Outdoor units

Our new advanced technology has high efficiency, strong heating and long piping. This contributes to the environmental protection through energy saving and permits installation of the units (4~6HP) considering a heating operation under temperature conditions down to -20˚C. The Standard Inverter series offer optimised efficiency at a reasonable cost.

Line up

HP	1.5	2	2.5	3	3.5	4	5	6	8	10	12
Hyper Inverter	●	●	●	●	–	●	●	●	–	–	–
Micro Inverter	–	–	–	–	–	●	●	●	●	●	●
Standard Inverter	–	–	–	●	●	●	●	–	–	–	–

Hyper Inverter

R32

SRC40ZSX-W1 (1.5HP)
SRC50ZSX-W2 (2.0HP)
SRC60ZSX-W1 (2.5HP)

R32

FDC71VNX-W (3.0HP)

R32

FDC100VNX/VSX-W (4.0HP)
FDC125VNX/VSX-W (5.0HP)
FDC140VNX/VSX-W (6.0HP)

R410A

SRC40ZSX-S (1.5HP)
SRC50ZSX-S (2.0HP)
SRC60ZSX-S (2.5HP)

R410A

FDC71VNX (3.0HP)

R410A

FDC100VNX/VSX (4.0HP)
FDC125VNX/VSX (5.0HP)
FDC140VNX/VSX (6.0HP)

Micro Inverter

R32

FDC100VNA-W/VSA-W (4.0HP)
FDC125VNA-W/VSA-W (5.0HP)
FDC140VNA-W/VSA-W (6.0HP)

New

R32

FDC200VSA-W (8.0HP)
FDC250VSA-W (10.0HP)
FDC280VSA-W (12.0HP)

R410A

FDC100VNA/VSA (4.0HP)
FDC125VNA/VSA (5.0HP)
FDC140VNA/VSA (6.0HP)

R410A

FDC200VSA (8.0HP)

R410A

FDC250VSA (10.0HP)

Standard Inverter

R32

FDC71VNP-W (3.0HP)

R32

FDC90VNP-W (3.5HP)
FDC100VNP-W (4.0HP)

New

R32

FDC125VNP-W (5.0HP)

R410A

FDC71VNP (3.0HP)

R410A

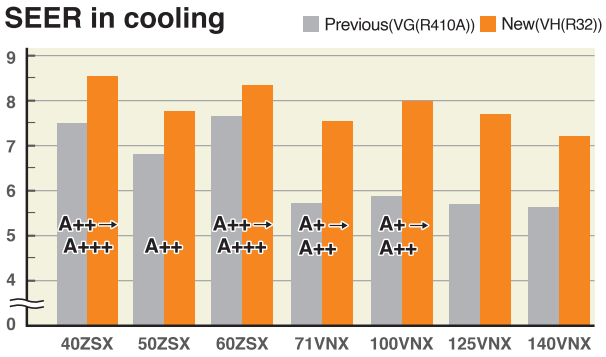
FDC90VNP1 (3.5HP)

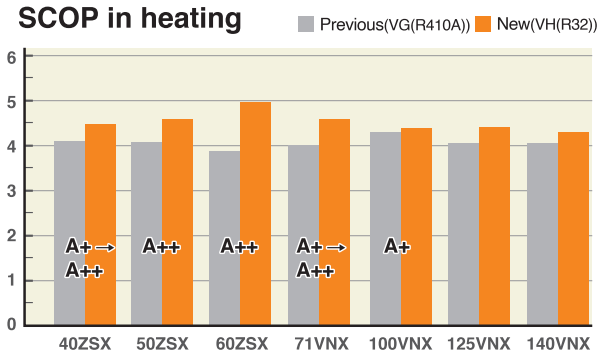
R410A

FDC100VNP (4.0HP)

High Efficiency

Outdoor units high efficiency levels are achieved thanks to our latest technologies, such as high efficient twin rotary compressors.





