



LARGE CAPACITY AIR CONDITIONERS





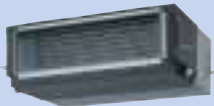
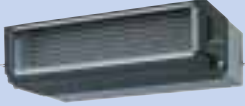





Panasonic FS Series are supplied with DC Inverter

INVERTER



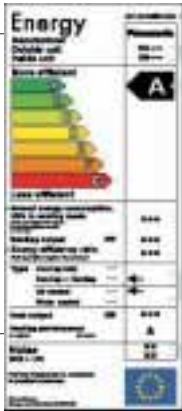
Indoor unit

Capacity range	1.5HP	2.0HP	2.5HP
Cassette	 CS-F14DB4E5	 CS-F18DB4E5	 CS-F24DB4E5
Hide-away (Low static pressure models)	 CS-F14DD3E5	 CS-F18DD3E5	 CS-F24DD3E5
			 CS-F24DD2E5
(Middle static pressure models)			
Ceiling			
		 CS-F18DTE5	 CS-F24DTE5

 For twin connection only.

Information On Energy-Saving Classification

According to a new EC Directive, the indication of the Energy Efficiency classification on household air conditioners became compulsory as of July 2003.



There are seven classifications of energy efficiency, from A to G. The most efficient level is "A" and the least efficient level is "G."

Outdoor unit

2.5HP
 CU-L24DBE5

and R410A, providing super lineup.



Panasonic is participating in the EUROVENT Certification Programme. Products are as listed in the EUROVENT Directory of Certified Products.

The Triple Multi-Split Type is not in the scope of the EUROVENT certification.



3.0HP

4.0HP

5.0HP

6.0HP



CS-F28DB4E5



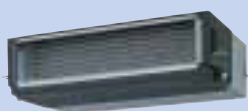
CS-F34DB4E5



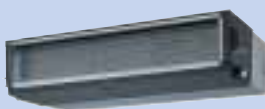
CS-F43DB4E5



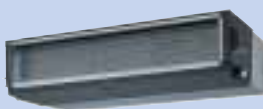
CS-F50DB4E5



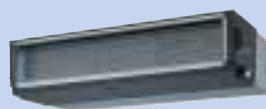
CS-F28DD3E5



CS-F34DD3E5



CS-F43DD3E5



CS-F50DD3E5



CS-F28DD2E5



CS-F34DD2E5



CS-F43DD2E5



CS-F50DD2E5



CS-F28DTE5



CS-F34DTE5



CS-F43DTE5



CS-F50DTE5

3.0HP

4.0HP

5.0HP

6.0HP



CU-L28DBE5



CU-L34DBE5



CU-L43DBE5



CU-L50DBE8*

*3-Phase

DC Inverter can attain comfortable



Energy-saving operation

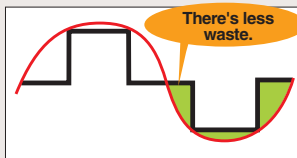
All the models of Panasonic FS Inverter Series are equipped with DC inverters for the higher EER operation.

The new design attains the quiet and high-efficient operation and reduces the running cost.

Hyper Wave Inverter

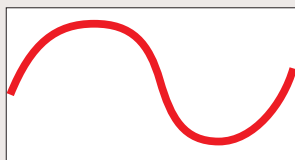
The Panasonic group's experiences and actual results in the development of inverters are realised in the control. This control of the inverter demonstrates the maximum compressor torque. The FS series quickly warms the room up to the set temperature and maintains a comfortable condition, whilst ensuring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

Our conventional inverter



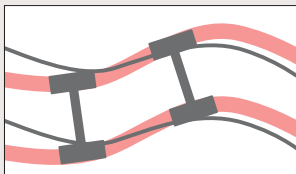
The current waveform deviates from the motor voltage waveform, so power is wasted.

Hyper Wave Inverter

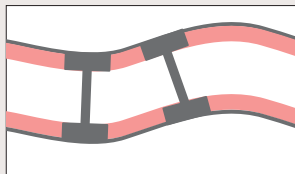


The current waveform closely matches the motor voltage waveform, so power consumption is reduced.

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 of 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.



INVERTER



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

and energy-saving operation.

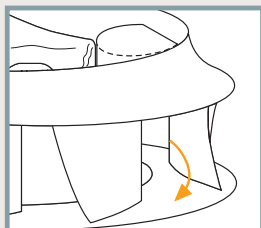
The Advanced Air Path Design – Key to Efficiency.

Class-Leading 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.

Newly Designed Turbo Fan

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



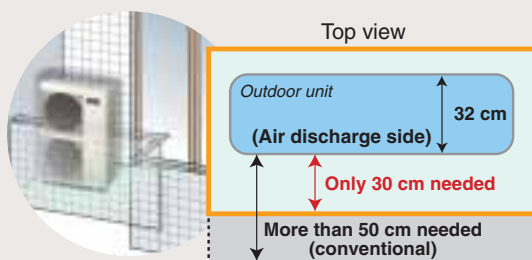
Both air inlet and outlet are improved.

- 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

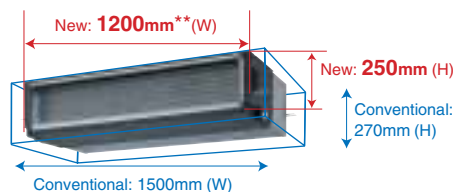
The improvement of the outdoor unit fan makes it possible to install the outdoor unit into a smaller space where the conventional model cannot be installed. Without sacrificing quietness, also higher efficiency is attained. More freedom in installation contributes to the easy piping and facilitates installation.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



Compact, Hide-Away Indoor Units

The compact indoor units of Hide-Away Type* (Low Static Pressure Models) were newly developed. We succeed to make units small. And these downsized units can be installed in apartments and other places where space is limited. The top-class of compactness in the industry has been attained: 1200 mm in width, 250 mm in height, (650 mm in depth), 26% smaller than the conventional. *4 HP-6 HP models

Comparison in size



The unit can be installed in the limited space.

**Add 100 mm for power supply equipment.

The Sophisticated Air Path Design – Key to Compact Size.

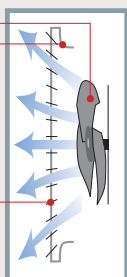
These three improvements minimise the air resistance.

- 1 New Large Diagonal Air Flow Fan

The newly designed fan blades reduce the frontal discharge distance.

- 2 Improved front grille opening shape

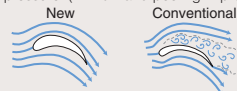
- 3 Improved front grille grid shape



The Precise Air Path Design – Key to Saving Space.

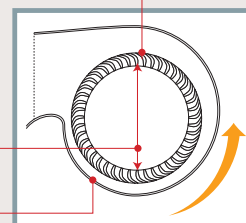
High-Performance Large-Diameter Sirocco Fan and High-Performance Casing

- 1 The shape of the Sirocco fan airfoil shape has been improved to boost static pressure. (Air flow and peeling improved)



- 2 Large-diameter fan of high efficiency has been attained by reducing the scroll and the number of fans.

- 3 High-performance casing produces the maximum air efficiency. (Enlarging from the bottom side made it possible to reduce the height.)



*Patent applications have been made for these technologies.

