Hitachi® HNTQ Series

DC Inverter Multi Pipe Air-conditioner (preliminary version)

Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Overview – Outdoor Line Up (Single Phase)

1 cabinets and 6 models for selection

1

	2.5HP	3HP	3.5HP	4HP	4.5HP
Cooling Cap.	7.2kW	8.0kW	10.0kW	11.2kW	12.0kW
Heating Cap.	8.6kW	9.5kW	11.5kW	13.0kW	13.5kW
Power Supply	220V / 1PH / 50HZ				

Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Overview – Indoor Line Up

13 models IDU and 3 models controller for selection

Indoor Unit						
Types		2.5	3.5	5.0	6.3	7.1
Compact Ducted (with drain pump)		Y	Y	Y	Y	Y
High Wall		Y	Y	Y		

Controller		
Wired Controller	Wireless Controller	Wireless Infrared Receiver
Y	Y	Y
	Y	

Key Features

Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Key Features – High Efficiency

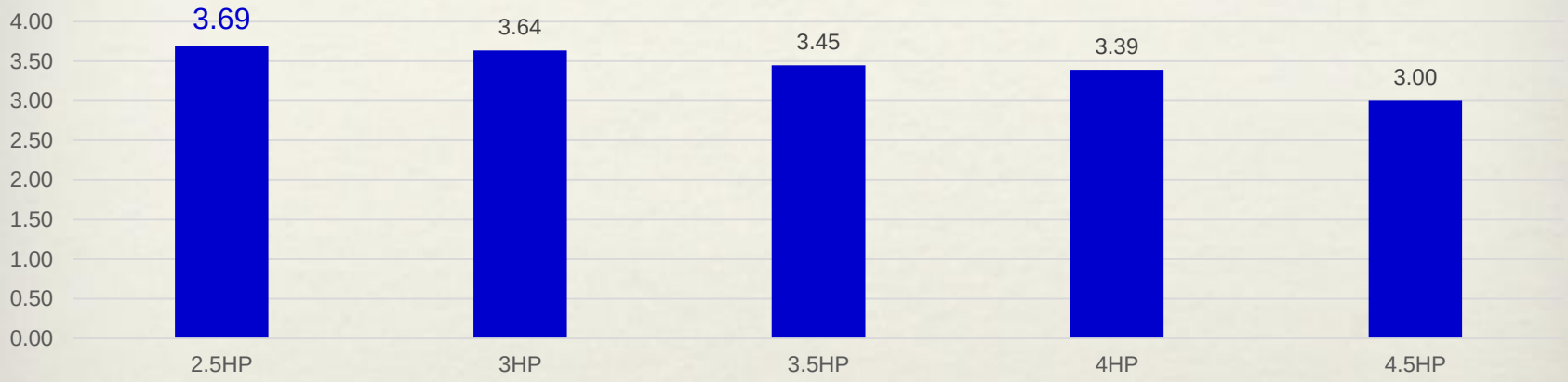
Energy Efficiency Ratio (EER) up to 3.69
Coefficient of Performance (COP) up to 4.26

Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Key Features – High Efficiency

One of the highest efficiency in congeneric products

Cooling EER



Heating COP

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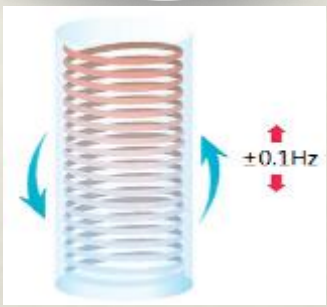
Key Features – High Efficiency

1, Compressor frequency optimization

① The high efficiency twin rotary compressors are adopted here with the rare-earth magnets, which can improve the efficiency.

② The stepless frequency conversion is used. Can adapt the customer demand and keep room temperature more stable. Reduce the power consumption of system.

③ Intellectual compressor driver technology improves the compressor frequency accuracy to ±0.1Hz, more efficient.

