HITACHI

Inspire the Next

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HITACHI products are available at:

HITACHI General Catalogue

General Catalogue

Commercial Air Conditioning
VRF Systems
Domestic Heating
Industrial Air Conditioning

ALPHA CLIMA
ΣΩΤΗΡΗΣ ΚΑΡΚΑΣ
ΘΕΡΜΑΝΣΗ-ΚΛΙΜΑΤΙΣΜΟΣ-ΗΛΙΑΚΑ
ΗΛΕΚΤΡΙΚΑ-ΦΥΣΙΚΟ ΑΕΡΙΟ

HITACHI

Inspire the Next

Air Conditioning

Meet MIRAI

My name is MIRAI and I will be your guide in the world of HITACHI air conditioning.
The word MIRAI means FUTURE in Japanese and I represent HITACHI's ability to predict in advance customers' needs in air conditioning products and solutions.
HITACHI's work philosophy is founded exactly on this principle: every year we invest a portion of our corporate earnings in the research and development of new products in line with the market's exacting demands, yet respecting and safeguarding the environment.
With this spirit, our abilities, our ongoing commitment, we have been continuously growing for more than 100 years and we are not going to stop!
Confident in our solid past but with our eyes firmly set on the future...

This is HITACHI!

I am MIRAI!

Company Profile

HITACHI
Inspire the Next

Hitachi Air Conditioning Products Europe - *HAPE Production facility - Barcelona,* **Spain**

In 2012 HITACHI widened their activities by setting up HITACHI Air Conditioning Europe SAS.
HITACHI Air Conditioning Europe encompasses all Air Conditioning operations in the European market, including sales and production.

Air conditioning according to HITACHI means **more innovative ideas**, the most recent **technological developments** and, together with **engineering** and **quality control** processes, producing systems to improve life in a home and professional environment.
In producing its range of innovative products, HITACHI has a responsible and environmentally-friendly approach which imbues every activity within the process, from the first design stage of a new product, to production, to installation and operation procedures, guaranteeing products 'Engineered for tomorrow'.
HITACHI is committed to supplying products of outstanding quality with the highest efficiency levels and the best cost-effectiveness. Achieving success with such ambitious goals on a global scale does not only involve committing considerable resources, but also implies a bold bet and huge commitment to the future.

Among the most prominent companies worldwide, with about 360,000 employees, HITACHI can build on their expertise and knowledge, in the awareness it has been successfully addressing customers' changing needs for more than a century. Our de-

sign and development skills are second to none and HITACHI is firmly ready to face the future with serenity and confidence.
HITACHI – the name means “Rising Sun” in Japanese – is at the forefront in research and development, along a path led by substantial investments. About 4.2% of its worldwide 2010* $112,2 billion turn-over has been invested in research and development programs. This allows HITACHI to boast a wide number of “world's first” products, such as the acclaimed and technologically advanced scroll compressors and semi-hermetic screw compressors. HITACHI compressors have revolutionised the air-conditioning world.

The design process starts in Japan's workshops and production units and is continuously developed via an exchange with the other units worldwide.
HITACHI Air Conditioning products are sought after worldwide, whenever there is a need for high-efficiency products with the best price-quality ratio and an extremely long life. The widest product range, matched to an adequate set of electronic controls, allows HITACHI to offer solutions for any application or technical specification.

The innovative HITACHI production facility and training centre set up in Barcelona, Spain (HAPE) is tailored to the European market. The technologies used afford significant savings in production costs, fast deliveries and prompt support in meeting customers' needs.

In addition to the technical support provided by HITACHI Air Conditioning Europe, the local units contribute with their abilities and know-how to supporting customers from design to after-sale service in starting up and controlling systems.
The after-sale service relies on a network of selected professionals and an extremely fast support in spare parts.
To meet your air conditioning and heating needs and to assure air quality in your environment, consider HITACHI Air Conditioning Europe as your partner, able to guide you in all air conditioning choices and ‘Inspiring the Next ...’

Hitachi Air Conditioning Systems Co., Ltd. - *Production facility - Shimizu,* **Japan**

Hitachi Air Conditioning Products (M) - *HAPM Production Facility - Kuala Lumpur,* **Malaysia**

EcoDesign (E.r.P.)

A Directive to address European environmental emission reduction goals

Europe has revisited the original EcoDesign Directive (Directive 2005/32/CE) and widened its field of application in order to achieve European 3 x 20 environmental goals (-20% energy consumption, -20% CO2 emissions, +20% renewable energies) by 2020.
The initial scope of EcoDesign was E.u.P. (Energy using Products). However, the present scope of EcoDesign encompasses all products that are connected to the use of energy (e.g.: windows, panelling) and it has been more correctly named E.r.P. (Energy related Products).

What does EcoDesign mean?

EcoDesign means taking into consideration the environmental aspects of every product/service in question.
This approach consists in considering CO2 emissions and energy consumption throughout the entire life of the product (from design to end of life, including transport).

ErP concerning conditioning and heating systems

The EcoDesign analysis highlights that the greatest environmental impact arises from the utilisation period of the products. For this reason, ErP sets minimum compulsory efficiency levels to enter the European market. At the same time, Erp requires the disclosure of technical data to users through a label which must show efficiency data and noise level, with the aim of assisting consumers in their choices.
ErP applies to every conditioning and heating system independently from the type (air/air, air/water, water/water, boilers...), capacity, utilisation (heating, conditioning, DHW) via a range of "Lots" and different time frames. The first Lot in force as of 1st January 2013 is "Lot 10". It covers all air conditioners (air/air), with capacity lower than 12kW, operating in conditioning and/or heating.

Fundamental aspects of Lot 10

- 3 fundamental aspects in terms of compliance are described in Directive 2010/30/UE No.626/2011 of 4 May 2011 and in Directive 2009/125/EC No.206/2012 of 6 March 2012.
  - (a) Definition of the minimum efficiency level in heating and conditioning
  - (b) Definition of the Sound Power level for internal and external unit at nominal conditions
  - (c) Definition of the criteria for communication to the user by means of the label

- The application date is 1st January 2013.
  However, levels (a) and (b) will be increased every year and labelling will be updated every 2 years.

- The efficiency level (a) refers to seasonal efficiency of the system, called SCOP (heating) and SEER (conditioning) for the average European climate. This efficiency coefficient is going to replace the previous COP and EER values.

Table of minimum SCOP/SEER values for compliance

Energy rating	SEER	Energy rating
A +++	SEER 8.50	SCOP ≤ 5.10
A ++	6.10 ≤ SEER ≥ 8.50	4.60 ≤ SCOP < 5.10
A +	5.60 ≤ SEER ≥ 6.10	4.00 ≤ SCOP < 4.60
A	5.10 ≤ SEER ≥ 5.60	3.40 ≤ SCOP < 4.00
B	4.60 ≤ SEER ≥ 5.10	
C	4.10 ≤ SEER ≥ 4.60	
D	3.60 ≤ SEER ≥ 4.10	

2013	2014	
SEER: 3.60 (D)	SEER:	4.30 (C) 6 ÷ 12kW 4.60 (B) < 6kW
SCOP: 3.40 (A)	SCOP:	3.80 (A)

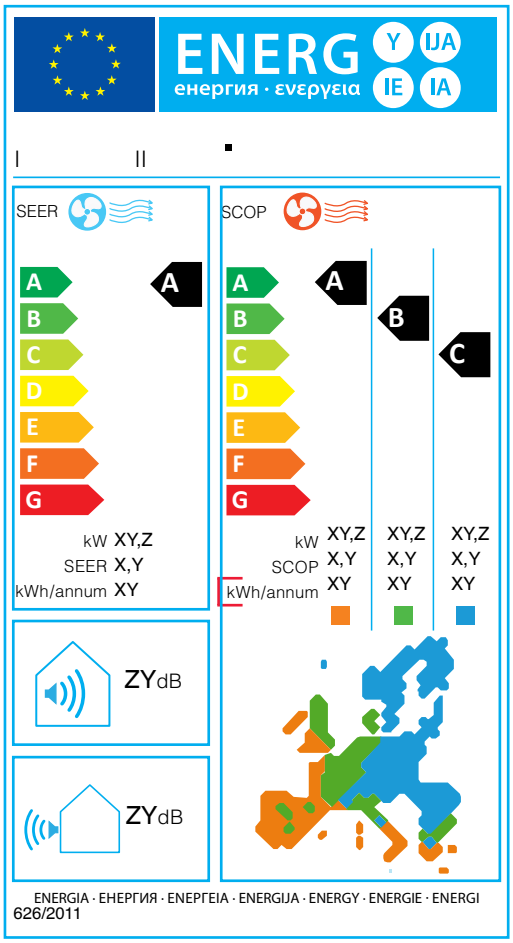
Main differences between nominal COP and SCOP :

«Nominal COP» defines the efficiency of the system in one measuring point: +7°C outside, +20°C inside, compressor at nominal speed.
«SCOP» defines the system's seasonal efficiency, considering:

- 5 measuring points: -10°C, -7°C, +2°C, +7°C, +12°C outside, +20°C inside
- Different compressor speeds (full load and partial load). Ancillary consumptions (oil heater, thermostat off mode, off mode, stand-by…)
- Temperature conditions for an identified climate (obligatory average climate, optional hot climate and cold climate) and number of operating hours depending on outdoor temperatures
- Thermal load of the building (called Pdesign)

For these reasons, the SCOP (and SEER) give a more accurate estimate of the actual efficiency of a system throughout the entire time of utilisation.

Climate considered by ErP	Reference temperature “T design”
Average	- 10° C
Cold	- 22° C
Hot	+ 2° C



Sound power
of the internal and external unit at nominal capacity

Yearly Kwh
used in cooling and heating mode calculated under the Regulations

Note:
The manufacturer may choose to declare the data for all zones.
The average climate is the only obligatory one.
Pdesign = thermal load at the standard design temperature T design.

http://erpactive.hitachiaircon.com

Contents

Commercial

PROSECCO PRIVE'
SAN VENDEMIANO (TV)
APPLICATION OF HITACHI VRF SET FREE

In the market of air conditioning for modern retail buildings, we are witnessing an increase in demand for comprehensive systems, fixtures able to simultaneously deliver cooling and heating, to adapt to the unfolding seasons and maintain the desired temperature in every area. The clientèle also need to save time, money and space in installing air conditioning systems and rightly expect the utmost flexibility to adapt them to any future modification of their needs.

We are also obviously witnessing an increase in the demand for ecologically sustainable systems that can be easily managed in order to avoid wasting energy as a consequence of room over-heating or over-cooling, as well as incorrect settings by the final user.

Utopia and VRF Set Free by HITACHI are the answer to all these requirements, and any other needs that might arise in the future.

System Free Indoor Units

System Free indoor units afford the widest freedom of choice in designing air conditioning systems.
All indoor units are interchangeable and may be connected to any outdoor Commercial or Set Free unit.

Control is centralised, via the HITACHI H-Link II communication bus.
Combining different types of indoor units for an optimal air conditioning concept, this is the freedom afforded by System Free.

Indoor units

Utopia Range

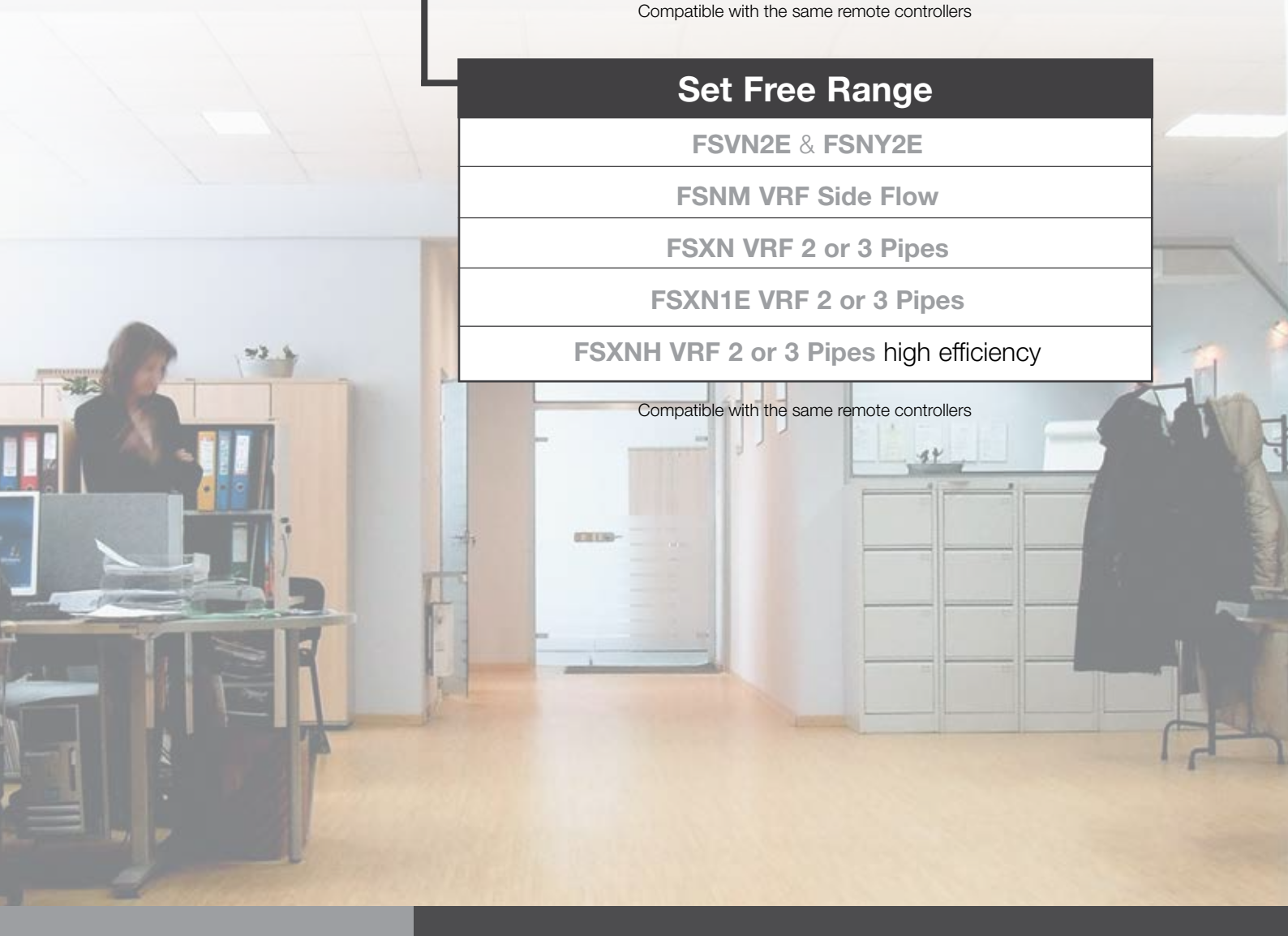
- **Utopia ES** (Simultaneous Indoor Unit Operation)
- **Utopia IVX STANDARD** (Independent Indoor Unit Operation)
- **Utopia IVX PREMIUM** (Independent Indoor Units)
- **Utopia RASC IVX** (Independent Indoor Unit Operation)

Compatible with the same remote controllers

Set Free Range

- **FSVN2E** & **FSNY2E**
- **FSNM VRF Side Flow**
- **FSXN VRF 2 or 3 Pipes**
- **FSXN1E VRF 2 or 3 Pipes**
- **FSXNH VRF 2 or 3 Pipes** high efficiency

Compatible with the same remote controllers



Indoor units

		NEW Power (HP)													
		0.6	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.5	3.0	4.0	5.0	6.0	8.0	10.0
Wall	RPK	■	↺	■	■	↺	■	↺		■	■	■				
4-Way Mini Cassette	RCIM	■	↺	■	■	↺	■	↺								
4-Way Mini Cassette High Efficiency	RCI		■	↺	■	↺	■	↺	■	↺	■	■	■	■		
4-Way Mini Cassette series k NEW	RCI Ek		■	↺	■	↺	■	↺	■	↺	■	■	■	■		
Series i 4-Way Cassette	RCI Ei		■	↺	■	↺	■	↺	■	↺	■	■	■	■		
2-Way Mini Cassette	RCD		■	↺	■	↺	■	↺	■	↺	■	■	■			
Ceiling High Efficiency NEW	RPC				■	↺	■	↺	■	↺	■	■	■	■		
Ceiling	RPC						■	↺	■	↺	■	■	■	■		
Mini Ducted	RPIM	■	↺	■	■	↺										
LP Ducted	RPI	■	↺	■	■	↺										
SP Ducted	RPI						■	↺	■	↺	■	■	■	■		
HP Ducted	RPI														■	■
Floor	RPF		↺	■	■	↺	■	↺	■	↺						
Recessed Floor	RPFI		↺	■	■	↺	■	↺	■	↺						
KIT Expansion Valve	DX KIT							■		■	■	■	■	■	■	■

■ Available Hitachi capacity ■ Capacity obtained with micro-switch modification ↺ Possibility of adjustment in decrease only

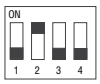
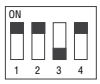
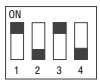
Air exchange

Unit for energy recovery	Air flow [m³/h]					
	250	500	800	1000	1500	2000
Celluloid Exchanger	■	■	■	■	■	■
Aluminium Exchanger		■	■	■	■	■
Celluloid Exchanger & direct expansion Battery		■	■	■		

System Free Indoor Units

Capacity adjustment of each unit using DIP switches

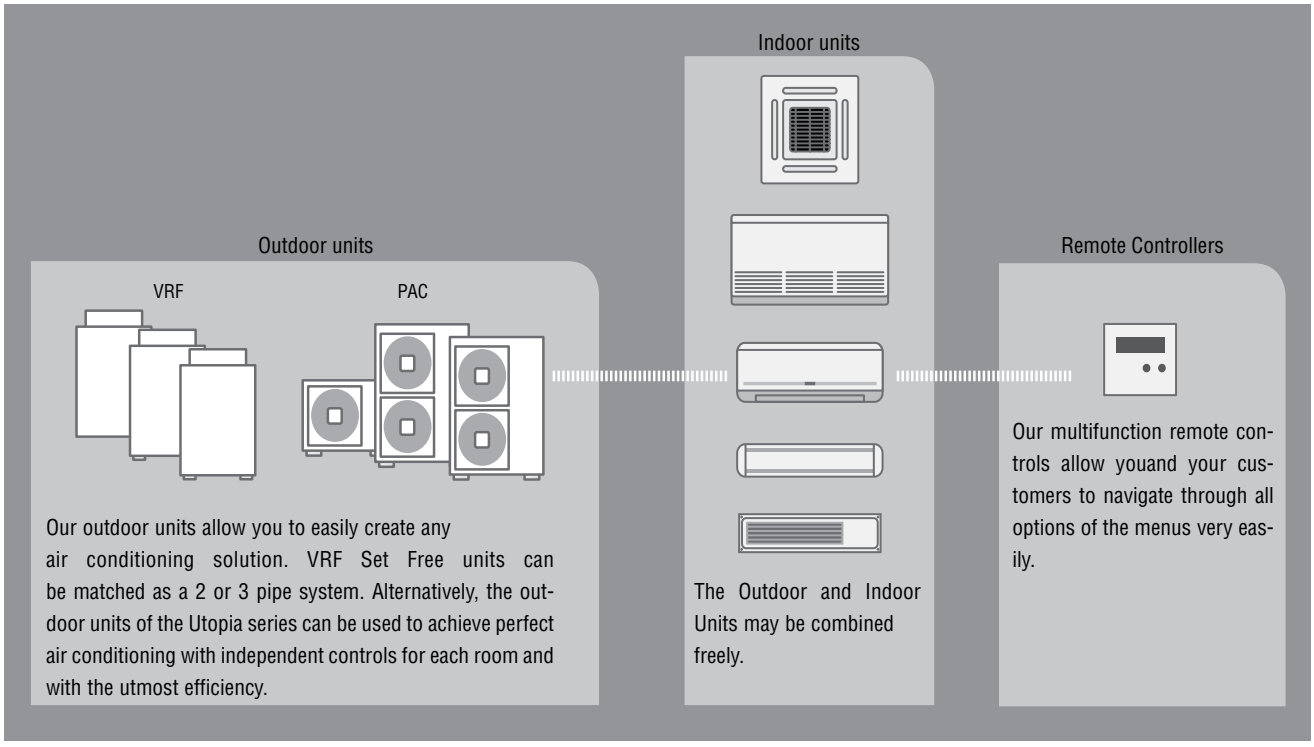
In certain situations, it is convenient to be able to adjust the capacity of indoor units, adapting the power yield to the actual installation needs. The power of each FREE system indoor unit in the range can be precisely adjusted with a DIP switch located on the internal electronic circuit. The DIP switch allows precise adjustments, even after installation, during start up or at any time, optimising overall system performance.

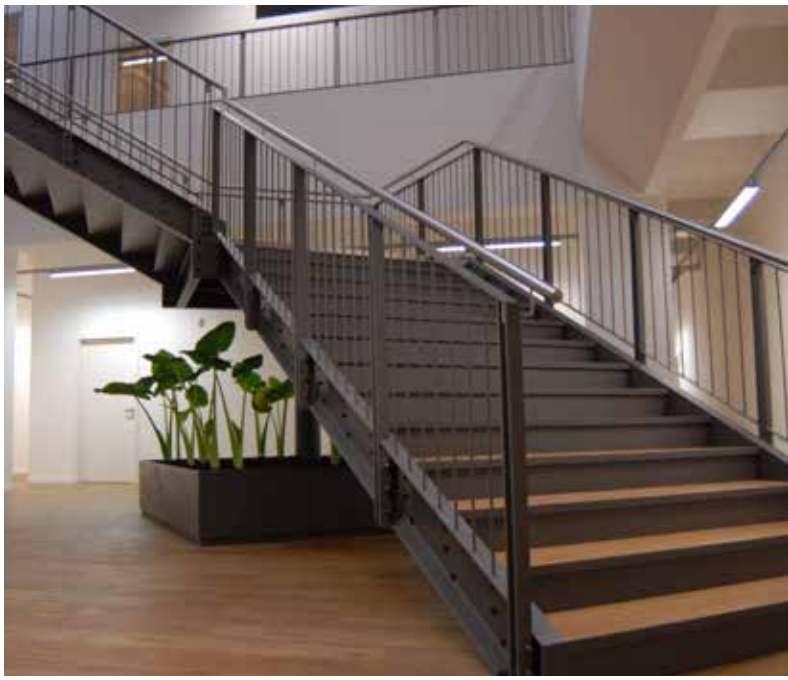
Power (HP)		0.6		0.8		1.3		1.8		2.3	
Power Variation		0.6 ←	0.8	0.8 ←	1.0	1.3 ←	1.5	1.8 ←	2.0	2.3 ←	2.5
Power Cooling	Kw	1.7		2.2		3.8		5.2		6.7	
Power High efficiency	Kw	1.9		2.5		4.2		5.6		7.5	
Change via Dip Switch		0.6HP	0.8HP	0.8HP	1.0HP	1.3HP	1.5HP	1.8HP	2.0HP	2.3HP	2.5HP
											
		Reduced set-up	Standard set-up	Reduced set-up	Standard set-up	Reduced set-up	Standard set-up	Reduced set-up	Standard set-up	Reduced set-up	Standard set-up

Maximum compatibility – System Free

Design in new dimensions with our System Free concept. You will find the optimal solution for your customers' needs with the wide modular range of HITACHI indoor and outdoor units.

Our 63 indoor units may be combined in any way you wish. We are able to offer independently adjusted air conditioning but, if required, we can offer solutions that differentiate between rooms. Whether you choose HITACHI commercial outdoor units in the Utopia series or VRF Set Free outdoor units, our System Free indoor units will always be perfectly matched!





AEV TERRAGLIO - MESTRE - APPLICATION OF HITACHI VRF SET FREE

Wall

RPK 0.6FSN3M
RPK 0.8FSN3M
RPK 1.0FSN3M
RPK 1.5FSN3M

RPK 2.0FSN3M
RPK 2.5FSN3M
RPK 3.0FSN3M
RPK 4.0FSN3M

- BUILT-IN INFRA RED RECEIVER
- OPTIONAL INPUTS/OUTPUTS

ELEGANT DESIGN

This line of indoor units has been developed with aesthetically pleasing front panels in order to meet today's ever increasing architecture and design needs. Special attention was paid to the smaller power units in the range.
These have in fact been totally redesigned and today feature new and elegant aesthetics.

COMPACT AND LIGHT

Thanks to the high quality of the materials they have been constructed in and to the care taken in designing them, the new wall indoor units are extremely small and light for easy and convenient installation.

REMOTE OR INFRA RED CONTROLLER

The standard accessories of these indoor units include a kit for signal reception from the infra red remote controller.
the wired remote controller can also be used in any case (PC-ARF, PC-ART, PC-ARH).

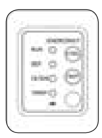
TECHNICAL DATA OF INDOOR WALL UNIT - RPK

CODE		NEW RPK-0.6FSN3M (4)	RPK-0.8FSN3M	RPK-1.0FSN3M	RPK-1.5FSN3M	RPK-2.0FSN3M	RPK-2.5FSN3M	RPK-3.0FSN3M	RPK-4.0FSN3M
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	-	2.0	2.5	3.6	5.0	5.6	7.1	10.0
Nominal capacity in heating mode with UTOPIA systems (2)	kW	-	2.2	2.8	4	5.6	6.3	8.0	11.2
Nominal capacity in cooling mode with SETFREE systems (1)	kW	1.7	2.2	2.8	4	5.6	7.1	8.0	11.2
Nominal capacity in heating mode with SETFREE systems (2)	kW	1.9	2.5	3.2	4.8	6.3	8.5	9.0	12.5
Power Supply	V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Input power	W	20	20	20	50	40	70	70	80
Dimensions (H×L×D)	mm	300x790x230	300x790x230	300x790x230	300x900x230	333x1150x245	333x1150x245	333x1150x245	333x1150x245
Weight	kg	10	10	10	11	17	18	18	18
Sound Pressure (L/M/H/H2) (3)	dB(A)	29/31/32/35	30/32/35/39	30/32/35/39	33/36/40/46	33/38/40/42	36/40/43/49	36/40/43/49	41/46/49/51
Sound power level at nominal output	dB(A)	49	53	53	58	57	59	59	64
Air flow (L/M/H/H2)	m³/h	360/420/450/480	390/420/480/600	390/420/480/600	450/540/660/840	600/780/840/900	720/840/1020/1140	720/840/1020/1140	900/1020/1140/1320
Piping section	mm	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/15.88	9.52/15.88	9.52/15.88	9.52/15.88
	inch.	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2	1/4 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1 metre below the unit and 1 metre from the air inlet deflector (measured in anechoic room)
(4) 0.6HP indoor units are only compatible with FSXNH and FSXN1E systems

Connectible with:


PC LH3B


PC ALHZF


PC ARH


PC ART


PC ARF

The infra red receiver is already fitted on the indoor unit (factory mounted).
Should a wall receiver be required, use: PC ALHZF.

Wall (remote expansion valve)

RPK 0.6FSNH3M
RPK 0.8FSNH3M
RPK 1.0FSNH3M
RPK 1.5FSNH3M

- BUILT-IN INFRA RED RECEIVER
- EXTREMELY QUIET
- SUITABLE FOR HOTEL USE
- OPTIONAL INPUTS/OUTPUTS

ELEGANT DESIGN

In order to address today's ever increasing architecture and design needs, the new line of RPK indoor units with remote expansion valve has been totally restyled to give the machine a new, very pleasant and elegant appearance.

COMPACT AND LIGHT

Thanks to the high quality of the materials they have been constructed in and to the care taken in designing them, the new wall indoor units are extremely small and light for easy and convenient installation.

EXTREMELY LOW NOISE LEVEL

The new structure of the unit and remote expansion valve afford extremely low noise levels able to assure a highly comfortable environment.

REMOTE OR INFRA RED CONTROLLER

The standard accessories of these indoor units include a kit for signal reception from the infra red remote controller.
the wired remote controller can also be used in any case (PC-ARF, PC-ART, PC-ARH).

EV-1.5N1 (remote expansion valve)

TECHNICAL DATA OF INDOOR WALL UNIT - RPK						
CODE			NEW RPK-0.6FSNH3M (4)	RPK-0.8FSNH3M	RPK-1.0FSNH3M	RPK-1.5FSNH3M
Nominal capacity in cooling mode with UTOPIA systems (1)		kW	-	2.0	2.5	3.6
Nominal capacity in heating mode with UTOPIA systems (2)		kW	-	2.2	2.8	4
Nominal capacity in cooling mode with SETFREE systems (1)		kW	1.7	2.2	2.8	4
Nominal capacity in heating mode with SETFREE systems (2)		kW	1.9	2.5	3.2	4.8
Power Supply		V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Input power		W	20	20	20	50
Dimensions (H×L×D)		mm	300x790x230	300x790x230	300x790x230	300x900x230
Weight		kg	10	10	10	11
Sound Pressure (L/M/H/H2) (3)		dB(A)	29/31/32/35	30/32/35/39	30/32/35/39	33/36/40/46
Sound power level at nominal output		dB(A)	49	53	53	58
Air flow (L/M/H/H2)		m^3/h	360/420/450/480	390/420/480/600	390/420/480/600	450/540/660/840
Piping section	Liquid line from IU to expansion valve	mm (inch.)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)
	Liquid line from expansion valve to system	mm (inch.)	6.35 (1/4)	6.35 (1/4)	6.35 (1/4)	6.35 (1/4)
	Gas line	mm (inch.)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1 metre below the unit and 1 metre from the air inlet deflector (measured in anechoic room)
(4) 0.6HP indoor units are only compatible with FSXNH and FSXN1E systems

Connectible with:

PC LH3B

PC ALHZF

PC ARH

PC ART

PC ARF

The infra red receiver is already fitted on the indoor unit (factory mounted).
Should a wall receiver be required, use: PC ALHZF.

4-Way mini cassette

RCIM 0.6FSN3 (P-N23WAM panel)
RCIM 0.8FSN3 (P-N23WAM panel)
RCIM 1.0FSN3 (P-N23WAM panel)
RCIM 1.5FSN3 (P-N23WAM panel)
RCIM 2.0FSN3 (P-N23WAM panel)

- DC INVERTER MOTOR
- STANDARD 60X60 GRILLE
- CONDENSATE DRAIN PUMP
- OPTIONAL INPUTS/OUTPUTS

The 4-way RCIM mini cassette indoor units are extremely quiet and compact and have a series of features that make installation easier.
Among these, height adaptability to installation, compact size, lightness and consistency of panel shape and installation positions stand out, which make connecting pipes easier.

LOW NOISE LEVEL

The following table shows the sound levels of RCIM indoor units.

Operation sound levels dB(A)			
Model	Low	Average	High
RCIM 0.6FSN3	28	32	34
RCIM 0.8FSN3	28	34	36
RCIM 1.0FSN3	28	34	36
RCIM 1.5FSN3	33	35	38
RCIM-2.0FSN3	37	39	42

DC MOTOR WITH REDUCED INPUT AND NOISE

Compared to traditional AC motors, DC motors feature higher efficiency and lower noise level. They are also 50% more compact and lighter than traditional motors.

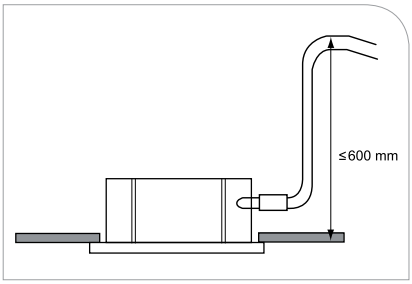
EASE OF INSTALLATION AND MAINTENANCE

With a height of just 295 mm and weight of just 17 kg, these units are easy to install also in very small spaces such as false ceilings. The square shape of the front panel, standardised with a 700 mm side, makes installation easier in 600x600 mm standard European pattern false ceilings. The suspension tie rods are located at the corners of the unit's body, which is square, and have 530 mm centre distance to change fixture orientation to match connection position with incoming piping.
The electrical panel is located inside the grille for

easy access to electrical parts with no need to remove the false ceiling panels.
A compartment on each corner of the panel allows the fixture's height to be adjusted without needing to remove the panel.

BUILT-IN CONDENSATE PUMP

The drainage system, equipped with a controlled pump depending on condensate level, is able to lift the condensate up to 600 mm above the ceiling surface.



ADAPTABLE FOR HIGH CEILING INSTALLATIONS

Thanks to the possibility of increasing speed, (when required), the motors used give to these fixtures the required flexibility to install them in rooms with especially high ceilings (3.5 or 3.9 m).

Speed setting	Room Height	
	RCIM 1.5FSN3	RCIM 2.0FSN3
Standard	Lower than 2.5 m	Lower than 2.7 m
Speed (1)	2.5 - 2.9 m	2.7 - 3.1 m
Speed (2)	2.9 - 3.9 m	3.1 - 3.5 m

TECHNICAL DATA OF 4-WAY MINICASSETTE UNIT - RCIM

CODE		NEW RCIM-0.6FSN3 (4)	RCIM-0.8FSN3	RCIM-1.0FSN3	RCIM-1.5FSN3	RCIM-2.0FSN3 (5)
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	-	2.0	2.5	3.6	5.0
Nominal capacity in heating mode with UTOPIA systems (2)	kW	-	2.2	2.8	4.0	5.6
Nominal capacity in cooling mode with SETFREE systems (1)	kW	1.7	2.2	2.8	4.0	5.6
Nominal capacity in heating mode with SETFREE systems (2)	kW	1.9	2.5	3.2	4.8	6.3
Power Supply	V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Input power	W	50	60	60	70	70
Dimensions (H×L×D)	mm	295x570x570	295x570x570	295x570x570	295x570x570	295x570x570
Weight	kg	17	17	17	17	17
Sound Pressure (L/M/H) (3)	dB(A)	28/32/34	28/34/36	28/34/36	33/35/38	37/39/42
Sound power level at nominal output	dB(A)	54	56	56	58	60
Air flow (L/M/H)	m³/h	600/660/720	600/720/780	600/720/780	720/810/900	720/840/960
Condensate drain pump lift	mm	650mm from the lower edge of the unit				
Piping section	mm	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/15.88
	inch.	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2	1/4 - 5/8

PANEL FOR CASSETTE

CODE	code	P-N23WAM	P-N23WAM	P-N23WAM	P-N23WAM	P-N23WAM
Dimensions (H×L×D)	mm	35x700x700	35x700x700	35x700x700	35x700x700	35x700x700
Weight	kg	3.5	3.5	3.5	3.5	3.5

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1.5 metres below the unit (measured in anechoic room with no reflection)
(4) 0.6HP indoor units are only compatible with FSXNH and FSXN1E systems
(5) The combination of MONO with Utopia IVX Standard and Premium is not allowed

Connectible with:


PC LH3A


PC ALHC


PC ALHZ


PC ARH


PC ART


PC ARF

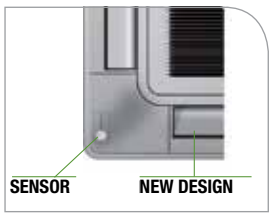
High efficiency RCI 4-way cassette

RCI 1.0~6.0FSN3
(PAP160NA1 panel
PAP160NAE optional)

- DC INVERTER MOTOR
- INDEPENDENT FLAPS
- DC CONDENSATE DRAIN PUMP
- MOTION SENSOR
- OPTIONAL INPUTS/OUTPUTS

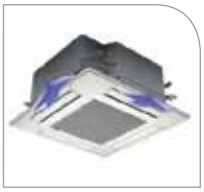
EXTREMELY HIGH ENERGY EFFICIENCY

Thanks to a new heat exchanger, completely re-designed and consisting in piping of just 5 mm diameter, a new turbo fan with 3D curve blades and the condensate drain pump with DC motor, the energy efficiency of 4-way cassette indoor units has significantly increased. The already high energy is further increased by the new optional panel with built-in motion sensor (P AP160NAE). In fact, thanks to its ability to analyse people's activity in the room, the indoor unit is able to modify its operation and adapt the temperature setting, fan speed and air flow direction. This adjusts operation to the actual activity, improves comfort and reduces energy consumption.



IDEAL COMFORT

The air flow louvres have been completely re-designed to prevent any discomfort due to any output temperature unevenness and cold air drafts. each of the four louvres can also be individually controlled.



ADAPTABILITY TO HIGH CEILINGS

The possibility to increase motor speed makes these units especially flexible and able to be installed in premises with very high ceilings such as shops and shopping centres.

ANTI-BACTERIAL CONDENSATE DRAIN

Silver ion anti-bacterial tabs have been inserted inside the condensate drain pan in order to prevent the formation of mould and bacteria.

Speed Setting	Room Height	
	(1.0-3.0) HP	(4.0-6.0) HP
Standard	Lower than 2.7m	Lower than 3.2m
Speed (1)	2.7 - 3.0m	3.2 - 3.6
Speed (2)	3.0 - 3.5m	3.6 - 4.2

CONNECTION FLEXIBILITY

The drainage system, equipped with a controlled pump depending on condensate level, is able to lift the condensate up to 850 mm above the ceiling surface.

INSIDE UNIT WITH 4-WAY CASSETTE 90X90 - RCI									
Code		RCI-1.0FSN3	RCI-1.5FSN3	RCI-2.0FSN3	RCI-2.5FSN3	RCI-3.0FSN3	RCI-4.0FSN3	RCI-5.0FSN3	RCI-6.0FSN3
Nominal cooling capacity with UTOPIA (1) systems	kW	-	3,6	5,0	6,3	7,1	10,	12,5	14,0
Nominal heating capacity with UTOPIA (2) systems	kW	-	4,0	5,6	7,0	8,0	11,2	14,0	16,0
Nominal cooling capacity with SETFREE (1) systems	kW	2,8	4,0	5,6	7,1	8,0	11,2	14,0	16,0
Nominal heating capacity with SETFREE (2) systems	kW	3,2	4,8	6,3	8,5	9,0	12,5	16,0	18,0
Power supply	V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Power consumption	W	57	57	57	57	57	127	127	127
Dimensions (H × L × D)	mm	248x840 x840	248x840 x840	248x840 x840	248x840 x840	248x840 x840	248x840 x840	248x840 x840	248x840x840
Weight	kg	20	21	21	22	26	26	26	26
Sound Pressure (High/Medium/Low) (3)	dB(A)	30/28/27	31/30/27	32/30/27	36/32/28	36/32/28	43/39/33	45/40/35	46/41/37
Sound Pressure nominal output (Cool. / Heat.)	dB(A)	ND	ND	ND	ND	ND	ND	ND	ND
Air flow rate (High/Medium/Low)	m³/h	780/660/540	1020/840/660	1020/840/660	1380/1080/840	1380/1080/840	1860/1440/1200	1980/1560/1260	2100/1680/1320
Level difference of pump condensate discharge	mm	850mm from lower edge of unit							
Piping section	mm	6,35/12,7	6,35/12,7	6,35/15,88	9,53/15,88	9,53/15,88	9,53/15,88	9,53-15,88	9,53-15,88
	poll.	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 - 5/8	3/8 - 5/8
PANEL FOR CASSETTES									
Code	cod.	P-AP160NA1	P-AP160NA1	P-AP160NA1	P-AP160NA1	P-AP160NA1	P-AP160NA1	P-AP160NA1	P-AP160NA1
Dimensions (H × L × D)	mm	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950
Weight	kg	ND	ND	ND	ND	ND	ND	ND	ND
PANEL FOR CASSETTES WITH SENSOR									
Code	cod.	P-AP160NAE	P-AP160NAE	P-AP160NAE	P-AP160NAE	P-AP160NAE	P-AP160NAE	P-AP160NAE	P-AP160NAE
Dimensions (H × L × D)	mm	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950
Weight	kg	ND	ND	ND	ND	ND	ND	ND	ND

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1.5 metres below the unit (measured in anechoic room)

The use of the P-AP160NAE motion sensor requires using the PC-ARF wired controller

With PC-ART 4^{the} speed operation is not possible
Connectible with:


PC LH3B


PC ALH3


PC ALHZF


PC ARH


PC ART


PC ARF

Series k 4-Way Cassette

NEW

RCI 1.0~6.0FSN3EK
(PAP160NA1 panel
PAP160NAE optional)

- DC INVERTER MOTOR
- INDEPENDENT FLAPS
- MOTION SENSOR
- OPTIONAL INPUTS/OUTPUTS

HITACHI is pleased to introduce the new 4-way cassette 90x90 series K line, featuring a wealth of technological innovations and able to assure extremely high performance, low consumption and optimal comfort.

NEW DESIGNER PANEL WITH INDEPENDENT LOUVRE CONTROL

The new ice-white designer panel allows the four louvres to be adjusted independently, thus adjusting air distribution to the needs of the people living on the premises.
Asymmetrical louvre rotation around one non-baricentric axis makes it possible to give a well-defined direction to the air flow, thus preventing any annoying cold draft.

MOTION SENSOR

Thanks to the use of the optional designer panel, fitted with motion sensor, energy consumption is reduced up to 14% (the percentage is variable depending on the type of application).
Furthermore, by means of the local PC ARF control of the sensor's operating conditions may be set at will in terms of:

- Sensor activation
- Unit behaviour in case of absence of persons on the premises: Stop unit, Thermo- off and Running
- Time interval selection: five possible settings in the interval 30 ÷ 180 minutes

Motion sensor activation will adapt the unit's set-point increasing it by 1°C every 10 minutes elapsed (30 minute setting) until going back to full functionality when the premises are occupied again.

INSIDE UNIT WITH 4-WAY CASSETTE 90X90 - RCI EK									
Code		RCI-1.0FSN3EK	RCI-1.5FSN3K	RCI-2.0FSN3K	RCI-2.5FSN3K	RCI-3.0FSN3K	RCI-4.0FSN3K	RCI-5.0FSN3K	RCI-6.0FSN3K
Nominal cooling capacity with UTOPIA (1) systems	kW	-	3,6	5,0	6,3	7,1	10,	12,5	14,0
Nominal heating capacity with UTOPIA (2) systems	kW	-	4,0	5,6	7,0	8,0	11,2	14,0	16,0
Nominal cooling capacity with SETFREE (1) systems	kW	2,8	4,0	5,6	7,1	8,0	11,2	14,0	16,0
Nominal heating capacity with SETFREE (2) systems	kW	3,2	4,8	6,3	8,5	9,0	12,5	16,0	18,0
Power supply	V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Power consumption	W	57	57	57	57	57	127	127	127
Dimensions (H × L × D)	mm	248x840x840	248x840x840	248x840x840	248x840x840	248x840x840	248x840x840	248x840x840	248x840x840
Weight	kg	20	21	21	22	26	26	26	26
Sound Pressure (High/Medium/Low) (3)	dB(A)	30/28/27	31/30/27	32/30/27	36/32/28	36/32/28	43/39/33	45/40/35	46/41/37
Sound Pressure nominal output (Cool. / Heat.)	dB(A)	ND	ND	ND	ND	ND	ND	ND	ND
Air flow rate (High/Medium/Low)	m³/h	780/660/540	1020/840/660	1020/840/660	1380/1080/840	1380/1080/840	1860/1440/1200	1980/1560/1260	2100/1680/1320
Level difference of pump condensate discharge	mm	850mm from lower edge of unit							
Piping section	mm	6,35/12,7	6,35/12,7	6,35/15,88	9,53/15,88	9,53/15,88	9,53/15,88	9,53-15,88	9,53-15,88
	poll.	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 - 5/8	3/8 - 5/8
PANEL FOR CASSETTES									
Code	cod.	P-AP160NA1	P-AP160NA1	P-AP160NA1	P-AP160NA1	P-AP160NA1	P-AP160NA1	P-AP160NA1	P-AP160NA1
Dimensions (H × L × D)	mm	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950
Weight	kg	ND	ND	ND	ND	ND	ND	ND	ND
PANEL FOR CASSETTES WITH SENSOR									
Code	cod.	P-AP160NAE	P-AP160NAE	P-AP160NAE	P-AP160NAE	P-AP160NAE	P-AP160NAE	P-AP160NAE	P-AP160NAE
Dimensions (H × L × D)	mm	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950	47x950x950
Weight	kg	ND	ND	ND	ND	ND	ND	ND	ND

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1.5 metres below the unit (measured in anechoic room)

The use of the P-AP160NAE motion sensor requires using the PC- ARF wired controller

With PC-ART 4th speed operation is not possible
Connectible with:


PC LH3B


PC ALH3


PC ALHZF


PC ARH


PC ART


PC ARF

Series I 4-Way Cassette

RCI 1.0~6.0FSN3Ei
(P-N23NA panel)

- 90X90 PANEL
- CONDENSATE DRAIN PUMP
- DC INVERTER MOTOR
- OPTIONAL INPUTS/OUTPUTS

The RCI Ei 4-way Cassette units are extremely quiet and compact. The main features that afford convenient installation are adaptability of the installation height, compactness, lightness and design consistency.

QUIET OPERATION

Thanks to the use of the Super-High-Stream turbo fan, with 3D curve blades, ventilation efficiency is increased by 20% and the sound level of some of these units is reduced up to 28 dB(A).

ELECTRICAL ABSORPTION, LOW NOISE DC MOTOR

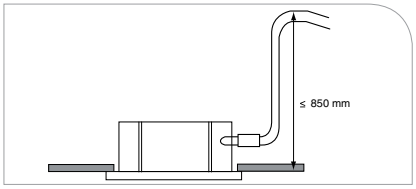
Unlike conventional AC motors, DC motors increase efficiency and significantly reduce electromagnetic interference. Thanks to ferrite magnetic surface rotors and a special winding system, power consumption is considerably reduced. Efficiency is thus considerably improved as well as affording 50% gains in compactness and lightness.

EASE OF INSTALLATION AND MAINTENANCE

Required ceiling opening between 860-910 mm, 298 mm height and a weight of just 29 kg, make these units easy to install even in the constrained space of false ceilings. The square panel shape, standardised with a 900 mm side, makes it suitable to replace lower power fixtures. The suspension tie rods located at the corners of the unit's square body have 760 mm centre distance so orientation can be changed to conveniently match connections with incoming piping. A compartment on each corner of the panel allows the fixture's height to be adjusted without needing to remove the panel.

CONNECTION FLEXIBILITY

The drainage system, equipped with a controlled pump depending on condensate level, is able to lift the condensate up to 850 mm above the ceiling surface.



ADAPTABILITY TO PREMISES WITH HIGH CEILINGS

The motors offer the option of increasing speed thus lending to these fixtures the required flexibility to be installed in premises with especially high ceilings (4.2 m). This feature thus makes them suitable to be used in shops and shopping centres.

Speed Setting	Room height	
	(1.0-2.5) HP	(3.0-6.0) HP
Standard	Lower than 2.7m	Lower than 3.2m
Speed (1)	2.7 - 3.0m	3.2 - 3.6
Speed (2)	3.0 - 3.5m	3.6 - 4.2

4-WAY CASSETTE INDOOR UNIT - RCI Ei

CODE		RCI-1.0FSN3Ei	RCI-1.5FSN3Ei	RCI-2.0FSN3Ei	RCI-2.5FSN3Ei	RCI-3.0FSN3Ei	RCI-4.0FSN3Ei	RCI-5.0FSN3Ei	RCI-6.0FSN3Ei
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	2.5	3.6	5.0	5.6	7.1	10	12.5	14.0
Nominal capacity in heating mode with UTOPIA systems (2)	kW	2.8	4.0	5.6	6.3	8.0	11.2	14.0	16.0
Nominal capacity in cooling mode with SETFREE systems (1)	kW	2.8	4.0	5.6	7.1	8.0	11.2	14.0	16.0
Nominal capacity in heating mode with SETFREE systems (2)	kW	3.2	4.8	6.3	8.5	9.0	12.5	16.0	18.0
Power Supply	V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Input power	W	40	50	50	60	90	110	140	180
Dimensions (H×L×D)	mm	248x840 x840	248x840 x840	248x840 x840	248x840 x840	248x840 x840	248x840 x840	248x840 x840	248x840 x840
Weight	kg	29	29	30	30	32	35	35	35
Sound Pressure (L/M/H) (3)	dB(A)	28/30/32	28/30/32	28/30/32	28/30/32	30/32/34	33/35/38	35/37/39	36/40/42
Sound power level at nominal output	dB(A)	54	54	54	54	56	60	61	64
Air flow (L/M/H)	m^3/h	660/720/ 780	720/840/ 900	720/840/ 960	900/1020/ 1200	1200/1380/ 1560	1440/1680/ 1920	1500/1740/ 2040	1620/1920/ 2220
Condensate drain pump lift	mm	850mm from the lower edge of the unit							
Piping section	mm	6.35/12.7	6.35/12.7	6.35/15.88	9.52/15.88	9.53/15.88	9.53/15.88	9.53-15.88	9.53-15.88
	inch.	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 - 5/8	3/8 - 5/8

PANEL FOR CASSETTE

CODE	code	P-N23NA	P-N23NA	P-N23NA	P-N23NA	P-N23NA	P-N23NA	P-N23NA	P-N23NA
Dimensions (H×L×D)	mm	37x950x950	37x950x950	37x950x950	37x950x950	37x950x950	37x950x950	37x950x950	37x950x950
Weight	kg	6	6	6	6	6	6	6	6

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1.5 metres below the unit (measured in anechoic room)

Connectible with:


PC LH3A


PC ALHC


PC ALHZ


PC ARH


PC ART


PC ARF

2-Way cassette

RCD 1.0~5.0FSN2 (P-N23-46DNA panel)

- CONDENSATE DRAIN PUMP
- OPTIONAL INPUTS/OUTPUTS

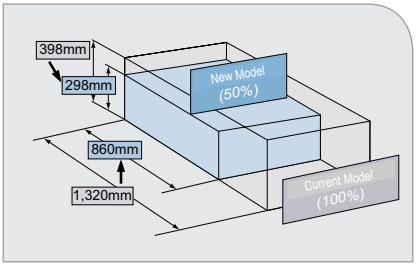
The 2-way RCD Cassette units are extremely quiet and the vertical profile has been reduced by an innovative front panel.

QUIET OPERATION

Thanks to the use of the Super-High-Stream turbo fan, with 3D curve blades and wide intake mouth, ventilation efficiency has increased by 20% and the sound level has been reduced up to 30 dB(A), making these fixtures ideal for all applications where quietness represents an absolute must.

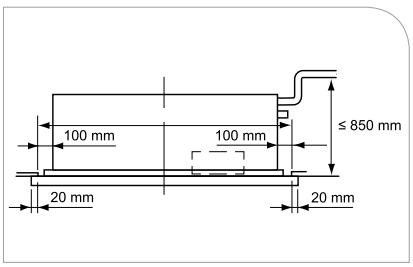
COMPACT VERTICAL PROFILE

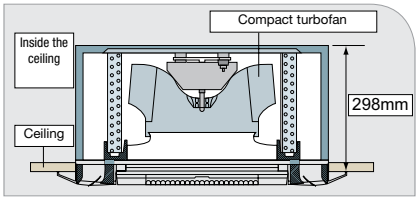
The special compact size of the turbofan employed has simplified structural issues, thus making it possible to contain fixture height in just 298 mm.
This makes installation easier in the constrained space typical of false ceilings.



CONNECTION FLEXIBILITY

The drainage system, equipped with a controlled pump depending on condensate level, is able to lift the condensate up to 850 mm above the ceiling surface.





A FRONT PANEL IDEAL FOR ANY CEILING

These units blend in with the ceiling, from which they protrude by just 30 mm, thus making the use of ad hoc panelling possible to harmonise with any architectural setting.

ADAPTABILITY TO PREMISES WITH HIGH CEILINGS

Thanks to the possibility of increasing speed (when required), the motor used gives to these fixtures the required flexibility to be installed in premises with especially high ceilings such as shops and shopping centres.

	Room Height		
Speed Setting	1.5~2.5 hp	3.0/4.0 hp	5 hp
Standard	2.4 m.	2.7 m.	2.9 m.
Speed (1)	2.7 m.	3.0 m.	3.2 m.
Speed (2)	2.9 m.	3.2 m.	3.4 m.

2-WAY CASSETTE INDOOR UNIT - RCD

CODE		RCD-1.0FSN2	RCD-1.5FSN2	RCD-2.0FSN2	RCD-2.5FSN2	RCD-3.0FSN2	RCD-4.0FSN2	RCD-5.0FSN2
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	2.5	3.6	5.0	5.6	7.1	10.0	12.5
Nominal capacity in heating mode with UTOPIA systems (2)	kW	2.8	4.0	5.6	6.3	8.0	11.2	14.0
Nominal capacity in cooling mode with SETFREE systems (1)	kW	2.8	4.0	5.6	7.1	8.0	11.2	14.0
Nominal capacity in heating mode with SETFREE systems (2)	kW	3.2	4.8	6.3	8.5	9.0	12.5	16.0
Power Supply	V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Input power	W	60	80	80	110	110	140	200
Dimensions (H×L×D)	mm	298x860x620	298x860x620	298x860x620	298x860x620	298x860x620	298x1420x620	298x1420x620
Weight	kg	27	27	27	30	30	48	48
Sound Pressure (L/M/H) (3)	dB(A)	30/32/34	30/32/35	30/32/35	31/34/38	31/34/38	33/36/40	36/40/43
Sound power level at nominal output	dB(A)	55	56	56	59	59	60	62
Air flow (L/M/H)	m³/h	480/540/600	540/660/780	660/780/900	840/960/1140	840/960/1140	1260/1440/1740	1500/1740/2040
Condensate drain pump lift	mm	600mm from the lower edge of the unit						
Piping section	mm	6.35/12.7	6.35/12.7	6.35/15.88	9.53/15.88	9.53/15.88	9.53/15.88	9.53/15.88
	inch.	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 - 5/8

PANEL FOR CASSETTE

CODE	code	P-N23DNA	P-N23DNA	P-N23DNA	P-N23DNA	P-N23DNA	P-N46DNA	P-N46DNA
Dimensions (H×L×D)	mm	30x1100x710	30x1100x710	30x1100x710	30x1100x710	30x1100x710	30x1100x710	30x1100x710
Weight	kg	6	6	6	6	6	6	6

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1.5 metres below the unit (measured in anechoic room)

Connectible with:






PC LH3A	PC ALHD	PC ALHZ	PC ARH	PC ART	PC ARF

High efficiency ceiling

NEW

RPC 1.5-6.0FSN3

COMPACT SIZE

OPTIONAL INPUTS/OUTPUTS

EXTREMELY HIGH ENERGY EFFICIENCY

Thanks to the use of the completely re-designed heat exchanger and the new fan with DC inverter motor, the energy efficiency of ceiling indoor units has significantly increased.

The already high efficiency and comfort are further improved by the optional motion sensor, which is able to analyse the activity of the people on the premises and to consequently modify indoor unit operation parameters such as temperature setting, fan speed and output air flow direction.

IDEAL COMFORT

the large output louvre has been designed to eliminate possible discomfort from uneven room temperature and cold draft effects.

Furthermore, a completely re-designed output fan achieves a very low sound level.

ADAPTABILITY TO HIGH CEILINGS

The possibility to increase motor speed makes these units especially flexible and able to be installed in premises with very high ceilings such as shops and shopping centres.

INDOOR CEILING UNIT - RPC								
CODE		**RPC-1.5FSN3**	**RPC-2.0FSN3**	**RPC-2.5FSN3**	**RPC-3.0FSN3**	**RPC-4.0FSN3**	**RPC-5.0FSN3**	**RPC-6.0FSN3**
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	3.6	5.0	5.6	7.1	10.0	12.5	14
Nominal capacity in heating mode with UTOPIA systems (2)	kW	4.0	5.6	6.3	8.0	11.2	14.0	16
Nominal capacity in cooling mode with SETFREE systems (1)	kW	4.0	5.6	7.1	8.0	11.2	14.0	16
Nominal capacity in heating mode with SETFREE systems (2)	kW	4.8	6.3	8.5	9.0	12.5	16.0	18
Power Supply	V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Input power	W	40	50	50	60	100	160	190
Dimensions (H×L×D)	mm	235x960 x690	235x960 x690	235x960 x690	235x960 x690	235x1580 x690	235x1580 x690	235x1580 x690
Weight	kg	26	27	35	35	41	41	41
Sound Pressure (L/M/H) (3)	dB(A)	28/31/35/37	28/31/35/38	28/31/35/38	29/33/37/40	32/37/42/44	35/41/45/48	36/42/47/49
Sound power level at nominal output	dB(A)	53	54	54	56	60	64	65
Air flow (L/M/H/H2)	m³/h	540/660/ 780/900	540/660/ 780/900	690/840/ 990/1140	750/930/ 1110/1260	1020/1320/ 1590/1800	1200/1530/ 1860/2100	1260/1620/ 1950/2220
Piping section	mm	6.35/12.7	6.35/15.88	9.52/15.88	9.53/15.88	9.53/15.88	9.53/15.88	9.53/15.88
	inch.	1/4 - 1/2	1/4 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1 metre below the unit and 1 metre from the air inlet deflector (measured in anechoic room)

Connectible with:


PC-LH3B


SOR-NEP


PC-ALHP1


PC ARH


PC ART


PC ARF

Ceiling

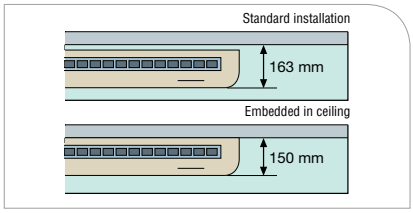
RPC 2.0~6.0FSN2E

- COMPACT SIZE
- OPTIONAL INPUTS/OUTPUTS

RPC ceiling indoor units are easily installed. They feature elegant design, automatic motion output deflector and especially quiet operation.

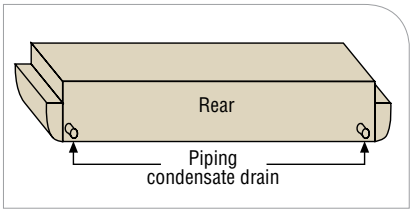
ELEGANT DESIGN

The use of a fan and heat exchanger constructed with an innovative concept has led to producing these extremely modern, extra-flat units.
Fully adjustable suspension brackets mean they can be inserted in false ceilings, from which they only protrude by 150 mm.



EASE AND FLEXIBILITY OF INSTALLATION

In order to increase installation and positioning options, these units offer the possibility to connect the drainage line in two different positions and to connect refrigerant lines on the right or left side or rear.



AUTOMATIC MOTION DEFLECTOR

The combination of multi-blade centrifugal fan and automatic motion output deflector creates a powerful and quiet air flow, which is evenly distributed throughout the premises assuring comfort and low noise level.

INDOOR CEILING UNIT - RPC							
CODE		RPC-2.0FSN3E	RPC-2.5FSN3E	RPC-3.0FSN3E	RPC-4.0FSN3E	RPC-5.0FSN3E	RPC-6.0FSN3E
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	5.0	5.6	7.1	10.0	12.5	14.0
Nominal capacity in heating mode with UTOPIA systems (2)	kW	5.6	6.3	8.0	11.2	14.0	16.0
Nominal capacity in cooling mode with SETFREE systems (1)	kW	5.6	7.1	8.0	11.2	14.0	16.0
Nominal capacity in heating mode with SETFREE systems (2)	kW	6.3	8.5	9.0	12.5	16.0	18.0
Power Supply	V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Input power	W	130	130	180	180	230	230
Dimensions (H×L×D)	mm	163x1314x625	163x1314x625	225x1314x625	225x1314x625	225x1574x625	225x1574x625
Weight	kg	31	31	35	35	41	41
Sound Pressure (L/M/H) (3)	dB(A)	41/43/46	42/45/48	39/45/49	39/45/49	41/46/49	44/48/50
Sound Power level at nominal output	dB(A)	60	60	65	65	65	66
Air flow (L/M/H)	m³/h	720/960/1080	900/1020/1260	960/1260/1620	1140/1440/1800	1260/1680/2100	1620/1920/2220
Piping section	mm	6.35/15.88	9.53/15.88	9.53/15.88	9.53/15.88	9.53/15.88	9.53/15.88
	inch.	1/4 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1 metre below the unit and 1 metre from the air inlet deflector (measured in anechoic room)

Connectible with:

PC LH3A

PC ALHZ

PC ARH

PC ART

PC ARF

Mini Ducted

RPIM 0.6-1.5FSN4E

- DC INVERTER MOTOR
- CONDENSATE DRAIN PUMP
- VARIABLE STATIC PRESSURE
- OPTIONAL INPUTS/OUTPUTS

EFFICIENT AND QUIET

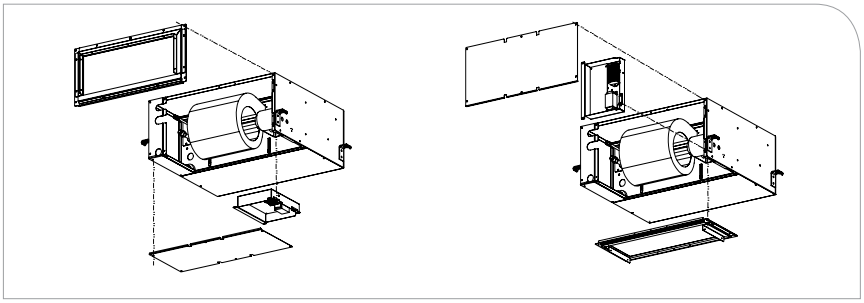
HITACHI is pleased to introduce the new ducted mini indoor unit, RPIM, with DC Inverter control motor.

Thanks to this new technology, the indoor unit can reduce its electrical consumption up to 70% compared to the previous model and always assures correct air output to the premises with very low sound level. This translates into an improvement of the overall air conditioning system efficiency and greater comfort for the end user.

Finer speed control is possible thanks to the inverter control, by exploiting the fan feature with low external static pressure.

SMALL SIZE AND EASY INSTALLARTION

RPIM Mini ducted indoor units have been designed to adapt to small spaces, thanks to a special position of piping and wiring.

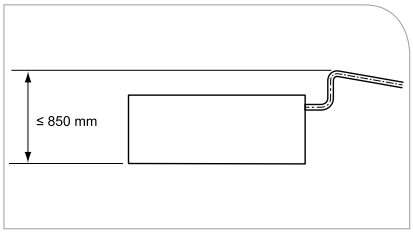


Access for easy maintenance is assured through the intake mouth.

Consequently, easy maintenance, very compact size and low noise level make mini ducted indoor units ideal for installation in hotel rooms.

CONDENSATE DRAIN

Condensate drain connection can be easily performed on the unit's intake side.
Indoor units are available in the version with built-in condensate drain pump (RPIM FSN4E-DU) or without (RPIM FSN4E).



