Johnson Controls

HITACHI
Air conditioning solutions

Johnson Controls-Hitachi Air Conditioning India Ltd. (JCH-IN)

Company Profile

Updated Aug'22

02

About JCH-IN

Hitachi as a brand has always believed in being **resilient** to the challenges

We believe in "**Kaizen**" which means continuous improvement and we strive to deliver the **expertise** that we have gained over all these years

JCH-IN Introduction

Company Name	Johnson Controls-Hitachi Air Conditioning India Limited (Abbr. JCH India)
Registered Office	9th Floor, Abhijeet, Ahmedabad
Factory	Karan Nagar, Kadi, Gujarat
Holding Company	JCH Group: 74.25% Public: 25.75% (Listed company) (% as on 1 Apr 16)
Capital	Rs.271.9 Million (1st April 2022)
Established	7th Dec 1984, (1st October 2015)
Employees	2366 (Lean Season) 4438 (Peak Season)
Business	Design, Develop, Manufacture, Sell , Service of Residential and Commercial Air Conditioners. Import & Sell Refrigerator.

Our Journey

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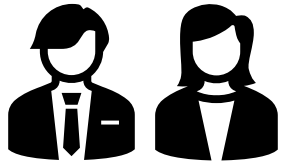

1984

Acquest Air Conditioning Systems Pvt. Ltd.

Owned by Lalbhai Group, Ahmedabad

1990

Technical Collaboration

With Hitachi, Japan

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1999

Amtrex Hitachi Appliances Ltd.

JV Between Hitachi And Lalbhai Group

2003

Hitachi Home And Life Solutions (India) Ltd.

Subsidiary Of Hitachi Appliances Ltd.

2009

Single Roof Manufacturing Unit

(34,000 Sq.m)

Built. at Kadi, Gujarat.

Johnson Controls

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Air conditioning solutions

2015

Johnson Controls – Hitachi Air Conditioning India Ltd.

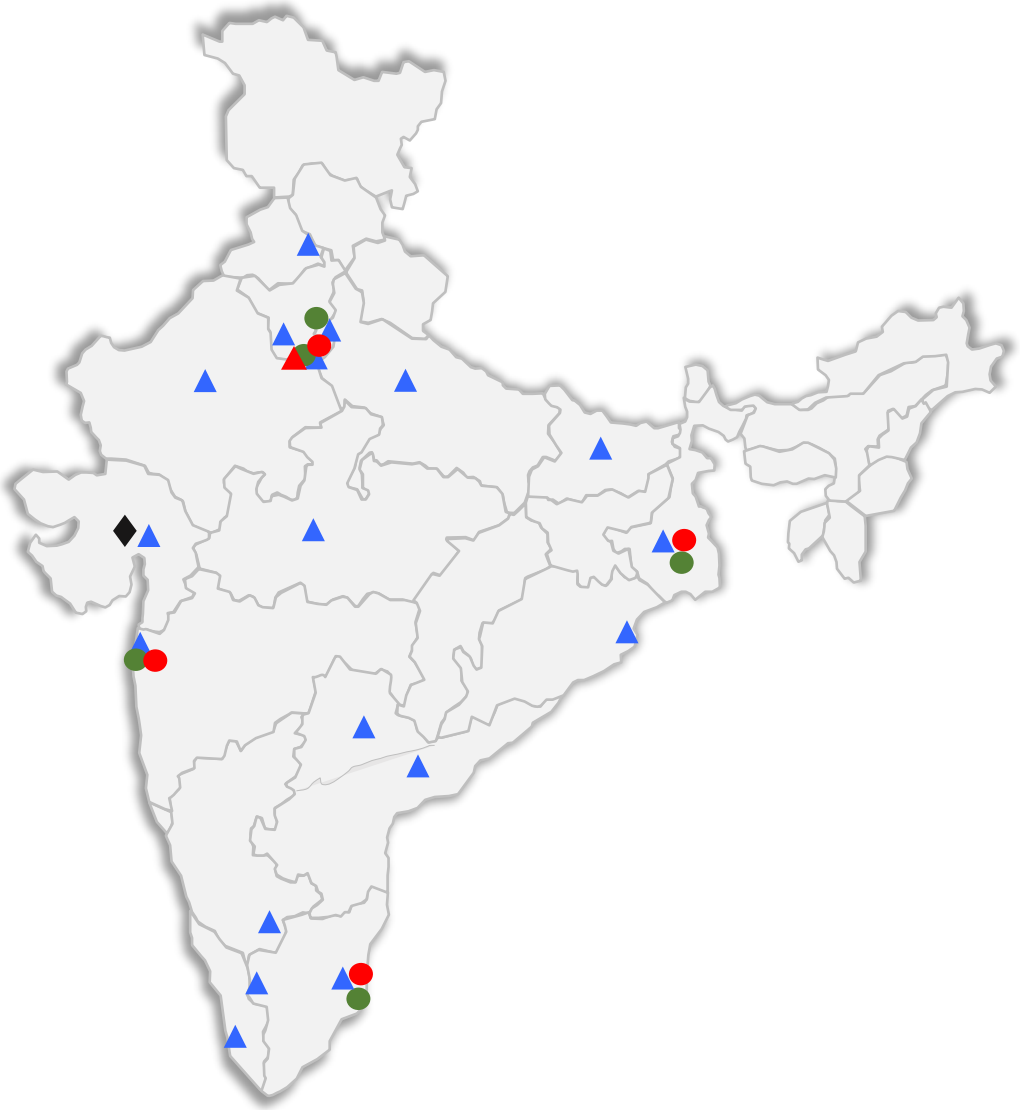
Joint Venture Between Hitachi Appliances, Inc. & Johnson Controls Inc.