Pursuing the Perfect Design – In Air

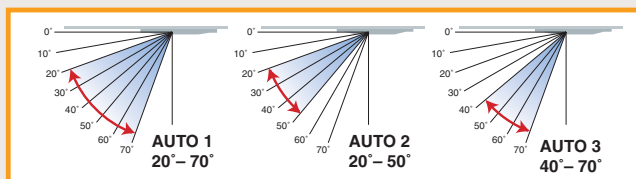
Comfort in every detail

Panasonic FS Series includes the knowledge for carefully designing for comfort. Careful consideration has been given to both air flow and air quality. A Wired remote controller 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 autoswings not to expose to the air directly (total 50-degree swing width).



Can be operated with the wireless remote control.



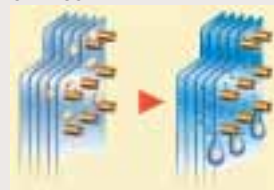
For all models

Odour Wash

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

Dual-system of odour control

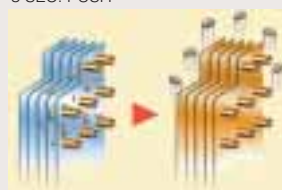
Odour Removing ONE PUSH



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.

Quality, Airflow, and Convenience

For all models

Weekly Timer

Weekly timer setting (each day of a week) is 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

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.

The number of persons varies depending on time zones.

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.

Not to forget to switch OFF

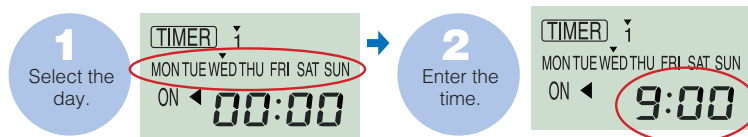
Example:
To prevent forgetting to switch OFF weekdays

Mon-Fri

Off 20:00

→ The timer can be set for simple shut-off operation.

How to set



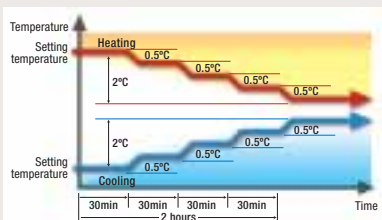
*Simple Timer Mode

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)

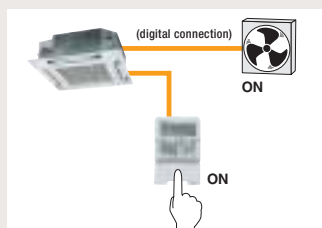


* During operating in the cooling mode at the remote control set temperature of 25 under the cooling standard temperature conditions.
Can be operated with the wireless remote control.

For all models

Ventilation

When the external device such as a ventilator is connected to the indoor unit, switch ON/OFF of 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 (CZ-TA30P*) is needed.
*See page 16 for details.

Option

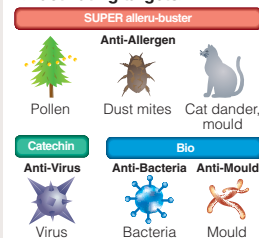


For cassette and ceiling models

SUPER alleru-buster filter

SUPER alleru-buster filter uses three types of functional materials that make it possible to inactivate various harmful airborne elements including allergens, viruses, and bacteria. This filter is available as an option.

<Inactivating targets>



CZ-SA11P (For cassette type)
CZ-SA12P (For ceiling type)

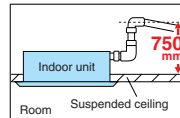
Cassette Type



Fast, Flexible Installation

• 750 mm Drain-Up Mechanism

Drain hose can be elevated 750 mm from the base of the unit simply by connecting an elbow. This adds to ease of drain piping work, and flexibility in locating the indoor unit.



Easy Maintenance and Cleaning

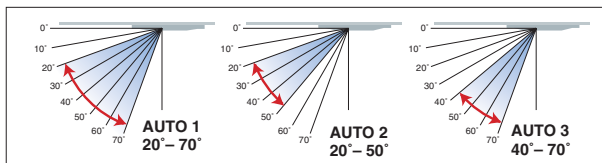
• Anti-Mould Long-Life Air Filter



* For optimum comfort, we recommend cleaning the air filter every 1.5 months.

Three Airflow Patterns for Extra Comfort

• Multi-Comfort Air Control



Selectable Remote Controller

* Customer needs to choose either wired or wireless.



Wired Remote Controller



Wireless Remote Controller

Versatile Functions

• 950 mm Square Panel for All Models (Optional: CZ-BT03P)



- Weekly Timer (Wired Remote Controller only)
- 24-Hour On/Off Real Setting Timer
- Odour Wash
- Economy Mode
- Auto Restart Function
- Auto Changeover Function
- Auto Fan Mode
- Dry Mode Function
- Low Ambient Cooling Operation
- Hot Start Control
- Self-Diagnostic Function
- Optional: SUPER alleru-buster filter (CZ-SA11P)

*See page 12 for details.

Specifications

Items	Cooling Capacity	Heating Capacity	Power Source	Power Input (Cooling/Heating)	EER COP (Cooling/Heating)	Air Volume (Cooling/Heating)	Noise Level*				Dimensions			Net Weight			Piping Connection		Pipe Length			Energy Saving Classification		
							Sound Pressure Level		Sound Power Level		Indoor	Panel	Outdoor	Indoor	Panel	Outdoor	Gas Side	Liquid Side	Max. Length**	Max. Height	Max. Chargeless Length	Cooling Class	Annual Energy Consumption	Heating Class
							Indoor (Hi/Lo)	Outdoor (Hi) (Cooling/Heating)	Indoor (Hi) (Cooling/Heating)	Outdoor (Hi) (Cooling/Heating)														
Indoor Panel Outdoor	kW Btu/h	kW Btu/h	Phase V Hz	kW	W/W	m³/min	dB(A)	dB(A)	dB	dB	mm (H/W/D)	mm (H/W/D)	mm (H/W/D)	Kg	Kg	Kg	O.D. mm (inch.)	O.D. mm (inch.)	m	m	m		kW	
CS-F14DB4E5x2 CZ-BT03Px2 CU-L28DBE5	7.10 (2.20-8.00) 24,200 (7,500-27,300)	8.00 (2.30-8.50) 27,300 (7,800-29,000)	1φ 220-240 50	2.00 (0.60-2.40) 2.11 (0.60-3.20)	3.55 3.79	15 x 2 15 x 2	34/31	48 50	49 49	64 66	246 840 840	950 950 45	795 900 320	25	4.5	71	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,000	A
CS-F18DB4E5x2 CZ-BT03Px2 CU-L34DBE5	10.00 (4.00-12.00) 34,100 (13,600-40,900)	11.20 (4.00-14.00) 38,200 (13,600-47,700)	1φ 220-240 50	2.59 (1.15-3.20) 2.90 (1.10-4.10)	3.86 3.86	16 x 2 16 x 2	35/32	52 54	50 50	66 68	246 840 840	950 950 45	1,340 900 320	26	4.5	110	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,295	A
CS-F24DB4E5 CZ-BT03P CU-L24DBE5	6.30 (2.10-7.10) 21,500 (7,200-24,200)	7.10 (2.20-8.00) 24,200 (7,500-27,300)	1φ 220-240 50	1.70 (0.50-2.20) 1.84 (0.50-3.10)	3.71 3.86	18 18	36/32	47 49	51 51	63 65	246 840 840	950 950 45	795 900 320	26	4.5	71	15.88 (5/8)	9.53 (3/8)	50	30	30	A	850	A
CS-F28DB4E5 CZ-BT03P CU-L28DBE5	7.10 (2.20-8.00) 24,200 (7,500-27,300)	8.00 (2.30-8.50) 27,300 (7,800-29,000)	1φ 220-240 50	2.00 (0.60-2.40) 2.11 (0.60-3.20)	3.55 3.79	20 20	38/33	48 50	53 53	64 66	246 840 840	950 950 45	795 900 320	26	4.5	71	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,000	A
CS-F34DB4E5 CZ-BT03P CU-L34DBE5	10.00 (4.00-12.00) 34,100 (13,600-40,900)	11.20 (4.00-14.00) 38,200 (13,600-47,700)	1φ 220-240 50	2.59 (1.15-3.20) 2.90 (1.10-4.10)	3.86 3.86	27 27	42/37	52 54	57 57	66 68	288 840 840	950 950 45	1,340 900 320	28.5	4.5	110	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,295	A
CS-F43DB4E5 CZ-BT03P CU-L43DBE5	12.50 (4.00-14.00) 42,600 (13,600-47,700)	14.00 (4.00-16.00) 47,700 (13,600-54,600)	1φ 220-240 50	3.64 (1.20-3.80) 3.88 (1.15-4.90)	3.43 3.61	31 31	46/41	53 55	61 61	67 69	288 840 840	950 950 45	1,340 900 320	28.5	4.5	110	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,820	A
CS-F50DB4E5 CZ-BT03P CU-L50DBE8	14.00 (4.00-16.00) 47,700 (13,600-54,600)	16.00 (4.00-18.00) 54,600 (13,600-61,400)	3φ 380-415 50	4.65 (1.20-4.95) 4.69 (1.15-5.90)	3.01 3.41	32 32	47/42	54 56	62 62	68 70	288 840 840	950 950 45	1,340 900 320	28.5	4.5	105	15.88 (5/8)	9.53 (3/8)	50	30	30	B	2,325	B