MINI - RPIM DUCTED INDOOR UNIT

CODE		NEW RPIM-0.6FSN4E (4)	RPIM-0.8FSN4E	RPIM-1.0FSN4E	RPIM-1.5FSN4E	RPIM-0.6FSN4E-DU (4)	RPIM-0.8FSN4E-DU	RPIM-1.0FSN4E-DU	RPIM-1.5FSN4E-DU
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	-	2.0	2.5	3.6	-	2.0	2.5	3.6
Nominal capacity in heating mode with UTOPIA systems (2)	kW	-	2.2	2.8	4	-	2.2	2.8	4
Nominal capacity in cooling mode with SETFREE systems (1)	kW	1.7	2.2	2.8	4	1.7	2.2	2.8	4
Nominal capacity in heating mode with SETFREE systems (2)	kW	1.9	2.5	3.2	4.8	1.9	2.5	3.2	4.8
Power Supply	V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Input power	W	20	20	20	30	20	20	20	30
Dimensions (H×L×D)	mm	275x702x600	275x702x600	275x702x600	275x702x600	275x702x600	275x702x600	275x702x600	275x702x600
Weight	kg	26	26	26	26	26	26	26	26
Sound Pressure (L/M/H) (3)	dB(A)	25/28/28	27/29/29	27/29/29	28/30/33	25/28/28	27/29/29	27/29/29	28/30/33
Sound Power level at nominal output	dB(A)	49	50	50	51	49	50	50	51
Air flow (L/M/H)	m³/h	330/372/420	330/408/480	330/408/480	480/540/600	330/372/420	330/408/480	330/408/480	480/540/600
Nominal external static pressure (5) (min-max)	Pa	20 (0-35)	32 (0-50)	32 (0-50)	27 (0-58)	20 (0-35)	32 (0-50)	32 (0-50)	27 (0-58)
Condensate drain pump lift	mm	no pump				850mm from the lower edge of the unit			
Piping section	mm	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7
	inch.	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1.5 metres below the unit (measured in anechoic room)
(4) 0.6HP indoor units are only compatible with FSXNH and FSXN1E systems
(5) Measured at nominal air flow rate

Connectible with:

PC LH3A

PC ALHZ

PC ARH

PC ART

PC ARF

Ductable Low Static Pressure

RPI 0.6-1.5FSN4E

- DC INVERTER MOTOR
- CONDENSATE DRAIN PUMP
- VARIABLE STATIC PRESSURE
- OPTIONAL INPUTS/OUTPUTS

EFFICIENT AND QUIET

The low pressure head ducted unit, available in 3 different power levels, 0.8, 1.0, 1.5 HP, is today completely renewed and, thanks to the new DC Inverter control fan motor, it is even more efficient.

This new technology affords electrical consumption reduction up to 40% compared to the previous model and always assures the correct air output to the premises with extremely low sound level. This translates into an improvement of the overall air conditioning system efficiency and greater comfort for the end user.

Finer speed control is possible thanks to adopting the inverter, by exploiting the fan feature with low external static pressure.

COMPACT SIZE

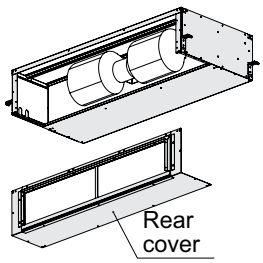
With height less than 200 mm, this unit may be inserted into any existing false ceiling without the need for complicated and costly modifications.

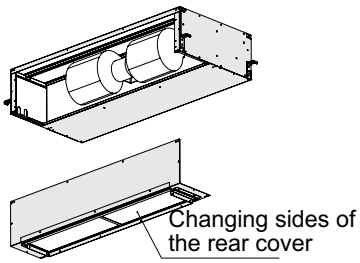
Furthermore, by modifying the position of the rear cover, the air intake direction can be modified very easily.

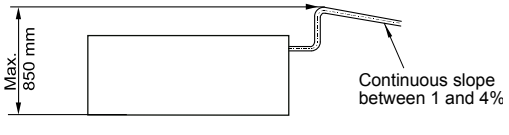
The RPI low pressure head ducted units are equipped with a standard air filter on the intake side.

CONDENSATE DRAIN PUMP

All power levels are fitted with automatic drain pump to eliminate the accumulated condensate in the pan.







(Drain line slope)

DUCTABLE LOW STATIC PRESSURE INDOOR UNITS - RPI					
CODE		NEW RPI-0.6FSN4E (4)	RPI-0.8FSN4E	RPI-1.0FSN4E	RPI-1.5FSN4E
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	-	2.0	2.5	3.6
Nominal capacity in heating mode with UTOPIA systems (2)	kW	-	2.2	2.8	4
Nominal capacity in cooling mode with SETFREE systems (1)	kW	1.7	2.2	2.8	4
Nominal capacity in heating mode with SETFREE systems (2)	kW	1.9	2.5	3.2	4.8
Power Supply	V	220V-50Hz	220V-50Hz	220V-50Hz	220V-50Hz
Input power	W	30	30	30	40
Dimensions (H×L×D)	mm	197x1084x600	197x1084x600	197x1084x600	197x1084x600
Weight	kg	29	29	29	30
Sound Pressure (L/M/H) (3) (SP-00) (6)	dB(A)	27/30/32	29/31/33	29/31/33	29/31/34
Sound Power at nominal output (SP-00) (6)	dB(A)	50	52	52	53
Air flow (L/M/H) (SP-00) (6)	m³/h	330/372/420	378/432/480	378/432/480	480/540/600
Nominal external static pressure (5) (min-max)	Pa	20 (0-30)	32 (0-50)	32 (0-50)	27 (0-50)
Condensate drain pump lift	mm	850mm from the lower edge of the unit			
Piping section	mm	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7
	inch.	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2	1/4 - 1/2

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1.5 metres below the unit (measured in anechoic room)
(4) 0.6HP indoor units are only compatible with FSXNH and FSXN1E systems
(5) Measured at nominal air flow rate
(6) SP: Static pressure (Setting by means of optional features “C5” of the remote controller: 01=High external static pressure, 00=Standard and 02=Low external static pressure)

Connectible with:

PC LH3A

PC ALHZ

PC ARH

PC ART

PC ARF

Ductable Medium Static Pressure

RESTAURANT PIZZERIA “IL CROCCHIO” MILAN - APPLICATION OF HITACHI VRF SET FREE

RPI 2.0~6.0FSN4E

- DC INVERTER MOTOR
- CONDENSATE DRAIN PUMP
- VARIABLE STATIC PRESSURE
- OPTIONAL INPUTS/OUTPUTS

EFFICIENT AND QUIET

The medium head pressure ducted unit is today completely renewed and, thanks to the new DC Inverter control fan motor, it is even more efficient.

This new technology affords electrical consumption reduction up to 40% compared to the previous model and always assures the correct air output to the premises with extremely low sound level. This translates into an improvement of the overall air conditioning system efficiency and greater comfort for the end user.

Finer speed control is possible thanks to use of the inverter, by exploiting the fan feature with low external static pressure.

COMPACT SIZE

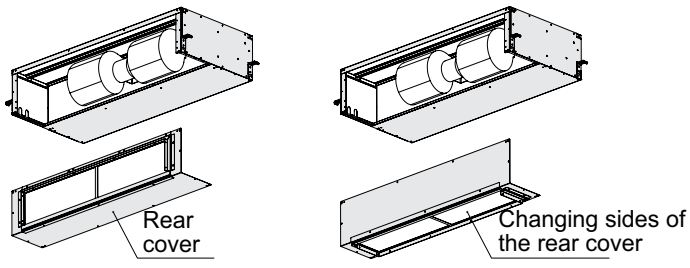
With height less than 200 mm for all power levels, this unit may be inserted into any existing false ceiling without the need for complicated and costly modifications.

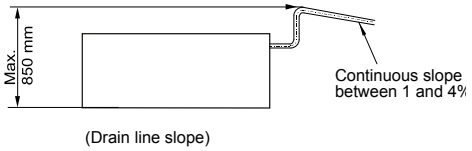
Furthermore, by modifying the position of the rear cover, the air intake direction can be modified very easily.

The RPI medium pressure head ducted units are equipped with a standard air filter on the intake side.

CONDENSATE DRAIN PUMP

All power levels are fitted with automatic drain pump to eliminate the accumulated condensate in the pan.





(Drain line slope)

DUCTABLE MEDIUM STATIC PRESSURE INDOOR UNITS - RPI							
CODE		RPI-2.0FSN4E	RPI-2.5FSN4E	RPI-3.0FSN4E	RPI-4.0FSN4E	RPI-5.0FSN4E	RPI-6.0FSN4E
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	5.0	5.6	7.1	10.0	12.5	14.0
Nominal capacity in heating mode with UTOPIA systems (2)	kW	5.6	6.3	8.0	11.2	14.0	16.0
Nominal capacity in cooling mode with SETFREE systems (1)	kW	5.6	7.1	8.0	11.2	14.0	16.0
Nominal capacity in heating mode with SETFREE systems (2)	kW	6.3	8.5	9.0	12.5	16.0	18.0
Power Supply	V	220V - 50Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz
Input power	W	40	80	110	160	200	220
Dimensions (H×L×D)	mm	275x1084x600	275x1084x600	275x1084x600	275x1474x600	275x1474x600	275x1474x600
Weight	kg	35	36	36	48	48	48
Sound Pressure (L/M/H) (3) (SP-02) (5)	dB(A)	27/29/29	28/30/30	29/31/31	32/35/37 (SP-00) (5)	33/35/38 (SP-01) (5)	33/36/39 (SP-01) (5)
Sound Power at nominal output (SP-02) (5)	dB(A)	55	56	57	62 (SP-00) (5)	65 (SP-01) (5)	66 (SP-01) (5)
Air flow (L/M/H) (SP-02) (5)	m³/h	600/750/960	1140/960/780	960/1140/1320	1500/1680/1800	1680/1920/2100	1740/1980/2160
Nominal external static pressure (4) (min-max)	Pa	30 (0-120)	30 (0-125)	30 (0-125)	45 (0-120)	50 (0-140)	50 (0-140)
Condensate drain pump lift	mm	850mm from the lower edge of the unit					
Piping section	mm	6.35/15.88	9.53/15.88	9.53/15.88	9.53/15.88	9.53/15.88	9.53/15.88
	inch.	1/4 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1.5 metres below the unit (measured in anechoic room)
(4) Measured at nominal air flow rate
(5) SP: Static pressure (Setting by means of optional features “C5” of the remote controller: 01=High external static pressure, 00=Standard and 02=Low external static pressure)

Connectible with:

PC LH3A

PC ALHZ

PC ARH

PC ART

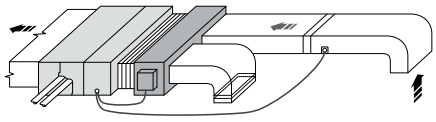
PC ARF

ECONOFRESH KIT

The ECONOFRESH Kit is an accessory to be matched to RPI 4 to 6HP ducted indoor units to provide free-cooling and considerable energy savings.

It is especially suited to applications where a fixed fresh air percentage must be assured (adaptable to the specific case) such as Data Centres, Shops, Gyms, Meeting rooms.

The ECONOFRESH Kit can also be interfaced with optional enthalpic and CO2 sensors.



Code	Compatibility	Dimensions HxLxD	Weight
		mm	Kg
EF-456NE	RPI-4.0FSN4E RPI-5.0FSN4E RPI-6.0FSN4E	254x1350x310	12.5

Ductable High Static Pressure

IMG CINEMAS MESTRE - APPLICATION HITACHI UTOPIA AND VRF SET FREE

RPI 8.0~10.0FSN3E

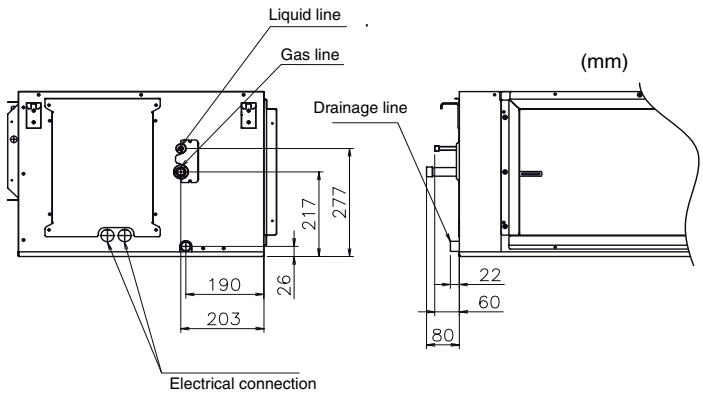
OPTIONAL INPUTS/OUTPUTS

HIGH USEFUL PRESSURE HEAD

The RPI units are fitted with a static pressure adjustment system on two levels, depending on installation requirements: Low Static Pressure and High Static Pressure (factory setting), they can be selected directly and easily from the electrical panel on the unit.

CONDENSATE DRAINAGE

Drainage takes place by gravity only and therefore the drainage line must have continuous slope from the low plane of the unit in the direction of the flow between 1 and 4%.



HIGH HEAD DUCTABLE INDOOR UNIT - RPI				
CODE			RPI-8.0FSN3E	RPI-10.0FSN3E
Nominal capacity in cooling mode with UTOPIA systems (1)		kW	20.0	25.0
Nominal capacity in heating mode with UTOPIA systems (2)		kW	22.4	28.0
Nominal capacity in cooling mode with SETFREE systems (1)		kW	22.4	28.0
Nominal capacity in heating mode with SETFREE systems (2)		kW	25.0	31.0
Power Supply		V	220V 50Hz	220V 50Hz
Input power		W	970	1060
Dimensions (H×L×D)		mm	423x1592x600	423x1592x600
Weight		kg	85	87
Sound Pressure (L/M/H) (3)		dB(A)	51/54/54	52/55/55
Sound Power level at nominal output		dB(A)	77	78
Air flow rate	HSP mode (4) (min-max)	m³/h	3600-3960	4110-4500
	LSP mode (5) (min-max)	m³/h	3570-3960	4050-4500
Static pressure	HSP mode (4) (min-max)	Pa	180-220	180-220
	LSP mode (5) (min-max)	Pa	180-140	180-140
Piping section		mm	9.53/19.05	9.53/22.2
		inch.	3/8 - 3/4	3/8 - 7/8

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level measured at 1.5 metres below the unit (measured in anechoic room)
(4) HSP: High static pressure
(5) LSP: Low static pressure; factory setting

Connectible with:

PC LH3A

PC ALHZ

PC ARH

PC ART

PC ARF

Floor

RPF 1.0~2.5FSN2E

VISIBLE FLOOR

THIN AND COMPACT PROFILE

The thin and compact design of these units, featuring a depth of just 220 mm, means they can be installed without affecting the décor of the premises.

INTELLIGENT USE OF SPACE

Installation underneath windows is never inconvenient: height is just 630 mm.

OPTIONAL REMOTE CONTROLLER HOUSING

The PC-ART can be housed under the plastic cover, inside the unit.

RPFI 1.0~2.5FSN2E

RECESSED FLOOR

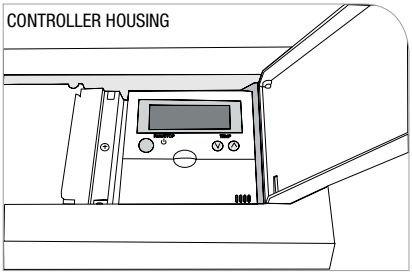
COMPACT DESIGN

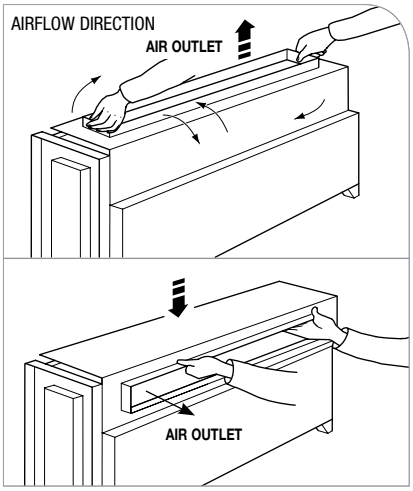
These units have been designed paying special attention to their compatibility with indoor architecture.
Featuring 620 mm height and 220 mm depth, these units can be perfectly installed in the area underneath windows.

AIRFLOW DIRECTION

The airflow direction can be easily adjusted by re-positioning the rear panel for a greater range of installation options.

OPTIONAL INPUTS/OUTPUTS





VISIBLE FLOOR INDOOR UNIT - RPF

CODE		RPF-1.0FSN2E	RPF-1.5FSN2E	RPF-2.0FSN2E	RPF-2.5FSN2E
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	2.5	3.6	5	5.6
Nominal capacity in heating mode with UTOPIA systems (2)	kW	2.8	4	5.6	6.3
Nominal capacity in cooling mode with SETFREE systems (1)	kW	2.8	4	5.6	7.1
Nominal capacity in heating mode with SETFREE systems (2)	kW	3.2	4.8	6.3	8.5
Power Supply	V	220V - 50Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz
Input power	W	40	50	90	90
Dimensions (H×L×D)	mm	630x1045x220	630x1170x220	630x1420x220	630x1420x220
Weight	kg	25	28	33	34
Sound Pressure (L/M/H) (3)	dB(A)	29/32/35	31/35/38	32/36/39	34/38/42
Sound Power level at nominal output	dB(A)	57	60	60	64
Air flow (L/M/H)	m³/h	360/420/510	540/600/720	660/840/960	660/840/960
Piping section	mm	6.35/12.7	6.35/12.7	6.35/15.88	9.53/15.88
	inch.	1/4 - 1/2	1/4 - 1/2	1/4 - 5/8	3/8 - 5/8

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level taken at a height of 1 metre from the floor and at a distance of 1 metre from the front of the unit (measured in an anechoic chamber)

RECESSED FLOOR INDOOR UNIT - RPFI

CODE		RPFI-1.0FSN2E	RPFI-1.5FSN2E	RPFI-2.0FSN2E	RPFI-2.5FSN2E
Nominal capacity in cooling mode with UTOPIA systems (1)	kW	2.5	3.6	5	5.6
Nominal capacity in heating mode with UTOPIA systems (2)	kW	2.8	4	5.6	6.3
Nominal capacity in cooling mode with SETFREE systems (1)	kW	2.8	4	5.6	7.1
Nominal capacity in heating mode with SETFREE systems (2)	kW	3.2	4.8	6.3	8.5
Power Supply	V	220V - 50Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz
Input power	W	40	50	90	90
Dimensions (H×L×D)	mm	630x1045x220	630x1170x220	630x1420x220	630x1420x220
Weight	kg	19	23	27	28
Sound Pressure (L/M/H) (3)	dB(A)	29/32/35	31/35/38	32/36/39	34/38/42
Sound Power level at nominal output	dB(A)	57	60	60	64
Air flow (L/M/H)	m³/h	360/420/510	540/600/720	660/840/960	660/840/960
Piping section	mm	6.35/12.7	6.35/12.7	6.35/15.88	9.53/15.88
	inch.	1/4 - 1/2	1/4 - 1/2	1/4 - 5/8	3/8 - 5/8

(1) Cooling: indoor ambient temp. 27°C (19°C BU) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; lift 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C BU); refrigerant piping length 7.5m; lift 0m.
(3) Sound pressure level taken at a height of 1 metre from the floor and at a distance of 1 metre from the front of the unit (measured in an anechoic chamber)

Connectible with:

PC LH3A

PC ALHZ

PC ARH

PC ART

PC ARF

DX KIT

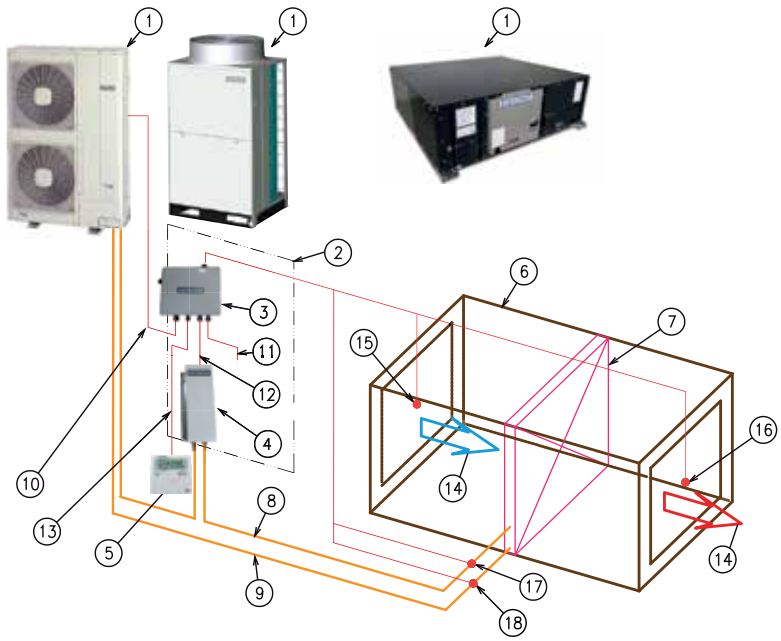
EXPANSION VALVE BOX

CONTROL BOX

- PAM DC INVERTER CONTROL
- AUTOMATIC RESTART
- AC 220-230V 1PH 50 HZ
- OUTDOOR UNIT POWER SUPPLY
- R410A
- AUTO FUNCTION

Air exchange in buildings is normally provided and recommended to improve working conditions and prevent important pathologies such as those arising from dry eyes and respiratory tract.
Presently, the fresh air is input through independent treatment units made to measure. These units, supplied by third parties, pre-treat the outside air to adapt it approximately to that of the air conditioned room.
The Direct Expansion Kit electronic interface (DX Kit) makes it possible to connect one third party air treatment unit with one HITACHI outdoor unit to input fresh air of the air conditioned rooms (see table on following page for compatibility).

Features:
- DX-KIT assures protection degree IP 66
- Available operative modes are COOLING and HEATING
- The DX-KIT consists of two sections:
  - CONTROL BOX - EXPANSION VALVE BOX
- COOLING & HEATING performance is defined based on the temperature set on the control panel and the temperature measured by the ambient air intake probe
- The DX-KIT can be interfaced with Optional inputs/outputs (standard solution of HITACHI)



Connectible to all types of commercial outdoor units: UTOPIA ES, IVX STANDARD, IVX PREMIUM, RASC and VRF.

REF.	DESCRIPTION
1	HITACHI Outside Unit
2	Interface kit DX EXV-(2.0-10.0)E1
3	CONTROL BOX
4	EXPANSION VALVE BOX
5	Remote Controller Accessory (PC ART)
6	Air Treatment unit with heat exchanger
7	RX- Heat exchanger with finned battery
8	Liquid Pipeline
9	Gas Pipeline
10	Bus Communication H-Link
11	Power supply
12	Expansion valve control cable
13	Remote control connection cable
14	Air flow direction
15	Input air Thermistor Probe
16	Output air Thermistor Probe
17	Liquid pipeline Thermistor Probe
18	Gas pipeline Thermistor Probe

* PC - ART controller is compulsory

DX KIT TECHNICAL SPECIFICATIONS

DX KIT			EXV-2.0E1	EXV-2.5E1	EXV-3.0E1	EXV-4.0E1	EXV-5.0E1	EXV-6.0E1	EXV-8.0E1	EXV-10.0E1
Control electronics	Power Supply	V/Ph/Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz
	Cooling capacity	kW	5.0	6.0	7.1	10.0	12.5	14.0	20.0	25.0
	heating capacity	kW	5.6	7.0	8.0	11.2	14.0	16.0	22.4	28.0
	Allowed Fan Current (A)	A	2.5	2.5	2.5	2.5	2.5	2.5	15	15
	Dimensions (HxLxD)	mm	291/241/87	291/241/87	291/241/87	291/241/87	291/241/87	291/241/87	291/241/87	291/241/87
	Weight	kg	3.2	3.2	3.2	3.2	3.2	3.2	3.5	3.5
Expansion valve	IN Liquid Line	mm/inch	6.35 - 1/4	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8
	OUT Liquid Line	mm/inch	6.35 - 1/4	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8
	HP Gas line	mm/inch	12.7 - 1/2	12.7 - 1/2	15.88 - 5/8	15.88 - 5/8	15.88 - 5/8	15.88 - 5/8	25.4 - 1	25.4 - 1
	Dimensions (H×L×D)	mm	431x199 x103	431x199 x103	431x199 x103	431x199 x103	431x199 x103	431x199 x103	431x199 x103	431x199 x103
	Weight	kg	2.7	2.7	2.7	2.7	2.7	2.7	4.5	4.5

COMBINATION OPTIONS

Outdoor unit	Control mode		
	Air input (1*)	Air output	Reference
UTOPIA	■	■ (2*)	■ (2*)
VRF SET FREE	■	■ (3*)	■ (3*)

NOTE
(1*) In case of installations with air treatment units, the point just before the DX exchanger is considered as input air.
(2*) only the MONO combination is allowed.
(3*) Limited control based on overall operative conditions of the system.
(4*) Should any Hitachi indoor units be installed in a common outdoor unit, total DX Kit capacity cannot exceed 30% of the overall condensing unit capacity.
(5*) Should only DX Kits be connected to the outdoor unit, total DX Kit capacity cannot exceed 100% of the overall outdoor unit capacity.

DX EXV (2.0-10.0)E1 Interface models can only be combined with air - air systems.

KPI Series E and H

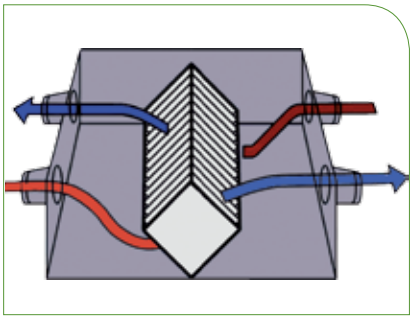
Indoor unit - enthalpy recovery system

HEAT RECOVERY

ADJUSTMENT CAN BE COMBINED WITH STANDARD CONTROLS

With the KPI cross flow heat recovery units it is possible - depending on the type of exchange pack - to perform enthalpic heat recovery (Series E) or of sensible heat recovery only (series H).
This lets you reduce the power requirements of air conditioning systems where continuous ambient air renewal is required.
Moreover, thanks to the new internal geometrical layout, which supports linear flow between ambient air intake and extraction ducts, installation in the field is easier and above all does not feature the typical duct crossing issues of standard models.
KPI heat recovery units assure the environment has fresh, clean and pleasant air using the combined control with the SYSTEM FREE conditioning system.

- Celluloid exchange pack for series E
- Aluminium exchange pack for series H
- Horizontal or vertical installation for series E
- Horizontal installation H
- Nominal airflow from 250 to 3000m³/h
- Direct flow exchanger
- Power input harmonised with EuP Standards
- Lot 11 in force from 2013
- Class M1 fire resistance
- Standard supplied G3 filters, F7 accessories
- Control by CO2 sensor (not supplied by HITACHI)
- Maintaining the rooms in over-pressure



- External heater control (not supplied by HITACHI)
- Switch-on delay
- Total compatibility with COMMERCIAL and VRF SET FREE systems
- Control by means of PC-ART, PC-ARF, PC-ARH controllers (accessories)

KPI SERIES E TECHNICAL DATA

CODE				KPI-252E3E	KPI-502E3E	KPI-802E3E	KPI-1002E3E	KPI-1502E3E	KPI-2002E3E
Power Supply			V-Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz
Nominal input power			W	50	80	210	260	470	580
Air flow (L/M/H)			m³/h	180/208/250	360/420/500	597/700/800	620/800/1000	970/1250/1500	1240/1560/2000
Static pressure (L/M/H) (1)			Pa	30/40/60	47/50/77	55/75/100	50/80/120	60/90/132	60/84/135
Sound pressure (L/M/H) (2)			dbA	24/26/27	27/28/30	30/31/32	30/32/35	33/35/37	35/38/39
Efficiency	thermal exchange		%	75	75	75	78	78	78
	enthalpy exchange	cooling	%	60	61	62	62	62.5	61.5
		heating	%	66	65	65	68	68	66.5
Type of exchanger				celluloid					
Dimensions HxLxD			mm	270/900/750	330/1130/920	385/1210/1015	385/1600/1295	525/1800/1130	525/1800/1430
Duct diameter			mm	150	200	250	300	355	355
Weight			kg	34	46	51	79	97	106

(1) Static pressure with standard ventilation setting
(2) Sound pressure level measured at 1.5 metres below the unit with acoustically insulated duct (measured in anechoic room)
In the event of fresh outside air lower than -5°C (DB) an electrical heater must be installed (not supplied)

KPI SERIES H TECHNICAL DATA

CODE				KPI-502H3E	KPI-802H3E	KPI-1002H3E	KPI-1502H3E	KPI-2002H3E
Power Supply			V-Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz	220V - 50Hz
Nominal input power			W	80	210	260	470	580
Air flow (L/M/H)			m³/h	360/420/500	597/700/800	620/800/1000	970/1250/1500	1240/1560/2000
Static pressure (L/M/H) (1)			Pa	47/50/77	55/75/100	50/80/120	60/90/132	60/84/135
Sound pressure (L/M/H) (2)			dbA	30/31/33	33/34/35	33/35/38	35/36/40	38/41/42
Efficiency	thermal exchange		%	53	50	50	49	48
	enthalpy exchange	cooling	%	30	28	28	27	28
		heating	%	35	34	33	31	31
Type of exchanger				aluminium				
Dimensions HxLxD			mm	330/1130/920	385/1210/1015	385/1600/1295	525/1800/1130	525/1800/1430
Duct diameter			mm	200	250	300	355	355
Weight			kg	50	55	85	101	110

(1) Static pressure with standard ventilation setting
(2) Sound pressure level measured at 1.5 metres below the unit with acoustically insulated duct (measured in anechoic room)
In the event of fresh outside air lower than -5°C (DB) an electrical heater must be installed (not supplied)

Connectible with:

PC ARH

PC ART

PC ARF

System Free Ventilation

KPI Series X

Indoor unit - with DX active exchanger

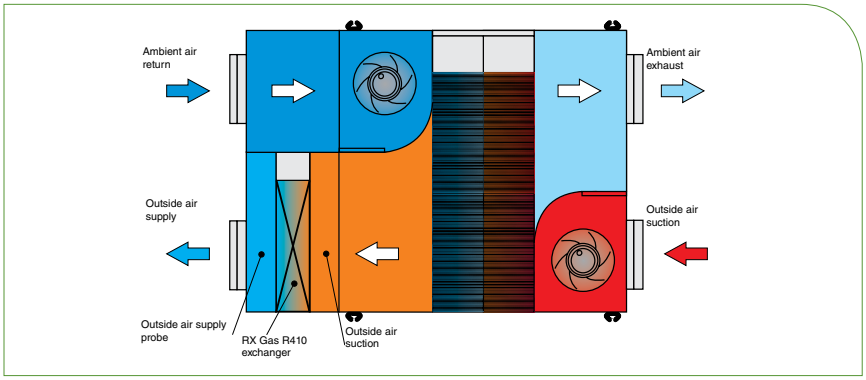
TEMPERATURE CONTROL ON AIRFLOW

HEAT RECOVERY

ADJUSTMENT CAN BE COMBINED WITH STANDARD CONTROLS

Heat recovery units series X, thanks to the R410A gas heat exchanger they are fitted with, as well as recovering heat also integrate any thermal requirement after recovery with post heating/ post cooling. This makes it possible to renew the ambient air without affecting the conditions and to reduce the power requirement of conditioning systems which require continuous room air exchange. Moreover, thanks to the new internal geometrical layout, which supports linear flow between ambient air intake and extraction ducts, installation in the field is easier and above all does not feature the typical duct crossing issues of standard models.

KPI heat recovery units guarantee an environment with fresh, clean and pleasant air using the combined control with the SYSTEM FREE conditioning system.



- Celluloid exchange pack
- Horizontal installation
- Nominal airflow from 500 to 1000m³/h
- Direct flow exchanger
- Power input harmonised with EuP Standards
- Lot 11 in force from 2013
- Class M1 fire resistance
- Standard supplied G3 filters, F7 accessories
- Control by CO2 sensor (not supplied by HITACHI)
- Maintaining the rooms in over-pressure
- External heater control (not supplied by HITACHI)
- Switch-on delay
- Total compatibility with COMMERCIAL and VRF SET FREE systems
- Control by means of PC-ART, PC-ARF, PC-ARH controllers (accessories)

KPI SERIES X TECHNICAL DATA					
CODE				KPI-502X3E	KPI-802X3E	KPI-1002X3E
Nominal capacity in cooling mode with UTOPIA systems (1)			kW	-	7.4	9.7
Nominal capacity in heating mode with UTOPIA systems (2)			kW	-	9.1	11.4
Nominal capacity in cooling mode with SETFREE systems (1)			kW	5.3 (1.8)	8 (3)	10.8 (3.7)
Nominal capacity in heating mode with SETFREE systems (2)			kW	6.9 (2.1)	9.8 (3.5)	12.9 (4.4)
Coil cooling power			HP	1.5	2.0	2.5
Power Supply			V	220V - 50Hz	220V - 50Hz	220V - 50Hz
Nominal input power			W	130	240	310
Air flow (L/M/H)			m³/h	380/430/500	590/700/800	740/820/1000
Static Pressure (L/M/H) (3)			Pa	100/120/150	70/95/125	70/85/120
Sound pressure (L/M/H) (4)			dbA	26/27/29	29/30/31	31/33/34
Efficiency	thermal exchange		%	75	75	78
	enthalpy exchange	cooling	%	61	62	62
		heating	%	65	65	65
Type of exchanger				celluloid		
Dimensions HxLxD			mm	330x1630x920	385x1710x1015	385x2100x1295
Duct diameter			mm	200	250	300
Weight			kg	62	69	100
Piping section			mm	6.35/12.7	6.35/15.88	9.53/15.88
			inch	1/4 - 1/2	1/4 - 5/8	3/8 - 5/8

(1) Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
(3) Static pressure with standard ventilation setting
(2) Sound pressure level measured at 1.5 metres below the unit with acoustically insulated duct (measured in anechoic room)
In the event of fresh outside air lower than -5°C (DB) an electrical heater must be installed (not supplied)

COMBINATION OPTIONS								
Model	Mono Utopia Combination			VRF Setfree Combination			Cooling connections	
	Output Power		Outdoor Unit	Output Power		Power Equivalent		
	Cooling	Heating		Cooling	Heating		Liquid	Gas
	kW	kW		kW	kW	HP	mm (“)	mm (“)
KPI 502X3E	--	--	--	5.3	6.9	1.5	6.35 (1/4)	12.70 (1/2)
KPI 802X3E	7.4	9.1	RAS 2HVNP	8.0	9.8	2.0	6.35 (1/4)	15.88 (5/8)
KPI 1002X3E	9.7	11.4	RAS 2.5HVNP	10.8	12.9	2.5	9.53 (3/8)	15.88 (5/8)

NOTE
In the event of installation inside VRF SET FREE systems, the total cooling capacity of KPI X series heat recovery units must not exceed 30% of the total condensing unit power.

Connectible with:

PC ARH

PC ART

PC ARF

Commercial Outdoor Units

The Utopia range offers systems with high performance at interesting prices for use in small buildings and retail which require intelligent management
of ambient comfort. The series consists in 4 different models - Utopia ES Inverter, Utopia RASC IVX and Utopia IVX Standard and IVX Premium.
This means a wide variety of design options for applications that exactly address your needs.

Utopia ES Inverter compact design is striking. The reduced height supports design solutions in small spaces, with an excellent quality-price ratio.

Utopia RASC IVX uses the IVX Series technology but for applications which call for the condensing unit to be installed inside the building with ducted connection to the outside and centrifugal fan.
the whole range of commercial outdoor units uses the SYSTEM FREE indoor units;
it is highly efficient, reliable and complemented by a wide range of accessories for utmost design flexibility and greater benefits both for installers and end users.

Utopia IVX Standard and **IVX Premium:** variable refrigerant flow and independent control of indoor units in the Commercial range at an even more competitive price compared to traditional VRF systems. Two - twelve HP models are available.

Outdoor units

Utopia Range
Utopia ES (Simultaneous Indoor Unit Operation)
Utopia IVX Standard (Independent Indoor Unit Operation)
Utopia IVX Premium (Independent Indoor Unit Operation)
Utopia IVX RASC (Independent Indoor Unit Operation)

Compatible with the same remote controllers

Set Free Range
FSVN2E & **FSNY2E**
FSNM VRF Side Flow
FSXN VRF 2 or 3 Pipes
FSXN1E VRF 2 or 3 Pipes
FSXNH VRF 2 or 3 Pipes high efficiency

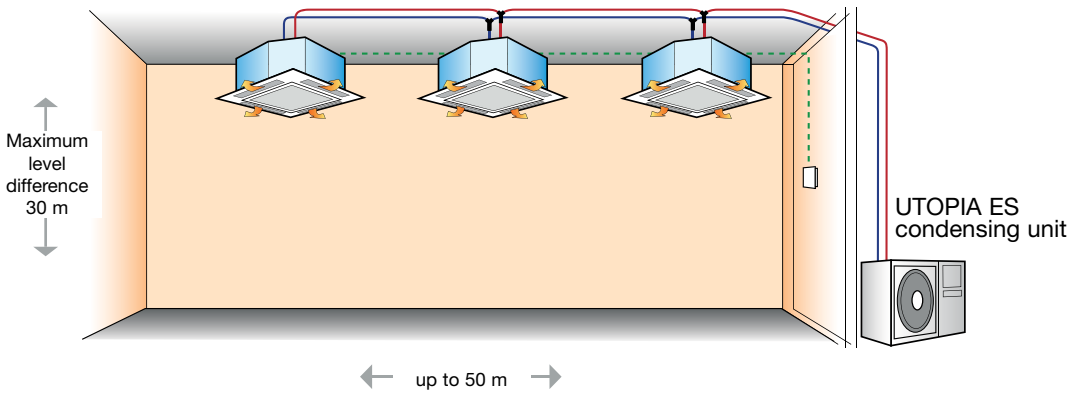
Compatible with the same remote controllers

OUTDOOR UNIT RANGE											
type	Capacity (HP)		2	2.5	3	4	5	6	8	10	12
Utopia ES	**H(V)RN**				■	■	■	■	■	■	
	No. of Indoor Units				2	2	2	3	4	4	
Utopia RASC IVX	**H(V)RNM1E**						■			■	
	No. of Indoor Units						3			4	
Utopia IVX Standard	**H(V)NC(1)E**				■	■	■	■	■	■	■
	No. of Indoor Units				2	4	4	4	4	4	4
Utopia IVX Premium	**H(V)NP1E**		■	■	■	■	■	■	■	■	■
	No. of Indoor Units		2	2	3	5	6	6	8	8	8

Retail Solutions

UTOPIA ES

- Available power from 3 to 10HP

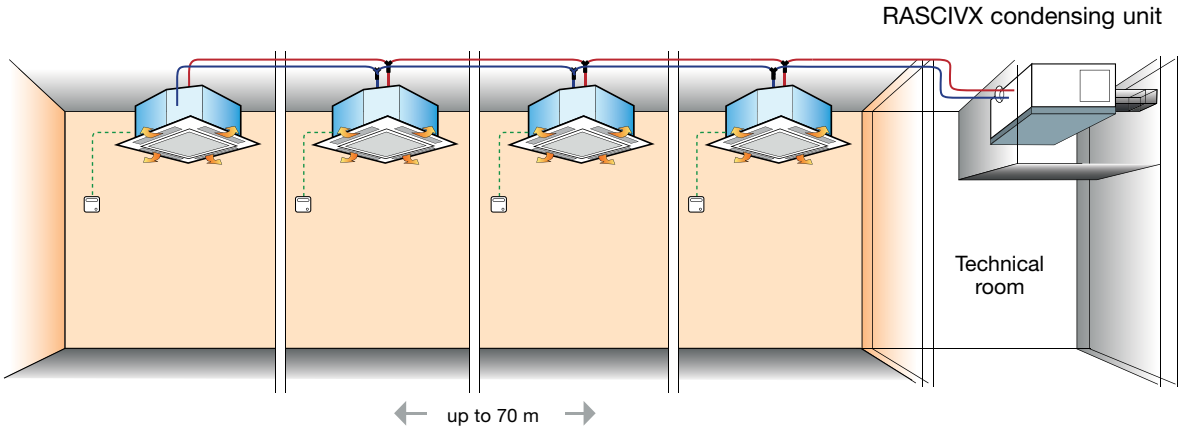


REQUIREMENT

- Very compact dimensions
- Open space
- Contained cost
- Connections from 1 to 4 indoor units in the same volume

UTOPIA RASC IVX

- Available power: 5 and 10HP



REQUIREMENT

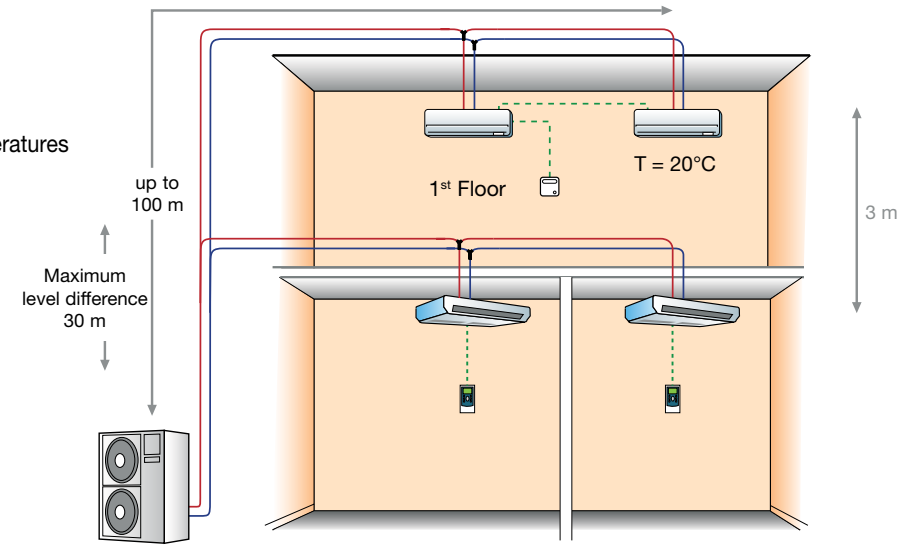
- Invisible outside unit
- Treatment of separate multiple areas

UTOPIA IVX STANDARD

- Available power: from 3 to 12 HP

REQUIREMENT

- Independent adjustment
- Elevated comfort
- from 1 to 4 different zones
- from 1 to 4 different temperatures
- High Performance



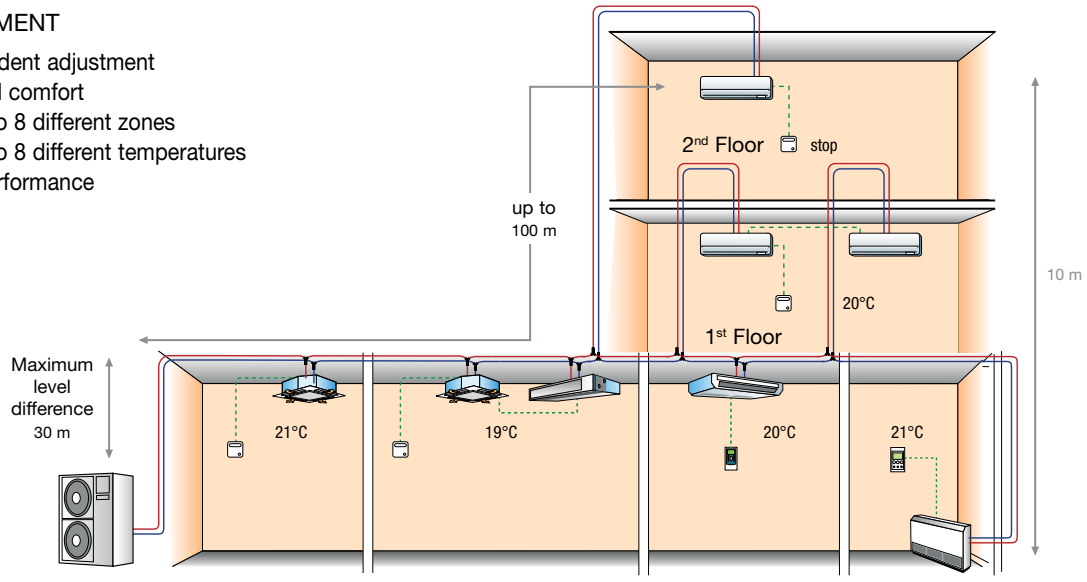
UTOPIA IVX STANDARD condensing unit

UTOPIA IVX PREMIUM

- Available power: from 3 to 12 HP

REQUIREMENT

- Independent adjustment
- Elevated comfort
- from 1 to 8 different zones
- from 1 to 8 different temperatures
- High Performance

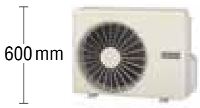


UTOPIA IVX PREMIUM condensing unit

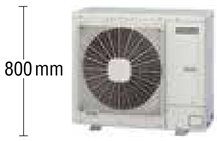
UTOPIA ES

DC inverter Heat pump

UTOPIA ES TECHNICAL SPECIFICATIONS						
CODE			**RAS 3HVRNS3**	**RAS 4HVRNS3E**	**RAS 4HRNS3E**	**RAS 5HVRNS2E**
Power Supply		V/Ph/Hz	1 - 220V 50Hz	1 - 220V 50Hz	3N - 400V 50Hz	1 - 220V 50Hz
Nominal cooling capacity (1)		kW	7.1 (3.2 - 8.0)	10.0 (4.5-11.2)	10.0 (4.5-11.2)	12.5 (5.7-14.0)
Nominal heating capacity (2)		kW	8.0 (3.5-10.60)	11.2 (5.0-14.0)	11.2 (5.0-14.0)	14.0 (6.0-16.0)
Nominal Power Input (Cool. / Heat.)		A	10.0/8.8	11.3/11.3	4.1/4.1	18.4/18.5
Input power at nominal Cap. (Cool. / Heat.)		kW	2.27/2.0	2.58/2.56	2.58/2.56	4.16/4.18
Max. input current		A	16	28	15	26
EER/COP (4)			3.05/3.88	3.69/4.16	3.69/4.16	2.91/3.24
SEER		W/W	5.14	4.95	4.85	*
Cooling energy efficiency class			A	B	B	*
P Design (35°C)		kW	7.1	10.0	10.0	*
AVERAGE Climate	SCOP	W/W	3.88	3.85	3.85	*
	Heating energy efficiency class		A	A	A	*
	P Design (-10°C)	kW	5.6	8.0	8.0	*
Min-max indoor units connected		No.	1-2	1-2	1-2	1-2
Sound Pressure Cooling/Heating (Night Mode) (3)		dB(A)	48-50 (46)	50-52 (48)	50-52 (48)	52-54 (50)
Sound Power level at nominal output		dB(A)	66	70	70	71
No. of fans		No.	1	1	1	1
Air flow rate (max.)		m^3/h	2682	3720	3720	4080
Dimensions (HxLxD)		mm	600x792x300	800x950x370	800x950x370	800x950x370
Weight		kg	44	67	67	83
Cooling mode working range		°C	-5 / +43 (BS)	-5 / +43 (BS)	-5 / +43 (BS)	-5 / +43 (BS)
Heating mode working range		°C	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-10 / +15 (BU)
R-410A Refrigerant charge		kg	1.9	2.9	2.9	2.9
Minimum piping length		m	5	5	5	5
Maximum piping length without additional charge		m	30	30	30	30
Maximum piping length (required additional charge)		m (g/m)	50 (30)	50 (40)	50 (40)	50 (60)
Maximum lift (OU up - OU down)		g/m	30/20	30/20	30/20	30/20
Liquid line piping diameter		mm (inch)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)
Gas line piping diameter		mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)



RAS 3HVRNS3



RAS 4HVRNS3E
RAS 5HVRNS2E
RAS 6HVRNS2E
RAS 4HRNS3E
RAS 5HRNS2E
RAS 6HRNS2E

RAS 8HRNSE
RAS 10HRNSE

Thanks to its continuous and advanced renewal process, the Utopia ES range features very small and compact sizes.
The units are equipped with one fan only up to 6HP. With maximum width 950 mm and maximum height 800mm, (up to 6Hp) Utopia ES is ideal for installation in small spaces.

both Single Phase 230-volt and Three Phase 380-volt power supply is available starting from 4 HP.
connection to all indoor System Free units is possible with multiple combinations in accordance with the specific table, up to 4 indoor units for larger 8 and 10 HP models.

- COMPACT DESIGN
- MINIMUM HEIGHT
- ECO-FRIENDLY
- GAS R410A
- DC INVERTER COMPRESSORS

5÷10HP: -10 +15 | -5 +43

3÷4HP: -20 +15 | -5 +43

ErP active 3 : 4HP

The specified cooling and heating capacities refer to the outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
[1] Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
[2] Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
[3] Sound pressure level measured at 1.5 metres below the unit in anechoic room with no reflection
[4] The performance is calculated based on combination with model RCI indoor units

UTOPIA ES TECHNICAL SPECIFICATIONS

CODE			RAS 5HRNS2E	RAS 6HVRNS2E	RAS 6HRNS2E	RAS 8HRNSE	RAS 10HRNSE
Power Supply		V/Ph/Hz	3N - 400V 50Hz	1 - 220V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz
Nominal cooling capacity (1)		kW	12.5 (5.7-14.0)	14.0 (6.0-16.0)	14.0 (6.0-16.0)	20.0 (9.0-22.4)	25.0 (11.2-28.0)
Nominal heating capacity (2)		kW	14.0 (6.0-16.0)	16.0 (6.0-18.0)	16.0 (6.0-18.0)	22.4 (8.3-25.0)	28.0 (9.0-31.5)
Nominal Power Input (Cool. / Heat.)		A	6.5/6.6	24.6/23.8	8.7/8.4	10.1/9.9	13.5/13.2
Input power at nominal cap. (Cool. / Heat.)		kW	4.16/4.18	5.53/5.38	5.53/5.38	6.42/6.33	8.62/8.44
Max. input current		A	13	26	13	20	23
EER/COP (4)			2.91/3.24	2.45/2.88	2.45/2.88	3.01/3.42	2.81/3.21
SEER		W/W	*	*	*	*	*
Cooling energy efficiency class			*	*	*	*	*
P Design (35°C)		kW	*	*	*	*	*
AVERAGE Climate	SCOP	W/W	*	*	*	*	*
	Heating energy efficiency class		*	*	*	*	*
	P Design (-10°C)	kW	*	*	*	*	*
Min-max indoor units connected		No.	1-2	1-3	1-3	1-4	1-4
Sound Pressure Cooling/Heating (Night Mode) (3)		dB(A)	52-54 (50)	55-57 (53)	55-57 (53)	53-55 (51)	60-62 (56)
Sound Power level at nominal output		dB(A)	71	72	72	71	78
No. of fans		No.	1	1	1	2	2
Air flow rate (max.)		m³/h	4080	4800	4800	7620	8760
Dimensions (HxLxD)		mm	800x950x370	800x950x370	800x950x370	1380x950x370	1380x950x370
Weight		kg	83	83	83	135	141
Cooling mode working range		°C	-5 / +43 (BS)	-5 / +43 (BS)	-5 / +43 (BS)	-5 / +43 (BS)	-5 / +43 (BS)
Heating mode working range		°C	-10 / +15 (BU)	-10 / +15 (BU)	-10 / +15 (BU)	-10 / +15 (BU)	-10 / +15 (BU)
R-410A Refrigerant charge		kg	2.9	2.9	2.9	6.0	6.2
Minimum piping length		m	5	5	5	5	5
Maximum piping length without additional charge		m	30	30	30	30	30
Maximum piping length (required additional charge)		m (g/m)	50 (60)	50 (60)	50 (60)	50 (65)	50 (120)
Maximum lift (OU up - OU down)		g/m	30/20	30/20	30/20	30/20	30/20
Liquid line piping diameter		mm (inch)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)
Gas line piping diameter		mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	25.4 (1)	25.4 (1)

* Data not supplied as the power levels are not covered by Lot 10 of the ErP Regulations

UTOPIA ES

Mono Combinations

RCI - 4-WAY CASSETTE SERIES i (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-3.0FSN3Ei	P-N23NA	RAS-3HVRNS3	220V-50Hz	4.70	B	3.81	A	3.0	3.7
RCI-4.0FSN3Ei	P-N23NA	RAS-4HVRNS3E	220V-50Hz	4.70	B	3.81	A	3.3	3.7
RCI-4.0FSN3Ei	P-N23NA	RAS-4HRNS3E	380V-50Hz	4.70	B	3.81	A	3.3	3.7
RCI-5.0FSN3Ei	P-N23NA	RAS-5HVRNS2E	220V-50Hz	*	*	*	*	2.9	3.2
RCI-5.0FSN3Ei	P-N23NA	RAS-5HRNS2E	380V-50Hz	*	*	*	*	2.9	3.2
RCI-6.0FSN3Ei	P-N23NA	RAS-6HVRNS2E	220V-50Hz	*	*	*	*	2.5	2.9
RCI-6.0FSN3Ei	P-N23NA	RAS-6HRNS2E	380V-50Hz	*	*	*	*	2.5	2.9

RCI - 4-WAY CASSETTE SERIES k (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-3.0FSN3Ek	P-AP160NA1	RAS-3HVRNS3	220V-50Hz	4.70	B	3.81	A	3.0	3.7
RCI-4.0FSN3Ek	P-AP160NA1	RAS-4HVRNS3E	220V-50Hz	4.70	B	3.81	A	3.3	3.7
RCI-4.0FSN3Ek	P-AP160NA1	RAS-4HRNS3E	380V-50Hz	4.70	B	3.81	A	3.3	3.7
RCI-5.0FSN3Ek	P-AP160NA1	RAS-5HVRNS2E	220V-50Hz	*	*	*	*	2.9	3.2
RCI-5.0FSN3Ek	P-AP160NA1	RAS-5HRNS2E	380V-50Hz	*	*	*	*	2.9	3.2
RCI-6.0FSN3Ek	P-AP160NA1	RAS-6HVRNS2E	220V-50Hz	*	*	*	*	2.5	2.9
RCI-6.0FSN3Ek	P-AP160NA1	RAS-6HRNS2E	380V-50Hz	*	*	*	*	2.5	2.9

NOTE: the unit is compatible also with cover panel fitted with motion sensor - cod. P-AP160NAE

RPI - DUCTED

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPI-3.0 FSN4E	RAS-3HVRNS3	220V-50Hz	4.70	B	3.81	A	2.8	3.6
RPI-4.0 FSN4E	RAS-4HVRNS3E	220V-50Hz	4.70	B	3.83	A	3.4	3.7
RPI-4.0 FSN4E	RAS-4HRNS3E	380V-50Hz	4.70	B	3.83	A	3.4	3.7
RPI-5.0 FSN4E	RAS-5HVRNS2E	220V-50Hz	*	*	*	*	2.9	3.3
RPI-5.0 FSN4E	RAS-5HRNS2E	380V-50Hz	*	*	*	*	2.9	3.3
RPI-6.0 FSN4E	RAS-6HVRNS2E	220V-50Hz	*	*	*	*	2.8	3.2
RPI-6.0 FSN4E	RAS-6HRNS2E	380V-50Hz	*	*	*	*	2.8	3.2
RPI-8.0 FSN3E	RAS-8HRNSE	380V-50Hz	*	*	*	*	2.6	3.1
RPI-10.0 FSN3E	RAS-10HRNSE	380V-50Hz	*	*	*	*	2.4	3.0

RPC - CEILING

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPC-3.0FSN3E	RAS-3HVRNS3	220V-50Hz	4.31	C	3.80	A	2.7	ND
RPC-5.0FSN3E	RAS-5HVRNS2E	220V-50Hz	*	*	*	*	2.8	3.1
RPC-5.0FSN3E	RAS-5HRNS2E	380V-50Hz	*	*	*	*	2.8	3.1
RPC-6.0FSN3E	RAS-6HVRNS2E	220V-50Hz	*	*	*	*	2.4	2.8
RPC-6.0FSN3E	RAS-6HRNS2E	380V-50Hz	*	*	*	*	2.4	2.8

RPC - CEILING

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPK-3.0FSN3M	RAS-3HVRNS3	220V-50Hz	4.66	B	3.59	A	2.6	2.9
RPK-4.0FSN3M	RAS-4HVRNS3E	220V-50Hz	4.75	B	3.40	A	2.4	3.0

* DATA NOT SUPPLIED AS THE POWER LEVELS ARE NOT COVERED BY LOT 10 OF THE ERP DIRECTIVE

To order a MONO system specify all the codes that make up the system (I.U.+O.U.+Grille+Controller+Receiver)

Multi Combinations

Model	Single	Twin		Triple		Quad	
CODE		Combination	Joints	Combination	Joints	Combination	Joints
RAS 3HVRNS3	3.0	1.5/1.5	TE-03N1	-	-	-	-
RAS 4H(V)RNS3E	4.0	2.0/2.5 - 1.8/2.3 - 2.0/2.3 1.8/2.5 - 2.0/2.5	TE-04N1				
RAS 5H(V)RNS2E	5.0	2.5/2.5 - 3.0/2.3 3.0/1.8 - 3.0/2.0	TE-56N1	-	-	-	-
RAS 6H(V)RNS2E	6.0	3.0/3.0 - 3.0/2.5	TE-56N1	1.8/1.8/1.8 - 2.0/2.0/2.0. - 2.0/2.0/1.8 - 1.8/1.8/2.0 - 1.5/1.5/2.5	TRE-46N1	-	-
RAS 8HRNSE	8.0	4.0/4.0	TE-08N	3.0/3.0/3.0	TRE-810N	2.0/2.0/2.0/2.0	1 x TE-08N+ 2 x TE-04N1
RAS 10HRNSE	10.0	5.0/5.0	TE-08N	-	-	2.5/2.5/2.5/2.5	1 x TE-08N+ 2 x TE-56N1

Note
Non standard power levels can be obtained from fixed levels only by reduction, via simple configuration of two Dip switches.
- Power level 1.8 HP can only be obtained by reduction from 2 HP - Power level 2.3 HP can only be obtained by reduction from 2.5 HP

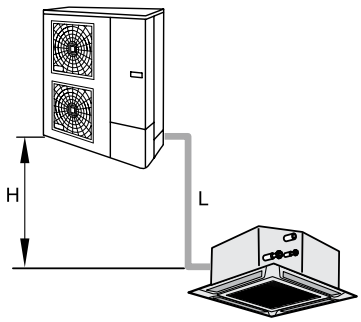
To order a MULTI UTOPIA Inverter ES system specify all the codes that make up the multi system as follows:
(Indoor units + Grilles + Outdoor U.+ Joint Kit + One Controller only + One Receiver only, in case of infra red controller).

System sizing

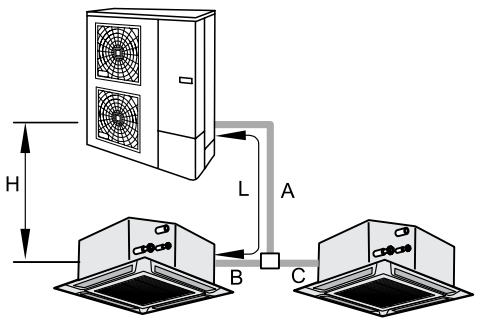
Mono, dual, trial, double twin configuration

Maximum length of refrigerant piping

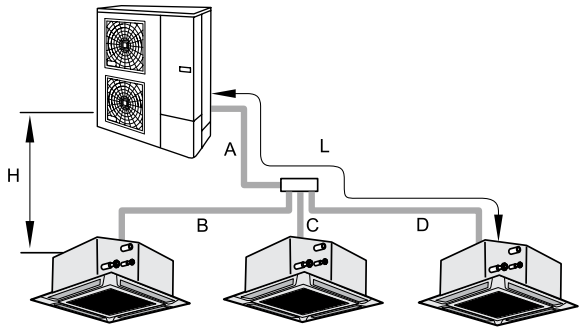
MONO System (one indoor unit)



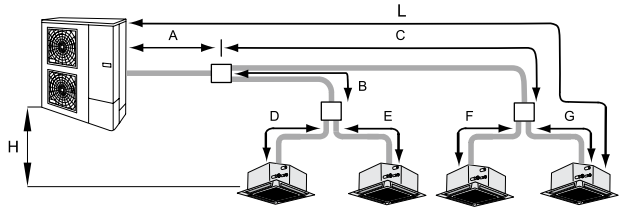
DUAL System (two indoor units)



TRIAL System (three indoor units)



DOUBLE TWIN System (four indoor units)



UTOPIA ES

Outdoor unit		3HP	4HP	5HP	6HP	8HP	10 HP
Maximum piping length between the outdoor unit and the furthest indoor unit	Actual length (L1)	30	50				
	Equivalent length (EL)	40	70				70(*)
Maximum piping length	2 units (A+B+C)	40	60				
	3 units (A+B+C+D)	-	70				
	4 units (B+D, B+E, C+F, C+G)	-				80	
Maximum height difference between outdoor unit and indoor unit	Outdoor up	30					
	Outdoor down	20					
	Between indoor units	0.5					
Piping after the first joint	Dual (B, C)	10					
	Trial (B, C, D)	-			10		
	Double Twin B+D, B+E, C+F, C+G	-				10	

(*) In combination with double twin: 75 metres

The refrigerant piping from the outdoor unit to the first joint must be longer than the piping between the first joint and the furthest indoor unit.

All piping must be balanced, and the difference between branches must not exceed the limits set out below:

Outdoor unit		3-5HP	6HP	8HP	10 HP
Dual	Difference between B and C	8			
Trial	Difference between B, C and D	-	8		
Double Twin	Difference between: B + (D/E) and C + (F/G); Between D and E; Between F and G	-		8	

Selection of refrigerant piping section and distribution joints

Outdoor Unit capacity	Piping section (A)		Joints		
	Gas	Liquid	Dual	Trial	Double Twin
3HP	Ø 15.88	Ø 9.52	TE-03N1	-	-
4HP	Ø 15.88	Ø 9.52	TE-04N1	-	-
5HP	Ø 15.88	Ø 9.52	TE-56N1	-	-
6HP	Ø 15.88	Ø 9.52	TE-56N1	TRE-46N1	-
8HP	Ø 25.40	Ø 9.52	TE-08N	TE-810N	TE-08N + 2 x TE-04N
10HP	Ø 25.40	Ø 9.52 (1)	TE-08N	-	TE-08N + 2 x TE-56N

(1) Use section 12.7 when piping length exceeds 30 metres.

