

HITACHI

air365 Max & Max Pro

The VRF solution for all Cooling and Heating projects 365 days a year.



Unique groups for 2-pipe/3-pipe application capacity from 14kW to 268kW

Cooling & Heating





HITACHI
air365

What are the customer needs?

Project owners, Architects, and Mechanical Consultants



Energy savings → Installation of efficient systems

Comfort → Reversible operation (Heating or Cooling) or energy recovery

Reduction of carbon footprint → Installation of less carbon intensive equipment

Reduction of whole life costs → Reduction of capital investment costs, operational running costs and maintenance costs.

Installers



Install compact systems → Small outdoor footprint

Save time during installation → Use of connected tools for commissioning

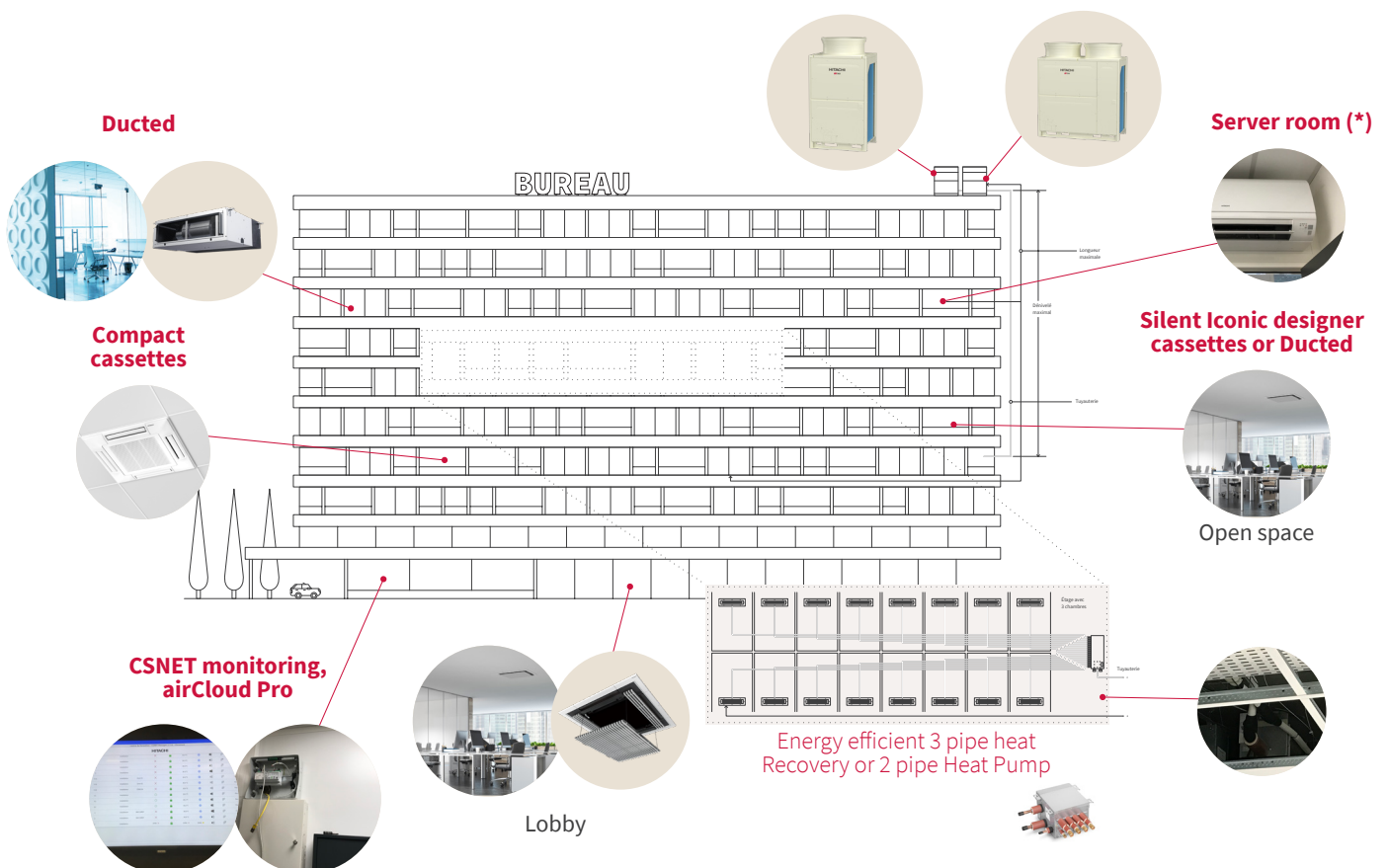
Operators/maintenance companies



After-sales service → Effective after-sales support

Troubleshooting assistance → Service guarantee for easy maintenance and troubleshooting

Advanced Controls → Remote or centralized control system



— What are the key points related to regulations?

01. Reduction of carbon footprint:

Need to install solutions with a low environmental carbon footprint .

→ Carbon footprint using individual embodied carbon report on all Hitachi VRFs.

02. Energy savings:

→ Installation of state-of-the-art systems to maximize the reduction of energy consumption.

→ FrostWash: exclusive self-cleaning technology for indoor unit exchangers ensuring performance is maintained.

03. Maintaining comfort:

Taking into account summer comfort.

→ installation of heat recovery systems to maximise efficiency and heat recover throughout the year.

04. Air quality:

Indoor air is 5 times more polluted than outdoor air. The Covid-19 crisis has made us aware of the importance of maintaining indoor air quality in premises. It is important to ensure the renewal of fresh air in buildings.

→ Coupling of the VRF system with the installation of ventilation systems (DX kit associated with an air handling unit).