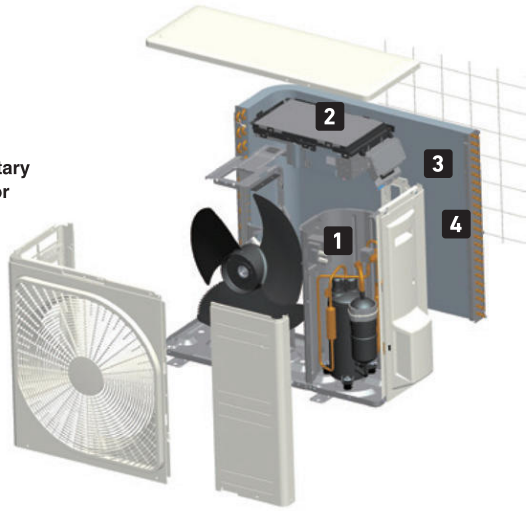
· In case of ceiling cassette 4way unit.

Our Latest Technologies

1 High efficiency performance on the DC twin rotary compressors

Adoption of DC twin rotary compressor has enabled to utilize a high-speed range of up to 120 rps at the maximum to secure the required capacity.

DC twin rotary compressor



2 Vector inverter control

Optimum compressor control has been realized by employing the vector control* and the starting current has been improved significantly compared with former models. Moreover, vibration has been reduced.

* Vector control means a technique to realize an optimum control by converting the current wave to a smooth sinusoidal waveform

Better partial load efficiency

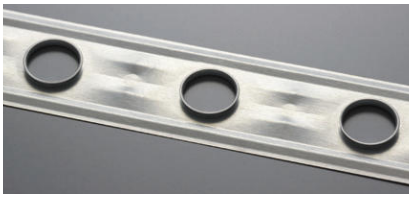
Distributed winding motor

Centralized winding motor

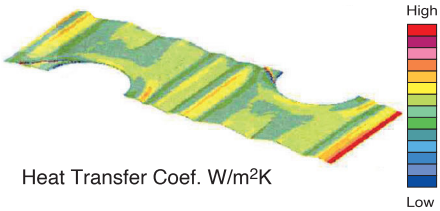
* only R32 models

3 Heat exchanger

Thanks to changing fin configuration from flat sheet to M shape fin. This high dimensional structure provides optimum balance of heat transfer and airflow.

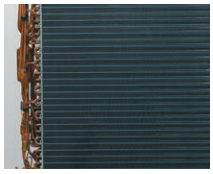


sectional structure



4 Blue fin

Due to application of blue coated fins (KS101) on the heat exchanger of the new outdoor unit, corrosion resistance has been improved compared to previous models.



Blue Fin

Hyper Inverter	3~6HP
Micro Inverter	4~12HP
Standard Inverter	3.5~5HP

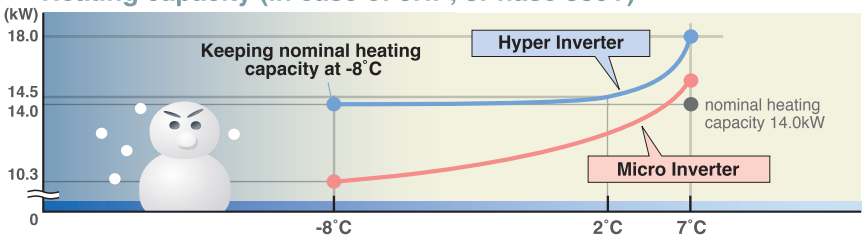
Leading Powerful Heating Capacity

Hyper Inverter

The maximum heating capacity can be increased by:
- optimizing the refrigerant control and use of the electric expansion valve
- Utilization of the twin rotary compressors
- Nominal heating capacity can be reached when outdoor temperature is -8°C
- Also effective to be used in cold areas

Temperature of supply air can reach 40˚C in 4 minutes after start up under low temperature operation conditions (at both indoor and outdoor temperature of 2˚C) and can reach 50˚C in 8 minutes after that.

