

A platform dedicated to remote maintenance for professionals

CHILLER

SAMURAI (AH2-WH1 SERIES)

Now with improved expanded options

R(C/H)ME 60-140AH2 60.0~140.0HP

RCME 40-70WH1/CLH1 40.0~70.0HP

SAMURAI S

Modular DC Inverted heat pump

RHMA 4-7AVN 4.0~7.0HP

SAMURAI M

Hybrid chiller combining the best of monobloc and modular flexibility

R(C/H)MA 18-24AN 18.0~24.0HP

R(C/H)MA 90-100AN 90.0~100.0HP

PAC / VRF

SIDE FLOW VRF

The first side flow VRF on the market providing simultaneous heat pump and heat recovery from 22.4 to 33.5 Kw

RAS-FS(V)NME 12.1~15.5kW

RAS-FSXNME 24.4~33.5kW

HEATING

YUTAKI S

Environmentally friendly refrigerant within a versatile heat pump range

Widest range on the market

RWM-2.0~3.0NRE 2.0~3.0HP

YUTAKI S COMBI

The all-in-one compact product, best seller of the heating range

Best in class performances for new housing market

Solar version, standard version

RWD-2.0~3.0NRW(S) E-(200/260)S(-K) 2.0~3.0HP

YUTAKI M

Plug and Play solution requiring no indoor space

Operating range improved for R32 models

RASM-2-3VRE 2.0~3.0HP

CONTROLS

WIRED REMOTE CONTROLS

Wired individual controllers with new functions

- Energy saving modes
- Frost protection
- Power consumption estimation
- Comfort functions (gentle cool / off coil control)

PC-ARH1E

PC-ARFP1E

HI-KUMO PRO

An intuitive web platform to remotely check the status of Hitachi units from anywhere

A platform dedicated to remote maintenance for professionals

To find out more about Hitachi's new products contact your Area Sales Manager or call Hitachi Direct Sales on 020 3901 0912

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The Yutaki range is part of the product group know as air source heat pumps, systems that use the latent heat in ambient air to generate energy and provide all the heating and hot water needs in the home.

Begur Son Rich housing development, air conditioned with Hitachi's Yutaki air to water heat pumps

Yutaki Air to water heat pumps

Heating, cooling and domestic hot water (DHW) with renewable energy

Yutaki S

Yutaki S Combi

Yutaki S80

Yutaki M

Yutaki T

Quick selection table

	Yutaki S	Yutaki S Combi	Yutaki S80	Yutaki M	Yutaki T
	Heating, cooling and hot water	Heating, cooling and hot water	Heating and hot water	Heating, cooling and hot water	Hot water
Range	**RWM-2~10 NE**	**RWD-2~6 NW(S)E - (200/260)K(S)**	**RWH-4~6 (V)NF(W)E**	**RASM-3~6(V)NE**	**TAW-(190/270)NHB**
Applications	Low temperature radiators, underfloor heating, fan coil, hot water and pool heating. Ideal for new builds and for replacing wall-mounted boilers.	Low temperature radiators, underfloor heating, fan coil, built-in hot water and pool heating. Ideal for homes with little space, thanks to the integrated hot water tank.	High and/or low temperature radiators, underfloor heating, fan coil (heat-only), hot water and pool heating. Ideal for installations requiring high temperatures, e.g. replacing diesel boilers.	Low temperature radiators, underfloor heating, fan coil, hot water and pool heating. Compact unit, ideal for installations with little indoor space.	Hot water production.
Heating capacity kW (built-in min/max)	1.85 - 32.00	1.85 - 17.80	4.30 - 17.80	2.10 - 17.80	—
COP up to 7 °C out/ 30 - 35 °C water	5.25	5.25	5.00	5.00	3.20
Cooling capacity (built-in min/max)	3.80 - 20.60	3.80 - 13.70	—	6.00 - 13.70	—
EER up to 35 °C out/ 7 - 12 °C water	3.54	3.54	—	3.54	—
Production temperature (up to) °C	60	60	80	60	—
Heating operating range °C	-25 ~ 25	-25 ~ 25	-25 ~ 25	-25 ~ 25	—
Cooling operating range °C	10 ~ 46	10 ~ 46	—	10 ~ 46	—
Domestic hot water operating range °C	-25 ~ 35	-25 ~ 35	-25 ~ 35	-25 ~ 35	-15 ~ 37
Compressor	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Rotary
Efficiency	A+++	A+++	A+++	A+++	—

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Benefits

Yutaki air to water heat pumps

1 Your needs change, Yutaki adapts

The day to day needs of your customers will change from heating in winter to cooling in summer and sanitary hot water water all year round. They may want to connect solar panels and heat their swimming pools. It's therefore important to have a system able to meet all these needs; able to connect to any style of emitter, new or existing: radiators, underfloor or fan coils.

Able to supply two different zones with different flow temperatures simultaneously such as underfloor downstairs and radiators upstairs.

2 Renewable energy, guaranteed savings

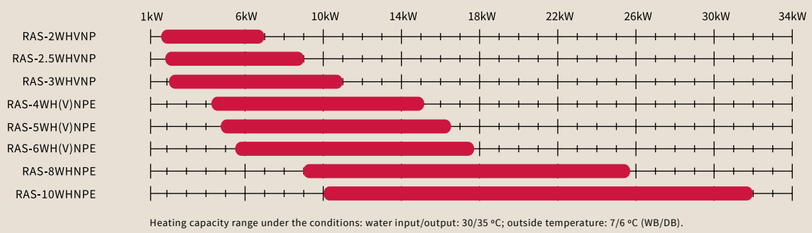
A+++

Air source heat pumps are considered one of the most energy efficient technologies around, on account that they produce more energy in heat than they consume in electricity.

The Yutaki range has the maximum A+++ energy classification in all its ranges ensuring you make savings on your energy bills, reduce electricity consumption and the impact on the environment.

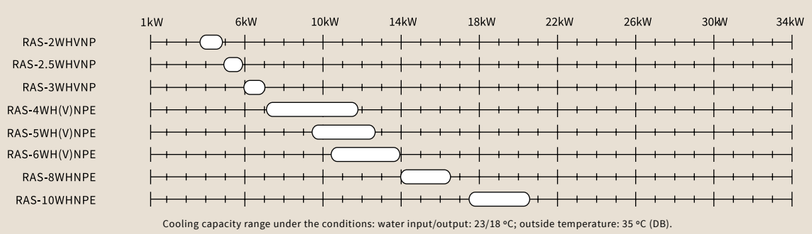
3 Hitachi now offers the widest range of R32 air source heat pumps on the market. The new 4.3 kW R32 monobloc is ideal for new builds

	Min - Max
RAS-2WHVNP	1.85 - 7.0
RAS-2.5WHVNP	1.95 - 9.0
RAS-3WHVNP	2.1 - 11.0
RAS-4WH(V)NPE	4.3 - 15.2
RAS-5WH(V)NPE	4.8 - 16.7
RAS-6WH(V)NPE	5.5 - 17.8
RAS-8WHNPE	9.0 - 25.5
RAS-10WHNPE	10.0 - 32.0



Heating capacity range under the conditions: water input/output: 30/35 °C; outside temperature: 7/6 °C (WB/DB).

	Nom-Max
RAS-2WHVNP	3.8 - 4.9
RAS-2.5WHVNP	5.0 - 5.8
RAS-3WHVNP	6.0 - 7.0
RAS-4WH(V)NPE	7.2 - 11.8
RAS-5WH(V)NPE	9.5 - 12.6
RAS-6WH(V)NPE	10.5 - 13.7
RAS-8WHNPE	14.0 - 16.4
RAS-10WHNPE	17.5 - 20.6



Cooling capacity range under the conditions: water input/output: 23/18 °C; outside temperature: 35 °C (DB).

4 Hitachi high-efficiency Scroll Compressor

The Hitachi DC Inverter Scroll compressor has been designed to increase seasonal performance and reliability while reducing energy consumption.

The compressor is particularly efficient in intermediate seasons, offering high performance at low partial charges.

5 Proven quality

SG Ready

Hitachi heat pumps can be integrated into the smart energy grids of the future to help provide the low cost heating systems required to meet carbon reduction targets.

Proven quality

All heat pumps and water heaters in the European market are continuously tested by various certification schemes. These are usually the basis for qualifying for state subsidies. Hitachi heat pumps meet the high standards of the following quality accreditation schemes: Eurovent, MCS, Keymark, NF PAC, KIWA, EHPA.

Benefits

Yutaki air to water heat pumps

6 Savings from the very first bill

	Conventional gas boiler	Condensation gas boiler	Diesel boiler	Electricity (radiators)	Heat pump (Yutaki S 6 HP)
Performance (%)	92%	109%	89%	100%	457%
Energy consumption (kWh/year)	21,042.39	17,760.55	21,751.69	19,359.00	4,236.11
Energy cost (£/kWh)	0.0542	0.0542	0.08	0.15	0.15
Energy cost (£/year)	1,140.50	962.62	1,740.13	2,903.85	635.42
Gas emissions (kg CO2/kWh)	0.252	0.252	0.311	0.331	0.357
Gas emissions (tonne CO2/year)	5.30	4.48	6.76	6.40	1.51
Easy installation	Medium	Medium	High	Low	Medium
Maintenance	Medium	Medium	High	Low	Low
Additional energy costs compared to the heat pump installation	**505.08**	**327.21**	**1,104.72**	**2,268.43**	**–**

Estimate based on a 150 m² single-family property:
Energy demand for heating + hot water (kWh/m²): 129.06.
Energy demand for heating + hot water (kWh/year): 19,359.

Information sources:
- CO_2 emission values taken from the report prepared by the Ministry of Energy, Tourism and Digital Agenda.
- Energy prices taken from the Energy Prices Report: Fuels. Data correct at 20th December 2016.

7 Hitachi Experience

Hitachi has more than 60 years' experience in manufacturing heating equipment, with over 4.5 million ASHP systems produced and in excess of 400,000 customers throughout Europe. Our European factory produces the entire Yutaki ASHP range, designing it to meet the needs of the local European market. Its nearby location means we can control the whole design and manufacture process, thus guaranteeing the highest levels of quality, reliability and durability in all our equipment.

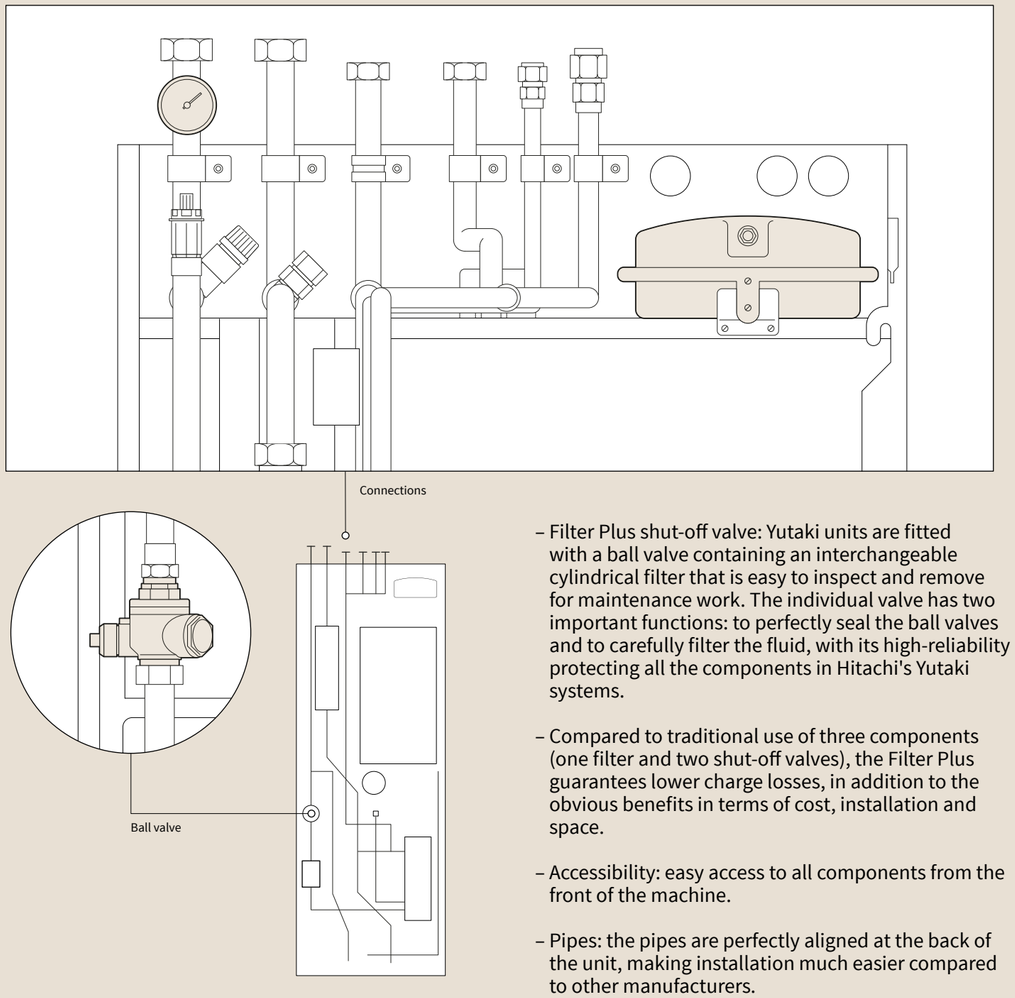
8 Optimised performance with the highest efficiency

The Yutaki range can provide heat with outside temperatures down to -25, uniquely to the market. It can also produce hot water up to 60c without the need for a backup heater.

Yutaki systems are designed to work without backup electrical heaters but some have them factory fitted and for others they are an optional extra. Even when fitted the user can use the simple control systems to disable them.

9 Simple installation with easy maintenance

Unlike other models on the market, all Yutaki systems are designed for easy access to the components, thus allowing straightforward maintenance and ensuring cost savings.



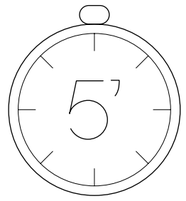
– Filter Plus shut-off valve: Yutaki units are fitted with a ball valve containing an interchangeable cylindrical filter that is easy to inspect and remove for maintenance work. The individual valve has two important functions: to perfectly seal the ball valves and to carefully filter the fluid, with its high-reliability protecting all the components in Hitachi's Yutaki systems.

– Compared to traditional use of three components (one filter and two shut-off valves), the Filter Plus guarantees lower charge losses, in addition to the obvious benefits in terms of cost, installation and space.

– Accessibility: easy access to all components from the front of the machine.

– Pipes: the pipes are perfectly aligned at the back of the unit, making installation much easier compared to other manufacturers.

10 Yutaki, configured in under 5 minutes



Quick, easy configuration thanks to its intuitive new wizard set-up interface.

Having the same control throughout the range means any Yutaki can be configured in just 5 minutes.

Benefits

Yutaki air to water heat pumps

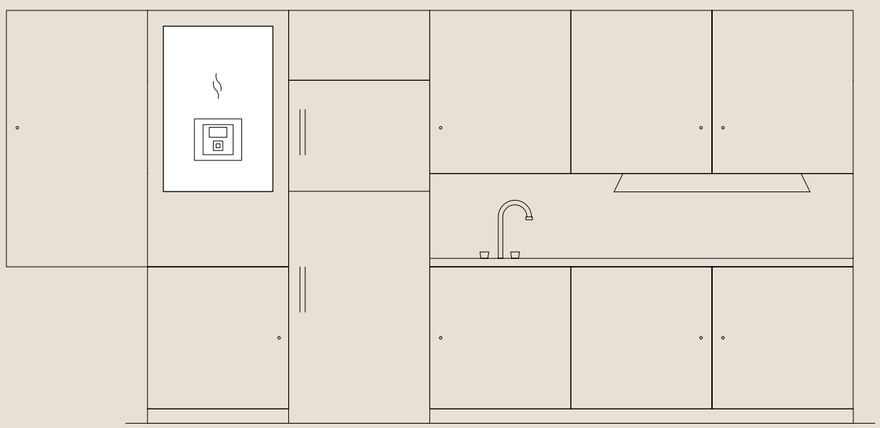
11 Easy, smart control

Hitachi has the same controller and functions for all ranges.

Designed to be user-friendly, handling all system functions: heating, cooling, hot water and swimming pool settings.

The control, with an LCD display and thermostat, centralises all applications without the need for external elements. It can be used for straightforward control of operations such as daily and weekly programming, managing water production temperature, operating modes, etc. It can also be used as a zone thermostat, and even combined with Hitachi's wireless thermostat.

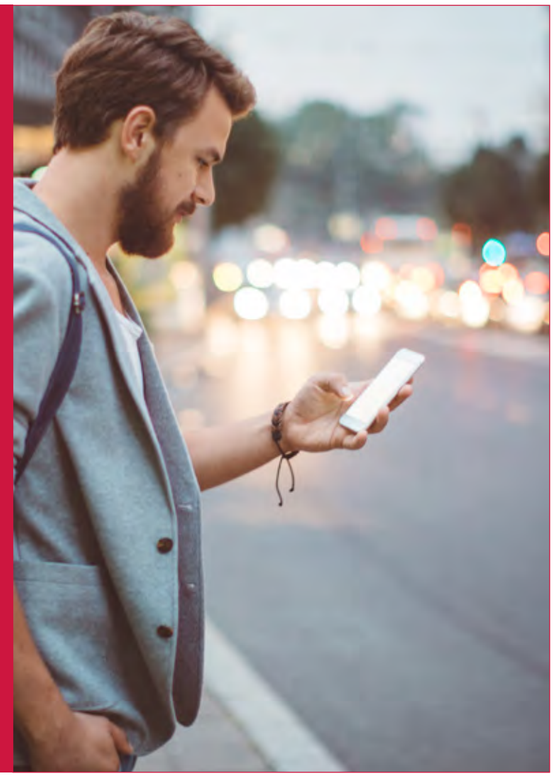
12 Yutaki adapts to the needs of modern properties



All Yutaki models have been designed to ensure space is not a problem. Their compact size means they can be hidden away in confined spaces, even inside a kitchen cabinet.

