Panasonic

Panasonic®

- Please read the Installation Instructions carefully before installing the unit, and the Operating Instructions before using it.
- Specifications are subject to change without prior notice.
- The contents of this catalogue are accurate as of July 2026.
- Due to printing considerations, actual colours may vary slightly from those shown.
- All graphics are provided solely for the purpose of illustrating a point.

Do not add or replace refrigerant other than the specified type. Manufacturer is not responsible for damage or deterioration in safety due to usage of other refrigerant.

Authorised Dealer

FSV Mini FSV_HK_July_2026

Printed with environmental friendly ink on environmental paper

總代理 Sole Agent

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SINCE 1953

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FSV11/26

FSV VRF SYSTEMS 2026/2027

Connect with your smartphone using this QR.

Product information



FSV EX
HEAT PUMP



FSV
HEAT PUMP



INVERTER

QUALITY AIR FOR LIFE

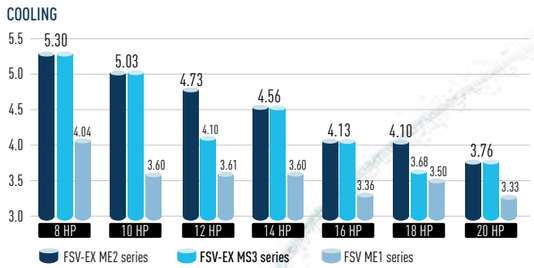
FSV-EX Advantages

The most efficient, powerful and quiet system in Panasonic's history.
There has never been a VRF system like it.
It’s the story of a true game changer - Panasonic FSV-EX.



Extraordinary Energy-Saving Performance

The FSV-EX marks a revolutionary step forward in VRF efficiency. A look at the incredible EER value clearly indicates that. What's more, this high EER value is achieved even during part load operation.
This shows the extraordinary energy-saving performance the FSV-EX is capable of providing.



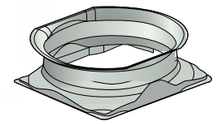
Extraordinary EER throughout the product range

Extraordinary EER in Part load throughout the product range

Low-Noise Operation

Numerous technological innovations, including an improved compressor and a newly designed bell mouth and larger fan, have dramatically reduced the outdoor noise level, with a minimum noise level of 48 dB (A)*. The result is an even more comfortable building environment.

* In case of ME2 8HP with silent mode (2).

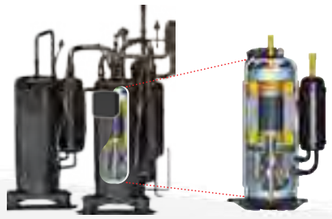


Newly designed curved air discharge bell mouth for better aerodynamics

Multiple large-capacity all inverter twin rotary compressor

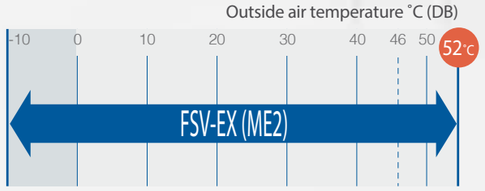
(multiple compressors for 14HP and above)

Two independently controlled inverter compressors achieve high efficiency. Redesigned components in the body provide performance improvement especially in the rated cooling condition and EER performance.



Extended Operation Range Up to 52°C

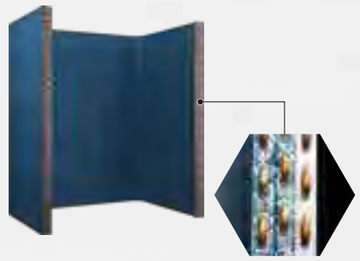
The FSV-EX can provide cooling even when the outside temperature reaches a maximum of about 52°C.
And amazingly, it can still operate at 100% capacity when the outside temperature is as high as 43°C.
This high power capability enables reliable operation even under extremely high temperature conditions.



Enlarged heat exchanger surface area with triple surface*

The new heat exchanger features a triple-surface construction. Compared to the divided dual-surface construction in current models, there is no division of space and the area for heat exchange is larger. Also, highly efficient piping pattern increases heat exchange performance by 5%.*1

* For 8 and 10 HP of ME2, the heat exchanger is 2-row design.

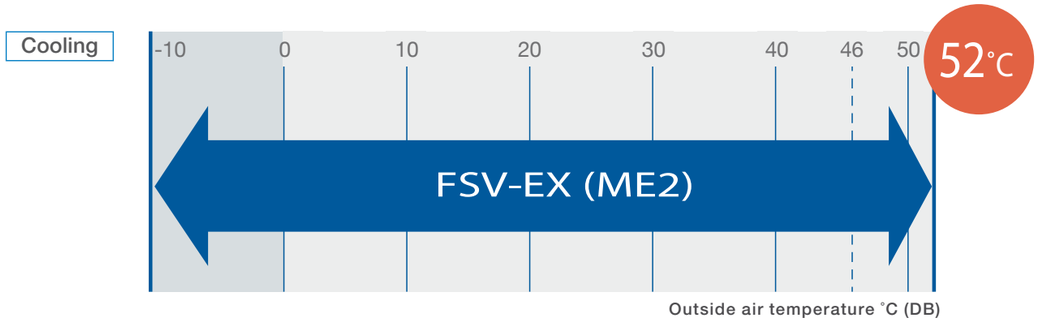


Extended Operation Range up to 52°C

High reliability even under high temperature conditions

Designed to be durable enough to withstand extreme heat, FSV EX ensures reliable cooling operation over an extended operation range up to 52°C.

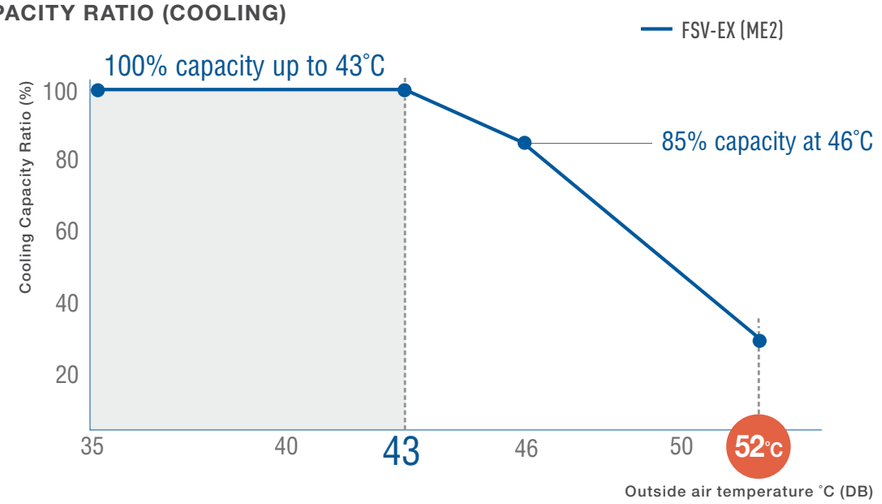
OPERATING RANGE



Full-capacity Operation up to 43°C

The FSV-EX can provide cooling even when the outside temperature reaches a maximum of about 52°C. And amazingly, it can still operate at 100% capacity when the outside temperature is as high as 43°C. This high power capability enables reliable operation even under extremely high temperature conditions.

CAPACITY RATIO (COOLING)



<Test Condition> 12HP model, IU/OU capacity ratio:100%, Indoor Condition:27°C[DB]/19°C[WB]





Extraordinary Energy-Saving Performance

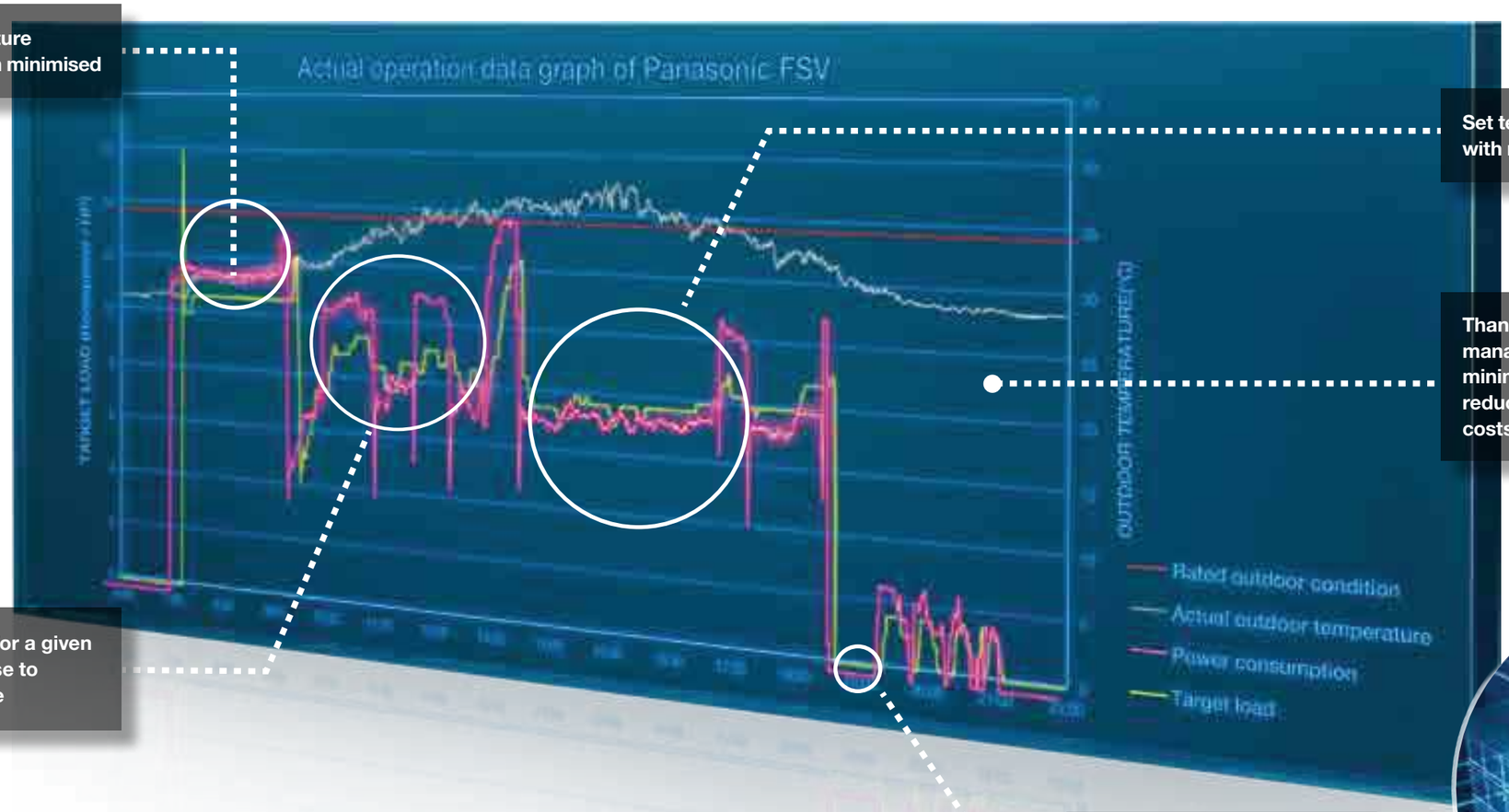
Practical Design for Actual Operation

Panasonic builds air conditioning systems not only with a high EER for rated operation, but also with Seasonal-EER appropriate to the customer's actual environment of use. For instance, with rated operation, outdoor temperature is constant at 35°C, but in reality the outdoor temperature is continuously changing. Consequently, required air conditioning performance also changes. That's why Panasonic implements the following kind of proprietary control.