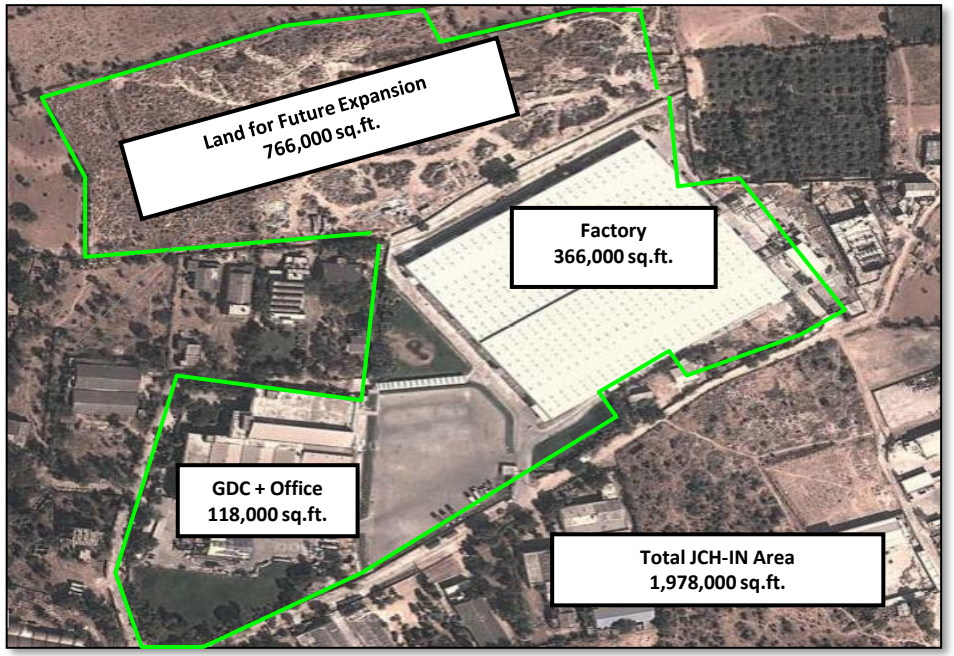
2019

Global Development Centre

Plays an active role in innovation and improving time-to-market for global and local products

Infrastructure





Factory & Head Office	1
Sales head office	1
Regional office	5
Sales branch office	18
Engineering excellence Centers	4

Manufacturing Plant @ Kadi, Gujarat

07

Product Portfolio

Product Range

<WAC>

<SAC>

<PAC>

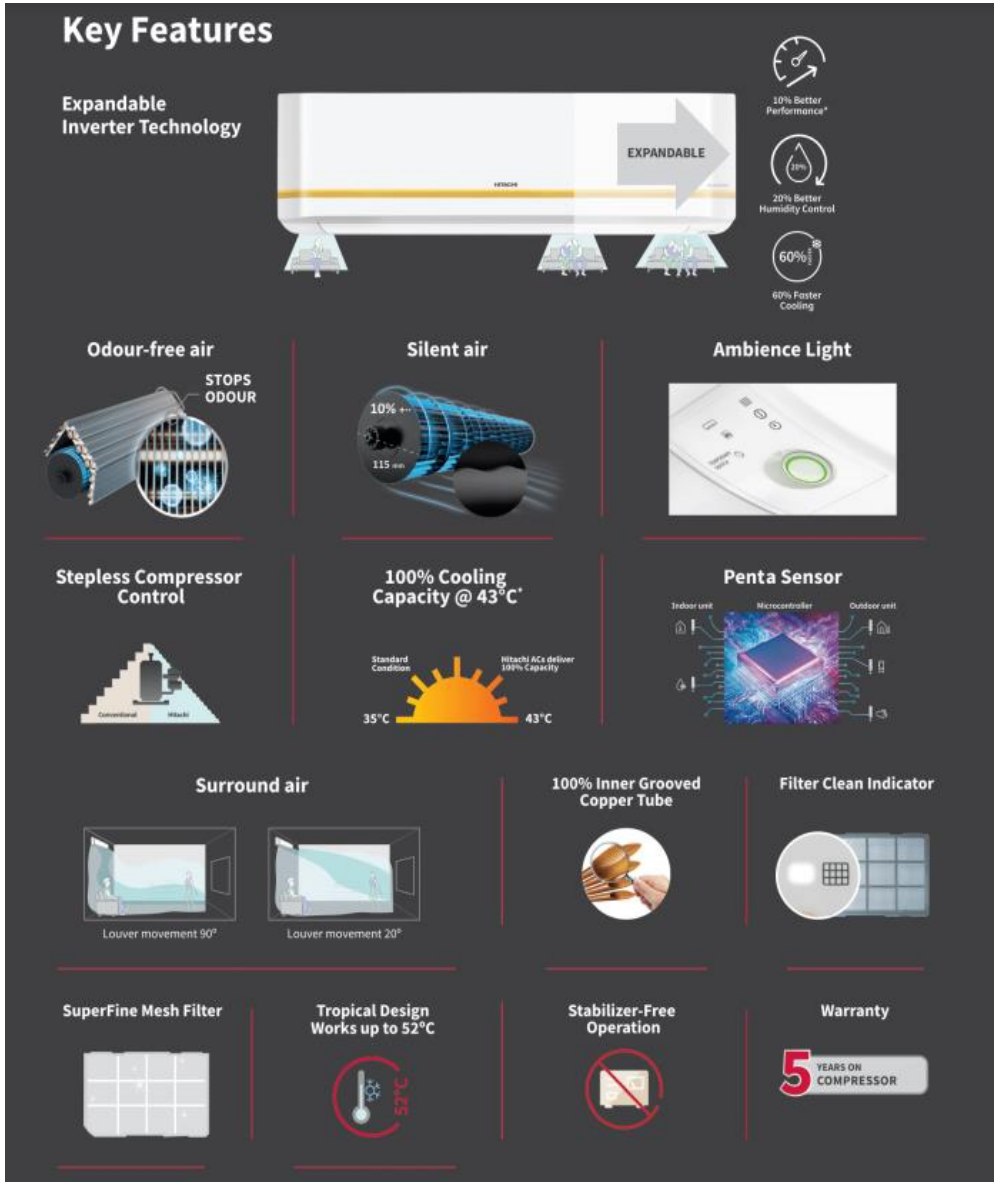
<VRF>

< SPACEMAKER>

Business	Application	Type of ACs	Product Type	Manufacturing base
Air Conditioning	Room Air Conditioners	Split Type	Fixed Speed & Inverter	JCH-IN
		Window Type	Fixed Speed & Inverter	JCH-IN / Outsource
	Commercial Air Conditioning	PAC	Ductable & Concealed	JCH-IN
			Ceiling Cassette	IDU: Import, ODU: JCH-IN/outsource
		VRF	ODU (Side flow & Top flow)	Import
			IDU (Hi wall , Duct , Cassette)	JCH-IN / Cassette: Import
Specialty Products	Telecom shelter Conditioning	Space Maker	Capacity Range: 0.9 Ton - 4.0Ton	JCH-IN
		Free Cooling Unit	Type: Single, Twin, Axial Fan	JCH-IN
	Banking & Infra (ATM)	Eco Cool / Spot Cool		JCH-IN

Residential Products

Room Air Conditioners : Inverter & Fixed Speed



Commercial Products

VRF Product Range

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VRF SET FREE

Modular

Top Flow
SIGMA

8 HP ~ 96 HP

- Heat Pump / Cool Only
- Two pipe

Side Flow
Side Smart

8 HP ~ 72 HP NEW

- Heat Pump

Non-Modular

Side Flow
Mini

3 HP ~ 7 HP

- Heat Pump

Side Flow
Mini

9 HP ~ 12 HP

- Heat Pump

SET FREE Σ

VRF Top Flow Outdoor Unit : SET FREE SIGMA

Single module : 8 to 24HP

3 Cabinets, 9 models for selection

(8-12HP)

W958 x D782 x H1725 mm

(14-18HP)

W1218 x D782 x H1725 mm

(20-24HP)

W1608 x D782 x H1725 mm

Base Module up to 24 HP

Combination Module :

2 ~ 4 modules combination, 36 models for selection

Capacity Range (HP)	No. of Modules
8 ~ 24	Single
26 ~ 48	Two
50 ~ 72	Three
74 ~ 96	Four

Combination Module up to 96 HP

VRF Side Flow Outdoor Unit : SideSmart™

“The World’s First Slim Modular Side Flow VRF unit”

SideSmart™

Slim Modular VRF

Biggest base model

Up to 18 HP

Modular design Up to 72HP

(Standard/Economy Combination)

VRF Side Flow Outdoor Unit : SideSmart™

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SideSmart™ 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.