* The noise level shows the value measured in a position 1m anterior to and 1.5m superior to the main body.

** Additional gas might be required.

Rating Conditions

	Cooling	Heating
Inside air temperature	27°C DB/19°C WB	20°C DB
Outside air temperature	35°C DB/24°C WB	7°C DB/6°C WB

Hide-away Type

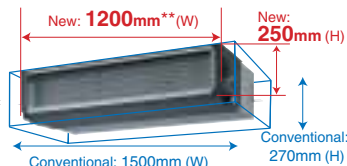
Low static pressure models



Compact, Lightweight Design for Easy Installation

Thin and only 250mm* high, with a slim width of only 1,200 mm* this compact unit fits easily in limited spaces. The lightweight and small size also make it easier to transport and install.

*4 HP-6 HP models



**Add 100 mm for power supply equipment

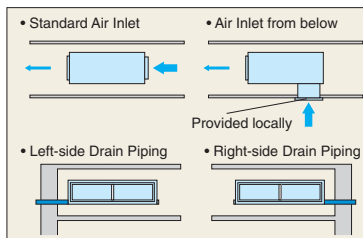
Various Installation Applications

• Versatile Air Inlet and Drain Installation

The mounting locations for the air inlet and drain outlet can be changed as desired for easy, flexible system layout and installation.

• Static Pressure Selection

The static pressure is selectable from 5 or 7 mmAq according to the condition of the duct. For short ducts, the lower pressure of 5 mmAq provides efficient operation.



Easy Maintenance

• 3-Way Removable Air Filter

The air filter can be removed in three directions for easier maintenance.

Remote Controller

* A remote controller is in the same package with the indoor unit.



Wired Remote Controller

Versatile Functions

- Auto Fan Mode
- Auto Restart Function
- Dry Mode Function
- Auto Changeover Function
- Low Ambient Cooling Operation
- Weekly Timer
- 24-Hour On/Off Real Setting Timer
- Odour Wash
- Economy Mode
- Hot Start Control
- Self-Diagnostic Function

*See page 12 for details.

Specifications

Items	Cooling Capacity	Heating Capacity	Power Source	Power Input (Cooling/Heating)	EER COP (Cooling/Heating)	Air Volume (Cooling/Heating)	External Static Pressure	Noise Level*				Dimensions		Net Weight		Piping Connection		Pipe Length			Energy Saving Classification		
								Sound Pressure Level		Sound Power Level													
								Indoor (Hi/Li)	Outdoor (Cooling/Heating)	Indoor (Hi)	Outdoor (Hi)	Indoor (H/W/D)	Outdoor (H/W/D)	Indoor	Outdoor	Indoor	Outdoor	Gas Side	Liquid Side	Max. Length	Max. Height	Max. Chargeless Length	Cooling Class
Indoor Outdoor	kW Btu/h	kW Btu/h	Phase V Hz	kW	W/W	m³/min	Pa (mmAq)	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		kW	
CS-F14DD3E5x2 CU-L28DBE5	7.10 (2.10-7.50) 24,200 (7,200-25,600)	8.00 (2.20-8.50) 27,300 (7,500-29,000)	1ø 220-240 50	2.21 (0.65-2.45) 2.34 (0.65-3.25)	3.21 3.42	15 x 2 15 x 2	50 (5.1)	42/38	48 50	58 58	64 66	250 780+100 650	795 900 320	34	71	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,105	B
CS-F18DD3E5x2 CU-L34DBE5	10.00 (4.00-12.00) 34,100 (13,600-40,900)	11.20 (4.00-13.50) 38,200 (13,600-46,000)	1ø 220-240 50	2.77 (1.30-3.45) 3.28 (1.30-4.25)	3.61 3.41	17 x 2 17 x 2	50 (5.1)	42/38	52 54	58 58	66 68	250 780+100 650	1,340 900 320	34	110	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,385	B
CS-F24DD3E5 CU-L24DBE5	6.30 (2.00-6.50) 21,500 (6,800-22,200)	7.10 (2.10-7.50) 24,200 (7,200-25,600)	1ø 220-240 50	1.96 (0.60-2.40) 2.08 (0.60-3.15)	3.21 3.41	17 22	50 (5.1)	43/39	47 49	59 59	63 65	250 1,000+100 650	795 900 320	41	71	15.88 (5/8)	9.53 (3/8)	50	30	30	A	980	B
CS-F28DD3E5 CU-L28DBE5	7.10 (2.10-7.50) 24,200 (7,200-25,600)	8.00 (2.20-8.50) 27,300 (7,500-29,000)	1ø 220-240 50	2.21 (0.65-2.45) 2.34 (0.65-3.25)	3.21 3.42	17 22	50 (5.1)	43/39	48 50	59 59	64 66	250 1,000+100 650	795 900 320	41	71	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,105	B
CS-F34DD3E5 CU-L34DBE5	10.00 (4.00-12.00) 34,100 (13,600-40,900)	11.20 (4.00-13.50) 38,200 (13,600-46,000)	1ø 220-240 50	2.77 (1.30-3.45) 3.28 (1.30-4.25)	3.61 3.41	30 36	50 (5.1)	47/43	52 53	62 60	66 67	250 1,200+100 650	1,340 900 320	47	110	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,385	B
CS-F43DD3E5 CU-L43DBE5	12.50 (4.00-13.50) 42,600 (13,600-46,000)	14.00 (4.00-15.50) 47,700 (13,600-52,900)	1ø 220-240 50	4.15 (1.40-4.40) 4.11 (1.40-5.10)	3.01 3.41	30 36	50 (5.1)	47/43	53 54	62 60	67 68	250 1,200+100 650	1,340 900 320	47	110	15.88 (5/8)	9.53 (3/8)	50	30	30	B	2,075	B
CS-F50DD3E5 CU-L50DBE8	14.00 (4.00-16.00) 47,700 (13,600-54,900)	16.00 (4.00-18.00) 54,600 (13,600-61,400)	3ø 380-415 50	4.98 (1.45-5.20) 4.98 (1.40-6.10)	2.81 3.21	28 36	50 (5.1)	47/43	54 56	62 60	68 70	250 1,200+100 650	1,340 900 320	47	105	15.88 (5/8)	9.53 (3/8)	50	30	30	C	2,490	C

* The noise level shows the value measured in a position 1m anterior to and 1.5m superior to the main body.