1. Set temperature is rapidly attained; full-load operating time is kept to a minimum.
2. The frequency of forced oil recovery is minimised. The volume of oil within the compressors is monitored precisely by sensors, so forced oil recovery under full-load operation is conducted only when necessary. Since this suppresses noise due to oil recovery, comfort is maintained.
3. Panasonic pursues a high EER, of course, as well as high EER in part load, for energy saving performance under a broad range of loads.

Panasonic's design concept contributes to substantial energy cost reductions.

Rapidly reaches set temperature
→ Full-load operation duration minimised

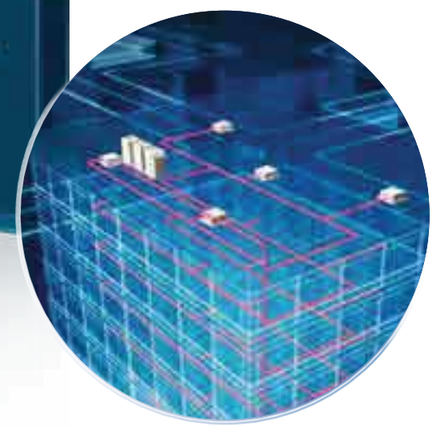


Set temperature maintained with minimum load operation

Thanks to superior oil management, oil recovery is minimised, contributing to reduced energy use and costs

Load increased as required for a given outdoor temperature increase to maintain the set temperature

When outdoor temperature drops, operation is immediately stopped



Actual performance data of Panasonic FSV installed in Asia

Simulated conditions
Location: Panasonic building in Malaysia System: One 16HP outdoor unit, 4 cassette-type indoor units

Intelligent 3-stage Oil Management System

In a VRF system, where lengthy piping and a large number of indoor units need to be controlled collectively, the key to maintaining the system's reliability is to ensure an appropriate amount of oil is secured in the compressors. In order to avoid oil shortage in the compressor, maximum operation is normally forcibly conducted at regular intervals to recover oil from indoor units. This method, typically employed in a standard VRF, causes the system to overheat or overcool and thus waste energy.
In Panasonic VRF systems, a sensor for detecting oil levels is mounted in each compressor. In installations with multiple outdoor units, a shortage of oil in one compressor can be compensated for by recovering oil either from another compressor in the same unit, from a compressor in an adjacent outdoor unit, or from a connected indoor unit. Panasonic VRF systems provide users with a comfortable environment whilst saving energy.

The Panasonic system efficiently manages oil recovery in three stages; minimising the frequency of forced oil recovery while reducing energy cost and maintaining comfort.

STAGE-1

Panasonic compressors are equipped with sensors which monitor oil levels precisely at all times. If oil levels fall, oil can be transferred from other compressors within the same outdoor unit.



STAGE-2

If oil levels in all compressors within the outdoor unit fall, oil can be replenished from adjacent outdoor units.



STAGE-3

Forced oil recovery is implemented only if oil levels become insufficient in spite of above measures. The Panasonic system's design concept is radically different from conventional oil systems.



Features of 3-stage oil recovery design

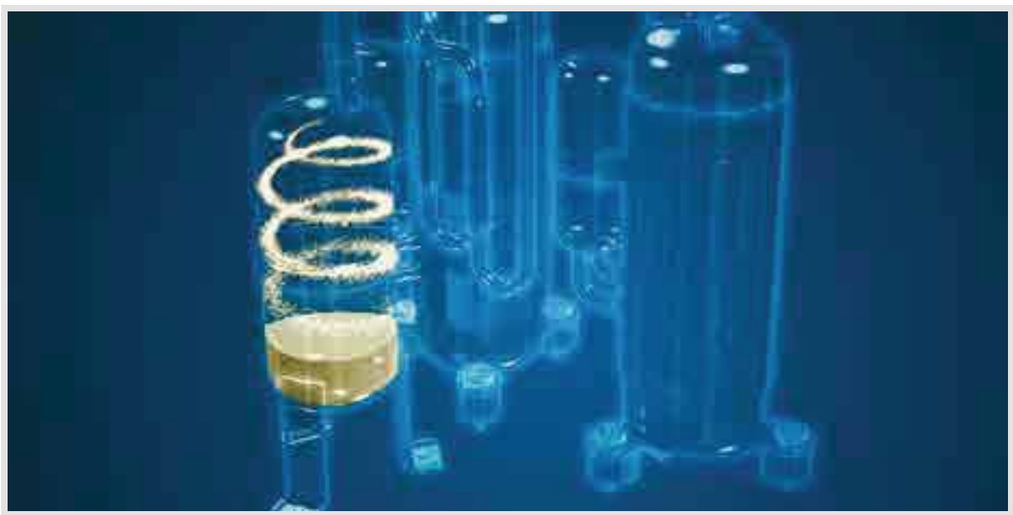
1 Oil sensors installed in each compressor

Oil sensors installed in each Panasonic compressor precisely monitor oil levels, eliminating unnecessary oil recovery.



2 Highly functional oil separator

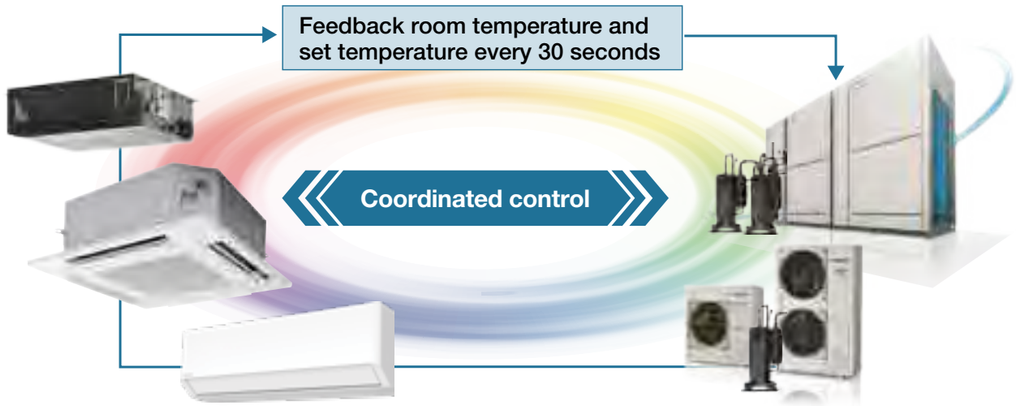
Thanks to extended separate piping, oil recovery efficiency reaches 90%, minimising the oil to be discharged from the compressor.



Panasonic VRF: Top In Comfort

Energy savings × Comfortable air conditioning ~Variable Evaporation Temperature (VET)~

Since 2006, all Panasonic VRF systems have included special VET technology, with variable refrigerant temperature, as standard. Our 'smart logic' system checks the temperature every 30 seconds, automatically adjusting the refrigerant temperature according to actual demand and outdoor conditions.

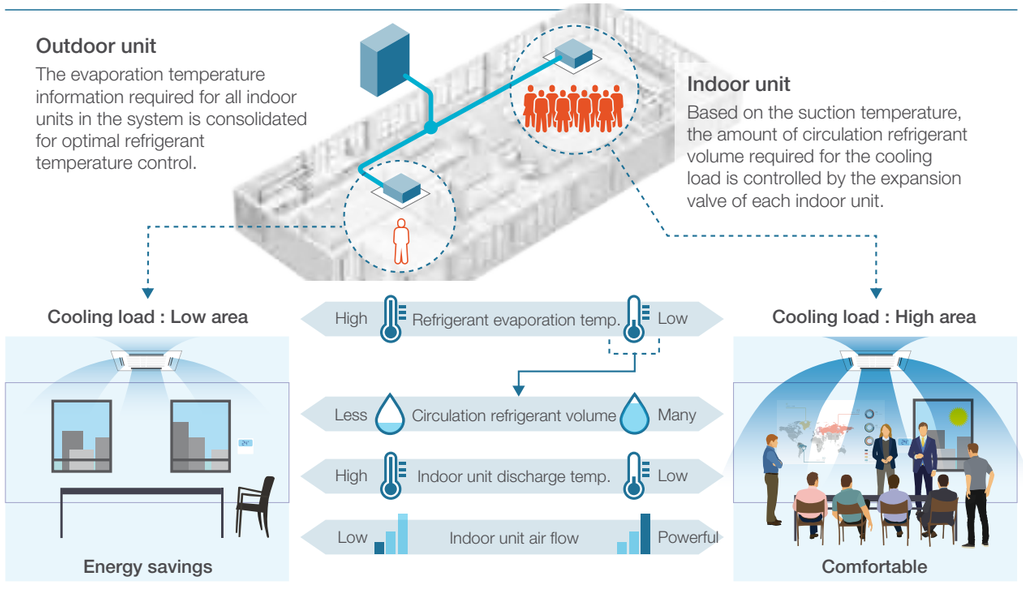


Calculate indoor refrigerant temperature and control the airflow automatically based on the difference between the setting temperature and actual indoor temperature.

Determine system refrigerant temperature and control compressor speed.

* When fan speed is Auto.

