DC Inverter can attain both comfort a

Flexi System Series

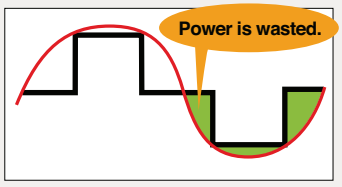
Energy-saving operation

All the models of Panasonic FS Inverter Series are equipped with DC inverters for the higher EER operation.
The new design attains quiet and high-efficient operation and reduces the running cost.

Hyper Wave Inverter

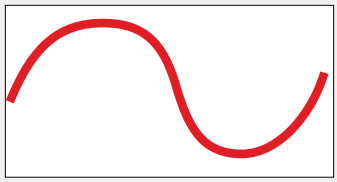
The Panasonic group's experiences and actual results in the development of inverters are realised in the control. This control of the inverter demonstrates the maximum compressor torque.
The FS series quickly warms the room up to the set temperature and maintains a comfortable condition, whilst ensuring energy efficiency and savings.

Our conventional inverter



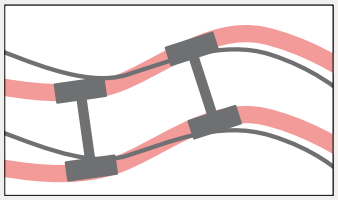
The current waveform deviates from the motor voltage waveform, so power is wasted.

Hyper Wave Inverter

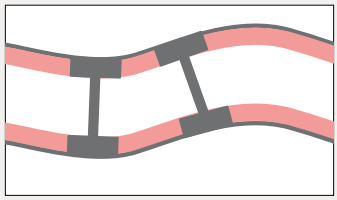


The current waveform closely matches the motor voltage waveform, so power consumption is reduced.

Compare this to a car rounding a corner.



Power is wasted when the car swings off course.



When the car stays right on course, there's no power loss.

High-Efficiency Compressor

Using a powerful neodymium magnet for a motor allowed us to make the motor more compact. The winding rotor motor of less magnetic field distortion attains higher efficiency.

1. Hyper Wave Inverter
2. DC Inverter Compressor
3. New Large Diagonal Air Flow Fan

nd energy-saving operation

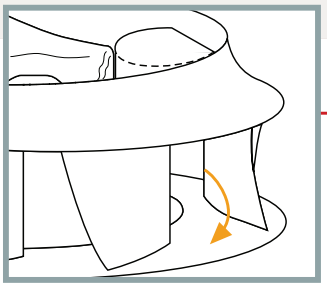
Advanced Turbo-Fan Efficiency

The cassette indoor unit is equipped with a newly-developed turbo fan; the new shape produces low noise and high air flow rate. In addition, the DC fan motor is able to give complete control, this is almost twice as efficient as a conventional motor and enables comfortable and energy saving operation.

The Advanced Air Path Design – Key to Efficiency.

Newly Designed Turbo Fan

1 The newly developed three-dimensional blade shape stabilises the air flow.



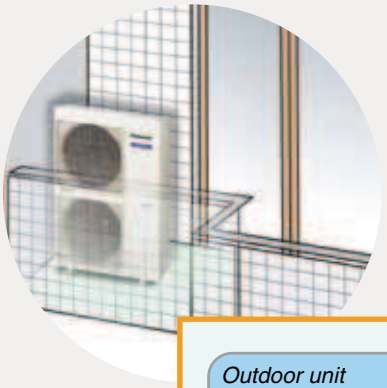
Both air inlet and outlet are improved.

2 Optimising layout of the indoor heat exchanger and the fan enables the increase in the fan diameter.

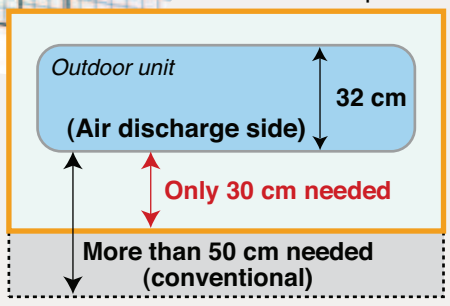
Space-saving design

Space-Saving Outdoor Unit

The improvement of the outdoor unit fan makes it possible to install the outdoor unit into a smaller space where the conventional model cannot be installed. Without sacrificing quietness, higher efficiency is also attained. More freedom in installation contributes to easy piping and facilitates installation. It will cut the installation cost.