Yutaki models are compact and lightweight, designed for smaller surfaces, without sacrificing power and efficiency.

13 No matter where you are

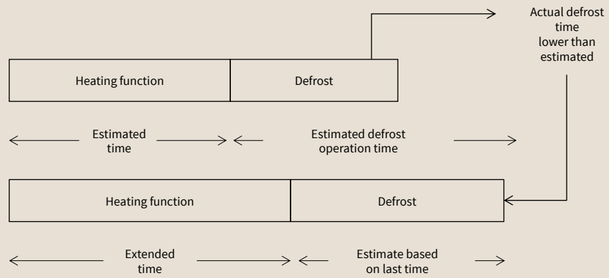


Turn the system on and off and regulate the temperature, or turn on pool heating from anywhere thanks to Yutaki's Hi-Box pack and the free Hi-Kumo app.

14 Smart defrost cycle

Optimised refrigerant cycle thanks to smart defrost control and a hot gas bypass to the outdoor unit's heat exchanger, making defrosting virtually unnoticeable.

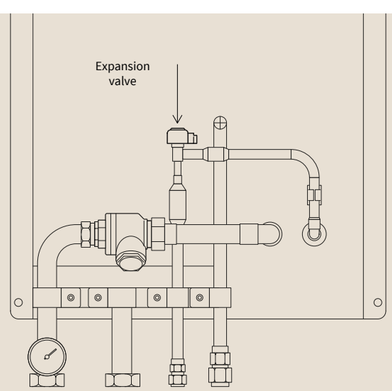
This exclusive improvement reduces time between defrosts, improves energy efficiency, and guarantees machine power at low temperatures, avoiding the need for the backup heating element.



15 Additional benefits

Having an expansion valve in the indoor unit allows longer pipe installations while minimising energy losses in the cooling section.

Thanks to the longer pipe length, the Yutaki range can supply greater cooling power to the installation in the summer cycle without affecting the system's electrical consumption.



Resources

Yutaki air to water heat pumps

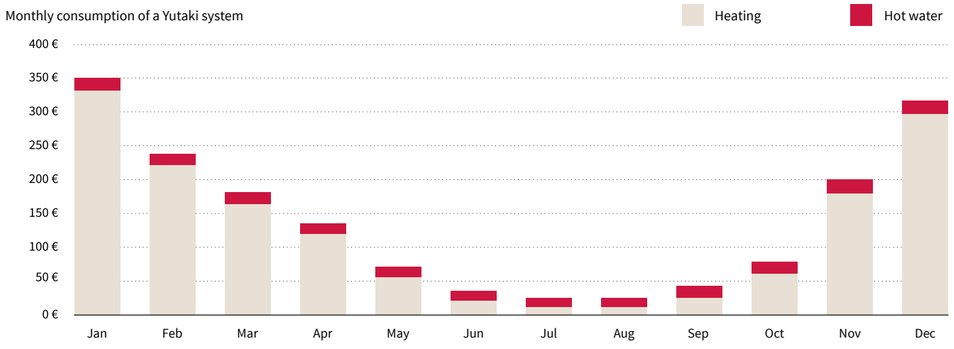
Hi-Toolkit for Home

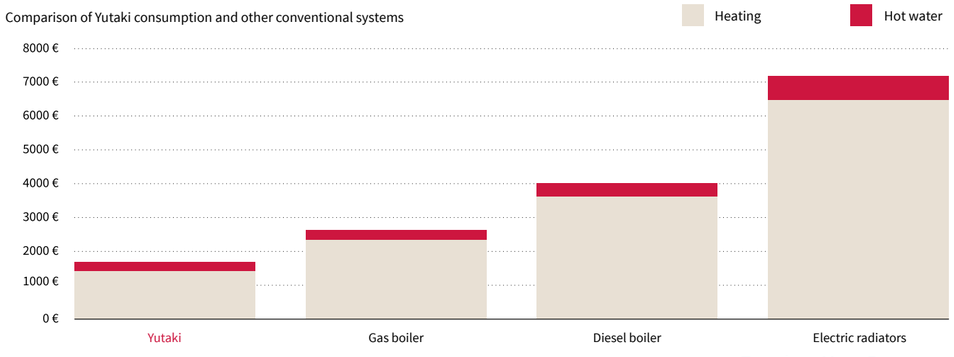
Yutaki ASHP energy simulation and sizing software

This functional software can be used to quickly and easily select all the systems in Hitachi's Yutaki Air source heat pump range, generating a detailed report with information about the selected machine.

It has a complete database of the main cities in the UK & Ireland and their annual temperatures, in order to carry out an annual energy simulation for the 8,760 hours of the year. Once the simulation is complete, the software compares energy consumption and CO2 emissions with other conventional heating systems in order to evaluate the energy savings that can be achieved when installing Yutaki Air source heat pump equipment.

The website can be found at:
www.hitachi-hitoolkit.com/heating





Hitachi has a free online tool for simplified hydraulic configurations of its whole Yutaki ASHP range.

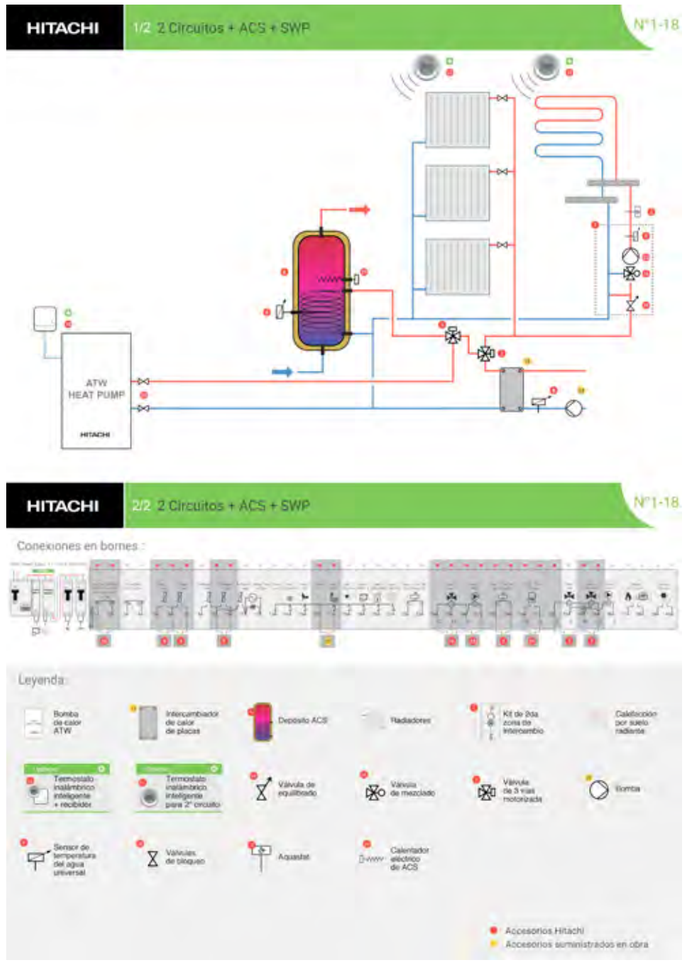
The main elements of the installation can be configured in a few simple steps by simply answering a series of basic questions.

This also makes it easier to install the system, as it indicates directly where each sensor, pump and all other elements on the machine's connections board go.

The website can be found at:
www.yutaki-applications.com/en

Hydraulic diagrams

Contact your usual Hitachi direct sales contact or distributor for more detailed hydraulic layouts or any special configurations your installation requires.

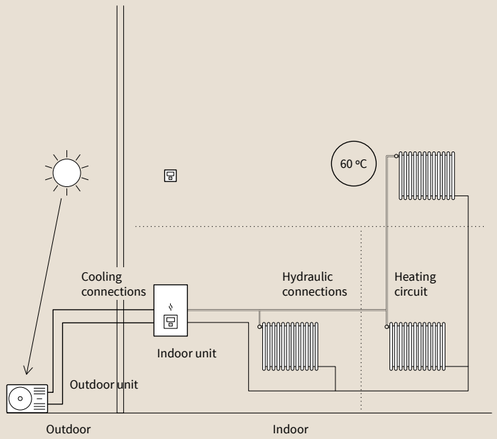


Multiple installation options
Yutaki air to water heat pumps

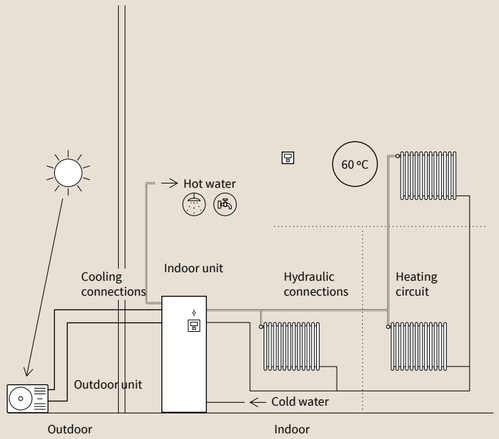
All your projects have different requirements and so you need flexible solutions. The Yutaki range is adaptable to the needs of each project from the simplest heating only set up to more complex configurations.

Below are some simplified configurations, as examples of the most common installations. Please contact our Technical Service team department if you would like further details about them or their components, or information about more complex configurations.

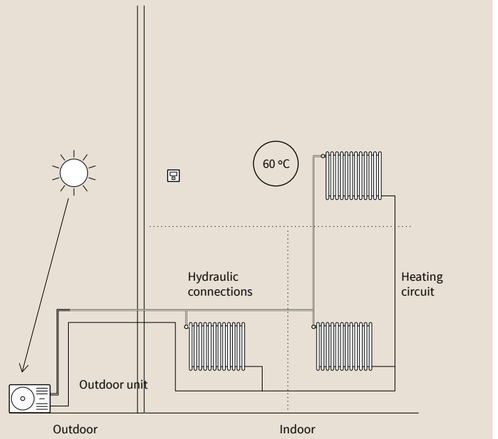
Yutaki S
Heat-only or reversible operation (heat/cold)



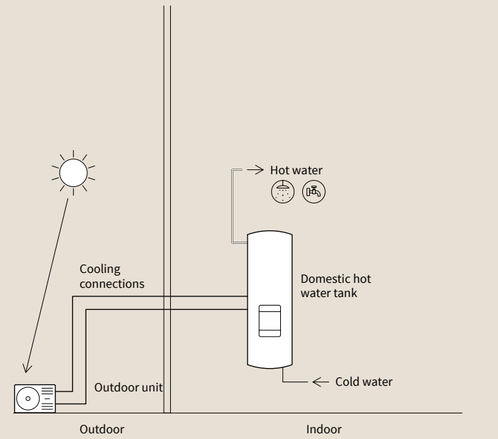
Yutaki S Combi
Heat-only or reversible (heat/cold) operation with built-in hot water



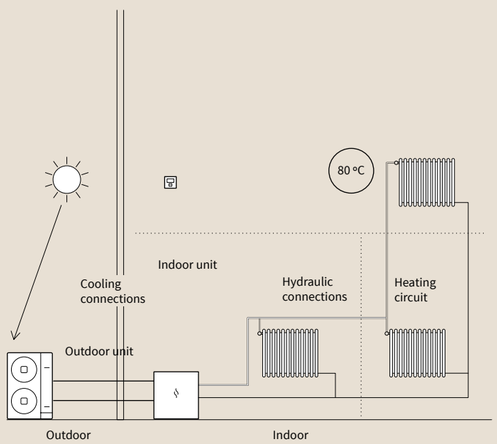
Yutaki M
Heat-only or reversible operation (heat/cold)



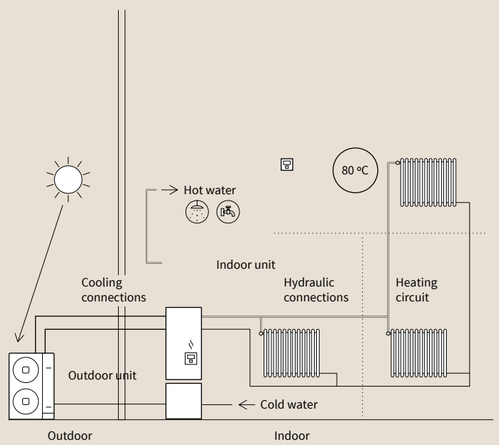
Yutaki T
Hot water only



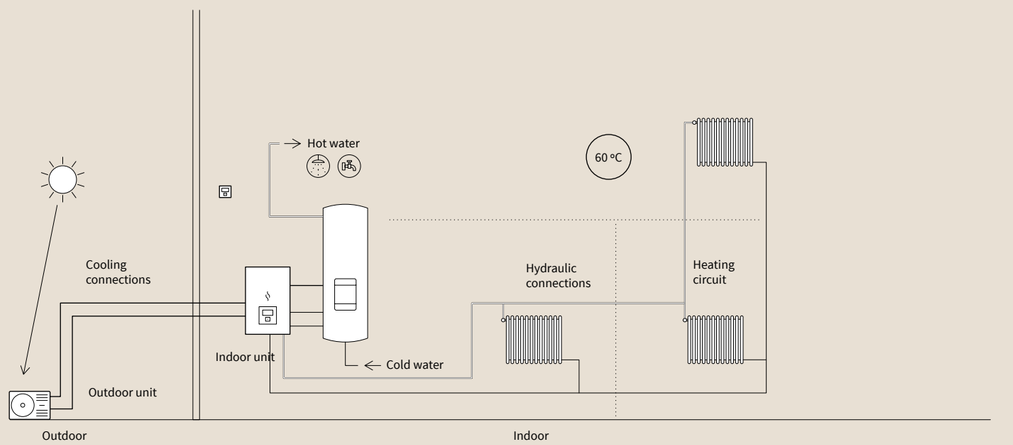
Yutaki S 80
Heat-only operation



Yutaki S 80 Combi
Heat-only operation with built-in hot water



Yutaki S + external tank
Heat-only or reversible (heat/cold) operation with separate hot water



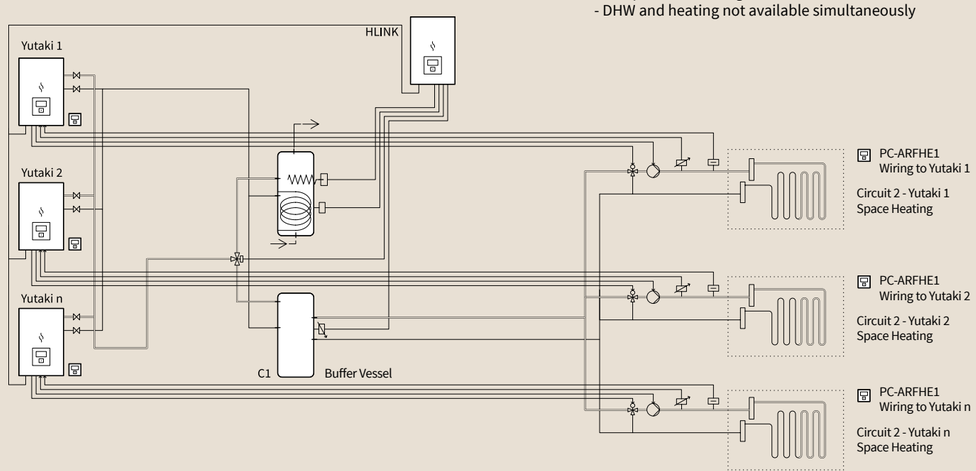
Multiple installation options

Air source heat pumps with cascade control

To cover the larger installations where a high thermal load is required an optional cascade controller can be installed (ATW-YCC-01). This intelligent controller manages up to 8 Yutaki ASHPs capable of producing 256 kW of renewable heat. Each unit works together as one to deliver the most efficient solution for your building whatever the requirements.

