HITACHI

# SideSmart

Variable Refrigerant Flow system Slim Modular outdoor units Air source heat pump type



## Air. It's a wonderful thing.

Invisible, silent and life-giving, air makes our entire world possible. It surrounds us, continuously energizing, cooling and warming. It can be unpredictable and sometimes challenging, but when air is in harmony with us, everything seems that much easier.

This is our vision. To create the air that makes life better.

#### Living Harmony

At Hitachi Cooling & Heating we like to think of this as creating harmony with your interior environment.
When we achieve that wonderful balance, productivity, learning, happiness and health can thrive. We call this 'Living Harmony' and it's at the center of everything we do.

### The future together

Living Harmony puts people first. By balancing the human needs of our customers with an uncompromising approach to innovation and quality, we can continue to create the technologies for a more comfortable and balanced world. Your world. We live in it together.

### The beauty of balance

No matter what the weather is like outside, when you're indoors, you want to have complete control over your environment. At work or play, awake or asleep, you're free to create your own atmosphere; balancing energy with calm, sound with silence and light with shade.

It's the same for cooling and heating. When the air around you is in balance, you can enjoy life indoors that much more.





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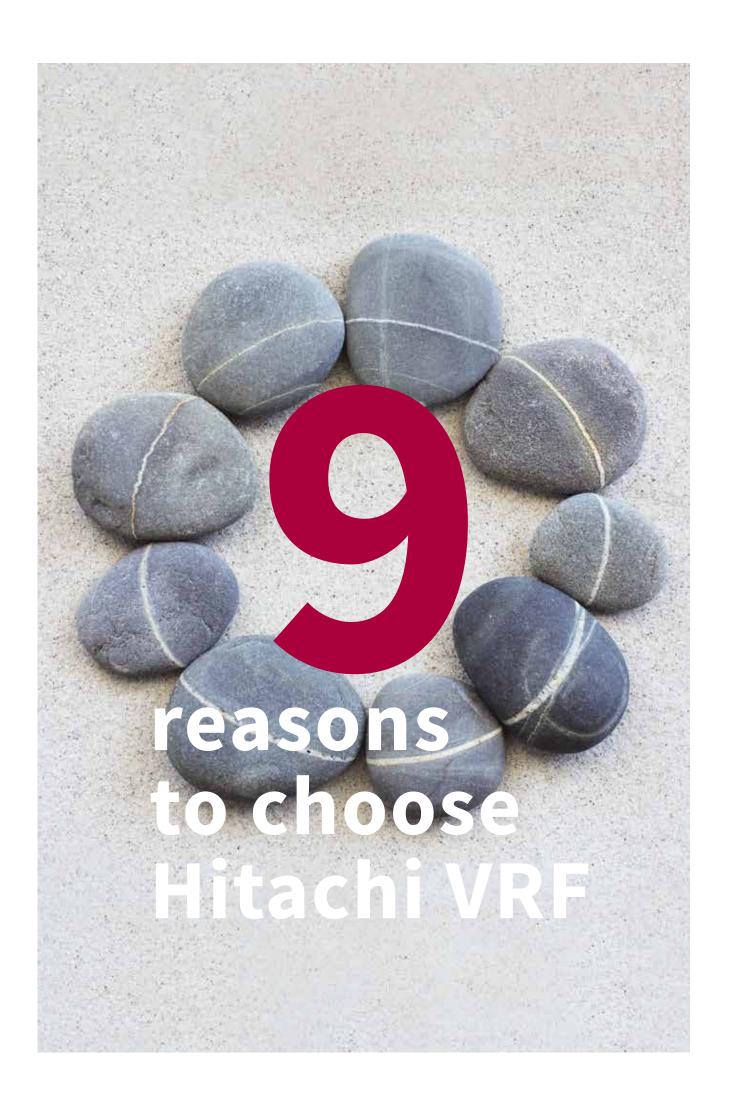
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#### Worlwide trusted band

Engineered with precision in Japan, Hitachi has been one of the best-selling VRF brands around the world since our first launch in 1983.



### HVAC professionals: We care about you

Each of our VRF equipment is carefully designed for ease of installation and maintenance. Piping routes, access to components, condensate management ... our products make your job easy!



### Advanced features, more comfort for the occupants

From exclusive GentleCool temperature control function to 4-way cassette with individual louver control, our VRF systems embed various features to enhance the well-being of occupants, based on their needs.



### Welcome to our "Central Stations"

Hitachi Cooling & Heating's best-in-class & acclaimed range of centralized controllers makes VRF system control easy. Our various Central Stations models can suit all types of user profiles and system sizes, so that every operator can control and adjust operations as they wish.



## SmoothDrive<sup>™</sup>: patented technology for unique benefits

Our exclusive SmoothDrive<sup>™</sup> VRF compressor control technology provides unrivaled efficiency and comfort. Our systems meet the most stringent energy efficiency regulatory standards. But they do more than that. Thanks to SmoothDrive<sup>™</sup>, you can save more energy during partial load conditions, reflecting the real life usage of VRF systems. When some indoor units are turned off, when the outdoor temperature changes, when the indoor temperature reaches comfortable level ... SmoothDrive<sup>™</sup> provides extra savings and comfort, for which Hitachi VRF was awarded with energy-efficiency prizes in Japan.



### **air**Cloud pro, the new generation of monitoring (exclusive!)

From your smartphone or web, manage your VRF systems in full simplicity. Operators can select zones and adjust AC operation, or track systems errors remotely. airCloud Pro can accomodate an unlimited number of VRF systems and an unlimited number of users.



#### A solution for every project

From small shops to skyscrapers, from snowy days to scorchers, there's always a Hitachi VRF solution for you. Our offer provides great flexibility with several options when it comes to: multiple types of outdoor units and indoor units, piping distance, adaptive external static pressure, along with a variety of controllers for each type of user.



### Support building owners with multiple tenants

Our exclusive Central Station EX enables owners to easily manage each tenant's air conditioning electricity consumption and invoicing. Several calculation methods are available for better accuracy.



### Demand response energy management

Smart cities, smart buildings... and smart Hitachi VRF systems! Discover our two advanced power-saving functions: peak-load cut to prevent peak demand, and capacity moderation to reduce the power input demand. In addition, the large majority of our controls provide simplified scheduling capabilities, so that users can schedule to save energy according to their utility plan.

#### Complete VRF offer

Select and combine as you need!

#### Versatile Outdoor units

- Top flow modular
- Side flow "mini"
- $\bullet \ \mathsf{SideSmart}^{\mathsf{TM}} \ \mathsf{modular} \ (\mathsf{exclusive})$
- 3 types: Cooling only, heat pump (2-pipes), heat recovery (3-pipes)

#### Variety of indoor units

- Over 30 models available around the globe
- Wide range of ceiling cassettes and ducted units for all types of configuration
- Ventilation
- Air Handling Unit Integration to Hitachi VRF

#### User-friendly controls

- Central Stations: large choice of interfaces for simple centralized control operations
- Individual controllers: various of types
- airCloud Pro: cloud-based monitoring available via smartphone app and web

<sup>\*</sup>Product availability varies across countries. Please visit www.hitachiaircon.com or contact your local Hitachi Cooling & Heating representative to receive more information.



# Striving for innovative VRF technology!

Meet SideSmart<sup>™</sup>, our latest innovation in the Hitachi VRF family. Offering unprecedented flexibility and high efficiency, SideSmart<sup>™</sup> will delight HVAC professionals, while it delivers to end-users the comfort they deserve.

10	THE WORLD'S FIRST SLIM MODULAR VRF						
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### The world's first slim modular VRF!

SideSmart<sup>™</sup> is an exclusive solution, offering until now an unseen combination of benefits: performance equaling large top-flow units, with slim modular units which can fit anywhere.



#### CONCEPT

Modularity with great performance Benefit from the highest level of Hitachi VRF efficiency

#### DESIGN

Connectable slim side-flow modules

For the first time, side-flow slim units can be connected to combine their capacities

#### CONFIGURATION

Can be installed on different floors ... thanks to flexibile

... thanks to flexibile capacities and options for indoor locations.

#### SPACE LAYOUT

Save building space Reserve your rooftop for other purposes, and optimize your indoor layout

#### INVESTMENT

Save cost at every stage

Fewer piping runs, a simplified installation and energy-saving operation.

#### Modular combination & superior efficiency.

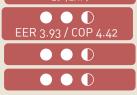
Economy combinating (Base single cabinet: 8- (Modular combination 20-72HP)

Energy efficiency\*1

Footprint

Initial cost

Standard combination
(Base single cabinet: 10-18HP)
(Modular combinations: 20-72HP)



Premium combination
(Base single cabinet: 8-12HP)
(Modular combinations: 16-48HP)



For more information and specifications, please go to page xx. Please refer to the Technical Catalog for more details.





Single Cabinet		HP	8	10	12	14	16	18
Dimensions (H x		mm	1,650 x 1,050 x 420			1,650 x 1,190 x 420		
Net Weight 380-415V		kg	185	197	203	219	225	225
Cooling Capacity		kW	22.4	28.0	33.5	40.0	45.0	50.0
Heating Capacity		kW	25.0	31.5	37.5	45.0	50.0	54.0
	EER (Cooling)		4.51	4.26	4.27	3.85	3.79	3.54
Performance	COP (Heating)		4.92	4.44	4.68	4.40	4.41	3.90
Air Flow Volume		(m³/min)	160	185	200	250	258	258
Noise level dB(A)	SPL*1 (Cooling/ Heating)	dB(A)	55/56	59/60	60/62	60/61	62/64	62/64

<sup>\*1</sup> SPL is measured by an anechoic room, so that reflected sound should be taken into consideration in the field.



# SideSmart<sup>™</sup> key figures.

#### 3 patents

A true innovation! Only SideSmart<sup>™</sup> can achieve this level of flexibility & efficiency:

- · Round-shaft motor clamp.
- Tandem sub-cooling system.
- Heating rapid-start technology.

#### From 1 to 4 modules

Combine and connect up to 4 modules together!

#### -13% refrigerant charge

A lower amount of refrigerant is required compared to our VRF systems with top-flow outdoor units.

#### Up to 500m of piping

It adapts to your building's layout, with up to 500m of total piping runs and up to 120m between outdoor units and indoor units. Up to 150m equivalent distance between outdoor unit and indoor unit.

#### 20 types of indoor units

SideSmart<sup>™</sup> is compatible with as many as 20 types of Hitachi indoor units, featuring the most advanced indoor comfort innovations.

#### Extra savings at <40% part-load

Hitachi exclusive SmoothDrive<sup>™</sup> micro-precision technology boosts energy efficiency during part-load operation, to meet real life conditions.

#### 20HP to 72HP

With our various modules, SideSmart<sup>™</sup> offers a vast array of capacities.

#### 42cm slim

SideSmart<sup>™</sup> modules are only 42cm deep, so they can fit even in narrow spaces.

#### EER average of 4.32

SideSmart<sup>™</sup> delivers the same astonishing level of energy savings as the largest VRF systems:

- Single cabinet 8HP EER up to 4.51.
- EER 4.32 / COP4.70 average for premium combination.

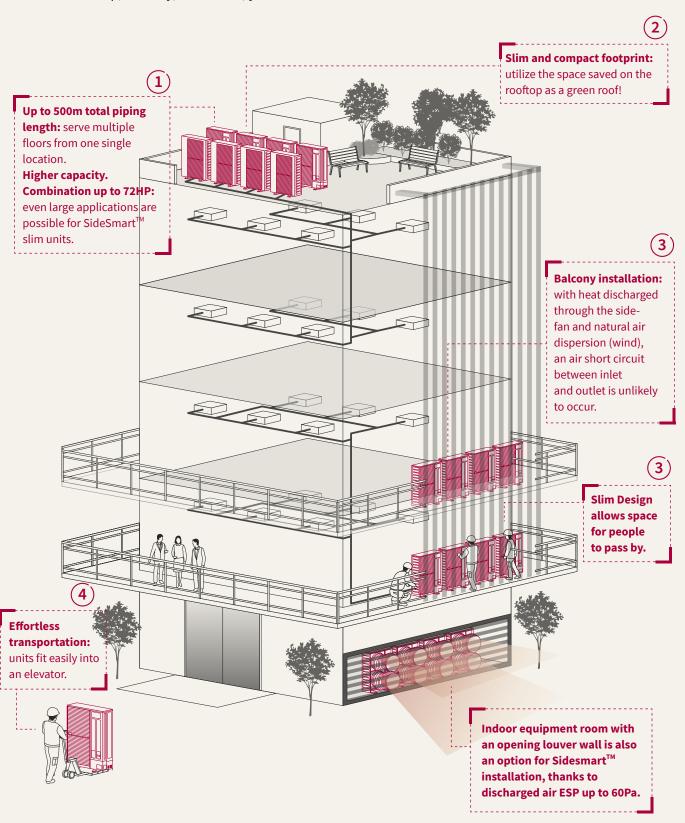
#### 100% preserved rooftop

By choosing to install SideSmart<sup>™</sup> in the building's floors, your rooftop will be free of air conditioning equipment.

### SideSmart<sup>™</sup>: the power of ubiquity

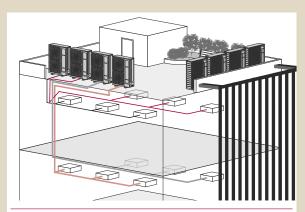
#### Anywhere & everywhere!

Thanks to its slim modular design, SideSmart<sup>™</sup> offers unrivaled flexibility of installation location. Save your building's most valuable area, and place SideSmart<sup>™</sup> in the small narrow spaces of your building. On the rooftop, balcony, or indoors; you choose!



#### DISCOVER THE SIDESMART<sup>TM</sup> ADVANTAGES!

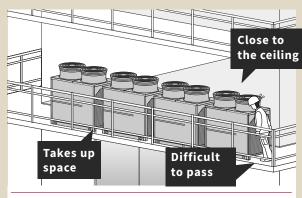
#### **1** SideSmart<sup>™</sup> requires fewer pipes.



Compared with: conventional side-flow VRF.

One outdoor unit covers one floor, so more piping is needed. Maximum piping length is not sufficient to reach the 1st floor.

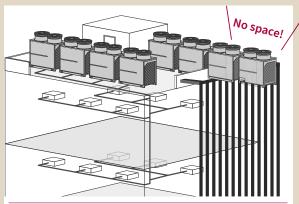
When installed on the balcony, since the air comes out to the front of SideSmart<sup>™</sup>, air short circuits are not likely to occur.



#### Compared with: conventional top-flow VRF.

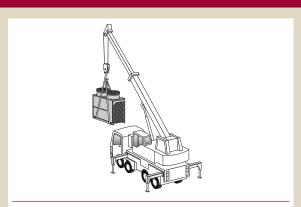
The cabinet is too voluminous. People cannot walk around them on a balcony. Air short circuits are likely to occur, because the air discharge is too close to the ceiling.

#### **2** SideSmart<sup>™</sup> saves space!



Compared with: conventional top-flow VRF.
Each outdoor unit has a larger footprint and takes up significant space. Contrary to the slim SideSmart<sup>™</sup>, 8 units cannot fit in the roof.

4 SideSmart<sup>™</sup> is a size that can be carried by an elevator.

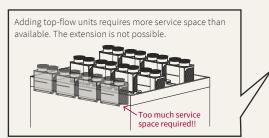


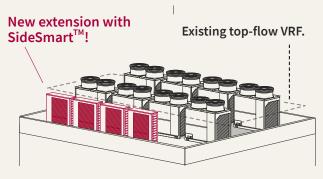
Compared with: conventional top-flow VRF.

Units cannot be lifted by humans. A crane is necessary.

Ideal for extensions: complement your existing VRF system with SideSmart<sup>™</sup>.

If only narrow space remains to extend to an existing top-flow system,  $SideSmart^{TM}$  is the ideal solution.



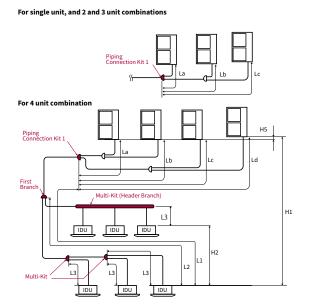


Flexibility: meet your project requirements.

#### **GREAT PIPING FLEXIBILITY**

- Suitable for a medium-size buildings or complex facilities.
- Leads to cost & time saving for designers, with improved system design efficiency.

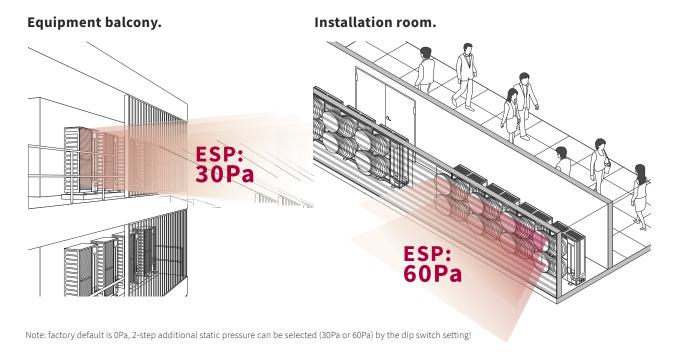
				MARK
	Total	m	500	-
	From (Piping Connection Kit 1)	m	120 (Actual)	L1
Maximum	to the furthest IDU	m	150 (Equivalent)	
Piping Length	Between (Piping Connection Kit 1) and each ODU	m	10	La, b, c, d
	Between (First Branch) and the furthest IDU	m	90	L2
	Between each (Multi-Kit) and each IDU	m	40	L3
	Between ODUs	m	0.1	H5
	Between ODU and IDU (ODU above IDU)	m	50	H1
Height Difference	Between ODU and IDU (IDU above ODU)	m	40	
	Between IDUs	m	30	H2



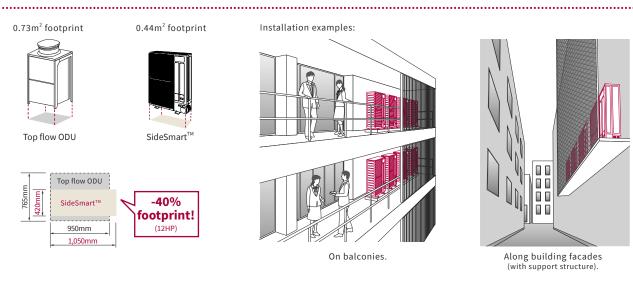
#### ESP: FLEXIBLE INDOOR INSTALLATION

SideSmart<sup>™</sup> can also be accommodated indoors, thanks to its external static pressure options up to 60Pa.

- Effective heat discharge to the outside is ensured.
- SideSmart<sup>™</sup> units are completely invisible from the building facade.



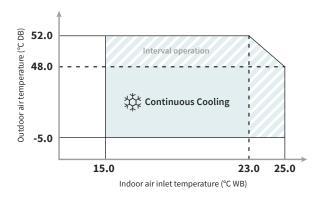
#### **SLIM FOOTPRINT**



#### FOR ALL CLIMATES

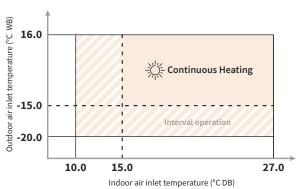
#### Cooling operation from up to 52°C ambient temperature.

- Stable running up to 48°C.
- Interval running up to 52°C.



#### Heating operation from as low as -20°C ambient temperature.

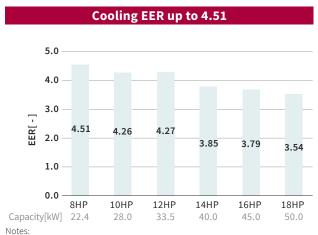
- Stable running from as low as -15°C.
- Interval running from as low as -20  $^{\circ}\text{C}.$

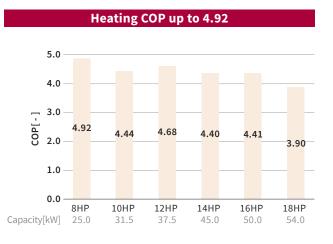




Small size, yet maximal efficiency.

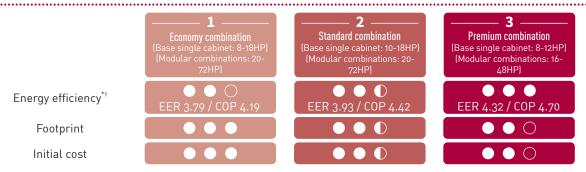
#### SIDESMART<sup>™</sup> OFFERS SUPERIOR EFFICIENCY





- 1. EER and COP does not include Indoor unit power consumption.
- This performance is achieved by 4 way cassette combination. For more details about IDU specifications, please refer to the Technical Catalog
- 3. Above ratio is on single cabinet (standard combination & economy combination).

#### Modular combination & superior efficiency.



For more information and specifications, please go to page xx. Please refer to the Technical Catalog for more details.



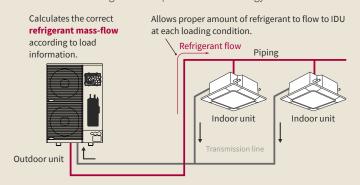
#### Improved operation.

#### SMOOTHDRIVE<sup>TM</sup>: SUPERIOR COMPRESSOR CONTROL

You can realize that we want to bring true value to your customers. Meeting high energy efficiency standards is one thing, but on top of that, SmoothDrive™ supports energy savings in real-life conditions, since real life changes constantly.

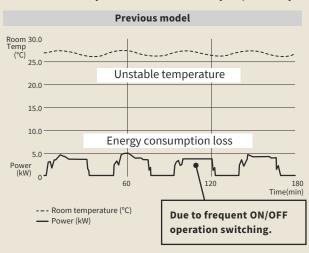
#### How does SmoothDrive<sup>™</sup> work?

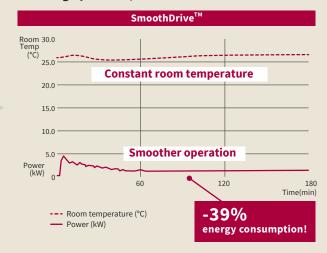
Brushing up existing variable evaporating/condensing temperature control, SmoothDrive $^{\text{TM}}$  directly regulates refrigerant amount mass-flow, thanks to Hitachi's original load-speculation technology.



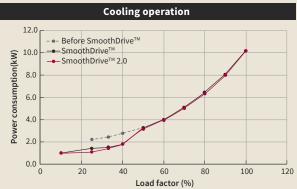
- SmoothDrive<sup>™</sup> helps the scroll compressor to run continuously and smoothly even at part-load condition.
- Our original load-speculation technology helps reduce energy loss caused by scroll compressor switching on/off.
- Consequently, constant room temperature & energy savings can be achieved.