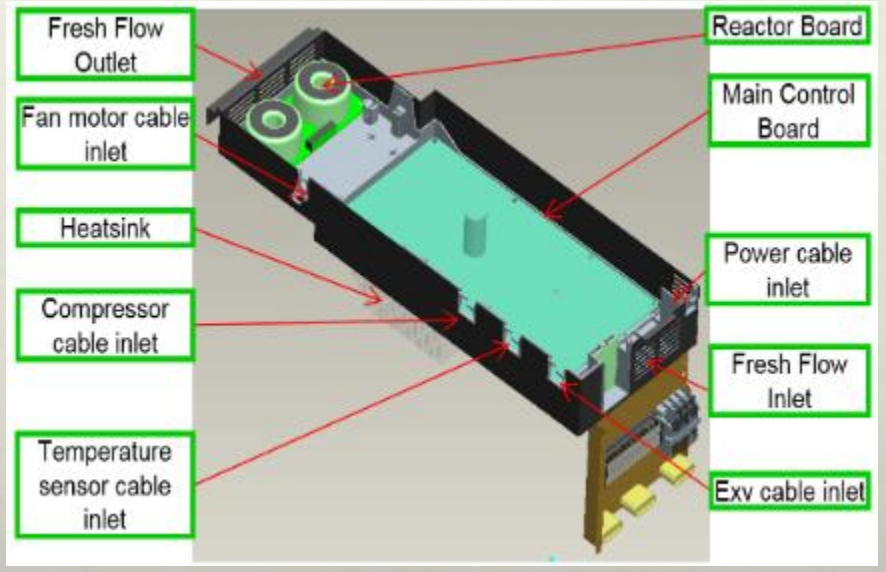


3, Integrated ODU PCBA leading to high efficiency and reliability

① Low standby power consumption design, which decreases the standby consumption from 20W to lower than 5W compared to last generation product.

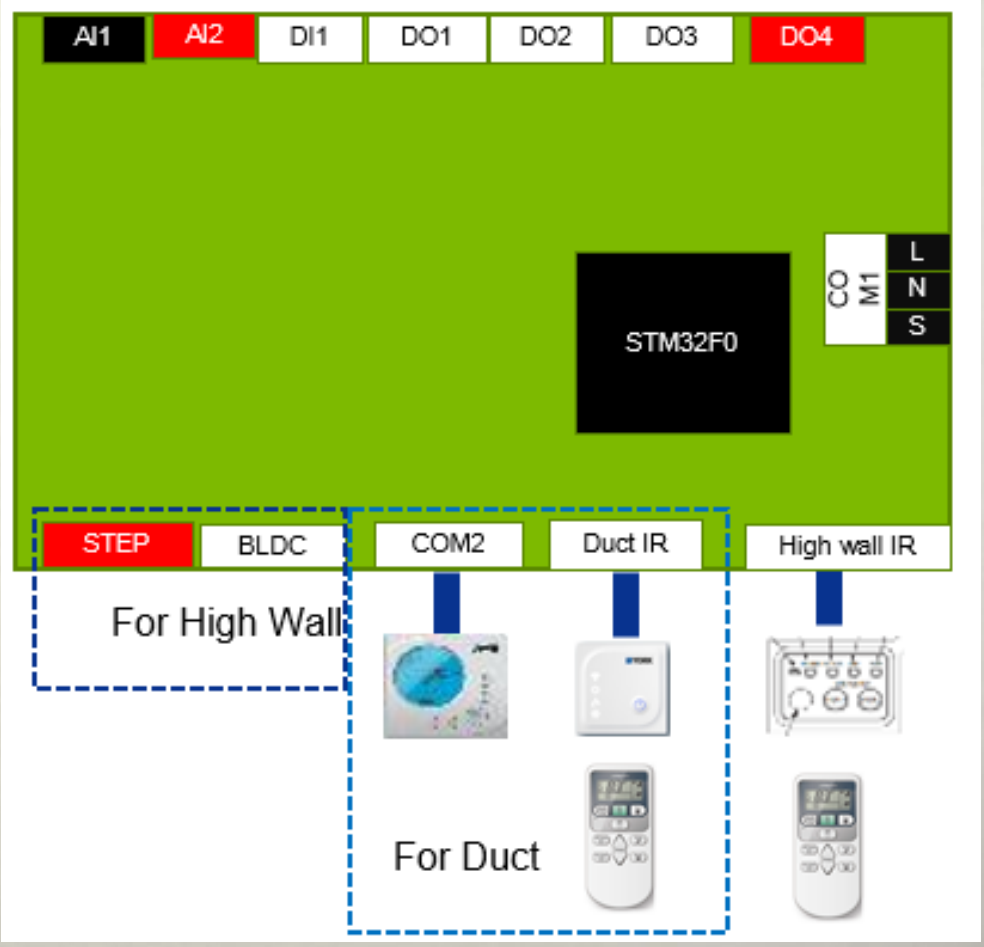
② Except the functions for service (display and button for service), the other functions are integrated in one control board. It can improve reliability by decreasing the wires between the control.

③ Single control chip design, it drives the power factor correction, compressor and fan motors by one High-performance DSP, which can realize the rapid response and high reliability.