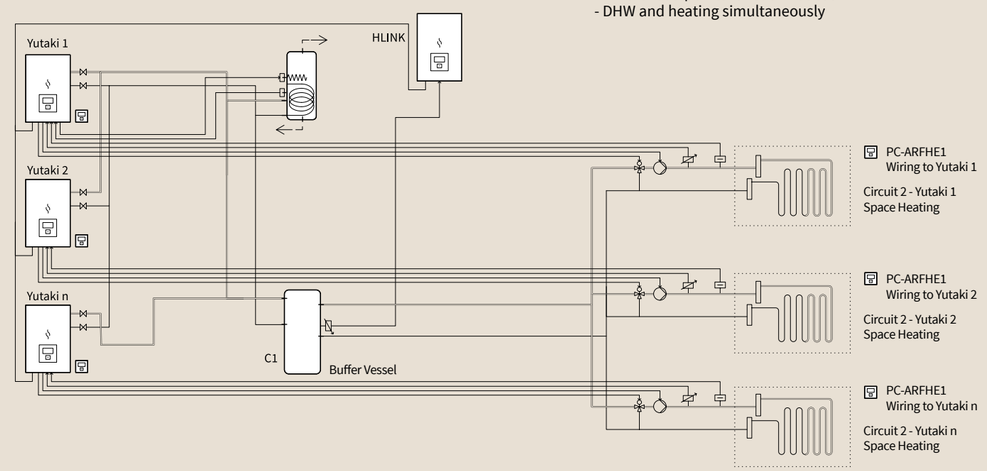
Three Yutakis producing domestic hot water and heating

- Same demand for DHW
- Independent heating demand in each house
- DHW and heating not available simultaneously



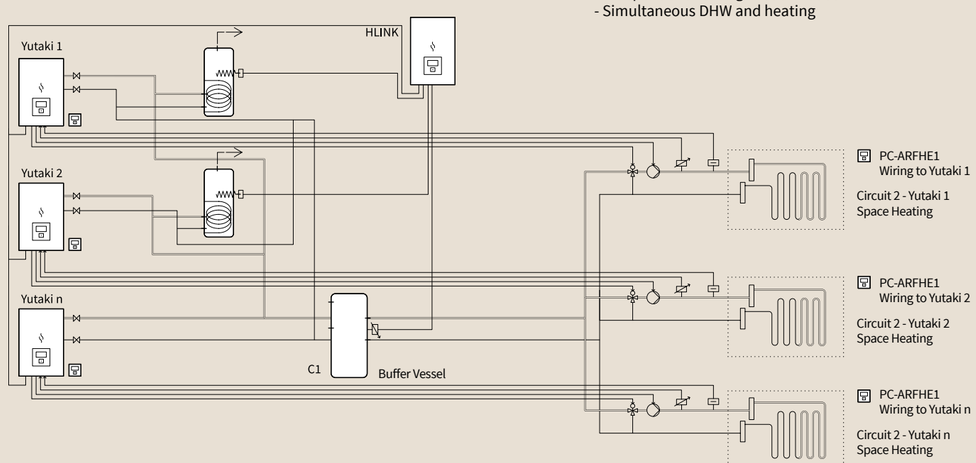
Cascade DHW production with one Yutaki and hetaing with three

- Same demand for DHW with one Yutaki
- Different setpoints for each houese
- DHW and heating simultaneously



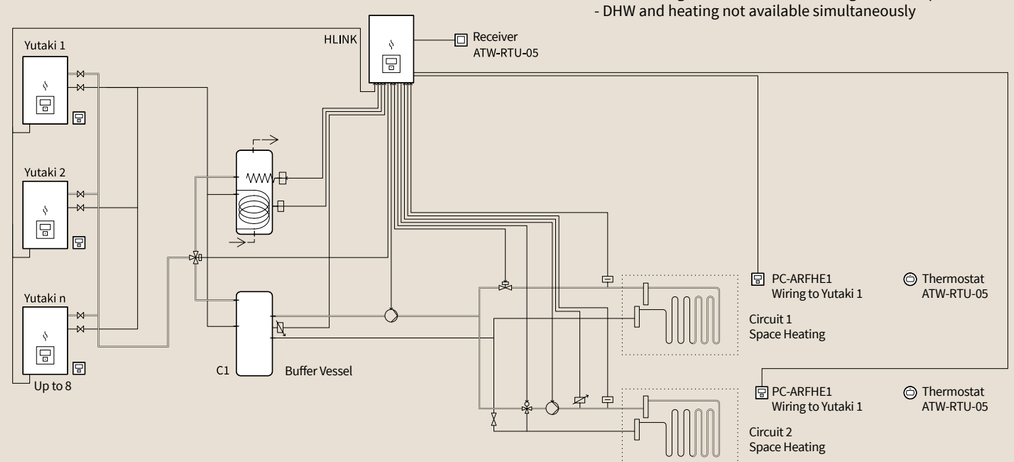
Individual DHW production and cascade heating with three Yutakis

- Different demand for DHW
- Independent heating in each house
- Simultaneous DHW and heating



DHW production and cascade heating with three Yutaki

- Same demand for DHW
- Two heating zones at different leaving water temperatures
- DHW and heating not available simultaneously



Yutaki S

Compact, highly efficient system:
heating, hot water and cooling

Satisfies all demands

Extensive range of outputs from 1.85 kW to 32.00 kW for heating, and from 3.80 kW to 20.60 kW for cooling.

25.50 and 32.00 kW models are unique on the market.

Compact dimensions

Its compact size and easy installation make it the perfect system for confined spaces. Models from 4.30 to 7.50 kW, even fitting in a kitchen cabinet. (Fig. 1)

Best performance on the market*

The Yutaki S has the highest COP compared to competing systems, which translates into lower energy consumption and bigger savings. All units have up to A+++ maximum energy efficiency.

*Depends on model.

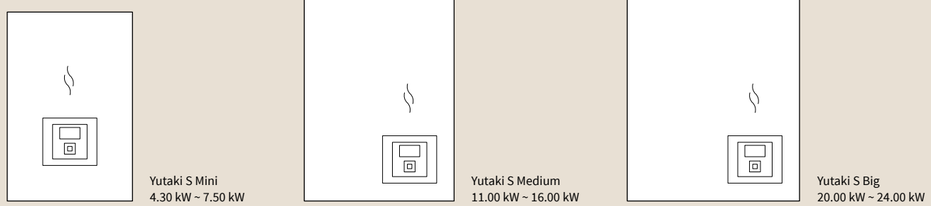
Exclusive design to work in the most extreme conditions

Its broad operating range means the system can work in extreme outdoor conditions: from -25ºC to +46ºC.

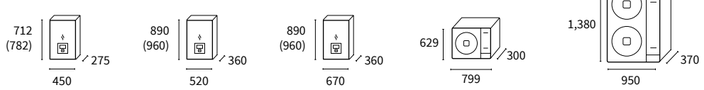
Reduced consumption

Unique on the market - water temperature up to 60 ºC without the need for a backup heating element, achieving significant savings compared to other manufacturer models.

Fig. 1



Indoor units

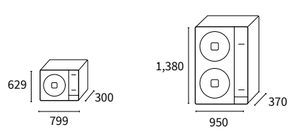


RWM-2.0NRE
RWM-2.5NRE
RWM-3.0NRE

RWM-4.0NE
RWM-5.0NE
RWM-6.0NE

RWM-8.0NE
RWM-10.0NE

Outdoor units



RAS-2WHVNP
RAS-2.5WHVNP
RAS-3WHVNP

RAS-4WH(V)NPE
RAS-5WH(V)NPE
RAS-6WH(V)NPE
RAS-8WHNPE
RAS-10WHNPE

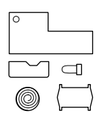
Yutaki S

System			Yutaki S 2	Yutaki S 2.5	Yutaki S 3	Yutaki S 4	Yutaki S 5	Yutaki S 6	Yutaki S 8	Yutaki S 10
Capacity	Heating (Min/**Nom**/Max)	kW	1.85/**4.30**/7.00	1.85/**6.00**/8.60	2.10/**8.00**/11.00	4.30/**11.00**/15.20	4.80/**14.00**/16.70	5.50/**16.00**/17.80	9.00/**20.00**/25.50	10.00/**24.00**/32.00
	Cooling (**Nom**/Max)	kW	**4.00**/5.00	**5.30**/6.20	**6.50**/7.00	**7.20**/11.80	**9.50**/12.60	**10.50**/13.70	**14.00**/16.40	**17.50**/20.60
Consumption	Heating (**Nom**)	kW	**0.82**	**1.25**	**1.74**	**2.20**	**2.97**	**3.50**	**4.65**	**5.59**
	Cooling (**Nom**)	kW	**1.00**	**1.47**	**1.94**	**2.18**	**2.68**	**3.17**	**4.48**	**6.22**
Electrical power			1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz	-	-
			-	-	-	3N ~400V 50 Hz	3N ~400V 50 Hz	3N ~400V 50 Hz	3N ~400V 50 Hz	3N ~400V 50 Hz
COP (Water 35°C, Ambient 7°C)	Nominal		5.25	4.80	4.60	5.00	4.71	4.57	4.30	4.29
EER (Water 7°C, Ambient 35°C)	Nominal		4.00	3.60	3.35	3.30	3.30	3.31	3.12	2.81
Energy rating at 35ºC	Medium climate		A+++	A+++	A+++	A+++	A+++	A++	A++	A+
Seasonal efficiency at 35ºC, SCOP / ηs			4.93/181	4.58/177	4.25/175	4.75/189	4.45/176	3.90/153	3.83/152	3.60/142
Energy rating at 55ºC			A++	A++	A++	A++	A++	A++	A+	A+
Seasonal efficiency at 55ºC, SCOP / ηs			3.58/133	3.38/130	3.25/125	3.50/137	3.43/134	3.23/126	3.13/122	2.98/118
ESEER			3.36	3.26	3.26	3.33	3.29	2.84	3.56	3.32
SEER / ηs		Single-phase	4.11/162	4.13/162	3.95/155	4.93/194	4.83/190	4.70/185	4.29/169	4.06/159
		Three-phase	-	-	-	5.05/199	4.92/194	4.78/188	-	-
Outdoor operating temperatures	Heating (DB)	ºC	-20 to 25	-20 to 25	-20 to 25	-25 to 25	-25 to 25	-25 to 25	-25 to 25	-25 to 25
	Hot water (DB)	ºC	-20 to 35	-20 to 35	-20 to 35	-25 to 35	-25 to 35	-25 to 35	-25 to 35	-25 to 35
	Cooling (DB)	ºC	10 to 46	10 to 46	10 to 46	10 to 46	10 to 46	10 to 46	10 to 46	10 to 46
Water production temperatures	Heating	ºC	20 to 55	20 to 55	20 to 55	20 to 60	20 to 60	20 to 60	20 to 60	20 to 60
	Hot water	ºC	30 to 75	30 to 75	30 to 75	30 to 75	30 to 75	30 to 75	30 to 75	30 to 75
	Cooling	ºC	5 to 22	5 to 22	5 to 22	5 to 22	5 to 22	5 to 22	5 to 22	5 to 22
Refrigerant pipe diameter	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-1	1/2-1
Water pipe diameter	Input-output	inches	1-1	1-1	1-1	1-1/4 - 1-1/4	1-1/4 - 1-1/4	1-1/4 - 1-1/4	1-1/4 - 1-1/4	1-1/4 - 1-1/4
Indoor unit			**RWM-2.0NRE**	**RWM-2.5NRE**	**RWM-3.0NRE**	**RWM-4.0NE**	**RWM-5.0NE**	**RWM-6.0NE**	**RWM-8.0NE**	**RWM-10.0NE**
Minimum water volume of the installation		l	28	28	28	38	46	55	76	79
Water flow	(Min-Nom-Max)	m3/h	0.50 - 0.77 - 1.90	0.60 - 1.03 - 2.00	0.60 - 1.29 - 2.10	1.00 - 1.89 - 2.90	1.10 - 2.41 - 3.00	1.2 - 2.75 - 3.00	2.00 - 3.44 - 4.50	2.20 - 4.13 - 4.60
Emergency heating element in primary	Steps/Capacity	n°/kW	3 / 1 - 1 - 1	3 / 1 - 1 - 1	3 / 1 - 1 - 1	3 / 2 -2 -2	3 / 2 -2 -2	3 / 2 -2 -2	3 / 3 -3 -3	3 / 3 -3 -3
Sound power		dB(A)	37	37	37	39	39	39	47	47
Dimensions (H (with connections) x W x D)		mm	712(782) x450x275	712(782) x450x275	712(782) x450x275	890(960) x520x360	890(960) x520x360	890(960) x520x360	890(960) x670x360	890(960) x670x360
Weight		kg	35	36	37	46	48	48	60	62
Maximum current	Single-phase	A	28.9	28.9	28.9	43.4	43.4	43.4	-	-
	Three-phase	A	-	-	-	24.2	24.2	24.2	29.2	29.2
Outdoor unit			**RAS-2WHVNP**	**RAS-2.5WHVNP**	**RAS-3WHVNP**	**RAS-4WH(V)NPE**	**RAS-5WH(V)NPE**	**RAS-6WH(V)NPE**	**RAS-8WHNPE**	**RAS-10WHNPE**
Air flow		m3/h	2,526	2,526	2,982	4,800	5,400	6,000	7,620	8,040
Sound pressure		dB(A)	46	47	50	49	50	50	59	60
Sound power		dB(A)	61	63	64	64	65	67	73	74
Minimum pipe length		m	3	3	3	5	5	5	5	5
Maximum pipe length		m	50	50	50	75	75	75	70	70
Maximum height difference (highest OU/lowest OU)		m	30/20	30/20	30/20	30/20	30/20	30/20	30/20	30/20
Compressor			Scroll DC Inverter	Scroll DC Inverter	Rotary DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter
Refrigerant			R32	R32	R32	R410A	R410A	R410A	R410A	R410A
Refrigerant charge (length without additional charge)		kg (m)	1.2 (10)	1.3 (10)	1.3 (10)	3.3 (15)	3.4 (15)	3.4 (15)	5.0 (15)	5.3 (15)
Additional refrigerant charge		g/m	15	15	15	60	60	60	65	65
Dimensions (H x W x D)		mm	629x799x300	629x799x300	629x799x300	1,380x950x370	1,380x950x370	1,380x950x370	1,380x950x370	1,380x950x370
Weight		kg	45	45	44	103	103	103	137	139
Maximum current	Single-phase		13	13	17	30	30	30	-	-
	Three-phase		-	-	-	14	14	16	24	24

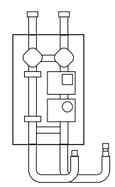
Compatible controls and accessories:

Remote control
PC-ARFHE
Included

3-way valve
ATW-3WV-01



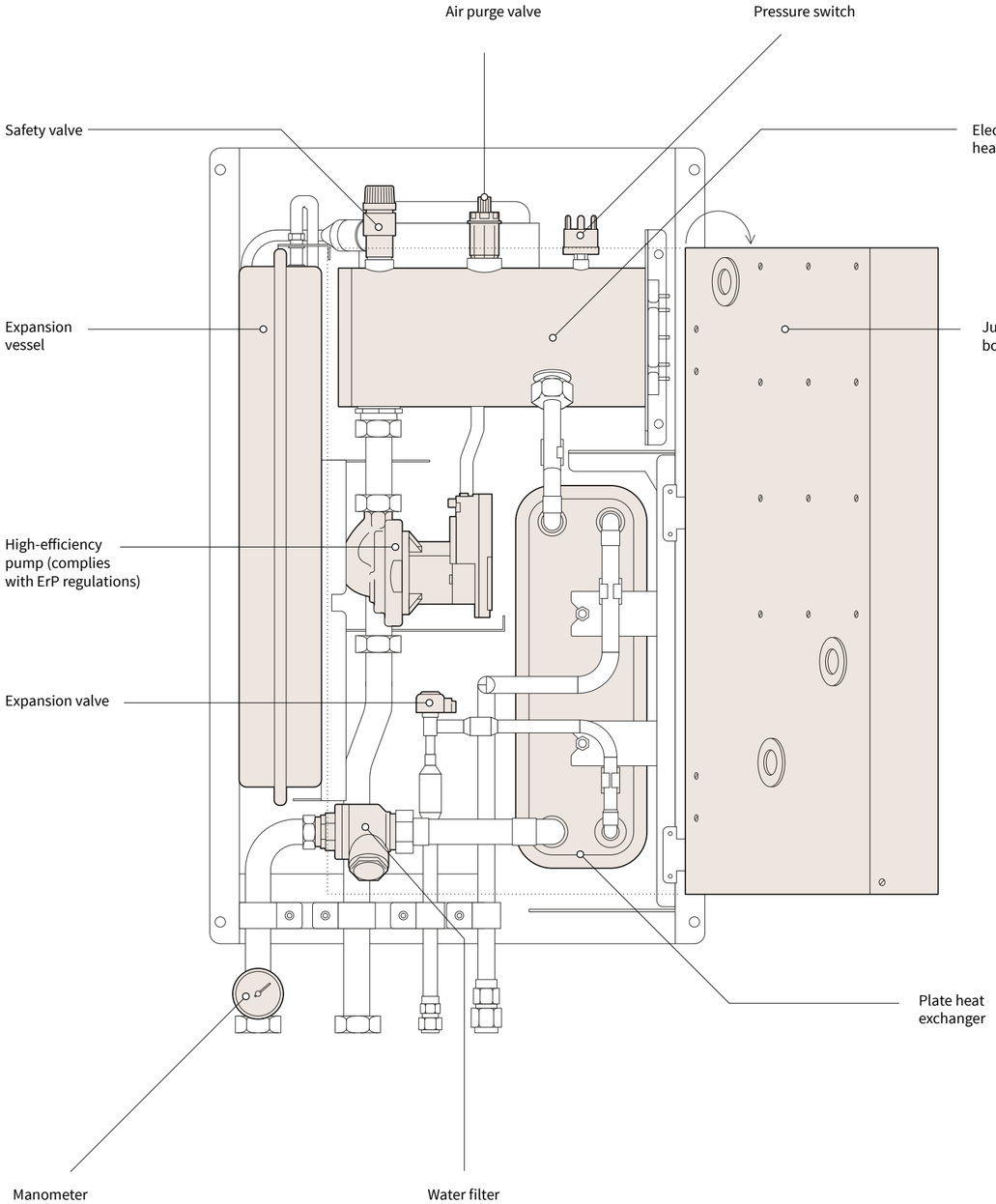
Cooling Kit
Can be used to switch machine operation to cold.
ATW-CKS-01
ATW-CKS-02
ATW-CKS-03