5 Smart

CONCEPT Modularity with great performance

Benefit from the best level of Hitachi VRF efficiency.

DESIGN Connectable slim side flow modules

For the first time, side flow slim units can be connected to combine their capacity.

CONFIGURATION Can be placed anywhere in your building

Can be installed at different floors, with flexible capacities & options for indoor locations.

SPACE LAYOUT Save building space

Reserve your rooftop for other purpose & optimize the indoor layout.

SideSmart™

Slim Modular VRF

INVESTMENT Save cost at every stage

Less piping runs, simplified installation process & superior energy efficiency.

VRF Mini Outdoor Unit : Non-Modular Side Flow

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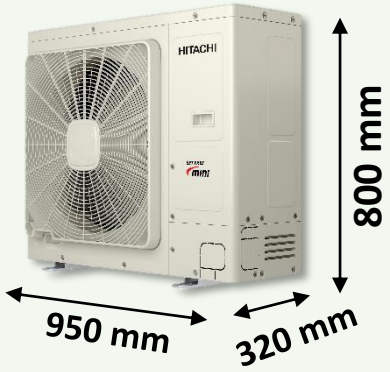
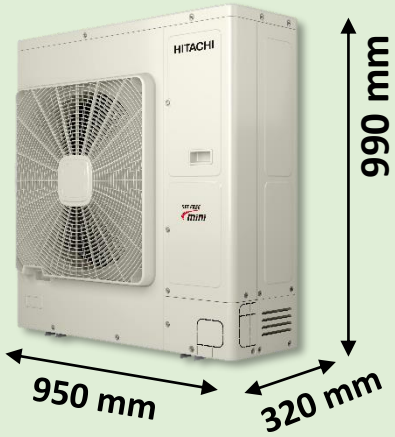
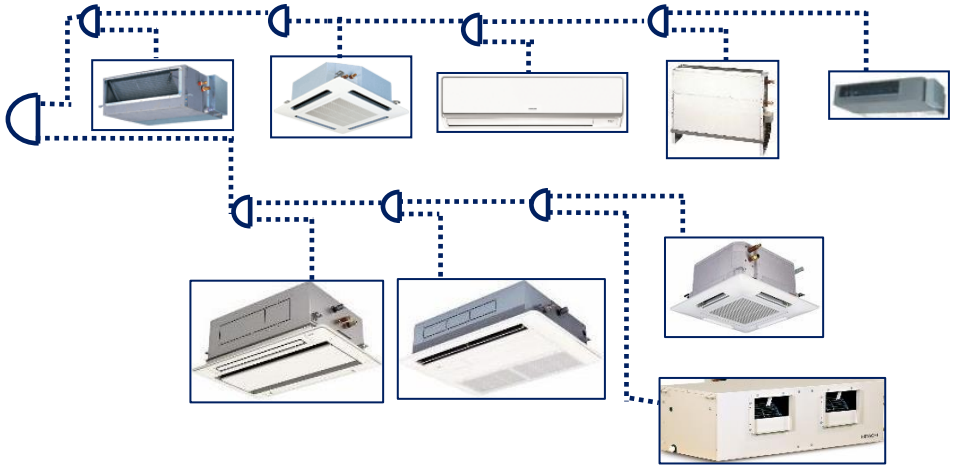
	Mini					New		
								
	3.0 HP	4.0 HP	5.0 HP	6.0 HP	7.0 HP	9 HP	10 HP	12 HP
Cooling Capacity	8.0 kW	11.2 kW	14.0 kW	15.5 kW	20.0 kW	25.0 kW	28.0 kW	33.5 kW
Heating Capacity	9.5 kW	12.5 kW	16.0 kW	17.0 kW	22.4 kW	26.0 kW	31.5 kW	37.5 kW
Power Supply	220-240V / 1PH / 50Hz					380-415V / 3PH / 50Hz		

VRF Indoor Units

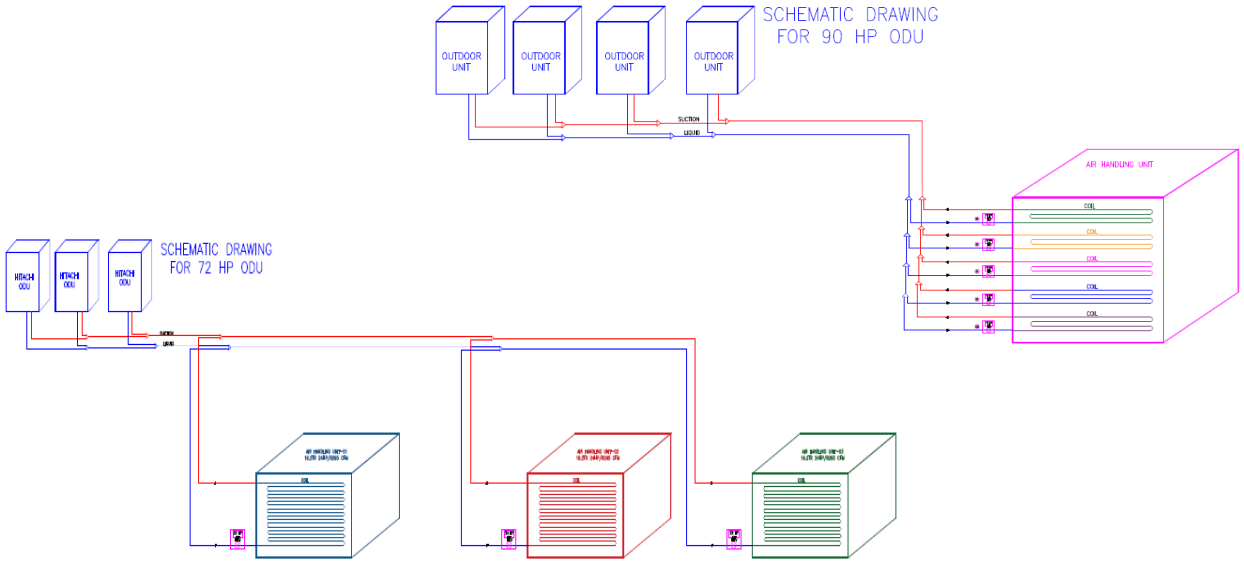


- Wide range - 13 types of IDU, 72 models
- Highest air quantity with extra speed
- Suitable for all types of interiors
- Whisper Quiet Indoor Units
- Hi wall with best in class “iClean+” & “Motion Sensor” features

VRF System with AHU

Integrate Hitachi VRF with your AHU's.