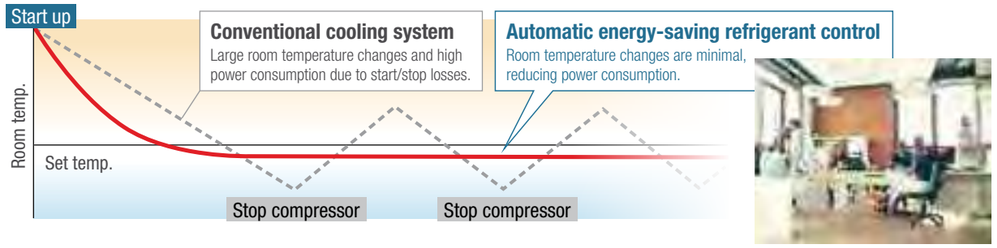
Achieves room-by-room comfort and overall system energy savings by controlling optimal refrigerant temperature and circulation volume based on all information of the entire system.



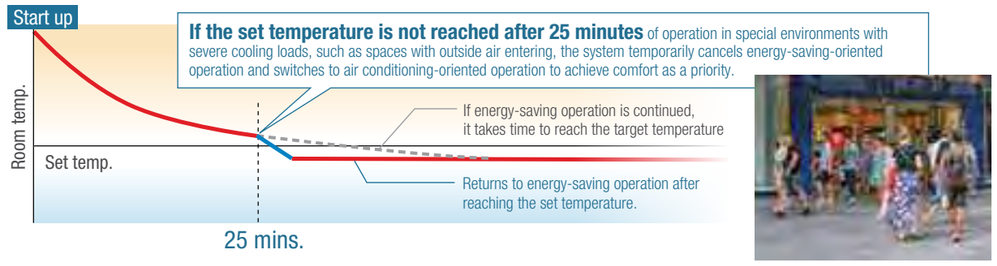
Combination of VET technology and inverter compressor achieves both energy savings and comfort by smoothly controlling the compressor to match the air conditioning load without stopping the compressor for optimum performance.

Image of room temperature change during cooling operation by scene.

1) Normal environment



2) Environment with severe cooling load





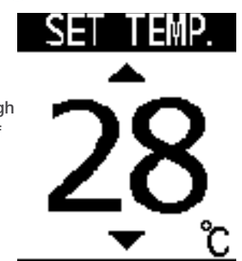
High-spec Wired Remote Controller



CZ-RTC5B Actual size

Large 3.5" Full-dot LCD with White LED Backlight

Characters and icons are clearly displayed for improved visibility. The display is also large enough to provide a wide range of information for easy confirmation of operation conditions.



Stylish, Easy-to-use Touch Key Design

The elegant, flat design features large touch keys in a simple layout enabling easy, intuitive operation.



Multiple control settings to meet a wide range of air conditioning needs



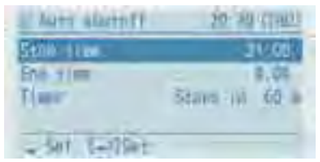
Temperature Auto Return

Even if you change the temperature setting, after a set time it automatically returns to the original temperature setting. You can set temperature auto return time in 10-minute intervals within a period of 4 hours.



Temperature Setting Range

You can set the upper and lower temperature limits. Doing this helps reduce power consumption due to over cooling or heating. Setting is possible in the Cooling, Heating and Dry modes.



Auto Shutoff

Air conditioning automatically stops after a set time, so you don't have to worry about forgetting to switch the unit off. Even if you manually switch the unit back on after it has stopped, it automatically switches off again after the set time.

Wide range of controls for extra convenience



Individual Flap Control (Lock individual flap only for 4-way cassette U1 type)

Each of the 4-directional outlets can be selected and locked to provide efficient air distribution that matches the indoor unit layout. Indoor units can be set individually.



Weekly Timer

This lets you specify 8 Start/Stop times and temperature presets for each day of the week.



Service Contact Address

Once you have register service contact details, they are automatically displayed if a problem with the air conditioner occurs. This helps you quickly deal with the situation.

Convenient Controls



Operation Lock

To prevent operation by anyone other than the supervisor, operation keys can be locked. This prevents unauthorized personnel from changing temperature settings, airflow rate, airflow direction and other settings.



Filter Information

Filter information is indicated for cleaning after a set time of operation period has past. The number of hours can be adjusted.



Quiet Operation Mode

There's a Quiet mode that reduces the outdoor unit's operating noise. The mode can be switched On/ Off and Start/ End times can be set.



Maintenance Function

Display of outdoor malfunction data, service contact details, filter cleaning remaining time and other data enables at-a-glance verification of maintenance information with the remote controller.



Repeat OFF Timer

You can stop the operation after a certain period of time each time operation is performed.



Setting Lists

Information concerning current settings is displayed in the remote controller's LCD for easy confirmation.



Function List

Control Item		Controllability	
		"B" model	Non "B" model
Menu items	Basic instructions	●	●
	FLAP	●	●
	Individual louver control (Lock individual flap only for 4-way cassette U2 type)	●	●
	ON/ OFF timer	●	●
	Weekly timer	●	●
	Filter information	●	——
	Outing function	●	●
	Quiet operation mode	●	——
	Energy saving	●	●
	Initial settings	●	●
	Ventilation	●	●
Energy Saving	Temperature auto return	●	●
	Temperature setting range	●	●
	Auto shutoff	●	●
	Schedule peak cut	●	——
	Repeat off timer	●	●
	ECONAVI on/ off	●	——
Maintenance Function	Outdoor unit error data	●	——
	Service Contact address	●	●
	RC setting mode	●	●
	Test Run	●	●
	Sensor Information	●	●
	Service check	●	●
	Simple/ Detailed Settings	●	●
	Auto address	●	●

Air Handling Unit Kit

AHU Kit connects FSV-EX and FSV outdoor units to Air Handling Units System



If you require this fresh air solution, please contact an authorized Panasonic distributor.

Connect Air Handling Unit to your FSV-EX and FSV systems for a high efficiency operation.

Application: Hotels, offices, server rooms or all large buildings where air quality control such as humidity control and fresh air are needed.

Project References

Office

Hong Kong
Red Cross Headquaters



Air Conditioning System:
VRF 2-way FSV ME1 series:
2 systems
Indoor Units: 2 units
AHU Kit: 6 units
Cooling Capacity: 280 kW / 80 USRT



Residential + Commercial

Malaysia Utropolis, Glenmarie



Air Conditioning System:
VRF 2-way FSV ME1 series:
29 systems
Indoor Units: 168 units
AHU Kit: 9 units
Cooling Capacity: 3,077 kW / 875 USRT



Air Handling Unit Kit to connect to your ventilation system

AHU Connection Kit

PCB,
Power trans,
Terminal block



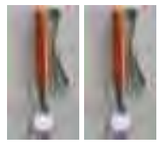
Remote control can be easily installed on the AHU Kit box.
(Remote control must be purchase separately.)



Expansion valve



Thermistor x2
(Refrigerant: E1, E3)



Thermistor x2
(Air: Tf, Tb)



Optional remote controller

High-spec Wired Remote Controller CZ-RTC5B





Timer remote controller.
CZ-RTC4A

Optional parts: Following functions are available by using different type of control accessories:

CZ-RTC4A Wired remote controller
- Operation-ON/OFF
- Mode select
- Temperature setting
  * Fan operation signal can be taken from the PCB.

T10 terminal
- Input signal= Operation ON/OFF

- Remote controller prohibition
- Output signal= Operating-ON status
- Alarm output (by DC12 V)

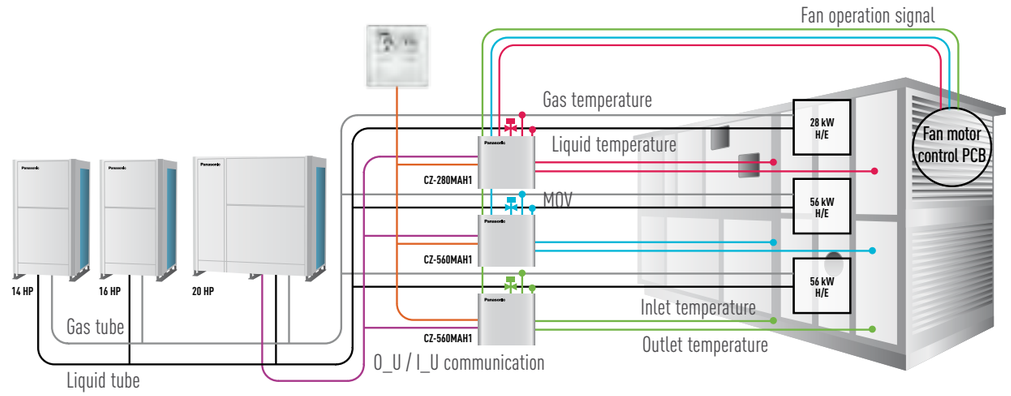
OPTION terminal, DC12V outlet
- Output signal= Cool / Heat/Fan status
- Defrost
- Thermostat-ON

CZ-CAPBC2 Seri-para I/O unit for each indoor unit
- Temperature setting by 0-10 V or 0-140 Ω input signal
- Room (inlet air) temp outlet by 4-20 mA
- Mode select or/and ON/OFF control
- Fan operation control
- Operation status output/ Alarm output

Technical Zoom
- Max. piping length: 100m (actual)/ 120m (equivalent)
- Difference between longest and shortest piping from first branch: 10m
- Max. length of branch tubing: 12m
  * Other conditions to be referred the standard piping design regulations.
- Available temperature range in Heating: -20 °C (WB)~15 °C (WB)
- Available temperature range for the suction air at AHU Kit: Cool: 18~32 °C / Heat: 16~30 °C

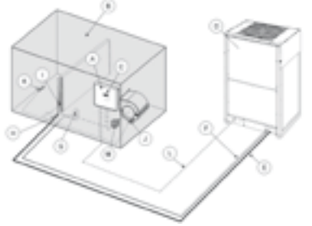
CZ-280MAH1 / CZ-560MAH1
- The system controlled by the suction air (or return air from room) temperature as same as standard indoor unit. (Selectable mode: Automatic / Cooling / Heating / Fan / Dry (but same as Cool)
- The discharge air temperature is also controlled to prevent too-low air discharge in Cooling or too-high air discharge in Heating. (in case of VRF system)
- Demand control (Forcible thermostat-OFF control by operating current)