Piping section laid between first and second joint (only for 8 and 10HP)

Total capacity downstream of the second joint	Piping section First – Second joint (B-C)	
	Gas	Liquid
≤ 2.3HP	Ø 12.70	Ø 6.35
≤ 6.0HP	Ø 15.88	Ø 9.52

Piping section to indoor unit

Indoor unit capacity	Piping section	
	Gas	Liquid
1.5HP	Ø 12.70	Ø 6.35
2HP	Ø 15.88	Ø 6.35
2.5-6HP	Ø 15.88	Ø 9.52
8HP	Ø 25.40	Ø 9.52
10HP	Ø 25.40	Ø 9.52 (1)

(1) Use section 12.7 when the piping length exceeds 30 metres: the relevant reducer for the indoor unit piping is supplied with it.

Combinations of piping section/length

Capacity	Liquid	Ø6.35				Ø9.53					Ø12.7 5*					Ø12.7	
	Gas	Ø9.53	Ø12.7	Ø15.88	Ø19.05	Ø12.7	Ø15.88	Ø19.05	Ø22.20	Ø25.40	Ø15.88	Ø19.05	Ø22.20	Ø25.40	Ø28.60	Ø25.40	Ø28.60
3HP		-	20[1*2*]	20[2*]	-	30[1*]	30	-	-	-	-	-	-	-	-	-	-
4-5-6 HP		-	-	5[2*]	5[2*]	40[1*]	50	50[4*]	-	-	30[3*]	30[3*4*]	-	-	-	-	-
8HP		-	-	-	-	-	-	30[1*4*]	30[1*]	50	-	30[1*2*4*-]	30[1*3*]	30[3*]	-	-	-
10HP		-	-	-	-	-	-	-	-	30[5*]	-	-	30[1*3*]	50[3*4*]	50[3*]	20[3*]	20[3*]

(1*) If the gas line diameter is reduced, cooling performance decreases and the operative range is reduced since the line's pressure loss increases.
(2*) If the liquid line diameter is reduced, capacity of the indoor unit's expansion valve is reduced.
(3*) If the liquid line size is increased, refrigerant must be added.
(4*) If the gas line diameter is Ø19.05, the JP6 jumper of the outdoor unit PCB must be cut.
(5*) If the liquid line exceeds 30 m select liquid piping with diameter equal to Ø12.7mm.

Standard specification

Please refer to page 184 to check accessories

UTOPIA RASC IVX

DC INVERTER Heat pump

CUCINA TORCICODA FIRENZE - APPLICATION OF HITACHI UTOPIA RASC IVX

RASC 5HVRNM1E
RASC 10HRNM1E

-15 +15

-5 +46

- INDOOR INSTALLATION
- DUCTABLE
- COMPACT SIZE
- INVERTER COMPRESSOR
- OPTIONAL INPUTS/OUTPUTS

The units of the Utopia RASC Centrifugal range may be installed in closed settings using ducts for outdoor connection, and are therefore ideal where it is required to conceal the unit or in places where the traditional type of outdoor units cannot be used.

LOW TEMPERATURE OPERATION

Particularly wide operation range, obtained also thanks to a special fan control system which in cooling mode makes operation possible even with particularly low outside temperatures.

MODIFICATION OF AIR INLET AND OUTLET CONFIGURATION

Four different air Inlet and Outlet configurations are available. The position of side panels and grilles is in fact easily modifiable on site to suit installation needs.

COMPATIBILITY

With all HITACHI System Free indoor units.

UTOPIA IVX RASC TECHNICAL SPECIFICATIONS			
CODE		**RASC 5HVRNM1E**	**RASC 10HRNM1E**
Power Supply	V/Ph/Hz	1N - 220V 50Hz	3N - 400V 50Hz
Nominal cooling capacity (1)	kW	12.5 (4.7-14.0)	23.0 (10.3-25.0)
Nominal heating capacity (2)	kW	14.0 (5.0-16.0)	25.0 (9.4-26.0)
Nominal Power Input (Cool. / Heat.)	A	21.6 / 212.0	13.0 / 13.1
Input power at nominal cap. (Cool. / Heat.)	kW	4.56 / 4.50	8.09 / 8.20
Max. input current	A	37.0	26.0
EER/COP (4)		2.77 / 3.15	2.88 / 3.09
Connectible Capacity	%	100	100
Min-max indoor units connected	No.	1-3	1-4
Sound Pressure Cooling/Heating (Night Mode) (3)	dB(A)	55-56 (51)	56-57 (52)
Sound Power level at nominal output	dB(A)	71	75
Air flow rate (max.)	m³/h	3900	6300
Useful static pressure (nominal/maximum)	Pa	50/100	63/130
Dimensions (H x L x D)	mm	430x1250x1300	640x1850x985
Weight	kg	176	269
Cooling mode working range	°C	-5 / +46 (BS)	-5 / +46 (BS)
Heating mode working range	°C	-15 / +15 (BU)	-15 / +15 (BU)
R-410A Refrigerant charge	kg	3.1	5.0
Minimum piping length	m	5	5
Maximum piping length without additional charge	m	nd	nd
Maximum piping length (required additional charge)	m (g/m)	70 (to be calculated)	50 (to be calculated)
Maximum lift (OU up - OU down)	m	30/20	30/20
Liquid line piping diameter	inches (mm)	9.53 (3/8)	12.7 (1/2)
Gas line piping diameter	inches (mm)	15.88 (5/8)	25.4 (1)

The specified cooling and heating capacities refer to the outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
[1] Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
[2] Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
[3] Sound pressure level measured at 1.5 metres distance and with closed air ducts in anechoic room
[4] COR and EER values are calculated based on the combination with model RCI indoor units

UTOPIA RASC IVX

Mono Combinations

RCI - 4-WAY CASSETTE SERIES i (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-5.0FSN3Ei	P-N23NA	RASC-5HVRNM1E	220V-50Hz	*	*	*	*	2.7	3.1

RCI - 4-WAY CASSETTE SERIES k (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-5.0FSN3Ek	P-AP160NA1	RASC-5HVRNM1E	380V-50Hz	*	*	*	*	ND	ND

NOTE: the unit is compatible also with cover panel fitted with motion sensor - cod. P-AP160NAE

RCI - 4-WAY HIGH EFFICIENCY CASSETTE (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-5.0FSN3	P-AP160NA1	RASC-5HVRNM1E	220V-50Hz	*	*	*	*	2.8	3.2

RPI - DUCTED

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPI-5.0FSN4E	RASC-5HVRNM1E	220V-50Hz	*	*	*	*	2.6	3.0
RPI-10.0FSN3E	RASC-10HRNM1E	380V-50Hz	*	*	*	*	2.5	2.8

RPC - CEILING

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPC-5.0FSN3E	RASC-5HVRNM1E	220V-50Hz	*	*	*	*	2.6	3.0

RPC - CEILING

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPC-5.0FSN3	RASC-5HVRNM1E	220V-50Hz	*	*	*	*	ND	ND

* DATA NOT SUPPLIED AS THE POWER LEVELS ARE NOT COVERED BY LOT 10 OF THE ERP DIRECTIVE

Multi Combinations

Model	Single	Twin		Triple		Quad	
		Combination[5]	Joint	Combination[5]	Joint	Combination[5]	Joint
RASC 5HVRNM1E	5.0	2.5/2.5 - 3.0/2.3 4.0/1.5	TE-56N	1.8/1.8/1.5	TRE-06N	-	-
RASC 10HRNM1E	10.0	5.0/5.0 - 4.0/6.0 2.0/8.0	TE-10N	3.0/3.0/3.0 - 4.0/3.0/3.0 - 6.0/2.0/2.0	TRE-810N	2.5/2.5/2.5/2.5 - 3.0/2.5/3.0/2.0 - 3.0/2.5/2.5/2.5 3.0/2.0/3.0/2.0 - 3.0/2.0/2.5/2.5 - 3.0/2.3/3.0/2.3 3.0/2.3/3.0/2.0 - 3.0/2.3/2.5/2.5	TE-10N + (TE-56N + TE-56N)(*6) 2 x E-162SN3 + 1 x E-102SN3
			E-102SN		1 x E-162SN3 + 1 x E-102SN3		QE-810N

Note
5 Non standard power levels can be obtained from fixed levels only by reduction, via simple configuration of two Dip switches.
Power level 1.8 HP can only be obtained by reduction from 2 HP - Power level 2.3 HP can only be obtained by reduction from 2.5 HP
6 TE-03N if after the Joint the power is less than or equal to 1.5Hp. TE-56N if after the Joint the power is higher than 1.5 Hp.
Other measurement conditions: energy consumption / efficiency concern connection of indoor cassette units. Values may vary slightly with other types.

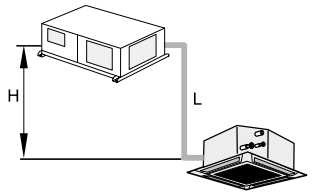
System sizing

Mono, dual, trial, double twin configuration

Maximum length of refrigerant piping

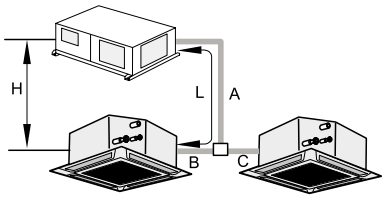
RASC-(5/10)HP

Simple System



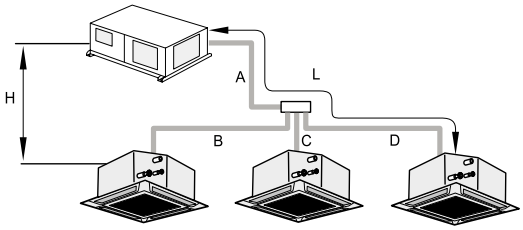
Double System

L = A + the longest between B and C



Triple System

L = A + the longest among B, C and D

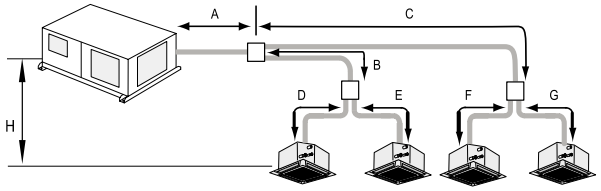


Only for RASC-10HP

Quadruple System

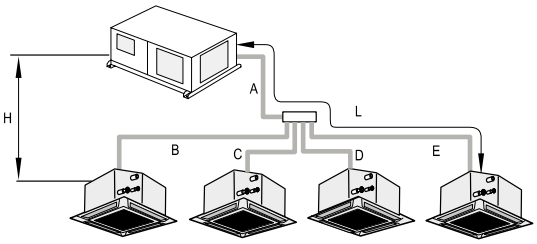
Case A

L = A + the longest between (B + the longest between D and E) and (C + the longest between F and G)



Case B

L = A + the longest among B, C, D, and E



L and H correspond to the length and height set out in the diagram above. For double, triple and quadruple systems, the length is the distance between RASC units and the furthest indoor unit.

Element			5HP	10HP
Maximum piping length between RASC unit and every indoor unit (L)	Actual piping length		70	50
	Equivalent piping length		90	70
Maximum height difference between RASC unit and indoor unit (H)	RASC unit higher than indoor unit		30	30
	Indoor unit higher than RASC unit		20	20
	Height difference between indoor units		3	3
Maximum piping length between multi-kit and indoor unit	Double B, C		10	15
	Triple B, C, D		10	15
	Quadruple	Case a) B + D, B + E, C + F, C + G	-	15
		Case b) B, C, D, E	-	15
Maximum overall piping length	Double (A + B + C)		80	60
	Triple (A + B + C + D)		80	70
	Quadruple	Case a) (A + B + C + D + E + F + G)	-	80
		Case b) (A + B + C + D + E)	-	80

Notes:
- The length of the RASC refrigerant line up to the first fitting must exceed the length of the line from the first fitting to the furthest indoor unit.

- All connecting pipes must be balanced and the difference between these sections cannot exceed the values set out in the following tables:

Element			5HP	10HP
Double	(B-C)		8	8
Triple	(B-C, B-D, C-D)		8	8
Quadruple	Case a)	(B+(D/E)) - (C+(F/G))	-	8
		(D-E)		
		(F-G)		
	Case b)	(B-C, B-D, B-E, C-D, C-E, D-E)	-	8

UTOPIA RASC IVX

Joint Selection

RASC Unit	Multikit / Distributor			
	Double	Triple	Quadruple	
RASC-5HVRNME	TE-56N	TRE-06N	-	
RASC-5HVRNM1E	TE-10N	TRE-810N	Case a) JOINTS	(*1): TE-10N + (TE-03N + TE-03N)
				(*2): TE-10N + (TE-56N + TE-56N)
			Case b) HEADER	QE-810N

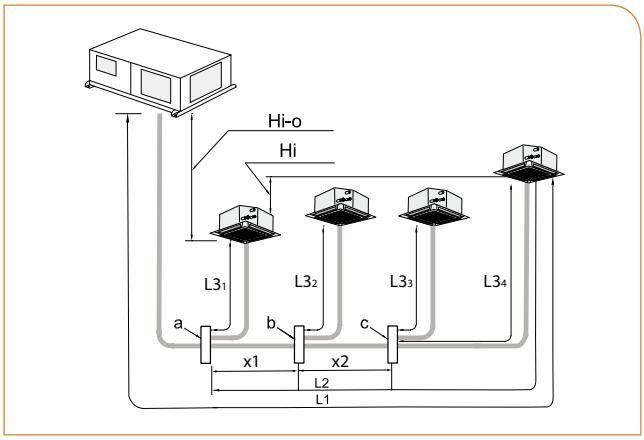
Note:

(m)

	Total I.U. capacity after second fitting	Multikit / Distributor
(*1)	≤1.5 HP	TE-03N
(*2)	>1.5 HP	TE-56N

Configuration in line

Maximum length of refrigerant piping (ONLY RASC-10HRNM1E)



Element		10HP
Maximum piping length between RASC unit and every indoor unit (L)	Actual piping length	50
	Equivalent piping length	70
Maximum length of the first multi-kit and furthest indoor unit (L2)		15
Maximum piping length between the multi-kit and the indoor unit ($L3_1$, $L3_2$, $L3_3$, $L3_4$)		10
Maximum height difference between RASC unit and indoor unit (Hi-o)	RASC unit higher than indoor unit	30
	Indoor unit higher than RASC unit	20
Maximum height difference between indoor units (Hi)		3
Total piping length ($L3_1$, $L3_2$, $L3_3$, $L3_4$)		60

Notes:
All connecting pipes must be balanced and the difference between these sections cannot exceed the values set out in the following tables:

(m)

	10HP
$L2-L3._1$	8
$L2-(x1+L3._2)$	8
$L2-(x1+x2+L3._3)$	8

Selection of connecting joints (only RASC-10HP)

Sign	Multi-kit		
	Double	Triple	Quadruple
a. (First multikit)	E-102SN3	E-162SN3	E-162SN3
b. (Second multikit)	-	E-162SN3	E-162SN3
c. (Third multikit)	-	-	E-162SN3

Connecting dimensions between RASC unit and first fitting

mm (inches)

RASC Unit	Pipe diameter (*1)	
	Liquid	Gas
RASC-5HVRNM1E	Ø 9.53 (3/8")	Ø15.88 (5/8")
RASC-10HRNM1E	Ø12.70 (1/2")	Ø 25.40 (1")

Notes:
(*1): The dimensions of indoor units and RASC units might be different. Adjust the flared adapter (accessories) on the internal line joint.

Diameter of connection points between first and second connecting pipe (for quadruple RASC-10HRNM1E system, case A)

Pipe diameter (Ø mm) (First ~ Second connecting pipe)	
Gas	Liquid
Ø 15.88 (5/8")	Ø 9.53 (3/8")

Notes:
(*1): The dimensions of indoor units and RASC units might be different. Adjust the flared adapter (accessories) on the internal line joint.

Diameter of connecting points between the connection pipe and the indoor unit

RASC Unit	Pipe diameter	
	Gas	Liquid
1.5 HP	Ø12.70	Ø 6.35
2 HP	Ø15.88	Ø 6.35
(2.5-6) HP	Ø15.88	Ø 9.53
8 HP	Ø19.05 –> Ø25.40(*1)	Ø 9.53
10 HP	Ø22.2 –> Ø25.40(*1)	Ø 9.53 (*2)

Notes:
If different lines are used from standard values, the installer must supply line reducers.
(*1) Ø19.05 --> Ø25.4 and Ø22.2 --> Ø25.4 adapters for internal pipes are supplied in the field with the indoor unit.
(*2) Select line dimensions with diameter Ø12.7 if the length exceeds 30m. The pipe adapter of the indoor unit is supplied in the field with the indoor unit.

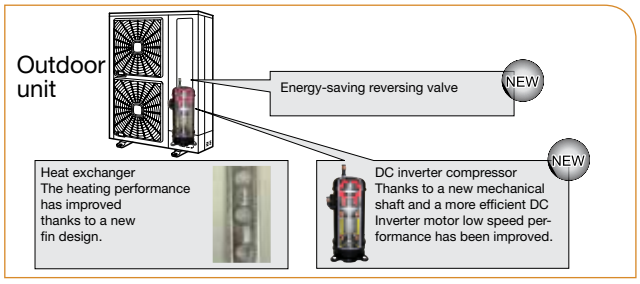
Please refer to page 184 to check accessories

UTOPIA IVX STANDARD AND PREMIUM

HITACHI is pleased to introduce its new line of outdoor units UTOPIA IVX STANDARD and IVX PREMIUM.

ENERGY SAVINGS

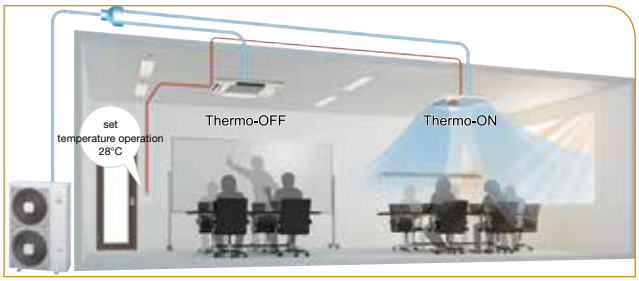
Thanks to the new compressor with DC INVERTER control, the renewed design of the cooling circuit and the use of a new exchanger with newly designed fins electrical consumption of condensing units have been reduced to achieve energy efficiency widely meeting the requirements of the new EcoDesign Directive (ErP Lot 10).



COMFORT AND EASE OF INSTALLATION

UTOPIA IVX STANDARD and IVX PREMIUM systems are a practically perfect solution to address issues arising from the need for individual control up to 8 indoor units. Their flexibility is the same as VRF SET FREE systems but at a more affordable price.

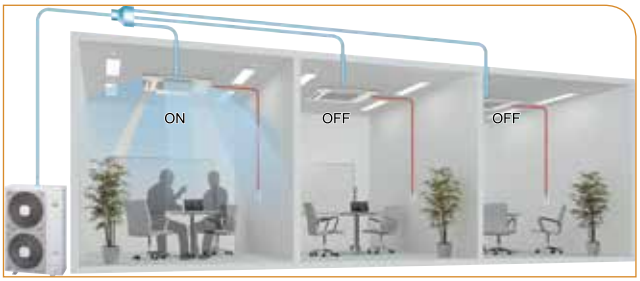
Individual Thermo-ON and Thermo-OFF is possible even when the same remote controller is connected to several indoor units. The conditioning system is able to monitor the temperature and supply the right amount of power based on the requirements of the various zones and different needs of the premises it serves, e.g. inner or outer area of the premises.



This achieves a highly comfortable environment and great energy savings.

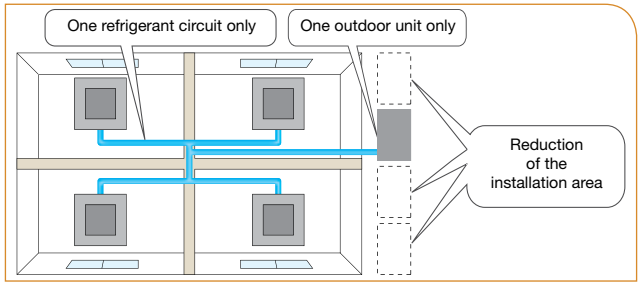
EASILY RE-ADAPTABLE AND RE-CONFIGURABLE

Every indoor unit can be installed and operate in a wholly independent manner even in separate rooms. The functionality of each indoor unit can be controlled by a dedicated remote controller for each individual indoor unit. therefore operation of the indoor unit of the room occupied by people only is possible. This affords high energy savings and total flexibility in view of a possible future reorganisation of inside spaces.



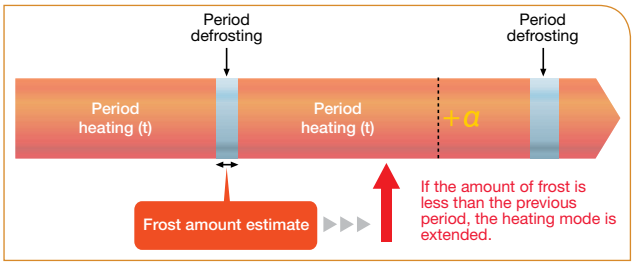
EASY INSTALLATION

up to 8 indoor units can be connected to the same condensing unit with the same refrigerant circuit. This translates into straightforward and conveniently laid piping routes and wiring.
The space requirements for placing the condensing unit are also much lower.



HIGH COMFORT LEVEL

UTOPIA IVX STANDARD and IVX PREMIUM systems have been designed to assure the utmost comfort even during the critical defrosting phase. The defrosting operation time has been significantly reduced and the heating time has been increased thanks to an innovative system to assess the amount of frost.
The amount of frost can be estimated based on the defrosting time taken by the previous cycle. If the amount of frost detected by the condensing unit should be less than the previous cycle, the heating operation will be automatically extended until the end of the defrosting period.
Consequently, unnecessary defrosting cycles are thus eliminated in favour of continued operation in heating mode to assure absolute comfort to the end user.



COMPATIBILITY WITH R22 REFRIGERANT CIRCUITS

The new UTOPIA IVX STANDARD and IVX PREMIUM systems are compatible with all installations that have operated with R22 gas. the UTOPIA IVX STANDARD and IVX PREMIUM systems that use R410A refrigerant gas can be installed without needing to change the refrigerant piping already laid.

Thanks to an optional feature, standard available on all power levels, the system regulates pressure in order not to damage R22 refrigerant piping despite its thickness is lower than the ideal one for the R410A gas.

ENERGY EFFICIENCY

Seasonal energy efficiency has been developed to meet the EcoDesign Directive, which specifies minimum requirements that manufacturers must comply with to produce and market their products.
The new calculation method uses different temperature ratings in cooling and heating mode, integrating them with the calculation of operation at partial capacity.
Since the majority of conditioning systems operates at partial capacity, this new methodology to calculate energy efficiency offers a better indication of the actual performance.
The new calculation method of seasonal efficiency also takes into account the energy consumption by auxiliary devices in stand-by mode.

Index of seasonal energy efficiency in cooling (SEER) and coefficient of seasonal performance in heating (SCOP) show a value which is very similar to the actual energy consumption.

MAIN FEATURES

IVX STANDARD	
1	Very compact size
2	Individual operation of indoor units
3	Increase of the ratio of connectible capacity indoor units - outdoor unit: from 90% minimum to 115% maximum (depending on models)
4	Up to 4 indoor units can be connected to the same condensing unit
5	Option to connect indoor units with power less than 0.8HP
6	Increase in energy performance thanks to the new compressor and a new cooling circuit design
7	Application in systems set up with R22 refrigerant gas piping

IVX PREMIUM	
1	Individual operation of indoor units
2	Increase of the ratio of connectible capacity indoor units - outdoor unit: from 50% minimum to 120% maximum (depending on models)
3	Up to 8 indoor units can be connected to the same condensing unit
4	Complete compliance with the new EcoDesign Directive (EuP Lot 10)
5	Option to connect indoor units with power less than 0.8HP
6	Increase in energy performance thanks to the new compressor and a new cooling circuit design
7	Application in systems set up with R22 refrigerant gas piping
8	Extremely high SCOP and SEER in MONO combination

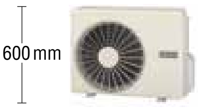
UTOPIA IVX STANDARD

BEING PHASED OUT

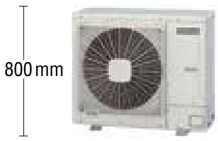
UTOPIA IVX STANDARD TECHNICAL SPECIFICATIONS							
CODE			**RAS 3HVNC**	**RAS 4HVNCE**	**RAS 4HNCE**	**RAS 5HVNCE**	**RAS 5HNCE**
Power Supply		V/Ph/Hz	1 - 220V 50Hz	1 - 220V 50Hz	3N - 400V 50Hz	1 - 220V 50Hz	3N - 400V 50Hz
Nominal cooling capacity (1)		kW	7.1 (3.2-8.0)	10.0 (4.5-11.2)	10.0 (4.5-11.2)	12.5 (5.7-14.0)	12.5 (5.7-14.0)
Nominal heating capacity (2)		kW	8.0 (3.5-10.6)	11.2 (5.0-14.0)	11.2 (5.0-14.0)	14.0 (5.0-16.0)	14.0 (5.0-16.0)
Nominal Power Input (Cool. / Heat.)		A	9.7 / 8.5	11.0 / 10.9	4.0 / 4.0	16.8 / 15.3	6.10 / 5.60
Input power at nominal cap. (Cool. / Heat.)		kW	2.20 / 1.94	2.50 / 2.48	2.50 / 2.48	3.83 / 3.48	3.83 / 3.48
Max. input current		A	16	28	15	28	15
EER/COP (4)			3.14 / 4.00	3.80 / 4.29	3.80 / 4.29	3.16 / 3.88	3.16 / 3.88
SEER		W/W	5.31	5.16	5.07	*	*
Cooling energy efficiency class			A	A	B	*	*
P Design (35°C)		kW	ND	ND	ND	*	*
AVERAGE Climate	SCOP	W/W	4.07	3.92	3.92	*	*
	Heating energy efficiency class		A+	A	A	*	*
	P Design (-10°C)	kW	ND	ND	ND	*	*
Min-max connectible capacity		%	90 - 110	90 - 115	90 - 115	90 - 115	90 - 115
Min-max indoor units connected		No.	1 - 2	1 - 4	1 - 4	1 - 4	1 - 4
Sound Pressure Cooling/Heating (Night Mode) (3)		dB(A)	48 - 50 (46)	50 - 52 (48)	50 - 52 (48)	52 - 54 (50)	52 - 54 (50)
Sound Power level at nominal output		dB(A)	66	70	70	72	71
No. of fans		No.	1	1	1	1	1
Air flow rate (max.)		m³/h	2682	3720	3720	4080	4080
Dimensions (H x L x D)		mm	600x792x300	800x950x370	800x950x370	800x950x370	800x950x370
Weight		kg	44	67	67	79	79
Cooling mode working range		°C	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)
Heating mode working range		°C	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)
R-410A Refrigerant charge		kg	1.9	2.9	2.9	2.9	2.9
Minimum piping length		m	5	5	5	5	5
Maximum piping length without additional charge		m	30	30	30	30	30
Maximum piping length (required additional charge)		m (g/m)	50 (40)	70 (40)	70 (40)	75 (60)	75 (60)
Maximum lift (OU up - OU down)		m	30/20	30/20	30/20	30/20	30/20
Liquid line piping diameter		mm (inch)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)
Gas line piping diameter		mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)

* Data not supplied as the power levels are not covered by Lot 10 of the ErP Regulations

RAS 3HVNC



RAS 4H(V)NCE
RAS 5H(V)NCE
RAS 6H(V)NCE



RAS 8HNCE
RAS 10HNCE

RAS 12HNC

MAIN FEATURES OF THE RANGE

- Individual operation for each indoor unit
- Very compact size; one fan only up to 6HP
- Option to connect up to 4 indoor units of any type
- Indoor unit connection capacity ratio variable from 90% minimum to 115% maximum of the outdoor unit power (depending on power level)
- Option to connect indoor units with power equal to 0.8HP
- Improved energy performance and compliant with ErP Regulations Lot 10, thanks to the use of a new compressor and a new cooling circuit optimised and entirely designed by HITACHI
- Compatibility with refrigerant piping for old R22 or R407C gas circuits.

-20 +15

-5 +46
UP TO -15°C
IN COOLING
MODE ONLY

ErP active
2 : 4HP

COMPACT AND LIGHTWEIGHT
LIMITED USE OF REFRIGERANT
WIDE SCOPE OF APPLICATION
INDIVIDUAL CONTROL OF THE INDOOR UNIT
HIGH ENERGY EFFICIENCY

The specified cooling and heating capacities refer to the outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
(1) Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
(3) Sound pressure level measured at 1.5 metres below the unit in anechoic room with no reflection.
(4) The performance is calculated based on combination with model RCI FSN3 indoor units

UTOPIA IVX STANDARD TECHNICAL SPECIFICATIONS

CODE			RAS 6HVNCE	RAS 6HNCE	RAS 8HNCE	RAS 10HNCE	RAS 12HNC
Power Supply		V/Ph/Hz	1 - 220V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz
Nominal cooling capacity(1)		kW	14 (6.0-16.0)	14 (6.0-16)	20.0 (8.0-22.4)	25.0 (10-28)	30.0 (11.2-33.5)
Nominal heating capacity (2)		kW	16.0 (5.0-18.0)	16.0 (5.0-18.0)	22.4 (6.3-28)	28.0 (8.0-35)	33.5 (9.0-37.5)
Nominal Power Input (Cool. / Heat.)		A	21.60 / 19.00	7.90 / 6.90	9.10 / 9.00	12.90 / 12.00	18.10 / 14.60
Input power at nominal cap. (Cool. / Heat.)		kW	4.92 / 4.33	4.92 / 4.33	5.69 / 5.62	8.02 / 7.45	9.32 / 8.39
Max. input current		A	28	15	23.2	23.2	24.3
EER/COP (4)			2.77 / 3.59	2.77 / 3.59	3.36 / 3.81	3.02 / 3.63	2.57 / 3.54
SEER		W/W	*	*	*	*	*
Cooling energy efficiency class			*	*	*	*	*
P Design (35°C)		kW	*	*	*	*	*
AVERAGE Climate	SCOP	W/W	*	*	*	*	*
	Heating energy efficiency class		*	*	*	*	*
	P Design (-10°C)	kW	*	*	*	*	*
Min-max connectible capacity		%	90 - 115	90 - 115	90 - 115	90 - 115	90 - 115
Min-max indoor units connected		No.	1 - 4	1 - 4	1 - 4	1 - 4	1 - 4
Sound Pressure Cooling/Heating (Night Mode) (3)		dB(A)	55 - 57 (53)	55 - 57 (53)	57 - 59 (55)	58 - 60 (56)	59 - 61 (56)
Sound Power level at nominal output		dB(A)	72	72	76	76	77
No. of fans		No.	1	1	2	2	2
Air flow rate (max.)		m³/h	4800	4800	7260	8040	9780
Dimensions (H x L x D)		mm	800x950x370	800x950x370	1,380x950x370	1,380x950x370	1,650x1,100x390
Weight		kg	79	79	136	138	168
Cooling mode working range		°C	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)
Heating mode working range		°C	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)
R-410A Refrigerant charge		kg	2.9	2.9	5.3	6.0	6.7
Minimum piping length		m	5	5	5	5	5
Maximum piping length without additional charge		m	30	30	30	30	30
Maximum piping length (required additional charge)		m (g/m)	75 (60)	75 (60)	100 (SEE TC)	100 (SEE TC)	100 (SEE TC)
Maximum lift (OU up - OU down)		m	30/20	30/20	30/20	30/20	30/20
Liquid line piping diameter		mm (inch)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	12.70 (1/2)	12.70 (1/2)
Gas line piping diameter		mm (inch)	15.88 (5/8)	15.88 (5/8)	25.40 (1)	25.40 (1)	25.40 (1)

* Data not supplied as the power levels are not covered by Lot 10 of the ErP Regulations

UTOPIA IVX STANDARD

Mono Combinations

RCI - 4-WAY CASSETTE SERIES i (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-3.0FSN3Ei	P-N23NA	RAS-3HVNC	220V-50Hz	4.87	B	3.95	A	3.0	3.8
RCI-4.0FSN3Ei	P-N23NA	RAS-4HVNCE	220V-50Hz	4.88	B	3.83	A	3.3	3.9
RCI-4.0FSN3Ei	P-N23NA	RAS-4HNCE	380V-50Hz	4.79	B	3.83	A	3.3	3.9
RCI-5.0FSN3Ei	P-N23NA	RAS-5HVNCE	220V-50Hz	*	*	*	*	3.1	3.7
RCI-5.0FSN3Ei	P-N23NA	RAS-5HNCE	380V-50Hz	*	*	*	*	3.1	3.7
RCI-6.0FSN3Ei	P-N23NA	RAS-6HVNCE	220V-50Hz	*	*	*	*	2.6	3.4
RCI-6.0FSN3Ei	P-N23NA	RAS-6HNCE	380V-50Hz	*	*	*	*	2.6	3.4

RCI - 4-WAY CASSETTE SERIES k (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-3.0FSN3Ek	P-AP160NA1	RAS-3HVNC	220V-50Hz	4.87	B	3.95	A	3.0	3.8
RCI-4.0FSN3Ek	P-AP160NA1	RAS-4HVNCE	220V-50Hz	4.88	B	3.83	A	3.3	3.9
RCI-4.0FSN3Ek	P-AP160NA1	RAS-4HNCE	380V-50Hz	4.79	B	3.83	A	3.3	3.9
RCI-5.0FSN3Ek	P-AP160NA1	RAS-5HVNCE	220V-50Hz	*	*	*	*	3.1	3.7
RCI-5.0FSN3Ek	P-AP160NA1	RAS-5HNCE	380V-50Hz	*	*	*	*	3.1	3.7
RCI-6.0FSN3Ek	P-AP160NA1	RAS-6HVNCE	220V-50Hz	*	*	*	*	2.6	3.4
RCI-6.0FSN3Ek	P-AP160NA1	RAS-6HNCE	380V-50Hz	*	*	*	*	2.6	3.4

NOTE: the unit is compatible also with cover panel fitted with motion sensor - cod. P-AP160NAE

RCI - 4-WAY HIGH EFFICIENCY CASSETTE (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-3.0FSN3	P-AP160NA1	RAS-3HVNC	220V-50Hz	5.31	A	4.07	A+	3.1	4.0
RCI-4.0FSN3	P-AP160NA1	RAS-4HVNCE	220V-50Hz	5.16	A	3.92	A	3.8	4.3
RCI-4.0FSN3	P-AP160NA1	RAS-4HNCE	380V-50Hz	5.07	B	3.92	A	3.8	4.3
RCI-5.0FSN3	P-AP160NA1	RAS-5HVNCE	220V-50Hz	*	*	*	*	3.2	3.9
RCI-5.0FSN3	P-AP160NA1	RAS-5HNCE	380V-50Hz	*	*	*	*	3.2	3.9
RCI-6.0FSN3	P-AP160NA1	RAS-6HVNCE	220V-50Hz	*	*	*	*	2.8	3.6
RCI-6.0FSN3	P-AP160NA1	RAS-6HNCE	380V-50Hz	*	*	*	*	2.8	3.6

NOTE: the unit is compatible also with cover panel fitted with motion sensor - cod. P-AP160NAE

RPI - DUCTED

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPI-3.0FSN4E	RAS-3HVNC	220V-50Hz	4.96	B	3.90	A	2.8	3.6
RPI-4.0FSN4E	RAS-4HVNCE	220V-50Hz	5.13	A	3.91	A	3.4	3.8
RPI-4.0FSN4E	RAS-4HNCE	380V-50Hz	5.03	B	3.91	A	3.4	3.8
RPI-5.0FSN4E	RAS-5HVNCE	220V-50Hz	*	*	*	*	3.1	3.6
RPI-5.0FSN4E	RAS-5HNCE	380V-50Hz	*	*	*	*	3.1	3.6
RPI-6.0FSN4E	RAS-6HVNCE	220V-50Hz	*	*	*	*	2.7	3.5
RPI-6.0FSN4E	RAS-6HNCE	380V-50Hz	*	*	*	*	2.7	3.5
RPI-8.0FSN3E	RAS-8HNCE	380V-50Hz	*	*	*	*	2.8	3.1
RPI-10.0FSN3E	RAS-10HNCE	380V-50Hz	*	*	*	*	2.7	3.0

RPC - HIGH EFFICIENCY CEILING

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPC-3.0FSN3E	RAS-3HVNC	220V-50Hz	3.93	D	3.41	A	2.6	3.1
RPC-4.0FSN3E	RAS-4HVNCE	220V-50Hz	4.45	C	3.41	A	3.1	3.1
RPC-4.0FSN3E	RAS-4HNCE	380V-50Hz	4.38	C	3.41	A	3.1	3.1
RPC-5.0FSN3E	RAS-5HVNCE	220V-50Hz	*	*	*	*	2.8	3.1
RPC-5.0FSN3E	RAS-5HNCE	380V-50Hz	*	*	*	*	2.8	3.1
RPC-6.0FSN3E	RAS-6HVNCE	220V-50Hz	*	*	*	*	2.6	3.1
RPC-6.0FSN3E	RAS-6HNCE	380V-50Hz	*	*	*	*	2.6	3.1

* DATA NOT SUPPLIED AS THE POWER LEVELS ARE NOT COVERED BY LOT 10 OF THE ERP DIRECTIVE

RPK - WALL

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPC-3.0FSN3	RAS-3HVNC	220V-50Hz	ND	ND	ND	ND	ND	ND
RPC-4.0FSN3	RAS-4HVNCE	220V-50Hz	ND	ND	ND	ND	ND	ND
RPC-4.0FSN3	RAS-4HNCE	380V-50Hz	ND	ND	ND	ND	ND	ND
RPC-5.0FSN3	RAS-5HVNCE	220V-50Hz	*	*	*	*	ND	ND
RPC-5.0FSN3	RAS-5HNCE	380V-50Hz	*	*	*	*	ND	ND
RPC-6.0FSN3	RAS-6HVNCE	220V-50Hz	*	*	*	*	ND	ND
RPC-6.0FSN3	RAS-6HNCE	380V-50Hz	*	*	*	*	ND	ND

RPK - WALL

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPK-3.0FSN3M	RAS-3HVNC	220V-50Hz	4.88	B	3.70	A	2.7	2.9
RPK-4.0FSN3M	RAS-4HVNCE	220V-50Hz	4.91	B	3.40	A	2.4	3.0
RPK-4.0FSN3M	RAS-4HNCE	380V-50Hz	4.83	B	3.40	A	2.4	3.0

* DATA NOT SUPPLIED AS THE POWER LEVELS ARE NOT COVERED BY LOT 10 OF THE ERP DIRECTIVE

UTOPIA IVX STANDARD

UTOPIA IVX STANDARD TECHNICAL SPECIFICATIONS							
CODE			**RAS 3HVNC1**	**RAS 4HVNC1E**	**RAS 4HNC1E**	**RAS 5HVNC1E**	**RAS 5HNC1E**
Power Supply		V/Ph/Hz	1 - 220V 50Hz	1 - 220V 50Hz	3N - 400V 50Hz	1 - 220V 50Hz	3N - 400V 50Hz
Nominal cooling capacity(1)		kW	7.1 (3.2-8.0)	10.0 (4.5-11.2)	10.0 (4.5-11.2)	12.5 (5.7-14.0)	12.5 (5.7-14.0)
Nominal heating capacity (2)		kW	8.0 (3.5-10.6)	11.2 (5.0-14.0)	11.2 (5.0-14.0)	14.0 (5.0-18.0)	14.0 (5.0-18.0)
Nominal Power Input (Cool. / Heat.)		A	9.4 / 8.3	11.2 / 10.1	4.1 / 3.7	15.5 / 15.1	5.7 / 5.5
Input power at nominal cap. (Cool. / Heat.)		kW	2.14 / 1.88	2.55 / 2.30	2.55 / 2.30	3.54 / 3.43	3.54 / 3.43
Max. input current		A	17.8	28.5	15.5	28.5	15.5
EER/COP (4)			4.00 / 4.00	4.57 / 4.57	4.57 / 4.57	3.37 / 3.89	3.37 / 3.89
SEER		W/W	6.00	6.57	6.41	*	*
Cooling energy efficiency class			A+	A++	A++	*	*
P Design (35°C)		kW	7.1	10.0	10.0	*	*
AVERAGE Climate	SCOP	W/W	4.21	4.47	4.47	*	*
	Heating energy efficiency class		A+	A+	A+	*	*
	P Design (-10°C)	kW	5.6	8.7	8.7	*	*
Min-max connectible capacity		%	90-110	90-115	90-115	90-115	90-115
Min-max indoor units connected		No.	1-2	1-4	1-4	1-4	1-4
Sound Pressure Cooling/Heating (Night Mode) (3)		dB(A)	48-50 (46)	52-54 (50)	52-54 (50)	52-54 (50)	52-54 (50)
Sound Power level at nominal output		dB(A)	66	68	68	68	68
No. of fans		No.	1	1	1	1	1
Air flow rate (max.)		m³/h	2682	3720	3720	4080	4080
Dimensions		mm	600x792x300	1140x950x370	1140x950x370	1140x950x370	1140x950x370
Weight		kg	44	79	79	89	89
Cooling mode working range		°C	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)
Heating mode working range		°C	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)
R-410A Refrigerant charge		kg	1.9	3.2	3.2	3.2	3.2
Minimum piping length		m	5	5	5	5	5
Maximum piping length without additional charge		m	30	30	30	30	30
Maximum piping length (required additional charge)		m (g/m)	50 (40)	70 (40)	70 (40)	75 (60)	75 (60)
Maximum lift (OU up - OU down)		g/m	30/20	30/20	30/20	30/20	30/20
Liquid line piping diameter		mm (inch)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)
Gas line piping diameter		mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)

* Data not supplied as the power levels are not covered by Lot 10 of the ErP Regulations

Commercial Outdoor Units

RAS 3HVNC1

RAS 4H(V)NC1E
RAS 5H(V)NC1E
RAS 6H(V)NC1E

RAS 8HNCE
RAS 10HNCE

RAS 12HNC

HITACHI is pleased to introduce its new range of IVX STANDARD outdoor units, today even more efficient and functional.

MAIN FEATURES OF THE NEW RANGE

- Individual operation for each indoor unit
- Very compact size; one fan only up to 6HP
- Option to connect up to 4 indoor units of any type
- Indoor unit connection capacity ratio variable from 90% minimum to 115% maximum of the outdoor unit power (depending on power level)
- Option to connect indoor units with power equal to 0.8HP
- Compliant with the new Eco Design directive EuP lot 10 and designed to have seasonal efficiency compliant with the European Directive in seasonal efficiency lot 6/21 in force from 2015
- Compatibility with refrigerant piping for old R22 or R407C gas circuits.

-20 +15

UP TO -15°C IN COOLING MODE ONLY

-5 +46

ErP active

2 : 4HP

COMPACT AND LIGHTWEIGHT

LIMITED USE OF REFRIGERANT

WIDE SCOPE OF APPLICATION

INDIVIDUAL CONTROL OF THE INDOOR UNIT

HIGH ENERGY EFFICIENCY

The specified cooling and heating capacities refer to outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
(1) Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
(3) Sound pressure level has been measured in an anechoic chamber, 1.5m below the unit, with no reflection
(4) Performance is calculated based on combination with indoor units model RCI

UTOPIA IVX STANDARD TECHNICAL SPECIFICATIONS						
CODE			**RAS 6HVNC1E**	**RAS 6HNC1E**	**RAS 8HNCE**	**RAS 10HNCE**	**RAS 12HNCE**
Power Supply		V/Ph/Hz	1 - 220V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz
Nominal cooling capacity(1)		kW	13 (6.0-16.0)	13 (6.0-16)	20.0 (8.0-22.4)	25.0 (10.0-28.0)	30.0 (11.2-37.5)
Nominal heating capacity (2)		kW	16.0 (5.0-20.0)	16.0 (5.0-20.0)	22.4 (6.3-28.0)	28.0 (8.0-35.0)	33.5 (9.0-37.5)
Nominal Power Input (Cool. / Heat.)		A	18.1 / 19.0	6.6 / 6.9	9.1 / 9.0	12.9 / 12.0	17.5 / 14.2
Input power at nominal cap. (Cool. / Heat.)		kW	4.12 / 4.32	4.12 / 4.32	5.69 / 5.62	8.02 / 7.45	11.05 / 8.96
Max. input current		A	28.5	15.5	24.0	24.0	24.3
EER/COP (4)			3.26 / 3.56	3.26 / 3.56	3.36 / 3.81	3.02 / 3.63	2.57 / 3.54
SEER		W/W	*	*	*	*	*
Cooling energy efficiency class			*	*	*	*	*
P Design (35°C)		kW	*	*	*	*	*
AVERAGE Climate	SCOP	W/W	*	*	*	*	*
	Heating energy efficiency class		*	*	*	*	*
	P Design (-10°C)	kW	*	*	*	*	*
Min-max connectible capacity		%	90-115	90-115	90-115	90-115	90-115
Min-max indoor units connected		No.	1-4	1-4	1-4	1-4	1-4
Sound Pressure Cooling/Heating (Night Mode) (3)		dB(A)	55-57 (53)	55-57 (53)	57-59 (55)	58-60 (56)	59-61 (56)
Sound Power level at nominal output		dB(A)	71	71	76	76	77
No. of fans		No.	1	1	2	2	2
Air flow rate (max.)		m³/h	4800	4800	7620	8040	9780
Dimensions		mm	1140x950x370	1140x950x370	1380x950x370	1380x950x370	1650x1100x390
Weight		kg	89	89	136	138	168
Cooling mode working range		°C	-5 / +46 (BS)	-5 / +46 (BS)	-15 / +46 (BS)	-15 / +46 (BS)	-15 / +46 (BS)
Heating mode working range		°C	-15 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)
R-410A Refrigerant charge		kg	3.2	3.2	5.7	6.2	6.7
Minimum piping length		m	5	5	5	5	5
Maximum piping length without additional charge		m	30	30	30	30	30
Maximum piping length (required additional charge)		m (g/m)	75 (60)	75 (60)	100 (SEE TC)	100 (SEE TC)	100 (SEE TC)
Maximum lift (OU up - OU down)		g/m	30/20	30/20	30/20	30/20	30/20
Liquid line piping diameter		mm (inch)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	12.7 (1/2)	12.7 (1/2)
Gas line piping diameter		mm (inch)	15.88 (5/8)	15.88 (5/8)	25.4 (1)	25.4 (1)	25.4 (1)

* Data not supplied as the power levels are not covered by Lot 10 of the ErP Regulations

UTOPIA IVX STANDARD

Prices of Mono Combinations

RCI - 4-WAY CASSETTE SERIES i (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-3.0FSN3Ei	P-N23NA	RAS-3HVNC1E	220V-50Hz	5.48	A	3.95	A	3.8	3.8
RCI-4.0FSN3Ei	P-N23NA	RAS-4HVNC1E	220V-50Hz	5.75	A+	4.21	A+	4.1	4.1
RCI-4.0FSN3Ei	P-N23NA	RAS-4HNC1E	380V-50Hz	5.63	A+	4.21	A+	4.1	4.1
RCI-5.0FSN3Ei	P-N23NA	RAS-5HVNC1E	220V-50Hz	*	*	*	*	3.3	3.7
RCI-5.0FSN3Ei	P-N23NA	RAS-5HNC1E	380V-50Hz	*	*	*	*	3.3	3.7
RCI-6.0FSN3Ei	P-N23NA	RAS-6HVNC1E	220V-50Hz	*	*	*	*	3.1	3.4
RCI-6.0FSN3Ei	P-N23NA	RAS-6HNC1E	380V-50Hz	*	*	*	*	3.1	3.4

RCI - 4-WAY CASSETTE SERIES k (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-3.0FSN3Ek	P-AP160NA1	RAS-3HVNC1E	220V-50Hz	5.48	A	3.95	A	3.8	3.8
RCI-4.0FSN3Ek	P-AP160NA1	RAS-4HVNC1E	220V-50Hz	5.75	A+	4.21	A+	4.1	4.1
RCI-4.0FSN3Ek	P-AP160NA1	RAS-4HNC1E	380V-50Hz	5.63	A+	4.21	A+	4.1	4.1
RCI-5.0FSN3Ek	P-AP160NA1	RAS-5HVNC1E	220V-50Hz	*	*	*	*	3.3	3.7
RCI-5.0FSN3Ek	P-AP160NA1	RAS-5HNC1E	380V-50Hz	*	*	*	*	3.3	3.7
RCI-6.0FSN3Ek	P-AP160NA1	RAS-6HVNC1E	220V-50Hz	*	*	*	*	3.1	3.4
RCI-6.0FSN3Ek	P-AP160NA1	RAS-6HNC1E	380V-50Hz	*	*	*	*	3.1	3.4

NOTE: the unit is compatible also with cover panel fitted with motion sensor - cod. P-AP160NAE

RCI - 4-WAY HIGH EFFICIENCY CASSETTE (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-3.0FSN3	P-AP160NA1	RAS-3HVNC1E	220V-50Hz	6.00	A+	4.21	A+	4.0	4.0
RCI-4.0FSN3	P-AP160NA1	RAS-4HVNC1E	220V-50Hz	6.57	A++	4.47	A+	4.6	4.6
RCI-4.0FSN3	P-AP160NA1	RAS-4HNC1E	380V-50Hz	6.41	A++	4.47	A+	4.6	4.6
RCI-5.0FSN3	P-AP160NA1	RAS-5HVNC1E	220V-50Hz	*	*	*	*	3.4	3.9
RCI-5.0FSN3	P-AP160NA1	RAS-5HNC1E	380V-50Hz	*	*	*	*	3.4	3.9
RCI-6.0FSN3	P-AP160NA1	RAS-6HVNC1E	220V-50Hz	*	*	*	*	3.3	3.6
RCI-6.0FSN3	P-AP160NA1	RAS-6HNC1E	380V-50Hz	*	*	*	*	3.3	3.6

NOTE: the unit is compatible also with cover panel fitted with motion sensor - cod. P-AP160NAE

RPI - DUCTED

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPI-3.0FSN4E	RAS-3HVNC1E	220V-50Hz	5.35	A	3.91	A	3.6	3.6
RPI-4.0FSN4E	RAS-4HVNC1E	220V-50Hz	5.97	A+	4.31	A+	4.0	4.0
RPI-4.0FSN4E	RAS-4HNC1E	380V-50Hz	5.84	A+	4.31	A+	4.0	4.0
RPI-5.0FSN4E	RAS-5HVNC1E	220V-50Hz	*	*	*	*	3.3	3.6
RPI-5.0FSN4E	RAS-5HNC1E	380V-50Hz	*	*	*	*	3.3	3.6
RPI-6.0FSN4E	RAS-6HVNC1E	220V-50Hz	*	*	*	*	3.2	3.0
RPI-6.0FSN4E	RAS-6HNC1E	380V-50Hz	*	*	*	*	3.2	3.0

RPC - CEILING

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPC-3.0FSN3E	RAS-3HVNC1E	220V-50Hz	4.68	B	3.80	A	3.1	3.1
RPC-4.0FSN3E	RAS-4HVNC1E	220V-50Hz	4.61	B	3.80	A	3.3	3.3
RPC-4.0FSN3E	RAS-4HNC1E	380V-50Hz	4.53	C	3.80	A	3.3	3.3
RPC-5.0FSN3E	RAS-5HVNC1E	220V-50Hz	*	*	*	*	3.0	3.1
RPC-5.0FSN3E	RAS-5HNC1E	380V-50Hz	*	*	*	*	3.0	3.1
RPC-6.0FSN3E	RAS-6HVNC1E	220V-50Hz	*	*	*	*	3.0	3.6
RPC-6.0FSN3E	RAS-6HNC1E	380V-50Hz	*	*	*	*	3.0	3.6

* DATA NOT SUPPLIED AS THE POWER LEVELS ARE NOT COVERED BY LOT 10 OF THE ERP DIRECTIVE

RPC - HIGH EFFICIENCY CEILING

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPC-3.0FSN3	RAS-3HVNC1E	220V-50Hz	5.29	A	4.13	A+	3.4	3.4
RPC-4.0FSN3	RAS-4HVNC1E	220V-50Hz	5.02	B	3.90	A	3.9	3.9
RPC-4.0FSN3	RAS-4HNC1E	380V-50Hz	4.93	B	3.90	A	3.9	3.9
RPC-5.0FSN3	RAS-5HVNC1E	220V-50Hz	*	*	*	*	2.7	3.6
RPC-5.0FSN3	RAS-5HNC1E	380V-50Hz	*	*	*	*	2.7	3.6
RPC-6.0FSN3	RAS-6HVNC1E	220V-50Hz	*	*	*	*	2.6	3.4
RPC-6.0FSN3	RAS-6HNC1E	380V-50Hz	*	*	*	*	2.6	3.4

RPK - WALL

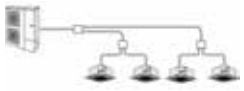
Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPK-3.0FSN3M	RAS-3HVNC1E	220V-50Hz	5.35	A	3.80	A	2.9	2.9
RPK-4.0FSN3M	RAS-4HVNC1E	220V-50Hz	5.56	A	3.83	A	3.2	3.2
RPK-4.0FSN3M	RAS-4HNC1E	380V-50Hz	5.45	A	3.83	A	3.2	3.2

* DATA NOT SUPPLIED AS THE POWER LEVELS ARE NOT COVERED BY LOT 10 OF THE ERP DIRECTIVE

UTOPIA IVX STANDARD

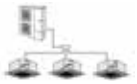
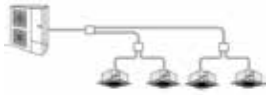
Multi Combinations

UTOPIA IVX STANDARD 2-6HP

CODE	Power level minimum unit names indoor connectible	Maximum number of indoor units connectible	1 unit	2 units		3 units				4 units			
						TRIAL CONFIGURATION		IN LINE CONFIGURATION		QUAD CONFIGURATION		IN LINE CONFIGURATION	
													
			Comb.	Comb.	Joints	Comb.	Joints	Comb.	Joints	Comb.	Joints	Comb.	Joints
RAS 3H(V)NC1	0,8HP	2	90-110% FROM 2.7 TO 3.3HP	90-100% FROM 2.7 TO 3HP	TE-03N1	NOT POSSIBLE				NOT POSSIBLE			
RAS 4H(V)NC(1)E	0.8HP	4	90-115% FROM 3.6 TO 4.6HP	90-115% FROM 3.6 TO 4.6HP	TE-04N1	90-100% FROM 3.6 TO 4HP	TRE-46N1	90-100% FROM 3.6 TO 4HP	2 x E-102SN3	90-100% FROM 3.6 TO 4HP	(*) First joint: TE-04N1 Second joint: If power downstream ≤ 1.5HP: TE-03N1 If power downstream ≥ 1.8HP AND < 4HP: TE-03N1 If power downstream = 4HP: TE-04N1 If power downstream > 4HP: TE-56N1	90-100% FROM 3.6 TO 4HP	3xE-102SN3
RAS 5H(V)NC(1)E	0,8HP	4	90-115% FROM 4.5 TO 5.75HP	90-115% FROM 4.5 TO 5.75HP	TE-56N1	90-100% FROM 4.5 TO 5HP	TRE-46N1	90-100% FROM 4.5 TO 5HP	2 x E-102SN3	90-100% FROM 4.5 TO 5HP	(*) First joint: TE-56N1 Second joint: If power downstream ≤ 1.5HP: TE-03N1 If power downstream ≥ 1.8HP AND < 4HP: TE-03N1 If power downstream = 4HP: TE-04N1 If power downstream > 4HP: TE-56N1	90-100% FROM 4.5 TO 5HP	3xE-102SN3
RAS 6H(V)NC(1)E	0,8HP	4	90-115% FROM 5.4 TO 6.9HP	90-115% FROM 5.4 TO 6.9HP	TE-56N1	90-100% FROM 5.4 TO 6HP	TRE-46N1	90-100% FROM 5.4 TO 6HP	2xE-102SN3	90-100% FROM 5.4 TO 6HP	(*) First joint: TE-56N1 Second joint: If power downstream ≤ 1.5HP: TE-03N1 If power downstream ≥ 1.8HP AND < 4HP: TE-03N1 If power downstream = 4HP: TE-04N1 If power downstream > 4HP: TE-56N1	90-100% FROM 5.4 TO 6HP	3xE-102SN3

(*) If the capacity ratio between the two branches downstream of the first joint, is higher than 60/40%, use installation with in line configuration.

UTOPIA IVX STANDARD 8-12HP

CODE	Power level minimum indoor unit connectible	Maximum number of indoor units connectible	1 unit	2 units		3 units				4 units			
						TRIAL CONFIGURATION		CONFIGURATION IN LINE		QUAD CONFIGURATION		CONFIGURATION IN LINE	
													
			Comb.	Comb.	Joints	Combination	Joints	Combination	Joints	Combination	Joints	Combination	Joints
RAS 8HNCE	1.8HP	4	90-115% FROM 7.2 TO 9.2HP	90-115% FROM 7.2 TO 9.2HP	TE-08N	90-115% FROM 7.2 TO 9.2HP	TRE-812N1	90-115% FROM 7.2 TO 9.2HP	1 x E-162SN3 + 1 x E-102SN3	90-115% FROM 7.2 TO 9.2HP	(*) First joint: TE-08N Second joint: If power downstream ≤ 1.5HP: TE-03N1 If power downstream ≥ 1.8HP AND < 4HP: TE-03N1 If power downstream = 4HP: TE-04N1 If power downstream ≥ 5HP: TE-56N1 IT IS POSSIBLE TO USE HEADER: QE-812N1	90-115% FROM 7.2 TO 9.2HP	2 x E-162SN3 + 1 x E-102SN3
RAS 10HNCE	1.8HP	4	90-115% FROM 9 TO 11.5HP	90-115% FROM 9 TO 11.5HP	TE-10N	90-115% FROM 9 TO 11.5HP	TRE-812N1	90-115% FROM 9 TO 11.5HP	1 x E-162SN3 + 1 x E-102SN3	90-115% FROM 9 TO 11.5HP	(*) First joint: TE-10N Second joint: If power downstream ≤ 1.5HP: TE-03N1 If power downstream ≥ 1,8HP AND < 4HP: TE-03N1 If power downstream = 4HP: TE-04N1 If power downstream ≥ 5HP: TE-56N1 IT IS POSSIBLE TO USE HEADER: QE-812N1	90-115% FROM 9 TO 11.5HP	2 x E-162SN3 + 1 x E-102SN3
RAS 12HNC	1.8HP	4	90-115% FROM 10.8 TO 13.8HP	6.0/6.0 FROM 10.8 TO 13.8HP	TE-10N	90-115% FROM 10.8 TO 13.8HP	TRE-812N1	90-115% FROM 10.8 TO 13.8HP	1 x E-162SN3 + 1 x E-102SN3	90-115% FROM 10.8 TO 13.8HP	(*) First joint: TE-10N Second joint: If power downstream ≤ 1.5HP: TE-03N1 If power downstream ≥ 1,8HP AND < 4HP: TE-03N1 If power downstream = 4HP: TE-04N1 If power downstream ≥ 5HP: TE-56N1 IT IS POSSIBLE TO USE HEADER: QE-812N1	90-115% FROM 10.8 TO 13.8HP	2 x E-162SN3 + 1 x E-102SN3

(*) If the capacity ratio between the two branches downstream of the first joint is higher than 60/40%, use installation with in line configuration.

Remarks

[1] **TABLE 1**: In systems where indoor units are all RCI-FSN3 models, the maximum allowed capacity ratio is 100% and the maximum number of indoor units is as follows:

Outdoor unit model	HP	3	4	5	6	8	10	12
UTOPIA IVX	No.	1	2			4		

[2] When installing model RCIM 2.0FSN3, RPF(I) 2.0FSN2E or RPF(I) 2.5FSN2E indoor units, the MONO combination with UTOPIA IVX and IVX PREMIUM outdoor units is not allowed

[3] In case of installation in cold areas (where the outside temperature might reach -5°C) or in areas with high heating demands, do not install a higher number of indoor units than recommended and assure a capacity ratio lower than 100%.

System sizing

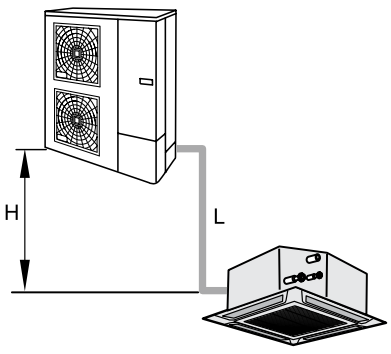
Mono, dual, trial, double twin configuration

Maximum length of refrigerant piping

Outdoor unit		3HP	4HP	5HP	6HP	8HP	10HP	12HP
Maximum piping length between the outdoor unit and the furthest indoor unit	Actual length (L1)	50	70	75		100		
	Equivalent length (EL)	70	90	95		125		
Maximum piping length	2 units (A+B+C)	60	80	85		100	115	
	3 units (A+B+C+D)	-	90	85		100		
	4 units (B+D, B+E, C+F, C+G)	-	90	95		100	145	
Maximum piping length after the first joint	2 and 3 units (B,C,D)	10				15		
	4 units (B+D, B+E, C+F, C+G)	-	10			15		
Main piping length (A)		A > B, C, D, E, F, G						
Maximum height difference between outdoor unit and indoor unit	Outdoor up	30						
	Outdoor down	20						
Maximum height difference between indoor units		3						
Maximum height difference Joint/indoor unit (2, 3 and 4 indoor units) Joint/joint (4 indoor units)		3						
(B-C)/(B-D)/(C-D)/(C+G)-(B+E)/(C+G)-(B+D)/(C+F)-(B+E)/(C+F)-(B+D)		< 8						

Selection of refrigerant piping section and distribution joints

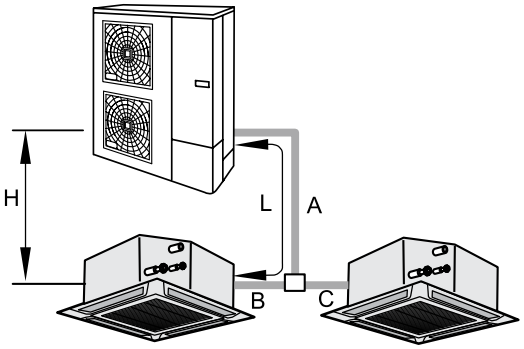
MONO System (one indoor unit)



Outdoor unit capacity HP	Piping section (L)	
	Gas	Liquid
3/4/5/6	Ø 15.88	Ø 9.52
8	Ø 25.40	Ø 9.52
10/12	Ø 25.40	Ø 12.70

UTOPIA IVX STANDARD

DUAL System (two indoor units)

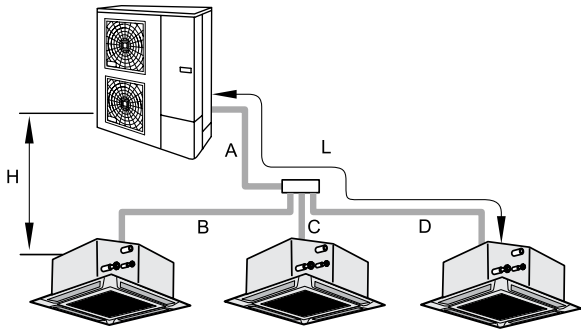


Outdoor Unit capacity HP	Piping section (A)		Joints
	Gas	Liquid	
3	Ø 15.88	Ø 9.52	TE-03N1
4	Ø 15.88	Ø 9.52	TE-04N1
5/6	Ø 15.88	Ø 9.52	TE-56N1
8	Ø 25.40	Ø 9.52 (1)	TE-08N
10/12	Ø 25.40	Ø 12.70	TE-10N

(1) In the event the total piping length should exceed 70 metres for 8HP outdoor unit, use liquid piping with section 12.7.