#### Actual new compressor control example (at 33% part load in cooling operation).

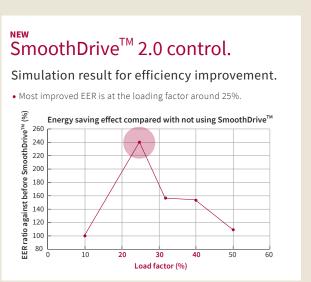




#### Simulation result for all load conditions.



- · Difference in power consumption versus load factor.
- Power consumption is reduced when the load factor is 40% or less (note: 40% break point could be changed for different indoor space/ thermal inertia).
- The effect of SmoothDrive  $^{TM}$  2.0 Control is only seen at load levels greater than 10% of loading factor.

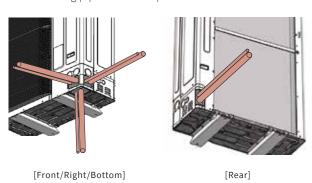


Reliability: enjoy peace of mind.

#### RFLY ON US AND FNJOY YOUR PFACE OF MIND

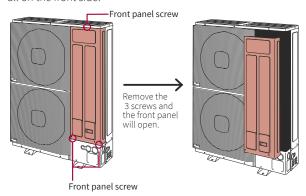
#### Piping options in 4 directions.

Depending on the installation situation, installers can choose from 4 running pipe direction options.



#### Easier removal of front service cover.

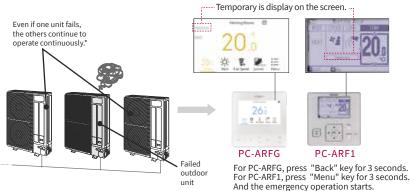
The screws you need to open/close the front service cover are all on the front side.



#### BACKUP OPERATION FEATURE FOR EMERGENCIES

#### When 2 or more modules are combined:

- The backup operation function prevents the system from coming to a complete stop if outdoor unit failure occurs.
- If one module unit should fail, the system can continue to operate using the remaining modules.
- An alarm is triggered and emergency operation can be activated via an individual remote control.
- At least 2 module units (as a combined unit) are required for this feature.
- Emergency operation can be performed within 8 hours following unit stoppage.

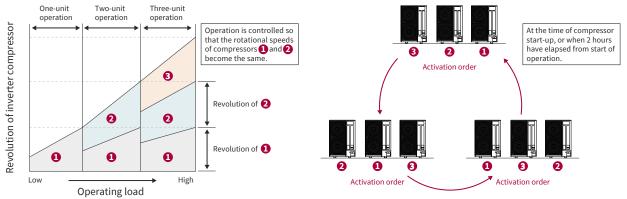


Emergency operation can be performed within 8 hours after unit stoppage.
Emergency operation cannot be performed once 8 hours have elapsed since unit stoppage.

#### ROTATIONAL OPERATION TO DISTRIBUTE OUTDOOR UNITS LOAD

Regulating the operation time of each outdoor unit'1 leads to load reduction on compressors." During multiple unit operation, maintaining the same rotation frequency of the compressors results in an equivalent load on each compressor, thereby helping enhance outdoor unit durability.

#### Compressor rotation frequency control (example).



- \*1 At least 2 outdoor units are required for this function.
  \*2 Comparison between the rotation operation function and non-rotation operation function based on the same system.

# Connect SideSmart<sup>™</sup> to **air**Cloud Pro and monitor your system from anywhere.

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For stand-alone and multi-site applications.



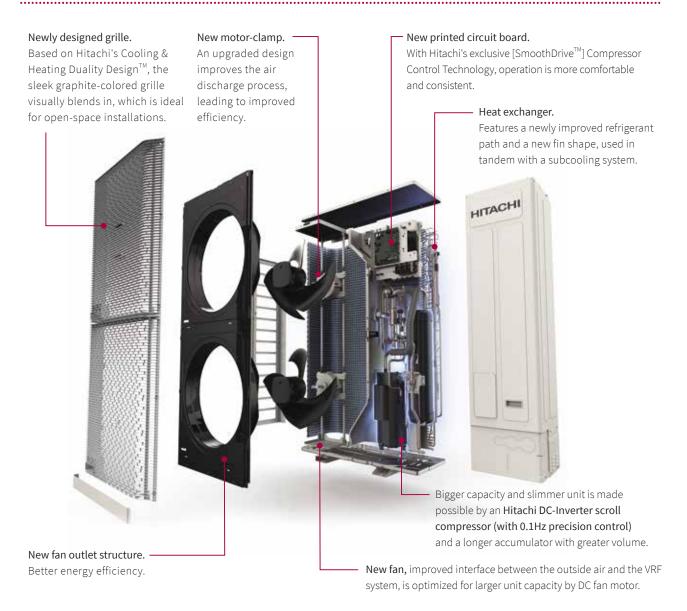
Please refer to p90-91

Note: SideSmart<sup>™</sup> monitoring with airCloud Pro available from May 2021.



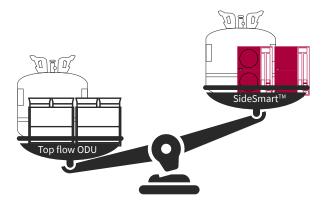
Improved components.

#### A NEW DESIGN

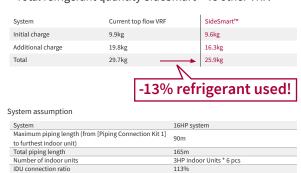


#### LESS REFRIGERANT, LESS CO2-EQ EMISSIONS

Enjoy Hitachi's VRF performance with smaller amounts of refrigerant, thanks to the new tandem subcooling system leading to improved heat exchange.



Total refrigerant quantity SideSmart<sup>™</sup> vs other VRF.





### **Specifications**

#### SINGLE CABINET

HP Model Name			8HP RAS-080HNCEL(/R) W	10HP RAS-100HNCEL(/R) W	12HP RAS-120HNCEL(/R) W	14HP RAS-140HNCEL(/R) W	16HP RAS-160HNCEL(/R) W	18HP RAS-180HNCEL(/R)W
		Unit-1	-	-	-	-	-	-
Modules for S	orioc	Unit-2	-	-	-	-	-	-
Modules for 5	ciles	Unit-3	_	-	-	-	-	-
		Unit-4	-	-	-	-	-	-
Power Supply		V/Ph/Hz		380-41	15V/3Ph/50Hz, 380V/	3Ph/60Hz (R: 220V/3	Ph/60Hz)	
Capacity	Cooling	kW	22.4	28.0	33.5	40.0	45.0	50.0
	Heating	kW	25.0	31.5	37.5	45.0	50.0	54.0
Power Input	Cooling	kW	4.97	6.58	7.84	10.40	11.88	14.14
ower input	Heating	kW	5.08	7.10	8.02	10.23	11.35	13.86
Efficiency	EER	kW/kW	4.51	4.26	4.27	3.85	3.79	3.54
Linicicity	COP	kW/kW	4.92	4.44	4.68	4.40	4.41	3.90
Air Flow Rate		m³/min	160	185	200	250	258	258
Max. Current		A	18	21	27	32	36	40
	220V/3Ph/60Hz	Α	31	39	49	53	60	66
Dimensions	H×W×D	mm	1650×1050×420	1650×1050×420	1650×1050×420	1650×1190×420	1650×1190×420	1650×1190×420
Net Weight	380-415V/3Ph/50, 60Hz	kg	185	197	203	219	225	225
	220V/3Ph/60Hz	kg	188	200	205	223	231	231
Outdoor Unit (	Color	_	Natural Gray (1.0Y 85/0.5)					
Footprint Area	ì	m²	0.44	0.44	0.44	0.50	0.50	0.50
Compressor t	ype	_	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Refrigerant	Туре		R410A	R410A	R410A	R410A	R410A	R410A
	Initial Charge Amount	kg .	6.0	7.7	7.7	8.3	9.6	9.6
Number of Fa			2	2	2	2	2	2
	c Pressure of Fan	Pa	0/30/60	0/30/60	0/30/60	0/30/60	0/30/60	0/30/60
Capacity Ratio			50% - 130%	50% - 130%	50% - 130%	50% - 130%	50% - 130%	50% - 130%
Noise Level	SPL, GB, Anechoic, Cooling	dB(A)	55	59	60	60	62	62
	SPL, GB, Anechoic, Heating	dB(A)	56	60	62	61	64	64
Main Piping	Liquid	( )mm	9.52	9.52	12.70	12.70	12.70	12.70
Size	Gas	( )mm	19.05	22.20	25.40	25.40	28.58	28.58
Connectable	Recommended	-	8	10	10	16	16	16
IDU Number	Maximum	-	13	16	19	23	26	26
Working Temp. Range	Cooling	°C DB	-5 ~ 48 (/52)	-5 ~ 48 (/52)	-5 ~ 48 (/52)	-5 ~ 48 (/52)	-5 ~ 48 (/52)	-5 ~ 48 (/52)
(*7)	Heating	°C WB	(-20/) -15 ~ 16	(-20/) -15 ~ 16	(-20/) -15 ~ 16	(-20/) -15 ~ 16	(-20/) -15 ~ 16	(-20/) -15 ~ 16
	Total	m	500 (300)	500 (300)	500 (300)	500 (300)	500 (300)	500 (300)
	From Piping connection kit 1 to Furthest IDU	m	120/150 (Actual/Equivalent)	120/150 (Actual/Equivalent)	120/150 (Actual/Equivalent)	120/150 (Actual/Equivalent)	120/150 (Actual/Equivalent)	120/150 (Actual/Equivalent)
Maximum Piping Length (*8)	Between Piping Connection Kit and Each ODU	m	10	10	10	10	10	10
	Between 1st branch	m	90 (40)	90 (40)	90 (40)	90 (40)	90 (40)	90 (40)
	Between each branch and each IDU	m	40 (30)	40 (30)	40 (30)	40 (30)	40 (30)	40 (30)
	Between ODUs	m	0.1	0.1	0.1	0.1	0.1	0.1
Maximum Height Difference (*9)	Between ODU and IDU (ODU above IDU)	m	50	50	50	50	50	50
	Between ODU and IDU (IDU above ODU)	m	40	40	40	40	40	40
	Between IDUs	m	30	30	30	30	30	30
				55	30	30	30	30

#### Notes:

 $1.\,\mbox{The}$  cooling and heating performance are the values when combined with our specificities indoor units.

1-1. Cooling operation conditions:

Indoor air inlet temperature: 27.0°C DB (80°F DB) / 19.0°C WB (66°F WB).

Outdoor air inlet temperature: 35.0°C DB (95°F DB).

1-2. Heating operation conditions:

Indoor air inlet temperature: 20.0°C DB (68°F DB).

Outdoor air inlet temperature: 7.0°C DB (45°F DB) / 6.0°C WB (43°F WB).

- 1-3. Piping length: 8-18HP is 7.5 meter / Piping lift: 0 meter.
- $2. \, \mbox{The sound pressure is based on the following conditions.}$

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

L: AC3 $\Phi$ /380V-415V/50Hz/4 wire AC3 $\Phi$ /380V/60Hz/4 wire R: AC3 $\Phi$ /220V/60Hz/3 wire Model series name RAS-HNCELW is available for India region.

- Sound pressure level data was measured at rated cooling and heating condition which same as performance measurement condition. If working condition is different against rated condition, sound may increase.
- 4. If set to the high static mode, since the fan rotation speed will be increased, sound may increase 5 to 7 dBA.
- 5. Regarding performance values, EER and COP is not including Indoor unit power consumption.
- 6. For width of outer dimension, it shows 'module+module' unit dimension only, but actually the distance between each modules should be at least 100mm for installation, please check Technical Manual for details.
- (\*7) The (XX  $^{\circ}$  ) limit temperature applies to interval air conditioning operation.
- (\*8) In case of connecting number of indoor unit is less than recommended connectable IDU & (when connecting more than recommended number of indoor units).
- (\*9) In case of connecting number of indoor unit is less than recommended connectable IDU.



### From 8HP to 72HP: large choice of combinations

	rd comb 80 RAS-100			RAS-160	RAS-180
20	••				
22	•	•			
24		••			
26		•	•		
28			••		
30			•	•	
32				••	
34			•		
36					
38					
40			- 00		
42					
44			••		
46					
48				•••	
50	•		••		
52		- 00	••		
54					
		•••	•	•	
56		••		••	
58		•	•	••	
60			••	••	
62			•	•••	
64				0000	
66				•••	•
68				••	••
70				•	•••
72					

Pre	emium	combi	ination	1		
HP	RAS-080	RAS-100	RAS-120	RAS-140	RAS-160	RAS-180
16	••					
18	•	•				
20	•		•			
22		•	•			
24	•••					
26	••	•				
28	••		•			
30	•	•	•			
32	•		••			
34		•	••			
36			•••			
38	••	•	•			
40	••		••			
42	•	•	••			
44	•		•••			
46		•	•••			
48			••••			

Eco	onomy	combi	natior	1		
HP	<b>RAS-080</b>	RAS-100	RAS-120	RAS-140	RAS-160	RAS-180
20		••				
22	•			•		
24		•		•		
26		•			•	
28		•				•
30			•			•
32				•		•
34					•	•
36						••
38		••				•
40	•			•		
42		•		•		•
44		•			•	•
46		•				••
48			•			••
50				•		••
52					•	••
54						•••
56		••				••
58	•	_		•		••
60		•		•		••
62		•			•	••
64		•				•••
66			•			•••
68				•		•••
70					•	•••
72						••••

\_

Size

Connectable

Connectable IDU Ratio

Liquid

Maximum

Recommended Qty

mm

15.88

18

33

50 - 130

15.88

20

36

50 - 130

### **Specifications**

#### STANDARD COMBINATION

20HP 22HP 24HP 26HP 28HP 30HP Model Name RAS-200HNCEL(R)WS RAS-220HNCEL(R)WS RAS-240HNCEL(R)WS RAS-260HNCEL(R)WS RAS-280HNCEL(R)WS RAS-300HNCEL(R)WS RAS-160HNCEL(R)W RAS-100HNCEL(R)W RAS-100HNCEL(R)W RAS-120HNCEL(R)W RAS-140HNCEL(R)W RAS-140HNCEL(R)W Unit-1 RAS-100HNCEL(R)W RAS-120HNCEL(R)W RAS-120HNCEL(R)W RAS-120HNCEL(R)W RAS-140HNCEL(R)W Unit-2 Modules for Series Unit-4 380-415V/3Ph/50Hz, 380V/3Ph/60Hz (R: 220V/3Ph/60Hz) Power Supply V/Ph/Hz Height 1.650 1,650 1,650 1,650 1,650 1,650 Dimensions 2,200 2,340 2,480 2,480 Width 420 420 mm 420 420 420 420 Cooling kW 56.0 61.5 67.0 73.5 85.0 Capacity Heating kW 63.0 69.0 75.0 82.5 90.0 95.0 4.26 3.85 3.82 Performance COP 4.26 4.27 4.03 4.44 4.56 4.68 4.52 4.40 4.40 28.58 28.58 28.58 mm 31.75 31.75 31.75 Main Pipe

15.88

26

40

50 - 130

19.05

26

43

50 - 130

19.05

32

47

50 - 130

19.05

32

50

50 - 130

HP			32HP	34HP	36HP	38HP	40HP	42HP
Model Name			RAS-320HNCEL(R)WS	RAS-340HNCEL(R)WS	RAS-360HNCEL(R)WS	RAS-380HNCEL(R)WS	RAS-400HNCEL(R)WS	RAS-420HNCEL(R)WS
	Unit-1		RAS-160HNCEL(R)W	RAS-140HNCEL(R)W	RAS-140HNCEL(R)W	RAS-140HNCEL(R)W	RAS-140HNCEL(R)W	RAS-140HNCEL(R)W
Modules for	Unit-2		RAS-160HNCEL(R)W	RAS-100HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-140HNCEL(R)W	RAS-140HNCEL(R)W
Series	Unit-3		-	RAS-100HNCEL(R)W	RAS-100HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-140HNCEL(R)W
	Unit-4		-	-	-	-	-	-
Power Supply	V/Ph/Hz 380-415V/3Ph/50Hz, 380V/3Ph/60Hz (R: 220V/3Ph/60Hz)							
	Height	mm	1,650	1,650	1,650	1,650	1,650	1,650
Dimensions	Depth	mm	2,480	3,490	3,490	3,490	3,630	3,770
	Width	mm	420	420	420	420	420	420
Canacity	Cooling	kW	90.0	96.0	101.5	107.0	113.5	120.0
Capacity	Heating	kW	100.0	108.0	114.0	120.0	127.5	135.0
Performance	EER	-	3.79	4.07	4.09	4.10	3.96	3.85
Periormance	COP	-	4.41	4.42	4.50	4.57	4.48	4.40
Main Pipe	Gas	mm	31.75	31.75	38.10	38.10	38.10	38.10
Size	Liquid	mm	19.05	19.05	19.05	19.05	19.05	19.05
	Recommended	Qty	32	32	32	38	38	38
	Maximum	Qty	53	56	59	64	64	64
Connectable	IDU Ratio	%	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130

HP			44HP	46HP	48HP	50HP	52HP	54HP
Model Name		-	RAS-440HNCEL(R)WS	RAS-460HNCEL(R)WS	RAS-480HNCEL(R)WS	RAS-500HNCEL(R)WS	RAS-520HNCEL(R)WS	RAS-540HNCEL(R)WS
	Unit-1		RAS-160HNCEL(R)W	RAS-160HNCEL(R) W	RAS-160HNCEL(R)W	RAS-140HNCEL(R)W	RAS-140HNCEL(R) W	RAS-160HNCEL(R)W
Modules for	Unit-2		RAS-140HNCEL(R)W	RAS-160HNCEL(R) W	RAS-160HNCEL(R)W	RAS-140HNCEL(R)W	RAS-140HNCEL(R) W	RAS-140HNCEL(R)W
Series	Unit-3		RAS-140HNCEL(R)W	RAS-140HNCEL(R) W	RAS-160HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R) W	RAS-120HNCEL(R)W
	Unit-4		-	-	-	RAS-100HNCEL(R)W	RAS-120HNCEL(R) W	RAS-120HNCEL(R)W
Power Supply	V/Ph/Hz			380-	415V/3Ph/50Hz, 380V/3	Ph/60Hz (R: 220V/3Ph	h/60Hz)	
	Height	mm	1,650	1,650	1,650	1,650	1,650	1,650
Dimensions	Depth	mm	3,770	3,770	3,770	4,780	4,780	4,780
	Width	mm	420	420	420	420	420	420
C:	Cooling	kW	125.0	130.0	135.0	141.5	147.0	152.0
Capacity	Heating	kW	140.0	145.0	150.0	159.0	165.0	170.0
Performance	EER	-	3.82	3.81	3.79	4.02	4.03	4.00
Periormance	COP	-	4.40	4.40	4.41	4.47	4.52	4.52
Main Pipe	Gas	mm	38.10	38.10	38.10	38.10	38.10	38.10
Size	Liquid	mm	19.05	19.05	19.05	19.05	19.05	19.05
Connectable	Recommended	Qty	38	38	38	38	38	38
IDU	Maximum	Qty	64	64	64	64	64	64
Connectable I	DU Ratio	%	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130

HP			56HP	58HP	60HP	62HP	64HP	66HP
Model Name		-	RAS-560HNCEL(R)WS	RAS-580HNCEL(R)WS	RAS-600HNCEL(R)WS	RAS-620HNCEL(R)WS	RAS-640HNCEL(R)WS	RAS-660HNCEL(R)WS
	Unit-1		RAS-160HNCEL(R)W	RAS-160HNCEL(R) W	RAS-160HNCEL(R)W	RAS-160HNCEL(R) W	RAS-160HNCEL(R) W	RAS-180HNCEL(R)W
Modules for	Unit-2		RAS-160HNCEL(R)W	RAS-160HNCEL(R) W	RAS-160HNCEL(R)W	RAS-160HNCEL(R) W	RAS-160HNCEL(R) W	RAS-160HNCEL(R)W
Series	Unit-3		RAS-120HNCEL(R)W	RAS-140HNCEL(R) W	RAS-140HNCEL(R)W	RAS-160HNCEL(R) W	RAS-160HNCEL(R) W	RAS-160HNCEL(R)W
	Unit-4		RAS-120HNCEL(R)W	RAS-120HNCEL(R) W	RAS-140HNCEL(R)W	RAS-140HNCEL(R) W	RAS-160HNCEL(R) W	RAS-160HNCEL(R)W
Power Supply	V/Ph/Hz 380-415V/3Ph/50Hz, 380V/3Ph/60Hz [R: 220V/3Ph/60Hz]							
	Height	mm	1,650	1,650	1,650	1,650	1,650	1,650
Dimensions	Depth	mm	4,780	4,920	5,060	5,060	5,060	5,060
	Width	mm	420	420	420	420	420	420
6 :	Cooling	kW	157.0	163.5	170.0	175.0	180.0	185.0
Capacity	Heating	kW	175.0	182.5	190.0	195.0	200.0	204.0
Performance	EER	-	3.98	3.89	3.82	3.80	3.79	3.72
Performance	COP	-	4.52	4.46	4.40	4.40	4.41	4.26
Main Pipe	Gas	mm	44.45	44.45	44.45	44.45	44.45	44.45
Size	Liquid	mm	19.05	19.05	19.05	19.05	19.05	19.05
	Recommended	Qty	38	38	38	38	38	38
	Maximum	Qty	64	64	64	64	64	64
Connectable	IDU Ratio	%	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130

HP	HP		68HP	70HP	<b>72HP</b>
Model Name		-	RAS-680HNCEL(R)WS	RAS-700HNCEL(R)WS	RAS-720HNCEL(R)WS
	Unit-1		RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W
Modules for	Unit-2		RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W
Series	Unit-3		RAS-160HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W
	Unit-4		RAS-160HNCEL(R)W	RAS-160HNCEL(R)W	RAS-180HNCEL(R)W
Power Supply	V/Ph/Hz		380-415V/3Ph/50	Hz, 380V/3Ph/60Hz (F	R: 220V/3Ph/60Hz)
	Height	mm	1,650	1,650	1,650
Dimensions	Depth	mm	5,060	5,060	5,060
	Width	mm	420	420	420
Canacity	Cooling	kW	190.0	195.0	200.0
Capacity	Heating	kW	208.0	212.0	216.0
Performance	EER	-	3.65	3.59	3.54
Periormance	COP	-	4.13	4.01	3.90
Main Pipe	Gas	mm	44.45	44.45	44.45
Size	Liquid	mm	22.20	22.20	22.20
Connectable	Recommended	Qty	38	38	38
IDU	Maximum	Qty	64	64	64
Connectable IDU Ratio		%	50 - 130	50 - 130	50 - 130

#### Model series name RAS-HNCELWS is available for India region.

Notes: 1. The cooling and heating performance are the values when combined with indoor units.

