HITACHI

# SideSmart™

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



# Air. It's a wonderful thing.

Invisible, silent and life-giving, air makes our entire world possible. It surrounds us, continuously energising, cooling and warming.

It can be unpredictable and sometimes challenging, but when air is in harmony with us, everything seems so much easier.

This is our vision. To create the air that makes life better in VRF, exclusive FrostWash<sup>™</sup> technology will clean the coil without effort.

#### 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 centre 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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#### Worldwide 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, condensation management - our products make your job easy!



#### Advanced features, more comfort for room occupants

From exclusive **GentleCool** temperature control function to 4-way cassettes with individual louvre control, our VRF systems embed various features to enhance the wellbeing of occupants, based on their needs.



#### Welcome to **Central Station**

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



#### SmoothDrive :: patented technology for unique benefits

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



#### airCloud pro, the new generation of VRF monitoring

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.



#### airCloud Select (COMING SOON)

Thanks to our Selection Software, systems engineers can customise their air conditioning selection for each project. With our training material and airCloud Select, professionals can confidently meet their clients' requirements.



#### 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, best-in-class CH-Box choice, along with a variety of controllers for each type of user.



#### 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.



# The Complete VRF Solution Select and combine components as needed

#### Versatile Outdoor units

- Top flow modular (Heat pump & Heat recovery)
- Side flow "mini" (Heat pump)
- SideSmart<sup>™</sup> modular (Heat pump)

#### 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 Station: large choice of interfaces for simple centralised control operations
- Individual controllers: various types available
- · airCloud Pro: cloud-based monitoring available via smartphone app and web

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



# Striving for innovative VRF technology

Meet SideSmart<sup>™</sup>, our latest innovation to join the Hitachi VRF family.

Offering unprecedented flexibility and high efficiency, SideSmart will delight HVAC professionals, while it delivers to end-users the comfort they deserve.

80	THE WORLD'S FIRST SLIM MODULAR VRF
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19	SPECIFICATIONS



2021 Good Design Award, Australia Product Design Commercial & Industrial

# 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.



# SMART BENEFITS OF SIDE FLOW VRF

#### **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 units can be connected to build larger systems

#### **CONFIGURATION**

# Can be installed on different floors

... thanks to flexible capacities & options for indoor locations.

#### LAYOUT

#### Save building space

Reserve your rooftop for other purposes and optimise your indoor layout

#### **INVESTMENT**

# Cost savings at every stage

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





Single Cabinet		HP	8	10	12	14	16
Dimensions (H x V	'	mm	1,	20	1,650 x 1,190 x 420		
Net Weight	380-415V	kg	185	197	203	219	225
Net Weight	220V	kg	188	200	205	223	231
Cooling Capacity		kW	22.4	28.0	33.5	40.0	45.0
Heating Capacity		kW	25.0	31.5	37.5	45.0	50.0
Performance	EER (Cooling)		4.51	4.26	4.27	3.85	3.79
Periorinance	COP (Heating)		4.92	4.44	4.68	4.40	4.41
Air Flow Volume		(m³/min)	160	185	200	250	258
Noise level dB(A)	SPL <sup>*1</sup> (Cooling/Heating)	dB(A)	55/56	59/60	60/62	60/61	62/64

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



# **Key Features**

#### **3 PATENTS**

A true innovation from Hitachi, only achieved using the flexibility and efficiency of SideSmart:

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

#### **MULTIPLE MODULES**

Combine and connect up to 4 outdoor units to build larger systems

#### -13% REFRIGERANT CHARGE

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

#### **UP TO 500M OF PIPING**

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

#### PRESERVE ROOFTOP SPACE

By installing SideSmart on individual floors of a building, your rooftop will be free of air conditioning equipment, allowing use for other purposes.

#### **EXTRA SAVINGS AT <40% PART-LOAD**

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

#### **UP TO 152kW**

With our various modules, SideSmart offers a vast array of capacities.

#### **SLIMLINE FOOTPRINT**

SideSmart modules are only 42cm deep, providing you with added flexibility to fit within the narrowest of spaces.

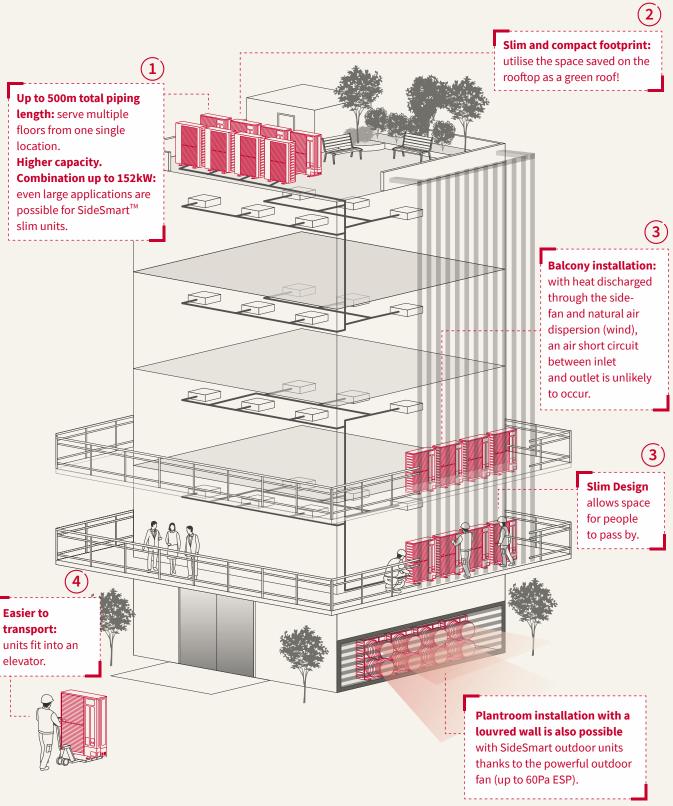
#### **HIGH EFFICIENCY**

SideSmartTM delivers the same astonishing level of energy savings as the largest VRF systems:

- Single cabinet COP up to 4.40
- EER 3.52 / COP 3.90 average for Premium

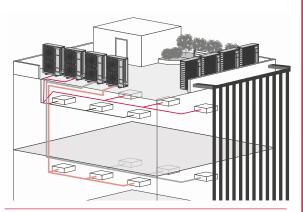
# The power of ubiquity, Anywhere and everywhere.

Thanks to its slim modular design, SideSmart 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 ADVANTAGES OF SIDESMART**

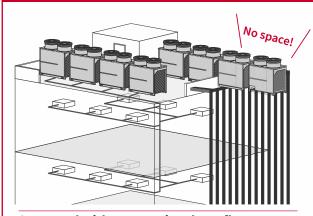
#### 1 SideSmart requires fewer pipes



Compared with: conventional side-flow VRF.

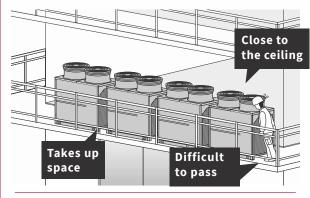
Because multiple outdoor units can be combined to one piping system, less refrigerant piping is needed.

#### 2 SideSmart saves space



Compared with: conventional top-flow VRF.
Thanks to the smaller footprint, less floor space is required

When installed on the balcony, since the air comes out to the front of SideSmart, air short circuits are unlikely to occur.



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

The cabinet is too large. 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.

4 SideSmart is a size that can be transported through an elevator.

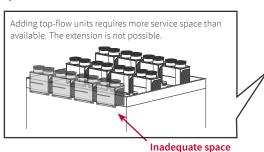


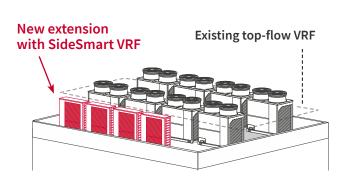
#### Compared with: conventional top-flow VRF.

Due to the compact and light-weight design, the outdoor units can be easily transported and located to the plant

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.



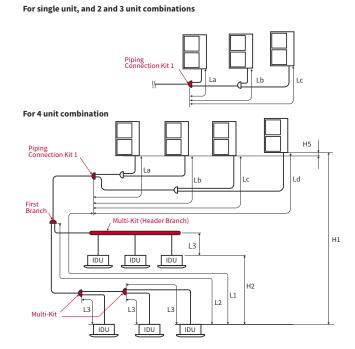


### Flexibility: meet your project requirements

#### GREATER PIPING FLEXIBILITY

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

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



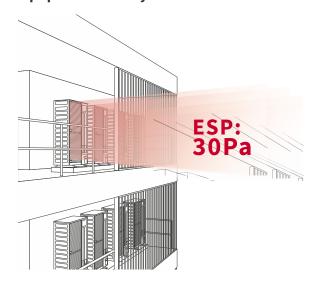
- \*500m if at or below the recommended number of fan coil units. 300m if above the recommended number of fan coil units. \*\*90m if at or below recommended number of fan coil units.
- \*\*\* 40M IF AT OR BELOW THE RECOMMENDED NUMBER OF fan coil units. 30m if above the recommended number of fan coil units.

#### **ESP: FLEXIBLE INDOOR INSTALLATION**

SideSmart can be installed on each floor (e.g. on balconies or behind a louvred wall) thanks to the powerful outdoor fan that is capable of up to 60Pa ESP.

- Effective heat discharge to the outside is ensured.
- SideSmart units are completely invisible from the building facade.

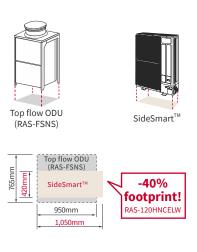
#### **Equipment balcony**



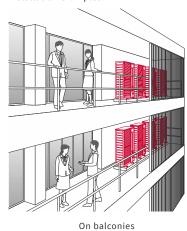
#### **Installation room**



# **SLIM FOOTPRINT**



#### Installation examples:

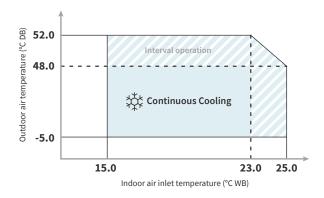


Along building facades (with support structure)

#### FOR ALL CLIMATES

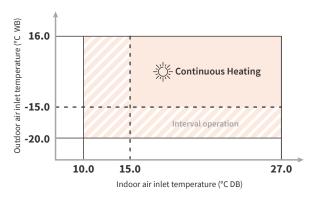
#### Cooling operation from up to 52°C ambient temperature

- 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°C



#### airCloud Select (Coming Soon) **Building solutions**

airCloud Select\* is the latest software selection program, developed by Hitachi to help with designing your next commercial VRF project.

- · Enjoy a super intuitive and modern interface
- · Easily select the suitable VRF equipment for each project
- · Generate automatic & simplified reports for your customers

airCloud Select is available upon request. Availability varies per country. For more information, please contact your local Hitachi Account Manager.





Note: for PC/laptop usage.

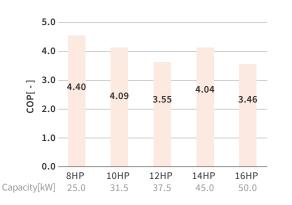
# Small size, yet maximal efficiency

#### SIDESMART™ OFFERS SUPERIOR EFFICIENCY

#### Cooling EER up to 3.67

# 4.0 3.0 3.67 3.44 1.0 0.0 8HP 10HP 12HP 14HP 16HP

#### Heating COP up to 4.40



#### Notes:

Capacity[kW] 22.4

1. EER and COP does not include Indoor unit power consumption.

28.0

- 2. This performance is achieved by 4 way cassette combination. For more details about IDU specifications, please refer to the Technical Catalogueue.
- 3. Above ratio is on single cabinet (standard combination & economy combination).

33.5

40.0

45.0



#### Improved operation

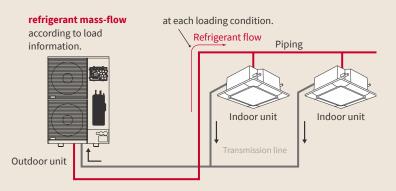
#### SMOOTHDRIVF™: SUPERIOR COMPRESSOR CONTROL

We want to bring true value to your customers. Meeting high energy efficiency standards is one thing, but additionally, SmoothDrive supports energy savings in real-life conditions, as our individual lifestyles change constantly.

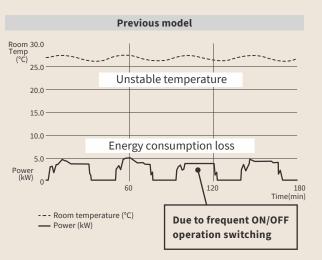
#### How does SmoothDrive work?

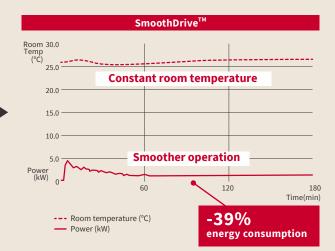
Building on existing variable evaporating/condensing temperature control, SmoothDrive directly regulates refrigerant amount mass-flow, thanks to Hitachi's original load-speculation technology.