Indoor Unit capacity HP	Piping section (B, C)	
	Gas	Liquid
≤ 1.5HP	Ø 12.70	Ø 6.35
1.8/2.0HP	Ø 15.88	Ø 6.35
≥ 2.3HP	Ø 15.88	Ø 9.52

TRIAL System (three indoor units)

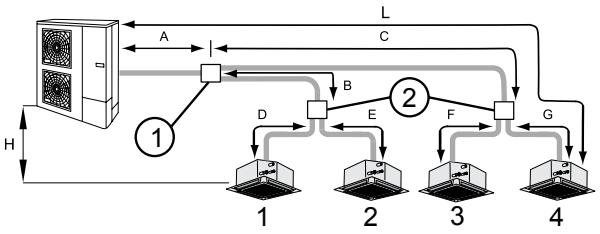


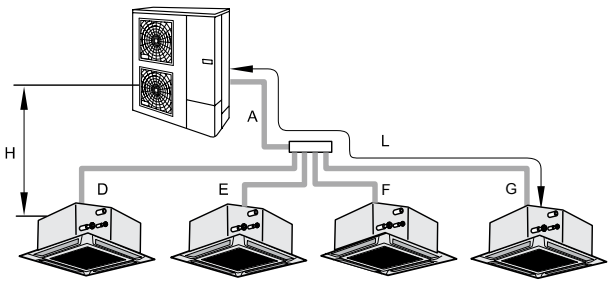
Outdoor unit capacity HP	Piping section (A)		Joints
	Gas	Liquid	
4/5/6	Ø 15.88	Ø 9.52	TRE-46N1
8	Ø 24.40	Ø 9.52 (1)	TRE-812N1
10/12	Ø 24.40	Ø 12.70	TRE-812N1

(1) In the event the piping length (A+B or A+C or A+D) should exceed 70 metres for the 8HP outdoor unit, use liquid piping with section 12.7.

Indoor Unit capacity HP	Piping section (B, C, D)	
	Gas	Liquid
≤ 1.5HP	Ø 12.70	Ø 6.35
1.8/2.0HP	Ø 15.88	Ø 6.35
≥ 2.3HP	Ø 15.88	Ø 9.52

DOUBLE TWIN System(four indoor units)





Outdoor unit capacity HP	Piping section (A)		Joint 1	Header
	Gas	Liquid		
4	Ø 15.88	Ø 9.52	TE-04N1	-
5/6	Ø 15.88	Ø 9.52	TE-56N1	-
8	Ø 25.40	Ø 9.52 (1)	TE-08N	QE-812N1
10/12	Ø 25.40	Ø 12.70	TE-10N	QE-812N1

(1) In the event the piping length (A+B+D or A+B+E or A+C+F or A+C+G) should exceed 70 metres for the 8HP outdoor unit, use liquid piping with section 12.7.

Total capacity of indoor units 1+2 or 3+4	Piping section (B, C)		Joint 2
	Gas	Liquid	
≤ 1.5HP	Ø 12.70	Ø 6.35	TE-03N1
1.8/2.0HP	Ø 15.88	Ø 6.35	TE-03N1
≥ 2.3HP	Ø 15.88	Ø 9.52	< 4HP: TE-03N1 = 4HP: TE-04N1 ≥ 5HP: TE-56N1

Outdoor unit capacity HP	Piping section (D, E, F, G)	
	Gas	Liquid
≤ 1.5HP	Ø 12.70	Ø 6.35
1.8/2.0HP	Ø 15.88	Ø 6.35
≥ 2.3HP	Ø 15.88	Ø 9.52

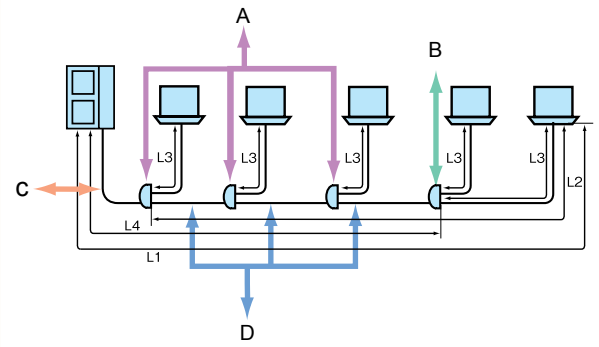
If the capacity ratio between the sets of indoor units 1+2 and 3+4 exceeds 60/40% make an installation with “in line configuration”.

Configuration in line

Maximum length of refrigerant piping

Outdoor unit		4HP	5HP	6HP	8HP	10HP	12HP
Maximum piping length between the outdoor unit and the furthest indoor unit	Actual length (L1)	70	75		100		
	Equivalent length (EL)	90	95		125		
Maximum piping length between the first joint and every indoor unit (L2)		20			25		
Maximum piping length from joint to indoor unit (L3)		10			15		
Total piping length L4+($L3_1$+$L3_2$+$L3_3$…)		70	75		100	145	
Maximum height difference between outdoor unit and indoor unit	Outdoor up	30					
	Outdoor down	20					
Maximum height difference between indoor units		3					
Maximum height difference	Joint/indoor unit (2, 3 and 4 indoor units)	3					
	Joint/joint (4 indoor units)	3					

Selection of refrigerant piping section and distribution joints



Outdoor unit capacity HP	Piping section (C, D) (L4)		Joints A	Joints B
	Gas	Liquid		
3/4/5/6	Ø 15.88	Ø 9.52	E-102SN3	E-102SN3
8	Ø 25.40	Ø 9.52 (1)	E-162SN3	E-102SN3
10/12	Ø 25.40	Ø 12.70	E-162SN3	E-102SN3

(1) In the event the total piping length from outdoor unit to the furthest indoor unit should exceed 70 metres for the 8HP outdoor unit, use liquid piping with section 12.70.

Indoor Unit capacity HP	Piping section (L3)	
	Gas	Liquid
≤ 1.5HP	Ø 12.70	Ø 6.35
1.8/2.0HP	Ø 15.88	Ø 6.35
≥ 2.3HP	Ø 15.88	Ø 9.52

Combinations of piping section/length

Capacity	Liquid	Ø6.35				Ø9.53					Ø12.70					Ø15.88		
	Gas	Ø9.53	Ø12.70	Ø15.88	Ø19.05	Ø12.70	Ø15.88	Ø19.05	Ø22.20	Ø25.40	Ø15.88	Ø19.05	Ø22.20	Ø25.40	Ø28.60	Ø22.30	Ø25.40	Ø28.60
3HP		-	30(1)(2)	30(2)	-	30(1)	50	-	-	-	-	-	-	-	-	-	-	-
4HP		-	-	5(2)	5(2)	40(1)	70	50(4)	-	-	30(3)	30(3)(4)	-	-	-	-	-	-
5-6HP		-	-	5(2)	5(2)	40(1)	75	50(4)	-	-	30(3)	30(3)(4)	50(1)(3)	-	-	-	-	-
8HP		-	-	-	-	-	-	50(1)(4)	50(1)	70(5)	-	50(1)(3)(4)	50(1)	100	-	50(1)(3)	50(3)	-
10HP		-	-	-	-	-	-	-	-	-	-	-	-	100	50	50(1)(3)	50(3)	50(3)

(1) If the gas line diameter is reduced, cooling performance decreases and the operative range is reduced since the line's pressure loss increases.
(2) If the liquid line diameter is reduced, capacity of the indoor unit's expansion valve is reduced.
(3) If the liquid line size is increased, refrigerant must be added.
(4) In the event the gas piping section is 19.05, move to the ON position pin no. 4 of switch DSW2 on the electronic board of the outdoor unit.
(5) In the event the piping length should exceed 70m for the 8HP power level, use section 12.7 for the liquid piping

Standard specification

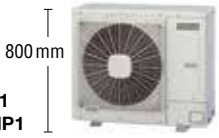
Please refer to page 184 to check accessories

UTOPIA IVX PREMIUM

UTOPIA IVX PREMIUM TECHNICAL SPECIFICATIONS						
CODE			**RAS 2HVNP1**	**RAS 2.5HVNP1**	**RAS 3HVNP1E**	**RAS 4HVNP1E**	**RAS 4HNP1E**
Power Supply		V/Ph/Hz	1 - 220V 50Hz	1 - 220V 50Hz	1 - 220V 50Hz	1 - 220V 50Hz	3N - 400V 50Hz
Nominal cooling capacity (1)		kW	5.0 (2.2-5.6)	5.6 (2.2-6.3)	7.1 (3.2-8.0)	10.0 (4.5-11.2)	10.0 (4.5-11.2)
Nominal heating capacity (2)		kW	5.6 (2.2-7.1)	6.3 (2.2-8.0)	8.0 (3.5-10.6)	11.2 (5.5-14.0)	11.2 (5.0-14.0)
Nominal Power Input (Cool. / Heat.)		A	5.1 / 4.9	5.4 / 5.7	6.4 / 6.7	8.7 / 8.9	3.2 / 3.2
Input power at nominal cap. (Cool. / Heat.)		kW	1.17 / 1.13	1.22 / 1.30	1.46 / 1.52	1.99 / 2.02	1.99 / 2.02
Max. input current		A	13.8	15.8	21.5	30.5	14.0
EER/COP (4)			4.03 / 4.68	4.18 / 4.92	4.49 / 4.88	4.68 / 5.16	4.68 / 5.16
SEER		W/W	6.49	6.05	7.42	7.88	7.66
Cooling energy efficiency class			A++	A+	A++	A++	A++
P Design (35°C)		kW	5.0	5.6	7.1	10.0	10.0
AVERAGE Climate	SCOP	W/W	4.67	4.77	4.37	4.68	4.68
	Heating energy efficiency class		A++	A++	A+	A++	A++
	P Design (-10°C)	kW	5.0	5.2	6.4	11.5	11.5
Min-max connectible capacity		%	90-110	90-110	50-120	50-120	50-120
Min-max indoor units connected		No.	1-2	1-2	1-3	1-5	1-5
Sound Pressure Cooling/Heating (Night Mode) (3)		dB(A)	44-46 (42)	45-47 (43)	45-47 (41)	47-49 (43)	47-49 (43)
Sound power level at nominal output		dB(A)	62	63	63	63	63
No. of fans		No.	1	1	1	2	2
Air flow rate (max.)		m³/h	2436	2436	2700	4800	4800
Dimensions (HxLxD)		mm	600x792x300	600x792x300	800x950x370	1380x950x370	1380x950x370
Weight		kg	41	41	66	103	103
Cooling mode working range		°C	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)
Heating mode working range		°C	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)
R-410A Refrigerant charge		kg	1.6	1.6	2.3	4.1	4.1
Minimum piping length		m	5	5	5	5	5
Maximum piping length without additional charge		m	30 (**)	30 (**)	30	30	30
Maximum piping length (required additional charge)		m (g/m)	50 (30)	50 (30) (***)	50 (40)	75 (60)	75 (60)
Maximum lift (OU up - OU down)		g/m	30/20	30/20	30/20	30/20	30/20
Liquid line piping diameter		inches (mm)	6.35 (1/4)	6.35 (1/4)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)
Gas line piping diameter		inches (mm)	12.7 (1/2)	12.7 (1/2)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)

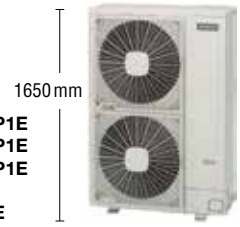
Commercial Outdoor Units

RAS 2HVNP1
RAS 2.5HVNP1



RAS 3HVNP1E

RAS 4H(V)NP1E
RAS 5H(V)NP1E
RAS 6H(V)NP1E
RAS 8HNPE
RAS 10HNPE



RAS 12HNP

HITACHI is pleased to introduce its new range of IVX PREMIUM SERIES 1 outdoor units, today even more efficient and functional.

MAIN FEATURES OF THE NEW RANGE

- Individual operation for each indoor unit
- Option to connect up to 8 indoor units of any type
- Indoor unit connection capacity ratio variable from 50% minimum to 120% maximum of the outdoor unit power (depending on power level)
- Option to connect indoor units with power equal to 0.8 HP
- Compliant with the new Eco Design directive EuP lot 10 and designed to have seasonal efficiency compliant with the European Directive in seasonal efficiency lot 6/21 in force from 2015.
- Compatibility with refrigerant piping for old R22 gas circuits.

UP TO -15°C IN COOLING MODE ONLY

ErP active

3 : 4HP

COMPACT AND LIGHTWEIGHT

WIDE SCOPE OF APPLICATION

INDIVIDUAL CONTROL OF THE INDOOR UNIT

HIGH ENERGY EFFICIENCY

The specified cooling and heating capacities refer to outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
(1) Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
(2) Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
(3) Sound pressure level measured at 1.5 metres below the unit in anechoic room with no reflection.
(4) Performance is calculated based on combination with model RCI indoor units
(*) Data not supplied as they are not covered by Lot 10 of ErP regulations
(**) 0 metres in the event of two indoor units
(***) In the event of two indoor units, additional charge must be equal to 24g/m

UTOPIA IVX PREMIUM TECHNICAL SPECIFICATIONS								
CODE		**RAS 5HVNP1E**	**RAS 5HNP1E**	**RAS 6HVNP1E**	**RAS 6HNP1E**	**RAS 8HNPE**	**RAS 10HNPE**	**RAS 12HNP**
Power Supply	V/Ph/Hz	1 - 220V 50Hz	3N - 400V 50Hz	1 - 220V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz	3N - 400V 50Hz
Nominal cooling capacity (1)	kW	12.5 (5.7-14.0)	12.5 (5.7-14.0)	14 (6.0-16)	14.0 (6.0-16.0)	20.0 (8.0-22.4)	25.0 (10.0-28.0)	30.0 (11.2-33.5)
Nominal heating capacity (2)	kW	14.0 (5.0-18.0)	14.0 (5.0-18.0)	16.0 (5.0-20.0)	16.0 (5.0-20.0)	22.4 (6.3-28.0)	28.0 (8.0-35.0)	33.5 (9.0-37.5)
Nominal Power Input (Cool. / Heat.)	A	13.7 / 12.8	5.0 / 4.7	17.3 / 15.9	6.3 / 5.8	8.6 / 8.1	12.6 / 11.3	17.5 / 14.2
Input power at nominal cap. (Cool. / Heat.)	kW	3.11 / 2.91	3.11 / 2.91	3.94 / 3.61	3.94 / 3.61	5.36 / 5.06	7.88 / 7.03	11.05 / 8.96
Max. input current	A	30.5	14.0	30.5	16.0	24	24	24.3
EER/COP (4)		3.81 / 4.55	3.81 / 4.55	3.41 / 4.23	3.41 / 4.23	3.56 / 4.21	3.07 / 3.84	2.65 / 3.64
SEER	W/W	*	*	*	*	*	*	*
Cooling energy efficiency class		*	*	*	*	*	*	*
P Design (35°C)	kW	*	*	*	*	*	*	*
AVERAGE Climate — SCOP	W/W	*	*	*	*	*	*	*
AVERAGE Climate — Heating energy efficiency class		*	*	*	*	*	*	*
AVERAGE Climate — P Design (-10°C)	kW	*	*	*	*	*	*	*
Min-max connectible capacity	%	50-120	50-120	50-120	50-120	50-120	50-120	50-120
Min-max indoor units connected	No.	1-6	1-6	1-6	1-6	1-8	1-8	1-8
Sound Pressure Cooling/Heating (Night Mode) (3)	dB(A)	48-50 (44)	48-50 (44)	48-50 (45)	48-50 (45)	57-59 (55)	58-60 (56)	59-61 (57)
Sound power level at nominal output	dB(A)	64	64	65	65	76	76	77
No. of fans	No.	2	2	2	2	2	2	2
Air flow rate (max.)	m³/h	5400	5400	6000	6000	7620	8040	9780
Dimensions (HxLxD)	mm	1380x950x370	1380x950x370	1380x950x370	1380x950x370	1380x950x370	1380x950x370	1650x1100x390
Weight	kg	103	103	103	103	136	138	168
Cooling mode working range	°C	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)
Heating mode working range	°C	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)
R-410A Refrigerant charge	kg	4.2	4.2	4.2	4.2	5.7	6.2	6.7
Minimum piping length	m	5	5	5	5	5	5	5
Maximum piping length without additional charge	m	30	30	30	30	30	30	30
Maximum piping length (required additional charge)	m (g/m)	75 (60)	75 (60)	75 (60)	75 (60)	100 (SEE TC)	100 (SEE TC)	100 (SEE TC)
Maximum lift (OU up - OU down)	g/m	30/20	30/20	30/20	30/20	30/20	30/20	30/20
Liquid line piping diameter	inches (mm)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	12.7 (1/2)	12.7 (1/2)
Gas line piping diameter	inches (mm)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	25.4 (1)	25.4 (1)	25.4 (1)

* Data not supplied as the power levels are not covered by Lot 10 of the ErP Regulations

IVX PREMIUM

Mono Combinations

RCI - 4-WAY CASSETTE SERIES i (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-2.0FSN3Ei	P-N23NA	RAS-2HVNP1	220V-50Hz	5.82	A+	4.01	A+	3.6	4.1
RCI-2.5FSN3Ei	P-N23NA	RAS-2.5HVNP1	220V-50Hz	5.64	A+	4.36	A+	3.5	4.0
RCI-3.0FSN3Ei	P-N23NA	RAS-3HVNP1E	220V-50Hz	6.63	A++	4.00	A+	4.0	4.4
RCI-4.0FSN3Ei	P-N23NA	RAS-4HVNP1E	220V-50Hz	7.16	A++	4.25	A+	4.0	4.5
RCI-4.0FSN3Ei	P-N23NA	RAS-4HNP1E	380V-50Hz	6.98	A++	4.25	A+	4.0	4.5
RCI-5.0FSN3Ei	P-N23NA	RAS-5HVNP1E	220V-50Hz	*	*	*	*	3.5	3.9
RCI-5.0FSN3Ei	P-N23NA	RAS-5HNP1E	380V-50Hz	*	*	*	*	3.5	3.9
RCI-6.0FSN3Ei	P-N23NA	RAS-6HVNP1E	220V-50Hz	*	*	*	*	3.3	3.7
RCI-6.0FSN3Ei	P-N23NA	RAS-6HNP1E	380V-50Hz	*	*	*	*	3.3	3.7

RCI - 4-WAY CASSETTE SERIES k (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-2.0FSN3Ek	P-AP160NA1	RAS-2HVNP1	220V-50Hz	5.82	A+	4.01	A+	3.6	4.1
RCI-2.5FSN3Ek	P-AP160NA1	RAS-2.5HVNP1	220V-50Hz	5.64	A+	4.36	A+	3.5	4.0
RCI-3.0FSN3Ek	P-AP160NA1	RAS-3HVNP1E	220V-50Hz	6.63	A++	4.00	A+	4.0	4.4
RCI-4.0FSN3Ek	P-AP160NA1	RAS-4HVNP1E	220V-50Hz	7.16	A++	4.25	A+	4.0	4.5
RCI-4.0FSN3Ek	P-AP160NA1	RAS-4HNP1E	380V-50Hz	6.98	A++	4.25	A+	4.0	4.5
RCI-5.0FSN3Ek	P-AP160NA1	RAS-5HVNP1E	220V-50Hz	*	*	*	*	3.5	3.9
RCI-5.0FSN3Ek	P-AP160NA1	RAS-5HNP1E	380V-50Hz	*	*	*	*	3.5	3.9
RCI-6.0FSN3Ek	P-AP160NA1	RAS-6HVNP1E	220V-50Hz	*	*	*	*	3.3	3.7
RCI-6.0FSN3Ek	P-AP160NA1	RAS-6HNP1E	380V-50Hz	*	*	*	*	3.3	3.7

NOTE: the unit is compatible also with cover panel fitted with motion sensor - cod. P-AP160NAE

RCI - 4-WAY HIGH EFFICIENCY CASSETTE (90x90)

Indoor Unit		Outdoor Unit		Performance					
model	panel	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RCI-2.0FSN3	P-AP160NA1	RAS-2HVNP1	220V-50Hz	6.49	A++	4.67	A++	4.0	4.7
RCI-2.5FSN3	P-AP160NA1	RAS-2.5HVNP1	220V-50Hz	6.05	A+	4.77	A++	4.2	4.9
RCI-3.0FSN3	P-AP160NA1	RAS-3HVNP1E	220V-50Hz	7.42	A++	4.37	A+	4.5	4.9
RCI-4.0FSN3	P-AP160NA1	RAS-4HVNP1E	220V-50Hz	7.88	A++	4.68	A++	4.7	5.2
RCI-4.0FSN3	P-AP160NA1	RAS-4HNP1E	380V-50Hz	7.66	A++	4.68	A++	4.7	5.2
RCI-5.0FSN3	P-AP160NA1	RAS-5HVNP1E	220V-50Hz	*	*	*	*	3.8	4.6
RCI-5.0FSN3	P-AP160NA1	RAS-5HNP1E	380V-50Hz	*	*	*	*	3.8	4.6
RCI-6.0FSN3	P-AP160NA1	RAS-6HVNP1E	220V-50Hz	*	*	*	*	3.4	4.2
RCI-6.0FSN3	P-AP160NA1	RAS-6HNP1E	380V-50Hz	*	*	*	*	3.4	4.2

NOTE: the unit is compatible also with cover panel fitted with motion sensor - cod. P-AP160NAE

RPI - DUCTED

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPI-2.0FSN4E	RAS-2HVNP1	220V-50Hz	5.83	A+	4.01	A+	3.5	3.8
RPI-2.5FSN4E	RAS-2.5HVNP1	220V-50Hz	5.60	A+	4.41	A+	3.5	3.8
RPI-3.0FSN4E	RAS-3HVNP1E	220V-50Hz	6.54	A++	4.04	A+	3.6	4.0
RPI-4.0FSN4E	RAS-4HVNP1E	220V-50Hz	7.21	A++	4.47	A+	4.2	4.2
RPI-4.0FSN4E	RAS-4HNP1E	380V-50Hz	7.02	A++	4.47	A+	4.2	4.2
RPI-5.0FSN4E	RAS-5HVNP1E	220V-50Hz	*	*	*	*	3.6	4.0
RPI-5.0FSN4E	RAS-5HNP1E	380V-50Hz	*	*	*	*	3.6	4.0
RPI-6.0FSN4E	RAS-6HVNP1E	220V-50Hz	*	*	*	*	3.2	3.7
RPI-6.0FSN4E	RAS-6HNP1E	380V-50Hz	*	*	*	*	3.2	3.7
RPI-8.0FSN3E	RAS-8HNPE	380V-50Hz	*	*	*	*	3.1	3.3
RPI-10.0FSN3E	RAS-10HNPE	380V-50Hz	*	*	*	*	2.9	3.2

* DATA NOT SUPPLIED AS THE POWER LEVELS ARE NOT COVERED BY LOT 10 OF THE ERP DIRECTIVE

RPC - CEILING

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPC-2.0FSN3E	RAS-2HVNP1	220V-50Hz	5.05	B	3.80	A	3.5	2.9
RPC-2.5FSN3E	RAS-2.5HVNP1	220V-50Hz	4.66	B	3.80	A	3.0	2.9
RPC-3.0FSN3E	RAS-3HVNP1E	220V-50Hz	5.33	A	3.80	A	3.4	3.4
RPC-4.0FSN3E	RAS-4HVNP1E	220V-50Hz	5.92	A+	3.81	A	3.6	3.6
RPC-4.0FSN3E	RAS-4HNP1E	380V-50Hz	5.80	A+	3.81	A	3.6	3.6
RPC-5.0FSN3E	RAS-5HVNP1E	220V-50Hz	*	*	*	*	3.1	3.5
RPC-5.0FSN3E	RAS-5HNP1E	380V-50Hz	*	*	*	*	3.1	3.5
RPC-6.0FSN3E	RAS-6HVNP1E	220V-50Hz	*	*	*	*	2.8	3.3
RPC-6.0FSN3E	RAS-6HNP1E	380V-50Hz	*	*	*	*	2.8	3.3

RPC - HIGH EFFICIENCY CEILING

Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPC-2.0FSN3	RAS-2HVNP1	220V-50Hz	5.63	A+	4.44	A+	3.7	4.1
RPC-2.5FSN3	RAS-2.5HVNP1	220V-50Hz	5.49	A	4.49	A+	4.0	4.1
RPC-3.0FSN3	RAS-3HVNP1E	220V-50Hz	5.87	A+	4.00	A+	3.7	4.2
RPC-4.0FSN3	RAS-4HVNP1E	220V-50Hz	6.53	A++	4.23	A+	4.5	4.4
RPC-4.0FSN3	RAS-4HNP1E	380V-50Hz	6.38	A++	4.23	A+	4.5	4.4
RPC-5.0FSN3	RAS-5HVNP1E	220V-50Hz	*	*	*	*	3.4	4.1
RPC-5.0FSN3	RAS-5HNP1E	380V-50Hz	*	*	*	*	3.4	4.1
RPC-6.0FSN3	RAS-6HVNP1E	220V-50Hz	*	*	*	*	3.1	3.9
RPC-6.0FSN3	RAS-6HNP1E	380V-50Hz	*	*	*	*	3.1	3.9

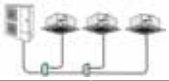
RPK - WALL

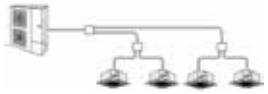
Indoor Unit	Outdoor Unit		Performance					
model	model	power supply	SEER	SEER Class	SCOP	SCOP Class	EER	COP
RPK-2.0FSN3M	RAS-2HVNP1	220V-50Hz	5.47	A	4.01	A+	2.9	3.2
RPK-2.5FSN3M	RAS-2.5HVNP1	220V-50Hz	5.24	A	4.14	A+	3.0	3.2
RPK-3.0FSN3M	RAS-3HVNP1E	220V-50Hz	6.40	A++	3.91	A	3.3	3.4
RPK-4.0FSN3M	RAS-4HVNP1E	220V-50Hz	6.81	A++	3.81	A	3.6	3.4
RPK-4.0FSN3M	RAS-4HNP1E	380V-50Hz	6.64	A++	3.81	A	3.6	3.4

* DATA NOT SUPPLIED AS THE POWER LEVELS ARE NOT COVERED BY LOT 10 OF THE ERP DIRECTIVE

UTOPIA IVX PREMIUM

Multi Combinations

IVX PREMIUM										
CODE	Minimum power level indoor unit connectible	Maximum number of indoor units connectible	1 unit	2 units		3 units				
						TRIAL CONFIGURATION		IN LINE CONFIGURATION		
										
			Combination	Combination	Joints	Combination	Joints	Combination	Joints	
RAS 2HVNP1E (**)	0,8HP	2	90-110% FROM 1.8 TO 2.2HP	90-100%(*) FROM 1.8 TO 2HP	TW-22AN	NOT POSSIBLE				
RAS 2.5HVNP1E (***)	0,8HP	2	90-110% FROM 2.25 TO 2.75HP	90-100%(*) FROM 2.25 TO 2.5HP	TW-22AN	NOT POSSIBLE				
RAS 3HVNP1E	0,8HP	3	50-120% FROM 1.5 TO 3.6HP	50-120% FROM 1.5 TO 3.6HP	TW-52AN	50-100% (*) FROM 1.5 TO 3HP	TG-53AN	50-100% (*) FROM 1.5 TO 3HP	2 x E-102SN3	
RAS 4H(V)NP1E	0,8HP	5	50-120% FROM 2 TO 4.8HP	50-120% FROM 2 TO 4.8HP	TW-52AN	50-120% FROM 2 TO 4.8HP	TG-53AN	50-120% FROM 2 TO 4.8HP	2 x E-102SN3	
RAS 5H(V)NP1E	0,8HP	6	50-120% FROM 2.5 TO 6.6HP	50-120% FROM 2.5 TO 6.6HP	TW-52AN	50-120% FROM 2.5 TO 6.6HP	TG-53AN	50-120% FROM 2.5 TO 6.6HP	2 x E-102SN3	
RAS 6H(V)NP1E	0,8HP	6	50-120% FROM 3 TO 7.2HP	50-120% FROM 3 TO 7.2HP	TW-52AN	50-120% FROM 3 TO 7.2HP	TG-53AN	50-120% FROM 3 TO 7.2HP	2 x E-102SN3	
RAS 8HNPE	0,8HP	8	50-120% FROM 4 TO 9.6HP	50-120% FROM 4 TO 9.6HP	TW-102AN	50-120% FROM 4 TO 9.6HP	TG-103AN	50-120% FROM 4 TO 9.6HP	1 x E-162SN3 + 1 x E-102SN3	
RAS 10HNPE	0,8HP	8	50-120% FROM 5 TO 12HP	50-120% FROM 5 TO 12HP	TW-102AN	50-120% FROM 5 TO 12HP	TG-103AN	50-120% FROM 5 TO 12HP	1 x E-162SN3 + 1 x E-102SN3	
RAS 12HNP	0,8HP	8	50-120% FROM 6 TO 14.4HP	50-120% FROM 6 TO 14.4HP	TW-102AN	50-120% FROM 6 TO 14.4HP	TG-103AN	50-120% FROM 6 TO 14.4HP	1 x E-162SN3 + 1 x E-102SN3	

IVX PREMIUM									
CODE	Minimum power level indoor unit connectible	Maximum number of indoor units connectible	4 units				5 units		
			QUAD CONFIGURATION		IN LINE CONFIGURATION		IN LINE CONFIGURATION		
									
			Combination	Joints	Combination	Joints	Combination	Joints	
RAS 2HVNP1E (**)	0,8HP	2	NOT POSSIBLE				NOT POSSIBLE		
	0,8HP	2	NOT POSSIBLE				NOT POSSIBLE		
	0,8HP	3	NOT POSSIBLE				NOT POSSIBLE		
RAS 2.5HVNP1E (***)	0,8HP	5	50-120% FROM 2 TO 4.8HP	First joint: TW-52AN Second joint: If power downstream ≤ 1.5HP: TW-22AN If power downstream ≥ 1.8HP: TW-52AN	50-120% FROM 2 TO 4.8HP	3 x E-102SN3	50-100% (*) FROM 2 TO 4HP	4 x E 102SN3	
RAS 5H(V)NP1E	0,8HP	6	50-120% FROM 2.5 TO 6.6HP	First joint: TW-52AN Second joint: If power downstream ≤ 2.0HP: TW-22AN If power downstream ≥ 1.8HP: TW-52AN	50-120% FROM 2.5 TO 6.6HP	3 x E-102SN3	50-100% (*) FROM 2.5 TO 5HP	4 x E 102SN3	
RAS 6H(V)NP1E	0,8HP	6	50-120% FROM 3 TO 7.2HP	First joint: TW-52AN Second joint: If power downstream ≤ 2.0HP: TW-22AN If power downstream ≥ 1.8HP: TW-52AN	50-120% FROM 3 TO 7.2HP	3 x E-102SN3	50-100% (*) FROM 3 TO 6HP	4 x E 102SN3	
RAS 8HNPE	0,8HP	8	50-120% FROM 4 TO 9.6HP	First joint: TW-102AN Second joint: If power downstream ≤ 2.0HP: TW-22AN If power downstream ≥ 1.8HP: TW-52AN	50-120% FROM 4 TO 9.6HP	2 x E-162SN3 + 1 x E-102SN3	50-100% (*) FROM 4 TO 8HP	3 x E-162SN3 + 1 x E-102SN3	
RAS 10HNPE	0,8HP	8	50-120% FROM 5 TO 12HP	First joint: TW-102AN Second joint: If power downstream ≤ 2.0HP: TW-22AN If power downstream ≥ 1.8HP: TW-52AN	50-120% FROM 5 TO 12HP	2 x E-162SN3 + 1 x E-102SN3	50-100% (*) FROM 5 TO 10HP	3 x E-162SN3 + 1 x E-102SN3	
RAS 12HNP	0,8HP	8	50-120% FROM 6 TO 14.4HP	First joint: TW-102AN Second joint: If power downstream ≤ 2.0HP: TW-22AN If power downstream ≥ 1.8HP: TW-52AN	50-120% FROM 6 TO 14.4HP	2 x E-162SN3 + 1 x E-102SN3	50-100% (*) FROM 6 TO 12HP	3 x E-162SN3 + 1 x E-102SN3	

IVX PREMIUM												
CODE	Minimum power level indoor unit connectible	Maximum number of indoor units connectible	6 units		7 units		8 units					
			IN LINE CONFIGURATION		IN LINE CONFIGURATION		IN LINE CONFIGURATION					
					 x7		 x8					
			Combination	Joints	Combination	Joints	Combination	Joints				
RAS 2HVNP1E (**)	0,8HP	2	NOT POSSIBLE		NOT POSSIBLE		NOT POSSIBLE					
	0,8HP	2	NOT POSSIBLE		NOT POSSIBLE		NOT POSSIBLE					
RAS 2.5HVNP1E (***)	0,8HP	3	NOT POSSIBLE		NOT POSSIBLE		NOT POSSIBLE					
	0,8HP	5	NOT POSSIBLE		NOT POSSIBLE		NOT POSSIBLE					
RAS 5H(V)NP1E	0,8HP	6	50-100% (*) FROM 2.5 TO 5HP	5 x E102SN3	50-100% (*) FROM 2.5 TO 5HP	6 x E102SN3	50-100% (*) FROM 2.5 TO 5HP	7 x E102SN3				
RAS 6H(V)NP1E	0,8HP	6	50-100% (*) FROM 3 TO 6HP	5 x E102SN3	50-100% (*) FROM 3 TO 6HP	6 x E102SN3	50-100% (*) FROM 3 TO 6HP	7 x E102SN3				
RAS 8HNPE	0,8HP	8	50-100% (*) FROM 4 TO 8HP	4 x E-162SN3 + 1 x E-102SN3	50-100% (*) FROM 4 TO 8HP	5 x E-162SN3 + 1 x E-102SN3	50-100% (*) FROM 4 TO 8HP	6 x E-162SN3 + 1 x E-102SN3				
RAS 10HNPE	0,8HP	8	50-100% (*) FROM 5 TO 10HP	4 x E-162SN3 + 1 x E-102SN3	50-100% (*) FROM 5 TO 10HP	5 x E-162SN3 + 1 x E-102SN3	50-100% (*) FROM 5 TO 10HP	6 x E-162SN3 + 1 x E-102SN3				
RAS 12HNP	0,8HP	8	50-100% (*) FROM 6 TO 12HP	4 x E-162SN3 + 1 x E-102SN3	50-100% (*) FROM 6 TO 12HP	5 x E-162SN3 + 1 x E-102SN3	50-100% (*) FROM 6 TO 12HP	6 x E-162SN3 + 1 x E-102SN3				

(*) See options in table 1 - (**) In the event of using RCI-FSN3 or RCI-FSN3Ei indoor units, only the MONO combination is allowed

(***) In the event of installing indoor units in combination with RCI-FSN3 or RCI-FSN3Ei units, the minimum installed capacity must not be less than 1.5HP

Remarks

1 **TABLE 1**: In case of multiple systems, refer to the table below concerning connection of minimum power indoor units with indoor units.

Maximum power level indoor unit in the system	HP	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.5	3.0	4.0	5.0	6.0
Minimum power level indoor unit allowed in the system	HP	0.8				1.0			1.3		1.5	1.8	2.0

2 **TABLE 2**: In systems where indoor unit are all RCI-FSN3 models, the maximum allowed capacity ratio is 100% and the maximum number of indoor units is as follows:

Outdoor unit model	HP	2	2.5	3	4	5	6	8	10	12
IVX PREMIUM	No.	1		2	4			4		

3 When installing model RCIM 2.0FSN3, RPF(I) 2.0FSN2E or RPF(I) 2.5FSN2E indoor units, the MONO combination with UTOPIA IVX and IVX PREMIUM outdoor units is not allowed

4 In case of installation in cold areas (where the outside temperature might reach -10°C) or in areas with high heating demands, do not install a higher number of indoor units than recommended and assure a capacity ratio lower than 100%.

System sizing

Mono, dual, trial, double twin configuration

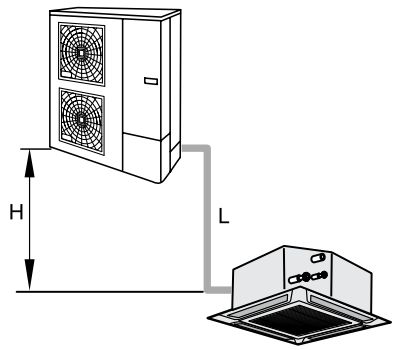
Maximum length of refrigerant piping

Outdoor unit		2HP	2.5HP	3HP	4HP	5HP	6HP	8HP	10HP	12HP
Maximum piping length between the outdoor unit and the furthest indoor unit	Actual length (L1)	50			75			100		
	Equivalent length (EL)	70			95			125		
Maximum piping length	2 units (A+B+C)	50		60	85			100	115	
	3 units (A+B+C+D)	-			95			100	130	
	4 units (B+D, B+E, C+F, C+G)	-			95			100	145	
Maximum piping length after the first joint	2 e 3 units (B,C,D)	10						15		
	4 units (B+D, B+E, C+F, C+G)	-			10			15		
Main piping length (A)		A > B, C, D, E, F, G								
Maximum height difference between outdoor unit and indoor unit	Outdoor up	30								
	Outdoor down	20								
Maximum height difference between indoor units		3			10					
Maximum height difference Joint/indoor unit (2, 3 and 4 indoor units) Joint/joint (4 indoor units)		3								
(B-C)/(B-D)/(C-D)/(C+G)-(B+E)/(C+G)-(B+D)/(C+F)-(B+E)/(C+F)-(B+D)		< 8								

UTOPIA IVX PREMIUM

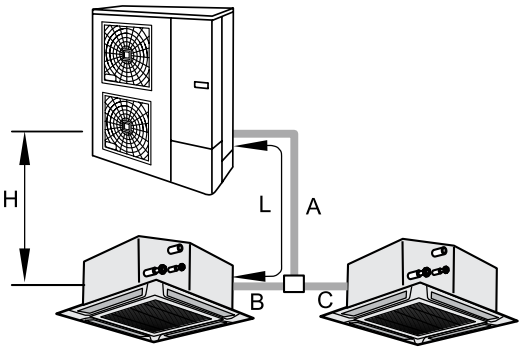
Selection of refrigerant piping section and distribution joints

MONO System (one indoor unit)



Outdoor unit capacity HP	Piping section (L)	
	Gas	Liquid
2/2.5	Ø 12.70	Ø 6.35
3/4/5/6	Ø 15.88	Ø 9.52
8	Ø 25.40	Ø 9.52
10/12	Ø 25.40	Ø 12.70

DUAL System (two indoor units)

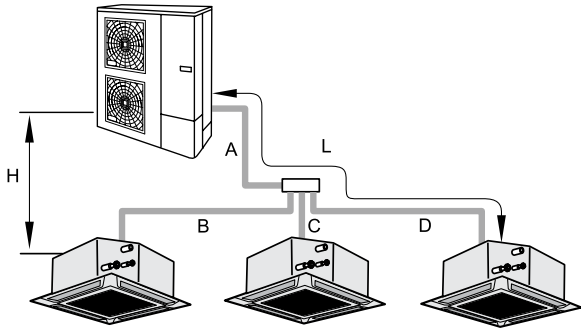


Outdoor unit capacity HP	Piping section (A)		Joints
	Gas	Liquid	
2/2.5	Ø 12.70	Ø 6.35	TW-22AN
3	Ø 15.88	Ø 9.52	TW-52AN
4	Ø 15.88	Ø 9.52	TW-52AN
5/6	Ø 15.88	Ø 9.52	TW-52AN
8	Ø 25.40	Ø 9.52 (1)	TW-102AN
10/12	Ø 25.40	Ø 12.70	TW-102AN

(1) In the event the total piping length should exceed 70 metres for 8HP outdoor unit, use liquid piping with section 12.7.

Indoor unit capacity HP	Piping section (B, C)	
	Gas	Liquid
≤ 1.5HP	Ø 12.70	Ø 6.35
1.8/2.0HP	Ø 15.88	Ø 6.35
≥ 2.3HP	Ø 15.88	Ø 9.52

TRIAL System (three indoor units)

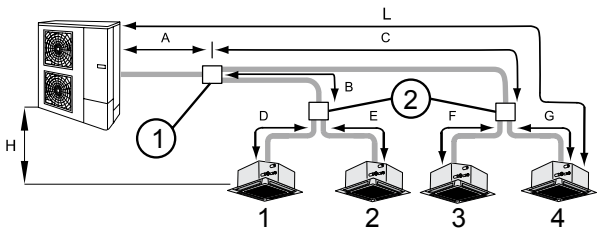


Outdoor unit capacity HP	Piping section (A)		Joints
	Gas	Liquid	
4/5/6	Ø 15.88	Ø 9.52	TG-53AN
8	Ø 24.40	Ø 9.52 (1)	TG-103AN
10/12	Ø 24.40	Ø 12.70	TG-103AN

(1) In the event the piping length (A+B or A+C or A+D) should exceed 70 metres for the 8HP outdoor unit, use liquid piping with section 12.7.

Indoor unit capacity HP	Piping section (B, C, D)	
	Gas	Liquid
≤ 1.5HP	Ø 12.70	Ø 6.35
1.8/2.0HP	Ø 15.88	Ø 6.35
≥ 2.3HP	Ø 15.88	Ø 9.52

DOUBLE TWIN System(four indoor units)



Outdoor unit capacity HP	Piping section (A)		Joint 1
	Gas	Liquid	
4	Ø 15.88	Ø 9.52	TW-52AN
5/6	Ø 15.88	Ø 9.52	TW-52AN
8	Ø 25.40	Ø 9.52 (1)	TW-102AN
10/12	Ø 25.40	Ø 12.70	TW-102AN

(1) In the event the piping length (A+B+D or A+B+E or A+C+F or A+C+G) should exceed 70 metres for the 8HP outdoor unit, use liquid piping with section 12.7.

Total capacity of indoor units 1+2 or 3+4	Piping section (B, C)		Joint 2
	Gas	Liquid	
≤ 1.5HP	Ø 12.70	Ø 6.35	TW-22AN
1.8/2.0HP	Ø 15.88	Ø 6.35	TW-52AN
≥ 2.3HP	Ø 15.88	Ø 9.52	TW-52AN

If the capacity ratio between the sets of indoor units 1+2 and 3+4 exceeds 60/40% make an installation with “in line configuration”.

Indoor unit capacity HP	Piping section (D, E, F, G)	
	Gas	Liquid
≤ 1.5HP	Ø 12.70	Ø 6.35
1.8/2.0HP	Ø 15.88	Ø 6.35
≥ 2.3HP	Ø 15.88	Ø 9.52

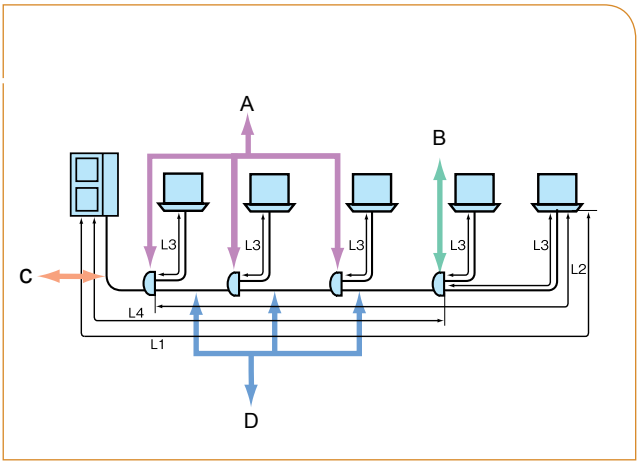
Configuration in line

Maximum length of refrigerant piping

Outdoor unit		3HP	4HP	5HP	6HP	8HP	10HP	12HP
Maximum piping length between the outdoor unit and the furthest indoor unit	Actual length (L1)	50	75			100		
	Equivalent length (EL)	70	95			125		
Maximum piping length between the first joint and every indoor unit (L2)		20	30			40		
Maximum piping length from joint to indoor unit (L3)		10				15		
Total piping length L4+($L3_1$+$L3_2$+$L3_3$…)		60	95			100	145	
Maximum height difference between outdoor unit and indoor unit	Outdoor up	30						
	Outdoor down	20						
Maximum height difference between indoor units		10						
Maximum height difference	Joint/Indoor unit	3						
	Joint/joint	3						

UTOPIA IVX PREMIUM

Selection of refrigerant piping section and distribution joints



Outdoor unit capacity HP	Piping section (C, D) (L4)		Joints A	Joints B
	Gas	Liquid		
3/4/5/6	Ø 15.88	Ø 9.52	E-102SN3	E-102SN3
8	Ø 25.40	Ø 9.52 (1)	E-162SN3	E-102SN3
10/12	Ø 25.40	Ø 12.70	E-162SN3	E-102SN2

(1) In the event the total piping length from outdoor unit to the furthest indoor unit should exceed 70 metres for the 8HP outdoor unit, use liquid piping with section 12.70.

Indoor unit capacity HP	Piping section (L3)	
	Gas	Liquid
≤ 1.5HP	Ø 12.70	Ø 6.35
1.8/2.0HP	Ø 15.88	Ø 6.35
≥ 2.3HP	Ø 15.88	Ø 9.52

Combinations of piping section/length

Capacity	Liquid	Ø6.35				Ø9.53					Ø12.70					Ø15.88		
	Gas	Ø9.53	Ø12.70	Ø15.88	Ø19.05	Ø12.70	Ø15.88	Ø19.05	Ø22.20	Ø25.40	Ø15.88	Ø19.05	Ø22.20	Ø25.40	Ø28.60	Ø22.30	Ø25.40	Ø28.60
2HP		15(1)	50	30	-	15(3)	15(3)	-	-	-	-	-	-	-	-	-	-	-
2.5HP		-	50	30	-	20(3)	20(3)	-	-	-	-	-	-	-	-	-	-	-
3HP		-	30(1)(2)	30(2)	-	30(1)	50	-	-	-	-	-	-	-	-	-	-	-
4-5-6HP		-	-	5(2)	5(2)	40(1)	75	50(4)	-	-	30(3)	30(3)(4)	-	-	-	-	-	-
8HP		-	-	-	-	-	-	50 (1)(4)(6)	50 (1)(6)	70(5)	-	50(1)(3)(4)	50(1)(3)	100	-	50(1)(3)	50(3)	-
10HP		-	-	-	-	-	-	-	-	-	-	-	-	100	50	50(1)(3)	50(3)	50(3)

(1) If the gas line diameter is reduced, cooling performance decreases and the operative range is reduced since the line's pressure loss increases.
(2) If the liquid line diameter is reduced, capacity of the indoor unit's expansion valve is reduced.
(3) If the liquid line size is increased, refrigerant must be added.
(4) In the event the gas piping section is 19.05, move to the ON position pin no. 4 of switch DSW2 on the electronic board of the outdoor unit.
(5) In the event the piping length should exceed 70m for the 8HP power level, use section 12.7 for the liquid piping
(6) In the event more than 5 indoor units should be connected for the 8HP power level, use section 12.7 for liquid piping

Standard specification

Please refer to page 184 to check accessories

Commercial Outdoor Units

VRF Set Free outdoor units

Outdoor units

Utopia Range

- **Utopia ES** (Simultaneous Indoor Unit Operation)
- **Utopia IVX STANDARD** (Independent Indoor Unit Operation)
- **Utopia IVX PREMIUM** (Independent Indoor Units)
- **Utopia RASC IVX** (Independent Indoor Unit Operation)

Compatible with the same remote controllers

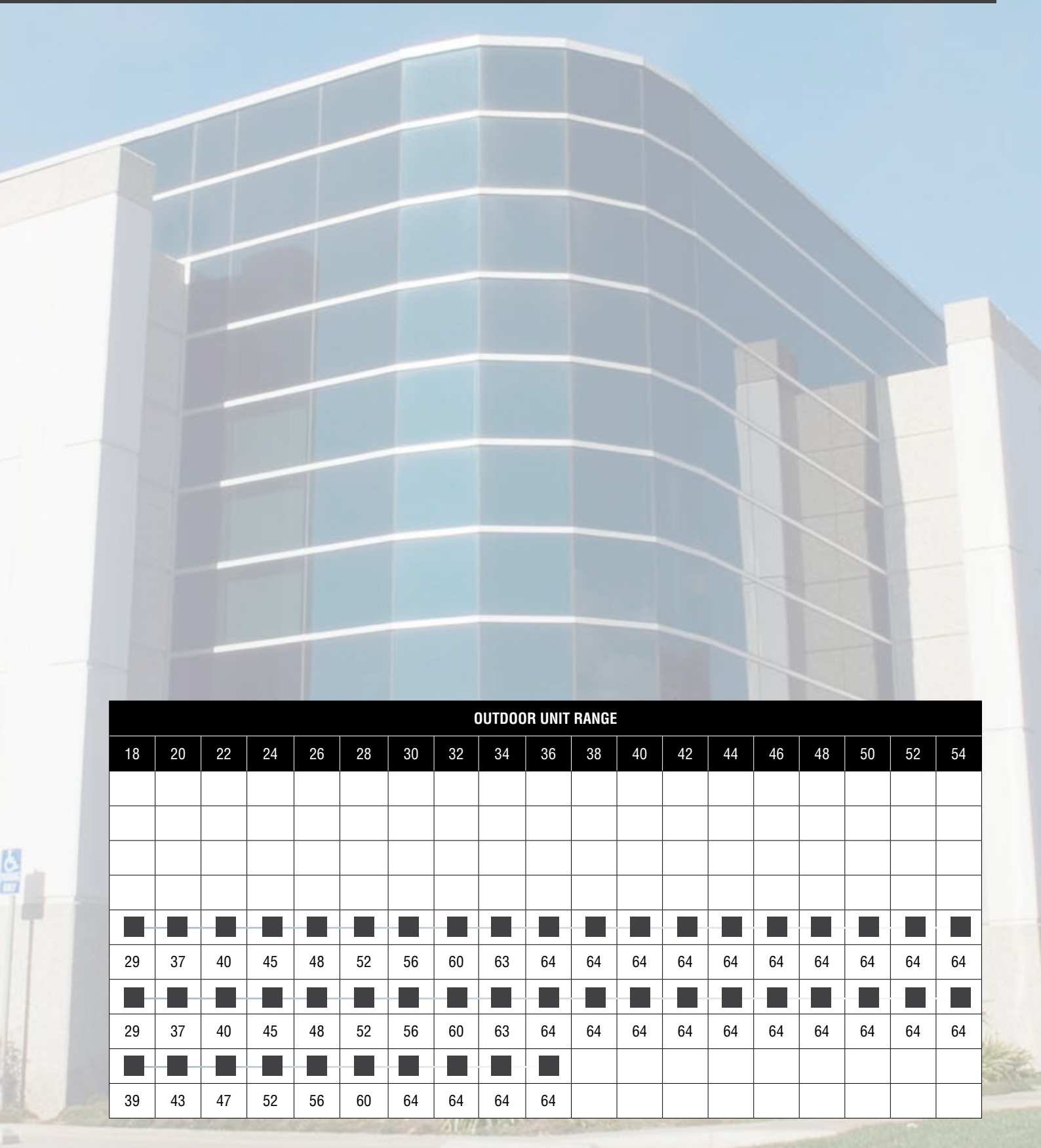
Set Free Range

- **IVX PREMIUM** Independent Indoor Unit Operation)
- **FSVN2E & FSNY2E**
- **FSNM VRF Side Flow**
- **FSXN VRF 2 or 3 Pipes**
- **FSXNH VRF 2 or 3 Pipes** high efficiency

Compatible with the same remote controllers

OUTDOOR UNIT RANGE										
type	Capacity (HP)		4	5	6	8	10	12	14	16
Set Free Mini	**FS(V)N(Y)2E**		■	■	■					
	No. of Indoor Units		8	10	12					
Set Free Side Flow	**FSNM**					■	■	■		
	No. of Indoor Units					10	10	10		
Set Free 2 & 3 Pipes	**FSXN**					■	■	■	■	■
	No. of Indoor Units					14	18	21	26	29
Set Free 2 & 3 Pipes	NEW **FSXN1E**					■	■	■	■	■
	No. of Indoor Units					14	18	21	26	29
High efficiency Set Free 2 & 3 Pipes	**FSXNH**			■	■	■	■	■	■	■
	No. of Indoor Units			10	13	17	21	26	30	34

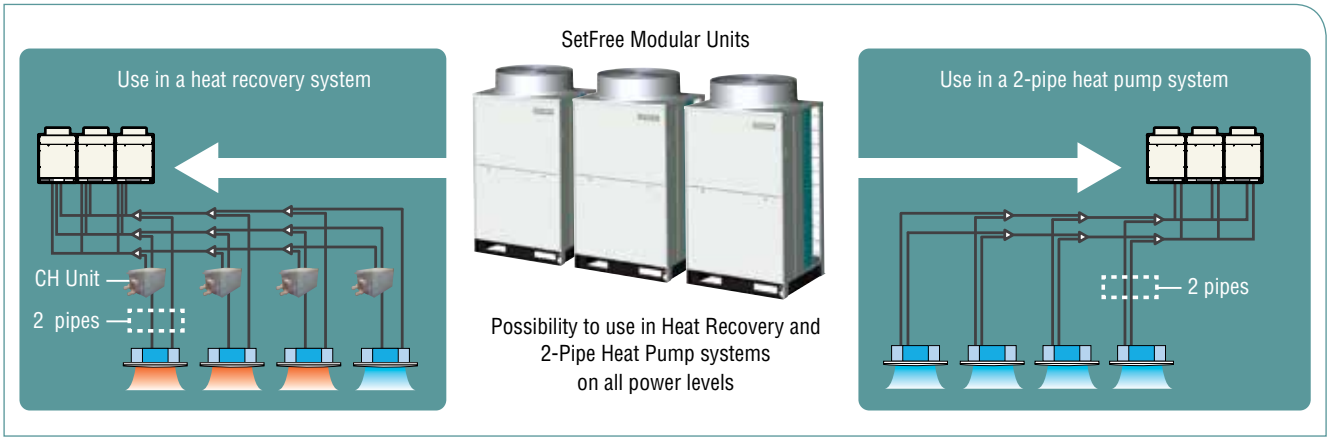
VRF Set Free outdoor units



OUTDOOR UNIT RANGE																	
18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
29	37	40	45	48	52	56	60	63	64	64	64	64	64	64	64	64	64	64
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
29	37	40	45	48	52	56	60	63	64	64	64	64	64	64	64	64	64	64
■	■	■	■	■	■	■	■	■	■									
39	43	47	52	56	60	64	64	64	64									

SET FREE

It is difficult to do the simple things. SetFREE gives you freedom to decide, simply.



Often it is not necessary to know how a device works from the technical point of view, but it is often interesting to measure its value by noticing its performance as a positive influence in our everyday life and any work condition so that the people who **live in the environment**, always feel comfortable.

Therefore, it often happens that discussing **target frequencies, control and number of pulses for controlling the expansion valve, power input management might seem a mere exercise in style.**

Loyal to the history and origins of the first SetFREE systems, even today we assure the required thermal performance thanks to the adoption of some important features:

ADAPTIVE CONTROL

The flexibility that Hitachi has chosen to give to its conditioning systems lies in the ability to set a variety of parameters by accessing adaptive functions which are programmed in the boards of outdoor units and in all indoor units. It is therefore possible to control up to 25 different operation parameters on the outdoor unit, or 17 external INPUT/OUTPUT signals.
On each indoor unit, on the other hand, are 31 selectable parameters and 11 external INPUT/OUTPUT signals.

2,000 POINT MODULATING LOGIC

Electronic expansion valve of the indoor unit adjusted by single pulse with modulating PID logic on 2,000 points for each indoor unit.
Two electronic expansion valves for each outdoor unit module
Primary battery: adjusted with single pulse and modulating on 2,950 points
Double pipe for liquid sub-cooling: adjusted in single and modulating on 480 points

FOUR PROBES

Each indoor unit uses four probes for controlling its performance by measuring the temperature. Two of these are dedicated to measuring air temperature, the other two to measuring refrigerant temperature, the only solution on the market.

CONSTANT COMFORT

Monitoring the compressor's target frequency with independent mode for both operation modes (distinct strategies between hot and cold modes) to assure constant comfort when the outside temperature changes

EFFICIENCY AND PERFORMANCE

Choosing the "best route" to travel to reach the desired performance focusing either on speed in reaching the performance or system efficiency

Why decide to have one thing only when you can have all of them at the same time?

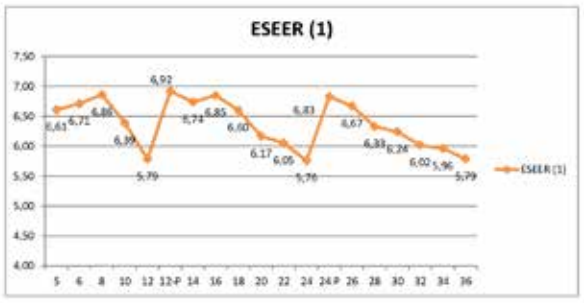
Being loyal to the need for **service continuity, solidity of the products and technological innovation, represents the direction of technological development that** HITACHI has chosen to travel over the years and which has led it to introduce one model only of outdoor unit, installable either in Heat Pump or Heat Recovery systems.

SEASONAL PERFORMANCE

The constant evolution of products, needed to address the requirements of the various Directives, regulations and Standards, makes it more and more necessary to provide constantly updated assessment instruments. From this point of view, being able to use online software makes it possible to always have timely, up-to-date assessments, aligned with the products launched on the market.

Hitachi's new Seasonal Efficiency calculation makes it immediately possible to quickly obtain SEER / SCOP parameters of the system, access the online list of already implemented projects, make a new one, obtain the technical-economic assessment of the designed system, know its thermal and electrical performance, etc……

We would like to draw your attention to the high efficiency levels, among the highest on the market, and the possibility to make variable flow systems with an extremely wide range of required power, from 12.5 to 150,0 kW (cooling).



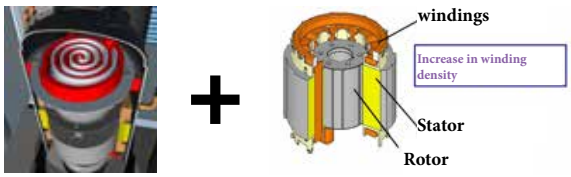
ESEER (1): Seasonal efficiency value in standard cooling

ESEER (2): Seasonal efficiency value in cooling mode with optimised system operation based on seasonal demand

SOLIDITY AND EFFICIENCY

the use of the individual High Pressure Scroll Inverter compressor produced by HITACHI, which has marked the whole SetFREE range since 1982, has today been updated and has evolved.

The solidity of the electro-mechanical coupling makes it possible to use direct expansion systems also with significant height differences, up to 90 m height difference between outdoor and indoor units and up to 30m between indoor units.
Maintaining constant performance over time also stems from adopting an original control method of compressor oil recovery (trochoidal pump) which makes continuous lubrication possible even during low rotation speed operation.



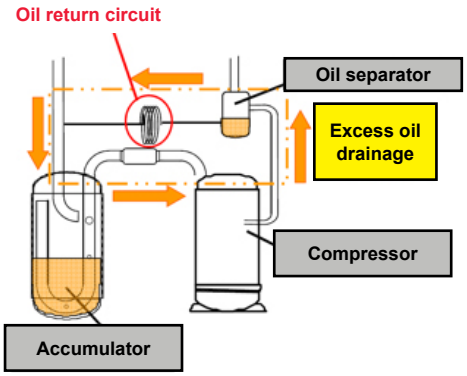
= +7% (efficiency)

SET FREE

+ Quality
+ Efficiency
+ Quietness

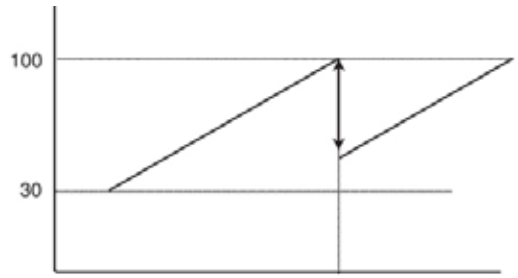
= 3 year warranty after testing
+3% (efficiency)

The oil circuit is internal in each module, i.e. it does not need connections between outdoor units, and does not interfere in any way with the continuous 'thermal' requirement of the user. This fundamental function is also independent of the compressor's rotation speed and makes it possible to reach high reliability levels.



MODULATION

With minimum compressor modulation of just 30 Hz, extended to all outdoor unit power levels, it is possible to manage the thermal demand of large and complex systems even when only one unit demands performance. This combination of individual thermal demand and frequent actual application for modern buildings needs to have small volume rooms, even the smallest 0.6 HP unit (1.7 kW) may be switched on and managed with no need to convey refrigerant to other units.

