

VRF Catalogue

HITACHI

Cooling & Heating



CONTENTS



04 SET FREE SIGMA

- 06 Description and range overview
 - 08 Features
 - 28 Specifications
 - 44 Accessories
-

46 SYSTEM FREE - INDOOR UNITS

49 DIRECT EXPANSION

- 50 Cassette type
- 54 Duct type
- 58 Wall mounted type
- 60 Floor type
- 62 Ceiling type
- 64 DX Interface Kit

66 HYDROFREE: Air to Water indoor units

- 68 Low temperature
- 70 High temperature

73 AIR RENEWAL

- 74 KPI: Heat Recovery Ventilators
- 78 Econofresh: Ventilation for ducts
- 80 DX Kit Serie 2: Accessory for AHU

84 CONTROLS AND ACCESSORIES

- 85 Individual controls
 - 89 Receivers and sensors
 - 90 Centralized controls
 - 92 BMS and Gateways
-

100 SIDE FLOW VRF

- 104 Utopia IVX Comfort
 - 114 Utopia IVX Premium
 - 122 Utopia DX Condensing unit
 - 126 Mini VRF
-

136 CENTRIFUGAL VRF

- 138 RASC Centrifugal VRF
-



SET FREE SIGMA ADVANCED VRF SERIES

Improved performance in more sizes
increases design flexibility



HITACHI SET FREE SIGMA LINE-UP OVERVIEW

The Set Free Sigma Series is newly launched with a wide range of models in its lineup, as well as a variety of performance enhancements in design, power and economy. Select the product(s) most suitable for your application, either as a single unit or a combination of single units.

(HP Class / Cooling Capacity / Heating Capacity / Net Weight)



8HP Class / 22.4kW / 25.0kW / 225kg
10HP Class / 28.0kW / 31.5kW / 226kg
12HP Class / 22.5kW / 37.5kW / 248kg



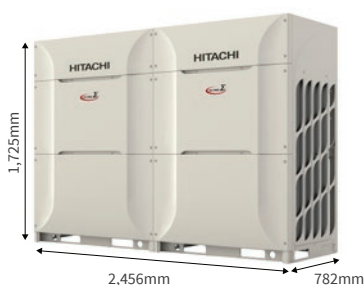
14HP Class / 40.0kW / 45.0kW / 308kg
16HP Class / 45.0kW / 50.0kW / 310kg
18HP Class / 50.0kW / 56.0kW / 356kg



20HP Class / 56.0kW / 63.0kW / 390kg
22HP Class / 61.5kW / 69.0kW / 415kg
24HP Class / 68.0kW / 75.0kW / 416kg



26HP Class / 73.0kW / 81.5kW / 536kg
28HP Class / 78.5kW / 87.5kW / 558kg



30HP Class / 85.0kW / 95.0kW / 618kg
32HP Class / 90.0kW / 100.0kW / 620kg
34HP Class / 95.0kW / 106.0kW / 666kg



36HP Class / 101.0kW / 113.0kW / 700kg
38HP Class / 106.5kW / 119.0kW / 725kg
40HP Class / 113.0kW / 125.0kW / 726kg
42HP Class / 118.0kW / 131.0kW / 772kg



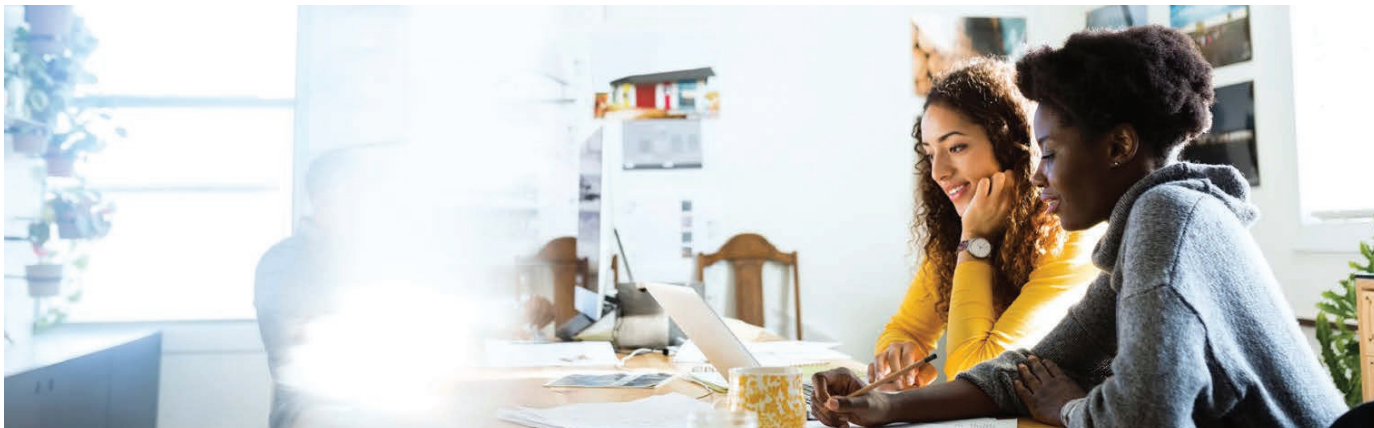
44HP Class / 124.0kW / 138.0kW / 806kg
46HP Class / 129.5kW / 144.0kW / 831kg
48HP Class / 136.0kW / 150.0kW / 832kg



50HP Class / 140.0kW / 156.0kW / 976kg



52HP Class / 146.0kW / 163.0kW / 1,010kg
54HP Class / 151.5kW / 169.0kW / 1,035kg
56HP Class / 158.0kW / 175.0kW / 1,036kg
58HP Class / 163.0kW / 181.0kW / 1,082kg



60HP Class / 169.0kW / 188.0kW / 1,116kg

62HP Class / 174.5kW / 194.0kW / 1,141kg

64HP Class / 181.0kW / 200.0kW / 1,142kg

66HP Class / 186.0kW / 206.0kW / 1,188kg



68HP Class / 192.0kW / 213.0kW / 1,222kg

70HP Class / 197.5kW / 219.0kW / 1,247kg

72HP Class / 204.0kW / 225.0kW / 1,248kg



74HP Class / 208.0kW / 231.0kW / 1,392kg



76HP Class / 214.0kW / 238.0kW / 1,426kg

78HP Class / 219.5kW / 244.0kW / 1,451kg



80HP Class / 224.0kW / 252.0kW / 1,560kg

82HP Class / 229.5kW / 258.0kW / 1,585kg

84HP Class / 236.0kW / 264.0kW / 1,586kg

86HP Class / 241.5kW / 270.0kW / 1,611kg

88HP Class / 248.0kW / 276.0kW / 1,612kg

90HP Class / 253.5kW / 282.0kW / 1,637kg

92HP Class / 260.0kW / 288.0kW / 1,638kg

94HP Class / 265.5kW / 294.0kW / 1,663kg

96HP Class / 272.0kW / 300.0kW / 1,664kg

SUMMARY TABLE

Item		Unit	SIGMA Series
Capacity	HP class		8- 96
	Nominal Cooling	kW	22.4 - 272.0
	Nominal Heating	kW	25.0 - 300.0
Maximum connectable indoor unit quantity			13 - 64
Combination capacity ratio between ODU and IDU		%	50 - 130
Maximum piping length	Total piping length		m 1,000
	Refrigerant piping length	Actual	m 165
		Equivalent	m 190
	Between piping connection kit and each outdoor unit		m 10
	Between 1st branch multi kit and farthest indoor unit		m 90
	Between multi kit and each indoor unit		m 40
	Between outdoor units (combination of base units)		m 0.1
Maximum level difference **	Between outdoor unit and indoor units	ODU above IDU	m 50 (standard) / up to 110m (custom order)
		IDU above ODU	m 40
	Between indoor units		m 30
Cooling operation range *		°C DB	-5 to 52
Heating operation range *		°C WB	-20 to 15

* For more details, please consult your distributors or dealer, or, refer to technical catalogue.

** Concerning maximum level difference between ODU and IDU (ODU above IDU),

Standard: up to 50m/Custom Order: up to 110m.

Longer piping (up to 110m) is available for 8 to 54HP models only.

Maximum level difference for 56-96HP is 90m.

SET FREE SIGMA

ADVANCED VRF SERIES

HIGH COMBINATION POSSIBILITIES

- 8 to 96 HP combination for Standard range
- 5 to 72 HP combination for High Efficiency range

SUITABLE FOR HEATPUMP AND HEAT RECOVERY APPLICATIONS

Set Free Sigma outdoor units can be installed at 2 pipes and 3 pipes applications

HIGH CAPACITY MODULES

Up to 24HP on a single module unit

SMOOTH CONTROL

State of the art control and precise compressor leads to the better efficiency and comfort

HIGH EFFICIENCY

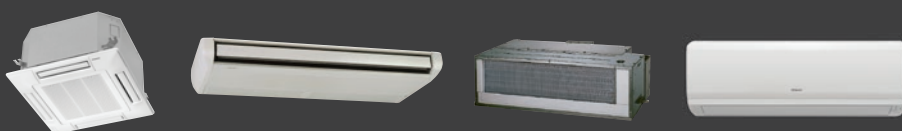
Best efficiency thanks to a complete redesign of compressor, heat exchanger and fan air path design



SYSTEM FREE COMPATIBILITY

WIDE INDOOR UNIT RANGE TO FIT EVERY APPLICATION NEEDS

INDOOR UNITS



Cassette: 1 to 16 kW (0.4 - 6 HP)

Ceiling: 4 to 16 kW (1.5 - 6 HP)

Floor mounted: 2.8 to 7 kW (1 - 2.5 HP)

Ducted (mini, low profile, high pressure) 1 to 56 kW (0.4 - 4 HP)

Wall mounted: 1 to 11 kW (0.4 - 4 HP)

VENTILATION



Heat recovery ventilators

Active and passive ventilators: 250-2000 m³/h

DX-Kit

Enables connection to third party AHU: 7 to 31 kW (500 to 5300 m³/h)

WATER MODULES

Low Temperature and High Temperature: 7 kW to 20 kW

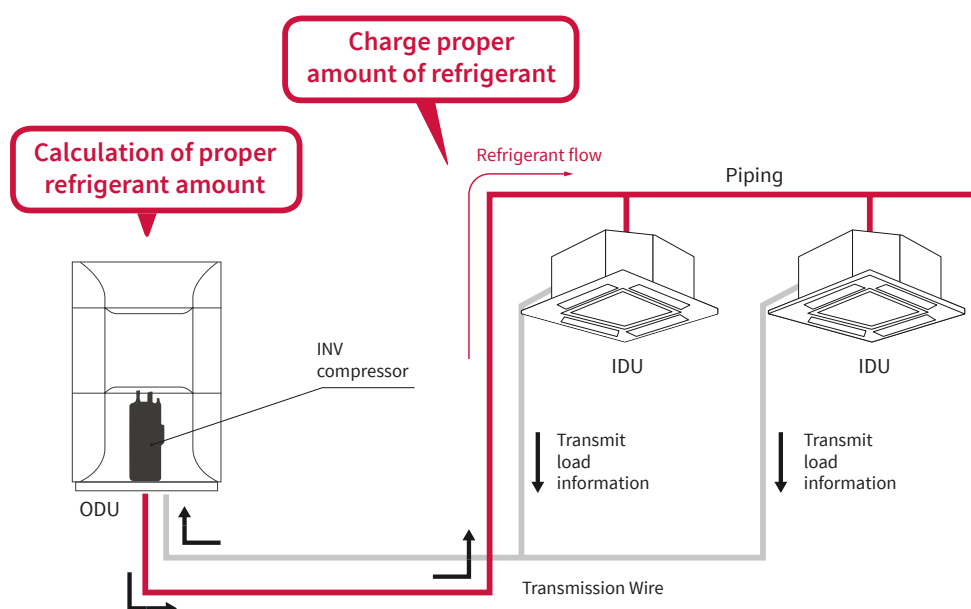
Hot water production (also cooling for specific models)



SMOOTH CONTROL

Real time load control

The model calculates the appropriate amount of coolant supplied by the outdoor units on the basis of information about the required load from the individual indoor units. The model employs smooth operation control to control the number of revolutions of the inverter compressor. The model supplies the appropriate amount of coolant to the indoor units according to the required load. The model increases energy-saving efficiency by operating smoothly while controlling the switching on and off of the compressor at low-load.



Smart refrigerant temperature control

Increasing evaporating temperature set point has some benefits and disadvantages:

HIGH TEMPERATURE	LOW TEMPERATURE
• Operation at lower compressor frequencies → Increased seasonal cooling efficiency • Less dehumidification • Less risk of cold draft feeling thanks to higher air discharge temperature	• Slower response
EFFICIENCY	COMFORT

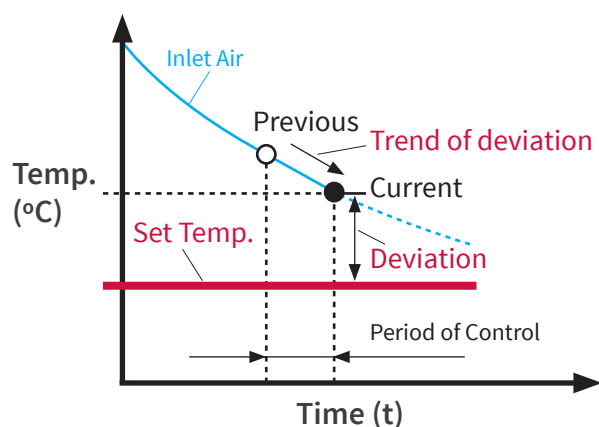
EFFICIENCY?

OR

COMFORT?

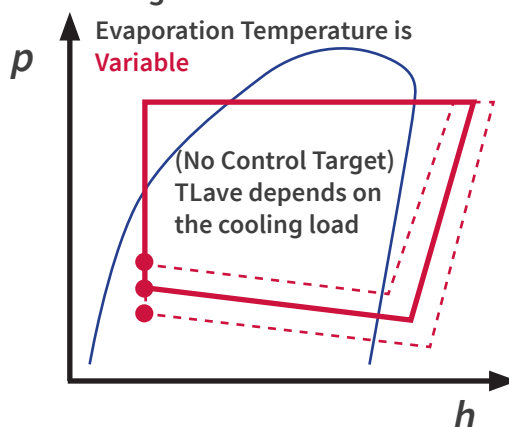
SMART REFRIGERANT TEMPERATURE CONTROL

Smart Refrigerant Temperature control is adaptative, so for if load is low or the set temperature is close to the actual one, will prevail evaporating temperature increase. In contraposition, if load demand is high or difference from set point and real temperature is high, evaporating temperature is decreased and compressor frequency is increased.



Tracking parameters

Ex. Cooling



Operation working point

Inlet air temp. and Set temp. difference	Speed to reach T Set Temp.
Large	Slow
Small	Fast

Evaporating temperature	Compressor frequency
Reduced	Increased
Increased	Reduced

EXAMPLE



Meeting Room, mid season

High cooling needs: occupancy (variable), computers and sun

Evaporating temperature is decreased :

Blown air temperature = 8°C
Cooling capacity = 100%, nominal energy consumption



Office desk

Low cooling needs : stable occupancy

Evaporating temperature is increased :

Blown air temperature = 16°C
Cooling capacity = 53%, with 30% energy consumption savings

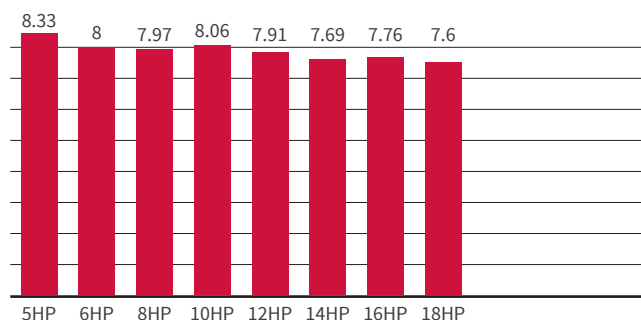
HIGH EFFICIENCY

HIGH EFFICIENCY

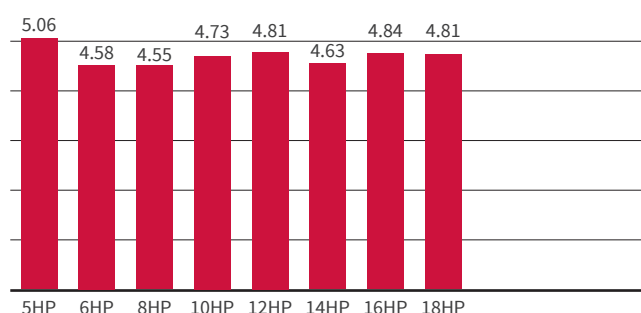
Set free Sigma is achieving outstanding performance results due to its core components new design. Heat exchanger, compressor and exhaust fans have been completely updated.

Efficiency Ratio

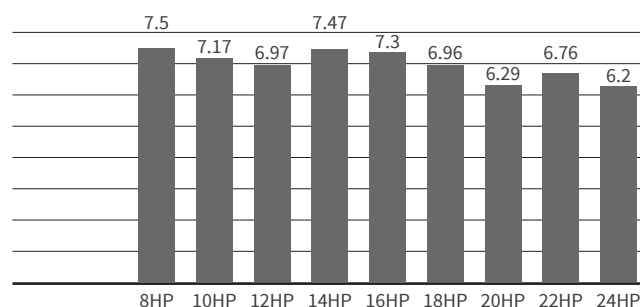
High Efficiency SEER



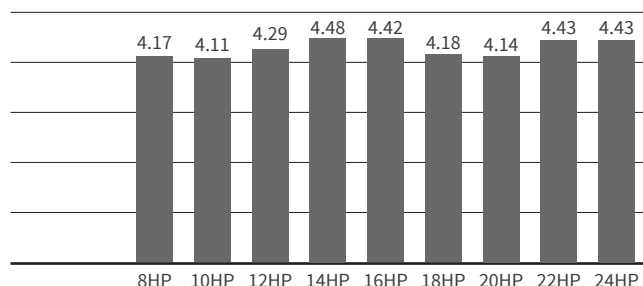
High Efficiency SCOP



Standard SEER

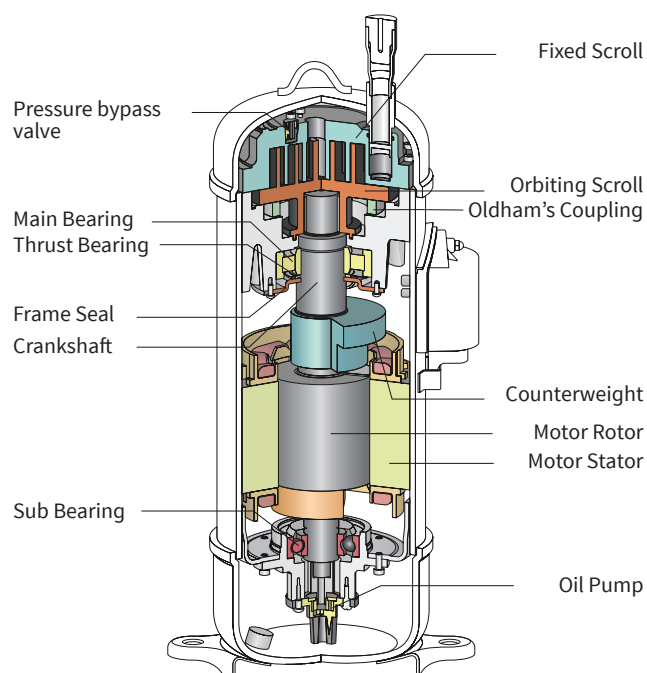


Standard SCOP



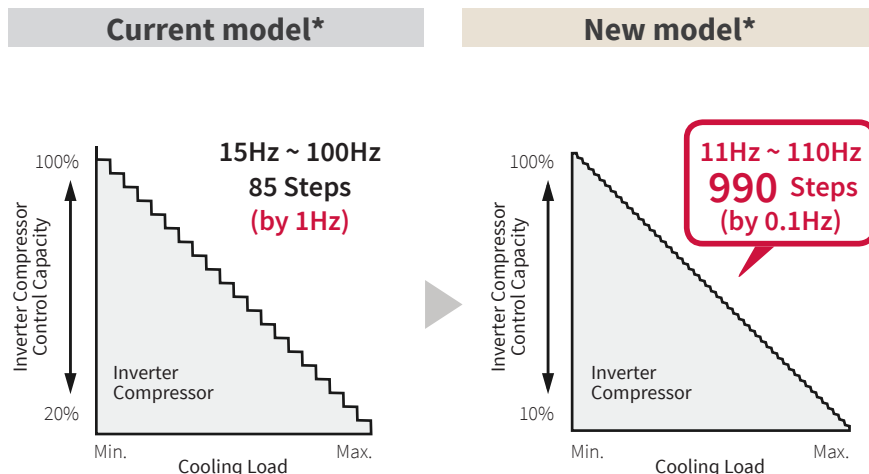
Improved Compressor

Compressor has been completely redesigned achieving efficiency increases (nominal capacity) of +4% compared vs previous model.



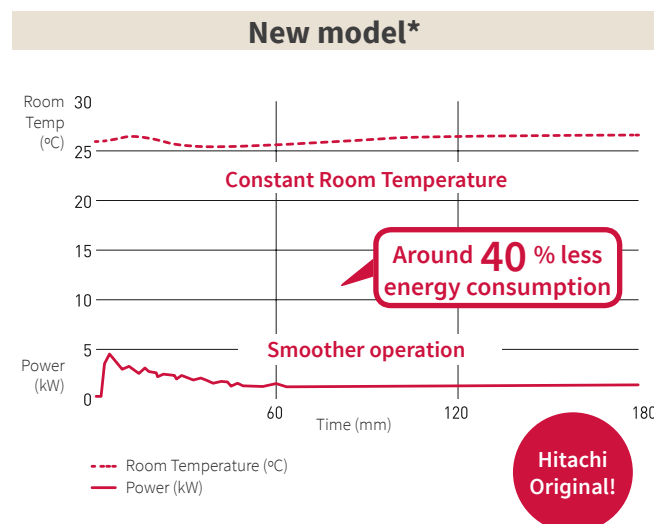
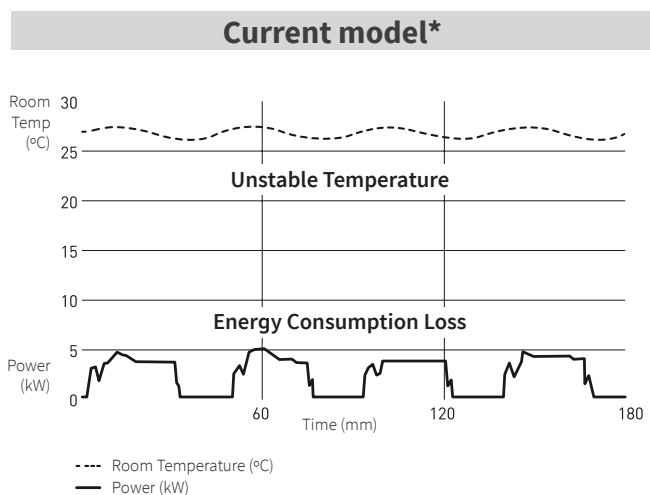
Greater capacity control

The highly improved performance as well as greater energy saving is achieved by adopting newly developed high efficiency DC inverter compressor, with outstandingly precise control technology of 0.1Hz increments inverter frequency. Another feature is the dramatically extended working range, menabled by expanding the compressor's operating frequency band, both upwards and downwards.



*Example at 12HP

Compressor has been completely redesigned achieving efficiency increases (nominal capacity) of +4% compared vs previous model.



HIGH EFFICIENCY

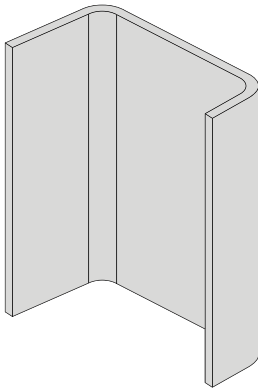
HIGH EFFICIENCY

New Heat Exchanger

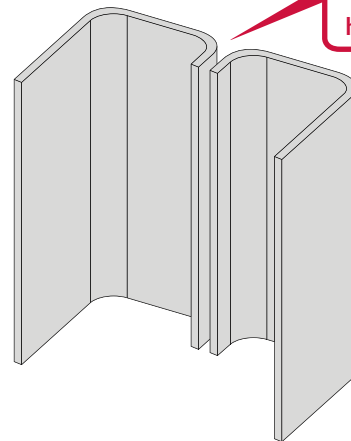
Heat exchanger shape (Σ shape) and angle have been redesigned, achieving an increase of +10% of the Exchange Surface and consequently the energy efficiency.

New shape

Current model (14-16HP)

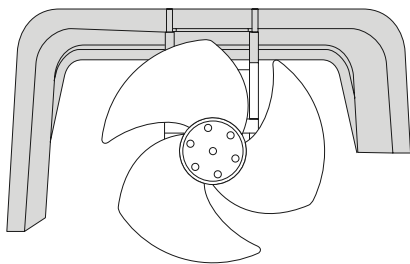


New model (14-24HP)

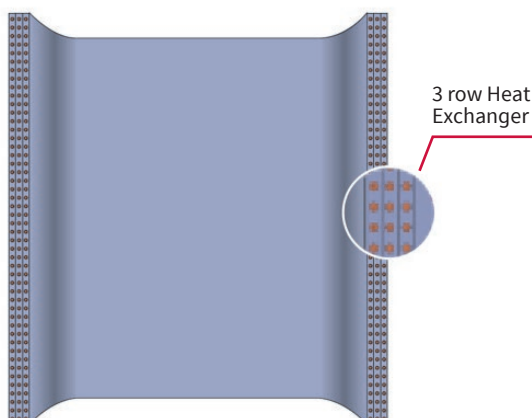
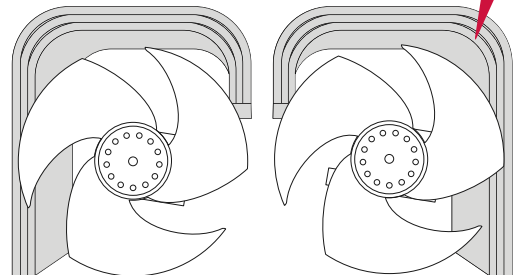


New angle

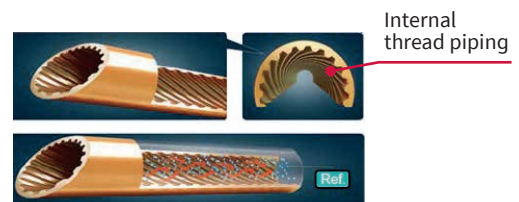
Current model (14-16HP)



New model (14-24HP)



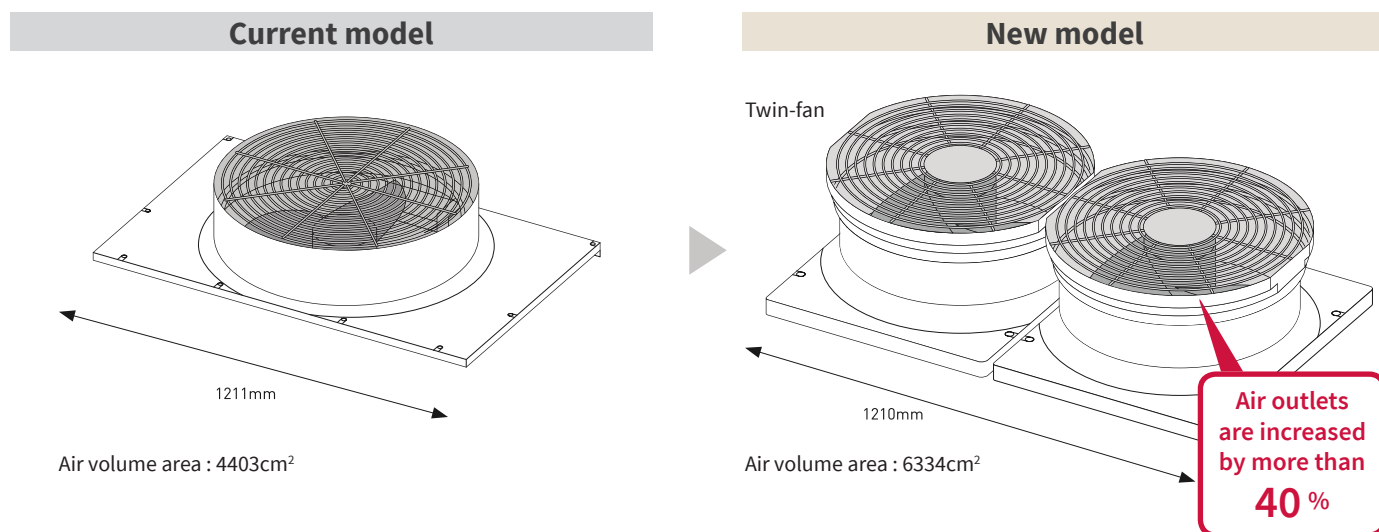
New 3 row Heat Exchanger adapts a newly developed High Efficiency Heat transfer fin for optimum performance. Internal tread piping enhances even more the results.



New Fan Design

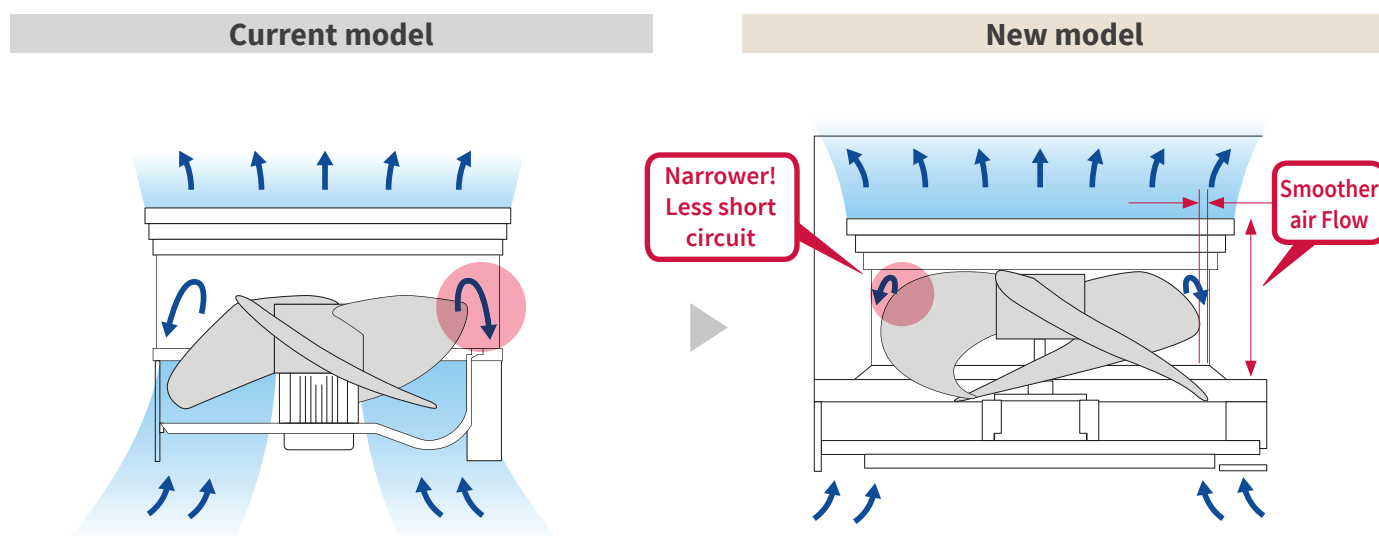
Exhaust fans have been redesigned, achieving an increase of the airflow volume by 23% (12HP). Energy consumption in the driving shaft has decreased by 20% on average.

Expansion of Air Outlets



Improvement in bell-mouth

Air path at the exhaust fans has been redesigned in order to minimize air short circuits and consequently improve heat exchange efficiency.



IMPROVED COMFORT

OUTLET AIR TEMPERATURE SETTING

Main needs for cooling at VRF installations might depend on the use given:

- Room with variable occupation → reactive system with maximum cooling capacity and low evaporating temperature
- Room with stable occupation → Energy efficiency and comfort can be optimized with high evaporating temperature. Low outlet air temperature might lead to discomfort for the user



Main problem with VRF are:

- Air temperature too cold
- Compromise between comfort and cooling capacity

Minimum blown air temperature	User Comfort	Energy consumption	Cooling capacity
8°C	★ ★	Std	100%
12°C	★ ★ ★	Std	76%
14°C	★ ★ ★ ★	-15%	65%
16°C	★ ★ ★ ★ ★	-30%	53%

Custom outlet air setting

User can select outlet air temperature for each of the indoor units of the system independently.

This allows different settings depending on different uses or preferences for each room.

Setting can be accessed with:



PC-ARF1*



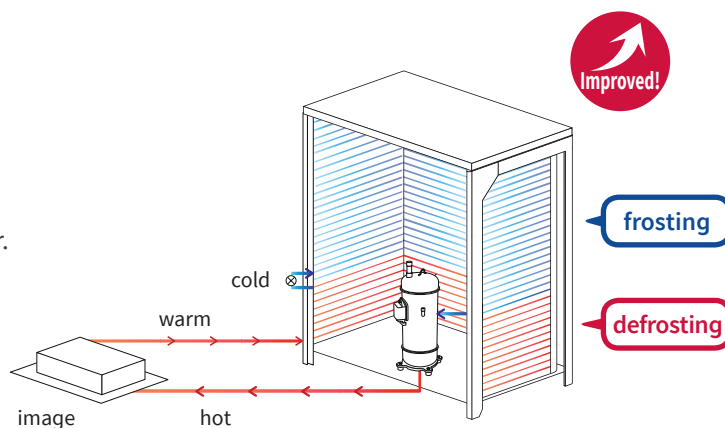
CS Net Manager & Web

*Available summer 2018

IMPROVED COMFORT - DEFROSTING

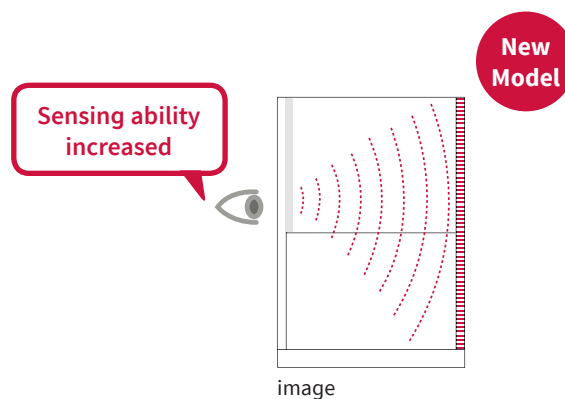
Prevention

For defrosting prevention, the model controls frost and ice formation during heating operation by running mid-temperature coolant (5°C-20°C) before decreasing the pressure through a heat exchanger to control frost and ice formation on the lower part of the outdoor heat exchanger.



Better Sensing

Even while defrosting, Hitachi's original sensing function has improved the system for detecting the frost amount.

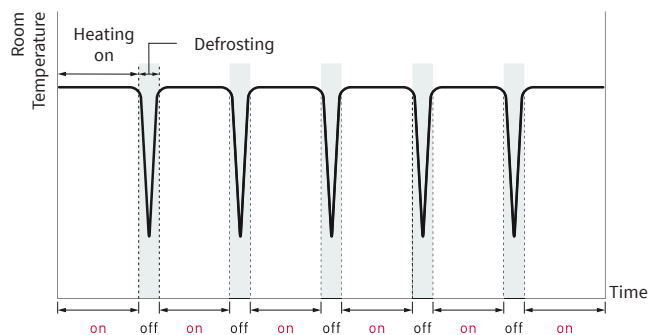


More efficient defrosting

In addition, the defrosting interval has been increased by more than 200%, from 120 minutes to 250 minutes. Undertakes defrosting more efficiently, rather than unnecessary defrosting every two hours.

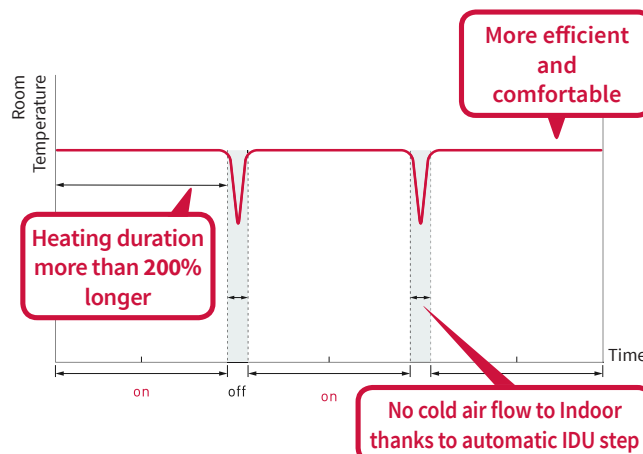
Current Model (image)

Unstable Temperature



New model (image)

More constant Temperature



DESIGN FLEXIBILITY

DESIGN FLEXIBILITY



**SINGLE
MODULE
24HP**

Compact

Combination Comparison of Outdoor Unit

	8 to 24HP	26 to 48HP	50 to 72HP	74 to 96HP
Standard FSXNSE	 Single Module	 Two Units	 Three Units	 Four Units
	8 to 18HP	20 to 36HP	38 to 54HP	56 to 72HP
High Efficiency FSXNPE	 Single Module	 Two Units	 Three Units	 Four Units

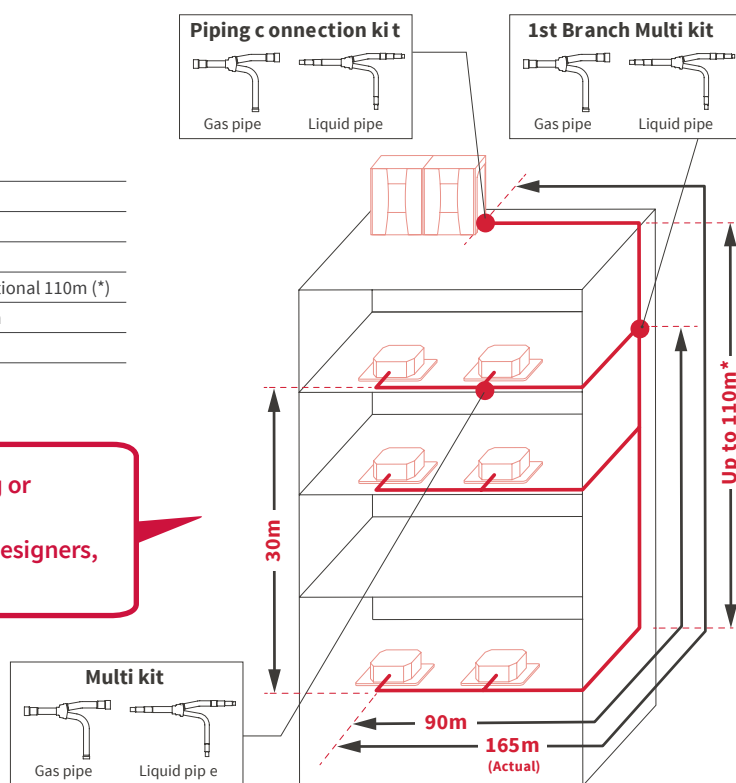
Piping Connection Workability

Heat pump: 2 pipes installation

Total piping length	1000m	
Longest length actual (Equivalent)	165m (190m)	
Longest length after first branch	90m	
Level difference between ODU and IDU	Higher ODU	Standard 50m Optional 110m (*)
	Lower ODU	40m
Level difference between IDUs	30m	

* Please consult your distributor or dealer if the height difference is over 50m.

- Suitable for a highrise building or complex facilities.
- Leads to cost/time saving for designers, with more efficient design.



Better Piping Limit

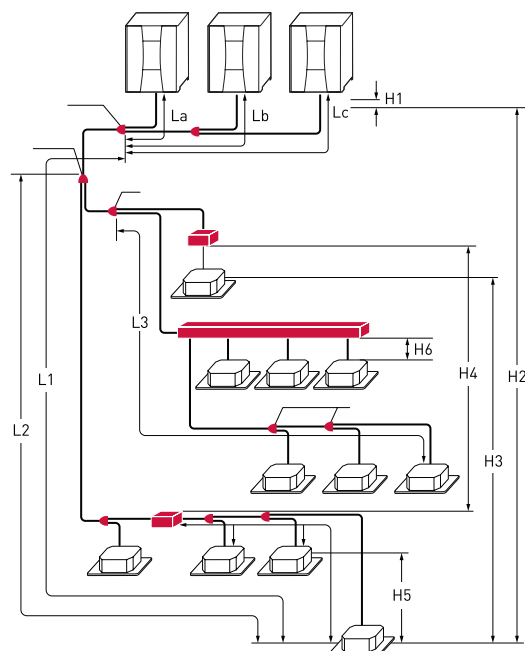
Heat recovery: 3 pipes installation

		Example	Height (m)
Maximum Piping Length	Total piping length	-	1000
	Refrigerant piping length	L1	165 (190)
	Between Piping connection kit and each ODU	La, Lb, Lc	10
	Between "1st branch Multi-kit" and the farthest IDU	L2	90
	Between "Multi-kit" and each IDU	L3	40
Total piping length Between CH-Box and IDU		-	40

		Example	Height (m)
Maximum Height Difference	Between ODUs (combination of base units)	H1	0.1
	Between ODUs and IDUs	H2	ODU is higher than IDU $\leq 110(*)$
			IDU is higher than ODU 40
	Between IDUs	H3	15
	Between CH-Box	H4	15
	Between IDUs connecting to one CH-Box	H5	4
Between IDU and CH-Box		H6	≤ 15

Each maximum length or height difference has several conditions, please refer to the technical documents in inquiry.

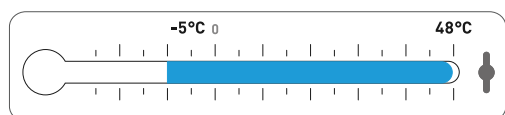
(*) Custom Order: up to 110m / Standard: up to 50m



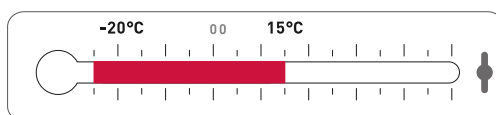
Operation Temperature Range

Expansion of scope of outdoor operating temperature

Cooling Capacity Range	°C DB	-5 to 48 (-10 to 52°C for High Efficiency series)
Heating Capacity Range	°C WB	-20 to 15



Cooling mode



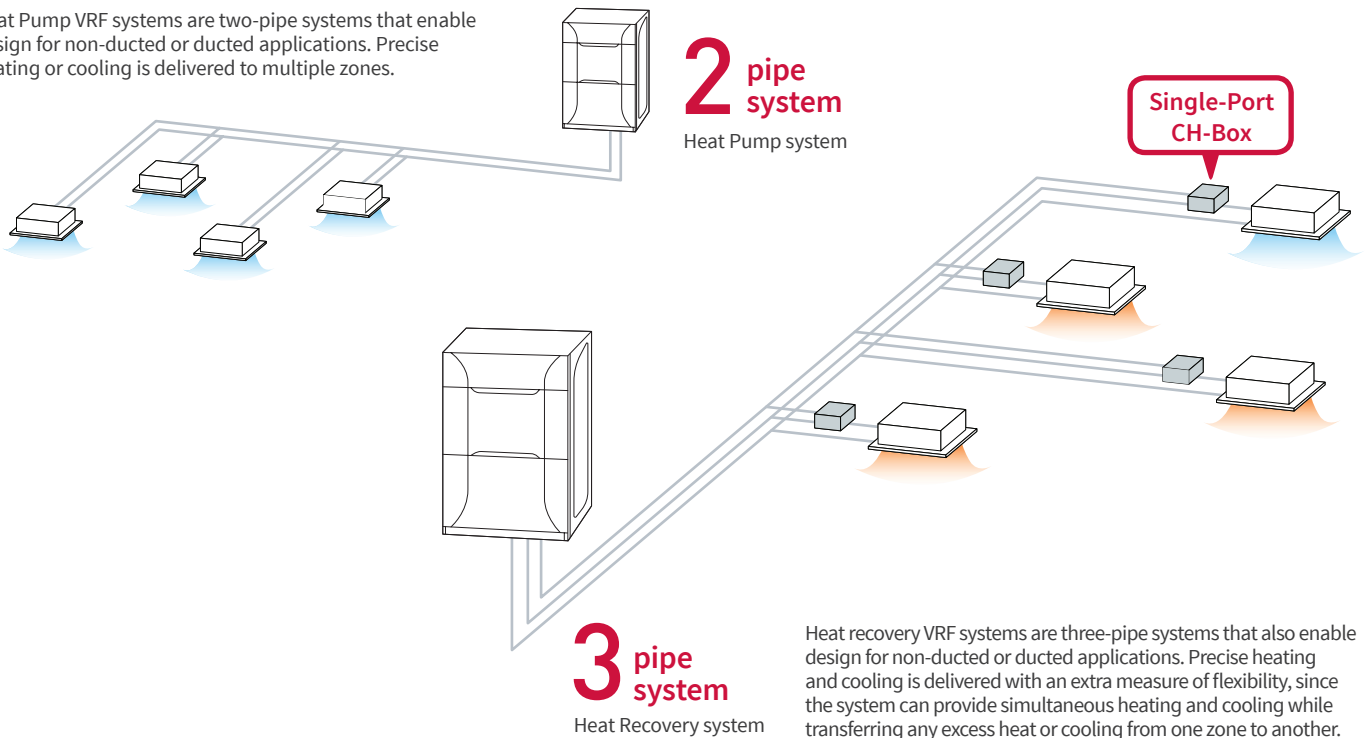
Heating mode

RECOVERY SYSTEM

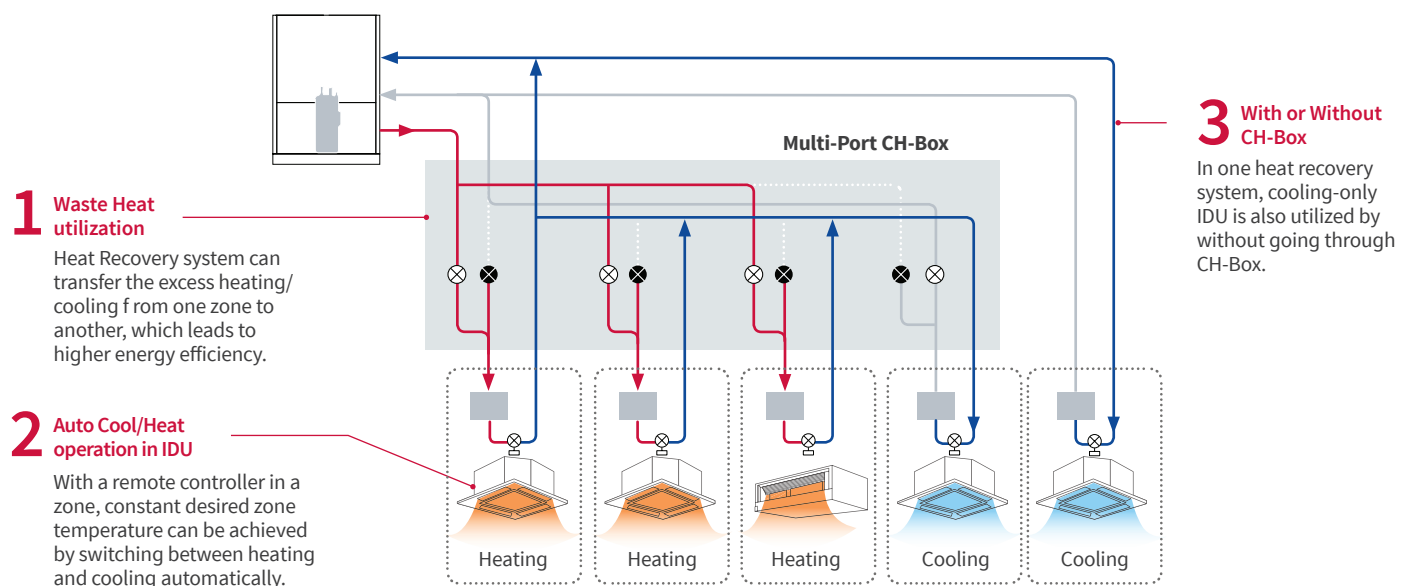
WHAT IS HEAT RECOVERY SYSTEM ?

Heat Pump system and Heat Recovery system

Heat Pump VRF systems are two-pipe systems that enable design for non-ducted or ducted applications. Precise heating or cooling is delivered to multiple zones.

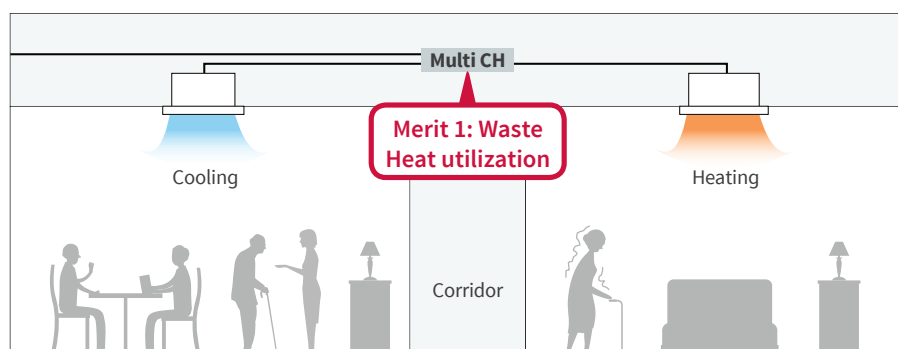


Merits in Heat Recovery system



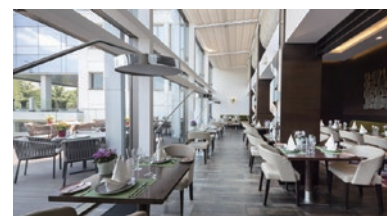
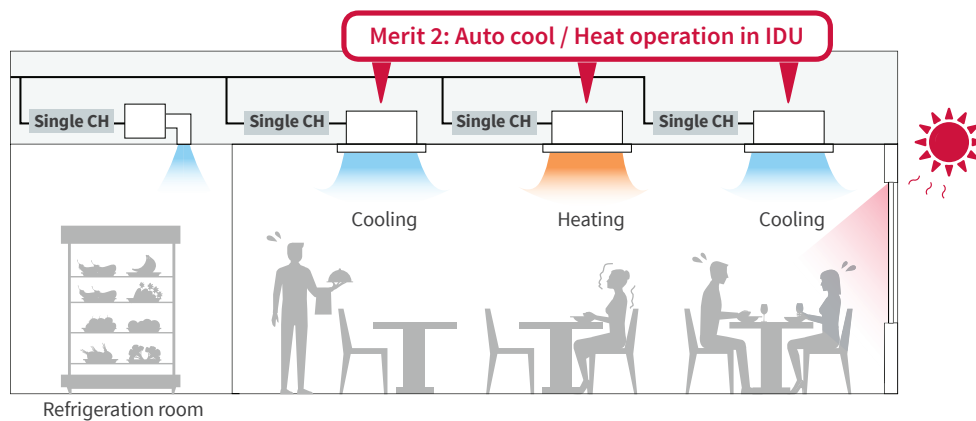
Recommended Applications

Nursing home in all season



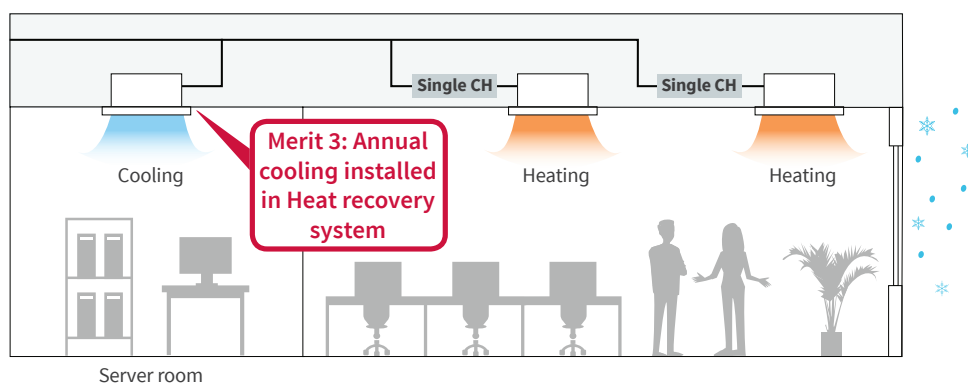
Heat Recovery system able to individual heating and cooling simultaneously along each room's requirement.