2nd temperature kit
For wall-mounting
ATW-2TK-07

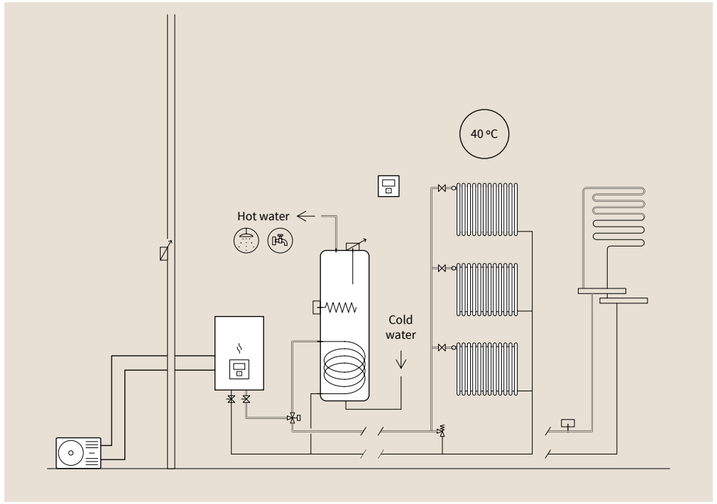
Freedom Heat Pumps - www.freedomhp.co.uk - sales@freedomhp.co.uk - 02380 274833

Internal design

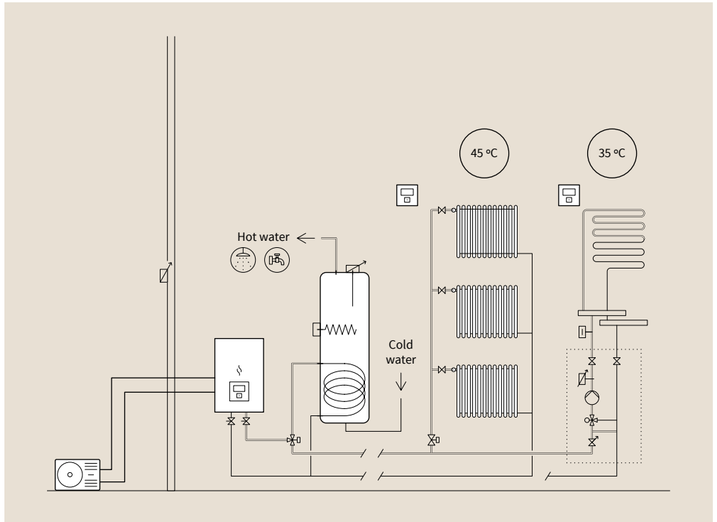


Configurations

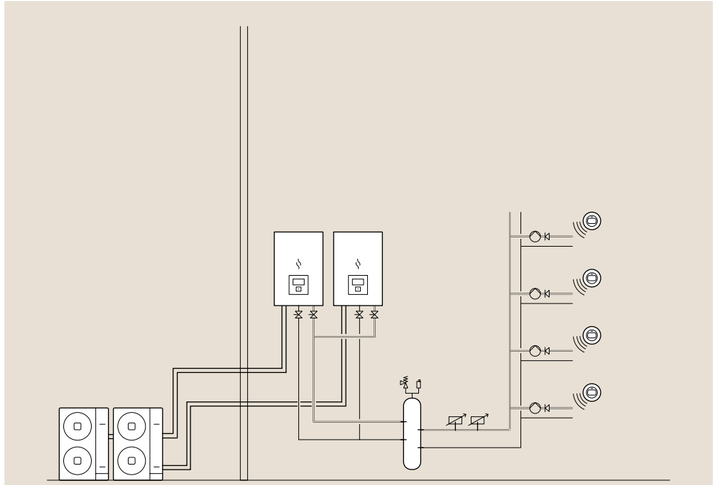
Radiator and underfloor heating at the same temperature; one zone + hot water by external tank.



Radiator and underfloor heating at different temperatures; two zones + hot water by external tank.



Cascade operation. Heating or cooling.



Yutaki S Combi

Compact all-in-one system: heating, hot water and cooling with integrated stainless steel tank

Extensive range of models

The Yutaki S Combi is designed for any type of installation thanks to its wide range of models.

From 1.85 kW to 17.80 kW for heating, and from 3.80 kW to 13.70 kW for cooling.

Space-saving and ultraquiet

The Yutaki S Combi unit can be installed in the kitchen thanks to its compact size and low noise level.

The large space saving of up to 70 % compared to other system is due to the innovative hot water tank integrated into the indoor unit.

Choose your size

The Yutaki S Combi includes 2 tank models: 200 and 260 L

Moreover, the 2nd temperature kit can be incorporated into the 200 L unit.

Easy installation and maintenance

Compared to a split system (indoor unit-hot water tank), the Yutaki S Combi allows fast installation with minimal costs since:

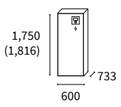
- All water and refrigerant connections are aligned at the top. (Fig. 1)
- Most components are accessible from the front of the unit.
- Easy access to information from the LCD control without having to open the indoor unit.

Stainless steel tank with built-in heating element

The only compact model fitted with a hot water tank with backup heating element for emergency hot water, activated with a single button.

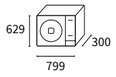
Fig. 1

Indoor units

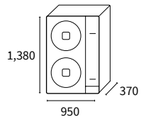


RWD-2.0NRW(S)E **RWD-4.0NW(S)E**
RWD-2.5NRW(S)E **RWD-5.0NW(S)E**
RWD-3.0NRW(S)E **RWD-6.0NW(S)E**

Outdoor units



RAS-2WHVNRP
RAS-2.5WHVNRP
RAS-3WHVNRP



RAS-4WH(V)NPE
RAS-5WH(V)NPE
RAS-6WH(V)NPE

Yutaki S Combi

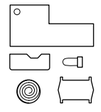
System			Yutaki S 2 Combi	Yutaki S 2.5 Combi	Yutaki S 3 Combi	Yutaki S 4 Combi	Yutaki S 5 Combi	Yutaki S 6 Combi
Capacity	Heating (Min/Nom/Max)	kW	1.85/**4.30**/6.50	1.85/**6.00**/8.60	2.10/**8.00**/11.00	4.30/**11.00**/15.20	4.80/**14.00**/16.70	5.50/**16.00**/17.80
	Cooling (**Nom**/Max)	kW	**4.00**/5.00	**5.30**/6.00	**6.50**/7.00	**7.20**/11.80	**9.50**/12.60	**10.50**/13.70
Consumption	Heating (**Nom**)	kW	**0.82**	**1.25**	**1.65**	**2.20**	**2.97**	**3.50**
	Cooling (**Nom**)	kW	**1.00**	**1.47**	**1.94**	**2.18**	**2.68**	**3.17**
Electrical power			1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz
			-	-	-	3N ~400V 50 Hz	3N ~400V 50 Hz	3N ~400V 50 Hz
COP (Water 35°C, Ambient 7°C)	Nominal		5.25	4.80	4.60	5.00	4.71	4.57
EER (Water 7°C, Ambient 35°C)	Nominal		3.12	3.60	3.35	3.54	3.54	3.31
Hot water energy rating (Profile L- 200l)	Medium climate		A+	A+	A+	A+	A+	A+
Seasonal efficiency hot water, COP_{DHW} / ηs (Profile L - 200l)			3.30/132	3.30/132	3.30/132	3.25/130	3.25/130	3.25/130
Hot water energy rating (Profile XL- 260l)			A+	A+	A+	A+	A+	A+
Seasonal efficiency hot water, COP_{DHW} / ηs (Profile XL - 260l)			3.40/136	3.40/136	3.40/136	3.35/134	3.35/134	3.35/134
Energy rating at 35ºC			A+++	A+++	A+++	A+++	A+++	A++
Seasonal efficiency at 35ºC, SCOP / ηs			4.93/181	4.58/177	4.25/175	4.80/189	4.48/176	3.90/153
Energy rating at 55ºC			A++	A++	A++	A++	A++	A++
Seasonal efficiency at 55ºC, SCOP / ηs			3.58/133	3.38/130	3.25/125	3.50/137	3.43/134	3.23/126
ESEER			3.36	3.26	3.26	3.33	3.29	2.84
SEER / ηs		Single-phase	4.11/162	4.13/162	3.95/155	4.93/194	4.83/190	4.70/185
		Three-phase	-	-	-	5.05/199	4.92/194	4.78/188
Outdoor operating temperatures	Heating (DB)	ºC	-20 to 25	-20 to 25	-20 to 25	-25 to 25	-25 to 25	-25 to 25
	Hot water (DB)	ºC	-20 to 35	-20 to 35	-20 to 35	-25 to 35	-25 to 35	-25 to 35
	Cooling (DB)	ºC	10 to 46	10 to 46	10 to 46	10 to 46	10 to 46	10 to 46
Water production temperatures	Heating	ºC	20 to 60	20 to 60	20 to 60	20 to 60	20 to 60	20 to 60
	Hot water	ºC	30 to 75	30 to 75	30 to 75	30 to 75	30 to 75	30 to 75
	Cooling	ºC	5 to 22	5 to 22	5 to 22	5 to 22	5 to 22	5 to 22
Refrigerant pipe diameter	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-5/8	3/8-5/8	3/8-5/8	3/8-5/8
Water pipe diameter	Input-output	inches	1-1	1-1	1-1	1-1/4 - 1-1/4	1-1/4 - 1-1/4	1-1/4 - 1-1/4
Hot water pipe diameter	Input-output	inches	3/4-3/4	3/4-3/4	3/4-3/4	3/4-3/4	3/4-3/4	3/4-3/4
Indoor unit			**RWD-2.0NRW(S)E**	**RWD-2.5NRW(S)E**	**RWD-3.0NRW(S)E**	**RWD-4.0NW(S)E**	**RWD-5.0NW(S)E**	**RWD-6.0NW(S)E**
Minimum water volume of the installation		l	28	28	28	38	46	55
Water flow	(Min-Nom-Max)	m3/h	0.50 - 0.77 - 1.80	0.60 - 1.03 - 1.90	0.60 - 1.03 - 1.90	1.00 - 1.89 - 2.70	1.10 - 2.41 - 2.80	1.20 - 2.75 - 2.80
Emergency heating element in primary	Steps/Capacity	nº/kW	3 / 1 - 1 - 1	3 / 1 - 1 - 1	3 / 1 - 1 - 1	3 / 2 -2 -2	3 / 2 -2 -2	3 / 2 -2 -2
Hot water emergency heating element	Steps/Capacity	nº/kW	1 / 2.7	1 / 2.7	1 / 2.7	1 / 2.7	1 / 2.7	1 / 2.7
Sound power		dB(A)	37	37	37	39	39	39
Dimensions (H (with connections) x W x D)		mm	1,750(1,816) x600x733	1,750(1,816) x600x733	1,750(1,816) x600x733	1,750(1,816) x600x733	1,750(1,816) x600x733	1,750(1,816) x600x733
Tank weight 200l / 260l / 260l solar		kg	121/131/131	122/132/132	122/132/132	120/130/130	122/132/132	122/132/132
Solar pipe diameter (260l solar tank)	Input-output	inches	1/2-1/2	1/2-1/2	1/2-1/2	1/2-1/2	1/2-1/2	1/2-1/2
Solar exchange surface (260l solar tank)		m^2	0.37	0.37	0.37	0.37	0.37	0.37
Maximum current	Single-phase	A	27	27	27	41.5	41.5	41.5
	Three-phase	A	-	-	-	22.4	22.4	22.4
Outdoor unit			**RAS-2WHVNRP**	**RAS-2.5WHVNRP**	**RAS-3WHVNRP**	**RAS-4WH(V)NPE**	**RAS-5WH(V)NPE**	**RAS-6WH(V)NPE**
Air flow		m3/h	2,526	2,526	2,982	4,800	5,400	6,000
Sound pressure		dB(A)	46	47	50	49	50	50
Sound power		dB(A)	61	63	64	64	65	67
Minimum pipe length		m	3	3	3	5	5	5
Maximum pipe length		m	50	50	50	75	75	75
Maximum height difference (highest OU/lowest OU)		m	30/20	30/20	30/20	30/20	30/20	30/20
Compressor			Scroll DC Inverter	Scroll DC Inverter	Rotary DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter
Refrigerant			R32	R32	R32	R410A	R410A	R410A
Refrigerant charge (length without additional charge)		kg (m)	1.2 (10)	1.3 (10)	1.3 (10)	3.3 (15)	3.4 (15)	3.4 (15)
Additional refrigerant charge		g/m	15	15	15	60	60	60
Dimensions (H x W x D)		mm	600x792x300	600x792x300	600x792x300	1,380x950x370	1,380x950x370	1,380x950x370
Weight		kg	45	45	44	103	103	103
Maximum current	Single-phase/ Three-phase		13/-	13/-	17/-	30/14	30/14	30/16

Compatible controls and accessories:

Remote control

PC-ARFHE

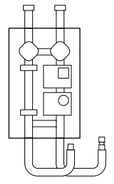
Included



Cooling Kit

ATW-CKM-01

Can be used to switch machine operation to cold.



2nd temperature kit

ATW-2TK-06

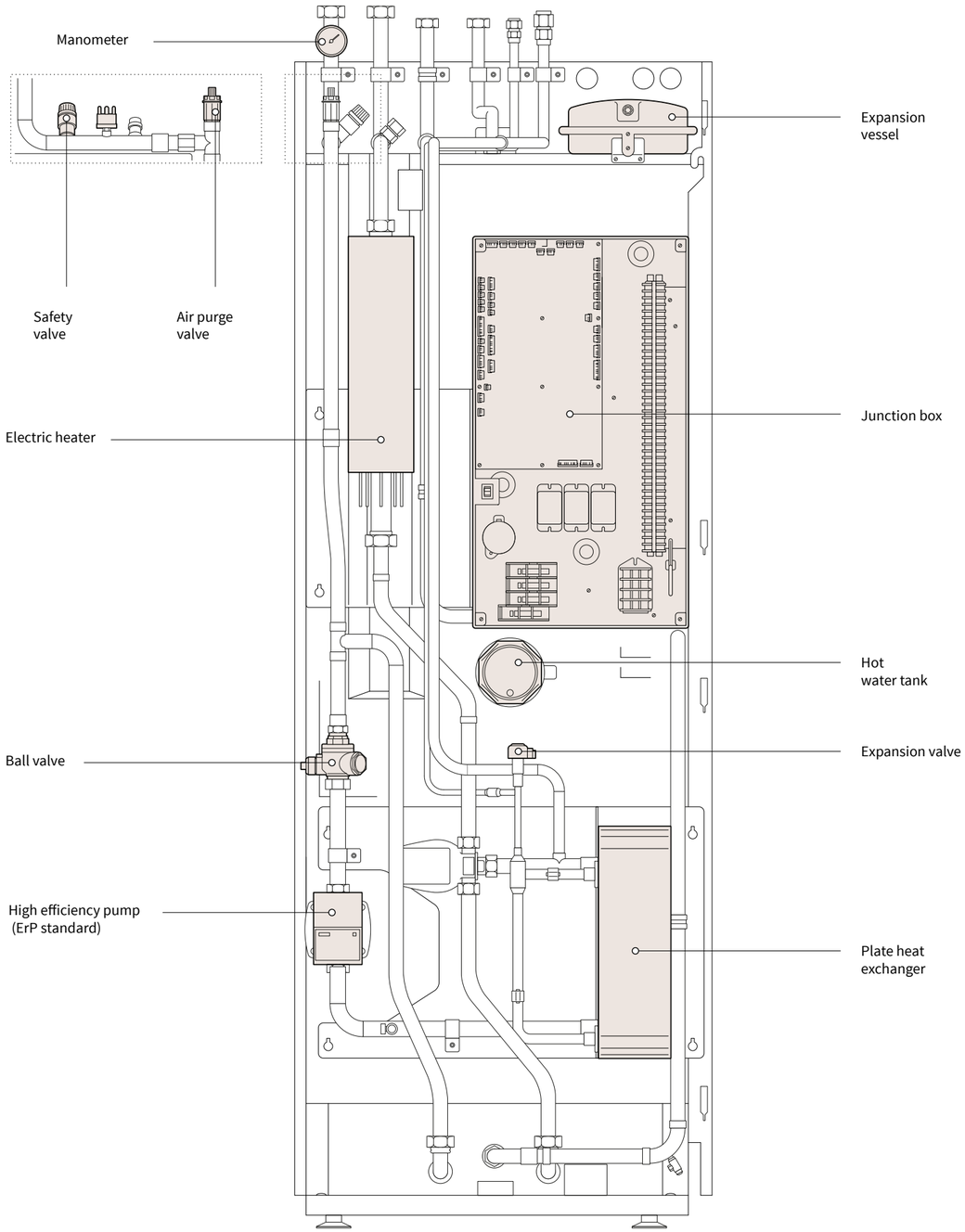
Only compatible with built-in Yutaki S Combi 200l.