- Defrost operation signal, Thermo-ON/OFF states output
- External target temperature setting via Indoor/Outdoor signal interface is available with CZ-CAPBC2. (Ex. 0 – 10 V)
- Connectable with P-LINK system



System and regulations. System overview

A: AHU Kit controller box (with control PCB)
B: AHU equipment (Field supplied)
C: Remote controller (option parts)
D: Outdoor unit
E : Gas piping (Field supplied)
F : Liquid piping (Field supplied)
G: Electronic expansion valve
H: Thermistor for gas pipe (E3)
I : Thermistor for liquid pipe (E1)
J : Thermistor for suction air (TA)
K : Thermistor for discharge air (BL)
L : Inter unit wiring
M: Magnetic relay for operating the blower (Field supplied)



AHU Connection Kit / System Combination

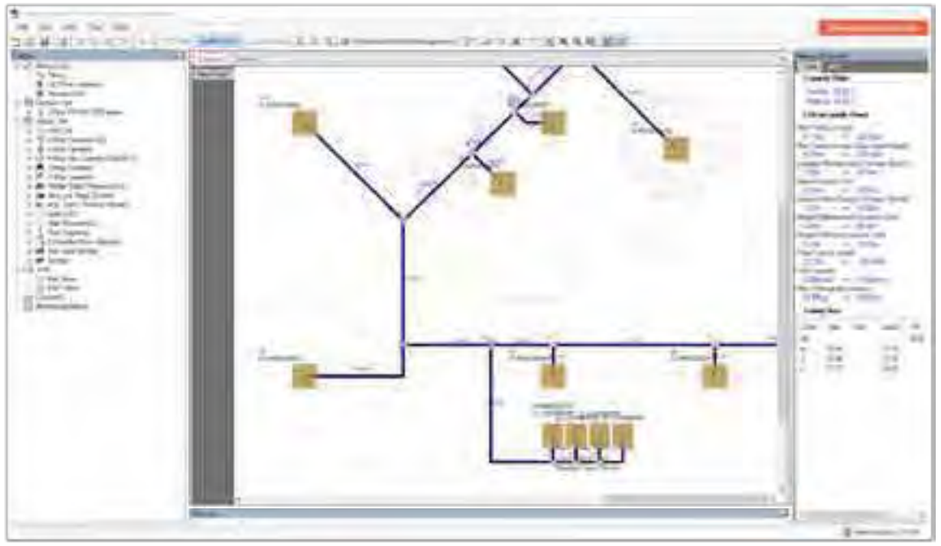
	Capacity (HP)	Outdoor unit combination				AHU kit combination				
FSV-EX ME2 series (Space-saving Combination)	28.0 kW (10 HP)	U-10ME2H7				CZ-280MAH1				
	56.0 kW (20 HP)	U-20ME2H7				CZ-560MAH1				
	85.0 kW (30 HP)	U-14ME2H7	U-16ME2H7			CZ-560MAH1	CZ-280MAH1			
	113.0 kW (40 HP)	U-20ME2H7	U-20ME2H7			CZ-560MAH1	CZ-560MAH1			
	140.0 kW (50 HP)	U-14ME2H7	U-16ME2H7	U-20ME2H7		CZ-560MAH1	CZ-560MAH1	CZ-280MAH1		
	168.0 kW (60 HP)	U-20ME2H7	U-20ME2H7	U-20ME2H7		CZ-560MAH1	CZ-560MAH1	CZ-560MAH1		
	196.0 kW (70 HP)	U-10ME2H7	U-20ME2H7	U-20ME2H7	U-20ME2H7	CZ-560MAH1	CZ-560MAH1	CZ-560MAH1	CZ-280MAH1	
	224.0 kW (80 HP)	U-20ME2H7	U-20ME2H7	U-20ME2H7	U-20ME2H7	CZ-560MAH1	CZ-560MAH1	CZ-560MAH1	CZ-560MAH1	

*These are preliminary. Please consult with Panasonic sales engineers.

CAC Design Support Software

Features the unique Drawing Capture Mode function providing More thorough spec-in and tender quotation support for easier, Faster completion of work.

Drawing Capture Mode Diagram

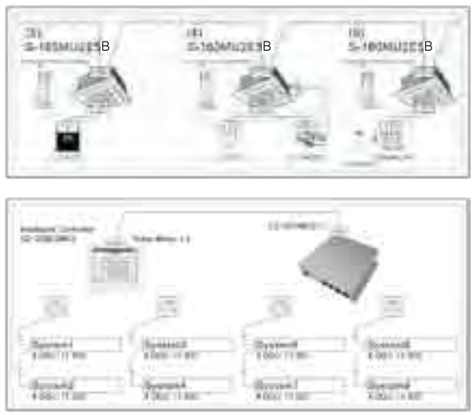


Schematic Mode Diagram



The Panasonic CAC Design Support software can be used for all Panasonic FSV

Panasonic has identified the importance of ever-increasing demands for fast and accurate responses to customer requests in our industry. More and more emphasis is being placed upon energy-efficiency in our marketplace. The ability to calculate cooling/heating loads and produce information of actual design conditions is a major advantage to any architect, consultant, contractor or end user. Panasonic understands the time-poor and demanding industry we are in and we are pleased to announce the launch of the next generation of our system design software program. The Panasonic CAC Design Support Software has been customized to make the selection and design process as quick and easy as possible. The design package utilizes system wizards and import tools to enable both simple and complex systems to be created. In addition, the system will allow outdoor and indoor units to be dragged on an interactive desktop. This allows users to create everything from realistic floor plans with detailed piping and wiring schematics to send out with quotations, through to installation guidance drawings.





Features

- Drawing Capture mode
  Design selection from building floor drawing.
- Any kind of drawing format. (.pdf, .dxf, .dwg, etc.)
- Conventional Schematic diagram.
- Easy to use system wizards.
- Converted duties for conditions and pipework.
- Auto(CAD) [.dxf/.dwg], Excel and PDF export.
- Detailed wiring and pipework diagrams with advising terminal number.



FSV Systems

FSV systems are designed for energy savings, high efficiency, and high durability with strong cooling power even operating at high ambient temperature.
Panasonic continuously apply advanced technologies to meet the requirements of diverse situations and contribute to the creation of comfortable living spaces.

2-WAY FSV-EX ME2 Series

Extraordinary energy-saving performance and powerful operation

Space-saving Combination Model

Cooling or Heating Type | **High-Durability Model**

- Wide range of systems from 8HP to 80HP
- Class-leading EER of 5.3 (for 8HP model)
- Industry-leading low noise of 53.0 DB (8HP model)
- Cooling operation possible with outdoor temperature as high as 52°C (DB)
- Long maximum pipe length (up to 1,000 m)
- Up to 64 indoor units connectable
- External static pressure of 80 Pa
- Extended operating range allows heating with outdoor temperatures as low as -25°C (WB)
- Suitable for R22 renewal projects



High Efficiency Combination Model

Cooling or Heating Type | **High-Durability Model**

- Wide range of systems from 8HP to 64HP
- Class-leading EER of 5.3 (for 8HP model)
- Higher EER than the Space-saving Combination Model
  e.g., a combination of two 10HP units delivering 20HP reduces compressor load.

3-WAY FSV-EX MF3 Series

For simultaneous heating and cooling operation

Heat Recovery Type

Cooling and Heating Simultaneous Type

- Wide range of systems from 8HP to 48HP
- Top class EER : 4.87 / COP : 5.09 (in the case of 8HP)
- Longer max piping length (up to 500 m)
- Increased max number of connectable indoor units (up to 52)
- External static pressure up to 80Pa
- Cooling operation is possible when outdoor temperature as high as 52°C DB
- Operating range to provide heating at outdoor temperature as low as -20°C WB
- Suitable for R22 renewal projects



2-WAY Mini-FSV LE2 Series

Industry Top Class EER/COP

For small-scale commercial and residential use

Cooling or Heating Type 1/3-phase | **4/5/6 HP High-Durability Model**

- High external static pressure 35Pa
- Wide operation range: Cooling: -10°C to 46°C DB, Heating at: -20°C to 18°C WB
- Refrigerant chargeless up to 50m
- Extraordinary energy saving: 5.08* EER for 4HP model
- Demand response (Peak cut) by optional parts.
- Maximum number of connectable indoor units : 9*
- Diversity ratio 50-130%
- DC inverter technology combined with R410A for excellent efficiency
- Demand response (Peak cut) by optional parts.
- One ampere starting current
- Full range of indoor units and control options
- Auto restart from outdoor unit
- Hi-durability outdoor unit model is available.
- Suitable for R22 renewal projects

* 6 HP only; 4 HP for 7 units, 5 HP for 8 units.



2-WAY Mini-FSV LE1 Series

Industry Top Class EER/COP

For small-scale commercial and residential use

Cooling or Heating Type 3-phase | **8/10 HP High-Durability Model**

- High external static pressure 35Pa
- Wide operation range: Cooling: -10°C to 46°C DB, Heating at: -20°C to 18°C DB
- Maximum number of connectable indoor units : 13
- Diversity ratio 50-130%
- DC inverter technology combined with R410A for excellent efficiency
- Actual piping length: 150m (Total piping length: 300m)
- System difference of elevation:50m /40m (outdoor above/below)
- Difference in elevation between indoor units:15m
- Demand response (Peak cut) by optional parts.
- One ampere starting current
- Full range of indoor units and control options
- Auto restart from outdoor unit
- Hi-durability outdoor unit model is available.
- Suitable for R22 renewal project



High-efficiency & Space-saving VRF system

FSV-EX ME2



Remarkable improvement on key components



4 Flat fan guard

3 New curved bell mouth

2 Combined triple-surface heat exchanger

1 Multiple large-capacity inverter compressor (14HP and above)

Extraordinary energy-saving performance

1 Multiple large-capacity all inverter compressors

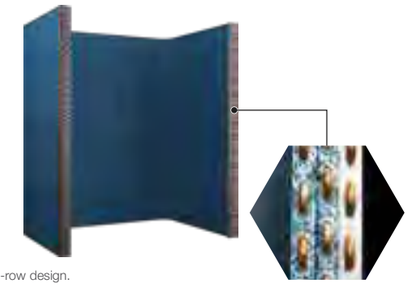
(for middle and large outdoor units)

Two independently controlled inverter compressors achieve high efficiency. Redesigned components in the body provide performance improvement especially in the rated cooling condition and EER performance.



