

HITACHI

Yutaki M R32

Monobloc air-to-water
heat pump



Eco-friendly R32 range from 4 to 16kW



Cooling & Heating





INDEX

04 Monobloc air-to-water heat pumps

04 Yutaki M line-up

05 Eco-friendly Yutaki M R32 range

07 Features & benefits

10 Controls and connectivity

12 Accessories and online tools

14 Technical data

Monobloc air-to-water heat pump

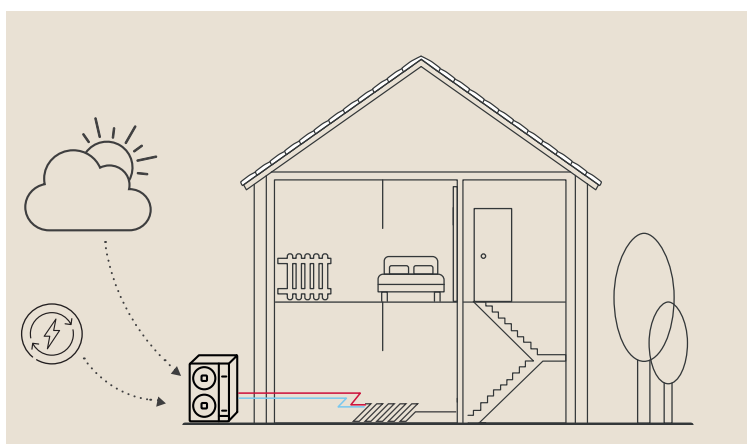
Renewable energy solution

Using air as a renewable energy source together with a more environmentally friendly R32 refrigerant, the new Yutaki Monobloc air-to water heat pump range provides large energy savings with a low environmental impact.

Our products are the most suited to supporting the green transition towards net zero and a sustainable low carbon energy future. Hitachi Cooling & Heating air-to-water heat pumps are suited to all types of properties and can save considerable amounts of energy by using such a low amount of electricity.



(*) Option



Monobloc benefits

In a **self-contained monobloc heat pump** the refrigerant cycle is integrated within the outdoor unit (ODU), which is connected to the heat distribution system via hydraulic connections.



Space saving: since no indoor units are needed for a monobloc system, it fits perfectly houses with limited indoor space.



Easy installation & service: No refrigerant handling is required, hydraulic and electrical connections only.

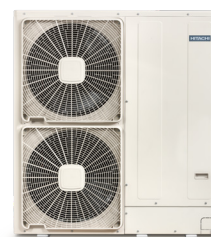
YUTAKI M R32: WIDER LINE-UP

100%

of monobloc range with R32 refrigerant!

4 POWER+ models

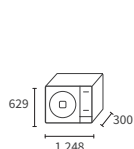
exclusively added to the line-up



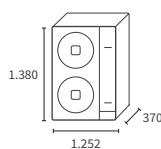
NEW

Model	kW	4.3	8	11	12	13	16
1 phase		●	●	●	●	●	
3 phase				●	●	●	●

DIMENSIONS



RASM-2VRE
RASM-3VRE



RASM-4(V)R1E
RASM-5(V)R1E
RASM-6(V)R1E
RASM-7R1E

Eco-friendly Yutaki M R32 range

Perfect solution for cold climates



MONOBLOC AIR-TO-WATER HEAT PUMP

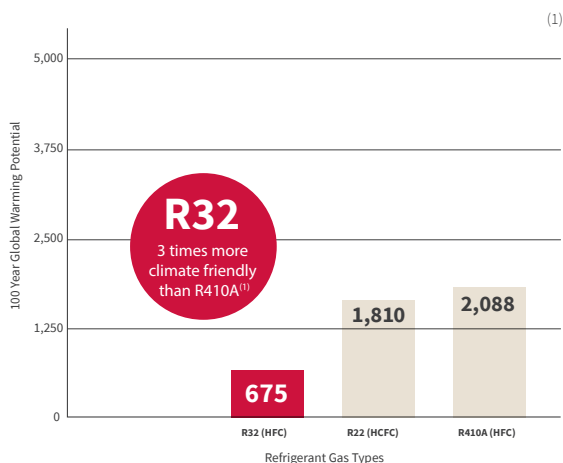
5

YUTAKI M R32

COMPLETE LINE-UP WITH "GREEN" R32 REFRIGERANT

Hitachi continues to meet the growing demand for energy efficient technologies and reduction of greenhouse emissions by expanding its Yutaki range of R32 models, which is in line with the current F-gas regulations.