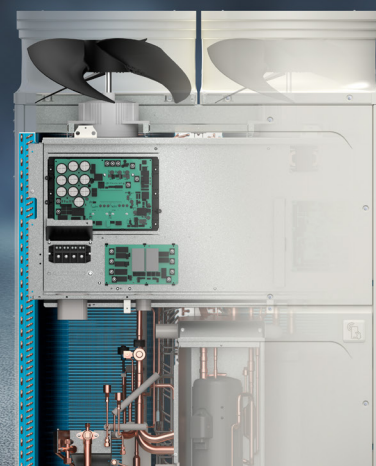
→ Antivirus filter available for cassettes and ionizer available as an option on ducted ones.



How do Hitachi VRF technologies respond to the challenges challenges of every building?



“Hitachi offers high performance ranges equipped with complete control solutions that will allow you to consume less energy and minimise running costs. »



air365 Max, the new cutting-edge VRF

Hitachi, with its expertise in VRF, has developed a new range to go even further, by offering exclusive technologies with the new air365 Max VRF



New Hitachi Scroll Compressor with hot gas injection

Hot gas injection Scroll compressors increases heating and cooling capacity.

- Better efficiency: high heating performance at -7°C (ext. temp.)
- Extended outdoor temperature operating range (-25°C to $+52^{\circ}\text{C}$).



Smooth Drive 2.0 technology

Smooth Drive Control 2.0 allows you to obtain a precise set temperature by providing indoor units with the exact quantity of refrigerant they need.

- Improved comfort: stability of the ambient temperature,
- High performance at partial load: improved energy savings



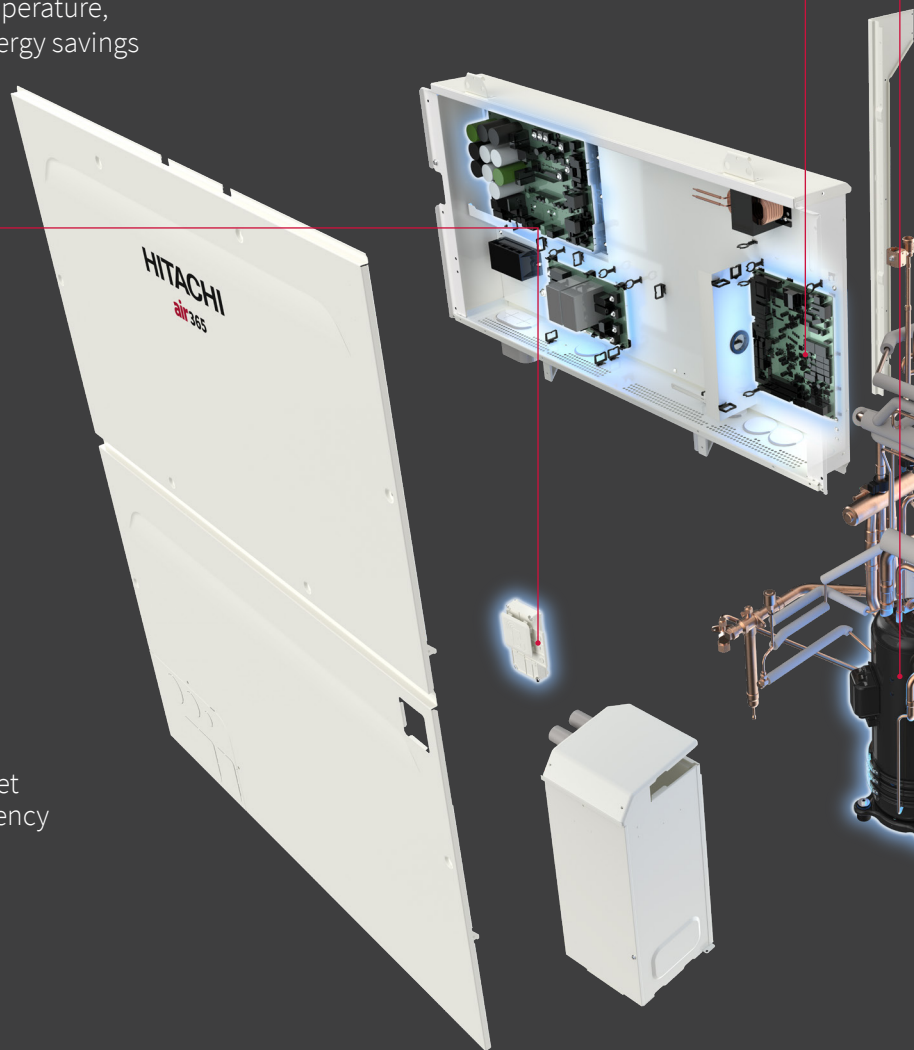
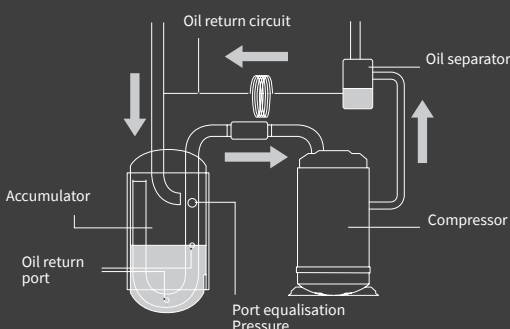
airCloud Tap
+ NFC technology

The airCloud Tap application allows 4 times faster configuration of outdoor groups and 6 times faster data verification via smartphone and removes the hassle of opening the electrical cabinet of the outdoor unit.