	Cooling operation condition	Heating operation condition
Modules for Series	27 °C DB 19 °C WB	20 °C DB
Outdoor Air Inlet Temperature	35 °C DB	7 °C DB 6 °C WB
Piping Length	7.	5 m
Piping Lift	0	m

- 2. Sound pressure data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- 3. Sound pressure and sound power data was measured at rated cooling and heating condition which same as performance measurement condition. If working condition is different against rated condition, sound may increase.
- 4. If set to the high static mode, since the fan rotation speed will be increased, sound may increase 5 to 7 dBA.



#### PREMIUM COMBINATION


HP			16HP	18HP	20HP	22HP	24HP	26HP
Model Name			RAS-160HNCEL(R) WP	RAS-180HNCEL(R) WP	RAS-200HNCEL(R) WP	RAS-220HNCEL(R) WP	RAS-240HNCEL(R) WP	RAS-260HNCEL(R)WP
	Unit-1		RAS-080HNCEL(R)W	RAS-100HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-080HNCEL(R)W	RAS-100HNCEL(R)W
Modules for	Unit-2		RAS-080HNCEL(R)W	RAS-080HNCEL(R)W	RAS-080HNCEL(R)W	RAS-100HNCEL(R)W	RAS-080HNCEL(R)W	RAS-080HNCEL(R)W
Series	Unit-3		-	-	-	-	RAS-080HNCEL(R)W	RAS-080HNCEL(R)W
	Unit-4		-	-	-	-	-	-
Power Supply	V/Ph/Hz 380-415V/3Ph/50Hz, 380V/3Ph/60Hz (R: 220V/3Ph/60Hz)							
	Height	mm	1,650	1,650	1,650	1,650	1,650	1,650
Dimensions	Depth	mm	2,200	2,200	2,200	2,200	3,350	3,350
	Width	mm	420	420	420	420	420	420
C:	Cooling	kW	44.8	50.4	55.9	61.5	67.2	72.8
Capacity	Heating	kW	50.0	56.5	62.5	69.0	75.0	81.5
Performance	EER	-	4.51	4.36	4.36	4.26	4.51	4.41
Performance	COP	-	4.92	4.64	4.77	4.56	4.92	4.72
Main Pipe	Gas	mm	28.58	28.58	28.58	28.58	28.58	31.75
Size	Liquid	mm	12.70	12.70	15.88	15.88	15.88	19.05
Connectable	Recommended	d Qty	16.0	16.0	18.0	20.0	26.0	26.0
IDU	Maximum	Qty	26.0	26.0	33.0	36.0	40.0	43.0
Connectable	IDU Ratio	%	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130

HP			28HP	30HP	32HP	34HP	36HP	38HP	
Model Name			RAS-280HNCEL(R) WP	RAS-300HNCEL(R) WP	RAS-320HNCEL(R) WP	RAS-340HNCEL(R) WP	RAS-360HNCEL(R) WP	RAS-380HNCEL(R)WF	
	Unit-1		RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	
Modules for	Unit-2		RAS-080HNCEL(R)W	RAS-100HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-100HNCEL(R)W	
Series	Unit-3		RAS-080HNCEL(R)W	RAS-080HNCEL(R)W	RAS-080HNCEL(R)W	RAS-100HNCEL(R)W	RAS-120HNCEL(R)W	RAS-080HNCEL(R)W	
	Unit-4		-	-	-	-	-	RAS-080HNCEL(R)W	
Power Supply	V/Ph/Hz 380-415V/3Ph/50Hz, 380V/3Ph/60Hz (R: 220V/3Ph/60Hz)								
	Height	mm	1,650	1,650	1,650	1,650	1,650	1,650	
Dimensions	Depth	mm	3,350	3,350	3,350	3,350	3,350	4,500	
	Width	mm	420	420	420	420	420	420	
Capacity	Cooling	kW	78.3	83.9	89.4	95.0	100.5	106.3	
Capacity	Heating	kW	87.5	94.0	100.0	106.5	112.5	119.0	
Performance	EER	-	4.40	4.33	4.33	4.27	4.27	4.36	
Periormance	COP	-	4.81	4.65	4.74	4.60	4.68	4.71	
Main Pipe	Gas	mm	31.75	31.75	31.75	31.75	31.75	38.10	
Size	Liquid	mm	19.05	19.05	19.05	19.05	19.05	19.05	
Connectable	Recommende	d Qty	32.0	32.0	32.0	32	32	38	
IDU	Maximum	Qty	47.0	50.0	53.0	56	59	64	
Connectable	IDU Ratio	%	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	

HP			40HP	42HP	44HP	46HP	48HP			
Model Name		RAS-400HNCEL(R) WP		RAS-420HNCEL(R) WP	RAS-440HNCEL(R) WP	RAS-460HNCEL(R) WP	RAS-480HNCEL(R) WP			
	Unit-1		RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W			
Modules for	Unit-2		RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W			
Series	Unit-3		RAS-080HNCEL(R)W	RAS-100HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W	RAS-120HNCEL(R)W			
	Unit-4		RAS-080HNCEL(R)W	RAS-080HNCEL(R)W	RAS-080HNCEL(R)W	RAS-100HNCEL(R)W	RAS-120HNCEL(R)W			
Power Supply	V/Ph/Hz 380-415V/3Ph/50Hz, 380V/3Ph/60Hz (R: 220V/3Ph/60Hz)									
	Height	mm	1,650	1,650	1,650	1,650	1,650			
Dimensions	Depth	mm	4,500	4,500	4,500	4,500	4,500			
	Width	mm	420	420	420	420	420			
C:	Cooling	kW	111.8	117.4	122.9	128.5	134.0			
Capacity	Heating	kW	125.0	131.5	137.5	144.0	150.0			
Performance	EER	-	4.36	4.31	4.31	4.27	4.27			
Performance	COP	-	4.77	4.66	4.72	4.62	4.68			
Main Pipe	Gas	mm	38.10	38.10	38.10	38.10	38.10			
Size	Liquid	mm	19.05	19.05	19.05	19.05	19.05			
Connectable	Recommended	Qty	38	38	38	38	38			
IDU	Maximum	Qty	64	64	64	64	64			
Connectable	IDU Ratio	%	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130			

### **Specifications**

#### **ECONOMY COMBINATION**

HP Model Name			20HP	22HP	24HP	26HP	28HP	30HP		
			RAS-200HNCEL(R)WE	RAS-220HNCEL(R)WE	RAS-240HNCEL(R)WE	RAS-260HNCEL(R)WE	RAS-280HNCEL(R)WE	RAS-300HNCEL(R)WE		
	Unit-1		RAS-100HNCEL(R)W	RAS-140HNCEL(R)W	RAS-140HNCEL(R)W	RAS-160HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W		
Modules for	Unit-2		RAS-100HNCEL(R)W	RAS-080HNCEL(R)W	RAS-100HNCEL(R)W	RAS-100HNCEL(R)W	RAS-100HNCEL(R)W	RAS-120HNCEL(R)W		
Series	Unit-3		-	-	-	-	-	-		
	Unit-4		-	-	-	-	-	-		
Power Supply	V/Ph/Hz 380-415V/3Ph/50Hz, 380V/3Ph/60Hz (R: 220V/3Ph/60Hz)									
	Height	mm	1,650	1,650	1,650	1,650	1,650	1,650		
Dimensions	Depth	mm	2,200	2,340	2,340	2,340	2,340	2,340		
	Width	mm	420	420	420	420	420	420		
Canacity	Cooling	kW	56.0	62.4	68.0	73.0	78.0	83.5		
Capacity	Heating	kW	63.0	70.0	76.5	81.5	85.5	91.5		
Performance	EER	-	4.26	4.06	4.00	3.95	3.76	3.80		
Periormance	COP	-	4.44	4.57	4.41	4.42	4.08	4.18		
Main Pipe	Gas	mm	28.58	28.58	28.58	31.75	31.75	31.75		
Size	Liquid	mm	15.88	15.88	15.88	19.05	19.05	19.05		
Connectable	Recommended	Qty	18	20	26	26	32	32		
IDU	Maximum	Qty	33	36	40	43	47	50		
Connectable	IDU Ratio	%	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130		

HP			32HP	34HP	36HP	38HP	40HP	42HP	
Model Name			RAS-320HNCEL(R)WE	RAS-340HNCEL(R)WE	RAS-360HNCEL(R)WE	RAS-380HNCEL(R)WE	RAS-400HNCEL(R)WE	RAS-420HNCEL(R)WE	
	Unit-1		RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	
Modules for	Unit-2		RAS-140HNCEL(R)W	RAS-160HNCEL(R)W	RAS-180HNCEL(R)W	RAS-100HNCEL(R)W	RAS-140HNCEL(R)W	RAS-140HNCEL(R)W	
Series	Unit-3		-	-	-	RAS-100HNCEL(R)W	RAS-080HNCEL(R)W	RAS-100HNCEL(R)W	
	Unit-4		-	-	-	-	-	-	
Power Supply	V/Ph/Hz 380-415V/3Ph/50Hz, 380V/3Ph/60Hz (R: 220V/3Ph/60Hz)								
	Height	mm	1,650	1,650	1,650	1,650	1,650	1,650	
Dimensions	Depth	mm	2,480	2,480	2,480	3,490	3,630	3,630	
	Width	mm	420	420	420	420	420	420	
Canacity	Cooling	kW	90.0	95.0	100.0	106.0	112.4	118.0	
Capacity	Heating	kW	99.0	104.0	108.0	117.0	124.0	130.5	
Performance	EER	-	3.67	3.65	3.54	3.88	3.81	3.79	
renonmance	COP	-	4.11	4.13	3.90	4.17	4.25	4.18	
Main Pipe	Gas	mm	31.75	31.75	38.10	38.1	38.10	38.10	
Size	Liquid	mm	19.05	19.05	19.05	19.05	19.05	19.05	
Connectable	Recommende	d Qty	32	32	32	38	38	38	
IDU	Maximum	Qty	53	56	59	64	64	64	
Connectable	IDU Ratio	%	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	

HP			44HP	46HP	48HP	50HP	52HP	54HP
Model Name		- RAS-440HNCEL(R)WE		RAS-460HNCEL(R)WE	RAS-480HNCEL(R)WE	RAS-500HNCEL(R)WE	RAS-520HNCEL(R)WE	RAS-540HNCEL(R)WE
	Unit-1		RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W
Modules for	Unit-2		RAS-160HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W
Series	Unit-3		RAS-100HNCEL(R)W	RAS-100HNCEL(R)W	RAS-120HNCEL(R)W	RAS-140HNCEL(R)W	RAS-160HNCEL(R)W	RAS-180HNCEL(R)W
	Unit-4		-	-	-	-	-	-
Power Supply	V/Ph/Hz 380-/15V/3Ph/50Hz 380V/3Ph/60Hz IR·220V/3Ph/60Hz							
Dimensions	Height	mm	1,650	1,650	1,650	1,650	1,650	1,650
	Depth	mm	3,630	3,630	3,630	3,770	3,770	3,770
	Width	mm	420	420	420	420	420	420
Capacity	Cooling	kW	123.0	128.0	133.5	140.0	145.0	150.0
Capacity	Heating	kW	135.5	139.5	145.5	153.0	158.0	162.0
Performance	EER	-	3.77	3.69	3.70	3.62	3.61	3.54
renonnance	COP	-	4.19	4.01	4.07	4.03	4.04	3.90
Main Pipe	Gas	mm	38.10	38.10	38.10	38.10	38.10	38.10
Size	Liquid	mm	19.05	19.05	19.05	19.05	19.05	19.05
Connectable	Recommended	Qty	38	38	38	38	38	38
IDU	Maximum	Qty	64	64	64	64	64	64
Connectable	IDU Ratio	%	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130

HP			56HP	58HP	60HP	62HP	64HP	66HP	
Model Name			RAS-560HNCEL(R)WE	RAS-580HNCEL(R)WE	RAS-600HNCEL(R)WE	RAS-620HNCEL(R)WE	RAS-640HNCEL(R)WE	RAS-660HNCEL(R)WE	
	Unit-1		RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	
Modules for	Unit-2		RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	
Series	Unit-3		RAS-100HNCEL(R)W	RAS-140HNCEL(R)W	RAS-140HNCEL(R)W	RAS-160HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	
	Unit-4		RAS-100HNCEL(R)W	RAS-080HNCEL(R)W	RAS-100HNCEL(R)W	RAS-100HNCEL(R)W	RAS-100HNCEL(R)W	RAS-120HNCEL(R)W	
Power Supply	V/Ph/Hz 380-415V/3Ph/50Hz, 380V/3Ph/60Hz (R: 220V/3Ph/60Hz)								
	Height	mm	1,650	1,650	1,650	1,650	1,650	1,650	
Dimensions	Depth	mm	4,780	4,920	4,920	4,920	4,920	4,920	
	Width	mm	420	420	420	420	420	420	
C:	Cooling	kW	156.0	162.4	168.0	173.0	178.0	183.5	
Capacity	Heating	kW	171.0	178.0	184.5	189.5	193.5	199.5	
Df	EER	-	3.76	3.72	3.71	3.70	3.63	3.65	
Performance	COP	-	4.08	4.14	4.10	4.10	3.97	4.02	
Main Pipe	Gas	mm	44.45	44.45	44.45	44.45	44.45	44.45	
Size	Liquid	mm	19.05	19.05	19.05	19.05	19.05	19.05	
Connectable	Recommended	Qty	38	38	38	38	38	38	
IDU	Maximum	Qty	64	64	64	64	64	64	
Connectable	IDU Ratio	%	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	50 - 130	

HP			68HP	70HP	72HP			
Model Name			RAS-680HNCEL(R)WE	RAS-700HNCEL(R)WE	RAS-720HNCEL(R)WE			
	Unit-1		RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W			
Modules for	Unit-2		RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W			
Series	Unit-3		RAS-180HNCEL(R)W	RAS-180HNCEL(R)W	RAS-180HNCEL(R)W			
	Unit-4		RAS-140HNCEL(R)W	RAS-160HNCEL(R)W	RAS-180HNCEL(R)W			
Power Supply	V/Ph/Hz 280_/(1EV/2Ph/E0Hz 280V/2Ph/60Hz IR: 220V/2Ph/60HzI							
	Height	mm	1,650	1,650	1,650			
Dimensions	Depth	mm	5,060	5,060	5,060			
	Width	mm	420	420	420			
C:	Cooling	kW	190.0	195.0	200.0			
Capacity	Heating	kW	207.0	212.0	216.0			
Df	EER	-	3.60	3.59	3.54			
Performance	COP	-	4.00	4.01	3.90			
Main Pipe	Gas	mm	44.45	44.45	44.45			
Size	Liquid	mm	22.20	22.20	22.20			
Connectable	Recommended	Qty	38	38	38			
IDU	Maximum	Qty	64	64	64			
Connectable	IDU Ratio	%	50 - 130	50 - 130	50 - 130			

#### Model series name RAS-HNCELWE is available for India region.

Notes:

1. The cooling and heating performance are the values when combined with indoor units.

1. The cooling and heating performance are the values when combined with indoor units.

	Cooling operation condition	Heating operation condition
Modules for Series	27 °C DB 19 °C WB	20 °C DB
Outdoor Air Inlet Temperature	35 ℃ DB	7 °C DB 6 °C WB
Piping Length	7.	5 m
Piping Lift	0	m

- $2. Sound\ pressure\ data\ was\ measured\ in\ an\ anechoic\ chamber\ so\ that\ reflected\ sound\ should\ be\ taken\ into\ consideration\ in\ the\ field.$
- Sound pressure and sound power data was measured at rated cooling and heating condition which same as
  performance measurement condition. If working condition is different against rated condition, sound may increase.
- 4. If set to the high static mode, since the fan rotation speed will be increased, sound may increase 5 to 7 dBA.



### **Optional parts**

#### PIPING CONNECTION KIT

Connection kit for divergent modules.

Model	SEA, Br	azil, MEA, India	a and LA	Δ	NZ	N f.M. d.l.	N .
	Standard (HP)	Premium (HP)	Economy (HP)	Standard (HP)	Premium (HP)	No. of Modules	Notes
MC-NP20HA	20 - 24	16 - 22	20 - 24	18 - 24	16 - 22	2	For Gas: 1 For Liquid: 1
MC-NP21SA1	26 - 32	-	26 - 36	26 - 32	-	2	For Gas: 1 For Liquid: 1
MC-NP30HA	34 - 48	24 - 36	38 - 54	34 - 48	24 - 36	3	For Gas: 2 For Liquid: 2
MC-NP40HA	50 - 72	38 - 48	56 - 72	50 - 54	38 - 48	4	For Gas: 3 For Liquid: 3

#### **MULTI-KIT**

Branching for indoor and outdoor connecting pipes.

#### LINE BRANCH First branching pipes.

Madal	Tatal ODII Cara ita (UD)	Piping Lengt	h (L1) < 100 m	Piping Length (L1) $\geq$ 100 m $^{*1}$		
модец	Total ODU Capacity (HP)	Gas (φ mm)	Liquid (φ mm)	Gas (φ mm)	Liquid (φ mm)	
MW-NP282A3	8	19.05	9.52	22.2	12.7	
MW-NP282A3	10	22.2	9.52	25.4	12.7	
MW-NP452A3	12, 14	25.4	12.7	28.58	12.7	
MIVV-INF45ZA5	16, 18	28.58	12.7	31.75	12.7	
MW-NP692A3	20 - 24	28.58 <sup>*2</sup>	15.88	31.75	15.88	
MW-NP902A3	26 - 34	31.75	19.05	38.1	19.05	
MIVV-INF7UZAS	36 - 54	38.1	19.05	44.45	19.05	
MW-NP2682A3	56 - 66	44.45	19.05	50.8	19.05	
IMINA-INL SOOSW2	68 - 72	44.45	22.2	50.8	22.2	

 $<sup>^{\</sup>star}1$  When main pipe size is increased by one size, use reducers (field-supplied).

#### Pipe diameter after the first branch and multi-kit.

		Piping Length between First Branch and Farthest IDU (L2)						
Model	Total IDU Capacity (HP)	(L2) ≤	≤ 40 m	40 m < (L2) ≤ 90 m <sup>*1</sup>				
		Gas (φ mm)	Liquid (φ mm)	Gas (φ mm)	Liquid (φ mm)			
MW NDOOAA	< 6	15.88	9.52	19.05	9.52			
MW-NP282A3	6 - 8.99	19.05	9.52	22.2	9.52			
1411 ND/F010	9 - 11.99	22.2	9.52	25.4	9.52			
MW-NP452A3	12 - 15.99	25.4	12.7	28.58	12.7			
MW-NP692A3	16 -17.99	28.58	12.7	31.75	12.7			
MW NDOOSAS	18 - 25.99	28.58	15.88	31.75	15.88			
MW-NP902A3	26 - 35.99	31.75	19.05	38.1	19.05			
	36 -55.99	38.1	19.05	44.45	19.05			
MW-NP2682A3	56 -67.99	44.45	19.05	50.8	19.05			
	≥ 68	44.45	22.2	50.8	22.2			

 $<sup>^{\</sup>star}1$ . When the size of the pipe after first branch is increased by one size, use reducers (field-supplied).

Even if the L1 is more than 100m, There is no need to increase the pipe size after first branch.

If the multi-kit size is larger than the first branch, adjust the multi-kit size to the first branch. In case that the selected pipe size after the first branch is larger than the pipe size before the first branch, use the same pipe size as before the branch.