R32 refrigerant has a low GWP (global warming potential) and a zero ozone layer depletion potential (ODP), and therefore, has a lower impact on the environment and CO₂ emissions. The update of the Yutaki line-up from R410a to a more environmentally friendly R32 refrigerant has increased the sustainability of the units and contributed to the greenhouse emissions reduction:



⁽¹⁾ Source: IPCC Forth Assessment Report

Eco-friendly refrigerant

- Better seasonal efficiency
- Wider working range
- Low environmental impact



2 956
houses' electricity
saved for 1 year!



(2)

⁽²⁾ Switching all Yutaki monobloc range to R32 represents a reduction of Teq CO₂ equal to 2956 houses electricity consumption for 1 year of sales.

POWER+ models for low ambient

Designed for cold climates, Yutaki M R32 from 11 to 16kW guarantee constant heating capacity, while producing hot water of +60°C even at sub-zero ambient temperatures.



High capacity
at low ambient
temperatures



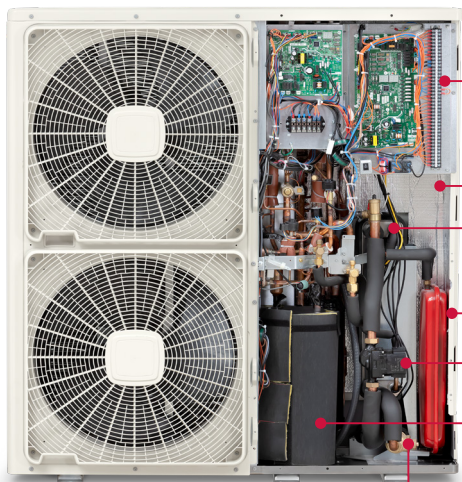
Energy
savings



Features & benefits

Focus on POWER+ models (from 11 to 16kW)

YUTAKI M: KEY COMPONENTS



Terminal board

40 connections available and well identified. Series of Inputs / Outputs and Sensors that can be configured in different ways for more flexibility.

Insulation

Almost all the cabinet is insulated with an exclusive material considered one the best to improve acoustic performances.

Cross flow plate heat exchanger

Efficient design for low pressure drop.

Expansion vessel

Water pump

New model with high water pressure guarantee.

Compressor

New rotary compressor for exceptional performances.

Filter ball valve

Big size for a clean and efficient system.

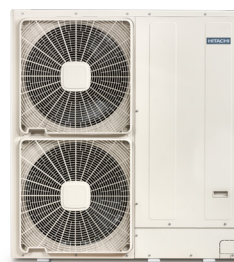
DISCREET UNITS FOR BETTER COMFORT

Hitachi wants to offer high performances and, at the same time, create a quiet and peaceful environment for customers. Therefore, design of the new outdoor unit was improved to guarantee to end-users discreet operation of the system.

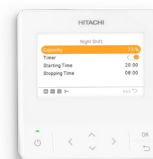
Night shift

Sound power level can be reduced further thanks to the Night shift mode easily programmable directly on the LCD controller.

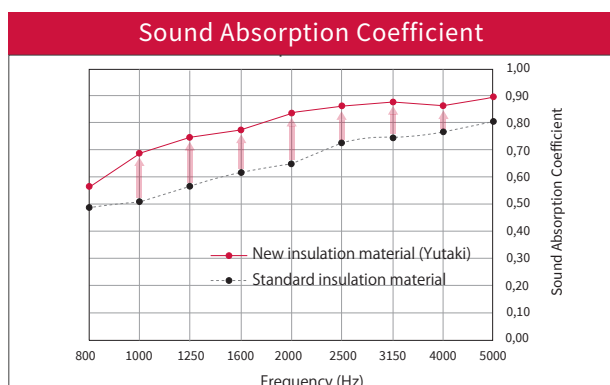
Set time period (for example, during the night) and capacity reduction of the heat pump and sound power level will be even lower.