ATW-2TK-07

For wall-mounting. Compatible with the entire Yutaki range

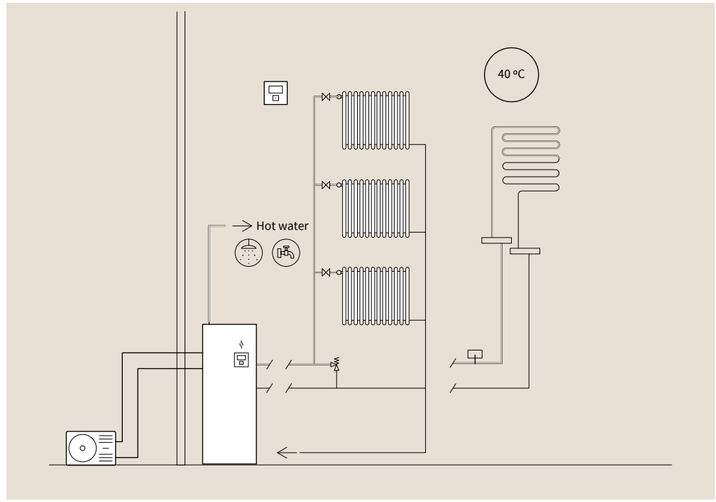
Freedom Heat Pumps - www.freedomhp.co.uk - sales@freedomhp.co.uk - 02380 274833

Internal design

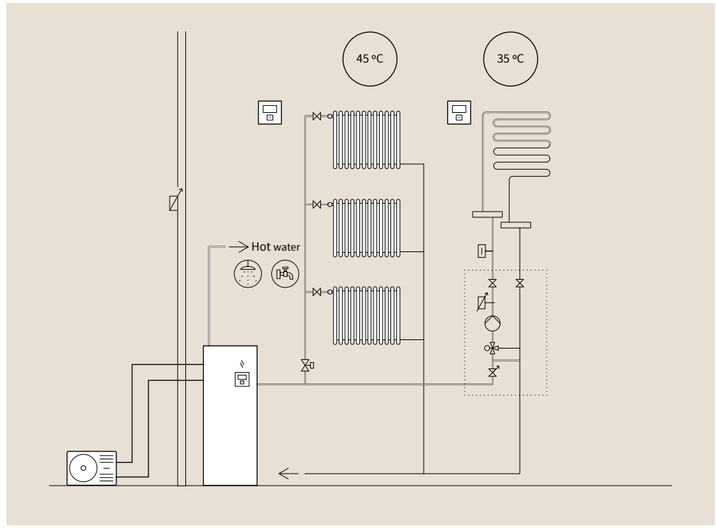


Configurations

Radiator and underfloor heating at the same temperature; one zone + hot water by built-in tank.



Radiator and underfloor heating at different temperatures; two zones + hot water by built-in tank.



Yutaki S80

Water temperature up to 80 ºC for heating and hot water without an electric heater

Maximum efficiency with smart cascade cycle

Yutaki S80 uses two refrigerants: R410A and R134a. Thanks to the unique Smart Cascade cycle, the equipment automatically adjusts operation according to heating requirements. When the heating requirement is lower (water temperature up to 53 ºC), it only uses the R410A refrigerant; when this requirement increases (water temperature up to 80 ºC), it activates the second cycle of R134a refrigerant. Consumption is under control and comfort is guaranteed at all times. (Fig. 1)

Adapted to each installation

The Yutaki S80 is available in two models, adapting to any needs which may arise: one for heating, and one for heating and hot water.

There are two tanks, with 200 and 260-litre capacity, that can be installed as a built-in unit on or next to the indoor unit. (Fig. 2) *

Maximum heating capacity

It can heat water up to 80°C using renewable energy, even at extreme temperatures down to -25°C.

Easy installation and maintenance

Its design allows easy access to the water and refrigerant connections, which are fitted in the top of the indoor unit and at the back of the tank unit.

Fig. 1: Smart Cascade cycle configuration

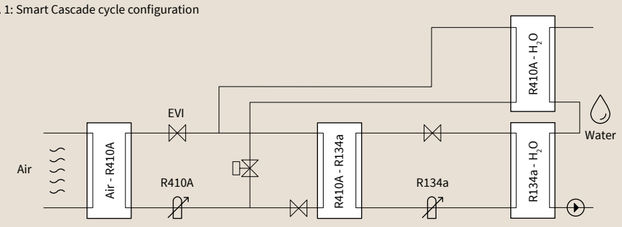
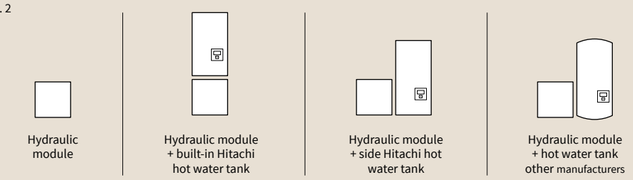
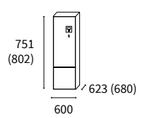


Fig. 2



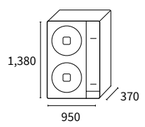
Indoor units



RWH-4.0VNFE
RWH-5.0VNFE
RWH-6.0VNFE

RWH-4.0VNFWE
RWH-5.0VNFWE
RWH-6.0VNFWE

Outdoor units



RAS-4WH(V)NPE
RAS-5WH(V)NPE
RAS-6WH(V)NPE

* Two tank options not available in the UK

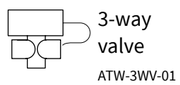
Yutaki S80

System			Yutaki S80 4	Yutaki S80 5	Yutaki S80 6
Capacity	Heating (Min/Nom/Max)	kW	4.30/**11.00**/15.20	4.80/**14.00**/16.70	5.50/**16.00**/17.80
Consumption	Heating (**Nom**)	kW	**2.12**	**2.90**	**3.43**
Electrical power			1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz
			3N ~400V 50 Hz	3N ~400V 50 Hz	3N ~400V 50 Hz
COP	Nominal		5.00	4.71	4.57
Energy rating at 35ºC	Medium climate		A+++	A++	A++
Seasonal efficiency at 35ºC, SCOP / ηs			4.75/187	4.43/174	3.88/152
Energy rating at 55ºC			A++	A++	A++
Seasonal efficiency at 55ºC, SCOP / ηs			3.63/142	3.35/131	3.23/126
Outdoor operating temperatures	Heating (DB)	ºC	-25 to 25	-25 to 25	-25 to 25
	Hot water (DB)	ºC	-25 to 35	-25 to 35	-25 to 35
Water production temperatures	Heating	ºC	20 to 80	20 to 80	20 to 80
	Hot water	ºC	30 to 75	30 to 75	30 to 75
Refrigerant pipe diameter	Liquid-gas	inches	3/8-5/8	3/8-5/8	3/8-5/8
Water pipe diameter	Input-output	inches	1-1/4 - 1-1/4	1-1/4 - 1-1/4	1-1/4 - 1-1/4
Hot water pipe diameter	Input-output	inches	3/4-3/4	3/4-3/4	3/4-3/4
Indoor unit (without tank)			**RWH-4.0VNFE**	**RWH-5.0VNFE**	**RWH-6.0VNFE**
Indoor unit (with hot water tank)			**RWH-4.0VNFWE**	**RWH-5.0VNFWE**	**RWH-6.0VNFWE**
Minimum water volume of the installation		l	40	50	50
Water flow	(Min/Nom/Max)	m3/h	1.00 - 1.26 - 2.80	1.10 - 1.64 - 3.20	1.20 - 1.83 - 3.20
Sound power		dB(A)	57	57	58
Refrigerant			R-134A	R-134A	R-134A
Refrigerant charge		kg	1.90	1.90	1.90
Compressor			Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter
Dimensions model S80 (H (with connections) x W x D)		mm	751(802)x600x623	751(802)x600x623	751(802)x600x623
Dimensions model S80 COMBI (H x W x D (with connections)		mm	751x600x623(680)	751x600x623(680)	751x600x623(680)
Model weight without tank	Single-phase	kg	125	129	129
	Three-phase		127	136	136
Model weight with tank	Single-phase	kg	135	139	139
	Three-phase		137	146	146
Maximum current	Single-phase		36	40	43
	Three-phase		22	22	22
Outdoor unit			**RAS-4WH(V)NPE**	**RAS-5WH(V)NPE**	**RAS-6WH(V)NPE**
Air flow		m3/h	4,800	5,400	6,000
Sound pressure		dB(A)	49	50	50
Sound power		dB(A)	61	63	64
Minimum pipe length		m	5	5	5
Maximum pipe length		m	75	75	75
Maximum height difference (highest OU/lowest OU)		m	30/20	30/20	30/20
Compressor			Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter
Refrigerant			R410A	R410A	R410A
Refrigerant charge (length without additional charge)		kg (m)	3.3 (15)	3.4 (15)	3.4 (15)
Additional refrigerant charge		g/m	60	60	60
Dimensions (H x W x D)		mm	1,380x950x370	1,380x950x370	1,380x950x370
Weight		kg	103	103	103
Maximum current	Single-phase		20	25	25
	Three-phase		14	14	16
Outdoor unit	**Single-phase**	**£**	**2,665**	2,928	3,311
	Three-phase	**£**	**2,851**	3,095	3,499
Indoor unit	**Single-phase**	**£**	**5,075**	5,482	5,961
	Three-phase	**£**	**5,638**	**5,991**	**6,627**

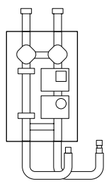
*The control must be purchased when installing the tankless version.

Compatible controls and accessories:

Remote control
PC-ARFHE



3-way valve
ATW-3WV-01



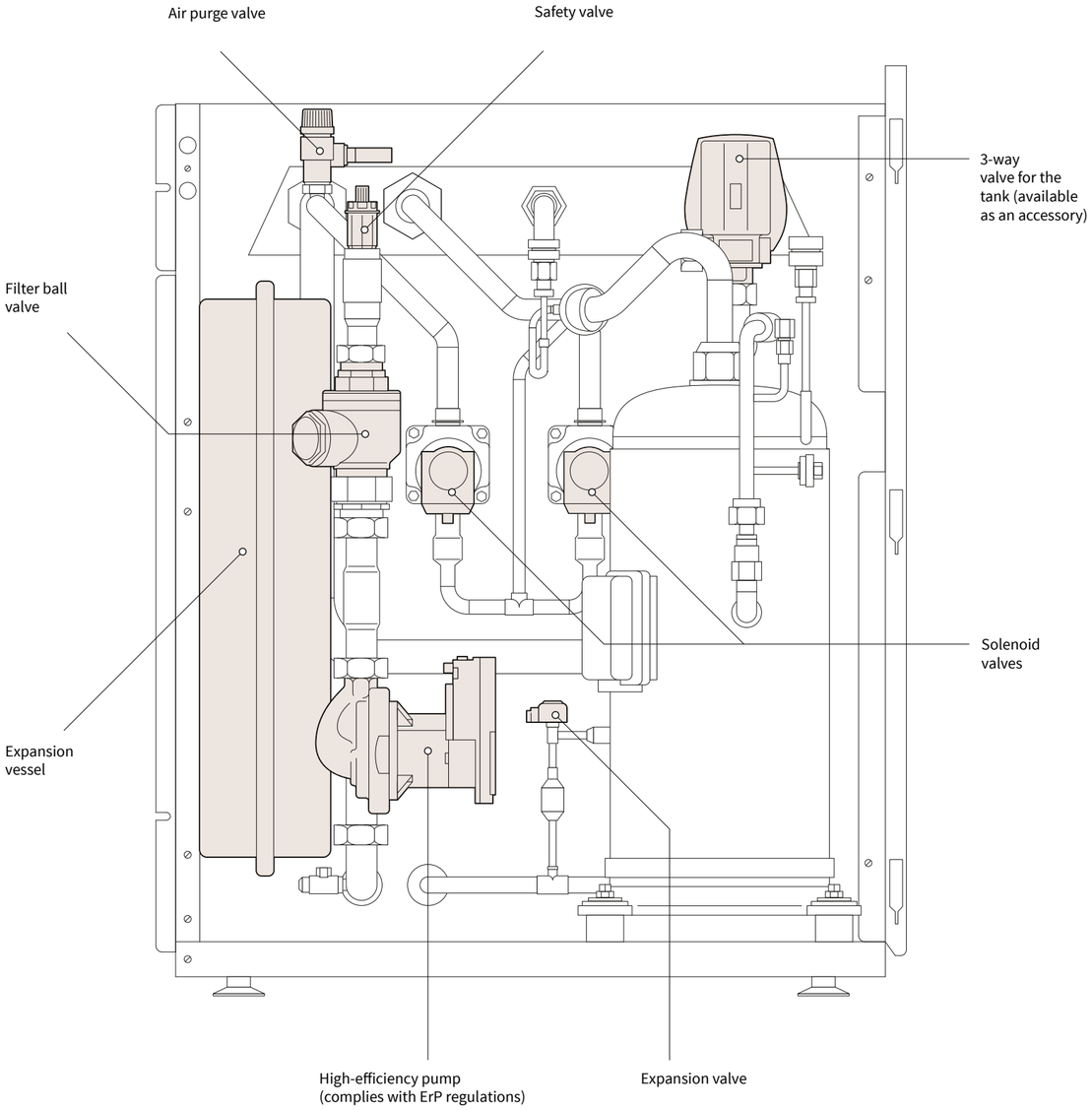
2nd temperature kit
ATW-2T-07
For wall-mounting

Others:

- Heating element. WEH-6E. Price: £660
- Kit for installation with tank next to the S80 indoor unit. mod. ATW-FWP-02

Freedom Heat Pumps - www.freedomhp.co.uk - sales@freedomhp.co.uk - 02380 274833

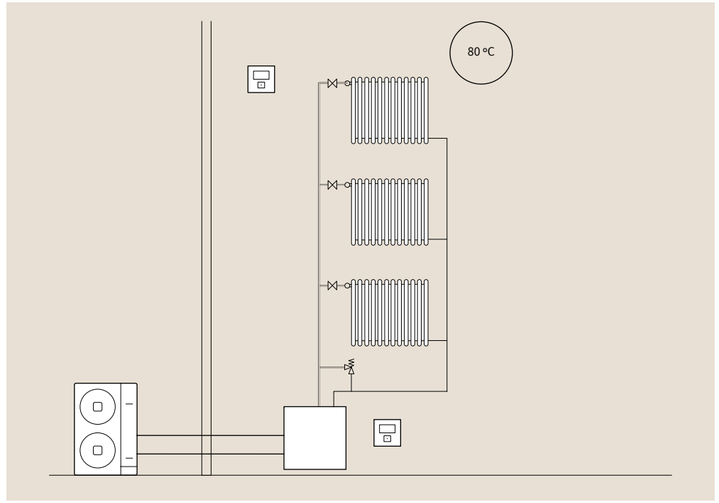
Internal design



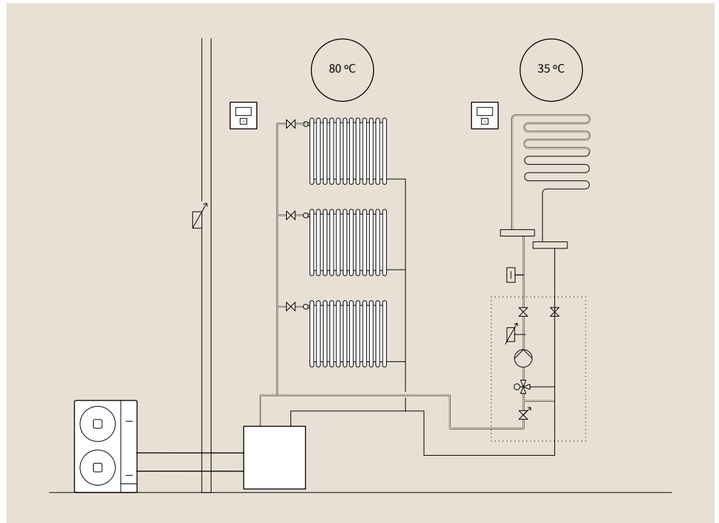
Its flexible design allows different installation possibilities and flexible pipe connection.
– Hydraulic module.
– Hydraulic module + built-in Hitachi hot water tank (not available in the UK).
– Hydraulic module + Hitachi hot water tank on one side (not available in the UK).
– Hydraulic module + third-party hot water tank.

Configurations

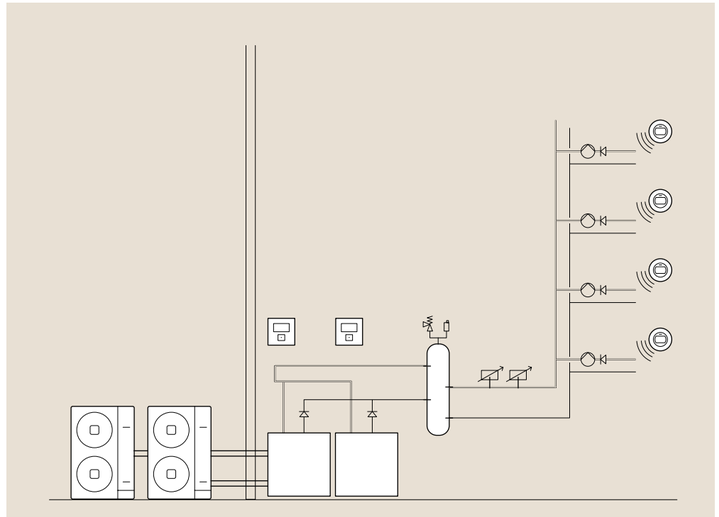
Heating, one circuit.



Heating, radiators and underfloor heating at different temperatures; two zones.



Heating, cascade operation.



Yutaki M

Compact unit for heating, hot water and cooling without refrigeration connections

Perfect for small spaces

The Hitachi monobloc system is designed for installation in any type of property, especially homes with limited space.

Being a compact system with a single unit installed outdoors means the available space indoors remains unchanged.