#### **HEADER BRANCH**

Model	Total IDU Capacity (HP)	Number of Branch
MH-NP224A	5-8	4
MH-NP288A	5-10	8

 $<sup>^{\</sup>star}2\ \text{In case of "Premium-24HP" combination, use a reducer (field-supplied) to connect main pipe to Multi-kit.}$ 



### Accessories

#### AIR FLOW GUIDE



Model Name	Necessary Quantity	ODU single base unit (HP)		
AG-SP20A	2	0.40.40		
FA-SP20A	1	8,10,12		
AG-SP20B	2	4/4/40		
FA-SP20A	1	14,16,18		

#### AIR INLET GRILLE



Model Name	Necessary Quantity	ODU single base unit (HP)		
PSN-SP20A	1	8,10,12		
PSN-SP20B	1	14,16,18		

#### DRAIN ADAPTER





#### Straight type L-shaped type

Model Name	Necessary Quantity	ODU single base unit (HP)	Note
DBS-26	2	8,10,12,14,16,18	Straight type
DBS-26L	2	8,10,12,14,16,18	L-Shaped type

#### WIND GUARD



Model Name	Necessary Quantity	ODU single base unit (HP)
WSP-SP20A	2	0.40.40
FA-SP20A	1	8,10,12
WSP-SP20B	2	4/4/40
FA-SP20A	1	14,16,18

#### PROTECTION NET



е

#### WIND PROTECTION TOOL

Model Name	Necessary Quantity	ODU single base unit (HP)
PN-SP20A	1	8,10,12,14,16,18

#### SNOW PROTECTION HOOD









Air shallow type Zinc version (painting)

Air deep type Zinc version (painting)

		Single Cabin	et: 8, 10, 12HP		
		Model Name	Necessary Quantity		
	Air Outlet	ASG-SP20FA 1			
	Air Outlet	FA-SP20A	1	Shallow Type	
	Rear Inlet	ASG-SP20BA	1		
Zinc Coated Steel	Left Inlet	ASG-SP20L	1		
(Painting)	Air Outlet	ASG-SP21FA	1	D T	
	Air Outlet	FA-SP20A	1		
	Rear Inlet	ASG-SP21BA	1	Deep Туре	
	Left Inlet	ASG-SP20L	1		
	Air Outlet	ASG-SP20FAS 1			
	Air Outlet	FA-SP20A	1	Challery Torre	
	Rear Inlet	ASG-SP20BAS	1	Shallow Type	
Chairles	Left Inlet	ASG-SP20LS	1		
Stainless	Air Outlet	ASG-SP21FAS	1		
	Air Outlet	FA-SP20A	1	Dana Tara	
	Rear Inlet	ASG-SP21BAS	1	Deep Туре	
	Left Inlet	ASG-SP20LS	1		

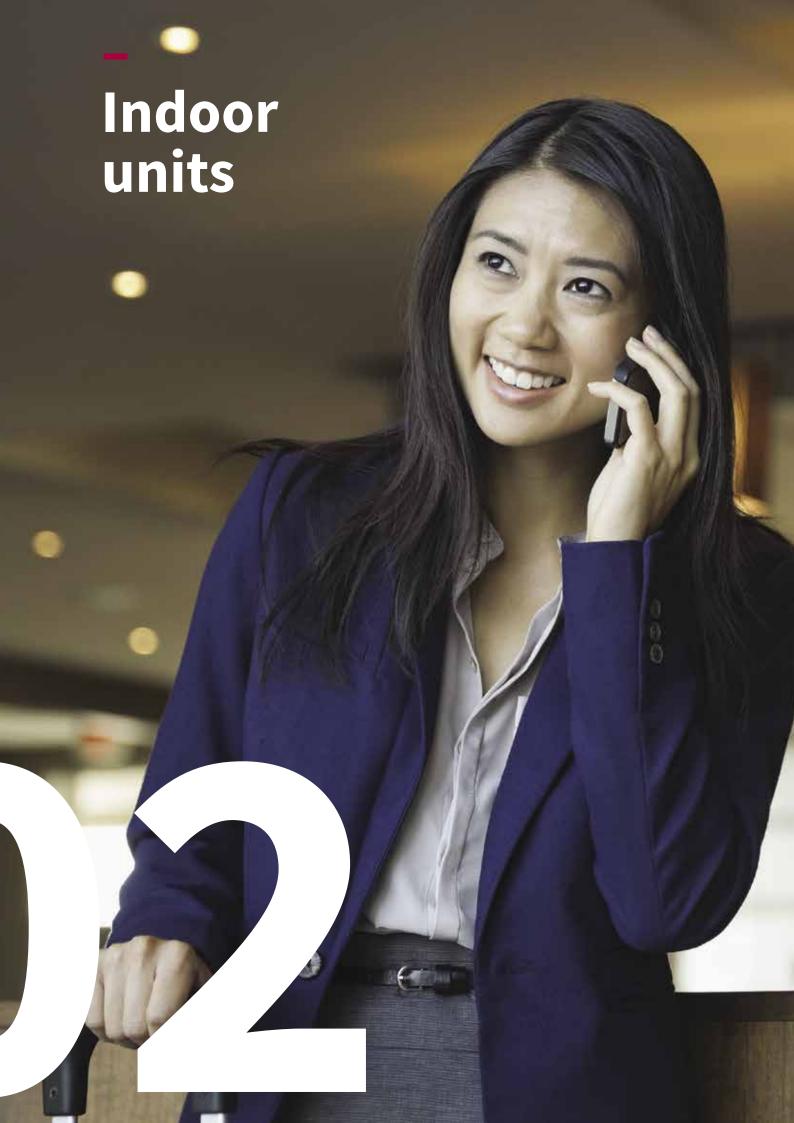
	Single Cabinet: 14, 16, 18HP						
		Model Name	Necessary Quantity				
	Air Outlet	ASG-SP20FB	1				
	Air outlet	FA-SP20A	1	Challau Tua			
	Rear Inlet	ASG-SP20BB	1	Shallow Type			
Zinc Coated Steel	Left Inlet	ASG-SP20L	1				
ZINC Coated Steel	A:- O	ASG-SP21FB	1				
	Air Outlet	FA-SP20A	1	Dana Tura			
	Rear Inlet	ASG-SP21BB	1	Deep Type			
	Left Inlet	ASG-SP20L 1					
	Air Outlet	ASG-SP20FBS	1				
	Air outlet	FA-SP20A	1	Challan Treas			
	Rear Inlet	ASG-SP20BBS	1	Shallow Type			
Walted and	Left Inlet	ASG-SP20LS	1				
Stainless	A:- O - H - +	ASG-SP21FBS	1				
	Air Outlet	FA-SP20A	1	Dana Tura			
	Rear Inlet	ASG-SP21BBS	1	Deep Type			
	Left Inlet	ASG-SP20LS	1				

 $At the \ driving \ snow \ area, it is \ recommended \ to \ select \ the \ full \ type \ covered \ the \ inlet \ and \ outlet \ of \ the \ outdoor \ unit.$ 

Although the hood is stainless steel made, corrosion may occur due to attachment of salt content and iron content from the outside. Pay attention to the installation and maintenance.

The full type and the half type shall be utilized in each set. If not used together, it does not resist strong wind.

The cooling and heating capacity may lower by attaching snow protection hood according to operation condition.



### **Comfort first**

For each space its own indoor unit. Our wide range of units can meet any type of requirement and space layout, and seamlessly integrate with interiors.

With seamless and quiet operation, your customers can relax and enjoy the air while using only the amount energy needed. Advanced functions such as GentleCool and AutoBoost allow you to customize the air in each space to suit your customers' preferences, while smart design minimizes the need for maintenance.

#### 33 PRODUCT DETAIL

35	Ceiling Cassettes
36	4 Way Cassette
36	4 Way Compact Cassette
39	2 Way Cassette
42	1 Way Cassette
44	In-the-Ceiling Units
44	In-the-Ceiling
45	In-the-Ceiling (Duct Type)
46	Others
46	Floor Concealed
47	Floor/Ceiling Convertible
48	Hi Wall

#### 50 SPECIFICATIONS

### **Choice for perfect indoor experience**

Indoor Unit Category		НР									
		0.8	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	
	4 way cassette			✓	✓	✓	<b>√</b>	✓	✓	<b>√</b>	✓
Ceiling Cassette	4 way compact cassette			<b>√</b>	✓	✓	<b>√</b>				
Ceiling (	2 way cassette		✓	✓	✓	✓	✓	✓	✓	✓	✓
	1 way cassette			<b>√</b>		✓	<b>√</b>				
cealed	In-the-ceiling			✓	✓	✓	✓				
In-The-Ceiling & Concealed	In-the-ceiling (Duct type)			✓	✓	✓	✓	✓	✓	✓	✓
In-The-	Floor concealed			✓	✓	✓	✓			†	
pes	Floor/Ceiling convertible					✓	✓	✓	✓	✓	
Exposed	Hi wall		✓	✓	✓	✓	✓	<b>√</b>	✓		

 $<sup>^{\</sup>star}1$  Way Cassette also available in 1.3 HP and 1.6 HP.

<sup>\*</sup>Product images shown are for reference only and data can be changed without prior notice.

<sup>\*</sup>In-The-Ceiling (Duct type) high static models are available in 8,10,16  $\&\,20$  HP.

### **Key information**

#### **Ceiling Cassette**



#### 4 way cassette

- Individual 4 way louver
- Motion Sensor technology (optional)
- Higher ceiling installation (up to 5.5m in cooling mode)



#### 4 way compact cassette

- Compact grid 600X600mm
- Quieter operation (as low as 24.5 dB (A))
- Higher ceiling installation (up to 4.6m in cooling mode)



#### 2 way cassette

- Individual louver option
- Motion Sensor technology (optional)
- Higher ceiling installation (up to 4.6 m in cooling mode)



#### 1 way cassette

- Compact size: Height- 192 mm & Depth - 470 mm
- Quiet operation (as low as 27 dB(A))
- Max. drainage height up to 1200 mm

#### **In-The-Ceiling & Concealed**



#### In-the-ceiling

- Ease of installation with 192 mm height
- Compact width starting from 700 mm



#### In-the-ceiling

#### (Duct type)

- Broad range of ESP up to 50 Pa with long and short duct variants.
- Ease of installation and flexible duct connection
- Higher cfm
- Flexible mirror installation for hotel application



#### Floor concealed

- Compact height up to 620 mm
- Can be hidden away without ceiling void

#### **Exposed**



#### Floor/Ceiling convertible

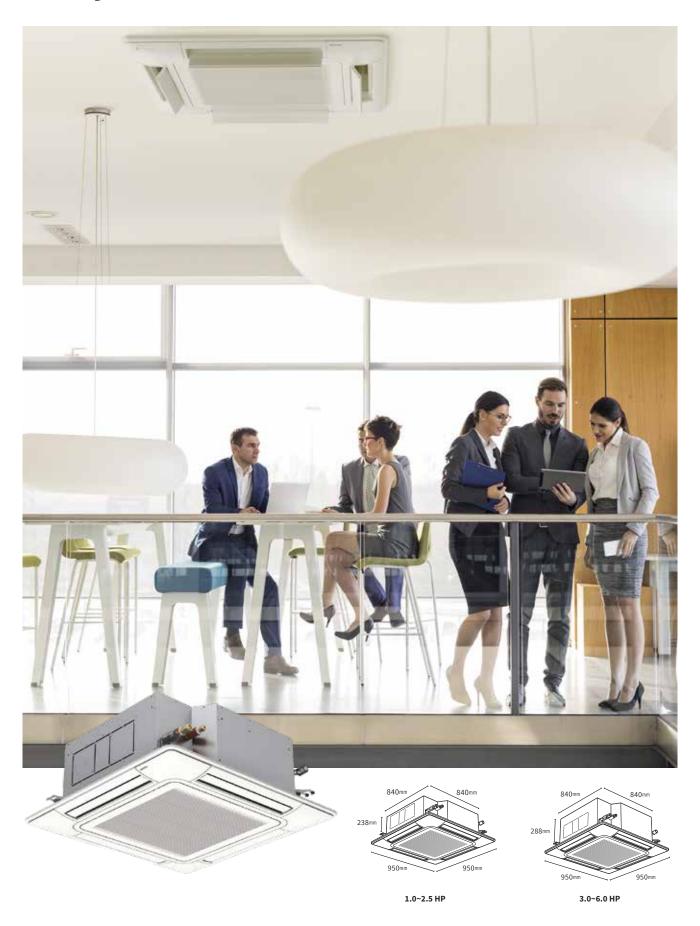
- Easy installation
- It can be mounted on floor or suspended in ceiling as per the choice and space availability.



- iClean+ technology
- Motion Sensor technology
- Wide range of capacity from 0.8 HP to 4 HP

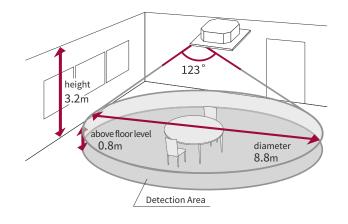


### 4 way cassette



#### **Motion Sensor technology**

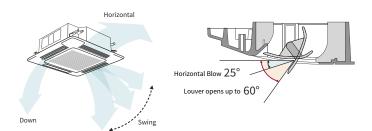
Motion Sensor technology comes with the ability to ensure you get equal attention for equal cooling comfort and enjoy higher energy savings. It identifies the number of people and directs airflow as per the requirement. In case of human absence, the sensor automatically switches the AC off, reducing wastage of energy.



- \* Motion Sensor detecting area dimension 7.0m = 1.0-3.0FSKDNQ 8.8m = 4.0-6.0FSKDNQ
- \* Motion Sensor is an optional feature (PS-MSK2) with use of Advanced Wired Controller (PC-ARF/ PC-ARF1)

#### Individual 4 way louver control

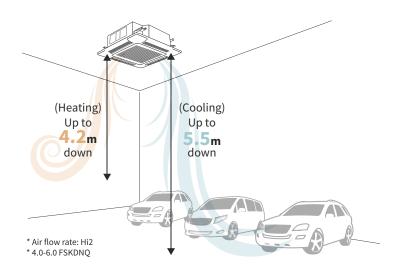
Have control of the airflow with 4 way individual louver. It's louver can be adjusted as per the requirement in each zone and the wastage of air to a dead zone can also be avoided.



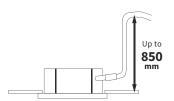
 $^{\star}$  This feature is compatible with wired remote controller (PC-ARF/ PC-ARF1/ HCWA10NEGQ)

#### **Engineered for high ceiling space**

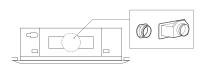
Hitachi's Cassette AC are engineered to place at higher ceiling space such as car showroom space, banquets, and more.



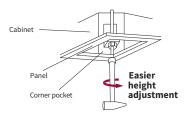
# Standard drain pump with 850 mm lift



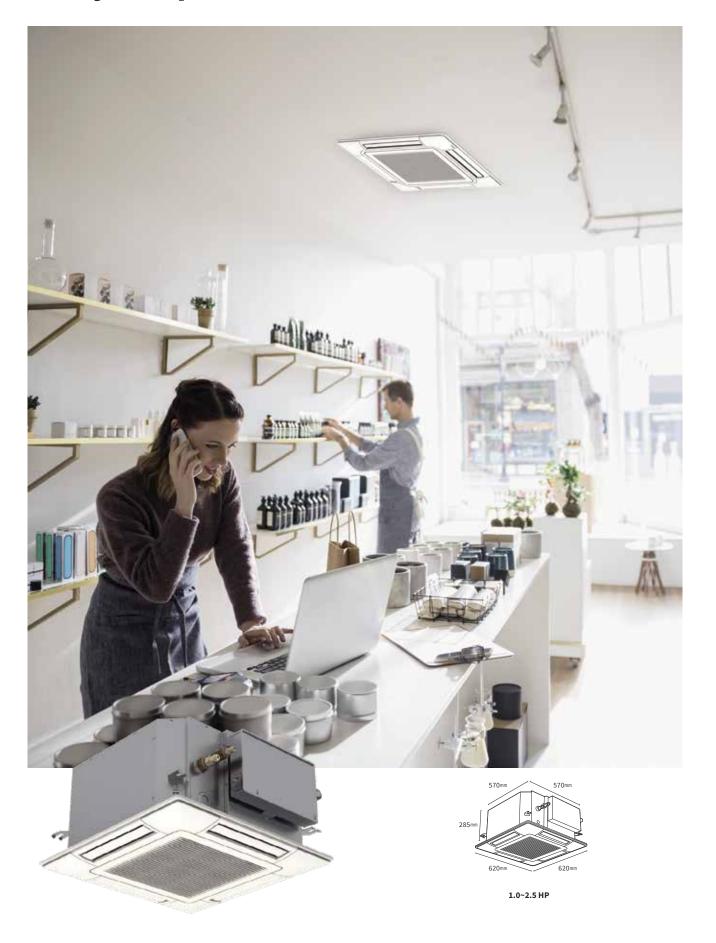
# Direct attachment of round-ducts available



# Easy fine-tune for installment height



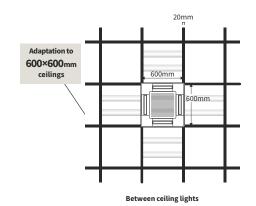
# 4 way compact cassette



#### Stylishly modern

# 30mm thickness Fully opened louvers doesn't exceed the

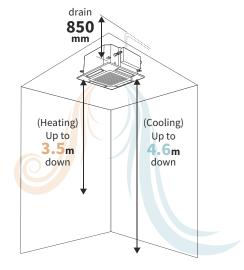
#### **Compact design**



#### **Engineered for high ceiling space**

surface

Hitachi's Compact Cassette AC are engineered to place at higher ceiling space such as car showroom space, banquets, and more. It comes with standard drain pump of 850 mm lift.



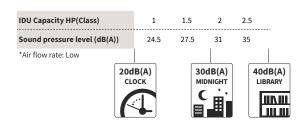
- \* Air flow rate: Hi2
- \* 2.0-2.5 FSN4

#### Antibacterial drain pan

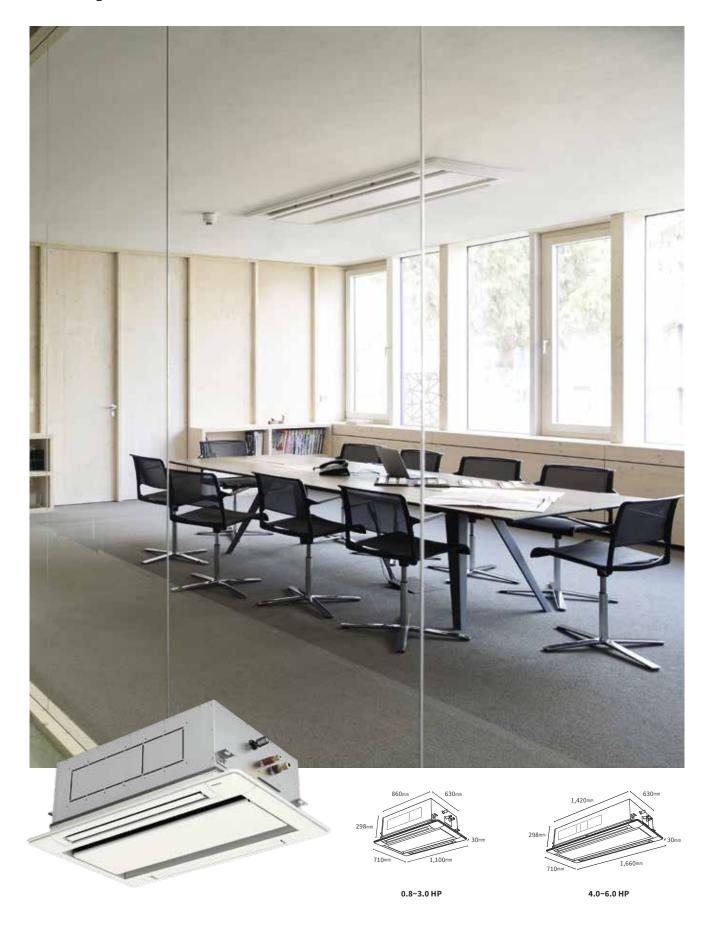
Adopting new antibacterial agent of drain pan for cleaner air and ease of maintenance.



#### **Silent operation**

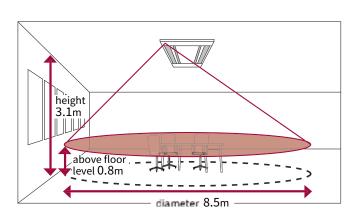


# 2 way cassette



#### **Motion Sensor technology**

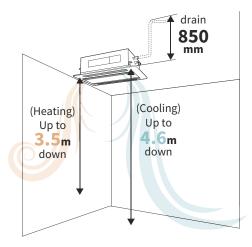
Motion Sensor technology comes with the ability to ensure you get equal attention for equal cooling comfort and enjoy higher energy savings. It identifies the number of people and directs airflow as per the requirement. In case of human absence, the sensor automatically switches the AC off, reducing wastage of energy.



<sup>\*</sup>Motion Sensor is an optional feature (SOR-NED) with use of advanced wired controller (PC-ARF/ PC-ARF1)

#### **Engineered for high ceiling space**

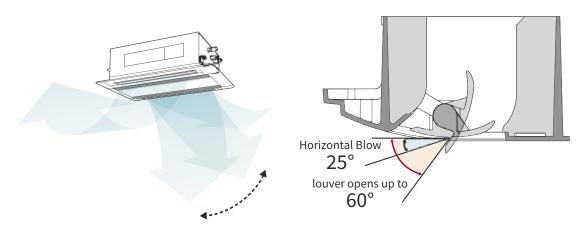
Hitachi's 2 Way Cassette AC is engineered to place at higher ceiling space such as car showroom space, banquets, and more. It comes with standard drain pump with 850 mm lift.



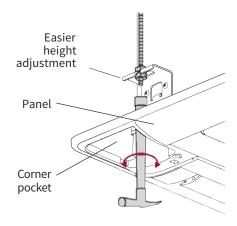
- \* Air flow rate: Hi2
- \* 2.0-6.0 FSN3

#### Individual louver control

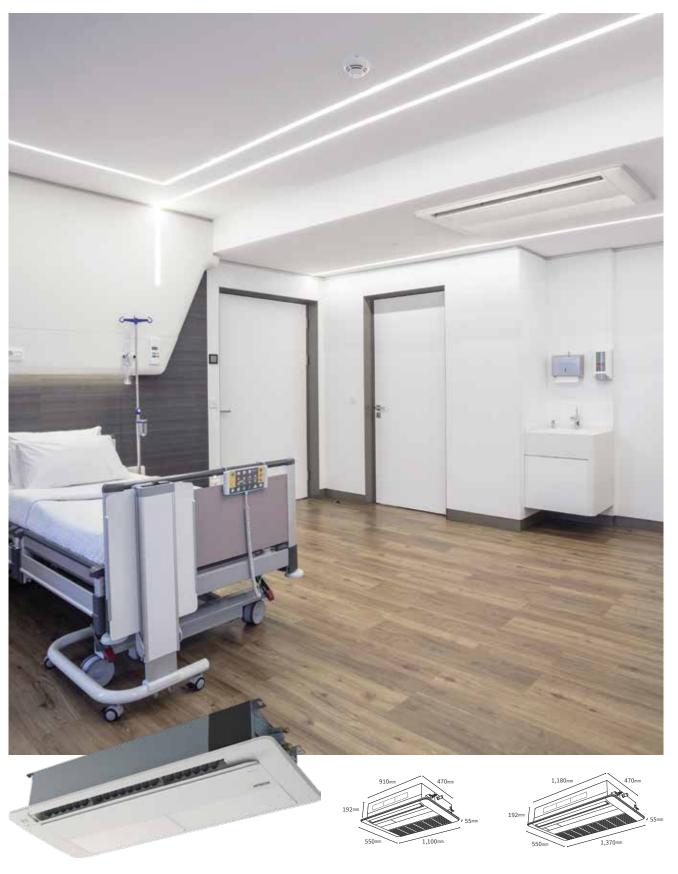
Have control of the airflow with Individual louver. Its louver can be adjusted as per the requirement in each zone and the wastage of air to a dead zone can also be avoided.



#### Easy fine-tune for installment height



# 1 way cassette

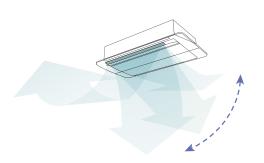


1.0~1.6 HP

2.0~2.5 HP

#### 3D air flow

3 directional air flow with broad air deflector design to have adjustable wind direction as per your need for a comfortable environment.