** Additional gas might be required.

Rating Conditions

	Cooling	Heating
Inside air temperature	27°C DB/19°C WB	20°C DB
Outside air temperature	35°C DB/24°C WB	7°C DB/6°C WB

Hide-away Type

Middle static pressure models



Remote Controller

* A remote controller is in the same package with the indoor unit.



Wired Remote Controller

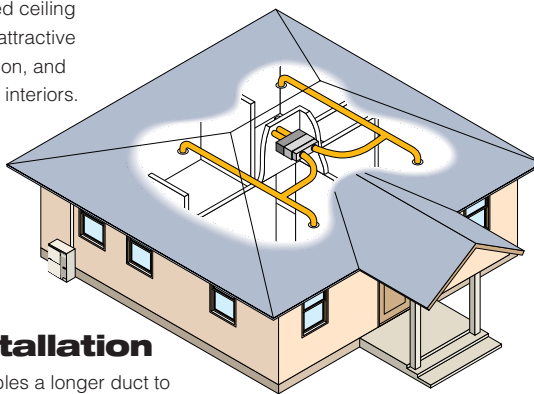
Versatile Functions

- Auto Fan Mode
- Auto Restart Function
- Dry Mode Function
- Auto Changeover Function (Heat Pump Model)
- Low Ambient Cooling Operation
- * See page 12 for details.
- Weekly Timer
- 24-Hour On/Off Real Setting Timer
- Odour Wash
- Economy Mode
- Hot Start Control
- Self-Diagnostic Function

Thin (Only 29 cm*), Lightweight Design

The unit has a height of only 29 cm, so it allows installation in limited ceiling spaces. The lightweight, attractive design simplifies installation, and matches virtually all room interiors.

* 2.5 HP / 3 HP models.



Flexible Installation

The powerful airflow enables a longer duct to be used. Since the air outlet can be installed away from the main unit, a variety of air conditioner layouts become possible.

Easy Maintenance

Maintenance works can be done from the underside of the indoor unit.

Specifications

Items	Cooling Capacity	Heating Capacity	Power Source	Power Input (Cooling Heating)	EER COP (Cooling Heating)	Air Volume (Cooling Heating)	External Static Pressure	Noise Level*				Dimensions		Net Weight		Piping Connection		Pipe Length			Energy Saving Classification		
								Sound Pressure Level		Sound Power Level													
								Indoor (Hi/Lo)	Outdoor (Hi) (Cooling Heating)	Indoor (Hi) (Cooling Heating)	Outdoor (Hi) (Cooling Heating)	Indoor	Outdoor	Indoor	Outdoor	Gas Side	Liquid Side	Max. Length**	Max. Height	Max. Chargeless Length	Cooling Class	Annual Energy Consumption	Heating Class
Indoor Outdoor	kW Btu/h	kW Btu/h	Phase V Hz	kW	W/W	m³/min	Pa (mmAq)	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		kW	
CS-F24DD2E5 CU-L24DBE5	6.30 (2.00-6.50) 21,500 (6,800-22,200)	7.10 (2.10-7.50) 24,200 (7,200-25,600)	1φ 220-240 50	2.09 (0.60-2.40) 2.08 (0.60-3.15)	3.01 3.41	19 22	69 (7.0)	45/41	47 49	61 59	63 65	290 1,000+100 500	795 900 320	35	71	15.88 (5/8)	9.53 (3/8)	50	30	30	B	1,045	B
CS-F28DD2E5 CU-L28DBE5	7.10 (2.10-7.50) 24,200 (7,200-25,600)	8.00 (2.20-8.50) 27,300 (7,500-29,000)	1φ 220-240 50	2.36 (0.65-2.45) 2.34 (0.65-3.25)	3.01 3.42	19 22	69 (7.0)	45/41	48 50	61 59	64 66	290 1,000+100 500	795 900 320	35	71	15.88 (5/8)	9.53 (3/8)	50	30	30	B	1,180	B
CS-F34DD2E5 CU-L34DBE5	10.00 (3.00-12.00) 34,100 (13,600-40,900)	11.20 (3.20-13.50) 38,200 (13,600-46,000)	1φ 220-240 50	3.06 (1.35-3.50) 3.28 (1.35-4.30)	3.27 3.41	32 38	98 (10.0)	49/45	52 53	64 62	66 67	360 1,000+100 650	1,340 900 320	48	110	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,530	B
CS-F43DD2E5 CU-L43DBE5	12.50 (4.00-13.50) 42,600 (13,600-46,000)	14.00 (4.00-15.50) 47,700 (13,600-52,900)	1φ 220-240 50	4.15 (1.40-4.50) 4.36 (1.40-5.10)	3.01 3.21	32 38	98 (10.0)	49/45	53 54	64 62	67 68	360 1,000+100 650	1,340 900 320	48	110	15.88 (5/8)	9.53 (3/8)	50	30	30	B	2,075	C
CS-F50DD2E5 CU-L50DBE8	14.00 (4.00-16.00) 47,700 (13,600-54,600)	16.00 (4.00-18.00) 54,600 (13,600-61,400)	3φ 380-415 50	5.06 (1.45-5.40) 4.85 (1.40-6.10)	2.77 3.30	30 38	98 (10.0)	49/45	54 56	64 62	68 70	360 1,000+100 650	1,340 900 320	48	105	15.88 (5/8)	9.53 (3/8)	50	30	30	D	2,530	C

* The noise level shows the value measured in a position 1m anterior to and 1.5m superior to the main body.

** Additional gas might be required.

Rating Conditions

	Cooling	Heating
Inside air temperature	27°C DB/19°C WB	20°C DB
Outside air temperature	35°C DB/24°C WB	7°C DB/6°C WB

Ceiling Type



Selectable Remote Controller

* Customer needs to choose either wired or wireless.

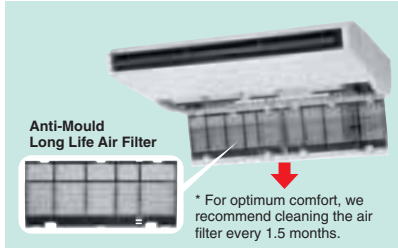


Wired Remote Controller

Wireless Remote Controller

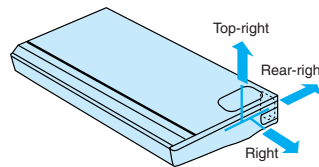
Easier Maintenance and Cleaning

• Anti-Mould Long Life Air Filter



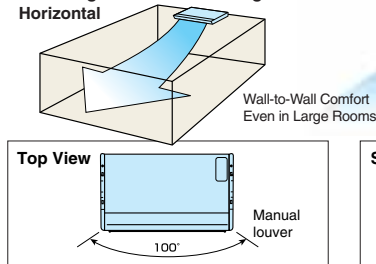
• 3-Direction Pipe Lead-Out

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.