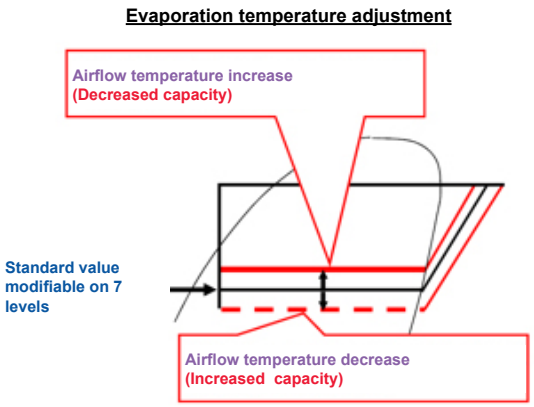


Target frequency

REFRIGERANT CIRCUIT PERFORMANCE

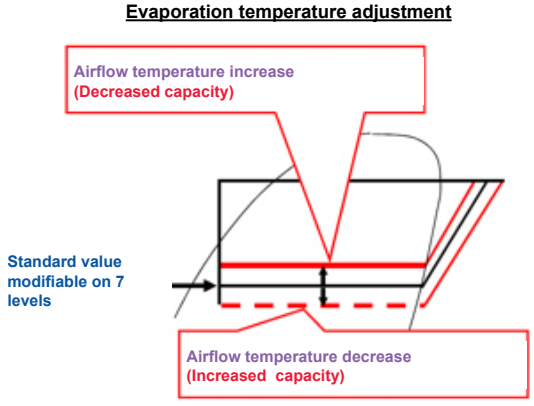
Regulate, activate, control, why can't the system freely adapt to performance requirements?
In heating mode, in cooling mode, in other words, when it is required...
Based on these considerations, Hitachi makes it possible to activate flexibility parameters for the electronics to adapt system performance to the specific demand, bypassing standard working settings.
This is why it is possible for the compressor to work in cooling mode, in heating mode or in both modes, in a more "decisive" manner to quickly reach the desired response.

1. Modify evaporation temperature target.



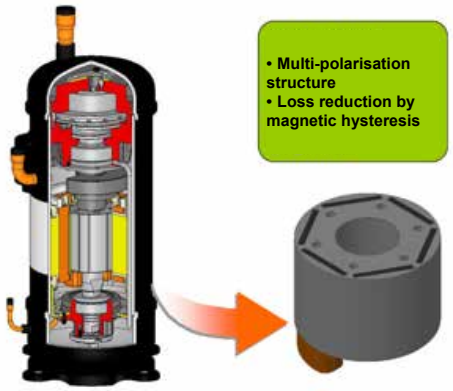
The two adjustments (1 and 2) allow you to obtain the desired performance when it is needed.

2. Modify compressor output pressure target



A MEASURE OF THE VALUE OF THESE FIGURES:

- The smallest connectible unit is the 0.6 HP (equivalent to 1.7 kW)
- Connected to a general 30 HP outdoor unit (equivalent to 85.0 kW)
- To obtain minimum modulation equal to 2% of the outdoor unit power



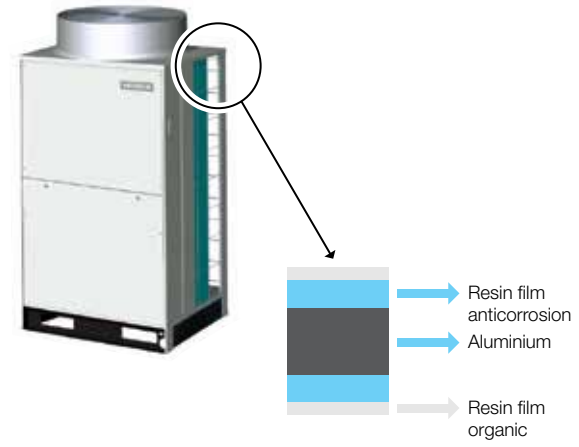
(it is the minimum modulation of one 85.0 kW unit)

TREATMENT OF OUTDOOR UNIT BATTERIES AGAINST WEATHERING

In compliance with Standard JRA 9002 which defines the Criteria and tests for protection against weather corrosion of outdoor units, in addition to standard protection, Hitachi offers two more surface treatments (defined ANTI-CORROSIVE and HEAVY ANTI-CORROSIVE) which increase the degree of resistance of cooling parts and relevant structural metal parts.

Tests performed at the following conditions

1. 35°C with salt solution 5% at 95%RH
   Duration: 480 hours
   In compliance with regulation DIN50021-SS
2. Humidity resistance: 50°C at 98%RH
   Duration: 500 hours



The following diagram lets you choose the most suitable protection degree depending on the features of the unit's installation site

Type of Treatment	Protected components			
	metal work and load bearing structure	heat exchanger	motor fastening	screws
Standard	covered with Zinc Sulphate and polyester resin ≥ 20 µm	standard	-	GEOMET ® treatment
ANTI-CORROSION	covered with Zinc Sulphate thickness ≥ 30 µm	covered with clear synthetic acrylic resin ≥ 10 µm	covered with Zinc Sulphate thickness ≥ 30 µm	GEOMET ® treatment
HEAVY ANTI-CORROSION	covered with Zinc Sulphate thickness ≥ 45 µm	covered with clear synthetic acrylic resin ≥ 10 µm + covered with Zinc Sulphate thickness ≥ 45 µm of the bundle	covered with Zinc Sulphate thickness ≥ 45 µm	GEOMET ® treatment

Winter comfort

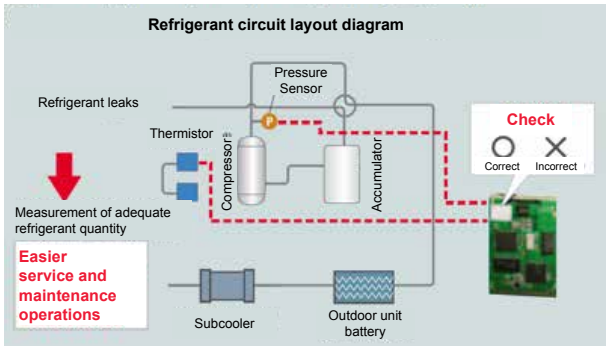
The modules of Set Free units help you manage the defrosting phases in a differentiated way depending on the type of system, Heat Pump or Heat Recovery.

In the Heat Recovery application with several modules, these behave independently from each other, that is to say there is continuity of operation.

For both types of systems the response of the system and the indoor units can be tailored to different environmental conditions, both in terms of indoor and outdoor temperatures, choosing whether to enable or disable the following settings:

- Activate the modification function of defrost thermal areas
  - Defrosting is thus bound to outside temperatures other than standard
- Activate the selection function of indoor unit ventilation speed during defrosting
  - It lets you manage the "superlow" speed function of indoor units in order to avoid negative effects on uniform distribution of ambient temperature
- Activate the selection function of indoor unit ventilation speed when going back to heating mode
  - It allows you to prevent stratification phenomena detectable when going back to heating mode of indoor units
  - The indoor units restart at the speed defined as “superlow” avoiding undesired phenomena

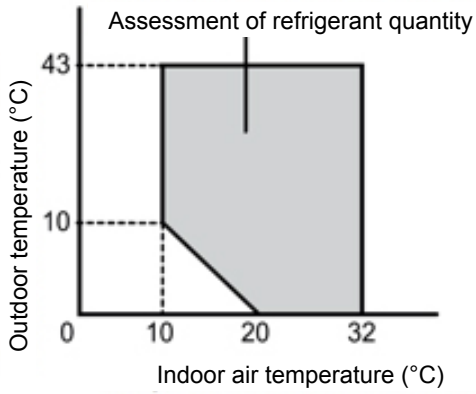
AUTOMATIC CONTROL OF REFRIGERANT CHARGE



AUTOMATIC CONTROL OF REFRIGERANT CHARGE

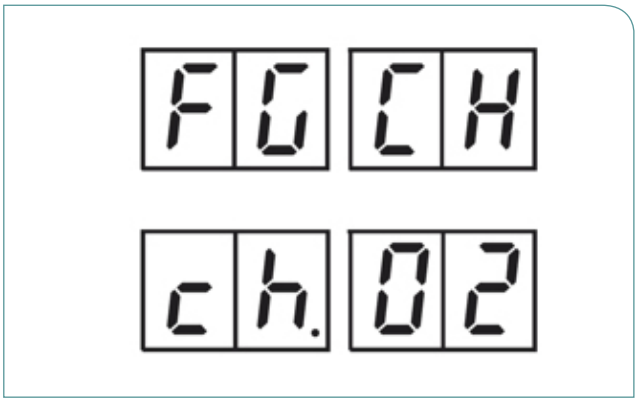
Checking the correct amount of refrigerant in the system can be done in an extremely wide range of temperatures:

- Outside temperature: from 0 to 43°C
- Inside temperature: from 10 to 32°C



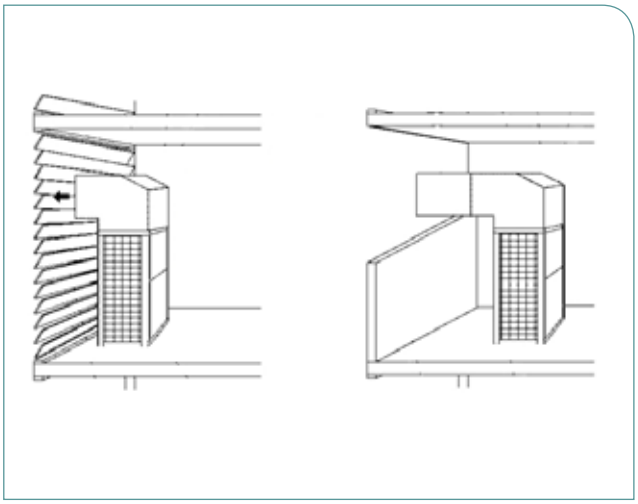
OUTCOME OF AUTOMATIC TEST

The procedure is activated by accessing the electronic board of the outdoor unit and may have a duration between 30 min and 40 min.
At the end of the test a synthetic message is provided to allow the support service to have the certainty that the amount of refrigerant is correct, low or exceeding the required amount.



AIR FLOW MANAGEMENT

Very often it is necessary to adapt the performance of the outdoor unit to the external environment in which the unit is operating.
In actual applications it is very useful to have significant static head pressure, 60 Pa available with 130% load index, in order to size suitable discharge hoods.



SET FREE MINI

DC inverter Heat pump

RAS 4FSVN2E
RAS 4FSNY2E
RAS 5FSVN2E
RAS 5FSNY2E
RAS 6FSVN2E
RAS 6FSNY2E

-20 +15

-5 +46

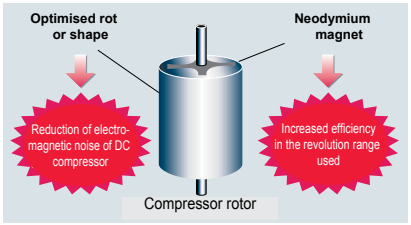
SMALL SIZE
HORIZONTAL EJECTION
2 PIPE SYSTEM
OPTIONAL INPUTS/OUTPUTS

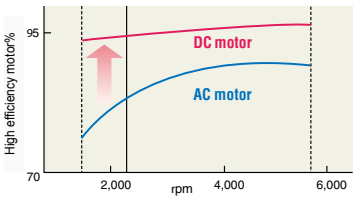
Multi heat pump systems with scroll compressor DC Inverter 2 pipes.

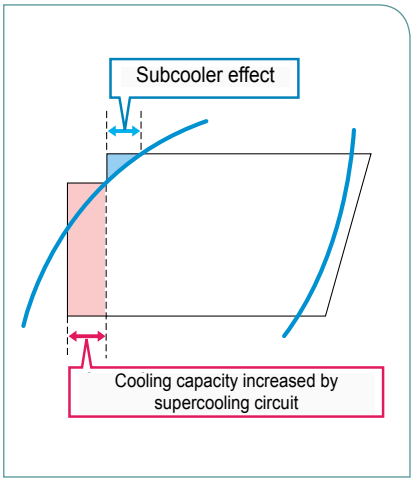
- Cooling capacity from 11.2kW (4HP) to 15.5kW (6HP)
- 3 available power levels
- Up to 9 connectible indoor units, controlled independently
- Compact size
- Minimum Sound Pressure: 42dB(A)
- High energy efficiency
- Cooling up to -5°C, heating up to -20°C
- New DC Scroll Inverter Compressor

Features and advantages

- Improved reliability.
- Leaks in intake and delivery greatly reduced by means of new asymmetric scroll profile.
- Heat loss greatly reduced by means of the new oil return structure.
- Accurate lubrication to the compressor through a new oil distribution system.
- Thanks to compressor DC power supply, performance improves around the frequency range 30-40Hz, where the operation time of the inverter compressor is normally the longest.
  Moreover, to eliminate interference of electromagnetic noise and achieve lower noise, the motor has been divided into two and the electric pole has been moved.
- High efficiency heat exchanger, it recovers the residual heat of the refrigerant, increasing the useful area of the cooling cycle and improving efficiency.







TECHNICAL SPECIFICATIONS

CODE		RAS 4 FSVNE	RAS 4 FSNY2E	RAS 5 FSNV2E	RAS 5 FSNY2E	RAS 6 FSNV2E	RAS 6 FSNY2E
Power supply	V/Ph/Hz	1F 230V 50Hz	3N 380/415 50Hz	1F 230V 50Hz	3N 380/415 50Hz	1F 230V 50Hz	3N 380/415 50Hz
Cooling nominal capacity (1)	kW	11.2 (5.60-11.2)	11.2 (5.60-11.2)	14.0 (7.00-14.0)	14.0 (7.00-14.0)	15.5 (7.8-15.5)	15.5 (7.8-15.5)
Heating nominal capacity (2)	kW	12.5 (6.3-12.5)	12.5 (6.3-12.5)	16.0 (8.00-16.0)	16.0 (8.00-16.0)	18.0 (9.00-18.0)	18.0 (9.00-18.0)
Cooling operating current	A	12.2	4.1	17.2	5.8	20.7	7.0
Heating operating current	A	13.4	4.6	18.6	6.3	21.7	7.44
Power consumption at nominal cap. (Cool. / Heat.)	kW	2.75/3.03	2.72/3.00	3.88/4.20	3.84/4.16	4.67-4.90	4.62/4.85
Max current consumption	A	26	13	26	13	26	13
EER / COP	W/W	4.07/4.13	4.12/4.17	3.61/3.81	3.65/3.85	3.32/3.67	3.35/3.71
Energy class		A/A	A/A	A/A	A/A	A/A	A/A
Min – max connectable capacity		50-130	50-130	50-130	50-130	50-130	50-130
No. min – max inside	N.	1-6	1-6	1-8	1-8	1-9	1-9
Sound Pressure Cooling/Heating (Night Mode) (3)	dB(A)	49/__ (45)	49/__ (45)	51/__ (47)	51/__ (47)	51/__ (48)	51/__ (48)
Sound Pressure at nominal output (Cool. / Heat.)	dB(A)	51	51	53	53	53	53
Number of fans	n.	2	2	2	2	2	2
	m³/h	5400	5400	5400	5400	6000	6000
Fan static pressure	Pa	ND	ND	ND	ND	ND	ND
Dimensions (H × W × D)	mm	1380x950x370	1380x950x370	1380x950x370	1380x950x370	1380x950x370	1380x950x370
Weight	kg	100	102	100	102	100	102
Cooling working range	°C	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)	-5 / +46 (BS)
Heating working range	°C	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)
Refrigerant R-410A charge	kg	3.6	3.6	3.6	3.6	3.6	3.6
Maximum piping length	m	75	75	75	75	75	75
Maximum level difference (high OU – low OU)	g/m	30/30	30/30	30/30	30/30	30/30	30/30
Max length refrigerant lines (joint – inside u.)	m	10/15 (manifold)	10/15 (manifold)	10/15 (manifold)	10/15 (manifold)	10/15 (manifold)	10/15 (manifold)
Liquid line dimension	mm/inch	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8	9.53 - 3/8
Gas line dimension	mm/inch	15.88 -5/8	15.88 -5/8	15.88 -5/8	15.88 -5/8	15.88 -5/8	15.88 -5/8

The specified cooling and heating capacities refer to the outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
[1] Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
[2] Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
[3] The sound pressure level has been measured in the following conditions:
a. 1 metre from the surface of the unit's service hatch and 1.5 metres from the floor level
b. In anechoic chamber without reflection
[4] The EER and COP value corresponds to the outdoor unit, input power of the indoor unit is not considered.
The outdoor unit performance has been established in combination with RCI indoor units.

*In the event the power level of all connected indoor units is equal to 0.6HP. Otherwise the maximum limit of connectible indoor units is as follows:
6 for 4HP
8 for 5HP
9 for 6HP

SET FREE SIDE FLOW

DC inverter Heat pump

RAS 8FSNM
RAS 10FSNM
RAS 12FSNM

-20 +15 | -5 +43

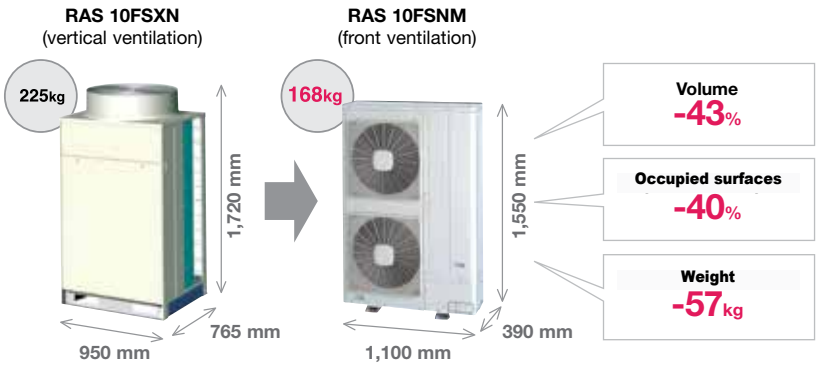
- SMALL SIZE
- HORIZONTAL EJECTION
- 2 PIPE SYSTEM
- UP TO 10 INDOOR
- OPTIONAL INPUTS/OUTPUTS

Multi heat pump systems with Scroll compressor DC Inverter 2 pipes.

- Three-phase only
- Capacity of connectible indoor units variable from minimum 50 to maximum 130%
- 3 available power levels: 8, 10, 12 HP
- Up to 10 connectible indoor units, controlled independently
- Compact size with 40% reduction
- Minimum Sound Pressure: 42dB(A)
- High energy efficiency
- Cooling up to -5°C, heating up to -20°C
- Maximum piping length: 250m.
- Maximum height difference: 40m.

Features and advantages

The SET FREE Side Flow range consists of medium power VRF systems (8HP, 10HP, 12Hp) with three-phase power supply.
These units are suitable for applications such as offices or retail spaces, by combining all VRF qualities in a decidedly more compact volume!



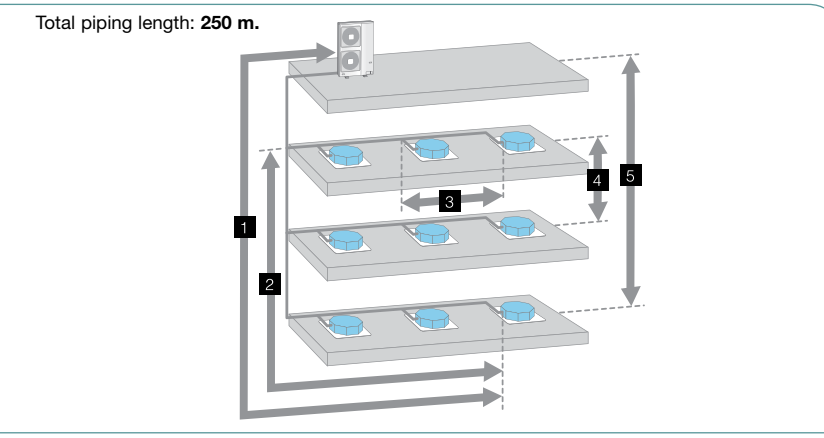
1 The refrigerant lines can be designed and implemented up to maximum distance of **100 m** (total extension: **250 m**).

2 Maximum length after the first joint: **40 m**.

3 Maximum length after one joint: **15 m**.

4 Height difference between indoor units: **15 m**.

5 Height difference between indoor units and outdoor unit:
Lower indoor unit: **40 m** from outdoor unit.
Higher indoor unit: **30 m** from outdoor unit.



TECHNICAL SPECIFICATIONS				
CODE		RAS 8FSNM	RAS 10FSNM	RAS 12FSNM
Power supply	V/Ph/Hz	3N 380/415 50Hz	3N 380/415 50Hz	3N 380/415 50Hz
Cooling nominal capacity (1)	kW	22.4	28	33.5
Heating nominal capacity (2)	kW	25	31.5	37.5
Cooling operating current	A	10.3/9.4	13.6/12.4	17.3/15.8
Heating operating current	A	9.6/8.8	12.7/11.7	16.0/14.7
Power consumption at nominal cap. (Cool. / Heat.)	kW	6.3/5.9	8.3/7.8	10.7/9.9
Max current consumption		ND	ND	ND
EER / COP (4)	W/W	3.56 / 4.24	3.37 / 4.04	3.13 / 3.79
Energy class		A/A	A/A	B/A
Min – max connectable capacity		50-130	50-130	50-130
No. min – max inside	N.	1-10	1-10	1-10
Sound Pressure Cooling/Heating (Night Mode) (3)	dB(A)	53/55	56/58	59/61
Sound Pressure at nominal output (Cool. / Heat.)	dB(A)	ND	ND	ND
Number of fans	n.	2	2	2
Air flow	m³/h	7260	9000	9780
Dimensions (H × W × D)	mm	1650x1100x390	1650x1100x390	1650x1100x390
Weight	kg	170	170	173
Cooling working range	°C	-5 / +43 (BS)	-5 / +43 (BS)	-5 / +43 (BS)
Heating working range	°C	-20 / +15 (BU)	-20 / +15 (BU)	-20 / +15 (BU)
Refrigerant R-410A charge	kg	5	5.5	6.5
Maximum piping length	m	250	250	250
Maximum piping distance (actual/equivalent)	m/m	100/120	100/120	100/120
Maximum level difference (high OU – low OU)	m/m	40/30	40/30	40/30
Maximum piping length after the first joint	m	40	40	40
Liquid line dimension	mm/inch	9.53 - 3/8	12.7 - 1/2	12.7 - 1/2
Gas line dimension	mm/inch	19.05 - 3/4	22.2 - 7/8	25.4/28.6 - (1)-(1-1/8)

The specified cooling and heating capacities refer to the outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
[1] Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
[2] Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
[3] The sound pressure level has been measured in the following conditions:
a. 1 metre from the surface of the unit's service hatch and 1.5 metres from the floor level
b. In the night mode the noise level is reduced by 5dBA
c. The specified data have been obtained in an anechoic chamber
[4] The EER and COP value corresponds to the outdoor unit, input power of the indoor unit is not considered.
The outdoor unit performance has been established in combination with RCI indoor units.

SET FREE FSXN 2 & 3 PIPES

DC inverter Heat pump

GRAND HOTEL MINARETO - SIRACUSA - APPLICATION OF HITACHI VRF SET FREE

-20 +15

-5 +43

- UP TO 64 INDOOR UNITS
- PIPING UP TO 1000M
- 1HZ STEP CONTROL
- INDOOR UNIT POWERING OFF
- OPTIONAL INPUTS/OUTPUTS

- Compatibility with all System Free indoor units and HITACHI Heat recovery Units
- Wide range available
  FSXN (from 8 to 54 Hp)
- Energy savings
  -Heat recovery and use of Compressors with IPM DC Inverter Control
- Flexibility of installation
  -Compact, lightweight and connecting flexibility to cooling lines
- Comfort and reliability
  - Possibility to achieve exceptionally low sound levels thanks to the Noise Reduction function (optional)
- Control System H-LINK II

TECHNICAL SPECIFICATIONS								
CODE					**RAS 8FSXN**	**RAS 10FSXN**	**RAS 12FSXN**	**RAS 14FSXN**	**RAS 16FSXN**	**RAS 18FSXN**
cooling capacity				kW	22.4	28.0	33.5	40.0	45.0	50.0
heating capacity				kW	25.0	31.5	37.5	45.0	50.0	56.0
EER					3.85	3.79	3.41	3.25	3.23	3.37
COP					4.17	4.11	3.60	3.89	3.90	3.81
ESEER (1)					4.45	4.38	3.94	3.76	3.74	3.90
ESEER (2)					ND	ND	ND	ND	ND	ND
electrical input	nominal		cooling	kW	5.82	7.39	9.82	12.31	13.93	14.84
			heating	kW	6.00	7.66	10.42	11.57	12.82	14.70
	maximum input			A	12	16	22	26	29	31
scroll compressors				type/no.	Inverter x 1	Inverter x 1	Inverter x 1	Inverter x 1 On-Off x 1	Inverter x 1 + On-Off x 1	Inverter x 1 + On-Off x 1
cooling connections with distribution to:	2 pipes		gas	mm (inch)	19.05 (3/4)	22.2 (7/8)	25.4 (1)	25.4 (1)	28.58 (1-1/8)	28.58 (1-1/8)
			liquid	mm (inch)	9.52 (3/8)	9.52 (3/8)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	15.88 (5/8)
	3 pipes		HP gas	mm (inch)	15.88 (5/8)	19.05 (3/4)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
			LP gas	mm (inch)	19.05 (3/4)	22.2 (7/8)	25.4 (1)	25.4 (1)	28.58 (1-1/8)	28.58 (1-1/8)
			liquid	mm (inch)	9.52 (3/8)	9.52 (3/8)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	15.88 (5/8)
maximum number of indoor units				no.	14	18	21	26	29	29
sound pressure level (night mode)				dB(A)	58 (53)	58 (53)	60 (55)	62 (57)	62 (57)	63 (58)
dimensions (H x L x D)				mm	1720x950x765	1720x950x765	1720x950x765	1720x1210x765	1720x1210x765	1720x1210x765
Weight				kg	210	210	210	295	295	315

CODE					**RAS 20FSXN (RAS 8FSXN + RAS 12FSXN)**	**RAS 22FSXN (RAS 8FSXN + RAS 14FSXN)**	**RAS 24FSXN (RAS 10FSXN + RAS14FSXN)**	**RAS 26FSXN (RAS 12FSXN + RAS 14FSXN)**	**RAS 28FSXN (RAS 14FSXN + RAS 14FSXN)**	**RAS 30FSXN (RAS 14FSXN + RAS 16FSXN)**
cooling capacity				kW	56.0	61.5	69.0	73.0	80.0	85.0
heating capacity				kW	63.0	69.0	77.5	82.5	90.0	95.0
EER					3.58	3.62	3.37	3.38	3.25	3.24
COP					3.81	4.04	3.89	3.75	3.89	3.90
ESEER (1)					4.14	4.19	3.90	3.91	3.76	3.75
ESEER (2)					ND	ND	ND	ND	ND	ND
electrical input	nominal		cooling	kW	15.64	17.00	20.47	21.58	24.62	26.24
			heating	kW	16.54	17.06	19.94	21.99	23.14	24.39
	maximum input			A	34	36	43	46	53	56
scroll compressors				type/no.	Inverter x 2	Inverter x 2 + On-Off x 1	Inverter x 2 + On-Off x 1	Inverter x 2 + On-Off x 1	Inverter x 2 + On-Off x 2	Inverter x 2 + On-Off x 2
cooling connections with distribution to:	2 pipes		gas	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
			liquid	mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	3 pipes		HP gas	mm (inch)	22.2 (7/8)	25.4 (1)	25.4 (1)	25.4 (1)	28.58 (1-1/8)	28.58 (1-1/8)
			LP gas	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
			liquid	mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
maximum number of indoor units				no.	37	40	45	48	52	56
sound pressure level (night mode)				dB(A)	62 (57)	63 (58)	63 (58)	64 (59)	65 (60)	65 (60)
dimensions (H x L x D)				mm	1720x1920x765	1720x2180x765	1720x2180x765	1720x2180x765	1720x2440x765	1720x2440x765
Weight				kg	210+210	210+295	210+295	210+295	295+295	295+295

The specified cooling and heating capacities refer to outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
The sound pressure level has been measured in the following conditions:
a. 1 metre from the unit's service hatch cover and 1.5 metres from floor level
b. The specified data are based on the cooling mode. In the case of the heating mode, the pressure level increases from 1 to 2dB.
c. The specified data have been obtained in an anechoic chamber
Only the combinations shown in the table are possible (20-54HP)
The width specified in outer dimensions takes into account the specific 20mm distance between outdoor units (20-54HP)
ESEER (1): Seasonal efficiency value in standard cooling
ESEER (2): Seasonal efficiency value in cooling with optimised system operation depending on seasonal demand

SET FREE FSXN 2 & 3 PIPES

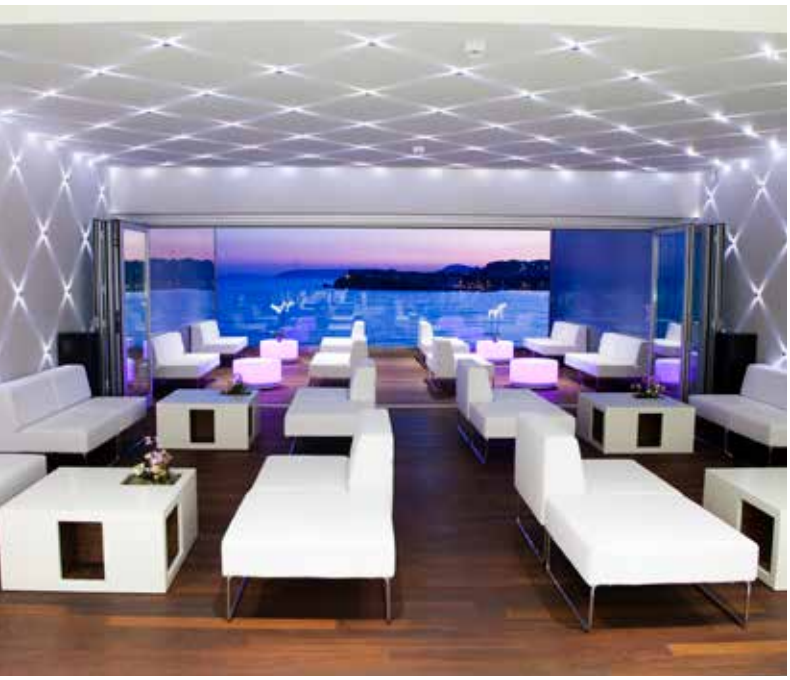
DC inverter Heat pump

TECHNICAL SPECIFICATIONS

CODE				RAS 32FSXN (RAS 16FSXN + RAS 16FSXN)	RAS 34FSXN (RAS 16FSXN + RAS 18FSXN)	RAS 36FSXN (RAS 18FSXN + RAS 18FSXN)	RAS 38FSXN (RAS 12FSXN + RAS 12FSXN + RAS 14FSXN)	RAS 40FSXN (RAS 12FSXN + RAS 12FSXN + RAS 16FSXN)	RAS 42FSXN (RAS 12FSXN + RAS 14FSXN + RAS 18FSXN)
cooling capacity			kW	90.0	95.0	100.0	109.0	112.0	118.0
heating capacity			kW	100.0	106.0	112.0	118.0	125.0	132.0
EER				3.23	3.30	3.37	3.29	3.34	3.32
COP				3.90	3.85	3.81	3.87	3.71	3.65
ESEER (1)				3.74	3.82	3.90	3.81	3.86	3.84
ESEER (2)				ND	ND	ND	ND	ND	ND
electrical input	nominal	cooling	kW	27.86	28.77	29.68	33.12	33.57	35.52
		heating	kW	25.64	27.52	29.40	30.47	33.66	36.20
	maximum input		A	595	61	63	70	70	76
scroll compressors			type/no.	Inverter x 2 + On-Off x 2	Inverter x 2 + On-Off x 2	Inverter x 2 + On-Off x 2	Inverter x 3 + On-Off x 1	Inverter x 3 + On-Off x 1	Inverter x 3 + On-Off x 1
cooling connections with distribution to:	2 pipes	gas	mm (inch)	31.75 (1-1/4)	31.75 (1-1/4)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)
		liquid	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	3 pipes	HP gas	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
		LP gas	mm (inch)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)
		liquid	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
maximum number of indoor units			no.	60	63	64	64	64	64
sound pressure level (night mode)			dB(A)	65 (60)	66 (61)	66 (61)	66 (61)	66 (61)	66 (61)
dimensions (H x L x D)			mm	1720x2440x765	1720x2440x765	1720x2440x765	1720x3150x765	1720x3150x765	1720x3150x765
Weight			kg	295+295	295+315	315+315	210+210+295	210+210+295	210+210+315

CODE				RAS 44FSXN (RAS 12FSXN + RAS 14FSXN + RAS 18FSXN)	RAS 46FSXN (RAS 12FSXN + RAS 16FSXN + RAS 18FSXN)	RAS 48FSXN (RAS 12FSXN + RAS 18FSXN + RAS 18FSXN)	RAS 50FSXN (RAS 14FSXN + RAS 18FSXN + RAS 18FSXN)	RAS 52FSXN (RAS 16FSXN + RAS 18FSXN + RAS 18FSXN)	RAS 54FSXN (RAS 18FSXN + RAS 18FSXN + RAS 18FSXN)
cooling capacity			kW	125.0	132.0	136.0	140.0	145.0	150.0
heating capacity			kW	140.0	145.0	150.0	155.0	160.0	165.0
EER				3.27	3.16	3.24	3.33	3.32	3.37
COP				3.75	3.71	3.74	3.98	3.98	4.01
ESEER (1)				3.78	3.66	3.75	3.85	3.84	3.90
ESEER (2)				ND	ND	ND	ND	ND	ND
electrical input	nominal	cooling	kW	38.20	41.78	41.93	41.99	43.61	44.52
		heating	kW	37.35	39.04	40.15	38.97	40.22	41.10
	maximum input		A	81	88	88	89	92	94
scroll compressors			type/no.	Inverter x 3 + On-Off x 2	Inverter x 3 + On-Off x 2	Inverter x 3 + On-Off x 2	Inverter x 3 + On-Off x 3	Inverter x 3 + On-Off x 3	Inverter x 3 + On-Off x 3
cooling connections with distribution to:	2 pipes	gas	mm (inch)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)
		liquid	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	3 pipes	HP gas	mm (inch)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
		LP gas	mm (inch)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)
		liquid	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
maximum number of indoor units			no.	64	64	64	64	64	64
sound pressure level (night mode)			dB(A)	67 (62)	67 (62)	67 (62)	67 (62)	67 (62)	68 (63)
dimensions (H x L x D)			mm	1720x3410x765	1720x3410x765	1720x3410x765	1720x3670x765	1720x3670x765	1720x3670x765
Weight			kg	210+295+335	210+295+315	210+315+315	295+315+315	295+315+315	315+315+315

The specified cooling and heating capacities refer to outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
The sound pressure level has been measured in the following conditions:
a. 1 metre from the unit's service hatch cover and 1.5 metres from floor level
b. The specified data are based on the cooling mode. In the case of the heating mode, the pressure level increases from 1 to 2dB.
c. The specified data have been obtained in an anechoic chamber
Only the combinations shown in the table are possible (20-54HP)
The width specified in outer dimensions takes into account the specific 20mm distance between outdoor units (20-54HP)
ESEER (1): Seasonal efficiency value in standard cooling
ESEER (2): Seasonal efficiency value in cooling with optimised system operation depending on seasonal demand



HOTEL SPLIT in Spalato - www.hotelsplit.com - APPLICATION OF HITACHI VRF SET FREE

SET FREE FSXN 2 & 3 PIPES SERIES 1

DC inverter Heat pump

NEW

-20 +15

-5 +43

- UP TO 64 INDOOR UNITS
- PIPING UP TO 1000 M
- EXTREMELY HIGH ENERGY EFFICIENCY
- COMPATIBILITY WITH 0.6HP INDOOR UNITS
- GREATER FLEXIBILITY OF REFRIGERANT DEVELOPMENT
- OPTIONAL INPUTS/OUTPUTS

- Compatibility with all System Free indoor units including new 0.6HP power levels and heat recovery units HITACHI
- Wide range available (from 8 to 54 Hp)
- Improved seasonal efficiency at partial loads
- New compressors with enhances performance compared to the previous version
- Optimisation of the refrigerant cycle system
- Increase of piping height difference up to 90 metres with no modification of the cooling circuiting

TECHNICAL SPECIFICATIONS								
CODE				RAS 8FSXN1E	RAS 10FSXN1E	RAS 12FSXN1E	RAS 14FSXN1E	RAS 16FSXN1E
cooling capacity			kW	22.4	28.0	33.5	40.0	45.0
heating capacity			kW	25.0	31.5	37.5	45.0	50.0
EER				4.12	3.98	3.16	3.30	3.24
COP				4.08	4.07	3.79	3.62	3.12
ESEER (1)				6.07	5.86	5.54	4.86	4.77
ESEER (2)				7.71	7.45	7.08	6.17	6.06
electrical input	nominal	cooling	kW	5.44	7.04	10.60	12.11	13.87
		heating	kW	6.13	7.73	9.89	12.44	16.03
	maximum input		A	15	20	26.5	29.2	33
scroll compressors			type/no.	Inverter x 1	Inverter x 1	Inverter x 1	Inverter x 1 On-Off x 1	Inverter x 1 On-Off x 1
cooling connections with distribution to:	2 pipes	gas	mm (inch)	19.05 (3/4)	22.2 (7/8)	25.4 (1)	25.4 (1)	28.58 (1-1/8)
		liquid	mm (inch)	9.52 (3/8)	9.52 (3/8)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)
	3 pipes	HP gas	mm (inch)	15.88 (5/8)	19.05 (3/4)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
		LP gas	mm (inch)	19.05 (3/4)	22.2 (7/8)	25.4 (1)	25.4 (1)	28.58 (1-1/8)
		liquid	mm (inch)	9.52 (3/8)	9.52 (3/8)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)
maximum number of indoor units			no.	14	18	21	26	29
sound pressure level (night mode)			dB(A)	58 (53)	58 (53)	60 (55)	62 (57)	64 (57)
dimensions (H x L x D)			mm	1720x950x765	1720x950x765	1720x950x765	1720x1210x765	1720x1210x765
Weight			kg	215	230	230	310	310

CODE				RAS 16FSXN1E-P (RAS 8FSXN1E + RAS 10FSXN1E)	RAS 18FSXN1E (RAS 8FSXN1E + RAS 10FSXN1E)	RAS 20FSXN1E (RAS 8FSXN1E + RAS 12FSXN1E)	RAS 22FSXN1E (RAS 8FSXN1E + RAS 14FSXN1E)	RAS 24FSXN1E (RAS 10FSXN1E + RAS14FSXN1E)
cooling capacity			kW	45.0	50.0	56.0	61.5	69.0
heating capacity			kW	50.0	56.0	63.0	69.0	77.5
EER				4.10	4.04	3.48	3.58	3.52
COP				4.15	4.08	3.90	3.80	3.77
ESEER (1)				5.95	5.95	5.66	5.27	5.18
ESEER (2)				7.56	7.56	7.22	6.70	6.59
electrical input	nominal	cooling	kW	10.97	12.37	16.07	17.17	19.58
		heating	kW	12.05	13.72	16.17	18.17	20.57
	maximum input		A	35	35	41.5	44.2	49.2
scroll compressors			type/no.	Inverter x 2	Inverter x 2	Inverter x 2	Inverter x 2 + On-Off x 1	Inverter x 2 + On-Off x 1
cooling connections with distribution to:	2 pipes	gas	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
		liquid	mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
	3 pipes	HP gas	mm (inch)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	25.4 (1)	22.2 (7/8)
		LP gas	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
		liquid	mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
maximum number of indoor units			no.	29	29	37	40	45
sound pressure level (night mode)			dB(A)	61 (56)	61 (56)	63 (58)	64 (59)	64 (59)
dimensions (H x L x D)			mm	1720x1920x765	1720x1920x765	1720x1920x765	1720x2180x765	1720x2180x765
Weight			kg	215+230	215+230	215+230	215+310	230+310

The specified cooling and heating capacities refer to outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
The sound pressure level has been measured in the following conditions:
a. 1 metre from the unit's service hatch cover and 1.5 metres from floor level
b. The specified data are based on the cooling mode. In the case of the heating mode, the pressure level increases from 1 to 2dB.
c. The specified data have been obtained in an anechoic chamber
Only the combinations shown in the table are possible (16-54HP)
The width given in outer dimensions takes into account a specific distance of 20mm between outdoor units (16-54HP)
ESEER (1): Seasonal efficiency value in standard cooling
ESEER (2): Seasonal efficiency value in cooling with optimised system operation depending on seasonal demand

SET FREE FSXN 2 & 3 PIPES SERIES

TECHNICAL SPECIFICATIONS									
CODE					**RAS 26FSXN1E (RAS 12FSXN1E + RAS 14FSXN1E)**	**RAS 28FSXN1E (RAS 14FSXN1E + RAS 14FSXN1E)**	**RAS 30FSXN1E (RAS 14FSXN1E + RAS 16FSXN1E)**	**RAS 32FSXN1E (RAS 16FSXN1E + RAS 16FSXN1E)**	**RAS 32FSXN1E-P (RAS 10FSXN1E + RAS 12FSXN1E + RAS 12FSXN1E)**
cooling capacity				kW	73.0	80.0	85.0	90.0	90.0
heating capacity				kW	82.5	90.0	95.0	100.0	100.0
EER					3.25	3.30	3.27	3.24	3.40
COP					3.69	3.62	3.34	3.12	3.95
ESEER (1)					5.16	4.86	4.81	4.77	5.62
ESEER (2)					6.58	6.17	6.12	6.06	7.17
electrical input	nominal		cooling	kW	22.43	24.22	25.98	27.74	26.40
			heating	kW	22.33	24.88	28.47	32.06	25.32
	maximum input			A	55.7	58.4	62.2	66	73
scroll compressors				type/no.	Inverter x 2 + On-Off x 1	Inverter x 2 + On-Off x 2	Inverter x 2 + On-Off x 2	Inverter x 2 + On-Off x 2	Inverter x 3
cooling connections with distribution to:	2 pipes	gas		mm (inch)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
		liquid		mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	3 pipes	HP gas		mm (inch)	25.4 (1)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
		LP gas		mm (inch)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
		liquid		mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
maximum number of indoor units				no.	48	52	56	60	60
sound pressure level (night mode)				dB(A)	65 (60)	65 (60)	66 (61)	66 (61)	65 (60)
dimensions (H x L x D)				mm	1720x2180x765	1720x2440x765	1720x2440x765	1720x2440x765	1720x2890x765
Weight				kg	230+310	310+310	310+310	310+310	230+230+230

CODE					**RAS 34FSXN1E (RAS 10FSXN1E + RAS 12FSXN1E + RAS 12FSXN1E)**	**RAS 36FSXN1E (RAS 12FSXN1E + RAS 12FSXN1E + RAS 12FSXN1E)**	**RAS 38FSXN1E (RAS 12FSXN1E + RAS 12FSXN1E + RAS 14FSXN1E)**	**RAS 40FSXN1E (RAS 12FSXN1E + RAS 12FSXN1E + RAS 16FSXN1E)**	**RAS 42FSXN1E (RAS 12FSXN1E + RAS 14FSXN1E + RAS 16FSXN1E)**
cooling capacity				kW	95.0	100.0	109.0	112.0	118.0
heating capacity				kW	106.0	112.0	118.0	125.0	132.0
EER					3.36	3.17	3.16	3.19	3.25
COP					3.88	3.81	3.78	3.49	3.47
ESEER (1)					5.58	5.56	5.17	5.19	5.01
ESEER (2)					7.11	7.10	6.59	6.62	6.38
electrical input	nominal		cooling	kW	28.24	31.53	34.44	35.07	36.30
			heating	kW	27.30	29.43	31.25	35.81	38.07
	maximum input			A	73	79.5	82.2	86	88.7
scroll compressors				type/no.	Inverter x 3	Inverter x 3	Inverter x 3 + On-Off x 1	Inverter x 3 + On-Off x 1	Inverter x 3 + On-Off x 2
cooling connections with distribution to:	2 pipes	gas		mm (inch)	31.75 (1-1/4)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)
		liquid		mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	3 pipes	HP gas		mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
		LP gas		mm (inch)	31.75 (1-1/4)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)
		liquid		mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
maximum number of indoor units				no.	63	64	64	64	64
sound pressure level (night mode)				dB(A)	65 (60)	65 (60)	66 (61)	67 (61)	67 (62)
dimensions (H x L x D)				mm	1720x2890x765	1720x2890x765	1720x3150x765	1720x3150x765	1720x3410x765
Weight				kg	230+230+230	230+230+230	230+230+310	230+230+310	230+310+310

The specified cooling and heating capacities refer to outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
The sound pressure level has been measured in the following conditions:
a. 1 metre from the unit's service hatch cover and 1.5 metres from floor level
b. The specified data are based on the cooling mode. In the case of the heating mode, the pressure level increases from 1 to 2dB.
c. The specified data have been obtained in an anechoic chamber
Only the combinations shown in the table are possible (16-54HP)
The width given in outer dimensions takes into account a specific distance of 20mm between outdoor units (16-54HP)
ESEER (1): Seasonal efficiency value in standard cooling
ESEER (2): Seasonal efficiency value in cooling with optimised system operation depending on seasonal demand

TECHNICAL SPECIFICATIONS						
CODE				RAS 44FSXN1E (RAS 12FSXN1E + RAS 16FSXN1E + RAS 16FSXN1E)	RAS 46FSXN1E (RAS 14FSXN1E + RAS 16FSXN1E + RAS 16FSXN1E)	RAS 48FSXN1E (RAS 16FSXN1E + RAS 16FSXN1E + RAS 16FSXN1E)
cooling capacity			kW	125.0	132.0	136.0
heating capacity			kW	140.0	145.0	150.0
EER				3.19	3.22	3.23
COP				3.23	3.26	3.12
ESEER (1)				4.70	4.74	4.76
ESEER (2)				5.97	6.02	6.04
electrical input	nominal	cooling	kW	39.19	40.96	42.12
		heating	kW	43.35	44.50	48.09
	maximum input		A	92.5	95.2	99
scroll compressors			type/no.	Inverter x 3 + On-Off x 2	Inverter x 3 + On-Off x 3	Inverter x 3 + On-Off x 3
cooling connections with distribution to:	2 pipes	gas	mm (inch)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)
		liquid	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	3 pipes	HP gas	mm (inch)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
		LP gas	mm (inch)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)
		liquid	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
maximum number of indoor units			no.	64	64	64
sound pressure level (night mode)			dB(A)	68 (62)	68 (63)	69 (63)
dimensions (H x L x D)			mm	1720x3410x765	1720x3670x765	1720x3670x765
Weight			kg	230+310+310	310+310+310	310+310+310

CODE				RAS 50FSXN1E (RAS 10FSXN1E + RAS 12FSXN1E + RAS 14FSXN1E + RAS 14FSXN1E)	RAS 52FSXN1E (RAS 12FSXN1E + RAS 12FSXN1E + RAS 14FSXN1E + RAS 14FSXN1E)	RAS 54FSXN1E (RAS 12FSXN1E + RAS 12FSXN1E + RAS 14FSXN1E + RAS 16FSXN1E)
cooling capacity			kW	140.0	145.0	150.0
heating capacity			kW	155.0	160.0	165.0
EER				3.41	3.27	3.26
COP				3.81	3.78	3.61
ESEER (1)				5.22	5.20	5.16
ESEER (2)				6.64	6.62	6.58
electrical input	nominal	cooling	kW	41.04	44.32	46.07
		heating	kW	40.68	42.28	45.68
	maximum input		A	104.9	111.4	115.2
scroll compressors			type/no.	Inverter x 4 + On-Off x 2	Inverter x 4 + On-Off x 2	Inverter x 4 + On-Off x 2
cooling connections with distribution to:	2 pipes	gas	mm (inch)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)
		liquid	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	3 pipes	HP gas	mm (inch)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
		LP gas	mm (inch)	38.1 (1-1/2)	38.1 (1-1/2)	38.1 (1-1/2)
		liquid	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
maximum number of indoor units			no.	64	64	64
sound pressure level (night mode)			dB(A)	67 (62)	68 (63)	68 (63)
dimensions (H x L x D)			mm	1720x4380x765	1720x4380x765	1720x4380x765
Weight			kg	230+230+310+310	230+230+310+310	230+230+310+310

The specified cooling and heating capacities refer to outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
The sound pressure level has been measured in the following conditions:
a. 1 metre from the unit's service hatch cover and 1.5 metres from floor level
b. The specified data are based on the cooling mode. In the case of the heating mode, the pressure level increases from 1 to 2dB.
c. The specified data have been obtained in an anechoic chamber
Only the combinations shown in the table are possible (16-54HP)
The width given in outer dimensions takes into account a specific distance of 20mm between outdoor units (16-54HP)
ESEER (1): Seasonal efficiency value in standard cooling
ESEER (2): Seasonal efficiency value in cooling with optimised system operation depending on seasonal demand

SET FREE FSXNH 2 & 3 PIPES

High efficiency heat pump

DC INVERTER

-20 +15

-5 +43

- UP TO 64 INDOOR UNITS
- PIPING UP TO 1000M
- 1HZ STEP CONTROL
- INDOOR UNIT POWERING OFF
- OPTIONAL INPUTS/OUTPUTS

- The new high efficiency FSXNH outdoor units belong to the System Free range and thus assure total compatibility with the same indoor units, the same controls and communication interfaces as the commercial range.
- Wide range available from 5 to 36HP Extremely high efficiency with COP up to 4.80 (5HP level)
- All models, already starting from the minimum 5HP level, are ready to work in 3 pipe simultaneous hot and cold systems
- Optional inputs/outputs

TECHNICAL SPECIFICATIONS								
CODE					RAS 5FSXNH	RAS 6FSXNH	RAS 8FSXNH	RAS 10FSXNH	RAS 12FSXNH
cooling capacity				kW	14.0	16.0	22.4	28.0	33.5
heating capacity				kW	16.0	18.0	25.0	31.5	37.5
EER					4.49	4.56	4.66	4.34	3.93
COP					4.80	4.58	4.67	4.67	4.11
ESEER (1)					6.61	6.71	6.86	6.39	5.79
ESEER (2)					8.40	8.53	8.72	8.12	7.35
electrical input	nominal	cooling		kW	3.1	3.5	4.8	6.5	8.5
		heating		kW	3.3	3.9	5.3	6.7	9.1
	maximum input			A	13	13	15	18.7	20
scroll compressors				type/no.	Inverter x 1	Inverter x 1	Inverter x 1	Inverter x 1	Inverter x 1
cooling connections with distribution to:	2 pipes	gas		mm (inch)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)	22.2 (7/8)	25.4 (1)
		liquid		mm (inch)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)	12.7 (1/2)
	3 pipes	HP gas		mm (inch)	12.7 (1/2)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)	22.2 (7/8)
		LP gas		mm (inch)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)	22.2 (7/8)	25.4 (1)
		liquid		mm (inch)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)	12.7 (1/2)
maximum number of indoor units				no.	8	9	13	16	19
sound pressure level (night mode)				dB(A)	55 (52)	56 (52)	58 (53)	59 (54)	61 (56)
dimensions (H x L x D)				mm	1720x950x765	1720x950x765	1720x1210x765	1720x1210x765	1720x1210x765
Weight				kg	215	215	260	260	260

CODE					RAS 12FSXNH-P (RAS 6FSXNH + RAS 8FSXNH)	RAS 14FSXNH (RAS 6FSXNH + RAS 8FSXNH)	RAS 16FSXNH (RAS 8FSXNH + RAS 8FSXNH)	RAS 18FSXNH (RAS 8FSXNH + RAS 10FSXNH)	RAS 20FSXNH (RAS 8FSXNH + RAS 12FSXNH)
cooling capacity				kW	33.5	40.0	45.0	50.0	56.0
heating capacity				kW	37.5	45.0	50.0	56.0	63.0
EER					4.70	4.58	4.65	4.48	4.19
COP					4.73	4.59	4.67	4.68	4.31
ESEER (1)					6.92	6.74	6.85	6.60	6.17
ESEER (2)					8.79	8.57	8.70	8.38	7.84
electrical input	nominal	cooling		kW	7.1	8.7	9.7	11.2	13.4
		heating		kW	7.9	9.8	10.7	12.0	14.6
	maximum input			A	20	28	30	33.7	35
scroll compressors				type/no.	Inverter x 2	Inverter x 2	Inverter x 2	Inverter x 2	Inverter x 2
cooling connections with distribution to:	2 pipes	gas		mm (inch)	25.4 (1)	25.4 (1)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
		liquid		mm (inch)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	15.88 (5/8)	15.88 (5/8)
	3 pipes	HP gas		mm (inch)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)	22.2 (7/8)
		LP gas		mm (inch)	25.4 (1)	25.4 (1)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
		liquid		mm (inch)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	15.88 (5/8)	15.88 (5/8)
maximum number of indoor units				no.	19	23	26	26	33
sound pressure level (night mode)				dB(A)	61 (56)	61 (56)	61 (56)	62 (57)	63 (58)
dimensions (H x L x D)				mm	1720x2160x765	1720x2160x765	1720x2420x765	1720x2420x765	1720x2420x765
Weight				kg	215+260	215+260	260+260	260+260	260+260

The specified cooling and heating capacities refer to outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
The sound pressure level has been measured in the following conditions:
a. 1 metre from the unit's service hatch cover and 1.5 metres from floor level
b. The specified data are based on the cooling mode. In the case of the heating mode, the pressure level increases from 1 to 2dB.
c. The specified data have been obtained in an anechoic chamber
Only the combinations shown in the table are possible (12-36HP)
The width specified in outer dimensions takes into account the specific 20mm distance between outdoor units (12-36HP)
ESEER (1): Seasonal efficiency value in standard cooling
ESEER (2): Seasonal efficiency value in cooling with optimised system operation depending on seasonal demand

SET FREE FSXNH 2 & 3 PIPES

high efficiency DC INVERTER

TECHNICAL SPECIFICATIONS

CODE				RAS 22FSXNH (RAS 10FSXNH + RAS 12FSXNH)	RAS 24FSXNH (RAS 12FSXNH + RAS12FSXNH)	RAS 24FSXNHP (RAS 8FSXNH + RAS 8FSXNH + RAS 10FSXNH)	RAS 26FSXNH (RAS 8FSXNH + RAS 8FSXNH + RAS 10FSXNH)	RAS 28FSXNH (RAS 8FSXNH + RAS 8FSXNH + RAS 12FSXNH)
cooling capacity			kW	61.5	69.0	69.0	73.0	80.0
Heating capacity			kW	69.0	77.5	77.5	82.5	90.0
EER				4.11	3.91	4.64	4.53	4.30
COP				4.35	4.09	4.64	4.66	4.39
ESEER (1)				6.05	5.76	6.83	6.67	6.33
ESEER (2)				7.69	7.32	8.68	8.48	8.05
electrical input	nominal	cooling	kW	15.0	17.7	14.8	16.1	18.6
		heating	kW	15.9	19.0	16.7	17.7	20.5
	maximum input		A	38.7	40	40	40	48.7
scroll compressors			type/no.	Inverter x 2	Inverter x 2	Inverter x 3	Inverter x 3	Inverter x 3
cooling connections with distribution to:	2 pipes	gas	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
		liquid	mm (inch)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	3 pipes	HP gas	mm (inch)	25.4 (1)	25.4 (1)	25.4 (1)	25.4 (1)	28.58 (1-1/8)
		LP gas	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)
		liquid	mm (inch)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
maximum number of indoor units			no.	36	40	40	43	47
sound pressure level (night mode)			dB(A)	64 (59)	64 (59)	64 (59)	64 (59)	64 (59)
dimensions (H x L x D)			mm	1720x2420x765	1720x2420x765	1720x3630x765	1720x3630x765	1720x3630x765
Weight			kg	260+260	260+260	260+260+260	260+260+260	260+260+260

CODE				RAS 30FSXNH (RAS 8FSXNH + RAS 10FSXNH + RAS 12FSXNH)	RAS 32FSXNH (RAS 8FSXNH + RAS 12FSXNH + RAS 12FSXNH)	RAS 34FSXNH (RAS 10FSXNH + RAS 12FSXNH + RAS 12FSXNH)	RAS 36FSXNH (RAS 12FSXNH + RAS 12FSXNH + RAS 12FSXNH)
cooling capacity			kW	85.0	90.0	95.0	100.0
Heating capacity			kW	95.0	100.0	106.0	112.0
EER				4.24	4.09	4.05	3.93
COP				4.42	4.24	4.27	4.11
ESEER (1)				6.24	6.02	5.96	5.79
ESEER (2)				7.93	7.65	7.58	7.35
electrical input	nominal	cooling	kW	20.0	22.0	23.4	25.4
		heating	kW	21.5	23.6	24.8	27.2
	maximum input		A	53.7	55	58.7	60
scroll compressors			type/no.	Inverter x 3	Inverter x 3	Inverter x 3	Inverter x 3
cooling connections with distribution to:	2 pipes	gas	mm (inch)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)	38.1 (1-1/2)
		liquid	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
	3 pipes	HP gas	mm (inch)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)	28.58 (1-1/8)
		LP gas	mm (inch)	31.75 (1-1/4)	31.75 (1-1/4)	31.75 (1-1/4)	38.1 (1-1/2)
		liquid	mm (inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
maximum number of indoor units			no.	50	53	56	59
sound pressure level (night mode)			dB(A)	65 (60)	65 (60)	66 (61)	66 (61)
dimensions (H x L x D)			mm	1720x3630x765	1720x3630x765	1720x3630x765	1720x3630x765
Weight			kg	260+260+260	260+260+260	260+260+260	260+260+260

The specified cooling and heating capacities refer to outdoor unit operating with indoor units at 100% capacity and are based on the EN14511 standard
Cooling: indoor ambient temp. 27°C (19°C WB) - outdoor ambient temp. 35°C; refrigerant piping length 7.5m; level difference 0m.
Heating: indoor ambient temp. 20°C - outdoor ambient temp. 7°C (6°C WB); refrigerant piping length 7.5m; level difference 0m.
The sound pressure level has been measured in the following conditions:
a. 1 metre from the unit's service hatch cover and 1.5 metres from floor level
b. The specified data are based on the cooling mode. In the case of the heating mode, the pressure level increases from 1 to 2dB.
c. The specified data have been obtained in an anechoic chamber
Only the combinations shown in the table are possible (12-36HP)
The width specified in outer dimensions takes into account the specific 20mm distance between outdoor units (12-36HP)
ESEER (1): Seasonal efficiency value in standard cooling
ESEER (2): Seasonal efficiency value in cooling with optimised system operation depending on seasonal demand

VRF Set Free outdoor units

MITA - MALTA INFORMATION TECHNOLOGY AGENCY - DATA CENTER IN MALTA - APPLICATION OF HITACHI VRF SET FREE

Control systems

Controls and Accessories

Remote Controllers

CODE	PC LH3A*	PC LH3B*	PC ARH
	Remote Controller only without receiver 	Remote Controller only without receiver for RPK, RCI_FSN3 and RPC_FSN3 	
Type	Infra Red Remote Controller	Infra Red Remote Controller	Compact type wired remote controller
Timer Program	On / Off Timer up to 24 Hours	On / Off Timer up to 24 Hours	Timer-less
Special features	Standard wireless functions	Standard wireless functions	Simplified standard functions type for hotel application
Additional functions	Not provided	SH speed control	Possibility to enable and set a number of functions

CODE	PC-ART	PC-ARF
		
Type	Wired Remote Control Panel	Wired Remote Control Panel with Backlit Display
Timer Program	7-Day Timer	7-Day Timer
Special features	Diagnosis, locking and a variety of special functions.	Diagnosis, mode locking functions, description of available functions on multiple language text and a variety of special functions
Additional functions	Possibility to enable and set a number of additional functions	Possibility to enable and set a number of additional functions

Receiver Models

CODE	PC ALHC	PC ALHN	PC ALHD	PC-ALHP1
				
Description	Complete corner kit for installation on P-N23WAM panel of 4-WAY MINI RCIM cassette units	Complete corner kit for installation on P-N23NA panel of 4-WAY RCI Ei cassette units	Complete kit for installation on P-N23(46)DNA panel of 2-WAY RCD cassette units	Receiver Kit for installation on high efficiency RPC-FSN3 ceiling unit
Place of installation	Panel corner	Panel corner	In the panel	On the unit

CODE	PC ALHZ	PC ALH3	PC ALHZF
			
Description	Receiver kit for remote installation for all units, excluding RPK-FSN(H)3H RCI-FSN3	Complete corner kit for installation on P-AP160NA1 or P-AP160NAE panels of 4-WAY RCI-FSN3 cassette units	Receiver kit for remote installation for units: RPK-FSN(H)3M RCI-FSN3
Place of installation	Wall	Panel corner	Einfache, kabellose Bedienung Farbe: Grauweiß, ähnlich RAL 9002

* PC LH3A and PC LH3B remote controls are not interchangeable.

Control systems and accessories

Centralised Controllers

CODE	PSC A64GT	PSC A64S
		
Type	Centralised Touch Screen Control	Standard Centralised Control
Number of controlled indoor units	Control up to 64 indoor units single or in groups up to 160 indoor units (H-Link II) with possibility to connect up to 8 of them on the same Bus H-link	Control up to 64 indoor units single or in groups up to 160 indoor units (H-Link II) with possibility to connect up to 8 of them on the same Bus H-link
Special features	Possibility to enable and set many additional features with Daily Weekly Timer for each indoor unit	Possibility to enable and set a number of additional functions without Timer

CODE	PSC-A16RS	PSC-A1T
		
Type	ON-OFF type key Centralised Control	7-Day Timer
Number of controlled indoor units	Control up to 16 indoor units either single or in groups with possibility to connect up to 8 of them on the same Bus H-link	Timer Programmer for PSC A64S Controller (one timer only per central controller)
Special features	On/Off or Anomaly status display	Possibility to pre-set 2 types of Timer A or B based e.g. on the season, Summer or Winter

Accessories for Indoor Units

CODE	PCC 1A	THM R2AE	SOR-NEP
			nd
Description	Connector to connect optional inputs and outputs (5 pc. package)	Remote ambient temperature sensor (8 m cables)	PKit motion sensor for high efficiency ceiling unit RPC-FSN3 (for installation on the unit)

CODE	P N23NA	P N23DNA	P N46DNA
			
Description	Panel / Grille for 4-way RCI cassette series i	Panel / Grille for 2-way RCD cassette from 1.0 to 3.0HP	Panel / Grille for 2-way RCD cassette from 4.0 to 5.0HP

CODE	P N23WAM	P AP160NA1	P AP160NAE
			
Description	Panel / Grille for 4-way RCIM 60 x 60 cassette	Panel / Grille for 4-way RCI high efficiency cassette and series k	Panel / Grille for 4-way RCI high efficiency cassette and series k

Note Please contact the head office or area agency regarding compatibility of the various products and prices

Controls and Accessories

CODE	OACI-160K2	OACI-232	OACI-232E
			
Description	Outside air input kit. Up to 20% of nominal flow of the RCI high efficiency indoor unit	Outside air input kit. Up to 20% of nominal flow of the RCI SERIES i indoor unit	Outside air input kit. Up to 20% of nominal flow of the RCI SERIES k indoor unit

CODE	PD-75A	PD-75	TKCI-160K	TKCI-232
				
Description	Outside air connection kit for high efficiency RCI unit	Outside air connection kit for RCI SERIES i and k RCIM unit	Accessory for connecting outside air input ducts for high efficiency RCI unit	Accessory for connecting outside air input ducts for RCI SERIES i and k RCIM unit

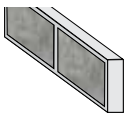
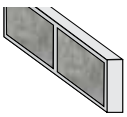
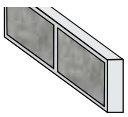
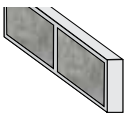
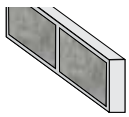
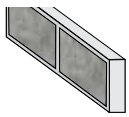
CODE	PDF-71C1	PDF-160C1	PDF-23C3	PDF-46C3
				
Description	Flange for connecting outside air input ducts for high efficiency RCI unit for power up to 3HP	Flange for connecting outside air input ducts for high efficiency RCI unit for power over 3HP	Flange for connecting outside air input ducts for RCI SERIES i and k unit for power up to 3HP	Flange for connecting outside air input ducts for RCI SERIES i and k unit for power over 3HP

CODE	PI-160LS1	PI-23LS5
		
Description	Outside air output obstruction kit for high efficiency RCI unit	Outside air output obstruction kit for RCI SERIES i and k unit

CODE	DU-M1E	DUPC-63K1	DUPC-71K1	DUPC-160K1
				Kabelfe 
Description	Condensate Drain Pump Kit only for RPIM type indoor units	Condensate Drain Pump Kit for high efficiency Ceiling units For powers up to 2.5HP	Condensate Drain Pump Kit for high efficiency Ceiling units For powers equal to 3HP	Condensate Drain Pump Kit for high efficiency Ceiling units For powers over 3HP

Duct Attenuator and auxiliary Filters for KPI

CODE	STL 30-200-L600	STL 30-250-L600	STL 30-300-L600	STL 30-355-L600	STL 30-450-L600
					
Duct Silencers for KPI Recovery Unit	KPI-502	KPI-802	KPI-1002	KPI-1502 & KPI-2002	KPI-3002H2E
Features	Average silencing of approximately 5dB(A) in the output duct is obtained.				