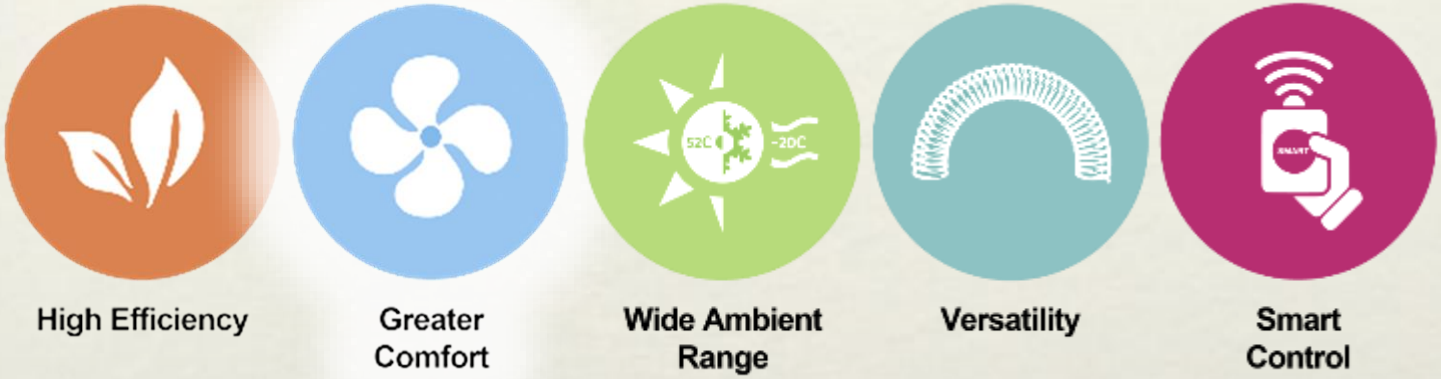
3, Integrated IDU PCBA leading to high efficiency and reliability

Special high-performance double layer PCBA is designed for multi-pipe IDU, all indoor functions are integrated into one PCBA, which can decrease the PCB size and avoid other redundancy design as multi-pipe IDU characters. Thus it can run simply and efficiently.



Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Key Features – Greater Comfort



Offers you greater noise reduction technology
More comfortable in air-condition running

Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Key Features – Greater Comfort

10 treatments for noise reduction

Low noise DC inverter compressor

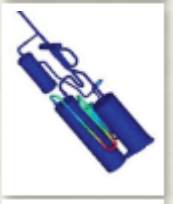
BLDC fan motor

20mm compressor insulation cotton

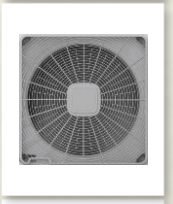
Anti-vibration pad of compressor

Anti-vibration pad of fan motor

Low noise fan

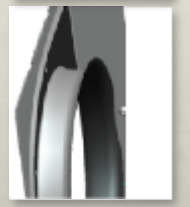


Anti-vibration piping design



Special designed fan grille

Anti-vibration & sound insulation of sheet metal



Package type fan guide

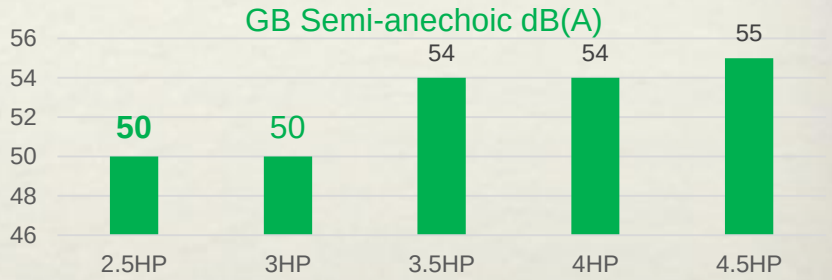
Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Key Features – Greater Comfort

Quiet operation and noise quality improvement

Capacity priority mode (standard)

The system will be running per capacity requirement; meanwhile both compressor and fan speed will be adjusted to lower the noise.



Indoor Noise Quality Improvement

New type multi pipe system design, the electric expanded valve was transferred from indoor unit to outdoor unit, which can decrease the flow noise of refrigerant in IDU and improve noise quality for better user experience.