Yutaki M R32 (4-7HP)



LCD controller



Discreet operation

- New technology for quiet operation
- Additional settings to increase comfort
- Sound power level: **61dB**
- **Every 3dB of noise reduction represents a halving of sound energy.*

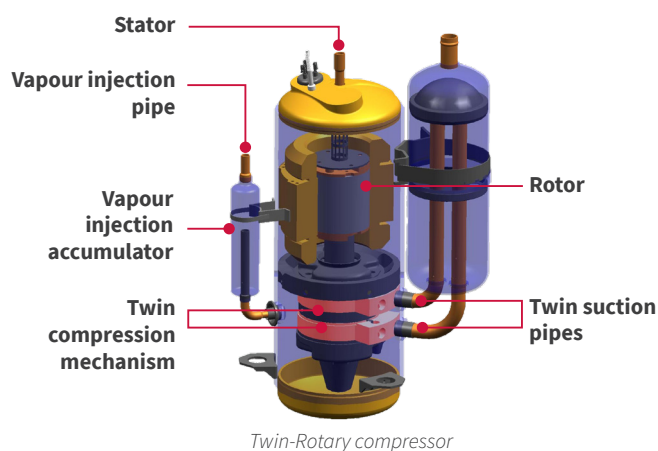
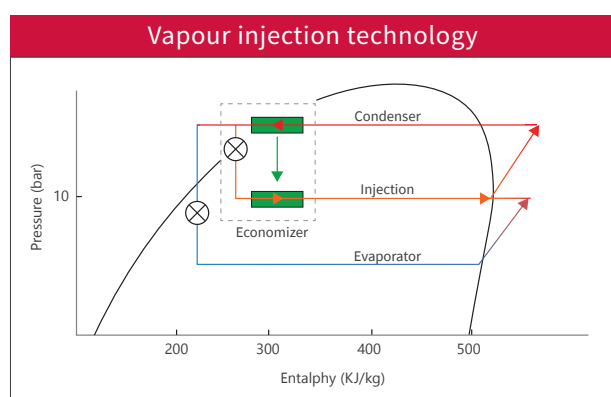
ENHANCED VAPOUR INJECTION TECHNOLOGY

Yutaki Monobloc outdoor units are equipped with a new high tech twin-rotary compressor, which provides high capacities at low ambient temperatures.

Enhanced Vapour Injection Twin-Rotary compressor

The Economizer EV is adjusted to control the discharge temperature by injecting vapour into the compression chamber.

Performance at very low ambient temperature is enhanced and the unit can supply 55°C water even at -20°C ambient temperature.



Improved efficiency

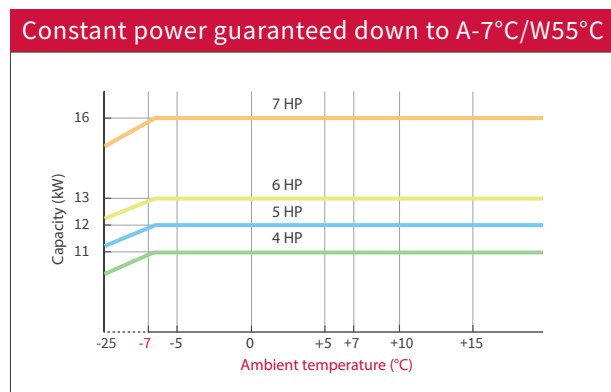
- Economizer circuit controlled by a dedicated Expansion Valve
- Improved capacity at low ambient temperature
- Higher water outlet temperature at very cold ambient

GUARANTEED COMFORT EVEN IN EXTREME WEATHER CONDITIONS

New Yutaki Monobloc heat pumps are the best choice for all residential refurbishment projects. They meet Heating needs even at very low ambient temperatures.

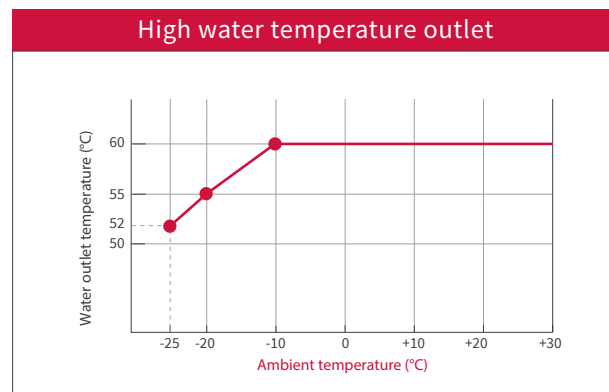
Constant power

Hitachi exclusivity : New twin-rotary compressor with enhanced vapour injection port maintains high capacities down to sub-zero temperatures!