Top view



The Sophisticated Air Path Design – Key to Compact Size.

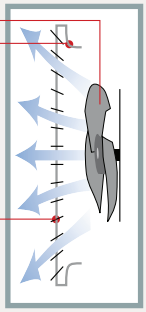
These three improvements minimise the air resistance.

1 New large diagonal air flow fan

The newly designed fan blades reduce the frontal discharge distance.

2 Improved front grille opening shape

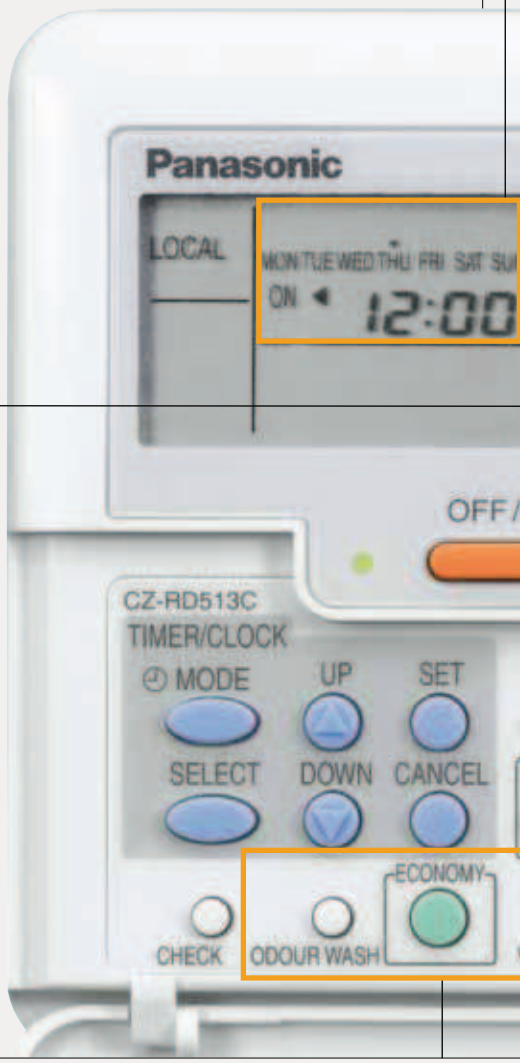
3 Improved front grille grid shape



Pursuing the Perfect Design – In Air Q

Comfort in every detail

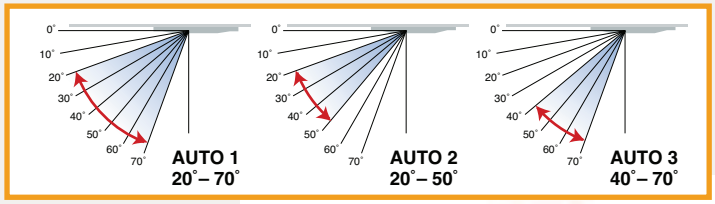
Panasonic's FS Series includes the knowledge of carefully designing for comfort. Careful consideration has been given to both air flow and air quality. A wired remote control is also available, which is equipped with a high-performance timer to program the operation mode to meet the requirements of each user.

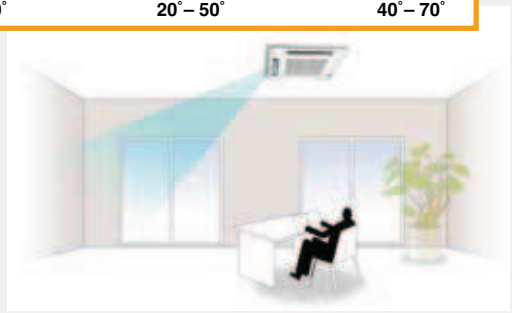


For cassette models

Multi Comfort Air Control

Newly developed control technology offers the various selection of fine air blowing angle. Select from the 3-pattern auto swings so as to not be exposed to the air directly (total 50-degree swing width).





Can be operated with the wireless remote control.

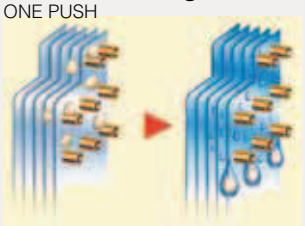
For all models

Odour Wash

Odour Wash reduces any unpleasant odours produced from the air conditioner's heat exchanger.