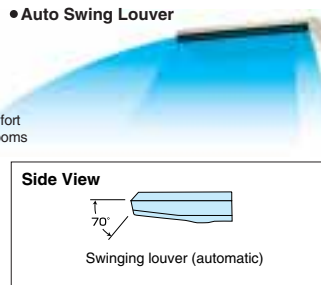


Wide Air Discharge, Comfortable Control

• Wide-Angle Airflow — 100 Degrees Horizontal



• Auto Swing Louver



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
- Auto Changeover Function
- Dry Mode Function
- Hot Start Control
- Self-Diagnostic Function
- Optional: SUPER alleru-buster filter (CZ-SA12P)

*See page 12 for details.

Specifications

Items	Cooling Capacity	Heating Capacity	Power Source	Power Input (Cooling Heating)	EER COP (Cooling Heating)	Air Volume (Cooling Heating)	Noise Level*				Dimensions		Net Weight		Piping Connection		Pipe Length			Energy Saving Classification		
							Sound Pressure Level		Sound Power Level		Indoor	Outdoor	Indoor	Outdoor	Gas Side	Liquid Side	Max. Length	Max. Height	Max. Chargeless Length	Cooling Class	Annual Energy Consumption	Heating Class
							Indoor (Hi/Li)	Outdoor (Hi)	Indoor (Hi)	Outdoor (Hi)	mm (H/D)	mm (H/D)	Kg	Kg	O.D. mm (inch.)	O.D. mm (inch.)	m	m	m		kW	
CS-F18DTE5X2 CU-L34DBE5	10.00 (4.00-12.00) 34,100 (13,600-40,900)	11.20 (4.00-13.50) 38,200 (13,600-46,000)	1ø 220-240 50	3.00 (1.25-3.40) 3.28 (1.25-4.20)	3.33 3.41	14 x 2 14 x 2	41/37	52 54	58 58	66 68	210 1,245 700	1,340 900 320	33	110	15.88 (5/8)	9.53 (3/8)	50	30	30	A	1,500	B
CS-F24DTE5 CU-L24DBE5	6.30 (2.00-6.50) 21,500 (6,800-22,200)	7.10 (2.10-7.50) 24,200 (7,200-25,600)	1ø 220-240 50	1.96 (0.55-2.30) 2.21 (0.55-3.15)	3.21 3.21	17 17	43/39	47 49	60 60	63 65	210 1,245 700	795 900 320	33	71	15.88 (5/8)	9.53 (3/8)	50	30	30	A	980	C
CS-F28DTE5 CU-L28DBE5	7.10 (2.10-7.50) 24,200 (7,200-25,600)	8.00 (2.20-8.50) 27,300 (7,500-29,000)	1ø 220-240 50	2.44 (0.65-2.45) 2.65 (0.65-3.25)	2.91 3.02	18 18	45/41	48 50	62 62	64 66	210 1,245 700	795 900 320	33	71	15.88 (5/8)	9.53 (3/8)	50	30	30	C	1,220	D
CS-F34DTE5 CU-L34DBE5	10.00 (4.00-12.00) 34,100 (13,600-40,900)	11.20 (4.00-13.50) 38,200 (13,600-46,000)	1ø 220-240 50	3.00 (1.25-3.40) 3.28 (1.25-4.20)	3.33 3.41	29 29	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	A	1,500	B
CS-F43DTE5 CU-L43DBE5	12.50 (4.00-13.50) 42,600 (13,600-46,000)	14.00 (4.00-15.50) 47,700 (13,600-52,900)	1ø 220-240 50	4.15 (1.30-4.30) 4.00 (1.25-5.00)	3.01 3.50	31 31	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	B	2,075	B
CS-F50DTE5 CU-L50DBE8	14.00 (4.00-16.00) 47,700 (13,600-54,600)	16.00 (4.00-18.00) 54,600 (13,600-61,400)	3ø 380-415 50	4.81 (1.35-5.10) 4.69 (1.30-6.00)	2.91 3.41	32 32	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	C	2,405	B

* The noise level shows the value measured in a position 1m anterior to and 1.5m superior to the main body.

** Additional gas might be required.

Rating Conditions

	Cooling	Heating
Inside air temperature	27°C DB/19°C WB	20°C DB
Outside air temperature	35°C DB/24°C WB	7°C DB/6°C WB

Outdoor Units



2.5 HP - 3 HP



4 HP - 6 HP

Flexible Installation in Smaller Spaces

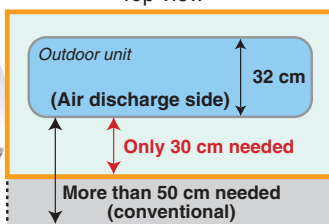
A variety of improvements has reduced installation time and space.

• 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.

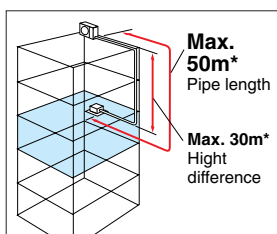


Top view



• 50m Long Piping

Piping can be extended up to 30 meters without additional gas charging, and up to 50 meters 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.

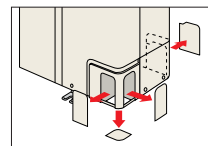
	2.5 - 3HP	4HP	5 - 6HP
Max. Length*	50 m	50 m	50 m
Max. Chargeless Length	30 m	30 m	30 m
Max. High Difference*	30 m ^{*1} / 20 m ^{*2}	30 m ^{*1} / 20 m ^{*2}	30 m ^{*1} / 20 m ^{*2}

^{*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.

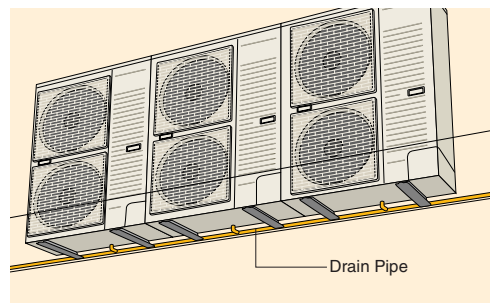
• Flexible 4-Way Piping

Piping can be routed in any of four directions.



• Centralized 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.

Quiet, Efficient Design

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



Noise-Suppressing Winglet Fan

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)

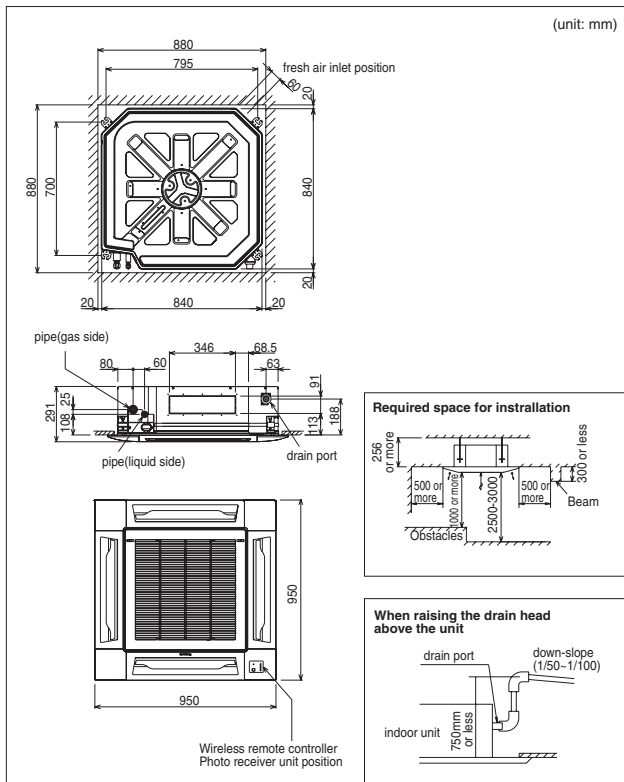
*However, **cooling operation at -15°C is possible** in non-residential computer rooms, etc., where the temperature is not less than 21°C and humidity is not more than 45%.