Restaurant in shoulder season



In AUTO mode, by thermistor built in IDU air inlet or RCS, IDU check the gap between the current temperature and set-point, which leads to the great comfortability and energy saving as well.

Office in winter season



Cooling-only IDU is also utilized in the heating recovery system, which is useful for small server room for offices.

DESIGN FLEXIBILITY

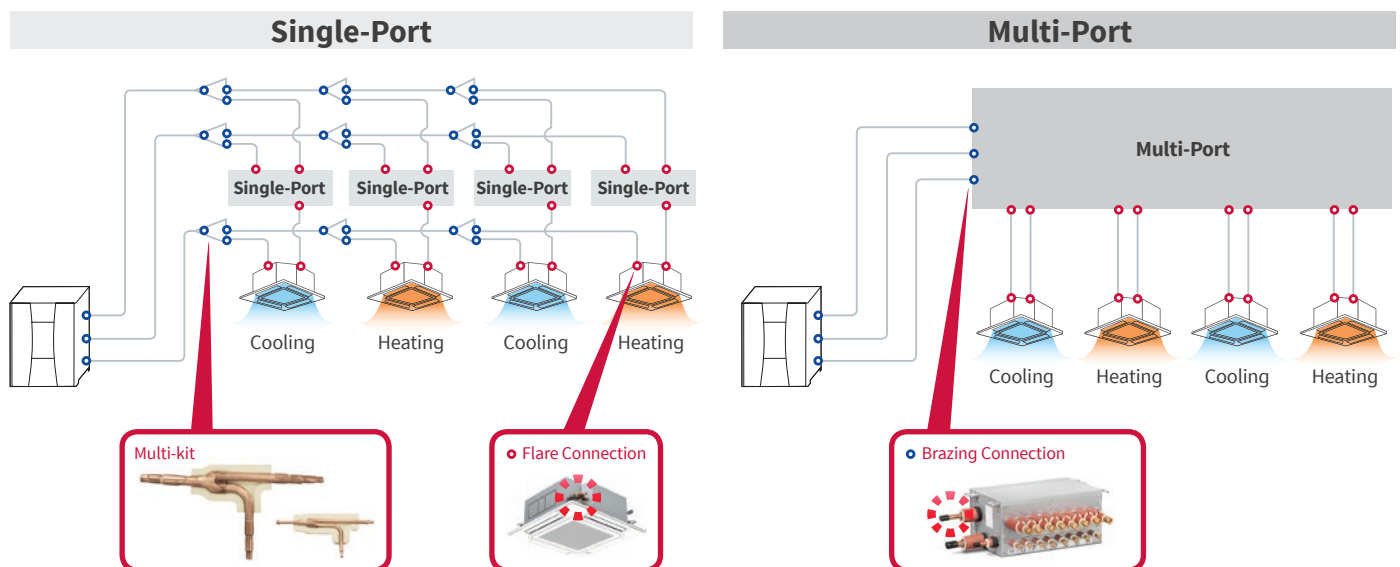
DESIGN FLEXIBILITY

New CH-Box (Change-Over Box)

Wider line-up

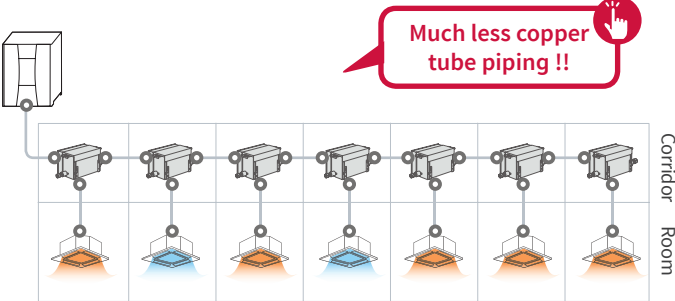
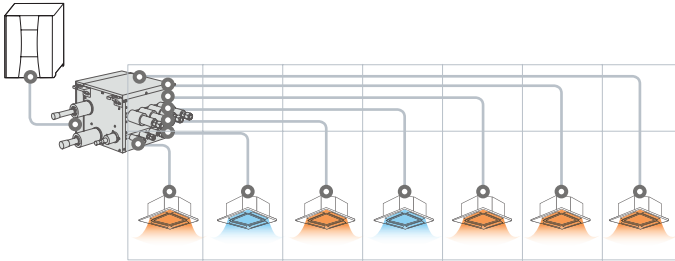
Type		Single-Port		Multi-Port				
Model Name		CH-AP160SSX	CH-AP280SSX	CH-AP04MSSX	CH-AP08MSSX	CH-AP12MSSX	CH-AP16MSSX	
Images								
Dimensions (H*W*D)		mm	191 × 301 × 214	191 × 301 × 214	260 × 303 × 352	260 × 543 × 352	260 × 783 × 352	260 × 1023 × 352
N/W		kg	6 ↓	6 ↓	14	25	36	47
Electrical Details	Power Supply	AC1Ø 230V/50Hz, 220-240V/50Hz, 220V/60Hz			AC1Ø 230V/50Hz, 220-240V/50Hz, 220V/60Hz			
	Power Input	W	5	5	11.2	22.4	33.6	44.8
	Current	A	0.1	0.1	0.2	0.4	0.6	0.8
Maximum Total Capacity Index		kW	16	28	44.8	85	85	85
Number of port (for IDU)			1	1	4	8	12	16
Maximum Connectable IDUs per Port			7	8	6	6	6	6
Maximum Piping length	between CH-Box and the IDU				40 ↑			
Maximum Height difference	between CH-Box				15m			
	Between CH-Box and IDU				15m			
	between IDUs connecting to same CH-Box				4m			

System configuration

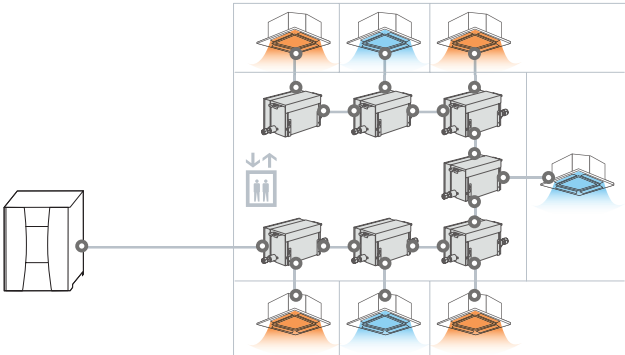
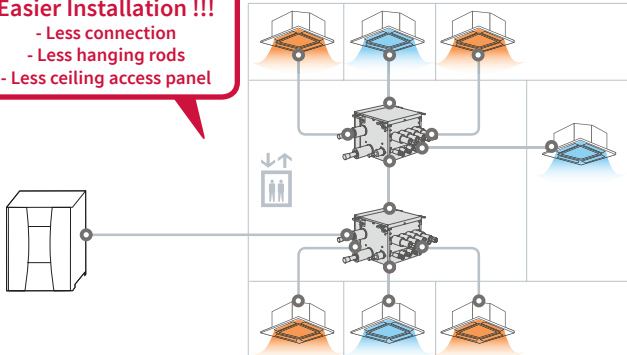


Which is better?

▼ "Long narrow building" application

Single-Port		Multi-Port	
			
Single-Port	Item	Multi-Port	
58 m	Total piping Length	136 m	
6	Needed multi-kit sets	0	
92 points (Brazing: 57 / Flare: 32)	Connection Points	34 points (Brazing: 6 / Flare: 28)	
14	Hanging Rods for CH-Box	4	
14 pieces	Total Ceiling Access Panel	8 pieces	

▼ "Central CH-Box location" application

Single-Port		Multi-Port	
			
Single-Port	Item	Multi-Port	
60 m	Total piping Length	63 m	
6	Needed multi-kit sets	1	
92 points (Brazing: 57 / Flare: 32)	Connection Points	40 points (Brazing: 12 / Flare: 28)	
14	Hanging Rods for CH-Box	8	
14 pieces	Total Ceiling Access Panel	9 locations	

Hitachi's CH-Box merit

Top-in-class compact body
Top-in-class light-weight unit

More Design Flexibility



No drain connection needed

Easier Installation



OPTIONAL FUNCTIONS

OPTIONAL FUNCTIONS

Low Noise Operation

Thanks to below 2 Design Changes

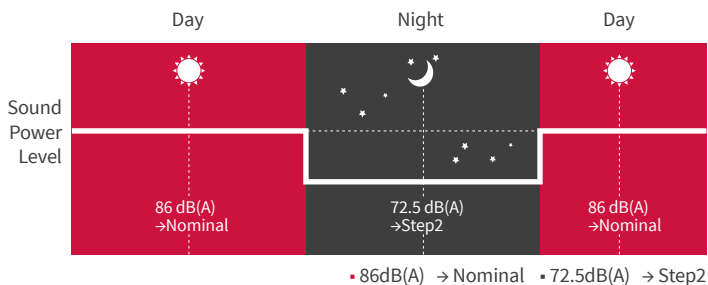
Sound Power Level	dB(A)							
HP	8	10	12	14	16	20	22	24
Current Model	81.5	82.5	84	85.4	85.5	86	87	87
New Model	80	82	82	85	85	86	84	86

-1.5 on Average!
The performance capability has increased, but the running Sound Power Level (dB(A)) has decreased.

Silent Mode

The user can set a (three-step) nighttime low-noise schedule using the control unit remote controller.
The user can set a schedule for operation that takes the ambient environment into account.

Setting example



	18HP	42HP
Noise Reduction mode	Sound Power Level	Sound Power Level
Nominal	86	89
Step1	82.5	86
Step2	77.5	81
Step3	72.5	76

Smart building ready

Built-in functions for up to 3 inputs:

- Reduce sound level down to -14,5 dB(A) with up to 3 stages
- Limit energy consumption between 0 and 100% with up to 4 stages
- Operate an emergency stop or a mode change between cooling and heating

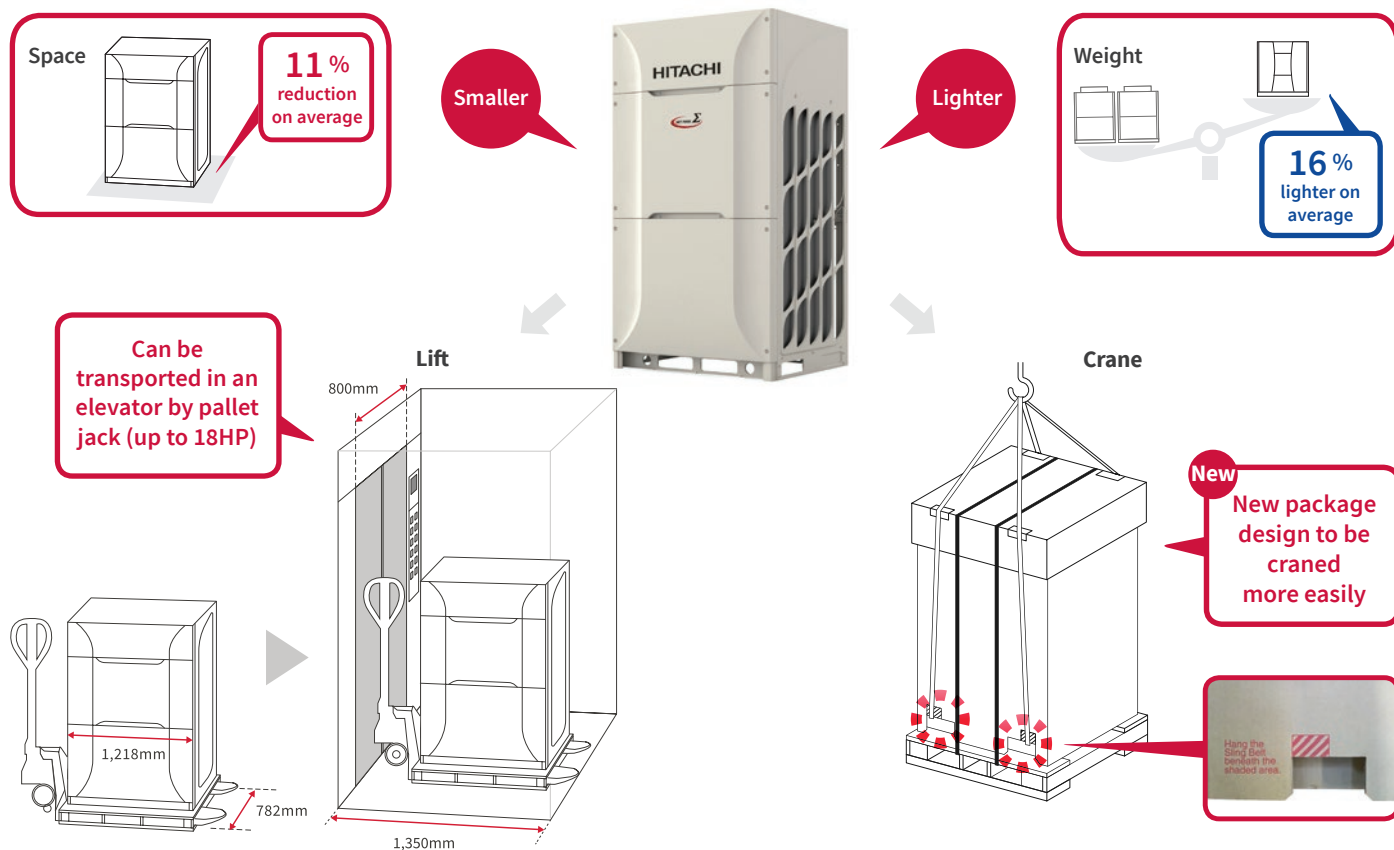
2 outputs to communicate operation status :

- Default alarm
- Compressor ON/OFF, defrosting...

EASY INSTALLATION

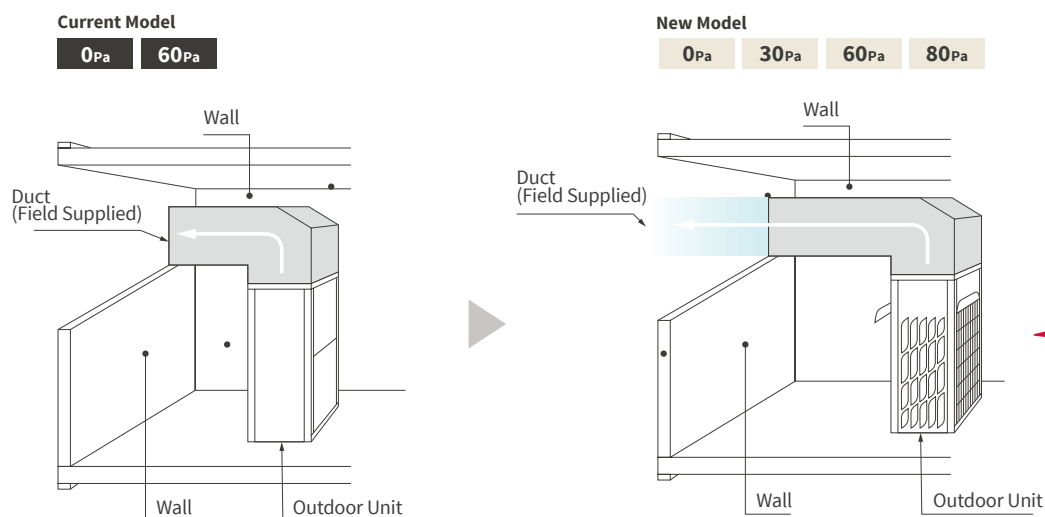
EASY INSTALLATION

Easy Transportation



Improved External Static Pressure

High static pressure for outdoor units: can handle up to 80Pa.



offers more options for the indoor installation of the outdoor unit

- Less piping length
- Lower installation cost
- Visual aesthetics

ADAPTABILITY

RELIABILITY & MAINTENANCE



Coating treatment over outer surface
(Zinc Phosphate and Polyester resin)

Highly corrosion resistant hot dip
coated

New

Lubrificant coating

Hydrophilic coating

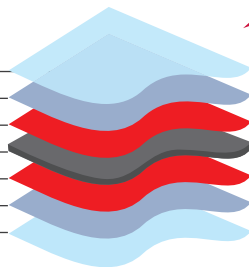
Epoxy coating for anti corrosion treatment

Aluminium fin

Epoxy coating for anti corrosion treatment

Hydrophilic coating

Lubrificant coating

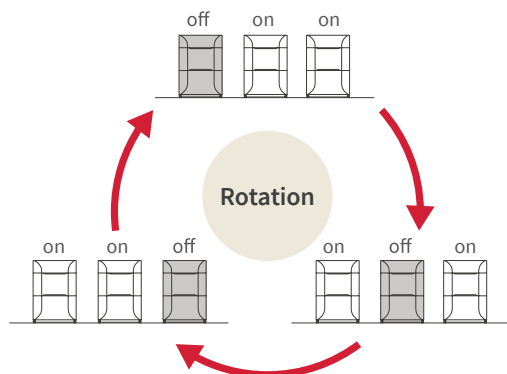


New 3 layer protection for the heat exchanger
allows to increase by +100% working life on
salty environment vs previous model

To prevent failure and emergency operation in case of failure

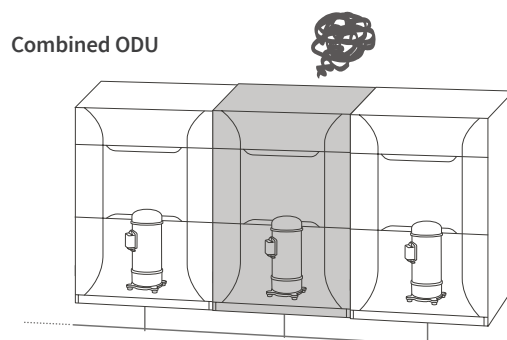
To prevent failure

Standardize the running time of the individual outdoor units and distribute the load by rotating the order of operation of the compressors of the outdoor units.



Back up function

Full introduction of backup operation function. If one outdoor unit should fail, the model can continue to operate using the remaining outdoor units, thereby preventing total system failure.



Maintenance Ease

Total Structure Change

New Structure:

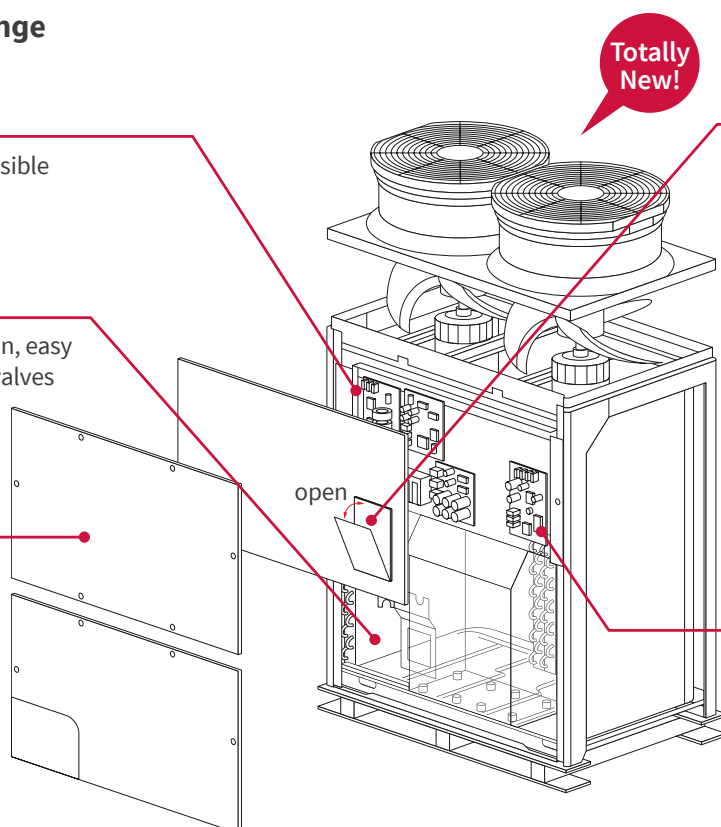
In upper section, all PCB visible and easily accessible

New Structure:

More Space in lower section, easy access to compressors or valves

New Panel:

The upper panel (on the side of an electric box) can be independently detached from the lower panel (on the compressor chamber side)



Newly adopted window for 7-segment display:

Adopting access door to the electrical box in the upper panel, which leads to easy access to 7-segment display, PSW & DSW and so on



New DSW setting for Refrigerant pump-down:

Refrigerant evacuation: Enforced operation to open ODU EVO/EVB, IDU EVI, and Hi/Low pressure By-pass SVB

Tools

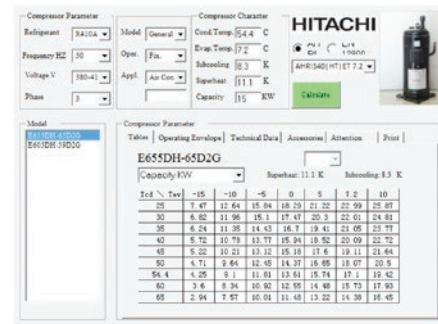
• Bim library



• Autocad library



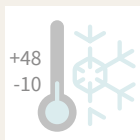
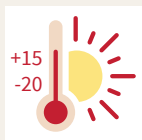
• Global Selection Software



SET FREE SIGMA

Standard FSXNSE

- ▶ Compact units from 8 to 24 HP
- ▶ Scope of performance 8 to 96 HP
- ▶ Combined with 2-pipe and 3-pipe systems
- ▶ High efficiency
- ▶ Freedom in piping design
- ▶ Wide selection of indoor units



			RAS-8FSXNSE	RAS-10FSXNSE	RAS-12FSXNSE
Nominal Cooling capacity		kW	22.4	28	33.5
Nominal Heating capacity		kW	25	31.5	37.5
EER			4.15	3.85	3.77
COP			4.75	4.57	4.1
SEER			7.5	7.17	6.97
SCOP			4.17	4.11	4.29
Operating range	Heating	°C	-20 ~ 15	-20 ~ 15	-20 ~ 15
	Cooling	°C	-10 ~ 48	-10 ~ 48	-10 ~ 48
Air flow rate		m³/min	165	170	190
External static pressure		Pa	80	80	80
Fan number			1	1	1
Sound power level		dB(A)	80	82	82
Sound pressure level		dB(A)	58 (53)	60 (53)	59 (54)
Dimensions (HxWxD)		mm	1725x959x784	1725x959x784	1725x959x784
Weight		kg	210	210	233
Compressor			1 inverter	1 inverter	1 inverter
Connectable indoor units (max.)			26	32	39
Recommended connectable indoor units (max)			8	10	10
Refrigerant			R410A	R410A	R410A
Refrigerant charge		kg (GWP)	5 (10.44)	5 (10.44)	7.2 (15.03)
Refrigerant pipe size **	Liquid	mm (inches)	Ø9.52 (3/8)	Ø9.52 (3/8)	Ø12.7 (1/2)
	Gas Low pressure	mm (inches)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø25.4 (1)
	Gas High pressure **	mm (inches)	Ø15.88 (5/8)	Ø19.05 (3/4)	Ø22.2 (3/4)
Power supply			3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
Maximum operating current		A	15.5	21.5	24

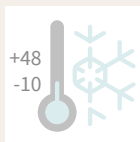
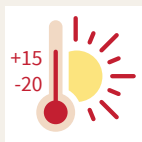


RAS-14FSXNSE	RAS-16FSXNSE	RAS-18FSXNSE	RAS-20FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE
40	45	50	56	61.5	67
45	50	56	63	69	77.5
3.3	3.25	3.35	3.01	3.01	2.99
3.74	3.37	3.29	3.35	3.19	3.4
7.47	7.3	6.96	6.29	6.76	6.2
4.48	4.42	4.18	4.14	4.43	4.43
-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15
-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48
239	256	256	329	329	348
80	80	80	80	80	80
2	2	2	2	2	2
85	85	86	86	84	86
63 (57)	63 (57)	65 (57)	65 (59)	64 (59)	66 (59)
1725x1219x784	1725x1219x784	1725x1219x784	1725x1609x784	1725x1609x784	1725x1609x784
289	332	333	382	396	397
1 inverter	2 inverter	2 inverter	2 inverter	2 inverter	2 inverter
45	52	58	64	64	64
16	16	16	18	20	26
R410A	R410A	R410A	R410A	R410A	R410A
8.9 (18.58)	9.9 (20.67)	10.7 (22.34)	11.3 (23.59)	11.3 (23.59)	11.6 (24.22)
Ø12.7 (1/2)	Ø12.7 (1/2)	Ø15.88 (5/8)	Ø15.88 (5/8)	Ø15.88 (5/8)	Ø15.88 (5/8)
Ø25.4 (1)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)
Ø22.2 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)	Ø25.4 (1)	Ø25.4 (1)
3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
29.5	33	37.5	44.5	45	53

SET FREE SIGMA

Standard FSXNSE

Two modules combination



			RAS-26FSXNSE	RAS-28FSXNSE	RAS-30FSXNSE	RAS-32FSXNSE
Combination models			RAS-12FSXNSE	RAS-12FSXNSE	RAS-12FSXNSE	RAS-14FSXNSE
			RAS-14FSXNSE	RAS-16FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE
Connection kit			MC-21AN1	MC-21AN1	MC-21AN1	MC-21AN1
Nominal Cooling capacity		kW	73	77.5	85	90
Nominal Heating capacity		kW	82.5	90	95	100
EER			3.12	3.45	3.51	3.04
COP			3.9	3.65	3.57	3.48
SEER			7.3	7.1	7.11	7.36
SCOP			4.39	4.35	4.22	4.3
Operating range	Heating	°C	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15
	Cooling	°C	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48
Air flow rate		m³/min	190+239	190+256	190+256	239+256
External static pressure		Pa	80	80	80	80
Fan number			1+2	1+2	1+2	2+2
Sound power level		dB(A)	87	87	87	89
Sound pressure level		dB(A)	64.5 (58)	64.5 (58.5)	66 (58)	67 (60)
Dimensions (HxWxD)		mm	1725x2198x784	1725x2198x784	1725x2198x784	1725x2458x784
Weight		kg	233+289	233+332	233+333	289+333
Compressor			1 inv+1 inv	1 inv+2 inv	1 inv+2 inv	1 inv+2 inv
Connectable indoor units (max.)			64	64	64	64
Recommended connectable indoor units (max)			26	32	32	32
Refrigerant			R410A	R410A	R410A	R410A
Refrigerant charge		kg (GWP)	16.1 (33.61)	17.1 (35.70)	17.9 (37.37)	19.6 (40.92)
Refrigerant pipe size **	Liquid	mm (inches)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
	Gas Low pressure	mm (inches)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)
	Gas High pressure **	mm (inches)	Ø25.4 (1)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)
Power supply			3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
Maximum operating current		A	24+29.5+37.5	24+33	24+37.5	29.5+37.5

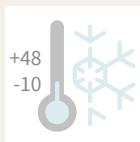
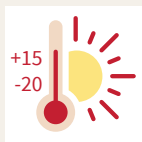


RAS-34FSXNSE	RAS-36FSXNSE	RAS-38FSXNSE	RAS-40FSXNSE	RAS-42FSXNSE	RAS-44FSXNSE	RAS-46FSXNSE	RAS-48FSXNSE
RAS-16FSXNSE	RAS-18FSXNSE	RAS-14FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-22FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE
RAS-18FSXNSE	RAS-18FSXNSE	RAS-24FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE
MC-21AN1	MC-21AN1	MC-21AN1	MC-21AN1	MC-21AN1	MC-21AN1	MC-21AN1	MC-21AN1
95	100	106	112	118	122	128	136
106	112	118	125	132	140	145	150
3.3	3.35	2.89	3.15	3.13	3.01	3	2.99
3.33	3.29	3.52	3.23	3.35	3.19	3.3	3.4
7.18	7.2	6.63	6.93	6.57	6.75	6.45	6.19
4.28	4.18	4.45	4.3	4.31	4.43	4.43	4.43
-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15
-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48
256x2	256x2	239+348	256+329	256+348	329x2	329+348	348x2
80	80	80	80	80	80	80	80
2+2	2+2	2+2	2+2	2+2	2+2	2+2	2+2
89	89	89	88	89	87	88	89
67 (62)	68 (60)	68 (61)	67.5 (61.5)	68.5 (61)	67 (62)	68 (62)	69 (62)
1725x2458x784	1725x2458x784	1725x2848x784	1725x2848x784	1725x2848x784	1725x3238x784	1725x3238x784	1725x3238x784
332+333	333+333	289+397	333+396	333+397	396+396	396+397	397+397
2 inv+2 inv	2 inv+2 inv	1 inv+2 inv	2 inv+2 inv	2 inv+2 inv	2 inv+2 inv	2 inv+2 inv	2 inv+2 inv
64	64	64	64	64	64	64	64
32	32	64	64	64	64	64	64
R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
20.6 (43.01)	21.4 (44.68)	20.5 (42.80)	22 (45.96)	22.3 (46.56)	22.6 (47.19)	22.9 (47.82)	23.2 (48.44)
Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
Ø31.75 (1-1/4)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)
Ø28.58 (1-1/8)	Ø28.58 (1-1/8)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)
3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
33+37.5	37.5+37.5	29.5+53	37.5+45	37.5+53	45+45	45+53	53+53

SET FREE SIGMA

Standard FSXNSE

Three modules combination



			RAS-50FSXNSE	RAS-52FSXNSE	RAS-54FSXNSE	RAS-56FSXNSE	
Combination models			RAS-14FSXNSE	RAS-16FSXNSE	RAS-18FSXNSE	RAS-14FSXNSE	
			RAS-18FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	
			RAS-18FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-24FSXNSE	
Connection kit			MC-30AN1	MC-30AN1	MC-30AN1	MC-NP31SA	
Nominal Cooling capacity			kW	140	145	150	157
Nominal Heating capacity			kW	155	160	165	176
EER				3.15	3.32	3.35	3.02
COP				3.41	3.31	3.29	3.44
SEER				7.3	7.18	7.2	6.79
SCOP				4.26	4.25	4.18	4.35
Operating range	Heating	°C	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	
	Cooling	°C	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	
Air flow rate			m³/min	239+256x2	256x3	256x3	239+256+348
External static pressure			Pa	80	80	80	80
Fan number				2+2+2	2+2+2	2+2+2	2+2+2
Sound power level			dB(A)	90	90	91	90
Sound pressure level			dB(A)	69 (62)	69 (62)	70 (62)	69.5 (62)
Dimensions (HxWxD)			mm	1725x3697x784	1725x3697x784	1725x3697x784	1725x4087x784
Weight			kg	289+333+333	332+333+333	333+333+333	289+333+397
Compressor				1 inv+2 inv+2 inv	2 inv+2 inv+2	2 inv+2 inv+2 inv	1 inv+2 inv+2 inv
Connectable indoor units (max.)				64	64	64	64
Recommended connectable indoor units (max)				64	64	64	64
Refrigerant				R410A	R410A	R410A	R410A
Refrigerant charge			kg (GWP)	30.3 (63.27)	31.3 (65.35)	32.1 (67.02)	31.2 (65.15)
Refrigerant pipe size **	Liquid	mm (inches)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	
	Gas Low pressure	mm (inches)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø44.45 (1-3/4)	
	Gas High pressure **	mm (inches)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø44.45 (1-3/4)	
Power supply				3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
Maximum operating current			A	29.5+37.5+37.5+53	33+37.5+37.5	37.5+37.5+37.5	29.5+37.5+53

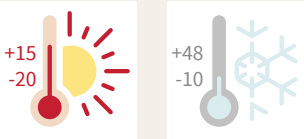


RAS-58FSXNSE	RAS-60FSXNSE	RAS-62FSXNSE	RAS-64FSXNSE	RAS-66FSXNSE	RAS-68FSXNSE	RAS-70FSXNSE	RAS-72FSXNSE
RAS-18FSXNSE	RAS-18FSXNSE	RAS-14FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-22FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE
RAS-18FSXNSE	RAS-18FSXNSE	RAS-24FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE
RAS-22FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE
MC-NP31SA	MC-NP31SA	MC-NP31SA	MC-NP31SA	MC-NP31SA	MC-NP31SA	MC-NP31SA	MC-NP31SA
162	167	174	179	184	190	196	201
181	188	196	202	207	213	220	225
3.21	3.2	2.93	3.09	3.08	3	3	2.99
3.25	3.33	3.47	3.3	3.37	3.26	3.33	3.4
7.01	6.75	6.45	6.63	6.43	6.54	6.36	6.19
4.26	4.27	4.44	4.35	4.35	4.43	4.43	4.43
-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15
-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48
256+256+329	256+256+348	239+348+348	256+329+348	256+348+348	329+329+348	329+348x2	348x3
80	80	80	80	80	80	80	80
2+2+2	2+2+2	2+2+2	2+2+2	2+2+2	2+2+2	2+2+2	2+2+2
90	91	90	90	91	90	90	91
69.5 (62)	70 (63)	70 (63)	70 (63)	70.5 (63)	70 (63)	70 (63.5)	71 (63.5)
1725x4087x784	1725x 4087x784	1725x4477x784	1725x4477x784	1725x4477x784	1725x4867x784	1725x4867x784	1725x4867x784
333+333+396	333+333+397	289+397+397	333+396+397	333+397+397	396+396+397	396+397+397	397+397+397
2 inv+2 inv+2 inv	2 inv+2 inv+2 inv	1 inv+2 inv+2 inv	2 inv+2 inv+2 inv	2 inv+2 inv+2 inv	2 inv+2 inv+2 inv	2 inv+2 inv+2 inv	2 inv+2 inv+2 inv
64	64	64	64	64	64	64	64
64	64	64	64	64	64	64	64
R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
32.7 (68.28)	33 (68.90)	32.1 (67.02)	33.6 (70.16)	33.9 (70.78)	34.2 (71.41)	34.5 (72.04)	34.8 (72.66)
Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)
Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)
Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)
3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
37.5+37.5+45	37.5+37.5+53	29.5+53+53	37.5+45+53	37.5+53+53	45+45+53	45+53+53	53+53+53

SET FREE SIGMA

Standard FSXNSE

Four modules combination



			RAS-74FSXNSE	RAS-76FSXNSE	RAS-78FSXNSE	RAS-80FSXNSE	
Combination models			RAS-14FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-14FSXNSE	
			RAS-18FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	
			RAS-18FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-24FSXNSE	
			RAS-24FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	
Connection kit			MC-NP40SA	MC-NP40SA	MC-NP40SA	MC-NP40SA	
Nominal Cooling capacity			kW	207	212	217	224
Nominal Heating capacity			kW	232	237	244	254
EER				3.09	3.24	3.23	3.01
COP				3.41	3.26	3.32	3.43
SEER				6.89	7.05	6.85	6.6
SCOP				4.31	4.24	4.24	4.37
Operating range		Heating	°C	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15
		Cooling	°C	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48
Air flow rate			m³/min	239+256x2+348	256x3+329	256x3+348	239+256+348x2
External static pressure			Pa	80	80	80	80
Fan number				2+2+2+2	2+2+2+2	2+2+2+2	2+2+2+2
Sound power level			dB(A)	92	92	92	92
Sound pressure level			dB(A)	71 (63.5)	71 (64)	71.5 (64)	71 (65)
Dimensions (HxWxD)			mm	1725x5326x784	1725x5326x784	1725x5326x784	1725x5716x784
Weight			kg	289+333+333+397	333+333+333+396	333+333+333+397	289+333+397+397
Compressor				1 inv+2 inv+2 inv+2 inv	2 inv+2 inv+2 inv+2 inv	2 inv+2 inv+2 inv+2 inv	1 inv+2 inv+2 inv+2 inv
Connectable indoor units (max.)				64	64	64	64
Recommended connectable indoor units (max)				64	64	64	64
Refrigerant				R410A	R410A	R410A	R410A
Refrigerant charge			kg (GWP)	41.9 (87.49)	43.4 (90.62)	43.7 (91.25)	42.8 (89.37)
Refrigerant pipe size **		Liquid	mm (inches)	Ø22.2 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)
		Gas Low pressure	mm (inches)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)
		Gas High pressure **	mm (inches)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)
Power supply				3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
Maximum operating current			A	29.5+37.5+37.5+53	37.5+37.5+37.5+45	37.5+37.5+37.5+53	29.5+37.5+53+53

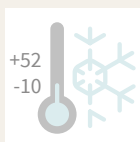
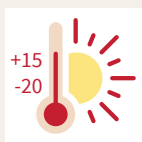


RAS-82FSXNSE	RAS-84FSXNSE	RAS-86FSXNSE	RAS-88FSXNSE	RAS-90FSXNSE	RAS-92FSXNSE	RAS-94FSXNSE	RAS-96FSXNSE
RAS-16FSXNSE	RAS-18FSXNSE	RAS-14FSXNSE	RAS-16FSXNSE	RAS-18FSXNSE	RAS-22FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE
RAS-18FSXNSE	RAS-18FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE
RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE
RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE
MC-NP40SA	MC-NP40SA	MC-NP40SA	MC-NP40SA	MC-NP40SA	MC-NP40SA	MC-NP40SA	MC-NP40SA
230	234	224	230	234	258	263	268
261	267	254	261	267	293	299	305
3.11	3.13	2.94	3.03	3.06	3	2.99	2.99
3.37	3.35	3.45	3.39	3.38	3.3	3.35	3.4
6.57	6.58	6.38	6.36	6.37	6.45	6.32	6.2
4.35	4.31	4.44	4.41	4.37	4.43	4.43	4.43
-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15
-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48	-10 ~ 48
256+256+348x2	256 x2+348x2	239+348x3	256+348x3	256+348x3	329x2+348x2	329+348x3	348x4
80	80	80	80	80	80	80	80
2+2+2+2	2+2+2+2	2+2+2+2	2+2+2+2	2+2+2+2	2+2+2+2	2+2+2+2	2+2+2+2
92	92	92	92	92	92	92	92
71 (65)	71.5 (65)	71.5 (65)	71.5 (65)	72 (65)	72 (65)	71.5 (65)	72 (65)
1725x5716x784	1725x5716x784	1725x6106x784	1725x6106x784	1725x6106x784	1725x6496x784	1725x6496x784	1725x6496x784
332+333+397+397	333+333+397+397	289+397+397+397	332+397+397+397	333+397+397+397	396+396+397+397	396+397+397+397	397+397+397+397
2 inv+2 inv+2 inv+2 inv	2 inv+2 inv+2 inv+2 inv	1 inv+2 inv+2 inv+2 inv	2 inv+2 inv+2 inv+2 inv	2 inv+2 inv+2 inv+2 inv	2 inv+2 inv+2 inv+2 inv	2 inv+2 inv+2 inv+2 inv	2 inv+2 inv+2 inv+2 inv
64	64	64	64	64	64	64	64
64	64	64	64	64	64	64	64
R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
43.8 (91.45)	44.6 (93.12)	43.7 (91.25)	44.7 (93.33)	45.5 (95.00)	45.8 (95.63)	46.1 (96.26)	46.4 (96.88)
Ø22.2 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)	Ø25.4 (1)	Ø25.4 (1)	Ø25.4 (1)	Ø25.4 (1)
Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)
Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)
3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
33+37.5+53+53	37.5+37.5+53+53	29.5+53+53+53	33+53+53+53	37.5+53+53+53	45+45+53+53	45+53+53+53	53+53+53+53

SET FREE SIGMA

High Efficiency FSXNPE

- ▶ Compact units from 5 to 18 HP
- ▶ Scope of performance 5 to 72 HP
- ▶ Combined with 2-pipe and 3-pipe systems
- ▶ First-class efficiency
- ▶ Freedom in piping design
- ▶ Wide selection of indoor units



			RAS-5FSXNPE	RAS-6FSXNPE	RAS-8FSXNPE
Nominal Cooling capacity		kW	14	16	22.4
Nominal Heating capacity		kW	25	25	25
EER			4.82	4.75	4.44
COP			5.72	5.12	4.92
SEER			8.33	8	7.97
SCOP			5.06	4.58	4.55
Operating range	Heating	°C	-20 ~ 15	-20 ~ 15	-20 ~ 15
	Cooling	°C	-10 ~ 52	-10 ~ 52	-10 ~ 52
Air flow rate		m³/min	150	170	185
External static pressure		Pa	80	80	80
Fan number			1	1	1
Sound power level		dB(A)	75	78	77
Sound pressure level		dB(A)	54	56	55
Dimensions (HxWxD)		mm	1725x959x784	1725x959x784	1725x959x784
Weight		kg	210	210	274
Compressor			1 inverter	1 inverter	1 inverter
Connectable indoor units (max.)			16	19	26
Recommended connectable indoor units (max)			8	10	10
Refrigerant			R410A	R410A	R410A
Refrigerant charge		kg (GWP)	4.7 (9.81)	5 (10.44)	8.5 (17.74)
Refrigerant pipe size **	Liquid	mm (inches)	Ø9.52 (3/8)	Ø9.52 (3/8)	Ø9.52 (3/8)
	Gas Low pressure	mm (inches)	Ø15.88 (5/8)	Ø19.05 (3/4)	Ø19.05 (3/4)
	Gas High pressure	mm (inches)	Ø15.88 (5/8)	Ø15.88 (5/8)	Ø15.88 (5/8)
Power supply			3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
Maximum operating current		A	15.5	15.5	15.5

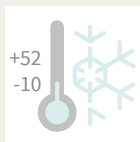
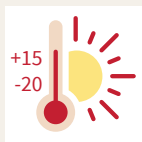


RAS-10FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE
28	33.5	40	45	50
31.5	37.5	45	50	56
4.53	3.97	3.47	3.91	3.91
4.74	4.68	4.15	3.87	3.74
8.06	7.91	7.69	7.76	7.6
4.73	4.81	4.63	4.84	4.81
-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15
-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52
219	219	243	326	326
80	80	80	80	80
2	2	2	2	2
82	83	85	85	86
59	60	62	65	65
1725x959x784	1725x959x784	1725x1219x784	1725x1219x784	1725x1219x784
278	282	292	369	384
1 inverter	1 inverter	1 inverter	2 inverter	2 inverter
32	39	45	52	58
16	16	16	18	20
R410A	R410A	R410A	R410A	R410A
8.5 (17.74)	9.3 (19.41)	9.3 (19.41)	10 (20.88)	10.6 (22.13)
Ø9.52 (3/8)	Ø12.7 (1/2)	Ø12.7 (1/2)	Ø12.7 (1/2)	Ø15.88 (5/8)
Ø22.2 (3/4)	Ø25.4 (1)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)
Ø19.05 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)	Ø22.2 (3/4)
3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
21.5	24	29.5	33	37.5

SET FREE SIGMA

High Efficiency FSXNPE

Two modules combination



			RAS-20FSXNPE	RAS-22FSXNPE	RAS-24FSXNPE
Combination models			RAS-10FSXNPE	RAS-10FSXNPE	RAS-12FSXNPE
			RAS-10FSXNPE	RAS-12FSXNPE	RAS-12FSXNPE
Connection kit			MC-20AN1	MC-20AN1	MC-20AN1
Nominal Cooling capacity		kW	56	61.5	67
Nominal Heating capacity		kW	63	69	77.5
EER			4.53	4.21	3.97
COP			4.74	4.71	4.68
SEER			8.06	7.97	7.91
SCOP			4.76	4.76	4.81
Operating range	Heating	°C	-20 ~ 15	-20 ~ 15	-20 ~ 15
	Cooling	°C	-10 ~ 52	-10 ~ 52	-10 ~ 52
Air flow rate		m³/min	219 x 2	219 x 2	219 x 2
External static pressure		Pa	80	80	80
Fan number			2+2	2+2	2+2
Sound power level		dB(A)	85	86	86
Sound pressure level		dB(A)	62	62.5	63
Dimensions (HxWxD)		mm	1725 x 1609 × 784	1725 x 2458 × 784	1725 x 2458 x 784
Weight		kg	278+278	278+282	282+282
Compressor			1 inv + 1 inv	1 inv + 1 inv	1 inv + 1 inv
Connectable indoor units (max.)			64	64	64
Recommended connectable indoor units (max)			26	26	32
Refrigerant			R410A	R410A	R410A
Refrigerant charge		kg (GWP)	17 (35.50)	17.8 (37.17)	18.6 (38.84)
Refrigerant pipe size **	Liquid	mm (inches)	Ø15.88 (5/8)	Ø15.88 (5/8)	Ø15.88 (5/8)
	Gas Low pressure	mm (inches)	Ø28.58 (7/8)	Ø28.58 (7/8)	Ø28.58 (7/8)
	Gas High pressure **	mm (inches)	Ø22.2 (7/8)	Ø25.4 (1)	Ø25.4 (1)
Power supply			3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
Maximum operating current		A	21.5+21.5	21.5+24	24+24

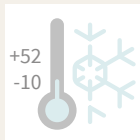
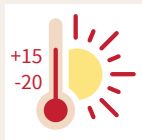


RAS-26FSXNPE	RAS-28FSXNPE	RAS-30FSXNPE	RAS-32FSXNPE	RAS-34FSXNPE	RAS-36FSXNPE
RAS-10FSXNPE	RAS-12FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE
RAS-16FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE
MC-21AN1	MC-21AN1	MC-21AN1	MC-21AN1	MC-21AN1	MC-21AN1
73	77.5	85	90	95	100
82.5	90	95	100	106	112
4.13	3.94	3.93	3.7	3.91	3.91
4.17	4.18	4.07	3.91	3.8	3.74
7.92	7.71	7.43	7.62	7.83	7.6
4.78	4.82	4.71	4.63	4.72	4.64
-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15
-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52
219 + 326	219 + 326	219 + 362	243 + 362	326 + 362	362 x 2
80	80	80	80	80	80
2+2	2+2	2+2	2+2	2+2	2+2
87	87	88	89	89	89
66	66	66	67	68	68
1725 x 2458 x 784	1725 x 2848 x 784	1725 x 2848 x 784	1725 x 2848 x 784	1725 x 3238 x 784	1725 x 3238 x 784
278+369	282+369	282+384	292+384	369+384	384+384
1 inv + 2 inv	1 inv + 2 inv	1 inv + 2 inv	1 inv + 2 inv	2 inv + 2 inv	2 inv + 2 inv
64	64	64	64	64	64
32	32	32	32	64	64
R410A	R410A	R410A	R410A	R410A	R410A
18.5 (38.63)	19.3 (40.30)	19.9 (41.55)	19.9 (41.55)	20.6 (43.01)	21.2 (44.27)
Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø38.1 (1-1/2)
Ø25.4 (1)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)
3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
21.5+33	24+33	24+37.5	29.5+37.5	33+37.5	37.5+37.5

SET FREE SIGMA

High Efficiency FSXNPE

Three modules combination



			RAS-38FSXNPE	RAS-40FSXNPE	RAS-42FSXNPE
Combination models			RAS-12FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE
			RAS-12FSXNPE	RAS-14FSXNPE	RAS-14FSXNPE
			RAS-14FSXNPE	RAS-14FSXNPE	RAS-14FSXNPE
Connection kit			MC-30AN1	MC-30AN1	MC-30AN1
Nominal Cooling capacity		kW	106	112	118
Nominal Heating capacity		kW	118	125	132
EER			3.77	3.6	3.47
COP			4.47	4.29	4.15
SEER			7.67	7.67	7.67
SCOP			4.74	4.68	4.63
Operating range	Heating	°C	-20 ~ 15	-20 ~ 15	-20 ~ 15
	Cooling	°C	-10 ~ 52	-10 ~ 52	-10 ~ 52
Air flow rate		m³/min	219 x 2 + 243	219 + 243 x 2	243 x 3
External static pressure		Pa	80	80	80
Fan number			2+2+2	2+2+2	2+2+2
Sound power level		dB(A)	89	89	90
Sound pressure level		dB(A)	65.5	66	67
Dimensions (HxWxD)		mm	1725 x 3697 x 784	1725 x 3697 x 784	1725 x 3697 x 784
Weight		kg	282+282+292	282+292+292	292+292+292
Compressor			1 inv + 1 inv+1 inv	1 inv + 1 inv+1 inv	1 inv + 1 inv+1 inv
Connectable indoor units (max.)			64	64	64
Recommended connectable indoor units (max)			64	64	64
Refrigerant			R410A	R410A	R410A
Refrigerant charge		kg (GWP)	27.9 (58.26)	27.9 (58.26)	27.9 (58.26)
Refrigerant pipe size **	Liquid	mm (inches)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
	Gas Low pressure	mm (inches)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)
	Gas High pressure **	mm (inches)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)
Power supply			3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
Maximum operating current		A	24+24+29.5	24+29.5+29.5	29.5+29.5+29.5

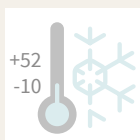
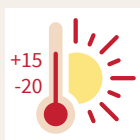


RAS-44FSXNPE	RAS-46FSXNPE	RAS-48FSXNPE	RAS-50FSXNPE	RAS-52FSXNPE	RAS-54FSXNPE
RAS-12FSXNPE	RAS-14FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE
RAS-14FSXNPE	RAS-14FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE
RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE
MC-30AN1	MC-30AN1	MC-30AN1	MC-30AN1	MC-30AN1	MC-30AN1
122	128	136	140	145	150
140	145	150	155	160	165
3.77	3.63	3.92	3.77	3.91	3.91
4.09	3.98	3.94	3.85	3.78	3.74
7.64	7.64	7.61	7.61	7.75	7.6
4.68	4.63	4.68	4.64	4.7	4.64
-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15
-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52
219 + 243 + 362	243 x 2 + 362	219 + 362 x 2	243 + 362 x 2	326 + 362 x 2	362 x 3
80	80	80	80	80	80
2+2+2	2+2+2	2+2+2	2+2+2	2+2+2	2+2+2
90	90	90	90	90	91
67.5	68	68.5	69	70	70
1725 x 4087 x 784	1725 x 4087 x 784	1725 x 4477 x 784	1725 x 4477 x 784	1725 x 4867 x 784	1725 x 4867 x 784
282+292+384	292+292+384	282+384+384	292+384+384	369+384+384	384+384+384
1 inv + 1 inv+2 inv	1 inv + 1 inv+2 inv	1 inv + 2 inv+2 inv	1 inv + 2 inv+2 inv	2 inv + 2 inv+2 inv	2 inv + 2 inv+2 inv
64	64	64	64	64	64
64	64	64	64	64	64
R410A	R410A	R410A	R410A	R410A	R410A
29.2 (60.97)	29.2 (60.97)	30.5 (63.68)	30.5 (63.68)	31.2 (65.15)	31.8 (66.40)
Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)
Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)
3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
24+29.5+37.5	29.5+29.5+37.5	24+37.5+37.5	29.5+37.5+37.5	33+37.5+37.5	37.5+37.5+37.5