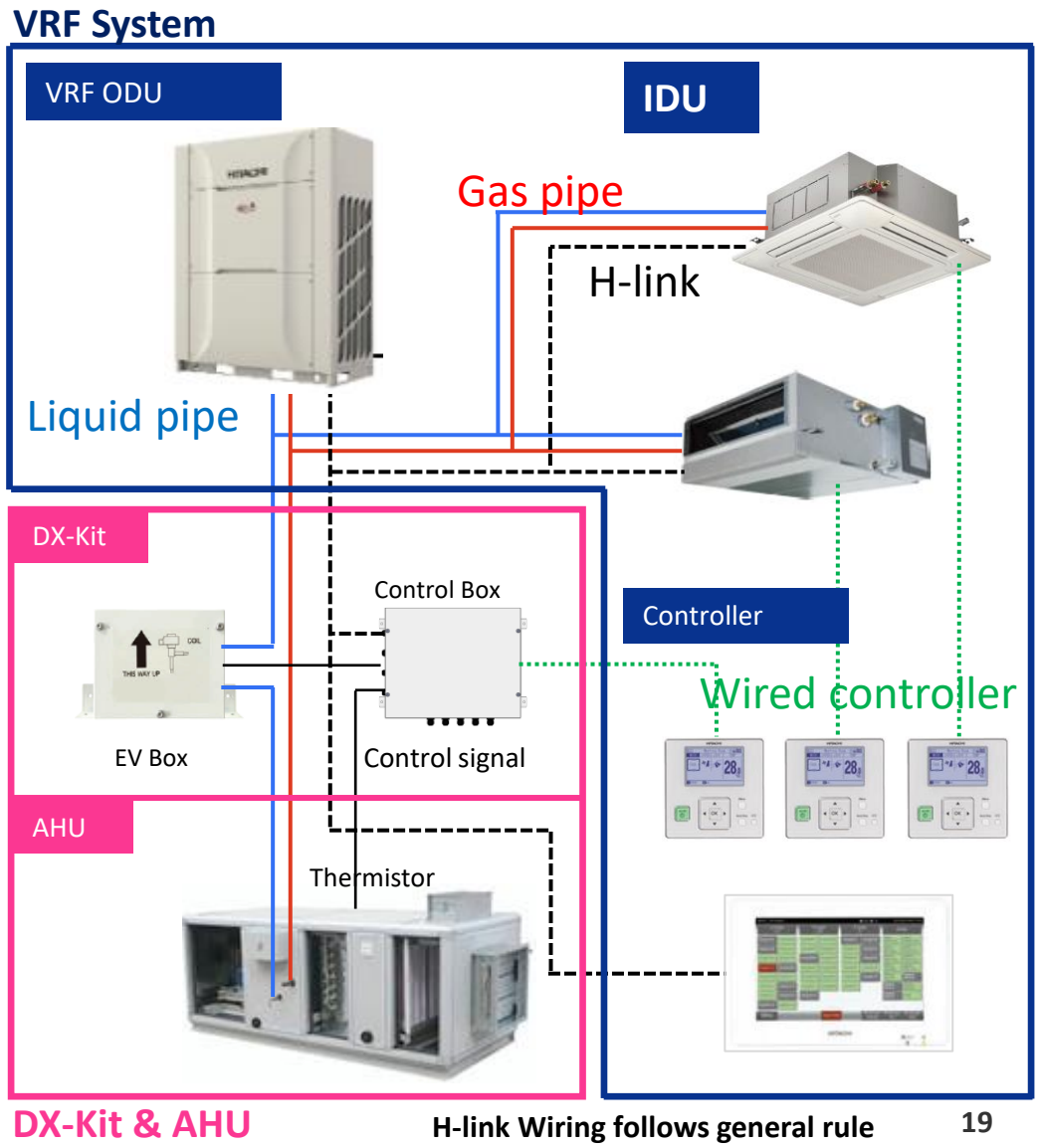
- With ease in installation, maintenance & energy efficient operation with VRF system, more enquiries for VRF & AHU combinations are coming in industry.
- Mentioned below are the options for VRF ~ AHU combination :



With this arrangement, we can connect bigger capacity AHU in single refrigerant circuit.

Application: Offices, OT/ICU in Hospital, Auditorium, Banquet Hall/ Restaurants

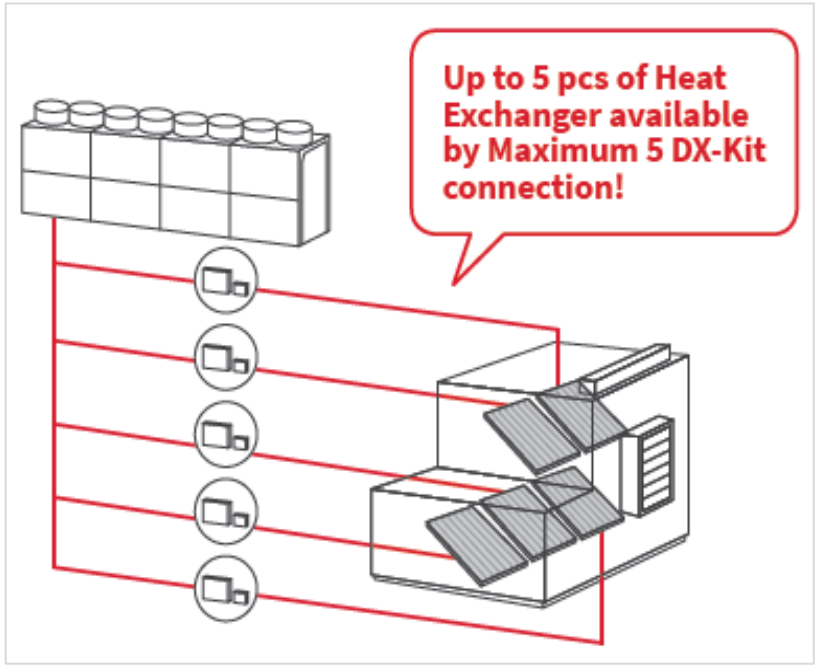
Note: For all the requirements, coil selection to fulfill the DX Kit concept note conditions.