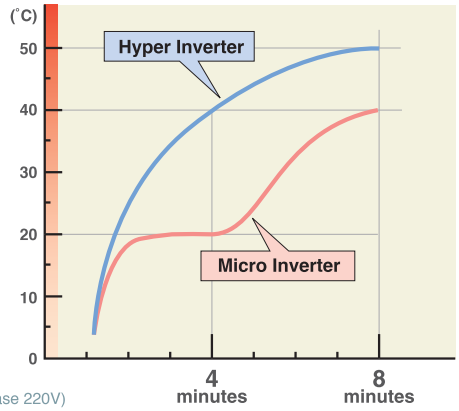
Heating capacity (in case of 5HP, 3Phase 380V)



model name	nominal heating capacity (kW at outdoor temperature of 7˚C)	heating capacity at outdoor temperature of -8˚C
FDC100VSX(4HP, 3Phase 380V)	11.2kW	11.2kW
FDC125VSX(5HP, 3Phase 380V)	14.0kW	14.0kW
FDC140VSX(6HP, 3Phase 380V)	16.0kW	16.0kW

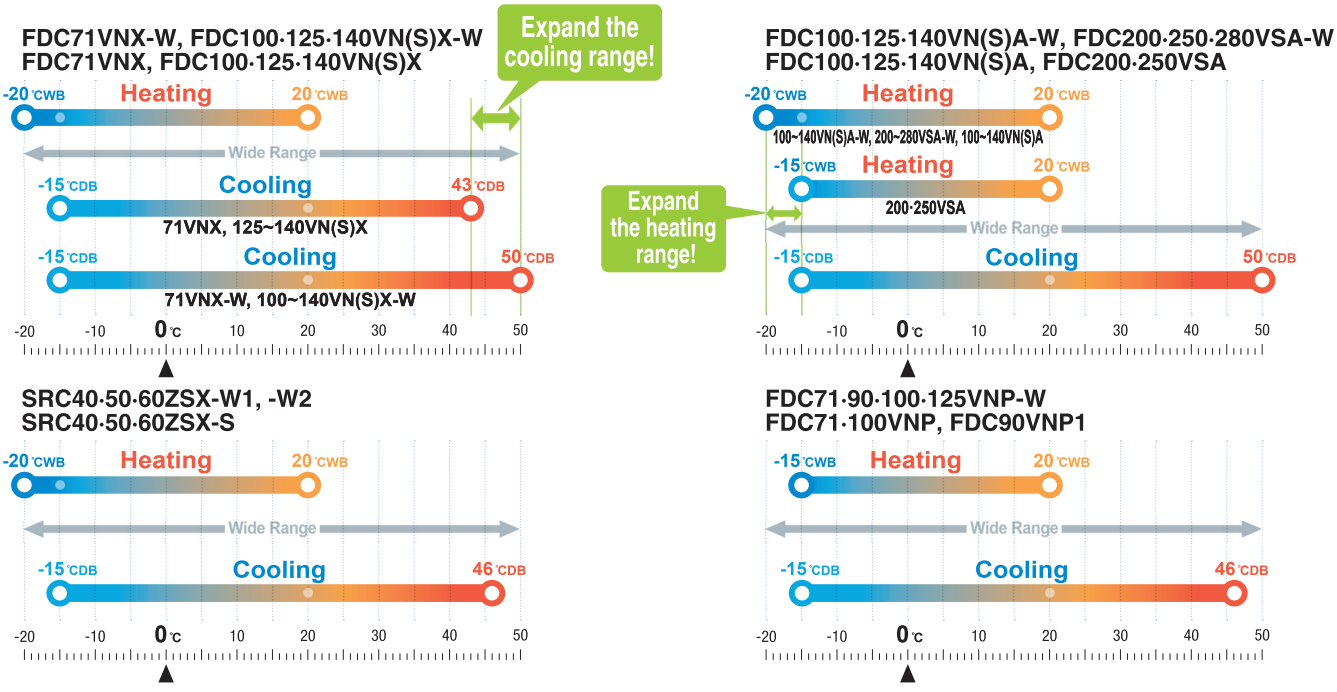
Please refer to our technical manual for installation conditions, operation range and heating/cooling capacities. (including 1Phase 220V)