SET FREE SIGMA

High Efficiency FSXNPE

Four modules combination



			RAS-56FSXNPE	RAS-58FSXNPE	RAS-60FSXNPE	
Combination models			RAS-12FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE	
			RAS-12FSXNPE	RAS-14FSXNPE	RAS-14FSXNPE	
			RAS-14FSXNPE	RAS-14FSXNPE	RAS-16FSXNPE	
			RAS-18FSXNPE	RAS-18FSXNPE	RAS-16FSXNPE	
Connection kit			MC-NP40SA	MC-NP40SA	MC-NP40SA	
Nominal Cooling capacity			kW	157	162	167
Nominal Heating capacity			kW	176	181	188
EER				3.81	3.69	3.69
COP				4.21	4.11	4
SEER				7.65	7.64	7.91
SCOP				4.7	4.67	4.73
Operating range	Heating	°C	-20 ~ 15	-20 ~ 15	-20 ~ 15	
	Cooling	°C	-10 ~ 52	-10 ~ 52	-10 ~ 52	
Air flow rate			m³/min	219 x 2 + 243 + 362	219 + 243 x 2 + 362	243 x 2 + 326 x 2
External static pressure			Pa	80	80	80
Fan number				2+2+2	2+2+2	2+2+2+2
Sound power level			dB(A)	90	91	91
Sound pressure level			dB(A)	68.5	68.5	70
Dimensions (HxWxD)			mm	1725 x 5326 x 784	1725 x 5326 x 784	1725 x 5716 x 784
Weight			kg	282+282+292+384	282+292+292+384	292+292+369+369
Compressor				1 inv + 1 inv+1 inv+2 inv	1 inv + 1 inv+1 inv+2 inv	1 inv + 1 inv+2 inv+2 inv
Connectable indoor units (max.)				64	64	64
Recommended connectable indoor units (max)				64	64	64
Refrigerant				R410A	R410A	R410A
Refrigerant charge			kg (GWP)	38.5 (80.39)	38.5 (80.39)	38.6 (80.60)
Refrigerant pipe size **	Liquid	mm (inches)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	
	Gas Low pressure	mm (inches)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	
	Gas High pressure **	mm (inches)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	
Power supply				3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
Maximum operating current			A	24+24+29.5+37.5	24+29.5+29.5+37.5	29.5+29.5+33+33



RAS-62FSXNPE	RAS-64FSXNPE	RAS-66FSXNPE	RAS-68FSXNPE	RAS-70FSXNPE	RAS-72FSXNPE
RAS-14FSXNPE	RAS-16FSXNPE	RAS-16FSXNPE	RAS-16FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE
RAS-16FSXNPE	RAS-16FSXNPE	RAS-16FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE
RAS-16FSXNPE	RAS-16FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE
RAS-16FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE
MC-NP40SA	MC-NP40SA	MC-NP40SA	MC-NP40SA	MC-NP40SA	MC-NP40SA
174	179	184	190	196	201
196	202	207	213	220	225
3.8	3.91	3.91	3.91	3.91	3.91
3.93	3.87	3.83	3.8	3.77	3.74
8.03	8.15	7.98	7.83	7.71	7.6
4.78	4.83	4.77	4.72	4.68	4.64
-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15	-20 ~ 15
-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52	-10 ~ 52
243 + 326 x 3	326 x 4	326 x 3 + 362	326 x 2 + 362 x 2	326 + 362 x 3	362 x 4
80	80	80	80	80	80
2+2+2+2	2+2+2+2	2+2+2+2	2+2+2+2	2+2+2+2	2+2+2+2
91	91	91	71	71	71
70.5	71	71	1725 x 6496 × 784	1725 x 6496 × 784	1725 x 6496 × 784
1725 x 6106 × 784	1725 x 6496 × 784	1725 x 6496 × 784	369 + 369 + 384 + 384	369 + 384 + 384 + 384	384 + 384 + 384 + 384
292+369+369+369	369+369+369+369	369+369+369+384	393+393+408+408	393+408+408+408	408+408+408+408
1 inv + 2 inv+2 inv+2 inv	2 inv + 2 inv+2 inv+2 inv	2 inv + 2 inv+2 inv+2 inv	2 inv + 2 inv+2 inv+2 inv	2 inv + 2 inv+2 inv+2 inv	2 inv + 2 inv+2 inv+2 inv
64	64	64	64	64	64
64	64	64	64	64	64
R410A	R410A	R410A	R410A	R410A	R410A
39.3 (82.06)	40 (83.52)	40.6 (84.77)	41.2 (86.03)	41.8 (87.28)	42.4 (88.53)
Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø22.2 (7/8)	Ø22.2 (7/8)	Ø22.2 (7/8)
Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)
Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)
3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz	3-phase, 400 V, 50Hz
29.5+33+33+33	33+33+33+33	33+33+33+37.5	33+33+37.5+37.5	33+37.5+37.5+37.5	37.5+37.5+37.5+37.5

SET FREE SIGMA

Accessories

Accessory type		Name	Description
Outdoor module connection kit	Heat Pump (2 pipes)	MC-20AN1	2 outdoor module conection kit: RAS-20FSXNPE to RAS-36FSXNPE
		MC-21AN1	2 outdoor module conection kit: RAS-26FSXNSE to RAS-48FSXNSE
		MC-30AN1	3 outdoor module conection kit: RAS-50FSXNSE to RAS-54FSXNSE RAS-38FSXNPE to RAS-54FSXNPE
		MC-NP31SA	3 outdoor module conection kit: RAS-56FSXNSE to RAS-72FSXNSE
		MC-NP40SA	4 outdoor module conection kit: RAS-74FSXNSE to RAS-96FSXNSE RAS-56FSXNPE to RAS-72FSXNPE
	Heat Recovery (3 pipes)	MC-20XN1	2 outdoor module conection kit: RAS-20FSXNPE to RAS-24FSXNPE
		MC-21XN1	2 outdoor module conection kit: RAS-26FSXNSE to RAS48FSXNE RAS-26FSXNPE to RAS-36FSXNPE
		MC-30XN1	3 outdoor module conection kit: RAS-50FSXNSE to RAS54FSXNSE RAS-38FSXNPE to RAS-54FSXNPE
Branch	Heat Pump (2 pipes)	E-102SN4	use as first branch for outdoor units 5-10 HP use as multikit after first branch for indoor unit capacity <12HP
		E-162SN4	use as first branch for outdoor units ,12-16 HP use as multikit after first branch for indoor unit capacity 12-17.99HP
		E-242SN3	use as first branch for outdoor units 18-24 HP use as multikit after first branch for indoor unit capacity 18-25.99 HP
		E-302SN3	use as first branch for outdoor units 26-54 HP use as multikit after first branch for indoor unit capacity 26-55.99 HP
		MW-NP2682A3	use as first branch for outdoor units 56-96 HP use as multikit after first branch for indoor unit capacity ≥ 56 HP
	Heat Recovery (3 pipes)	E-52XN3	use as first branch for outdoor units 5 HP use as multikit after first branch for indoor unit capacity <6HP
		E-102XN3	use as first branch for outdoor units 6-10 HP use as multikit after first branch for indoor unit capacity <6-11.99HP
		E-162XN3	use as first branch for outdoor units 12-16 HP use as multikit after first branch for indoor unit capacity <12-17.99HP
		E-202XN3	use as first branch for outdoor units 18-20 HP use as multikit after first branch for indoor unit capacity <18-21.99HP
		E-242XN3	use as first branch for outdoor units 22-24 HP use as multikit after first branch for indoor unit capacity <22-25.99HP
		E-322XN3	use as first branch for outdoor units 26-54 HP use as multikit after first branch for indoor unit capacity ≥ 26HP
Header	Heat Pump (2 pipes)	MH-108XN	indoor unit capacity 5-10HP. 2 pipes
	Heat Recovery (3 pipes)	MH-84AN1	indoor unit capacity 5-8HP. 3 pipes
		MH-108AN	indoor unit capacity 5-10HP. 3 pipes
Heat recovery boxes	Single	CH-AP160SSX	6.0HP or less (Max. 16kW) From 1-7 indoor units
		CH-AP280SSX	6.1HP - 10.0HP (Max. 28kW) From 1-8 indoor units
	Multiple	CH-AP04MSSX	4 Branch 16.0HP or less (Max. 44.8kW) 1 to 6 indoor units per branch
		CH-AP08MSSX	8 Branch 30.0HP or less (Max. 85kW) 1 to 6 indoor units per branch
		CH-AP12MSSX	12 Branch 30.0HP or less (Max. 85kW) 1 to 6 indoor units per branch
		CH-AP16MSSX	16 Branch 30.0HP or less (Max. 85kW) 1 to 6 indoor units per branch





— SYSTEM FREE INDOOR UNITS





I DIRECT EXPANSION INDOOR UNITS

It does not matter if it's a store, a restaurant or a bank office. When customers enter a commercial space, they look to meet their expectations. And of course, always, they hope to be at ease.

INDOOR UNITS FEATURES

CASSETTE TYPE UNITS



Indoor Unit

	2/WAY CASSETTE	4/WAY 600 X 600 CASSETTE	4/WAY 800 X 800 PREMIUM CASSETTE
Code	RCD-(1.0~6.0)FSN3	RCIM-(0.4~2.5)FSN4E	RCI- 1.0~6.0 FSN4
Presence sensor (optional)	YES	YES	YES
Slat/side axis control panel	YES/NO	YES/NO	YES/YES
Unit height	298 mm	298 mm	248 mm (1.0~2.5 HP) and 298 mm (3.0~6.0 HP)
Electronic expansion valve	YES	YES	YES
Drainage pump	YES	YES	YES
Adaptable to ceilings of up to	3.1 m	3.1 m	3.5 m (1.0~2.5 HP) and 4.2 m (3.0~6.0 HP)
Compatible with Utopia commercial range and VRF Set Free Sigma	YES	YES	YES

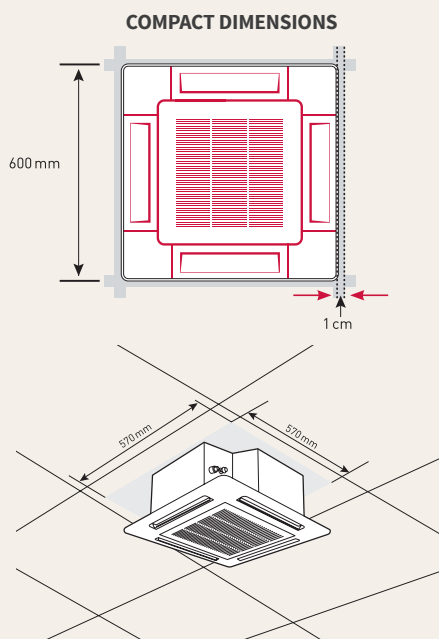
RCIM/FSN4E

PERFECT INSTALLATION BETWEEN 600 x 600 mm FALSE CEILINGS

Its measurements are perfect for installing in small spaces, where the height of the false ceiling and the width of the ceilings pose a requirement in choosing the cassette. The RCIM range adapts to these requirements without the need for removing any other false ceiling, **measuring only 285 mm high and 570 mm wide.**

Its **new compact panel**, allows its installation in narrow places as it can be placed between lighting fixtures in the modular ceiling. It fits in 600 x 600 mm panels leaving a margin of the same.

It allows for the panel to be placed in narrow places, such as between lighting fixtures installed in the modular ceiling.



Presence sensor energy conservation

The activity sensor allows the energy consumption to be adapted to the occupation of the room where it is installed. This maintains a comfortable indoor environment and reduces unnecessary consumption, generating significant energy savings.

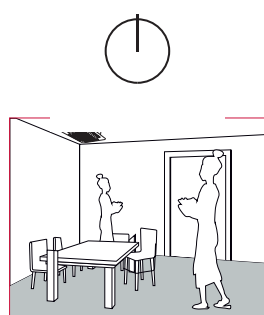
Adjusting the temperature by 1°C equals 7% savings.

The presence sensor: Adjusts the temperature, volume and direction of the air flow according to occupancy.

It also measures the activity of the room at constant intervals. When activating the sensor, there are three operating phases on the remote control with different operating conditions.

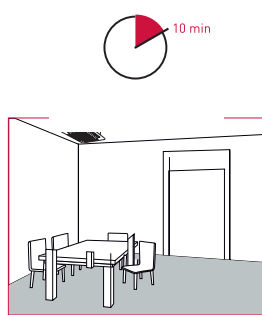
The elapsed time between each phase is 1/3 of the time set in the control interval.

Example with a control interval of 30 min



Phase A Activity

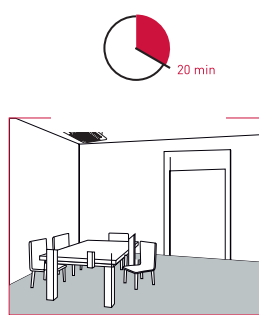
The cassette will operate with the setpoint temperature and selected fan speed.



Phase B 10 min without activity

Adjusting the temperature by 1°C.
Air volume -1 (minimum speed "low")

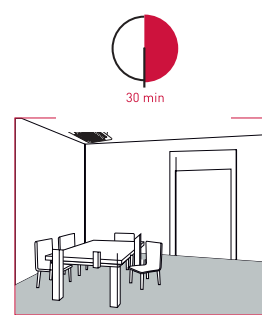
7% ENERGY CONSERVATION



Phase C 20 min without activity

Adjusting the temperature by 20°C.
Air volume -2 (minimum speed "low")

14% ENERGY CONSERVATION



Phase D 30 min without activity

3 options:

1. **"On" Mode**, keeps operation in Phase C.
2. **"Stand By" Mode**, the indoor unit enters „Thermo-off“ and returns to normal operation when it detects activity.
3. **"Off" Mode**, the indoor unit is turned off and on manually.
(Contact Hitachi for more information)



INDOOR UNITS FEATURES

2-WAY CASSETTE



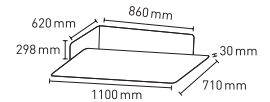
RCD-0.8~1.0 FSN3

23 kg

RCD-1.5~3.0 FSN3

25 kg

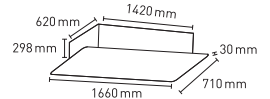
P-AP90DNA



RCD-4.0~6.0 FSN3

39 kg

P-AP160DNA



4-WAY 600x600 CASSETTE



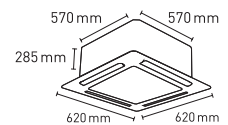
RCIM-0.6~1.5FSN4E

16 kg

RCIM-2~2.5FSN4E

17 kg

P-AP56NAM



4-WAY 800x800 RCI PREMIUM CASSETTE



RCI - 1.0FSN4

20 kg

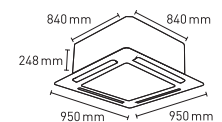
RCI-1.5~2.0FSN4

21 kg

RCI-2.5FSN4

22 kg

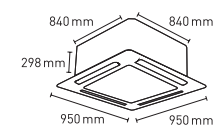
P-AP160NA(E/1)



RCI-3.0~6.0FSN4

26 kg

P-AP160NA(E/1)



Indoor unit

Indoor unit			RCD-0.8FSN3	RCD-1FSN3	RCD-1.5FSN3	RCD-2FSN3	RCD-2.5FSN3	RCD-3FSN3	RCD-4FSN3	RCD-5FSN3	RCD-6FSN3
General info for adjustable Power		HP	0.80	◉1.30 ◀1.50	◉1.80 ◀2.00	◉2.30 ◀2.50	2.50	3.00	4.00	5.00	6.00
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	kW	2.00	2.50	3.60	5.00	5.60	7.10	10.00	12.50	14.00
	Heating		2.20	2.80	4.00	5.60	6.30	8.00	11.20	14.00	16.00
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	2.20	2.80	4.00	5.60	7.10	8.00	11.20	14.00	16.00
	Heating		2.50	3.20	4.80	6.30	8.50	9.00	12.50	16.00	18.00
Sound pressure level (low - medium - high) ⁽²⁾		dB(A)	27-28-29-30	27-28-29-31	30-31-34-37	30-33-36-39	33-36-39-42	33-38-42-45	34-37-40-43	35-41-44-47	39-42-45-48
Sound power		dB(A)	44	46	49	51	52	55			59
Airflow (low - medium - high)		m³/h	6.5-7.5-9	7-8.5-9.5	10-11.5-13	10.5-12.5-14.5	12.5-14.5-16.5	12.5-16-18.5	20-23-26.5	21-27-31	24-28.5-32.5
Power supply			230 V - 1 Ph - 50 Hz								
Pipe diameter (Liquid - Gas)		inches	1/4 - 1/2				3/8 - 5/8				

Optional movement sensor SOR-NED

Indoor unit

Indoor unit			RCIM-0.4FSN4E	RCIM-0.6FSN4E	RCIM-0.8FSN4E	RCIM-1FSN4E	RCIM-1.5FSN4E	RCIM-2FSN4E	RCIM-2.5FSN4E	
General info for adjustable Power		HP	0.40	0.60	0.80	1.00	◉1.30 ◄1.50	◉1.80 ◄2.00	◉2.30 ◄2.50	
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	kW	not allowed	not allowed	2.00	2.50	3.60	5.00	5.60	
	Heating		not allowed	not allowed	2.20	2.80	4.00	5.60	6.30	
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	1.10	1.70	2.20	2.80	4.00	5.60	7.10	
	Heating		1.30	1.90	2.50	3.20	4.80	6.30	8.50	
Sound pressure level (low - medium - high) ⁽²⁾		dB(A)	26-23-20-19	24.5-28-30-34	24.5-29-33-36	24.5-30-34-38	27.5-33-37-41	31-35-39-45	35-39-43-47	
Sound power		dB(A)	43	47	50	51	54	56	60	
Airflow (low - medium - high)		m³/h	510-468-414-360	360-450-510-600	360-480-570-660	360-510-600-720	420-570-660-780	480-600-720-900	600-720-840-960	
Power supply			230 V - 1 Ph - 50 Hz							
Pipe diameter (Liquid - Gas)		inches	1/4 - 1/2						3/8 - 5/8	

Indoor unit

Indoor unit		RCI - 1.0FSN4		RCI - 1.5FSN4		RCI - 2FSN4		RCI - 2.5FSN4		RCI - 3FSN4		RCI - 4FSN4		RCI - 5FSN4		RCI - 6FSN4		
General info for adjustable Power		HP	1.00		●1.30 ◀1.50		●1.80 ◀2.00		●2.30 ◀2.50		3.00		4.00		5.00		6.00	
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	kW	2.50		3.60		5.00		5.60		7.10		10.00		12.50		14.00	
	Heating		2.80		4.00		5.60		6.30		8.00		11.20		14.00		16.00	
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	2.80		4.00		5.60		7.10		8.00		11.20		14.00		16.00	
	Heating		3.20		4.80		6.30		8.50		9.00		12.50		16.00		18.00	
Sound pressure level (low - medium - high) ⁽²⁾		dB(A)	27 -28-30-33		27-30-31-35		27-30-32-37		28-32-36-42		28-32-36-42		33-39-43-48		35-40-45-48		37-41-46-48	
Sound power		dB(A)	52		53		55		56		57		64		68			
Airflow (low - medium - high)		m³/h	540-660-780-900		660-840-1020-1260		660-840-1020-1320		840-1080-1380-1620		1200-1380-1560				1260-1560-1980-2220		1320-1680-2100-2220	
Power supply			230 V - 1 Ph - 50 Hz															
Pipe diameter (Liquid - Gas)		inches	1/4 - 1/2				1/4 - 5/8		3/8 - 5/8									

- (1) The nominal power for cooling and heating is the combined power of the outdoor and indoor units of the system and are based on the EN14511 regulation with the following conditions:
Cooling: indoor temperature 27°C DB, 19°C WB, outdoor temperature 35°C DB. -Heating: indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB.
-Pipe length to 7.5 m; height at 0 m.
- (2) The sound level measurement is performed in an anechoic camera at 1.5 m below the unit.
- (3) The Cooling and Heating data for Nominal Heating Capacity (UTOPIA) refers to combinations of indoor units (0.8~10 HP) with UTOPIA series (IVX Premium, IVX and Comfort). For combinations with indoor units of 2~10 HP, the nominal capacity refers to the combination 1 indoor unit.
- Unit that can decrease its power using the DIP Switch.

NOTE:
For Utopia Comfort, Centrifugal VRF and Utopia Premium, use Nominal Power for Utopia.

INDOOR UNITS - FEATURES

DUCT TYPE UNITS

QUICKLY CHOOSE THE UNIT THAT MOST CLOSELY MATCHES
THE INSTALLATION REQUIREMENTS

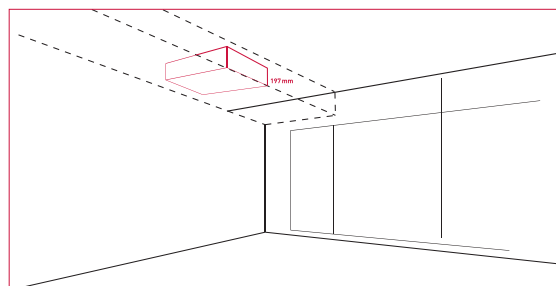


Indoor Unit

	MINI HOTEL DUCTS	LOW SILHOUETTE DUCTS	MEDIUM PRESSURE DUCTS	HIGH PRESSURE DUCTS	
Code	RPIM-(0.6~1.5)FSN4E (-DU)	RPI-(0.4~1.5)FSN5E	RPI-(2.0~6.0)FSN5E	RPI-(8~10)FSN3E	RPI-(16~20)FSN3E
Unit height	275 mm	197 mm	275 mm	423 mm	846 mm
Electronic expansion valve	YES	YES	YES	YES	YES
Integrated condensate pump	YES	YES	YES	NO	NO
Compatible with Utopia commercial range and VRF Set Free Sigma	YES	YES	YES	YES	NO

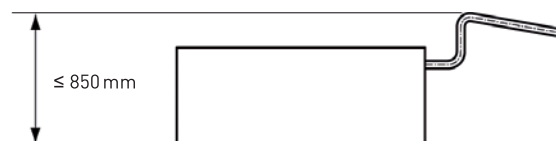
Low silhouette ducts

Easy installation in low-height false ceilings.



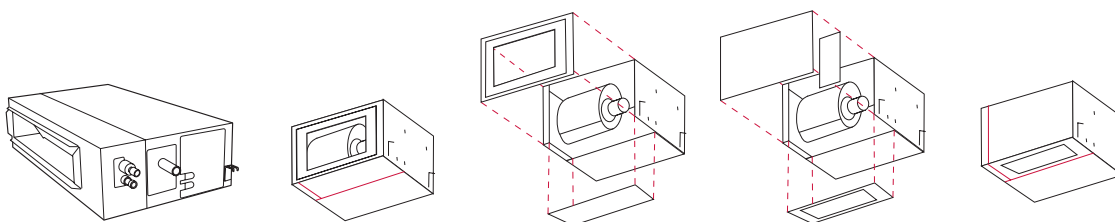
Condensate pump

It allows condensates to be elevated up to a height of 850 mm with regard to the unit. It is automatically activated when the water level is excessive.



Mini Hotel ducts

By simply disassembling and swapping the unit's frontal panel, back panel and the electrical box, we can vary the position and direction of the entry of the air.



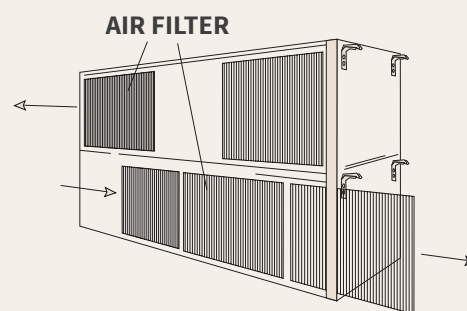
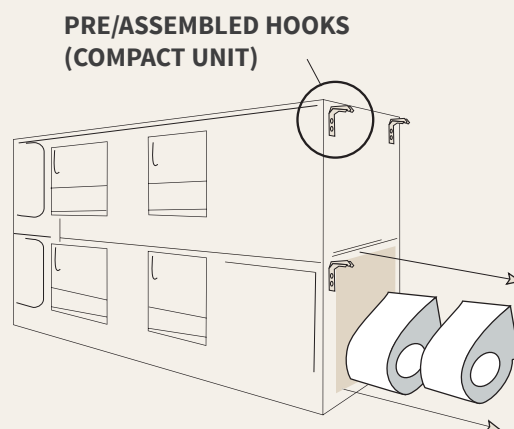
High pressure ducts

Large capacity ducts for installations with higher requirements for cooling power and airflow.

Ideal for installation in large and open halls, supermarkets, restaurants and industrial warehouses.

The RPI-16~20FSN3 can be managed with a single remote and/or wired control.

No need to install UTA.



Mini Hotel Ducts



Indoor unit

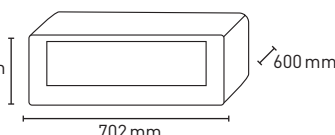
Indoor unit		RPIM-0.6FSN4E RPIM-0.8FSN4E RPIM-1.0FSN4E RPIM-1.5FSN4E RPIM-0.6FSN4E - DU* RPIM-0.8FSN4E - DU* RPIM-1.0FSN4E - DU* RPIM-1.5FSN4E - DU*									
Adjustable Power		HP	0.6	0.60 0.80	1.0	1.30 1.50	0.6	0.60 0.80	1.0	1.30 1.50	
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	kW	NOT ALLOWED	2.00	2.50	3.60	NOT ALLOWED	2.00	2.50	3.60	
	Heating		NOT ALLOWED	2.20	2.80	4.00	NOT ALLOWED	2.20	2.80	4.00	
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	1.70	2.20	2.80	4.00	1.70	2.20	2.80	4.00	
	Heating		1.90	2.50	3.20	4.80	1.90	2.50	3.20	4.80	
Sound pressure level (low - medium - high) ⁽²⁾ ESP setting: Low		dB(A)	25 - 28 - 28	27 - 29 - 29		28 - 30 - 30	25 - 28 - 28	27 - 29 - 29		28 - 30 - 30	
Sound power		dB(A)	49	50		51	49	50		51	
Airflow (low - medium - high) ESP setting: Low		m³/h	330 - 372 - 420	330 - 408 - 480		480 - 540 - 600	330 - 372 - 420	330 - 408 - 480		480 - 540 - 600	
Outdoor static pressure	Nominal	Pa	20	32		27	20	32		27	
	(min-max)		(0~35)	(0~50)		(0~58)	(0~35)	(0~50)		(0~58)	
Power supply			230 V - 1 Ph - 50 Hz								
Pipe diameter (Liquid - Gas)		inches	1/4 - 1/2								

* Includes condensate pump
Compatible with Airzone

RPIM-0.6~1.5 FSN4 E - (DU)

26 kg

275 mm



Low Silhouette Ducts

Indoor unit

Indoor unit		RPI - 0.4FSN5E		RPI - 0.6FSN4E		RPI - 0.8FSN4E		RPI - 1.FSN4E		RPI - 1.5FSN4E	
Adjustable Power		HP	0.40	0.60	0.60 0.80		1.50		1.30 1.50		
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	kW	not allowed	not allowed	2.00		2.50		3.60		
	Heating		not allowed	not allowed	2.20		2.80		4.00		
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	1.10	1.70	2.20		2.80		4.00		
	Heating		1.30	1.90	2.50		3.20		4.80		
Sound pressure level (low - medium - high) ⁽²⁾ ESP setting: Low		dB(A)	tbc	32/30/27	33/31/29				34/31/29		
Sound power		dB(A)	tbc	50	52				53		
Airflow (low - medium - high) ESP setting: Low		m³/h	384 - 354 - 336	420 - 372 - 330	480 - 432 - 378				600 - 540 - 480		
Outdoor static pressure	Nominal	Pa	20		32				27		
	(min-max)		(0~35)		(0~50)				(0~58)		
Power supply			230 V - 1 Ph - 50 Hz								
Pipe diameter (Liquid - Gas)		inches	1/4 - 1/2								

RPI-0.4FSN5E

18 kg

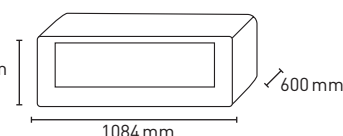
RPI-0.6~1.0 FSN5E

29 kg

RPI-1.5FSN5E

30 kg

197 mm



NOTE:
For Utopia Comfort, Centrifugal VRF and Utopia Premium, use Nominal Power for Utopia.

- (1) The nominal power for cooling and heating is the combined power of the outdoor and indoor units of the system and are based on the EN14511 regulation with the following conditions:
Cooling: indoor temperature 27°C DB, 19°C WB, outdoor temperature 35°C DB. -Heating: indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB. -Pipe length to 7.5 m; height at 0 m.
 - (2) The sound level measurement is performed in an anechoic camera at 1.5 m below the unit.
 - (3) The Cooling and Heating data for Nominal Heating Capacity (UTOPIA) refers to combinations of indoor units (0.8~10 HP) with UTOPIA series (IVX Premium, IVX and Comfort). For combinations with indoor units of 2~10 HP, the nominal capacity refers to the combination 1 indoor unit.
- Unit that can decrease its power using the DIP Switch.

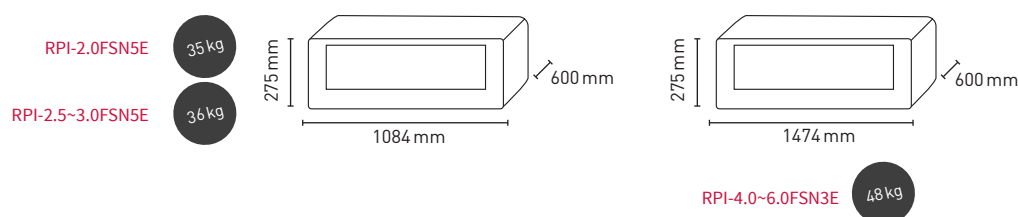


Medium Pressure Ducts

Indoor unit

			RPI-2.0FSN5E	RPI-2.5FSN5E	RPI-3.0FSN5E	RPI-4.0FSN5E	RPI-5.0FSN5E	RPI-6.0FSN5E
Adjustable Power		HP	●1.80 ◀2.00	●2.30 ◀2.50	3.00	4.00	5.00	6.00
Nominal power⁽¹⁾ (UTOPIA)	Cooling	kW	5.00	5.60	7.10	10.00	12.50	14.00
	Heating		5.60	6.30	8.00	11.20	14.00	16.00
Nominal power⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	5.60	7.10	8.00	11.20	14.00	16.00
	Heating		6.30	8.50	9.00	12.50	16.00	18.00
Sound pressure level (low - medium - high)⁽²⁾		dB(A)	29/29/27	30/30/28	31/31/29	37/35/32	38/35/33	39/36/33
Sound power		dB(A)	55	56	57	62	65	66
Airflow (low - medium - high)		m³/h	960 - 750 - 600	1140 - 960 - 780	1320 - 1140 - 960	1800 - 1680 - 1500	2100 - 1920 - 1740	2160 - 1980 - 1800
Outdoor static pressure	Nominal	Pa	30	30		45	50	
	(min-max)		(0~120)	(0~125)		(0~120)	(0~140)	
Power supply			230 V - 1 Ph - 50 Hz					
Pipe diameter (Liquid - Gas)		inches	1/4 - 5/8	3/8 - 5/8				

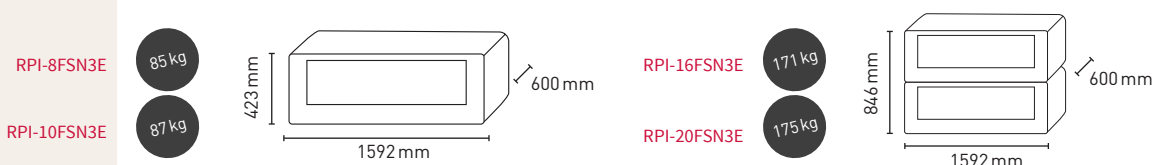
* Includes condensate pump
Compatible with Airzone



High Pressure Ducts

Indoor unit

			RPI - 8.FSN3E	RPI - 10.FSN3E	RPI - 16.FSN3E	RPI - 20.FSN3E
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	kW	20.00	25.00	-	-
	Heating		22.40	28.00	-	-
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	22.40	28.00	45.00	56.00
	Heating		25.00	31.00	50.00	63.00
Sound pressure level (low - medium - high) ⁽²⁾		dB(A)	51 - 54 - 54	52 - 55 - 55	51 - 54 - 54	52 - 55 - 55
Sound power		dB(A)	77	78	79	80
Airflow (low - medium - high)	High static pressure	m³/h	3600 - 3960 - 3960	4110 - 4500 - 4500	7200 - 7920 - 7920	8220 - 9000 - 9000
	Low static pressure		3570 - 3960 - 3960	4056 - 4500 - 4500	7140 - 7920 - 7920	8100 - 9000 - 9000
Available static pressure (HSP)		Pa	180/220/220			180/220
Available static pressure (LSP)			140/180/180			140/180
Power supply			230 V - 1 Ph - 50 Hz			
Pipe diameter (Liquid - Gas)		inches	3/8 - 3/4	3/8 - 7/8	3/8 - 3/4	3/8 - 7/8



NOTE:
For Utopia Comfort, Centrifugal VRF and Utopia Premium, use Nominal Power for Utopia.

- (1) The nominal power for cooling and heating is the combined power of the outdoor and indoor units of the system and are based on the EN14511 regulation with the following conditions:
Cooling: indoor temperature 27°C DB, 19°C WB, outdoor temperature 35°C DB. -Heating: indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB. -Pipe length to 7.5 m; height at 0 m.
- (2) The sound level measurement is performed in an anechoic camera at 1.5 m below the unit.
- (3) The Cooling and Heating data for Nominal Heating Capacity (UTOPIA) refers to combinations of indoor units (0.8~10 HP) with UTOPIA series (IVX Premium, IVX and Comfort). For combinations with indoor units of 2~10 HP, the nominal capacity refers to the combination 1 indoor unit.
- Unit that can decrease its power using the DIP Switch.

INDOOR UNITS - FEATURES WALL MOUNTED UNITS



Indoor Unit

	WALL MOUNTED WITH / WITHOUT VALVE	WALL MOUNTED WITH / WITHOUT VALVE	WALL MOUNTED WITH VALVE
Code	RPK-(0.4-1.0)FSN(H)3M	RPK-1.5FSN(H)3M	RPK-(2.0-4.0)FSN(H)3M
Electronic expansion valve	YES (RPK-(0.4-1.0)FSN3M) NO (RPK-(0.4-1.0)FSNH3M)	YES (RPK-1.5FSN3M) NO (RPK-1.5FSNH3M)	YES (RPK-(2.0-4.0)FSN3M) NO (RPK-(2.0-4.0)FSNH3M)
Compatible with Utopia commercial range and VRF Set Free Sigma	YES	YES	YES

4 speeds of air flow

The “HIGH H” speed covers the entire room, even rooms with high ceilings.

Centralized control

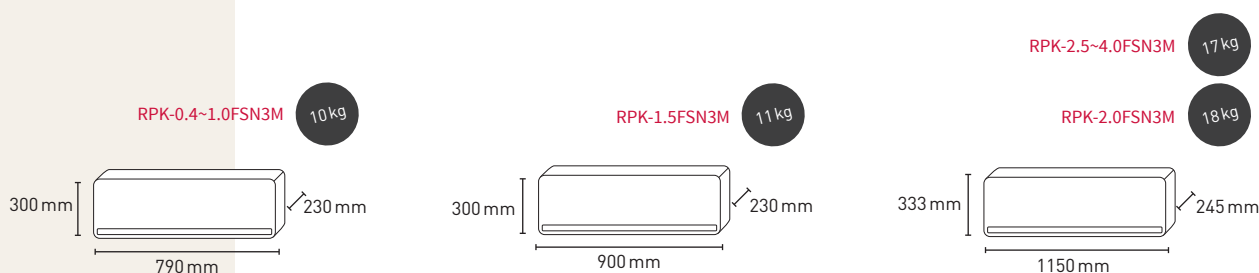
No need for wired thermostats to connect to centralized Hitachi controllers.



Wall-mounted

Indoor unit

Indoor unit			RPK-0.4 FSN3M	RPK-0.6 FSN3M	RPK-0.8 FSN3M	RPK-1.0 FSN3M	RPK-1.5 FSN3M	RPK-2.0 FSN3M	RPK-2.5 FSN3M	RPK-3.0 FSN3M	RPK-4.0 FSN3M
Adjustable Power		HP	0.40	0.60	0.60 ←0.80	1.00	1.30 ←1.50	1.80 ←2.00	2.30 ←2.50	3.00	4.00
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	kW	not allowed	not allowed	2.00	2.50	3.60	5.00	5.60	7.10	10.00
	Heating		not allowed	not allowed	2.20	2.80	4.00	5.60	6.30	8.00	11.20
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	1.10	1.70	2.20	2.80	4.00	5.60	7.10	8.00	11.20
	Heating		1.30	1.90	2.50	3.20	4.80	6.30	8.50	9.00	12.50
Sound pressure level (low - medium - high) ⁽²⁾		dB(A)	32-31-30-29	35-32-31-29	39-35-32-30		46-40-36-33	42-40-38-33	49-43-40-36		51-49-46-41
Sound power		dB(A)	49		53		58	57	59		64
Airflow (low - medium - high)		m³/h	450 - 438 - 402 - 360	480 - 450 - 420 - 360	390 - 420 - 480 - 600		450 - 540 - 660 - 840	600 - 780 - 840 - 900	1140 - 1020 - 840 - 720		1320 - 1140 - 1020 - 900
Power supply			230 V - 1 Ph - 50 Hz								
Pipe diameter (Liquid - Gas)		inches	1/4 - 1/2					1/4 - 5/8	3/8 - 5/8		



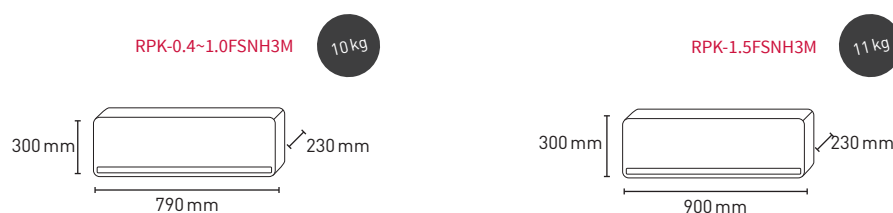
Wall mounted without expansion valve

Indoor unit

Indoor unit			RPK-0.4FSNH3M*	RPK-0.6FSNH3M*	RPK-0.8FSNH3M*	RPK-1.0FSNH3M*	RPK-1.5FSNH3M*
Adjustable Power		HP	0.40	0.60	0.60 0.80	1.00	1.30 1.50
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	kW	not allowed	not allowed	2.00	2.50	3.60
	Heating		not allowed	not allowed	2.20	2.80	4.00
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	1.10	1.70	2.20	2.80	4.00
	Heating		1.30	1.90	2.50	3.20	4.80
Sound pressure level (low - medium - high) ⁽²⁾		dB(A)	32 - 31 - 30 - 29	35 - 32 - 31 - 29	39 - 35 - 32 - 30		46 - 40 - 36 - 33
Sound power		dB(A)	49	49	53		58
Airflow (low - medium - high)		m³/h	450 - 438 - 402 - 360	480 - 450 - 420 - 360	600 - 480 - 420 - 390		840 - 660 - 540 - 450
Power supply			230 V - 1 Ph - 50 Hz				
Pipe diameter (Liquid - Gas)		inches	1/4 - 1/2				

* Without expansion valve

Note: If the outdoor unit is centrifugal VRF, select the nominal power corresponding to the Utopia range.



- (1) The nominal power for cooling and heating is the combined power of the outdoor and indoor units of the system and are based on the EN14511 regulation with the following conditions:
Cooling: indoor temperature 27°C DB, 19°C WB, outdoor temperature 35°C DB. -Heating: indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB. -Pipe length to 7.5 m; height at 0 m.
- (2) The sound level measurement is performed in an anechoic camera at 1.5 m below the unit.
- (3) The Cooling and Heating data for Nominal Heating Capacity (UTOPIA) refers to combinations of indoor units (0.8~10 HP) with UTOPIA series (IVX Premium, IVX and Comfort). For combinations with indoor units of 2~10 HP, the nominal capacity refers to the combination 1 indoor unit.
- ② Unit that can decrease its power using the DIP Switch.

NOTE:
For Utopia Comfort, Centrifugal VRF and Utopia Premium, use Nominal Power for Utopia.

INDOOR UNITS - FEATURES

FLOOR TYPE UNITS



Indoor Unit

FLOOR TYPE WITHOUT CASING

FLOOR TYPE WITH CASING

Code	RPMI-(1.0~2.5)FSN2E	RPMI-(1.0~2.5)FSN2E
Unit height	620 mm	630 mm
Compatible with Utopia commercial range and VRF Set Free Sigma	YES	YES

Compact Design

With a depth of only 220 mm, RPMI(I) units can be installed along the wall, occupying a minimum floor area. In addition, they allow for installation in limited spaces inside buildings.

Control in the enclosure

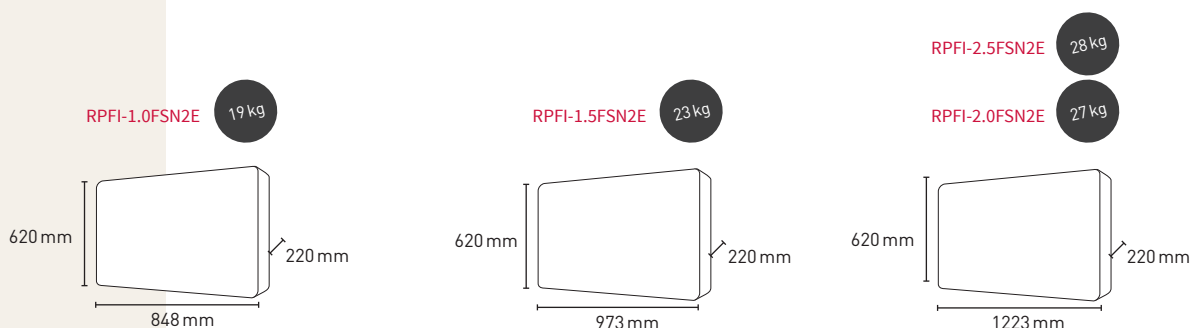
Remote control that can be integrated in the unit's enclosure, under the plastic cover.



Floor type without casing

Indoor unit

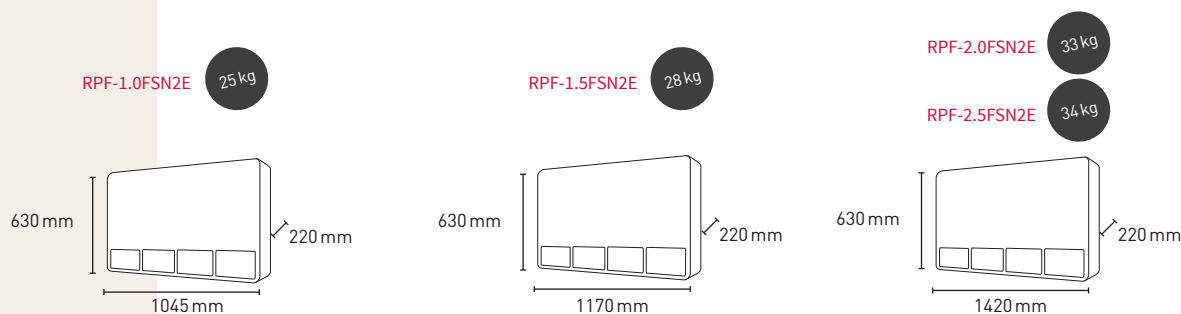
			RPFI-1.0FSN2E	RPFI-1.5FSN2E	RPFI-2.0FSN2E	RPFI-2.5FSN2E
Adjustable Power	HP		1.00	●1.30 ◀1.50	● 1.80 ◀2.00	2.50
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	kW	2.50	3.60	5.00	5.60
	Heating		2.80	4.00	5.60	6.30
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	2.80	4.00	5.60	7.10
	Heating		3.20	4.80	6.30	8.50
Sound pressure level (low - medium - high) ⁽²⁾	dB(A)		29 - 32 - 35	31 - 35 - 38	32 - 36 - 39	34 - 38 - 42
Sound power	dB(A)		57	60		
Airflow (low - medium - high)	m³/h		360 - 420 - 510	540 - 600 - 720	660 - 840 - 960	
Power supply			230 V - 1 Ph - 50 Hz			
Pipe diameter (Liquid - Gas)	inches		1/4 - 1/2		1/4 - 5/8	3/8 - 5/8



Floor type with casing

Indoor unit

			RPF-1.0FSN2E	RPF-1.5FSN2E	RPF-2.0FSN2E	RPF-2.5FSN2E
Adjustable Power	HP		1.00	●1.30 ◀1.50	●1.80 ◀2.00	●2.30 ◀2.50
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	kW	2.50	3.60	5.00	5.60
	Heating		2.80	4.00	5.60	6.30
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	kW	2.80	4.00	5.60	7.10
	Heating		3.20	4.80	6.30	8.50
Sound pressure level (low - medium - high) ⁽²⁾	dB(A)		29 - 32 - 35	31 - 35 - 38	32 - 36 - 39	34 - 38 - 42
Sound power	dB(A)		57	60		
Airflow (low - medium - high)	m³/h		360 - 420 - 510	540 - 600 - 720	660 - 840 - 960	
Power supply			230 V - 1 Ph - 50 Hz			
Pipe diameter (Liquid - Gas)	inches		1/4 - 1/2		1/4 - 5/8	3/8 - 5/8



NOTE:
For Utopia Comfort, Centrifugal VRF and Utopia Premium, use Nominal Power for Utopia.

- (1) The nominal power for cooling and heating is the combined power of the outdoor and indoor units of the system and are based on the EN14511 regulation with the following conditions:
Cooling: indoor temperature 27°C DB, 19°C WB, outdoor temperature 35°C DB. -Heating: indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB. -Pipe length to 7.5 m; height at 0 m.
- (2) The sound level measurement is performed in an anechoic camera at 1.5 m below the unit.
- (3) The Cooling and Heating data for Nominal Heating Capacity (UTOPIA) refers to combinations of indoor units (0.8~10 HP) with UTOPIA series (IVX Premium, IVX and Comfort). For combinations with indoor units of 2~10 HP, the nominal capacity refers to the combination 1 indoor unit.
- Unit that can decrease its power using the DIP Switch.

INDOOR UNITS - FEATURES CEILING TYPE UNITS



Indoor Unit

CEILING WITHOUT SENSOR

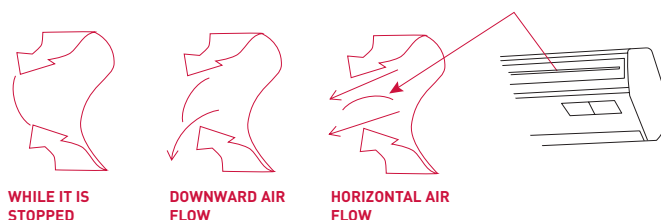
CEILING WITH SENSOR

Code	RPC-(3.0~6.0)FSN3E	RPC-(1.5~6.0)FSN3E
Movement Sensor	NO	YES
Compatible with Utopia commercial range and VRF Set Free Sigma	YES	YES

AUTOMATIC DEFLECTOR

Optimized deflector

The deflector achieves better air distribution throughout the room, so the thermal sensation of the people in the room will be homogeneous, both for anyone near the indoor unit and those who are farther from it.



Energy conservation with the Presence Sensor



The activity sensor model RPC-(1.5~6.0)FSN3 adjusts its operation depending on the activity in the room. This way if the unit is installed in a room where the people's activity is intermittent, it automatically stops working if there is no one in it, without needing to turn the indoor unit off.

4 air flow speeds

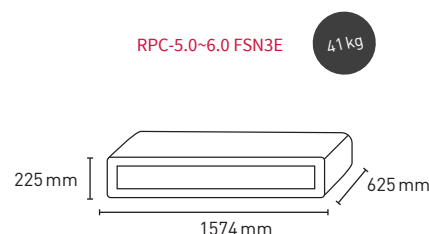
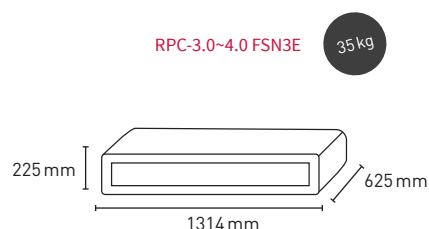
The "HIGH H" speed covers the whole room, even rooms with high ceilings, so you do not need to adjust the speed with the remote control.



Ceiling

Indoor unit

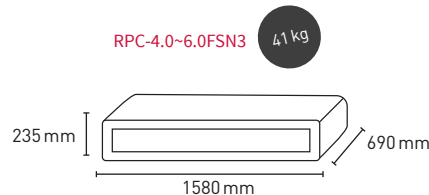
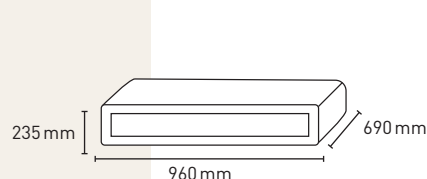
		RPC-3.0FSN3E	RPC-4.0FSN3E	RPC-5.0FSN3E	RPC-6.0FSN3E
Adjustable Power	HP	3.0	4.0	5.0	6.0
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	7.10	10.00	12.50	14.00
	Heating	8.00	11.20	14.00	16.00
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	8.00	11.20	14.00	16.00
	Heating	9.00	12.50	16.00	18.00
Sound pressure level (low - medium - high) ⁽²⁾	dB(A)	39 - 45 - 49		41 - 46 - 49	44 - 48 - 50
Sound power	dB(A)	65			66
Airflow (low - medium - high)	m³/h	960 - 1260 - 1620	1140 - 1440 - 1800	1260 - 1680 - 2100	1620 - 1920 - 2220
Power supply		230 V - 1 Ph - 50 Hz			
Pipe diameter (Liquid - Gas)	inches	3/8 - 5/8			



Ceiling with movement sensor

Indoor unit

		RPC-1.5FSN3	RPC-2.0FSN3	RPC-2.5FSN3	RPC-3.0FSN3	RPC-4.0FSN3	RPC-5.0FSN3	RPC-6.0FSN3
Adjustable Power	HP	●1.30 ◀1.50	●1.80 ◀2.00	●2.30 ◀2.50	3.0	4.0	5.0	6.0
Nominal power ⁽¹⁾ (UTOPIA)	Cooling	3.60	5.00	5.60	7.10	10.00	12.50	14.00
	Heating	4.00	5.60	6.30	8.00	11.20	14.00	16.00
Nominal power ⁽¹⁾ (SET FREE SIGMA)	Cooling	4.00	5.60	7.10	8.00	11.20	14.00	16.00
	Heating	4.80	6.30	8.50	9.00	12.50	16.00	18.00
Sound pressure level (low - medium - high) ⁽²⁾	dB(A)	28 - 31 - 35 - 37	28 - 31 - 35 - 38		29 - 33 - 37 - 40	32 - 37 - 42 - 44	35 - 41 - 46 - 49	36 - 42 - 47 - 49
Sound power	dB(A)	53	54		56	60	64	65
Airflow (low - medium - high)	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
Power supply		230 V - 1 Ph - 50 Hz						
Pipe diameter (Liquid - Gas)	inches	1/4 - 1/2	1/4 - 5/8	3/8 - 5/8				



NOTE:
For Utopia Comfort, Centrifugal VRF and Utopia Premium, use Nominal Power for Utopia.