• Regular heating conditions:

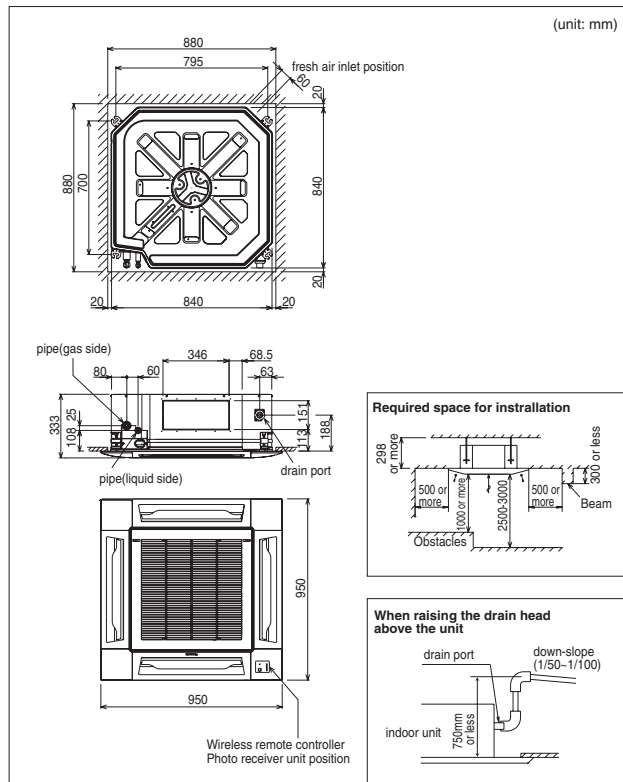
-20°C to 23°C (outdoor temperature)