Heating capacity



Wide Range of Operation

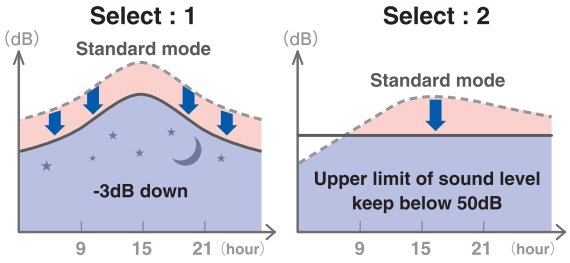
Our new advanced technology has expanded the heating and cooling operation range.This permits installation of the units under a low outdoor temperature conditions down to -15˚C/-20˚C In heating operation and -15˚C in cooling operation.

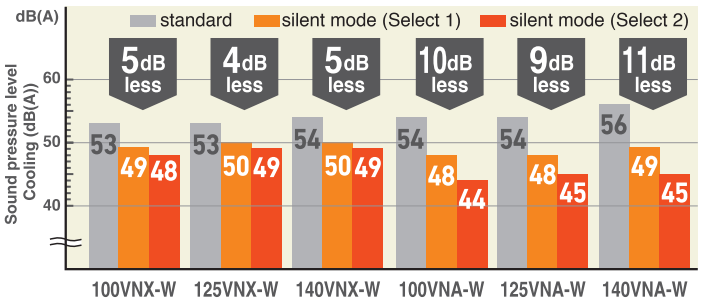


Silent Mode Operation

Hyper / Micro Inverter

Improved “silent mode” is possible, in two steps. ※ Applied on 4-6HP, 8-12HP(R32)

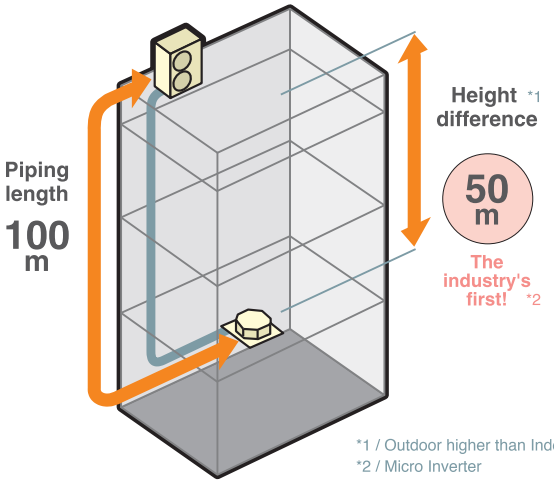




Installation Workability

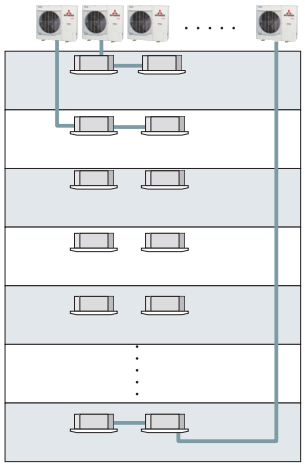
Enhanced installation workability thanks to the extended pipe length – longest level in the industry and precharged refrigerant.

Long piping (in case of Hyper 4~6HP)



*1 / Outdoor higher than Indoor
*2 / Micro Inverter

Wider variation of installation!



Refrigerant precharged piping length extending to 30m

Refrigerant precharged piping length extends up to 30m. This eliminates the need to add refrigerant on site, which sets it free from trouble of excessive or insufficient charging of refrigerant, and allows carrying out the installation smoothly. • Hyper inverter 1.5~2.5HP and Standard Inverter are up to 15m.