- (1) The nominal power for cooling and heating is the combined power of the outdoor and indoor units of the system and are based on the EN14511 regulation with the following conditions:
Cooling: indoor temperature 27°C DB, 19°C WB, outdoor temperature 35°C DB. -Heating: indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB. -Pipe length to 7.5 m; height at 0 m.
- (2) The sound level measurement is performed in an anechoic camera at 1.5 m below the unit.
- (3) The Cooling and Heating data for Nominal Heating Capacity (UTOPIA) refers to combinations of indoor units (0.8~10 HP) with UTOPIA series (IVX Premium, IVX and Comfort). For combinations with indoor units of 2~10 HP, the nominal capacity refers to the combination 1 indoor unit.
- Unit that can decrease its power using the DIP Switch.

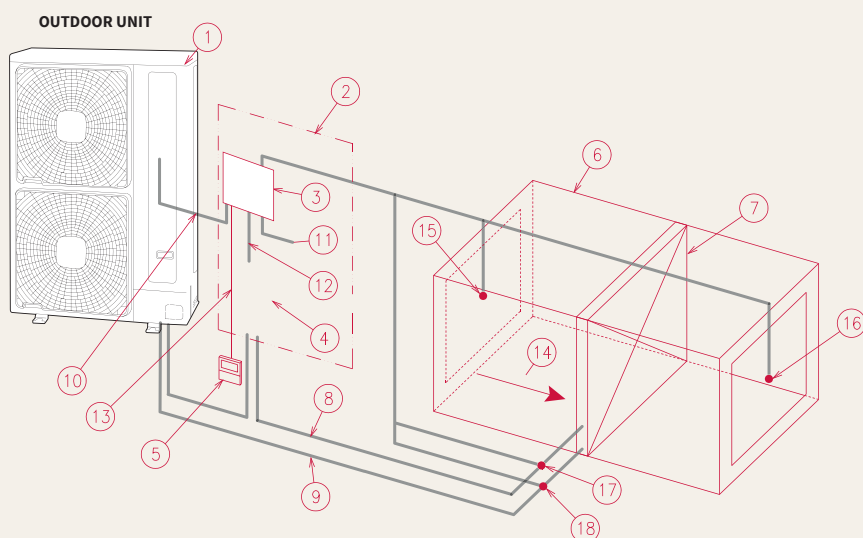
INDOOR UNITS - FEATURES

DX INTERFACE KIT

ENERGY CONSERVATION AND IMPROVED THERMAL SENSATION IN COMMERCIAL INSTALLATIONS WITH VERY HIGH FOOT TRAFFIC.

IT SIMPLIFIES THE INSTALLATION OF THIRD-PARTY AIR CONDITIONERS, WITHOUT THE NEED TO INSTALL CHILLERS WITH HYDRAULIC LINES.

- ▶ The DX-KIT interface is the device used to connect the UTAs' direct expansion batteries, air curtains and high flow duct units with Hitachi outdoor units, to work in heating and cooling mode.
- ▶ Its integration allows air curtains with direct expansion valves to also work in cooling, unlike conventional electric air curtains that only operate in heating mode.
- ▶ In operation with air conditioners, the DX-KIT tempers the air as per the thermal requirements.
- ▶ The kit includes: expansion valve, temperature probes and the necessary electronic regulation devices. Compatible with the Commercial range and VRF Set Free Sigma Systems.
- ▶ With the possibility of regulating the power depending on the temperature of the input and/or output of the battery, or with an external analog signal depending on the cooling/heating needs.



1	Hitachi RAS-H(V)RN(M/S)(1/2)E Outdoor Unit
2	DX EXV-(2.0-10.0)E Interface
3	Control box
4	Expansion valve box
5	Remote control (PC-ART)
6	Unit or device with heat exchange
7	DX heat exchanger
8	Liquid pipes
9	Gas pipes
10	Outdoor-indoor communication
11	Power supply
12	Expansion Valve Control Communication
13	Remote control communication
14	Air flow direction
15	Input thermistor
16	Input thermistor
17	Liquid pipe thermistor
18	Gas pipe thermistor



DX Kit

DX Model

			EXV-2.0E2	EXV-2.5E2	EXV-3.0E2	EXV-4.0E2	EXV-5.0E2	EXV-6.0E2	EXV-8.0E2	EXV-10.0E2
Allowed capacity	Cooling	kW	4.0-5.0-5.6	4.8-6.0-6.3	5.7-7.1-8.0	8.0-10.0-11.2	10.0-12.5-14.0	11.2-14.0-16.0	16.0-20.0-22.4	20.0-25.0-28.0
	Heating		4.5-5.6-7.1	5.6-7.0-7.1	6.4-8.0-9.0	9.0-11.2-12.5	11.2-14.0-16.0	12.8-16.0-18.0	17.9-22.4-25.0	22.4-28.0-31.5
Exchanger volume	Minimum	l	0.57	0.89	1.03	1.51	1.92	1.92	2.92	3.89
	Maximum		1.64	1.83	2.89	4.56	4.56	5.11	6.93	10.73
Dimensions	High	mm	291	291	291	291	291	291	291	291
	Width		341	341	341	341	341	341	341	341
	Depth		127	127	127	127	127	127	127	127
Weight		kg	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Power supply			1~230 V 50 Hz	1~230 V 50 Hz	1~230 V 50 Hz	1~230 V 50 Hz	1~230 V 50 Hz	1~230 V 50 Hz	1~230 V 50 Hz	1~230 V 50 Hz

Expansion Valve Box

Dimensions	High	mm	431	431	431	431	431	431	431	431
	Width		199	199	199	199	199	199	199	199
	Depth		103	103	103	103	103	103	103	103
Weight		kg	2.7	2.7	2.7	2.7	2.7	2.7	4.5	4.5
Pipe connection		mm	6.35	9.52	9.52	9.52	9.52	9.52	9.52	9.52
Remote control			PC-ARFPE	PC-ARFPE	PC-ARFPE	PC-ARFPE	PC-ARFPE	PC-ARFPE	PC-ARFPE	PC-ARFPE

Combinability according to type of application

Outdoor unit according to system considered

		UTOPIA PREMIUM & COMFORT	UTOPIA DXW RAS-(XH(V))NP1E	SET FREE SIGMA
Type of application	Air curtain	Combinability	1 x 1	Multi*
		Controlled variable	Temperature of driven air	Temperature of return air
		Capacity	2~10 HP	2~10 HP
	Ducts	Combinability	1 x 1	Modular
		Controlled variable	Temperature of return air	Temperature of return air
		Capacity	2~10 HP	12~50 HP
	UTA	Combinability	-	Single/Modular
		Controlled variable	-	Temperature of driven air
		Capacity	-	4~50 HP

* The allowed connectivity ratio for the Set Free Sigma system changes according to the power of the connected DX KIT. Contact us for more information.



Sephora, Granada.
Indoor Units



— **HYDROFREE** **Air to Water indoor units**

In a business, it is essential to meet both the needs of the clients and the workers, since everyone expects to feel at ease. This might be either climatization or also sanitary hot water production, for both of them, HydroFree Air to Water units are the solution.

HYDROFREE - FEATURES

WHAT IS HYDROFREE ?

The combination of direct expansion units with hot water production on a Set Free Sigma VRF system

► Ecology and energy savings

Set Free Sigma VRF technology reduces CO₂ emissions compared to conventional heating technologies (boiler, electric heating).

HydroFree, combined with a 3-pipe Set Free Sigma VRF system, offers the possibility, depending on your project, to have free hot water production by recovering energy produced by the air conditioning system.

► Compact

Together with the HydroFree and the DX-Kit, the HITACHI Set Free Sigma VRF system is a single generator with 4 different functions: heating, air conditioning, hot water production, ventilation.

► Simple

HITACHI hydraulic accessories available to complement the HydroFree system are the same as those in the YUTAKI residential range: remote controls, reversible kits, hot water tanks and more.

► Flexible installation

The HydroFree range outdoor units are the Standard Set Free Sigma and High Efficiency Set Free Sigma, which can tolerate long piping lengths and level differences.

► Available compatibilities and versions:

Low Temperature Hydraulic Module

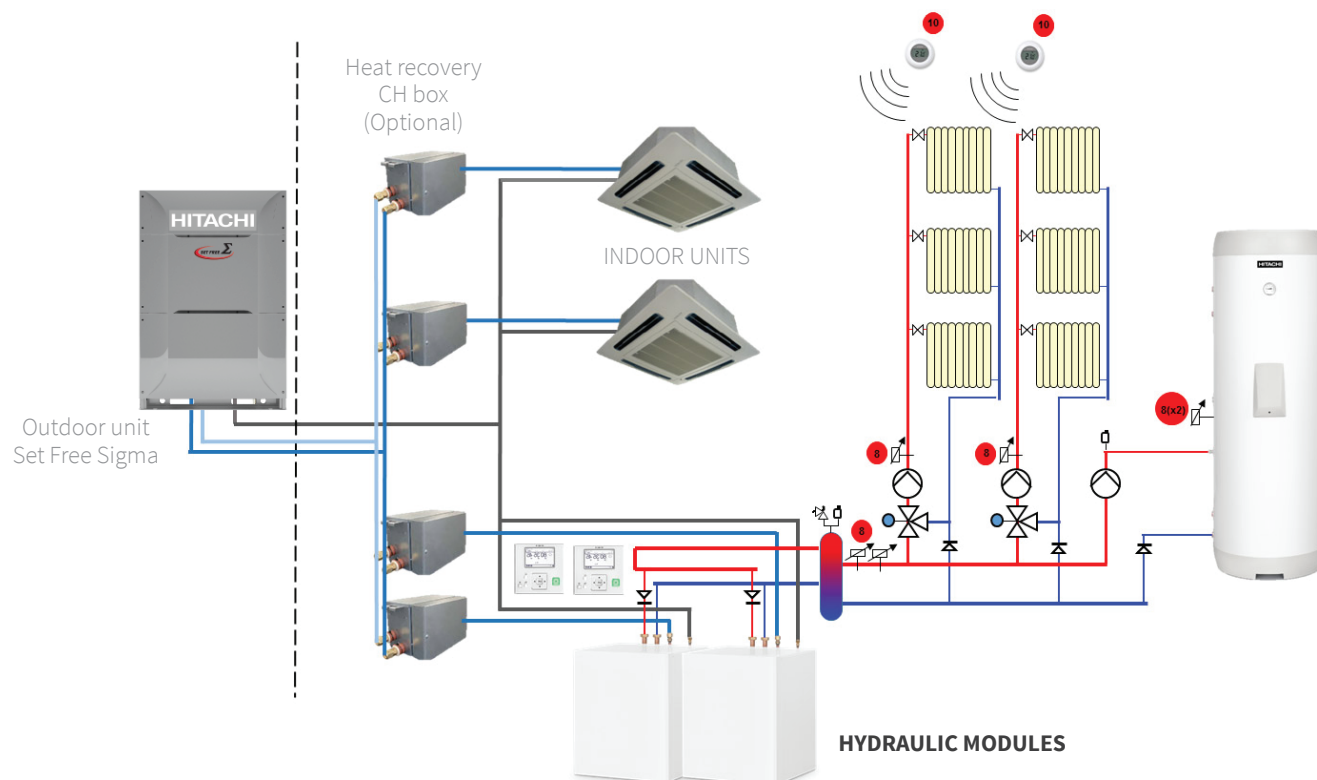
- 2 Versions: heating only and heating/cooling.
- Installation example: Mixed installation of low temperature water emitters + direct expansion units.

High Temperature Hydraulic Module (80°C)

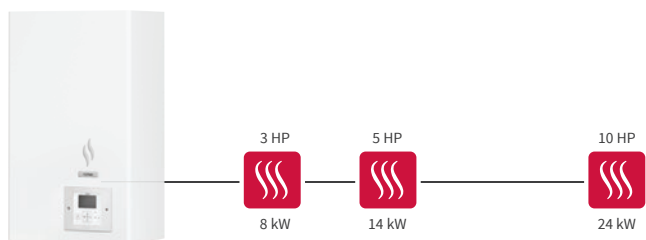
- Version: heating only.
- Application example: domestic hot water production + indoor direct expansion units.

► Compatible Set Free Sigma VRF Outdoor units:

- 2-Pipe Standard or High Efficiency Set Free Sigma
- 3-Pipe Standard or High Efficiency Set Free Sigma with energy recovery



LOW TEMPERATURE HYDROFREE



Low temperature 45°C

► Features

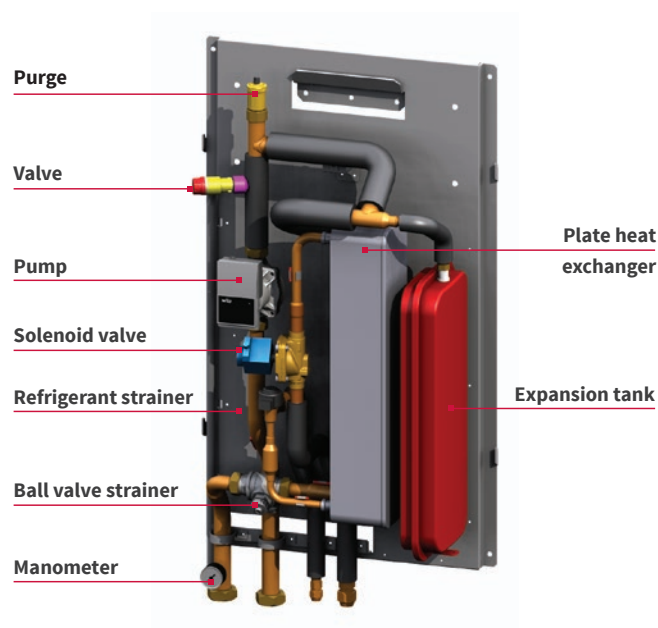
- 3 available capacities.
- Complete hydraulic module.
- Water temperature up to 45°C.
- Optional cooling mode.

► Application

- Renovation.
- Needs for both thermal comfort by direct expansion and hot/cold water production (non sanitary water).
- Long piping lengths or piping heights.

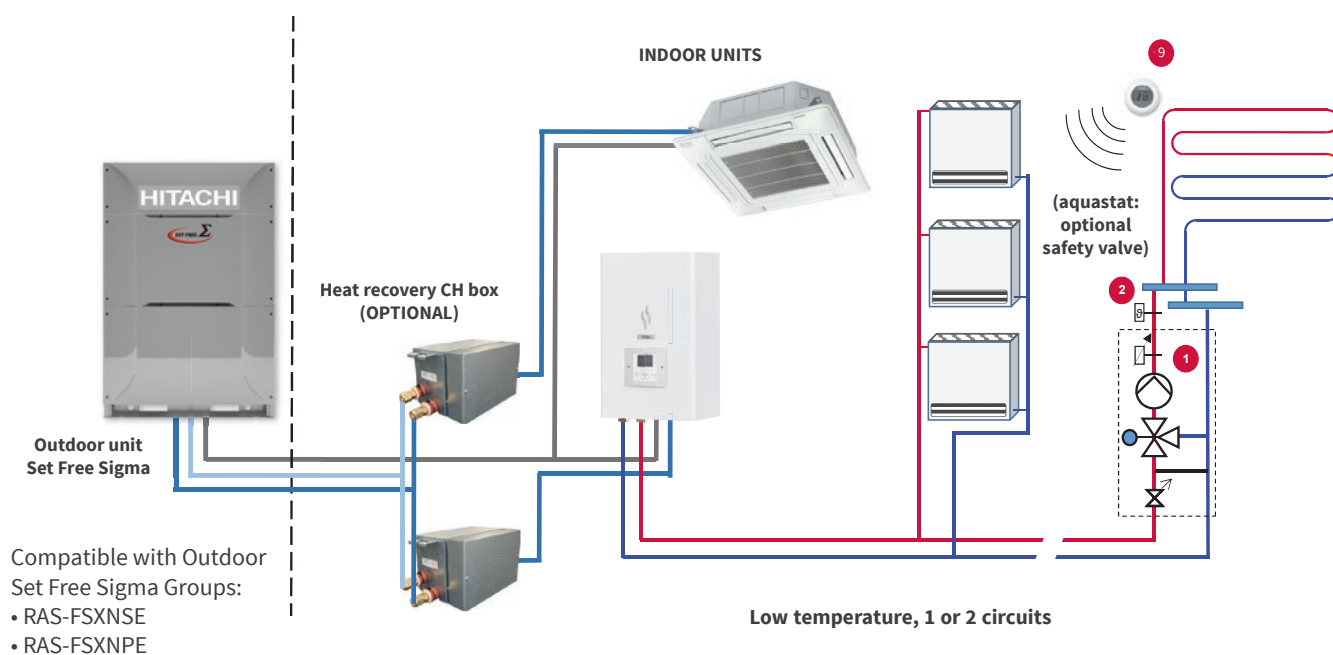
► Combination with:

- Underfloor heating systems
- Air handling units
- Fan coil units.
- Chilled beams.



► Advantages

- One technology: Set Free Sigma VRF System
- Reduced number of generators (no chiller, no boiler)
- For renovation projects, parts of the existing hydraulic system can be used.



LOW TEMPERATURE HYDROFREE

- ▶ Connection to a Set Free Sigma VRF System, 2-pipe or 3-pipe
- ▶ Maximum water outlet temperature 45°C
- ▶ Optional cooling mode
- ▶ Ultra-quiet module
- ▶ Fully equipped module (pump, filter, expansion tank, purges, manometer, etc.)



HydroFree Models

			RWLT-3.0VN1E	RWLT-5.0VN1E	RWLT-10.0VN1E
Nominal heating capacity (7°C outdoor air temp. / 45°C water outlet temp.)		kW	8.2	15.0	31.0
Nominal heating capacity (-7°C outdoor air temp. / 45°C water outlet temp.)		kW	5.2	11.1	17.9
Nominal cooling capacity (35°C outdoor air temp. / 7°C water outlet temp.)		kW	7.0	12.6	20.6
Nominal cooling capacity (35°C outdoor air temp. / 18°C water outlet temp.)		kW	8.5	16.0	27.0
Sound pressure		dB(A)	37	39	47
Net weight		kg	35	50	62
Unit dimensions	Height (with connections)	mm	712 (782)	890 (960)	890 (960)
	Width	mm	450	520	670
	Depth	mm	275	360	360
Water flow	(min - nom - max)	m³/h	0.6/1.29/2.1	1.1/2.41/3.0	2.2/4.13/4.6
Primary min volume		l	50	80	100
Power supply		Ph/V/Hz	1~ / 230 V / 50 Hz	1~ / 230 V / 50 Hz	1~ / 230 V / 50 Hz
Maximum current		A	0.05	0.08	0.14
Type of refrigerant connection			Flare nut	Flare nut	Liquid: Flare nut Gas: Brazed
Refrigerant piping diameter (liquid-gas)		Inches	3/8" – 5/8"	3/8" – 5/8"	3/8" – 7/8"
Hydraulic connection (male / male valves supplied)		Inches	1"	1-1/4"	1-1/4"
Ratio of HydroFree capacity vs. Outdoor nominal capacity			0 ~ 100% (depending on outdoor model and type of installation - 2 or 3 pipes)		
Ratio of Direct expansion units capacity vs. Outdoor nominal capacity			50~130% (depending on outdoor model and type of installation - 2 or 3 pipes)		
Total connection rate HydroFree + Direct expansion	Set Free Sigma VRF System - 2 Pipe		50 % – 100 %		
	Set Free Sigma VRF System - 3 Pipe		FSXNSE: 50 % – 150 %		
			FSXNPE: 50 % – 180%		
Maximum number of IUs when HydroFree is installed			32		
Temperature range of heating water output			25 °C – 45 °C		
Temperature range of cooling water output			5 °C – 20 °C		
Remote control			PC-ARFWE (to be installed on site, included)		

Accessories

		RWLT-3.0VN1E	RWLT-5.0VN1E	RWLT-10.0VN1E
Cooling kit		ATW-CKS-01	ATW-CKS-02	ATW-CKS-03
Domestic hot water storage tank – 200 l			DHWT-200S-3.0H2E	
Domestic hot water storage tank – 300 l			DHWT-300S-3.0H2E	
Wireless remote ON/OFF control with interference protection - 1st circuit			ATW-R TU-04	

HIGH TEMPERATURE HYDROFREE



5 HP
14 kW

High temperature 80°C

► Features

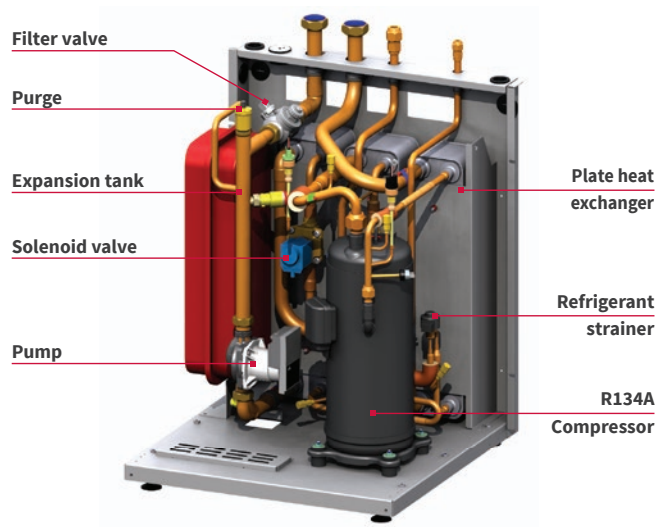
- Complete hydraulic module.
- Water temperature up to 80°C.
- R134A Scroll Compressor
- Smart Cascade (use R134A compressor only if needed).

► Application

- Renovation.
- Needs for both thermal climatization by direct expansion and hot water production.
- High temperature hot water required (sanitary water, high temperature radiators).

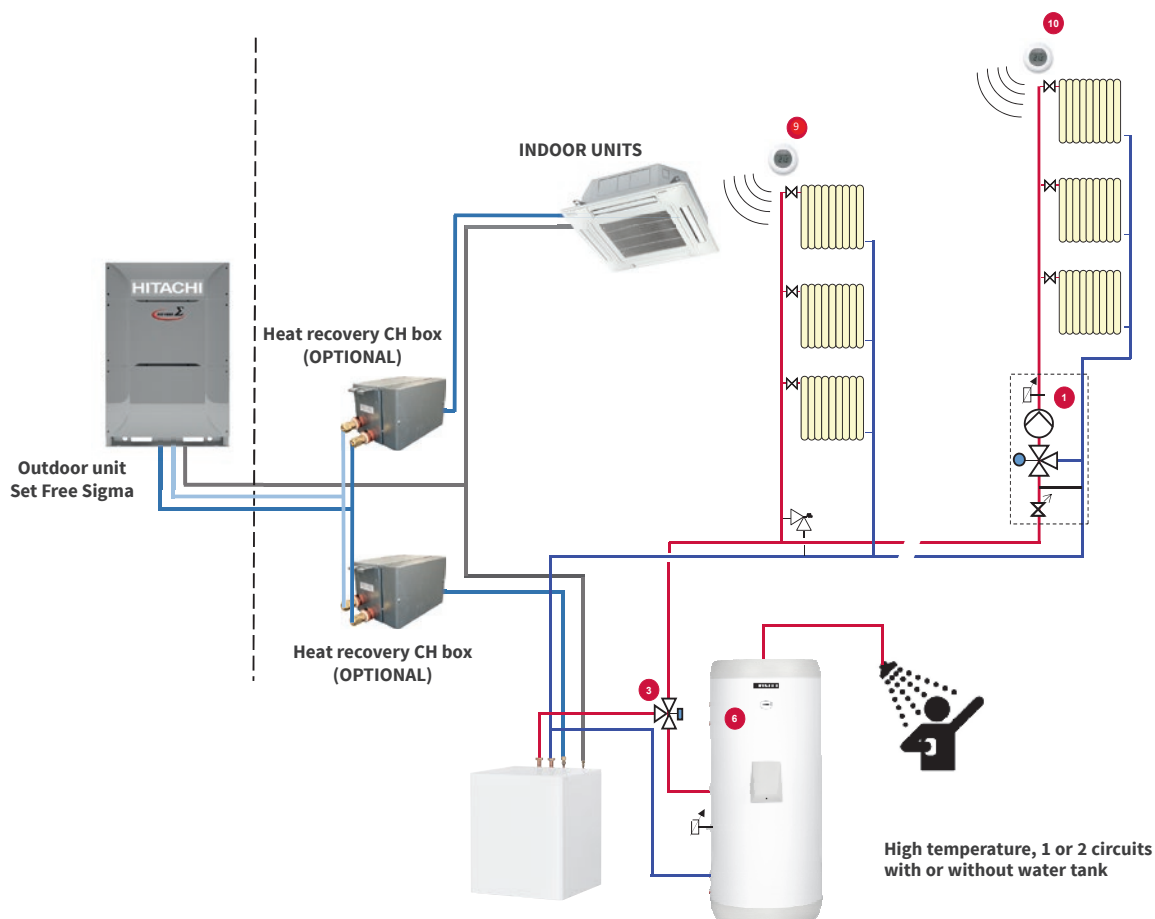
► Combination with:

- Domestic hot water production.
- High temperature radiators.



► Advantages

- One technology: Set Free Sigma VRF System
- Reduced number of generators (no boiler)
- Recovery of energy possible from the air conditioning for the production of domestic hot water.
- Water temperature up to 80°C.



HIGH TEMPERATURE HYDROFREE

- ▶ Connection to a Set Free Sigma VRF System, 2-pipe or 3-pipe
- ▶ Maximum water outlet temperature 80°C
- ▶ Smart cascade: intelligent control for better energy efficiency.
- ▶ Cascading operation:
Coordination of several HydroFree units for extra high temperature water production
- ▶ Ultra-quiet module
- ▶ Fully equipped module (pump, filter, expansion tank, purges, manometer, etc.)



HydroFree Model

RWHT-5.0VNF1E

Nom. capacity (7°C outdoor air temp. / 35°C water outlet temp.)		kW	16.0
Nom. capacity (-7°C outdoor air temp. / 35°C water outlet temp.)		kW	11.7
Nom. capacity (7°C outdoor air temp. / 45°C water outlet temp.)		kW	16.3
Nom. capacity (-7°C outdoor air temp. / 45°C water outlet temp.)		kW	13.9
Nom. capacity (7°C outdoor air temp. / 65°C water outlet temp.)		kW	16.3
Nom. capacity (-7°C outdoor air temp. / 65°C water outlet temp.)		kW	13.9
Net weight		kg	129
Unit dimensions	Height (with connections)	mm	751(802)
	Width	mm	600
	Depth	mm	623
Sound pressure		dB(A)	57
Water flow	(min - nom - max)	m³/h	1.1 - 1.2 - 3.2
Primary min volume		l	80
Power supply		Ph/V/Hz	1~ / 230 V / 50 Hz
Maximum current		A	0.08
Type of refrigerant connection			Flare nut
Refrigerant piping diameter (liquid-gas)		Inches	3/8" - 5/8"
Hydraulic connection (male / male valves supplied)		Inches	1-1/4" - 1-1/4"
Total connection rate HydroFree + Direct expansion	Set Free Sigma VRF System - 2 Pipe		50% ~ 100%
	Set Free Sigma VRF System - 3 Pipe		FSXNSE: 50% ~ 150%
			FSXNPE: 50% ~ 180%
Refrigerant fluid			R134A
Compressor			Scroll
Maximum number of indoor units when HydroFree is installed			32
Temperature range of cooling water output			25°C ~ 80°C
Remote control			PC-ARFWE (to be installed on site not included)

Accessories

RWHT-5.0VNF1E

Domestic hot water storage tank - 200L - DHWT-200S-3.0H2E	DHWT-200S-3.0H2E
Domestic hot water storage tank - 300L - DHWT-300S-3.0H2E	DHWT-300S-3.0H2E
Wireless remote ON/OFF control with interference protection - 1st circuit	ATW-R TU-04



— AIR RENEWAL

When entering a new space one of the most pleasant sensations is to breathe a clean and fresh environment. Thanks to the supply of air from the outside, air renewal systems help you achieve this sensation.

KPI VENTILATION

KPI - HIGH EFFICIENCY AIR RENEWAL KPI-252~2002(E)4E



Characteristics

Versatile ventilation systems

Three different modes of operation: heat recovery, free and/or automatic ventilation.

Noise reduction

It has sound attenuator that reduces noise by up to 5 dB(A) (depending on model).

Guaranteed air purification

The G3 filters are available in the external air intake and inward drive, as well as the F7 Filter.

High control capacity

Control of the static pressure of the fans through the base plate.

Energy conservation

To avoid wasting additional energy, air is used through the heat exchanger, which prepares the outside air with the indoor temperature.

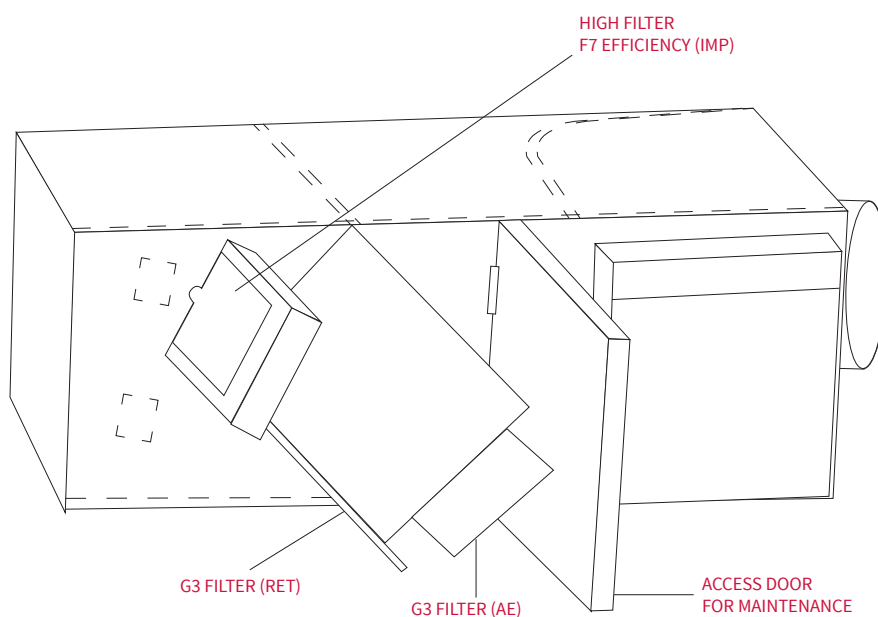
Compliance with regulations

Adaptation to the 2018 ErP regulation and to the new Lot. 11 and 1253/2014 Lot6 regulations.

CO₂ sensor for automatic ventilation

Two options available:

- Automatic speed mode. It regulates the fan speed to constantly eliminate CO₂.
- High concentration of CO₂. The fan quickly displaces CO₂ when high levels are detected.



G3: Gravimetric efficiency filter up to 90%
F7: Fine dust efficiency filter up to 90%

KPI - HIGH EFFICIENCY AIR RENEWAL

Model

			KPI-252E4E	KPI-502E4E	KPI-802E4E	KPI-1002E4E	KPI-1502E4E	KPI-2002E4E
Indoor unit power supply			1~230 V 50 Hz					
Airflow. Speed (low - medium - high)	E3E	m3/h	180 - 208 - 250	360 - 420 - 500	540 - 650 - 800	620 - 800 - 1000	950 - 1250 - 1500	1200 - 1450 - 2000
Static pressure. Speed (low - medium - high) ⁽¹⁾	E3E	Pa	30 - 35 - 55	37 - 50 - 80	40 - 60 - 90	40 - 65 - 95	45 - 70 - 100	40 - 65 - 120
Maximum outdoor static pressure at nominal airflow		Pa	240	210	120	190	200	170
Type of exchanger (material)			Cellulose					
Heat exchanger efficiency ⁽²⁾	E3E	%	74 - 77 - 79	74 - 77 - 78	75 - 76 - 78	78 - 81 - 83	73 - 76 - 80	76 - 78 - 80
Enthalpy exchange efficiency for heating (high)	E3E	%	66	65	65	68	68	66.50
Enthalpy exchange efficiency for cooling (high)	E3E	%	60	61	62	62	62.50	61.50
Sound pressure level	E3E	dB(A)	43	51	54	55	56	57
Borehole connection diameter		mm	160	200	250	300	355	355
Absorbed nominal input power (High)		W	48	117	243	261	462	666
Filter class ⁽³⁾			G3					
Maximum outdoor operating temperatures ⁽³⁾			46°C (DB)					
Control (optional - not included in the price)			PC-ARFPE					

(1) Default fan pressure setting

(2) Measured in accordance with EN 308

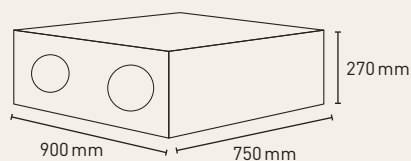
(3) High efficiency filter classified as F7 (EN779) optional

HIGH EFFICIENCY FILTER (F7)*

References	HEF - 252	HEF - 502	HEF - 802	HEF - 1002	HEF - 1502	HEF - 2002
Valid for	KPI-252E4E	KPI-502E4E	KPI-802E4E	KPI-1002E4E	KPI-1502E4E	KPI-2002E4E

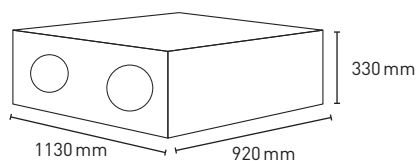
KPI-252E4E

34 kg



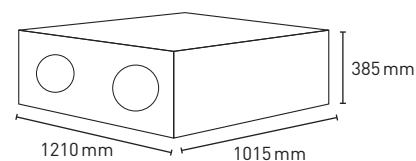
KPI-502E4E

46 kg



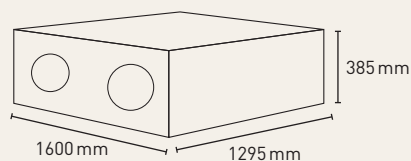
KPI-802E4E

51 kg



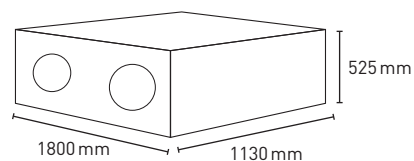
KPI-1002E4E

79 kg



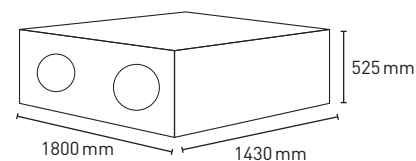
KPI-1502E4E

97 kg



KPI-2002E4E

106 kg



For more information about controls, see page 43.

To create the energy label, please, visit our website

<https://eractive.chauffage.hitachi.fr/en> and use our Hitachi ErP Active Tool application.

ACTIVE KPI VENTILATION

ACTIVE KPI - HIGH EFFICIENCY RECOVERY KPI-502~1002X4E



Characteristics

New Active KPI-X4E

With direct expansion battery, which air-conditions the outside air according to indoor needs

Guaranteed air purification

G3 filters are available in the outdoor air intake and inward drive, as well as the F7 Filter.

Versatile ventilation systems

Three different modes of operation: heat recovery, free and/or automatic ventilation.

Automatic control of starting of external electrical resistance

Electric resistance comes into operation when the temperature drops below -5°C. Recommended operation when high air discharge temperatures are required.

Flexibility

The Active KPI is compatible with:

- UTOPIA, 2 and 2.5 HP
- VRF Set Free Sigma: FS(V)N(Y)3E, FSXN, FSNM, FSN2.

Air adaptation

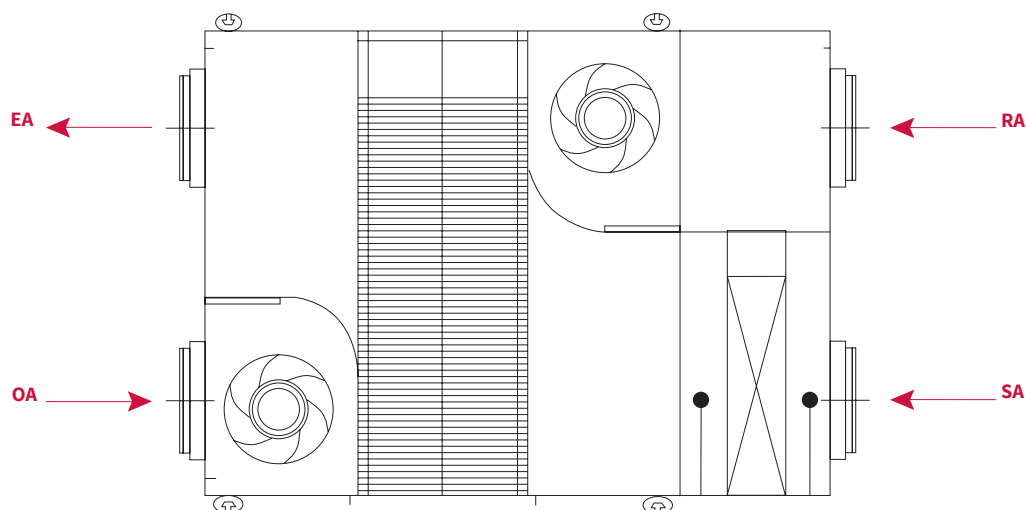
Air is adapted to the conditions that the premises need thanks to additional treatment before being introduced into the indoor setting.

Available options

CO₂ sensor for automatic ventilation. Control of the static pressure of the fans through the base plate.

Compliance with regulations

Adaptation to the 2018 ErP regulation and to the new Lot. 11 and 1253/2014 Lot6 regulations.



G3: Gravimetric efficiency filter up to 90%
F7: Fine dust efficiency filter up to 90%

KPI - HIGH EFFICIENCY AIR RENEWAL

Model

		KPI-502X4E	KPI-802X4E	KPI-1002X4E
Indoor unit power supply		1~230 V 50 Hz		
Nominal Cooling power ⁽¹⁾	kW	5.32 (1.81)	7.96 (2.94)	10.83 (3.73)
Nominal Heating power ⁽¹⁾		6.92 (2.12)	9.79 (3.49)	12.93 (4.43)
Airflow speed (low - medium - high)	m3/h	380 - 430 - 500	590 - 700 - 800	740 - 820 - 1000
Static pressure, speed (low - medium - high) ⁽²⁾	Pa	60 - 82 - 90	57 - 80 - 110	80 - 105 - 170
Maximum outdoor static pressure at nominal airflow	Pa	200	110	170
Type of exchanger (material)		Cellulose		
Heat exchanger efficiency (high - medium - low) ⁽³⁾	%	74 - 77 - 78	75 - 76 - 78	78 - 81 - 83
Enthalpy exchange efficiency for heating (high)	%	65	65	68
Enthalpy exchange efficiency for cooling (high)	%	61	62	62
Sound pressure level ⁽⁴⁾ (low - medium - high)	dB(A)	29 - 30 - 32	32 - 33 - 34	31 - 33 - 36
Sound power	dB(A)	50	53	54
Borehole connection diameter	mm	200	250	300
Nominal input power (high)	W	130	255	357
Filter class ⁽⁵⁾		G3		
Maximum outdoor operating temperatures ⁽⁴⁾		-20°C (DB) ~ 46°C (DB)		
Control (not included in the price)		PC-ARFPE		

(1) The nominal cooling and heating capacity is the combined capacity of the indoor and outdoor units and is based on EN14511

- Cooling: 27°C DB, 19°C WB. Outdoor temperature 35°C DB, 24°C WB

- Heating: 20°C DB, 24°C WB. Outdoor temperature 7°C DB, 6°C WB. Pipe length 7.5V m

(2) Default fan pressure setting

(3) Measured in accordance with EN 308

(4) Sound pressure level measured in an anechoic camera at a distance of 1.5 m below the unit, without ceiling under the unit and using the isolated sound of the duct, this reflects that the sound must be considered when the unit is installed at the site, because the pressure level measured in the installation may be higher than the specified pressure level.

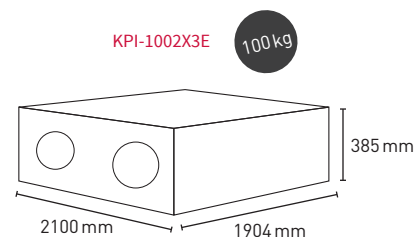
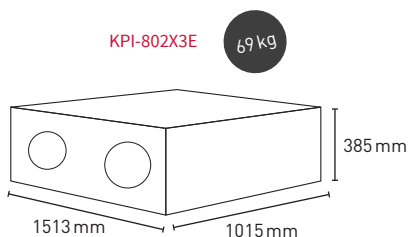
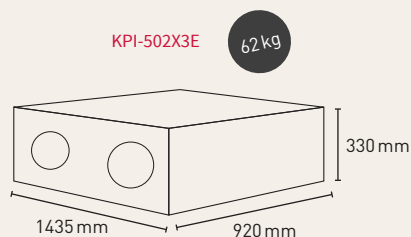
(5) High efficiency filter classified as F7 (EN779) optional

HIGH EFFICIENCY FILTER (F7)*

References	HEF - 502	HEF - 802	HEF - 1002
Valid for	KPI-502X4E	KPI-802X4E	KPI-1002X4E

ACOUSTIC ATTENUATOR

References	STL - 30 - 200 - L600	STL - 30 - 250 - L600
Valid for	KPI - 502	KPI - 802/1002



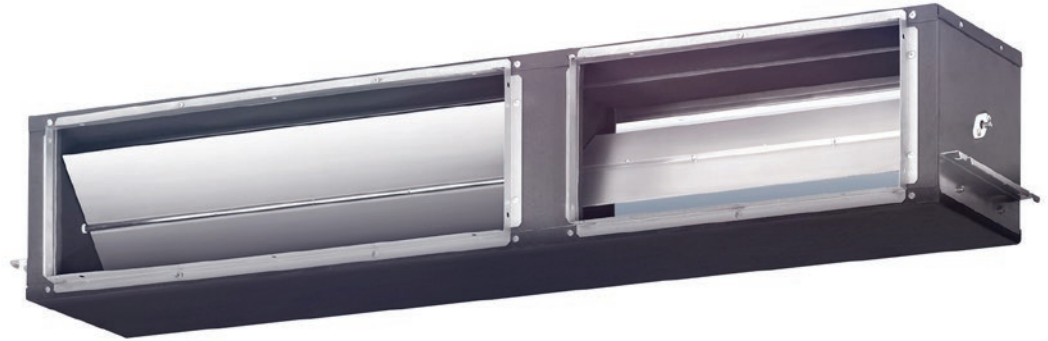
For more information about controls, see page 43.

To create the energy label, please, visit our website

<https://eractive.chauffage.hitachi.fr/en> and use our Hitachi ErP AcTive Tool application.

ECONOFRESH VENTILATION

ECONOFRESH - HIGH EFFICIENCY RECOVERY EF - 456NE



Characteristics

A suitable solution for premises with high thermal loads that need cooling throughout the year, even in winter.

Important energy savings

Intelligent management of air recovery.

CO₂ Management

Reduction of CO₂ levels, elimination of odors, smoke and pollution.

Econofresh Kit

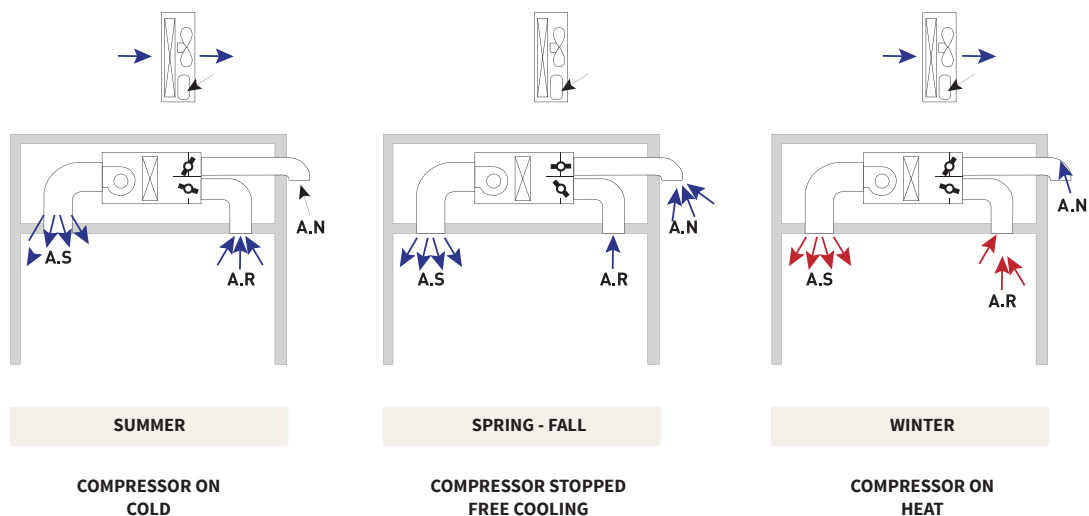
Energy conservation in the intermediate seasons.

Free Cooling

Energy conservation in the air system through “Natural Cooling”, which uses outside air to cool and renew the indoor air when the outdoor temperature is lower than the indoor temperature.

Product novelty

- Compatible with 4~6 HP duct units (RPI 4~6FSN4E.)
- The minimum outdoor aperture can be selected from the remote control.
- Optional F7 filter.
- Control of the indoor unit via the remote control.

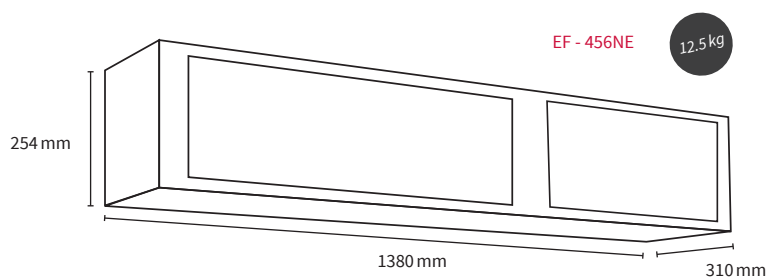


Free Cooling Operation

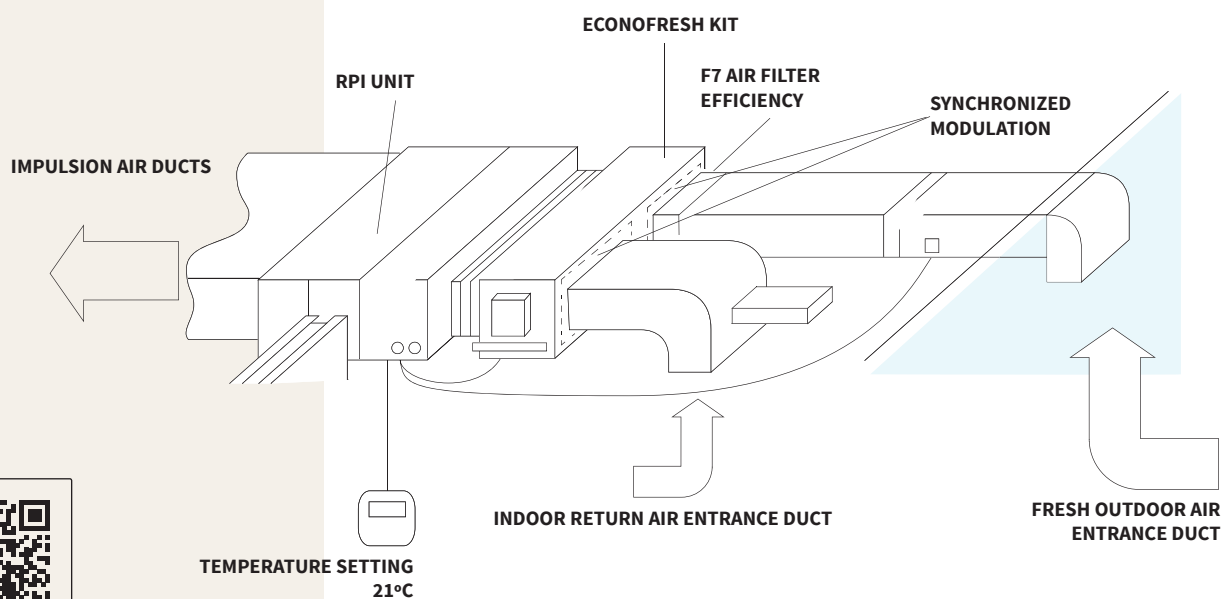
ECONOFRESH KIT

Model

	EF - 456NE
COMBINABLE INDOOR UNIT MODE	RPI- 4~6FSN4E*
No. of actuator motors	1
Standard accessories	Outdoor air entrance temperature probe
Optional accessories	HE - EF456



RPI CONNECTION SCHEME WITH THE ECONOFRESH KIT



Watch the **video**
for more information

For more information about controls, see page 43.

To create the energy label, please, visit our website

<https://erpactive.chauffage.hitachi.fr/en> and use our Hitachi ErP AcTive Tool application.

DX-KIT SERIE 2

FEATURES

UTOPIA DX CONDENSING UNIT

The new RAS-XH (V) NP series (1) E is optimized for use with the new DX-Kit series 2.

Precise power control and fast response to variable operating parameters make it suitable for use with air-conditioning units. Compared to standard condensing units from the HITACHI portfolio allows the connection of heat exchangers with larger volumes and hence with a larger heat transfer area.