Working range

Additionally to high capacities, new Yutaki units guarantee a **high water temperature outlet** even at very low ambient temperatures.



ECO-FRIENDLY HEAT PUMP FOR HIGH PERFORMANCES

✂ Easy installation

- **Plug & Play:** only hydraulic & electrical connections to be done. No refrigerant handling.
- **Easy access** to components
- Included as **standard:** (2nd circuits, boiler combination, SWP combination etc)

♥ Comfort

- **All-in-one** solution: Heating / Cooling / DHW with an external tank
- **High performances** all year long
- **Silent** outdoor units
- Compatible with **underfloor heating, radiators and fancoils**

★ Higher performances

- Wide line-up **from 4.3 to 16kW:** Exclusive **POWER+** models
- **Exclusive technology** for higher efficiency
- **Constant power:** Heating or Cooling capacities maintained
- Best working range on the market

💰 Savings

- High seasonal efficiency **A+++**
- **High efficiency:** generates **more than 4 times more thermal energy** than electrical energy used
- **COP 4.66** and **EER 4.8**
- Contributes to **reduced energy consumption** and, therefore, costs

📄 Controls

- Latest generation of **LCD controller** with exclusive functionalities
- Remote controls and remote maintenance
- Wide range of room thermostats
- Exclusive **Cascade controller**

👍 Best quality

- Designed and manufactured in JCH factory in **Europe**
- **HP KEYMARK** certification for all models



Controls & connectivity

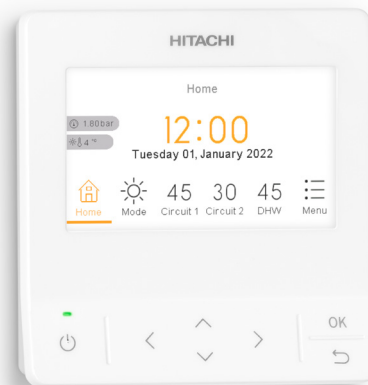
New generation LCD controller

With a sleek, award-winning design, our new advanced color LCD controller offers elegance and ease-of-use.

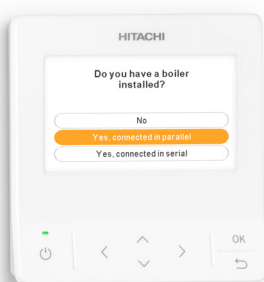
New generation LCD controller is compatible with the new **POWER+ models** (11 - 16 kW) .

26 LANGUAGES
are available!

EUROPEAN
PRODUCT
DESIGN
AWARD

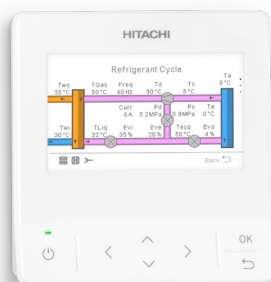


INTUITIVE AND VISUAL INTERFACE WITH EXCLUSIVE FUNCTIONALITIES



① WIZARD:

An intuitive 10-question configuration assistant to get your installation up and running in just 2 minutes. Simple, fast, and always meets your needs.



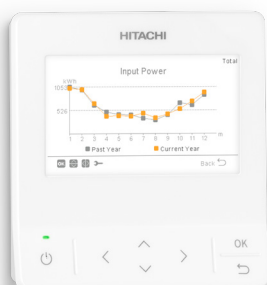
② SYNOPTIC VIEW:

System status can be checked easily directly on the LCD controller with the synoptic view showing unit's live operation information: 23 operating data registered every 5 min.



③ FAN COILS CONTROL:

No more dedicated thermostat for fan coils is needed. With Yutaki, LCD controller can directly manage the fan coils speed and mode.



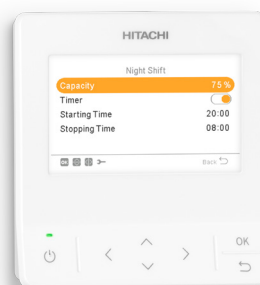
④ ENERGY CONSUMPTION:

Check and compare directly in Yutaki LCD controller, energy data (input power or capacity) for space heating, cooling, DHW, swimming pool or total of the installation.