Hyper Inverter

HP	Piping length	Height difference
1.5 ~ 2.5	30m	20m
3	50m	30m
4~6(R32)	100m	50m
4~6(R410A)	100m	30m

Micro Inverter

HP	Piping length	Height difference
4 ~ 6	50m	50m *3
8~10(R32)	70m	50m *4
8·10(R410A)	70m	30m
12	60m	50m *4

*3 When the outdoor unit is installed at a position higher than the indoor unit by 30m or more, set SW5-2 on the control PCB to ON.
*4 In case of following conditions:Max.50m(Outdoor unit is higher & Outdoor temperature ≦ 43°C), Max.30m(Outdoor unit is higher & Outdoor temperature > 43°C)

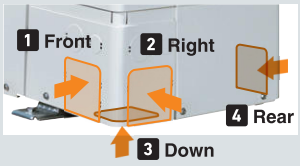
Standard Inverter

HP	Piping length	Height difference
3 ~ 5	30m	20m

Serviceability

Micro Inverter (8(R32)·10·12HP)

Improved freedom of piping layout

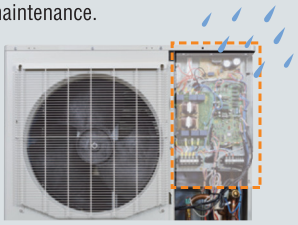


Hole size becomes 120% bigger.

Wire insertion holes for fall prevention

A transparent rain cover

Attached as a standard for easy maintenance.



2 Layer Construction

Thanks to control box structure with 2 layer construction using hinge connection, service and maintenance has been made much easier for inverter components.

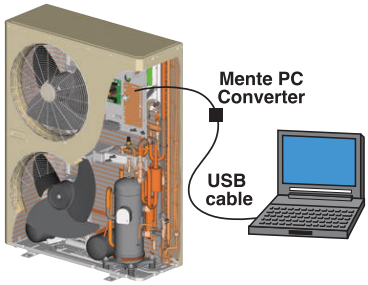
Fixing screws to service panel

Decreasing number of screws from 5 to 2, installation & service speed is improved.

Monitoring Function

All outdoor units

To your PC monitoring and service tasks made simple with our service software (“Mente PC”).



Base heater kit (Option)

This kit is recommended to be used in an area where the lowest temperature drops below 0°C.

CW-H-E1

Easy Transportation & Installation

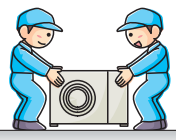
Compact design of outdoor units.

Standard Inverter

FDC100VNP-W
• Compact model
• Reduction of weight

Fits into elevators

Eazy installation

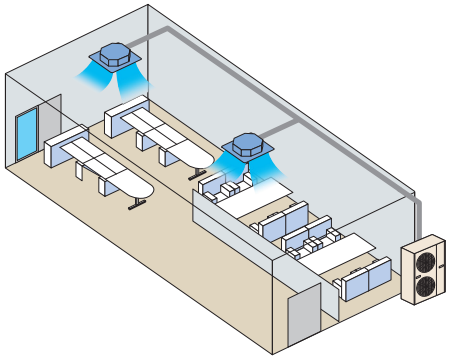


applied for

	R32	R410A
Hyper Inverter	FDC71VNX-W	FDC71VNX
	FDC100·125·140VNX-W	FDC100·125·140VNX
	FDC100·125·140VSX-W	FDC100·125·140VSX
Micro Inverter	FDC100·125·140VNA-W	FDC100·125·140VNA
	FDC100·125·140VSA-W	FDC100·125·140VSA
	FDC200·250·280VSA-W	FDC200·250·250VSA
Standard Inverter	—	FDC100VNP