Dual-system of odour control

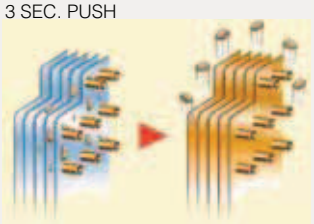
Odour Removing
ONE PUSH



When the air from the outlet smells musty. Moisture in the heat exchanger washes away odours.

Can be operated with the wireless remote control.

Odour Clear#
3 SEC. PUSH



When odours are strong, and before and after the air conditioning season. The heat exchanger heats up to clear odours.

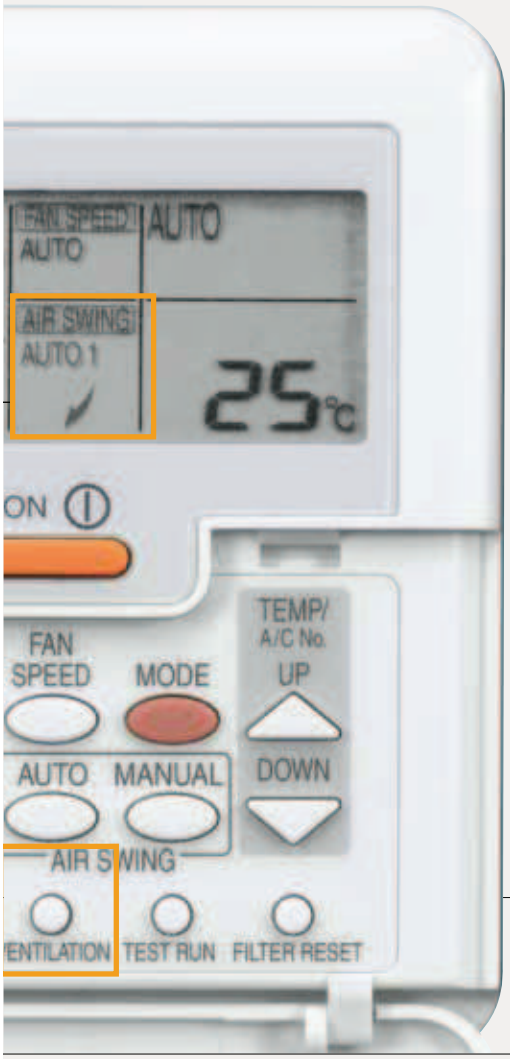
Applicable Models: Inverter Models Only

uality, Airflow, and Convenience

For all models

Weekly Timer

Weekly timer settings (each day of the week) are available to control the air conditioner. Max. 6 settings/day and 42 settings/week can be executed. The setting temperature can be also programmed for optimal comfort.



Set like this for these uses

Shop with regular holidays	The number of persons varies depending on time zones.	Not to forget to switch OFF
Example: Closed Saturday afternoon and all day Sunday. **Mon-Fri On 9:00, Off 18:00** **Sat On 9:00, Off 12:00** **Sun Not set** ➡ **The timer can have different settings for every day of the week.**	Example: Set a lower temperature at lunch time when a lot of persons may visit. **Everyday** **On 12:00 23°C** **On 14:00 28°C** ➡ **In this case, the temperature can be set at the same time.**	Example: To prevent forgetting to switch OFF weekdays **Mon-Fri** **Off 20:00** ➡ **The timer can be set for simple shut-off operation.**

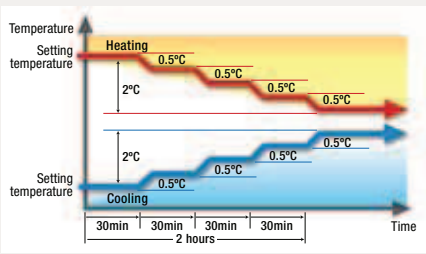
How to set

***Simple Timer Mode**
Using the 24-hour On/Off timer, the operation of On/Off can be set at a same time everyday.

For all models

Economy Mode

An approximate 20%* energy-saving operation is attained. The air conditioner judges the stable condition and moderately shifts the set temperature in 0.5-degree steps to control the energy-saving operation. (Max. 2 degrees)



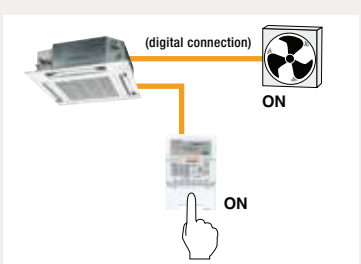
* During operating in the cooling mode at the remote control set temperature of 25° under the cooling standard temperature conditions.