2 Enlarged heat exchanger surface area with triple surface*

The new heat exchanger features a triple-surface construction. Compared to the divided dual-surface construction in current models, there is no division of space and the area for heat exchange is larger.
Also, highly efficient piping pattern increases heat exchange performance by 5%.

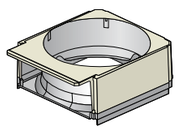


* For 8 and 10 HP of ME2, and 8, 10 and 12 HP of MS3, the heat exchanger is 2-row design.

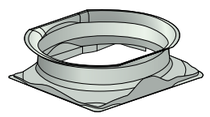
Redesigned for smooth and better air discharge

3 Newly designed curved air discharge bell mouth for better aerodynamics

The new curved shape with integrated top and bottom assure smooth exhaust flow. This gives more air-volume with same sound level, less power input at same air-volume.



Conventional model [ME1]



New model [ME2]

4 Large air discharge area with new flush surface top panel

To reduce air resistance, instead of a tubular fan design, a new large flat fan guard design, flush with the top panel, is employed. This design leads to improvement in air resistance but also contributed to better appearance design.



Conventional model [ME1]



New model [ME2]



High-efficiency & Space-saving VRF system

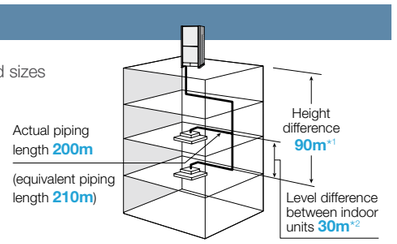
FSV-EX ME2

Increased piping length for greater design flexibility

*1: 40 m if the outdoor unit is below the indoor unit. Elevation difference of Max. 90m in case of ODU is higher than IDU may be allowed following certain conditions.
*1, *2: Please consult with Panasonic sales engineers about the certain conditions in case of piping elevation of over 50m or level difference between indoor units over 15m is required.

Adaptable to various building types and sizes
Actual piping length : **200m**
(equivalent piping length : 210m)

Max. total piping length:1,000m



Connectable indoor/outdoor unit capacity ratio up to 130% *1

FSV systems attain maximum indoor unit connection capacity of up to 130 %*1 of the unit's connection range, depending on the outdoor and indoor models selected. So for a reasonable investment, FSV systems provide an ideal air conditioning solution for locations where full cooling/heating are not always required.

*1 82HP and above is equivalent to 80HP.

SYSTEM / HP	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96
SYSTEM / kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0	73.0	78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0	140.0	145.0	151.0	156.0	162.0	168.0	174.0	180.0	185.0	190.0	196.0	202.0	208.0	213.0	219.0	224.0	232.0	238.0	244.0	249.0	254.0	260.0	266.0	272.0
	ME2 SERIES																																												
MNcIU	13	16	19	23	26	29	33	36	40	43	46	50	53	56	59	63	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
No.1	29.1	36.4	43.6	52.0	58.5	65.0	72.8	80.0	88.4	94.9	102.1	110.5	117.0	124.8	131.3	139.1	146.9	153.4	161.2	169.0	175.5	182.0	188.5	196.3	202.8	210.6	218.4	226.2	234.0	240.5	247.0	254.8	262.6	270.4	276.9	284.7	291.2	291.2	291.2	291.2	291.2	291.2	291.2	291.2	291.2
No.2	44.8	56.0	67.0	80.0	90.0	100.0	112.0	123.0	136.0	146.0	157.0	170.0	180.0	192.0	202.0	214.0	226.0	236.0	248.0	260.0	270.0	280.0	290.0	302.0	312.0	324.0	336.0	348.0	360.0	370.0	380.0	392.0	404.0	416.0	426.0	438.0	448.0	448.0	448.0	448.0	448.0	448.0	448.0	448.0	448.0

MNcIU : Maximum Number of Connectable Indoor Unit
No.1 : Max connectable IDU capacity / kW (without condition) No.2 : Max connectable IDU capacity / kW (with below *2 condition)

Note: If more than 100% indoor units are operated with a high load, the units may not perform at the rated capacity. For the details, please consult with an authorised Panasonic dealer

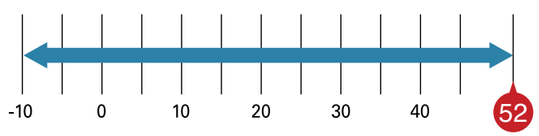
*2 If the following conditions are satisfied, the effective range is "Max connectable IDU capacity / kW (with below *condition) figures" written in above No.2.
i) Obey the limited number of connectable indoor units.
ii) The lower limit of operating range for heating outdoor temperature is limited to -10°CWB (standard -25°CWB). iii) Simultaneous operation is limited to less than "Max connectable IDU capacity / kW (without condition) figures" written in above No.1.

Wide operating range

- Cooling operation is possible when outdoor temperature as low as -10°C DB
- Cooling operation is possible when outdoor temperature as high as 52°C DB
- Heating operation is possible when outdoor temperature as low as -25°C WB

The remote controller temperature can be set from 18°C up to 30°C (Cooling), 16°C up to 30°C (Heating)*.

* Depending on the type of remote controller.



Cooling: -10°C DB ~ 52°C DB (ME2)

* For further information please refer to the capacity tables in the Technical Data Book.

High-durability outdoor unit

The high-durable specification improves corrosion resistance (rust and salty air) and durability with thicker polyester coatings and added protective treatments. Key components receive upgraded coating thicknesses (≥120 µm).

Note: Selecting this unit does not completely eliminate the possibility of rust developing.
For details concerning unit installation and maintenance, please consult an authorised dealer.

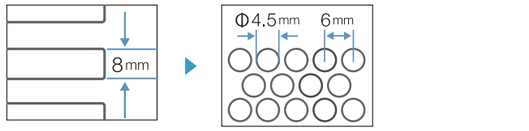
* Specific model with suffix "E" has this treatment.

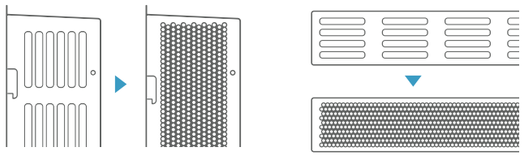


Prevents unit stoppages due to short circuits caused by geckos

One of the common causes of failures of the outdoor unit is electrical short circuits caused by geckos, small animals such as rats and insects entering the unit. The unit eliminates gaps that prevent geckos from entering the internal PCB and thus prevent operation stoppages.

Change Slit

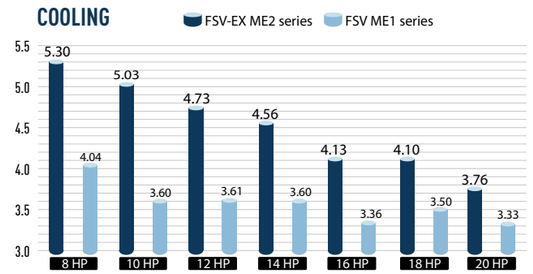






Excellent energy savings

The operation efficiency has been improved using highly efficient R410A refrigerant, new DC inverter compressor, and new heat exchanger design.



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High-efficiency & Space-saving VRF system

FSV-EX ME2



High external static pressure on condensers

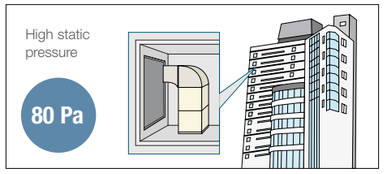
With a newly designed fan, fan guard, motor, and casing, new models can be custom-installed on-site to provide up to 80 Pa of external static pressure. An air discharge duct prevents shortages of air circulation, allowing outdoor units to be installed on every floor of a building.



Fan



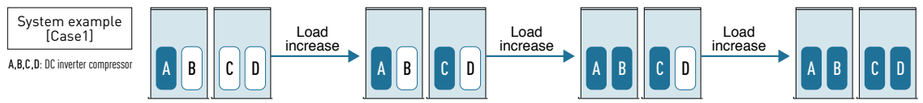
Fan Motor and Casing



Extended compressor life by uniform compressor operation time

The total run-time of compressors are monitored by a built-in microcomputer, which ensures that operation times of all compressors within the same refrigerant circuit are balanced.

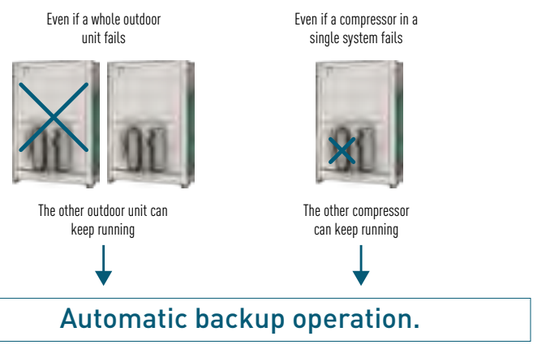
Compressors with histories showing shorter run times are selected first, ensuring equal wear and tear across all units and extended the working life of the system.



* Depend on accumulated operation time of each compressors.
* Compressor priority has possibility to be changed.
(e.g) Case1: A→C→B→D, Case2: C→A→D→B, Case3: A→C→D→B, Case4: C→A→B→D

Automatic backup operation in the case of compressor failure or outdoor unit malfunction*

Backup operation allows uninterrupted cooling or heating to continue while waiting for service. Users should contact their authorised service center as soon as fault occurs.