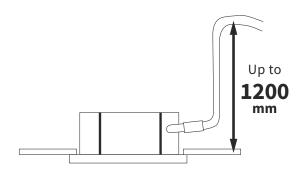


#### Sleek and compact design

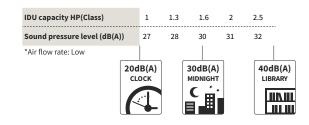


#### Standard drain pump

Standard equipped drain pump with maximum drainage height up to 1200 mm



#### **Silent operation**



#### Adjustable air speed

Adoption of the efficient DC motor and the optimized duct design assure the smooth air flow.

#### Fresh air provision (Optional)

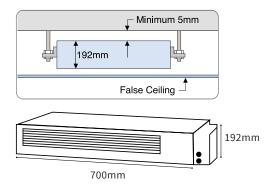
The unit can introduce fresh air from the external environment. With the filter facility, the air quality is guaranteed.

# **In-the-ceiling**



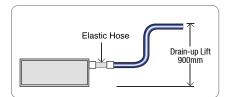
#### Space saving installation

192 mm in height, low height residential ceilings pose no problem in installation. Low width starting of 700 mm makes this model suitable for installation in limited spaces in hotels.



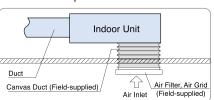
\*For 1 HP model

Drain-up lift achieves 900mm, which enables convenient drain piping and increases the flexibility of installation.



#### **Designed for customised installations**

The air inlet is available as rear or bottom entry, which gives the consumers the option to choose relevant air inlet mode according to the practical installation space.



(Installation Diagram of Air Bottom Inlet)

# In-the-ceiling (Duct type)



#### **Broad range of external static pressure**

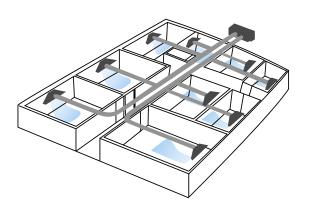
At 20-50 pa, installation options comes in both long duct and short duct variants.

#### Flexibility in installation

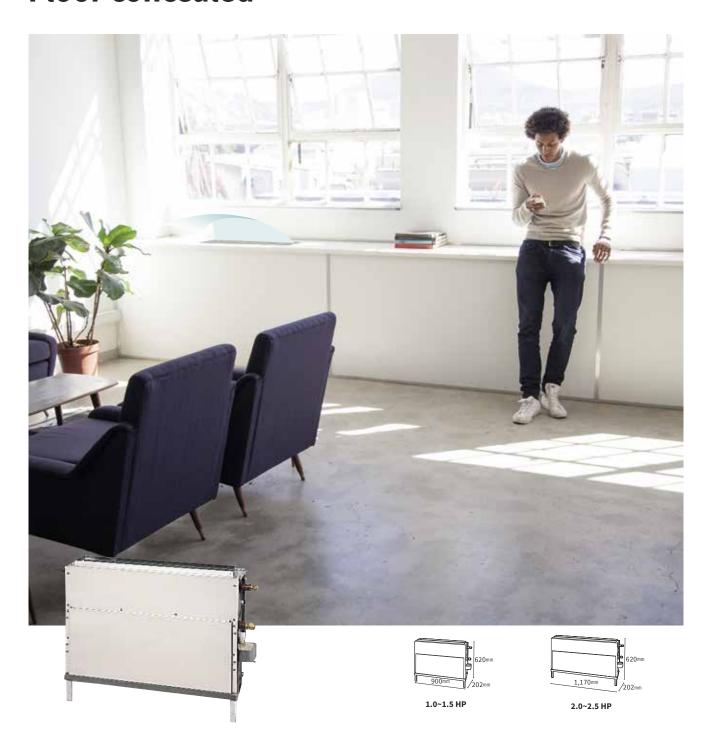
Flexible installation with both LHS and RHS installation provisions. Suitable for any mirror application installation in hotels, villas, etc. (available in 1.0, 1.5, & 2.0 HP models)

#### **Connect multiple rooms**

Flexibility to connect multiple rooms with single IDU when there is lesser space available.

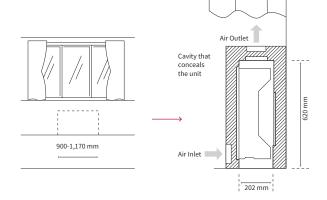


# Floor concealed



#### **Design flexibility**

- Blends unobtrusively with any interior décor, only the suction and discharge grilles are visible
- and discharge grilles are visible
  Its low height (only 620 mm)
  enables the unit to fit perfectly
  beneath a window
- Requires little installation space thanks to its slim 202 mm depth

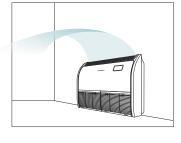


# Floor/Ceiling convertible



#### Installation on floor or ceiling

- When performance and practicality are a priority, convertible units are a functional solution
- Suitable for creating a calming and comfortable atmosphere in small to medium-sized spaces
- Each unit can be floor mounted or ceiling suspended
- Installation is simple and straight forward





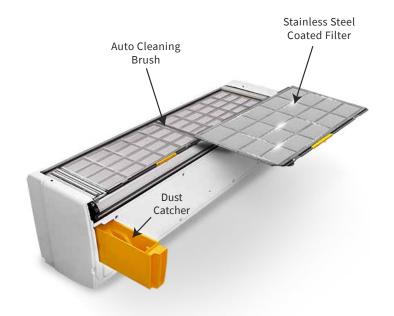
5.0 HP

# Hi wall

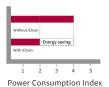


#### iClean⁺ technology

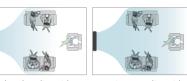
The revolutionary Auto Filter Cleaning technology in Hitachi Air Conditioners cleans the stainless steel coated filter of the AC automatically every 12 hours of cumulative running. The auto cleaning brush moves twice over the dust catcher to increase dust transfer capacity and ensures filter becomes dust free. Thus. the air coming from the AC is always clean and fresh.



#### **Benefits Ever efficient**



#### Ever powerful



Reduced Cooling without Consistent Cooling with iClean+ iClean+

Ever clean Dust on filter after a few days



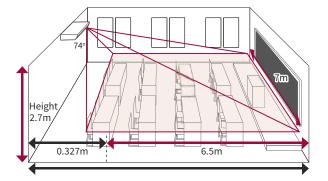


With Auto Filter Cleaning Without Auto Filter Cleaning

#### **Motion Sensor technology**

Motion Sensor technology comes with the ability to ensure you get equal attention for equal cooling comfort and enjoy higher energy savings. It identifies the number of people and directs airflow as per the requirement. In case of human absence, the sensor automatically switches the AC off, reducing wastage of energy. Motion Sensor technology is available in RPK-FSNK1/2

#### **Motion Sensor Technology** to achieve better energy saving



<sup>\*</sup>Available in Hi-Wall iClean unit only

# **Specifications**

## 4 way cassette

Model			RCI- 1.0FSKDNQ	RCI- 1.5FSKDNQ	RCI- 2.0FSKDNQ	RCI- 2.5FSKDNQ	RCI- 3.0FSKDNQ	RCI- 4.0FSKDNQ	RCI- 5.0FSKDNQ	RCI- 6.0FSKDNQ			
Indoor Unit Po	wer Supply					АС 1Ф, 220	-240 V / 50 Hz						
Nominal Coolin	ng Capacity*1	kW	2.8	4.0	5.6	7.1	8.0	11.2	14.0	16.0			
Nominal Heatin		kW	3.2	4.8	6.3	8.5	9.0	12.5	16.0	18.0			
	e Level*3 (Hi2/Hi/Me/Lo)	dB(A)	33/30/28/27	35/31/30/27	37/32/30/27	42/36/32/28	42/36/32/28	48/43/39/33	48/45/40/35	48/46/41/37			
	Height	mm	238	238	238	238	288	288	288	288			
Outer Dimensions	Width	mm	840	840 840 840 840		840	840	840	840				
	Depth	mm	840	840	840	840	840	840	840	840			
Net Weight		kg	20	21	21	22	26	26	26	26			
Refrigerant							410A						
		m³/min.	15/13/11/9	21/17/14/11	22/17/14/11	27/23/18/14		37/31/24/20	37/33/26/21	37/35/28/22			
Indoor Fan	Air Flow Rate (Hi2/Hi/Me/Lo)	cfm	530/459/ 388/318	741/600/ 494/388	777/600/ 494/388	953/812/ 635/494	953/812/ 635/494	1306/1095/ 847/706	1306/1165/ 918/741	1306/1235/ 989/777			
Motor Output		W	57	57	57	57	57	127	127	127			
Connections					Fl	are-Nut Connec							
	Liquid Line	mm	Ф6.35	Ф6.35	Ф6.35	Ф9.52	Ф9.52	Ф9.52	Ф9.52	Ф9.52			
Refrigerant Piping	Gas Line	mm	Ф12.7	Ф12.7	Ф12.7	Ф15.88	Ф15.88	Ф15.88	Ф15.88	Ф15.88			
	Condensate Drain					V	/P25						
Decoration Pan	el		P-N23NA2 (Included)										
Color		Neutral White											
Outer Dimension	ons (H X W X D)				40 X 9	950 X 950							
Net Weight		6.5											

#### 1 way cassette

Model			RCIS-1.0FSKDNQ	RCIS-1.3FSKDNQ	RCIS-1.6FSKDNQ	RCIS-2.0FSKDNQ	RCIS-2.5FSKDNQ		
Indoor Unit Po	wer Supply				AC 1Ф, 220 V / 50 Hz				
Nominal Coolin	ng Capacity*1	KW	2.8	3.6	4.5	5.6	7.1		
Nominal Heatir	ng Capacity*2	KW	3.2	4.0	5.0	6.3	8.0		
Sound Pressure (Hi2/Hi/Me/Lo/		dB (A)	32/31/30/29/28/27	37/35/34/32/30/28	41/37/34/33/31/30	40/38/35/33/32/31	46/42/40/37/34/32		
	Height	mm	192	192	192	192	192		
Outer Dimensions	Width	mm	910	910	910	1180	1180		
	Depth	mm	470	470	470	470	470		
Net Weight		Kg	19	20	20	24	24		
Refrigerant	frigerant				R410A				
	Air Flow Rate	m3/min	6.6/6.2/5.6/5.1/4.8/4.6	8.3/7.3/6.8/6.2/5.6/5.1	10/8.3/6.8/6.3/5.7/5.2	12.1/9.9/8.8/8.2/7.8/6.6	15.6/12.6/11.2/9.9/8.4/7.1		
Indoor Fan	(Hi2/Hi/Me/Lo/Slo/Silent)	cfm	233/219/198/180/169/162	293/258/240/219/198/180	353/293/240/222/201/183	427/350/311/290/275/233	551/445/395/350/297/251		
Motor Output		w	20	30	40	40	80		
Connections				Flare-i	Nut Connection (with Fla	re Nuts)			
	Liquid Line	mm	Ф6.35	Ф6.35	Ф6.35	Ф6.35	Ф9.53		
Refrigerant Piping	Gas Line	mm	Φ12.7	Φ12.7	Ф12.7	Ф15.88	Ф15.88		
	Condensate Drain				VP25				
Decoration Pan	coration Panel			E (Included for RCIS-[1.	0-1.6]FSKDNQ)	P-N71SNKQAE (Included for RCIS-[2.0-2.5] FSKDNQ)			
Color	olor			Neutral White	Neutral White				
Outer Dimension	Outer Dimensions (H X W X D) mm			55 X 1100 X 550	55 X 1370 X 550				
Net Weight	let Weight Kg			5.0	6.0				

Notes for RCI-FSKDNQ, RCIM-FSN4, RCIS-FSKDNQ & RCD-FSN3:
\*1 & \*2. The cooling and heating capacities shown in the table are based on following conditions:
Cooling Operation Conditions: Indoor Air Inlet Temperature: 27° C DB, 19°C WB. Outdoor Air Inlet Temperature: 35°C DB.
Heating Operation Conditions: Indoor Air Inlet Temperature: 20° C DB. Outdoor Air Inlet Temperature: 7°C DB, 6°C WB.
Piping Length: 7.5 meters. Piping Lift: 0 meter.

# 4 way compact cassette

Model			RCIM-1.0FSN4	RCIM-1.5FSN4	RCIM-2.0FSN4	RCIM-2.5FSN4						
Indoor Unit Po				AC 1Ф, 220	-240 V / 50 Hz							
Nominal Cooli		kW	2.8	4.0	5.6	7.1						
Nominal Heat	ing Capacity*2	kW	3.2	4.8	6.3	8.5						
Sound Pressu			38/34/30/24.5	41/37/33/27.5	45/39/35/31	47/43/39/35						
	Height	mm	285	285	285	285						
Outer Dimensions	Width	mm	570	570	570	570						
	Depth	mm	570	570	570	570						
Net Weight		kg	16	16	17	17						
Refrigerant				R	410A							
	Air Flow Rate	m³/min.	12/10/8.5/6	13/11/9.5/7	15/12/10/8	16/14/12/10						
ndoor Fan	or Fan Air Flow Rate (Hi2/Hi/Me/Lo) r Output	cfm	424/353/300/212	459/388/335/247	530/424/353/282	565/494/424/353						
Notor Output	Height Pensions Width Depth Weight Igerant  or Fan Air Flow Rate (Hi2/Hi/Me/Lo) Or Output Pensions Liquid Line Gas Line Condensate Drain Paration Panel	w	57	57	57	57						
onnections					tion (with Flare Nuts)							
		mm	Ф6.35	Ф6.35	Ф6.35	Ф9.52						
Refrigerant Piping		mm	Ф12.7	Ф12.7	Ф12.7	Ф15.88						
	Condensate Drain				P25							
Decoration Pa	nel			P-AP56NAM (with	nout motion sensor)							
Color				Neutr	ral White							
Outer Dimensions (H X W X D) mm			30 X 620 X 620									
Net Weight		kg	2.5									

# 2 way cassette

Model			RCD-0.8FSN3	RCD-1.0FSN3	RCD-1.5FSN3	RCD-2.0FSN3	RCD-2.5FSN3	RCD-3.0FSN3	RCD-4.0FSN3	RCD-5.0FSN3	RCD-6.0FSN3				
Indoor Unit Po	ower Supply					AC	Σ1Φ, 220-240 V / 5	60 Hz							
Nominal Cooli	ng Capacity*1	kW	2.2	2.8	4.0	5.6	7.1	8.0	11.2	14.0	16.0				
Nominal Heati	ing Capacity*2	kW	2.5	3.2	4.8	6.3	8.5	9.0	12.5	16.0	18.0				
Sound Pressur	e Level*3 (Hi2/Hi/Me/Lo)	dB(A)	30/29/28/27	31/29/28/27	37/34/31/30	39/36/33/30	42/39/36/33	45/42/38/33	-1 1-11 1-11 1						
	Height	mm	298	298	298	298	298	298	298	298	298				
Outer Dimensions	Width	mm	860	860	860 860 860 860		860	1,420	1,420	1,420					
	Depth	mm	630	630	630	630	630	630	630	630	630				
Net Weight		kg	23	23	25	25	25	25	39	39	39				
Refrigerant				R410A											
Indoor Fon	Air Flow Rate	m³/min.	10/9/7.5/6.5	11/9.5/8.5/7	15/13/11.5/10	16.5/14.5 /12.5/10.5	18.5/16.5 /14.5/12.5	21/18.5 /16/12.5	30/26.5/23/20	35/31/27/21	37/32.5 /28.5/24				
	(Hi2/Hi/Me/Lo)	cfm	353/318/265 /230	388/335/300 /247	530/459/406 /353	583/512/441 /371	653/583/512 /441	742/653/565 /441	1,059/936 /812/706	1,236/1,095 /953/742	1,306/1,147 /1,006/847				
Motor		W	57	57	57	57	57	57	57 x 2	57 x 2	57 x 2				
Connections							Connection (with								
	Liquid Line	mm	Ф6.35	Φ6.35	Ф6.35	Ф6.35	Ф9.52	Φ9.52	Ф9.52	Ф9.52	Ф9.52				
Refrigerant Piping	Gas Line	mm	Ф12.7	Ф12.7	Ф12.7	Ф12.7	Ф15.88	Ф15.88	Ф15.88	Ф15.88	Ф15.88				
, ,	Condensate Drain						VP25								
Decoration Pa	nel			P-APS	90DNA (for RCD-	[0.8-3.0] FSN3)			P-AP160DNA	(for RCD- [4.0-6.	.0] FSN3)				
Color		<u> </u>			Neutral W		N	leutral White							
Outer Dimensi	ions (H X W X D)	mm			30 X 1100 X		30 X 1660 X 710								
Net Weight		kg			7.5		10.5								

# Floor/Ceiling convertible

Model			RPFC-2.0FSNQ	RPFC-2.5FSNQ	RPFC-3.0FSNQ	RPFC-4.0FSNQ	RPFC-5.0FSNQ
Indoor Unit P	ower Supply				АС 1Ф, 220-240 V / 50 Hz		
Nominal Coo	ling Capacity*1	kW	5.6	7.1	8.4	11.2	14.2
Nominal Hea	ting Capacity*2	kW	6.5	8.5	9.6	13.0	16.3
Sound Pressu	Sound Pressure Level*4		39/35/30	45/41/37	43/39/34	51/46/40	50/46/42
(Hi/Me/Lo)	αБ(А)	Floor	43/38/35	48/44/40	46/41/37	54/49/43	55/50/46
	Height	mm	230	230	230	230	230
Dimensions	Width	mm	990	990	1,285	1,285	1,580
	Depth	mm	680	680	680	680	680
Net Weight		kg	31	32	39	41	47
Refrigerant					R410A		
	A: Flance Barba (112/Mar/1 a)	m³/min		16.1/14/11.3	18.2/15.2/12.2	24.8/20.5/16.3	33/28/23
ndoor Fan	AIT Flow Rate (HI/Me/Lo)	cfm	459/388/318	568/494/399	643/537/431	876/724/576	1165/989/812
Motor Output		W	40	70	70	130	160
Connections					Nut Connection (with Flare Nu		
Refrigerant G Piping	Liquid Line	mm	Ф6.35	Ф9.53	Ф9.53	Ф9.53	Ф9.53
	Gas Line	mm	Ф15.88	Ф15.88	Ф15.88	Ф15.88	Ф15.88
	Condensate Drain				VP25		

## Hi wall

Model			RPK- 0.8FSNK2	RPK- 1.0FSNK2	RPK- 1.5FSNK2	RPK- 2.0FSNK2	RPK- 2.5FSNK2	RPK- 1.5FSNK1	RPK- 2.0FSNK1	RPK- 2.5FSNK1	RPK- 3.0FSN4M	RPK- 4.0FSN4M				
Indoor Unit P	ower Supply						AC 1Ф, 23	30 V / 50 Hz								
Nominal Cool	ling Capacity*1	KW	2.2	2.8	4.0	5.6	7.1	4.0	5.6	7.1	8.0	11.2				
Nominal Heat	ting Capacity*2	KW	2.6	3.2	4.8	6.3	8.5	4.8	6.3	8.5	9.0	12.5				
Sound Pressu (Hi2/Hi/Me/Lo		dB (A)	40/38/ 36/34/32	43/40/ 37/35/33	45/40/ 37/35/33	48/45/ 42/39/35	49/46/ 43/40/36	45/42/ 39/37/35	48/45/ 42/39/35	49/46/ 43/40/36	47/44/40/35	51/48/44/39				
	Height	mm	295	295	295	295	295	295	295	95 295		300				
Outer Dimensions			798	798	798	997	997	997	997	997	1100	1100				
	Depth	mm	245	245	245	258	258	258	258	258	260	260				
Net Weight		Kg	10.0	10.0	10.0	13.5	13.5	13.5	13.5	13.5	15.0	15.0				
Refrigerant				R410A												
Indoor Fan	Air Flow Rate (Hi2/Hi/Me/Lo/Slo)	m3/min	7.8/7.1	10.5/9.8/ 8.5/ 8.0/7.3	9.3/8.8/8	16.6/15/ 13.5/11.5/10	19/17.2/ 15.4/13.1 /11.4	15/13.5/ 11.5/10.7 /10	16.6/15/ 13.5/11.5 /10	19/17.2/ 15.4/13.1 /11.4	20/17.5/ 15.5/12.5	23/20/ 17.5/14.5				
	(HIZ/HI/ME/LO/Sto)	cfm	346/321/300/ 275/250	371/346/300/ 282/258			671/607/544/ 462/403	530/477/406/ 378/353	586/530/477/ 406/353	671/607/544/ 462/403	706/618/547/ 441	812/706/618/ 512				
Motor Output	t	w	18	18	18	30	30	30	30	30	38	38				
Connections							e-Nut Connect	ion (with Flare	Nuts)							
Refrigerant	Liquid Lina		Ф6.35	Ф6.35	Ф6.35	Ф6.35	Ф9.52	Ф6.35	Ф6.35	Ф9.52	Ф9.52	Ф9.52				
Piping	Gas Line	mm	Ф12.7	Ф12.7	Ф12.7	Ф15.88	Ф15.88	Ф12.7	Ф15.88	Ф15.88	Ф15.88	Ф15.88				
iClean Funct	Clean Function			No	No	No	No	Yes	Yes	Yes	No	No				

# In-the-ceiling

Model			RPIZ-1.0HNATNQ	RPIZ-1.5HNATNQ	RPIZ-2.0HNATNQ	RPIZ-2.5HNATNQ						
Indoor Unit Power	Supply			AC	1Ф, 220-240V / 50 Hz							
Nominal Cooling C	apacity*1	KW	2.8	4.0	5.6	7.1						
Nominal Heating C	apacity*2	KW	3.2	4.5	6.3	8.0						
Sound Pressure Le (Hi/Me/Lo)	vel*3 *5		30/23/20	32.5/26/23	34/26/25	37/29/27						
	nensions Width mm		192	192	192	192						
Outer Dimensions			700	910	1180	1180						
	Depth	mm	447	447	447	447						
Net Weight		Kg	17.0	21.0	27.0	28.0						
Refrigerant			R410A									
	Air Flow Rate	m3/min	9.5/6.5/5.5	10/7/6	15/10/9	17/10/9						
Indoor Fan	(Hi/Me/Lo)	cfm	335/230/194	353/247/212	530/353/318	600/353/318						
External Static Pres	ssure*6	Pa	10(30)	10(30)	10(30)	10(30)						
Motor Output		W	28	28	45	60						
Connections				Flare-Nut (	Connection (with Flare Nuts)							
p.6:	Liquid Line	mm	Ф6.35	Ф6.35	Ф6.35	Ф9.53						
Refrigerant Piping	Gas Line	mm	Φ12.7	Ф12.7	Ф15.88	Ф15.88						

# In-the-ceiling (Duct type)

Model*7	odel*7			RPIL1.5FSNK3	RPIL2.0FSNK3	RPIL2.0FSNK	RPIL2.5FSNK	RPIL3.0FSNK	RPIM4.0FSNK	RPIM5.0FSNK	RPIM6.0FSNK			
Indoor Unit F	ower Supply					AC 1Ф, 2	30 V / 50 Hz							
Nominal Coo	ling Capacity*1	KW	2.8	4.3	5.6	5.6	7.1	8.4	11.2	14.0	16.0			
Nominal Hea	ting Capacity*2	KW	3.3	4.9	6.3	6.3	8.5	9.0	12.5	16.0	18.0			
Sound Pressi (Hi/Me/Lo)	Sound Pressure Level*3 *5 dB (A) (Hi/Me/Lo)		32/30/28	36/34/32	37/35/33	36/34/31	37/34/32	40/37/33	52/49/47	55/52/50	57/54/52			
	Height	mm	280	280	280	280	280	280	385	385	385			
Outer Dimensions	Width	mm	800	800	800	1130	1130	1130	1190	1190	1190			
	Depth	mm	535	535	535	535	535	535	675	675	675			
Net Weight		Kg	28.0	28.0	28.0	31.0	32.0	32.0	63.0	65.0	67.0			
Refrigerant				R410A										
to do on Pour	Air Flow Rate	m3/min	10/8/7	13/11/9	15/13/11	18.4/15.7/14	23/20/15.6	28/24/20	33/31/28	45/41/37.5	56/52/48			
Indoor Fan	(Hi/Me/Lo)	cfm	353/282/247	459/388/317	529/459/388	650/550/500	800/700/550	1000/850/700	1200/1100/990	1600/1460/1325	1977/1836/1695			
External Stat	ic Pressure	Pa	19	19	19	19	19	19	49	49	60			
Motor Outpu	Motor Output V		24	24	24	50	50	50	220	220	630			
Connections	Connections				Fl	are-Nut Connec	tion (with Flare I	Nuts)						
Refrigerant	Liquid Line	mm	Ф6.35	Ф6.35	Ф6.35	Ф6.35	Ф9.52	Ф9.52	Ф9.52	Ф9.52	Ф9.52			
Piping	Gas Line	mm	Ф12.7	Ф12.7	Ф15.88	Ф15.88	Ф15.88	Ф15.88	Ф15.88	Ф15.88	Ф15.88			

Notes for RPFC-FSNQ, RPIZ-HNATNQ, RPK-FSNK2/FSNK1/FSN4M & RPIL-FSNK/FSNK3:

The sound pressure level is based on following conditions:

\*3. 1.5 meters beneath the unit. \*4.1 meter from the unit & 1 meter from the floor level.