Can be operated with the wireless remote control.

For all models

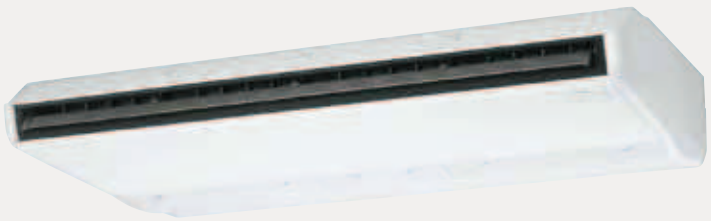
Ventilation

When an external device such as a ventilator is connected to the indoor unit, the ON/OFF switch for the ventilator can be controlled by the wired remote control. Either link-ventilation or independent-ventilation is selectable.



Ventilators are not included in the product line.
Optional printed circuit board (Interface Adapter for External Signals: CZ-TA30P*) is needed.

Ceiling - Suspended



Selectable Remote Control

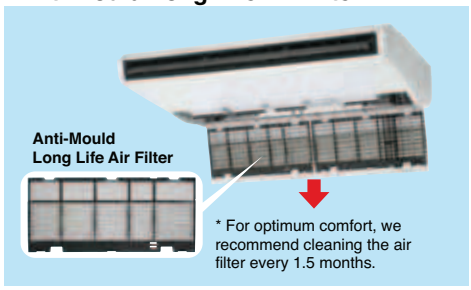
* Customer needs to choose either wired or wireless.

Wired Remote Control

Wireless Remote Control

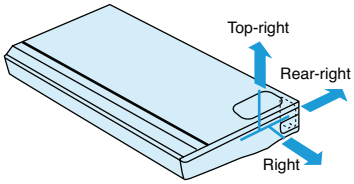
Easier Maintenance and Cleaning

• Anti-Mould Long Life Air Filter



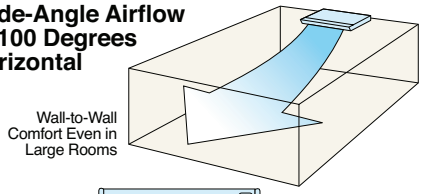
• 3-Direction Pipe Lead-Out

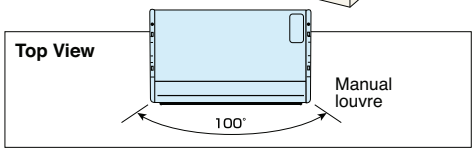
The refrigerant piping can be lead out in one of three directions (right, rear-right and top-right), and the drain pipe direction can be selected from four directions.



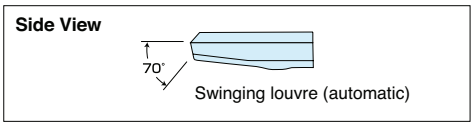
Wide Air Discharge, Comfortable Control

• Wide-Angle Airflow — 100 Degrees Horizontal





• Auto Swing Louvre



Versatile Functions

- **Auto Restart Function**
- **Auto Fan Mode**
- **Weekly Timer** (Wired Remote Controller only)
- **24-Hour On/Off Real Setting Timer**
- **Odour Wash**
- **Economy Mode**
- **Low Ambient Cooling Operation**
  *See page 11 for details.
- **Auto Changeover Function**
- **Dry Mode Function**
- **Hot Start Control**
- **Self-Diagnostic Function**