Easy to install

The monobloc system ensures all functions are achieved with a single outdoor unit, bringing significant cost savings. Furthermore, installation time is much shorter since practically no pipes are required, there are no cooling connections, and the product is pre-charged at the factory.

Heating and cooling in a single system all year round

By combining the Yutaki M and the Cooling Kit, the accessory used to reverse heat pump operation ensures maximum comfort can be enjoyed all year round. The system therefore offers heating in winter and cooling in summer, all with straightforward installation.

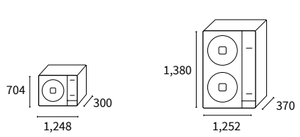
Easy, smart control

The control with LCD screen can be used for daily and weekly programming, managing water production temperature, operating modes, etc. (Fig. 1)

Fig. 1

PC-ARFHE control

Outdoor units



RASM-2VRE
RASM-3VRE

RASM-4(V)NE
RASM-5(V)NE
RASM-6(V)NE

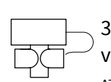
Yutaki M

Name of the system			Yutaki M 2	Yutaki M 3	Yutaki M 4	Yutaki M 5	Yutaki M 6
Outdoor unit			**RASM-2VRE**	**RASM-3VRE**	**RASM-4(V)NE**	**RASM-5(V)NE**	**RASM-6(V)NE**
Capacity	Heating (Min/**Nom**/Max)	kW	1.85/4.30/6.50	2.1/8.00/11.00	4.30/**11.00**/15.20	4.80/**14.00**/16.70	5.50/**16.00**/17.80
	Cooling (**Nom**/Max)	kW	**4.00/5.00**	**6.50/7.00**	**7.20**/11.80	**9.50**/12.60	**10.50**/13.70
Consumption	Heating (**Nom**)	kW	**0.82**	**1.74**	**2.20**	**2.97**	**3.50**
	Cooling (**Nom**)	kW	**1.00**	**1.94**	**2.18**	**2.68**	**3.17**
Electrical power	Single-phase		1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz	1 ~230V 50Hz
	Three-phase		-	-	3N ~400V 50 Hz	3N ~400V 50 Hz	3N ~400V 50 Hz
COP (Water 35°C, Ambient 7°C)	Nominal		5.25	4.60	5.00	4.71	4.57
EER (Water 7°C, Ambient 35°C)	Nominal		4.00	3.35	3.54	3.54	3.31
Energy rating at 35ºC	Medium climate		A+++	A+++	A+++	A+++	A++
Seasonal efficiency at 35ºC, SCOP / ηs			4.93/181	4.25/177	4.75/187	4.45/175	3.90/153
Energy rating at 55ºC			A++	A++	A++	A++	A++
Seasonal efficiency at 55ºC, SCOP / ηs			3.58/133	3.25/125	3.48/136	3.40/133	3.30/125
ESEER			3.36	3.26	3.33	3.29	2.84
SEER / ηs		Single-phase	4.11/162	3.95/155	4.93/194	4.83/190	4.70/185
		Three-phase	-	-	5.05/199	4.92/194	4.78/188
Outdoor operating temperatures	Heating (DB)	ºC	-20 to 25	-20 to 25	-25 to 25	-25 to 25	-25 to 25
	Hot water (DB)	ºC	-20 to 35	-20 to 35	-25 to 35	-25 to 35	-25 to 35
	Cooling (DB)	ºC	10 to 46	10 to 46	10 to 46	10 to 46	10 to 46
Water production temperatures	Heating	ºC	20 to 60	20 to 60	20 to 60	20 to 60	20 to 60
	Hot water	ºC	30 to 75	30 to 75	30 to 75	30 to 75	30 to 75
	Cooling	ºC	5 to 22	5 to 22	5 to 22	5 to 22	5 to 22
Maximum current	Single-phase		12.7	17.2	30.8	30.8	30.8
	Three-phase		-	-	14.3	14.3	16.3
Water pipe diameter	Input-output	inches	1-1	1-1	1-1/4 - 1-1/4	1-1/4 - 1-1/4	1-1/4 - 1-1/4
Minimum water volume of the installation		l	28	28	38	46	55
Water flow	(Min/Nom/Max)	m3/h	0.50 - 0.77 - 1.90	0.60 - 1.29 - 2.10	1.00 - 1.89 - 2.80	1.10 - 2.41 - 3.00	1.20 - 2.75 - 3.00
Air flow		m3/h	2,526	2,982	4,800	5,400	6,000
Sound power		dB(A)	61	69	64	65	69
Compressor			Scroll DC Inverter	Rotary DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter
Refrigerant			R32	R32	R410A	R410A	R410A
Refrigerant charge		kg (m)	1.20	1.30	2.80	3.10	3.10
Dimensions (H x W x D)		mm	704 x 1,248 x 300	704 x 1,248 x 300	1,380x1,252x370	1,380x1,252x370	1,380x1,252x370
Weight	Single-phase	kg	76	78	131	133	133
	Three-phase		-	-	130	132	132

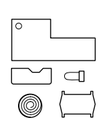
*The control must be purchased for operation.

Compatible controls and accessories:

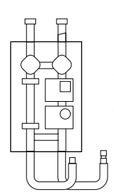
Remote control
PC-ARFHE



3-way valve
ATW-3WV-01



Cooling Kit
ATW-CKM-01
Can be used to switch machine operation to cold.



2nd temperature kit
ATW-2TK-07
For wall-mounting

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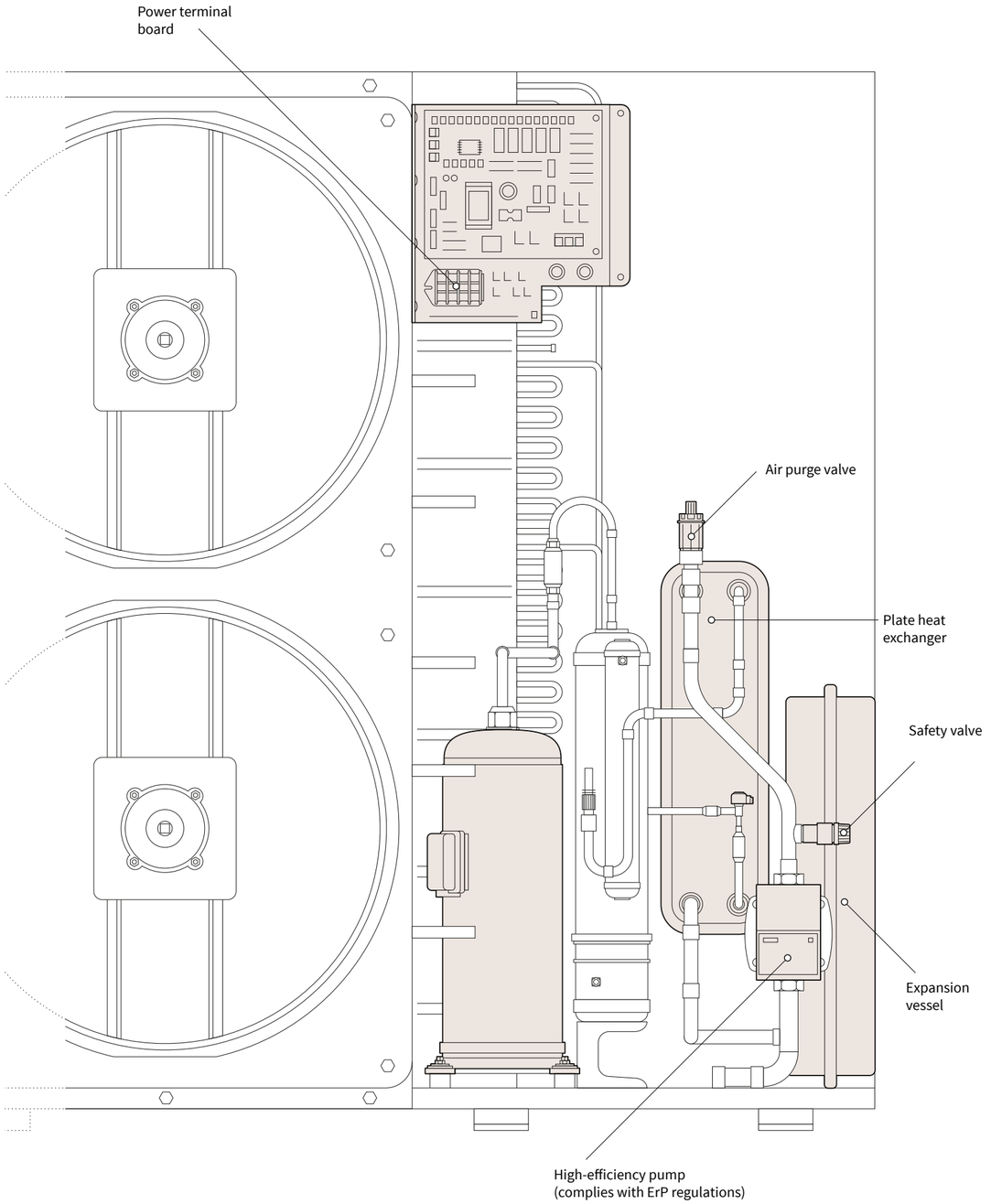
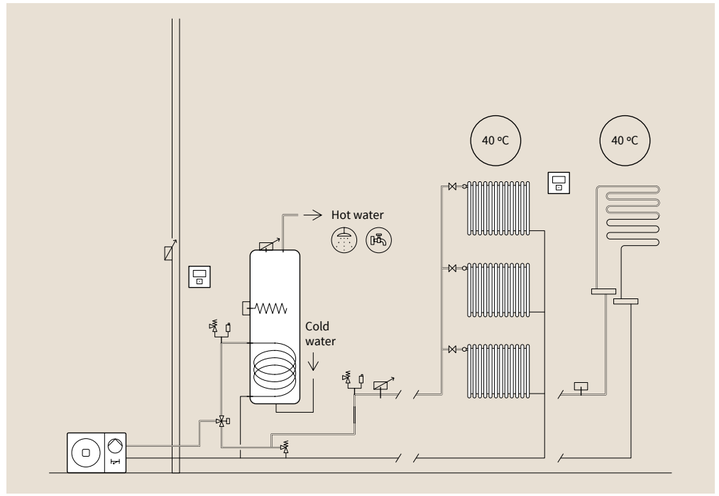
Internal design

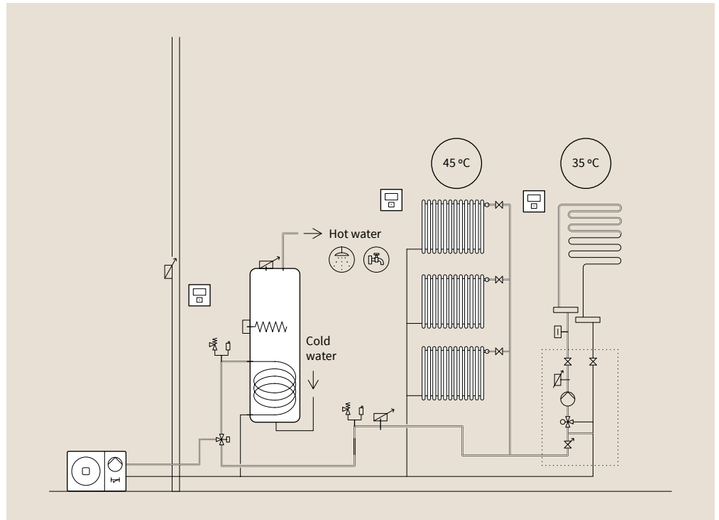


Configurations

Radiator and underfloor heating at the same temperature; one zone + hot water by external tank.



Radiator and underfloor heating at different temperatures; two zones + hot water by external tank.



Yutaki T

The simplest and most economical way to produce hot water

Maximum comfort, minimum consumption

The unit absorbs heat from the outdoor air, and transfers it to the tank to heat the water up to 55 ºC. This achieves savings of 70% compared to traditional heaters.

Control operation from anywhere

The smart function allows operation to be programmed in advance, bringing significant savings in consumption. It can also be connected to MODBUS for home automation.

Error identifier

The equipment has a self-diagnostic system, allowing errors to be identified easily thanks to the flashing LED on the indoor and outdoor units.

Greater durability

Yutaki tanks are now coated with duplex stainless steel, a material that offers greater resistance to high temperatures and corrosion.

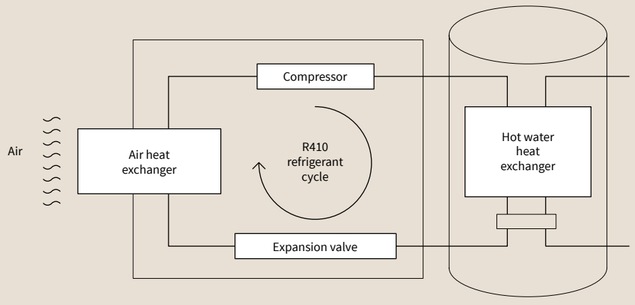
More ecological

By using renewable energy to heat the water, it does not emit CO_2, and allows smart management of operation thanks to the weekly programmable clock.

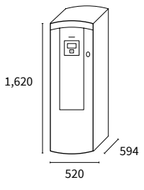
Bespoke tank

The Yutaki T range is made up of two models, 190 and 270 litre-capacity, tailored to the needs of each home. The compact 190 litre model can be installed in standard 600 x 600 mm cabinets.
It is now also 10 kilos lighter and has a refrigerant coil on the outside, thus increasing the volume of refrigerant.

Yutaki T configuration

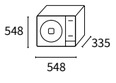


Hot water tank



TAW-190NHB
TAW-270NHB

Outdoor units

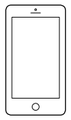


RAW-35NHB

Yutaki T

Hot water tank			TAW-190NHB	TAW-270NHB
Capacity		l	190	270
Hot water energy rating			A+	A+
Seasonal efficiency hot water, COP DHW /ηs	Medium climate		3.10/123	3.20/125
Material			Duplex stainless steel	Duplex stainless steel
Declared charge profile			L	XL
Energy consumed in standby mode		kWh	24.90	20.00
Maximum volume of usable water (At 40ºC)		l	256	356
Heating time		h:min	3:15	3:35
Maximum water temp. (with heating element)		ºC	55 (75)	55 (75)
Electrical power			1 ~230V 50Hz	1 ~230V 50Hz
Electrical power	Liquid-gas	inches	1/4-3/8	1/4-3/8
Hot water pipe diameter	Input-output	inches	3/4-3/4	3/4-3/4
Dimensions (H x W x D)		mm	1,620x520x594	1,620x600x674
Weight		Kg	49	54
Outdoor unit			**RAW-35NHB**	**RAW-35NHB**
Air flow		m3/h	1,620	1,620
Sound power		dB(A)	63	63
Minimum pipe length		m	5	5
Maximum pipe length		m	20	20
Maximum height difference-highest OU		m	10	10
Outdoor operating temperatures	Hot water (DB)	ºC	-15 to 37	-15 to 37
Compressor			Rotary	Rotary
Refrigerant			R410A	R410A
Refrigerant charge (length without additional charge)		kg (m)	1.2 (20)	1.2 (20)
Additional refrigerant charge		g/m	not required	not required
Dimensions (H x W x D)		mm	548x841x335	548x841x335
Weight		kg	33	33
Electrical power			1 ~230V 50Hz	1 ~230V 50Hz

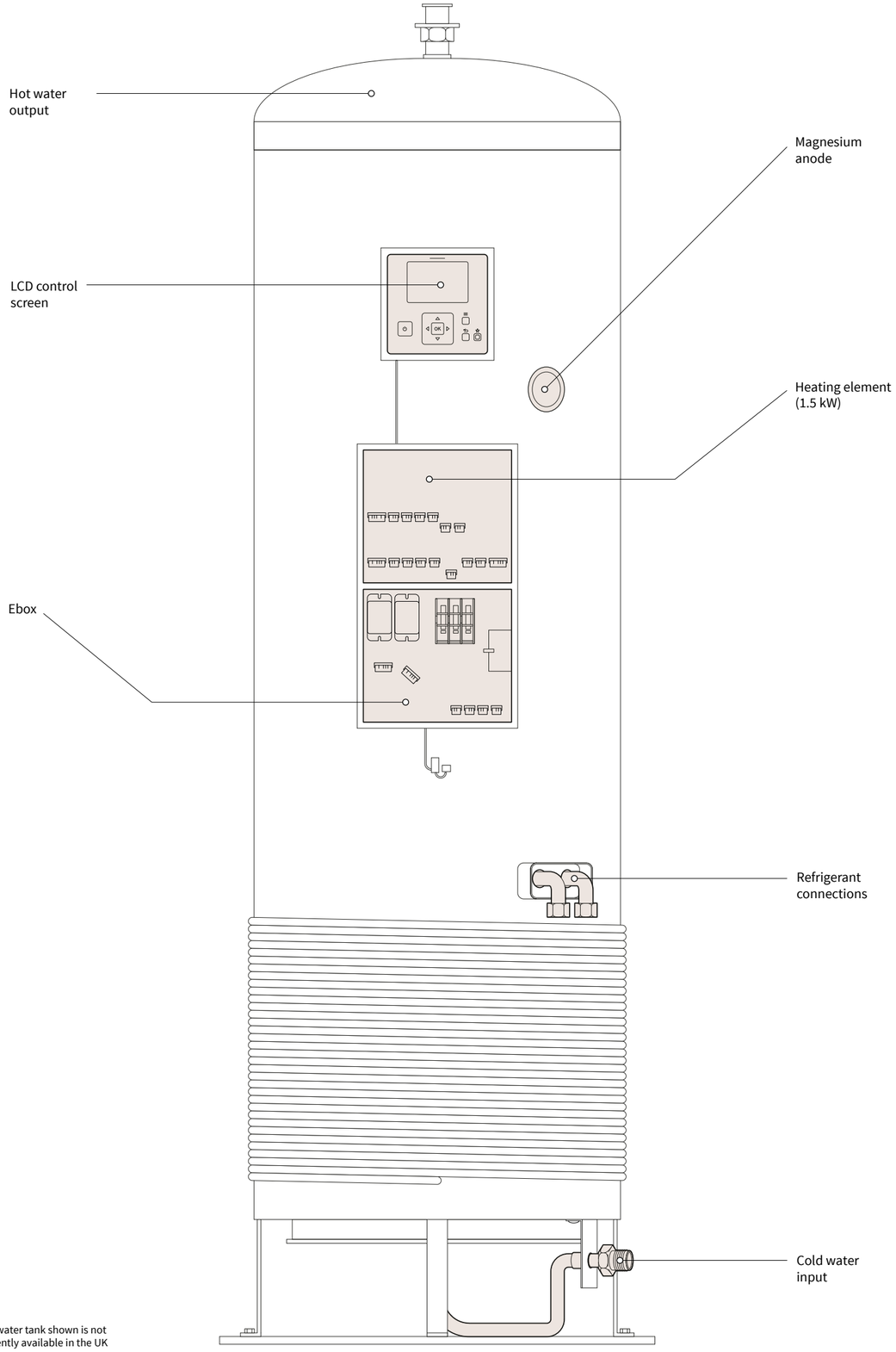
Compatible controls and accessories:



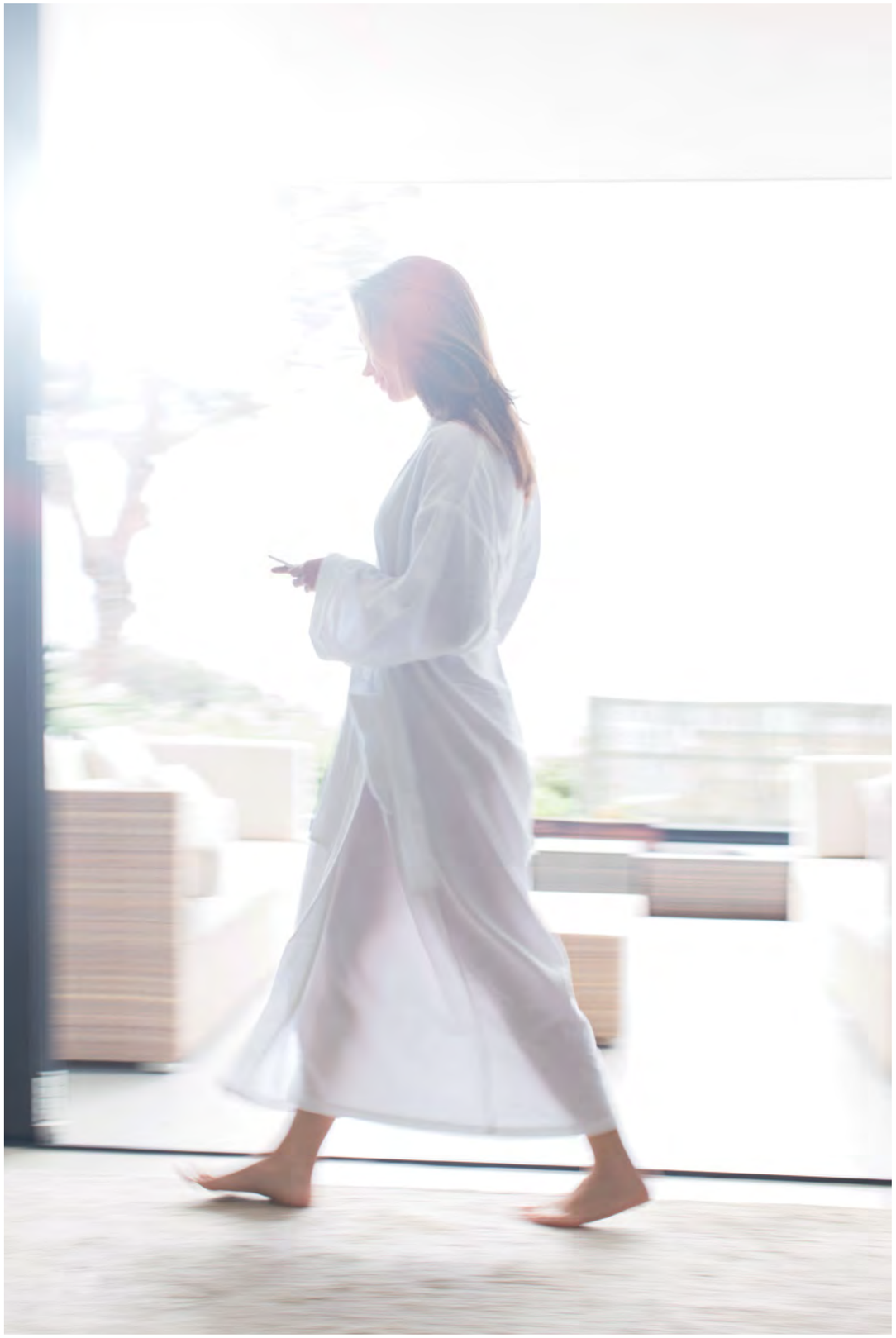
Hi-Kumo

* Product range is not currently available in the UK.

Internal design



Hot water tank shown is not currently available in the UK



Controls

Wireless thermostat ON/OFF

ATW-RTU-04

– Includes receiver.
– ON/OFF function.
– Easy to install.

Compatibility: Entire Yutaki range.

Smart wireless thermostat

ATW-RTU-05

– Includes receiver.
– Multifunction.
– Easy to install.

Compatibility: Entire Yutaki range.

Wired control

PC-ARFHE

– Weekly programming.
– Multifunction: modes, temperatures.
– Eco mode.
– Configure, set and display operating parameters.
– Several languages.
– Can work as a thermostat.
– On-screen error codes.

Compatibility: Entire Yutaki range.

Wireless thermostat for second circuit

ATW-RTU-06

– Multifunction.
– Easy to install.
– To control the temperature of a second circuit.

Compatibility: Entire Yutaki range.

KNX Interface

ATW-KNX-02

– Centralises the control.
– Allows the Yutaki range to be integrated in KNX home automation systems.

Compatibility: Entire Yutaki range.

Modbus for Yutaki

ATW-MBS-02

– Centralises the control.
– Allows the Yutaki range to be integrated in Modbus systems.

Compatibility: Entire Yutaki range.

Cascade control

ATW-YCC-01

– Suitable for high power installations.
– Centralised control of up to 8 Yutaki units.
– Different control options: cascade, rotary, smart defrost...

Compatibility: The entire Yutaki range except for Yutaki T.

Wi-Fi adapter for Hi-Kumo app

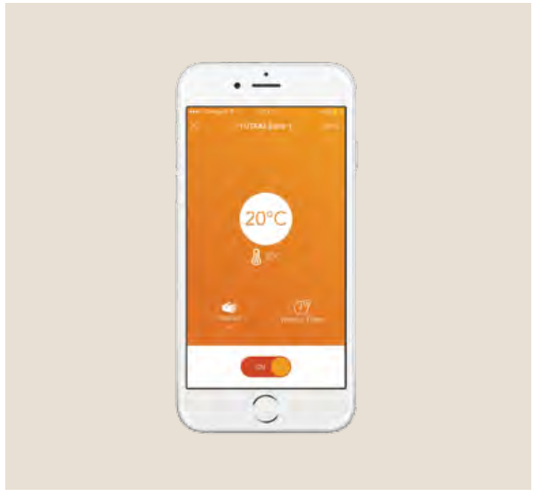
ATW-TAG-02

– Connect the Yutaki range using the Hi-Kumo app in order to manage it from any mobile device.
– Requires Hi-Box AHP-SMB-01.

Hi-Box Yutaki

AHP-SMB-01

– Accessory for the ATW-TAG-02 Wi-Fi adapter.
– Ensures compatibility with the Hi-Kumo app, in order to manage the Yutaki system from any mobile device.



How to enjoy Hi-Kumo

1. Connect the Hi-Box to the router and the adapter to the Yutaki.
2. Download the app to your smartphone, tablet or computer.
3. Configure by simply searching for connected units and pairing them with the app.

Accessories

Hydraulic separator

ATW-HSK-01

– Non-corrosive (brass).
– 4 connection paths.
– With insulation.

Compatibility: Entire Yutaki range.

Second temperature kit

ATW-2TK-06

– Incorporated into 200 L hot water tank.

Compatibility: Yutaki S Combi with 200 L hot water tank.

Second temperature kit

ATW-2TK-07

– Wall-mounted model.

Compatibility: Entire Yutaki range.

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Accessories

Safety aquastat

ATW-AQT-01

– Recommended for underfloor heating applications.

Compatibility: Entire Yutaki range.

3-way valve

ATW-3WV-01

– Valve to allow operation in heating/ hot water.

Compatibility: Entire Yutaki range.

Proportional discharge valve

ATW-DPOV-01

– Proportional for variable flow installations.
– Included as standard in UK version tanks.

Compatibility: Entire Yutaki range.

Second outdoor ambient temperature sensor

ATW-2OS-02

– Used to measure outside temperatures in the area where the outdoor unit is installed.

Compatibility: Entire Yutaki range.

Wired wall-mounted sensor for indoor ambient temperature

ATW-ITS-01

Compatibility: Entire Yutaki range.

Universal water temperature sensor

ATW-WTS-02Y

Compatibility: Entire Yutaki range.

Backup heating element

WEH-6E

– 6 kW single/three phase.
– 3 x 2 kW stages.
– Built-in power relay.
– Steel body with external insulation.

Compatibility: Yutaki S80, Yutaki M.

Unit controller cover

ATW-FCP-01

– Used to cover the gap left in the indoor unit when removing the programmer control and using it as a thermostat in any area.

Compatibility: Entire Yutaki range.

Mirror box

ATW-YMM-01

– Simplifies installation when the Yutaki M is far from the property, avoiding the need to install large cable runs, using just two communication cables.

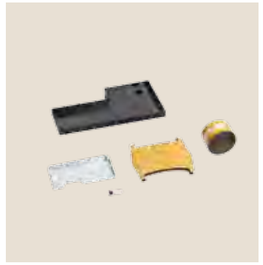
Compatibility: Yutaki M.

Auxiliary output signal box

ATW-AOS-02

– Relay box for additional output signals.

Compatibility: Entire Yutaki range.



Yutaki Range Cooling Kit

ATW-CKS-01/ATW-CKS-02/ATW-CKS-03/ATW-CKSC-01/ATW-CKM-01

– Used to switch the Yutaki range to work in both heat and cold.

ATW-CKS-01 (Yukaki S 2-3HP):
ATW-CKS-02 (Yukaki S 4-6HP):
ATW-CKS-03 (Yukaki S 8-10HP):
ATW-CKSC-01 (Yukaki S Combi):
ATW-CKM-01 (Yukaki M):
Compatibility: The entire range except for Yutaki S80.

Domestic hot water tank 200/300 L

DHWT-200/300 S-3.0H2E

Compatibility: Yutaki S, Yutaki S80, Yutaki M.

Hitachi tanks not currently available in the UK. G3 compliant Kingspan DHW cylinders are optional - speak to your Hitachi area sales manager or distributor for details.

Hot water tanks

			DHWT200S-3.0H2E	DHWT300S-3.0H2E
Water accumulator	Volume	L	200	300
	Maximum temperature	°C	75	75
	Maximum pressure	bar	10	10
Water heat exchanger	Maximum coil temperature	°C	99	99
	Maximum coil pressure	bar	10	10
	Exchanger surface	m^2	1.4	1.8
Type of insulation	Polyurethane	mm	50	50
Auxiliary heating element	Power	kW	3	3
Hydraulic connection	In DHW	inches	3/4 (f)	3/4 (f)
	Out DHW	inches	3/4 (f)	3/4 (f)
	Recirculation DHW	inches	3/4 (f)	3/4 (f)
	In coil water	inches	3/4 (f)	3/4 (f)
	Out coil water	inches	3/4 (f)	3/4 (f)
Accessories	Thermometer		Yes	Yes
	Safety thermostat		Yes	Yes

Domestic hot water tank 200 and 260 L

DHWS200/260 S-2.7H2E

Compatibility: Yutaki S80.

			DHWS200S-2.7H2E	DHWS260S-2.7H2E
Power			1 ~ 230 V 50 Hz	1 ~ 230 V 50 Hz
Dimensions	Separate tank height (Built-in tank height)	mm	1282 (1980) *	1591 (2289) *
	Width	mm	600	600
	Depth (with connections)	mm	648 (675)	648 (675)
Weight		kg	62	81
Net capacity		L	200	260
Maximum operating temperature			75	75
Pipe diameter	Water input	inches	G 3/4 male	G 3/4 male
	Water output	inches	G 3/4 male	G 3/4 male
Wired control			PC-ARFHE	PC-ARFHE

Hot water tank shown is not currently available in the UK

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Technical tables additional notes

Yutaki air source heat pumps

The nominal heating and cooling capacities are based on Standard EN 14511:

- Cooling: water input temperature 12ºC, output temperature 7ºC and outside temperature 35ºC DB.
- Heating: water input temperature 30ºC, output at 35ºC and outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 7.5 metres; Height of pipes: 0 metres.

The heating capacity and performance are shown with integrated values (with defrost correction factor included).

The acoustic data are based on the following conditions:

- Outdoor ambient temperature (DB/WB): 7/6 ºC.
- Water input/output temperature: 30/35 ºC.
- Unit distance from measuring point: 1 metre from the front surface of the unit and 1.5 metres above ground level.

The acoustic pressure level has been measured in an anechoic chamber, meaning reflected sound must be taken into account when installing the unit.

The acoustic power level has been measured in a reverberant room in accordance with Standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance testing.

The SCOP heating seasonal performance values are calculated in accordance with ERP Directive 2009/125/CE, and more specifically with Standard 813/2013 (LOT 1) according to UNE EN 14825.

The seasonal performance value in domestic hot water production is calculated in compliance with ERP Directive 2009/125/CE, and more specifically with Regulation 814/2013 (LOT2) according to Standard UNE EN 16147.

All energy efficiency documents and the energy label (LOT 1 AND LOT 2) can be downloaded from the website: https://www.hitachi-hvac.co.uk/apps

Domestic 1x1 range units

(cooling power < 12kW)

The nominal heating and cooling capacity is the combined capacity of HITACHI's standard Split system, and is based on Standard ISO 5151:

- Cooling: indoor temperature 27ºC DB, 19ºC WB, outside temperature 35ºC DB.
- Heating: indoor temperature 20ºC DB, outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 5 metres; Height of pipes: 0 metres.

The acoustic pressure level in indoor units is based on the following conditions:

- Wall-mounted units: 0.8 metres below the height centre of the indoor unit and 1 metre from discharge grille.
- Console units: half the height of the unit and 1 metre from the discharge grille
- Ducts: 0.8 metres below the height centre of the indoor unit and 1.5 metres from the discharge grille.
- Cassette: 0.8 metres below the height centre of the indoor unit and 1.5 metres from the discharge grille.

This data has been measured in an anechoic chamber and takes into account the reflected sound of the location.

The acoustic pressure level in outdoor units is based on the following conditions:

- 1 metre from the front surface of the unit and 1 metre above ground level

The SEER/SCOP seasonal cooling and heating values are calculated in compliance with Directive ERP 2009/125/CE, and more specifically with Standard 206/2012 (LOT 10), according to UNE EN 14825.

All energy efficiency documents and the energy label (LOT 10) can be downloaded from the website: https://www.hitachi-hvac.co.uk/apps

Commercial 1x1 range and VRF Systems units

(cooling capacity > 12kW)

The nominal cooling and heating capacity is the combined capacity of the outdoor unit and the indoor units, and is based on Standard EN14511, under the following operating conditions:

- Cooling: indoor temperature 27ºC DB, 19ºC WB, outside temperature 35ºC DB.
- Heating: indoor temperature 20ºC DB, outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 7.5 metres; Height of pipes: 0 metres.

The acoustic pressure level in indoor units is based on the following conditions:

- Wall-mounted units: 1 m below the unit and 1.5 m from the discharge grille.
- Console units: 1 m above ground level and 1 m from the front of the unit.
- Ducts: 1.5 m below the unit (without a ceiling below it) with the suction duct at 1 m and the discharge duct at 2 m.
- Cassette: 1.5 m below the unit
- Ceiling: 1 m below the unit and 1 m from the discharge grille.

The acoustic pressure level has been measured in an anechoic chamber, meaning reflected sound must be taken into account when installing the unit.

The acoustic pressure level in outdoor units is based on the following conditions:

- The measurement point is 1.5 metres above the ground and 1 m from the front surface of the unit.
- Units operating at their rated voltage.

The acoustic pressure level has been measured in an anechoic chamber, meaning reflected sound must be taken into account when installing the unit.

The acoustic power level has been measured in a reverberant room in accordance with Standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance testing.

The SEER/SCOP seasonal cooling and heating performance values are calculated in compliance with ERP Directive 2009/125/CE, and more specifically with Standard 2281/2016 (LOT 21), in accordance with Standard UNE EN 14825 and calculated with RCI-FSN4 model cassette units.