Features and benefits

Possibility to control analog signal (0-10V, 0-5V, 4-20mA)

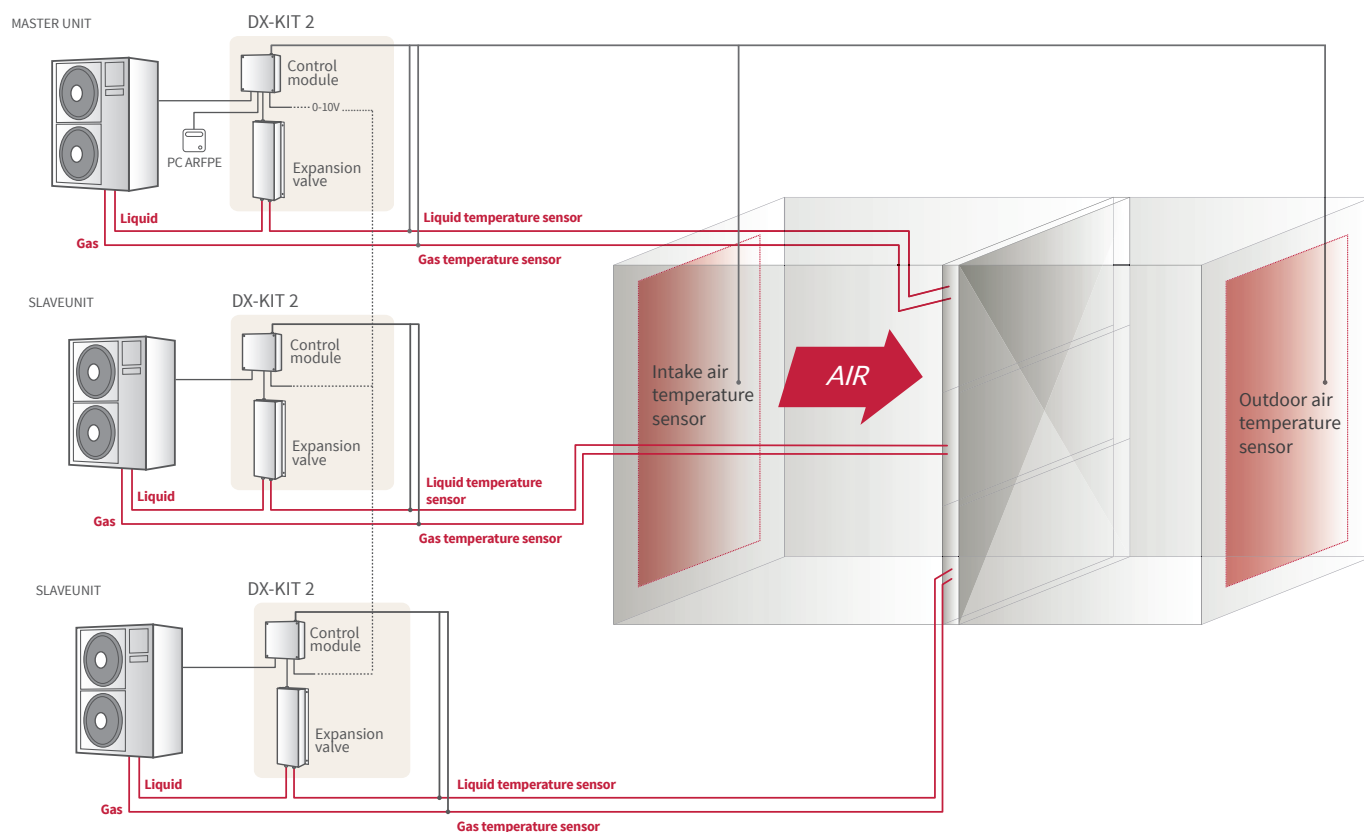
Modular installation for multi-ring heat exchangers

- Possibility to connect up to 5 condensing units per AHU unit (up to 125 kW)
- Group Control of Condensation Units (Master - Slave)
- Common air temperature sensors
- Common controller to set operating parameters

Sophisticated defrosting system -> Better user comfort

- Checking the number of defrosting condensing units at the same time:
 - 2-3 condensing units: max. 1 in the reverse cycle
 - 4-5 condensing units: max. 2 in the reverse cycle
- **Top-down defrost logic for better defrosting**
- **Possibility to connect to larger volumetric exchangers**

Modular installation scheme for multi terminal exchangers



DX-KIT SERIE 2

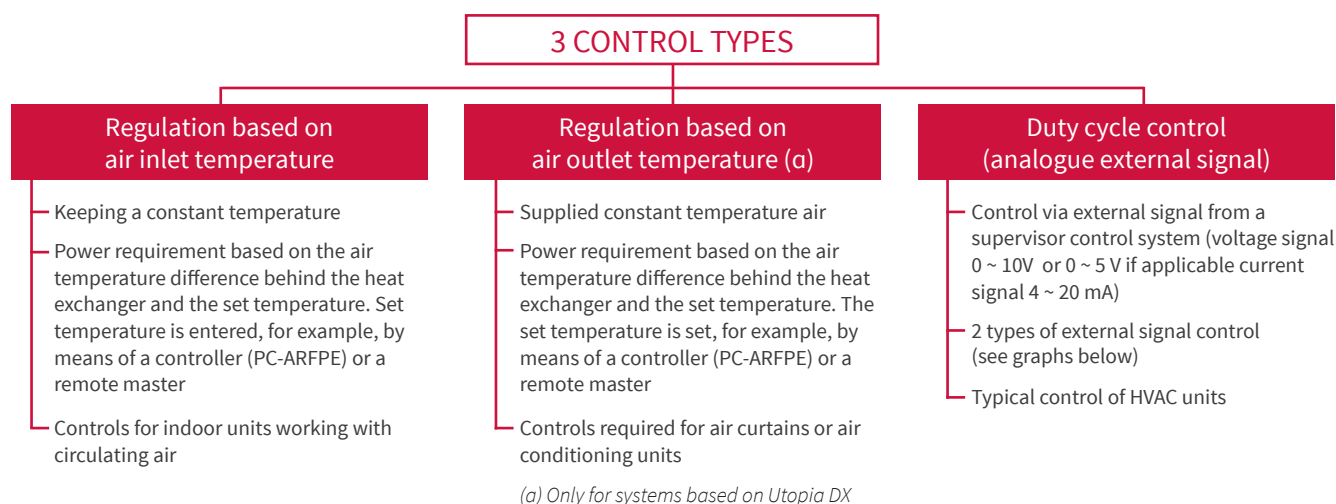
FEATURES

DX-KIT INTERFACE

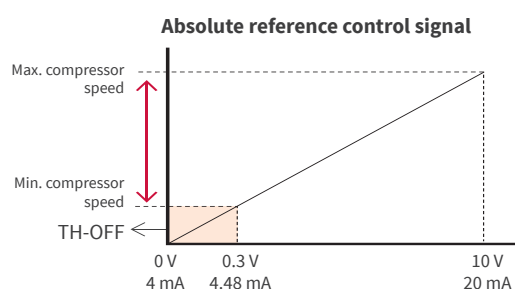
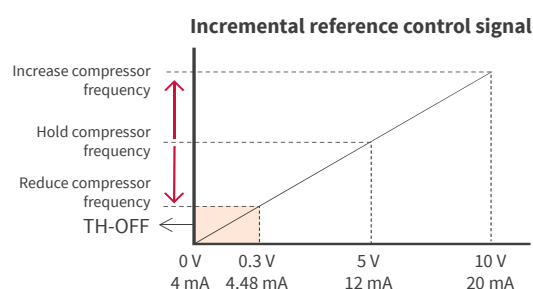
The DX-KIT interface is the device used to connect the UTAs' direct expansion batteries, air curtains and high flow duct units with Hitachi outdoor units, to work in heating and cooling mode.

Its integration allows air curtains with direct expansion valves to also work in cooling, unlike conventional electric air curtains that only operate in heating mode. In operation with air conditioners, the DX-KIT tempers the air as per the thermal requirements.

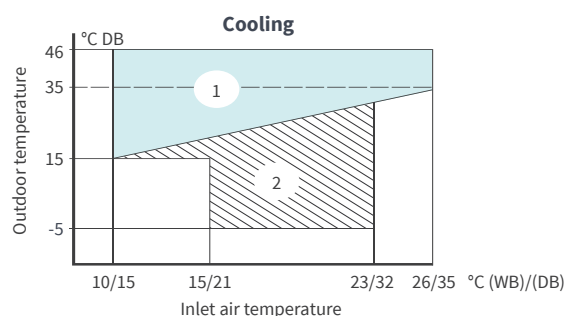
The kit includes: expansion valve, temperature probes and the necessary electronic regulation devices. Compatible with the Utopia Commercial range and VRF Set Free Sigma Systems.



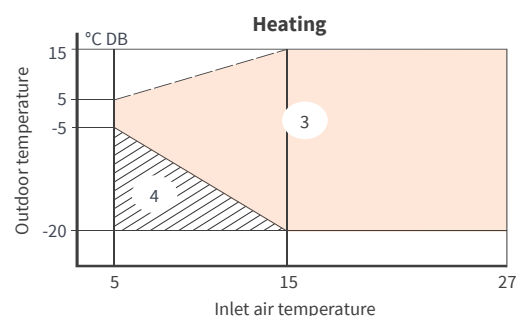
Types of external signal control



Operational range



- (1) Standard cooling mode $T_{out} \geq T_{inlet}$
 (2) Cooling mode operation can be performed.



- (3) Standard heating mode $T_{out} \leq T_{inlet}$
 (4) The minimum comfort output temperature (19 °C) is not guaranteed.

DX-KIT SERIE 2

The DX-KIT can also be combined with UTOPIA and Set Free Sigma series. For optimum performance we recommend using it with Utopia DX dedicated series.

APPLICATION		RECOMMENDED SOLUTION		
		UTOPIA (NOT DX)	UTOPIA DX RAS-XH(V)NP(1)E	SET FREE SIGMA (5)
AIR CURTAIN	Combinability	1-1	–	Multi (6)
	Control type	Depending on output temperature	–	Depending on output temperature
	Capacity range	2-10 HP	–	2-10 HP
	Accuracy of regulation	●●●●○	–	●●●○○ (1)
DUCTED UNIT (≤ 10% FRESH AIR)	Combinability	1-1	Modular	Multi (6)
	Control type	Depending on output temperature	Depending on output temperature	Depending on output temperature
	Capacity range	2-10 HP	12-50 HP (2) (3)	2-10 HP
	Accuracy of regulation	●●●●●	●●●●●	●●●○○ (1)
HVAC UNITS	Combinability	LOW PRECISION REGULATION	Individually or modular	LOW PRECISION REGULATION
	Control type		Depending on output temperature or external signals	
	Capacity range		4-50 HP (3) (4)	
	Accuracy of regulation		●●●●●	

- (1) VRF system management focuses on cooling cycle states and output, not just on the supply air temperature.
(2) The power range is obtained by combining 3 HP to 10 HP outdoor unit models (RAS-XH (V) NP (1) E series).
(3) A group of condensing units for modular wiring must be composed of modules of the same size for proper power balance.
(4) The power range is obtained by combining 4 HP to 10 HP outdoor units (RAS-XH (V) NP (1) E series).
(5) Combination 1-1 with Set Free Sigma is not allowed
(6) Representation of DX-KITs between connected indoor units.

Total percentage of connected power to outdoor unit (%)	≤ 30%	30 ~ 100%
	30 ~ 130%	50 ~ 100%

1~230V 50Hz

UTOPIA DX Outdoor Units		RAS-3XHVNP1E	RAS-4XHVNP1E	RAS-5XHVNP1E	RAS-6XHVNP1E	
Nominal cooling capacity (min-max)	kW	7.1 (3.2-8.0)	10.0 (4.5-11.2)	12.5 (5.7-14.0)	14.0 (6.0-16.0)	
Nominal heating capacity (min-max)	kW	8.0 (3.5-10.6)	11.2 (5.0-14.0)	14.0 (5.0-18.0)	16.0 (5.0-20.0)	
EER		4.41	4.68	3.81	3.41	
COP		4.88	5.16	4.55	4.23	
Sound pressure level when cooling (night attenuation) / heating	dB(A)	46 (42) / 48	47 (43) / 49	48 (44) / 50	48 (45) / 50	
Sound power level	dB(A)	63	63	64	65	
Air flow	m³ / min	45	80	90	100	
Dimensions	mm	800x950x370	1380x950x370	1380x950x370	1380x950x370	
Weight	kg	66	103	103	103	
Recommended circuit breaker	A	20	32	32	32	
Maximum current	A	21.5	30.5	30.5	30.5	
Operating cooling flow	A	6.4	8.7	13.7	17.3	
Operating heating current	A	6.7	8.9	12.8	15.9	
Section of power cable (according to EN 60335-1)	Nbr. / mm²	3x 4.0	3x 6.0	3x 6.0	3x 6.0	
The size of the communication cable between the outdoor unit and the indoor unit	Nbr. / mm²	2x 0.75	2x 0.75	2x 0.75	2x 0.75	
Piping diameter (liquid / gas)	mm (inch)	Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø15.88 (5/8)	
Minimum pipe length	m	5	5	5	5	
Maximum piping length without additional refrigerant charge	m	30	30	30	30	
Maximum pipe length (when refrigerant is added)	m	50	75	75	75	
Maximum height difference (outdoor unit – Heat exchanger)	m	30 / 20	30 / 20	30 / 20	30 / 20	
Refrigerant Refrigeration Factory - R410a	kg	2.3	4.1	4.2	4.2	
Compressor type		Rotary DC inverter	Scroll DC inverter	Scroll DC inverter	Scroll DC inverter	

Design parameters of the external heat exchanger in combination with UTOPIA DX condensing unit.

DX-KIT	OP. MODE	PERMITTED CAPACITY OF HEAT EXCHANGER [kW] (1)			INTERNAL HEAT EXCHANGER VOLUME [dm ³] (2)		RECOMMENDED HEAT EXCHANGER AIR FLOW [m ³ /min]	
		MIN.	NOM.	MAX.	MIN.	MAX.	MIN.	MAX.
EXV-2.0E2	Cooling	4.0	5.0	5.6	0.57	1.64	8.0	21.0
	Heating	4.5	5.6	7.1				
EXV-2.5E2	Cooling	4.8	6.0	6.3	0.89	1.83	11.5	26.0
	Heating	5.6	7.0	7.1				
EXV-3.0E2	Cooling	5.7	7.1	8.0	1.03	2.89	12.5	30.0
	Heating	6.4	8.0	9.0				
EXV-4.0E2	Cooling	8.0	10.0	11.2	1.51	4.56	20.0	36.0
	Heating	9.0	11.2	12.5				
EXV-5.0E2	Cooling	10.0	12.5	14.0	1.92	4.56	23.0	41.5
	Heating	11.2	14.0	16.0				
EXV-6.0E2	Cooling	11.2	14.0	16.0	1.92	5.11	25.0	42.5
	Heating	12.8	16.0	18.0				
EXV-8.0E2	Cooling	16.0	20.0	22.4	2.92	6.93	59.0	78.0
	Heating	17.9	22.4	25.0				
EXV-10.0E2	Cooling	20.0	25.0	28.0	3.89	10.73	68.0	89.0
	Heating	22.4	28.0	31.5				

Cooling and heating performance is based on thermal conditions according to EN14511:

HEATING	
Air temperature	DX-interface HEX (Tin): 20 °C (DB) Outdoor: 7 °C (DB)/6 °C (WB)
Condensation temperature	40 °C ~ 45 °C
Subcooling temperature	3 °C

COOLING	
Designed air temperature	DX-Interface HEX (Tin): 27 °C (DB)/19 °C (WB) Outdoor: 35 °C (DB)
Evaporation temperature	6 °C
Overtemperature	5 °C

(1) The output of the exchanger must be designed with the following input parameters.

(2) Max. allowed distribution lenght to achieve a maximum volume of 10 m (see Timing Limit Limits).
Exchanger design pressure = **4.15 MPa**. Pressure resistance **≥ 12.45 MPa** (3 x design pressure).

3~400V 50Hz

RAS-4XHNP1E	RAS-5XHNP1E	RAS-6XHNP1E	RAS-8XHNP1E	RAS-10XHNP1E
10.0 (4.5-11.2)	12.5 (5.7-14.0)	14.0 (6.0-16.0)	20.0 (8.0-22.4)	25.0 (10.0-28.0)
11.2 (5.0-14.0)	14.0 (5.0-18.0)	16.0 (5.0-20.0)	22.4 (6.3-28.0)	28.0 (8.0-35.0)
4.68	3.81	3.41	3.56	3.07
5.16	4.55	4.23	4.21	3.84
47 (43) / 49	48 (44) / 50	48 (45) / 50	57 (55) / 59	58 (56) / 60
63	64	65	76	76
80	90	100	127	134
1380x950x370	1380x950x370	1380x950x370	1380x950x370	1380x950x370
103	103	103	136	138
15	15	15	30	30
14	14	16	24	24
3.2	5.0	6.3	8.6	12.6
3.2	4.7	5.8	8.1	11.3
5x 2.5	5x 2.5	5x 2.5	5x 6.0	5x 6.0
2x 0.75	2x 0.75	2x 0.75	2x 0.75	2x 0.75
Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø25.4 (1)	Ø12.7 (1/2) / Ø25.4 (1)
5	5	5	5	5
30	30	30	30	30
75	75	75	100	100
30 / 20	30 / 20	30 / 20	30 / 20	30 / 20
4.1	4.2	4.2	5.7	6.2
Scroll DC inverter	Scroll DC inverter	Scroll DC inverter	Scroll DC inverter	Scroll DC inverter



— CONTROLS & ACCESSORIES

Intelligent temperature controls, for individual or centralized use, which provide maximum comfort and savings, to feel at home wherever you are.

INDIVIDUAL CONTROLS

Wired Multifunction Control

PC-ARFPE



CHARACTERISTICS:

- Weekly program.
- Configuration and adjustment of the operating parameters.
- Multifunction. Remote program of ON/OFF options, error reporting, automatic route setting.
- Control of 1 to 16 indoor units.
- Self-diagnosis, anti-freezing and temperature reduction.

- Integrated environment probe.
- Several languages.
- LCD Screen.
- User friendly.

PC-ARFPE COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).
VRF Set Free Sigma Range.

Simplified Wired Control

PC-ARH



CHARACTERISTICS:

- Control of 1 to 16 indoor units (in master and slave)
- Ideal for hotels.
- Size
- Simplified functions: ON/OFF, Mode, temperature, ventilation.
- Preference function with centralized control or CS-NET Web.

PC-ARH COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).
VRF Set Free Sigma Range.

Individual control

PC-AWR



CHARACTERISTICS:

- Wireless remote control
- Receiver kit has to be installed in IU
- Operation mode
- Automatic cooling/heating operation
- Simple timer
 - On time
 - Off time
- Infrared signal change (A/B)

PC-AWR COMPATIBLE WITH:

All system free indoor units

Receiver kit for wireless remote controller

Receiver Kit	Model	PC-ALH3	PC-ALHC1	PC-ALHD1	PC-ALHS1	PC-ALHP1	Standard: PC-RLH11 (Optional: PC-ALHZ1)			
IDU type	Description	4-way cassette	4-way cassette compact	2-way cassette	1-way cassette	Ceiling suspended	Ducted	Floor concealed	Floor/ceiling convertible	Wall mounted
	Model	RCI-FSN4	RCIM-FSN4	RCD-FSN3	RCS-FSN	RPC-FSN3	RPI-FSN(3/5)(P)E RPIM-FSN4E(-DU)	RPF(I)-FSN2E	RPC-FSN3(E)	RPK-FSN(H)3M
Compatible wireless remote controller	PC-AWR	●	●	●	●	●	●	●	●	●

CONTROLS & ACCESSORIES

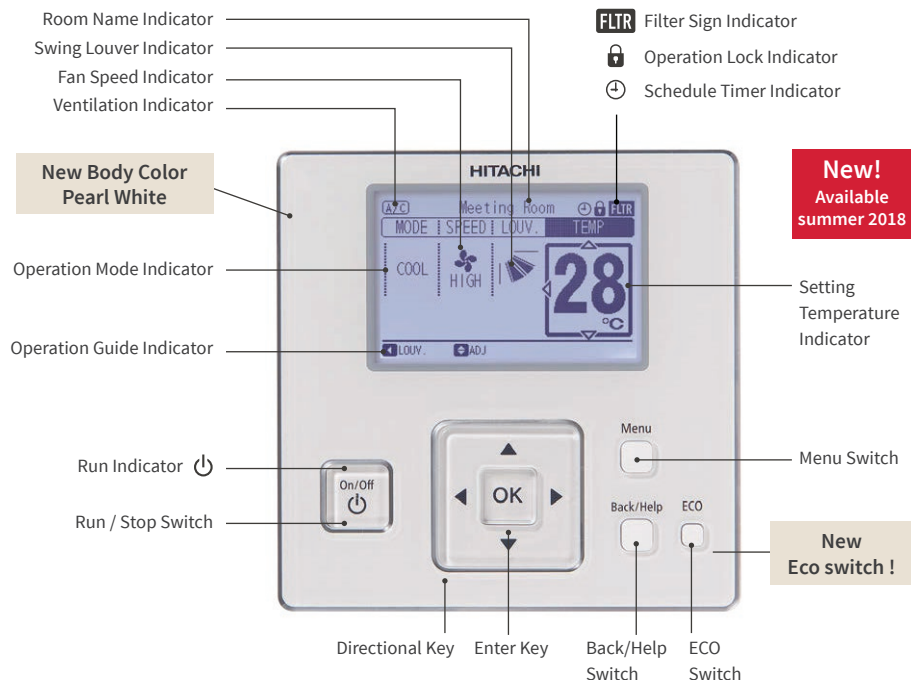
ADVANCED WIRED REMOTE CONTROLER PC-ARF1

PC-ARF1 CHARACTERISTICS:

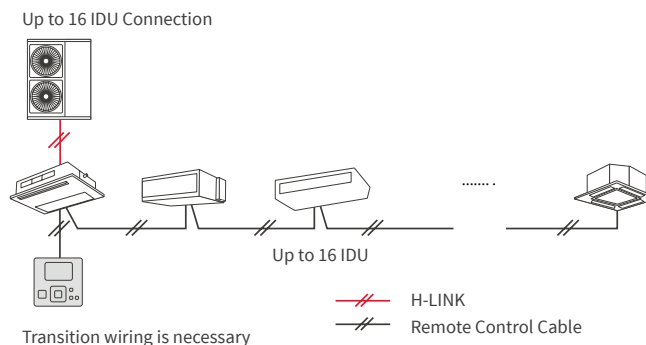
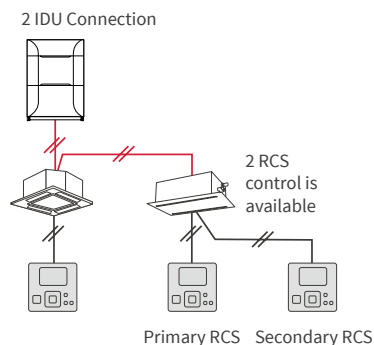
- Outer Dimensions (H×W×D)
120×120×17.9 mm
- Net weight 200 g



Model Change!



Example of system configuration



Setting	Run/Stop
	Operation Mode
	Auto Mode Setting
	Temperature Setting
	Fan Speed _ 3 (Hi/Me/Lo) / 4 (Hi2/Hi/Me/Lo) Taps
	Louver Direction
	Individual Louver Setting
	Remote Control Primary-Secondary Setting
	Automatic Restart with Eco-operation
	Function Selection Automatic Reset Temperature (Cooling /Heating) Temperature Indication
	Air Outlet Temperature New

Service	Filter Sign
	Filter Sign Reset
	Louver Open / Close
	Room Name Setting
	Alarm Sign
Screen	Alarm History Display
	Screen Adjustment
	Temperature Unit - °C / °F
	Adjusting Brightness of Run Indicator
Management	Operation Lock / Set
	Main / Sub Control New
	Built-in-Timer (on/off)
	Adjusting Date / Time Setting
	Thermometer Indication New
	Energy Management New

Power-Saving	With Motion Sensor Kit
	ODU Capacity Control • Peak Shaving Control • Proper Limit Control New
	Indoor Unit Rotation Control New
	Automatic Fan Operation New
	Auto Recovery of Temperature
Schedule	Upper Limit for Heating Operation
	Lower Limit for Cooling Operation
	Weekly Schedule
	Settable Timer Operation Times (per day): 5
	Holiday Setting
	Schedule On / Off
	ODU Noise Reduction Schedule New

Simple operation

Directional Key

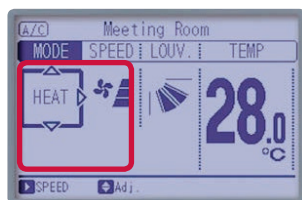
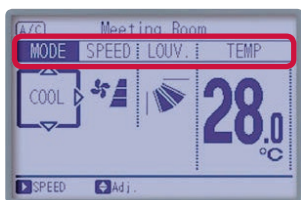
4 main items [Mode] [Speed] [Louver] [Temperature]



[Left] [Right]:
select one from 4
main items



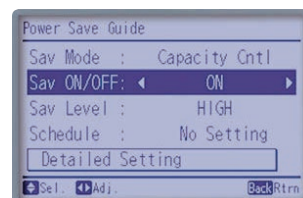
[Up] [Down]:
change the settings
in each item



New

Power-saving button

Easy access to the any power-saving functions, including support-guidance.



Menu button

Display all setting except 4 main items, like schedule.



Adaptability

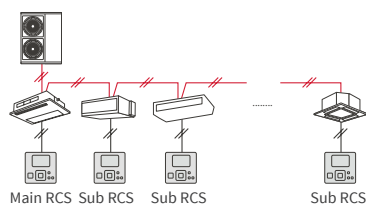
New

Improved main-sub RCS control

By one main RCS, You can control the multiple IDUs which are controlled by sub RCS.

* Operation Mode

* Setting Temperature

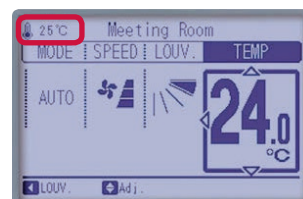


New

Thermometer function

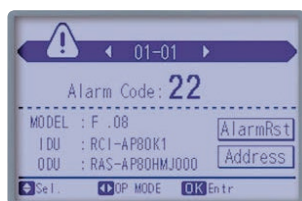
Current temperature can be displayed anytime, without being in maintenance mode.

*Thermometer can be chosen out of 3 sensors (Air inlet, Air outlet, Remote controller)



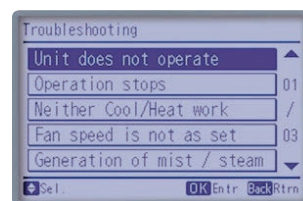
Alarm code check

Contact address shown in the same display.



Help Menu

Access when in trouble. Screen guide, Operation Manuals, Troubleshooting Q&A listed.



New

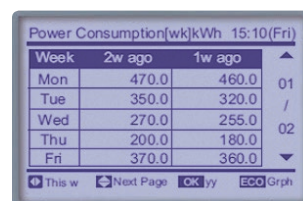
ODU silent mode

Set in the weekly schedule by 5 times.



Energy Management

Displays energy consumption data in monthly, weekly and daily base, both in table or graphic format.



CONTROLS & ACCESSORIES

INDIVIDUAL CONTROLS FOR HYDRO FREE RANGE

Wired Multifunction Control

PC-ARFWE



CHARACTERISTICS:

- Weekly program.
- Configuration and adjustment of the operating parameters.
- Multifunction. Remote program of ON/OFF options, error reporting, automatic route setting.
- Control of 1 to 16 indoor units.
- Self-diagnosis
- Integrated environment probe.
- LCD Screen.
- User friendly.

PC-ARFWE COMPATIBLE WITH:

Range of HydroFree indoor units.
VRF Set Free Sigma Range.

Radio Remote Room Thermostat ON/OFF

ATW-RTU-04



CHARACTERISTICS:

- ON/OFF operation for Hydrofree units based on room (air) temperature.
- Control of 1 unit.
- 7 segment display
- Compact design
- Wireless installation.
- Self-diagnosis.

ATW-RTU-04 COMPATIBLE WITH:

Range of HydroFree indoor units.
VRF Set Free Sigma Range.

CONTROLS & ACCESSORIES

RECEIVERS AND SENSORS

Infrared receiver

PC-ALHC / PC-ALHD / PC-ALH3 / PC-ALHP1



CHARACTERISTICS:

- Receiver for indoor cassette units.
- It is placed in the corner of the panel.

PC-ALHC COMPATIBLE WITH:

RCIM-FSN4E

PC-ALHD COMPATIBLE WITH:

RCIM-FSN4E

PC-ALH3 COMPATIBLE WITH:

RCIM-FSN4E

PC-ALHP1 COMPATIBLE WITH:

RCIM-FSN4E

Infrared receiver for wall-mounted units

PC-ALHZ / PC-ALHZF



CHARACTERISTICS:

- Infrared receiver for wireless remote control.

PC-ALHZ COMPATIBLE WITH:

RCIM-FSN3E.
RCD-FSN3.
RPC-FSN3.
RPI-FSN(3/4)(P)E.
RPIM-FSN4E(-DU).
RPK-FSN(H)2M.
RPF(I)-FSN2E

PC-ALHZF COMPATIBLE WITH:

RCI-FSN4.
RPK-FSN(H)3M

Remote temperature sensor

THM-R2AE



CHARACTERISTICS:

- Equipped with a diverted probe, it will be regulated in relation to the ambient temperature.

THM-R2AE COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).

CONTROLS & ACCESSORIES

CENTRALIZED CONTROLS

Centralized Control

PSC-A64S



CHARACTERISTICS:

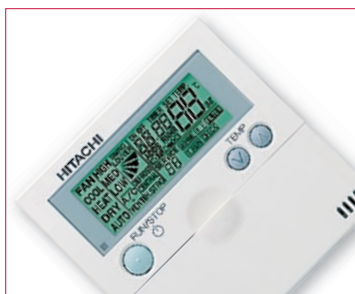
- Control of up to 256 indoor units (16 groups).
- Operates with or without remote control.
- H-Link management.
- Automatic setting
- Adjusts the airflow and automatic deflector.
- Alarm code on the screen.
- The central station can be used in conjunction with the individual remote controls of each unit.

PSC-A64S COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).
VRF Set Free Sigma Range.

Weekly Programmer

PSC-A1T



CHARACTERISTICS:

- Programmable weekly timer, for those remote controls that do not have weekly program.
- Allows 3 on/off switches per day.
- Creation of programs.
- Compatible with PC-ARFPE, PSC-A64S, PC-ARH.
- Individual control of indoor units or groups.

PSC-A1T COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).
VRF Set Free Sigma Range.

Centralized ON/OFF Control

PSC-A16RS



CHARACTERISTICS:

- Manages the ON/OFF for 16 groups.
- Up to 8 centralized ON/OFF controllers (PSC-A16RS) can be connected to an H-LINK.
- Two switches for the ON/OFF function: single or simultaneous (up to 16 groups of units at the same time).
- Automatic parameterization according to the capacity of the units.

PSC-A16RS COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).
VRF Set Free Sigma Range.

Commercial Control - VRF

PSC-A32MN



CHARACTERISTICS:

- Connection to the H-LINK system and used for central control and supervision.
- Supervision of the operating conditions by blocks / groups.
- Programmed operation for block / groups (run / stop and temperature setting).
- Control to limit the capacity of the outdoor units to give a percentage, at certain times of the day, by adjusting the external input.
- Indication and calculation of the accumulated running time for each group.

PSC-A32MN COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).
VRF Set Free Sigma Range.

CONTROLS & ACCESSORIES

CENTRALIZED CONTROLS

Touch Screen. Centralized System

PSC-A64GT



CHARACTERISTICS:

- Connection to the H-LINK system and used for central control and supervision.
- Supervision of the operating conditions by blocks/groups.
- Up to 4 blocks with 16 groups (64 groups).
- Up to 8 central stations connected to H-LINK.
- Configuration and adjustment of the operating parameters.
- Weekly and vacation program.
- Self-diagnosis, anti-freezing and temperature reduction.

PSC-A64GT COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).
VRF Set Free Sigma Range.

CS-NET WEB. Integral Management

PSC-A160WEB1



CHARACTERISTICS:

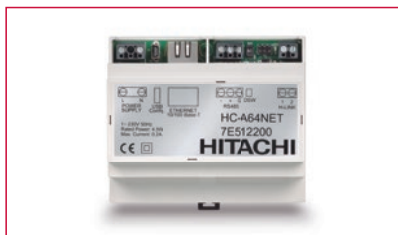
- Centralized control interface.
- It can handle up to 160 indoor units and 64 outdoor units.
- It connects to local area network or internet via an Ethernet port and remote parameters can be set and monitored.
- Accessible from any computer that is connected to the same network.
- Standard consumption control.

PSC-A160WEB1 COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).
VRF Set Free Sigma Range.

CS-NET WEB 64. Integral Management

HC-A64NET



CHARACTERISTICS:

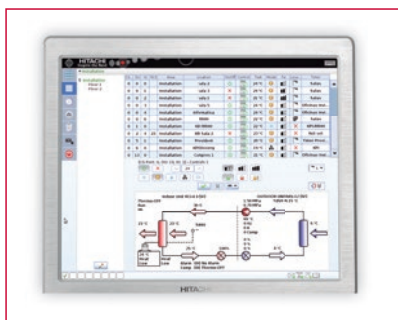
- H-LINK gateway that links the units through the H-LINK protocol.
- Up to 64 indoor units can be connected.
- Up to 8 CS-NET WEB 64 can be connected to the same CS NET Manager.
- Easy installation.

HC-A64NET COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).
VRF Set Free Sigma Range.

CS-NET WEB LT/XT Manager

CS NET WEB MANAGER



CHARACTERISTICS:

- Centralized independent control with touch screen connected to the HC-A64NET gateway.
- Controls up to 1280 units.
- Connected to H-LINK, controlling up to 160 indoor units.
- Stores historical data, manages time and energy consumption.
- Timer with unlimited calendar settings.
- Night mode of the outdoor unit.

CS-NET WEB LT MANAGER (10") COMPATIBLE WITH:

Range of System Free indoor units.
Commercial Range (Utopia).

CS-NET WEB MANAGER XT (43.18 CM) COMPATIBLE WITH:

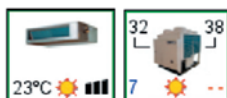
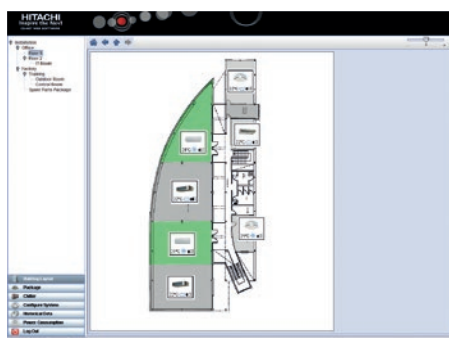
Range of System Free indoor units.
Commercial Range (Utopia).

BMS & GATEWAYS

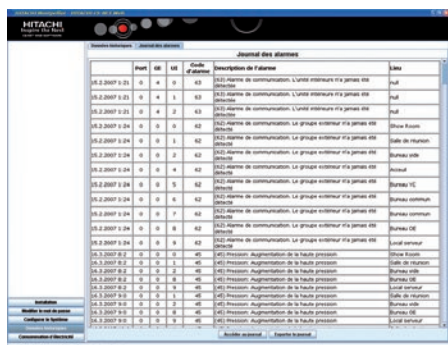
CS-NET WEB

The CS-NET WEB is a centralized control interface that allows for remote control and monitoring of an installation, thus improving the operating costs of buildings subject to the use of heating and air conditioning.

FUNCTIONALITIES

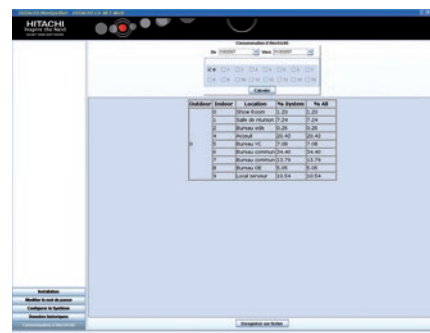


- CS-NET WEB v3.3 offers a new means for controlling your system called "Building scheme". It is very easy to use. All units are set in a building implementation plan.
- CS-NET WEB v3.3 also has a virtual remote control that you can open by clicking on the icon of a unit or that you can use simply by installing it on your PC*.
- The virtual remote control has the basic functionalities of the standard remote control. It is provided as standard.
- * PC is connected to the same Ethernet network as CS-NET WEB.



AN AUTHENTIC MAINTENANCE TOOL

- From the client interface, the user pilots the installation and can visualize any dysfunction that may occur in the installation: error code, description of the verified problem.
- Alarm Bulletin: From the appearance of the first error, the CS-NET WEB automatically generates an alarm bulletin which can be exported at any time (SYSTEM FREE range).
- Historical data: CS-NET WEB registers all the operating parameters of the installation and allows the user to trace the evolution of the retained parameters in a defined time interval in order to accurately analyze the operations and to issue precise intervention reports.
- A mail server allows you to receive an e-mail alert in the event that an error code appears in the installation. It can be controlled using the Modbus/IP protocol.



DISTRIBUTION OF ENERGY CONSUMPTION

This function, available on a standard form, enables the energy consumptions of all or part of the indoor units managed by the CS-NET WEB to be proportionally distributed over a period of time. This distribution is set in percentages. For the distribution in kWh, counters should be placed on the outdoor units (Not supplied). New touch screens.

CS NET LT/XT MANAGER
(25.4 cm/43.18 cm)



INSTALLATION

This interface is particularly suitable for building managers who are responsible for the operation and management of an air conditioning system that includes equipment from our Set Free Sigma, Utopia and/or Samurai series. Regardless of the surface and the nature of the treated sites, CS-NET WEB offers maintenance companies all the advantages of a simplified Centralized Technical Management solution.

- The CS-NET WEB is a "material" interface associated with a "computer" interface that operates autonomously: the PC is only necessary for commissioning and periodic supervision.
- The on-site switchboard can be connected to both an local area network (LAN) and an ADSL-type internet modem.
- Standard distance: 1000 m*.
- Increased limits: 128 indoor units (CS NET 160) and 64 outdoor units (HLINK 2) can be controlled in the (system Free) range.
- System Free with an interface or 32 Samurai (8 per electrical panel).
- Built-in Modbus TCP port as standard (CS NET 160 only).

SET FREE SIGMA AND UTOPIA RANGE

Control functions

- Start/stop.
- Operating mode.
- Setpoint temperature.
- Accessible setpoint range.
- Ventilation speed.
- Air flow direction.
- Local/central mode.

Control functions

- Status: start/stop.
- Operating mode.
- Setpoint temperature.
- Ambient recovery temperature.
- Filter.
- Ventilation speed.
- Air flow direction.
- Alarm.
- Error code.
- Clock.

SAMURAI RANGE

Control functions

- Start/stop.
- Operating mode.

Control functions

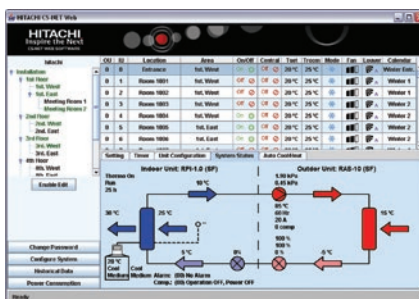
- Status: start/stop.
- Operating mode.
- Room temperature.
- Return water temperature.
- Water flow temperature.
- Liquid temperature.
- Evaporation temperature.
- Condensation temperature.
- Suction temperature.
- High pressure.
- Low pressure.
- Alarm.
- Error code.
- Clock.

SIMPLICITY OF PARAMETERS

From the customer interface, the user selects all the operating parameters of an indoor unit. These parameters can be applied very quickly to all or part of the units of the place (SYSTEM FREE Range). In order to limit access to the settings, it is possible to block a certain number of parameters (setpoint temperature, operating mode, ventilation speed, start/stop) or limit the available setting ranges (SYSTEM FREE Range).

LIMITED AND PROTECTED ACCESS

There are numerous levels of password-protected access, which limit access to the settings of the operating parameters.



Recommendation: Provide an internet connection in the place where the CS-NET WEB "material" interface for remote access is received.



LONG-TERM PROGRAMMER

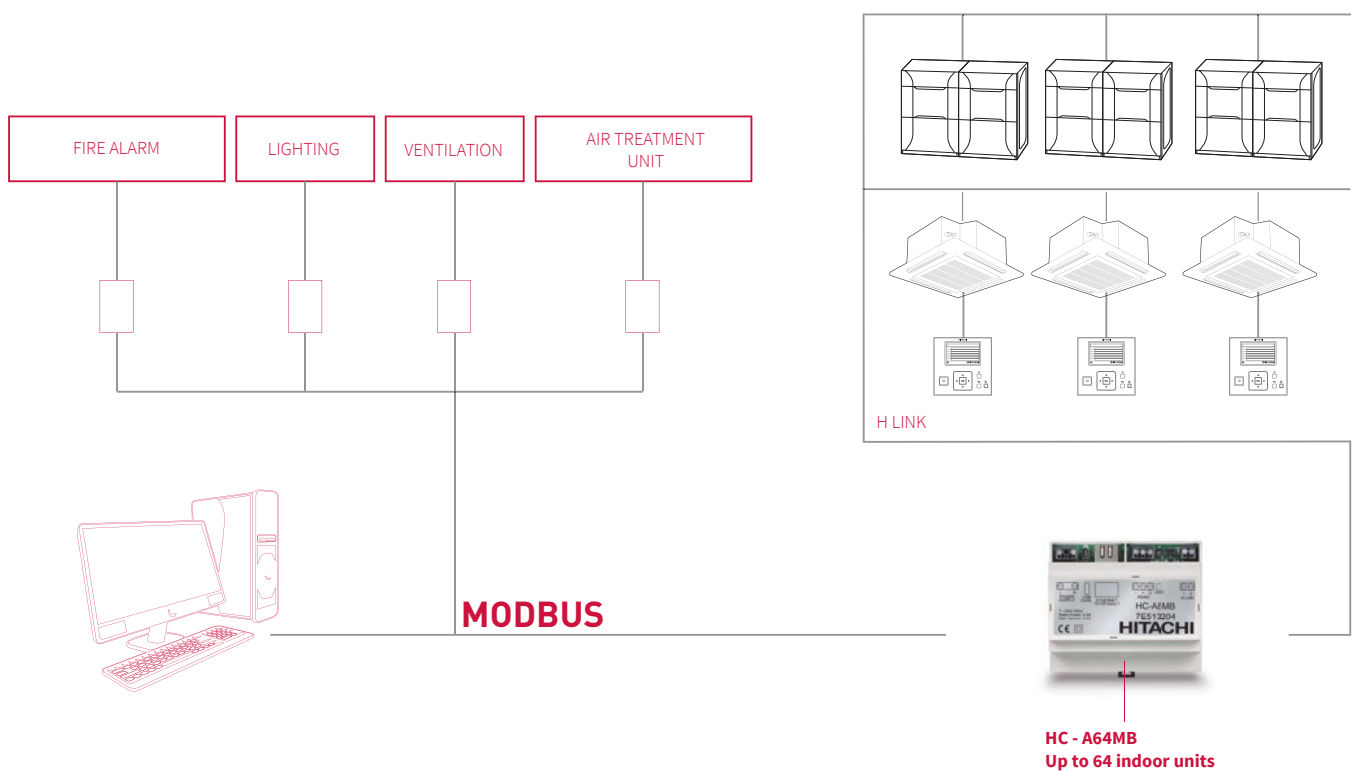
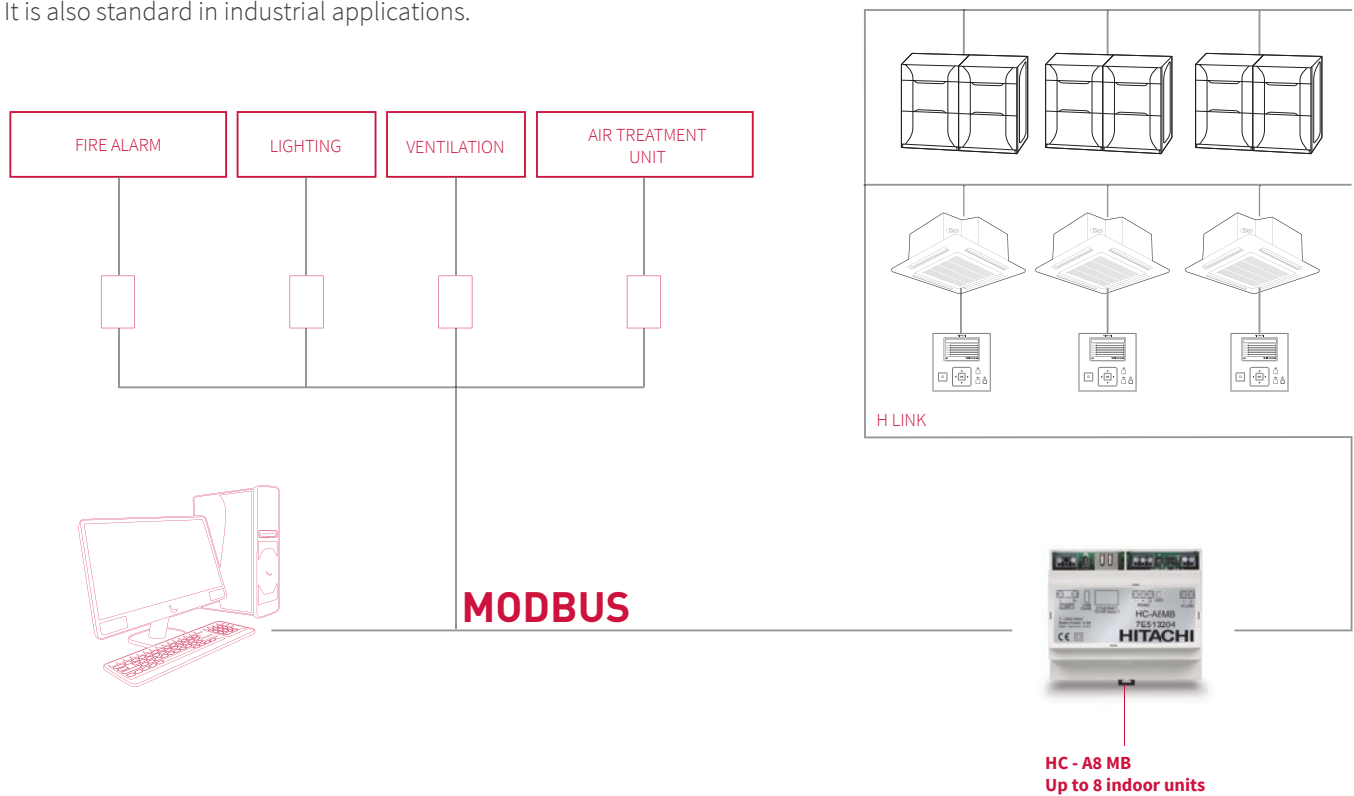
The clock can be programmed for 4 years, thereby allowing for long-term autonomous operation. In order to simplify program, numerous templates can be created that can be applied to one, several or all the units in the place.



BMS & GATEWAYS

MODBUS PROTOCOL

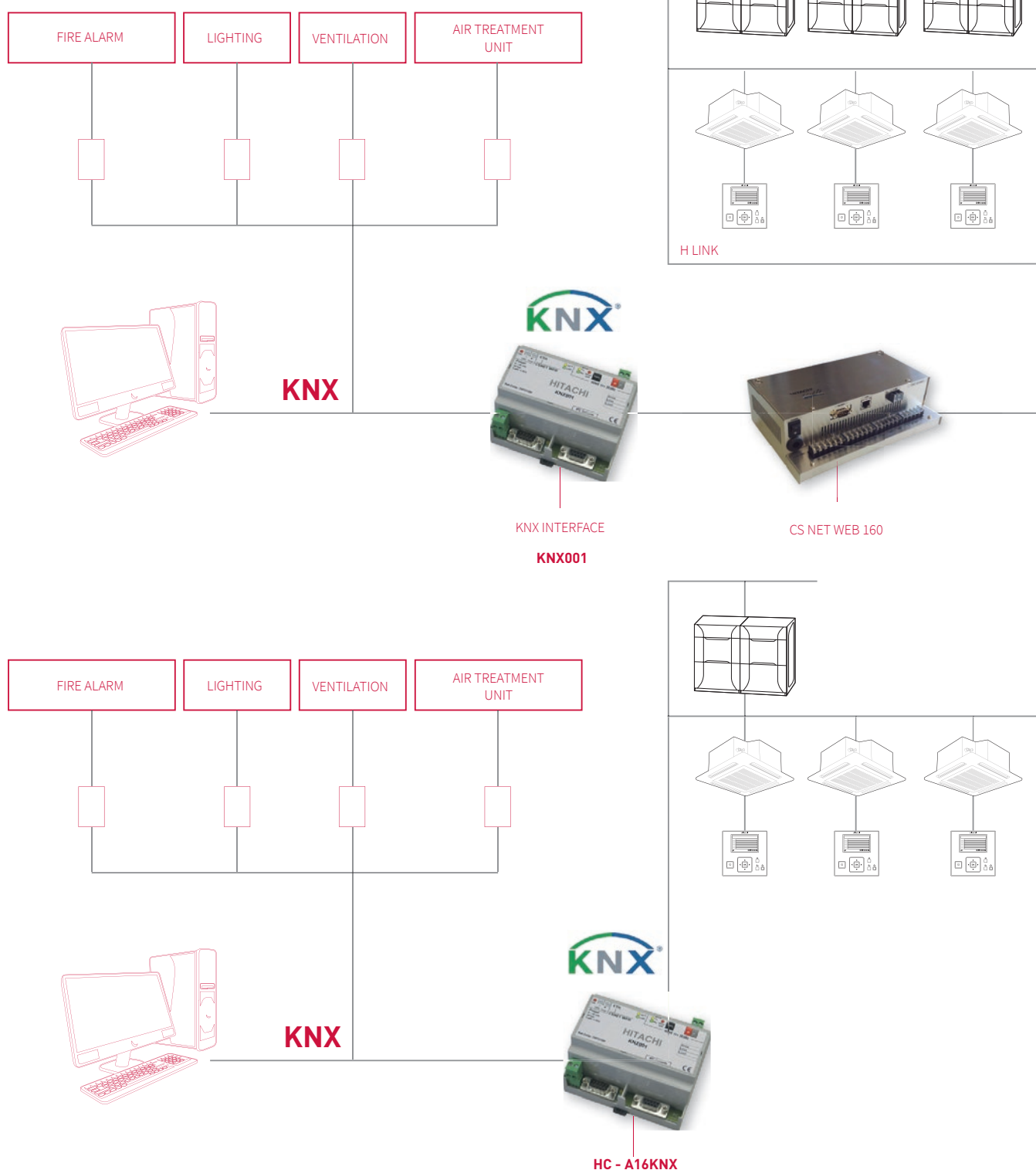
Most building supervision systems use a Modbus connection. The Modbus protocol is a serial dialog protocol based on a hierarchical structure between a master unit and slave units. It is also standard in industrial applications.



BMS & - GATEWAYS KNX PROTOCOL

The KNX is a bus dedicated to the “Building”, standardized and independent from the manufacturers (lighting, heating, security, energy management, measurement, etc.). Based on the standard bus EIB, EHS, Batibus, the KNX guarantees the interoperability of products bearing the KNX logo. It is an ISO standard.

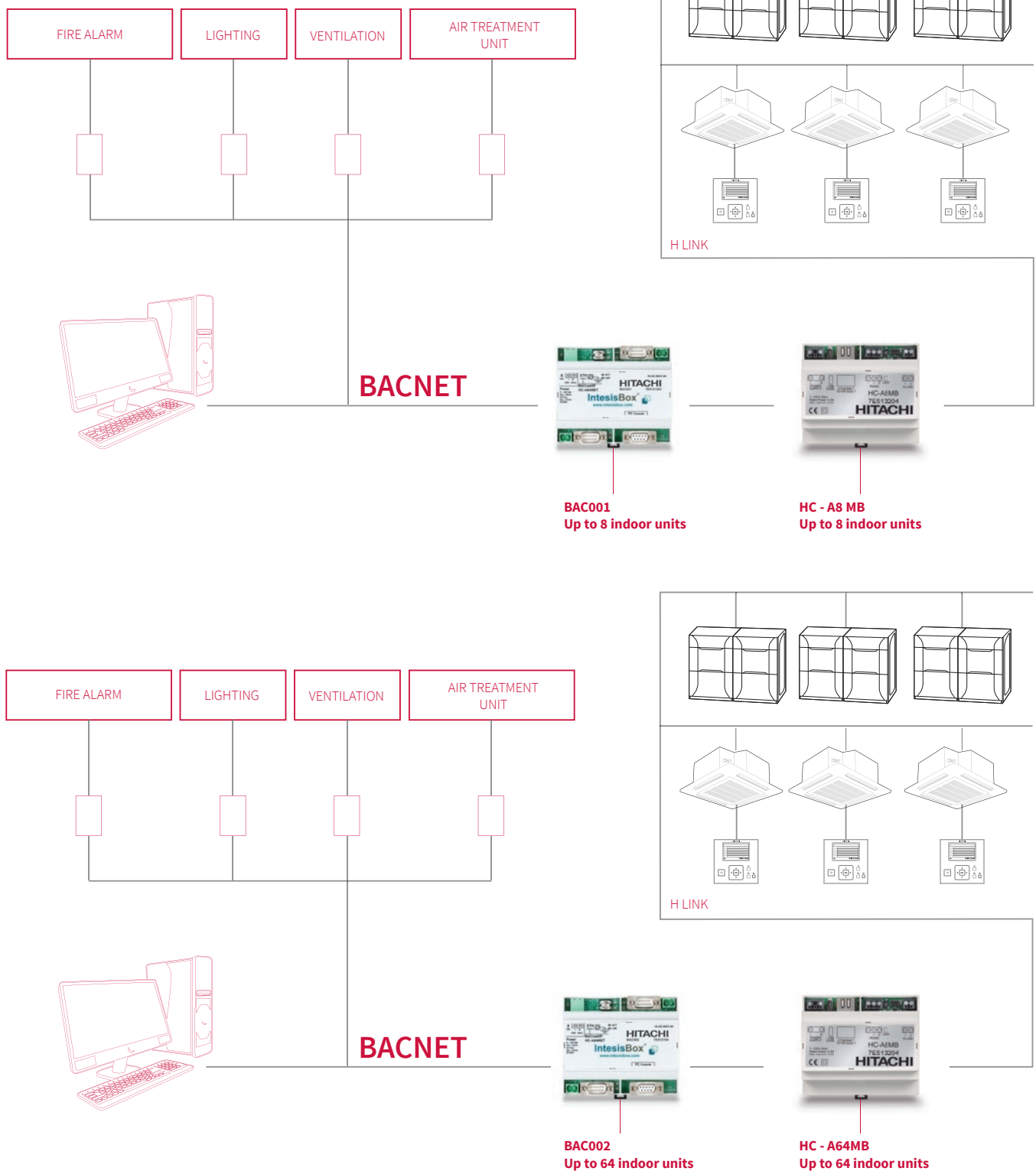
Orientation: Large and medium buildings, home automation.