- SmoothDrive helps the scroll compressor to run continuously and smoothly even at part-load condition, resulting in a more stable indoor temperature.
- 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.

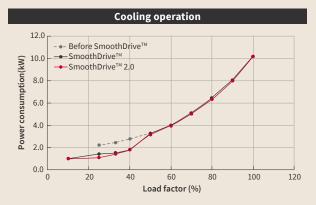


#### Actual new compressor control example (at 33% part load in cooling operation)

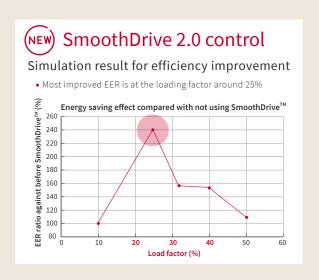




#### Simulation result for all load conditions



- 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  $^{\!\!\!\!\!\!\!^{\, \mathrm{m}}}$  2.0 Control is only seen at load levels greater than 10% of loading factor.

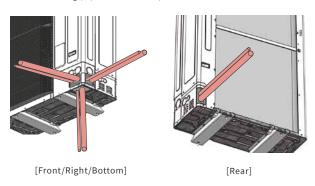


VARIABLE REFRIG

## Reliability: enjoy peace of mind

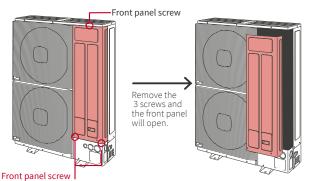
#### Piping options in 4 directions

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.



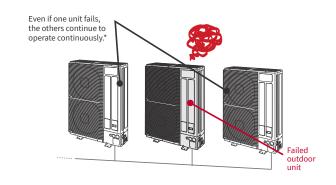
#### BACKUP OPERATION FEATURE FOR EMERGENCIES

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

In the unlikely event that one module in a multi-module system breaks down, the system can be set to operate in an emergency mode, allowing the other unaffected units to continue operating, delivering uninterrupted cooling or heating.

An alarm is triggered and emergency operation can be activated via an individual remote control.

**Note:** Emergency Mode can be activated up to eight hours after a unit fault. Once eight hours have elapsed, the emergency mode cannot be activated.

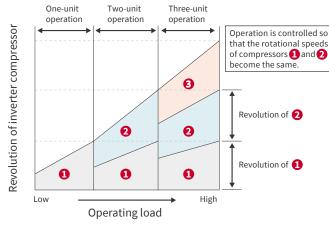


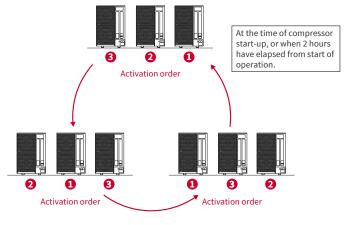
#### ROTATIONAL OPERATION TO DISTRIBUTE OUTDOOR UNITS LOAD

Regulating the operation time of each outdoor unit leads to extending the life of the system greatly.

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.

#### **Example 1. Compressor rotation frequency control**





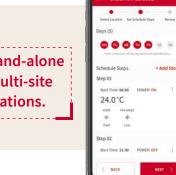
- \*1 At least 2 outdoor units are required for this function
- 1 At least 2 outdoor units are required for this function.
   2 Comparison between the rotation operation function and non-rotation operation function based on the same system.

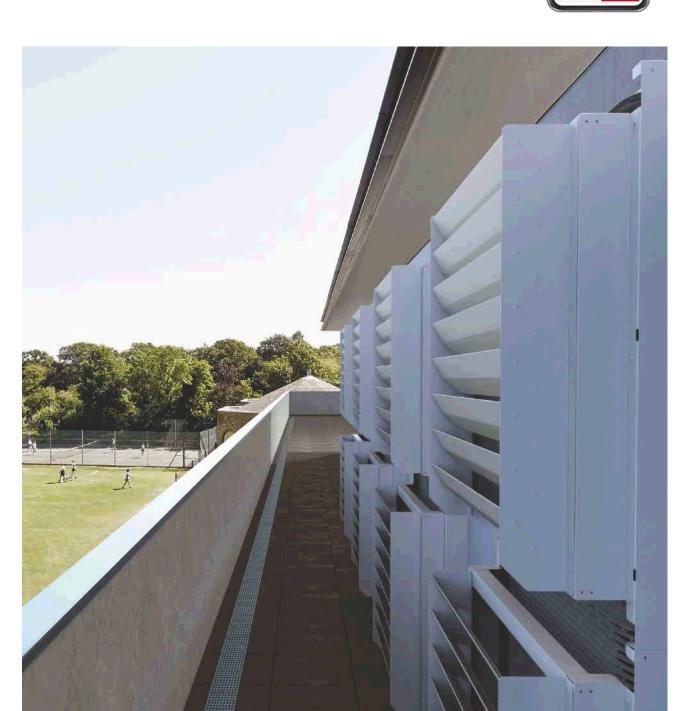
Connect SideSmart<sup>™</sup> to airCloud Pro and monitor your VRF system from anywhere.

Learn more about airCloud Pro controls on pages 89-90.



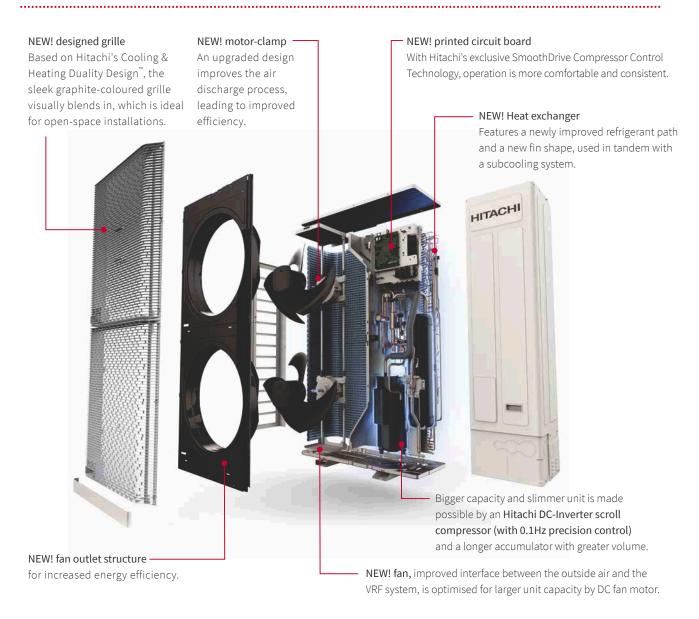
For stand-alone and multi-site applications.





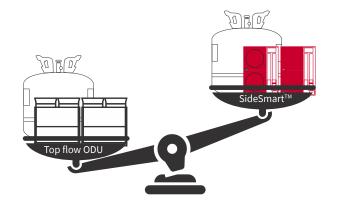
## Improved components

#### NEW DESIGN OF OUTDOOR UNIT COMPONENTS



#### LESS REFRIGERANT

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™ vs other VRF

System	(RAS-FSNS)	SideSmart <sup>™</sup>
Initial charge	9.9kg	9.6kg
Additional charge	19.8kg	16.3kg
Total	29.7kg	25.9kg

#### -13% refrigerant used!

System	16HP system
Maximum piping length (from [Piping Connection Kit 1] to furthest indoor unit)	90m
Total piping length	165m
Number of indoor units	3HP Indoor Units * 6 pcs
IDU connection ratio	113%



# **Specifications**

#### SINGLE CABINET (STANDARD MODEL)

Capacity   Cooling   KW   22.4   28.0   33.5   40.0   45.0   45.0   50.0	HP			8HP	10HP	12HP	14HP	16HP
Capacity Heating   WW   22.4   28.0   33.5   40.0   45.0	Model Name			RAS-080HNCELW	RAS-100HNCELW	RAS-120HNCELW	RAS-140HNCELW	RAS-160HNCELW
Proverling   Proverling   Cooling   RW   Cooling   Research   Refrigerant   Re	Power Supply		V/Ph/Hz		380-415V/3Ph/50	Hz, 380V/3Ph/60Hz (R	:: 220V/3Ph/60Hz)	
Heating   KW   25.0   31.5   37.5   45.0   50.0		Cooling	kW	22.4	28.0	33.5	40.0	45.0
Prover Input   Heating   KW   5.68   7.70   10.55   11.15   14.46	Capacity	Heating	kW	25.0	31.5	37.5	45.0	50.0
Heating   KW   5.68   7.70   10.55   11.15   11.46		Cooling	kW	6.11	8.13	9.64	12.45	14.32
Compressor type	Power Input	Heating	kW	5.68	7.70	10.55	11.15	14.46
Max. Current   LBVS/JPH/50Hz   A   18   21   27   32   36	F#: -:	EER		3.67	3.44	3.48	3.21	3.14
Dimensions   HxW-D   mm   1650×1050×420   1650×1050×1050   1650×1050×1050   1650×1050×1050   165	Епісіепсу	COP		4.40	4.09	3.55	4.04	3.46
Net Weight	Max. Current	415V/3Ph/50Hz	Α	18	21	27	32	36
Natural Gray	Dimensions	H×W×D	mm	1650×1050×420	1650×1050×420	1650×1050×420	1650×1190×420	1650×1190×420
Control of the Color of the Color of	Net Weight		kg	185	197	203	219	225
Inverter Scroll   Inverter S	Outdoor Unit C	olour	_	,	,	,	,	,
Type	Footprint Area		m²	0.53	0.53	0.53	0.60	0.60
Initial Charge Amount   kg   6.0   7.7   7.7   8.3   9.6	Compressor typ	ре	_	Inverter Scroll	Inverter Scroll	Inverter Scroll	Inverter Scroll	Inverter Scroll
Number of Fan Motors — 2 2 2 2 2 2 2 External Static Pressure of Fan Motors — 2 2 2 2 2 2 External Static Pressure of Fan Pa 0/30/60 0/30/60 0/30/60 0/30/60 0/30/60 0/30/60 0/30/60 Capacity Ratio of IDU/ODU — 50% - 130% 50% 50% 50% 50% 50% 50% 50% - 130% 50% - 130% 50% - 130% 50% - 130% 50% - 130% 50% 50% 50% 50% 50% 50% 50% 50% 50% 5	n (	Туре	_	R410A	R410A	R410A	R410A	R410A
External Static   Pressure of Fan   Pa   0/30/60   0/3	Refrigerant	Initial Charge Amount	kg	6.0	7.7	7.7	8.3	9.6
Capacity Ratio of IDU/ODU	Number of Fan	Motors	_	2	2	2	2	2
GB Standard (Anechoic), Cooling (BB Standard (Anechoic), Cooling (BB Standard (Anechoic), Cooling (BB Standard (Anechoic), Heating (Anechoic), H	External Static I	Pressure of Fan	Pa	0/30/60	0/30/60	0/30/60	0/30/60	0/30/60
Sound (Anechoic), Cooling   Canadard (Anechoic), Cooling   Canadard (Anechoic), Heating   Canadard (Anecholic), Heating   Canadard (Anech	Capacity Ratio	of IDU/ODU	_	50% - 130%	50% - 130%	50% - 130%	50% - 130%	50% - 130%
Main Piping   Liquid   (\( \phi\)) mm   9.52   9.52   12.70   12.70   12.70   12.70	Sound		dB(A)	55	59	60	60	62
Size   Gas   (φ)mm   19.05   22.20   25.40   25.40   25.40   28.58	Pressure Level		dB(A)	56	60	62	61	64
Connectable   Recommended	Main Piping	Liquid	(φ)mm	9.52	9.52	12.70	12.70	12.70
Number   Maximum   Figure   Figure   Maximum   Figure   Fig	Size	Gas	(φ)mm	19.05	22.20	25.40	25.40	28.58
Working Temp.         Cooling         °C DB         -5 ~ 48 (/52)	Connectable	Recommended	-	8	10	10	16	16
Range (*5)   Heating   **C WB   (-20)/-15~16   (-	IDU Number	Maximum	-	13	16	19	23	26
Total	Working Temp.	Cooling	°C DB	-5 ~ 48 (/52)	-5 ~ 48 (/52)	-5 ~ 48 (/52)	-5 ~ 48 (/52)	-5 ~ 48 (/52)
From Piping connection	Range (*5)	Heating	°C WB	(-20/) -15~16	(-20/) -15 ~ 16	(-20/) -15 ~ 16	(-20/) -15 ~ 16	(-20/) -15~16
Kit 1 to Furthest IDU		Total	m	500 (300)	500 (300)	500 (300)	500 (300)	500 (300)
Piping Length (*6)			m	'	,		,	120/150 (Actual/Equivalent)
Between 1st branch and the furthest IDU   m   90 (40)	Maximum Piping Length		m	10	10	10	10	10
And each IDU	( 6)		m	90 (40)	90 (40)	90 (40)	90 (40)	90 (40)
Maximum Height Difference (*7)         Between ODU and IDU (ODU above IDU)         m         50         50         50         50         50           Uifference (*7)         (IDU above ODU)         m         40         40         40         40         40         40         40			m	40 (30)	40 (30)	40 (30)	40 (30)	40 (30)
Maximum   Maxi		Between ODUs	m	0.1	0.1	0.1	0.1	0.1
Difference (*7) (IDU above ODU) m 40 40 40 40 40			m	50	50	50	50	50
Between IDUs m 30 30 30 30 30 30	Maximum Height Difference (*7)	(IDU above ODU)	m	40	40	40	40	40
		Between IDUs	m	30	30	30	30	30

#### Notes:

- 1. The Cooling and Heating performances are to AS/NZS 3823.1.4 2012  $\,$
- 2. 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.