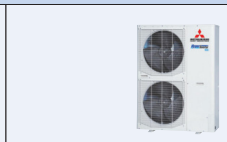
MULTI SYSTEM

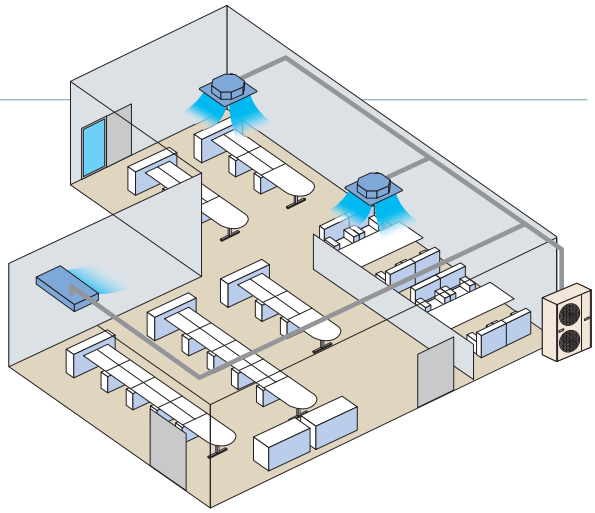
Twin / Triple / Double Twin Multi System



Up to four indoor units can be connected to a single outdoor unit and operated simultaneously with a single remote control.
By referring to the following table for applicable indoor units, select the same models and capacities.

Combination of indoor units

Outdoor Unit		Hyper Inverter				Micro Inverter						
										New 		
FDC	R32	71VNX-W	100VNX-W 100VSX-W	125VNX-W 125VSX-W	140VNX-W 140VSX-W	100VNA-W 100VSA-W	125VNA-W 125VSA-W	140VNA-W 140VSA-W	–	200VSA-W	250VSA-W	280VSA-W
	R410A	71VNX	100VNX 100VSX	125VNX 125VSX	140VNX 140VSX	100VNA 100VSA	125VNA 125VSA	140VNA 140VSA	200VSA	–	250VSA	–
Twin		40 + 40	50 + 50	60 + 60	71 + 71	50 + 50	60 + 60	71 + 71	100 + 100	100 + 100	125 + 125	140 + 140
Triple					50 + 50 + 50			50 + 50 + 50	71 + 71 + 71	71 + 71 + 71		
Double Twin									50+50+50+50	50+50+50+50	60+60+60+60	71+71+71+71



V Multi System

Ideal for the installation in large areas and L-shaped rooms, the V Multi System has an extensive degree of flexibility in the selection of indoor units. Specifically, the selection of indoor units with different capacities in different types can be made.

Combination of indoor units

Outdoor Unit		Hyper Inverter				Micro Inverter						
										New 		
FDC	R32	71VNX-W	100VNX-W 100VSX-W	125VNX-W 125VSX-W	140VNX-W 140VSX-W	100VNA-W 100VSA-W	125VNA-W 125VSA-W	140VNA-W 140VSA-W	–	200VSA-W	250VSA-W	280VSA-W
	R410A	71VNX	100VNX 100VSX	125VNX 125VSX	140VNX 140VSX	100VNA 100VSA	125VNA 125VSA	140VNA 140VSA	200VSA	–	250VSA	–
Twin		40 + 40	50 + 50	60 + 60 50 + 71	71 + 71	50 + 50	60 + 60 50 + 71	71 + 71	100 + 100 71 + 125	100 + 100 71 + 125	125 + 125	140 + 140
Triple					50 + 50 + 50			50 + 50 + 50	71 + 71 + 71	71 + 71 + 71	60+60+125 71+71+100	71+71+140
Double Twin									50+50+50+50	50+50+50+50	60+60+60+60	71+71+71+71

Applicable indoor units

Model		Capacity						
		40	50	60	71	100	125	140
Twin / Triple Double Twin Multi System	FDT	●	●	●	●	●	●	●
	FDTC	●	●	●				
	FDUM	●	●	●	●	●	●	●
	SRK		●*1	●*1	●*2	●		

Model		Capacity						
		40	50	60	71	100	125	140
Twin / Triple Double Twin Multi System	FDE	●	●	●	●	●	●	●
	FDF				●	●	●	●
V Multi System	FDT	●	●	●	●	●	●	●
	FDE	●	●	●	●	●	●	●

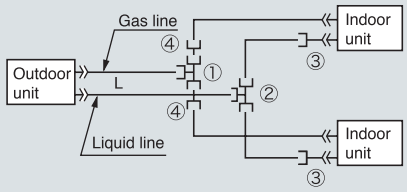
* 1 Hyper Inverter model & Micro Inverter -W model only.
* 2 Micro Inverter -W model combination only.