BMS & GATEWAYS

BACNET PROTOCOL

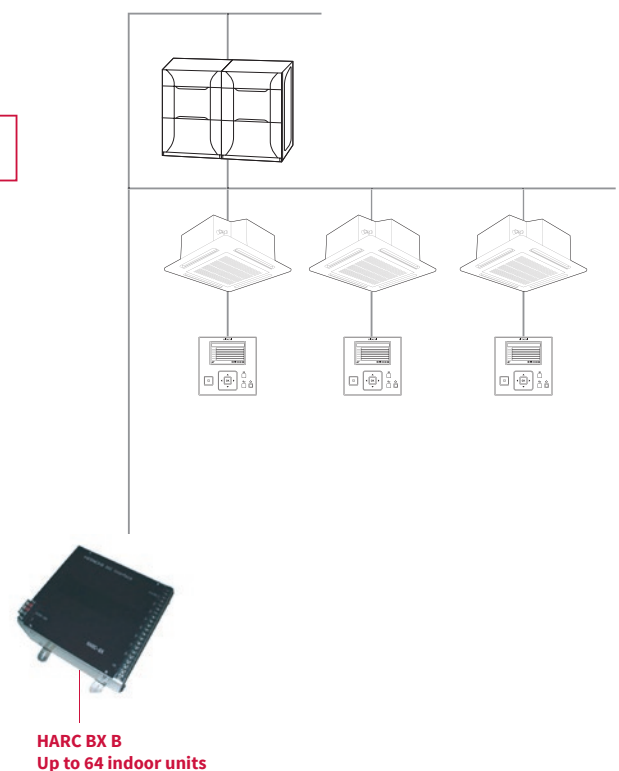
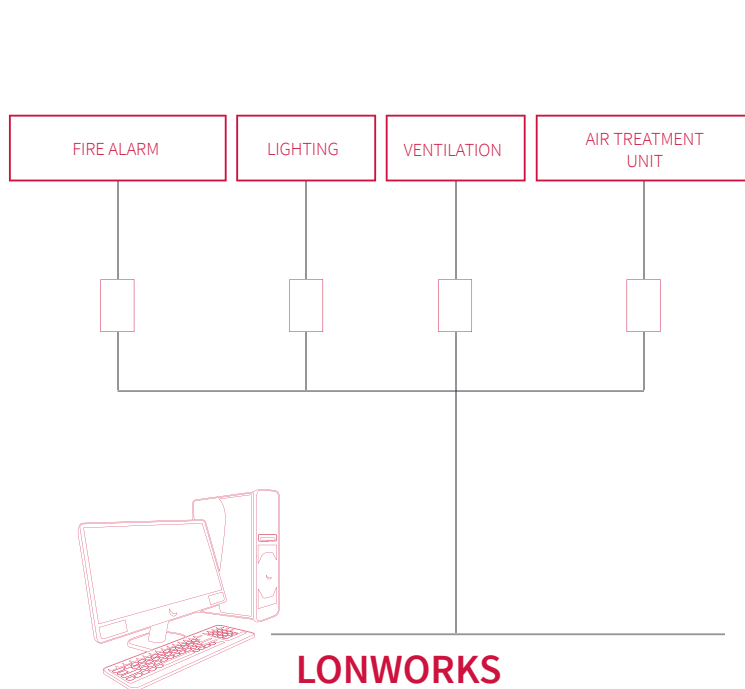
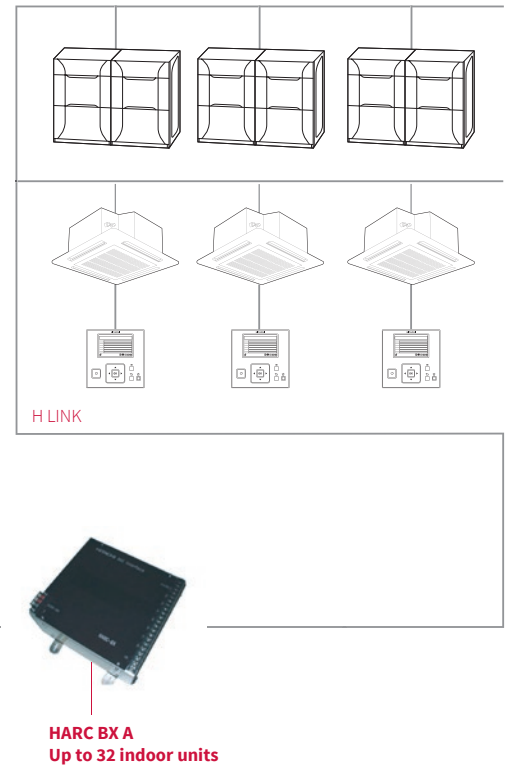
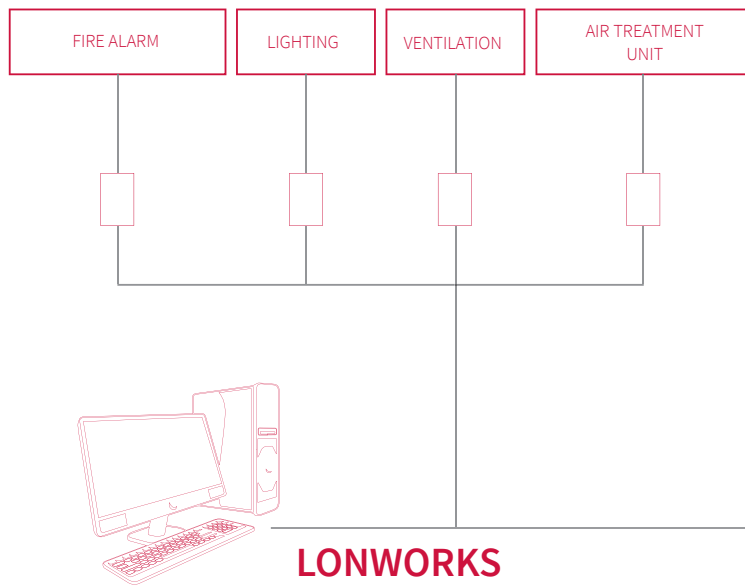
BACnet a protocol Building Automation and Control (BAC) networks that leverage the, and ISO 16484-5 standard protocol. BACnet allows communication of automation control systems for applications such as heating, ventilating, and air-conditioning control (HVAC), lighting control, access control, and fire detection systems and their associated equipment. Orientation: Large buildings.



BMS & GATEWAYS

LONWORKS PROTOCOL

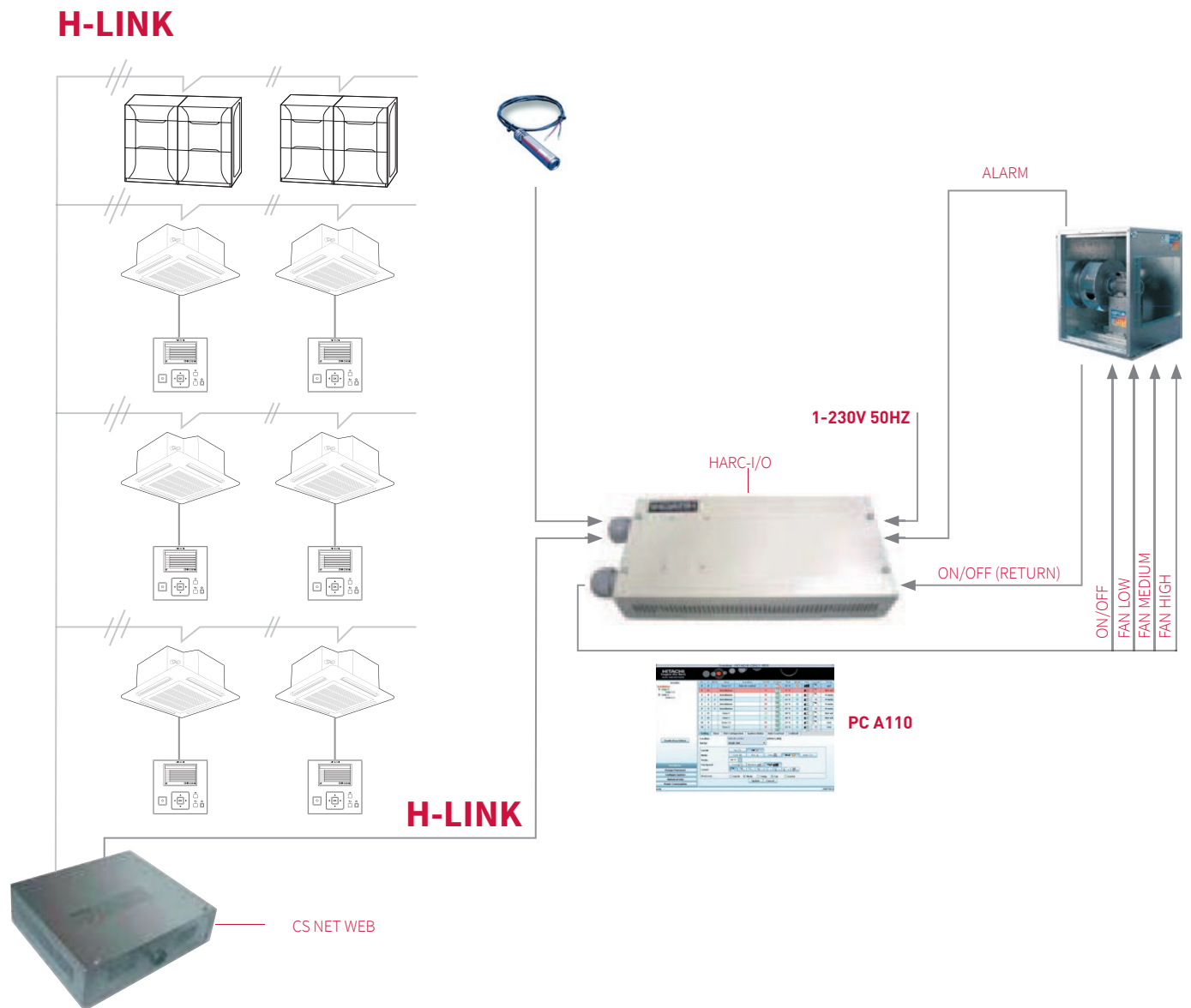
LonWorks (local operating network) is a networking platform specifically created to address the needs of control applications. Manufacturers in a variety of industries including building, home, street lighting, transportation, utility, and industrial automation have adopted the platform as the basis for their product and service offerings.



BMS & GATEWAYS

HARC-I/O FOR MANAGING AND DIALOGUING WITH THIRD PARTIES

Most building supervision systems This interface allows the integration of the HITACHI centralized management system into both air treatment units and ventilation units external to the HITACHI system.

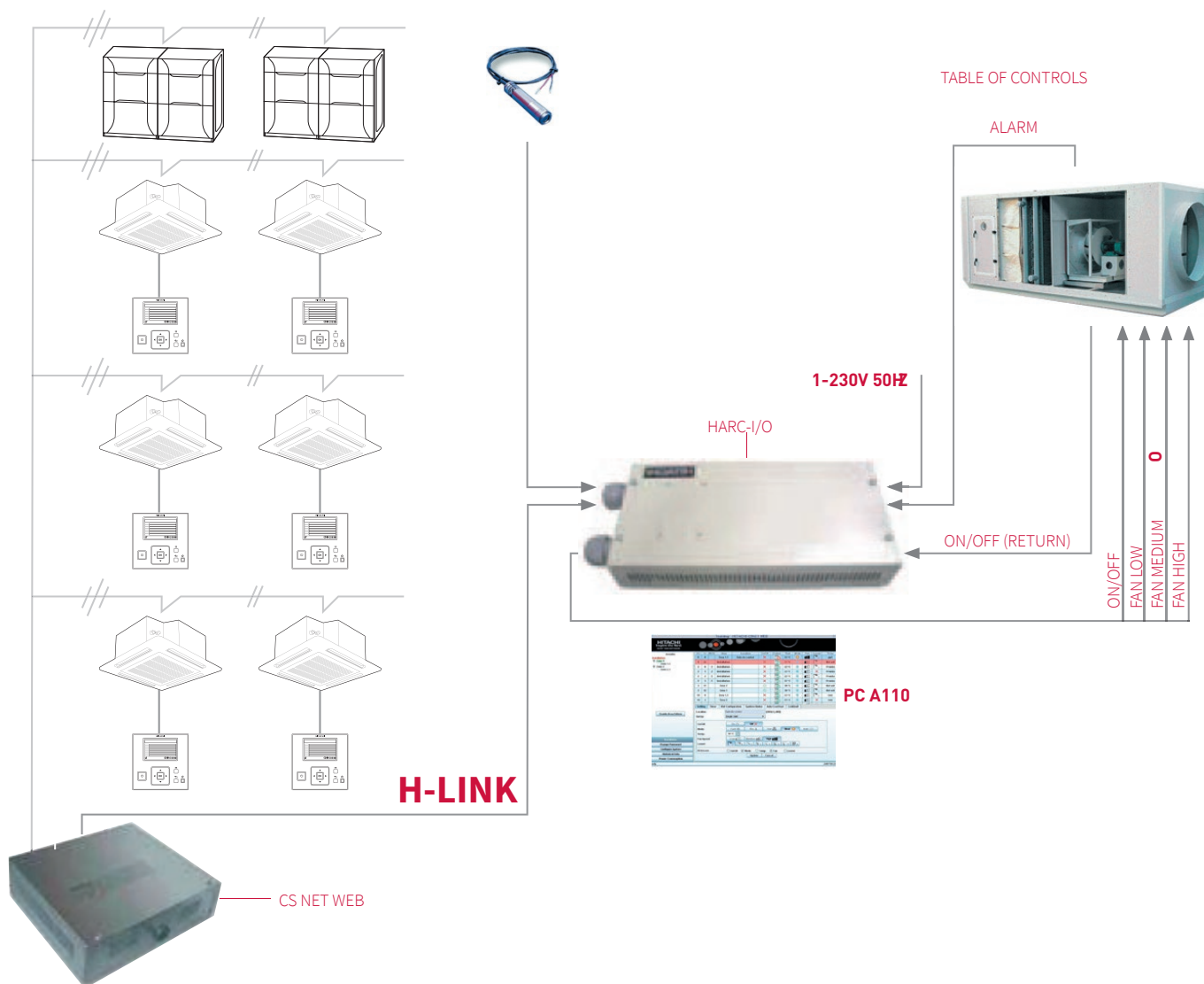


BMS & GATEWAYS

HARC-I/O FOR MANAGING AND DIALOGUING WITH THIRD PARTIES

Most building supervision systems This interface allows the integration of the HITACHI centralized management system into both air treatment units and ventilation units external to the HITACHI system.

H-LINK





SIDE FLOW VRF

UTOPIA & MINI SET FREE RANGES

A range for each application needs



SIDE FLOW VRF - FIND THE SOLUTION

The **Quick Selection Guide** has all of the answers, all the HITACHI air conditioning solutions that fit the requirements of each facility.

We help you choose the HITACHI product according to the connectible indoor units, power, energy efficiency and economic proposal that guarantee the highest comfort.

DATA PER OUTDOOR UNIT*	MULTIZONE	UTOPIA IVX COMFORT	CENTRIFUGAL VRF	UTOPIA IVX PREMIUM	SET FREE MINI	SET FREE SIDE FLOW	SET FREE SIGMA Modular High Seasonal Performance	SET FREE SIGMA Modular Very High Seasonal Performance
Maximum number of connectible indoor units	up to 6	up to 4	up to 6	up to 8	up to 12	up to 10	up to 64	up to 64
Maximum cooling capacity	up to 17600 W	up to 30000 W	up to 24000 W	up to 30000 W	up to 15500 W	up to 33500 W	up to 268000 W	up to 201000 W
Maximum cooling distance (real)	up to 25 m	up to 100 m	up to 100 m	up to 100 m	up to 75 m	up to 100 m	up to 165 m	up to 165 m
Maximum cooling distance (equivalent length)	up to 25 m	up to 125 m	up to 125 m	up to 125 m	up to 90 m	up to 125 m	up to 190 m	up to 190 m
Fan type	AXIAL horizontal discharge	AXIAL horizontal discharge	AXIAL conductive discharge	AXIAL horizontal discharge	AXIAL horizontal discharge	AXIAL horizontal discharge	AXIAL vertical discharge	AXIAL vertical discharge
Available static pressure	NO	NO	100 Pa~120 Pa	NO	NO	NO	up to 80 Pa	up to 80 Pa
Independent control of the indoor units	YES	YES	YES	YES	YES	YES	YES	YES
Centralized control	Optional (with PSC-6RAD interface)	YES (bus H-LINK)	YES (bus H-LINK)	YES (bus H-LINK)	YES (bus H-LINK)	YES (bus H-LINK)	YES (bus H-LINK)	YES (bus H-LINK)
Energy efficiency level								
Price level	★	★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★



**CHOOSE THE INDOOR UNITS THAT BEST FIT
THE DECORATION AND NEEDS OF THE FACILITY**

SIDE FLOW VRF

A RANGE FOR EACH APPLICATION NEEDS



UTOPIA COMFORT

COOLING: 7.10~30.00 KW

HEATING: 8.00~33.50 KW

4 DIFFERENT ZONES

INDEPENDENT CONTROL



UTOPIA PREMIUM

COOLING: 5.00~30.00 KW

HEATING: 5.60~33.50 KW

8 DIFFERENT ZONES

INDEPENDENT CONTROL



UTOPIA DX

COOLING: 7.10~25.00 KW

HEATING: 8.00~28.00 KW

DEDICATED MODEL FOR AHU SYSTEMS



MINI SET FREE

COOLING: 11.20~33.50 KW

HEATING: 12.50~37.50 KW

12 DIFFERENT ZONES

INDEPENDENT CONTROL

AIR CONDITIONING FOR
4 DIFFERENT SPACES
WITH **INDEPENDENT**
CONTROL



MAXIMUM ACTUAL
COLD DISTANCE UP TO
100 M (125 M EQUIVALENT)



UP TO **6 HP**
WITH A SINGLE FAN

COMPLIES WITH EUROPEAN
REGULATIONS **LOT.11 AND**
THE ERP TIER 2 DIRECTIVE

UTOPIA - IXV COMFORT

UTOPIA IVX COMFORT

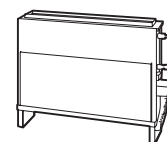
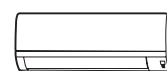
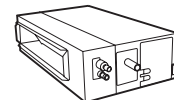
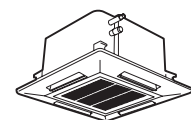
With the precision of a VRF

Ideal solution for light commercial applications

Easy to install, because it is a flexible, compact and lightweight solution, it reduces installation time by half.

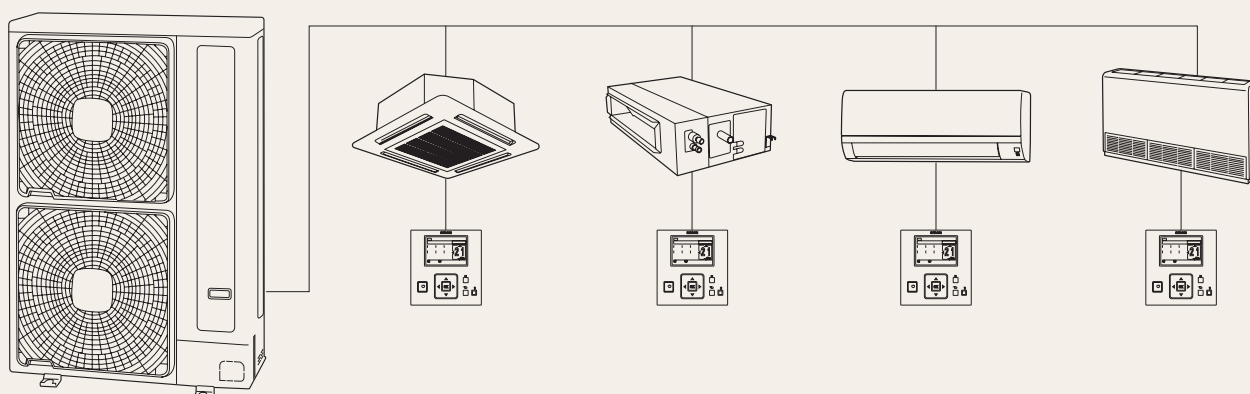
High seasonal performance even at partial loads. Capacity index between 90% and 115%.

Compatible with all **HITACHI** centralized control and management systems.



Compatible indoor units

- ▶ Cools up to 4 different spaces
- ▶ Independent control
- ▶ Different setpoint temperatures
- ▶ Different fan speeds
- ▶ Different work schedules (with a programmable control)



OUTDOOR UNIT INVERTER

UTOPIA IVX COMFORT RAS - 3 ~ 6H(V)NC1E



Characteristics

UTOPIA IVX COMFORT in HITACHI's simplified alternative to VRF

It is the perfect choice for air conditioning small and medium businesses, with highly demanding requirements.

High performance

Maximum seasonal performance at partial loads, which generates energy conservation.

Flexibility

Compatible with System Free indoor units that are managed through all individual or centralized control systems, with H - Link II option.

Optional DX-KIT

Intended for the integration of air curtains and air treatment units when required.

Operation at extreme temperatures

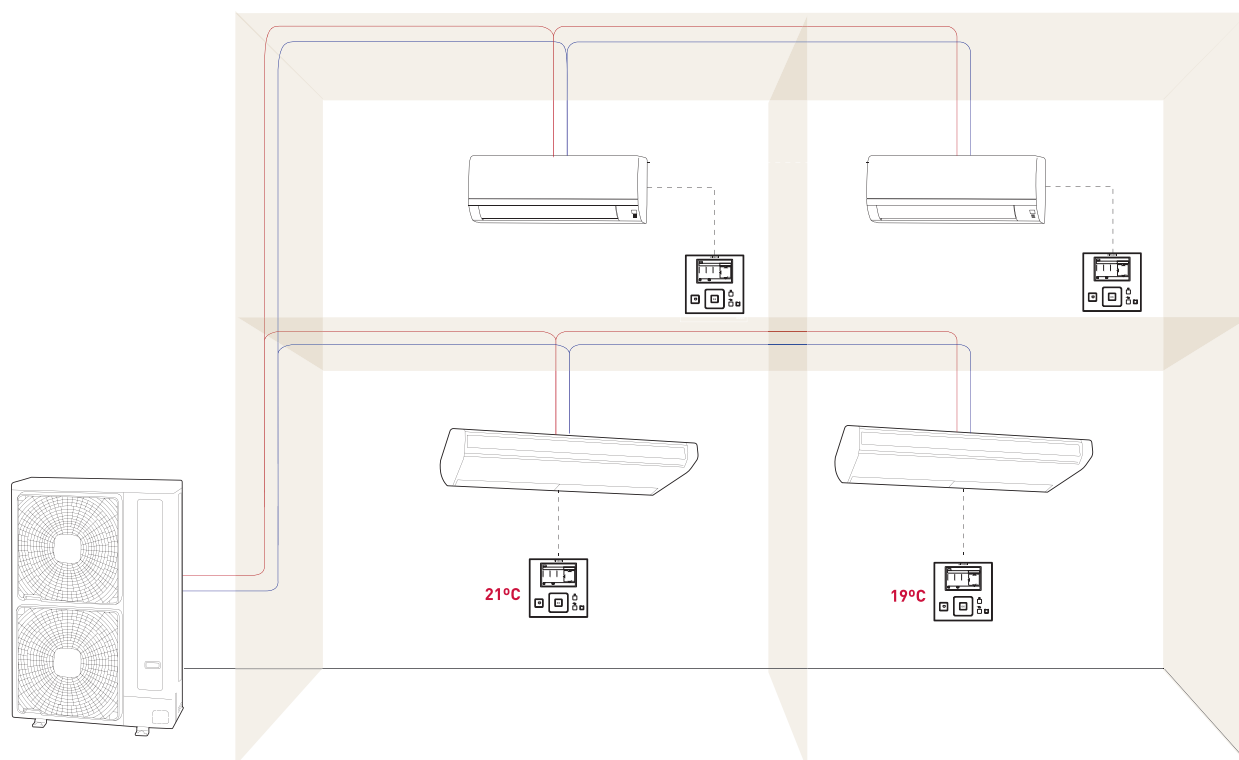
The best performance even at extreme temperatures, -20°C in heating and at 46°C in cooling.

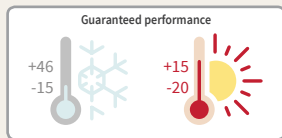
DC Inverter Compressor

Increased performance at low speed thanks to the transmission mechanism and refinement of the engine.

Air conditioning of 4 spaces

Air condition up to 4 different and independent spaces, each indoor unit with its own control.





UTOPIA IXV COMFORT SINGLE PHASE

Outdoor Units

		RAS-3HVNC1	RAS-4HVNC1E	RAS-5HVNC1E	RAS-6HVNC1E
Number of connected units (min-max)		MONO-TWIN	MONO-TWIN-TRI-QUADRI	MONO-TWIN-TRI-QUADRI	MONO-TWIN-TRI-QUADRI
Nominal power⁽¹⁾	Cooling	7.10 (3.20~8.00)	10.00 (4.50~11.20)	12.50 (5.70~14.00)	14.00 (6.00~16.00)
	Heating	8.00 (3.50~10.60)	11.20 (5.00~14.00)	14.00 (5.00~18.00)	16.00 (5.00~20.00)
Absorbed nominal power	Cooling	2.14	2.55	3.54	4.12
	Heating	1.88	2.30	3.43	4.32
EER - COP⁽²⁾		More information on next page	More information on next page	3.37 - 3.89 (A/A)	3.26 - 3.56 (A/B)
Sound pressure level (night mode)⁽³⁾	dB(A)	48 (46)	52 (50)	52 (50)	55 (53)
Airflow in heat	m ³ /h	2682	3720	4080	4800
Power supply		1~230 V 50 H	1~230 V 50 H	1~230 V 50 H	1~230 V 50 H
Pipe diameter (Liq - Gas)	inches	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8
Maximum length	m	50	70	75	75
Maximum height		30/20	30/20	30/20	30/20
Initial refrigerant charge (maximum length of pipes)	kg(m) / GWP eq Ton	1.9 (20) - 3.97	3.2 (30) - 6.68	3.2 (30) - 6.68	3.2 (30) - 6.68
Additional refrigerant charge	g/m	40	40	60	60
Refrigerant		R410A			
Compressor		SCROLL DC INVERTER			

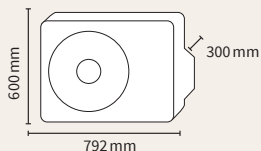
UTOPIA IXV COMFORT THREE-PHASE

Outdoor Units

		RAS-4HNC1E	RAS-5HNC1E	RAS-6HNC1E	RAS-8HNC1E	RAS-10HNC1E	RAS-12HNC1E
Possible Combinations		MONO - TWIN- TRI- QUADRI					
Nominal power (1)	Cooling	10.00 (4.50~11.20)	12.50 (5.70~14.00)	14.00 (6.00~16.00)	20.00 (8.00~22.40)	25.00 (10.00~28.00)	30.00 (11.20~33.50)
	Heating	11.20 (5.00~14.00)	14.00 (5.00~18.00)	16.00 (5.00~20.00)	22.40 (6.30~28.00)	28.00 (8.00~35.00)	33.50 (9.00~37.50)
Absorbed nominal power	Cooling	2.55	3.54	4.12	5.69	8.02	11.05
	Heating	2.30	3.43	4.32	5.62	7.45	8.96
EER - COP⁽²⁾		More information on next page	3.37 - 3.89 (A/A)	3.26 - 3.56 (A/B)	3.36 - 3.81 (A/A)	3.02 - 3.63 (B/A)	2.57 - 3.54 (E/B)
Sound pressure level (night mode) (3)	dB(A)	52 (50)	52 (50)	55 (53)	57 (55)	58 (56)	59 (56)
Airflow in heat	m ³ /h	3720	4080	4800	7620	8040	9780
Power supply		3N~400 V 50 Hz	3N~400 V 50 Hz	3N~400 V 50 Hz	3N~400 V 50 Hz	3N~400 V 50 Hz	3N~400 V 50 Hz
Pipe diameter (Liq - Gas)	inches	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 1	1/2 - 1	1/2 - 1
Maximum length	m	70	75	75	100	100	100
Maximum height		30/20	30/20	30/20	30/20	30/20	30/20
Initial refrigerant charge (maximum length of pipes)	kg(m) / GWP eq Ton	3.2 (30) - 6.68	3.2 (30) - 6.68	3.2 (30) - 6.68	5.7 (30) - 11.9	6.2 (30) - 12.95	6.7 (30) - 13.99
Additional refrigerant charge	g/m	40	60	60	it must be calculated	it must be calculated	it must be calculated
Refrigerant		R410A					
Compressor		SCROLL DC INVERTER					

RAS - 3HVNC1

44 kg

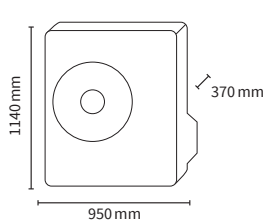


RAS - 4H(V)NC1E

79 kg

RAS-5-6H(V)NC1E

89 kg

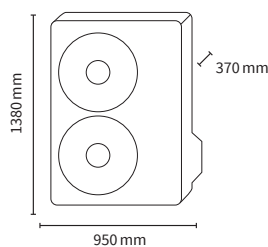


RAS - 8HNC1E

136 kg

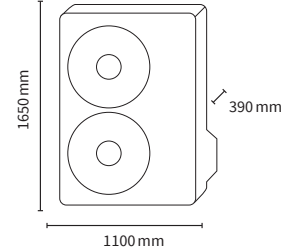
RAS - 10HNC1E

138 kg



RAS - 12HNC1E

168 kg



(1) The nominal cooling and heating capacity is the combined capacity of the RAS system and is based on EN14511

- Cooling: Indoor temperature 27°C DB; outdoor temperature 35°C DB.

- Heating: Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB. Pipe length: 7.5 m

(2) SEER and SCOP conform to the EN 14825 regulation.

The SEER, SCOP, EER and COP are specified on the outdoor unit in combination with the indoor unit mentioned.

COP and EER data are specified for RCI-FSN4 indoor unit combination.

(3) The sound pressure level has been measured in an anechoic camera at 1.5 m from ground level and 1 m from the front of the unit (Units operating at their nominal supply voltage).

To create the energy label visit our website www.hitachiaircon.es and use our Hitachi ErP Active Tool application.

ENERGY CLASS

UTOPIA IVX COMFORT RAS - 3 ~ 6H(V)NC1E

Standard Capacities in cooling and heating

Since January 1, 2015, the European Union's Eco-design ErP regulations affect air conditioning units of less than 12 kW (ErP.Tier 2 Directive). Therefore, the SEER and SCOP seasonal yields must be shown in these units, which provide a more accurate estimate of the actual performance of the product during the period in use.



COMBINATIONS		COOLING				HEATING	
OUTDOOR UNIT	INDOOR UNIT	SEER	ENERGY CLASS	P DESIGN (35°C) KW	SCOP	ENERGY CLASS	P DESIGN (-10°C) KW
RAS-3HVNC1	RCI-3,0FSN4	6.00	A +	7.10	4.21	A +	5.60
	RPC-3,0FSN3	5.29	A	7.10	4.13	A +	5.60
	RPC-3,0FSN3E	4.68	B	7.10	3.80	A	5.60
	RPI-3,0FSN4E	4.97	B	7.10	3.80	A	5.60
	RPK-3,0FSN3M	5.35	A	7.10	3.80	A	5.60
RAS-4HVNC1E	RCI-4,0FSN4	6.57	A ++	10.00	4.47	A +	8.70
	RPC-4,0FSN3	5.02	B	10.00	3.90	A	8.70
	RPC-4,0FSN3E	4.61	B	10.00	3.80	A	7.40
	RPI-4,0FSN4E	5.38	A	10.00	4.01	A +	8.70
	RPK-4,0FSN3M	5.56	A	10.00	3.83	A	7.40
RAS-4HNC1E	RCI-4,0FSN4	6.41	A ++	10.00	4.47	A +	8.70
	RPC-4,0FSN3	4.93	B	10.00	3.9	A	8.70
	RPC-4,0FSN3E	4.53	C	10.00	3.8	A	7.40
	RPI-4,0FSN4E	5.27	A	10.00	4.01	A +	8.70
	RPK-4,0FSN3M	5.45	A	10.00	3.83	A	7.40



MONO COMBINATIONS

MONO COMBINATIONS

1x1 UTOPIA IVX COMFORT Wall mounted

SET NAME	INDOOR UNIT	OUTDOOR UNIT
Utopia RPK 3 IVX.V.3M	RPK-3.0FSN3M	RAS - 3HVNC1
Utopia RPK 4 IVX.V.3M	RPK-4.0FSN3M	RAS - 4HVNC1E
Utopia RPK 4 IVX.3M	RPK-4.0FSN3M	RAS - 4HNC1E

1x1 UTOPIA IVX COMFORT Ceiling

SET NAME	INDOOR UNIT	OUTDOOR UNIT
Utopia RPC 3 IVX.V.C1	RPC-3.0FSN3E	RAS - 3HVNC1
Utopia RPC 4 IVX.V.C1E	RPC-4.0FSN3E	RAS - 4HVNC1E
Utopia RPC 4 IVX.C1E	RPC-4.0FSN3E	RAS - 4HNC1E
Utopia RPC 5 IVX.V.C1E	RPC-5.0FSN3E	RAS - 5HVNC1E
Utopia RPC 5 IVX.C1E	RPC-5.0FSN3E	RAS - 5HNC1E
Utopia RPC 6 IVX.V.C1E	RPC-6.0FSN3E	RAS - 6HVNC1E
Utopia RPC 6 IVX.C1E	RPC-6.0FSN3E	RAS - 6HNC1E
Utopia RPC 3 IVX.V.3	RPC-3.0FSN3	RAS - 3HVNC1
Utopia RPC 4 IVX.V.3	RPC-4.0FSN3	RAS - 4HVNC1E
Utopia RPC 4 IVX.3	RPC-4.0FSN3	RAS - 4HNC1E
Utopia RPC 5 IVX.V.C1E	RPC-5.0FSN3	RAS - 5HVNC1E
Utopia RPC 5 IVX.3	RPC-5.0FSN3	RAS - 5HNC1E
Utopia RPC 6 IVX.V.3	RPC-6.0FSN3	RAS - 6HVNC1E
Utopia RPC 6 IVX.3	RPC-6.0FSN3	RAS - 6HNC1E

Standard Control



Wired Multifunction Control
PC-ARFPE

1x1 UTOPIA IVX COMFORT Duct

SET NAME	INDOOR UNIT	OUTDOOR UNIT
Utopia RPI 3 IVX.V.C1	RPI - 3.0FSN4E	RAS - 3HVNC1
Utopia RPI 4 IVX.V.C1E	RPI - 4.0FSN4E	RAS - 4HVNC1E
Utopia RPI 4 IVX.C1E	RPI - 4.0FSN4E	RAS - 4HNC1E
Utopia RPI 5 IVX.V.C1E	RPI - 5.0FSN4E	RAS - 5HVNC1E
Utopia RPI 5 IVX.C1E	RPI - 5.0FSN4E	RAS - 5HNC1E
Utopia RPI 6 IVX.V.C1E	RPI - 6.0FSN4E	RAS - 6HVNC1E
Utopia RPI 6 IVX.C1E	RPI - 6.0FSN4E	RAS - 6HNC1E
Utopia RPI 5 IVX.V.C1E	RPI - 5.0FSN4E	RAS - 5HVNC1E
Utopia RPI 5 IVX.4E	RPI - 5.0FSN4E	RAS - 5HNC1E
Utopia RPI 6 IVX.V.4E	RPI - 6.0FSN4E	RAS - 6HVNC1E
Utopia RPI 6 IVX.4E	RPI - 6.0FSN4E	RAS - 6HNC1E
Utopia RPI 8 IVX.CE	RPI - 8.0FSN3E	RAS - 8HNCE
Utopia RPI 10 IVX.CE	RPI - 10.0FSN3E	RAS - 10HNCE

1x1 UTOPIA IVX COMFORT 4-Way Cassette

SET NAME	INDOOR UNIT	OUTDOOR UNIT	PANEL
Utopia RCI 3 IVX.V.C1	RCI - 3.0FSN4	RAS - 3HVNC1	P N23NA2
Utopia RCI 4 IVX.V.C1E	RCI - 4.0FSN4	RAS - 4HVNC1E	P N23NA2
Utopia RCI 4 IVX.C1E	RCI - 4.0FSN4	RAS - 4HNC1E	P N23NA2
Utopia RCI 5 IVX.V.C1E	RCI - 5.0FSN4	RAS - 5HVNC1E	P N23NA2
Utopia RCI 5 IVX.C1E	RCI - 5.0FSN4	RAS - 5HNC1E	P N23NA2
Utopia RCI 6 IVX.V.C1E	RCI - 6.0FSN4	RAS - 6HVNC1E	P N23NA2
Utopia RCI 6 IVX.C1E	RCI - 6.0FSN4	RAS - 6HNC1E	P N23NA2
Utopia RCI 3 IVX.V.C1.4	RCI - 3.0FSN4	RAS - 3HVNC1E	P-APA160NA1

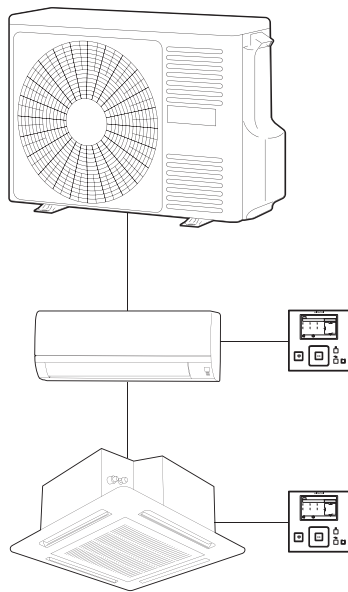
COMBINATIONS OUTDOOR UNIT

UTOPIA IVX COMFORT

RAS - 3 ~ 6H(V)NC1E

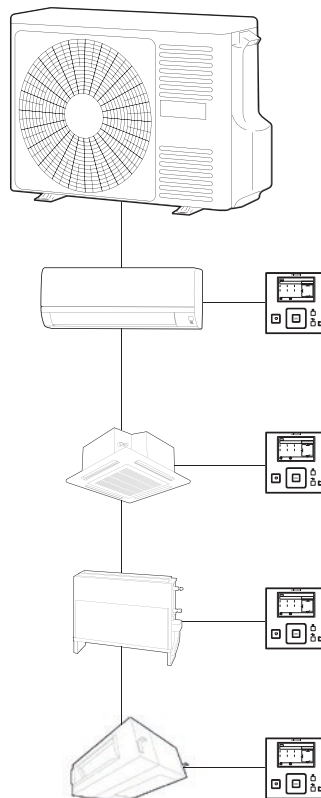
RASC-3H(V)NC1

90 - 110%



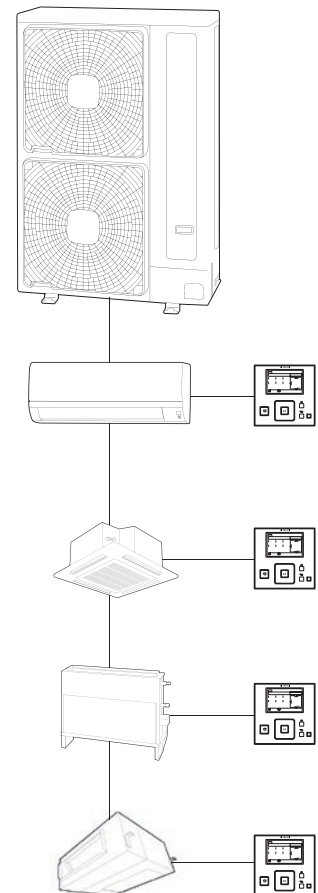
RAS - 4~6H(V)NC1E

90 - 115%



RAS-8~12HNC(E)

90 - 115%



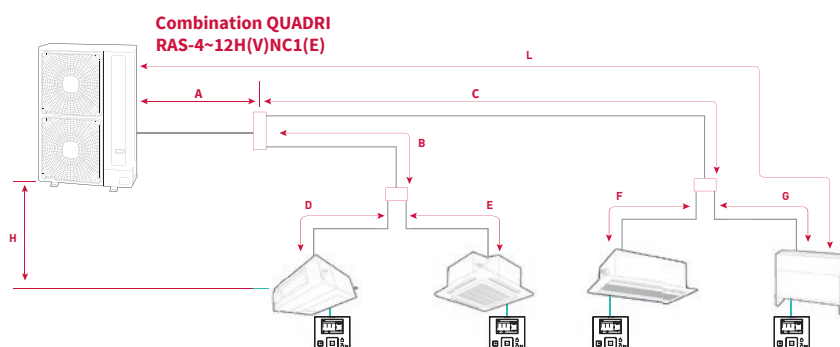
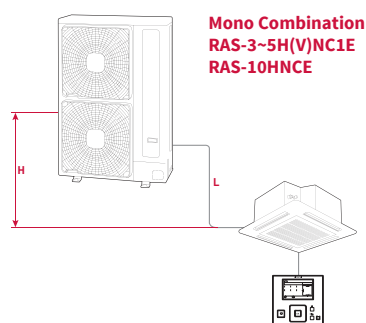
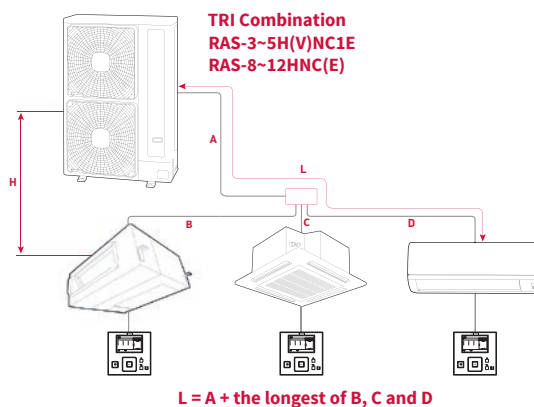
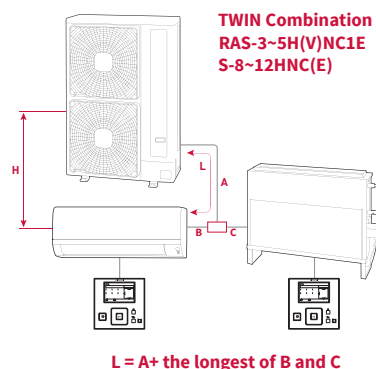
Capacity Index in relation to combinations

COMBINATIONS	OUTDOOR UNIT MODEL			
	RAS - 3HVNC1	RAS - 4 H(V)NC1E	RAS - 5H(V)NC1E	RAS - 6 H(V)NC1E
Maximum number of connected indoor units	2	4		
Ratio of connected indoor units % (number of indoor units connected)	90~110% (1 unit)	90~115% (≤ 2 units)		
	90~100% (2 units)	90~100% (3 or 4 units)		
Connectable indoor unit minimum capacity (HP)	0.8 HP			

COMBINATIONS	OUTDOOR UNIT MODEL		
	RAS - 8HNCE	RAS - 10HNCE	RAS - 12HNCE
Maximum number of connected indoor units	4		
Ratio of connected indoor units % (number of indoor units connected)	90~115%		
	90~115%		
Connectable indoor unit minimum capacity (HP)	1.8 HP		

Capacity Index in relation to combinations

All pipes behind the bifurcation pipes (B,C,D,E,F or G) must be balanced, and the differences between these Sections cannot be higher than indicated in the following tables.



NOTE: L and H are length and height, respectively.

In TWIN, TRI, QUADRI combinations, the length is the distance between the outdoor unit and the farthest indoor unit.

Maximum length of standard installation pipe

			RAS - 3HVNC1	RAS - 4 H(V)NC1E	RAS - 5H(V)NC1E	RAS - 6 H(V)NC1E	RAS - 8HNCE	RAS - 10HNCE	RAS - 12HNCE	
Maximum pipe length between the outdoor unit and the farthest indoor unit.	Real pipe length	m	50	70	75		100			
	Equivalent pipe length		70	90	95		125			
Total maximum length	TWIN (A + B + C)		60	80	85		100	115		
	TRI (A + B + C + D)		-	90	95		100	130		
	QUADRI (A + B + C + D + E + F + G)		-	90	95		100	145		
Maximum pipe length after the first derivation.	TWIN and TRI (B, C, D)		10					15		
	QUADRI (B + D, B + E, C + F, C + G)		-	10				15		
Main pipe length			A > B,C,D,E,F,G							
Maximum height difference: Outdoor unit higher than indoor unit / Indoor unit higher than outdoor unit			30/20							
Maximum height difference between the indoor units			3							
Maximum height difference between main branch pipe and indoor unit (TWIN, TRI, QUDRI) and between QUADRI branch pipes		3								
Difference of lengths between sections		m	≤ 8							
(B-C) (TWIN and TRI)										
(B-D) (TRI)										
(C-D) (TRI)										
(C+G)-(C+F) (QUADRI)										
(B+E)-(B+D) (QUADRI)										
(C+G)-(B+E) (QUADRI)										
(C+G)-(B+D) (QUADRI)										
(C+F)-(B+E) (QUADRI)										
(C+F)-(B+D) (QUADRI)										

STANDARD REFRIGERANT DISTRIBUTION

UTOPIA IVX COMFORT

RAS - 3 ~ 6H(V)NC1E

Pipe length specifications

Select pipe connection sizes with the following instructions:

Between the outdoor unit and the bifurcation pipe: Select the same size for connecting the pipes as for the outdoor unit.

Between the bifurcation pipe and the indoor unit: Select the same size for connecting the pipes as for the indoor unit.

PERFORMANCE CAPACITY	LIQUID	Ø 6.35				Ø 9.52					Ø 12.70					Ø 15.88		
	GAS	Ø 9.52	Ø 12.70	Ø 15.88	Ø 19.05	Ø 12.70	Ø 15.88	Ø 19.05	Ø 22.20	Ø 25.40	Ø 15.88	Ø 19.05	Ø 22.20	Ø 25.40	Ø 28.58	Ø 22.20	Ø 25.40	Ø 28.60
RAS - 3HVNC1	-	30 ^{(1) (2)}	30 ⁽²⁾	-	30 ⁽¹⁾	50	-	-	-	-	-	-	-	-	-	-	-	-
RAS - 4 H(V)NC1E	-	-	5 ⁽²⁾	5 ⁽²⁾	40 ⁽¹⁾	70	50 ⁽⁴⁾	-	-	30 ⁽³⁾	30 ^{(3) (4)}	-	-	-	-	-	-	-
RAS - 5~6H(V)NC1E	-	-	5 ⁽²⁾	5 ⁽²⁾	40 ⁽¹⁾	75	50 ⁽⁴⁾	-	-	30 ⁽³⁾	30 ^{(3) (4)}	-	-	-	-	-	-	-
RAS - 8HNCE	-	-	-	-	-	-	50 ^{(1) (4)}	50 ⁽¹⁾	70 ^{(5) (6)}	-	50 ^{(1) (3) (4)}	50 ^{(1) (3)}	100	-	50 ^{(1) (3)}	50 ⁽³⁾	-	-
RAS - 10~12HNC(E)	-	-	-	-	-	-	-	-	-	-	-	50 ⁽¹⁾	100	50	50 ^{(1) (3)}	50 ⁽³⁾	50 ⁽³⁾	50 ⁽³⁾

(1) Reducing the size of the gas pipe will reduce the cooling capacity as there will be a greater loss of pressure in the gas pipe and the operating margin will be reduced.

(2) Reducing the size of the liquid pipe will reduce the operating range due to the ratio of the indoor unit to the capacity of the expansion valve.

(3) Increasing the size of the liquid pipe will require an additional refrigerant charge.

(4) When using gas pipes of Ø19.05, set pin 4 of the DSW2 on the outdoor unit's PCB to the ON position.

(5) If the pipe length is more than 70 m for 8 HP, use a liquid pipe of Ø12.70.

In case of exceeding the recommended number of 8 HP connected indoor units (more than five units) use a Ø12.70 liquid pipe.

Standard specifications.

Connection size of the external unit pipes and the multikit

OUTDOOR UNIT		PIPE SIZE			MULTIKIT		
		LIQUID	GAS		TWIN	TRI	QUADRI
RAS - 3HVNC1	Inches	3/8"	5/8"		E-102SN4	E-102SN4	-
RAS - 4 H(V)NC1E		3/8"	5/8"			E-102SN4 MH-84AN1 ⁽²⁾	E-102SN4
RAS - 5H(V)NC1E		3/8"	5/8"				
RAS - 6 H(V)NC1E		3/8"	5/8"				
RAS - 8HNCE		3/8" ⁽¹⁾	1"		E-162SN4	E-162SN4 MH-84AN1 ⁽²⁾	E-162SN4 MH-84AN1 ⁽²⁾
RAS - 10HNCE		1/2"	1"				
RAS - 12HNCE		1/2"	1"				

(1) If the pipe length (A+B or A+C or A+D) exceeds 70 m in 8 HP units, use a Ø12.70 liquid pipe.

(2) If you use the MH84AN1 multi-kit (TRI combination figure) it is not necessary to use multikit 2.

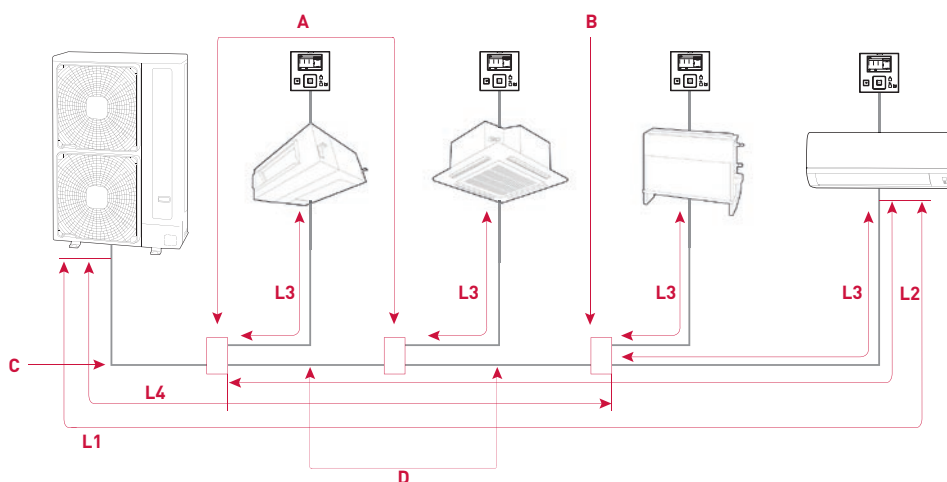


Refrigerant distribution in line (only IVX COMFORT series) RAS-4~12h(V)NC1(E)

This figure shows examples of 4 indoor units combined with an outdoor unit.