*Except for 8-12 HP single unit installation

MEMO

FSV-EX ME2 Series

2-WAY FSV-EX ME2 Series HIGH EFFICIENCY COMBINATION MODEL



U-8ME2H7
U-10ME2H7



U-12ME2H7
U-14ME2H7
U-16ME2H7

Appearance																								
HP				**8**	**10**	**12**	**14**	**16**	**18**	**20**	**22**	**24**	**26**	**28**	**30**	**32**	**34**	**36**	**38**	**40**	**42**	**44**	**46**	**48**	**50**	**52**	**54**
				U-18ME2H7HE	**U-20ME2H7HE**	**U-22ME2H7**	**U-24ME2H7**	**U-26ME2H7**	**U-28ME2H7**	**U-30ME2H7**	**U-32ME2H7**	**U-34ME2H7HE**	**U-36ME2H7HE**	**U-38ME2H7HE**	**U-40ME2H7HE**	**U-42ME2H7**	**U-44ME2H7**	**U-46ME2H7**	**U-48ME2H7**	**U-50ME2H7HE**	**U-52ME2H7HE**	**U-54ME2H7HE**
Model name				**U-8ME2H7** **U-10ME2H7**	**U-10ME2H7** **U-10ME2H7**	**U-10ME2H7** **U-12ME2H7**	**U-12ME2H7** **U-12ME2H7**	**U-10ME2H7** **U-16ME2H7**	**U-12ME2H7** **U-16ME2H7**	**U-14ME2H7** **U-16ME2H7**	**U-16ME2H7** **U-16ME2H7**	**U-10ME2H7** **U-12ME2H7** **U-12ME2H7**	**U-12ME2H7** **U-12ME2H7** **U-12ME2H7**	**U-10ME2H7** **U-12ME2H7** **U-16ME2H7**	**U-12ME2H7** **U-12ME2H7** **U-16ME2H7**	**U-10ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-12ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-14ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-16ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-10ME2H7** **U-12ME2H7** **U-12ME2H7** **U-16ME2H7**	**U-12ME2H7** **U-12ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-10ME2H7** **U-12ME2H7** **U-16ME2H7** **U-16ME2H7**
Power supply				380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz																							
Capacity	Cooling		kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0	73.0	78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0	140.0	145.0	151.0
			BTU/h	76,500	95,600	114,300	136,500	153,600	170,600	191,100	209,900	232,100	249,100	267,900	290,100	307,200	327,600	344,700	365,200	385,700	402,700	423,200	443,700	460,800	477,800	494,900	515,400
	Heating		kW	25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	81.5	87.5	95.0	100.0	108.0	113.0	119.0	127.0	132.0	138.0	145.0	150.0	155.0	160.0	169.0
			BTU/h	85,300	107,500	128,000	153,600	170,600	191,100	215,000	235,500	261,100	278,200	298,600	324,200	341,300	368,600	385,700	406,100	433,400	450,500	471,000	494,900	511,900	529,000	546,100	576,800
EER / COP	Cooling		W/W	5.30	5.03	4.73	4.56	4.13	5.15	5.05	4.84	4.69	4.42	4.36	4.31	4.13	4.80	4.72	4.51	4.45	4.31	4.26	4.25	4.13	4.58	4.53	4.40
	Heating		W/W	5.84	5.56	5.38	5.29	5.13	5.71	5.58	5.48	5.31	5.29	5.24	5.19	5.13	5.40	5.38	5.31	5.23	5.22	5.19	5.18	5.12	5.36	5.33	5.26
Dimensions	H x W x D		mm	1,842 x 770 x 1,000	1,842 x 770 x 1,000	1,842 x 1,180 x 1,000	1,842 x 1,180 x 1,000	1,842 x 1,180 x 1,000	1,842 x 1,600 x 1,000	1,842 x 1,600 x 1,000	1,842 x 2,010 x 1,000	1,842 x 2,420 x 1,000	1,842 x 2,010 x 1,000	1,842 x 2,420 x 1,000	1,842 x 2,420 x 1,000	1,842 x 2,420 x 1,000	1,842 x 3,250 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,250 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,250 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,660 x 1,000	1,842 x 4,490 x 1,000	1,842 x 4,900 x 1,000	1,842 x 4,490 x 1,000
Net weight			kg	210	210	270	315	315	420	420	480	540	525	585	630	630	750	810	795	855	840	900	945	945	1,065	1,125	1,110
Electrical ratings	Cooling	Running current	A	7.14 / 6.78 / 6.54	9.62 / 9.14 / 8.81	11.8 / 11.2 / 10.8	15.3 / 14.5 / 14.0	18.4 / 17.5 / 16.8	16.6 / 15.7 / 15.2	19.2 / 18.2 / 17.5	21.4 / 20.4 / 19.6	24.2 / 23.0 / 22.2	28.2 / 26.8 / 25.8	30.4 / 28.9 / 27.8	33.6 / 31.9 / 30.8	36.8 / 35.0 / 33.7	33.8 / 32.1 / 30.9	35.7 / 33.9 / 32.7	40.0 / 38.0 / 36.6	42.4 / 40.3 / 38.8	46.3 / 43.9 / 42.4	49.1 / 46.7 / 45.0	52.2 / 49.6 / 47.8	55.2 / 52.4 / 50.5	51.7 / 49.1 / 47.3	53.4 / 50.8 / 48.9	57.9 / 55.0 / 53.0
		Power input	kW	4.23	5.57	7.08	8.77	10.9	9.70	11.1	12.7	14.5	16.5	18.0	19.7	21.8	20.0	21.4	23.7	25.4	27.4	29.1	30.6	32.7	30.6	32.0	34.3
	Heating	Running current	A	7.15 / 6.79 / 6.54	9.68 / 9.20 / 8.86	11.6 / 11.1 / 10.7	14.9 / 14.1 / 13.6	16.6 / 15.8 / 15.2	16.5 / 15.7 / 15.1	19.3 / 18.3 / 17.7	21.3 / 20.2 / 19.5	24.0 / 22.8 / 22.0	26.3 / 25.0 / 24.1	28.2 / 26.8 / 25.8	31.6 / 30.0 / 28.9	33.3 / 31.6 / 30.5	33.8 / 32.1 / 30.9	35.1 / 33.3 / 32.1	37.8 / 35.9 / 34.6	41.0 / 39.0 / 37.6	43.2 / 41.0 / 39.5	44.9 / 42.7 / 41.1	48.3 / 45.9 / 44.3	50.0 / 47.5 / 45.8	48.8 / 46.3 / 44.7	50.6 / 48.1 / 46.4	54.8 / 52.1 / 50.2
		Power input	kW	4.28	5.67	6.97	8.51	9.75	9.80	11.3	12.6	14.4	15.4	16.7	18.3	19.5	20.0	21.0	22.4	24.3	25.3	26.6	28.0	29.3	28.9	30.0	32.1
Starting current			A	1	1	1	2	2	2	2	2	2	3	3	4	4	3	3	4	4	5	5	6	6	5	5	6
Air flow rate			m³/h	13,440	13,440	13,920	13,920	13,920	26,880	26,880	27,360	27,840	27,360	27,840	27,840	27,840	41,280	41,760	41,280	41,760	41,280	41,760	41,760	41,760	55,200	55,680	55,200
			L/s	3,733	3,733	3,867	3,867	3,867	7,467	7,466	7,600	7,733	7,600	7,733	7,733	7,733	11,467	11,600	11,467	11,600	11,467	11,600	11,600	11,600	15,333	15,467	15,333
Refrigerant amount at shipment			kg	5.6	5.6	8.3	8.3	8.3	11.2	11.2	13.9	16.6	13.9	16.6	16.6	16.6	22.2	24.9	22.2	24.9	22.2	24.9	24.9	24.9	30.5	33.2	30.5
External static pressure			Pa	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Piping connections	Gas pipe		mm (inches)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)	Ø25.40 (Ø1)	Ø25.40 (Ø1)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)
	Liquid pipe		mm (inches)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø12.70 (Ø1/2)	Ø12.70 (Ø1/2)	Ø12.70 (Ø1/2)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)
	Balance pipe		mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Ambient temperature operating range				Cooling: -10℃ (DB)~ +52℃ (DB). Heating: -25℃ (WB)~ +18℃ (WB)										Cooling: -10℃ (DB)~ +52℃ (DB). Heating: -25℃ (WB)~ +18℃ (WB)													
Sound pressure level	Normal mode		dB (A)	53.0	56.0	57.0	58.0	61.0	58.0	59.0	59.5	60.0	62.5	62.5	63.0	64.0	61.5	62.0	63.5	63.5	65.0	65.0	65.0	66.0	64.5	64.5	65.5
	Silent mode (2)		dB (A)	48.0	51.0	52.0	53.0	56.0	53.0	54.0	54.5	55.0	57.5	57.5	58.0	59.0	56.5	57.0	58.5	58.5	60.0	60.0	60.0	61.0	59.5	59.5	60.5
Sound power level	Normal mode		dB	74.0	77.0	78.0	79.0	82.0	79.0	80.0	80.5	81.0	83.5	83.5	84.0	85.0	82.5	83.0	84.5	84.5	86.0	86.0	86.0	87.0	85.5	85.5	86.5







Appearance								
HP			**56**	**58**	**60**	**62**	**64**
			U-56ME2H7HE	**U-58ME2H7HE**	**U-60ME2H7HE**	**U-62ME2H7**	**U-64ME2H7**
Model name			**U-12ME2H7** **U-12ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-10ME2H7** **U-16ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-12ME2H7** **U-16ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-14ME2H7** **U-16ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-16ME2H7** **U-16ME2H7** **U-16ME2H7** **U-16ME2H7**
Power supply			380/400/415V/3-phase/50Hz 380/400/3-phase/60Hz				
Capacity	Cooling	kW	156.0	162.0	168.0	174.0	180.0
		BTU/h	532,400	552,900	573,400	593,300	614,300
	Heating	kW	175.0	182.0	189.0	195.0	201.0
		BTU/h	597,300	621,200	645,100	665,500	686,000
EER / COP	Cooling	W/W	4.38	4.27	4.24	4.23	4.13
	Heating	W/W	5.24	5.19	5.15	5.16	5.11
Dimensions	H x W x D	mm	1,842 x 4,900 x 1,000	1,842 x 4,490 x 1,000	1,842 x 4,900 x 1,000	1,842 x 4,900 x 1,000	1,842 x 4,900 x 1,000
Net weight		kg	1,170	1,155	1,215	1,260	1,260
Electrical ratings	Cooling	Running current A	60.1 / 57.1 / 55.0	64.0 / 60.8 / 58.6	66.9 / 63.5 / 61.2	70.2 / 66.7 / 64.2	73.6 / 69.9 / 67.4
		Power input kW	35.6	37.9	39.6	41.1	43.6
	Heating	Running current A	56.4 / 53.6 / 51.6	59.9 / 56.9 / 54.9	62.7 / 59.5 / 57.4	64.5 / 61.3 / 59.1	67.1 / 63.7 / 61.4
		Power input kW	33.4	35.1	36.7	37.8	39.3
Starting current		A	6	7	7	8	8
Air flow rate		m³/h	55,680	55,200	55,680	55,680	55,680
		L/s	15,467	15,333	15,467	15,467	15,467
Refrigerant amount at shipment		kg	33.2	30.5	33.2	33.2	33.2
External static pressure		Pa	80	80	80	80	80
Piping connections	Gas pipe	mm (inches)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)
	Liquid pipe	mm (inches)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)
	Balance pipe	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Ambient temperature operating range			Cooling: -10℃ (DB)~ +52℃ (DB). Heating: -25℃ (WB)~ +18℃ (WB)				
Sound pressure level	Normal mode	dB (A)	65.5	66.5	66.5	66.5	67.0
	Silent mode	dB (A)	60.5	61.5	61.5	61.5	62.0
Sound power level	Normal mode	dB	86.5	87.5	87.5	87.5	88.0

GLOBALREMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27℃ DB / 19℃ WB	20℃ DB
Outdoor air temperature	35℃ DB	7℃ DB / 6℃ WB

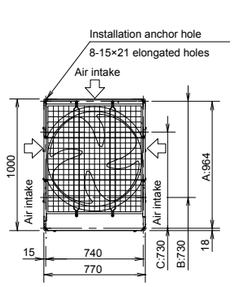
These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.
High durable model (with suffix "E") has same specifications.