Patented oil return circuit

Optimised lubrication: the oil return control cycle consumes less energy and guarantees quiet operation, which translates into increased efficiency and greater comfort for occupants.



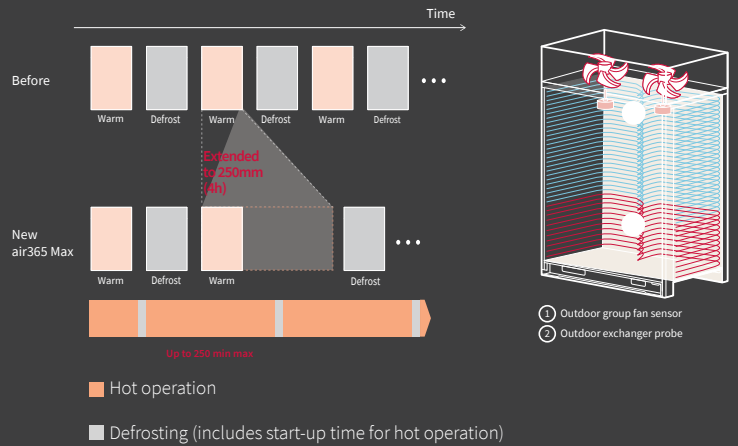
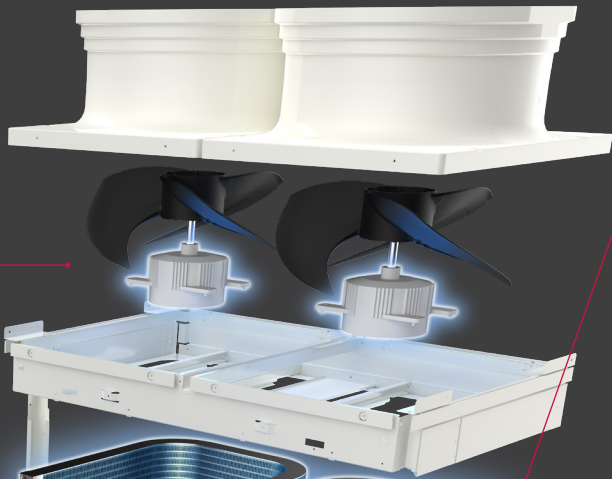
NEW

3-blade fans (80 Pa) with a structure improving air flow (low power consumption).

Smart Defrost to maintain comfort

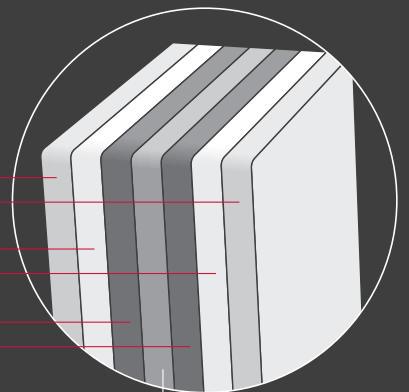
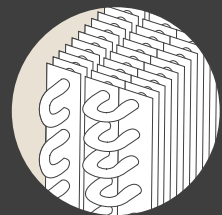
Intelligent sensing technology instantly adjusts the exchanger temperature to eliminate ice and frost.

- Reduction of frequent and unnecessary defrost cycles.
- Defrost cycle every 250 minutes (i.e. every 4 hours): warm comfort maintained for occupants.



Anti-corrosion exchanger with 3 layers of protection.

Our patented 3-row sigma (σ)-shaped exchanger is made up of aluminum fins as thin as 0.1 mm and characterized by a large exchange surface which allows the efficiency of the external groups to be maintained over time.



3 layers of protection

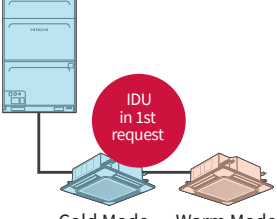
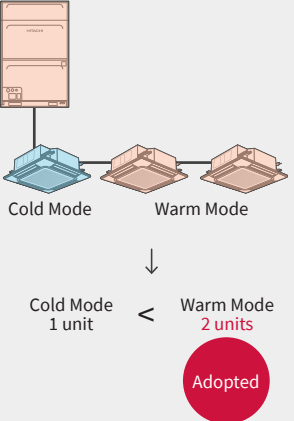
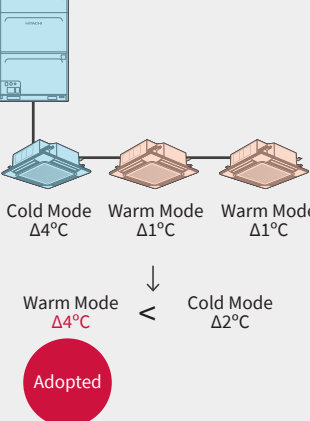
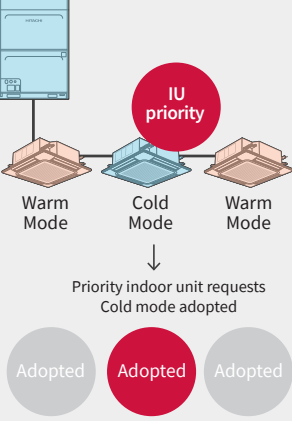
Waterproof resin coating

Anti-corrosive coating

Exchanger treatment with phosphoric acid chromate

Aluminum wings

New intelligent change over regulation (VRF 2 Pipe) for better comfort in all seasons