Refrigerant pipes are shown as a single line in diagrams.

However, the liquid and gas pipes are necessary in the installation.



ELEMENT		RAS - 4H(V)NC1E	RAS - 5H(V)NC1E	RAS - 6H(V)NC1E	RAS - 8HNCE	RAS - 10HNCE	RAS - 12HNCE
Maximum pipe length between the outdoor unit and the farthest indoor unit.	Real length (L1)	70	75			100	
	Equivalent length	90	95			125	
Maximum length from the first branch pipe to each indoor unit (L2)			20			25	
Maximum pipe length from the branch pipe of the indoor unit (L3)			10			15	
Total pipe length L4 + (L3 1 + L3 2 + L3 3 ...)	m	70	75		100	145	
Maximum height difference between the outdoor unit and the indoor unit / If the indoor unit is higher than the indoor unit.				30/20			
Maximum height difference between the indoor units				3			
Maximum height difference:							
Bifurcation / indoor pipes				3			
Bifurcation / outdoor pipes							

OUTDOOR UNIT		PIPE SIZE (C,D) (L4)MM		MULTI-KIT MODEL A	MULTI-KIT MODEL B
		LIQUID	GAS		
RAS - 3~6H(V)NC1E	Inches	3/8"	5/8"	E-102SN4	
RAS-8HNCE		3/8" ⁽¹⁾	1"	E-162SN4	
RAS-10~12HNC(E)		1/2"	1"		

(1) If the pipe length from the outside to the farthest indoor unit is more than 70 m in 8 HP units, use a liquid pipe of Ø12.70

Size of the connecting pipes between the bifurcation pipe and the indoor unit

TOTAL CAPACITY OF THE INDOOR UNIT		PIPE SIZE (Ø MM)	
		LIQUID	GAS
≤ 1.50 HP	Inches	1/4"	1/2"
1.80~2.00 HP		1/4"	5/8"
≥ 2.30 HP		3/8"	5/8"

- Combination pipe sizes: TWIN (B,C), TRI (B,C,D) and QUADRI (D,E,F and G).

- Except in 8 and 10 HP units where connection is not possible.



AIR CONDITIONING FOR **8**
DIFFERENT SPACES WITH
INDEPENDENT CONTROL

MAXIMUM COOLING
DISTANCE EQUIVALENT
TO UP TO 125 M

COMPLIES WITH
EUROPEAN
REGULATIONS **LOT.11**
AND THE ERP.TIER 2
DIRECTIVE



SMALLER MINI VRF
WITH 2 TO 3 HP MODELS,
WITH A SUPERIOR HEIGHT

UTOPIA -IX PREMIUM

UTOPIA IVX PREMIUM

The most competitive air-conditioning solution for all types of business.

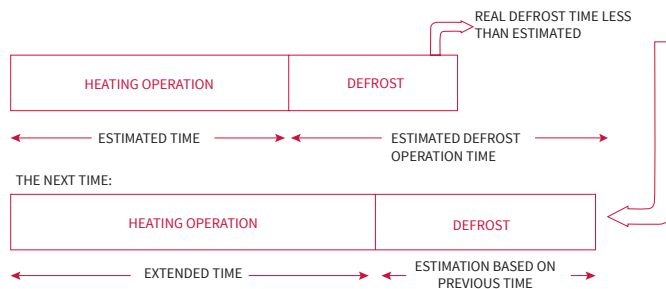
Maximum comfort ambiance so that customers feel comfortable and enjoy their experience.

SEER of 7.88 (A++) and SCOP of 4.77 (A++).

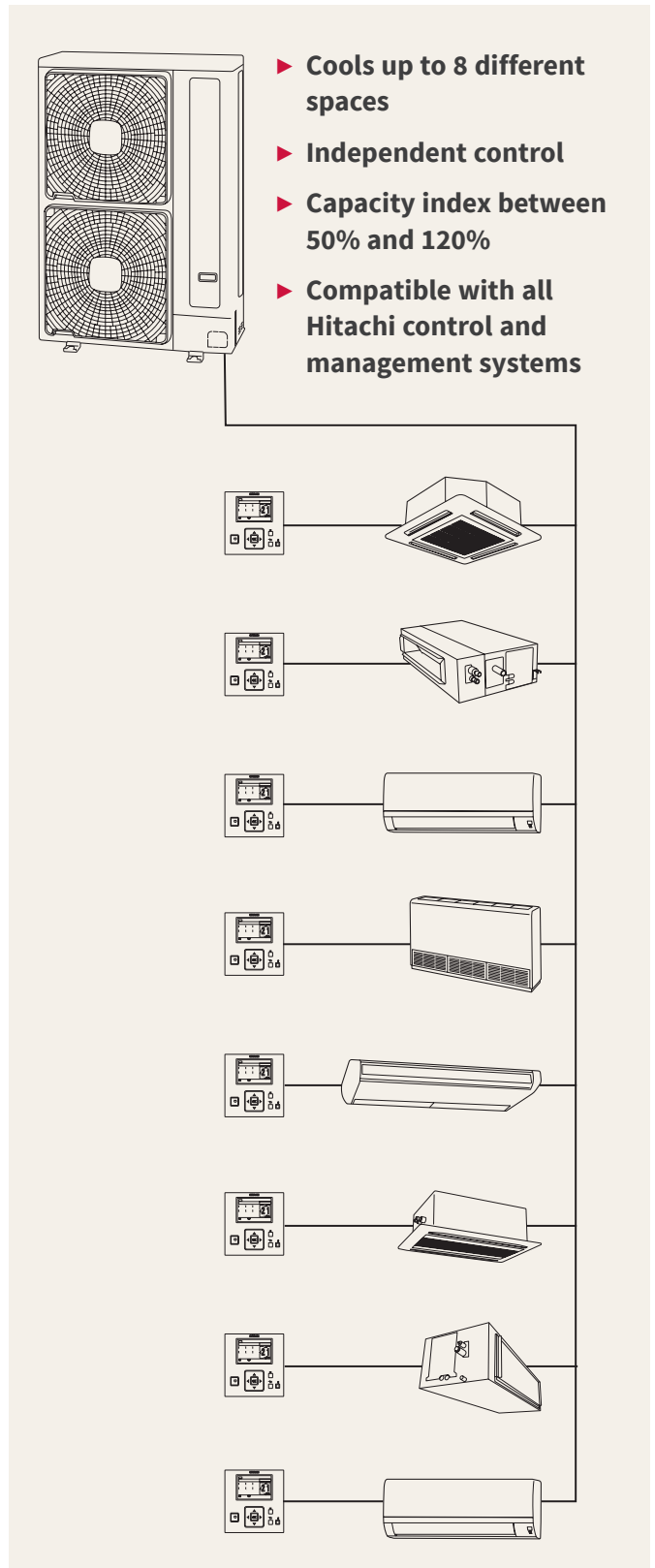
Connectable indoor unit minimum capacity 0.8 HP.

Decrease in defrost time and increase in heating time.

INTELLIGENT DEFROST CONTROL
HEATING OPERATION WILL BE CONTINUOUSLY AVAILABLE FOR MORE TIME



The 4-way valve does not require electricity consumption to maintain operation in heating mode, and can save up to 43%.



OUTDOOR UNIT MULTI-INVERTER

UTOPIA IVX PREMIUM

RAS-2~6H(V)NP1E / RAS-8~10HNPE



Characteristics

Smallest Mini VRF on the market

It is the perfect option for air conditioning small and medium-sized businesses, with highly demanding requirements. It has higher height and does not overwhelm the facilities with its size.

Flexibility

Compatible with System Free indoor units that are managed through all individual and centralized control systems, with option to H - Link II and CSNET WEB/MANAGER.

Optional DX-KIT

Intended for the integration of air curtains and air treatment units when required.

DC Inverter Compressor

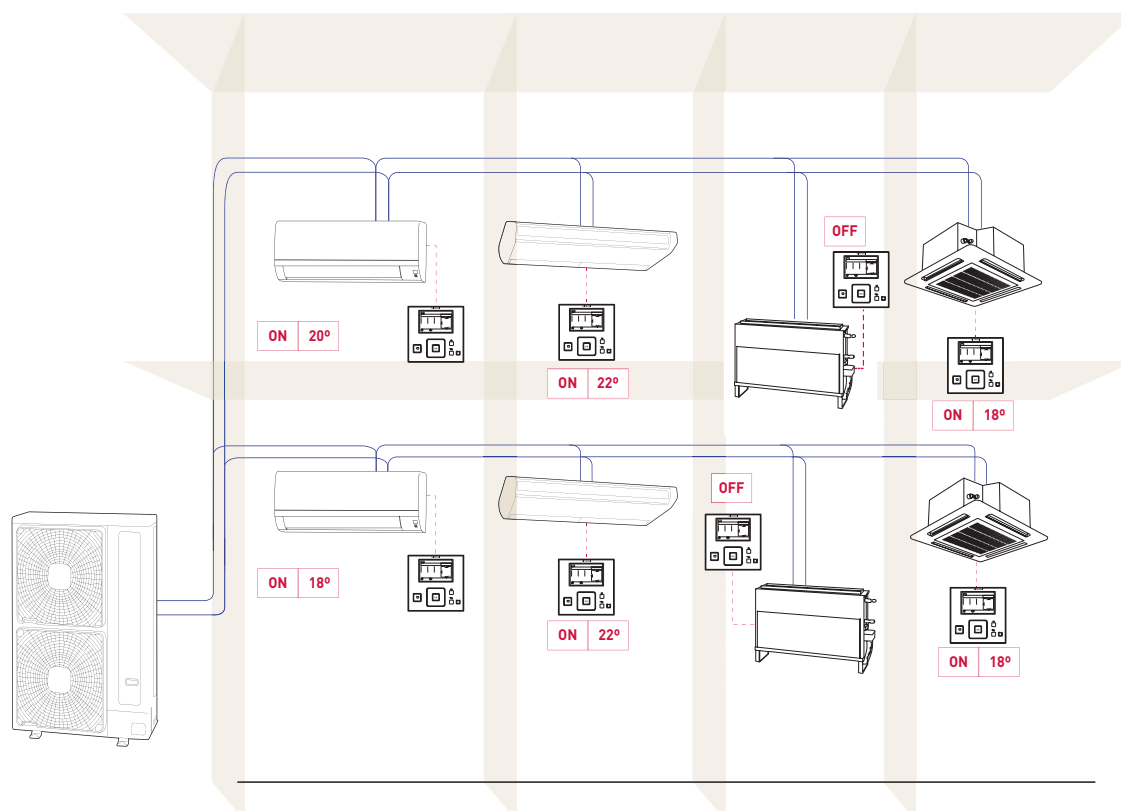
Save on the electric bill for optimization at partial loads of up to 50%. Increased performance at low speed thanks to the transmission mechanism and engine refinement.

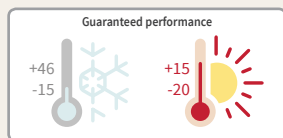
Decrease in frost generation

It optimizes operation in heating mode to maintain the suitable temperature in each room.

Air-condition up to 8 different spaces

Independent management of spaces, each with its own control.





UTOPIA IXV PREMIUM SINGLE PHASE

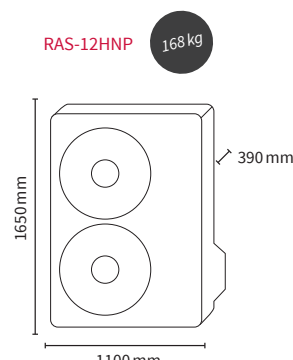
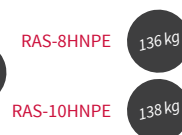
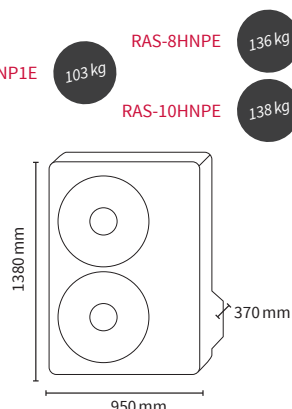
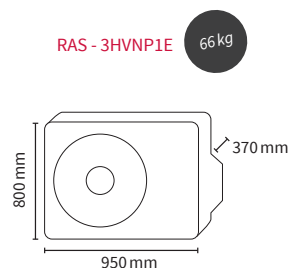
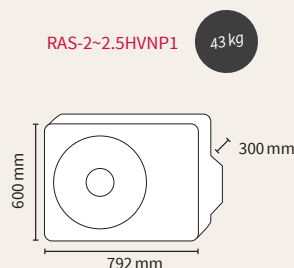
Outdoor Units

			RAS-2HVN1P1	RAS-2.5 HVNP1	RAS-3HVN1P1E	RAS-4HVN1P1E	RAS-5HVN1P1E	RAS-6HVN1P1E
Maximum number of connected units			2		3	5	6	
Nominal power absorbed (min-max) ⁽¹⁾	Cooling	kW	5.00 (2.20~5.60)	5.60 (2.20~6.30)	7.10 (3.20~8.00)	10.00 (4.50~11.20)	12.50 (5.70~14.00)	14.00 (6.00~16.00)
	Heating	kW	5.60 (2.20~7.10)	6.30 (2.20~8.00)	8.00 (3.50~10.60)	11.20 (5.00~14.00)	14.00 (5.00~18.00)	16.00 (5.00~20.00)
Absorbed nominal power	Cooling	kW	1.17	1.20	1.46	1.99	3.11	3.94
	Heating	kW	1.13	1.30	1.52	2.02	2.91	3.61
EER - COP ⁽²⁾			More information see next page	More information see next page	More information see next page	More information see next page	3.81 - 4.55 (A/B)	3.41 - 4.23 (A/A)
Sound pressure level (night mode) ⁽³⁾		dB(A)	44(42)	45(43)	46(42)	47(43)	48(44)	48(45)
Airflow		m³/h	2436	2436	2700	4800	5400	6000
Power supply			1~230 V 50H	1~230 V 50H	1~230 V 50H	1~230 V 50H	1~230 V 50H	1~230 V 50H
Pipe diameter (Liq - Gas)		inches	1/4 - 1/2	1/4 - 1/2	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8
Maximum length		m	50	50	50	75	75	75
Maximum height			30/20	30/20	30/20	30/20	30/20	30/20
Refrigerant charge (Maximum length of pipes without charge)		kg(m) / GWP eq Ton	1.6 (30) - 3.34	1.6 (30) - 3.34	2.3 (30) - 4.8	4.1 (30) - 8.56	4.2 (30) - 8.77	4.2 (30) - 8.77
Additional refrigerant charge		g/m	30	30	40	60	60	60
Independent control			YES	YES	YES	YES	YES	YES
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A
Compressor			SCROLL	SCROLL	Rotary	SCROLL	SCROLL	SCROLL

UTOPIA IXV PREMIUM THREE-PHASE

Outdoor Units

			RAS-4HNP1E	RAS-5HNP1E	RAS-6HNP1E	RAS-8HNPE	RAS-10HNPE	RAS-12HNPE
Possible Combinations			5	6	6	8	8	8
Nominal power (1)	Cooling		10.00 (4.50~11.20)	12.50 (5.70~14.00)	14.00 (6.00~16.00)	20.00 (8.00~22.40)	25.00 (10.00~28.00)	30.00 (11.20~33.50)
	Heating	kW	11.20 (5.00~14.00)	14.00 (5.00~18.00)	16.00 (5.00~20.00)	22.40 (6.30~28.00)	28.00 (8.00~35.00)	33.50 (9.00~37.50)
Absorbed nominal power	Cooling		1.99	3.11	3.94	5.36	7.88	11.05
	Heating		2.02	2.91	3.61	5.06	7.03	8.96
EER - COP ⁽²⁾			4.68 - 5.16 (A/A)	3.81 - 4.55 (A/A)	3.41 - 4.23 (A/A)	3.56 - 4.21 (A/A)	3.07 - 3.84 (B/A)	2.65 - 3.64 (D/A)
Sound pressure level (night mode) (3)		dB(A)	47 (43)	48 (44)	48 (45)	57 (55)	58 (56)	59 (57)
Airflow in heat		m³/h	4800	5400	6000	7620	8040	9780
Power supply			3 N~400 V 50 Hz	3 N~400 V 50 Hz	3 N~400 V 50 Hz	3 N~400 V 50 Hz	3 N~400 V 50 Hz	3 N~400 V 50 Hz
Pipe diameter (Liq - Gas)		inches	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 1	1/2 - 1	1/2 - 1
Maximum length		m	75	75	75	it must be calculated	it must be calculated	it must be calculated
Maximum height			30/20	30/20	30/20	30/20	30/20	30/20
Initial refrigerant charge (maximum length of pipes)		kg(m) / GWP eq Ton	4.1 (30) - 8.56	4.2 (30) - 8.77	4.2 (30) - 8.77	5.7 (30) - 11.9	6.2 (30) - 12.95	6.7 (30) - 13.99
Additional refrigerant charge		g/m	60	60	60	100	100	100
			YES	YES	YES	YES	YES	YES
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A
Compressor			SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL



* For systems with two indoor units, the additional refrigerant charge required is 24 g/m.

(1) The nominal cooling and heating capacity is the combined capacity of the RAS system and is based on EN14511

- Cooling: Indoor temperature 27°C DB; outdoor temperature 35°C DB.

- Heating: Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB. Pipe length: 7.5 m

(2) SEER and SCOP conform to the EN 14825 regulation.

The SEER, SCOP, EER and COP are specified on the outdoor unit in combination with the indoor unit mentioned.

COP and EER data are specified for RCI-FSN4 indoor unit combination.

(3) The sound pressure level has been measured in an anechoic camera at 1.5 m from ground level and 1 m from the front of the unit (Units operating at their nominal supply voltage).

To create the energy label visit our website www.hitachiaircon.es and use our Hitachi ErP Active Tool application.

ENERGY CLASS

UTOPIA IVX PREMIUM

RAS-2~6H(V)NP1E / RAS-8~10HNPE



Seasonal performance in cooling and heating

COMBINATIONS		COOLING				HEATING	
OUTDOOR UNIT	INDOOR UNIT	SEER	ENERGY CLASS	P DESIGN (35°C) KW	SCOP	ENERGY CLASS	P DESIGN (-10°C) KW
RAS-2HVN1P1	RCI-2.0FSN4	6.49	A++	5.00	4.67	A++	5.00
	RPC-2.0FSN3	5.63	A+	5.00	4.44	A+	5.00
	RPC-2.0FSN3E	5.05	B	5.00	3.8	A	5.00
	RPI-2.0FSN4E	5.6	A+	5.00	4.01	A+	5.00
	RPK-2.0FSN3M	5.47	A	5.00	4.01	A+	5.00
RAS-2,5HVN1P1	RCI-2.5FSN4	6.05	A+	5.60	4.77	A++	5.20
	RPC-2.5FSN3	5.49	A	5.60	4.49	A+	5.20
	RPC-2.5FSN3E	4.66	B	5.60	3.8	A	5.20
	RPI-2.5FSN4E	5.51	A	5.60	4.33	A+	5.20
	RPK-2.5FSN3M	5.24	A	5.60	4.14	A+	5.20
RAS-3HVN1P1E	RCI-3.0FSN4	7.42	A++	7.10	4.37	A+	6.40
	RPC-3.0FSN3	5.87	A+	7.10	4.00	A+	6.00
	RPC-3.0FSN3E	5.33	A	7.10	3.80	A	6.00
	RPI-3.0FSN4E	6.05	A+	7.10	4.00	A+	6.00
	RPK-3.0FSN3M	6.4	A++	7.10	3.91	A	6.00
RAS-4HVN1P1E	RCI-4.0FSN4	7.88	A++	10.00	4.68	A++	11.50
	RPC-4.0FSN4	6.53	A++	10.00	4.23	A+	11.50
	RPC-4.0FSN3E	5.92	A+	10.00	3.81	A	11.20
	RPI-4.0FSN4E	7.21	A++	10.00	4.23	A+	11.50
	RPK-4.0FSN3M	6.81	A++	10.00	3.81	A	9.00
RAS-4HNP1E	RCI-4.0FSN4	7.66	A++	10.00	4.68	A++	11.50
	RPC-4.0FSN4	6.38	A++	10.00	4.23	A+	11.50
	RPC-4.0FSN3E	5.8	A+	10.00	3.81	A	11.20
	RPI-4.0FSN4E	6.3	A++	10.00	4.23	A+	11.50
	RPK-4.0FSN3M	6.64	A++	10.00	3.81	A	9.00

MONO COMBINATIONS

MONO COMBINATIONS

1x1 UTOPIA IVX PREMIUM Wall mounted

Set name	Indoor unit	Outdoor unit
UTP.RPK2.IVX.V.PM1.3M	RPK-2.0FSN3M	RAS - 2HVNP1
UTP.RPK2,5.IVX.V.PM1.3M	RPK-2.5FSN3M	RAS - 2.5HVNP1
UTP.RPK3.IVX.V.PM1.3M	RPK-3.0FSN3M	RAS - 3HVNP1E
UTP.RPK4.IVX.V.PM1.3M	RPK-4.0FSN3M	RAS - 4HVNP1E
UTP.RPK4.IVX.PM1.3M	RPK-4.0FSN3M	RAS - 4HNP1E

1x1 UTOPIA IVX PREMIUM Duct

Set name	Indoor unit	Outdoor unit
UTP.RPI2.IVX.V.PM1.4E	RPI - 2.0FSN4E	RAS - 2HVNP1
UTP.RPI2,5.IVX.V.PM1.4E	RPI - 2.5FSN4E	RAS - 2.5HVNP1
UTP.RPI3.IVX.V.PM1.4E	RPI - 3.0FSN4E	RAS - 3HVNP1E
UTP.RPI4.IVX.V.PM1.4E	RPI - 4.0FSN4E	RAS - 4HVNP1E
UTP.RPI4.IVX.PM1.4E	RPI - 4.0FSN4E	RAS - 4HNP1E
UTP.RPI5.IVX.V.PM1.4E	RPI - 5.0FSN4E	RAS - 5HVNP1E
UTP.RPI5.IVX.PM1.4E	RPI - 5.0FSN4E	RAS - 5HNP1E
UTP.RPI6.IVX.V.PM1.4E	RPI - 6.0FSN4E	RAS - 6HVNP1E
UTP.RPI6.IVX.PM1.4E	RPI - 6.0FSN4E	RAS - 6HNP1E
UTP.RPI8.IVX.PM1.3E	RPI - 8.0FSN3E	RAS - 8HNPE
UTP.RPI10.IVX.PM1.3E	RPI - 10.0FSN3E	RAS - 10HNPE

Standard Control



Wired Multifunction Control
PC-ARFE

1x1 UTOPIA IVX PREMIUM Ceiling

Set name	Indoor unit	Outdoor unit
UTP.RPC3.IVX.V.PM1.3E	RPC-3.0FSN3E	RAS - 3HVNP1E
UTP.RPC4.IVX.V.PM1.3E	RPC-4.0FSN3E	RAS - 4HVNP1E
UTP.RPC4.IVX.PM1.3E	RPC-4.0FSN3E	RAS - 4HNP1E
UTP.RPC5.IVX.V.PM1.3E	RPC-5.0FSN3E	RAS - 5HVNP1E
UTP.RPC5.IVX.PM1.3E	RPC-5.0FSN3E	RAS - 5HNP1E
UTP.RPC6.IVX.V.PM1.3E	RPC-6.0FSN3E	RAS - 6HVNP1E
UTP.RPC6.IVX.PM1.3E	RPC-6.0FSN3E	RAS - 6HNP1E
UTP.RPC2.IVX.V.PM1.3	RPC-2.0FSN3	RAS - 2HVNP1
UTP.RPC2,5.IVX.V.PM1.3	RPC-2.5FSN3	RAS - 2.5HVNP1
UTP.RPC3.IVX.V.PM1.3	RPC-3.0FSN3	RAS - 3HVNP1E
UTP.RPC4.IVX.V.PM1.3	RPC-4.0FSN3	RAS - 4HVNP1E
UTP.RPC4.IVX.PM1.3	RPC-4.0FSN3	RAS - 4HNP1E
UTP.RPC5.IVX.V.PM1.3	RPC-5.0FSN3	RAS - 5HVNP1E
UTP.RPC5.IVX.PM1.3	RPC-5.0FSN3	RAS - 5HNP1E
UTP.RPC6.IVX.V.PM1.3	RPC-6.0FSN3	RAS - 6HVNP1E
UTP.RPC6.IVX.PM1.3	RPC-6.0FSN3	RAS - 6HNP1E

1x1 UTOPIA IVX PREMIUM 2-Way Cassette

Set name	Indoor unit	Outdoor unit	Panel
UTP.RCD2.IVX.V.PM1.2	RCD-2.0FSN3	RAS - 2HVNP1	P N23DNA
UTP.RCD2,5.IVX.V.PM1.2	RCD-2.5FSN3	RAS - 2.5HVNP1	P N23DNA
UTP.RCD3.IVX.V.PM1.2	RCD-3.0FSN3	RAS - 3HVNP1E	P N23DNA
UTP.RCD4.IVX.V.PM1.2	RCD-4.0FSN3	RAS - 4HVNP1E	P N23DNA
UTP.RCD4.IVX.PM1.2	RCD-4.0FSN3	RAS - 4HNP1E	P N23DNA
UTP.RCD5.IVX.V.PM1.2	RCD-5.0FSN3	RAS - 5HVNP1E	P N23DNA
UTP.RCD5.IVX.PM1.2	RCD-5.0FSN3	RAS - 5HNP1E	P N23DNA

1x1 UTOPIA IVX PREMIUM 2-Way Cassette

Set name	Indoor unit	Outdoor unit	Panel
UTP.RCI2.IVX.V.PM1.4	RCI - 2.0FSN4	RAS - 2HVNP1	P N23NA2
UTP.RCI2,5.IVX.V.PM1.4	RCI - 2.5FSN4	RAS - 2.5HVNP1	P N23NA2
UTP.RCI3.IVX.V.PM1.4	RCI - 3.0FSN4	RAS - 3HVNP1E	P N23NA2
UTP.RCI4.IVX.V.PM1.4	RCI - 4.0FSN4	RAS - 4HVNP1E	P N23NA2
UTP.RCI4.IVX.PM1.4	RCI - 4.0FSN4	RAS - 4HNP1E	P N23NA2
UTP.RCI5.IVX.V.PM1.4	RCI - 5.0FSN4	RAS - 5HVNP1E	P N23NA2
UTP.RCI5.IVX.PM1.4	RCI - 5.0FSN4	RAS - 5HNP1E	P N23NA2
UTP.RCI6.IVX.V.PM1.4	RCI - 6.0FSN4	RAS - 6HVNP1E	P N23NA2
UTP.RCI6.IVX.PM1.4	RCI - 6.0FSN4	RAS - 6HNP1E	P N23NA2

COMBINATIONS OUTDOOR UNIT

UTOPIA IVX PREMIUM

COMBINATIONS | RAS-2~6H(V)NP1E / RAS-8~10HNPE

RAS-2HVNP1
RAS-2.5 HVNP

RAS-3HVNP1E

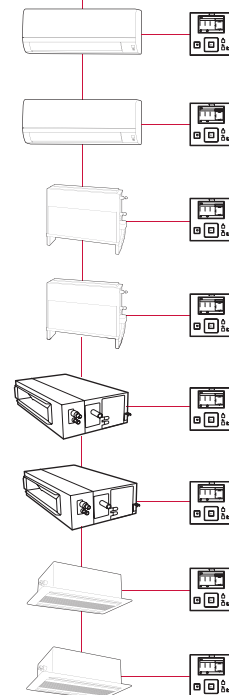
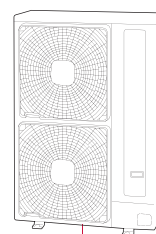
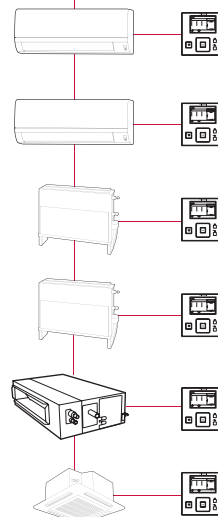
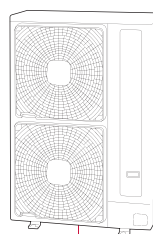
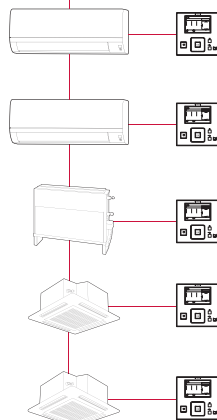
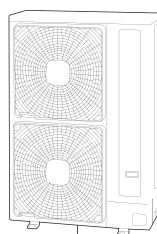
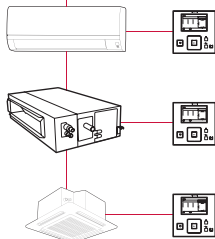
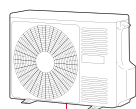
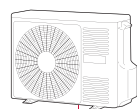
RAS-4H(V)NP1E

RAS-5H(V)NP1
RAS-6H(V)NP1E

RAS - 8HNPE
RAS - 10HNPE
RAS - 12HNPE

90 - 110%

50 - 120%



Capacity Index in relation to combinations

COMBINATIONS	OUTDOOR UNIT MODEL				
	RAS-2HVNP1 ⁽²⁾	RAS-2.5 HVNP ⁽³⁾	RAS-3HVNP1E	RAS-4H(V)NP1E	RAS-5H(V)NP1E RAS-6H(V)NP1E
Maximum number of connected indoor units	2		3	5	6
Ratio of connected indoor units % (number of indoor units connected)	90~110% (1 unit)		50~120% (≤ 2 units)	50~120% (≤ 4 units)	
	90~100% (2 units) ⁽¹⁾		50~100% (3 units)	50~100% (5 units) ⁽¹⁾	50~100% (5 or 6 units) ⁽¹⁾
Connectable indoor unit minimum capacity (HP)	0.8				

COMBINATIONS	OUTDOOR UNIT MODEL		
	RAS - 8HNPE	RAS - 10HNPE	RAS - 12HNPE
Maximum number of connected indoor units		8	
Ratio of connected indoor units % (number of indoor units connected)		50~120% (≤ 4 units)	
		50~100% (5, 6, 7 or 8 units)	
Connectable indoor unit minimum capacity (HP)		0.8	

(1) Follow Table 1 (see instructions) to optimize indoor unit balance.

(2) When installing RCI-FSN4 indoor unit, only the 1x1 combination is allowed.

(3) When installing certain units and RCI-FSN4 is present, the minimum allowed capacity for these series is 1.5 HP.

Capacity Index in relation to combinations

OUTDOOR UNIT	MULTI-KIT		
	TWIN	TRI	QUADRI
RAS-2HVNP1	E-102SN4	-	-
RAS-2.5 HVNP1		-	-
RAS-3HVNP1E		E-102SN4	-
RAS-4H(V)NP1E		E-102SN4 MH-84AN1 ⁽²⁾	E-102SN4
RAS-5H(V)NP1E			
RAS-6H(V)NP1E			
RAS-8HNPE	E-162SN4	E-162SN4 MH-84AN1 ⁽²⁾	E-162SN4 MH-84AN1 ⁽²⁾
RAS-10HNPE			
RAS-12HNPE			

(1) If the pipe length (A+B or A+C or A+D) exceeds 70 m in 8 HP units, use a Ø12.70 liquid pipe.

(2) If you use the MH84AN1 multi-kit (TRI combination figure) it is not necessary to use multikit 2.

Note: For in-line TRI combinations, the second branch pipe is E102SN4

AIR CONDITIONING FOR
USE WITH **AHU AND AIR
CURTAINS**

THREE DIFFERENT
TYPES OF CONTROL:
**AIR INLET, AIR OUTLET,
DUTY CYCLE**



SMALLER MINI VRF
FROM 3 HP MODELS

DX-KIT SERIE 2

FEATURES

UTOPIA DX CONDENSING UNIT

The new RAS-XH (V) NP series (1) E is optimized for use with the new DX-Kit series 2.

Precise power control and fast response to variable operating parameters make it suitable for use with air-conditioning units. Compared to standard condensing units from the HITACHI portfolio allows the connection of heat exchangers with larger volumes and hence with a larger heat transfer area.



Features and benefits

Possibility to control analog signal (0-10V, 0-5V, 4-20mA)

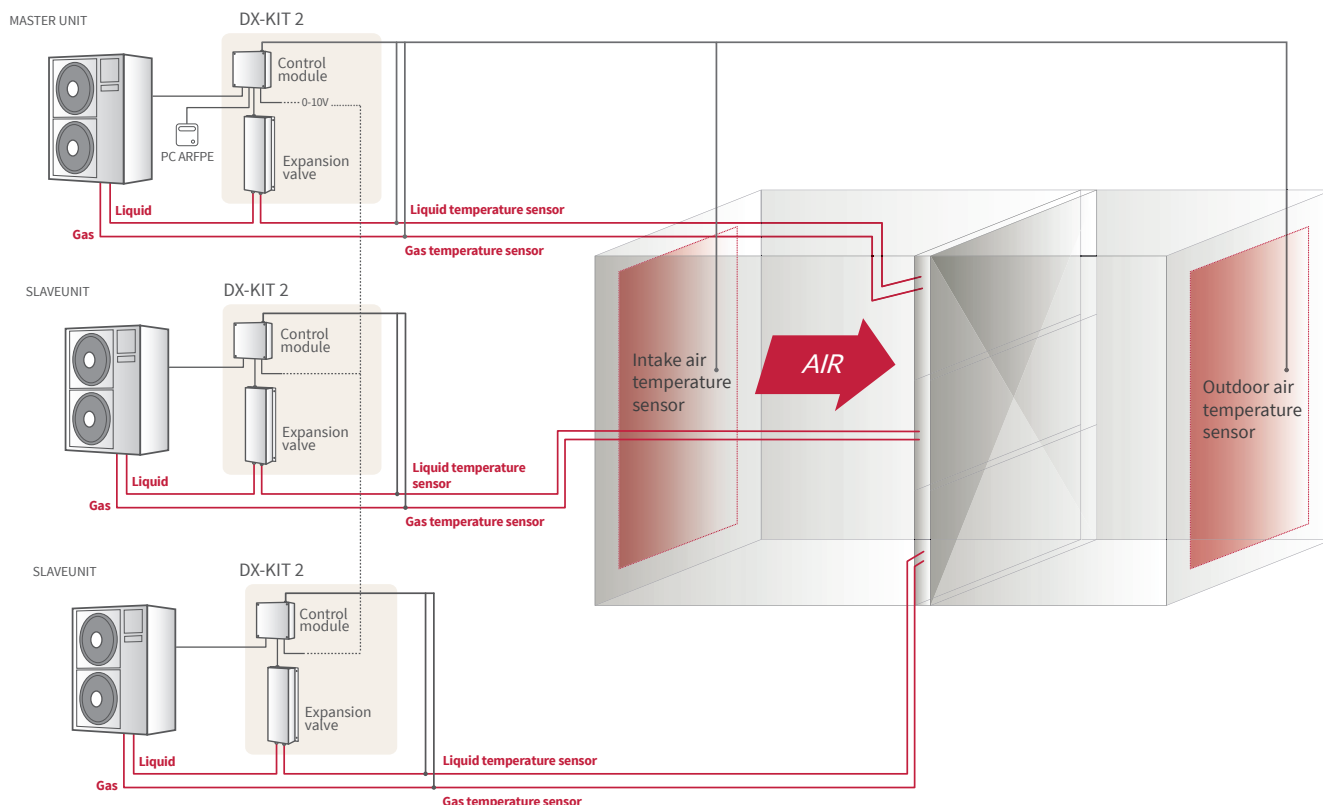
Modular installation for multi-ring heat exchangers

- Possibility to connect up to 5 condensing units per AHU unit (up to 125 kW)
- Group Control of Condensation Units (Master - Slave)
- Common air temperature sensors
- Common controller to set operating parameters

Sophisticated defrosting system -> Better user comfort

- Checking the number of defrosting condensing units at the same time:
 - 2-3 condensing units: max. 1 in the reverse cycle
 - 4-5 condensing units: max. 2 in the reverse cycle
- Top-down defrost logic for better defrosting
- Possibility to connect to larger volumetric exchangers

Modular installation scheme for multi terminal exchangers



DX-KIT SERIE 2

The DX-KIT can also be combined with UTOPIA and Set Free Sigma series. For optimum performance we recommend using it with Utopia DX dedicated series.

APPLICATION		RECOMMENDED SOLUTION		
		UTOPIA (NOT DX)	UTOPIA DX RAS-XH(V)NP(1)E	SET FREE SIGMA (5)
AIR CURTAIN	Combinability	1-1	–	Multi (6)
	Control type	Depending on output temperature	–	Depending on output temperature
	Capacity range	2-10 HP	–	2-10 HP
	Accuracy of regulation	●●●●○	–	●●●○○ (1)
DUCTED UNIT (≤ 10% FRESH AIR)	Combinability	1-1	Modular	Multi (6)
	Control type	Depending on output temperature	Depending on output temperature	Depending on output temperature
	Capacity range	2-10 HP	12-50 HP (2) (3)	2-10 HP
	Accuracy of regulation	●●●●●	●●●●●	●●●○○ (1)
HVAC UNITS	Combinability	LOW PRECISION REGULATION	Individually or modular	LOW PRECISION REGULATION
	Control type		Depending on output temperature or external signals	
	Capacity range		4-50 HP (3) (4)	
	Accuracy of regulation		●●●●●	

- (1) VRF system management focuses on cooling cycle states and output, not just on the supply air temperature.
 (2) The power range is obtained by combining 3 HP to 10 HP outdoor unit models (RAS-XH (V) NP (1) E series).
 (3) A group of condensing units for modular wiring must be composed of modules of the same size for proper power balance.
 (4) The power range is obtained by combining 4 HP to 10 HP outdoor units (RAS-XH (V) NP (1) E series).
 (5) Combination 1-1 with Set Free is not allowed
 (6) Representation of DX-KITs between connected indoor units.

Total percentage of connected power to outdoor unit (%)	≤ 30%	30 ~ 100%
	30 ~ 130%	50 ~ 100%

1~230V 50Hz

UTOPIA DX Outdoor Units		RAS-3XHVNP1E	RAS-4XHVNP1E	RAS-5XHVNP1E	RAS-6XHVNP1E	
Nominal cooling capacity (min-max)	kW	7.1 (3.2-8.0)	10.0 (4.5-11.2)	12.5 (5.7-14.0)	14.0 (6.0-16.0)	
Nominal heating capacity (min-max)	kW	8.0 (3.5-10.6)	11.2 (5.0-14.0)	14.0 (5.0-18.0)	16.0 (5.0-20.0)	
EER		4.41	4.68	3.81	3.41	
COP		4.88	5.16	4.55	4.23	
Sound pressure level when cooling (night attenuation) / heating	dB(A)	46 (42) / 48	47 (43) / 49	48 (44) / 50	48 (45) / 50	
Sound power level	dB(A)	63	63	64	65	
Air flow	m³ / min	45	80	90	100	
Dimensions	mm	800x950x370	1380x950x370	1380x950x370	1380x950x370	
Weight	kg	66	103	103	103	
Recommended circuit breaker	A	20	32	32	32	
Maximum current	A	21.5	30.5	30.5	30.5	
Operating cooling flow	A	6.4	8.7	13.7	17.3	
Operating heating current	A	6.7	8.9	12.8	15.9	
Section of power cable (according to EN 60335-1)	Nbr. / mm²	3x 4.0	3x 6.0	3x 6.0	3x 6.0	
The size of the communication cable between the outdoor unit and the indoor unit	Nbr. / mm²	2x 0.75	2x 0.75	2x 0.75	2x 0.75	
Piping diameter (liquid / gas)	mm (inch)	Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø15.88 (5/8)	
Minimum pipe length	m	5	5	5	5	
Maximum piping length without additional refrigerant charge	m	30	30	30	30	
Maximum pipe length (when refrigerant is added)	m	50	75	75	75	
Maximum height difference (outdoor unit – Heat exchanger)	m	30 / 20	30 / 20	30 / 20	30 / 20	
Refrigerant Refrigeration Factory - R410a	kg - GWP eq Ton	2.3 - 4.8	4.1 - 8.56	4.2 - 8.77	4.2 - 8.77	
Compressor type		Rotary DC inverter	Scroll DC inverter	Scroll DC inverter	Scroll DC inverter	

Design parameters of the external heat exchanger in combination with UTOPIA DX condensing unit.

		PERMITTED CAPACITY OF HEAT EXCHANGER [kW] (1)			INTERNAL HEAT EXCHANGER VOLUME [dm³] (2)		RECOMMENDED HEAT EXCHANGER AIR FLOW [m³/min]	
DX-KIT	OP. MODE	MIN.	NOM.	MAX.	MIN.	MAX.	MIN.	MAX.
EXV-2.0E2	Cooling	4.0	5.0	5.6	0.57	1.64	8.0	21.0
	Heating	4.5	5.6	7.1				
EXV-2.5E2	Cooling	4.8	6.0	6.3	0.89	1.83	11.5	26.0
	Heating	5.6	7.0	7.1				
EXV-3.0E2	Cooling	5.7	7.1	8.0	1.03	2.89	12.5	30.0
	Heating	6.4	8.0	9.0				
EXV-4.0E2	Cooling	8.0	10.0	11.2	1.51	4.56	20.0	36.0
	Heating	9.0	11.2	12.5				
EXV-5.0E2	Cooling	10.0	12.5	14.0	1.92	4.56	23.0	41.5
	Heating	11.2	14.0	16.0				
EXV-6.0E2	Cooling	11.2	14.0	16.0	1.92	5.11	25.0	42.5
	Heating	12.8	16.0	18.0				
EXV-8.0E2	Cooling	16.0	20.0	22.4	2.92	6.93	59.0	78.0
	Heating	17.9	22.4	25.0				
EXV-10.0E2	Cooling	20.0	25.0	28.0	3.89	10.73	68.0	89.0
	Heating	22.4	28.0	31.5				

Cooling and heating performance is based on thermal conditions according to EN14511:

HEATING		COOLING	
Air temperature	DX-interface HEX (Tin): 20 °C (DB) Outdoor: 7 °C (DB)/6 °C (WB)	Designed air temperature	DX-Interface HEX (Tin): 27 °C (DB)/19 °C (WB) Outdoor: 35 °C (DB)
Condensation temperature	40 °C ~ 45 °C	Evaporation temperature	6 °C
Subcooling temperature	3 °C	Overtemperature	5 °C

- (1) The output of the exchanger must be designed with the following input parameters.
(2) Max. allowed distribution lenght to achieve a maximum volume of 10 m (see Timing Limit Limits).
Exchanger design pressure = **4.15 MPa**. Pressure resistance **≥ 12.45 MPa** (3 x design pressure).

3~400V 50Hz					
RAS-4XHNP1E	RAS-5XHNP1E	RAS-6XHNP1E	RAS-8XHNPE	RAS-10XHNPE	
10.0 (4.5-11.2)	12.5 (5.7-14.0)	14.0 (6.0-16.0)	20.0 (8.0-22.4)	25.0 (10.0-28.0)	
11.2 (5.0-14.0)	14.0 (5.0-18.0)	16.0 (5.0-20.0)	22.4 (6.3-28.0)	28.0 (8.0-35.0)	
4.68	3.81	3.41	3.56	3.07	
5.16	4.55	4.23	4.21	3.84	
47 (43) / 49	48 (44) / 50	48 (45) / 50	57 (55) / 59	58 (56) / 60	
63	64	65	76	76	
80	90	100	127	134	
1380x950x370	1380x950x370	1380x950x370	1380x950x370	1380x950x370	
103	103	103	136	138	
15	15	15	30	30	
14	14	16	24	24	
3.2	5.0	6.3	8.6	12.6	
3.2	4.7	5.8	8.1	11.3	
5x 2.5	5x 2.5	5x 2.5	5x 6.0	5x 6.0	
2x 0.75	2x 0.75	2x 0.75	2x 0.75	2x 0.75	
Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø15.88 (5/8)	Ø9.52 (3/8) / Ø25.4 (1)	Ø12.7 (1/2) / Ø25.4 (1)	
5	5	5	5	5	
30	30	30	30	30	
75	75	75	100	100	
30 / 20	30 / 20	30 / 20	30 / 20	30 / 20	
4.1 - 8.56	4.2 - 8.77	4.2 - 8.77	5.7 - 11.9	6.2 - 12.95	
Scroll DC inverter	Scroll DC inverter	Scroll DC inverter	Scroll DC inverter	Scroll DC inverter	

EASY INSTALLATION
WITHOUT USING THE
ROOF: **30% MORE
COMPACT**

AIR CONDITIONING FOR **12**
DIFFERENT SPACES WITH
INDEPENDENT CONTROL



ACTUAL PIPE LENGTH
75~100*

**LIMITATION OF
ELECTRICITY
CONSUMPTION,**
REGULATING BETWEEN
100%, 70% AND 50% OF
THE NOMINAL VALUE

MINI VRF

MINI VRF

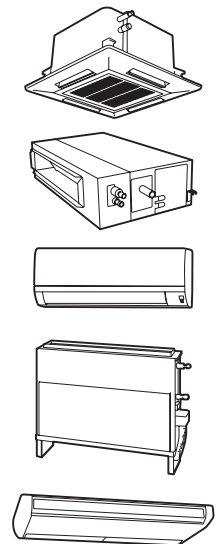
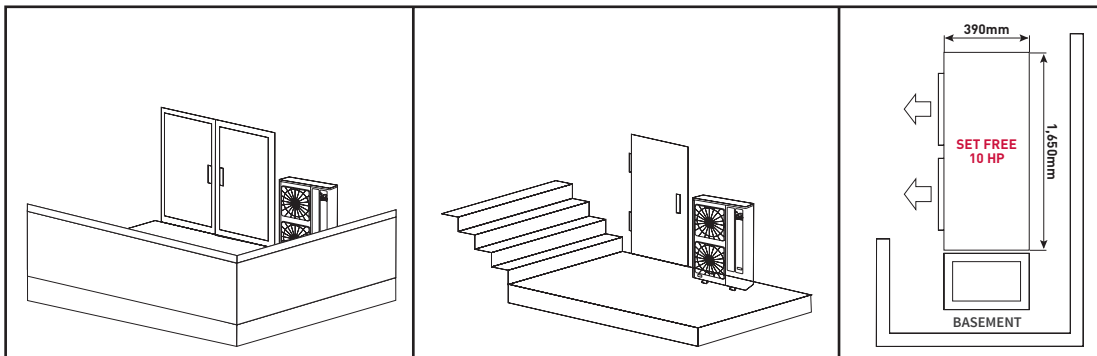


Because of its compact design, its installation is even easier even in the most demanding places.

Capable of working with outdoor temperatures up to -20°C in heating mode and up to 46°C in cooling mode.

It controls the climate of all kinds of establishments without needing to install the outdoor unit on the roof.

Thanks to its size, it even fits on a terrace.



Compatible indoor units

The 3-blade fan makes it **the quietest unit on the market**, with noise reduction of up to 4 dB(A). This way, it does not bother the neighbors.

FS(V)N(Y)3E 4 to 6 HP for facilities of up to 15500 kW.

FSNM 8 to 12 HP for facilities of up to 33500 kW.

EER-COP: 6.56-4.24*

Compatible with all **HITACHI** control and management systems.

*Depending on model

OUTDOOR UNIT SET FREE MINI

FSVN3E / FSNY3E

RAS-4~6FSVN3E / RAS-4~6FSNY3E



Characteristics

Scroll DC Inverter Compressor

More efficiency at partial loads and at low speed.

“Side Flow” Technology

The fan speed is distributed evenly thanks to this technology.

Flexibility

Compatible with all System Free indoor units and individual and/or centralized management systems.

Automatic control of electricity consumption

It can be adjusted between 100%, 70% and 50% of the nominal value.

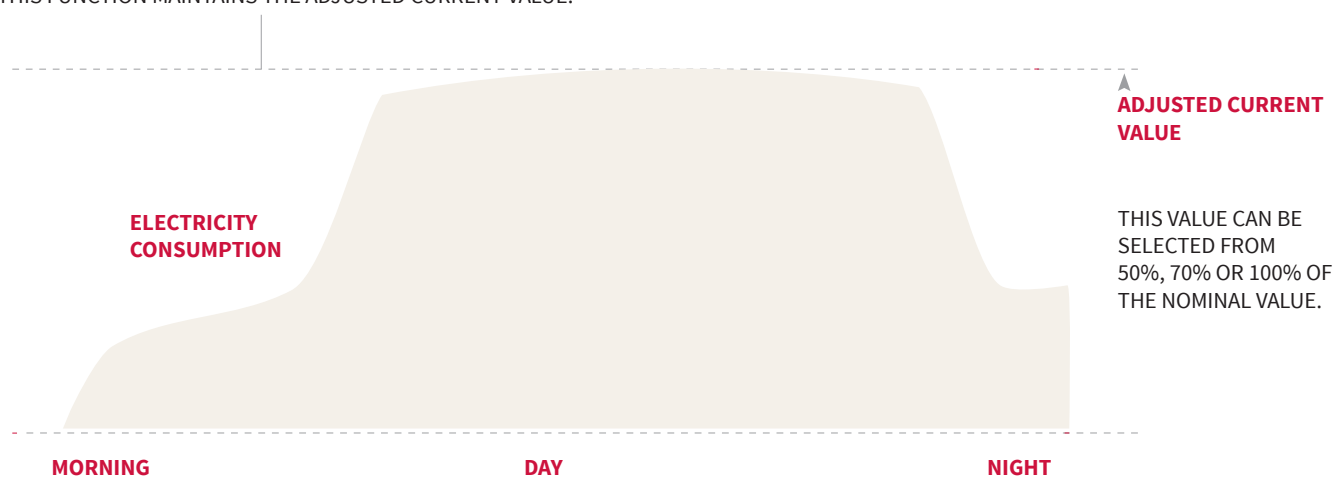
Wider operating range

From -5°C to 46°C in cooling and from -20°C to 15°C in heating.

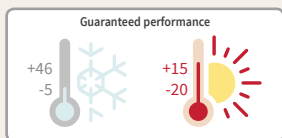
Very high flow fan

More aerodynamic than previous models. It has a larger surface in contact with the air and a better angle of rotation, which prevents turbulence and allows the installation of the fan at a lower level.

AUTOMATIC CONTROL OF ENERGY CONSUMPTION.
THIS FUNCTION MAINTAINS THE ADJUSTED CURRENT VALUE.