The data's mentioned in the table was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

\*5 When bottom air inlet is adopted, sound pressure will increase according to factors such as installation mode & the room structure.

\*6 The data for external pressure indicates standard pressure setting values when air filter is not used.

\*7. More Models RPIL1.0FSNK4, RPIL1.5FSNK4, RPIL2.0FSNK4 are available with left hand side installation provision.

# **Specifications Table In-The Ceiling (Duct Type - High Static)**

MODEL			RPI8.0FSNK1	RPI10FSNK1	RPI16FSNK	RPI20FSNK	RPI16FSNK1	RPI20FSNK1				
INDOOR UNIT POWE	ER SUPPLY			AC 1Ø, 230V / 50 H	7		AC 3Ø, 4	15V / 50 HZ				
NOMINAL COOLING	CAPACITY	KW	22.4	28.0	45.0	56.0	45.0	56.0				
NOMINAL HEATING	CAPACITY	KW	25.0	31.5	50.0	63.0	50.0	63.0				
SOUND PRESSURE I	EVEL (HI/ME/LO)	DB (A)	62/59/57	64/61/59	66/63/60	68/65/62	68.0	72.0				
OUTER DIMENSIONS	HEIGHT	ММ	440	440	550	550	1550(V)/725(H)	1550(V)/725(H)				
DIMENSIONS	WIDTH	ММ	1550	1550	2040	2040	1550(V)/1550(H)	1550(V)/1550(H)				
	DEPTH	ММ	675	675	1085	1085	800(V)/1615(H)	800(V)/1615(H)				
NET WEIGHT		KG	81.0	81.0	191.0	194.0	250.0	253.0				
REFRIGERANT				R410A								
INDOOR FAN	AIR FLOW RATE (HI/ME/LO)	M3/MIN	85/77.6/70	96/87.5/80	150/142/135	170/162/ 154	166	186				
	,	CFM	3000/2740/ 2480	3400/3100/2810	5300/5010/4760	6000/5720/ 5440	5860	6560				
EXTERNAL STATIC P	RESSURE	PA	78	78	100	100	150	150				
MOTOR OUTPUT		W	630	630	550 (3)	550 (3)	3000	3000				
CONNECTIONS					BRAZING CO	ONNECTION						
REFRIGERANT PIPING	LIQUID LINE	ММ	Ø 9.52	Ø 9.52	Ø 12.7	Ø 15.88	Ø 12.7	Ø 15.88				
GAS LINE		ММ	Ø 19.05	Ø 22.22	Ø 28.58	Ø 28.58	Ø 28.58	Ø 28.58				

#### Floor concealed

Model			RPFI-1.0FSNQ	RPFI-1.5FSNQ	RPFI-2.0FSNQ	RPFI-2.5FSNQ							
Indoor Unit Po	wer Supply			АС 1Ф, 230 V / 50 H	Z								
Nominal Coolin	ng Capacity*1	kW	2.8	4.3	5.6	7.1							
Nominal Heatir	ng Capacity*2	kW	3.3	4.9	6.5	8.5							
Sound Pressure (Hi/ Me/ Lo)	e Level*3	dB (A)	37/34/31	40/38/35	42/38/36	45/43/40							
	Height		620	620	620	620							
Outer Dimensions	Width	mm	900	900	1170	1170							
	Depth	mm	202	202	202	202							
Net Weight		Kg	25	26	34	34							
Refrigerant				R410A									
Indoor Fan	Air Flow Rate	m³/min	8.0/7.0/6.0	10/8.0/7.0	14.5/12.5/10.5	16/14/12							
IIIuooi raii	Hi/Me/Lo	cfm	282/247/212	353/282/247	512/441/371	565/494/424							
Motor Output		W	20	35	40	50							
Connection				Flare-Nut Connection (with	Flare Nuts)								
	Liquid Line	mm	Ф6.35	Ф6.35	Ф6.35	Ф9.53							
Refrigerant Piping	Gas Line	mm	Ф12.7	Ф12.7	Ф15.88	Ф15.88							
	Condensate Drain		VP 25	VP 25	VP 25	VP 25							

Notes for RPFI-FSNQ:

1\*1.8 \*2. The cooling and heating capacities shown in the table are based on following conditions:

Cooling Operation Conditions: Indoor Air Inlet Temperature: 27° C DB, 19°C WB. Outdoor Air Inlet Temperature: 35°C DB.

Heating Operation Conditions: Indoor Air Inlet Temperature: 20° C DB. Outdoor Air Inlet Temperature: 7°C DB, 6°C WB.

Piping Length: 7.5 meters. Piping Lift: 0 meter.

\*3. The sound pressure level is based on following conditions:

1.5 meters from the unit and 1.5 meters from floor level. The data's mentioned in the table was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.





# Improve indoor air quality!

Today, the average person spends more than 75% of their day indoors. Without proper ventilation, CO2 levels rise, pollutants circulate and potentially harmful bacterias build-up, impacting on the wellbeing, comfort and productivity of occupants. Make these spaces as healthy and comfortable as possible by connecting our ventilation solutions into your Hitachi VRF systems.

60	OUR VENTILATION LINE-UP
62	VENTILATION SOLUTIONS
	62 All fresh air unit
	63 Total heat exchanger
C 4	DV KIT



# Our ventilation line-up

Our line-up fulfils the ventilation requirements of the desired space by drawing in clean air from the outside and replenishing indoor spaces. It features solutions that suit every type of building; you can use the ventilation technology as it is or it can be incorporated into a Hitachi indoor unit via the fresh-air port. Thanks to our ventilation options, you can optimize the design of your system to meet your needs.

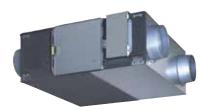
#### **ALL FRESH AIR UNIT**



- Creates a comfortable and healthy indoor environment, thanks to the fresh air and heat/cool functions.
- •Various controllers can be selected and interfaced with the H-LINK system.
- Longer ducts can be connected on-site, thanks to the higher ESP.

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#### **TOTAL HEAT EXCHANGER**



- Creates a healthy indoor environment thanks to the fresh air and ventilation functions.
- Every unit is equipped with a remote controller for the total heat exchanger as a standard part.

Page 8

# From 150 to 6,000m<sup>3</sup>/h

Fan Air Flow Rate (m³/h)	150	200	210	230	300	400	500	550	650	700	800	1,000	1,080	1,250	1,500	1,680	2,000	2,100	2,500	3,000	4,000	5,000	6,000
All Fresh Air Unit													•			•		•		•	•	•	•
Total Heat Exchanger	•	•	•	•	•	•	•	•	•	•	•	•		•	•		•		•	•	•	•	

#### EXTRA AIR-RENEWAL SOLUTION OFFERINGS

We offer two additional options to meet both occupants' needs and your building's requirements.



#### **DX-KIT**

- Offers great flexibility by enabling you to integrate Hitachi VRF into your building's existing air handling units (AHU).
- Wide capacity range (available up to 96HP AHU).
- Wide configuration options with AHU/Indoor units.

#### FRESH-AIR INTAKE PORT



- Optional duct adapter which enables fresh air into the unit so that it can be blown out with conditioned air.
- Connects with the indoor units: 4-way cassette type, 4-way compact cassette type, 2-way cassette type, 1-way cassette type.



# **Ventilation solutions**



Model			RPI-5.0KFNQ		RPI-8.0KFNQ		RPI-10.0KFNQ		RPI-12.0KFNQ	
Power Suppl	у	-	AC 1Φ 220-240V/ 50Hz	АС 1Ф 220V/ 60Hz	АС 1Ф 220-240V/ 50Hz	АС 1Ф 220V/ 60Hz	AC 1Φ 220-240V/ 50Hz	AC 1Φ 220V/ 60Hz	АС 3Ф 380-415V/ 50Hz	АС 3Ф 380V/ 60Hz
Connectable	Outdoor Unit			Slim Modular VI	RF SideSmart™ (Hea	t Pump Type	)		RAS-120HNCEL(/R)W	
	Capacity	kW	14.0	14.0	22.4	22.4	28.0	28.0	33.5	33.5
Cooling	Power	kW	0.30	0.35	0.48	0.55	0.50	0.58	0.68	0.78
	Nominal Current	A	1.4	1.61	2.2	2.53	2.3	2.65	1.43	1.64
	Capacity	kW	13.7	13.7	21.9	21.9	24.5	24.5	26.8	26.8
Heating	Power	kW	0.30	0.35	0.48	0.55	0.50	0.58	0.68	0.78
	Nominal Current	A	1.4	1.61	2.2	2.53	2.3	2.65	1.43	1.64
Sound Press (overall a sca		dB(A)	42	42	44	44	47	47	56	56
Dimensions	H×W×D	mm	370×132	20×800	486×1270×1069		486×1270×1069		486×1270×1069	
Net Weight		kg	63	63	110	110	110	110	110	110
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Air Flow Rate	2	m³/ min	18	18	28	28	35	35	50	50
External Pres	ssure	Pa	200	200	220	220	220	220	220	220
	Liquid	mm	Ф9.53	Ф9.53	Ф9.53	Ф9.53	Ф9.53	Ф9.53	Ф12.7	Ф12.7
Piping	Gas	mm	Ф15.88	Ф15.88	Ф19.05	Ф19.05	Ф22.2	Ф22.2	Ф25.4	Ф25.4
	Condensate Drain				VP25, O	uter Diameter	r: Ф32mm			

Temperature range of fresh air drawn

Cooling: 20.0°C~43.0°C, Heating: -7.0°C~15.0°C

Model			RPI-16.0	KFNQL	RPI-16.0	KFNQH	RPI-20.0	KFNQL	RPI-20.0	KFNQH	RPI-20.0	KFNQLF	RPI-20.0	KFNQHF
Power Supply 380-415V/ 38			АС 3Ф 380V/ 60Hz	АС 3Ф 380-415V/ 50Hz	АС 3Ф 380V/ 60Hz									
Connectable	Outdoor Unit			RAS-160H	NCEL(/R)W			RAS-200H	NCEL(R)WS,	RAS-200H	NCEL(R)WP,	RAS-200HI	NCEL(R)WS	
	Capacity	kW	45.0	45.0	45.0	45.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
Cooling	Power	kW	0.72	0.83	1.06	1.22	1.06	1.22	1.39	1.6	1.39	1.60	1.72	1.98
	Nominal Current	Α	1.8	2.07	2.2	2.53	2.22	2.55	3.14	3.61	3.0	3.45	3.9	4.45
	Capacity	kW	36.0	36.0	36.0	36.0	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8
Heating	Power	kW	0.72	0.83	1.06	1.22	1.06	1.22	1.39	1.6	1.39	1.60	1.72	1.98
	Nominal Current	Α	1.8	2.07	2.2	2.53	2.22	2.55	3.14	3.61	3.0	3.45	3.9	4.45
Sound Press (overall a sc		dB(A)	58	58	62	62	61	61	65	65	63	63	67	67
Dimensions	H×W×D	mm	635×19	50×805	635×195	50×805	735×19	50×805	735×195	50×805	735×19	50×805	735×19	50×805
Net Weight		kg	196	196	196	196	222	222	222	222	222	222	222	222
Refrigerant			R410A	R410A	R410A	R410A								
Air Flow Rate	e	m³/min	67	67	67	67	83	83	83	83	100	100	100	100
External Pre	ssure	Pa	200	200	300	300	200	200	300	300	200	200	300	300
	Liquid	mm	Ф12.7	Ф12.7	Ф12.7	Ф12.7	Ф15.88	Ф15.88	Ф15.88	Ф15.88	Ф15.88	Ф15.88	Ф15.88	Ф15.88
Piping	Gas	mm	Ф25.4	Ф25.4	Ф25.4	Ф25.4	Ф28.6	Ф28.6	Ф28.6	Ф28.6	Ф28.6	Ф28.6	Ф28.6	Ф28.6
	Condensate Drain					RC1 (Internal Screw)								

Temperature range of fresh air drawn

Cooling: 20.0°C~43.0°C, Heating: -7.0°C~15.0°C

- Notes.

  1. Cooling capacity and heating capacity tested in the following conditions:

  Cooling conditions: 33.0°CDB, 28.0°CWB, pipeline length 7.5 metre, pipe height difference 0 metre.

  Heating conditions: 0°CDB, -2.9°CWB, pipeline length 7.5 metre, pipe height difference 0 metre (heating is the data without defrosting).
- 2. Noise test conditions are as follows:
- At a distance of 1.5 metre from the unit surface.

  The above parameters are measured in the anechoic chamber without reflected echo, therefore the impact of the reflected echo must be counted at the scene.
- 3. An air filter with dust removal efficiency of 50% or more needs to be installed at the air inlet.
- 4. When the field duct resistance is small and the fan speed is too high, the unit will appear the phenomena of abnormal shutdown, fault, water spray etc., and the duct pipe should be insulated to prevent
- 5. Air processor can only be used for processing fresh air, indoor air conditioning load processing need to use other air conditioners.
- 6. Fresh air processing unit should be connected with Slim Modular VRF SideSmart™, Heat Pump Type, outdoor unit.

  When fresh air processing unit and other indoor units air all connected to the same SideSmart™ outdoor unit, Its equivalent cooling capacity is calculated by the following criteria:

  Type\_5HP class: 21.0kW; 8HP class: 33.3kW; 10HP class: 42.0kW.
- 7. Refer to capacity restrains shown on Table below for indoor unit capacity connectable to outdoor unit.

System	All Fresh Air Unit System (Only All Fresh Air Unit)	Mixed System (All Fresh Air Unit and Other Indoor Unit)
Range of Combination Capacity	80 to 100%	i) 80 to 100% and ii) Total Capacity of All Fresh Air: 30%

Mixed system is only available with RPI-5.0/8.0/10.0KFNQ. RPI-12.0KFNQ or above is only available as one to one All Fresh Air Unit system.

8. When outdoor temperature is below 20.0°C in cooling operation, the system will be automatically converted to ventilation operation.

When outdoor temperature is higher than 15.0°C in heating operation, it will be automatically converted to ventilation operation. When lower than -7.0°C, the fresh air processing unit will stop running.

#### **TOTAL HEAT EXCHANGER**

Model			KPI- 20H-A-GQ	KPI- 30H-A-GQ	KPI- 40H-A-GQ	KPI- 50H-A-GQ	KPI- 65H-A-GQ	KPI- 80H-A-GQ	KPI- 100H-A-GQ	KPI- 125H-A-GQ
Unit Power Supp	ly				АС 1Ф, [2	20/50Hz]				
Temp. Efficiency	Summer (Hi/Me/Lo)	%	64/64/70	60/60/65	61/61/66	60/60/62	65/65/69	65/65/69	65/65/69	65/65/69
remp. Efficiency	Winter (Hi/Me/Lo)	%	80/80/83	77/77/80	79/79/81	75/75/76	75/75/78	74/74/78	72/72/76	70/70/78
Enthalpy	Summer (Hi/Me/Lo)	%	69/69/76	63/63/70	64/64/69	63/63/65	57/57/60	60/60/63	58/58/63	53/53/61
Efficiency	Winter (Hi/Me/Lo)	%	75/75/78	70/70/75	70/70/75	69/69/71	65/65/70	70/70/72	66/66/69	63/63/72
Sound Pressure Level	(Hi/Me/Lo)	dB(A)	32/30/25	36/34/28	39/37/30	40/38/31	40/38/35	40/38/34	43/42/34	42/40/37
Outer Dimension	(H×W×D)	mm	220×962×735	220×962×735	220×1,112×735	220×1,112×735	388×1,119×884	388×1,119×884	388×1,119×884	430×1,250×1,135
Net Weight		kg	38	40	46	52	61	69	69	95
Air Flow Rate	(Hi/Me/Lo)	m³/h	200/200/150	300/300/210	400/400/230	500/500/400	650/650/550	800/800/650	1,000/1,000/700	1,250/1,250/800
External Static Pressure	(Hi/Me/Lo)	Pa	100/70/40	120/90/50	120/90/50	120/90/50	130/100/90	130/100/90	165/120/60	100/50/30
Power Input	(Hi/Me/Lo)	W	120/110/75	165/155/120	210/200/130	330/310/230	2×(188/173/142)	2×(207/188/165)	2×(250/228/205)	2×(308/266/237)
Current	(Hi/Me/Lo)	Α	0.6/0.5/0.4	0.8/0.7/0.6	1.0/1.0/0.7	1.6/1.5/1.1	1.72/1.58/1.31	2.04/1.93/1.73	2.35/2.09/1.92	3.03/2.45/2.18
Connection Duct	Diameter	mm	Ф144	Ф144	Ф144	Ф194	Ф242	Ф242	Ф242	320×250 +320×250
Approximate Pac	king Volume	m <sup>3</sup>	0.37	0.37	0.43	0.49	0.94	1.15	1.15	1.25

Model			KPI- 150H-E-GQ	KPI- 200H-E-GQ	KPI- 250H-E-GQ	KPI- 300H-E-GQ	KPF- 400H-E-GQ	KPF- 500H-E-GQ
Unit Power Supp	ly				АС 3Ф, [3	80/50Hz]		
T F#::::	Summer	%	63	63	63	63	63	63
Temp. Efficiency	Winter	%	68	72	75	75	73	73
Enthalpy	Summer	%	57	57	55	56	55	53
Efficiency	Winter	%	68	68	72	72	63	61
Sound Pressure I	Level	dB(A)	50	51	53	54	57	58
Outer Dimension	$(H\times W\times D)$	mm	536×1,500×1,300	536×1,500×1,400	640×1,700×1,500	640×1,750×1,600	1,655×1,400×850	1,730×1,700×850
Net Weight		kg	144	155	180	220	225	260
Air Flow Rate		m³/h	1,500	2,000	2,500	3,000	4,000	5,000
External Static Pr	ressure	Pa	165	160	180	200	220	240
Power Input		W	2×440	2×810	2×925	2×1080	2×1,470	2×1,980
Current		Α	2.84	3.08	4.19	5.23	5.57	7.51
Connection Duct	Diameter	mm	400×320 +400×320	400×320 +400×320	500×350 +500×350	500×350 +500×350	400×320 +590×320	500×350 +700×320
Approximate Pac	king Volume	m³	1.82	1.95	2.63	2.93	3.01	3.75

 $Note: \\ Please confirm the model name for "wires remote controller" compatible with Total Heat Exchanger to your local distributor. \\$ 



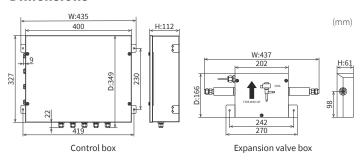
# **DX-Kit**

Integrate Hitachi VRF into your pre-existing Air Handling Units (AHU).