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Key Features – Wide Ambient Range

Live comfortably even when temperatures hit 48ºC or -15ºC

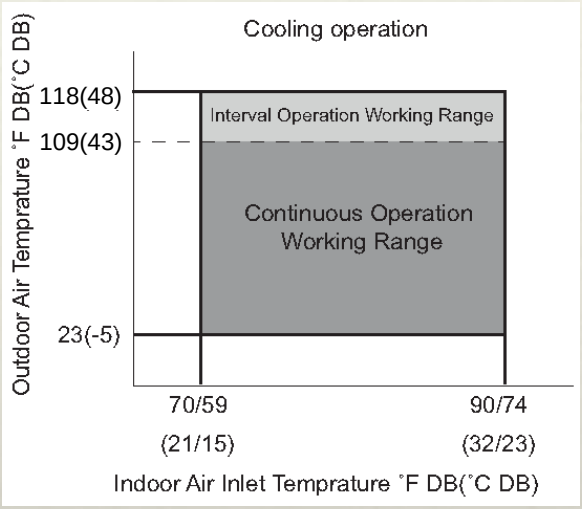
Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

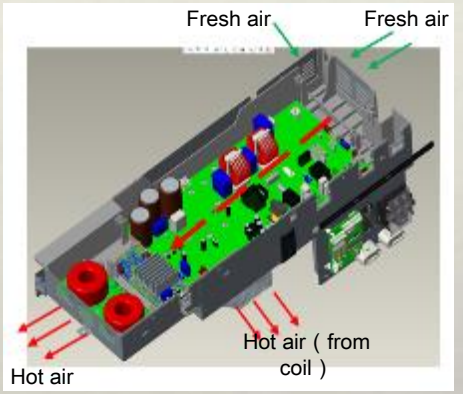
Key Features – Wide Ambient Range

Up to 48ºC ambient for cooling running

- Up to 43ºC stable running
- Up to 48ºC interval running

Special fresh air intake and trapezoid heat sink design are adopted for inverter driver which improves heat emission and allows the system to be running stably under high ambient conditions.

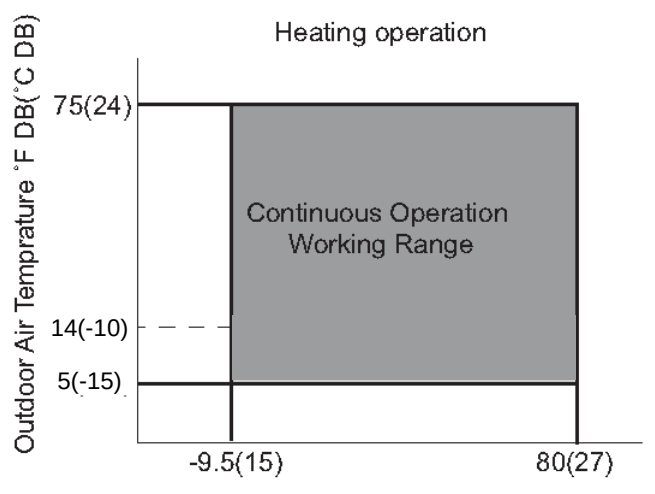




As low as -15ºC ambient for heating running

- As low as -15ºC interval running

Special 3-row coil design (3.5/4.0/4.5HP) and larger area of coil enhance heating capability, these enables heating as low as -15ºC ambient condition even in cold regions.



Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Key Features – Versatility

Adapt to all kind of installation condition

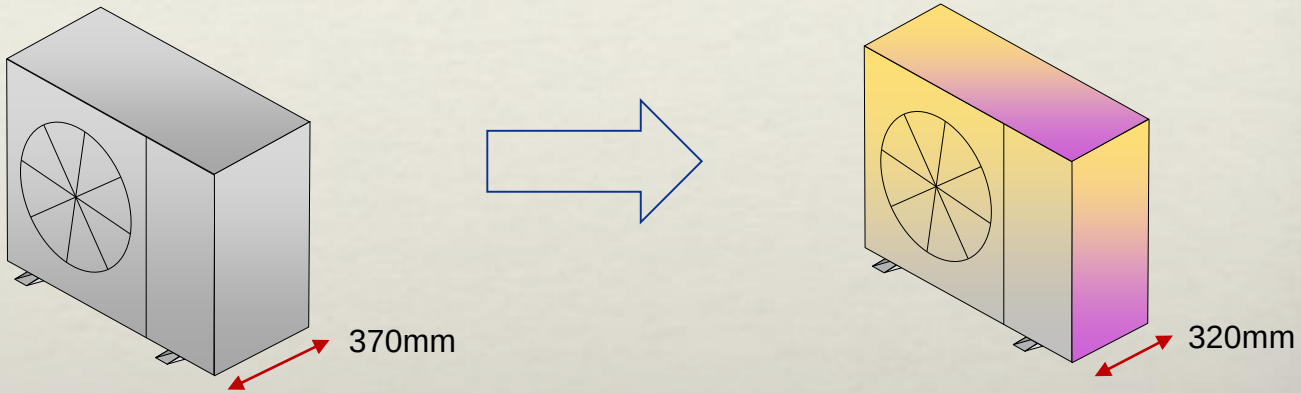
Convenient to maintenance and sales

More slim cabinet and smaller footprint

- The footprint area of the new model (4HP) is 13.5% smaller than previous Single Pipe VRF products (4HP) .
- With a depth of only 320mm, the new model could enlarge air circulation spaces in a given installation condition, thus the ventilation condition will be better.
- Save space for user and more freedom to designer, and easy installation

Previous Single Pipe VRF

HNTQ Series Product



Design for convenient installation and service

Multi-pipe air conditioner provides greater convenience for installation and service:

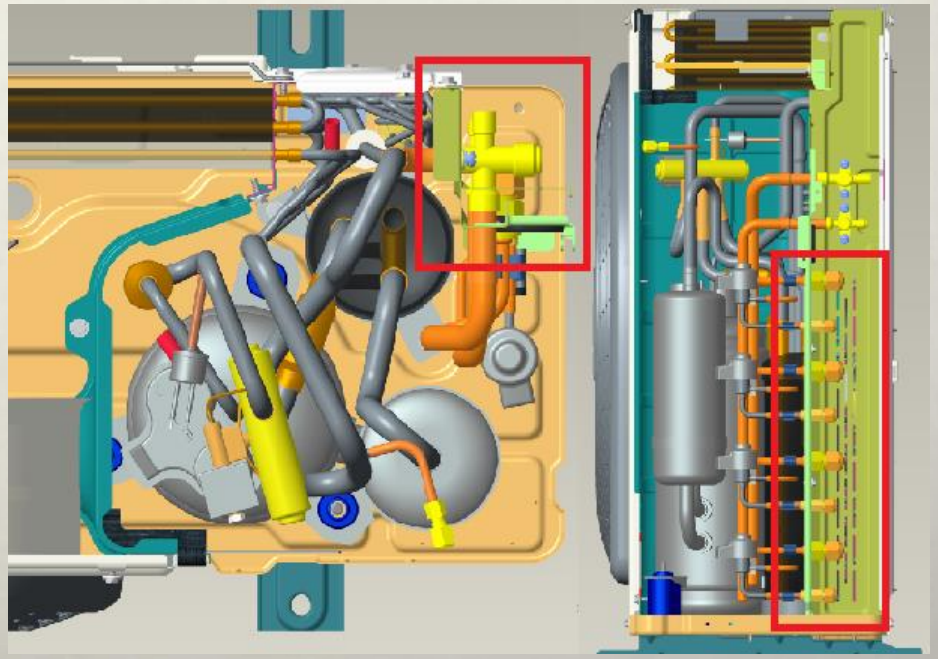
i. Pipes are connected without welding. This saves installation cost and helps to avoid welding in places where welding is difficult to perform.

ii. All the connections are on the rear side of the case. This helps to install it in smaller space.

iii. The main stop valve is designed in such a way to facilitate easy vacuum operation.

iv. No need additional refrigerant charge as below condition:

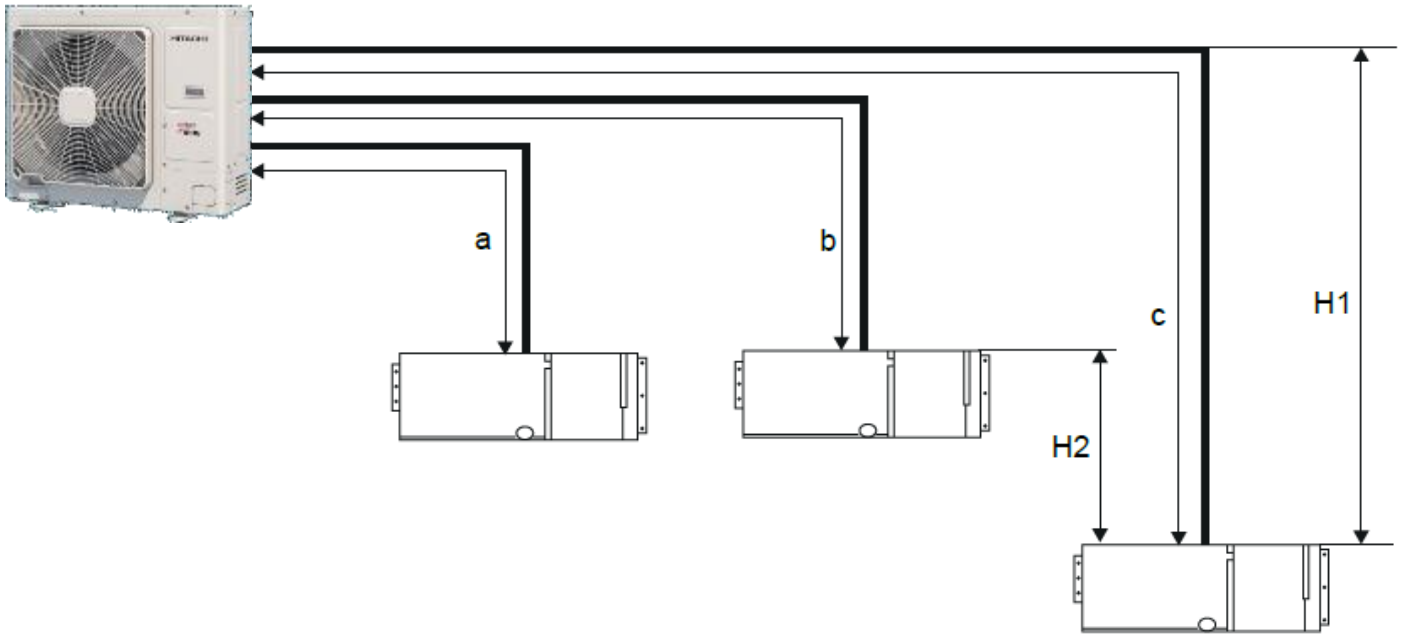
Outdoor Unit (HP)	Total Piping Length
2.5/3.0	≤30m
3.5/4.0/4.5	≤40m



Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Key Features – Versatility

Long piping length and high height difference



Capacity of outdoor unit (HP)			2.5HP/3.0HP
Maximum allowable connecting pipe length	Maximum connecting pipe length = a+b+c (Between indoor unit and outdoor unit)	Maximum pipe length = c	25
		Total pipe length = a+b+c	60
Maximum height fall	Maximum height fall = H1 (Between indoor unit and outdoor unit)		7.5
	Maximum height fall = H2 (Between indoor unit and indoor unit)		5

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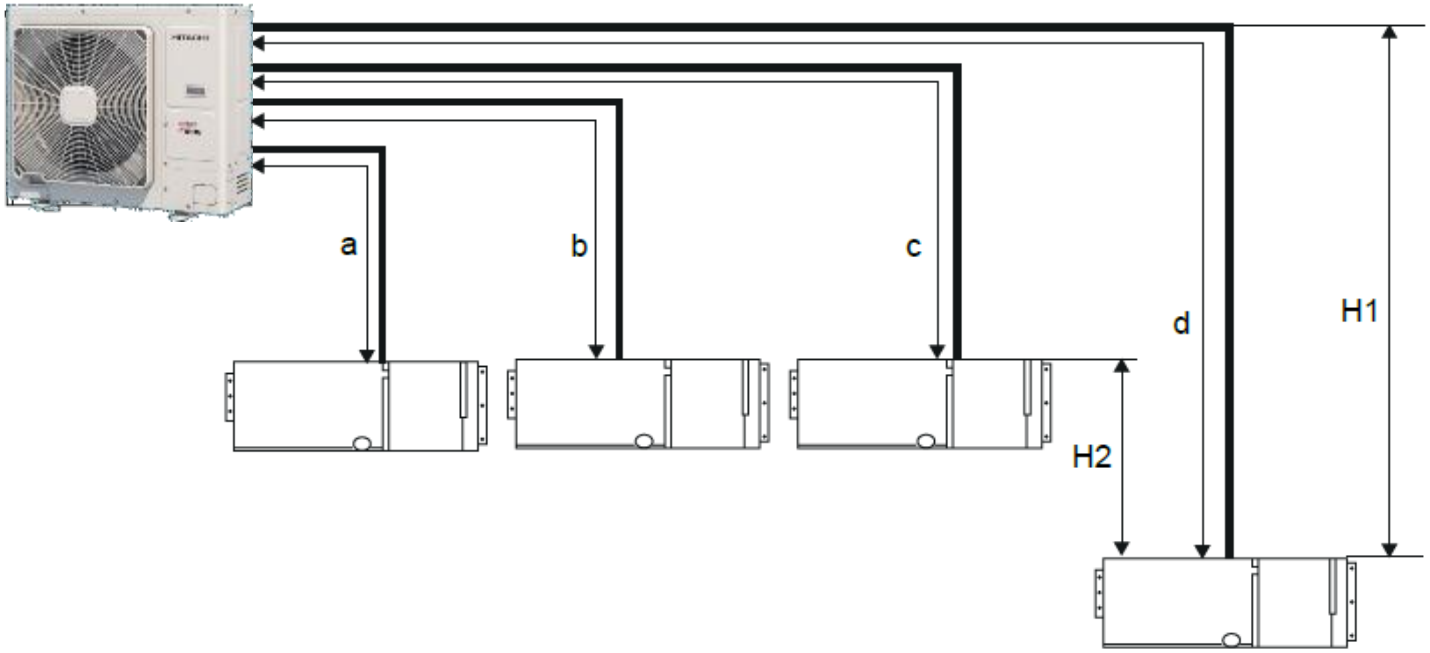
Key Features – Versatility