Before	Fonction change over intelligente		
Priority to 1st request	1 Majority Vote Mode	2 T° difference mode between the sum of IU Hot/cold	3 Priority IU mode
Regulation mode: IDU on 1st request	Regulation mode: majority vote depending on the large number of indoor units requiring cold or heat	Regulation mode: sum of temperature differences	Regulation mode: priority indoor unit
 <p>Cold Mode Warm Mode</p> <p>↓</p> <p>Cold mode adopted</p>	 <p>Cold Mode Warm Mode</p> <p>↓</p> <p>Cold Mode 1 unit < Warm Mode 2 units</p> <p>Adopted</p>	 <p>Cold Mode Warm Mode Warm Mode</p> <p>↓</p> <p>Warm Mode $\Delta 4^{\circ}\text{C}$ < Cold Mode $\Delta 2^{\circ}\text{C}$</p> <p>Adopted</p>	 <p>Warm Mode Cold Mode Warm Mode</p> <p>↓</p> <p>Priority indoor unit requests Cold mode adopted</p> <p>Adopted Adopted Adopted</p>

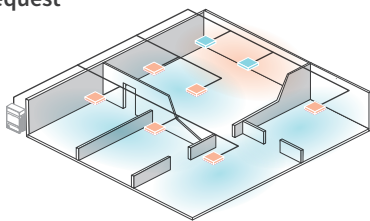
Application examples of the 3 new regulation modes (available on the 2 pipe version)

1 Majority Voting Mode

Terms

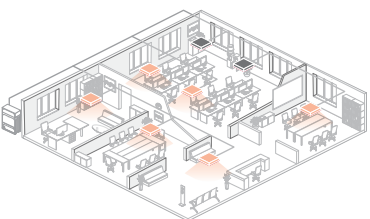
- Cooling mode request: 2 units
- Heating mode request: 6 units

Request



Result

Hot mode adopted

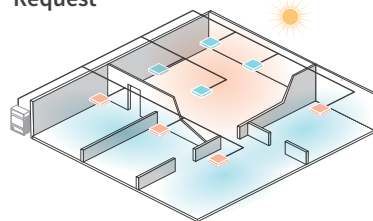


2 T° difference mode between IDU Hot/Cold

Terms

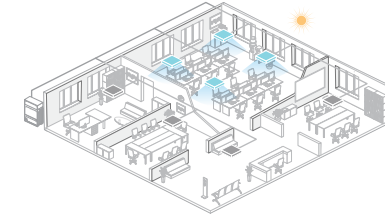
- Cooling demand: total temperature difference - The indoor unit requests priority: is $\Delta 8^{\circ}\text{C}$
- Heating request: total temperature difference is $\Delta 5^{\circ}\text{C}$

Request



Result

Cold mode adopted

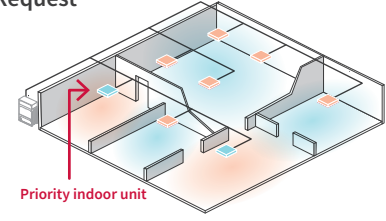


3 Priority IDU mode

Terms

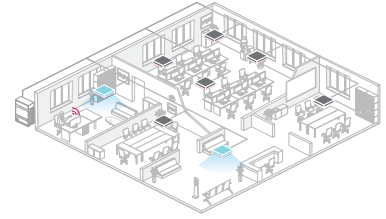
- The indoor unit requests priority: cooling mode

Request



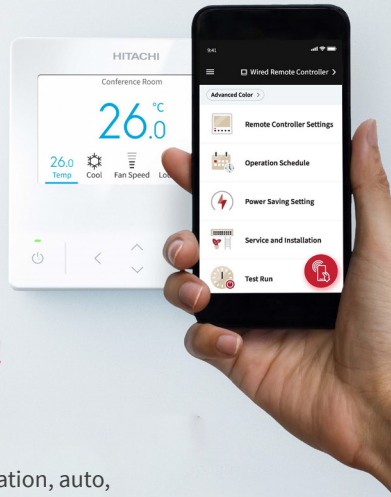
Result

Cold mode adopted



A wide choice of compatible remote controls

Controller Design Colours NEW



Design & colours to go even further!

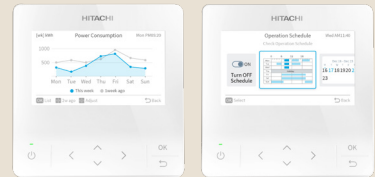
3 awards for design and ease of use,

1 colour for each mode (hot, cold, ventilation, auto, dehumidification),



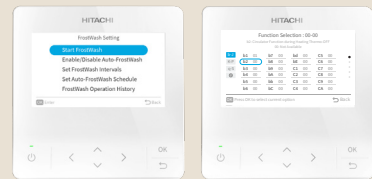
NFC) New NFC function & airCloud Tap application: interaction with the remote control via a smartphone (fault codes, optional functions, weekly programming).

Unrivalled ergonomics for a controller



For the end customer:

- ✓ Display of consumption,
- ✓ Weekly programming,
- ✓ Hotel mode (simplified access to functions).



For the installer:

- ✓ Simplified commissioning (test mode),
- ✓ Detailed fault codes,
- ✓ Detailed explanation of optional functions.

Complete wired



PC-ARFG-E



PC-ARFG2-E



PC-ARFG2-EB

New white or black remote control including NFC technology. All existing functions of the PC-ARFG-E are retained:

- Control of 1 to 16 indoor units as master and/or slave,
- High quality colour screen,
- Intuitive interface in English or 28 languages available,
- Integrated room sensor,
- Energy consumption graph,
- History of fault codes,
- Hotel mode (quick reset, simplified access to settings),
- **NFC wireless function + dedicated application (airCloud Tap):** collect and send information to the remote control using your smartphone (programming, optional functions, operating parameters, etc.)