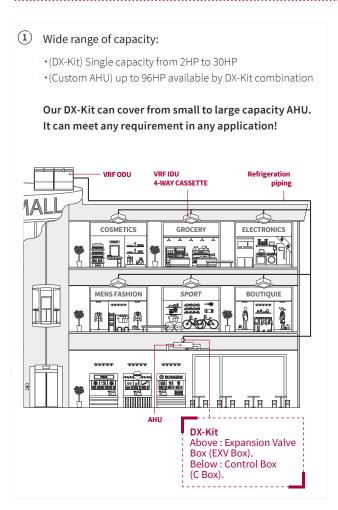


#### **Dimensions**



Capacity (HP)			2	4	6	8/10	12~20	22~30			
Model			DXF-2.0A1	DXF-4.0A1	DXF-6.0A1	DXF-10.0A1	DXF-20.0A1	DXF-30.0A1			
	Power Supply				АС1Ф, [220-240V /	50Hz] [220V 60Hz]					
	Height	mm	112	112	112	112	112	112			
Control Box	Width	mm	435	435	435	435	435	435			
(C Box)	Depth	mm	349	349	349	349	349	349			
	Weight	kg	5.2	5.2	5.2	5.2	5.2	5.2			
	Material				Steel Plate + Wh	ite Grey Coating					
	Height	mm	61	61	61	61	61	61			
	Width	mm	437	437	437	437	437	437			
	Depth	mm	166	166	166	166	166	166			
Expansion Valve Box (EXV Box)	Weight	kg	1.7	1.7	1.7	1.7	1.7	1.7			
(LAV DOX)	Quantity		1	1	1	1	1	2			
	Material		Steel Plate + White Grey Coating								
	Liquid Pipe Diameter		ф6.35	ф9.52	ф9.52	ф9.52	ф12.7	ф12.7			
AHU Suction	Cooling	21.0°C to 32.0°C (DB) / 15.0°C to 23.0°C (WB)									
Temperature Range	Heating		15.0°C to 27.0°C (DB)								
→ Total AHU or AHU & ODU capacity = X	ifferent configurations IDU Connection Ratio against Temperature Control")		• (1) <u>5</u> (2) <u>100% &lt; X &lt; 11</u> (1)	• 50% < X ≤ 100% → Tot	AHU (Separate Heat 1 ODU to Multiple A 1 ODU to A tal AHU capacity: No	: <u>50% &lt; X ≤ 100%</u> Exchanger Type): <u>50</u> 9 HUS: <u>50% &lt; X ≤ 100%</u> AHU & IDUS: • limitation / Each AH of total capacity / Eac	U capacity: No limit	ation tween 2-6HP class			
Maximum	Total	m				the system is <u>the san</u> J] in the system is <u>mo</u>					
Piping Length	Between AHU Heat Exchanger and EXV Box	m	5	5	5	5	5	5			
Maximum	Between ODU and [AHU/IDU]	m				<u>е</u> [АНՍ & IDU & DX-Ki <u>w</u> [АНՍ & IDU & DX-Ki					
Level Difference	Between AHU Heat Exchanger and EXV Box	m	2	2	2	2	2	2			
Maximum	Control wiring between AHU Heat Exchanger and EXV Box	m	10	10	10	10	10	10			
Length	Thermistor to AHU Heat Exchanger from C Box	m	10	10	10	10	10	10			
Temperature Control Modes (*1)			<ul><li>Inlet Air Temperat</li><li>Outlet Air Temperat</li><li>Duty Control</li></ul>								

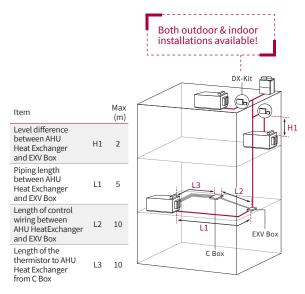
#### DX-KIT: GREAT FLEXIBILITY FOR SIMPLIFIED HVAC UPGRADE

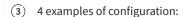


#### 2 Flexible installation:

- •Both outdoor & indoor installation of DX-Kit available
- ·Design Flexibility in wiring & piping

#### DX-Kit facilitates system design!



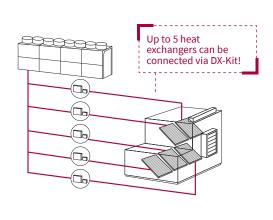


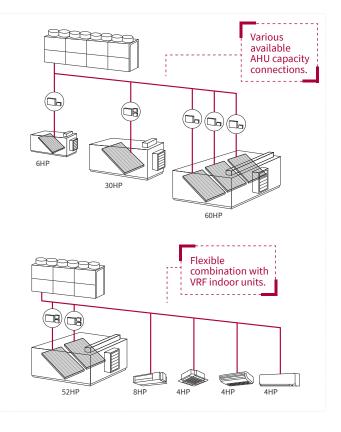
- $\rightarrow$  1 VRF outdoor unit + 1 AHU
- → 1 VRF outdoor unit + 1 AHU (external heat exchanger)
- → 1 VRF Outdoor unit + multiple AHUs
- → 1 VRF Outdoor unit + VRF indoor units + AHUs





DX-Kit
Left: Control Box (C Box)
Right: Expansion Valve Box (EXV Box)







# New generation: simple and smart!

Everyone deserves comfort, but comfort does not mean the same to everyone. That's why control is key.

Our controllers offer best-in-class simplicity. Using our praised central stations, building managers can instantly optimize air conditioning in targeted zones.

For occupants, our new advanced color controller provides intuitive navigation with a premium design.

With airCloud Pro, our exclusive new-generation solution, users can manage from one indoor unit to several systems remotely via IoT (web/smartphone).

66	CENT	FRALIZED CONTROLLERS
	66	Line up overview
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	71	Central Station EZ
	71	Central Station mini
72	INDI	VIDUAL CONTROLLERS
	72	Line up overview
	74	Advanced color wired remote controller
	77	Advanced wired remote controller
	78	Wired remote controller
	78	Advanced wireless remote controller
	79	Wireless remote controller
	79	Receiver kit
80	H-LII	NK: ENJOY MORE FREEDOM



# **Centralized controllers**

Control each indoor unit, one specific zone or even multiple systems from one place!

#### airCLOUD PRO\* (HC-IoTGW)

- · Remote access via smartphone app or web.
- Unlimited number of systems, zones and users.
- · Intuitive scheduling function.
- Troubleshooting with access to error history and alerts.
- Filter sign display to quickly overview daily maintenance needs.
- Ideal for all types of applications.

#### **CENTRAL STATION EX** (PSC-A128EX1)

- Control capacity: max 2,560 indoor units (+15x Extension Adapter PSC-AD128EX1).
- With energy calculation software (PSC-AS01EXC), determine each tenant's energy usage.
- Easy monitoring with simplified interface.
- · Best option for middle-large size buildings.
- Remote access! Operate Central Station EX from your laptop PC or touch-panel PC.

#### **CENTRAL STATION EZ (PSC-A64GT)**

- Control capacity: max 64 remote control group of indoor units.
- Compact and optimized 170x250mm body screens fitting in even small walls.
- · Easy monitoring with simplified interface.
- Best option for middle size buildings.

#### **CENTRAL STATION MINI (PSC-A32MN)**

- Control capacity: max 32 remote control group of indoor units.
- Compact and optimized 120x140mm body screens fitting in even small walls.
- Easy monitoring with simplified interface.
- Best option for small size buildings.

#### SMALL TO LARGE SYSTEMS & FIXED OR CLOUD-BASED

			<b>air</b> cloud pro	CENTRAL STATION MINI	CENTRAL STATION EZ	CENTRAL STATION EX
						NO. PROPERTY.
			HC-IoTGW	PSC-A32MN	PSC-A64GT	PSC-A128EX1
		RC group	64 (*6)	32	64	2,560 (*1)
		Group	64 (*6)	32	64	2,048 (*1)
		Block	Unlimited (*7)	2/4/8/16	4	512 (*2)
Capacity	Total Connection capacity	Area	Unlimited (*7)	-	-	512 (*2)
comparison		Indoor unit	80 (*6)	160	160	2,560 (*1)
		Outdoor unit	16 (*6)	64	64	1,024 (*1)
	Building scale		Small to Large	Small	Medium	Large
	Operation		Web + Mobile Phone	Touch screen	Touch screen	Touch screen + Web (New!)
	Operation panel size options	S	Adaptive	3	2	7
Display	Layout		-	-	-	•
	List options		-	-	-	3
	All together		•	•	•	•
	By layout		-	-	-	•
	By area		•	-	-	•
Operation unit	By block		•	•	•	•
	By group		•	-	-	•
	By RC group		-	•	•	-
	By indoor unit		•	-	-	•
	Main 5 functions (*5)		•	•	•	•
	Individual controller lock		•	•	△ (*3)	•
Control Function	Filter sign reset		•	•	•	•
	Outdoor unit capacity contro	ol	-	△ (*4)	-	•
	Outdoor unit noise control		-	-	-	•
	Main 5 functions (*5)		•	•	•	•
	Individual controller lock		•	•	•	•
Monitor	Alarm status & code		•	•	•	•
Function	Filter sign		•	•	•	•
	Air inlet temperature of indo	or unit	-	•	-	•
	Air inlet temperature of outc	loor unit	-	•	-	•
	Weekly		•	•	•	•
	Setting times per day		16	10	10	16
Schedule Function	Special day setting		5	-	-	5
· unction	Holiday setting		-	-	-	•
	Annual/Summer/Winter sch	edule	Future Version	-	-	•
	Alarm history (records numb	oer)	Unlimited	100	100	10,000
	External in/output history		-	-	-	1,000
Other function	Management report visualiz	ation(*11)		•	•	•
	Data output by external med	lia	Download from Web - Future	-	-	SD card, USB flash device
	Connectivity		Ethernet + 4G (*9)	-	-	-
IoT Functions	Future Extendability		Firmware OTA (*10) Web + Mobile Update	-	-	-
	Future Extendability		Web + Mobile Update	-	-	-

#### \* airCloud Pro available with SideSmart $^{\!TM}$ from May 2021.

<sup>(\*1)</sup> One Extension Adapter (PSC-AD128EX1) enable CENTRAL STATION EX to control additional 160 RC groups /128 groups / 160 IDUs / 64 ODUs, and up to 15 adapters can connect

<sup>(\*1)</sup> One Extension Adapter (PSC-AD128EX1) enable CENTRAL STATION EX to control additional 160 RC groups / 128 groups / 160 IDUs / 64 ODUs, and up to 15 adapters can connect to one Central Station EX.

(\*2) No restriction on the number of H-LINK.

(\*3) Individual Feature Control in Each Remote Controller is not available.

(\*4) Applicable only with Schedule function or external signal input. You cannot set it up directly from monitoring panel.

(\*5) Main 5 functions meaning: 1) Run/Stop 2) Operation mode 3) Temperature setting 4) Fan speed 5) Louver control.

(\*6) Ability to connect unlimited number of "HC-IoTGW" in one project and control all AC units via one single screen on Web or Mobile Phone.

(\*7) Unlimited creation of zones, across multiple "HC-IoTGW" units within the same project.

(\*8) Visualization of outdoor unit energy consumption.

(\*9) 4G available through optional 4G module; 4G module package comes with global SIM and pre-paid global data plan.

(\*10) OTA: Over-the-air firmware update, provides always up-to-date firmware and latest functionalities.

(\*11) Mini, EZ: Accumulated operation time (min), Accumulated thermo - ON (min).

EX: Accumulated operation time (min), Accumulated thermo - ON time (min), Average air intake temperature of indoor unit, Average air intake temperature of outdoor unit, Average setting temperature, Average RC sensor temperature.

# **Centralized controllers**

#### airCLOUD PRO\*





#### **Specifications**

Gateway	HC-IoTGW
Net weight (g)	540
Connection capacity	16 outdoor + 80 indoor units
Power supply (V)   (Hz)	100-240, AC   50/60
Max. power consumption (W)	10
Communication port	1 H-LINK, 1 RS485 Port
Internet connection	LAN (Ethernet) or 4G <sup>*3</sup>
External interface (log storage)	1 micro SD card slot

#### **Functions**

loT connection (cloud-based)	Access via smartphone app or web     Unlimited number of gateways     Unlimited number of locations     Unlimited number of users
Operation unit	<ul> <li>Per entire location</li> <li>Per system</li> <li>Per zone (unlimited zone creation)</li> <li>Per indoor unit remote control group</li> </ul>
Control function	• On/Off • Mode • Set temperature • Fan speed • Louver • RC lock • Filter sign reset

Monitor Function	On/Off • Mode • Set temperature Air intake temperature • RC sensor temperature (*3) Air intake temperature of outdoor unit Fan Speed • Louver • RC prohibition Thermo-ON information • Filter sign/Auto cleaning fault Alarm status/Alarm codes
Schedule function	<ul> <li>Weekly schedule • Easy selection of days and zones</li> <li>Setting Items in schedule is as below; • On/Off</li> <li>Operation mode • Setting temperature</li> <li>Louver • Fan speed</li> </ul>

 $<sup>^*</sup>$  "All Groups Run/Stop" command signal exception function for selected groups is available by "Exception of Run/Stop Operation." function.

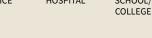
# System configuration.



#### Recommended facilities (examples.)











#### Is airCloud Pro for me?

#### All VRF users can enjoy these benefits!

- Save energy
- Save time and unnecessary transportation
- Delegate VRF systems administration
- Create a comfortable climate for guests

#### Future-proof

With updates and new features added regularly, airCloud Pro ensures you are always up to date.



- · Compatible with new and former
- · Hitachi Variable Refrigerant
- Flow systems\*1

<sup>\*</sup>airCloud Pro available with SideSmart™ from May 2021.

\*1 Confirm compatibility of your VRF installation with your Hitachi Cooling & Heating representative.

#### Control is in your hands.

#### 24/7 control at your fingertips on smartphone, tablet, or PC.



#### √ Intuitive simplicity

airCloud Pro is designed to make your job easier. An intuitive app that anyone can use, airCloud Pro makes managing your VRF systems easier than ever before.

#### √ Control from anywhere

Enjoy the freedom of remote access from your smartphone, tablet or laptop. airCloud Pro allows you to remotely control your VRF system(s) from a single app, saving you travel time.

#### A simple yet powerful tool.

#### Simplify your job

The pilot app makes managing your VRF systems easy.

- Centralized control Control your entire VRF system or selected zones in one touch.
- Simplified troubleshooting A clear error history, concise error description and follow-up.
- Smartphone alerts<sup>\*2</sup> In the event of a critical malfunction.
- Flexible user management\*2 Add users and custom access restrictions

#### Save more energy

Plan and optimize the usage.

- Intuitive scheduling Plan operations ahead based on your business hours.
- Individual controller lock Prevent inappropriate usage from occupants.



#### Create better comfort

Adjust temperature, fan speed, and modes with ease, creating total comfort and the ideal climate throughout your building.

An integrated weather forecast\*2 display helps you determine the most suitable conditions for your indoor spaces all year round.

#### **Easy plug-and-play**

Our airCloud gateway makes installation a breeze.

Connect to the airCloud via 3G/4G\*3 or ethernet and pair your VRF systems via QR code scan. With automatic detection of indoor units and an optimized installer view, configuring your site and zones has never been quicker.

#### + data security

#### Best-in-class standards:

TLS.v1.2, HTTPS 2038 encryption.

#### Minimal personal details:

Only your name, email address and phone number are required for login.

<sup>\*2</sup> Functions not available as of September 2019, coming soon.
\*3 4G module available as a side accessory.

# **Centralized controllers**

#### **CENTRAL STATION EX** FOR LARGE-SCALE BUILDINGS

(PSC-A128EX1)



For middle or large-scale buildings buildings such as hotels, educational facilities, and hospitals, our Central Station EX features a highly intuitive and functional 12.1-inch wide, wall-mountable, color LCD screen.

Control up to 2,560 indoor units with our proprietary H-LINK system with 15 extension adapters (PSC-AD128EX1).

Also, with energy calculation software (PSC-AS01EXC), Central Station EX can help you easily manage each tenant's electricity & report the power consumption of VRF system for each tenant.

Install by add-on software and activate, then, you can select electricity ratio or usage ratio from several methods.

#### Capacity

Lateral view (mm)

H-LINK	16
RC group	2,560 (*1)
Group	2,048 (*1)
Block	512 (*2)
Area	512 (*2)
Indoor unit	2,560 (*1)
Outdoor unit	1,024 (*1)
Building scale	Large



1) 1 extension adapter (PSC-AD128EX1) enables Central Station EX to control additional 160 RC groups / 128 groups / 160 IDUs / 64 ODUs. Central Station EX can connect up to 15 adapters. (\*2) No restriction on the number of H-LINK



#### **Specifications**

Rated power supply	100~240VAC ±10% (50/60Hz)
Electrical power consumption	50W (Max.)
Communication unit	Units of Adopting for H-LINK
Communication line	Two-wire non-polar
Communication speed	9,600bps
Wiring length	1,000m (Total Length)
Display	12.1 inch TFT color liquid crystal display
Display control	Touch Panel

#### **Functions**

All together Each area Operation Each block unit Each group Each indoor unit On/Off Mode Set temperature Fan speed Louver Control RC prohibition Filter sign reset Function selection for indoor units (\*1) Function selection for outdoor units (\*2) Capacity control for outdoor units (\*2) Lower noise control for outdoor units (\*2) On/Off Mode Set temperature Air intake temperature RC sensor temperature (\*3) Monitor Air intake temperature of outdoor unit function Fan Speed Louver RC prohibition Thermo-ON information Filter sign/Auto cleaning fault Alarm status/Alarm code

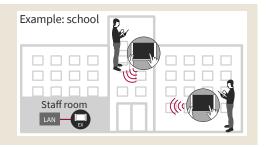
different [annual] [summer][winter] categories: 
→ Weekly schedule → Up to 16 actions can be set per day → Exception day setting: 5 different types → Holiday setting Schedule Setting items in schedule is as below: • On/Off Operation mode Setting temperature Louver • Fan speed • RC operation prohibition · Capacity control for outdoor units Lower noise control for outdoor units Alarm history: 10,000 records History External In/Output history: 1,000 records Pulse input history: 6 months Up to 2 years worth of data history can be displayed for the following: • Accumulated operation time (min.) Accumulated thermo-ON time (min.) Management Average air intake temp temperature of indoor unit visualization Average air intake temperature of outdoor Average setting temperature

Each of the following settings is available in 3

- Energy saving: Run/Stop • RC prohibition • Temperature shift (For Cool/Dry mode: +1.0°C~+9.0°C (+1.0°F~+18.0°F)) (For Heat mode: -1.0°C~-9.0°C (-1.0°F~-18.0°F)) Mode shift (Mode shifted to Fan when in Cool/Dry mode, and shifted to Stop in Heat mode) Capacity control on outdoor units Lower noise control for outdoor units External input Control/Monitor / output → Controlled items: · Run/Stop • Mode (Cool/Heat) → Monitored items: • Run/Stop Mode (Cool/Heat) Alarm state Others: Power consumption signal input · Emergency stop
- 1) Some indoor units may not fully support all functions. (\*2) Available for applicable outdoor units only. (\*3) Whether this is shown on the screen depends
- on the remote controller settings.

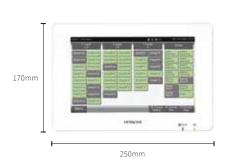
#### Remote access.

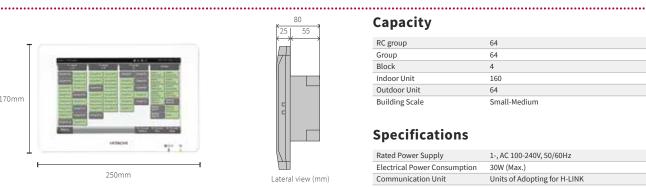
You can now operate Central Station EX from your laptop PC or touch panel PC. Install our software and you can connect from anywhere, using our VPN network.



#### **CENTRAL STATION EZ** FOR MEDIUM-SCALE BUILDINGS

(PSC-A64GT)





With easy control via an 8.5 inch color touch panel, its detailed control functionalities such as Weekly Scheduling, Operation hours tracking, and more, help you save energy. Up to 64 remote-controlled groups and up to 160 indoor units can be connected to the Central Station EZ.



#### Capacity

RC group	64
Group	64
Block	4
Indoor Unit	160
Outdoor Unit	64
Building Scale	Small-Medium

#### **Specifications**

Rated Power Supply	1-, AC 100-240V, 50/60Hz
Electrical Power Consumption	30W (Max.)
Communication Unit	Units of Adopting for H-LINK
Communication Line	Non-polar 2-wire
Communication Speed	9,600bps
Wiring Length	1,000m (Total Length)
Display	8.5-inch Wide Color LCD (Full Dot)
Display Control	Touch Panel

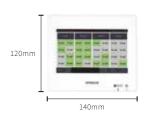
#### **Functions**

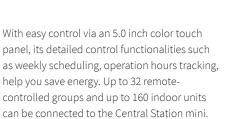
Monitor Function	Run/Stop/Abnormality Setting Temperature RC Operation Prohibited Setting Accumulated Operating Time Operation Mode Setting Fan Speed Setting Louver - Filter Sign - Alarm Code			
Control Function	Run/Stop* • Fan Speed  Operation Mode • Louver  Temperature Setting  RC Operation Prohibited			

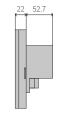
<sup>•</sup> Filter Sign Reset \*The "All Groups Run/Stop" command signal exception function for selected groups is available via the "Exception of Run/Stop Operation" function.

#### CENTRAL STATION MINI FOR SMALL-SCALE BUILDINGS

(PSC-A32MN)







Lateral view (mm)



#### Capacity

RC group	32
Group	32
Block	4 Patterns (2/4/8/16)
Indoor Unit	160
Outdoor Unit	64
Building Scale	Small

#### **Specifications**

Rated Power Supply	1-, AC 100-240V, 50/60Hz
Electrical Power Consumption	20W (Max.)
Communication Unit	Units of Adopting for H-LINK
Communication Line	Non-polar 2-wire
Communication Speed	9,600bps
Wiring Length	1,000m (Total Length)
Display	5.0-inch Wide Color LCD (Full Dot)
Display Control	Touch Panel

#### **Functions**

Monitor Function	• Run/Stop/Abnormality • Setting Temperature • RC Operation Prohibited Setting • Accumulated Operating Time • Operation Mode • Setting Fan Speed • Setting Louver • Filter Sign • Alarm Code"
Control Function	• Run/Stop* • Fan Speed • Operation Mode • Louver • Temperature Setting • RC Operation Prohibited • Filter Reset Signal

 $<sup>^{\</sup>star}$  "All Groups Run/Stop" command signal exception function for selected groups is available by "Exception of Run/Stop Operation." function.



#### NEW

# ADVANCED COLOR WIRED REMOTE CONTROLLER (PC-ARFG)

- Exclusive color screen & Award-winning design.
- · Simplified menu and enhanced UIUX.
- Includes latest VRF features such as FrostWash<sup>™</sup>
  and several comfort settings (with selected IDU
  models).

# WIRED REMOTE CONTROLLER (HCWA10NEGQ)

- 88mm square controller with LCD screen.
- Smaller body with multiple features.
- Best option for spaces frequented by recurring users, e.g. offices.

# ADVANCED WIRELESS REMOTE CONTROLLER (PC-AWR)

- Wireless remote controller with more features.
- Several temperature units and settings available;
   0.5°C/1.0°C/1.0°F.
- Ideal for controlling the unit from anywhere in the room, e.g. residential spaces.