CODE	HEF 252	HEF 502	HEF 802	HEF 1002	HEF 1502	HEF 2002
						
Duct Silencers for KPI Recovery Unit	KPI-252E3E	KPI-502(E/H/X)3E	KPI-802(E/H/X)3E	KPI-1002(E/H/X)3E	KPI-1502(E/H)3E	KPI-2002(E/H)3E
Features	Auxiliary additional filter for KPI Recovery Unit Features					

CH Unit for heat recovery systems

CODE	CH-6.0N1	CH-10.0N1
		
Timer Funktionen	Control of up to 7 indoor units for overall nominal power ≤ 6HP	Control of up to 8 indoor units for overall nominal power > 6 and ≤10 HP

Controls and Accessories

JOINTS

CODE	Description	UTOPIA				VRF			
		ES	RASC	STANDARD	PREMIUM	MINI-SIDE FLOW	FSXN	FSXNH	FSXN1
TE-03N1	3HP branch joint kit	X		X					
TE-04N1	4HP branch joint kit	X		X					
TE-56N1	5-6HP branch joint kit	X	X	X					
TE-08N	8HP branch joint kit	X		X					
TE-10N	10-12HP branch joint kit		X	X					
TRE-46N1	3 branch coupling header kit 4-5-6HP	X		X					
TRE-06N	3 branch coupling header kit 6HP		X						
TRE-812N1	3 branch coupling header kit 8-10-12HP		X	X					
TRE-810N	3 branch coupling header kit 8-10HP	X	X						
QE-810N	4 branch coupling header kit 8-10HP		X						
QE-812N1	4 branch coupling header kit 8-10-12HP			X					
TW-22AN	2-2.5HP branch joint kit				X				
TW-52AN	3-6HP branch joint kit				X				
TW-102AN	8-10-12HP branch joint kit				X				
TG-53AN	3 branch coupling header kit 4-5-6HP				X				
TG-103AN	3 branch coupling header kit 8-10-12HP				X				
E-102SN3	Branch joint kit up to 12HP		X	X	X	X	X	X	X
E-162SN3	Branch joint kit from 12 to 18HP		X	X	X	X	X	X	X
E-242SN3	Branch joint kit from 18 to 26HP						X	X	X
E-302SN3	Branch joint kit from 26 to 54HP						X	X	X
MH-84AN	4 branch coupling header kit up to 8HP					X	X	X	X
MH-108AN	8 branch coupling header kit up to 10HP					X	X	X	X
MC-20AN	Joint kit for condensing units from 20 to 24HP						X	X	
MC-21AN	Joint kit for condensing units from 26 to 36HP						X	X	
MC-30AN	Joint kit for condensing units from 38 to 54HP						X	X	
MC-20AN1	Joint kit for condensing units from 14 to 24HP								X
MC 30AN1	Joint kit for condensing units from 26 to 36HP								X
3-pipe combinations - Simultaneous hot and cold									
E-52XN3	Branch joint kit up to 6HP						X	X	x
E-102XN3	Branch joint kit from 6 to 12HP						X	X	x
E-162XN3	Branch joint kit from 12 to 18HP						X	X	x
E-202XN3	Branch joint kit from 18 to 22HP						X	X	x
E-242XN3	Branch joint kit from 22 to 26HP						X	X	x
E-322XN3	Branch joint kit from 26 to 54HP						X	X	x
MH-108XN	8 branch coupling header kit up to 10HP						X	X	
MC-20XN	Joint kit for condensing units from 20 to 24HP						X	X	
MC-21XN	Joint kit for condensing units from 26 to 36HP						X	X	
MC-30XN	Joint kit for condensing units from 38 to 54HP						X	X	
MC-20XN1	Joint kit for condensing units from 14 to 24HP								x
MC-30XN1	Joint kit for condensing units from 26 to 36HP								x

ACCESSORIES FOR OUTDOOR UNITS

	DBS 12L		DBS 26		DBS TP10A	
					Image N.D.	
Product range	MODEL	QUANTITY	MODEL	QUANTITY	MODEL	QUANTITY
UTOPIA ES	RAS 2-2.5HVRN2	1	RAS 4-6H(V)RNS(2/3)E	1	-	-
	RAS 3HVRNS3	1	RAS 8-10HRNSE	1	-	-
UTOPIA IVX	RAS 2-2.5 HVNP	1	RAS 4-6HVNCE	1	-	-
	RAS 3HVNC	1	RAS 8-10HVNCE	2	-	-
	-	-	RAS 12HVNC	2	-	-
IVX PREMIUM	-	-	RAS 3HVNP	1	-	-
	-	-	RAS 4-6H(V)NPE	2	-	-
MINI SET FREE	-	-	RAS 4-6FS(V/Y)N2E	1	-	-
SET FREE SIDE FLOW	-	-	RAS 8-12FSNM	2	-	-
SET FREE FSXN	-	-	-	-	RAS 8-18FSXN	1
	-	-	-	-	RAS 20-36FSXN	2
	-	-	-	-	RAS 38-54FSXN	3
SET FREE FSXNH (high efficiency)	-	-	-	-	RAS 5-12FSXNH	1
	-	-	-	-	RAS 14-24FSXNH	2
	-	-	-	-	RAS 26-36FSXNH	3

CS Net Web

CS NET WEB is a centralised independent control device for simultaneous adjustment of up to 160 indoor units and 64 outdoor units connected to the communication bus H-LINK.
Control expansion allows up to 640 indoor units to be connected and connection of 4 CS NET WEB units.

The main features are:

- centralised independent control up to 640 indoor units (4 connected devices)
- remote control via WEB/LAN network
- JAVA technology
- Automatic updates
- new graphic icons
- total control over system functionalities
- setting inhibitions/restrictions
- timer programming up to 4 years
- calculation of energy consumption
- archive of operation data log and anomalies (black box)
- Building layout editor
- RCS web
- Multiple access by password
- Built-in MOD BUS interface
- FIDELIO Interface
- monitoring all operating parameters
- integrated e-mail ALERT
- Setting configuration and transfer when the operator is ON-SITE
- Free adaptation of unit names
- Modification of connection parameters of the CS NET WEB to the LAN Network
- Remote software updates
- Timer functions programmable for “day/night” operation, early switch-on at different temperatures

GRAPHICAL DISPLAY

The user may view the system by showing it in two different display ways depending on needs:

- display by graphical icons
- sequential display

DIFFERENTIATED PASSWORDS

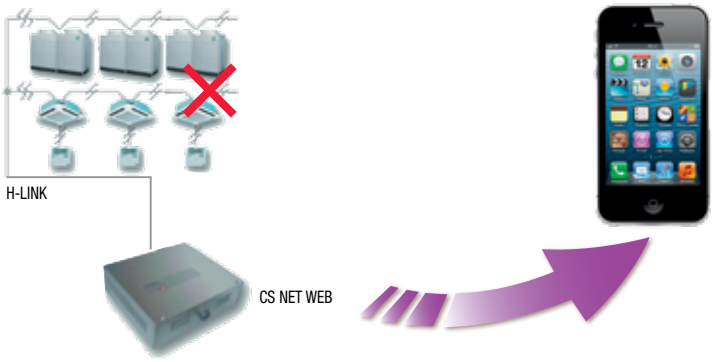
There are several levels of password access to CS NET WEB;
these may be adjusted and calibrated depending on the type of user.

WEB/LAN CONNECTION

CS NET WEB may be connected to the LAN network or Internet (by means of an ADSL router) also making it possible to control and manage by SMART PHONE or PC.

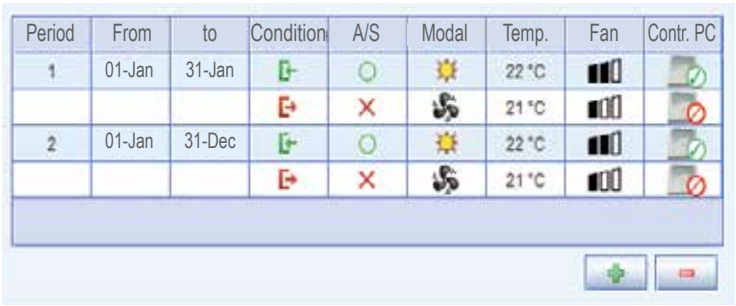
INTEGRATED E-MAIL ALERT

The **@ ALERT** service lets you program at will emails to be sent to 5 different addresses, with sending frequency within the 1 ÷ 24 hour range.



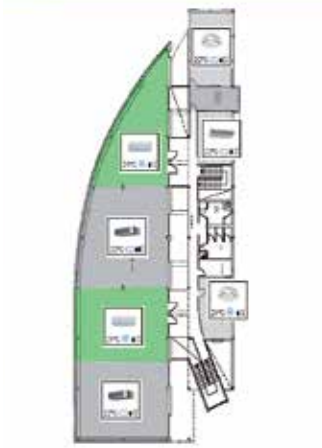
FIDELIO GATEWAY

Each indoor unit is controlled via the graphical interface typical of hotel controllers, supporting the main features of:
- Unit ON/OFF
- Reading room occupancy condition
- Temperature setting
- Fan speed control
- Local or central control



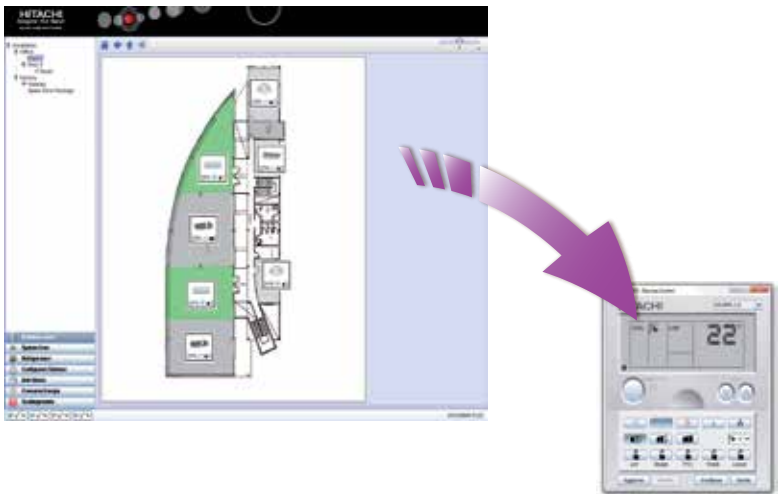
BUILDING LAYOUT EDITOR

It is possible to create a detailed image of the rooms allowing users to immediately view the condition of each indoor unit.



VIRTUAL REMOTE CONTROL

Just click on the image of the unit to automatically display the virtual control. The settings of each unit may be modified with your PC by acting on the control's virtual image. Each PC is associated with the IP address of the relevant **RCS web**.



CS Net Web

CONNECTION WITH ELECTRONIC MULTIMETER

The connection with a Mod-Bus electrical meter lets you export data, display them on the CS NET WEB and use them to calculate energy consumption.

ENERGY CONSUMPTION: THE TWO LOGICS

Using the CSNET WEB, together with the latest breed of electronic meters, lets you account and export data in electronic format.
Consumption identification is compatible also with applications where differentiated pricing is in force (two-part tariff). The application lets you set the different tariffs for the different time bands.

Energy Consumption | Configuration

UE	UI	Description	% UE	% System	Energy	Cost
0	0	Room 5	2,93	0,4	19,88 kW	1,55 €
0	1	Room 3	17,84	2,42	121,13 kW	9,45 €
0	2	Room 1	16,45	2,23	111,74 kW	8,72 €
0	3	Room 2	2,93	0,4	19,88 kW	1,55 €

Input consumption

Use power meter devices to obtain data

Enter system consumption in the selected period

Initial reading 0 Final reading 500

Currency €

Fees:

From (Day)	To (Day)	Day	From (Time)	To (Time)	Cost
01-Jan	01-Feb	Every	00	24	0.078
02-Feb	31-Dec	Every	00	24	0.05

TIMER

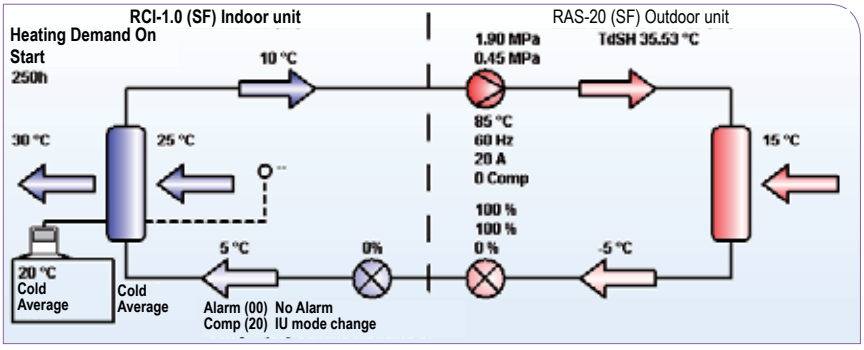
The flexibility of the new Timer lets you memorise settings independently for each unit and for each day, extending the function up to 4 years of programming. Each indoor unit may be assigned customised Timers and distinctive operation degrees may be defined.

Time	On...	Mode	Temp.	Fan	On...	Mode	Temp.	Fan
05:16	○	☀	22 °C	▮▮▯	✓	✓	✓	✓
06:16	○	☀	22 °C	▮▮▮	?	?	?	?
13:52	✕	☀	22 °C	▮▮▮	?	?	?	?
17:52	✕	☀	22 °C	▮▮▮	⊘	⊘	⊘	⊘

Functions that can be blocked

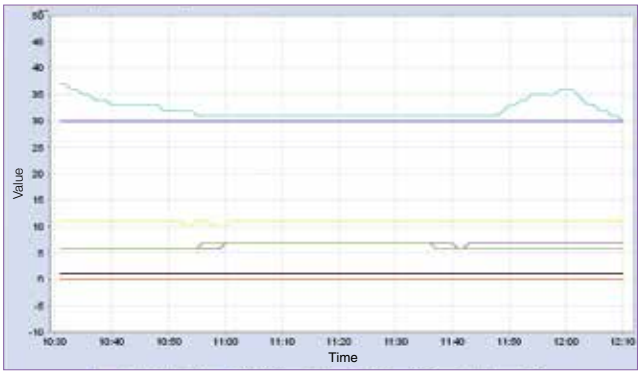
SYSTEM CONTROL

The menu to read parameters of all units can be accessed also from a remote station. This makes support and maintenance operations quick and easy.



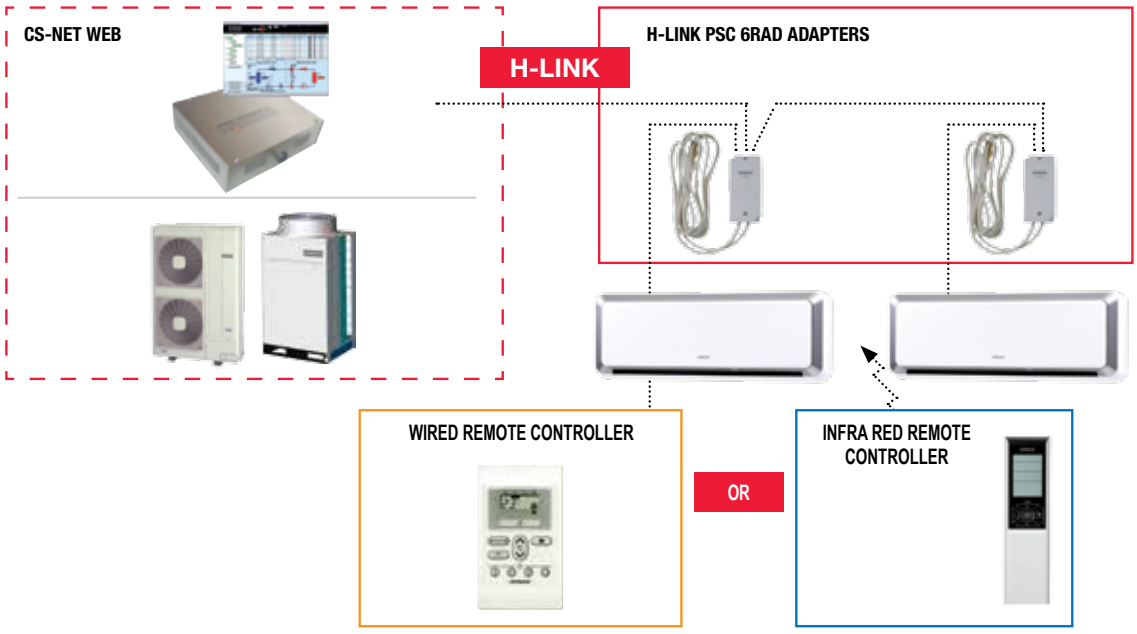
BLACK BOX

At any time you may read, even remotely, the log data of the system complete with operation status and possible anomalies/alarms occurred over time.
All operation parameters are always available for total control of the air conditioning system and may be either in number or graphical format.



RESIDENTIAL SYSTEM INTEGRATION

The PSC-6RAD accessory makes it possible to integrate in the centralised CS NET WEB control also HITACHI residential MONO and MULTI SPLIT systems.



CODE	PSC-A160 WEB 1	TS 002
		 Optional 17" touch screen panel. All CS NET WEB functions may be controlled directly on the monitor.
Type	**Centralised control for PC**	**Touchscreen Panel**
Number of indoor units that may be controlled	Control of up to 160 individual indoor units and up to 64 outdoor units (H-Link II)	To be used with Cs Net web instead of a Normal PC (the CS Net web interface must be installed)
Special features	Control of all units Weekly Daily Timer; monitoring each individual unit's consumption in %, Connection via Lan or Internet, E-mail anomaly notification	17" Touch Screen Monitor for wall Installation or table top

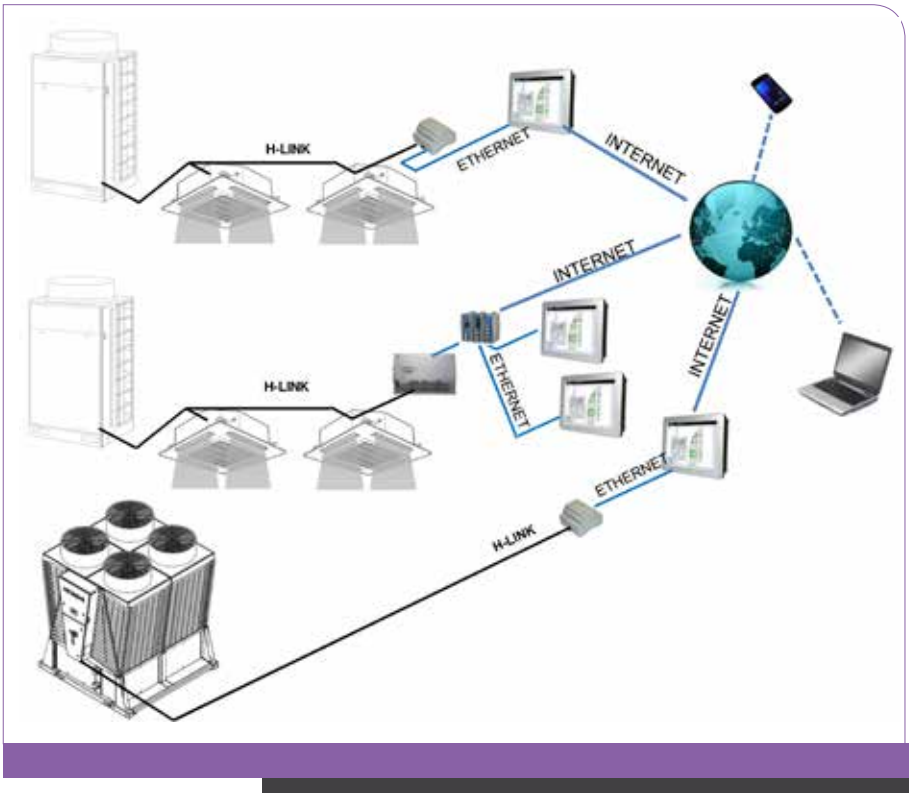
Note Please contact the head office or area agency regarding compatibility of the various products and prices

CS Net Manager

The CS NET platform is integrated with a new Touch Screen supervision and control system which adopts all typical flexible features of its forbear CS NET WEB and lets you control up to 1280 indoor units.
An industrial-size Hard Disk, 50 GB maximum capacity, adequately tackles even the most challenging demands.
Interaction with external devices is assured thanks to integrated Ethernet, USB and serial RS 485 ports.

General features:
Touch Screen: 10 or 17 inches
To control up to 1280 indoor units
Ethernet Port
USB Port
Serial RS 485 port (available via HC-A64NET)
HD 50 GB (max)
Remote control via WEB/LAN network

The main features:
Building Layout
Integrated graphical icons
Timer / calendar function management
Energy consumption functions



CODE	CS NET MANAGER 10”

CODE	CS NET MANAGER 17”

CODE	CHC A64 NET

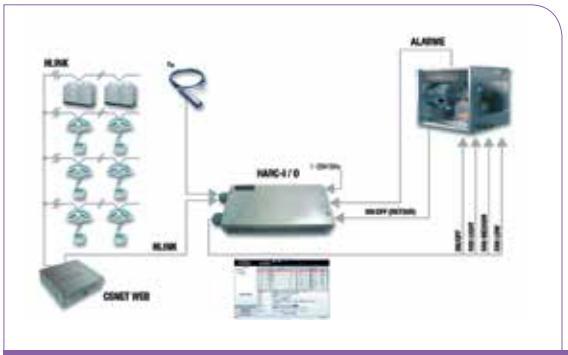
Building automation

INTERFACES

HITACHI offers a wide range of control systems, providing the user with complete supervision flexibility of conditioning systems to meet any need, taking into account factors such as room size, number of people and climate.

HARC – I/O

Integration of external air conditioning systems in the bus H-Link. To incorporate non HITACHI units (fans, air treatment units, etc.) into the H-LINK system.
HARC I/O units can adjust up to 5 signals such as fan speed control, off, on, etc.



CODE	Harc I/O

PSC 5HR Relay H-Link

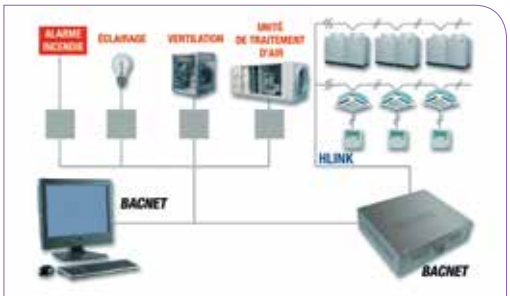
Allows increase of maximum length of the H-Link bus up to 5000 m using up to four PSC 5HR units.

CODE	PSC 5HR

Optional BMS interfaces are available to connect the H-LINK bus of HITACHI air conditioners, using various standard communication protocols such as ModBus, BacNet, KNX and Lon Works.

HC A64BNP

Integration with intelligent control installations (BMS - Building Management System).
Gateway interface to BAC NET BMS systems via TCP IP connection and control over up to 64 indoor units.



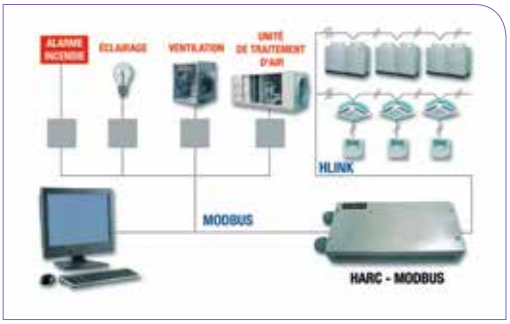
CODE	HC A64BNP

Note Please contact the head office or area agency regarding compatibility of the various products and prices

Building automation

MODBUS INTERFACE STAND ALONE

Integration with intelligent control installations (BMS - Building Management System).
Gate-way interface with MODBUS systems via serial RS485 connection



HC-A8MB NEW
Power Supply 230V, 50 Hz
Connection ports: RS 485 serial; Ethernet port TCP ModBus
Control of 8 Indoor Units
Installable on DIN 35mm guide
USB port for PC configuration

CODE	HC-A8MB

HC-A32MB
Power Supply 230V, 50 Hz
Connection ports: RS 485 serial; Ethernet port TCP ModBus
Control of 32 Indoor Units
Installable on DIN 35mm guide
USB port for PC configuration
Possibility to install up to 8 Harc Mod Bus on the same H-Link.

CODE	HC-A32MB

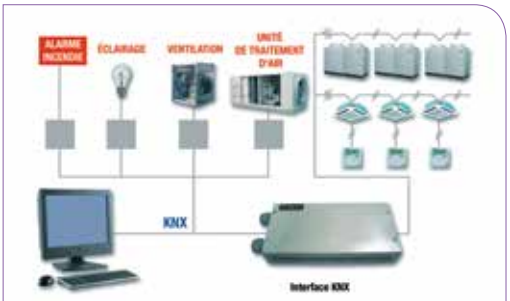
HC-A64MB NEW
Power Supply: 230V, 50 Hz
Connection ports: RS 485 serial; Ethernet port TCP ModBus
Control of 64 Indoor Units
Installable on DIN 35mm guide
USB port for PC configuration

CODE	HC-A64MB

KONNEX HC-A16KNX STAND ALONE INTERFACE

Integration with intelligent control installations (BMS - Building Management System).
Gate-way interface with KONNEX systems via twisted pair Konnex connection. Control of up to 16 indoor units with 18 variables each and up to 16 different refrigerant cycles.

Possibility to install up to 8 Harc Konnex on the same H-Link.



CODE	HC A16KNX

KONNEX INTERFACE

Integration with intelligent control installations (BMS - Building Management System).
Communication via KNX protocol with control up to 128 indoor units and 18 variables ea.
Gate-way interface with KONNEX systems via Lan connection to CS NET WEB system.

This is an accessory complementing CS Net web.

CODE	KNX 001

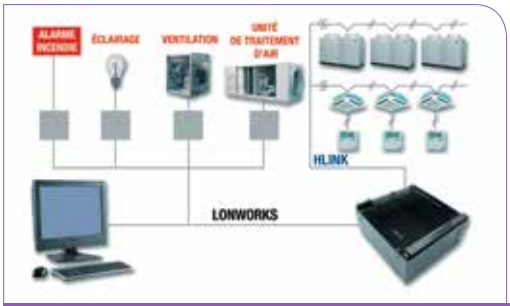
LON WORKS INTERFACE HARC-BXE(A-B)

Thanks to this device the Utopia and Set Free air conditioning systems can be integrated within a BMS - Building Management System which uses the communication protocol Lon Works®.

The use of HARC BXE lets you control up to:

Version (A) up to 64 indoor units
- with 8 variable management

Version (B) up to 32 indoor units
- with 16 variable management



CODE	HARC – BXE(A) (B)

Note Please contact the head office or area agency regarding compatibility of the various products and prices

High efficiency heating

Hi-ToolKit for home.

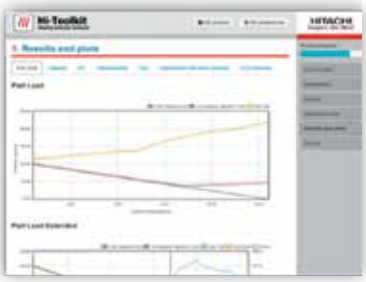
Selection Software PDC Air / Water + Domestic Water Heating

Hi-ToolKit for home has been especially designed to support professionals in the choice of heating solutions through Hitachi Yutaki S, Yutaki M and Yutampo, with or without DHW. Its ease of use lets you select the most suitable material and generate tailored reports to be presented to the end customer.

1- PROJECT
- Identification of project and customer
- Box for Notes and comments

2- INSTALLATION DESCRIPTION
- Generator: Heating / Cooling / DHW
- Sources : Radiating panel / Radiators / Fan Coil Units, Number of Zones
- Technology : Split / Monoblock

3- OPERATING CONDITIONS
- Geographic location
- Heating conditions: Period, outdoor temperature, required water temperature



4- SELECTION OF THE MATERIAL

- List of materials fulfilling the set requirements
- Display performance and costs of the various solutions offered

5- FINAL SUMMARY

- Power modulation graphs, Temperature modulation graphs,…
- Details of energy consumption
- Energy comparison with other heating solutions

6- OUTPUT REPORT

- Selection of which information to show: thermal requirements, consumption, …
- Report Customisation: Company Address and logo of installer or designer.

Thermal Power Index

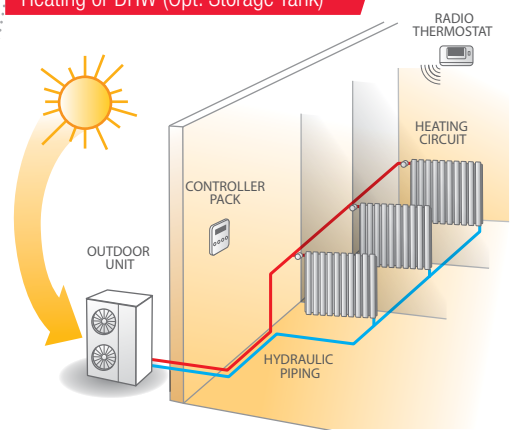
AIR/WATER	kW	5	8	11	14	16	18	25	32
AVERAGE TEMPERATURE HP									
Monoblock									
■ Yutaki M Heat Only			■ p.134	■ p.134	■ p.134	■ p.134	■ p.134		
Split									
■ Yutaki S Heat Only		■ p.144	■ p.144	■ p.144	■ p.144	■ p.144	■ p.144	■ p.144	■ p.144
■ Yutaki S Hot and Cold		■ p.144	■ p.144	■ p.144	■ p.144	■ p.144	■ p.144	■ p.144	■ p.144
Split		New in 2014							
■ Yutaki S Combi Heat Only		■ p.154	■ p.154	■ p.154	■ p.154	■ p.154	■ p.154		
■ Yutaki S Combi Hot and Cold		■ p.154	■ p.154	■ p.154	■ p.154	■ p.154	■ p.154		
HIGH TEMPERATURE HP									
Split									
■ Yutaki S80 (Heat Only)					■ p.164	■ p.164	■ p.164	Hitachi Exclusive	
■ Yutaki S80 (Built-in DHW)					■ p.164	■ p.164	■ p.164		

Capacity per Volume Index in litres

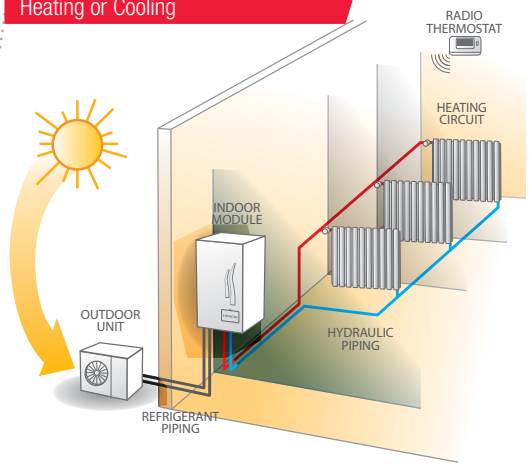
DOMESTIC HOT WATER	L	200	260	300
HEATING WITH HP				
Split				
■ Yutampo			■ p. 174	
DHW STORAGE TANK TO BE COMBINED WITH AIR WATER HP				
■ DHWT (for Yutaki S and M)		■ p.142/152		■ p.142/152
■ DHWS (for Yutaki S80)		■ p. 171	■ p. 171	

Hitachi Exclusive

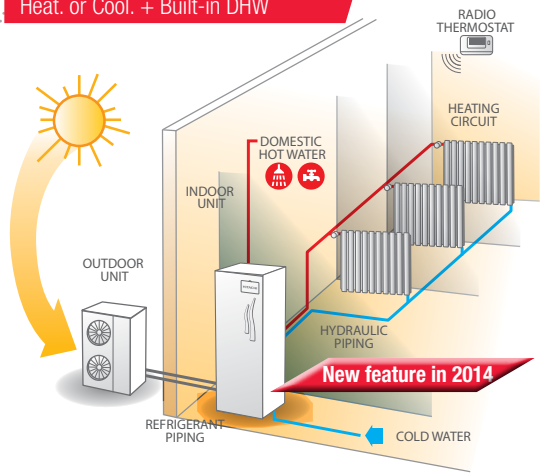
YUTAKI M
Heating or DHW (Opt. Storage Tank)



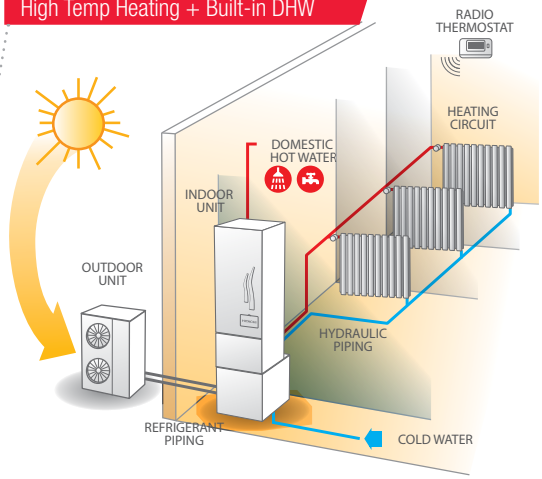
YUTAKI S
Heating or Cooling



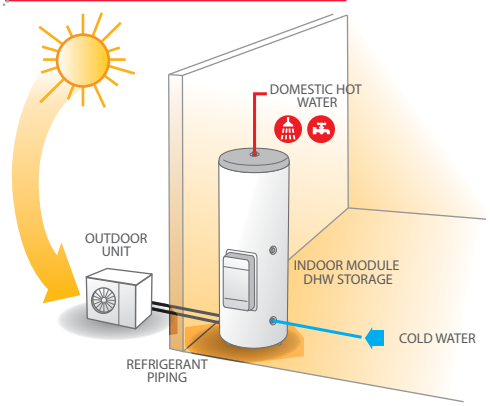
YUTAKI S COMBI
Heat. or Cool. + Built-in DHW



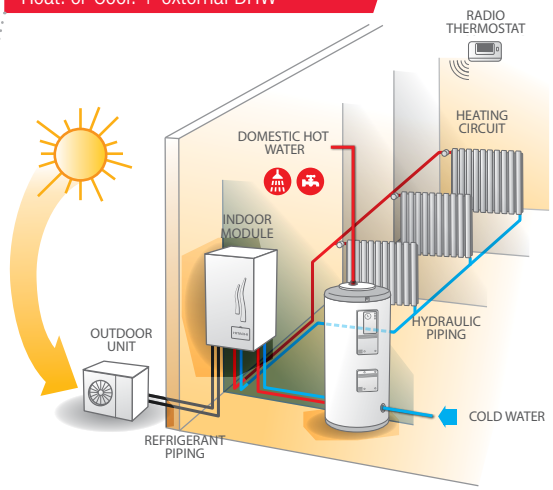
YUTAKI S80
High Temp Heating + Built-in DHW



YUTAMPO
Domestic Hot Water (DHW)



YUTAKI S + DHW STORAGE TANK
Heat. or Cool. + external DHW



YUTAKI M

MONOBLOCK AIR/WATER HEAT PUMPS

- COP 4.31
- Ideal in restructuring
- One of the best COP on the market
- Guaranteed heating up to -20°C outside

YUTAKI M

QUIET & ENVIRONMENTALLY FRIENDLY

YUTAKI M
RHUE 3-6A(V)HN

Ideal for heating and domestic hot water production.
YUTAKI M can supply a variety of radiating elements:
radiators, radiating panels, fan coil units...
And it can control domestic hot water generation (with external storage tank).

55°C HOT ONLY DC INVERTER R-410A

Yutaki M

It is available in 4 power levels from 8 kW to 17.5 kW, maximum output temperature equal to 55°C with the following features:

- High COP 4.31
- Low Operating Costs
  Great savings compared to traditional heating systems
- DC Inverter Technology
  Temperature adjustment thanks to DC Inverter technology
- Guaranteed Hot Water
  Hot water production with DHW storage tank constantly at 50°C, it assures domestic hot water at any time
- Ideal for any Application
  Ideal heating solution in refurbishment projects or new build installations

Guaranteed Hot Water Up to -15°C

New OPTIONAL CONTROL PACK
The HITACHI ATW-CPA-02 controller is designed to control the system's high heating efficiency, via the supplied Radio Thermostat. It assures a comfortable temperature in your home and energy savings in any situation in managing a single Zone and producing DHW, with optional additional functions among which:

- Yutaki M modulating control
- Control of an auxiliary heat source (3-stage electrical heater or boiler)

RADIO THERMOSTAT TO COMPLEMENT THE CONTROLLER PACK ATW-CPA-02

- Control Adjusted for the outdoor temperature (OTC)
- Controlling up to two heating circuits
- DHW Control with built-in Timer
- DHW electrical heater Control
- Legionella Protection
- Anti-freeze protection system
- Direct communication with Yutaki M improves system performance and reduces costs and installation time
- Enter Fee,
- Easywire (one single 2-wire cable between Yutaki-M and Controller)

*Some models

Yutaki M

	MOD.	RHUE 3AVHN	RHUE 4AVHN	RHUE 5AVHN	RHUE 5AHN	RHUE 6AVHN	RHUE 6AHN
Max. Hot power (7°C ext / 35°C water) (1)	kW	**8.20**	**10.90**	**15.00**	**15.00**	**17.50**	**17.50**
Max. Hot power (-7°C ext / 35°C water) (1)	kW	**5.90**	**7.90**	**10.90**	**10.90**	**12.30**	**12.30**
Max. Hot power (7°C ext / 45°C water) (1)	kW	**8.10**	**10.20**	**14.00**	**14.00**	**16.50**	**16.50**
Max. Hot power (-7°C ext / 45°C water) (1)	kW	**6.10**	**7.70**	**10.50**	**10.50**	**12.00**	**12.00**
Max. Hot power (7°C ext / 55°C water) (1)	kW	**7.50**	**9.50**	**13.00**	**13.00**	**15.50**	**15.50**
Max. Hot power (-7°C ext / 55°C water) (1)	kW	**6.00**	**7.60**	**10.40**	**10.40**	**11.25**	**11.25**
Nom. power Hot (7°C ext / 35°C water) (1)	kW	**7.10**	**9.50**	**11.50**	**11.50**	**14.00**	**14.00**
Input power (7°C ext / 35°C water) (1)	kW	**1.66**	**2.34**	**2.83**	**2.94**	**3.25**	**3.25**
COP (1)		**4.28**	**4.06**	**4.06**	**4.06**	**4.31**	**4.31**
Weight	kg	140	140	145	150	159	159
Dimensions (H × L × D)	mm	1380 × 1250 × 444					
Power supply		230V / 1PH / 50Hz			400V / 3PH / 50Hz	230V / 1PH / 50Hz	400V / 3PH / 50Hz
Maximum Current	A	18	18	26	11	29	15
Noise Level (2) (Sound Power Level)	dB(A)	48 (68)	49 (69)	51 (71)	51 (71)	52 (71)	52 (71)
Operating range	°C	-20°C BU / +37.5°C BU					
Nominal [illegible] rate	m³	1.22	1.63	2.[illegible]	2.06	[illegible]41	2.41
Max wat[illegible] temperatures	°[illegible]	55°C up to -1[illegible]°C ext. [illegible] from -[illegible]0°C [illegible] -20[illegible] ex[illegible]					
[illegible]ydrauli[illegible] Conne[illegible]ion	Inch[illegible]	[illegible]iameter [illegible]					
[illegible]draulic Circu[illegible]or ([illegible]ccessor[illegible])		Availa[illegible] in 2 [illegible]odels. See Accessor[illegible] Pag[illegible]					
[illegible]imum System vol[illegible]	l.	Var[illegible] (Se[illegible] INSTALL[illegible] MAN[illegible])					
Co[illegible] S[illegible]stem [illegible]ccessory)		[illegible] Controller Pack [illegible] Rad[illegible] Ther[illegible]stat. [illegible] Accessor[illegible] [illegible]ge					
Elec[illegible] [illegible]eater Accessory)	kW	6 [illegible], 4, 6) connectib[illegible] either 230 V or 40[illegible]. S[illegible] Accessori[illegible] Page					
[illegible] Gas		[illegible]	[illegible]	**R410A**	**R410[illegible]**	**[illegible]10A**	**[illegible]0A**
Type of Compressor		**SCROLL**	**SCROLL**	**SCROLL**	**SCROLL**	**SCROLL**	**SCROLL**

Notes
1. Heating capacity, electrical power input and sound level are based on the following conditions:
- Hot water input/output temperature: 40°/45°
- Outdoor air temperature: 7°(DB), 6°(WB)
**electrical consumption does not include the circulation pump.*

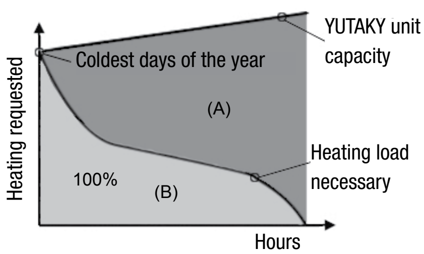
2. The sound pressure level is based on the following conditions:
- 1 metre distance from the unit's front surface.
- 1.5 metre distance from the floor level.
- The above data have been measured in an anechoic chamber, so that reflected sound is considered when installing the unit.
DB: Dry Bulb WB: Wet Bulb

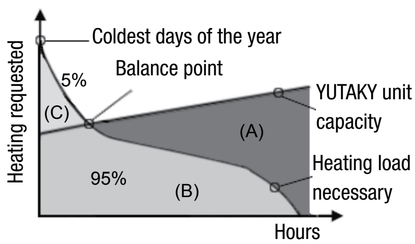
Yutak[illegible]	[illegible]	[illegible]3AV[illegible]	[illegible]HUE 4AVHN	RHU[illegible]AVHN	RHUE [illegible]	RHU[illegible]	RH[illegible]6A[illegible]
First tar[illegible] [illegible]p by [illegible]rvice		SEE DE[illegible]RI[illegible]ION OF [illegible]ART-[illegible] SER[illegible] [illegible]OW					

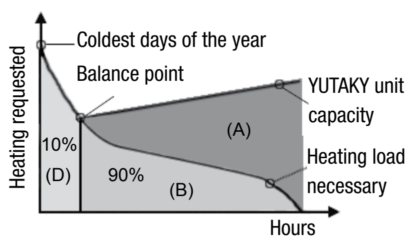
DESCRIPTION OF FIRST START-UP SERVICE

Full hydraulic system charge.
Performing all wiring connections between Yutaki-HM and installed accessories.
Checking correct Hydraulic Circuiting of the YUTAKI-M system according to Hitachi specifications.
Checking Correct wiring and Checking Safety device tripping
Checking correct water flow.   Setting operation parameters based on design requirements.
Filling in the First Start-up form and providing useful operation information to the customer

Single system RHM-EH-01E (heater disabled)	Single energy system RHM-EH-01E (heater enabled)	Dual parallel system RHM-BC-01E







NOTE: (A) Excessive capacity of YUTAKI Unit
(B) Covered capacity of YUTAKI Unit
(C) Covered capacity of electrical heater
(D) Covered capacity of boiler

Hydronic Kit for Yutaki M

RHM BC01E

CODE	RHM BC01E

RHM EH01E

CODE	RHM EH01E

This kit includes all required elements for connecting the Yutaki-M heat pump (hydraulic and electrical).

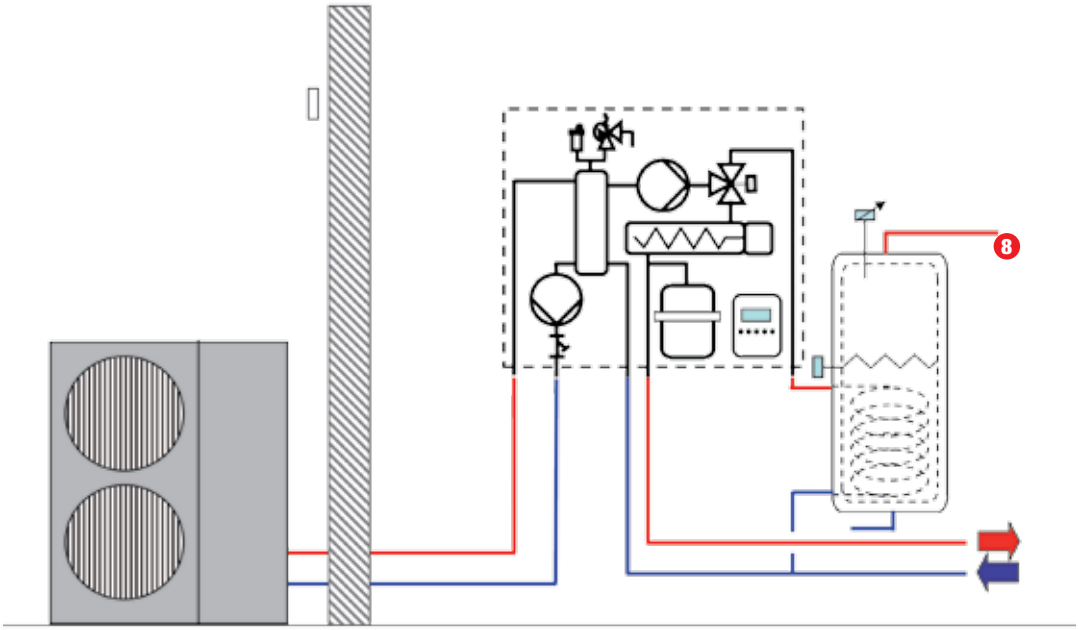
- It makes it possible to:
  - Simplify installation:
  - all components are pre-assembled
  - Save precious space and time:
  - during installation
  - Assure perfect installation
- The kit is available in 2 versions :
  - With Electrical Heater for Single Energy Mode Ready for Alternative Dual Mode with Boiler
- The Kit includes:
  - 2 circulation pumps (primary circuit / secondary circuit)
  - A hydraulic separator
  - An electrical heater (Model EH)
  - A DHW 3-way valve
  - An expansion vessel
  - An air purger
  - A pressure switch
  - The Valves
  - A Flowmeter
  - A pressure gauge
  - An electrical panel with wired Controller Pack.
  - A wireless Thermostat to control one Zone
  - A Y filter (not Installed)
  - A DHW Programming Timer
  - All components to assure correct operation and safe installation.

The System Controller can be used for a variety of configurations of plumbing systems, including single systems, single energy systems with auxiliary electrical heater and dual systems with gas/oil boiler.

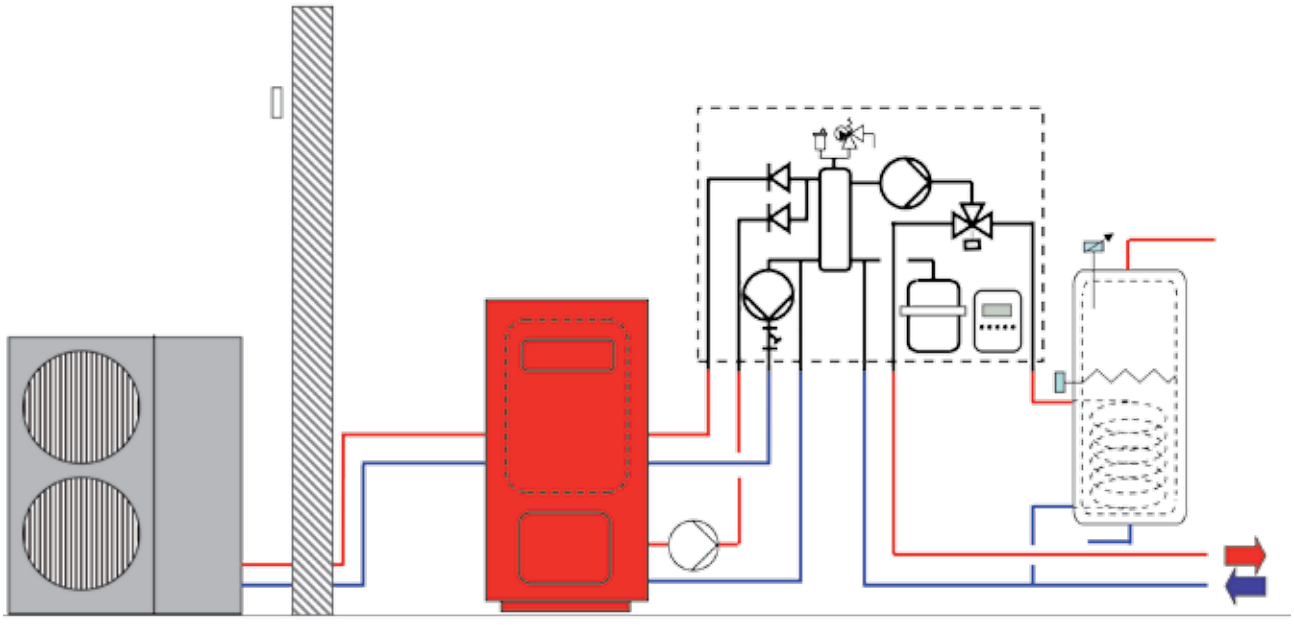
Hydraulic Set-up	CODE	Description	Heat Pump	Electrical heater	Boiler	DHW (Domestic)	Direct circuit
CONF 1	RHM EH01E (disabled electrical heater)	Single system Heat pump only. Direct circuit	✓			(✓)	✓
CONF 2	RHM EH01E (enabled electrical heater)	Single energy system Heat pump and electrical heater Direct circuit	✓	✓		(✓)	✓
CONF 3	RHM BC01E	Dual parallel system Heat pump, boiler. Direct circuit	✓		✓	(✓)	✓
CONF 4		Dual parallel system Heat pump and boiler	✓		✓		

Hydronic Kit for Yutaki M

Hydronic Kit for New Installations (Single Energy Mode)

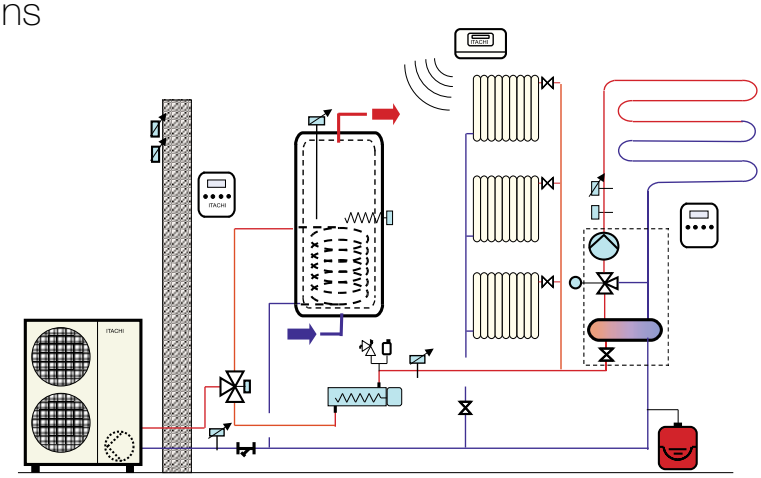


Hydronic Kit for **Refurbishments** (Dual Combination)

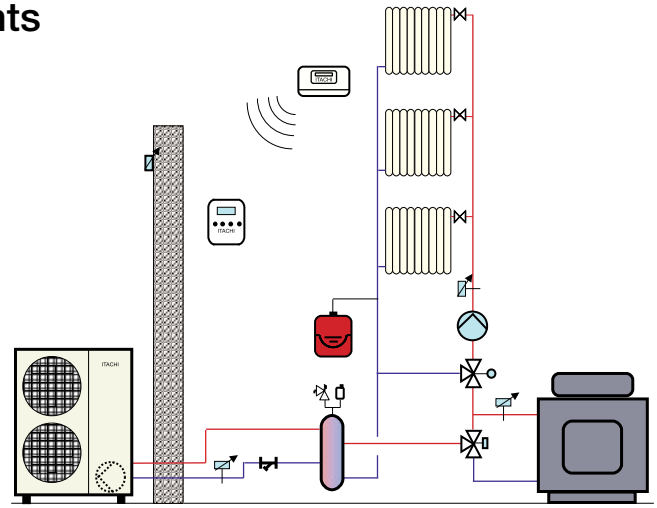


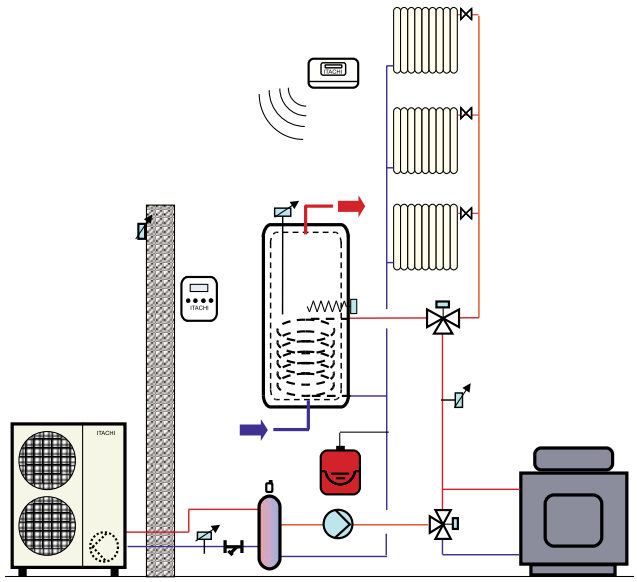
Yutaki M

New Installations



Refurbishments

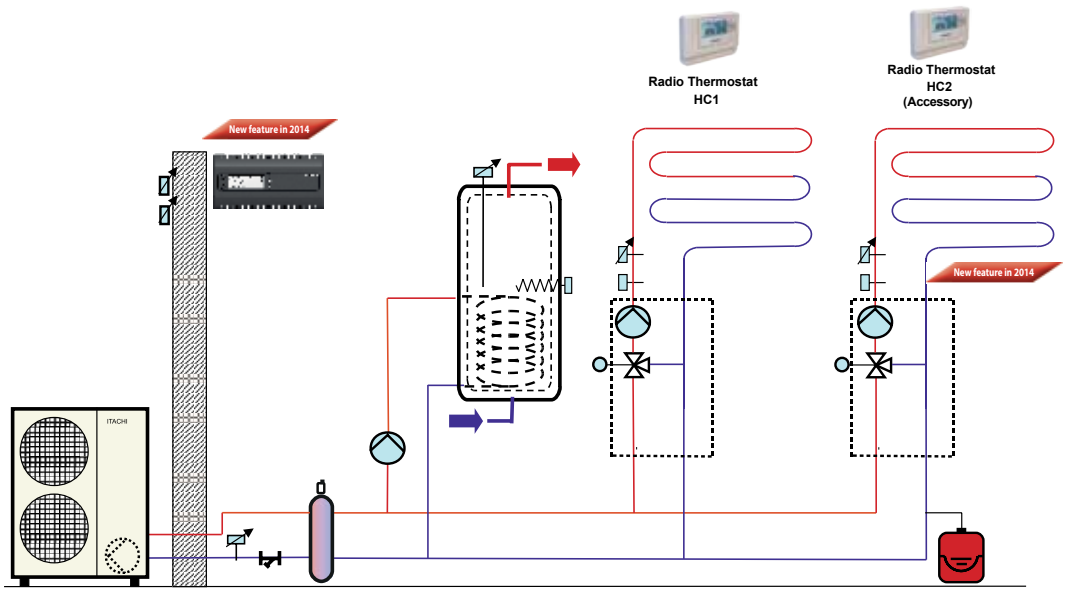




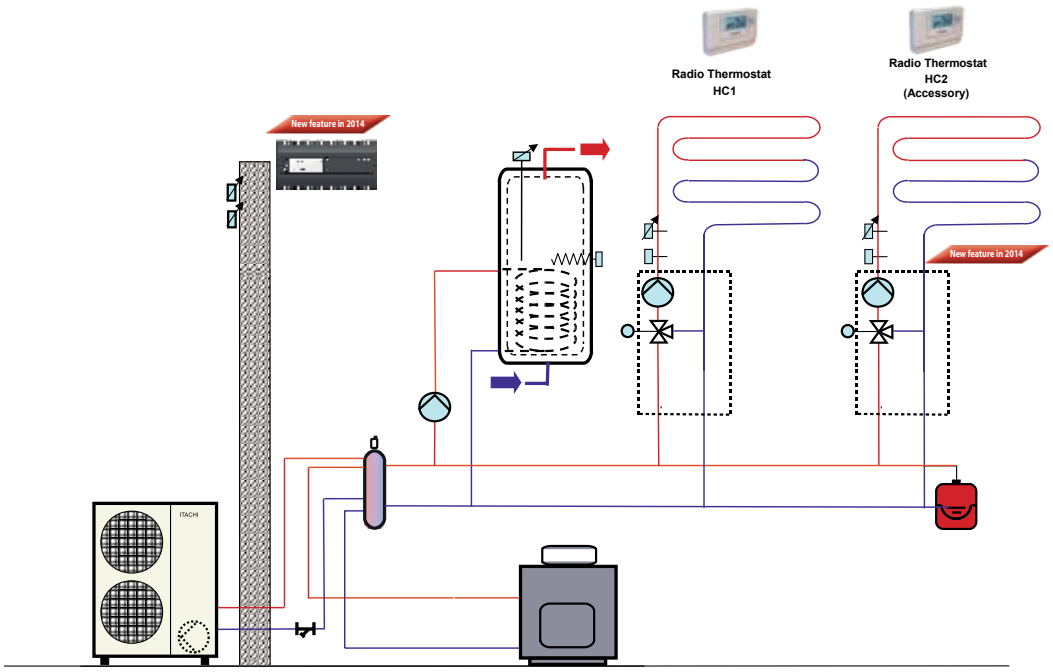
Yutaki M

New Configuration Opportunities with the New Controller Pack

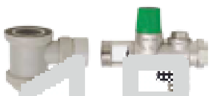
Heating Mode + DHW + 2 Zones at different temperature.



Dual Heating Mode with boiler + DHW + 2 Zones at different temperature.



DHW STORAGE TANK (Standard)		CODE	DHWT200E - 2.5H1E	DHWT300E - 2.5H1E	DHWT200S - 2.5H1E	DHWT300S - 2.5H1E
Domestic Hot Water Storage Tank	Water Volume	Litres	200	300	195	287
	Material		Internally Vitrified Steel (DIN 4753)		Stainless Steel (DIN 14521)	
	Temp. Max. Steel	°C	90	90	90	90
	Max. Pressure	bar	8	8	8	8
Dimensions and Weights	Height	mm	1205	1685	1205	1685
	Length	mm	620	620	620	620
	Depth	mm	620	620	620	620
	Weight	kg	85	130	60	85
Heat Exchanger	Temp. Max. Coil	°C	200	200	200	200
	Max. Pressure Coil	bar	25	25	25	25
	Exchanger Surf.	m^2	1.40	3.10	1.10	1.40
Insulation type	Polyurethane	mm	50			
Auxiliary Heater	Power	kW	2.50	2.50	2.50	2.50
	Power supply	V	220V 1Ph			
Water Pipe Connection	In. DHW	in.	Ø1” m	Ø1” m	Ø1” m	Ø1” m
	Out. DHW	in.	Ø1” m	Ø1” m	Ø1” m	Ø1” m
	REC. DHW	in.	Ø1” m	Ø1” m	Ø1” m	Ø1” m
	In. Coil Water	in.	Ø1” f	Ø1” f	Ø1” f	Ø1” f
	Out. Coil Water	in.	Ø1” f	Ø1” f	Ø1” f	Ø1” f
Included Accessories	Thermometer		YES			
	Safety Thermostat		YES			
	DHW Temperature Probe		[illegible]SI (ATW[illegible]TS 0[illegible])			
Protection	Standard		With Magnesium anode[illegible]			
	Optional with accessory		DHWT-CP-01 (permanent catode)	DHWT-CP-03 (permanent catode)	DHWT-CP-02 (permanent catode)	DHWT-CP-04 (permanent catode)



DHW Storage Tank Separator

This accessory is a safety valve to protect the DHW storage tank from over-pressure

- Drainage pan siphon
- With 3/4 shut-off valve

CODE	D[illegible]-S[illegible]-01

Fixed cathode protection

- Type single-phase 220V
- DHWT-CP-01 200l Vitrified Tank.
- DHWT-CP-02 200l Steel Tank.
- DHWT-CP-03 300l Vitrified Tank.
- DHWT-CP-04 200l Steel Tank.

CODE	DHWT-CP-01	DHWT-CP-02	DHWT-CP-03	DHWT-CP-04

3-way valve

[illegible]ay dive[illegible] (Typ[illegible]) [illegible]ternal **thread**, **spring return** and 220V voltage. (for DHW or Swimming Pool)

CODE	ATW-3WV-01

3-way valve

[illegible] (Type 2) [illegible]rnal **thread**, electrical return and 220V voltage. (for DHW or Swimming Pool)

CODE	ATW-3WV-02

Servomotor for 2nd temperature Kit

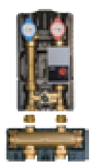
it is required in the kit to control the 2nd mixed temperature
Code: ATW-2KT-02

CODE	ATW-MVM 01

Differential Bypass Valve

AUTOMATIC DIFFERENTIAL BYPASS Pressure Valve with D 3/4” flow gauge.