Long piping length and high height difference



Capacity of outdoor unit (HP)			3.5HP/4.0HP/4.5HP
Maximum allowable connecting pipe length	Maximum connecting pipe length (Between indoor unit and outdoor unit) a+b+c+d	Maximum pipe length=d	25
		Total pipe length = a+b+c + d	80
Maximum height fall	Maximum height fall = H1 (Between indoor unit and outdoor unit)		10
	Maximum height fall = H2 (Between indoor unit and indoor unit)		7.5

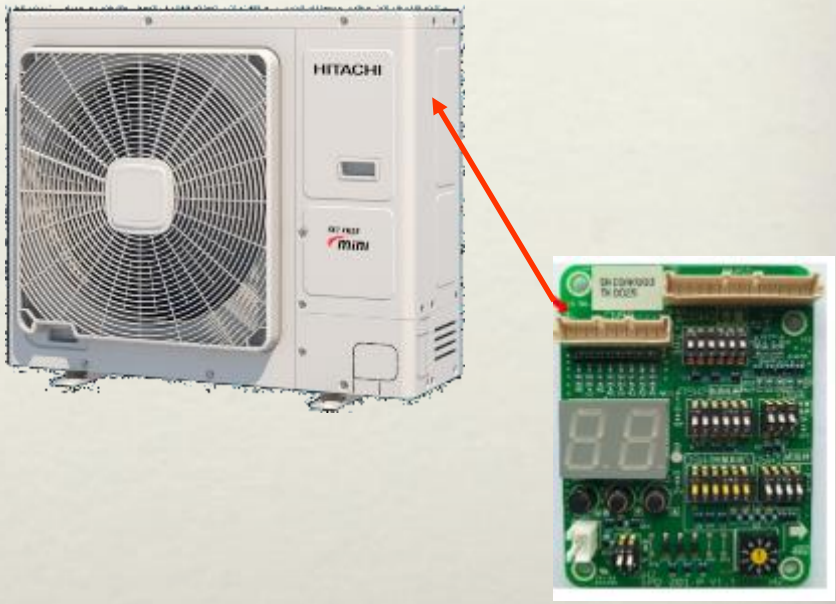
User-friendly service board for easier test and diagnostic

User-friendly service board with dial code switch and push button is designed for easier test and diagnostic.

The service board is in front of the outdoor unit control. It's convenient to setting.

The functions as follows:

① Monitor the real-time running status.
② Display the fault code for diagnostic.
③ Check the historical fault information.
④ Optimize control parameters based on the installation field condition.



Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Key Features – Smart Control

Step into the future with our comprehensive suite of control solutions

Wired controller for selection

- Key-board type wired controller is available for ducted indoor units with attractive appearance and all kind of function design
- Main Function：

  On/Off Switch
  Running Mode Setting
  Temperature Setting
  Fan speed Setting
  Louver Setting
  Timer Setting
  Lock Function Setting
  Room/Set Temp Display
  Sleep Mode Switch
  Parameter Setting
  Fault Query Function