- 3. 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) The (XX  $^{\circ}$  ) limit temperature applies to interval air conditioning operation.
- (\*6) In case of connecting number of indoor unit is less than recommended connectable IDU & (when connecting more than recommended number of indoor units).
- $({}^\star 7)$  In case of connecting number of indoor unit is less than recommended connectable IDU.
- 8. Efficiency values will differ depending on type, size and quantitie of fan coil units connected



# From 22.4kW to 152kW: large choice of combinations

Sta	ndard c	ombina	tion		
kW	RAS-080	RAS-100	RAS-120	RAS-140	RAS-160
22.4	•				
28		•			
33.5			•		
40				•	
45					•
50.4	•	•			
56		••			
61.5		•	•		
67			••		
73.5			•	•	
80				••	
85				•	•
90					••
96		••		•	
101.5		•	•	•	
107			••	•	
113.5			•	••	
120				•••	
125				•	••
130				•	••
135					•••
141.5		•	•	••	
147			••	••	
152			••	•	•

kW	RAS-080	RAS-100	RAS-120	RAS-140
44.8	••			
50.4	•	•		
55.9	•		•	
61.5		•	•	
67.2	•••			
72.8	••	•		
78.3	••		•	
83.9	•	•	•	
89.4	•		••	
95		•	••	
100.5			•••	
106.3	••	•	•	
111.8	••		••	
117.4	•	•	••	
122.9	•		•••	
128.5		•	•••	
134				



# **Comfort first**

Each space has its own indoor unit. Our wide range of units can meet any type of requirement and space layout, harmonising with the interior decor.

The seamless and quiet operation of the units, allows users to appreciate premium comfort at low operating costs. Advanced functions such as GentleCool and AutoBoost allow you to customize the air within each space to suit your clients preferences, while smart design minimises the need for regular maintenance.

#### 24 LINE-UP SUMMARY

#### 26 OUR KEY INDOOR FEATURES

#### 34 SOLUTIONS

#### 34 Ducted units

High ESP [RPI-FSR, RPI-FSN1] (DC) NEW

Medium ESP [RPIM-FSR] (DC) NEW

High ESP [RPIH-HNAUNQ, RPI-FSNQ] (AC)

Compact [RPIZ-HNDTSQ] (DC)

Compact [RPIZ-HNATNQ] (AC)

Larger air volume [RPI-FSN2SQ] (AC)

#### **36** Ceiling cassettes **NEW**

Silent-Iconic™ (4-way cassette design panel)
4-way cassette [RCI-FSRP] (DC)
4-way compact cassette [RCIM-FSRE] (DC)
2-way cassette [RCD-FSR] (DC)
1-way cassette [RCS-FSR] (DC)

#### 42 Other indoor units

Wall mounted [RPK-FSRM, RPK-FSRHM] (DC) NEW Floor/Ceiling convertible [RPFC-FSNQ] (AC)
Ceiling suspended [RPC-FSR] (DC) NEW Floor exposed [RPF-FSN2E] (AC)
Floor concealed [RPFI-FSN2E] (AC)
Floor concealed [RPFI-FSNQ] (AC)



# Line-up summary

Over 20 types available!

**DUCTED** | The ultimate invisibility

#### NEW

HIGH ESP (DC) RPI-FSR, RPI-FSN1

#### NEW

MEDIUM ESP (DC)
RPIM-FSR





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### COMPACT (DC) RPIZ-HNDTSQ



HIGH ESP (AC) RPIH-HNAUNQ, RPI-FSNQ



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#### COMPACT (AC) RPIZ-HNATNQ



#### LARGER AIR VOLUME (AC)

RPI-FSN2SQ



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#### new

#### **CASSETTE** | Provides a consistent balance of air to all corners of a room

#### 4-WAY CASSETTE (DC) RCI-FSRP



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TWIN-SENSE SYSTEM RCI-FSRP+ P-AP160NAE2



Silent-Iconic<sup>™</sup>
Design Panel
P-GP160NAP, P-GP160NAPU, P-GP160KAP

4-WAY COMPACT
CASSETTE (DC)

RCIM-FSRE, RCI-FSKDNQ



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#### 2-WAY CASSETTE (DC)



.....

1-WAY CASSETTE (DC) RCS-FSR

#### **OTHERS** | Minimal installation or retrofit projects

#### NEW

#### WALL MOUNTED (DC) RPK-FSRM, RPK-FSRHM



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#### FLOOR/CEILING CONVERTIBLE (AC) RPFC-FSNQ



Page 61

#### NEW

#### CEILING SUSPENDED (DC)



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#### FLOOR EXPOSED (AC)





# **Key Indoor Features**

#### GentleCool

#### **EXCLUSIVE**

#### **GENTLECOOL (FOR COOLING OPERATION)**



















RPIM-FSR RPI-FSN1

RCI-FSRP (all panels) RCI-FSKDNQ

RCIM-FSRE

RCD-FSR

RCS-FSR

RPK-FSRM RPK-FSRHM

RPC-FSR

PC-ARF1

PC-ARFG

GentleCool gives you total control of the air temperature leaving your air conditioner.

It can be set to not only to maintain room temperature, but to increased your comfort levels while doing so.

In the cooling mode, the user can set the level of cooling to avoid any unnecessary cold drafts. GentleCool might affect the speed of the room's cooling down to the set temperature.



# ARIABLE REFRIGERANT FLOW SYSTEM

# **Key Indoor Features**

Crowd-Sense

**NEW & EXCLUSIVE** 

#### **CROWD-SENSE: PREDICTIVE ADJUSTMENT TO OCCUPANCY VARIATIONS**



Ideal for meeting rooms, restaurants, museums and other venues with fluctuating occupancy.

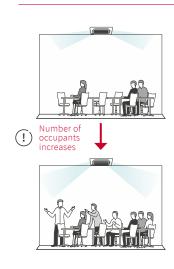


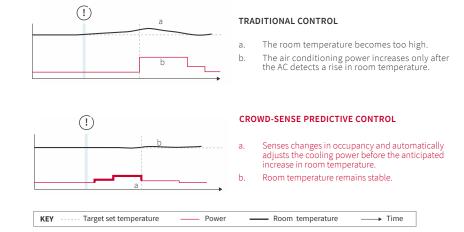


PC-ARFG

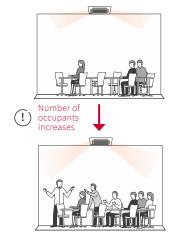
Using Hitachi's Twin-Sense cassette fascia, the CrowdSense predictive control function senses the change in occupancy and rapidly adjusts the performance of the unit to constantly maintain the desired optimum room temperature.

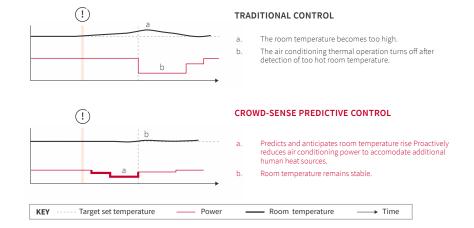
#### Crowd-Sense action during cooling





#### Crowd-Sense action during heating





#### Crowd-Sense may not be effective or might be less effective in the following cases:

- · Multiple indoor units are in operation in the same zone
- The difference between the radiant temperature of the room (floor and walls) and the radiant temperature of the human body is minimal.
- $\cdot$  The room temperature is high before operation.
- · During the heating process, when the number of occupants decreases.

# **Key features of indoor units**

NEW

#### **FEETWARM (FOR HEATING OPERATION)**



PC-ARFG



P-AP160NAE2

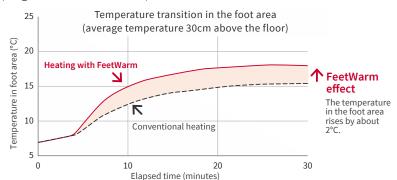
#### Head to toe comfort during winter

Intelligent heated air distribution, tailored for the human body.

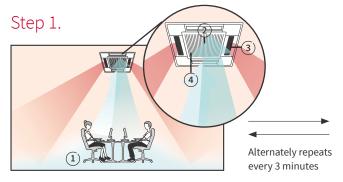
FeetWarm is complex yet effortless comfort function integrating various parameters together. Available in our Twin-Sense cassette, it prevents the natural effect of cold air sinking and hot air rising, to create enveloping warmth for all occupants.

FeetWarm's boasts 4 intelligent features:

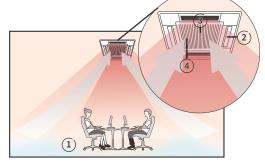
- Thanks to the Twin-Sense radiant sensor, it can detect heat stratification effects inside the room, which usually cause the floor and lower levels to be cooler.
- A 2-step action to first create consistent warmth, then to maintain it.
- · Advanced heat air flow optimization, by sophisticated control of the 4-way cassette's individual louvres.
- •The lower levels of the room (floor level, feet level, leg level) reach desired temperatures, for total comfort.



#### How does it work?



- (1) The radiant sensor detects a temperature drop in the floor and around your feet.
- (2) The cassette partially closes two louvres automatically.
- (3) The air flow strengthens through the two remaining open louvres, and targets the floor to warm it up quickly 1



- Louvre openings alternate every three minutes from wide open to partially closed to cover a wider floor area.
- (4) As louvre openings close, suction increases in the central inlet grill for a faster warming effect.

#### Effect of FeetWarm- Step 1.

Temperature distribution around the area of the feet (30min after air conditioning heating operation starts).



Average temperature 30cm above the floor = 15.4°C

Heating with FeetWarm About 2°C rise Feet will warm up quicker

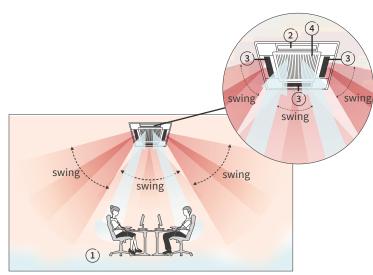
Average temperature 30cm above the floor = 17.9°C

<sup>\*1</sup> Caution: when the indoor unit changes to heating, the sudden change in air flow might cause occupants to feel a cold draft sensation.



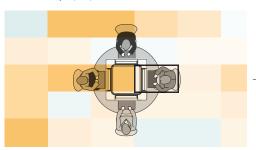
#### Step 2.

- (1) When the radiant temperature sensor detects that the lower level is no longer cold, FeetWarm shifts to its second step for a more even temperature throughout the room.
- (2) One louvre remains closed.
- (3) Three remaining open louvres follow Auto-Swing air flow direction, continuously moving up/down. This leads to faster circulation of the warm air in all areas of the room.
- (4) Suction of colder air remains facilitated thanks to the one partially closed louvre.

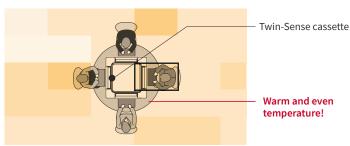


#### Effect of FeetWarm- Step 2.





#### FeetWarm Step 2 (after 20min)



[Measurement condition Based on Hitachi research]. Imeasurement condition based on HitaChi research). See simulation result under the following conditions above. Unit capacity: 8.0kW, room size: "height 3.2m, length 6.3m, width 6.3m", indoor initial temperature: 7 °C, outdoor temperature: 7 °C, indoor airflow temperature: 30 °C for 0-5 minutes, Gradually rise from 30 °C to 40 °C after 5 minutes, Multi-function remote control setting: Airflow heat control "effective / long". (Note) The effect varies depending on the size of the room and the load.