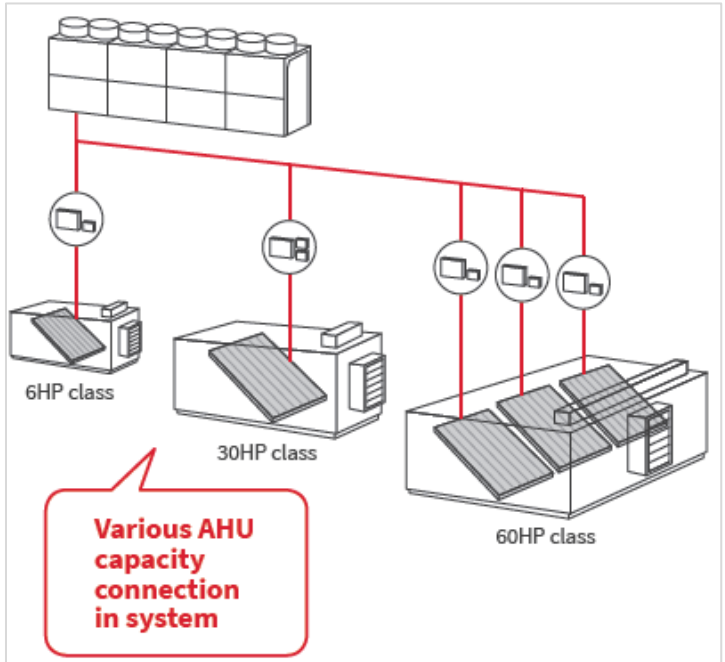


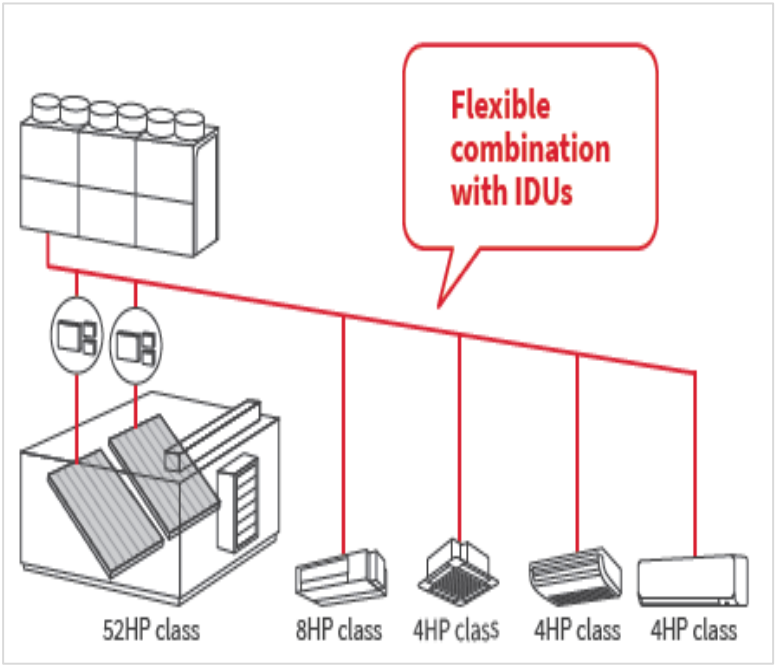
VRF System with AHU

Flexible Configuration

1 ODU & 1 AHU 1 ODU & 1 AHU (Separate Heat Exchanger Type)	1 ODU & Multiple AHU's	1 ODU & AHU & IDU's







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

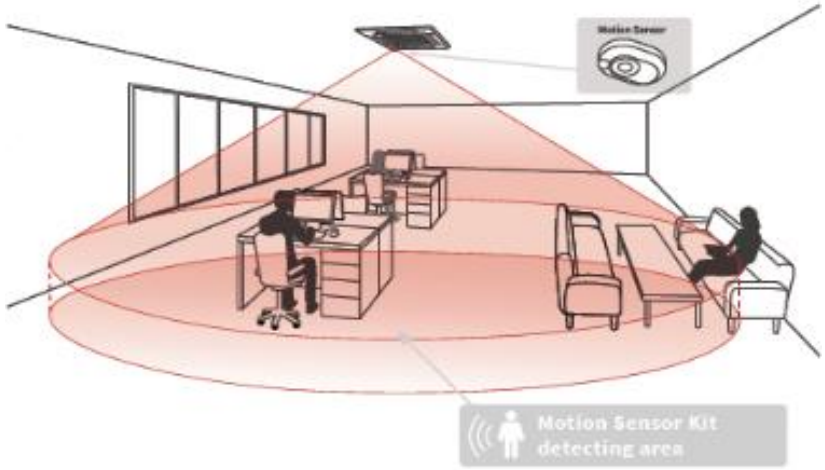
VRF IDU : Key Technology - Motion Sensor Technology (Optional)

What is it?

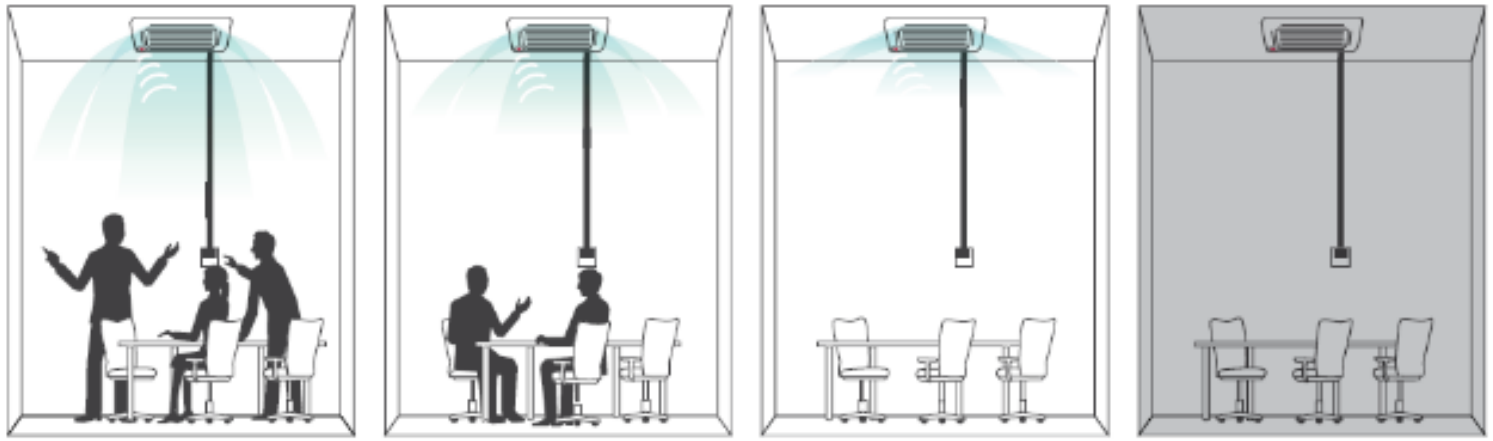
It senses the amount of human activity, undertakes automatic saving & achieves intelligent energy saving.