Specifications | Ceiling Models

INVERTER

Items / Indoor / Outdoor	Cooling Capacity (min-max)	Heating Capacity (min-max)	Power Source	Power Input Cooling / Heating	EER / COP Cooling / Heating	Air Volume Cooling / Heating	Noise Level: Sound Pressure Level Indoor (Hi/Lo)	Noise Level: Sound Pressure Level Outdoor (Hi) Cooling / Heating	Noise Level: Sound Power Level Indoor (Hi) Cooling / Heating	Noise Level: Sound Power Level Outdoor (Hi) Cooling / Heating	Dimensions Indoor (H W D)	Dimensions Outdoor (H W D)	Net Weight Indoor	Net Weight Outdoor	Piping Connection Gas Side	Piping Connection Liquid Side	Pipe Length Max. Length	Pipe Length Max. Height	Pipe Length Max. Chargeless Length*
	kW	kW	Phase V Hz	kW	W/W	L/s	dB(A)	dB(A)	dB	dB	mm (H W D)	mm (H W D)	kg	kg	O.D. mm (inch)	O.D. mm (inch)	m	m	m
CS-F34DTE5 CU-L34DBE5	10.00 (4.00-12.00)	11.20 (4.00-13.50)	1φ 220-240 50	3.00 (1.25-3.40) 3.28 (1.25-4.20)	3.41 3.44	483 483	47/43	52 54	64 64	66 68	250 1,600 700	1,340 900 320	43	110	15.88 (5/8)	9.53 (3/8)	50	30	30
CS-F43DTE5 CU-L43DBE5	12.50 (4.00-13.50)	14.00 (4.00-15.50)	1φ 220-240 50	4.15 (1.30-4.30) 4.00 (1.25-5.00)	3.07 3.49	517 517	49/45	53 55	66 66	67 69	250 1,600 700	1,340 900 320	47	110	15.88 (5/8)	9.53 (3/8)	50	30	30
CS-F50DTE5 CU-L50DBE5	14.00 (4 00-16 00)	16.00 (4.00-18.00)	1φ 220-240 50	4.81 (1.35-5.10) 4.79 (1.30-5.90)	2.89 3.26	533 533	50/46	55 57	67 65	69 71	250 1,600 700	1,340 900 320	47	110	15.88 (5/8)	9.53 (3/8)	50	30	30
CS-F50DTE5 CU-L50DBE8	14.00 (4.00-16.00)	16.00 (4.00-18.00)	3φ 380-415 50	4.81 (1.35-5.10) 4.69 (1.30-6.00)	2.88 3.45	533 533	50/46	54 56	67 67	68 70	250 1,600 700	1,340 900 320	47	105	15.88 (5/8)	9.53 (3/8)	50	30	30

* For pipe lengths greater than 30 metres, add refrigerant R410A at 50 grams/metre.

Outdoor Units

6.3kW - 7.1kW

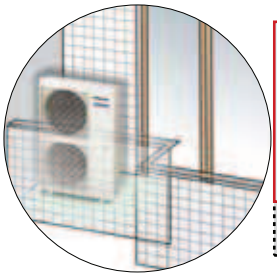
10.0kW - 14.0kW

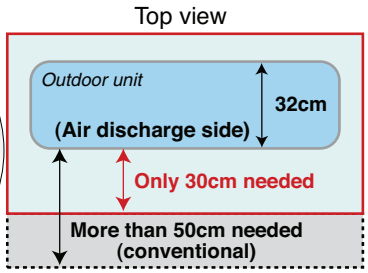
Flexible Installation in Smaller Spaces

A variety of improvements has reduced installation time and space.

• Space-Saving Outdoor Unit

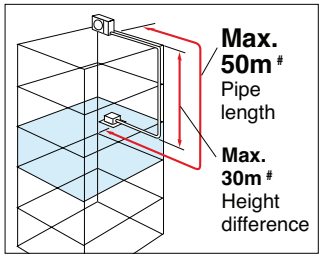
By improving the fan, we were able to make the outdoor unit small enough to fit in spaces too tight for conventional units.





• 50m Long Piping

Piping can be extended up to 30 metres without additional gas charging, and up to 50 metres with additional gas charging.
By giving you more flexibility in positioning the outdoor unit, this gives you a wider range of installation options.



Allowable Pipe Length

Additional gas is required.

	6.3kW - 7.1kW	10.0kW	12.5kW - 14.0kW
Max. Length #	50 m	50 m	50 m
Max. Chargeless Length	30 m	30 m	30 m
Max. Height Difference #	30 m*1 20 m*2	30 m*1 20 m*2	30 m*1 20 m*2

*1 When installing the outdoor unit at a higher position than the indoor unit.
*2 When installing the outdoor unit at a lower position than the indoor unit.

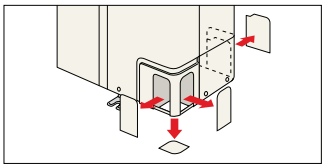
Quiet, Efficient Design

A host of silencing technologies achieve super-quiet operation. We've also improved operating efficiency and reduced energy consumption.