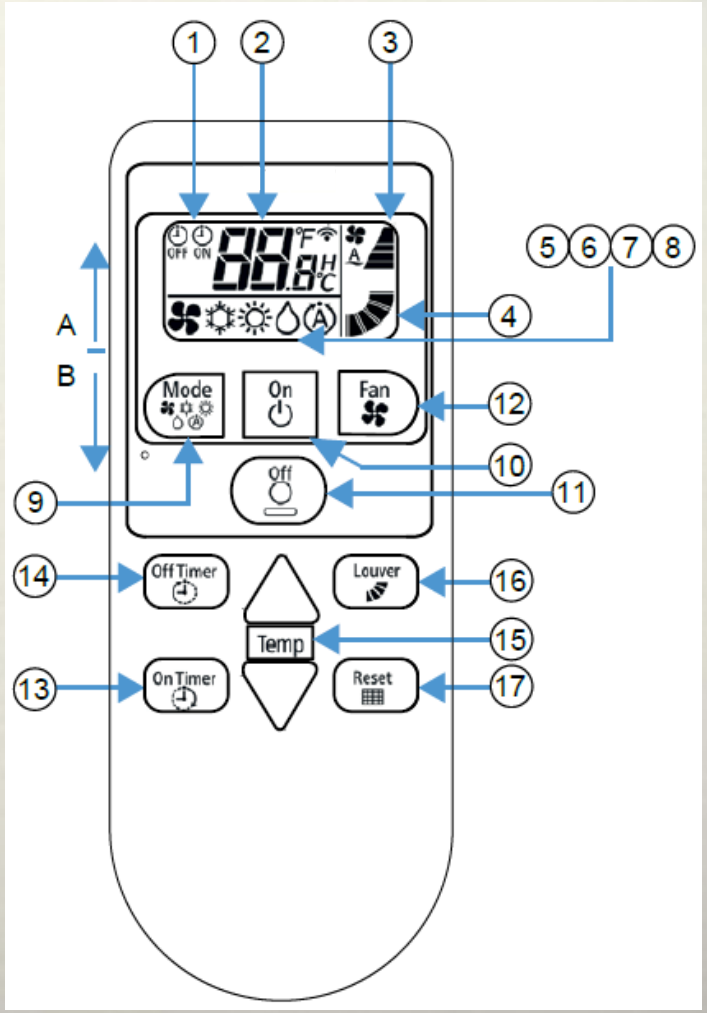
Hitachi HNTQ Series DC Inverter Multi Pipe Air-conditioner

Key Features – Smart Control

Wireless controller for selection

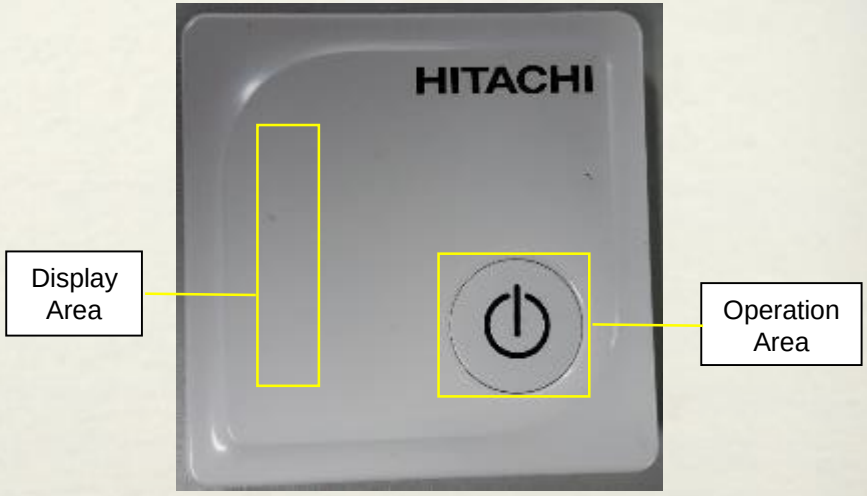
- Wireless controller is available for ducted and high wall indoor units with attractive appearance and basic function design

A Liquid Displays		B Functional Buttons	
①	Timer on/off	⑨	Mode
②	Temperature setting	⑩	Turn on
③	Fan speed	⑪	Turn off
④	Angle of air deflector	⑫	Air speed
⑤	Ventilation	⑬	Timer on
⑥	Cooling	⑭	Timer off
⑦	Heating	⑮	Room temperature
⑧	Dehumidifying	⑯	Louver direction
		⑰	Reset



Wireless Infrared Receiver for selection

- Receive commands sent from wireless controller and transfer them to indoor unit.
- Its build-in temperature sensor can be selected as indoor ambient temperature when indoor unit is running.
- Display running mode, parameter value and alarm code of indoor unit.
- The key can be used as a controller, user can start or stop the unit and change running mode through it.



Area	Icon	Function
Display Area		Power
		Cool
		Heat
		Dehumidify
Operation Area		ON/OFF (Cool/Heat/Fan)