⑤ WEEKLY TIMER:

Setting the weekly timer in 1 minute is now possible thanks to Timer wizard : 3 questions to answer and your weekly timer is configured according to your needs.

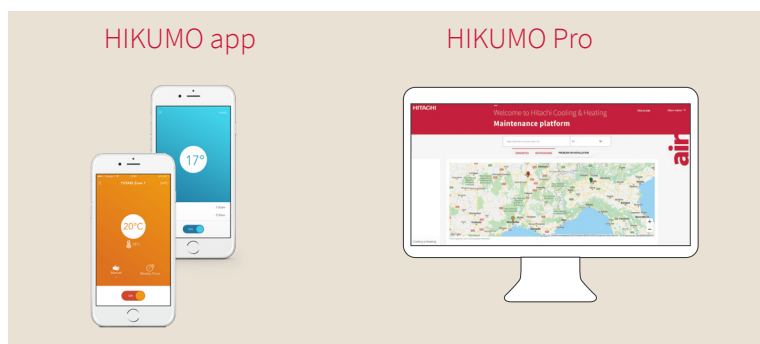


⑥ NIGHT SHIFT:

Night shift mode can be configured easily directly on LCD controller of the unit. It enables a further reduction of sound power level during a certain period of time.

CONTROL YOUR YUTAKI HEAT PUMP REMOTELY

HIKUMO & HIKUMO Pro applications



Control your Yutaki heat pump remotely with HIKUMO application:

- Set temperature for heating, cooling, domestic hot water and swimming pool
- Activate Holiday mode or Weekly timer in few seconds
- Be notified in case of alarm on your system

Going even further with Hitachi Cooling & Heating remote maintenance system for Installers HIKUMO Pro:

- Check live operational data of all connected heat pumps
- Alarm notification by email
- Troubleshooting guide available in a few clicks

Communication interfaces for HIKUMO app and HIKUMO Pro^(*)



Home Automation gateway
ATW-TAG-02

+



HiBox
AHP-SMB-01

(*) Available while supplies last.

ROOM THERMOSTATS & CASCADE CONTROLLER

New Yutaki M R32 is compatible with Hitachi Cooling & Heating range of thermostats.

Intelligent wireless thermostat

(ATW-RTU-07)



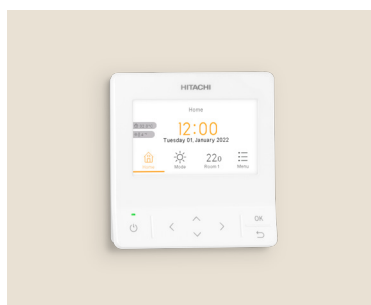
Intelligent wireless thermostat (Circuit 2)

(ATW-RTU-06)



Wired thermostat

(PC-ARFH2E^(**))



Cascade controller

(ATW-YCC-03^(**))



New cascade controller available for the new generation of Yutaki M R32 (from 4 to 7HP). One central controller to coordinate Yutaki operation installed in cascade:

- Control up to 8 Yutaki in cascade
- Heating, Cooling and DHW
- Exclusive functions: rotational control, alarm control, intelligent defrost

(**) Only for 4 to 7HP outdoor models.
PC-ARFH1E wired thermostat for 2 & 3HP.

Accessories & online tools

ACCESSORIES



Cooling kit Yutaki M
ATW-CKM-01



Drain pan heater^(*)
DH-SP280A



2nd outdoor temp. sensor
ATW-2OS-02



Indoor wired temp. sensor
ATW-ITS-01



Universal water temp sensor
ATW-WTS-02Y



Auxiliary output signal box
ATW-AOS-02



2nd temp. kit (wall)
ATW-2TK-07



Mirror controller^(*)
ATW-YMM-02



Hydraulic separator
ATW-HSK-01



DHW Tanks
DHWT-200/300S-3.0H2E



AquaStat
ATW-AQT-01



3-way valve
ATW-3WV-01



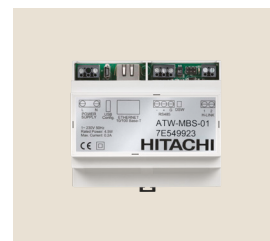
Water check valve
ATW-WCV-01



Diff. pressure valve
ATW-DPOV-01



KNX gateway
ATW-KNX-02



Modbus gateway
ATW-MBS-02
HCA16MB

Accessories designed to protect double fan monobloc outdoor units from severe climate conditions:

- Snow protections
- Air flow guide
- Wind protections

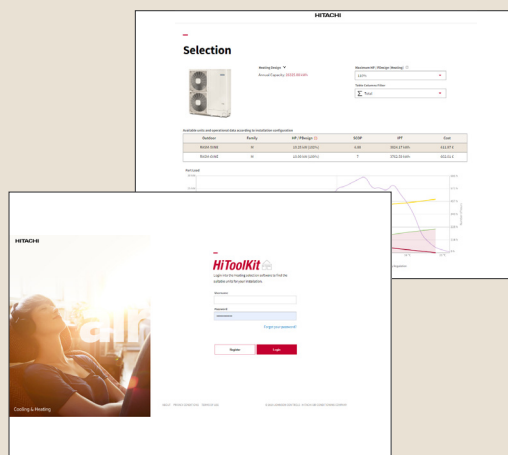
(*) Only for 4 to 7HP outdoor models.
ATW-YMM-01 for 2 & 3HP.

The best selection software to help installers to make the most relevant proposal to customers.

- Easy to use and modern interface
- Wide range of functionalities:
 - ✓ Selection according to heating and cooling needs
 - ✓ Accessories' automatic selection
 - ✓ Installation cost
 - ✓ Complete report etc.
- Cascade configuration with all Yutaki available, with cascade controller option

For more details, please visit:

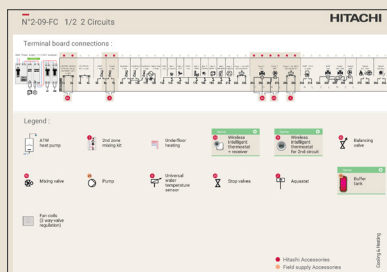
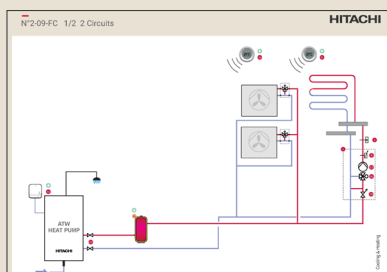
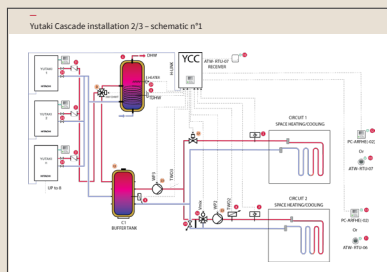
<https://www.hitachi-hitoolkit.com/yutaki/login>



YUTAKI APPLICATIONS

Exclusive online schematic library for Yutaki air-to-water heat pumps.

- Answering fewer than 10 questions, a simple hydraulic schematic is generated
- Numerous information on hydraulic installation, electrical connections to Yutaki terminal board and accessories needed for the installation (Hitachi / field supply)
- Single or cascade installations



For more details, please visit:

www.yutaki-applications.com

Technical data

Yutaki M

Model		YUTAKI M 4.3kW	YUTAKI M 8kW	YUTAKI M 11kW	YUTAKI M 12kW	YUTAKI M 13kW	YUTAKI M 16kW
Performance, heating							
Min./nom./max. heating capacity (A7/W35)	kW	1.83 / 4.3 / 6.5	2.1 / 8 / 11	4.3 / 11 / 14	4.8 / 12 / 15	5.5 / 13 / 16	6 / 16 / 18
Nom./max. heating capacity (A-7/W35)	kW	4.5 / 5.3	5.8 / 7.5	11 / 11	12 / 12.5	13 / 14	16 / 16
Nom./max. heating capacity (A-7/W55)	kW	4 / 4.2	5 / 5.5	11 / 11	12 / 12	13 / 13	16 / 16
COP (A7/W35) according to EN14511	kW	5.25	4.6	4.7	4.5	4.5	4.42
SCOP average climate according to EN14825 (35°C) 1~/3~	kW	4.5	4.6	4.45 / 4.24	4.45 / 4.13	4.45 / 4.15	- / 3,97
SCOP average climate according to EN14826 (55°C) 1~/3~	-	3.2	3.4	3.38 / 3.21	3.40 / 3.26	3.41 / 3.28	- / 3,21
Seasonal heating energy efficiency ηs (35°C) 1~/3~	-	181	177	175 / 166	175 / 162	175 / 163	156
Seasonal heating energy efficiency ηs (55°C) 1~/3~	%	133	125	132 / 125	133 / 127	133 / 128	125
Energy class 35°C 1~/3~	%	A+++		A+++ / A++		A++	
Energy class 55°C 1~/3~	-	A++		A++ / A++		A++	
Water outlet temperature range (heating mode)	°C	20 / 60°C		20 / 60°C			
Max. water temperature outlet in thermodynamic mode only	°C	60°C down to -5°C outside		60°C down to -10°C outside			
Cooling performances (optional) (preliminary data)							
Nom./max. cooling capacity (A35/W7)	kW	4 / 5	6.5 / 7	11 / 12	12 / 13	13 / 14.7	14 / 16
EER 1~/3~	-	4	3.35	3.37 / 3.32	3.30	3.22	3.16
Nom./max. cooling capacity (A35/W18)	kW	5.5 / 6.4	7 / 9	11 / 15	12 / 16	14 / 17	15 / 18
EER 1~/3~	-	5.4	5	4.82 / 5.04	4.71	4.65	4.60
OUTDOOR UNITS		RASM-2VRE	RASM-3VRE	RASM-4(V)R1E	RASM-5(V)R1E	RASM-6(V)R1E	RASM-7R1E
Electric backup heater (optional)	kW	6 (3 steps)		6 (3 steps)			
Net weight	kg	76	78	130	138	138	138
Dimensions (H x W x D)	mm	704 x 1248 x 300		1515 x 1252 x 370			
Sound pressure level at 1m / Sound power level in Heating mode	dB(A)	61	64	61	63	63	65
Air flow rate	m3/h	2526	2982	7920	8280	8280	8640
Operating ranges in Cooling / Heating / DHW mode	°C	+10~+46 / -20~+25 / -20~35		+10~+46 / -25~+25 / -25~35			
Remote control	-	PC-ARFH1E		PC-ARFH2E			
Hydraulic data							
Expansion vessel	L	6		6			
Water flow (min./nom./max.)	m3/h	0.5 / 0.77 / 1.9	0.6 / 1.29 / 2.1	1.6 / 1.89 / 2.8	1.1 / 2.06 / 3	1.2 / 2.24 / 3	1.2 / 2.75 / 3
Shutdown valves (male/male valves - field supplied)	inches	1"		1"1/4			
Min. installation water volume	L	28		50	55	55	65
Electrical features							
Power supply	-	230V / 1ph / 50Hz		230V / 1ph / 50Hz or 400V / 3ph / 50Hz			400V / 3ph / 50Hz
1~ 230V	Max. current	A	10.6	16	28.8		
	Cable width (mm²) / max. length (m)	-	2 x 4 + GND		2 x 6 + GND		
	Max. current with tank element / Yutaki M Option	A	23.1	28.5	41.3		
	Cable width (mm²) / max. length (m)	-	2 x 6 + GND		2 x 6 + GND		2 x 10 + GND
3~400V	Max. current	A			16.3		
	Cable width (mm²) / max. length (m) ⁽¹⁾	-			4 x 4 + GND		
	Max. current with tank element / Yutaki M Option	A			28.8		
	Cable width (mm²) / max. length (m) ⁽¹⁾	-			4 x 6 + GND		
Refrigerant data							
Refrigerant charge	kg	1.2	1.3	2.6	3	3	3
Refrigerant	-	R32					
Compressor		SCROLL	ROTARY	TWIN-ROTARY			

⁽¹⁾Data given for reference purposes only. Compliant with the applicable electrical standards. (V) = mono.

Notes

A series of horizontal dotted lines for writing notes.



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

ADDRESS

2 Rue de Lombardie, Parc Aktiland II
69800 Saint Priest FRANCE
Tel: +33-4-3742-0002
www.hitachiaircon.com



HITACHI. CERTIFIED QUALITY



HP Keymark certified performance

The specifications of this catalog may change without prior notice to allow Hitachi Cooling & Heating to incorporate the latest innovations for its customers. The information contained in this catalog is merely informative. Hitachi Cooling & Heating declines any responsibility in the broadest sense, for damage, direct or indirect, arising from the use and / or interpretation of the recommendations in this catalog.

Find the products Hitachi Cooling & Heating with the best service and conditions at your Hitachi Distributor.