Simplified wired



PC-ARH1E



PC-ARC-E

What's new PC-ARC-E

- Compact and Design with its LCD display (90 x 90 x 17 mm),
- **NFC wireless function + dedicated application (airCloud Tap):** collect and send information to the remote control using your smartphone (programming, optional functions, operating parameters, etc.),
- Control of 1 to 16 indoor units as master and/or slave,
- Simplified access to essential functions,
- Configuration of optional settings,
- For greater comfort: setpoint adjustable to +/-0.5°C, frost protection function.

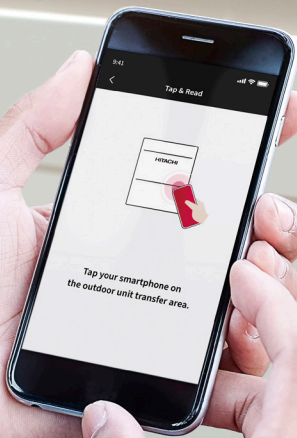
Infrared



PC-AWR

- Control of 1 to 16 indoor units as master and/or slave,
- Simplified access to essential functions,
- Works with an infrared receiver.

Our digitalised control technologies



airCloud Tap + NFC

Reinvented commissioning and easier maintenance.

Available on air365 Max (Pro) groups and new remote controls

The airCloud Tap mobile application allows the configuration of outdoor groups and indoor units by NFC contact.

- Indoor unit parameters,
- External group settings,
- Function test,
- Reading of operating parameters.



Easy and quick to get started!

- ✓ Optimised user experience,
- ✓ Quick to navigate through parameters and enter data,
- ✓ Copy and paste settings into multiple controllers from your phone or tablet; ideal for identical configurations in several rooms.



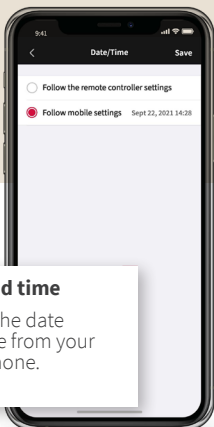
Compatibility guaranteed!

- ✓ Works with the latest Hitachi controllers (PC-ARFG2-E, PC-ARFG2-EB, PC-ARC),
- ✓ Compatible with all NFC smartphones on the market,
- ✓ Simple technology that does not require pairing.



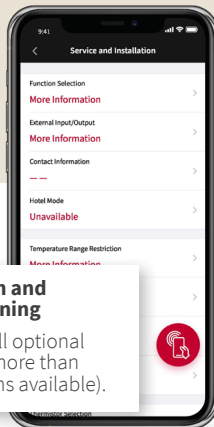
The comfort of a mobile application!

- ✓ Easy access to over 140 settings and features,
- ✓ Complete descriptions of each parameter, you do not need to consult additional documentation,
- ✓ No need to be connected to the internet to read and write data.



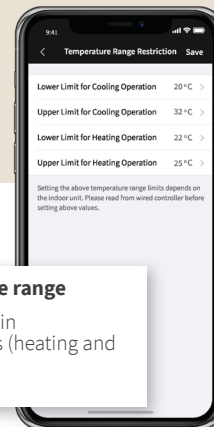
Date and time

Import the date and time from your smartphone.



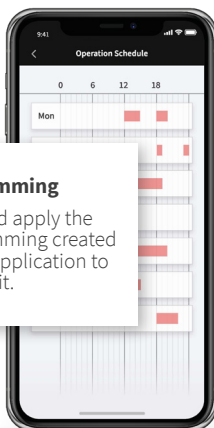
Installation and commissioning

Configure all optional functions (more than 140 functions available).



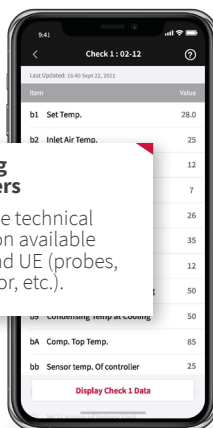
Temperature range

Apply max-min temperatures (heating and cooling).



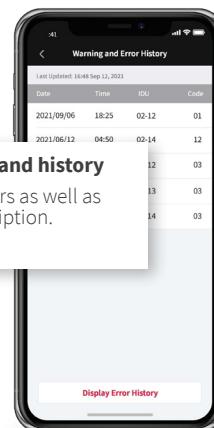
Weekly programming

View and apply the programming created on the application to each unit.



Operating parameters

View all the technical information available from IU and UE (probes, compressor, etc.).



Fault codes and history

View the errors as well as the full description.

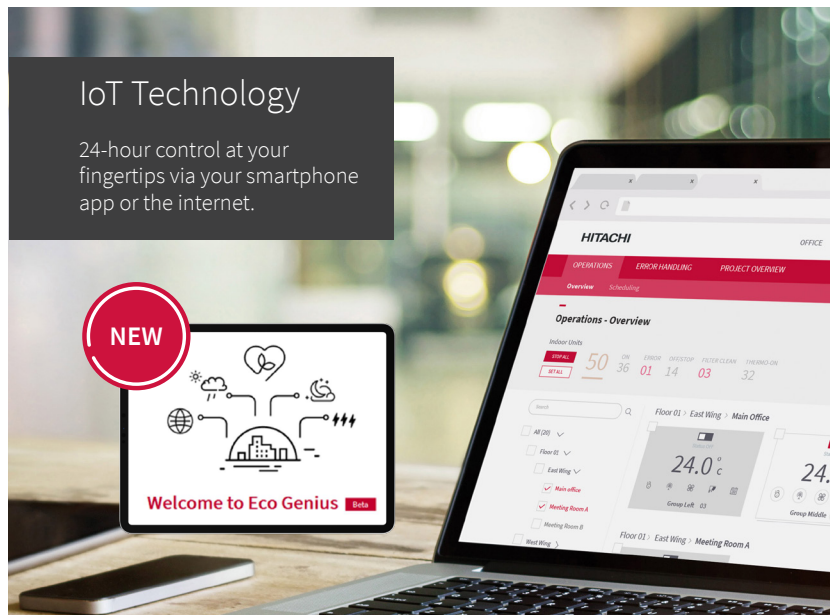
Optimised energy consumption thanks to our remote control and supervision solutions

01. airCloud Pro

The control is in your hand!