8 / 10 HP

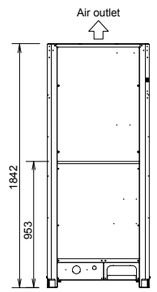
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

A: (Installation hole pitch) For removing tube forward
B: (Installation hole pitch) For removing the downward
C: (Installation hole pitch)

Top view



Front view



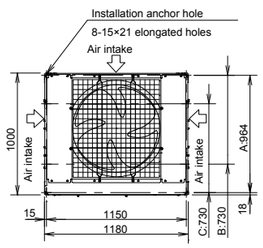
unit: mm

12 / 14 / 16 HP

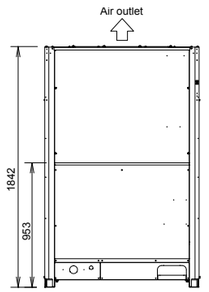
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

A: (Installation hole pitch) For removing tube forward
B: (Installation hole pitch) For removing the downward
C: (Installation hole pitch)

Top view



Front view



unit: mm

FSV-EX ME2 Series

2-WAY FSV-EX ME2 Series SPACE SAVING COMBINATION MODEL


U-8ME2H7
U-10ME2H7


U-12ME2H7
U-14ME2H7
U-16ME2H7


U-18ME2H7
U-20ME2H7

Appearance											
HP			**8**	**10**	**12**	**14**	**16**	**18**	**20**	**22**	**24**
Model name			**U-8ME2H7**	**U-10ME2H7**	**U-12ME2H7**	**U-14ME2H7**	**U-16ME2H7**	**U-18ME2H7**	**U-20ME2H7**	**U-22ME2H7** **U-10ME2H7** **U-12ME2H7**	**U-24ME2H7** **U-12ME2H7** **U-12ME2H7**
Power supply			380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz								
Capacity	Cooling	kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0
		BTU/h	76,500	95,600	114,300	136,500	153,600	170,600	191,100	209,900	232,100
	Heating	kW	25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5
		BTU/h	85,300	107,500	128,000	153,600	170,600	191,100	215,000	235,500	261,100
EER / COP	Cooling	W/W	5.30	5.03	4.73	4.56	4.13	4.10	3.76	4.84	4.69
	Heating	W/W	5.84	5.56	5.38	5.29	5.13	5.05	4.60	5.48	5.31
Dimensions	H x W x D	mm	1,842 x 770 x 1,000	1,842 x 770 x 1,000	1,842 x 1,180 x 1,000	1,842 x 1,180 x 1,000	1,842 x 1,180 x 1,000	1,842 x 1,540 x 1,000	1,842 x 1,540 x 1,000	1,842 x 2,010 x 1,000	1,842 x 2,420 x 1,000
Net weight		kg	210	210	270	315	315	375	375	480	540
Electrical ratings	Cooling Running current	A	7.14 / 6.78 / 6.54	9.62 / 9.14 / 8.81	11.8 / 11.2 / 10.8	15.3 / 14.5 / 14.0	18.4 / 17.5 / 16.8	20.6 / 19.6 / 18.9	24.6 / 23.4 / 22.5	21.4 / 20.4 / 19.6	24.2 / 23.0 / 22.2
	Cooling Power input	kW	4.23	5.57	7.08	8.77	10.9	12.2	14.9	12.7	14.5
	Heating Running current	A	7.15 / 6.79 / 6.54	9.68 / 9.20 / 8.86	11.6 / 11.1 / 10.7	14.9 / 14.1 / 13.6	16.6 / 15.8 / 15.2	18.9 / 18.0 / 17.4	22.9 / 21.7 / 20.9	21.3 / 20.2 / 19.5	24.0 / 22.8 / 22.0
	Heating Power input	kW	4.28	5.67	6.97	8.51	9.75	11.1	13.7	12.6	14.4
Starting current		A	1	1	1	2	2	2	2	2	2
Air flow rate		m³/h	13,440	13,440	13,920	13,920	13,920	24,300	24,300	27,360	27,840
		L/s	3,733	3,733	3,867	3,867	3,867	6,750	6,750	7,600	7,733
Refrigerant amount at shipment		kg	5.6	5.6	8.3	8.3	8.3	9.5	9.5	13.9	16.6
External static pressure		Pa	80	80	80	80	80	80	80	80	80
Piping connections	Gas pipe	mm (inches)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)	Ø25.40 (Ø1)	Ø25.40 (Ø1)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)
	Liquid pipe	mm (inches)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø12.70 (Ø1/2)	Ø12.70 (Ø1/2)	Ø12.70 (Ø1/2)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
	Balance pipe	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Ambient temperature operating range			Cooling: -10℃ (DB)~ +52℃ (DB). Heating: -25℃ (WB)~ +18℃ (WB)								
Sound pressure level	Normal mode	dB (A)	53.0	56.0	57.0	58.0	61.0	59.0	59.0	59.5	60.0
	Silent mode (2)	dB (A)	48.0	51.0	52.0	53.0	56.0	54.0	54.0	54.5	55.0
Sound power level	Normal mode	dB	74.0	77.0	78.0	79.0	82.0	80.0	80.0	80.5	81.0








Appearance														
HP			**26**	**28**	**30**	**32**	**34**	**36**	**38**	**40**	**42**	**44**	**46**	**48**
Model name			**U-26ME2H7**	**U-28ME2H7**	**U-30ME2H7**	**U-32ME2H7**	**U-34ME2H7SP**	**U-36ME2H7SP**	**U-38ME2H7SP**	**U-40ME2H7SP**	**U-42ME2H7**	**U-44ME2H7**	**U-46ME2H7**	**U-48ME2H7**
			U-10ME2H7 **U-16ME2H7**	**U-12ME2H7** **U-16ME2H7**	**U-14ME2H7** **U-16ME2H7**	**U-16ME2H7** **U-16ME2H7**	**U-14ME2H7** **U-20ME2H7**	**U-16ME2H7** **U-20ME2H7**	**U-18ME2H7** **U-20ME2H7**	**U-20ME2H7** **U-20ME2H7**	**U-10ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-12ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-14ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-16ME2H7** **U-16ME2H7** **U-16ME2H7**
Power supply			380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz											
Capacity	Cooling	kW	73.0	78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0
		BTU/h	249,100	267,900	290,100	307,200	327,600	344,700	365,200	385,700	402,700	423,200	443,700	460,800
	Heating	kW	81.5	87.5	95.0	100.0	108.0	113.0	119.0	127.0	132.0	138.0	145.0	150.0
		BTU/h	278,200	298,600	324,200	341,300	368,600	385,700	406,100	433,400	450,500	471,000	494,900	511,900
EER / COP	Cooling	W/W	4.42	4.36	4.31	4.13	4.05	3.91	3.89	3.74	4.31	4.26	4.25	4.13
	Heating	W/W	5.29	5.24	5.19	5.13	4.86	4.81	4.80	4.58	5.22	5.19	5.18	5.12
Dimensions	H x W x D	mm	1,842 x 2,010 x 1,000	1,842 x 2,420 x 1,000	1,842 x 2,420 x 1,000	1,842 x 2,420 x 1,000	1,842 x 2,780 x 1,000	1,842 x 2,780 x 1,000	1,842 x 3,140 x 1,000	1,842 x 3,140 x 1,000	1,842 x 3,250 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,660 x 1,000
Net weight		kg	525	585	630	630	690	690	750	750	840	900	945	945
Electrical ratings	Cooling Running current	A	28.2 / 26.8 / 25.8	30.4 / 28.9 / 27.8	33.6 / 31.9 / 30.8	36.8 / 35.0 / 33.7	40.0 / 38.0 / 36.6	43.1 / 40.9 / 39.4	45.9 / 43.6 / 42.0	49.9 / 47.4 / 45.7	46.3 / 43.9 / 42.4	49.1 / 46.7 / 45.0	52.2 / 49.6 / 47.8	55.2 / 52.4 / 50.5
	Cooling Power input	kW	16.5	18.0	19.7	21.8	23.7	25.8	27.5	30.2	27.4	29.1	30.6	32.7
	Heating Running current	A	26.3 / 25.0 / 24.1	28.2 / 26.8 / 25.8	31.6 / 30.0 / 28.9	33.3 / 31.6 / 30.5	37.9 / 36.0 / 34.7	39.7 / 37.7 / 36.3	41.9 / 39.8 / 38.3	46.2 / 43.9 / 42.3	43.2 / 41.0 / 39.5	44.9 / 42.7 / 41.1	48.3 / 45.9 / 44.3	50.0 / 47.5 / 45.8
	Heating Power input	kW	15.4	16.7	18.3	19.5	22.2	23.5	24.8	27.7	25.3	26.6	28.0	29.3
Starting current		A	3	3	4	4	4	4	4	4	5	5	6	6
Air flow rate		m³/h	27,360	27,840	27,840	27,840	38,220	38,220	48,600	48,600	41,280	41,760	41,760	41,760
		L/s	7,600	7,733	7,733	7,733	10,617	10,617	13,500	13,500	11,467	11,600	11,600	11,600
Refrigerant amount at shipment		kg	13.9	16.6	16.6	16.6	17.8	17.8	19.0	19.0	22.2	24.9	24.9	24.9
External static pressure		Pa	80	80	80	80	80	80	80	80	80	80	80	80
Piping connections	Gas pipe	mm (inches)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)
	Liquid pipe	mm (inches)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)
	Balance pipe	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Ambient temperature operating range			Cooling: -10℃ (DB)~ +52℃ (DB). Heating: -25℃ (WB)~ +18℃ (WB)											
Sound pressure level	Normal mode	dB (A)	62.5	62.5	63.0	64.0	61.5	63.5	62.0	62.0	65.0	65.0	65.0	66.0
	Silent mode (2)	dB (A)	57.5	57.5	58.0	59.0	56.5	58.5	57.0	57.0	60.0	60.0	60.0	61.0
Sound power level	Normal mode	dB	83.5	83.5	84.0	85.0	82.5	84.5	83.0	83.0	86.0	86.0	86.0	87.0