Choice of piping specification

Diagrams below show the application as samples. For further information, refer to TECHNICAL MANUAL.

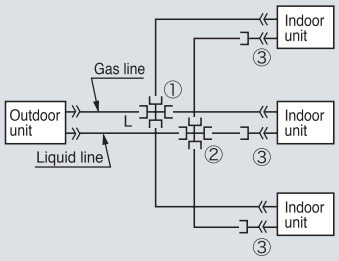
Twin type

Models FDC71, FDC100~140, FDC200, FDC250, FDC280
[Branch pipe set : DIS-WA1G, DIS-WB1G]



Triple type

Model FDC140, FDC200
[Branch pipe set : DIS-TA1G, DIS-TB1G]



The indoor_outdoor piping length differences among indoor units are less than 3m.

Chart of shapes of branch piping parts

Branching pipe set type	Outdoor unit	Indoor unit combinations	Symbol: Branching pipe set for a gas pipe	Symbol: Branching pipe set for a liquid pipe	Symbol: Different diameter pipe joint
DIS-WA1G (Two-way branching set)	FDC71	40+40	① ID15.88 — 1 piece — ID15.88 / ID15.88	② ID9.52 — 1 piece — ID9.52 / ID9.52	③ Joint A: ID9.52 — 2 pieces Flare Joint (for indoor unit side connection) ④ Joint B: OD15.88 — 2 pieces ID12.7
	FDC100	50+50			
		40+60			
	FDC125	60+60			
		50+71			
	FDC140	71+71			
		50+100			
DIS-WB1G (Two-way branching set)	FDC200	100+100	① ID15.88 — 1 piece — ID25.4 / ID15.88	② ID9.52 — 1 piece — ID12.7 / ID9.52	④ Joint C: OD12.7 — 1 piece ID9.52
		71+125			
	FDC250 FDC280	125+125 140+140			
DIS-TA1G (Three-way branching set)	FDC140	50+50+50	① ID12.7 — 1 piece — ID15.88	② ID9.52 — 1 piece — ID9.52	③ Joint A: ID9.52 — 3 pieces Flare Joint (for indoor unit side connection)
DIS-TB1G (Three-way branching set)	FDC200	71+71+71	① ID15.88 — 1 piece — ID25.4	② ID9.52 — 1 piece — ID9.52	③ Joint A: ID9.52 — 2 pieces Flare joint(for indoor unit side connection) Joint B: OD15.88 — 1 piece ID12.7 Joint D: ID12.7 — 1 piece OD9.52

Symbol ① to ④ in the drawing shows the symbols of branch piping parts in the chart respectively.

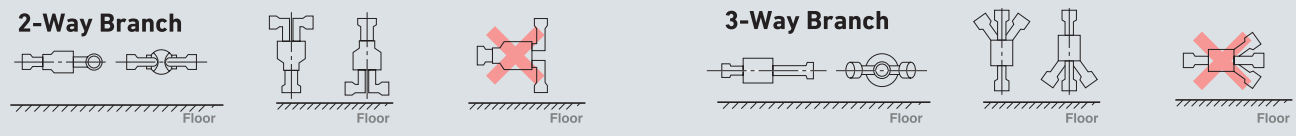
Branch piping should always be arranged to have level or perpendicular position.

Notes

(1)When 40-60 models of indoor units are applied to this combination, the reducer ③ supplied with the branch piping set should be used in order to reduce the liquid piping size from ø9.52mm to ø6.35mm at indoor unit side (flare connection). Accordingly be sure to select the liquid piping size ø9.52mm from branch to indoor unit.
(2)The reducer ④ is for FDC71 and 100 models only.

ID stands for inner diameter and OD, outer diameter.

The branch piping (both gas and liquid lines) should always be arranged to have a level or perpendicular position.



Mount —·— sections level with the floor.

Mount —·— sections perpendicular to the floor.