New Eco-GENIUS function:
Reduce your energy costs!

The consumption of a VRF system depends on the demand on the compressor. The ECO-GENIUS function of airCloud Pro integrates an algorithm that uses weather forecasts, building temperature and setpoints to Optimised consumption without compromising comfort.



IoT Technology

24-hour control at your fingertips via your smartphone app or the internet.



Simplify your life

- ✓ **Centralised control from anywhere:** Control the entire VRF system or specific areas with the touch of a finger.
- ✓ **Easy problem solving:** clear history of error codes, concise description of the problem and reminder of which filter to clean.
- ✓ **Alerts on smartphone:** to report everything serious malfunction.
- ✓ **Flexible user management:** add unlimited users.
- ✓ **Regularly updated and enriched with news functions,** airCloud Pro ensures you are always up to date.



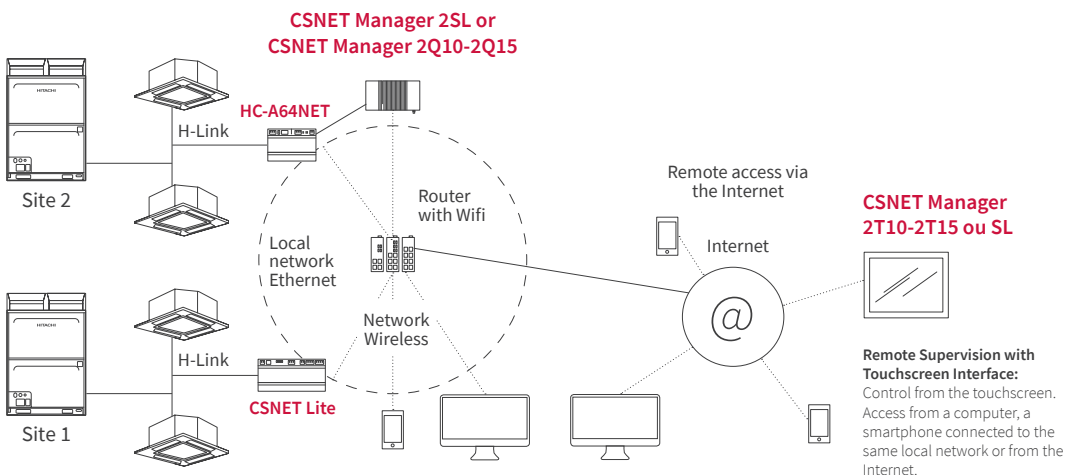
Save more energy

- ✓ **Energy consumption data:** View your electricity consumption using dashboard and simple graphics.
- ✓ **Individual locking of control devices:** Block any inappropriate use by occupants.

+ Data security

- ✓ **Strictest standards:** TLS v1.2 protocol, HTTPS 2038 encryption.
- ✓ **Limited number of personal information requested:** Only your names, email addresses and phone numbers are required to login.

02. CSNET: example of architecture of 2 sites equipped with VRF, controlled by centralised CSNET controls and supervised remotely.



- + Room temperature controls.
- + Energy metering of third-party equipment.
- + Be alerted in the event of breakdown.

Compatibility with CH energy recovery boxes

Limit your heating and cooling costs with energy recovery

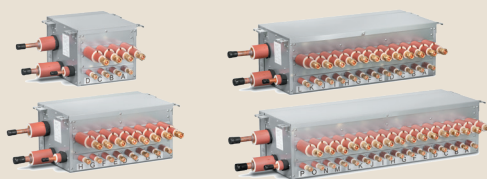
CH box 1 output

- Up to 8 indoor units per CH box
- Compact size
- Light weight
- Connection of 2 pipes only (gas piping)
- No condensate connection

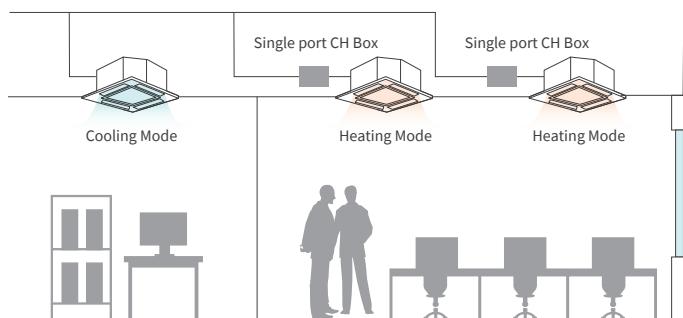


Multi output CH boxes

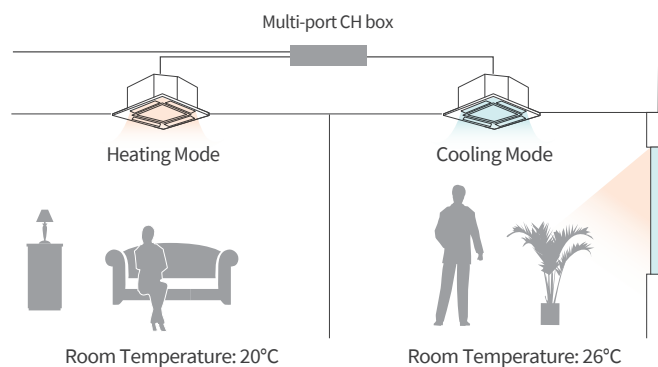
- Choice of up to 96 different indoor units per CH Box
- Low height
- Low volume
- Light weight
- No condensate connection