How does it work?

Perceives the amount of human activity & undertakes automatic saving.



For Example



Standard operation for a room with a lot of human movement.

Moderate operation for a room with little human movement.

More moderate operation if people are absent for a certain period of time.

It is also possible to stop the operation of the unit by applying a particular setting if people remain absent for more than 30 minutes.

Applicable Models

4 Way Cassette

4 Way Compact Cassette

2 Way Cassette

1 Way Cassette

Ceiling Suspended

Key Point:

Motion sensor detection for effective cooling & power saving with wide coverage area.

VRF IDU : Key Technology - Individual Louver Control Technology

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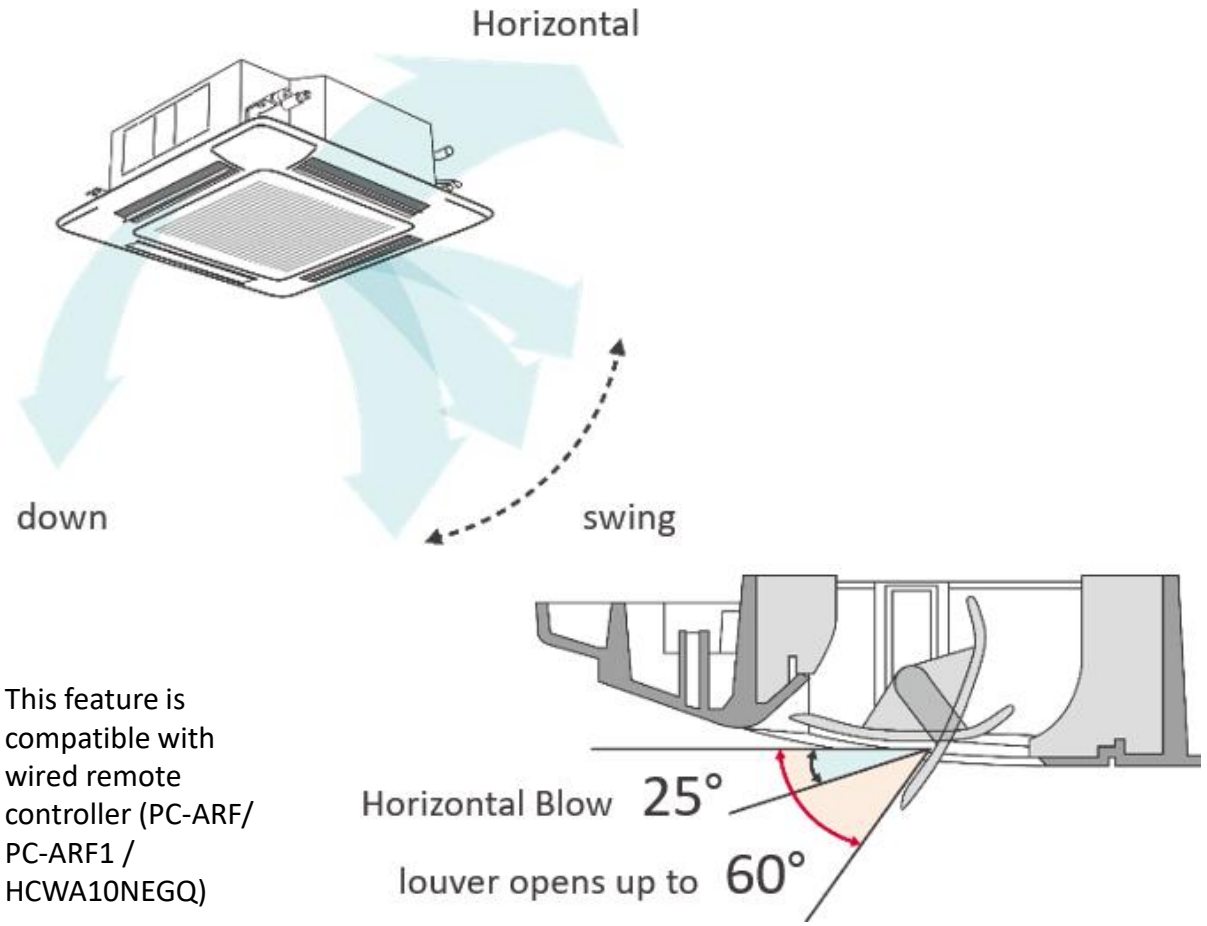
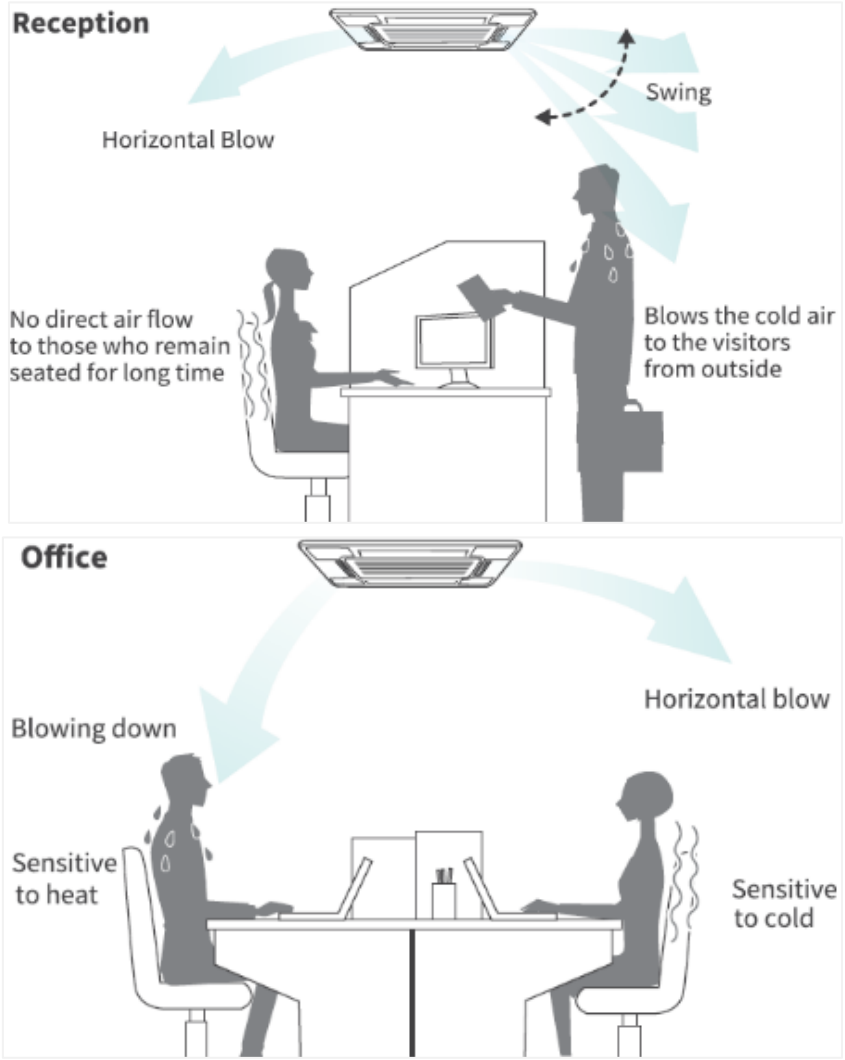
Individual Louver Control Technology : Control air flow with individual four-way louvers