Noise-Suppressing Winglet Fan

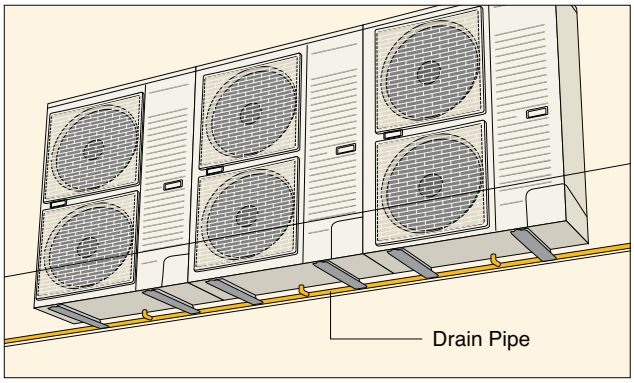
• Flexible 4-Way Piping

Piping can be routed in any of four directions.



• Centralised Drain Method

The drain outlets can be gathered into a single drain pipe even when multiple outdoor units are installed to a wall.



• Side-by-Side Continuous Installation

Even outdoor units with different capacities can be installed side by side in an efficient, orderly layout. To make this possible, we have positioned the service port in the front and given all models the same depth.

Low Ambient Cooling Operation

The unit can be used for cooling even when the outdoor temperature is extremely low.
This is ideal for locations that require cooling even in winter.

• Regular cooling conditions:

-5°C* to 43°C (outdoor temperature)

* However, cooling operation at -15°C is possible in non-residential computer rooms, etc., where the temperature is not less than 21°C and humidity is not more than 45%.

• Regular heating conditions:

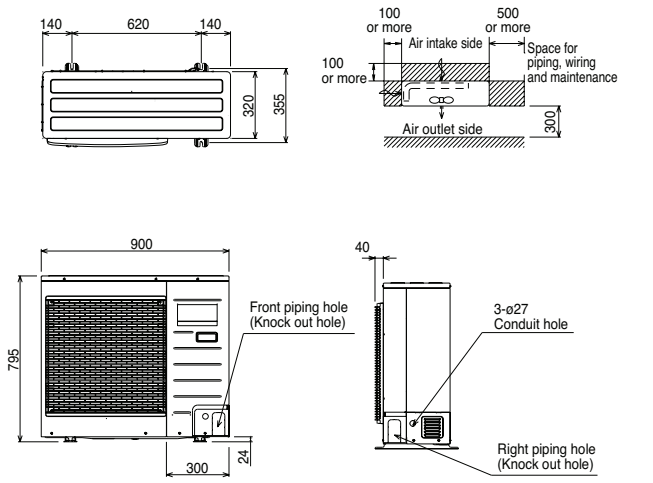
-20°C to 24°C (outdoor temperature)

Inverter: **CU-L24DBE5/CU-L28DBE5**

Inverter: **CU-L34DBE5/CU-L43DBE5/ CU-L50DBE5/CU-L50DBE8**

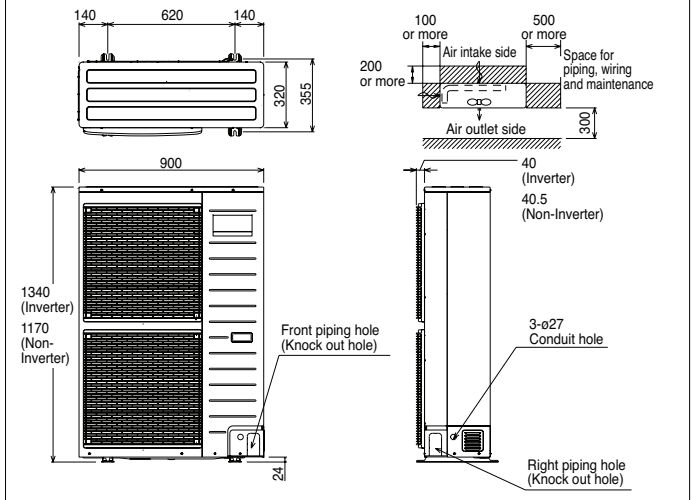
6.3kW - 7.1kW

(unit: mm)