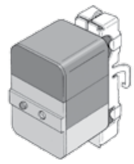
CODE	ATW DPOV-01



2nd temperature Kit

Temperature Mixing Kit to control 2nd ERP Zone. It must be used together with Servomotor code ATW-MVM01 and 2nd mixed Zone sensor

CODE	ATW-2KT 02



Safety Thermostat

Radiating Zone Maximum Output temperature Safety Thermostat to interrupt radiating zone water circulation.

CODE	ATW AQT-01

Note Please contact the head office or area agency regarding compatibility of the various products

Yutaki M

Circulation pump

High efficiency pump:

Pump 1 code: Pump Kit A
Pump 2 code: Pump Kit B

CODE	PUMP KIT A	PUMP KIT B

Heater

Type 6 kW Single/Three-phase
3 Control stages
Internal power relays
External insulation
Body in insulated steel

CODE	WEH-6E

Hydraulic separator

It is required to hydraulically separate the YUTAKI-S circuit

- Stainless
- 4 connection ways
- Insulated

CODE	ATW-HSK-01

Outdoor Unit Accessory

Condensate drain fitting.

Outdoor unit in HP	Power	QUANTITY	Power	QUANTITY
	2HP	1	3-6 HP	1
			8-10 HP	2
CODE	DBS 12L		DBS 26	

Outer temperature sensor

To be used to take the ambient temperature in a different place from the outdoor unit's position. (Optional)

CODE	ATW-2OS-02

Controller Pack 55°

Controller Pack 55° Standard
For remote control of Yutaki, it includes: 03 Water probes; 01 Outer Probe; 01 Ambient Timer Thermostat RF and 01 RF Receiver

CODE	CONTROLLER PACK

New System Controller

System Controller New version
(In the event of Yutaki-M with serial number prior to 4KE26451 adapter ATW HAD 01 must be installed)

CODE	ATW CPA-02

H-Link Adapter

H-Link Adapter to connect the New Controller system on YUTAKI-M Unit with serial number prior to 4KE2645.

CODE	ATW HAD 01

Water temperature sensor

Universal temperature sensor (DHW Storage Tank, Boiler combination (THMwo3), 2nd mixed zone (THMwo2)
Contact the Area Agency for correct selection.

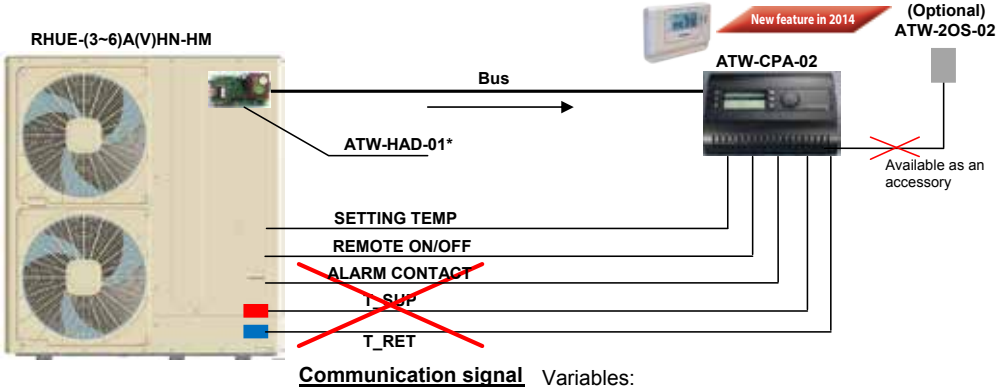
CODE	ATW-WTS 02Y

"Intelligent 2nd Zone" Thermostat

Thermostat to control the second Zone (Thermostat only)
*It can only be matched to system with New System Controller "ATW CPA-02"

CODE	ATW-RTU-03

Simplified connections and more available variables thanks to the new System Controller



Communication signal Variables:

- Reading of water output temperature
- Reading of water input temperature
- Reading of outside temperature
- Reading of actual water sepoint
- Status of Yutaki-M unit (On-Off)
- Defrosting status
- Indications of the presence of an alarm and fault code

Note Please contact the head office or area agency regarding compatibility of the various products

Yutaki-S

YUTAKI S

SPLIT AIR/WATER HEAT PUMPS

- COP 5.02
- Ideal both in new installations and refurbishments
- One of the best COP on the market
- A Range Fully NF PAC Certified

YUTAKI S

ECOLOGY & COMFORT

OUTDOOR UNIT
RAS 3HVRNME-AF

YUTAKI-S MODULE
RWM 2~10.0HFSN3E

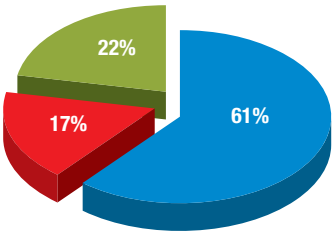
The Yutaki S heat pump is the ideal solution
both in new installations and refurbishments.
Its exceptional performance makes it the optimal solution
for heating, air conditioning and DHW production.

Yutaki-S

■ A range suitable for high energy efficiency refurbishment

Hitachi has adapted its range of heat pumps to better meet energy saving criteria.

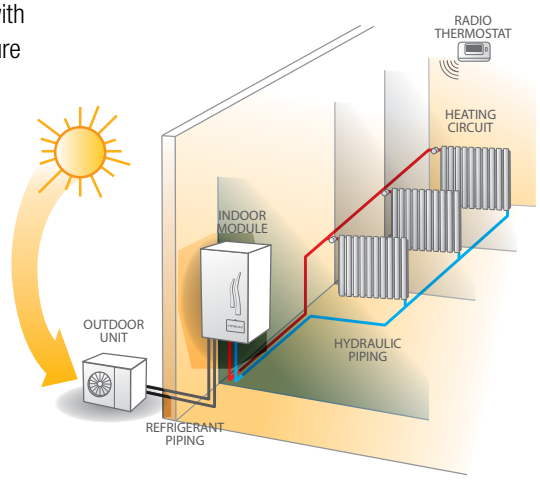
The full Yutaki S range is also available in heat only version.



Source : Observatoire BBC - Nov. 2011

■ Adaptable to all types of radiating elements

In consideration of the hypothesis that most new build homes are fitted with floor heating and/or low temperature radiators, Yutaki-S is the ideal complement, in fact the operation and performance of Yutaki S are perfectly suited to these kinds of radiating elements.



Comfort and efficiency

■ One of the best COP on the Market

S Yutaki's outstanding performance allows customers to achieve significant energy savings

■ Year-round comfort

It is able to produce water at 60°C depending on outdoor temperature, assures the utmost comfort even during the coldest season.

■ Complete adjustment

- HP operation only or combined with a Boiler
- Water output adjustment on 2 heating zones (panel + radiators)
- Control Timer for DHW production, and Wireless Ambient Thermostat
- Operation Fee Contact to match differentiated pricing schemes
- Swimming pool heating

COP 5.02

Guaranteed Heating Up to -20°C

ON BOARD CONTROL

RADIO THERMOSTAT (ACCESSORY)

One solution for all your needs

The range of Yutaki S heat pumps is one of the widest and most comprehensive on the market and is able to fulfil all types of application needs:
residential / commercial, heating only / reversible and heating / domestic hot water.

■ One of the widest ranges on the market

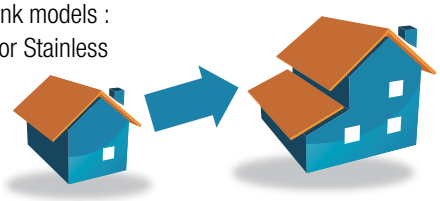
10 models from 5 to 24 kW (nominal heating power)

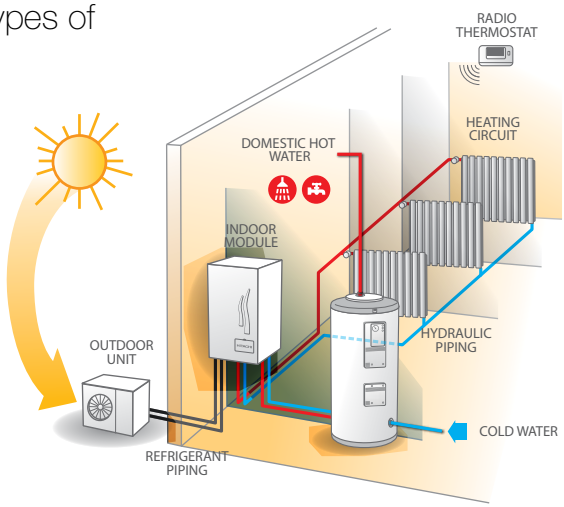
■ Heating + DHW

4 available DHW Storage Tank models : 200 and 300 litres Vitrified or Stainless

■ Hot Only / Hot and Cold

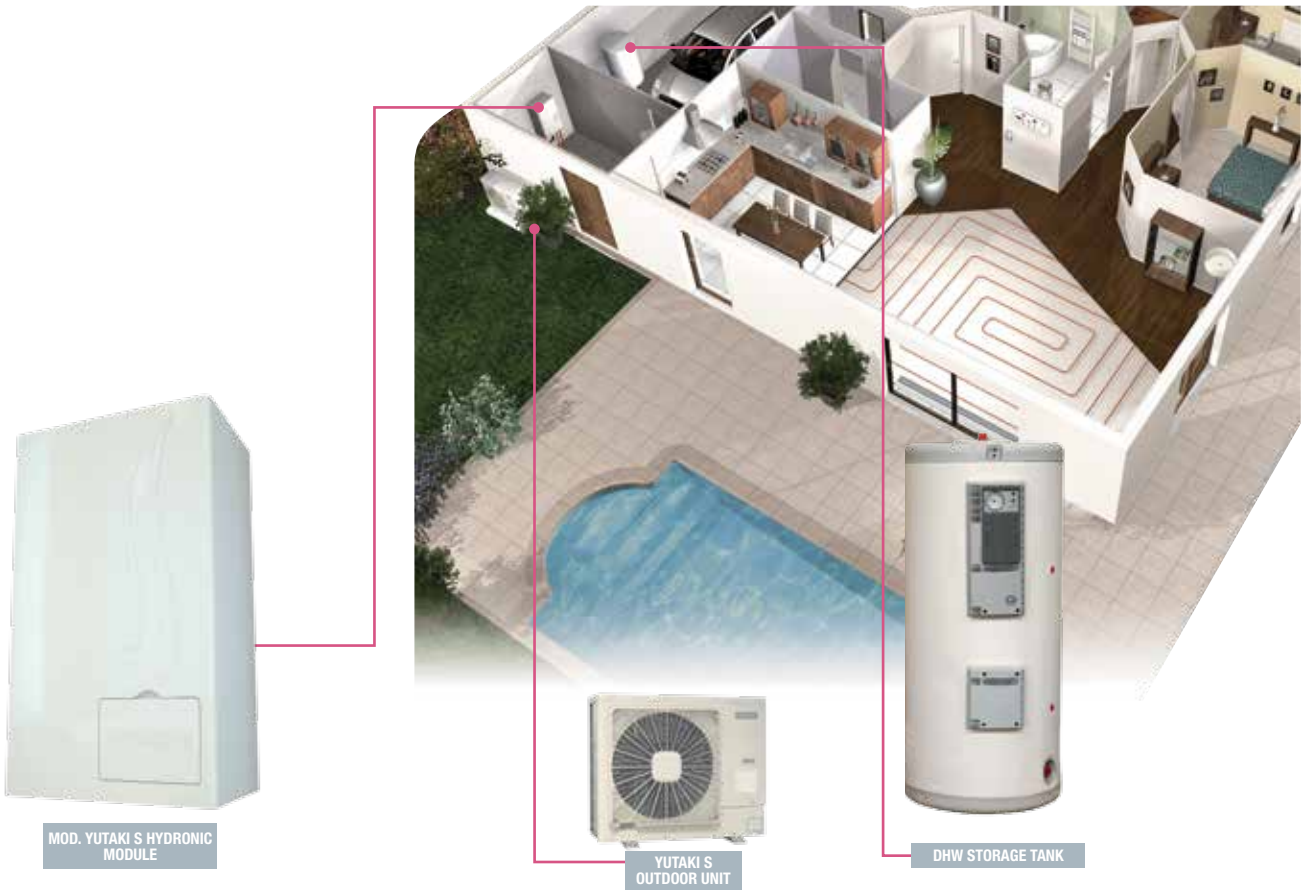
10 models available Hot Only or Reversible





Yutaki-S

The Yutaki S solution fully meets the thermal demands in a wide range of installation choices. For instance, it is possible to automatically control Air Conditioning, Heating, Domestic Hot Water production and Swimming Pool heating, maintaining considerable energy savings compared to other solutions.



60°C HOT COLD HOT ONLY DC INVERTER R-410A

Yutaki-S

- One of the best COP on the market: 5.02* The certainty of an economic and efficient solution.
- Extremely high available thermal power even at very low outdoor temperatures with certified efficiency up to -20°C
- BMS Control option via Konnex with specific interface (accessory).
- A wide range of powers, the widest on the market Available from 2.2 to 32 kW (min.- max power), Heating only, Reversible Hot and Cold, Single and Three Phase
- Modular installation option for medium-sized retail and industrial applications with increase of the available power and a significant increase in energy efficiency.

CONTROL ON BOARD THE UNIT

DOMOTICA COMPATIBILE somfy

"OPTIONAL" WIRELESS THERMOSTAT

KNX

RAS 2HVRN2

RAS 3HVRNME-AF

RAS 5H(V)RNME-AF

Accessory:
200 or 300L DHW Storage Tank

Guaranteed Hot Water Up to -20°C

** depending on model*
*** The HITACHI company participates in the Eurovent heat pump Certification Programme; the data of certified models are listed in the Online Eurovent Certification Directory (www.eurovent-certification.com or www.certiflash.com).*

Yutaki-S

Hydronic Module								
Hot Only	**MOD.**	**RWM 2.0HFSN3E**	**RWM 3.0HFSN3E**	**RWM 4.0HFSN3E**	**RWM 5.0HFSN3E**	**RWM 6.0HFSN3E**	**RWM 8.0HFSN3E**	**RWM 10.0HFSN3E**
Reversible Hot and Cold	**MOD.**	**RWM 2.0FSN3E**	**RWM 3.0FSN3E**	**RWM 4.0FSN3E**	**RWM 5.0FSN3E**	**RWM 6.0FSN3E**	**RWM 8.0FSN3E**	**RWM 10.0FSN3E**
Max. Hot power (7°C ext / 35°C water) (1)	kW	**8.00**	**11.00**	**13.50**	**16.30**	**17.80**	**25.50**	**32.00**
Max. Hot power (-7°C ext / 35°C water) (1)	kW	**4.70**	**7.50**	**9.80**	**11.50**	**12.00**	**17.80**	**21.60**
Max. Hot power (7°C ext / 45°C water) (1)	kW	**7.50**	**9.70**	**12.50**	**15.50**	**16.50**	**24.50**	**31.00**
Max. Hot power (-7°C ext / 45°C water) (1)	kW	**4.40**	**6.90**	**8.50**	**10.20**	**10.40**	**16.60**	**20.40**
Max. Hot power (7°C ext / 55°C water) (1)	kW	**5.50**	**7.60**	**10.00**	**13.70**	**13.90**	**20.50**	**27.40**
Max. Hot power (-7°C ext / 55°C water) (1)	kW	**3.90**	**5.50**	**6.30**	**8.70**	**8.90**	**12.60**	**17.30**
Nom. power Hot (7°C ext / 35°C water) (1)	kW	**5.10**	**7.50**	**9.80**	**12.00**	**14.00**	**19.60**	**24.00**
Cold Power (35°C ext / 7°C water) (Hot Cold model)	kW	1.80 - **3.80** - 5.40	2.50 - **6.00** - 6.90	3.60 - **7.20** - 8.20	3.30 - **9.20** - 10.30	3.10 - **10.50** - 11.50	6.70 - **14.40** - 16.40	6.40 - **18.40** - 20.60
Cold Power (35°C ext / 18°C water) (Hot Cold model)	kW	2.60 - **5.40** - 7.50	3.00 - **7.10** - 8.00	4.90 - **10.00** - 11.20	4.70 - **12.90** - 15.00	4.40 - **15.00** - 17.80	9.30 - **20.00** - 23.50	8.60 - **24.50** - 29.00
Electrical Back Up Heater (On board as standard)	kW	3 kW (1 / 2 / 3)		6 kW (2 / 4 / 6)			9 kW (3 / 6 / 9)	
Weight	kg	53	56	59	61	81	81	85
Dimensions (H × L × D)	mm	890 × 520 × 360					890 × 670 × 360	
Expansion vessel	L	6					10	
Nominal flow rate	m³/h	0.9	1.3	1.7	2.1	2.4	3.4	4.1
Minimum water flow rate	m³/h	0.5	0.9	1	1.1	1.2	2	2.2
Maximum water flow rate	m³/h	2.2	2.6	3.3	[illegible]	[illegible]	4.7	4.8
Minimum Installation Water Content	L	20	28	38	46	5[illegible]	76	92
Maximum Current (1[illegible])	A	1[illegible]		32 [illegible]			[illegible]	
Hydraulic Connection	inches	1"1/4 male						
Water outlet Temp Range (In Heating)	°C	[illegible]°C / [illegible]5°C		20°C / 6[illegible]°C				
Water outlet Temp Range (In Cooling Rev. Mode)	°C	5°C / [illegible]°C						
Power Supply	V	[illegible] / 1Ph / 50[illegible]		Single Phase 2[illegible]V or Three Phase 400V			400V / 3[illegible] / 50[illegible]	
Thermostat (optional)		RAD[illegible] THERMOSTAT ([illegible]CCESSORY)						

The 3 and 6 kW heating elements may be connected in single or three phase.

INDOOR UNITS								
Heat Only Unit Model	**MOD.**	**RWM 2.0HFSN3E**	**RWM 3.0HFSN3E**	**RWM 4.0HFSN3E**	**RWM 5.0HFSN3E**	**RWM 6.0HFSN3E**	**RWM 8.0HFSN3E**	**RWM 10.0HFSN3E**
Hot and Cold Unit Model	**MOD.**	**RWM 2.0FSN3E**	**RWM 3.0FSN3E**	**RWM 4.0FSN3E**	**RWM 5.0FSN3E**	**RWM 6.0FSN3E**	**RWM 8.0FSN3E**	**RWM 10.0FSN3E**

Outdo[illegible]								
	[illegible]	**[illegible] 2HV[illegible]**	**[illegible]HVRNME-AF**	**RAS 4[illegible]**	**RAS 5(V)RNME-AF**	**[illegible]-AF**	**[illegible]**	**RAS [illegible]HR[illegible]**
COP (1)		**5.[illegible]**	**[illegible]55**	**4.47**	**4.36**	**[illegible]**	**[illegible].45**	**[illegible]**
EER (1) (reversible model)		3.[illegible]	4.03	3.88	[illegible].02	[illegible]	4[illegible]3	3.57
Noise pressure level (Sound power level) (2)	dB(A)	[illegible]5 (6[illegible])	4[illegible] (63)	[illegible]4 (65)	4[illegible] (67)	[illegible] ([illegible]9)	5[illegible] (75)	59 (80)
Dimensions (H × L × D)	mm	600 × 7[illegible]	[illegible] × 9[illegible]0 × 370	[illegible]0 × 9[illegible] × [illegible]70			650 × [illegible]	[illegible]00 × [illegible]
Weight (single / three phase)	kg	4[illegible]	[illegible]57	[illegible]3 / 10[illegible]	1[illegible] / 106		[illegible]0	
Power Supply		230V / 1Ph / 50Hz		230V / 1Ph / 50Hz - 400V / 3Ph + N / 50Hz			400V / 3Ph + N / 50Hz	
Max Current (1Ph)	A	11	14	18	26		-	
Max Current (3Ph)	A	-	-	7	11	13	17	
Refrigerant piping diameter (Liq-Gas)	inches	1/4 - 1/2"	3/8 - 5/8"				3/8 - 1"	1/2 - 1"
Piping Length / Max Lift	m	30 / 20						
Pre-charge (standard length)	m	30 (3)						
Operating range	°C	**Cooling: 10°C BS / +46°C BS - Heating: -20°C BU / 35°C BU**						
Type of Refrigerant Gas		**R410A**						
Type of Compressor		**ROTARY**	**SCROLL**					

1. The nominal cooling and heating capacity represent the combined capacity of the Hitachi YUTAKI-S, Combi system and are based on the EN14511 Standard.

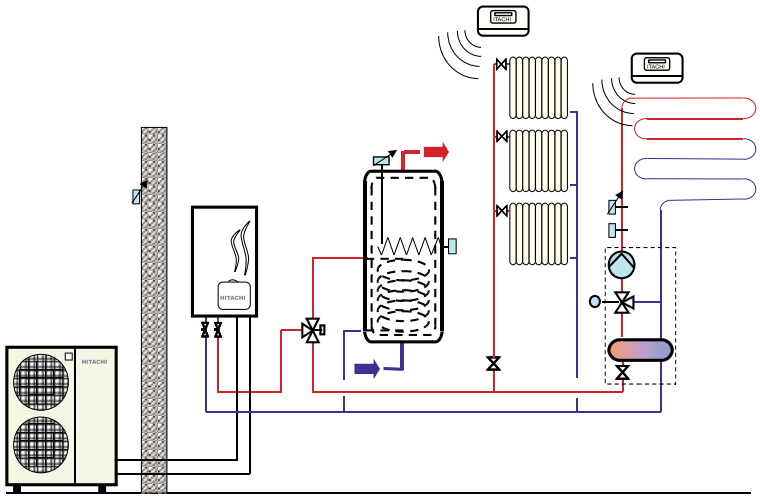
(*): The test is performed based on flow obtained during the test of standard nominal conditions.

2. The sound pressure level is based on the following conditions:
At 1 metre distance from the unit's front surface. Mains power supply voltage 400V-230V. The above data have been measured in an anechoic chamber. See table above for Cooling/Heating conditions.

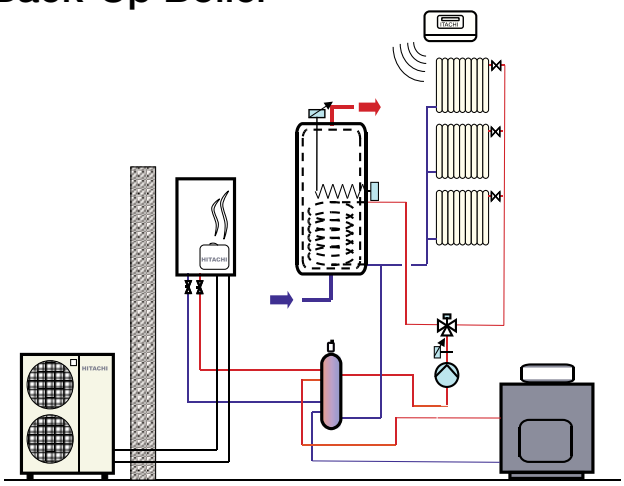
OUTDOOR UNITS								
Outdoor Unit Model	**SINGLE PHASE**	**RAS 2HVRN2**	**RAS 3HVRNME AF**	**RAS 4HVRNME AF**	**RAS 5HVRNME AF**	**RAS 6HVRNME AF**	**-**	**-**
Outdoor Unit Model	**THREE PHASE**	**-**	**-**	**RAS 4HRNME AF**	**RAS 5HRNME AF**	**RAS 6HRNME AF**	**RAS 8HRNME AF**	**RAS 10HRNME AF**

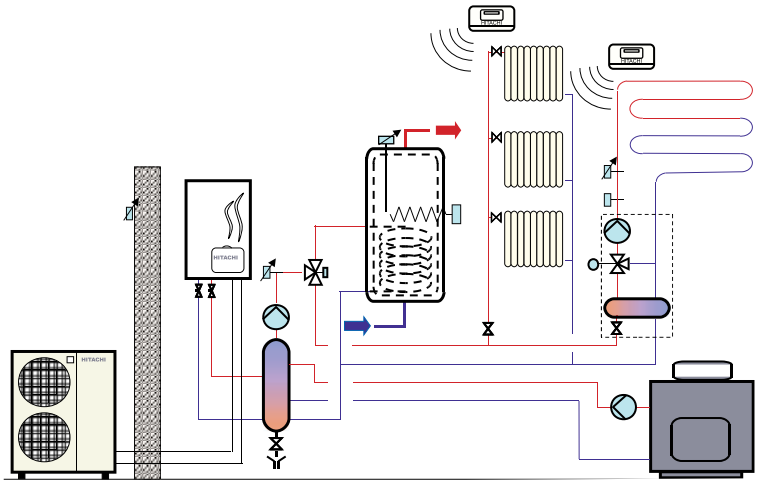
Configuration Examples

Application for domestic hot water production and heating with **2 circuits**

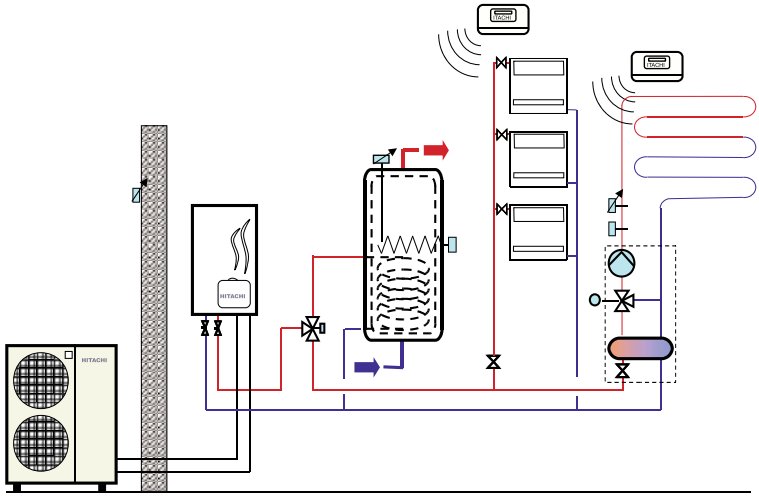


Application for domestic hot water production and heating with **1 and 2 circuits and Back-Up Boiler**

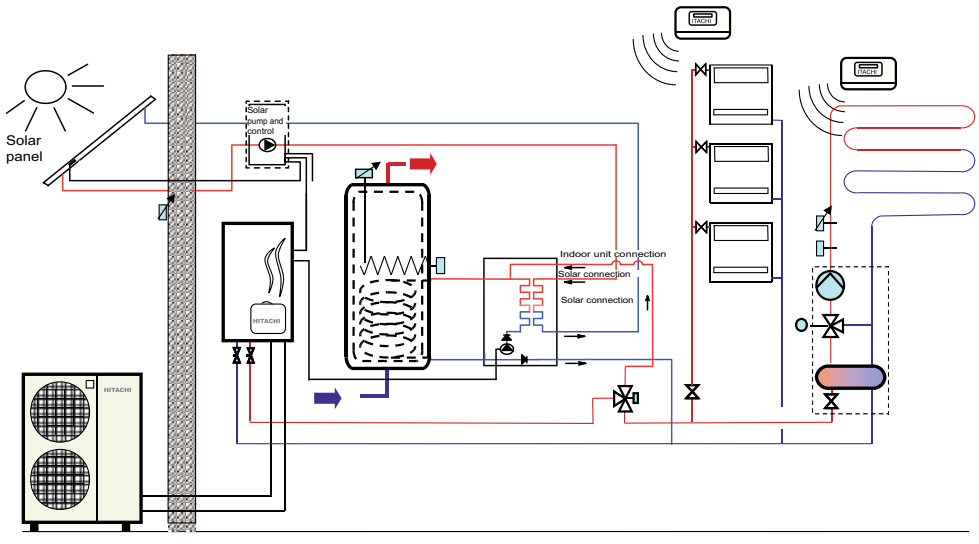




Application for domestic hot water production, heating and cooling with **2 circuits**



Application for domestic hot water production with **Solar Kit,** heating and cooling with **2 circuits.**



Yutaki-S Accessories

DESCRIPTION OF FIRST START-UP SERVICE

Complete connection of refrigerant piping between outdoor Unit and indoor module. Leakage test of the refrigerant piping with nitrogen pressurisation and vacuum operation (according to Hitachi Technical specifications). Full hydraulic system charge. Performing all wiring connections between Yutaki-S and installed accessories.
Checking Vacuum of refrigerant piping and opening
Gas R410A Piping Cocks. Checking correct Hydraulic Circuiting of the YUTAKI-S system according to Hitachi specifications.
Checking Correct wiring and Checking safety device tripping. Checking correct water flow. Setting operation parameters based on design requirements.
Filling in the First Start-up form and providing useful operation information to the customer

DHW STORAGE TANK (Standard)		CODE	DHWT200E - 2.5H1E	DHWT300E - 2.5H1E	DHWT200S - 2.5H1E	DHWT300S - 2.5H1E
Domestic Hot Water Storage Tank	Water Volume	Litres	200	300	195	287
	Material		Internally Vitrified Steel (DIN 4753)		Stainless Steel (DIN 14521)	
	Temp. Max. Steel	°C	90	90	90	90
	Max. Pressure	bar	8	8	8	8
Dimensions and Weights	Height	mm	1205	1685	1205	1685
	Length	mm	620	620	620	620
	Depth	mm	620	620	620	620
	Weight	kg	85	130	60	85
Heat Exchanger	Temp. Max. Coil	°C	200	200	200	200
	Max. Pressure Coil	bar	25	25	25	25
	Surf. Exchanger	m^2	1.40	3.10	1.10	1.40
Insulation type	Polyurethane	mm	50			
Auxiliary Heater	Power	kW	2.50	2.50	2.50	2.50
	Power supply	V	220V 1Ph			
Hydraulic Connection	In. DHW	in.	Ø1" m	Ø1" m	Ø1" m	Ø1" m
	Out. DHW	in.	Ø1" m	Ø1" m	Ø1" m	Ø1" m
	REC. DHW	in.	Ø1" m	Ø1" m	Ø1" m	Ø1" m
	In. Coil Water	in.	Ø1" f	Ø1" f	Ø1" f	Ø1" f
	Out. Coil Water	in.	Ø1" f	Ø1" f	Ø1" f	Ø1" f
Included Accessories	Thermometer		YES			
	Safety Thermostat		YES			
	DHW Temperature Probe		SI (ATW-WTS 02Y)			
Protection	Standard		With Magnesium anode		NO	
	Optional with accessory		DHWT-CP-01 (permanent catode)	DHWT-CP-03 (permanent catode)	DHWT-CP-02 (permanent catode)	DHWT-CP-04 (permanent catode)

DHW Storage Tank Separator

This accessory is a safety valve to protect the DHW storage tank from over-pressure

- Drainage pan siphon
- With 3/4 " shut-off valve

CODE	DHWT-SWG-01

Fixed cathode protection

- Type single-phase 220V
- DHWT-CP-01 200l Vitrified Tank.
- DHWT-CP-02 200lt Steel Tank.
- DHWT-CP-03 300l Vitrified Tank.
- DHWT-CP-04 200l Steel Tank.

CODE	DHWT-CP-01	DHWT-CP-02	DHWT-CP-03	DHWT-CP-04

3-Way valve

3-Way diverter valve (Type 1) with **Internal thread**, **spring return** and 220V voltage. (for DHW or Swimming Pool)

CODE	ATW-MVM 01

3-Way valve

3-Way diverter valve (Type 2) with **external thread**, electrical return and 220V voltage. (for DHW or Swimming Pool)

CODE	ATW-3WV-02

Water temperature sensor

Universal temperature sensor (DHW Storage Tank, Boiler combination (THMwo3), 2nd mixed zone (THMwo2)
Contact the Area Agency for correct selection.

CODE	ATW-MVM 01

Water temperature sensor

Water temperature sensor (2nd Mixed Zone and Boiler Combination)

CODE	ATW-WTS 02

Note Please contact the head office or area agency regarding compatibility of the various products

Yutaki-S Accessories

"Intelligent" Thermostat

Kit consisting of WIRELESS ambient thermostat and radio receiver to control one Zone.

CODE	ATW-RTU-02

"Intelligent 2nd Zone" Thermostat

Thermostat to control the second Zone (thermostat only)
*It can only be combined with a system fitted with "Intelligent ATW-RTU-02" thermostat

CODE	ATW-RTU-03

BMS KONNEX Interface

With the Konnex Interface, operation settings can be controlled also remotely. It is easily matched to the KNX protocol.

CODE	ATW-KNX-01

ON-OFF Thermostat

KIT consisting of WIRELESS ambient thermostat and radio receiver to control one Zone.

CODE	ATW-RTU-01

Outer temperature sensor

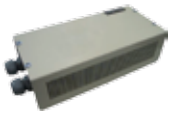
To be used to take the ambient temperature in a different place from the outdoor unit's position. (Optional)

CODE	ATW-2OS 01

Swimming Pool temperature sensor

To be used to control the temperature of a Swimming Pool (Optional)

CODE	ATW-SPS 01



Signal container of auxiliary outputs

RELAY box FOR ADDITIONAL OUTPUT SIGNALS: Alarm; ON Status; Cold Status; Direct Zone Valve Control

CODE	ATW-AOS 01

Servomotor for 2nd temperature Kit

It is required in the kit to control the 2nd mixed temperature
Code: ATW-2KT-02

CODE	ATW-MVM 01

2nd temperature Kit

Temperature Mixing Kit to control 2nd ERP Zone. It must be used together with Servomotor code ATW-MVM01 and 2nd mixed Zone sensor

CODE	ATW-2KT 02

Differential Bypass Valve

AUTOMATIC DIFFERENTIAL BYPASS Pressure Valve with D 3/4" flow gauge.

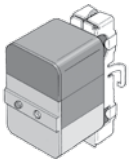
CODE	ATW DPOV-01

Hydraulic separator

It is required to hydraulically separate the YUTAKI-S circuit

- Stainless
- 4 connection ways
- Insulated

CODE	ATW-HSK-01



Safety Thermostat

Radiating Zone Maximum Output temperature Safety Thermostat to interrupt radiating zone water circulation.

CODE	ATW AQT-01

Condensate pan

Condensate pan for Yutaki-S modules (Hot and Cold) in sizes:
- ATW DPK-01 from 2 HP to 6HP.
- ATW DPK-02 from 8 HP to 10HP.

CODE	ATW DPK-01	ATW DPK-02

Outdoor Unit Accessory

Condensate drain fitting.

Outdoor unit in HP	Power	QUANTITY	Power	QUANTITY
	2HP	1	3-6 HP	1
			8-10 HP	2
CODE	DBS 12L		DBS 26	

Note Please contact the head office or area agency regarding compatibility of the various products

Yutaki-S

YUTAKI S COMBI

SPLIT AIR/WATER HEAT PUMP & DHW

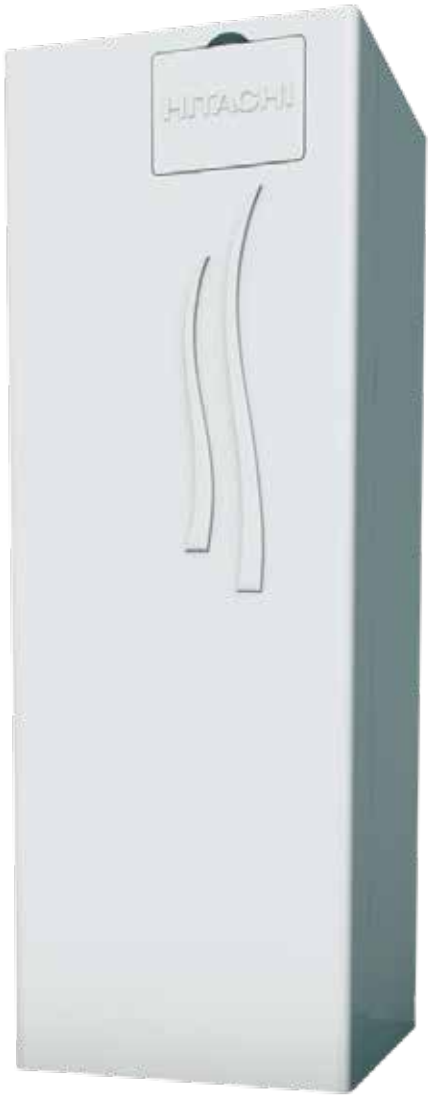
- COP 5.02
- Built-in DHW with Volume from 200l to 260l
- Ideal both in new installations and refurbishments.
- One of the best COP on the market
- Selection Software Hitoolkit for Home

YUTAKI S COMBI

COMFORT & SIMPLICITY

New feature in 2014

OUTDOOR UNIT
RAS 3HVRNME-AF



YUTAKI-SCOMBI MODULE
RWD-2- 6 H)FSNWE-(200/260)S

The Yutaki S Combi heat pump is the ideal solution
both in new installations and refurbishments.
Its exceptional performance makes it the optimal solution
for heating and air conditioning and DHW production with Integrated module for
easy installation and compact size.

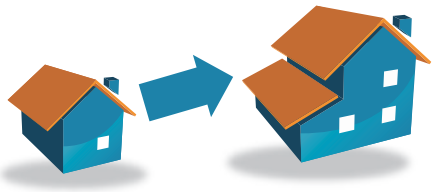
Yutaki-S Combi

■ A range suitable for high energy efficiency refurbishment

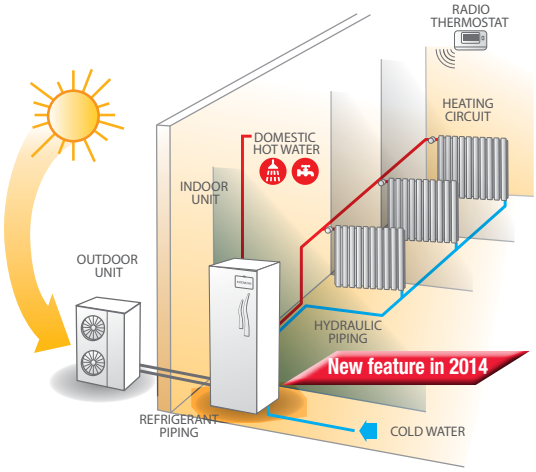
Hitachi has adapted its range of heat pumps to better meet energy saving criteria.
The full Yutaki S Combi range is also available in heat only version.

■ Adaptable to all types of radiating elements

With a view to renewal and high efficiency the great majority of new homes will be fitted with floor heating and/or low temperature radiators.
The operation and performance of Yutaki S are perfectly suited to these kinds of radiating elements.



RADIO THERMOSTAT (ACCESSORY)



Comfort and energy efficiency

COP 5.02

Guaranteed Heating Up to -20°C

■ New Control

- A pulse electrical energy meter can be connected to monitor consumption according to operating mode (Heating / Cooling and DHW production).
- The thermal power produced in the three different modes (Heating / Cooling and DHW production) can also be read.

ON BOARD CONTROL

■ New Flow Meter.

- It lets you monitor and read on the control panel the actual water flow.
- Two types of completely new methods for controlling water flow have been provided, either for maintaining constant flow or for maintaining constant Delta T.

■ New class A Electronic Circulator.

- Reduction of the circulator's electrical consumption by 60 to 75% by using a new electronic model already compliant with the ERP directives compulsory for 2015.

ErP active

A

■ Standard Back-up electrical heater,

- A Back-up heater is standard supplied, factory-assembled for the heating side (emergency conditions or single-energy type design conditions) as well as an electrical heater immersed in the DHW tank, which also has a variety of control options including emergency mode.

Yutaki-S Combi

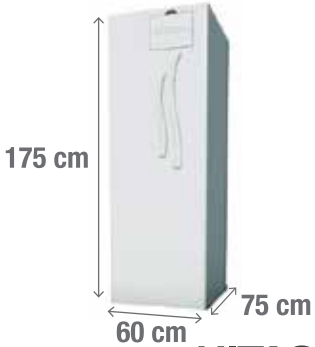
The Yutaki S Combi solution fully meets the thermal demands in a wide range of installation choices. For instance, it is possible to automatically control air conditioning, heating, Domestic Hot Water production and Swimming Pool heating, maintaining considerable energy savings compared to other solutions.

A simple, versatile and easy to install solution

The range of Yutaki S Combi heat pumps is one of the widest and most comprehensive on the market. It addresses all types of application needs and in particular residential installation, for heating only and/or cooling with built-in domestic hot water storage.

- Compact Solution
  Only 60 cm wide (standard module of any wood unit). Height limited to just 175 cm for both integrated DHW storage tank sizes.

- Ease of installation and Maintenance
  All hydraulic components are already assembled and tested at the Factory.
  Reduction of installation time by over 6 hours compared to a standard model with external storage tank.
  All internal components are accessible from the front and Plumbing connections are at the top of the unit for simple and convenient maintenance.



60°C HOT COLD HOT ONLY DC INVERTER R-410A

Yutaki-S Combi

- One of the best COP on the market: 5.02* The certainty of an economic and efficient solution.
- Extremely high available thermal power even at very low outdoor temperatures with certified efficiency up to -20°C
- BMS Control option via Konnex with specific interface (accessory).
- A wide range of powers, the widest on the market Available from 2.2 to 17.8 kW (min.- max power), Heating only, Reversible Hot and Cold, Single and Three Phase
- Possibility of simple and convenient installation also in apartments with space constraints, since all required elements are already installed, with no need for any additional accessories.

CONTROL ON BOARD THE UNIT

DOMOTICA COMPATIBILE somfy

"OPTIONAL" WIRELESS THERMOSTAT

Guaranteed Hot Water Up to -20°C

RAS 2HVRN2

RAS 3HVRNME-AF

RAS 5H(V)RNME-AF

** depending on model*
*** The HITACHI company participates in the Eurovent heat pump Certification Programme; the data of certified models are listed in the Online Eurovent Certification Directory (www.eurovent-certification.com or www.certiflash.com).*

Yutaki-S Combi

Hydronic Module						
Hot Only	**MOD.**	**RWD 2.0HFSNWE-(200/260)S**	**RWD 3.0HFSNWE-(200/260)S**	**RWD 4.0HFSNWE-(200/260)S**	**RWD 5.0HFSNWE-(200/260)S**	**RWD 6.0HFSNWE-(200/260)S**
Reversible Hot and Cold	**MOD.**	**RWD 2.0FSNWE-(200/260)S**	**RWD 3.0FSNWE-(200/260)S**	**RWD 4.0FSNWE-(200/260)S**	**RWD 5.0FSNWE-(200/260)S**	**RWD 6.0FSNWE-(200/260)S**
Max. Hot power (7°C ext / 35°C water) (1)	kW	**8.00**	**11.00**	**13.50**	**16.30**	**17.80**
Max. Hot power (-7°C ext / 35°C water) (1)	kW	**4.70**	**7.50**	**9.80**	**11.50**	**12.00**
Max. Hot power (7°C ext / 45°C water) (1)	kW	**7.50**	**9.70**	**12.50**	**15.50**	**16.50**
Max. Hot power (-7°C ext / 45°C water) (1)	kW	**4.40**	**6.90**	**8.50**	**10.20**	**10.40**
Max. Hot power (7°C ext / 55°C water) (1)	kW	**5.50**	**7.60**	**10.00**	**13.70**	**13.90**
Max. Hot power (-7°C ext / 55°C water) (1)	kW	**3.90**	**5.50**	**6.30**	**8.70**	**8.90**
Nom. power Hot (7°C ext / 35°C water) (1)	kW	**5.10**	**7.50**	**9.80**	**12.00**	**14.00**
Cold Power (35°C ext / 7°C water) (Hot Cold model)	kW	1.80 - **3.80** - 5.40	2.50 - **6.00** - 6.90	3.60 - **7.20** - 8.20	3.30 - **9.20** - 10.30	3.10 - **10.50** - 11.50
Cold Power (35°C ext / 18°C water) (Hot Cold model)	kW	2.60 - **5.40** - 7.50	3.00 - **7.10** - 8.00	4.90 - **10.00** - 11.20	4.70 - **12.90** - 15.00	4.40 - **15.00** - 17.80
Electrical Back Up Heater (on board as standard)	kW	3 kW (1 / 2 / 3)		6 kW (2 / 4 / 6)		
DHW Tank Volume (Stainless steel)	L	200/260	200/260	200/260	200/260	200/260
Weight	kg	125 (200L)	126 (200L)	129 (200L)	131 (200L)	131 (200L)
		140 (260L)	141 (260L)	144 (260L)	146 (260L)	146 (260L)
Dimensions (H × L × D)	mm	1750 × 600 × 733				
Expansion [illegible]	[illegible]	[illegible]				
Nominal water flow rate	m³/h	0.9	1.3	1.7	2.1	2.4
Minimum water flow	m³/h	0.5	0.9	[illegible]	[illegible]	1.2
Maximum water flow rate	m³/h	2.2	2.6	3.3	3.6	[illegible]
Minimum installation water content	L	20	28	38	46	55
Maximum Current (1Ph / 3Ph)	A	[illegible]		[illegible]		
Plumbing Connection Heat./Cooling	inches	[illegible] 1/4 F				
DHW Plumbing connections	inches	2 x 3/4"				
Water output Temp. Range (In Heating)	°C	20°C / 55°C	20°C / 60°C			
Water output Temp. Range (In Cooling Rever. Mode)	°C	5°C / 23°C				
Power Supply	V	230V / 1Ph / 50Hz		Single Phase 230V or Three Phase 400V		
Thermostat (optional)		RADIO THERMOSTAT (ACCESSORY)				

The 3 and 6 kW heating elements may be connected in single or three phase.

INDOOR UNITS						
Heat Only Unit Model	**MOD.**	**RWD 2.0HFSNWE-200S**	**RWD 3.0HFSNWE-200S**	**RWD 4.0HFSNWE-200S**	**RWD 5.0HFSNWE-200S**	**RWD 6.0HFSNWE-200S**
Heat Only Unit Model	**MOD.**	**[illegible] 2.0HFSNWE-260S**	**RWD 3.0HFSN[illegible]**	**RW[illegible]E-260S**	**RWD 5.0HFSNWE-260S**	**RWD[illegible]NWE-260S**
Hot and Cold Unit Model	**MOD.**	**[illegible] 2.0FSNWE-200S**	**RWD 3.0FSNW[illegible]200S**	**[illegible]NWE-200S**	**RWD 5.0FSNWE-200S**	**RW[illegible]WE-200S**
[illegible]	**[illegible]**	**[illegible] 2.0[illegible]**	**RWD 3.0FSNW[illegible]**	**[illegible]FSNWE-2[illegible]**	**[illegible]**	**[illegible]**

Outdoor Units

	MOD.	**RAS 2HVRN2**	**RAS 3HVRNME-AF**	**RAS 4H(V)RNME-AF**	**RAS 5H(V)RNME-AF**	**RAS 6H(V)RNME-AF**
COP (1)		**5.02**	**4.55**	**4.47**	**4.36**	**4.11**
EER (1) (reversible model)		3.83	4.03	3.88	4.02	3.50
Noise pressure level (Sound power level) (2)	dB(A)	45 (63)	42 (63)	44 (65)	46 (67)	48 (69)
Dimensions (H × L × l)	mm	600 × 792 × 300	800 × 950 × 370	1380 × 950 × 370		
Weight (single / three phase)	kg	42	67	103 / 107	104 / 108	
Power Supply		230V / 1Ph / 50Hz		230V / 1Ph / 50Hz - 400V / 3Ph + N / 50Hz		
Max Current (1Ph)	A	11	14	18	26	
Max Current (3Ph)	A	-	-	7	11	13
Refrigerant piping diameter (Liq-Gas)	Inches	1/4 - 1/2"	3/8 - 5/8"			
Piping Length / Max Lift	m	30 / 20				
Pre-charge (standard length)	m	30 (3)				
Operating range	°C	**Cooling: 10°C BS / +46°C BS - Heating: -20°C BU / 35°C BU**				
Type of Refrigerant Gas		**R410A**				
Type of Compressor		**ROTARY**	**SCROLL**			

1. The nominal cooling and heating capacity represent the combined capacity of the Hitachi YUTAKI-S, Combi system and are based on the EN14511 Standard.

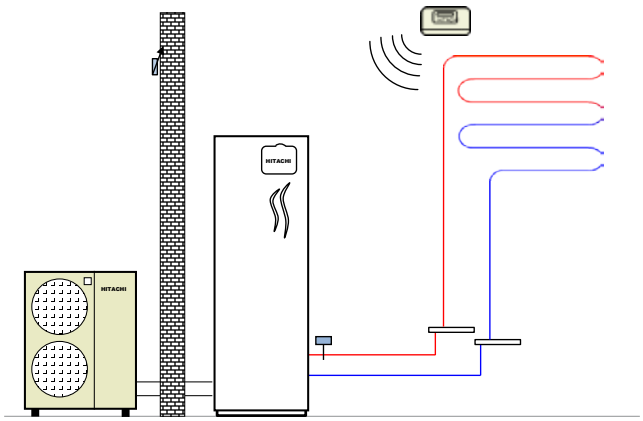
(*): The test is performed based on flow obtained during the test of standard nominal conditions.

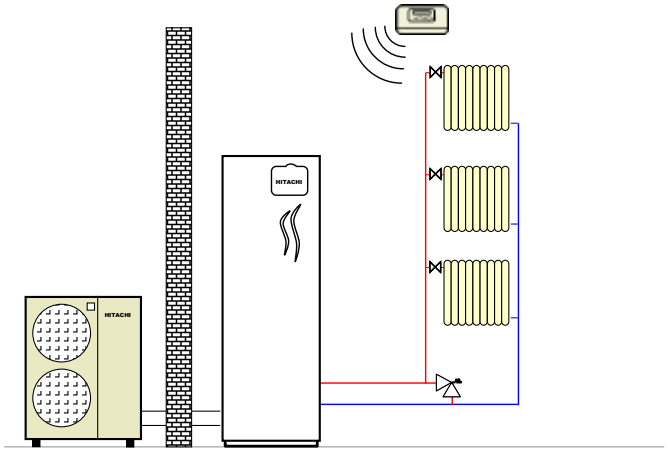
2. The sound pressure level is based on the following conditions:
At 1 metre distance from the unit's front surface. Mains power supply voltage 400V-230V. The above data have been measured in an anechoic chamber. See table above for Cooling/Heating conditions.

OUTDOOR UNITS						
Outdoor Unit Model	**SINGLE PHASE**	**RAS 2HVRN2**	**RAS 3HVRNME AF**	**RAS 4HVRNME AF**	**RAS 5HVRNME AF**	**RAS 6HVRNME AF**
Outdoor Unit Model	**THREE PHASE**	**-**	**-**	**RAS 4HRNME AF**	**RAS 5HRNME AF**	**RAS 6HRNME AF**

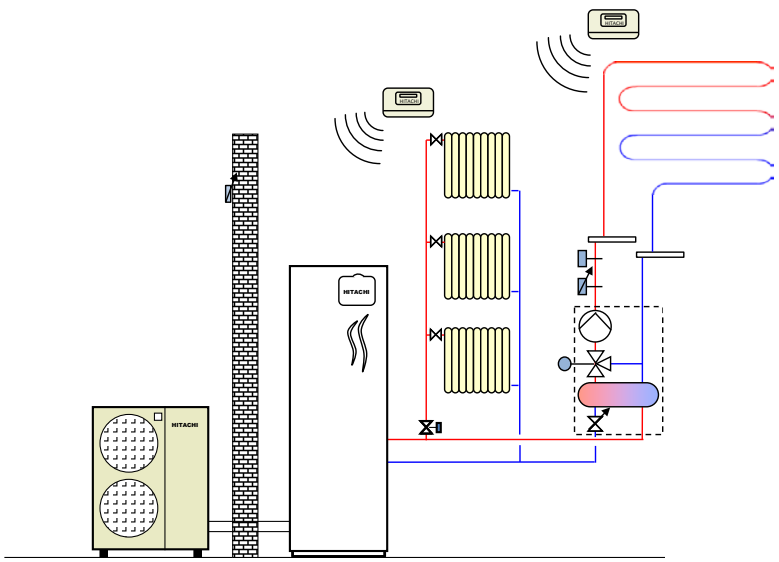
Configuration Examples

Application for domestic hot water production and heating with **1 circuit**

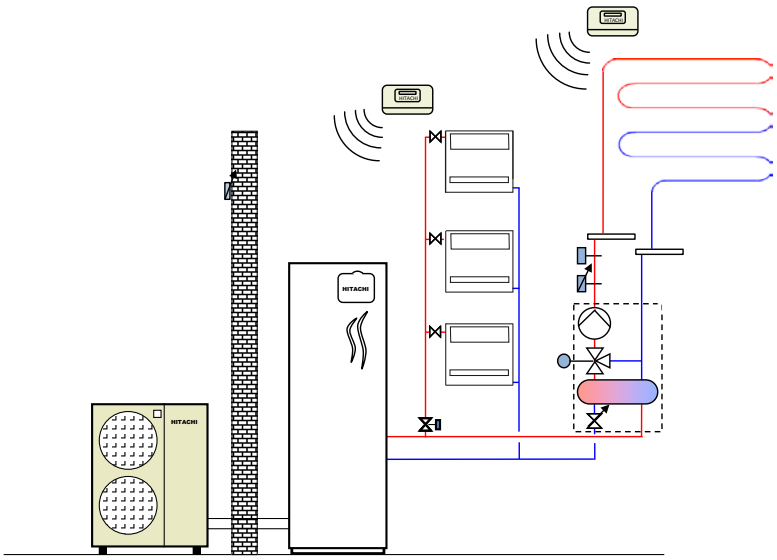




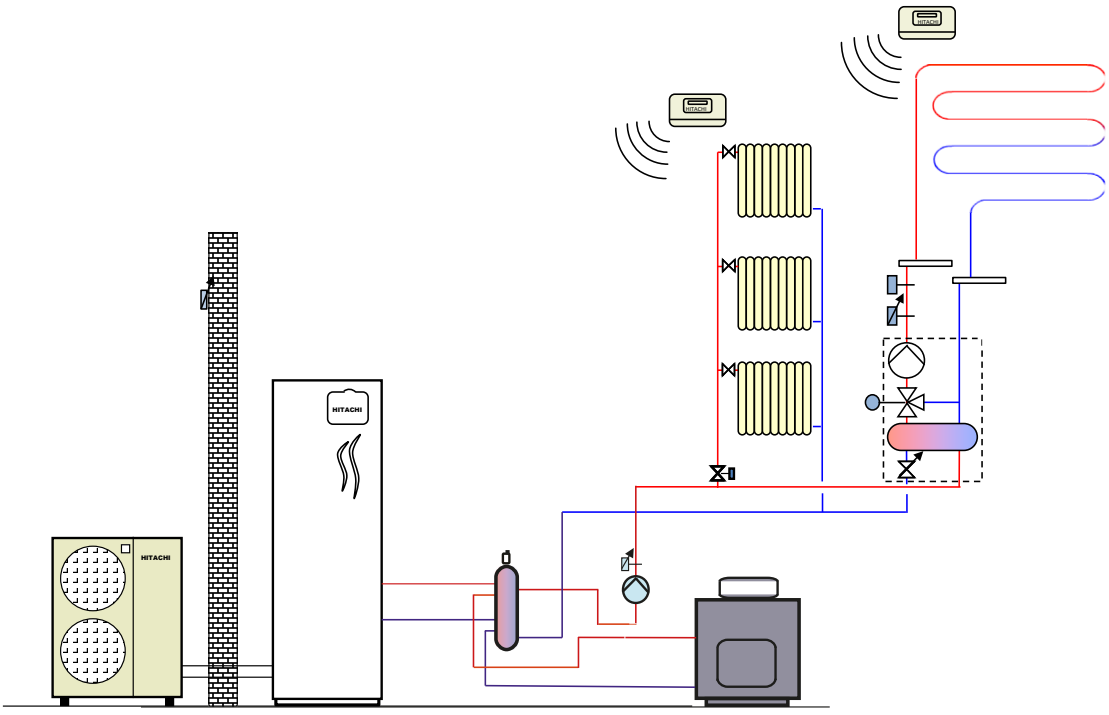
Application for domestic hot water production and heating with **2 circuits**



Application for domestic hot water production and heating and cooling with **2 circuits**



Application for domestic hot water production and heating with **2 circuits and Back-Up Boiler**



3

Yutaki-S Combi Accessories

DESCRIPTION OF FIRST START-UP SERVICE
Complete connection of refrigerant piping between outdoor unit and indoor module. Leakage test of the refrigerant piping with nitrogen pressurisation and vacuum operation (according to Hitachi Technical specifications). Full hydraulic system charge. Performing all wiring connections between Yutaki-S Combi and installed accessories. Checking Vacuum of refrigerant piping and opening Gas R410A Piping Cocks. Checking correct Hydraulic Circuiting of the YUTAKI-S system according to Hitachi specifications. Checking Correct wiring and checking safety device tripping. Checking correct water flow. Setting operation parameters based on design requirements. Filling in the First Start-up form and providing useful operation information to the customer

Water temperature sensor

Universal temperature sensor (DHW Storage Tank, Boiler combination (THMwo3), 2nd mixed zone (THMwo2)
Contact the Area Agency for correct selection.

CODE	ATW-WTS 02Y

Water temperature sensor

Water temperature sensor (2nd Mixed Zone and Boiler Combination)

CODE	ATW-WTS 02

"Intelligent" Thermostat

Kit consisting of WIRELESS ambient thermostat and radio receiver to control one Zone.

CODE	ATW-RTU-02

"Intelligent 2nd Zone" Thermostat

Thermostat to control the second Zone (thermostat only)
*It can only be combined with a system fitted with "Intelligent ATW-RTU-02" thermostat

CODE	ATW-RTU-03

BMS KONNEX Interface

With the Konnex Interface, operation settings can be controlled also remotely. It is easily matched to the KNX protocol.

CODE	ATW-KNX-01

ON-OFF Thermostat

KIT consisting of WIRELESS ambient thermostat and radio receiver to control one Zone.

CODE	ATW-RTU-01

Outer temperature sensor

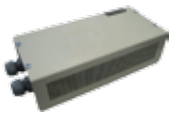
To be used to take the ambient temperature in a different place from the outdoor unit's position. (Optional)

CODE	ATW-2OS 01

Swimming Pool temperature sensor

To be used to control the temperature of a Swimming Pool (Optional)

CODE	ATW-SPS 01



Signal container of auxiliary outputs

RELAY box FOR ADDITIONAL OUTPUT SIGNALS: Alarm; ON Status; Cold Status; Direct Zone Valve Control

CODE	ATW-AOS 01

Servomotor for 2nd temperature Kit

It is required in the kit to control the 2nd mixed temperature
Code: ATW-2KT-02

CODE	ATW-MVM 01

Note Please contact the head office or area agency regarding compatibility of the various products

Yutaki-S Combi Accessories

2nd temperature Kit

Temperature Mixing Kit to control 2nd ERP Zone.
It must be used together with Servomotor code ATW-MVM01 and 2nd mixed Zone sensor.

CODE	ATW-2KT 02

Differential By-pass Valve

AUTOMATIC DIFFERENTIAL BYPASS Pressure Valve with D 3/4" flow gauge.

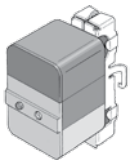
CODE	ATW DPOV-01

Hydraulic separator

It is required to hydraulically separate the YUTAKI-S circuit

- Stainless
- 4 connection ways
- Insulated

CODE	ATW-HSK-01



Safety Thermostat

Radiating Zone Maximum Output temperature Safety Thermostat to interrupt radiating zone water circulation.

CODE	ATW AQT-01

Outdoor Unit Accessory

Condensate drain fitting.

Outdoor unit in HP	Power	QUANTITY	Power	QUANTITY
	2HP	1	3-6 HP	1
			8-10 HP	2
CODE	DBS 12L		DBS 26	

Note Please contact the head office or area agency regarding compatibility of the various products

80°C HOT ONLY DC INVERTER R-410A

YUTAKI S80

AIR / WATER HEAT PUMPS AT HIGH TEMPERATURE 80°C

- COP 4.36
- Ideal in refurbishments for replacing boilers
- It maintains constant power up to -15°C
- Exclusive and intelligent adjustment

YUTAKI S80

COMFORT & PERFORMANCE

OUTDOOR UNIT
RAS 4-6HVRNME AF

INDOOR UNIT
RWH 4.0-6.0FS(V)NFE

COP 4.36

The Yutaki S80 high temperature heat pump is the ideal solution for replacing boilers. It suits all existing installations and provides heating and domestic hot water.

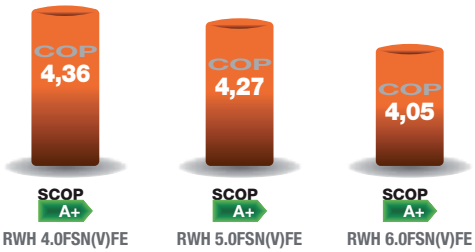
Domestic Heating

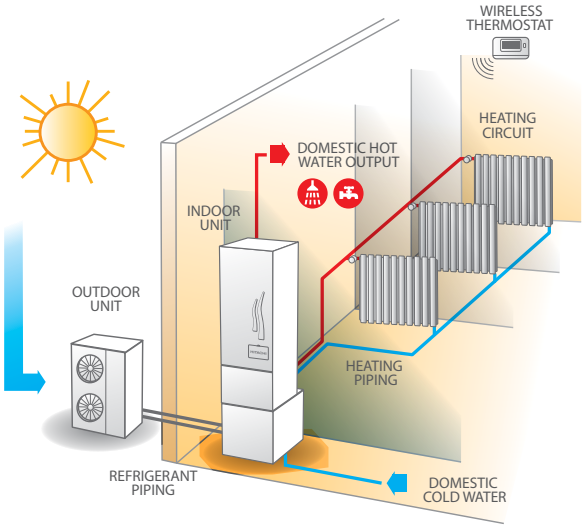
Ideal solution for boiler replacement

The YUTAKI S80 heat pump is able to produce hot water at 80°C with -20°C outdoor temperature (without supplementary power supply), it is thus ideal for the refurbishment market and adapts to all types of existing installation.

One of the best COP on the Market

YUTAKI S80 has one of the best COP on the Market: 4.36 (RWH 4.0FSVNFE - conditions 7°C/35°C). Its unique design allows it to maintain high performance year-round with extremely high SCOP (seasonal COP)





Wide Power

The wide range of Yutaki S80 can address all heating and domestic hot water production needs in the residential market (refurbishment + new build).