CASSETTE TYPE

CS-F14DB4E5/CS-F18DB4E5/CS-F24DB4E5/CS-F28DB4E5

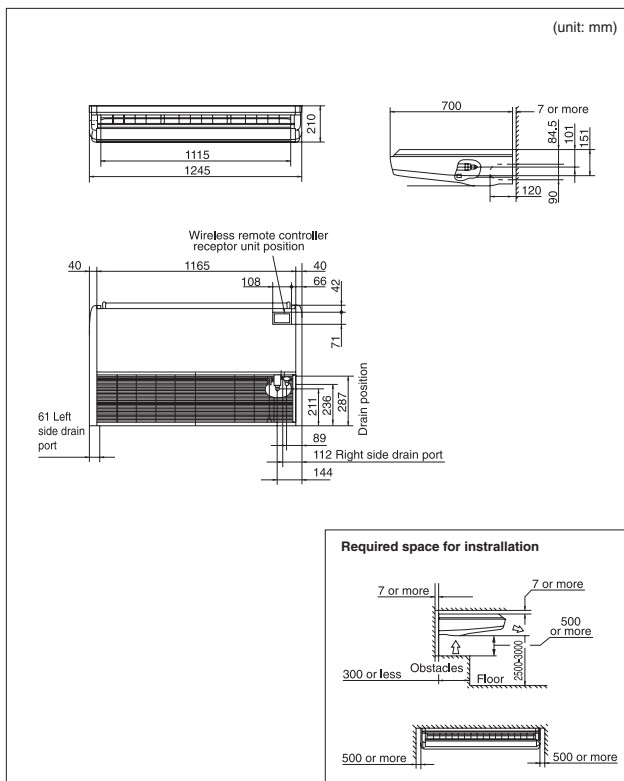


CS-F34DB4E5/CS-F43DB4E5/CS-F50DB4E5

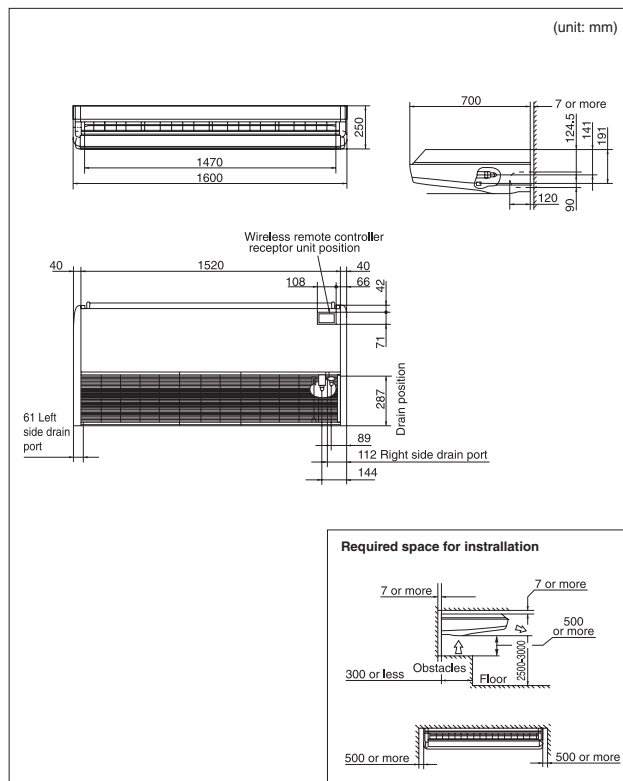


CEILING TYPE

CS-F18DTE5/CS-F24DTE5/CS-F28DTE5

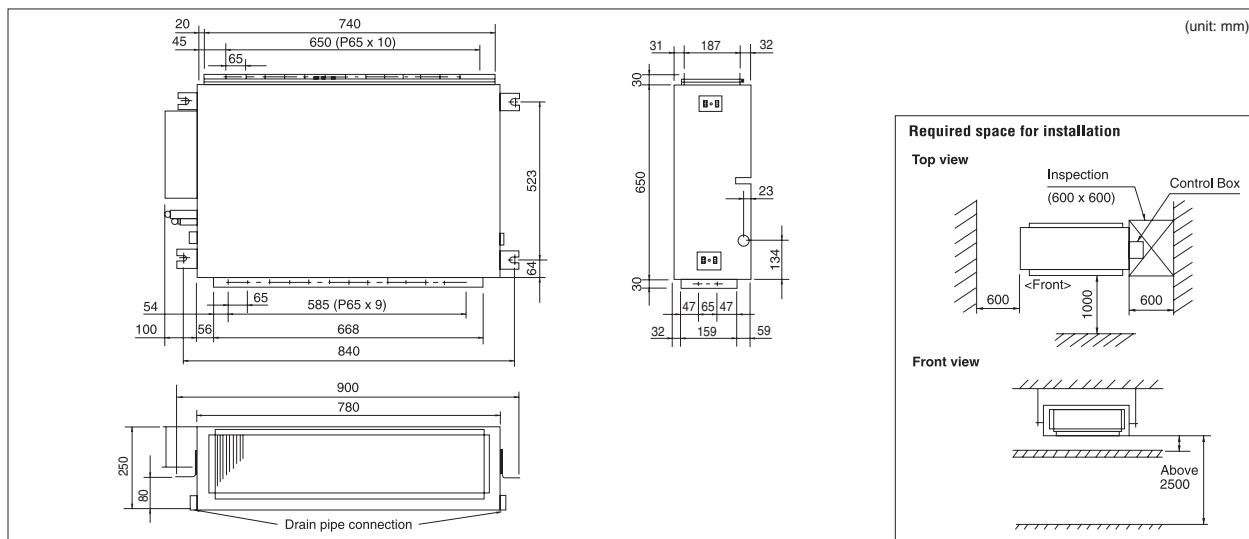


CS-F34DTE5/CS-F43DTE5/CS-F50DTE5

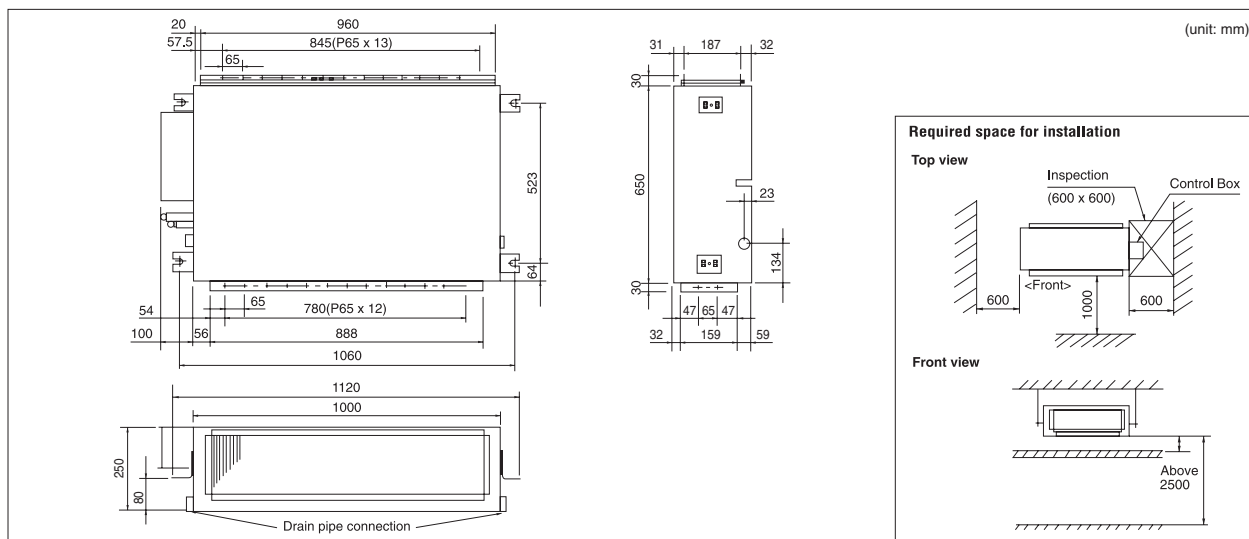


HIDE-AWAY TYPE (LOW STATIC PRESSURE MODELS)

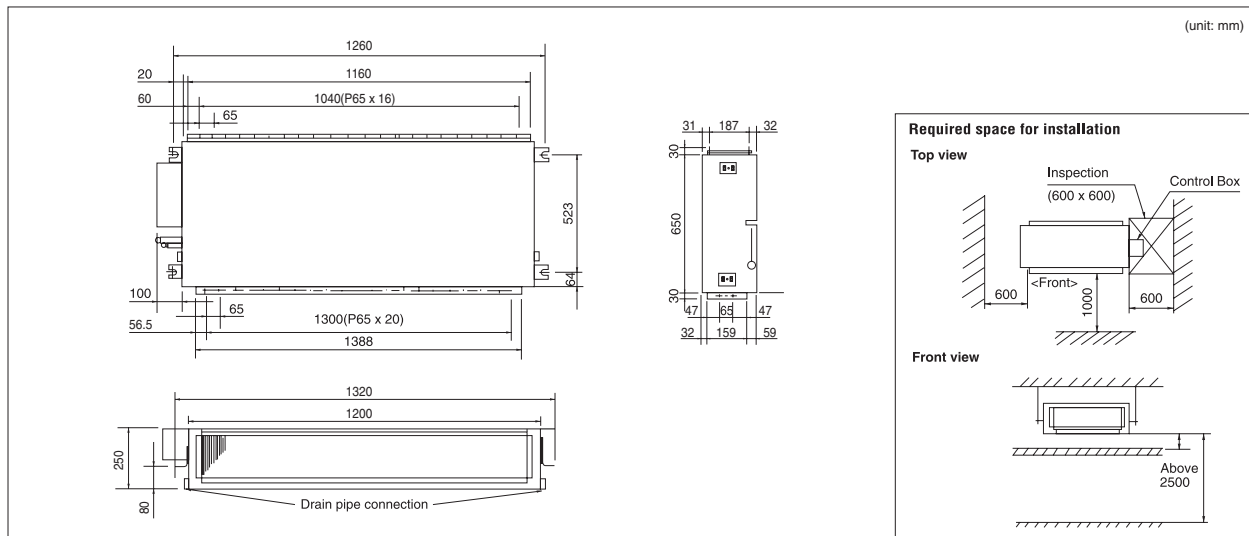
CS-F14DD3E5/CS-F18DD3E5



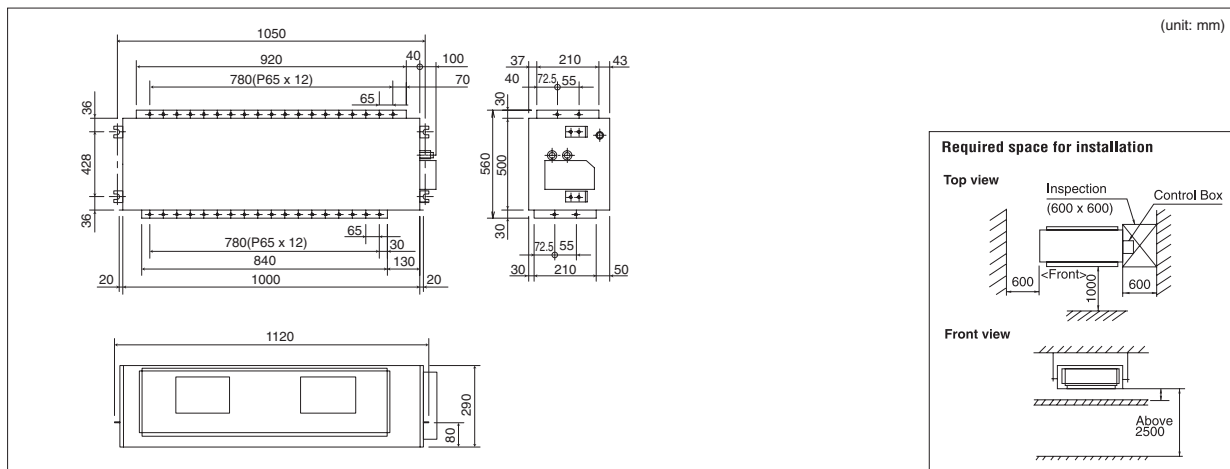
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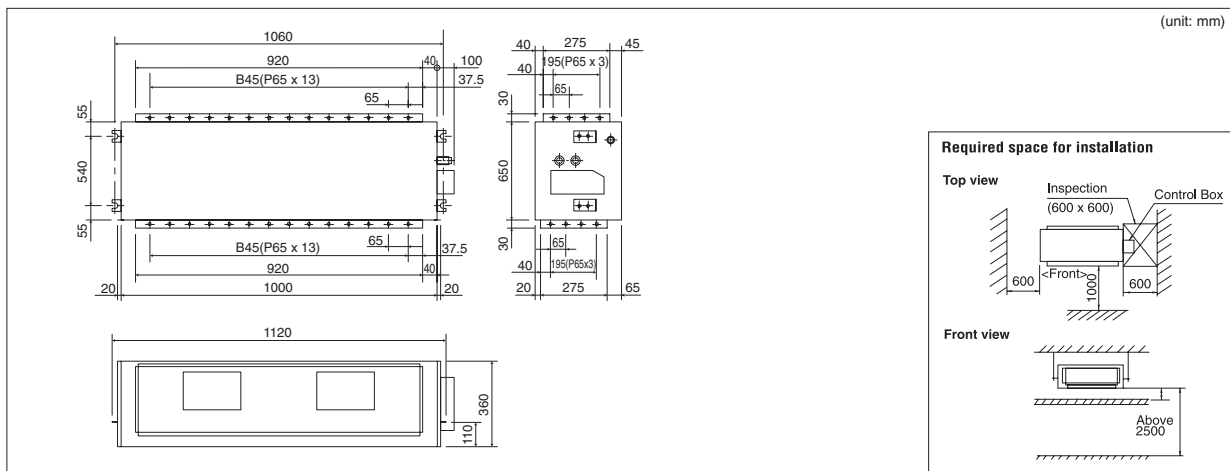
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CS-F24DD2E5/CS-F28DD2E5