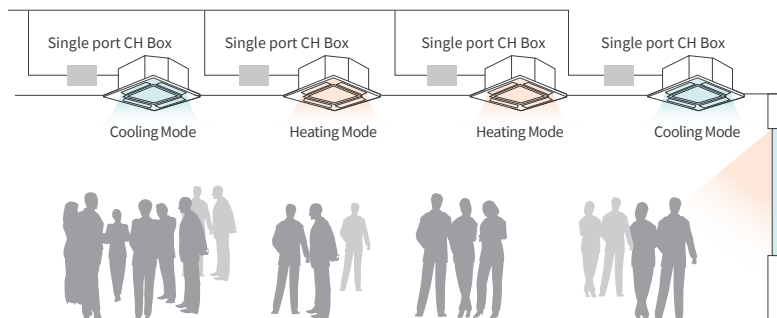
Applications: offices, hotels, nursing homes, etc.



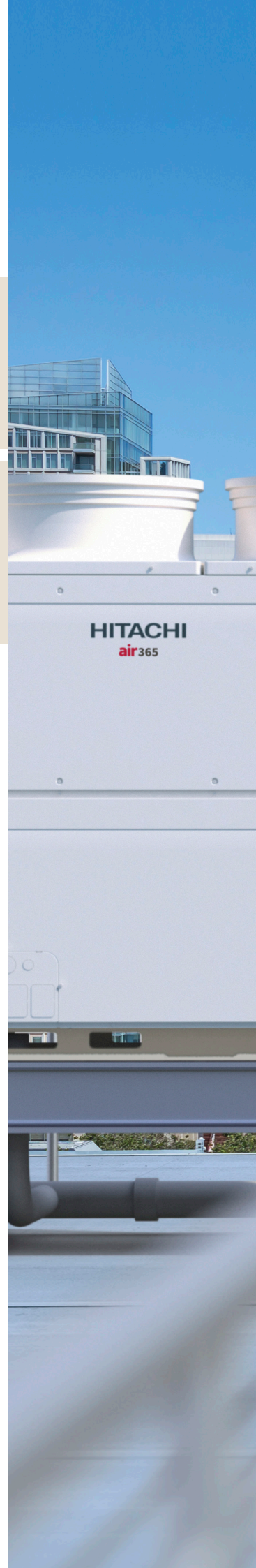
- **Energy saving:** performance improvement of 40 to 50%
- **Optimal comfort:** simultaneous heating and cooling production
- An indoor unit can operate all year round in cooling mode (local server).



- Individualised control of the heating and cooling temperature in each room



- Simultaneous cooling and heating, even for the same zone, operating with the same refrigeration circuit.



Indoor units

		Cooling Capacity (kW)																	
		1kW	1.5kW	2kW	2.5kW	3kW	3.5kW	4kW	4.5kW	5kW	5.5kW	6kW	6.5kW	7kW	7.5kW	8kW	8.5kW	9kW	9.5kW
		0,4	0,6	0,8	1,0	1,3	1,5	1,8	2,0	2,3	2,5	3,0	4,0	5,0	6,0	8,0	10,0	16,0	20,0
Mini Cassette RCIM-FSRE (600x600)	 600x600	•	•	•	•	•	•	•	•	•	•	-	-	-	-	-	-	-	-
Standard Cassette RCI-FSR(1)* (800x800)	 800x800	-	-	-	•	•	•	•	•	•	•	•	•	•	•	-	-	-	-
2-way Cassette RCD-FSR		-	-	•	•	•	•	•	•	•	•	•	•	•	•	-	-	-	-
Ceiling Mounted RPC-FSR		-	-	-	-	•	•	•	•	•	•	•	•	•	•	-	-	-	-
Ducted NEW 1. RPIZ (compact: up to 50Pa)		-	-	•	•	•	•	•	•	-	•	•	-	-	-	-	-	-	-
2. RPIL-FSR(1)E* (ultra compact: up to 100Pa)		•	•	•	•	•	•	-	-	-	-	-	-	-	-	-	-	-	-
3. RPI-FSR(1)E* (Medium: up to 150Pa)		-	-	-	-	•	•	•	•	•	•	•	•	•	•	-	-	-	-
4. RPIH-FSR(1)E* (high pressure: up to 200Pa)		-	-	-	-	-	-	-	-	-	-	-	•	•	•	-	-	-	-
5. RPI-FSN3E (large power: up to 220Pa)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	•	•	-	-
6. RPI-FSN3PE (large power: up to 220Pa)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	•	•
Wall Mounted RPK-FSR(H)M Deportable regulator		•	•	•	•	•	•	•	•	•	•	•	•	-	-	-	-	-	-
Floor Standing Console RPF(I)-FSN2E Bodied or unbodied		-	-	-	•	•	•	•	•	•	•	-	-	-	-	-	-	-	-

* RCI-FSR, RPI(L/H)-FSRE available while stocks last.