# **Key Indoor Features**

## FloorSense Cool (for cooling operation)



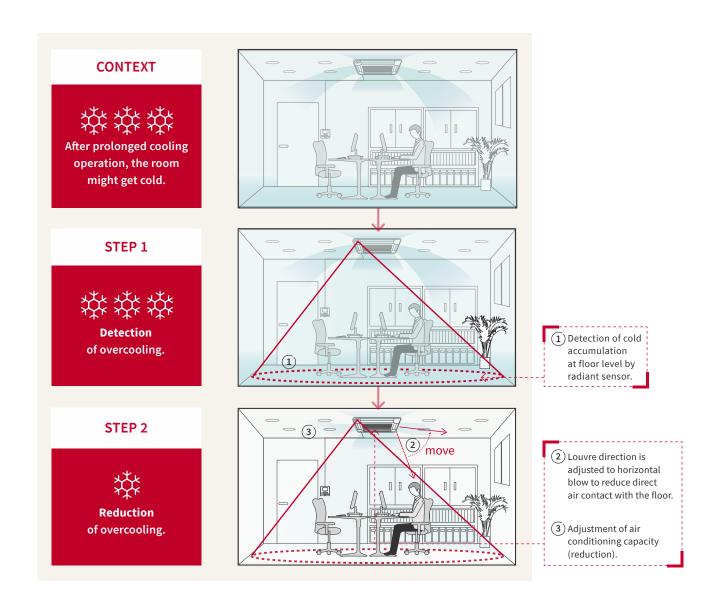


PC-ARFG

#### Prevents floor overcooling.

When the room has undergone prolonged cooling, the floor may overcool, due to cold air sinking below layers of warmer air.

The radiant sensor can detect when the floor becomes too cold. The air conditioning will automatically blow softer to prevent overcooling. $^{\star 1}$ 



<sup>\*1</sup> When a group of people return to the room or the room temperature rises due to sunlight, the cooling operation returns to normal.

# VARIABLE REFRIGERANT FLOW SYSTEM

# **Key Indoor Features**

#### Choice of direct or indirect airflow



PC-ARFG



Do you prefer to feel the air? Or do you prefer more subtle air airflow?

Choose your preferred air sensation and let the air conditioner adjust the louvre direction to your liking.

Our 4-zone motion sensor divides the room into 4 areas and can detect presence of occupants within each room.

- Direct air flow: Twin-Sense cassette will target the corners with human activity.
- Indirect air flow: Twin-Sense cassette will avoid the corners where occupants are detected.

# Indirect air flow: gentle, subtle air that goes unnoticed.

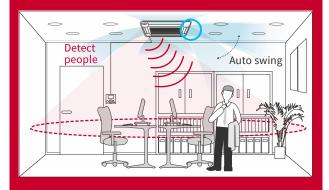
Horizontal air flow, for circulation above and around occupants without air blowing directly on them.



Ideal in places where occupants remain immobile for a long time: restaurants, offices and theatres.

# **Direct air flow:** air flowing sensation to the body.

Auto swing of louvres, to ensure that every occupant can feel the air blowing.



Ideal in places where occupants need quick warm up or cool down: entrance areas and corridors and hotel lobbies.

If an object with a temperature different to the surrounding is in motion, it might be considered as human presence.

# **Key Indoor Features**

#### Hotel Setback





RPIM-FSR



RCI-FSKDNQ







RCD-FSR



RCS-FSR



RPC-FSR

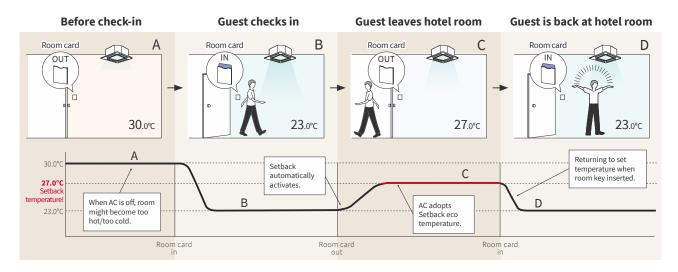


PC-ARF1



PC-ARFG

Interlock the air conditioner with a hotel keycard and set an eco temperature for the time of room vacancy.



#### Auto-Save (WITH MOTION SENSOR)



RPI-FSR

RPI-FSN1

RPIM-FSR

(SOR-NEZ)





RCI-FSKDNO

(PS-MSK2)





(SOR-NEC)



RCD-FSR

(SOR-NED)





RCS\_FSR

(SOR-NES)



(SOR-NEP)





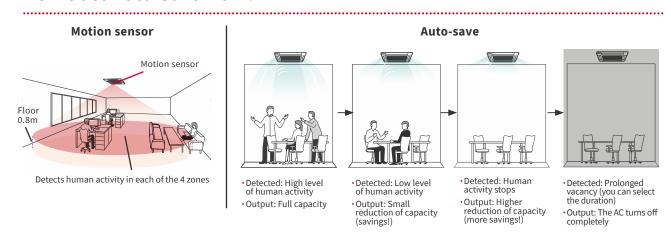
PC-ARF1

PC-ARFG

#### Save more energy while improving comfort!

When adding a motion sensor to the indoor unit, auto-save function will adjust the air conditioning power to the human activity level.

#### How does Auto-Save work?



# **Key Indoor Features**

# FrostWash 袋















RPI-FSR RPIM-FSR RCI-FSRP (All panels) RCIM-FSRE

RCD-FSR

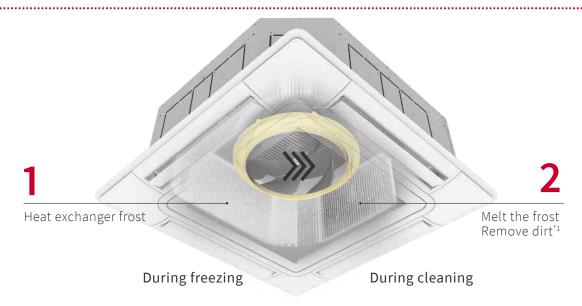
RCS-FSR

RPC-FSR

PC-ARFG

Now available in 6 types of VRF indoor units, our exclusive coil self-cleaning technology uses frost to wash away the dirt.

#### How does FrostWash work?



- FrostWash freezes the heat exchanger, capturing the dirt.
- When the frost melts, the dirt detaches from the fins.
- As a result, the air volume can be maintained over time, which contributes to a sustainable performance of the indoor unit and comfort.

The FrostWash self-cleaning process can be activated manually or automatically at scheduled intervals.

Note: FrostWash is only available when the indoor unit is under a single-cabinet SideSmart system (8HP to 18HP).

 $^{\star}$  1 Dirt removal depends on the usage environment.

# **Indoor Unit Solutions**

#### **Ducted units**

#### THE MOST DISCREET AIR CONDITIONING EXPERIENCE

Our 8 types of ducted units offer a variety of ESP levels, to facilitate integration into your next commercial project.





#### HIGH ESP (DC)

[RPI-FSR, RPI-FSN1]

- •High ESP: Up to 200Pa (RPI-2.0FSR) or 230Pa (RPI-8.0/10.0FSN1).
- Flexible choice of air suction connection, rear or bottom.
- GentleCool available, to prevent cold draft when cooling starts.
- · Hotel Setback available.



#### COMPACT (DC)

[RPIZ-HNDTSQ]

- 192mm height! Ideal for installations above closets or windows.
- •Drain-pump with 900mm lift as standard optional part.
- ${ullet}$  Quiet noise level down to 20dB(A).
- •Fan speed: 6 taps available.

#### NEW



#### **MEDIUM ESP (DC)**

RPIM-FSR

- •3 levels of ESP available: 50/100/150Pa.
- Flexible choice of air suction connection, rear or bottom.
- GentleCool available, to prevent cold draft when cooling starts.
- · Hotel Setback available.



#### COMPACT (AC)

[RPIZ-HNATNQ]

- •192mm height! Ideal for installations above closets or windows.
- •Drain-pump with 900mm lift as standard optional part.
- •Quiet noise level down to 20dB(A).



### HIGH ESP (AC) [RPIH-HNAUNQ, RPI-FSNQ]

•High ESP (90/120/180Pa).

•Slim & space saving design thanks to a height of 300mm only (RPIH-HNAUNQ).



#### LARGER AIR VOLUME (AC) [RPI-FSN2SO]

- Two external static pressure settings for more flexibility.
- High external static pressure: Up to 120Pa (140Pa in 7HP).
- Ideal for air ducting to multiple zones.

### Nominal cooling capacity range

Ducte	ed indoor units	Cooling (kW)	2.2	2.8	3.6	4.0	4.3	5.0	5.6	6.3	7.1	8.0	8.4	9.0	11.2	14.0	14.2	16.0	18.0	22.4	28.0
NEW	HIGH ESP (DC) [RPI-FSR, RPI-FSN1]								•		•	•			•	•		•		•	•
NEW	MEDIUM ESP (DC) [RPIM-FSR]		•	•		•			•		•	•			•	•		•			
	HIGH ESP (AC) [RPIH-HNAUNQ, RPI-FSNQ]												•	•	•		•	•		•	•
	COMPACT (DC) [RPIZ-HNDTSQ]		•	•	•	•		•	•	•	•										
	COMPACT (AC) [RPIZ-HNATNQ]		•	•	•	•		•	•	•	•										
	LARGER AIR VOLUME (AC) [RPI-FSN2SQ]											•			•	•		•	•		

Full Outside Air Ducted indoor units	Cooling (kW)	14	22.4	26	33.5	45	56
<b>100% OUTSIDE AIR</b> [RPI-KFNQ, RPI-KFNQL, RPI-KFNQH, RPI-KFNQLF, RPI-KFNQHF]		•	•	•	•	•	•

#### FEATURES COMPARISON

			NEW	NEW					
			HIGH/ MEDIUM ESP (DC)	HIGH ESP (8/10HP) (DC)	HIGH ESP (AC)	HIGH/MEDIUM ESP (8/10HP) (AC)	COMPACT (DC)	COMPACT (AC)	LARGER AI VOLUME (AC)
lodel									
			RPI-FSR RPIM-FSR	RPI-FSN1	RPIH-HNAUNQ	RPI-FSNQ	RPIZ-HNDTSQ	RPIZ-HNATNQ	RPI-FSN2S
	Temperature Se	tting Rate	0.5°C/1.0°C	0.5°C/1.0°C	1.0°C	1.0°C	1.0°C	1.0°C	1.0°C
	Fan Speed		4 taps	4 taps	3 taps	1 tap	6 taps	3 taps	3 taps
	Louvre Direction	า	-	-	-	-	-	-	-
	Individual Louvi	re Setting	-	-	-	-	-	-	-
	Auto Louvre Set	ting	-	-	-	-	-	-	-
$\bigcirc$	Dry mode Availa	ability	•	•	•	•	•	•	•
	Setback (Away F	Function)	•	•	-	-	-	-	-
COMFORT	Cold Draft Preve	ention (*1)(*4)	•	•	•	•	•	•	•
	Comfort setting	Control Cool Air (GentleCool) (*2)	•	•	-	-	-	-	-
	Direct/Indirect le	ouvre direction in COOL	-	-	-	-	_	-	_
	Direct/Indirect le	ouvre direction in HEAT	-	-	-	-	-	-	_
	FeetWarm air flo	ow control	-	-	-	-	-	-	
		l air flow control		-	-	-	_	-	_
	Power Saving w	ith Motion Sensor (*2)	•	•	_	-	_	_	
	Outdoor Unit	Peak cut control	•	•	-	-	_	-	-
$\widetilde{\Box}$	capacity control (*2)	Moderate control	•	•	-	-	-	-	_
POWER	Indoor Unit	Indoor Unit Address	•	•	-	-	-	-	-
SAVING	Rotation Control (*2)	Indoor Air Temperature difference	•	•	-	-	-	-	-
	Automatic Fan C	Automatic Fan Operation		•	•	•	•	•	•
	AutoBoost (quic	-	•	•	-	-	-	-	
	Daylight Saving	Time	•	•	•	•	•	•	•
	Power Consump	otion visualization (*2)	•	•	-	-	-	-	-
MENU	Weekly Schedul	e Setting	•	•	•	•	•	•	•
	Power-Saving Se	etting (*2)	•	•	-	-	-	-	-
	<b>NEW</b> FrostWash	™auto-cleaning	•	-	-	-	-	-	-
	Filter cleaning re		•	•	•	•	•	•	•
X		Sensor Condition Check	•	•	•	•	•	•	•
-0 0	Check Menu	Model Display (*2)	•	•	-	-	-	-	-
POWER SAVING		Indoor/Outdoor PCB Check	•	•	•	•	•	•	•
		Alarm History Display	•	•	•	•	•	•	•
	Motion Sensor		SOR-NEZ	SOR-NEZ	-	-	-	-	-
{O}	Receiver Kit for	wireless remote controller	PC-ALHZ1	PC-ALHZ1	PC-RLH11 PC-ALHZ1	PC-RLH11 PC-ALHZ1	PC-RLH11 PC-ALHZ1	PC-RLH11 PC-ALHZ1	PC-RLH1 PC-ALH2
OPTIONAL	Drain-up mecha	ınism availability	• (*3)	• (*3)	DUPI-361Q	DUPI-15H2Q	• (*3)	• (*3)	-
ACCESSORY			F-56/90/160LI	F-280LI	KW-PP9/10Q		KW-PP5Q	KW-PP5Q	

<sup>(\*1)</sup> This function is utilised to prevent cold discharged air at start-up of heating operation, after defrosting operation, etc.
(\*2) Advanced wired remote controller PC-ARF1 needs to be connected.