# ADVANCED WIRED REMOTE CONTROLLER (PC-ARF1)

- 120mm square controller with LCD screen.
- · Multiple power-saving features.
- Best option for spaces frequented by the same users, e.g. offices.

# SIMPLIFIED WIRED REMOTE CONTROLLER (PC-ARH1)

- Focused on easy operation.
- · Mainly for temperature setting.
- Ideal for spaces that accommodate short-term visitors, e.g. hotels and hospital rooms.

# WIRELESS REMOTE CONTROLLER (PC-LH7QE)

- Budget option featuring primary control settings.
- 1.0°C temperature step.
- Ideal for visitors to control the unit from anywhere in the room, e.g. hotel suite.

#### FROM BASIC TO ADVANCED CONTROLS

ADVANCED COLOR WIRED REMOTE CONTROLLER















			NEW PC-ARFG	PC-ARF1	HCWA10NEGQ	PC-ARH1	PC-AWR	PC-LH7QE/PC-LH3C
Connection Cap	nacity	RC Groups	1	1	1	1	-	-
	-	Indoor units (*1)	16	16	16	16	-	-
	Temperature Sett	ing Rate (*2)	0.5°C/1.0°C/1.0°F	0.5°C/1.0°C/1.0°F	0.5°C/1.0°C/1.0°F	0.5°C/1.0°C/1.0°F	0.5°C/1.0°C/1.0°F	1.0°C
	Indoor Fan Speed (*2) (*3)		3/4/6 taps	3/4/6 taps	3/4/6 taps	3/4/6 taps	3/4/6 taps	3(*8)/4/6 taps
	Louver Direction (*2) Individual Louver Setting (*2)		•	•	-	-		
		Primary-Secondary Setting				•	-	-
Setting	In Use of Total-	Ventilation	•	•	-	-	-	-
	Heat-Exchanger	Total Heal Exchanger Setting	•	•	-	-	-	-
		Automatic Restart with Eco-operation	•	•	-	-	-	-
	Function Selection	Automatic Reset Temperature (Cooling)	•	•	•	•	-	-
		Temperature Indication (*4)	•	•	•	-	-	-
	Admin Password : Filter Signal	Setting	•	-	•	-	-	-
	Filter Signal Reset					-	•	•
	Louver Open/Close		•	•	-	-	-	-
	Room Name Setti	ing	•	•	-	-	-	-
	Alarm Signal		•	•	•	•		-
		or unit identification	-	-	-	-		-
	Hotel mode	rmo-Off (Cooling/Heating)		<b>●</b> (*7)	<b>●</b> (*7)	<b>●</b> (*7)	-	-
	ran speca at me	Screen Adjustment	-	• • • •	-	-	-	-
			English, Japanese,					
	Screen	Language	Chinese (traditional & simplified), French, Spanish, Portuguese	English, French	-	-	-	-
		Temperature Unit_°C/°F (*5)	•	•	•	<b>●</b> (*5)	•	-
Service &		Run Indicator brightness adjustment	•	•	-	-	-	-
Installation		Key touch sound	•	-	•	-	-	-
		Sensor Condition Check Sensor Data Check	•	•	•	•	-	-
	Check Menu	Model Display (*2)	-					-
		Indoor/Outdoor PCB Check	•	•	-	-	-	-
		Alarm History Display	•	•	•	-	-	-
		Test Run	•	•	•		-	-
		Function Selection (Optional Function Setting) Thermistor Selection	•	•(*7)	•(*7)	● ●(*7)		-
		Thermistor Selection  Thermistor Calibration	-	<b>(</b> 1)	-	•(*7)	-	-
		Input / Output Setting	•	•	•	•	-	-
	Test Run	Indoor Unit Address Change	•	•	•	-	-	-
		Indoor Unit Address Operation Check	•	•	-	-	-	-
		Indoor Unit Address Initialization Input / Output Setting Initialization	•	•	-			-
		Compressor Pre-Heat Control Cancellation			-		-	-
	Contact Information Registration		•	•	-	-	-	-
	Operation Lock/S	et	•	<b>●</b> (*7)	<b>●</b> (*6)	<b>●</b> (*7)	-	-
	Lower Limit for Co	noling Operation	•	<b>●</b> (*7)	(*7) ●(*7)	<b>●</b> (*7)	_	-
	Upper Limit for H		•	<b>(</b> *7)	●(*7)	●(*7)	-	-
	Simple Timer (On		•	•	•	-	•	•
Management	Date/time setting		•	•	•	-	-	-
	Automatic OFF Ti		•	<b>(</b> *7)	-	<b>●</b> (*7)	-	-
		Weekly Schedule Settable Timer Operation Times (Per Day)	5	5	1	-	-	-
	Schedule	Holiday Setting	•	•	-	-	-	-
		Schedule On/Off	•	•	-	-	-	-
	Power-Saving wit		•	•	-	-	-	-
	Outdoor Unit Capacity	Peak cut control	•	•	-	-	-	-
D	Control	moderate control	•	•	-	-	-	-
Power-Saving	Indoor Unit	Indoor Unit Address	•	•	-	-	-	-
	Rotation Control	Indoor Air Temperature difference	•	•	-	-	-	-
	Automatic Fan Op	With Motion Sensor			-	-		-
	Auto-Elevating Gr		-		-			-
	ODU Night Quiet Mode		•	•	-	-	-	-
	AutoBoost (quick		•	•	-	-	-	-
		Control Cool Air (GentleCool)	•	•	-	-	-	-
		Direct/Indirect louver direction in COOL  Direct/Indirect louver direction in HEAT	•		-			-
	Comfort Setting	Radiant Sensor Control for Heating	-		-			-
MENU		FeetWarm; Heat Air Flow	•	-	-	-	-	-
		FloorSense; Cool Air Flow	•	-	-	-	-	-
		ght Quiet Schedule	•	•	-	-	-	-
	Filter Cleaning	ng	•	•	-	-	-	-
	FrostWash™ Setting  Daylight Saving Time			-	-	-	-	-
		emperature Setback)	•	•	-	-	-	-
	Power Consumpt	· · · · · · · · · · · · · · · · · · ·	•	•	-	-	-	-
				(+-) -1				

<sup>(\*1)</sup> All 16 indoor units need to be connected with transition wire.

(\*2) Actual availability may vary depending on the indoor unit model connected to the controller. Please consult your Hitachi Cooling & Heating representative for more details.

(\*3) 6 steps available in RPIZ-HMDTSQ compact ducted indoor unit only.

(\*4) Reference room temperature can be chosen: from indoor unit's air inlet thermistor or from the thermistor built-in the controller itself.

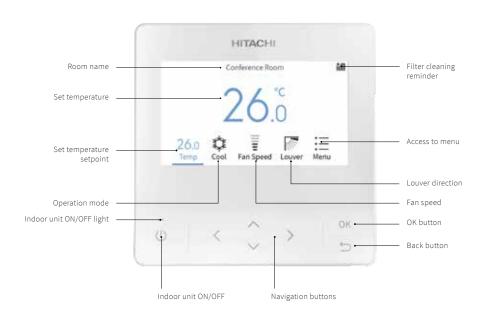
<sup>(\*5)</sup> Please contact your distributor in case temperature unit needs to be changed from °C to °F.

(\*6) Only "bulk operation lock" available.
(\*7) Optional setting Items for function selection.
(\*8) The PC-LH3C has only 3 taps available.

# **Individual controllers**

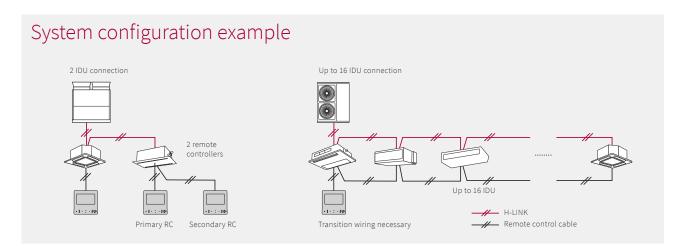
NEW

#### **ADVANCED COLOR WIRED REMOTE CONTROLLER (PC-ARFG)**



#### Outer dimensions (H×W×D)

121×120×16.5mm (thinnest) 121×120×21.5mm (thickest)



Lock Function

#### **Functions**

	Simple Timer	
	Operation Schedule	
	Power-Saving Setting	
	Night Quiet Operation	9
	Power-Saving/Night Quiet Schedule	ã
	Power Consumption Display	i
	Autoboost	- 1
	Comfort Setting	•
Function	Motion Sensor Setting	
menu	Setback Setting	
	Elevating Grille	-
	Reset Filter Reminder Time	
	Filter cleaning	
	FrostWash™ Setting	,
	Individual Louver Setting	
	Louver Open/Close	i
	Ventilation	1
	Total Heat Exchanger SET	I
	Adjust Date/Time	
Screen	Run Indicator Brightness	
Display	Display Adjustment	
setting	Temperature	
	Language Setting	

	Password Setting				
	Hotel Mode Set hotel mode valid/invalid				
Service	Power-Saving Detail Setting				
and installation	Temperature Range Restriction				
menu /	Dual Setpoint				
Service	Main/Sub Display				
	Set Room Name				
	Set Contact Information				
	Simple Maintenance				
	Test Run				
	Function Selection				
	Input/Output				
Service	Thermistor Selection				
and	Thermistor Calibration in Controller				
installation menu / Installation	Fan Speed at Thermo-Off (cooling/heating mode)				
	Indoor Unit Address Change				
	Address Check Operation				
	Address Initialization				

	Setting Initialization			
Service	Main Remote Setting			
and	Priority Setting			
nstallation	Cancel Preheating Control			
menu /	Elevating Grille Setting			
nstallation	Power Up Setting			
	Setback Trigger Unit			
	Check 1			
	Check 2			
Service and nstallation	Alarm History Display			
menu / Check	Display Model Number			
mena / oneen	Units PCB check			
	Self Check			





# Outstanding design and user experience.

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

A simplified, intuitive and colorful menu makes controlling your ideal climate a breeze.









Cooling mode (Color: warm blue)

Heating mode (Color: warm orange)

Fan mode (Color: cool purple)

Dry mode (Color: cool turquoise)

#### From basic to advanced functions

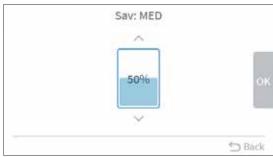
Adjust the air conditioning to enhance comfort and save energy with ease.

- Functions include GentleCool, which controls the temperature of discharged air, for smooth cooling down and cold drafts prevention. AutoBoost activates for 30 minutes every time the AC is turned on, helping the room reach the desired temperature faster with a powerful automatic mode.
- 2) AC scheduling is easier than ever, thanks to flexible options such as a holiday calendar.
- 3) Save even more energy with power-saving functions for VRF system operators. Cut peak capacity, rotate the thermal operation of indoor units, and use Hitachi's dedicated power-saving schedule to match your utility tariff plan.

#### **Additional functions**

- Activate, schedule and check the history of indoor units' FrostWash™ function.
- Minimize outdoor unit noise at night with the schedulable quiet mode.
- **NEW** Hotel mode display provides quick access to the most popular AC functions for guests, including language selection.





Capacity control setting



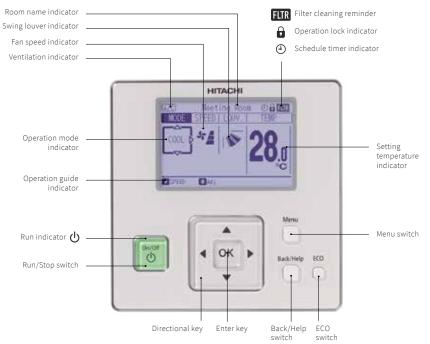
Schedule menu



FrostWash<sup>™</sup> menu

HITACHI Conference Room 26.0 26.0 Description in the second Advanced Color wired remote controller (PC-ARFG)

#### ADVANCED WIRED REMOTE CONTROLLER (PC-ARF1)



System configuration example

2 remote controllers

Secondary RC

2 IDU connection

Outer dimensions (H×W×D) (mm) 120.0×120.0×17.9

Up to 16 IDU

—//— H-LINK —//— Remote Control Cable

#### **Functions**

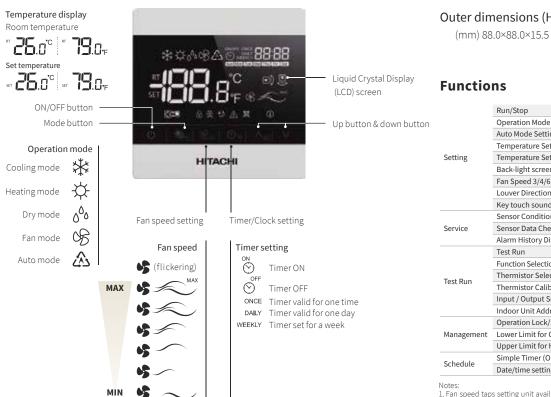
	Run/Stop		Screen	Screen Adjustment	Management	Operation Lock/Set
	Operation Mode			Language		Main/Sub Control
	Auto Mode Setting			Temperature Unit °C /°F		Built-in-Timer (On/Off)
	Temperature Setting			Adjusting Brightness of Run Indicator		Adjusting Date/Time Setting
	Temperatur	Temperature Setting Rate 0.5°C/1.0°C/1.0°F		Sensor Condition Check		Thermometer Indication
	Fan Speed 3/4/6 Taps			Sensor Data Check		With Motion Sensor Kit
	Louver Direction			Model Display		ODU Capacity Control
Setting	Individual Louver Setting		Check Menu	Indoor/Outdoor PCB Check		Peak-cut Control
Setting	Remote Control Primary-Secondary Setting			Self Checking		Moderate Control
	In Use of Total-Heat- Exchanger	Ventilation		Alarm History Display	Power-Saving	Indoor Unit Rotation Control
		Total Heal Exchanger Setting		Test Run		Automatic Fan Operation
	Function Selection	Automatic Restart with		Function Selection (Optional Function Setting)		Auto Recovery of Temperature
		Eco-operation		Thermistor Selection		Upper Limit for Heating Operation
		Automatic Reset Temperature (Cooling /Heating)		Input/Output Setting		Lower Limit for Cooling Operation
		Temperature Indication		Indoor Unit Address Change		Power Consumption Visualization
	Filter Signal		Test Run	Indoor Unit Address Checking Operation		Weekly Schedule
Service	Filter Signal Reset			Indoor Unit Address Initialization		Set Timer Operation Times (per day): 5
	Louver Open/Close			Input-Output Setting Initialization Schedule	Schedule	Holiday Setting
	Room Name Setting			Compressor Pre-Heat Control Cancellation		Schedule On/Off
	Alarm Sign			Contact Information Registration		ODU Noise Reduction Schedule

Up to 16 IDU connection

Transition wiring is necessary

# **Individual controllers**

#### WIRED REMOTE CONTROLLER (HCWA10NEGQ)



#### Outer dimensions (H×W×D)

Setting	Run/Stop				
	Operation Mode				
	Auto Mode Setting				
	Temperature Setting				
	Temperature Setting Rate 0.5°C/1.0°C/1.0°F				
	Back-light screen				
	Fan Speed 3/4/6 taps				
	Louver Direction				
	Key touch sound				
Service	Sensor Condition Check				
	Sensor Data Check				
	Alarm History Display				
Test Run	Test Run				
	Function Selection (Optional Function Setting)				
	Thermistor Selection				
	Thermistor Calibration				
	Input / Output Setting				
	Indoor Unit Address Change				
Management	Operation Lock/Set				
	Lower Limit for Cooling Operation				
	Upper Limit for Heating Operation				
Schedule	Simple Timer (On/Off)				
Scriedule	Date/time setting				

- Notes:

  1. Fan speed taps setting unit availability varies with the indoor unit. Please check each technical catalog in advance.

  2. Initial setting of temperature display is "Set temperature" display only. Please contact your dealer to display room temperature.

#### **ADVANCED WIRELESS REMOTE CONTROLLER (PC-AWR)**



#### Outer dimensions (H×W×D)

(mm) 140.0×55.0×16.8

#### **Functions**

Setting	Run/Stop
	Operation Mode
	Auto Mode Setting
	Temperature Setting
	Temperature Setting Rate 0.5°C/1.0°C/1.0°F
	Fan Speed 3/4/6 Taps
	Louver Direction
Service	Filter Sign Reset
	Side-by-side indoor
	unit identification
	Temperature Unit °C/°F
Schedule	Built-in Timer (On/Off)

#### **WIRELESS** REMOTE CONTROLLER (PC-LH7QE)



#### **Functions**

Setting	Run/Stop		
	Operation Mode		
	Auto Mode Setting		
	Temperature Setting		
	Temperature Setting Rate 1.0°C		
	Fan Speed 3/4/6 Taps		
	Louver Direction		
Service	Side-by-side indoor unit identification		
	Temperature Unit °C		
Schedule	Built-in Timer (On/Off)		

Outer dimensions (H×W×D) (mm) 140.0×52.0×19.3

# Receiver kit for wireless remote controller

Receiver Kit	Model	HR4A10NEWQ	PC-ALHC1	PC-ALHD1	PC-RLHN12QE	Inbuilt	PC-RLH11	PC-RLH11	Inbuilt
	Description	4-way cassette	4-way cassette compact	2-way cassette	1-way cassette	Floor/Ceiling convertible	In-the-ceiling	Floor concealed	Hi wall
	IDU type	RCI-FSKDNQ	RCIM-FSN4	RCD-FSN3	RCIS-FSKDNQ	RPFC-FSNQ*	RPIZ-HNATNQ	RPFI-FSNQ	RPK-FSNK1/2
							RPIL-FSNK RPIM-FSNK		RPK-FSN4M
Compatible wireless	PC-AWR	•	•	•	_	•	•	•	•
remote controller	PC-LH3C	-	-	-	_	-	•	•	•
	PC-LH7QE	_	_	-	•	_	-	_	-

<sup>\*</sup> Wireless remote controller is provided as standard item for RPFC-FSNQ models.

Centralized controller (mini) cannot be operated when you use standard receiver kit (PC-RLH11) equipped with wireless remote controller (PC-LH3C).

When you use standard receiver kit (PC-RLH11 or HR4A10NEWQ) equipped with wireless remote controller (PC-LH3C): 1) Setting Hi2 air flow rate is not available even if the connected Indoor Unit has Hi2 air flow rate setting.

- 2) It is not available to set up "remote control switch operation prohibited by each function setting" from central station (mini).
- $3) \ It is not available to set up "remote control switch temperature setting range limitation function" from central station (mini).$

# H-LINK: enjoy more freedom

#### WHAT IS H-LINK?

H-LINK is Hitachi Cooling & Heating original communication system to control multiple VRF refrigerant systems from one centralized control point.

H-LINK simplifies commissioning and service maintenance for installers and service engineers. For building owners and occupants, it provides outstanding versatility enabling the connection of various types of central control options, enabling better system management. Our proprietary high-performance communication system enables the connection of control wiring between indoor and outdoor units, and between a centralized control system and indoor/outdoor units across two or more refrigerant systems.

#### Examples



Educational institutions such as primary schools where installation work cannot be performed on weekdays.



Hotels where it is preferable to complete installation work during late evenings.



Rehabilitation facilities or hospitals where it is necessary to minimize the burden on users.

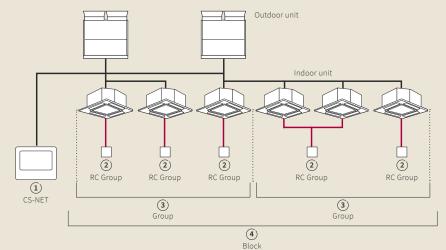






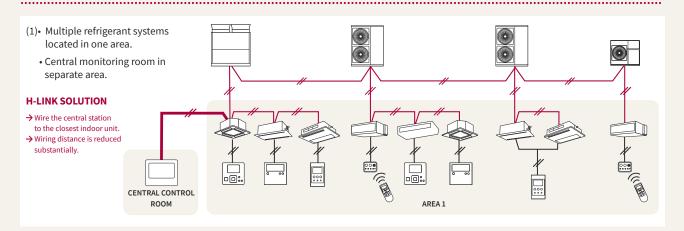
No adapter
is needed!
Simple connection
to terminal blocks.

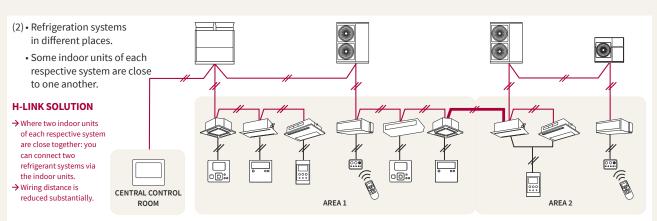
#### Definition of terms in Hitachi centralized control systems

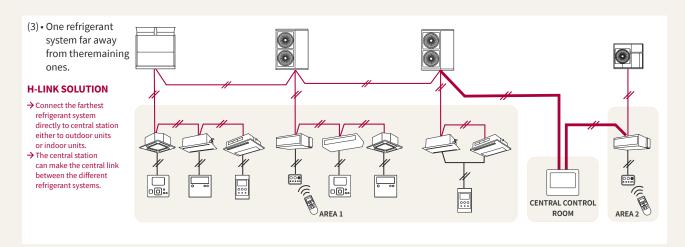


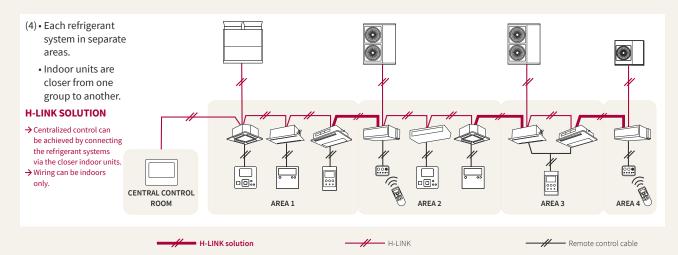
- (1) CS-NET/Central station
  - → Hitachi original centralized controller.
- (2) RC Group (Remote Controller System Group)
  - → Stands for a number of indoor units (up to 16 units) connected using "same remote controller" wiring. In this group, connected indoor units are all controlled in the same way.
- (3) Group
  - → Stands for the multiple "RC groups" that are registered in the centralized controller network setting.
- (4) Block
  - → Stands for the multiple "groups" that are registered in the centralized controller network setting.

#### CENTRALIZED CONTROLS: FLEXIBLE WIRING ROUTE!









# Notes