VRF air365 Max

Model	Unit	RAS-8FSXNS2E	RAS-10FSXNS2E	RAS-12FSXNS2E	RAS-14FSXNS2E	RAS-16FSXNS2E	RAS-18FSXNS2E	RAS-20FSXNS2E	RAS-22FSXNS2E	RAS-24FSXNS2E	
Combination capacity											
Cooling capacity	kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	67.0	
Heating capacity	kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	67.0	
Connection report	-	50% - 200%*									
Maximum number of internal units that can be connected	-	26	32	39	45	52	58	64			
Power supply	-	3N~ 400V 50Hz									
SEER	-	7.35	7.12	6.79	6.91	7.20	6.73	6.43	6.17	6.19	
SCOP	-	4.63	4.56	4.29	4.51	4.67	4.35	4.76	4.34	4.27	
Cooling operating range	°C	-25 - 16									
Heating operating range	°C	-10-52									
Sound power	Cooling	dB(A)	77	79	82	81	83	85	84	85	
	Heating	dB(A)	78	80	83	80	82	86	85	86	
Sound pressure	Cooling	dB(A)	60	62	64	63	65	67	68	68	
	Heating	dB(A)	61	62	65	63	64	67	68	69	
	Night mode (Cold)	dB(A)	55	56	55	57	58	63	62	62	
Refrigerant	-	R410A									
Initial refrigerant charge	kg	5.6	8.3	8.9	9.5	10.2	11.2	11.5			
Refrigerant pipe diameters	Liquid line	mm (in.)	Ø9.52 (3/8)		Ø12.7 (1/2)			Ø15.88 (5/8)			
	Gas line - Low pressure	mm (in.)	Ø19.05 (3/4)	Ø22.2 (7/8)	Ø25.4 (1)			Ø28.58 (1-1/8)			
	Gas line - High/Low pressure	mm (in.)	Ø15.88 (5/8)	Ø19.05 (3/4)	Ø22.2 (7/8)			Ø25.4 (1)			
Compressor	N° and type	-	Hermetic (vapor-injection scroll compressor)								
			1				2				
Fan	Amount	-	1				2				
	Static prevalence	Pa	30/60/80								
	Air flow	m3/min.	175	198	239	256	263	329	348		
Dimensions	H x W x D	mm	1793 x 948 x 770			1793 x 1208 x 770			1793 x 1598 x 770		
Net weight	kg	197	203	217	271	272	350				

Note:
* with 0.4HP and 0.6HP units, the capacity index remains 130%

VRF air365 Max Pro

Model	Unit	RAS-5FSXNP2E	RAS-6FSXNP2E	RAS-8FSXNP2E	RAS-10FSXNP2E	RAS-12FSXNP2E	RAS-14FSXNP2E	RAS-16FSXNP2E	RAS-18FSXNP2E	
Combination capacity										
Cooling capacity	kW	14.0	16.0	22.4	28.0	33.5	40.0	45.0	50.0	
Heating capacity	kW	14.0	16.0	22.4	28.0	33.5	40.0	45.0	50.0	
Capacity index	-	50% - 200%*								
Maximum number of internal units that can be connected	-	16	19	26	32	39	45	52	58	
Power supply	-	3N~ 400V 50Hz								
SEER	-	7,75	7,62	8,38	7,8	7,41	7,25	7,45	7,09	
SCOP	-	5,04	4,44	5,19	4,92	4,93	4,69	5,03	4,66	
Cooling operating range	°C	-25 - 16								
Heating operating range	°C	-10 - 52								
Sound power	Cooling	dB(A)	72	78	76	81	79	81	83	85
	Heating	dB(A)	73	76	77	82	78	80	84	86
Sound pressure	Cooling	dB(A)	55	60	60	63	62	63	66	68
	Heating	dB(A)	56	58	60	64	61	63	66	68
	Night mode (Cold)	dB(A)	53	53	57	56	56	55	61	62
Refrigerant	-	R410A								
Initial refrigerant charge	kg	5.7	6.0	9.1		9.3		10.6	11.1	
Refrigerant pipe diameters	Liquid line	mm (in.)	Ø9.52 (3/8)			Ø12.7 (1/2)			Ø15.88 (5/8)	
	Gas line - Low pressure	mm (in.)	Ø19.05 (3/4)			Ø22.2 (7/8)		Ø25.4 (1)		Ø28.58 (1-1/8)
	Gas line - High/Low pressure	mm (in.)	Ø15.88 (5/8)			Ø19.05 (3/4)		Ø22.2 (7/8)		
Compressor	N° and type	-	Hermetic (vapor-injection scroll compressor)							
			1				2			
Fan	Amount	-	1			2				
	Static prevalence	Pa	30/60/80							
	Air flow	m3/min.	154	175	185	219		256	346	362
Dimensions	H x W x D	mm	1793 x 948 x 770			1793 x 1208 x 770			1793 x 1598 x 770	
Net weight	kg	197			262		267		360	

Note:
* With 0.4HP and 0.6HP units the capacity index remains at 150%

Hitachi offers you exclusive local support, whether with its products manufactured in Europe in Barcelona, our dedicated account management team or through our distribution partners. This support is found in all phases of your projects:

- Training on all products available from the Hitachi training centre.
- During installation and commissioning with products that are simple to install, reliable and flexible.
- For maintenance and after-sales thanks to numerous dedicated connected tools such as our airCloud Pro applications for real-time visualisation of installations, airCloud Alarm Code to identify and correct error codes, and Hi-Parts to select and order spare parts 24/7.



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The commercial guarantees offered by Hitachi concern the parts constituting our machines. They apply subject to installation in compliance with our technical specifications and are subject to regular maintenance of the equipment by qualified personnel. The compressor specific warranty will only be enforced if a proper commissioning report is submitted to Hitachi.