<sup>(\*3)</sup> Included as standard equipment. (\*4) Please consult your distributor.

# **Indoor Unit Solutions**

## Ceiling cassettes

#### PREMIUM DESIGN & INNOVATIVE FEATURES

Meet with our newly upgraded offer, for upgraded comfort!



#### 4-WAY CASSETTE (DC)

[RCI-FSRP]

#### (with P-AP160NAE2)

- Smarter performance thanks to Twin-Sense system.
   Hitachi exclusive FrostWash auto-cleaning technology.
- (with P-GP160NAP)
- Award-winning Silent-Iconic<sup>™</sup> to fit your indoor aesthetics.

#### (with P-GP160NAPU)

Facilitated maintenance with auto-elevating grille.

#### Silent-Iconic design panel



#### Silent-Iconic with elevation grille





#### 4-WAY CASSETTE (DC)

[RCI-FSKDNQ]

- Extensive air distribution possibilities, with 7 louvre positions controllable individually and optional ducting for further reach.
- Motion sensor available for more energy savings
- Ideal for high ceilings, up to 5.5m long cooling air flow.
- GentleCool available, to prevent cold draft when cooling starts.



#### 4-WAY COMPACT CASSETTE (DC)

[RCIM-FSRE, RCI-FSKDNQ]

- 600x600mm dimensions ideal for modular paneled ceilings.
- •Whisper quiet operation from 24.5dB(A).
- · Multiple fan speeds, ideal for large air volumes and high ceilings (4.6m long cooling air flow).
- Motion sensor available for more energy savings.
- · Hitachi exclusive FrostWash auto-cleaning technology.



#### 2-WAY CASSETTE (DC)

[RCD-FSR]

- · Ideal for long and narrow spaces.
- •Whisper quiet operation down to 27dB(A).
- Suitable for high ceilings & cooling air flow up to 4.6m long.
- · Hitachi exclusive FrostWash auto-cleaning technology. •GentleCool available, to prevent cold draft when cooling starts.



#### 1-WAY CASSETTE (DC)

[RCS-FSR]

- ·Ideal for small corners or installation by the window
- · Can accommodate downward air flow or side air flow direction.
- ·Whisper quiet operation down to 27dB(A).
- · GentleCool available, to prevent cold draft when cooling starts.

#### Nominal cooling capacity range from 1.6kW to 16kW

Ceil	ling cassettes	Cooling (kW)	1.6	2.2	2.8	4.0	5.6	7.1	8.0	11.2	14.0	16.0
NEW	4-WAY CASSETTE (DC) [RCI-FSRP]				•	•	•	•	•	•	•	•
	4-WAY CASSETTE (DC) [RCI-FSKDNQ]				•	•	•	•	•	•	•	•
NEW	4-WAY COMPACT CASSETTE (DC) [RCIM-FSRE]		•	•	•	•	•	•				
NEW	2-WAY CASSETTE (DC) [RCD-FSR]			•	•	•	•	•	•	•	•	•
NEW	1-WAY CASSETTE (DC) [RCS-FSR]			•	•	•	•	•	•			

### FEATURES COMPARISON

			(DC MOT	SETTE TYPE OR TYPE)	4-WAY CASSETTE COMPACT TYPE (DC MOTOR TYPE)	2-WAY CASSETTE TYPE (DC MOTOR TYPE)	1-WAY CASSETTE TYPE (DC MOTOR TYPE)
Model			NEW		NEW	NEW	NEW
			RCI-FSRP	RCI-FSKDNQ	RCIM-FSRE	RCD-FSR	RCS-FSR
	Temperature Set	ting Rate	0.5°C/1.0°C	0.5°C/1.0°C	0.5°C/1.0°C	0.5°C/1.0°C	0.5°C/1.0°C
	Fan Speed		4 taps	4 taps	4 taps	4 taps	4 taps
	Louvre Direction		7 (*4)	7 (*4)	7 (*4)	7 (*4)	7 (*5)
	Individual Louvr	e Setting	•	•	•	•	-
	Auto Louvre Sett	ing	•	•	•	•	•
$\sim$	Dry mode Availa	bility	•	•	•	•	•
	Setback (Away F	unction)	•	•	•	•	•
COMFORT	Cold Draft Preve	ntion Availability (*1)	•	•	•	•	•
	Comfort setting Control Cool Air (GentleCool) (*2)		•	•	•	•	•
	<b>NEW</b> Direct/Indirect louvre direction in COOL		•	-	-	-	-
	<b>NEW</b> Direct/Indirect louvre direction in HEAT		•	-	-	-	-
	NEW FeetWarm air flow control		•	-	-	-	-
	NEW FloorSense	e Cool air flow control	•	-	-	-	-
	Power Saving wi	th Motion Sensor (*2)	•	•	•	•	•
	Outdoor Unit capacity control (*2)	Peak cut control	•	•	•	•	•
$(\theta)$		Moderate control	•	•	•	•	•
POWER-SAVING	Indoor Unit	Indoor Unit Address	•	•	•	•	•
. 611211 67111116	Rotation Control (*2)	Indoor Air Temperature difference	•	•	•	•	•
	Automatic Fan Operation		•	•	•	•	•
	AutoBoost (quicl	k function) (*2)	•	•	•	•	•
	Daylight Saving	Time	•	•	•	•	•
<b></b>	Power Consump	tion visualization (*2)	•	•	•	•	•
MENU	Weekly Schedule	e Setting	•	•	•	•	•
	Power-Saving Se		•	•	•	•	•
	<b>NEW</b> FrostWash	™ auto-cleaning	•	-	•	•	•
9 00	Filter cleaning re	minder	•	•	•	•	•
		Sensor Condition Check	•	•	•	•	•
MAINTENANCE	Check Menu	Model Display (*2)	•	-	-	•	•
		Indoor/Outdoor PCB Check	•	•	•	•	•
		Alarm History Display	•	•	•	•	•
	Motion Sensor		P-AP160NAE2	PS-MSK2	SOR-NEC	SOR-NED	SOR-NES
	Receiver Kit for v	vireless remote controller	PC-ALH3	HR4A10NEWQ PC-ALH3	PC-ALHC1	PC-ALHD1	PC-ALHS1
مرسح	Drain-up mechai	nism availability	• (*3)	• (*3)	• (*3)	• (*3)	• (*3)
503	Fresh air intake a	accessory	● (*6)	-	● (*6)	• (*6)	• (*6)
OPTIONAL ACCESSORY	Airfilter		F-160L-K F-71L-D1 F-160L-D1 B-160H3	-	-	F-90MD-K1 F-160MD-K1 B-90HD B-160HD	-

<sup>(\*1)</sup> You can use this function to prevent cold discharged air at startup of the heating cycle (\*2) Advanced wired remote controller PC-ARF1 needs to be connected. (\*3) Included as standard equipment.

<sup>(\*4) 7</sup> angles are available for individual louvre setting, 5 angles only for the operation of Cooling or Dry. (\*5) 5 steps only for the operation of Cooling or Dry. (\*6) A Duct Adapter (Optional part) is available.

# **Indoor Unit Solutions**

Ceiling cassettes

NEW

### SILENT-ICONIC™ 4-WAY CASSETTE DESIGN PANEL



Exclusive design developed with architectural designers in mind, the Silent-Iconic panel will compliment any interior.



reddot winner 2021 best of the best

Red Dot Award 2021 (Best of the Best for ground-breaking design quality)



Good Design Award (Category: Equipment and facilities for professional use)

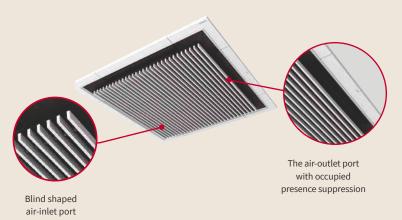


iF Design Award 2020 Discipline: Product





Silent-Iconic is designed to harmonise with the space by creating the central part to be a blind shaped air-inlet port and reducing its occupied presence by darkening the air-outlet port.









### Try our Silent-Iconic virtual installation

Using Augmented Reality, our virtual try-on allows you to visualise how the 4-way cassette or Silent-Iconic looks installed in your space.







### Instructions for use



1. Scan the QR code<sup>\*7</sup> and open the web page.



### 2. Tap the icon.

Tap the icon displayed at the bottom right of the 3D Viewer. If the icon is not displayed, please unhide it in Safari or check the OS version.



### 3. AR mode is activated.

Hold out the camera toward the ceiling and get it to detect the environment by moving it in a circular motion.

You may not be able to scan a single-coloured ceiling, so try to scan an area where objects such as downlights or ceiling ventilation fans are installed.



### 4. Adjustment of placement location.

Shift then move it with a single finger, and rotate or zoom out/in with two fingers to adjust the size that fits the space.

There is also a capture button, so you can take and share the pictures you have placed.

### **Operating environment**

[Device]

 $iPhone\ 12\ Pro\ /iPhone\ 12\ Pro\ Max/iPhone\ 12/iPhone\ 12/iPhone\ 12Pro\ /iPhone\ 11/iPhone\ 12/iPhone\ 12Pro\ Max/iPhone\ 12Pro\ Max/iPhone\$ iPhone

 $iPhone\ X/iPhone\ 8/iPhone\ 7/iPhone\ 6s/iPhone\ 6s/iPhone\ 8/iPhone\ 8/iP$ 

 $\mathsf{iPad}^{^{\star_2}}$ iPad Pro (all models) / iPad (6th generation) / iPad (5th generation)

[os] iOS<sup>\*3</sup> 12.1 or later

Safari\*4/ Google Chrome\*5 / Firefox\*6 [Browser]

- 11 iPhone is a trademark of Apple Inc., registered in the United States and other countries.
   22 iPad is a trademark of Apple Inc., registered in the United States and other countries.
   33 iOS is the Operating System name of Apple Inc. iOS is a registered trademark or trademark of Cisco Systems, Inc. or its affiliates in the United States and other countries and is used under ilicense.

  \*4 Safari is a trademark of Apple Inc., registered in the United States and other countries.

  \*5 Google Chrome is a trademark or registered trademark of Google Inc.

  \*6 Firefox is a trademark or registered trademark of the United States Mozilla Foundation in the United States and other countries.

  \*7 QR code is a registered trademark of Denso Wave Incorporated.

# **Indoor Unit Solutions**

# Ceiling cassettes



### 4-WAY CASSETTE HIGH EXTERNAL STATIC PRESSURE TYPE

(DC) [RCI-FSRP]

### **LINE-UP SUMMARY**



### **STANDARD**

- FrostWash technology
- GentleCool (H×W×D) 40×950×950 mm



### **TWIN-SENSE**

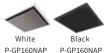
- · Smarter with 4-zone motion sensor & radiant sensor
- (H×W×D) 40×950×950 mm





### SILENT-ICONIC™

- · Award winning design panel
- •(H×W×D) 52×950×950 mm
- •2 colours available
- Auto-elevating grille option





P-GP160NAPU

### Twin-Sense cassette

Adaptive comfort for real life applications

### EXCLUSIVE **GENTLECOOL**

During cooling, the anti cold-draft the perception of a cold draft in the discharged air temperature.



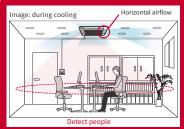
### **FEETWARM**

During heating, Feetwarm feature ensures warmth reaches and remains on the floor and around



### **FLOORSENSE COOL**

During cooling, based on indoor unit's new radiant sensor, the multi-louvres cooling capacity to prevent the cold air from sinking and overcooling the floor area.



### **NEW & EXCLUSIVE CROWD-SENSE**

When detecting an increase of occupants in the room, Twin-Sense anticipates the additional heat source of

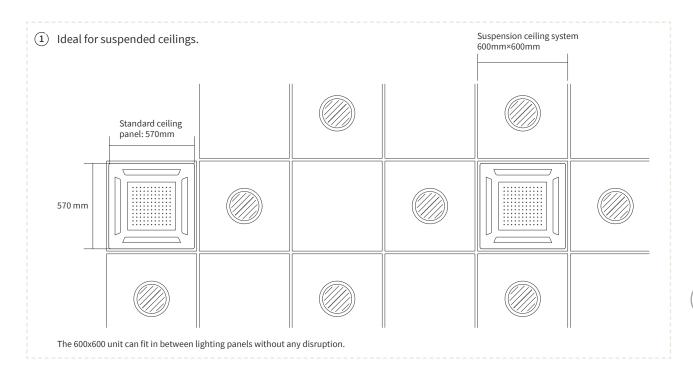
and pro-actively adjusts operation for a more stable indoor temperature.