More comfortable air conditioning can be achieved along each zone requirement



This feature is compatible with wired remote controller (PC-ARF/ PC-ARF1 / HCWA10NEGQ)

Examples



VRF : Individual Control System

New Premium – Advanced Wired Remote Controller : PC-ARFG

- Brand new global visual design.
- Stylish curve with touch buttons.
- 4.3” large color screen.
- New home menu screen design with diff. display color for each operation mode.
- Integrated housing with IML process increases durability & cleaner look.

Advanced Wired Remote Controller : PC-ARF1

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

Touchscreen Wired Remote Controller : HCWA10NEGQ

- 88mm square controller with Touch Screen LCD.
- Smaller body with multiple features.
- Best option for premium apartments and bungalows.

Advanced Wireless Remote Controller : PC-AWR

- Several temperature units & settings available : .5˚C/1.0˚C/1.0˚F.
- Ideal for controlling the unit from anywhere in the room.

Wireless Remote Controller

PC-LH7QE PC-LH3C

- Budget option featuring primary control settings, 1.0˚C temperature step.
- Ideal for controlling the unit from anywhere in the room.

VRF : Centralized Control System

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 & alerts.
- Ideal for all types of applications.

Central Station Mini : PSC-A32MN

- Control capacity: Max 32 RC groups.
- Compact & optimized 120x140mm body screens fitting in even small walls.
- Easy monitoring with simplified interface.
- Best option for small size buildings.

Central Station EZ : PSC-A64GT

- Control capacity: Max 64 RC groups.
- Compact and optimized 170x250mm body screens fitting in even small walls.
- Easy monitoring with simplified interface.
- Best option for middle size buildings.

Central Station EX1 – Web Monitoring feature from PC / Laptop

PSC-A128EX1

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

BMS –

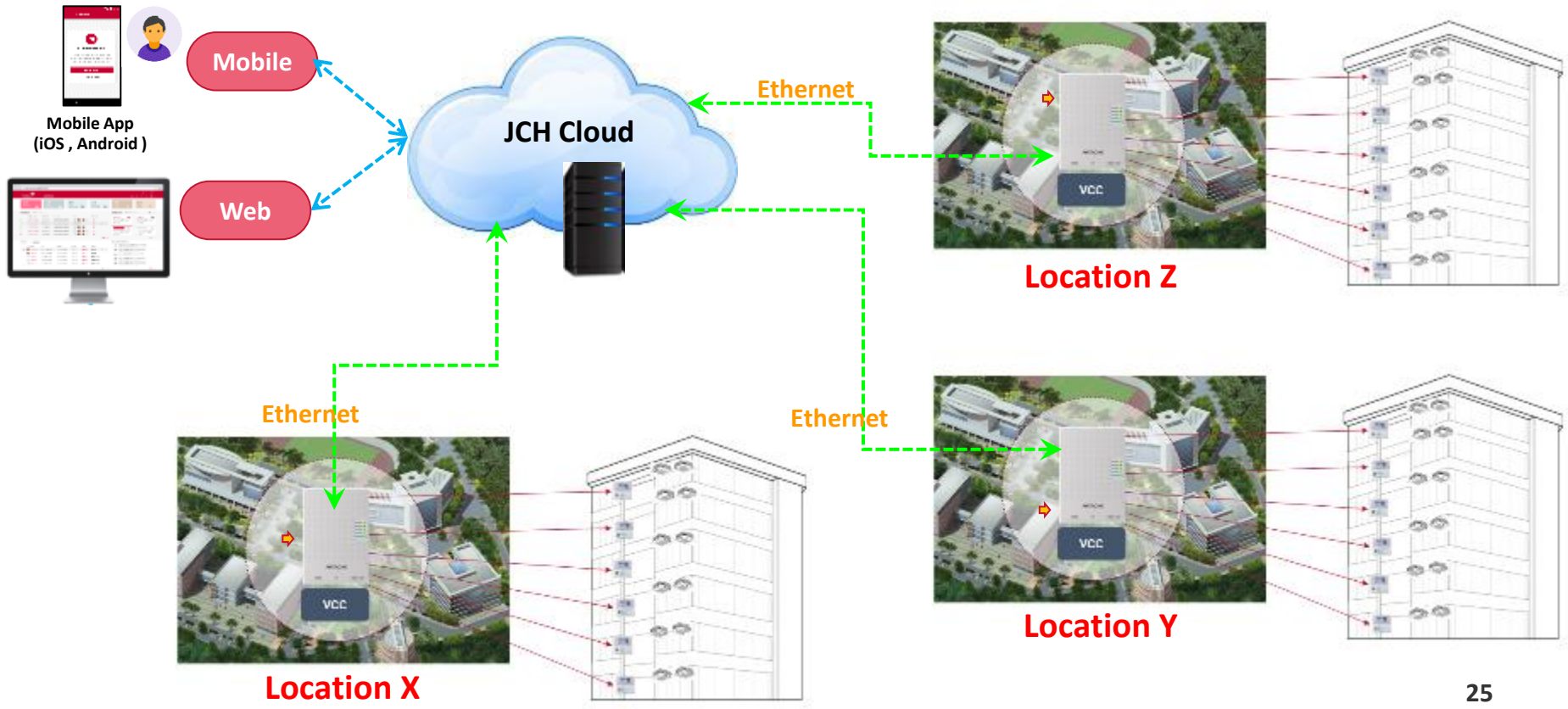
Connection through BMS through :

- **MODBUS Adaptor**
- **BacNet Adaptor**

VRF Controller : airCloud Pro

Centralized control through airCloud can be accessible from anywhere, anytime from **Mobile as well as Web**.