Automatic consumption control



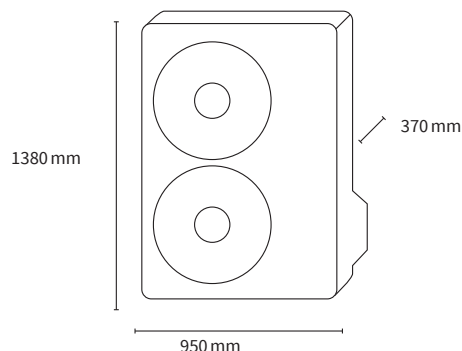
FSVN3E FSNY3E

Outdoor Units

		SINGLE PHASE			THREE-PHASE		
		RAS - 4FSVN3E	RAS - 5FSVN3E	RAS - 6FSVN3E	RAS - 4FSNY3E	RAS - 5FSNY3E	RAS - 6FSNY3E
Maximum number of units Connectible		6 (8)*	8 (10)*	9 (12)*	6 (8)*	8 (10)*	9 (12)*
Nominal power (min-max) ⁽¹⁾	Cooling	kW 11.20 (5.60~11.20)	14.00 (7.00~14.00)	15.50 (7.80~15.50)	11.20 (5.60~11.20)	14.00 (7.00~14.00)	15.50 (7.80~15.50)
	Heating	kW 12.50 (6.30~12.50)	16.00 (8.00~16.00)	18.00 (9.00~18.00)	12.50 (6.30~12.50)	16.00 (8.00~16.00)	18.00 (9.00~18.00)
Absorbed nominal power (min-max)	Cooling	kW 2.75	3.88	4.67	2.72	3.84	4.62
	Heating	kW 3.03	4.20	4.90	3.00	4.16	4.85
EER - COP		4.07 - 4.13	3.61 - 3.81	3.32 - 3.67	4.12 - 4.17	3.65 - 3.85	3.35 - 3.71
Sound Pressure Level (very low - low- medium - high) ⁽²⁾	Cooling	dB(A) 49 (45)	51 (47)	51 (48)	49 (45)	51 (47)	51 (48)
	Heating	dB(A) 51	53		51	53	
Airflow		m ³ /h 5400	5400	6000	5400	5400	6000
Power supply		230 V - 1 Ph - 50 Hz	230 V - 1 Ph - 50 Hz	230 V - 1 Ph - 50 Hz	400 V - 3 Ph +N - 50 Hz	400 V - 3 Ph +N - 50 Hz	400 V - 3 Ph +N - 50 Hz
Maximum length		m 75	75	75	75	75	75
Maximum height		m 30	30	30	30	30	30
Pipe diameter (Liquid - Gas)		inches 3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8
Refrigerant R410A Charge		kg - GWP eq Ton 3.60 - 7.52	3.60 - 7.52	3.60 - 7.52	3.60 - 7.52	3.60 - 7.52	3.60 - 7.52
Compressor		Scroll					
Refrigerant		R410A					

RAS-4~6FSVN3E 100 kg

RAS-4~6FSNY3E 102 kg



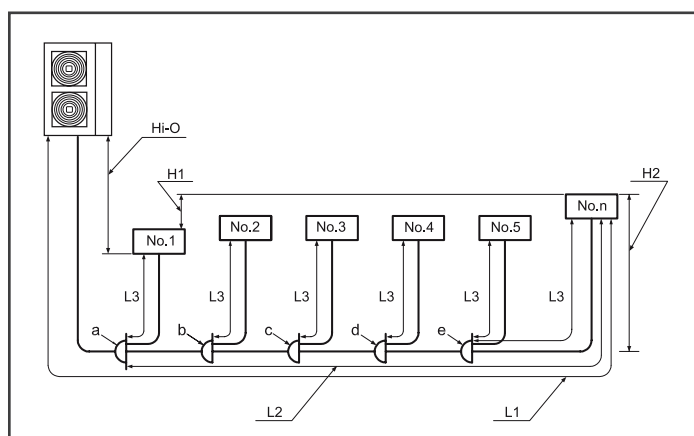
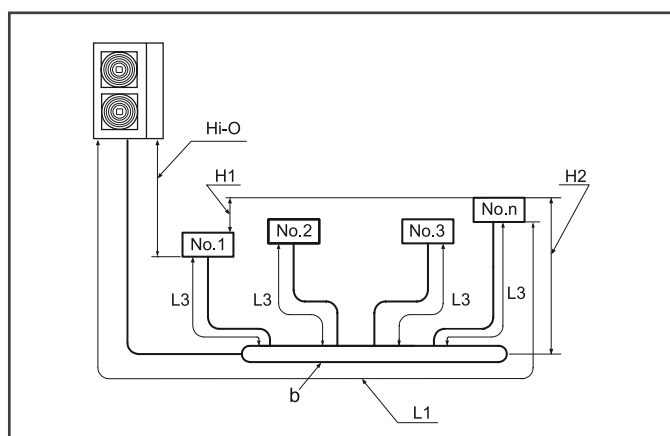
REFRIGERANT DISTRIBUTION

FSVN3E / FSNY3E

RAS-4~6FSVN3E / RAS-4~6FSNY3E



Refrigerant distribution in line and collector (only Mini set Free FS(V)N(Y)3E series)



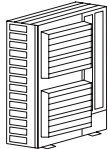
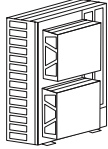
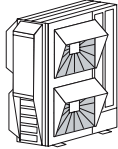
ELEMENT		RAS-4FS(V)N(Y)3E	RAS-5FS(V)N(Y)3E RAS-6FS(V)N(Y)3E
Maximum pipe length between the outdoor unit and the farthest indoor unit	Real length (L1)	≤ 75	
	Equivalent length	≤ 95	
Maximum pipe length from first branch and furthest unit (L2)		≤ 40	
Maximum length from the first branch pipe to each indoor unit (L3)	a) collector	≤ 15	
	b) distribution in line	≤ 10	
Total pipe length (L3 1 + L3 2 + L3 3 ...)		≤ 125	≤ 135
Maximum height difference between the outdoor unit and the indoor unit	If the indoor unit is lower than the indoor unit	≤ 30	
	If the indoor unit is higher than the indoor unit	≤ 30	
Maximum height difference between the indoor units (H1)		≤ 15	
Maximum height difference between the multikit and indoor unit (H2)		≤ 5	
Branch reference	a) collector	MH-84AN (4 ports) MH-108AN (8 ports)	
	b) distribution in line	E-102SN3	

ACCESSORIES

FSVN3E / FSNY3E

RAS-4~6FSVN3E / RAS-4~6FSNY3E

Accessories code list

Reference	Compatible with	Description	Picture
DBS-26	RAS-FS(V)N(Y)3E	Drain pipe	
AG-335A	RAS-FS(V)N(Y)3E	Air guide	
WSP-335A	RAS-FS(V)N(Y)3E	Wind shield	
ASG-NP335F	RAS-FS(V)N(Y)3E	Snow shield, air outlet (zinc)	
ASG-NP335FS2	RAS-FS(V)N(Y)3E	Snow shield, air outlet (stainless steel)	
ASG-NP280BS2	RAS-FS(V)N(Y)3E	Snow shield, back air inlet (stainless steel)	
ASG-NP280LS2	RAS-FS(V)N(Y)3E	Snow shield, left air inlet (stainless steel)	
E-102SN3	SET FREE	Branch	
MH-84AN	SET FREE	Header	
MH-108AN	SET FREE	Header	

OUTDOOR UNIT SET FREE MINI FNSM RAS-8~12FSNM



Characteristics

Unbeatable in kW per m2 installed, design and size

65% more power on the same surface compared to Top-Flow units, in addition to being 43% lighter.

Easy installation

With a width of only 390 mm, it can be installed in any small space, such as a balcony, as it also operates very quietly.

Scroll DC Inverter Compressor

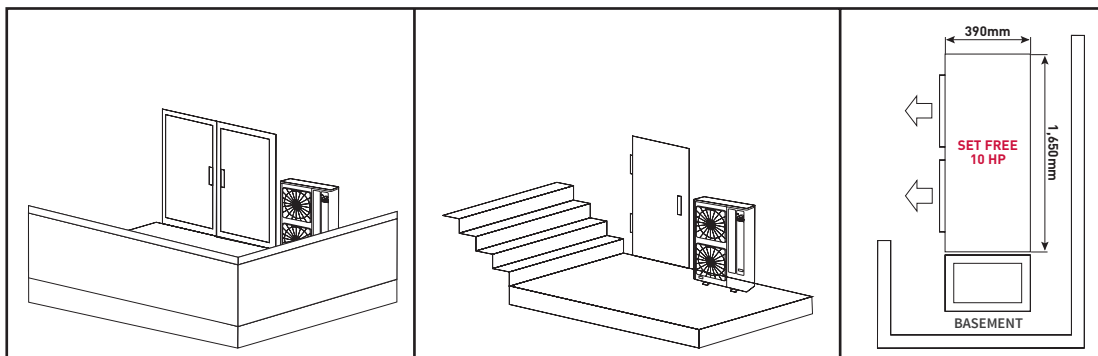
More efficiency at partial loads and at low speed.

Flexibility

Compatible with all System Free indoor units, **HITACHI** management systems and building management software.

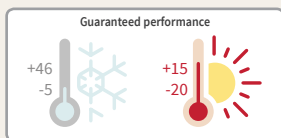
Compressor speed control

It controls between 20 and 100 Hz for coverage, also, with the needs of smaller spaces.



Pipe height and length





FNSM

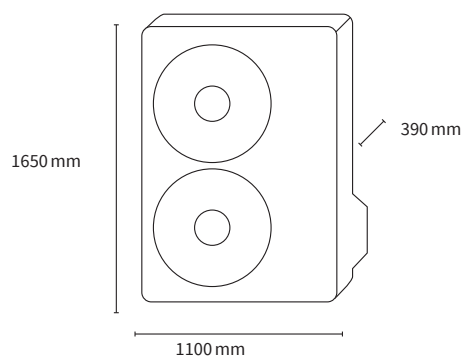
SET FREE MINI SIDE FLOW

Outdoor Units

			RAS - 8FSNM	RAS - 10FSNM	RAS - 12FSNM
Maximum number of units Connectible			10	10	10
Nominal power ⁽¹⁾	Cooling	kW	22.40	28.00	33.50
	Heating	kW	25.00	31.50	37.50
Absorbed nominal power	Cooling	kW	6.30	8.30	10.70
	Heating	kW	5.90	7.80	9.90
EER - COP			3.56 - 4.24	3.37 - 4.04	3.13 - 3.79
Sound pressure level (very low - low - medium - high) ⁽²⁾	Cooling	dB(A)	53	56	59
	Heating	dB(A)	55	58	61
Airflow			m ³ /h	9000	9780
Power supply			380~415 V - 3 Ph +N - 50 Ph		
Maximum length			m	100	100
Maximum height			m	40/30	40/30
Pipe diameter (Liquid - Gas)			inches	3/8 - 3/4	1/2 - 7/8
Refrigerant R410A Charge			kg - GWP eq Ton	5.0 - 10.44	5.5 - 11.48
Compressor				Scroll	Scroll
Refrigerant				R410A	R410A

RAS-8~10FSNM 170 kg

RAS-12FSNM 173 kg



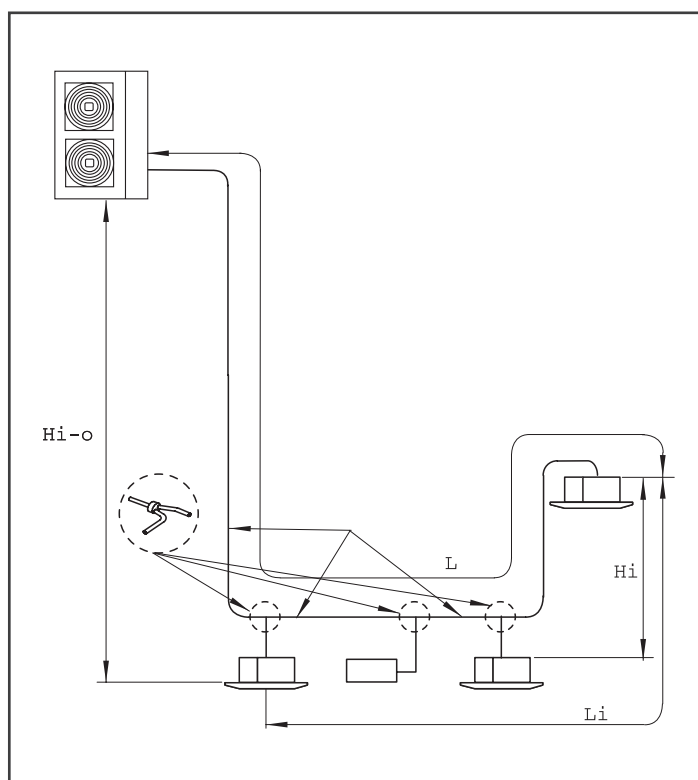
REFRIGERANT DISTRIBUTION

FNSM

RAS-8~12FSNM



**Refrigerant distribution in line and collector
(only Mini set Free FSMN series)**



ELEMENT		Max. Length (m)
Length between OU and furthest IU (L)	Actual	100
	Equivalent	120
Total pipe length		250
Length between main branch and furthest unit (Li)		40
Height difference between IU and OU	OU higher than IU	40
	OU lower than IU	30
Height difference between IU		15

ACCESSORIES

FNSM

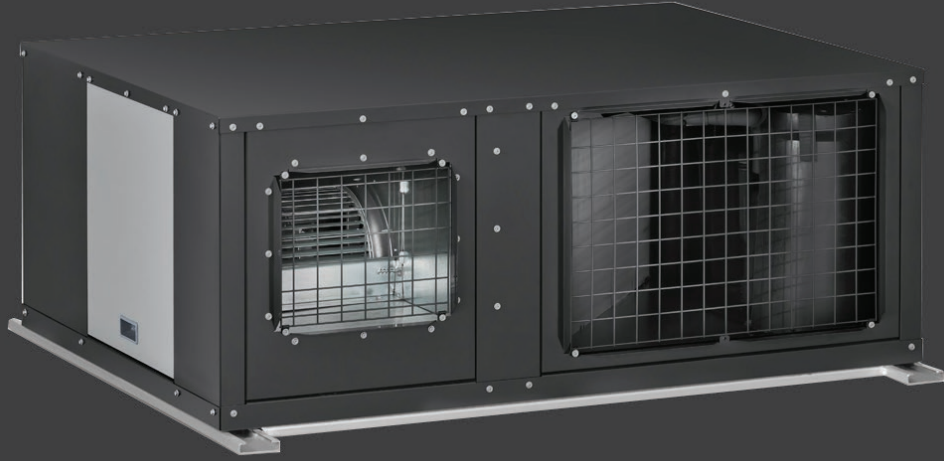
RAS-8~12FSNM

Accessories code list

Reference	Description	Picture
DBS-26	Drain pipe	
E-102SN4	Branch	
E-162SN4	Branch	
MH-84AN1	Header	
MH-108AN	Header	



CENTRIFUGAL VRF

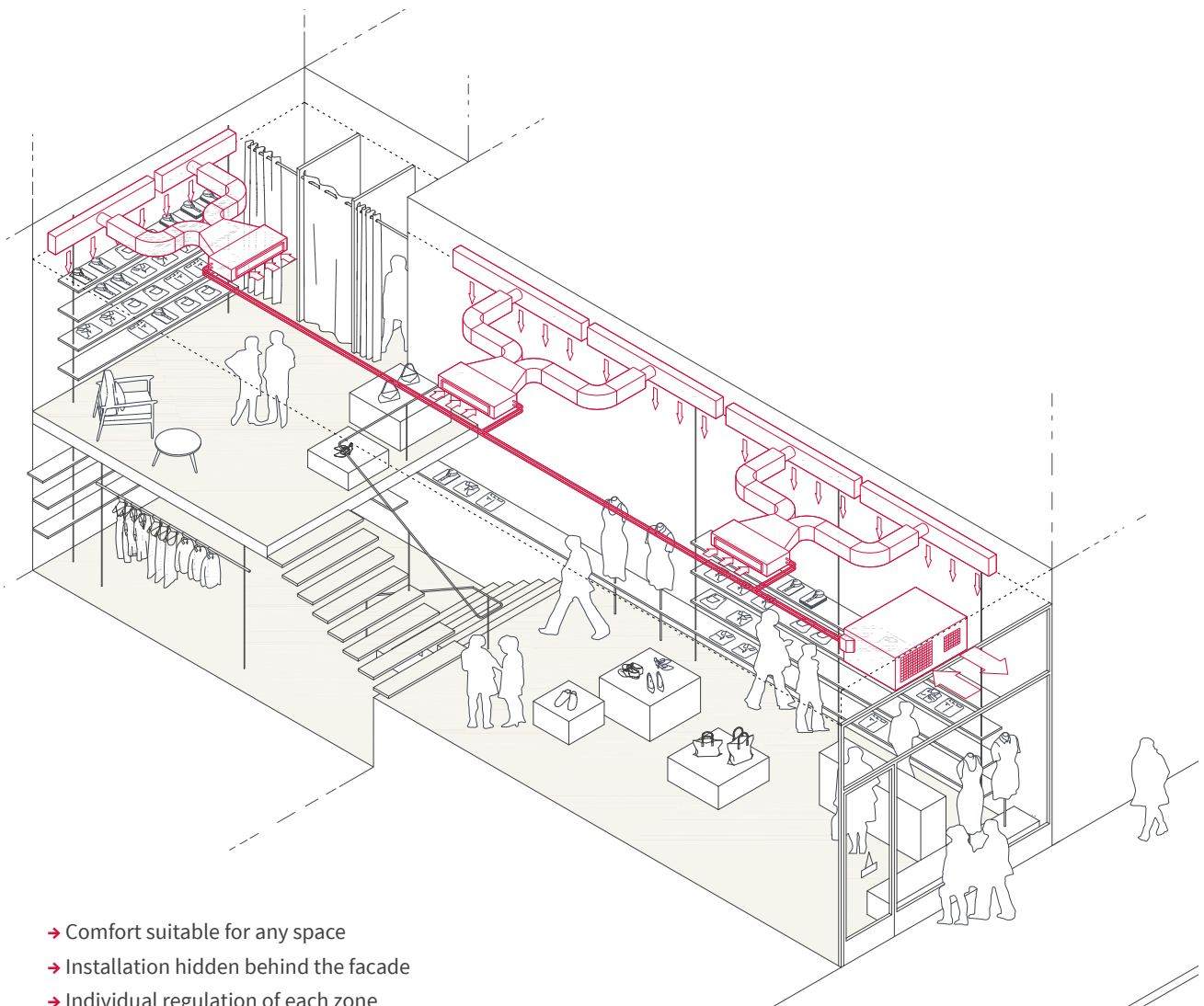


RASC CENTRIFUGAL VRF

RASC CENTRIFUGAL VRF

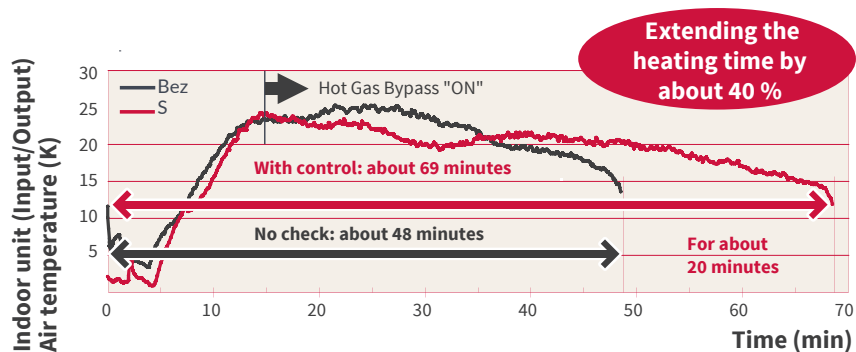
Choosing the most suitable air conditioning for your project has a major impact on its future. An outdoor unit with a radial fan for indoor installation offers comfort to your clients while hiding inside the building to meet even the most demanding pampering demands.

- ▶ **Larger external static fan pressure:**
to circulate air through duct path.
- ▶ **Higher comfort and energy savings:**
thanks to independent control for up to 6 zones
- ▶ **Easier installation and maintenance:**
simple and convenient ,with components installed outdoors.
- ▶ **Reduced consumption because it adapts to the requirements of each environment:**
it can be combined with 16 different types of indoor units
- ▶ **Greater flexibility:**
Connectable indoor unit power 75% to 120%, it is possible to combine different types of indoor units from 0.8 HP
- ▶ **Higher efficiency:**
it is equipped with two HITACHI inverters, the first controls the compressor, the second fan
- ▶ **Silent operation:**
noise reduction around the building



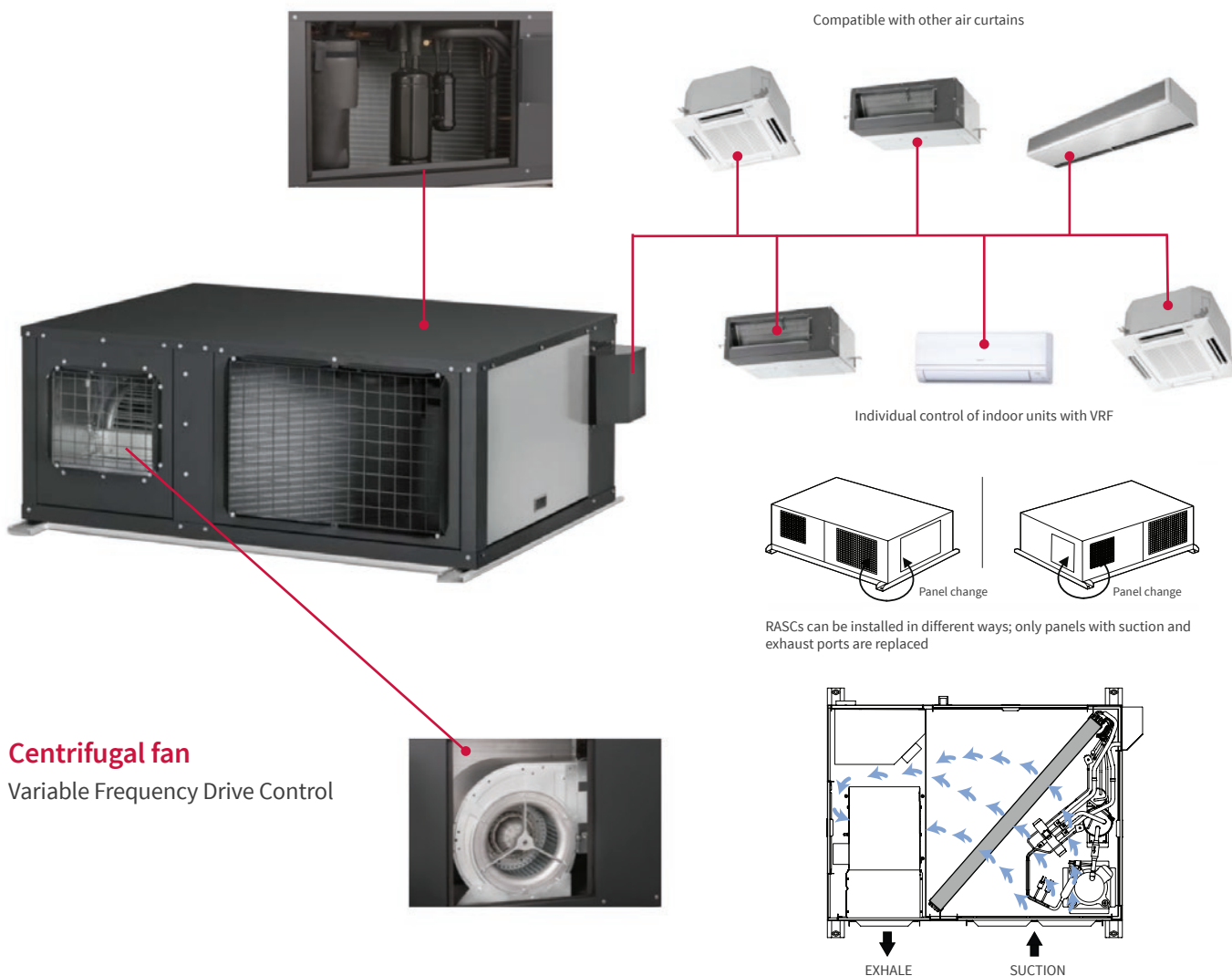
Hot Gas Bypass Technology

The time of continuous heating increases 40% versus the previous version



Outdoor unit with a centrifugal fan

It uses **HITACHI** high pressure vertical compressor, which guarantees the adjustable capacity coefficients characteristic of VRF systems.



Centrifugal fan

Variable Frequency Drive Control

RASC CENTRIFUGAL VRF

RASC CENTRIFUGAL VRF

RASC-4HNPE
RASC-5HNPE
RASC-6HNPE

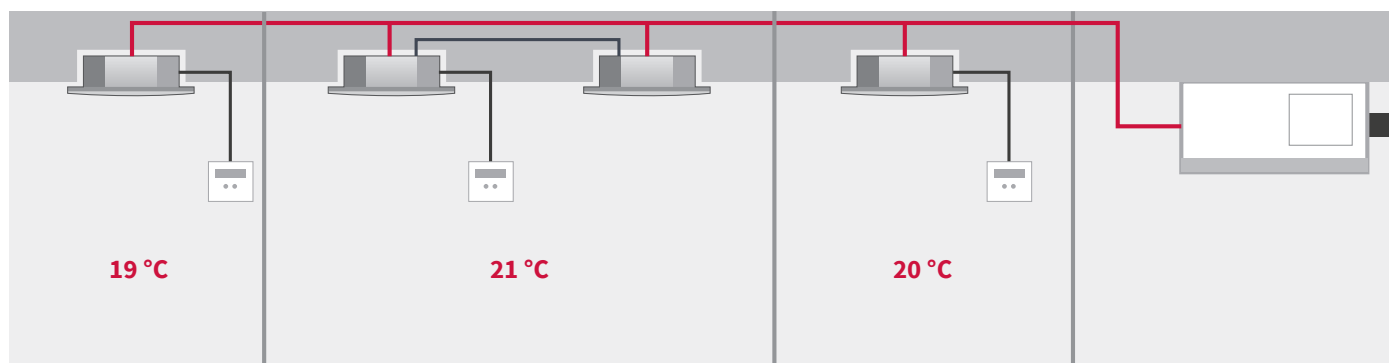


RASC-8HNPE
RASC-10HNPE

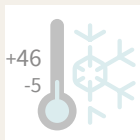
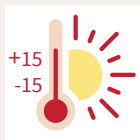


RASC Centrifugal were the first units with a radial fan on the VRF market

- ▶ High-pressure **HITACHI** vertical scroll compressor with 75% -120% range, offering cooling capacity from 7.5 kW to 30 kW
- ▶ Hot Gas Bypass Technology
- ▶ “Smart Defrost” control
- ▶ Centrifugal fan controlled by variable frequency drive (Variable Frequency Drive)
- ▶ Individual regulation of indoor units by VRF technology
- ▶ Up to 6 different indoor units (the smallest type 0.8 HP)
- ▶ Three-phase power supply
- ▶ Adjustable inputs / outputs
- ▶ Complies with the requirements of the ErP Class 11 Directive
- ▶ Compatible with other air curtains



Example of connection



Specifications

		RASC-4HNPE	RASC-5HNPE	RASC-6HNPE	RASC-8HNPE	RASC-10HNPE
Power supply	Ph/V/Hz	3N/400 V/50 Hz	3N/400 V/50 Hz	3N/400 V/50 Hz	3N/400 V/50 Hz	3N/400 V/50 Hz
Nominal cooling power (1)	kW	10.0	12.5	14.0	20.0	24.0
Nominal heating power (2)	kW	11.2	14.0	15.5	22.4	26.0
Operating current (Cooling / Heating)	A	4.8/4.7	6.4/6.6	8.2/9.2	11.9/11.2	14.5/13.7
Nominal power input (Cooling / Heating)	kW	2.99/2.95	3.98/4.12	5.09/5.74	7.41/7.00	9.02/8.52
EER/COP (4)		3.35/3.80	3.14/3.40	2.75/2.70	2.70/3.20	2.66/3.05
Energy Class		A/A	B/C	D/E	D/D	D/D
ESEER	W/W	6.65	6.41	6.19	6.15	6.13
Connectable min-max power	%	75–120	75–120	75–120	75–120	75–120
Number of indoor units max	N.	5	5	5	6	6
Sound pressure level Cooling / Heating (night operation) (3)	dB(A)	52–53 (48)	52–53 (48)	53–54 (49)	55–56 (51)	56–57 (52)
Sound power level at nominal power	dB(A)	71	71	72	74	75
Sound power level at nominal power (max)	m ³ /h	3300	3600	3600	6900	6900
Static pressure (nom/max)	Pa	56/90	72/100	100/100	84/120	102/120
Dimensions (HxWxD)	mm	555×1415×1015	555×1415×1015	555×1415×1015	620×1850×1360	620×1850×1360
Weight	kg	192	192	192	300	300
Operating temperature range for cooling	°C	-5/+46 (DB)	-5/+46 (DB)	-5/+46 (DB)	-5/+46 (DB)	-5/+46 (DB)
Range of operating temperatures during heating	°C	-15/+15 (WB)	-15/+15 (WB)	-15/+15 (WB)	-15/+15 (WB)	-15/+15 (WB)
Refrigerant precharge (R-410A)	kg (GWP eq Ton)	4.1 (8.56)	4.2 (8.76)	4.2 (8.76)	5.7 (11.90)	6.2 (12.94)
Minimum pipe length	m	5	5	5	5	5
Maximum piping length without additional refrigerant charge	m	30	30	30	30	30
Maximum pipe length (additional refrigerant charge)	m (g/m)	75 (60)	75 (60)	75 (60)	100 (according to the calculation)	100 (according to the calculation)
Maximum height difference (outdoor unit up / down)	m/m	30/20	30/20	30/20	30/20	30/20
Liquid piping diameter	mm (inch)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	12.7 (1/2)
Diameter of the gas pipe	mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	25.4 (1)	25.4 (1)

The above mentioned cooling and heating performance refers to outdoor units that are connected to indoor units at 100% capacity and are based on EN 14511.

(1) Cooling: indoor temperature 27 °C (19 °C WB) - outdoor temperature 35 °C; cooling pipe length 7.5 m; height difference 0 m.

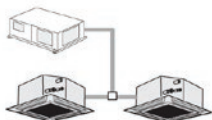
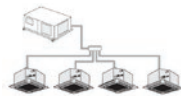
(2) Heating: indoor temperature 20 °C - outdoor temperature 7 °C (6 °C WB); cooling pipe length 7.5 m; height difference 0 m.

(3) The sound pressure level is measured according to EN12102 in the exhaust pipe.

(4) The COP and EER values apply to the connection to RCI cassette indoor units

RASC CENTRIFUGAL VRF

INDOOR UNIT COMBINATIONS

			1 Unit	2 Units		
Model	Indoor unit minimum capacity	Maximum number of connecting indoor units				
			Combination	Combination	Multikit	
RASC 4HNPE	0.8 HP	5	75–120 % from 3 to 4.8 HP	75–120 % from 3 to 4.8 HP	E-102SN4	
RASC 5HNPE	0.8 HP	5	75–120 % from 3.75 to 6 HP	75–120 % from 3.75 to 6 HP	E-102SN4	
RASC 6HNPE	0.8 HP	5	75–120 % from 4.5 to 7.2 HP	75–120 % from 4.5 to 7.2 HP	E-102SN4	
RASC 8HNPE	0.8 HP	6	75–120 % from 6 to 9.6 HP	75–120 % from 6 to 9.6 HP	E-162SN4	
RASC 10HNPE	0.8 HP	6	75–120 % from 7.5 to 12 HP	75–120 % from 7.5 to 12 HP	E-162SN4	
			4 Units			
			QUAD (*)			
Model	Indoor unit minimum capacity	Maximum number of connecting indoor units				
			Combination	Multikit	Piping connection	
RASC 4HNPE	0.8 HP	5	75–120 % from 3 to 4.8 HP	3 x E-102SN4	MH-84AN1	
RASC 5HNPE	0.8 HP	5	75–120 % from 3.75 to 6 HP	3 x E-102SN4	MH-84AN1	
RASC 6HNPE	0.8 HP	5	75–120 % from 4.5 to 7.2 HP	3 x E-102SN4	MH-84AN1	
RASC 8HNPE	0.8 HP	6	75–120 % from 6 to 9.6 HP	(*) The first pipe connection: E-162SN4 The next two MULTIKIT: E-102SN4	MH-84AN1	
RASC 10HNPE	0.8 HP	6	75–120 % from 7.5 to 12 HP	(*) The first pipe connection: E-162SN4 The next two MULTIKIT: E-102SN4	MH-84AN1	

(*) If the power ratio between the two OD branches of the first pipe connection is greater than 60/40%, use distribution in line.

(**) If more than 4 indoor units are connected, it is recommended to control the data listed in Table 1 to optimize the balance between indoor units.

TABLE 1

When installing multiple indoor units for connecting indoor units with minimal power and other indoor units to the same cooling circuit, refer to the data in this table

The largest indoor unit connected	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
The smallest indoor unit	HP	0.8			1.0			1.3			1.5	1.8	2.0

TABLE 2

When installing all RCI-FSN3 indoor units, the maximum power output is 100% and the maximum number of removable indoor units 4.

3 Units

TRIPLE		Distribution in line	
			
Combination	Multikit	Combination	Multikit
75–120 % from 3 to 4.8 HP	MH-84AN1	75–120 % from 3 to 4.8 HP	2 x E-102SN4
75–120 % from 3.75 to 6 HP	MH-84AN1	75–120 % from 3.75 to 6 HP	2 x E-102SN4
75–120 % from 4.5 to 7.2 HP	MH-84AN1	75–120 % from 4.5 to 7.2 HP	2 x E-102SN4
75–120 % from 6 to 9.6 HP	MH-84AN1	75–120 % from 6 to 9.6 HP	1 x E-162SN4 + 1 x E-102SN4
75–120 % from 7.5 to 12 HP	MH-84AN1	75–120 % from 7.5 to 12 HP	1 x E-162SN4 + 1 x E-102SN4

4 Units

5 Units

6 Units

Distribution in line		Distribution in line (**)		Distribution in line (**)	
					
Combination	Multikit	Combination	Multikit	Combination	Multikit
75–120 % from 3 to 4.8 HP	3 x E-102SN4	75–100 % from 3 to 4 HP	4 x E 102SN4	----	
75–120 % from 3.75 to 6 HP	3 x E-102SN4	75–100 % from 3.75 to 5 HP	4 x E 102SN4	----	
75–120 % from 4.5 to 7.2 HP	3 x E-102SN4	75–100 % from 4.5 to 6 HP	4 x E 102SN4	----	
75–120 % from 6 to 9.6 HP	2 x E-162SN4 + 1 x E-102SN4	75–100 % from 6 to 8 HP	3 x E-162SN4 + 1 x E-102SN4	75–100 % from 6 to 8 HP	4 x E-162SN4 + 1 x E-102SN4
75–120 % from 7.5 to 12 HP	2 x E-162SN4 + 1 x E-102SN4	75–100 % from 7.5 to 10 HP	3 x E-162SN4 + 1 x E-102SN4	75–100 % from 7.5 to 10 HP	4 x E-162SN4 + 1 x E-102SN4

TABLE 3

An external exchanger can be connected via a DX kit with up to 30% of the RASC condensing unit.

TABLE 4

For 8 and 10 HP systems, COMBINATION MONO is allowed; however, the following special combinations are also allowed for the RASC-10HNPE series:

SPECIAL PERMITTED COMBINATION

System with 2 indoor units	System with 3 indoor units
8.0 + 3.0	8.0 + 2.0 + 2.0
8.0 + 2.0	8.0 + 1.5 + 1.5
10.0 + 3.0	8.0 + 1.0 + 1.0
10.0 + 2.0	10.0 + 1.5 + 1.5
	10.0 + 1.0 + 1.0

Comments

If the parameters are close to the maximum (long pipe length, high altitude difference, etc.), it is recommended to follow the data in Table 1 (see notes) for maximum comfort.

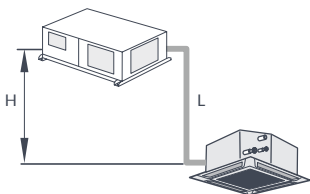
RASC CENTRIFUGAL VRF

SYSTEM SIZING - MONO, TWIN, TRIPLE, QUAD

Maximum lengths of the cooling pipe

	Units	4 HP	5 HP	6 HP	8 HP	10 HP
Maximum pipe length between the RASC and the furthest inner unit	Actual pipe length (L)		75		100	
	Equivalent pipe length (EL)		95		125	
Total maximum pipe length	2 indoor units (A + B + C)		85		100	115
	3 indoor units (A + B + C + D)		95		100	130
	4 indoor units Case a) (A + B + C + D + E + F + G)		95		100	145
	4 indoor units Case b) (A + B + C + D + E)		-		100	145
	2 indoor units (A + B + C)		10		15	
Maximum pipe length between the pipe connection and the indoor unit	3 indoor units (A + B + C + D)		10		15	
	4 indoor units Case a) (A + B + C + D + E + F + G)		10		15	
	4 indoor units Case b) (A + B + C + D + E)		-		15	
	2 indoor units (A + B + C)		10		15	
The maximum height difference between the RASC and the indoor unit (H)	RASC unit higher than indoor unit			30		
	Indoor unit higher than RASC			20		
Maximum height difference between indoor units				10		
Maximum height difference between pipe joints / pipe joints and indoor units				3		
The difference in the lengths of the pipe sections must not be greater than the one shown below					(4/10) HP (m)	
2 indoor units			(B-C)		8	
3 indoor units			(B-C, B-D, C-D)			
			(B+(D o E)) - (C+(F o G))			
4 indoor units	Case a)		(D-E)			
			(F-G)			
	Case b) only for (8/10) HP		(B-C, B-D, B-E, C-D, C-E, D-E)			

System with 1 indoor unit

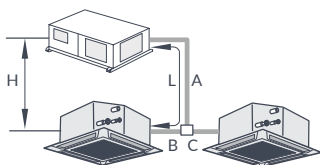


RASC capacity	Tube diameter (L) (mm)	
	Gas	Liquid
(4-6) HP	Ø 15.88	Ø 9.52
8 HP (*)	Ø 25.4	Ø 9.52
10 HP (**)	Ø 25.4	Ø 12.7

(*) The RPI-8.0 HP Indoor Unit comes with 1 reduction:
- Reduction of the gas pipe: from Ø 19.05 to Ø 25.4

(**) The RPI-10.0 HP Indoor Unit comes with 2 reductions:
- Reduction of gas pipes: Ø 22,2n and Ø 25.4
- Liquid line reduction: from Ø 9.52 to Ø 12.7

System with 2 indoor units

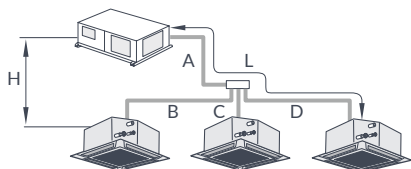


RASC capacity	Tube diameter (A) (mm)		Piping connection
	Gas	Liquid	
4 HP	Ø 15.88	Ø 9.52	E-102SN4
(5/6) HP	Ø 15.88	Ø 9.52	E-102SN4
8 HP	Ø 25.4	Ø 9.52 (*)	E-162SN4
10 HP	Ø 25.4	Ø 12.7	E-162SN4

(*) If the pipe length exceeds 70 m for the 8 HP model, use a liquid pipe Ø 12.7 and the corresponding pipe joint.

Indoor unit capacity	Tube diameter (B, C) (mm)	
	Gas	Liquid
(0.8-1.5) HP	Ø 12.7	Ø 6.35
(1.8/2.0) HP	Ø 15.88	Ø 6.35
(2.3-6.0) HP	Ø 15.88	Ø 9.52
8.0 HP	Ø 19.05	Ø 9.52
10.0 HP	Ø 22.20	Ø 9.52

System with 3 indoor units



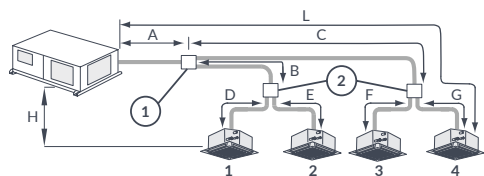
(*) If the pipe length (A + B or A + C or A + D) exceeds 70 m for the 8 HP model, use a liquid pipeline with Ø 12.7

RASC capacity	Tube diameter (A) (mm)		Piping connection
	Gas	Liquid	
(4-6) HP	Ø 15.88	Ø 9.52	MH-84AN1
8 HP	Ø 25.4	Ø 9.52 (*)	MH-84AN1
10 HP	Ø 25.4	Ø 12.7	MH-84AN1

Indoor unit capacity	Tube diameter (B, C) (mm)	
	Gas	Liquid
(0.8-1.5) HP	Ø 12.7	Ø 6.35
(1.8/2.0) HP	Ø 15.88	Ø 6.35
(2.3-6.0) HP	Ø 15.88	Ø 9.52
8.0 HP	Ø 19.05	Ø 9.52
10.0 HP	Ø 22.20	Ø 9.52

System with 4 indoor units

■ Case a)



(*) If the pipe length (A+B+(C or D) or A+C+(F or G)) exceeds 70 m for the 8 HP model, use Ø 12.7 pipe.

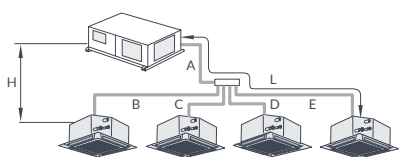
RASC capacity	Tube diameter (A) (mm)		Piping connection
	Gas	Liquid	
4/5/6 HP	Ø 15.88	Ø 9.52	E-102SN4
8 HP	Ø 25.4	Ø 9.52 (*)	E-162SN4
10 HP	Ø 25.4	Ø 12.7	E-162SN4

Total capacity of the indoor unit on the first box (1+2) O (3+4)	Tube diameter (B, C) (mm)		Piping connection
	Gas	Liquid	
(0.8-1.5) HP	Ø 12.7	Ø 6.35	E-102SN4
(1.8/2.0) HP	Ø 15.88	Ø 6.35	E-102SN4
≥ 2.3 HP	Ø 15.88	Ø 9.52	E-102SN4

Indoor unit capacity	Tube diameter (D, E, F, G) (mm)	
	Gas	Liquid
(0.8-1.5) HP	Ø 12.7	Ø 6.35
(1.8/2.0) HP	Ø 15.88	Ø 6.35
≥ 2.3 HP	Ø 9.52	Ø 6.35

It is not possible to connect using indoor units with the power of 8.0 HP and 10.0 HP

■ Case b)



(*) If the pipe length (A+B or A+C or A+D or A+E) exceeds 70 m for the 8 HP model, use Ø 12.7 pipe. Only possible for outdoor units with power of 8 and 10.0 HP

RASC capacity	Tube diameter (A) (mm)		Piping connection
	Gas	Liquid	
8 HP	Ø 25.4	Ø 9.52 (*)	MH-84AN1
10 HP	Ø 25.4	Ø 12.7	MH-84AN1

Indoor unit capacity	Tube diameter (D, E, F, G) (mm)	
	Gas	Liquid
(0.8-1.5) HP	Ø 12.7	Ø 6.35
(1.8/2.0) HP	Ø 15.88	Ø 6.35
≥ 2.3 HP	Ø 15.88	Ø 9.52

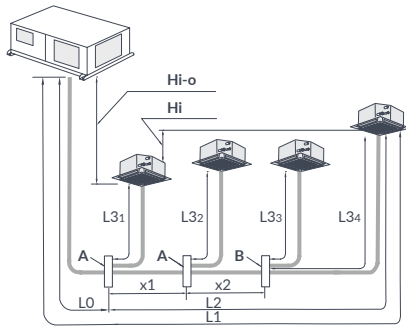
It is not possible to connect using indoor units with the power of 8.0 HP and 10.0 HP

RASC CENTRIFUGAL VRF - DISTRIBUTION IN LINE

Maximum lengths of the cooling pipe

Units		4 HP	5 HP	6 HP	8 HP	10 HP
Maximum pipe length between the RASC and the furthest inner unit	Actual pipe length (L1)		75		100	
	Equivalent pipe length (EL)		95		125	
Total maximum pipe length (L1+ L31 + L32 +... + L3n-1)			95		100	145
Maximum pipe length from the first pipeline to the outermost unit (L2)			30		40	
Maximum pipe length between pipe connection and indoor unit (L31, L32, L33..., L3n)			10		15	
The maximum height difference between the RASC and the indoor unit (Hi-o)	RASC unit higher than indoor unit			30		
	Indoor unit higher than RASC			20		
Maximum height difference between indoor units (Hi)				10		
Maximum height difference between pipe joints / pipe joints and indoor units				3		

Installation of pipe branches



RASC capacity	Tube diameter (L0, X1, X2) (mm)		Piping connection A	Piping connection B
	Gas	Liquid		
(4-6) HP	Ø 15.88	Ø 9.52	E-102SN4	E-102SN4
8 HP	Ø 25.4	Ø 9.52 (*)	E-162SN4	E-102SN4
10 HP	Ø 25.4	Ø 12.7	E-162SN4	E-102SN4

(*) In the case of combinations with 10.0 HP internal units, only one of two E-102SN4E coupling connections allows a 22.2 mm diameter pipe that corresponds to a 10 HP indoor unit. Note this limitation when installing this size of the indoor unit.

Indoor unit capacity	Tube diameter (D, E, F, G) (mm)	
	Gas	Liquid
(0.8-1.5) HP	Ø 12.7	Ø 6.35
(1.8/2.0) HP	Ø 15.88	Ø 6.35
(2.3-6.0) HP	Ø 15.88	Ø 9.52

(*) In the case of combinations with 10.0 HP internal units, only one of two E-102SN4E coupling connections allows a 22.2 mm diameter pipe that corresponds to a 10 HP indoor unit. Note this limitation when installing this size of the indoor unit.

Combination of diameters and pipe lengths

Pipe length between RASC and the furthest inner unit (m)

Operating performance	Liquid	Ø 6.35		Ø 9.52					Ø 12.70					Ø 15.88		
	Gas	Ø 15.88	Ø 19.05	Ø 12.70	Ø 15.88	Ø 19.05	Ø 22.20	Ø 25.40	Ø 15.88	Ø 19.05	Ø 22.20	Ø 25.40	Ø 28.58	Ø 22.20	Ø 25.40	Ø 28.58
(4–6) HP		5 ² *	5 ² *	40 ¹ *	75	50 ⁴ *	-	-	30 ³ *	30 ³ *4*	-	-	-	-	-	-
8 HP		-	-	-	-	50 ¹ *4*6*	50 ¹ *6*	70 ⁵ *6*	-	50 ¹ *3*4*	50 ¹ *3*	100		50 ¹ *3*	50 ³ *	
10–12 HP		-	-	-	-	-	-	-	-	-	50 ¹ *	100	50	50 ¹ *3*	50 ³ *	50 ³ *

COMMENT

- (1) If the Gas Diameter is reduced, the cooling capacity is also reduced due to the increase in the pressure drop and the operating range is also reduced.
- (2) If the diameter of the liquid line is reduced, the operating range is also reduced due to the expansion valve performance. In these cases, set to ON pin # 1 for DSW2.
- (3) If the Liquid Pipe Diameter increases, additional refrigerant must be added.
- (4) If the Gauge Diameter Ø 19.05 (Soft Copper) is set, position ON pin 4 on the DSW2 in the PCB RASC.
- (5) If the pipe length is greater than 70 m for the 8 HP model, use a liquid pipe Ø 12.7.
- (6) If the recommended number of interconnected indoor units (more than 4 units) is exceeded, use a liquid pipe with Ø Ø 12.7.

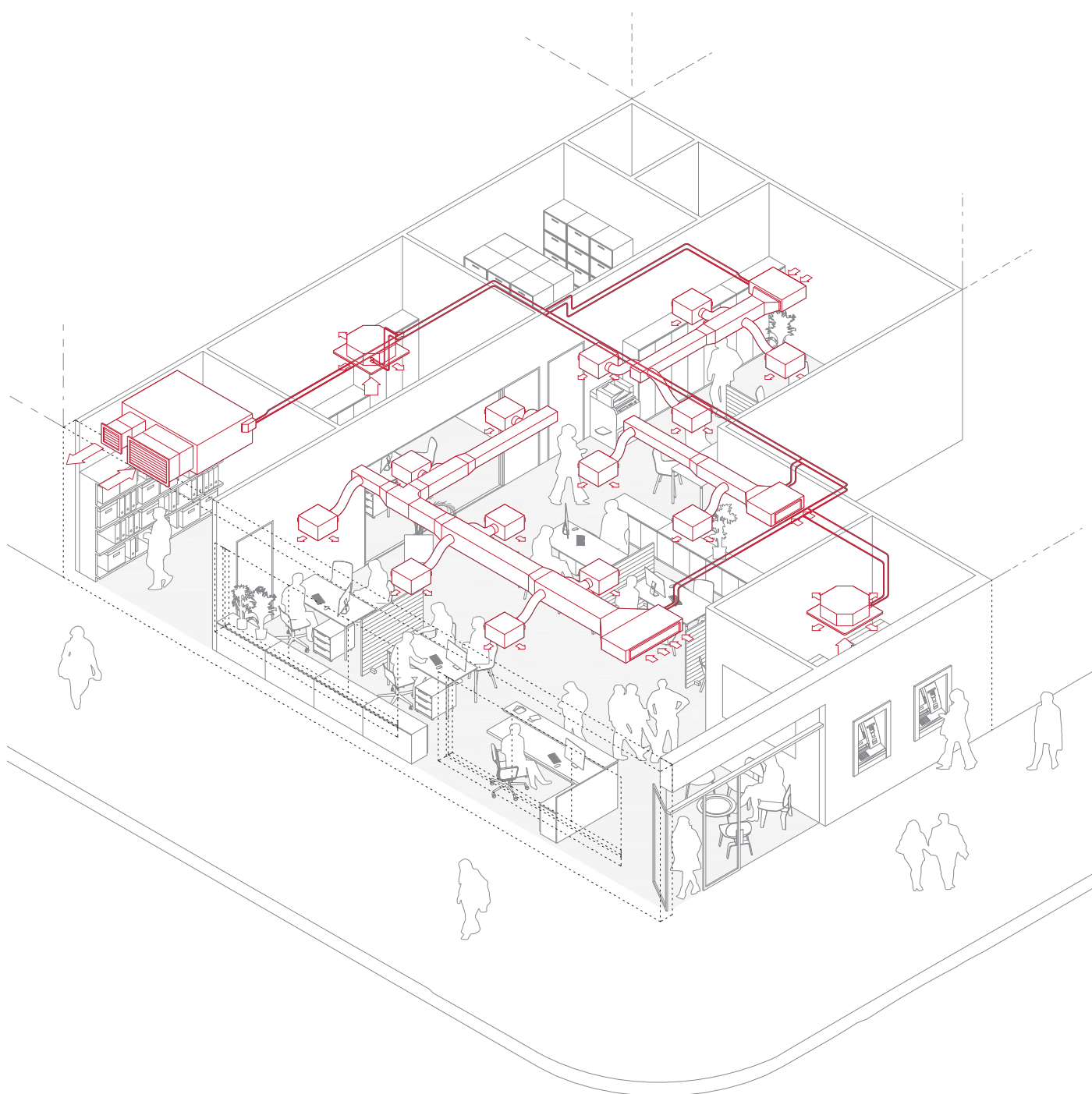
Recommended

Equivalence table inches - mm

Inches mm	Inches mm	Inches mm	Inches mm	Inches mm	Inches mm	Inches mm	Inches mm
1/4" 6.35	3/8" 9.52	1/2" 12.7	5/8" 15.88	3/4" 19.05	7/8" 22.2	1" 25.4	1 1/8" 28.58

Installation centrifugal VRF in a bank branch at street level.

- ▶ Installed in false ceiling, hidden in the facade.
- ▶ Indoor units of different typologies, depending on the use of each space.
- ▶ Independent control of each indoor unit for the comfort of different users.
- ▶ The unit consumes in accordance with the demands of each space.



HITACHI JOHNSON CONTROLS

TANGRA - AV LTD.

Bulgaria, 1331 Sofia,
Europe blvd. 174

T: 00359 2 925 05 99

e-mail : sales@tangra.bg

www.tangra.bg

HITACHI. CERTIFIED QUALITY



HITACHI. TOTAL WARRANTY ON COMPRESSORS



www.tangra.bg

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

**Find the products Hitachi
C&H with the best service
and conditions at your
Hitachi Distributor.**