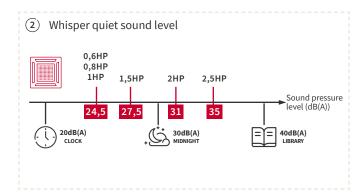


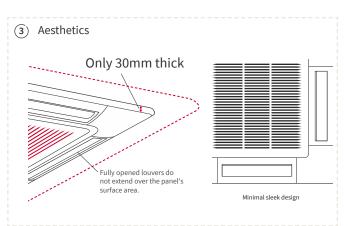
### **4-WAY COMPACT CASSETTE**

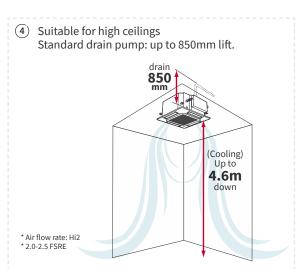
(DC) [RCIM-FSRE, RCI-FSKDNQ]













# **Indoor Unit Solutions**

# Wide range of systems for minimal installation works

The new SideSmart VRF range offers our widest choice of indoor units, providing you with the versatility to complement any interior.

### NEW



### WALL MOUNTED (DC)

[RPK-FSRM, RPK-FSRHM]

- Minimal installation procedure
- •Flexible discreet design suitable for any interior
- ·Available without expansion valve for extra-quiet operation (0.6-1.5HP)
- •GentleCool available to prevent perception of a cold draft when cooling starts

### NEW



### **CEILING SUSPENDED (DC)**

[RPC-FSR]

- •Suitable to high ceilings, with long cooling flow up to 5.6m
- •Optional motion sensor for extra savings
- ·Whisper quiet operation down to 28dB(A)
- · GentleCool available, to prevent perception of a cold draft when cooling starts



# FLOOR/CEILING CONVERTIBLE (AC) [RPFC-FSNQ]

- 2-in-1: versatile unit which can be either floor mounted or ceiling suspended
- Minimal installation work
- Suitable for fresh air intake



### **FLOOR EXPOSED (AC)**

[RPF-FSN2E]

- Easy installation
- Space saving slim unit (220mm depth)
- •630mm height only, ideal for under-the-window installation



### FLOOR CONCEALED (AC)

[RPFI-FSN2E] / [RPFI-FSNQ]

- Ideal for spaces without ceiling plenum, can be visually hidden in floor cavities and along the walls
- •Space saving slim unit (only 202/220mm deep)
- Only 620mm high, ideal for under-the-window installation

### Nominal cooling capacity range from 1.7kW to 16kW

Concealed & exposed indoor units	Cooling (kW)	1.7	2.2	2.8	3.6	4.0	4.3	5.0	5.6	6.3	7.1	8.0	8.4	9.0	11.2	14.0	14.2	16.0
WALL MOUNTED (DC) [RPK-FSRM, RPK-FSRHM]		•	•	•		•			•		•	•			•			
FLOOR / CEILING CONVERTIBLE (AC) [RPFC-FSNQ]								•	•	•	•		•	•	•		•	
CEILING SUSPENDED (DC) [RPC-FSR]						•			•		•	•			•	•		•
FLOOR EXPOSED (AC) [RPF-FSN2E]	SA MAN MAN MAN			•		•			•		•							
FLOOR CONCEALED (AC) [RPFI-FSN2E]				•		•			•		•							
FLOOR CONCEALED (AC) [RPFI-FSNQ]				•			•		•		•							

**CEILING** 

SUSPENDED

NEW

RPC-FSR

0.5°C/1.0°C

4 taps

7 (\*5)

•

•

•

FLOOR EXPOSED

RPF-FSN2E

1.0°C

3 taps

•

•

•

WALL MOUNTED

NEW

RPK-FSRM

**RPK-FSRHM** 

0.5°C/1.0°C

4 taps

7 (\*5)

•

•

•

FLOOR/CFILING

CONVERTIBLE

RPFC-FSNO

1.0°C

3 taps

7 (\*5)

•

•

FLOOR

CONCEALED

**RPFI-FSNO** 

1.0°C

3 taps

•

•

### **Daylight Saving Time** Power Consumption visualization (\*2) Weekly Schedule Setting

POWER-SAVING

FEATURES COMPARISON

**Temperature Setting Rate** 

**Individual Louvre Setting Auto Louvre Setting** Dry mode Availability

Setback (Away Function)

FeetWarm air flow control FloorSense Cool air flow control Power Saving with Motion Sensor (\*2)

**Automatic Fan Operation** 

AutoBoost (quick function)

Power-Saving Setting (\*2) **NEW** FrostWash<sup>™</sup> auto-cleaning Filter cleaning reminder

Comfort setting

Outdoor Unit

capacity control (\*2)

Indoor Unit

Rotation Control (\*2)

Cold Draft Prevention Availability (\*1)(\*6)

Direct/Indirect louvre direction in COOL Direct/Indirect louvre direction in HEAT

Peak cut control

Moderate control

**Indoor Unit Address** 

Indoor Air Temperature

**Sensor Condition Check** 

Indoor/Outdoor PCB Check

Model Display (\*2)

Control Cool Air (GentleCool) (\*2)

Fan Speed

**Louvre Direction** 

Model

63 MAINTENAI

) NCE	Check Menu
	CHECK MEHA

(C)
OPTIONAL ACCESSORY

Alarm History Display	•	•	•	•	•
Motion Sensor	-	-	SOR-NEP	-	-
Receiver Kit for wireless remote controller	PC-ALHZ1	PC-RLH11 (*7) PC-ALHZ1	PC-ALHP1	PC-ALHZ1	PC-RLH11 (*7) PC-ALHZ1
Drain-up mechanism availability	-	-	DUPC-63K1 DUPC-71K1 DUPC-160K1	-	-
Air filter	-	-	-	-	-
Strainer kit	MSF-NP63A1 MSF-NP112A1 MSF-NP36AH1	-	-	-	-

 $<sup>(^*1)</sup>$  This function is utilised to prevent cold discharged air at start-up of heating operation, after (1) This full count is utilised to prevent courd distributed as a start-up or neutring operation, etc.
(\*2) Advanced wired remote controller PC-ARF1 needs to be connected.
(\*3) Included as standard equipment.
(\*4) 7 steps are aviilable by individual louvre setting. 5 steps only in the operation of Cooling or Dry.

<sup>(\*5) 5</sup> steps only in the operation of Cooling or Dry.

(\*6) Please consult your distributor for the availability.

(\*7) Basic Receiver kit (PC-RLH11) is equipped with the unit in package as standard optional part with Wireless Remote Controller (PC-LH7QE).



# SideSmart

# Improve indoor air quality.

Today, the average person spends more than 75% of their day indoors.

Without proper ventilation,  $CO_2$  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 incorporating our ventilation solutions into your Hitachi VRF systems.

### **46 OUR VENTILATION LINE-UP**

### 48 DX-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 optimise 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.

### **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.

# VARIABLE REFRIGERANT FLOW SYSTEM

### From 70 to 1,670 l/s

Fan Air Flow Rate (l/s)	70	140	220	280	300	470	580	830	1,120	1,390	1,670
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**



### Fresh Air Intake Port



- 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.
- 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.



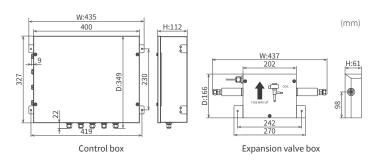
# **DX-Kit**

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		AС1Ф, [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 + White 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				
(Ent Bon)	Quantity		1	1	1	1	1	2				
	Material				Steel Plate + Wh	nite Grey Coating						
	Liquid Pipe Diameter		ф6.35	ф9.52	ф9.52	ф9.52	ф12.7	ф12.7				
AHU Suction	Cooling			2:	1.0°C to 32.0°C (DB)	/ 15.0°C to 23.0°C (W	B)					
Temperature Range	Heating				15.0°C to 2	27.0°C (DB)						

- Connection Ratio in different configurations

  → Total AHU or AHU & IDU Connection Ratio against
  ODU capacity = X
  (In case of "Inlet Air Temperature Control")
- •1 ODU to 1 AHU : 50% < X ≤ 100% •1 ODU to 1 AHU (Separate Heat Exchanger Type) : 50% < X ≤ 100% •1 ODU to Multiple AHUs : 50% < X ≤ 100% •1 ODU to AHU & IDUs :

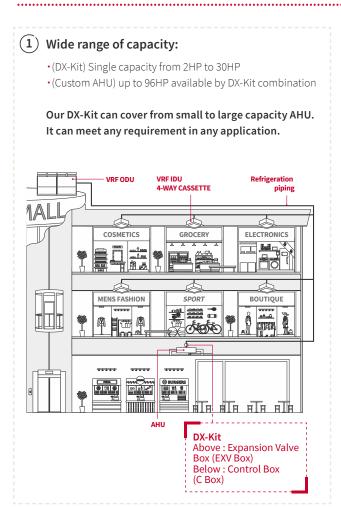
- 1 UDU to AHU a IDUS: (1)  $105 \times 105 \times 105$

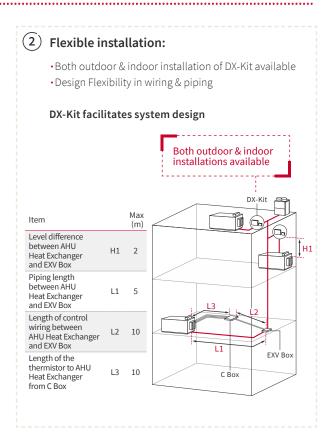
Maximum	Total	m	<ul> <li>1,000 (When the number of connected [AHU &amp; IDU] in the system is the same or less than the recommende</li> <li>300 (When the number of connected [AHU &amp; IDU] in the system is more than the recommended.)</li> </ul>							
Piping Length	Between AHU Heat Exchanger and EXV Box	m	5	5	5	5	5	5		
Maximum	Between ODU and [AHU/IDU]	m				<u>e</u> [AHU & IDU & DX-K <u>w</u> [AHU & IDU & DX-K				
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		

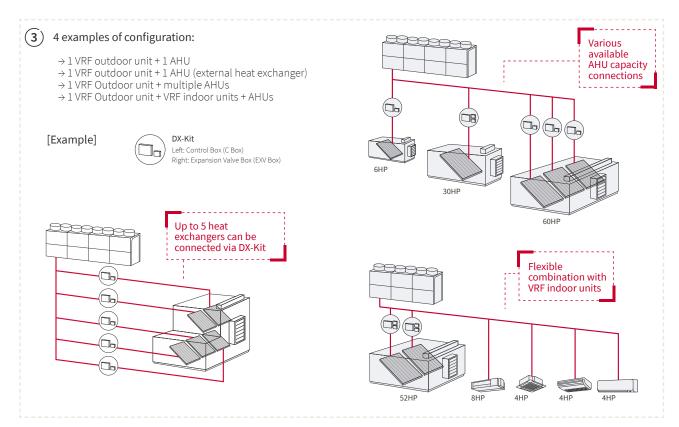
Temperature Control Modes (\*1)

- Inlet Air Temperature Control Outlet Air Temperature Control Duty Control

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









# New generation: simple and smart!

Everyone deserves comfort, but comfort doesn't 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 optimise air conditioning in targeted zones. For occupants, our new advanced colour 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).

### 52 CENTRALISED CONTROLLERS

Line up overview

	<b>air</b> Cloud Pro
	Central Station EX
	Central Station EZ
	Central Station Mini
59	INDIVIDUAL CONTROLLERS
	Line up overview
	Advanced Colour wired remote controller
	Advanced wired remote controller
	Wired remote controller
	Simplified wired remote controller
	Advanced wireless remote controller
	Wireless remote controller
	Receiver kit
64	ACCESSORIES
66	H-LINK: ENJOY MORE FREEDOM



# **Centralised controllers**

Control each indoor unit, a specific zone or multiple systems from the 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 medium to large scale buildings
- Operate Central Station EX remotely using your laptop or touchscreen PC

### CENTRAL STATION EZ (PSC-A64GT)

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

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

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

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

			<b>air</b> CLOUD PRO <sup>*</sup>	CENTRAL STATION MINI	CENTRAL STATION EZ	CENTRAL STATION EX
			HC-IoTGW	PSC-A32MN	PSC-A64GT	PSC-A128EX1
		RC group	64 (*6)	32	64	2,560 (*1)
C <sub>C</sub>	- Total Connection capacity	Group	64 (*6)	32	64	2,048 (*1)
paci		Block	Unlimited (*7)	2/4/8/16	4	512 (*2)
ity co		Area	Unlimited (*7)	-	-	512 (*2)
omp		Indoor unit	80 (*6)	160	160	2,560 (*1)
Capacity comparison		Outdoor unit	16 (*6)	64	64	1,024 (*1)
š	Building scale		Small to Large	Small	Medium	Large
	Operation		Web + Mobile Phone	Touch screen	Touch screen	Touch screen + Web <b>NEW!</b>
₽.	Operation panel size option	ıs	Adaptive	3	2	7
Display	Layout		-	-	-	•
ν	List options		-	-	-	3
	All together		•	•	•	•
Q.	By layout		-	-	-	•
perat	By area		•	-	-	•
Operation unit	By block		•	•	•	•
unit	By group		•	-	-	•
	By RC group		-	•	•	-
	By indoor unit		•	-	-	•
Control Function	Main 5 functions (*5)		•	•	(*2)	•
tro <u>l</u> F	Individual controller lock		•	•	△ (*3)	•
unc	Filter sign reset  Outdoor unit capacity control			△ (*4)		•
tion	Outdoor unit noise control			<u> </u>		•
	Main 5 functions (*5)		•	•	•	•
<b>M</b> o	Individual controller lock		•	•	•	•
nito	Alarm status & code		•	•	•	•
Monitor Function	Filter sign		•	•	•	•
	Air inlet temperature of inde	oor unit	-	•	-	•
ă	Air inlet temperature of out	door unit	-	•	-	•
Scl	Weekly		•	•	•	•
Schedule Function	Setting times per day		16	10	10	16
le Fı	Special day setting		5	-	-	5
ıncti	Holiday setting		-	-	-	•
on	Annual/Summer/Winter sch	nedule	Future Version	-	-	•
요	Alarm history (records num	ber)	Unlimited	100	100	10,000
her f	External in/output history		-	-	-	1,000
Other function	Management report Visuali	sation(*11)	Energy Estimation (*8) - Future	•	•	•
ion	Data output by external me	dia	Download from Web - Future	-	-	SD card, USB flash drive
	Connectivity		Ethernet + 4G (*9)	-	-	-
ᅙ	Future Extendability		Firmware OTA (*10) Web + Mobile Update	-	-	-

 $<sup>(^{\</sup>star}1)$  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.