10.0kW - 14.0kW

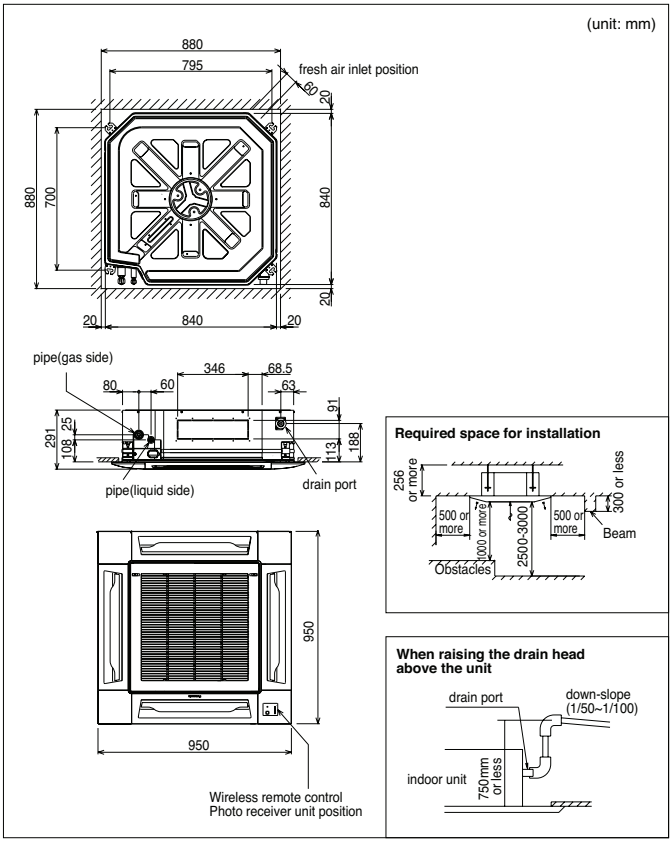
(unit: mm)



CASSETTE TYPE

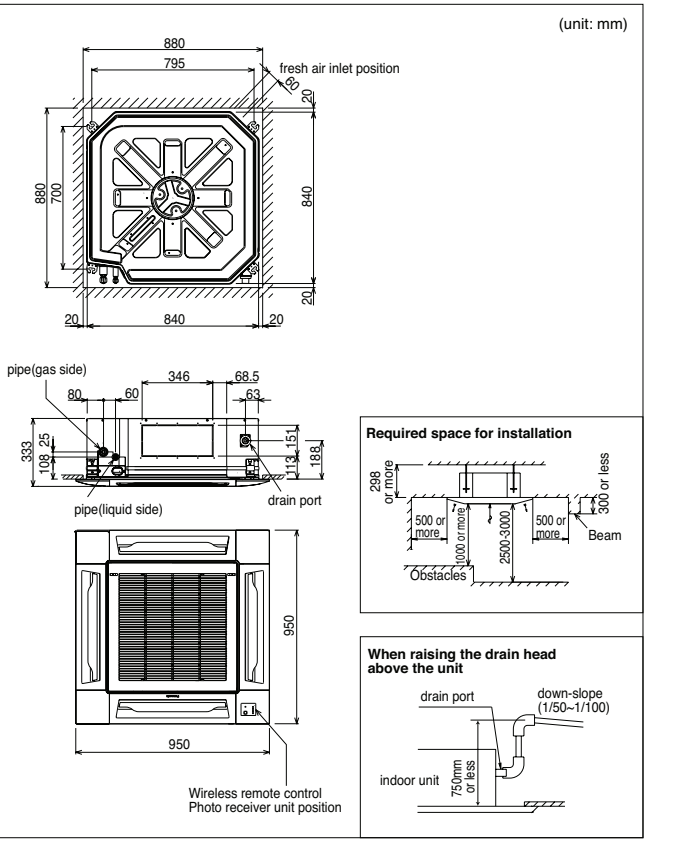
CS-F24DB4E5/CS-F28DB4E5

(unit: mm)