- Different locations can be monitored & controlled simultaneously from same place.
- Connectivity : Unlimited number of sites / gateway / users.



PAC : Takumi Smart Inverter Ductable AC

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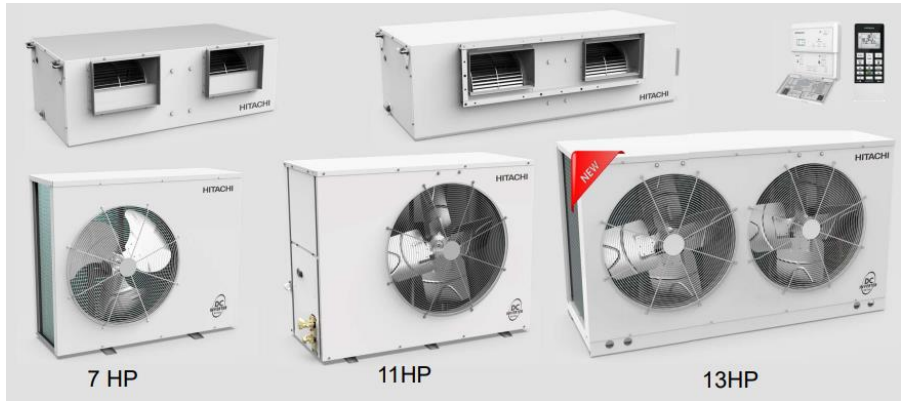
'Takumi' in Japanese means "Professional"

Takumi Smart → Professionally Smart

Takumi *series is named as "**The Professional Range**" of Ductable Air Conditioner which caters the needs of Architects & Consultants.*

It is One-of-a-kind solution to air conditioning industry.

匠
TAKUMI SERIES



Features, Functions & Advantages

User

- Inverter Technology
- airCloud Home – Wi-Fi Connectivity
- BMS Connectivity
- HHRC Sensing (Wireless)
- Fan Speed Selection
- Timer ON/OFF
- UV Lamp Function*
- Drain Pump Function*
- PAC Fault O/P
- Soft start
- Less stress on electrical MCB/RCCB/Wiring
  - Low inrush current / voltage dips
  - Reduced compressor On/Off
- Part load operation
  - Variable capacity w.r.t. load

Service

- Safe & Low cost IDU-ODU field wiring (RS-485)
- Real Time Critical Parameter Monitoring – via Modbus
- Self Diagnostics
- Fault Logging (WRC)
- **Cycle Lock** in case of repeated Pressure or Current trips.
- Fan Speed Selection (Single Speed / Two Speed)

Safety

- High Pressure Switch
- Low Pressure Switch
- Overcurrent Protection
- Undervoltage/Overvoltage Protection
- Restart Delay
- Min. ON/OFF Time

Wi-Fi enabled-airCloud Home

Wireless Remote Controller

Building Management system

Self diagnosis

H Link- Connectivity with Hitachi VRF

Fault Login history

Communication-RS-485

Efficient design with Inverter Compressor

Note: * Marked functions are available as optional

Cassette Air Conditioner

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CASSETTE AC
INVERTER SERIES

Tonnage Class
1.5 / 2.0

Expandable Inverter
Air Conditioners

Fresh Air Intake Provision

Sleep & Timer Control

Dry Mode

48° C

- Expandable Inverter
- Tropical design up to 52^{0}C ambient temperature.
- Inverter & Fixed Speed Models with Green Refrigerant.
- Slim Height
- Super Silent
- Self Diagnostic Feature

CASSETTE AC
FIXED SPEED SERIES

Tonnage Class
1.5

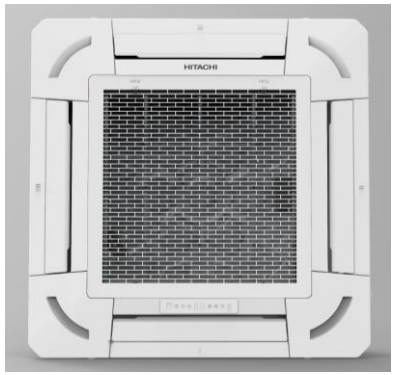
Tonnage Class
2.0

Tonnage Class
3.0 / 4.0

Fresh Air Intake Provision

Sleep & Timer Control

Dry Mode

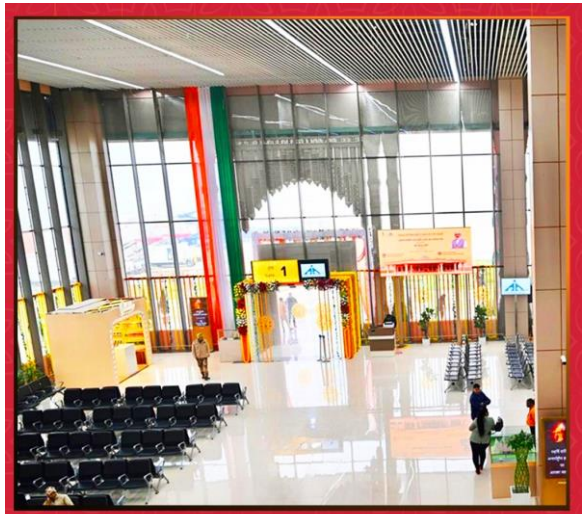


Flexi Split Air Conditioner

- A unique build, it epitomizes compactness & replaces 3 conventional ODU with just one ODU.
- Own unit can be customized according to aesthetics & capacity requirement.
- Multiple IDU's can be chosen keeping in mind the interior design.
- **Available with R-410a**

ODU	Cassette	Hi-Wall	In the Ceiling	Choice of IDU's
3 Tr	1.5 Tr	1.5 Tr	1.5 Tr	Any of 2 IDU's
4 Tr	2.0 Tr	2.0 Tr	2.0 Tr	Any of 2 IDU's
5 Tr	2.5 Tr	2.5 Tr	2.5 Tr	Any of 2 IDU's
7.5 Tr	2.5 Tr	2.5 Tr	2.5 Tr	Any of 3 IDU's

Iconic Site :



Hitachi Cooling & Heating: VRF Iconic Site
Project :Maharishi Valmiki International Airport Ayodhya Dham

Hitachi Cooling & Heating: VRF Iconic Site
Project :Maharishi Valmiki International Airport Ayodhya Dham

Hitachi Cooling & Heating: VRF Iconic Site
Project :Maharishi Valmiki International Airport Ayodhya Dham

Proud Moment

636 HP

Ayodhya Airport

Hitachi Cooling & Heating: VRF Iconic Site
Project :Maharishi Valmiki International Airport Ayodhya Dham

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Thank you

Cooling & Heating