<sup>(2)</sup> No restriction on the number of ri-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

<sup>(\*5)</sup> Hall stratefors meaning. I) Natify Stop 2/ Operation mode 3/ Temperature setting 4/ speed 5) Louvre 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.

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

<sup>(\*19)</sup> Visualisation 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 RC sensor temperature.

# **Centralised controllers**

### airCLOUD PRO







2021 Good Design Award, Australia Digital Design - Apps & Software

### **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**

IoT connection (cloud-based)	<ul> <li>Access via smartphone app or web</li> <li>Unlimited number of gateways</li> <li>Unlimited number of locations</li> <li>Unlimited number of users</li> </ul>
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 • Louvre • 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 • Louvre • 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>Louvre • Fan speed</li> </ul>

<sup>&</sup>quot;All Groups Run/Stop" command signal exception function for selected groups is available by "Exception of Run/Stop Operation." function.

### System configuration



# Recommended applications









RETAIL

# 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

# Is **air**Cloud 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

<sup>\*</sup>airCloud Pro available with SideSmart™ from May 2021.
\*1 Confirm compatibility of your VRF installation with your Hitachi Cooling & Heating representative.



### For standalone & multi-site VRF applications

### √ 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 that makes managing your VRF systems easy.



Monitor your energy consumption and optimise usage.

- Energy consumption data<sup>\*2</sup> Simplified graphs to display power consumption
- Intuitive scheduling Plan operations ahead of time based on your business hours
- Individual controller lock to prevent inappropriate usage from occupants



### + 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.

### Simplify your job

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

### 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.

With automatic detection of indoor units and an optimised installer view, configuring your site and zones has never been quicker.

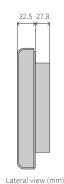
<sup>\*2</sup> Functions not available as of September 2019, coming soon.
\*3 4G module available as a side accessory.

# **Centralised controllers**

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

(PSC-A128EX1)





For medium to large-scale buildings buildings such as: hotels, educational facilities, and hospitals, our Central Station EX features a highly intuitive and functional 12.1" wide, wall-mountable, Colour 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

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

### **Extension adapter** PSC-AD128EX1

### **Energy calculation** software\* PSC-AS01EXC





(\*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 Colour liquid crystal display
Display control	Touch Panel

### **Functions**

All together

Operation unit	Each area Each block Each group Each indoor unit
Control function	On/Off Mode Set temperature Fan speed Louvre 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)
Monitor function	On/Off Mode Set temperature Air intake temperature RC sensor temperature (*3) Air intake temperature of outdoor unit Fan Speed Louvre RC prohibition Thermo-ON information Filter sign/Auto cleaning fault Alarm status/Alarm codes

Each of the following settings is available in 3 different [annual] [summer][winter] categories: → Weekly schedule → Up to 16 actions can be set per day → Exception day setting: 5 different types → Holiday setting Setting items in schedule is as below: • On/Off

• Operation mode

• Setting temperature • Louvre

Schedule

History

report

Management

Visualisation

Fan speedRC operation prohibition

Capacity control for outdoor unitsLower noise control for outdoor units Alarm history: 10,000 records 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.)
Average air intake temp temperature of indoor unit

• Average air intake temperature of outdoor unit

Average setting temperatureAverage RC sensor temperature

input /

output

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 unitsLower noise control for outdoor units

Control/Monitor

→ Controlled items:
• Run/Stop

• Mode (Cool/Heat) → Monitored items:

• Run/Stop

Mode (Cool/Heat)
 Alarm state

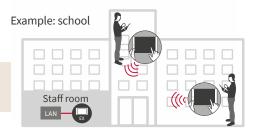
Others: Power consumption signal input · Emergency stop

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

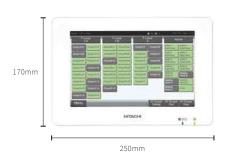
on the remote controller settings.

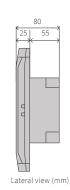
### Remote Access to your VRF System

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





With easy control via an 8.5" Colour touch panel, its detailed control functionalities such as Weekly Scheduling, Operation hours tracking, and more, help you to save energy.

Up to 64 remote-controlled groups and up to 160 indoor units can be connected to the Central Station EZ.



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

### 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 Colour LCD (Full Dot)
Display Control	Touch Panel

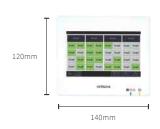
### **Functions**

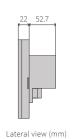
Monitor Function	<ul> <li>Run/Stop/Abnormality • Setting Temperature</li> <li>RC Operation Prohibited Setting</li> <li>Accumulated Operating Time</li> <li>Operation Mode • Setting Fan Speed</li> <li>Setting Louvre • Filter Sign • Alarm Code</li> </ul>
Control Function	<ul> <li>Run/Stop* • Fan Speed</li> <li>Operation Mode • Louvre</li> <li>Temperature Setting</li> </ul>

RC Operation Prohibited
 Filter Sign Reset

### CENTRAL STATION MINI FOR SMALL-SCALE BUILDINGS

(PSC-A32MN)





With easy control via an 5.0" Colour touch panel, its detailed control functionalities such as weekly scheduling, operation hours tracking, help you save energy.

Up to 32 remote-controlled groups and up to 160 indoor units can be connected to the Central Station mini.



### **Capacity**

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

### **Specifications**

L-, AC 100-240V, 50/60Hz
20W (Max.)
Jnits of Adopting for H-LINK
Non-polar 2-wire
9,600bps
1,000m (Total Length)
5.0-inch Wide Colour LCD (Full Dot)
Fouch Panel

### **Functions**

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

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



# ADVANCED COLOUR WIRED REMOTE CONTROLLER (PC-ARFG)

- Exclusive Colour screen & Award-winning design
- · Simplified menu and enhanced UI/UX
- Includes latest VRF features such as FrostWash<sup>™</sup> and several comfort settings

# WIRED REMOTE CONTROLLER (HCWA10NEGO)

- 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-ARFC)

- 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

### FROM BASIC TO ADVANCED CONTROLS

Advanced Colour Wired Remote Controller search B





		6 ( C ) - 5	-88:		200
		PC-ARFG	HCWA10NEGQ	PC-ARC	PC-AWR
nnection Capacity	RC Groups Indoor units (*1)	1 16	1 16	1 16	-
Temperature Setting		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
Indoor Fan Speed (*2		3/4/6 taps	3/4/6 taps	3/4/6 taps	3/4/6 taps
Louvre Direction (*2)	( )	3/4/0 taps	3/4/0 taps	3/4/0 taps	3/4/6 taps
Individual Louvre Set	ting (*2)				-
	ary-Secondary Setting				_
In Use of Total-Heat-	Ventilation		_	-	
Exchanger	Total Heal Exchanger Setting		-		_
	Automatic Restart with Eco-operation	•	-	-	-
Function	Automatic Reset Temperature (Cooling)	•	•	•	-
Selection	Temperature Indication (*4)	•	•	•	-
Admin Password Sett	ing	•	-	-	-
Filter Signal		•	•	•	-
Filter Signal Reset		•	•	•	•
Louvre Open/Close		•	-	-	-
Room Name Setting		•	-	-	-
Alarm Signal		•	•	•	-
Side-by-side indoor u	nit identification	-	-	-	•
Hotel mode		•	-	-	-
Fan Speed at Thermo	-Off (Cooling/Heating)	•	<b>●</b> (*7)	<b>●</b> (*7)	-
	Screen Adjustment	•	-	-	-
	Use with AirCloud Tap (NFC)	•	-	•	-
Screen	Use with wireless controller	-	-	•	-
Serceit	Temperature Unit °C/°F (*5)	•	•	•	•
	Run Indicator brightness adjustment	•	-	•	-
	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	•	<b>●</b> (*7)	•(*7)	-
	Thermistor Calibration	•	-	<b>●</b> (*7)	-
	Input / Output Setting	•	•	•	-
Test Run	Indoor Unit Address Change	•	•	•	-
	Indoor Unit Address Operation Check	•	-	-	-
	Indoor Unit Address Initialisation	•	-	-	-
	Input / Output Setting Initialisation		-	-	-
	Compressor Pre-Heat Control Cancellation		<u> </u>	<u> </u>	-
Operation Lock/Set	Contact Information Registration	•			-
<u>'</u>		•	●(*6)(*7)	●(*7)	-
Lower Limit for Coolin		•	●(*7)	●(*7)	-
Upper Limit for Heati	<u> </u>		<b>●</b> (*7)	<b>●</b> (*7)	-
Simple Timer (On/Off	)	•	•	•	•
Date/time setting		•	<u> </u>	•	-
Automatic OFF Timer	-	•	-	<b>●</b> (*7)	-
	Weekly Schedule	•	•	•	-
Schedule	Settable Timer Operation Times (Per Day)	5	1	1	-
	Holiday Setting	•	-	-	-
D 0 : 11 14	Schedule On/Off	•	-	•	-
Power-Saving with Mo		•	-	-	-
Outdoor Unit	Peak cut control	•	-	•	-
Capacity Control	moderate control	•	-	-	-
Indoor Unit	Indoor Unit Address		-	-	-
Rotation Control	Indoor Air Temperature difference		-	-	-
Automatic Fan Opera	With Motion Sensor	•	=	-	-
Auto-Flevating Grille	LIUII		<u>-</u>	-	-
Auto-Elevating Grille ODU Night Quiet Mod	۵		<u> </u>	-	-
AutoBoost (quick fund				-	-
Autoboost (quick full)	Control Cool Air (GentleCool)		-		-
	Direct/Indirect Louvre direction in COOL				-
	Direct/Indirect Louvre direction in HEAT		-	-	-
Comfort Setting	Radiant Sensor Control for Heating			_	
	FeetWarm; Heat Air Flow	•		-	
	FloorSense; Cool Air Flow		-	-	-
Power Saving/Night (			-	-	-
Filter Cleaning	zanet seriedate		<u> </u>	-	-
FrostWash Setting			-	-	-
Daylight Saving Time			-	-	-
Setback (Hotel Tempe	erature Setback)		-	_	-

<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-HNDTSQ compact ducted indoor unit only.

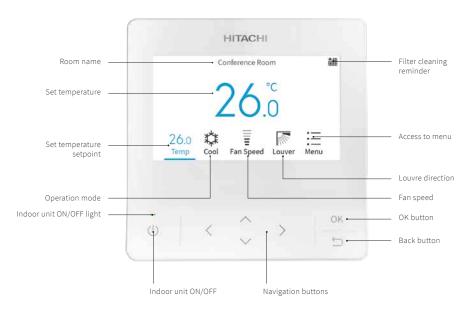
(\*4) Reference room temperature can be chosen: from indoor unit's air inlet thermistor or from the

thermistor built-in the controller itself. (\*5) 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.