CS-F34DB4E5/CS-F43DB4E5/CS-F50DB4E5

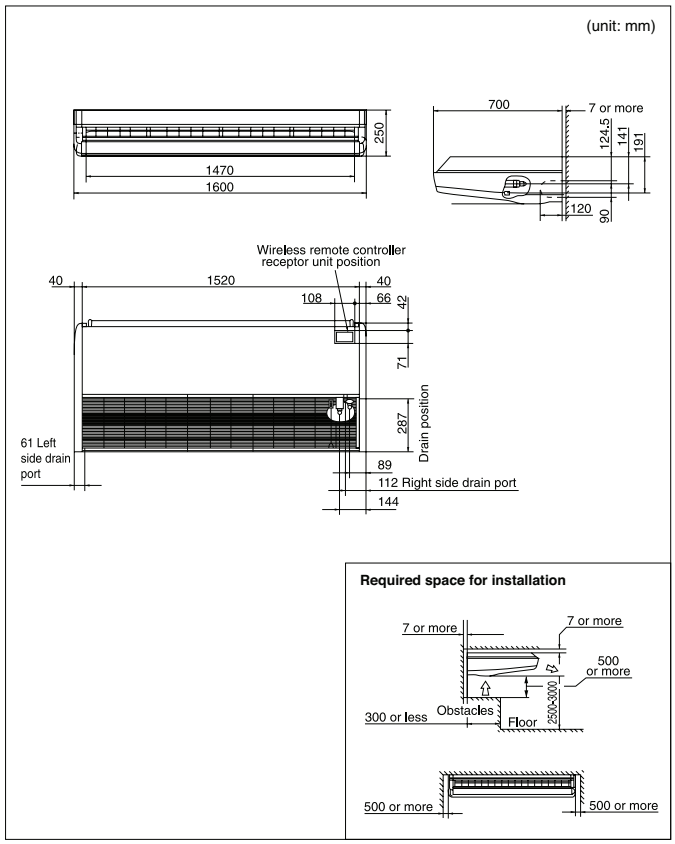
(unit: mm)



CEILING TYPE

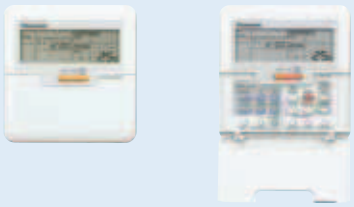
CS-F34DTE5/CS-F43DTE5/CS-F50DTE5

(unit: mm)



Wired Remote Control

CZ-RD513C
(For Cassette Type and Ceiling Type)



* A wired remote control is included with hide-away types.

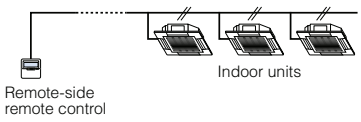
Wireless Remote Control

CZ-RL513B (For Cassette Type)
CZ-RL513T (For Ceiling Type)

Wireless Control Receiver
(For Cassette Type)

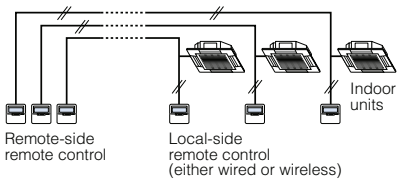
Wireless Control Receiver
(For Ceiling Type)

• Group Control by a Single Remote Control



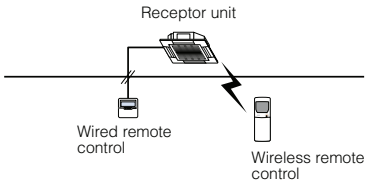
- All indoor units operate in the same mode.

• Separate Control by Twin Remote Controls



- Each indoor unit can be operated by either of the two remote controls.
- Apart from the timer setting time, the displays for the two remote controls are identical.
- The last button pressed has priority (The main or slave attribute is set with the remote control).

• Common Control by Both Wired and Wireless Remote Controls



- The last button pressed has priority (using either wired or wireless remote controls).

The System of Model Numbers

CS	-	F	28	D	B4	E	5
CU	-	L	28	D	B	E	5
		①	②	③		④		⑤

① Model Type
CS: Split Type (Indoor Unit)
CU: Split Type (Outdoor Unit)

② Function
Indoor Unit
F: Can be used with Inverter, Non-Inverter Models
Outdoor Unit
L: Inverter Models

③ Capacity
Value = Capacity (Btu/h) x 1/1000 e.g. 28,000 Btu/h x 1/1000 ≒ 28

④ Type
Split Type: Indoor/Outdoor Unit
B4: Cassette (4-Way)
D1: Ducted
(High Static Pressure Models)
T : Ceiling
B : Outdoor Unit for Cassette, Ceiling and Ducted Indoor Unit

⑤ Power Supply
5: 50Hz (Single Phase)
8: 50Hz (3-Phase)

SPECIFICATIONS

- Outdoor Unit Sound Pressure Level is 1 metre from front & 1.5 metres from base of unit.

• Rating Conditions

	Cooling	Heating
Inside air temperature	27°C DB/19°C WB	20°C DB
Outside air temperature	35°C DB	7°C DB/6°C WB

• Guaranteed Operating Range

Outdoor	Cooling	Heating
Minimum	-5°C DB	24°C DB
Maximum	43°C DB	-20°C DB

- Where specified energy efficiency values, EER (PL), part load, complies with AS/NZS3823.