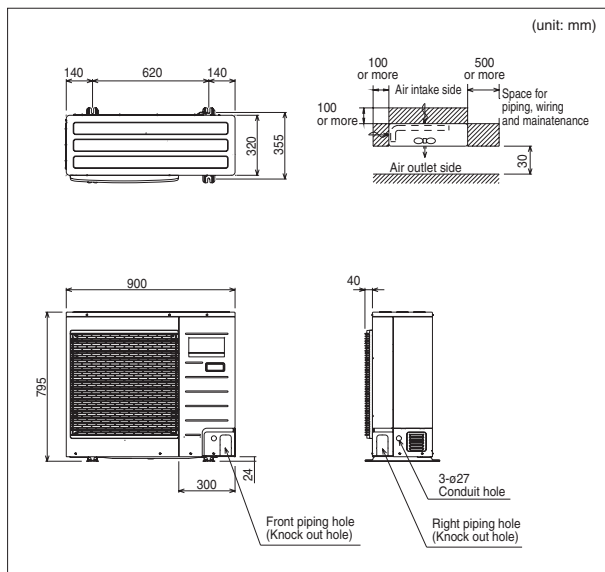


CS-F34DD2E5/CS-F43DD2E5/CS-F50DD2E5

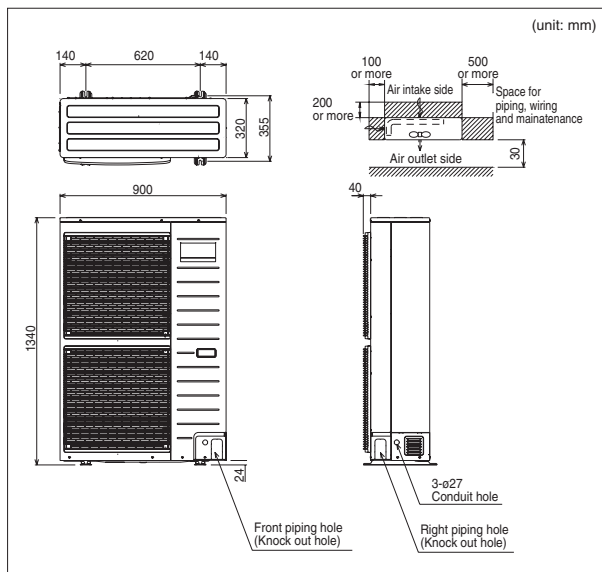


OUTDOOR UNIT

CU-L24DBE5/CU-L28DBE5





























CU-L34DBE5/CU-L43DBE5/CU-L50DBE8





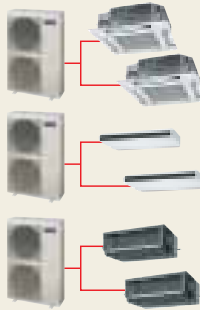
Indoor Unit Combination

Indoor units of the same type and capacity can be connected in a twin-unit configuration.

*An optional branch pipe set (CZ-H2H53DP for 3-4 HP, CZ-H2H53EP for 5-6 HP) is required.

Outdoor Unit \ Indoor Unit	Cassette	Hide-away (Low Static Pressure)	Hide-away (Middle Static Pressure)	Ceiling
3 HP	3.0  1.5 	3.0  1.5 		
4 HP	4.0  2.0 	4.0  2.0 		4.0  2.0 
5 HP	5.0  2.5 	5.0  2.5 	5.0  2.5 	5.0  2.5 
6 HP	6.0  3.0 	6.0  3.0 	6.0  3.0 	6.0  3.0 

 : Outdoor unit capacity  : Indoor unit capacity



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

F: Can be used with Inverter, Non-Inverter, Cooling Only, and Heat Pump Models.
L: Inverter and Heat Pump 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)
D2: Hide-Away (Middle Static Pressure Models)
D3: Hide-Away (Low Static Pressure Models)
T: Ceiling
B: Outdoor Unit for Cassette, Ceiling and Hide-Away Type Indoor Unit.

⑤ Power Supply

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

Wired Remote Controller

CZ-RD513C (For cassette type and ceiling type)



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

Wireless Remote Controller

CZ-RL513B (For cassette type)

CZ-RL513T (For ceiling type)



Wireless Controller Receiver
(For cassette type)



Wireless Controller Receiver
(For ceiling type)

Optional Accessories

Printed Circuit Board

CZ-TA30P

- By connecting to the indoor unit, a separately sold ventilator can be controlled.
- Remote operation control of the indoor unit is enabled (ON/OFF control).
- The condition of the indoor unit (malfunctions, operating status) can be externally output.
- Control in linkage with a total heat exchanger and the like is possible.

SUPER alleru-buster filter

CZ-SA11P

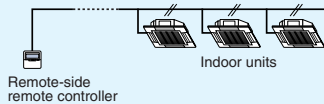
(For cassette type)

CZ-SA12P

(For ceiling type)

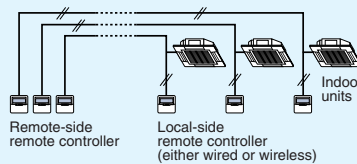


Group Control by a Single Remote Controller



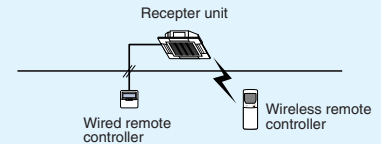
- All indoor units operate in the same mode.

Separate Control by Twin Remote Controllers



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

Common Control by Both Wired and Wireless Remote Controllers.



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

ISO 9000 Series Certification



CERTIFIED TO MS ISO 9002: 1994
MATSUSHITA INDUSTRIAL CORP. SDN. BHD. (PHAAM)
Registration No.: AR 0866

Environmental Management Systems Approval Certificate



CERTIFIED TO MS ISO 14001: 1997
MATSUSHITA INDUSTRIAL CORP. SDN. BHD. (PHAAM)
Certification No.: M015802127



Panasonic

• Specifications and designs are subject to change without notice.
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