# **Individual controllers**

NEW

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

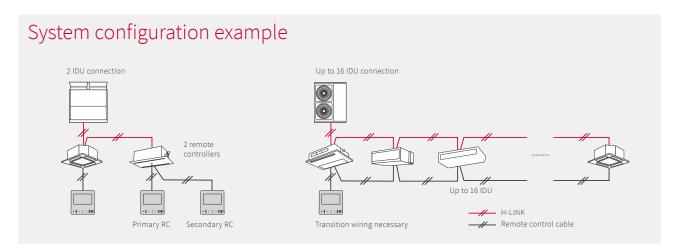


### Outer dimensions (H×W×D)

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



2021 Good Design Award, Australia Product Design - Consumer Electronics



Lock Function

### **Functions**

	Simple Timer			
	Operation Schedule			
	Power-Saving Setting			
	Night Quiet Operation			
	Power-Saving/Night Quiet Schedule			
	Power Consumption Display			
	Autoboost			
	Comfort Setting			
Function	Motion Sensor Setting			
menu	Setback Setting			
	Elevating Grille			
	Reset Filter Reminder Time			
	Filter cleaning			
	FrostWash <sup>™</sup> Setting			
	Individual Louvre Setting			
	Louvre Open/Close			
	Ventilation			
	Total Heat Exchanger SET			
	Adjust Date/Time			
Screen	Run Indicator Brightness			
Display	Display Adjustment			
setting	Temperature			
	Language Setting			

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

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





# Outstanding design and user experience

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

A simplified, intuitive and colourful interface makes controlling your ideal climate a breeze.



### From basic to advanced functions

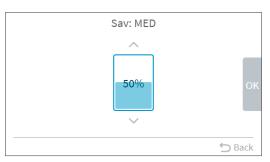
# Adjust the air conditioning to enhance comfort and save energy with ease

- 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.

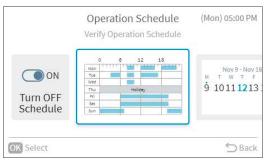
### **Additional functions**

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





Capacity control setting



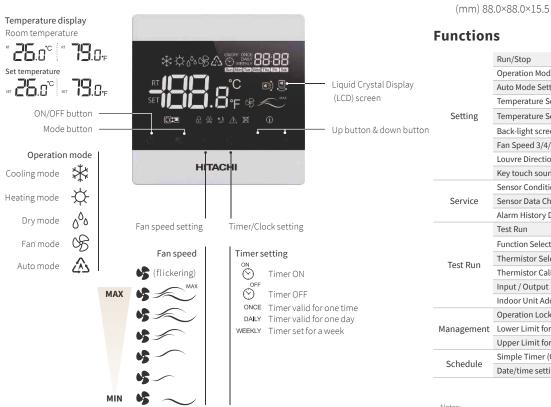
Schedule menu



FrostWash menu

# **Individual controllers**

### WIRED REMOTE CONTROLLER (HCWA10NEGQ)



### Outer dimensions (H×W×D)

		Run/Stop						
		Operation Mode						
		Auto Mode Setting						
		Temperature Setting						
	Setting	Temperature Setting Rate 0.5°C/1.0°C/1.0°F						
		Back-light screen						
		Fan Speed 3/4/6 taps						
		Louvre Direction						
		Key touch sound						
		Sensor Condition Check						
	Service	Sensor Data Check						
		Alarm History Display						
		Test Run						
		Function Selection (Optional Function Setting)						
	Test Run	Thermistor Selection						
	iest kuii	Thermistor Calibration						
		Input / Output Setting						
		Indoor Unit Address Change						
		Operation Lock/Set						
	Management	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

### SIMPLIFIED WIRED REMOTE CONTROLLER (PC-ARC)



### Outer dimensions (H×W×D)

(mm) 90.0×90.0×18.5

### **Functions**

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						
	Louvre Direction						
	Function Selection (Optional Function Setting)						
Test Run	Thermistor Selection						
	Thermistor Calibration						
	Input / Output Setting						
	Operation Lock/Set						
	Lower Limit for Cooling Operation						
Management	Upper Limit for Heating Operation						
	Automatic OFF Timer Setting						

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



### Outer dimensions (H×W×D) (mm)

140.0×55.0×16.8

### **Functions**

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

### RECEIVER KIT FOR WIRELESS REMOTE CONTROLLER

		PC-F	RLH11 (Basic)			PC-ALHZ1 (Advanced)					
Model											
	Ducted High ESP (AC Motor)	Ducted Medium ESP (AC Motor)	Ducted Low ESP (AC Motor)	Ducted Compact		Ducted	Wall-	Floor /	Floor		
Indoor unit				AC Motor	DC Motor	Larger Air Volume (AC Motor)	Mounted (DC Motor)	Ceiling Convertible (AC Motor)	Concealed (AC Motor)		
	RPI-HNAUNQ RPI-FSNQ	RPIM-HNAUNQ RPI-FSN3Q	RPIL-HNAUNQ	RPIZ-HNATNQ	RPIZ-HNDTSQ	RPI-FSN2SQ	RPK- HNBUSQ	RPFC-FSNQ	RPFI-FSNQ		
Advanced Wireless Remote Controller PC-AWR		•	•	•	•	•	•	•	•		
Standard Wireless Remote Controller PC-LH7QE	•	•	•	•	•	•	•	•	•		

Model	HR4A10NEWQ (Basic)	(Advanced)	(Advanced)		(Advanced)	(Advanced)	PC-ALHP1 (Advanced)	PC-ALHZ1 (Advanced)				
Indoor unit	4-way Cassette (DC Motor)	4-way Cassette (DC Motor)	4-way compact Cassette (AC Motor)	4-way compact Cassette (AC Motor)	2-way Cassette (DC Motor)	1-way Cassette (DC Motor)	Ceiling Suspended (DC Motor)	Wall- Mounted (DC Motor)	Floor Exposed (AC Motor)	Floor Concealed (AC Motor)	Ducted High ESP (DC Motor)	Ducted Medium ESP (DC Motor)
	RCI-FSKDNQ	RCI-FSRP	RCIM-FSRE	RCIM-FSRE	RCD-FSR	RCS-FSR	RPC-FSR	RPK-FSRM RPK-FSRHM	RPF-FSN2E	RPFI-FSN2E	RPI-FSR RPI-FSN1	RPIM-FSR
Advanced Wireless Remote Controller PC-AWR	•	•	•	•	•	•	•	•	•	•	•	•
Standard Wireless Remote Controller PC-LH7QE	•	_	-	-	_	_	_	_	_	_	_	_

Limited function available for centralised controllers Temperature setting rate [1.0  $^{\circ}$ C] only

Advanced Full function available for centralised controllers Temperature setting rate  $[0.5^{\circ}\text{C}/1.0^{\circ}\text{C}/1.0^{\circ}\text{F}]$ 

(\*) Basic function receiver kit is installed as a standard part in this wall-mounted unit. Wireless remote controller (PC-LH7QE) is delivered as a standard accessory as well. If separate placement of receiver kit is required, please use optional basic receiver kit [PC-RLH11] or optional advanced receiver kit [PC-ALHZ1].

When using a basic receiver kit PC-RLH11 or HR4A10NEWQ together with wireless remote controller PC-LH7QE:
1) It won't be possible to lock individual remote controllers from Hitachi Central Stations (mini/EZ/EX)
2) It won't be possible to apply min/max restrictions on set temperature from Hitachi Central Stations (mini/EZ/EX)

# Accessories



### **3P CONNECTOR CABLE PCC-1A**

FOR CONNECTION TO REMOTE ON/OFF DEVICE/RECEIPT OF OUTPUT SIGNAL

### **Operation example**

### Cooling operation:

Compressor is ON by closing terminals 2 and 3 of CN3.

Compressor is OFF by opening terminals 2 and 3 of CN3.

### Heating operation:

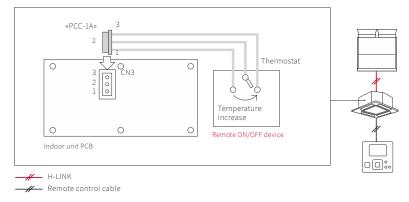
Compressor is ON by closing terminals 1 and 2 of CN3.

Compressor is OFF by opening terminals 1 and 2 of CN3.

### \*One set contains five 3P connector cables.

\*PCC-1A can connect to external signal input-output terminal both in outdoor unit and indoor unit.

### System configuration example





### **REMOTE SENSOR** THM-R2A

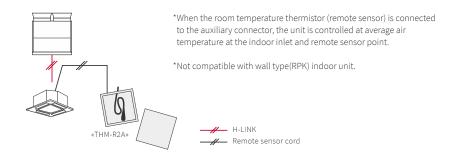
ROOM TEMPERATURE SENSOR

### Outer dimensions (H×W×D)

(mm) 50.0 × 50.0 × 15.0

Length m 8.00

## System configuration example







65



# BMS ADAPTER for BACnet® HC-A64BNP1

CONTROL UP TO 64 INDOOR UNITS

### **Specifications**

Outer dimensions (H×W×D)

(mm) 68.0×240.0×154.0

### **Functions**

Corresponding Standard

ANSI/ASHRAE Standard 135-2004 BACnet®

Control Item at

- Run Stop (Setting)
   Operation Mode (Setting)
- Upper System
- Fan Speed Level (Setting)
- Indoor Temperature (Setting)
   RC Operation lock (Setting)
- Filter Sign Reset

- Run Stop (State)Operation Mode (State)Fan Speed Level (State)
- Indoor Temperature (State)
   Prohibiting RC Operation

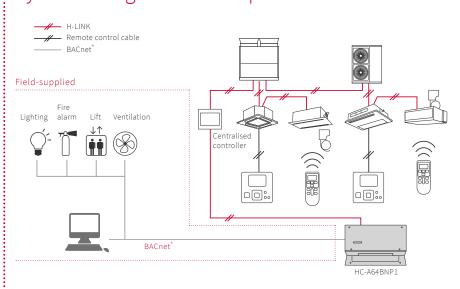
Monitoring Item at Upper System

- Filter Signal
   Indoor Air Intake Temperature
   Alarm Signal

(State)

- Alarm Code
   Communication State

# System configuration example





# H-LINK: enjoy more freedom

### WHAT IS H-LINK?

**H-LINK** is Hitachi Cooling & Heating's original communication system to control multiple VRF refrigerant systems from one centralised 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 centralised 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 minimise the burden on users.

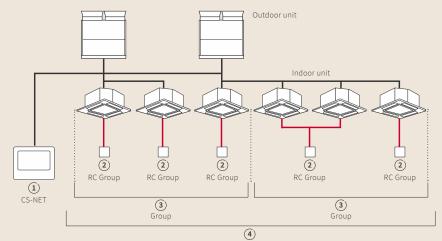








# Definition of terms in Hitachi centralised control systems



(1) CS-NET/Central station

Hitachi original centralised controller

(2) RC Group (Remote Controller System Group)

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.

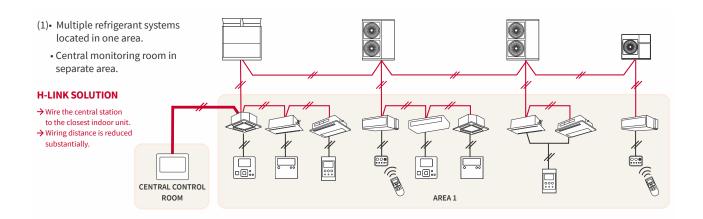
(3) Group

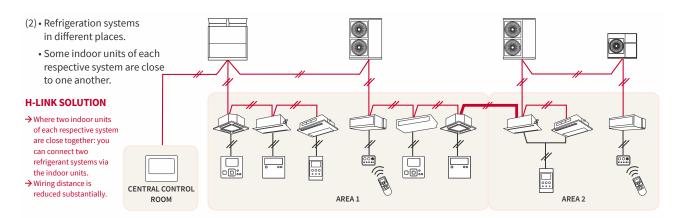
The multiple "RC groups" that are registered in the centralised controller network setting.

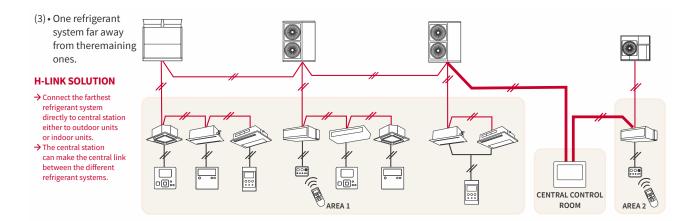
(4) Block

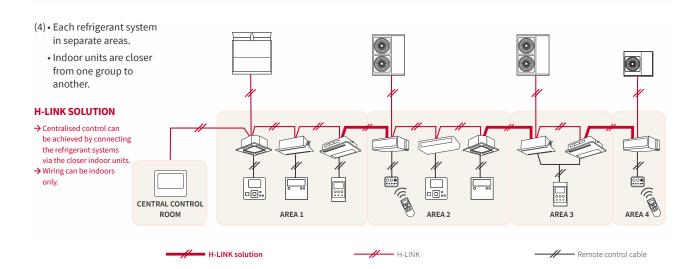
The multiple "groups" that are registered in the centralised controller network setting.

### CENTRALISED CONTROLS: FLEXIBLE WIRING ROUTE











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### CERTIFICATE

Outdoor Unit Manufacturing Site: Johnson Controls-Hitachi Air Conditioning Wuhu Co., Ltd. Concerning Hitachi Slim-Modular VRF SideSmart



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