All the energy efficiency documents (LOT 21) can be downloaded from the website: https://www.hitachi-hvac.co.uk/apps
The energy label (LOT 10) can be downloaded from the website: https://www.hitachi-hvac.co.uk/apps

Indoor units

The nominal cooling and heating capacity is the combined capacity of the outdoor unit and the indoor units, and is based on Standard EN14511, under the following operating conditions:

- Cooling: indoor temperature 27ºC DB, 19ºC WB, outside temperature 35ºC DB.
- Heating: indoor temperature 20ºC DB, outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 7.5 metres; Height of pipes: 0 metres.

The indoor units have different cooling and heating capacity in the VRF IVX and VRF Set Free systems.

In the case of the VRF IVX system, the nominal capacity shown in the following tables is for combinations of an indoor unit with an outdoor unit of the VRF IVX Premium or IVX Comfort series [RAS-(2-6)HVNP1(E), RAS-(4-12)H(V)NP(1)(E), RAS-(3-6)H(V)NC1(E) and RAS-(4-12)H(V)NC(1)(E)], provided such a combination is permitted.

The acoustic pressure level has been measured in an anechoic chamber under the following conditions:

- Indoor units RCI (M), RCD: 1.5 m below the unit.
- RPI indoor units (M): 1.5 metres below the unit (no ceiling below the unit), with the suction duct at 1 m and the discharge duct at 2 m.
- RPC and RPK indoor units: 1 m below the unit, 1 m from the discharge grille.
- RPF indoor units (I): 1 m above ground level, 1 m from the front of the unit.

The acoustic power level has been measured in a reverberant room in accordance with Standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance testing.

Dx-Kit

The nominal cooling and heating capacity is the combined capacity of the outdoor unit and the associated DX interface (EXV-0E2), and is based on Standard EN14511, under the following operating conditions:

- Cooling: indoor temperature 27ºC DB, 19ºC WB, outside temperature 35ºC DB.
- Heating: indoor temperature 20ºC DB, outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 7.5 metres; Height of pipes: 0 metres.

The acoustic pressure level in outdoor units is based on the following conditions:

- The measurement point is 1.5 metres above the ground and 1 m from the front surface of the unit.
- Units operating at their rated voltage.

The acoustic pressure level has been measured in an anechoic chamber, meaning reflected sound must be taken into account when installing the unit.

The acoustic power level has been measured in a reverberant room in accordance with Standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance testing.

The outdoor units of the "RAS-XH (V)NP(1)E" series have been designed for specific applications that require the combination of a Series 2 DX Interface and are not Eurovent certified. They may vary depending on each particular application.

Hydraulic module

The heating and cooling nominal capacities are based on Standard EN 14511 and show the data in integrated values (with defrost correction factor included).

The acoustic data are based on the following conditions:
- Outdoor ambient temperature (DB/WB): 7/6 ºC.
- Water input/output temperature: 30/35 ºC.
- Unit distance from the measuring point: 1 metre from the front of the unit and 1.5 metres above ground level.

The measurements were made in a reverberant room in accordance with Standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance testing.

Units in the air renewal range – KPI and KPI Active

The sound pressure level has been measured in an anechoic chamber, with the measuring point located 1.5 m below the unit, without a ceiling over it and using a soundproof duct. Suction duct at 1 m and discharge duct at 2 m.

Reflected sound should be considered when installing the unit. The sound pressure level measured in the installation may be higher than specified.

In the case of KPI-X4E units with direct expansion battery, the nominal cooling and heating capacity is the combined capacity of the outdoor and indoor units of the system and is based on Standard EN14511, under the following operating conditions:

- Cooling: indoor temperature 27ºC DB, 19ºC WB, outside temperature 35ºC DB.
- Heating: indoor temperature 20ºC DB, outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 7.5 metres; Height of pipes: 0 metres.
- Active KPI unit operating at its nominal air flow.

Chiller range units

The capacity data are based on European standard EN14511 under the following conditions:

In cooling mode:

- Cold water input/output temperature: 12/7 ºC.
- Condenser input air temperature: 35 ºC.

In heating mode:

- Hot water input/output temperature 40/45ºC.
- Condenser input air temperature: 6ºC (WB).

All sound pressure level data are measured at a height of 1.5 m, at 1 m from the front panel of the unit.

The low water temperature option requires brine (ethylene glycol or propylene glycol-type antifreeze mixture).

For more information, please see the technical manuals for each range at https://www.hitachi-hvac.co.uk/resources

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Conditions of Sale

Johnson Controls Hitachi Air Conditioning Europe S.A.S.

1. DEFINITIONS

In these conditions;

(1) "HITACHI" means: Johnson Controls Hitachi Air Conditioning Europe SAS, UK Branch, (registration no. FC030594), with registered office located at Whitebrook Park, Lower Cookham Road, Maidenhead, SL6 8YA, United Kingdom.

(2) "Buyer" means: the person, firm or company specified overleaf, to whom HITACHI's Quotation, Sales Confirmation or Invoice is addressed.

(3) "Goods" means: the goods to be sold by HITACHI to the Buyer under the Contract.

(4) Contract" means: the contract of sale hereby formed between HITACHI and Buyer.

2. CONSTRUCTION OF CONTRACT

(1) The terms of the Contract shall consist of the particulars overleaf and these conditions. Any term overleaf which is at variance with these conditions shall prevail over these conditions, which shall be construed accordingly, except with regard to price in respect of which provisions of sub clause 6 (2) shall prevail.

(2) No other terms (whether contained in any document issued by the Buyer or in any written or oral communication between the parties) shall apply to the Contract nor shall these conditions or the particulars overleaf be modified without HITACHI's written agreement.

3. QUOTATIONS AND ORDERS

(1) Unless accepted before lapse or withdrawal, or renewed in writing by HITACHI, quotations shall lapse automatically after 60 days, but may be withdrawn earlier by HITACHI.

(2) Quotations are for information only and are not firm offers. There shall be no binding contract until HITACHI has accepted the buyer's order by dispatching HITACHI's official sales confirmation.

4. DELIVERY

(1) The scope of supply by HITACHI under the Contract shall be strictly limited to those specified overleaf, and no other goods or services are included.

(2) HITACHI will use all reasonable endeavors to deliver the Goods on or before the delivery date specified overleaf, however, HITACHI does not undertake, guarantee or warrant that delivery will be made on the delivery date specified.

(3) Any such delivery date specified shall be extended by any period or periods during which the manufacture or delivery of the Goods or other work by HITACHI in connection with this Contract is prevented, hindered, delayed or rendered uneconomic by reason of a Force Majeure Event (as defined in clause 18 below).

(4) The Buyer acknowledges that, in the case of semiconductor products, optoelectronic products and other electronic components, due to the advanced technology in the Goods and the specialist nature of the manufacturing process, manufacture of the Goods by HITACHI's normal means may result in a loss of yield. In the event of such a loss of yield HITACHI shall notify the Buyer and shall use its reasonable endeavors to supply the Goods in accordance with this Contract. If due to a Force Majeure Event or due to loss of yield HITACHI has insufficient stocks to meet all its commitments HITACHI may apportion stock between its customers at its sole discretion.

(5) If any delivery time specified overleaf is so extended by more than 90 days then the Buyer shall be entitled to give written notice to HITACHI requiring the Goods to be delivered within 30 days of the date of such notice, failing which the Buyer shall have the right to give further written notice determining the Contract forthwith.

(6) HITACHI shall be entitled to deliver the Goods in one or more instalments. Where delivery is effected by instalment each instalment shall be treated as a separate contract. Delay in delivery or other default of any instalment shall not relieve the Buyer of its obligations to accept and pay for the remaining deliveries.

(7) In the case of the Buyer residing in the United Kingdom, unless otherwise stated, HITACHI will at its own expense deliver to the Buyer's premises. In the case of exports, unless otherwise stated, delivery will be FOB (Incoterms 2010) at a UK port designated by HITACHI.

(8) The delivery by HITACHI of a greater or lesser quantity of the Goods than the quantity provided for in the Contract, the delivery of other goods not provided for in the Contract, or the delivery of the Goods only some of which are defective, shall not entitle the Buyer to reject all of the Goods delivered. In order that HITACHI can comply with its carrier's conditions any claim in respect of error in quantity or type of Goods or in respect of damage to the Goods in transit must be made in writing to HITACHI and the carrier notified in both cases within 3 days of receipt of the Goods. Failure to make such claim shall constitute unqualified acceptance of the Goods and waiver by the Buyer of all claims relating to error in quantity or type of goods delivered or relating to the condition of Goods delivered. Similarly, if any Goods invoiced by HITACHI are not delivered, in order that HITACHI can claim against its carriers where appropriate the Buyer must notify HITACHI within 10 days of the date of invoice, failing which the Buyer will be liable to pay for the Goods in full. Where liability for error in quantity, or type of Goods or in respect of damage to the Goods in transit is accepted by HITACHI, HITACHI's only obligation shall be, at its option, to make good any shortage or non-delivery and/or as appropriate to replace or repair any Goods found to be damaged or defective and/or to refund the cost of such Goods to the Buyer.

(9) If the Buyer refuses or fails to take delivery of Goods tendered in accordance with this Contract HITACHI shall be entitled to terminate this Contract with immediate effect, to dispose of the Goods as HITACHI may determine, and to recover from the Buyer any loss and expenses incurred as a result of such refusal or failure.

(10) Section 32 (2) of the Sale of Goods Act 1979 shall not apply. HITACHI shall not be required to give the Buyer the notice specified in Section 32 (3) of the Act.

(11) Unless expressly agreed in writing by HITACHI, all Goods shall be packed in accordance with HITACHI's standard practice. The Buyer shall meet the costs of any special packaging requested by the Buyer or any packaging rendered necessary by delivery by any means other than HITACHI's normal means of delivery.

5. RISK AND TITLE

(1) NOTWITHSTANDING DELIVERY, PROPERTY IN THE GOODS SUPPLIED SHALL REMAIN WITH HITACHI UNTIL THOSE GOODS HAVE BEEN PAID FOR IN FULL (TOGETHER WITH ANY ACCRUED INTEREST).

(a) RISK IN THE GOODS SHALL PASS ON DELIVERY. The Buyer shall store the Goods separately or in such a way as will show clearly that they are HITACHI's property and the Buyer will ensure that they are kept in good condition and insured against loss or damage for HITACHI's benefit. Until property in the Goods passes to the Buyer, the Buyer shall hold the proceeds of any claim on the insurance policy on trust for HITACHI and shall immediately account to HITACHI with the proceeds.

(b) THE BUYER SHALL HOLD THE GOODS IN A FIDUCIARY CAPACITY AND AS BAILEE FOR HITACHI WHO MAY WITHOUT PREJUDICE TO ANY OTHER OF ITS RIGHTS REPOSSESS THE GOODS TO WHICH IT HAS RETAINED TITLE AS AFORESAID and thereafter re-sell the same and for this purpose the Buyer hereby grants an irrevocable right and license to HITACHI's servants and agents to enter upon all or any of its premises with or without vehicles during normal business hours for the purpose of inspecting and/or repossessing Goods to which it has retained title. This right shall continue to subsist notwithstanding the termination of this Contract for any reason and is without prejudice to any accrued rights of HITACHI hereunder or otherwise.

(c) The Buyer agrees to provide HITACHI, within twenty-four hours of a written request made by HITACHI, a certificate stating (i) the Goods that the Buyer still holds and that the Buyer has its custody, directly or through a third party depositary; and (ii) the names and contact information (address, telephone number and email) of any subsequent purchasers of the Goods, and the amounts owed by such purchasers to the Buyer.

(d) HITACHI may at any time detach or separate any of its Goods which may have been incorporated in or attached to goods belonging to the Buyer or any third party.

(2) HITACHI reserve the right, exercisable at its option by notice in writing to the Buyer, to waive the provisions of sub clause 5 (1) above at any time before payment has been made for the Goods supplied by the Buyer and to declare that property in the Goods shall have passed to the Buyer.

(3) Notwithstanding that property in the Goods shall not have passed to the Buyer, HITACHI, without prejudice to any other of its rights, may sue for the price of the Goods supplied in the event that payment is not made on the due date.

(4) Any return of Goods wholly or partly by the Buyer to HITACHI, except in the case of defective Goods pursuant to Clause 8, shall be subject to HITACHI's prior written consent and Buyers payment to HITACHI of interest charges for the period from the date of HITACHI's shipment of such Goods to the Buyer to the date of HITACHI's receipt of such Goods. Freight, insurance and any other expenses incurred in connection with such return shall be borne by the Buyer.

6. PRICES

(1) Unless otherwise stated overleaf, prices of the Goods shall be exclusive of VAT, export duty and foreign import duty and any other import or other taxes, which shall where applicable be paid by the Buyer.

(2) Prices stated in any quotation or in HITACHI's Sales Confirmation are provisional only and subject to adjustment to take account of increases in HITACHI's costs and overheads, including, without limitation, costs of carriage and labor costs. The Contract price shall be HITACHI's price ruling at the date of dispatch. All quotations/sales confirmations and invoices are issued subject to the unconditional reservation of HITACHI's right to adjust prices in respect of the following:-

(a) Changes in the prevailing exchange rate between the currency in which the price is to be paid and the Japanese Yen; (b) Changes in the current EU import duty.

7. PAYMENT

(1) If HITACHI has granted the Buyer credit facilities, the payment of the price must be made in full within 30 days of the date of invoice, unless otherwise specified overleaf or agreed to by HITACHI. Any extension of credit allowed for the Buyer may be changed or withdrawn at any time. Where no credit has been granted, payment must be made in full in cash prior to delivery. Payment shall be made in full direct to HITACHI in the currency invoiced. The Buyer shall not be entitled to exercise any right of set-off, counterclaim, abatement or analogous deduction against payment due to HITACHI. Time of payment is of the essence of a Contract. HITACHI reserves the right to suspend the provision of Goods to the Buyer where any amounts are overdue under any Contract with the Buyer until all such amounts have been paid.

(2) HITACHI is authorized to invoice daily interest (penalties for late payment) on any amount unpaid at the rate stipulated by the Late Payment of Commercial Debt Regulations 2013 (as amended) from the due date until the date of actual payment of all unpaid amounts (including interest) (after, as before, judgment). Costs in excess may also be claimed if justified.

(3) If, in the opinion of HITACHI, the creditworthiness of the Buyer shall have deteriorated prior to the delivery, HITACHI may require full or partial payment of the price prior to delivery or the provision of security for payment in full (including any accrued interest) by the Buyer in a form acceptable to HITACHI notwithstanding any credit terms that may have been agreed between HITACHI and the Buyer.

(4) Notwithstanding any purported contrary appropriation by the Buyer, all payments made by the Buyer to HITACHI shall be appropriated first to Goods which have been resold by the Buyer and then to Goods which remain in the possession or under the control of the Buyer.

(5) HITACHI is entitled to offset any amount owing to it from the Buyer against any amount owed to the Buyer by HITACHI.

8. WARRANTIES

(1) If the Goods are defective on delivery, and the defects arise from faulty materials or workmanship and are not caused by fair wear and tear, abnormal or unsuitable conditions of storage, transportation or use, or the combination of the Goods with any goods not supplied by HITACHI or any act, neglect or default of the Buyer or any third party and HITACHI is given written notice of the defects promptly upon discovery by the Buyer and at any rate within six months (or such other period of time as may specifically be agreed to by HITACHI for certain types of Goods) after delivery then, unless otherwise specified overleaf, HITACHI's sole obligation shall be (at its option) to repair or replace the defective item or allow the Buyer the price thereof and to pay or reimburse the reasonable carriage charges for the return of defective Goods to the Buyer and for delivery of the replaced or repaired item.

(2) Unless otherwise agreed between HITACHI and the Buyer, if any of the Goods are not HITACHI made, the provisions of sub clause 8 (1) above shall apply only to the extent covered by any warranty made by the supplier of such Goods to HITACHI.

(3) The Buyer shall retain the Goods at its premises until instructed by HITACHI to return them. Goods alleged to be defective shall be subject to inspection and testing by HITACHI at its own or (if HITACHI so chooses) at the Buyer's premises and the Buyer shall allow HITACHI adequate facilities at the Buyer's premises to investigate the complaint.

(4) Subject to sub clause 8 (1) above, HITACHI gives no representation or warranty and there is not incorporated in the Contract any condition whether express or implied, statutory or otherwise, as to the Goods other than the statutory warranty of title, and any such representations, conditions or warranties are hereby expressly excluded and HITACHI shall be under no liability to the Buyer for any loss, damage or injury (including special, direct, indirect or consequential loss and loss of profit) resulting from defective materials, faulty workmanship or otherwise howsoever arising and whether or not caused by the negligence of HITACHI, its employees or agents SAVE THAT HITACHI shall accept liability for death or personal injury caused by the negligence of HITACHI.

(5) Subject to sub clause 8 (1),the warranty for RAC products shall be 36 months after delivery of the Goods or from the date of invoice ,whichever is earlier.

(6) Subject to sub clause 8 (1) , the warranty for Utopia and Set Free Systems shall be 60 months from delivery of Goods or from the date of invoice, whichever is earlier.

(7) For further information on UK warranty terms, please visit the following website www.hitachi-hvac.co.uk/apps

Freedom Heat Pumps - www.freedomhp.co.uk - sales@freedomhp.co.uk - 02380 274833

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Hitachi Air Conditioning Europe S.A.S

Whitebrook Park,
Lower Cookham Road,
Maidenhead, UK
SL6 8YA

www.hitachi-hvac.co.uk

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