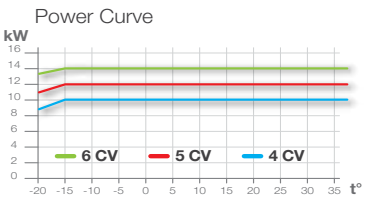
SINGLE PHASE / THREE PHASE RANGES

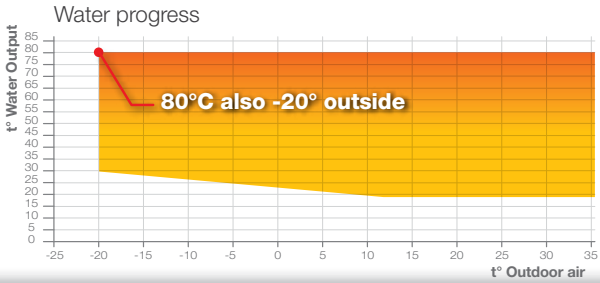
Constant Power

CONSTANT power Jusqu'à -15°C extérieur

Power and output temperatures are maintained

YUTAKI S80 assures the utmost comfort in the most demanding conditions. Its unique design allows it to maintain its nominal Power and Produce hot water at 80 °C even with outdoor temperature at -20 °C.





Complete adjustment

Complete adjustment

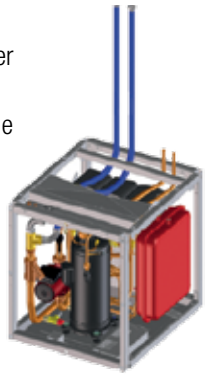
. HP operation only or combined with a Boiler
. Water output adjustment on 2 heating zones (panel + radiators)
. Control Timer for DHW production, and Wireless Ambient Thermostat
. Pricing contact for Functions linked to differentiated pricing control
. Swimming pool heating

RADIO THERMOSTAT «ACCESSORY»

CONTROL

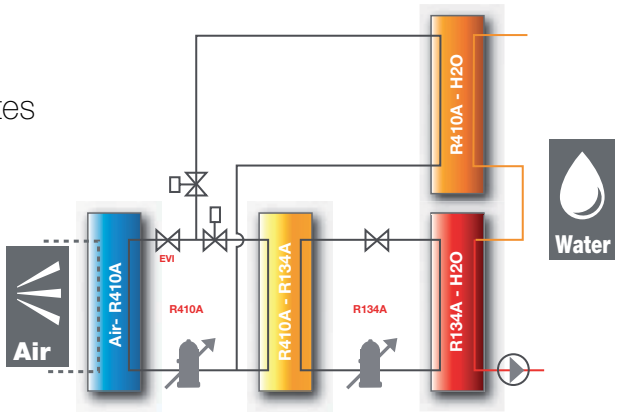
Easy maintenance

Yutaki S80 has been designed to make the professional's work easier (installation + maintenance).
All main components are accessible from the front.
For instance, the electrical panel may be easily removed.



Smart cascade: Hitachi's intelligent adjustment

« SMART CASCADE » Hitachi is a unique and intelligent concept which optimises heat pump efficiency. Depending on a number of parameters, the controller decides whether one or both compressors should operate. This translates into considerable energy savings.



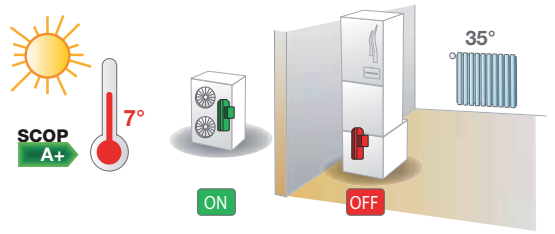
"SMART CASCADE" basic diagram

Exclusive adjustment system

YUTAKI S80 has an "intelligent" control able to adapt its operation (with R410A refrigerant cycle or using the second R134A refrigerant stage) by using an algorithm that takes into account: the outdoor temperature condition (heating and/or domestic hot water), performance optimisation and defrosting cycles.

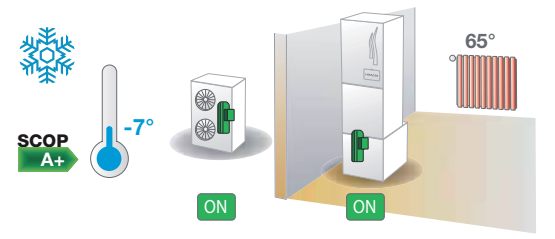
High yearly performance

During less cold periods (e.g. mid-season) or when heating requirements are lower, Yutaki-S 80 adapts its operation to optimise its performance. The second refrigerant stage is thus by-passed, and hot water production is thus assured through the first refrigerant stage, avoiding useless simultaneous operation of two compressors to the advantage of better seasonal energy efficiency.



Operation with mild outside temperature!

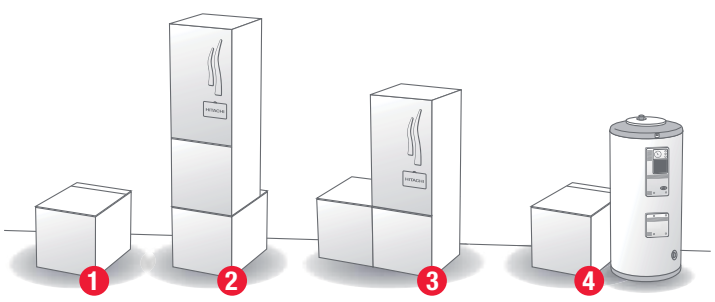
During very cold periods (e.g. in the middle of winter) or when heating requirements are high, Yutaki-S 80 adapts its operation to optimise its performance.
The By-pass of the first stage is then closed and the second refrigerant stage is activated, thus satisfying the requirement for high temperature hot water production.



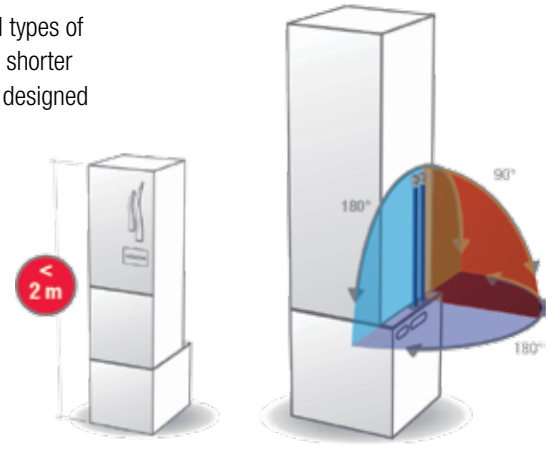
Operation with verylowoutside temperature!

Easy installation

YUTAKI S80 has standard dimensions (l x D: 595 x 695 mm) to easily integrate in all types of homes. When it is installed underneath the DHW module, YUTAKI S80 is in any case shorter than 2 m (mod. 195L). Plumbing connections with standard supplied flexible hoses, designed to reduce and aid the installer's workload.

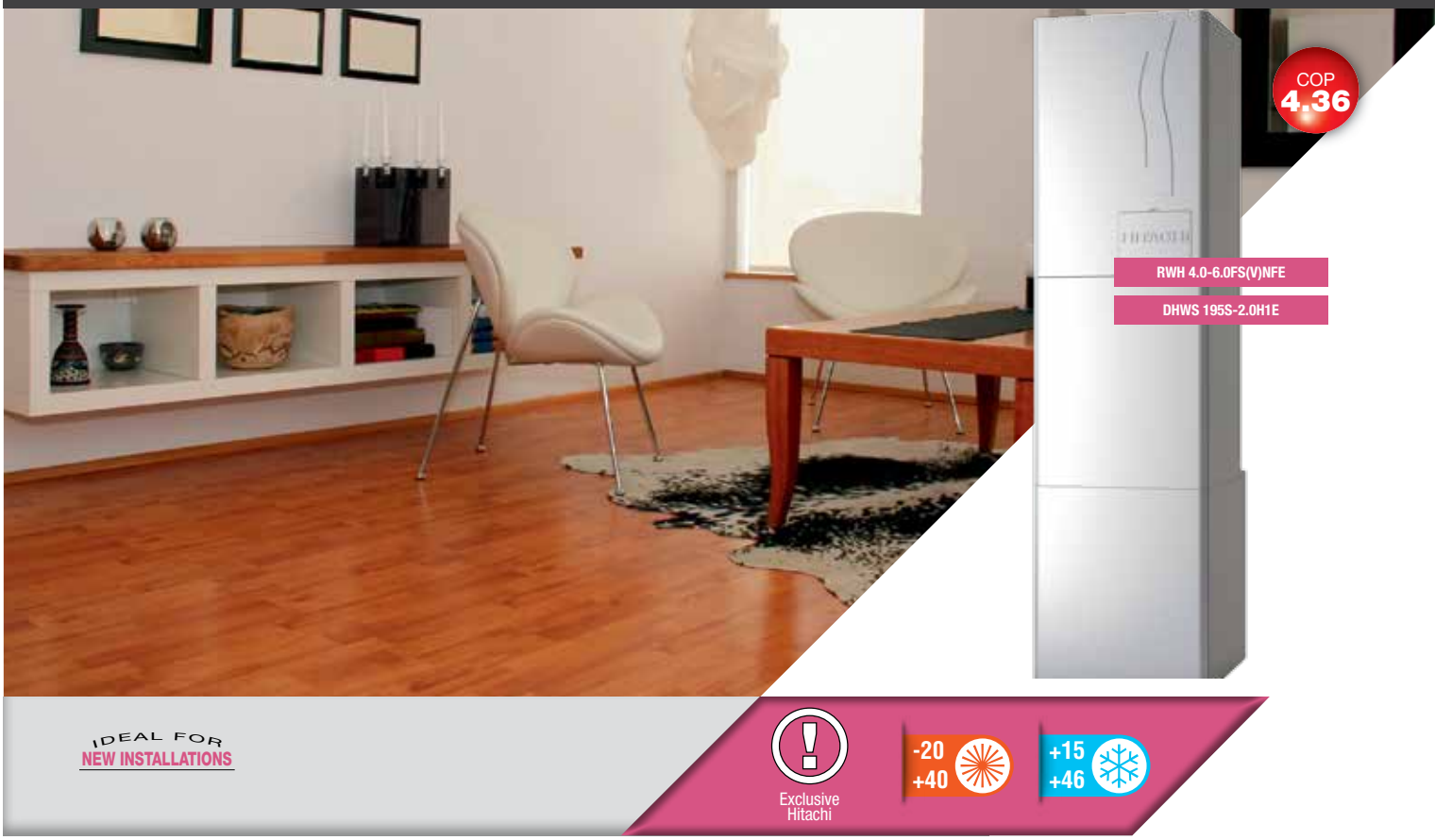


❶ Hydraulic Module (Heating Only).
❷ Hydraulic Module (Heating + DHW on top).
❸ Hydraulic Module (Heating + DHW next to it).
❹ Hydraulic Module (Heating + DHW standard).



80°C HOT ONLY DC INVERTER R-410A

Yutaki S80



IDEAL FOR
NEW INSTALLATIONS

Exclusive Hitachi

-20 +40

+15 +46

- High temperature water production

80°C

- New Hitachi Intelligent Adjustment.

Smart CASCADE
Il controllo Intelligente Hitachi

- One of the best COP on the market: 4.36
  The choice of an Economical solution.

KNX

- BMS Control option via Konnex with specific interface.

CONSTANT power
Jusqu'à -15°C extérieur

- Power is maintained constant even at temperature of -15°C. For optimal comfort throughout the winter operation period.

DOMOTICA COMPATIBILE somfy

"OPTIONAL" WIRELESS THERMOSTAT

PC-S80TE CONTROL

Guaranteed Hot Water Up to -20°C

RAS 4-6H(V)RNME AF

Indoor Unit

	REF.	RWH 4.0FSVNFE	RWH 5.0FSVNFE	RWH 6.0FSVNFE	RWH 4.0FSNFE	RWH 5.0FSNFE	RWH 6.0FSNFE
Max power (7°C ext / 35°C water)	kW	**13.50**	**16.00**	**18.00**	**13.50**	**16.00**	**18.00**
Max power (-7°C ext / 65°C water)	kW	**11.00**	**14.00**	**16.00**	**11.00**	**14.00**	**16.00**
Nom power (7°C ext / 35°C water)	kW	**10.00**	**12.00**	**14.00**	**10.00**	**12.00**	**14.00**
Nom power (-7°C ext / 65°C water)	kW	**10.00**	**12.00**	**14.00**	**10.00**	**12.00**	**14.00**
Nom power (-15°C ext / 65°C water)	kW	**10.00**	**12.00**	**14.00**	**10.00**	**12.00**	**14.00**
Min power (7°C ext / 35°C water)	kW	**4.50**	**5.50**	**6.00**	**4.50**	**5.50**	**6.00**
Weight	kg	157	162	162	162	167	167
Dimensions (H x L x P)	mm	706 × 595 × 695					
Noise Pressure Level	dB(A)	39	41	41	39	41	41
Sound Power Level	dB(A)	55	57	57	55	57	57
Expansion vessel	L	12					
Nominal water flow rate	m³/h	1.70	2.10	2.40	1.70	2.10	2.40
Minimum water flow rate	m³/h	1.00	1.10	1.20	1.00	1.10	1.20
Maximum water flow rate	m³/h	2.90	3.10	3.10	2.90	3.10	3.10
Minimum water content in the system	L	40	50	50	40	50	50
Maximum Current	A	32			15		
Hydraulic Connections	mm	[illegible]					
Water output temperature range	°C	20°C / [illegible]					
Power Supply	V	2[illegible]V / 1[illegible] / 50Hz			400[illegible] 3[illegible] / 50[illegible]		
R134A Refrigerant Charge	kg	2[illegible]					
Compressor		SC[illegible]LL					
Yutaki S Control Panel		[illegible]OTE ([illegible] as accessory, if the DHW tank kit is not installed Code DH[illegible]S 1[illegible]S-2.0[illegible]1E [illegible] DHW[illegible] 26[illegible]-2.0H[illegible]E)					

INDOOR UNITS							
Heat Only Unit Mod[illegible]	MOD.	RWH 4.0FSVNFE	RWH 5.0FSVNFE	RWH 6.0FSVNFE	RWH 4.0FSNFE	RWH 5.0FSNFE	RWH 6.0FSNFE

Outdoor Unit

	MOD.	RAS 4H(V)RNME-AF	RAS 5H(V)RNME-AF	RAS 6H(V)RNME-AF
COP (1)		**4.36**	**4.2[illegible]**	**4.0[illegible]**
Noise pressure level (Sound [illegible]) (2)	dB(A)	44 (65)	4[illegible]7)	48 (6[illegible]
Dimensions (H x L x [illegible])	mm	1380 × 950 × 37[illegible]		
Weight (single / three phase)	kg	[illegible]	[illegible]4 / 1[illegible]3	
Power Supply		230V / 1Ph / 50Hz - 400V / 3Ph - [illegible]Hz		
Max Current (1Ph)	A	18	26	
Max Current (3Ph)	A	1[illegible]		13
Refrigerant piping diameter ([illegible])	Inches	3/8 - 5/[illegible]		
Piping Length / Max Lift	m	30 / 20		
Pre-charge (standard length)	m	30 (3)		
Operating range	°C	**Cooling: 10°C BS / +46°C BS - Heating: -20°C BU / 35°C BU**		
Type of Refrigerant Gas		**R410A**		
Type of Compressor		**SCROLL**		

1. The nominal cooling and heating capacity represent the combined capacity of the Hitachi YUTAKI-S80 system and are based on the EN14511 Standard.

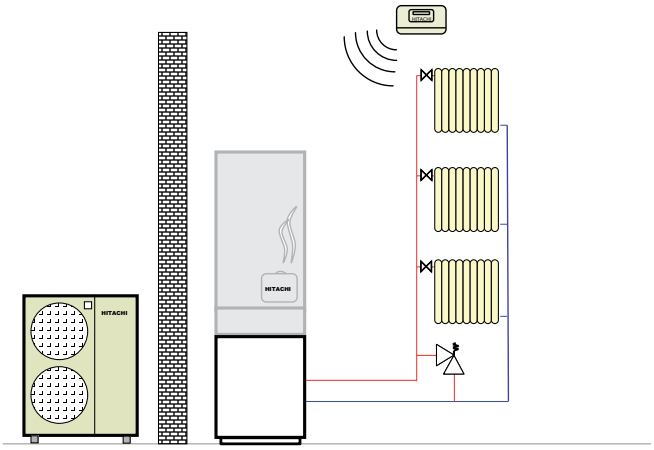
(*): The test is performed based on flow obtained during the test of standard nominal conditions.

2. The sound pressure level is based on the following conditions:
At 1 metre distance from the unit's front surface. Mains power supply voltage 400V-230V. The above data have been measured in an anechoic chamber. See table above for Cooling/Heating conditions.

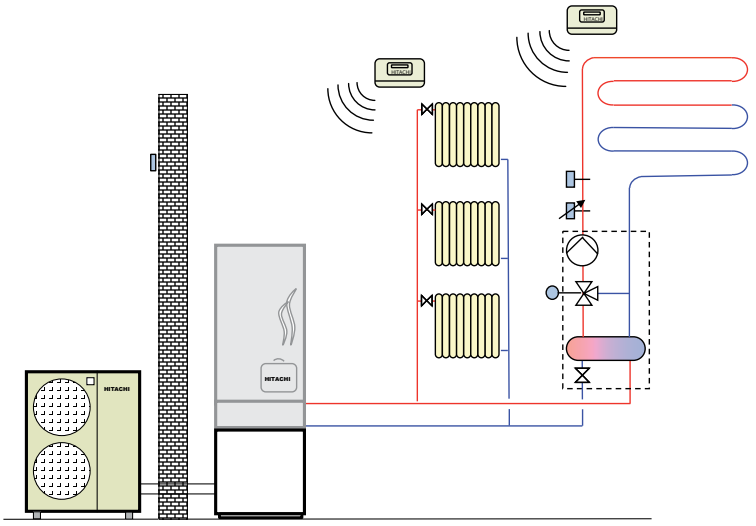
OUTDOOR UNITS				
Outdoor Unit Model	SINGLE PHASE	RAS 4HVRNME AF	RAS 5HVRNME AF	RAS 6HVRNME AF
Outdoor Unit Model	THREE PHASE	RAS 4HRNME AF	RAS 5HRNME AF	RAS 6HRNME AF

Yutaki S80

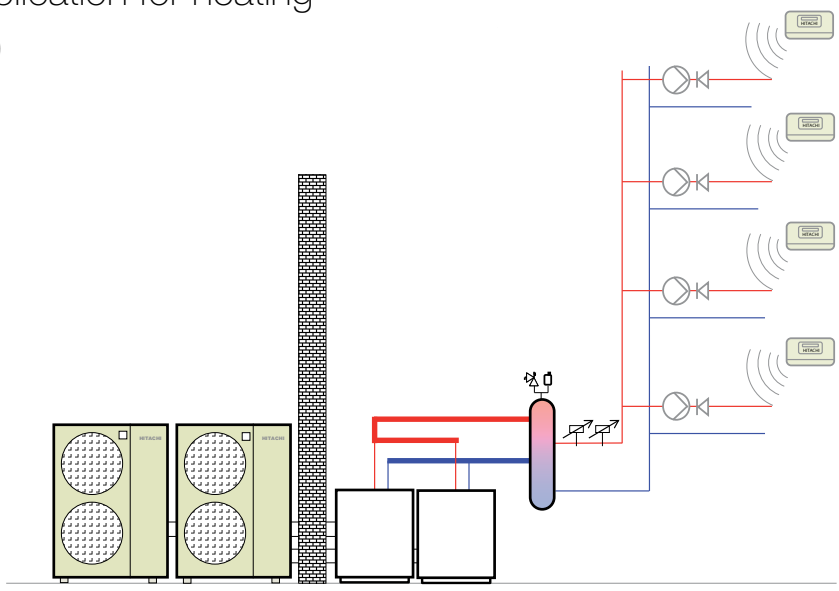
Application for domestic hot water production and heating with **1 circuit**



Application for domestic hot water production and heating with **2 circuits**



Modular centralised application for heating
(with and without DHW)



Yutaki-S80 Accessories

Domestic hot water

DHW STORAGE TANK (For installation on top or next to YUTAKI-S80)			DHWS 195S 2.0H1E	DHWS 260S 2.0H1E
Domestic Hot Water Volume		L.	**185**	**250**
Storage tank material		-	AISI 444	
Insulating Material			NEOPRENE Thickness 50mm	
Storage Tank Dimensions alone (H x L x l)		mm	1272 x 595 x 600	1602 x 595 x 600
Storage Tank Dimensions if on top of Yutaki S80 Module (H x L x l)		mm	1940 x 595 x 600	2270 x 595 x 600
Empty weight		kg	72	87
Colour		-	RAL 9016 White	
Exchange coil surface		m²	1.4	
Immersed Electrical Heater		kW	2.0	
DHW Temperature Probe			Included (Code ATW-WTS 02Y)	
Hydraulic Connections	In / Out DHW	Inches	3/4" (Gas / M)	
	Coil In / Out	Inches	3/4" (Gas / M)	
Yutaki S80 Control Panel		-	PC-S80TE *(Already Included and installed in the DHW storage tank panel)*	

DHW STORAGE TANK (Standard)		CODE	DHWT200E - 2.5H1E	DHWT300E - 2.5H1E	DHWT200S - 2.5H1E	DHWT300S - 2.5H1E
Domestic Hot Water Storage Tank	Water Volume	Litres	200	300	195	287
	Material		Internally Vitrified Steel (DIN 4753)		Stainless Steel (DIN 14521)	
	Temp. Max. Steel	°C	90	90	90	90
	Max. Pressure	bar	8	8	8	8
Dimensions and Weights	Height	mm	1205	1685	1205	1685
	Length	mm	620	620	620	620
	Depth	mm	620	620	620	620
	Weight	kg	85	130	60	85
Heat Exchanger	Temp. Max. Coil	°C	200	200	200	200
	Max. Pressure Coil	bar	25	25	25	25
	Surf. Exchanger	m²	1.40	3.10	1.10	1.40
Insulation type	Polyurethane	mm	50			
Auxiliary Heater	Power	kW	2.50	2.50	2.50	2.50
	Power supply	V	220V 1Ph			
Hydraulic Connection	In. DHW	in.	Ø1" m	Ø1" m	Ø1" m	Ø1" m
	Out. DHW	in.	Ø1" m	Ø1" m	Ø1" m	Ø1" m
	REC. DHW	in.	Ø1" m	Ø1" m	Ø1" m	Ø1" m
	In. Coil Water	in.	Ø1" f	Ø1" f	Ø1" f	Ø1" f
	Out. Coil Water	in.	Ø1" f	Ø1" f	Ø1" f	Ø1" f
Included Accessories	Thermometer		YES			
	Safety Thermostat		YES			
	DHW Temperature Probe		SI (ATW-WTS 02Y)			
Protection	Standard		With Magnesium anode		NO	
	Optional with accessory		DHWT-CP-01 (permanent catode)	DHWT-CP-03 (permanent catode)	DHWT-CP-02 (permanent catode)	DHWT-CP-04 (permanent catode)

YUTAKI-S80 Accessories

DESCRIPTION OF FIRST START-UP SERVICE
Complete connection of refrigerant piping between outdoor unit and indoor module. Leakage test of the refrigerant piping with nitrogen pressurisation and vacuum operation (according to Hitachi Technical specifications). Full hydraulic system charge. Performing all wiring connections between Yutaki-S80 and installed accessories. Checking Vacuum of refrigerant piping and opening Gas R410A Piping Cocks. Checking correct Hydraulic Circuiting of the YUTAKI-S80 system according to Hitachi specifications. Checking Correct wiring and checking safety device tripping. Checking correct water flow. Setting operation parameters based on design requirements. Filling in the First Start-up form and providing useful operation information to the customer.

DHW Storage Tank Separator

This accessory is a safety valve to protect the DHW storage tank from over-pressure

- Drainage pan siphon
- With 3/4 " shut-off valve

CODE	DHWT-SWG-01

Fixed cathode protection

- Type single-phase 220V
- DHWT-CP-01 200l Vitrified Tank.
- DHWT-CP-02 200lt Steel Tank.
- DHWT-CP-03 300l Vitrified Tank.
- DHWT-CP-04 200l Steel Tank.

CODE	DHWT-CP-01	DHWT-CP-02	DHWT-CP-03	DHWT-CP-04

3-Way valve

3-Way diverter valve (Type 1) with **Internal thread**, **spring return** and 220V voltage.
(for DHW or Swimming Pool)

CODE	ATW-3WV-01

3-Way valve

3-Way diverter valve (Type 2) with **external thread**, electrical return and 220V voltage.
(for DHW or Swimming Pool)

CODE	ATW-3WV-02

Water temperature sensor

Universal temperature sensor (DHW Storage Tank, Boiler combination (THMwo3), 2nd mixed zone (THMwo2)
Contact the Area Agency for correct selection.

CODE	ATW-WTS 02Y

Water temperature sensor

Water temperature sensor (2nd Mixed Zone and Boiler Combination)

CODE	ATW-WTS 02

ATW-FWP-01

Kit - Flexible hose extension and connecting electrical cable extension to install the DHW storage tank (DHWS 260S-2.0H1E; DHWS 195S-2.0H1E) next to the Yutaki-S80 module

CODE	ATW-FWP-01

Yutaki S80 Control Panel

LCD Control Panel for YUTAKI S80 **OBLIGATORY** in applications where no DHWS 195S-2.0H1E or DHWS 260S-2.0H1E DHW tanks are provided.

CODE	PC-S80TE

"Intelligent" Thermostat

Kit consisting of WIRELESS ambient thermostat and radio receiver to control one Zone.

CODE	ATW-RTU-02

"Intelligent 2nd Zone" Thermostat

Thermostat to control the second Zone (thermostat only)
*It can only be combined with a system fitted with "Intelligent ATW-RTU-02" thermostat

CODE	ATW-RTU-03

Note Please contact the head office or area agency regarding compatibility of the various products

YUTAKI-S80 Accessories

BMS KONNEX Interface

With the Konnex Interface, operation settings can be controlled also remotely. It is easily matched to the KNX protocol.

CODE	ATW-KNX-01

ON-OFF Thermostat

KIT consisting of WIRELESS ambient thermostat and radio receiver to control one Zone.

CODE	ATW-RTU-01

Outer temperature sensor

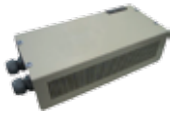
To be used to take the ambient temperature in a different place from the outdoor unit's position. (Optional)

CODE	ATW-2OS 01

Swimming Pool temperature sensor

To be used to control the temperature of a Swimming Pool (Optional)

CODE	ATW-SPS 01



Signal container of auxiliary outputs

RELAY box FOR ADDITIONAL OUTPUT SIGNALS: Alarm; ON Status; Cold Status; Direct Zone Valve Control

CODE	ATW-AOS 01

Servomotor for 2nd temperature Kit

it is required in the kit to control the 2nd mixed temperature
Code: ATW-2KT-02

CODE	ATW-MVM 01

2nd temperature Kit

Temperature Mixing Kit to control 2nd ERP Zone.
It must be used together with Servomotor code ATW-MVM01 and 2nd mixed Zone sensor

CODE	ATW-2KT 02

Heater

Type 6 kW Single/Three-phase
3 Control stages
Internal power relays
External insulation
Body in insulated steel

CODE	WEH-6E

Hydraulic separator

it is required to hydraulically separate the YUTAKI-S circuit

- Stainless
- 4 connection ways
- Insulated

CODE	ATW-HSK-01

Differential By-pass Valve

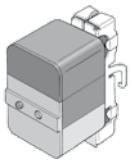
AUTOMATIC DIFFERENTIAL BYPASS Pressure Valve with D 3/4" flow gauge.

CODE	ATW DPOV-01

Outdoor Unit Accessory

Condensate drain fitting.

Outdoor unit in HP	Power	QUANTITY	Power	QUANTITY
	2HP	1	3-6 HP	1
			8-10 HP	2
CODE	DBS 12L		DBS 26	



Safety Thermostat

Radiating Zone Maximum Output temperature Safety Thermostat to interrupt radiating zone water circulation.

CODE	ATW AQT-01

Note Please contact the head office or area agency regarding compatibility of the various products

Yutampo

YUTAMPO

HEAT PUMP FOR DOMESTIC HOT WATER

- The best COP on the market: 3,09
- Ideal in new installations
- Production of domestic hot water up to -15°C
- Duration of the heating time : 6 h 20

YUTAMPO

ENVIRONMENTAL FRIENDLINESS & EFFICIENCY

YUTAMPO
RAW 25NH2A + TAW 270NH2A

YUTAMPO, domestic hot water heating with HP, DC Inverter SPLIT as an innovative concept in the market. The « Split System » concept, unlike the domestic hot water storage tank with monoblock technology, avoids cooling the indoor environment where it is installed and assures there is no noise inside the home.

Domestic Heating

- One of the best SCOP on the market: 3.09* based on the new EN16147 standard, which takes into account drawing cycles: one of the few water heaters where the COP is higher than 3.
- The longest refrigerant section on the market: 20 m, a Hitachi exclusive, offers a wide number of installation options.
- A reduction of the heating time to: 6 h 20, which makes operation at peak times possible.
- The Hitachi DC inverter compressor provides guaranteed operation up to -15 ° C outdoors.
- Input power in Stand By is just 30 W, low energy consumption with maximum thermal insulation.
- Possibility to install the DHW module inside the home, thus limiting its heat losses.
- Stainless steel + anode tank, for guaranteed long system life.
- PU 50 mm insulation and double wall heat exchanger according to health regulations.
- Compact size (730 × 1570 mm), for easier installation.
- The Hitachi Microcontroller affords intelligent operation control of YUTAMPO, with a variety of options among which Eco and Booster.

TAW 270NH2A

Guaranteed Hot Water Up to -15°C

RAW 25NH2A

** According to EN 16147*

Yutampo Domestic Hot Water Storage Tank		
Capacity	l.	**262**
DHW Connection Dimensions	Inches	3/4
Refrigerant Piping Diameter	Inches	1/4 - 3/8
Storage Tank Material		STAINLESS STEEL
Backup Electrical Heater	W	2000

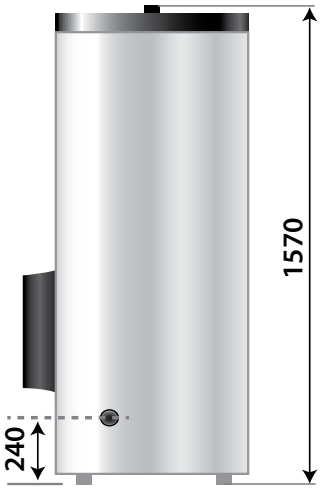
Outdoor Unit		
Outdoor temperature operating range	°C	**-15°C ~ +37°C**
Output thermal power	kW	2.2
Air COP : 7°C (According to EN16147)[1]		**3.09 (XL)**
Length / Max. lift	m	**20 / 10**
Type of Refrigerant		**R410A**
Sound level	dB(A)	46

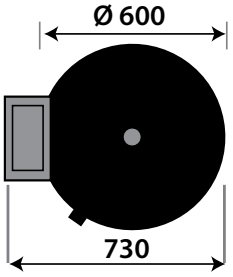
DHW Performance		
DHW Tem[illegible] without heating (with Heater	C	55 (6[illegible]
Heating [illegible]	l	h 20
Available water [illegible] at 4[illegible] (V max)		[illegible]

Dimensions		
Outdoor Unit Dimensions (H × L × D)	m	570 × 750 × 280
[illegible] (H × [illegible])	m	[illegible] × 730
Outdoor Unit Weight	kg	43
Indoor Unit Weight	kg	63

[1] *NF Electricity Certificate performance CAT 2 for hot water temperature of reference 53.3 ° C, LCIE Certificate No. 612482A in compliance with standard EN16147.*

Description	Model
Outdoor Unit	RAW 25NH2A
Indoor Unit	TAW 270NH2A
System	**YUTAMPO**





Industrial and Service Sector

Samurai Technology

The range of HITACHI Samurai chillers addresses the needs of air conditioning applications, or industrial process refrigeration.

Samurai Chillers and Heat Pumps

	RCME 40~480AH5	RCU2E 40~400AG2	RHU2E 40~240AG2	RCUE 40~240WG2	RCUE 40~120CLG2
Type of condensation	Air	Air	Air	Water	Without Condensate
Operating mode	Cold Only	Cold Only	Heat pump	Cold and Heat pump	Cold Only
Cooling Power kW	106 - 1280	112 - 1030	106 - 585	134 - 696	120 - 360
Heating Power kW	-	-	110 - 555	161 - 824	-
Refrigerant Gas	R134A	R407C	R407C	R407C	R407C
Type of Compressor	Double Screw	Double Screw	Double Screw	Double Screw	Double Screw

Solidity and long duration

Semi-Hermetic Double Screw Compressor

The Semi-Hermetic Double Screw Compressor has been designed to operate with refrigerant R407C.
It is directly coupled to the electrical motor, with no external connections, reducing the number of internal and external components.

The compressor is mounted on vibrations damper pads and is hermetically insulated.
As optional, the compressor housing can be insulated with a double HITACHI patented liner, able to further reduce noise emissions.

The lubricant oil is continuously delivered by pressure difference to moving mechanical parts and power regulation piston.
This system removes the need for an external oil pump, valves, and associated control mechanisms.

The new Ciclonic oil separator is inside the compressor's shell.
No external oil connecting pipes are needed, which results in a compact design and high compressor reliability.

In order to assure compliance with the specifications, Samurai chillers undergo a number of tests in the various production stages:

> Electrical and operation tests,
> Pressure and leak check test.

At the end of the production cycle a mechanical seal test is performed on the whole circuit, 16 critical chilling points and all welding points are checked. Before delivery, HITACHI performs a Run Test, connecting the Chiller both electrically and on the water side, testing all system variables, to assure correct Samurai operation.

Samurai Chillers and Heat Pumps

NEW

		Power (kW)						
		100	200	500	1,000	2,500	5,000	10,000
Air cooled chiller Cooler Only R134A Modular	RCME40~480AH5	106 kW ~ 1280 kW						
Air cooled chiller Cold Only	RCU2E 40~400AG2	112 kW ~ 1030 kW						
Air Cooled Chiller Heat pump	RHU2E 40~240AG2	106 kW ~ 585 kW						
Water Cooled Chiller Cooler Only and Heat Pump	RCUE 40~240WG2	134 kW ~ 696 kW						
Condenser-less Chiller Cold Only	RCUE 40~120CLG2	134 kW ~ 696 kW						

Samurai

Cooling Only | Air Cooled

RCU2E-40~400 AG2

NEW

- Refrigerant Gas R134a
- Continuous adjustment from 25 to 100% of compressor capacity
- Control on water output
- High Performance : EER > 3,52 and ESEER > 5.34 (depending on model)
- Up to 8 independent circuits
- Low noise level
- ICHIBAN Screw compressor
- Exclusive modular concept: Possibility to request delivery of assembled and connected (electrically and hydraulically) modules from the factory.

WIDE POWER RANGE FROM 40HP TO 480HP (106 KW TO 1280 KW)

HIGH PERFORMANCE TECHNOLOGY

REFRIGERANT GAS R134A

EER 3.52

ESEER 5.34

- Possibility to have factory installed pumps
- LCD Control Panel
- Control option via LonWorks or Modbus protocols through specific interfaces.

NEW

HIGH EFFICIENCY COOLING ONLY CHILLER

		RCME40AH	RCME50AH	RCME60AH	RCME80AH	RCME100AH	RCME120AH3
Modules		1 × RCME40AH	1 × RCME50AH	1 × RCME60AH	2 × RCME40AH	2 × RCME50AH	3 × RCME40AH
Cooling Power	kW	**106.00**	**132.00**	**160.00**	**212.00**	**264.00**	**318.00**
Input Power	kW	**30.10**	**38.30**	**49.10**	**60.20**	**76.60**	**90.30**
Sound level (1.5 m)	dB(A)	64	65	66	-	-	-
Dimensions (H × L × D) (1)	mm	2450 × 2000 × 2000			2450 × 4000 × 2000		2450 × 6000 × 2000
Weight (2)	kg	1 500		1 580	3 000		4 500
Power Control		25 ~ 100					
Number of Independent circuits		1			2		3
Temp. Water output	°C	+5°C ~ +15°C					
Temp. Condenser air inflow	°C	-15°C / +46°C					

HIGH EFFICIENCY COOLING ONLY CHILLER

		RCME120AH2	RCME150AH	RCME160AH	RCME180AH	RCME200AH4	RCME200AH5
Modules		2 × RCME60AH	3 × RCME50AH	4 × RCME40AH	3 × RCME60AH	4 × RCME50AH	5 × RCME40AH
Cooling Power	kW	**320.00**	**396.00**	**424.00**	**480.00**	**528.00**	**530.00**
Input Power	kW	**98.20**	**114.90**	**120.40**	**147.30**	**153.20**	**383.00**
Sound level (1.5 m)	dB(A)	-	-	-	-	-	-
Dimensions (H × L × D) (1)	mm	2450 × 4000 × 2000	2450 × 6000 × 2000	2450 × 8000 × 2000	2450 × 6000 × 2000	2450 × 8000 × 2000	2450 × 10000 × 2000
Weight (2)	kg	3 160	4 500	6 000	4 740	3 160	7 500
Power Control		25 ~ 100					
Number of Independent circuits		2	3	4	3	4	5
Temp. Water output	°C	+5°C ~ +15°C					
Temp. Condenser air inflow	°C	-15°C / +46°C					

HIGH EFFICIENCY COOLING ONLY CHILLER

		RCME240AH6	RCME240AH4	RCME250AH	RCME280AH	RCME300AH6	RCME300AH5
Modules		6 × RCME40AH	4 × RCME60AH	5 × RCME50AH	7 × RCME40AH	6 × RCME50AH	5 × RCME60AH
Cooling Power	kW	**636.00**	**640.00**	**660.00**	**742.00**	**792.00**	**800.00**
Input Power	kW	**180.60**	**196.40**	**191.50**	**210.70**	**229.80**	**245.50**
Sound level (1.5 m)	dB(A)	-	-	-	-	-	-
Dimensions (H × L × D) (1)	mm	2450 × 12000 × 2000	2450 × 8000 × 2000	2450 × 10000 × 2000	2450 × 14000 × 2000	2450 × 12000 × 2000	2450 × 10000 × 2000
Weight (2)	kg	9 000	6 320	7 500	10 500	9 000	7 900
Power Control		25 ~ 100					
Number of Independent circuits		6	4	5	7	6	5
Temp. Water output	°C	+5°C ~ +15°C					
Temp. Condenser air inflow	°C	-15°C / +46°C					

HIGH EFFICIENCY COOLING ONLY CHILLER

		RCME320AH	RCME350AH	RCME360AH	RCME400AH	RCME420AH	RCME480AH
Modules		8 × RCME40AH	7 × RCME50AH	6 × RCME60AH	8 × RCME50AH	7 × RCME60AH	8 × RCME60AH
Cooling Power	kW	**848.00**	**924.00**	**960.00**	**1 056.00**	**1 120.00**	**1 280.00**
Input Power	kW	**240.80**	**268.10**	**294.60**	**306.40**	**343.70**	**392.80**
Sound level (1.5 m)	dB(A)	-	-	-	-	-	-
Dimensions (H × L × D) (1)	mm	2450 × 16000 × 2000	2450 × 14000 × 2000	2450 × 12000 × 2000	2450 × 16000 × 2000	2450 × 14000 × 2000	2450 × 16000 × 2000
Weight (2)	kg	16 000	10 500	9 480	12 000	11 060	12 640
Power Control		25 ~ 100					
Number of Independent circuits		8	7	6	8	7	8
Temp. Water output	°C	+5°C ~ +15°C					
Temp. Condenser air inflow	°C	-15°C / +46°C					

Module (1) Outer casing (2) not connected

Samurai

Cooling Only | Air Cooled

RCU2E-40~400 AG2

WIDE POWER RANGE FROM 40HP TO 400HP (112KW TO 1030 KW)

HIGH TECHNOLOGY PERFORMANCE

- **CONTINUOUS CAPACITY CONTROL**
  which affords between 15 and 20% reduction in energy consumption compared to step control systems.
- **LOW NOISE LEVEL**
  HITACHI makes full use of its high technology to obtain extremely low sound emissions. The two-blade Inverter control fan further reduces the sound emission level, increasing the air volume, at the same time as reducing electrical absorption.
- **PRECISE CONTROL OF WATER OUTPUT TEMPERATURE**
- **EXCELLENT PERFORMANCE AT PARTIAL LOADS**
- **DOUBLE SCREW COMPRESSOR**
- **HIGHLY RELIABLE WITH EXTREMELY LOW NOISE AND VIBRATION**
- **REDUCED INSTALLATION SPACE**
  Thanks to painstaking design of each component, it is possible to achieve high cooling capacity per square metre of occupied surface.
- **RECOVERY SYSTEM (Optional)**
  By ordering the Recovery option with plate exchanger, it is possible to recover about 30% of power output in cooling mode, heating water in a dedicated circuit, with output temperatures up to 70°C, at peak operating conditions.

COOLING ONLY									
		RCU2E 40AG2	RCU2E 50AG2	RCU2E 60AG2	RCU2E 70AG2	RCU2E 80AG2	RCU2E 100AG2	RCU2E 120AG2	RCU2E 140AG2
Cool. Capacity	kW	112	130	156	178	206	260	312	356
Cool. Input Power	kW	38.60	44.70	53.00	61.00	70.00	89.40	106	122
EER	-	2.90	2.91	2.94	2.92	2.94	2.91	2.94	2.92
ESEER	-	3.48	3.49	3.52	3.50	3.52	3.49	3.52	3.50
Dimensions (H x L x D)	mm	2430 x 2190 x 1900			2430 x 2790 x 1900		2430 x 4090 x 1900		2430 x 5290 x 1900
Weight	kg	1,430	1,470	1,560	1,760	1,820	2,830	3,000	3,420
Capacity Control		Continuous Control							
Capacity Variation	%	15% ~ 100%							
Number of Compressors		1	1	1	1	1	2	2	2
Cool. Water Output Temperature	°C	(-10 °C Optional) +5°C~ +15°C							
Air Input Temperature Condenser	°C	-15°C + 46°C							
Sound Power Level	dB(A)	82	83	84	85	85	86	87	88

COOLING ONLY									
		RCU2E 160AG2	RCU2E 180AG2	RCU2E 210AG2	RCU2E 240AG2	RCU2E 280AG2	RCU2E 320AG2	RCU2E 360AG2	RCU2E 400AG2
Cool. Capacity	kW	412	468	534	618	712	824	890	1030
Cool. Input Power	kW	140	159	183	210	244	280	305	350
EER	-	2.94	2.94	2.92	2.94	2.92	2.94	2.92	2.94
ESEER	-	3.52	3.52	3.50	3.52	3.50	3.52	3.50	3.52
Dimensions (H x L x D)	mm	2,430 x 5,290 x 1,900	2,430 x 5,990 x 1,900	2,430 x 1,900 x 7,790		2,430 x 10,290 x 1,900		2,430 x 12,790 x 1900	
Weight	kg	3,550	4,450	5,070	5,250	6,750	7,000	8,450	8,750
Capacity Control		Continuous Control							
Capacity Variation	%	15% ~ 100%							
Number of Compressors		2	3	3	3	4	4	5	5
Cool. Water Output Temperature	°C	(-10 °C Optional) +5°C~ +15°C							
Air Input Temperature Condenser	°C	-15°C + 46°C							
Sound Power Level	dB(A)	88	89	91	91	92	92	94	94

NOTES:
1 Nominal cooling capacity is based on European Standard EN14511.
Cooled water input/output temperature 12/7 °C, Temp. External Air = 35°C.

2 Sound power values have been calculated according to the EUROVENT test.
Measurement taken at 1 m from the surface of the control panel and 1.5 m height from floor level.

The above data have been measured in an anechoic chamber, and do not take into account the reflected sound in the field.
Operative conditions:
Standard models: Chilled water input/output temperature 12/7 °C, Condensation Temperature 45°C.
- Low output temperature applications are not standard.
- High condensation temperature applications are not standard.

Samurai

Heat pump | Air cooled

RH2UE-40 240AG2

WIDE POWER RANGE FROM 40HP A TO 240 HP (106 TO 585KW)

HIGH PERFORMANCE TECHNOLOGY OF DOUBLE SCREW

- **CONTINUOUS CAPACITY CONTROL**
  which affords between 15 and 20% reduction in energy consumption compared to step control systems.
- **LOW NOISE LEVEL**
  HITACHI makes full use of its high technology to obtain extremely low sound emissions. The two-blade Inverter control fan further reduces the sound emission level, increasing the air volume, at the same time as reducing electrical absorption.
- **PRECISE CONTROL OF WATER OUTPUT TEMPERATURE**
- **EXCELLENT PERFORMANCE AT PARTIAL LOADS**
- **DOUBLE SCREW COMPRESSOR**
- **HIGHLY RELIABLE WITH EXTREMELY LOW NOISE AND VIBRATION**
- **REDUCED INSTALLATION SPACE**
  Thanks to painstaking design of each component, it is possible to achieve high cooling capacity per square metre of occupied surface.
- **RECOVERY SYSTEM (Optional)**
  By ordering the Recovery option with plate exchanger, it is possible to recover about 30% of power output in cooling mode, heating water in a dedicated circuit, with output temperatures up to 70°C, at peak operating conditions.

HEAT PUMP							
MODEL		RHU2E40AG2	RHU2E50AG2	RHU2E60AG2	RHU2E70AG2	RHU2E80AG2	RHU2E100AG2
Cool. Capacity	kW	106	123	148	169	195	246
Cool. Input Power	kW	37.90	42.70	52.00	60.00	70.00	85.40
EER	-	2.80	2.88	2.85	2.82	2.79	2.88
ESEER	-	3.36	3.45	3.42	3.38	3.34	3.45
Heat. Capacity	kW	110	127	152	185	185	254
Heat. Input Power	kW	40.70	44.50	54.00	68.00	68.00	89.00
COP	-	2.70	2.85	2.81	2.72	2.72	2.85
Dimensions (H x L x D)	mm	2430 x 2190 x 1900			2430 x 2790 x 1900		2430 x 4090 x 1900
Weight	kg	1,550	1,600	1,670	1,880	1,950	3,050
Capacity Control		Continuous Control					
Capacity Variation	%	15 ~ 100					
Number of Compressors		1	1	1	1	1	2
Cool. Water Output Temperature	°C	(-10 °C Optional) +5°C~ +15°C					
Heat. Water Output Temperature	°C	+35°C ~ +55°C					
Air Input Temperature Condenser	°C	-15°C + 46°C In Cooling					
Air Temperature Evaporator Input	°C	-9.5°C + 21°C(DB) -10°C + 15.5°C (WB) In Heating					
Sound Power Level	dB(A)	82	83	84	85	85	86

HEAT PUMP							
MODEL		RHU2E120AG2	RHU2E140AG2	RHU2E160AG2	RHU2E180AG2	RHU2E210AG2	RHU2E240AG2
Cool. Capacity	kW	296	338	390	444	507	585
Cool. Input Power	kW	104	120	140	156	180	210
EER	-	2.85	2.82	2.79	2.85	2.82	2.79
ESEER	-	3.42	3.38	3.34	3.42	3.38	3.34
Heat. Capacity	kW	304	370	370	456	555	555
Heat. Input Power	kW	108	136	136	162	204	204
COP	-	2.81	2.72	2.72	2.81	2.72	2.72
Dimensions (H x L x D)	mm	2430 x 4090 x 1900	2430 x 5290 x 1900		2430 x 5990 x 1900	2430 x 7790 x 1900	
Weight	kg	3,250	3,670	3,780	4,780	5,440	5,650
Capacity Control		Continuous Control					
Capacity Variation	%	15 ~ 100					
Number of Compressors		2	2	2	3	3	3
Cool. Water Output Temperature	°C	(-10 °C Optional) +5°C~ +15°C					
Heat. Water Output Temperature	°C	+35°C ~ +55°C					
Air Input Temperature Condenser	°C	-15°C + 46°C In Cooling					
Air Temperature Evaporator Input	°C	-9.5°C + 21°C (DB) -10°C + 15.5°C (WB) In Heating					
Sound Power Level	dB(A)	87	88	88	89	91	91

NOTES:
1 Nominal cooling capacity is based on European Standard EN14511.
Cooled water input/output temperature 12/7 °C, Temp. External Air = 35°C.

2 Sound power values have been calculated according to the EUROVENT test.
Measurement taken at 1 m from the surface of the control panel and 1.5 m height from floor level.

The above data have been measured in an anechoic chamber, and do not take into account the reflected sound in the field.
Operative conditions:
Standard models: Chilled water input/output temperature 12/7 °C, Condensation Temperature 45°C.
- Low output temperature applications are not standard.
- High condensation temperature applications are not standard.

Samurai

Cooling Only and Heat Pump | Water Cooled

RCUE-40~240WG2

WIDE POWER RANGE
FROM 40HP TO 240 HP (106 TO 585KW)

HIGH TECHNOLOGY PERFORMANCE
OF DOUBLE SCREW COMPRESSORS

- **CONTINUOUS CAPACITY CONTROL**
  which affords between 15 and 20% reduction in energy consumption compared to step control systems.
- **LOW NOISE LEVEL**
- **PRECISE CONTROL OF WATER OUTPUT TEMPERATURE**
- **EXCELLENT PERFORMANCE AT PARTIAL LOADS**
- **DOUBLE SCREW COMPRESSOR**
- **HIGHLY RELIABLE WITH EXTREMELY LOW NOISE AND VIBRATION**
- **REDUCED INSTALLATION SPACE**
  Thanks to painstaking design of each component, it is possible to achieve high cooling capacity per square metre of occupied surface.
- **POSSIBILITY TO OPERATE IN HEATING MODE (Optional)**
  By inverting plumbing connections and additional control.

COOLING ONLY AND HEAT PUMP*2						
Model		RCUE40WG2	RCUE50WG2	RCUE60WG2	RCUE80WG2	RCUE100WG2
Cool. Capacity*1	kW	134	160	194	232	320
Cool. Input Power*1	kW	33.50	40.00	49.10	54.50	80
EER	-	4.00	4.00	3.95	4.26	4.00
ESEER	-	4.52	4.52	4.46	4.81	4.52
Heat. Capacity*2	kW	161.10	192.30	233.90	274.70	384.70
Heat. Input Power*2	kW	39.80	47.50	58.30	64.70	95
Dimensions (H x L x D)	mm	1520 x 1105 x 850				1700 x 1105 x 1465
Weight	kg	750	765	830	950	1,570
Capacity Control		Continuous Control				
Capacity Variation	%	15 ~ 100				
Number of Compressors		1	1	1	1	2
Cool. Water Output Temperature	°C	(-10 ˚C Optional) +5°C~ +15°C				
Heat. Water Output Temperature	°C	+35°C ~ +45°C ~ (55°C)				
Sound Power Level	dB(A)	68	69	71	71	72

COOLING ONLY AND HEAT PUMP*2						
		RCUE120WG2	RCUE150WG2	RCUE180WG2	RCUE200WG2	RCUE240WG2
Cool. Capacity*1	kW	388	445	525	600	696
Cool. Input Power*1	kW	104.50	104.50	123.00	149.00	163.00
EER	-	3.95	4.28	4.27	4.03	4.27
ESEER	-	4.46	4.83	4.82	4.55	4.82
Heat. Capacity*2	kW	467.90	526.90	621.90	719.50	824.20
Heat. Input Power*2	kW	116.60	124.10	146.70	176.40	194.20
Dimensions (H x L x D)	mm	1700 x 1105 x 1465		1580 x 1105 x 2350		
Weight	kg	1,670	1,770	2,500	2,580	2,670
Capacity Control		Continuous Control				
Capacity Variation	%	15 ~ 100				
Number of Compressors		2	2	3	3	3
Cool. Water Output Temperature	°C	(-10 ˚C Optional) +5°C~ +15°C				
Heat. Water Output Temperature	°C	+35°C ~ +45°C ~ (55°C)*3				
Sound Power Level	dB(A)	74	74	75	76	77

NOTES:
*1 Nominal cooling capacity is based on European Standard EN14511.
Cooled water input/output temperature: 12 / 7 °C
Cooling water input/output temperature: 30 / 35°C

*2 Nominal heating capacity is intended only for the Heat Pump operation option and is based on the conditions set out below.
Cooled water input/output temperature: 12 / 7°C
Hot water input/output temperature (Condenser): 40 / 45°C

*3( ) in the event of high temperature option and Heat Pump operation option

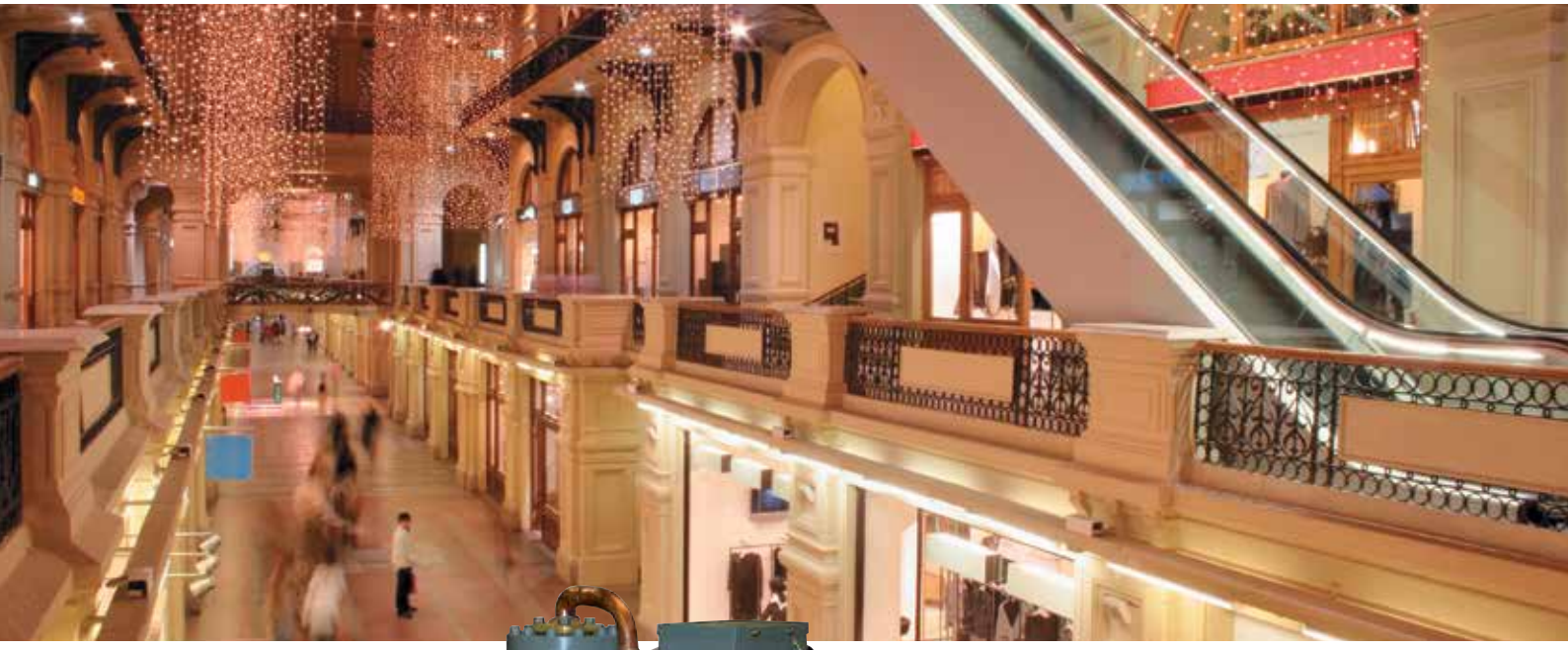
4 Sound power values have been calculated according to the EUROVENT test.

Measurement taken at 1 m from the surface of the control panel and 1.5 m height from floor level.
The above data have been measured in an anechoic chamber, and do not take into account the reflected sound in the field.

Operative conditions:
Standard models: Chilled water input/output temperature 12/7°C, Condenser water input/output Temperature 30°C/35°C.
- Low output temperature applications are not standard.
- High condensation temperature applications are not standard.

Samurai

Cooling Only | Condenser-less



RCUE40~120CLG2

WIDE POWER RANGE
FROM 120KW TO 360KW

HIGH TECHNOLOGY PERFORMANCE
OF DOUBLE SCREW COMPRESSORS

- **CONTINUOUS CAPACITY CONTROL**
  which affords between 15 and 20% reduction in energy consumption compared to step control systems.
- **LOW NOISE LEVEL**
- **PRECISE CONTROL OF WATER OUTPUT TEMPERATURE**
- **EXCELLENT PERFORMANCE AT PARTIAL LOADS**
- **DOUBLE SCREW COMPRESSOR**
- **HIGHLY RELIABLE WITH EXTREMELY LOW NOISE LEVEL AND VIBRATION**
- **REDUCED INSTALLATION SPACE**
  Thanks to painstaking design of each component, it is possible to achieve high cooling capacity per square metre of occupied surface.
- **GREAT EFFICIENCY WITH INSTALLATION AND USE OF A CHILLING REMOTE CONDENSER.**

COOLING ONLY							
Model		RCUE40CLG2	RCUE50CLG2	RCUE60CLG2	RCUE80CLG2	RCUE100CLG2	RCUE120CLG2
Cool. Capacity	kW	120	145	180	240	290	360
Cool. Input Power	kW	34.40	42.40	52.10	68.80	84.80	104.20
EER	-	3.50	3.40	3.50	3.50	3.40	3.50
Dimensions (H x L x D)	mm	1562 x 1045 x 885		1562 x 1104 x 885	1720 x 1104 x 1471		
Weight	kg	630	680	730	1,200	1,310	1380
Capacity Control		Continuous Control					
Capacity Variation	%	15 ~ 100					
Number of Compressors		1	1	1	2	2	2
Cool. Water Output Temperature	°C	(-10 ˚C Optional) +5°C~ +15°C					
Condensation Temperature	˚C	30 ~ 65					
Sound Power Level	dB(A)	68	69	71	71	72	74

NOTES:
1 Nominal cooling capacity is based on European Standard EN14511.
Chilled water input/output temperature 12/7°C, Condensation Temperature 45°C.

2 Sound power values have been calculated according to the EUROVENT test.
Measurement taken at 1 m from the surface of the control panel and 1.5 m height from floor level.

The above data have been measured in an anechoic chamber, and do not take into account the reflected sound in the field.

Operative conditions:
Standard models: Chilled water input/output temperature 12/7°C, Condensation Temperature 45°C.
- Low output temperature applications are not standard.
- High condensation temperature applications are not standard.

Hitachi has approached the specialists LOKRING and has validated the use of its LOKRING couplings.

Weld-free couplings!




- Fittings and reducers
- Tee and Y-branches
- Wide radius elbows
- Narrow radius elbows

The solution for connecting any UTOPIA and VRF SET FREE split system

VULKAN LOKRING

The LOKRING system, tested and validated by Hitachi, is now integrated in the Hitachi Hi-toolkit software selection as of version 6.
It is thus possible to choose or mix brazed or LOKRING connections at will.
All required amounts are calculated automatically.

Hi tool kit

Design in just 6 clicks

HITACHI has developed a new program to develop Utopia and Set Free systems which addresses the needs of designers and technical consultants. The software allows the user to progress quickly and smoothly through the system selection process throughout the entire project.

- **Quick and reliable**
- **Simple and user-friendly**
- **With no costs**

Product selection
This software allows the user to select the required number of indoor and outdoor units and control systems both by model and capacity.

Refrigerant Circuit
Automatic calculation of pipe and multikit branch size.

Wiring Diagrams
Wiring diagram which shows power supply, communication cables, accessories and control systems.

Product Specifications
By using the selected information the software allows the user to produce comprehensive product specifications in Word format.

List of Equipment
It shows a list of the selected indoor and outdoor units, refrigerant pipes, electrical cables and required refrigerant charge.

First Start Up
It automatically produces dip switch settings, the list of units and the first start up check-list.

Website:
www.hitoolkit.com

HITACHI's Alarm Code APP

The new **APP** is now available to provide you with instantaneous, **round the clock** access to alarm codes and technical details, thus making your job even easier and quicker.

The iOS and Android version is available as of now, to be followed shortly by the WEB APP version as well.

For a professional and guaranteed service, always and in any case contact an authorised HITACHI Service Centre.

Quality Certification

Products marked with this symbol comply with the ErP Directive (Energy Related Products) and contribute to reducing the building's energy consumption.

AENOR ER Empresa Registrada ER-198/2/96

AENOR Gestión Ambiental CGM-99/044

Certification No. JQA-1084 CE

CERTIFIED JQA MANAGEMENT SYSTEM QUALITY SYSTEM

ISO 14001 JACO — JAPAN AUDIT AND CERTIFICATION ORGANIZATION FOR ENVIRONMENT AND QUALITY — NATIONAL ACCREDITATION OF CERTIFICATION BODIES

REGISTERED MALAYSIA MS ISO 9001

ENVIRONMENTAL SYSTEM SIRIM MS ISO 14001

RoHS 2002/95/EC

CE EUROVENT CERTIFIED PERFORMANCE

The Hitachi Air Conditioning Products Europe production facility (HAPE - Barcelona, Spain) has acquired the International Standard Quality Management System ISO 9001 and ISO 14001 certification. HAPE implements strict product quality control via a number of ambient tests.
HITACHI units are produced according to this ISO certification system.

The Hitachi Air Conditioning Systems Co, Ltd production facility (Shimizu, Japan) has acquired the International Standard Quality Management System ISO 9001 and ISO 14001 certification. Shimizu implements strict product quality control via a variety of ambient tests, exacting heating tests and a number of other tests on the compressors.
HITACHI units are produced according to the ISO certification system.

The Hitachi Air Conditioning Products (M) Sdn.Bhd production facility (HAPM - Kuala Lumpur, Malaysia) has acquired the International Standard Quality Management System ISO 9001 and ISO 14001 certification. HAPM implements strict product quality control via a number of ambient tests.
HITACHI units are produced according to the ISO certification system.

The Tochigi production facility and other subsidiary factories have acquired the International Standard Quality Management System ISO 9001 and ISO 14001 certification.
The Tochigi production facility implements strict product quality control through a number of ambient tests.
HITACHI units are produced according to the ISO certification system.

All Hitachi products feature the required "CE" mark, as well as taking part in the EUROVENT certification program.
Participation in this program offers an additional guarantee for installers and end users because performance and all the most significant operation parameters are impartially certified.