Appearance											
HP			**50**	**52**	**54**	**56**	**58**	**60**	**62**	**64**	**66**
Model name			**U-50ME2H7SP**	**U-52ME2H7SP**	**U-54ME2H7SP**	**U-56ME2H7SP**	**U-58ME2H7SP**	**U-60ME2H7SP**	**U-62ME2H7**	**U-64ME2H7**	**U-66ME2H7SP**
			U-14ME2H7 **U-16ME2H7** **U-20ME2H7**	**U-16ME2H7** **U-16ME2H7** **U-20ME2H7**	**U-14ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-16ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-18ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-20ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-14ME2H7** **U-16ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-16ME2H7** **U-16ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-10ME2H7** **U-16ME2H7** **U-20ME2H7** **U-20ME2H7**
Power supply			380/400/415V/3-phase/50Hz 380/400/3-phase/60Hz								
Capacity	Cooling	kW	140.0	145.0	151.0	156.0	162.0	168.0	174.0	180.0	185.0
		BTU/h	477,800	494,900	515,400	532,400	552,900	573,400	593,900	614,300	631,400
	Heating	kW	155.0	160.0	169.0	175.0	182.0	189.0	195.0	201.0	207.0
		BTU/h	529,000	546,100	576,800	597,300	621,200	645,100	665,500	686,000	706,500
EER / COP	Cooling	W/W	4.09	3.99	3.95	3.87	3.86	3.76	4.23	4.13	4.00
	Heating	W/W	5.00	4.95	4.79	4.76	4.73	4.60	5.16	5.11	4.85
Dimensions	H x W x D	mm	1,842 x 4,020 x 1,000	1,842 x 4,020 x 1,000	1,842 x 4,380 x 1,000	1,842 x 4,380 x 1,000	1,842 x 4,740 x 1,000	1,842 x 4,740 x 1,000	1,842 x 4,900 x 1,000	1,842 x 4,900 x 1,000	1,842 x 5,210 x 1,000
Net weight		kg	1,005	1,005	1,065	1,065	1,125	1,125	1,260	1,260	1,275
Electrical ratings	Cooling Running current	A	57.7 / 54.8 / 52.9	60.6 / 57.6 / 55.5	63.8 / 60.6 / 58.4	67.3 / 63.9 / 61.6	70.1 / 66.6 / 64.2	73.8 / 70.1 / 67.6	70.2 / 66.7 / 64.2	73.6 / 69.9 / 67.4	77.3 / 73.4 / 70.8
	Cooling Power input	kW	34.2	36.3	38.2	40.3	42.0	44.7	41.1	43.6	46.3
	Heating Running current	A	52.9 / 50.3 / 48.5	54.5 / 51.8 / 49.9	59.6 / 56.6 / 54.6	62.1 / 59.0 / 56.9	65.0 / 61.7 / 59.5	68.6 / 65.2 / 62.8	64.5 / 61.3 / 59.1	67.1 / 63.7 / 61.4	72.1 / 68.5 / 66.0
	Heating Power input	kW	31.0	32.3	35.3	36.8	38.5	41.1	37.8	39.3	42.7
Starting current		A	6	6	6	6	6	6	8	8	7
Air flow rate		m³/h	52,140	52,140	62,520	62,520	72,900	72,900	55,680	55,680	75,960
		L/s	14,483	14,483	17,366	17,366	20,250	20,250	15,467	15,467	21,100
Refrigerant amount at shipment		kg	26.1	26.1	27.3	27.3	28.5	28.5	33.2	33.2	32.9
External static pressure		Pa	80	80	80	80	80	80	80	80	80
Piping connections	Gas pipe	mm (inches)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)
	Liquid pipe	mm (inches)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)
	Balance pipe	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Ambient temperature operating range			Cooling: -10℃ (DB)~ +52℃ (DB). Heating: -25℃ (WB)~ +18℃ (WB)								
Sound pressure level	Normal mode	dB (A)	64.5	65.5	63.5	64.5	64.0	64.0	66.5	67.0	65.5
	Silent mode (2)	dB (A)	59.5	60.5	58.5	59.5	59.0	59.0	61.5	62.0	60.5
Sound power level	Normal mode	dB	85.5	86.5	84.5	85.5	85.0	85.0	87.5	88.0	86.5







Appearance											
HP			**68**	**70**	**72**	**74**	**76**	**78**	**80**
Model name			**U-68ME2H7SP**	**U-70ME2H7SP**	**U-72ME2H7SP**	**U-74ME2H7SP**	**U-76ME2H7SP**	**U-78ME2H7SP**	**U-80ME2H7SP**
			U-12ME2H7 **U-16ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-10ME2H7** **U-20ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-16ME2H7** **U-16ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-16ME2H7** **U-18ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-16ME2H7** **U-20ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-18ME2H7** **U-20ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-20ME2H7** **U-20ME2H7** **U-20ME2H7** **U-20ME2H7**
Power supply			380/400/415V/3-phase/50Hz 380/400/3-phase/60Hz						
Capacity	Cooling	kW	190.0	196.0	202.0	208.0	213.0	219.0	224.0
		BTU/h	648,500	668,900	689,400	709,900	727,000	747,400	764,500
	Heating	kW	213.0	219.0	226.0	233.0	239.0	245.0	252.0
		BTU/h	727,000	747,400	771,300	795,200	815,700	836,200	860,100
EER / COP	Cooling	W/W	3.99	3.90	3.91	3.90	3.83	3.82	3.76
	Heating	W/W	4.84	4.73	4.82	4.79	4.70	4.69	4.60
Dimensions	H x W x D	mm	1,842 x 5,620 x 1,000	1,842 x 5,570 x 1,000	1,842 x 5,620 x 1,000	1,842 x 5,980 x 1,000	1,842 x 5,980 x 1,000	1,842 x 6,340 x 1,000	1,842 x 6,340 x 1,000
Net weight		kg	1,335	1,335	1,380	1,440	1,440	1,500	1,500
Electrical ratings	Cooling Running current	A	79.5 / 75.5 / 72.8	84.0 / 79.8 / 76.9	86.2 / 81.8 / 78.9	89.0 / 84.5 / 81.5	91.8 / 87.2 / 84.1	94.6 / 89.9 / 86.6	98.4 / 93.5 / 90.1
	Cooling Power input	kW	47.6	50.3	51.6	53.3	55.6	57.3	59.6
	Heating Running current	A	73.5 / 69.8 / 67.3	77.3 / 73.4 / 70.8	79.2 / 75.2 / 72.5	82.0 / 77.9 / 75.1	85.0 / 80.7 / 77.8	87.2 / 82.8 / 79.8	91.5 / 86.9 / 83.8
	Heating Power input	kW	44.0	46.3	46.9	48.6	50.9	52.2	54.8
Starting current		A	7	7	8	8	8	8	8
Air flow rate		m³/h	76,440	86,340	76,440	86,820	86,820	97,200	97,200
		L/s	21,233	23,983	21,233	24,117	24,117	27,000	27,000
Refrigerant amount at shipment		kg	35.6	34.1	35.6	36.8	36.8	38.0	38.0
External static pressure		Pa	80	80	80	80	80	80	80
Piping connections	Gas pipe	mm (inches)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø44.45 (Ø1-3/4)	Ø44.45 (Ø1-3/4)	Ø44.45 (Ø1-3/4)	Ø44.45 (Ø1-3/4)	Ø44.45 (Ø1-3/4)
	Liquid pipe	mm (inches)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)
	Balance pipe	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Ambient temperature operating range			Cooling: -10℃ (DB)~ +52℃ (DB). Heating: -25℃ (WB)~ +18℃ (WB)						
Sound pressure level	Normal mode	dB (A)	65.5	64.5	66.5	66.0	66.0	65.0	65.0
	Silent mode (2)	dB (A)	60.5	59.5	61.5	61.0	61.0	60.0	60.0
Sound power level	Normal mode	dB	86.5	85.5	87.5	87.0	87.0	86.0	86.0

GLOBALREMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27℃ DB / 19℃ WB	20℃ DB
Outdoor air temperature	35℃ DB	7℃ DB / 6℃ WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.
High durable model (with suffix "E") has same specifications.

FSV-EX ME2 Series

2-WAY FSV-EX ME2 Series SPACE SAVING COMBINATION MODEL



U-8ME2H7
U-10ME2H7



U-12ME2H7
U-14ME2H7
U-16ME2H7



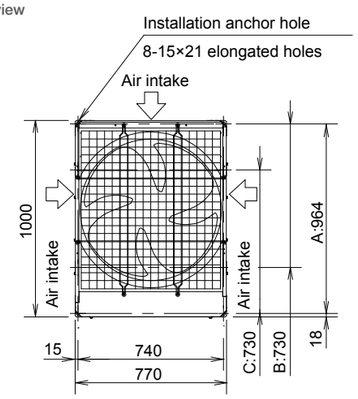
U-18ME2H7
U-20ME2H7

8 / 10 HP

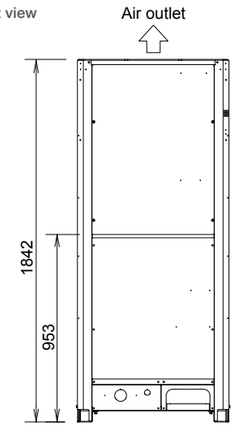
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

A: (Installation hole pitch) For removing tube forward
B: (Installation hole pitch) For removing the downward
C: (Installation hole pitch)

Top view



Front view



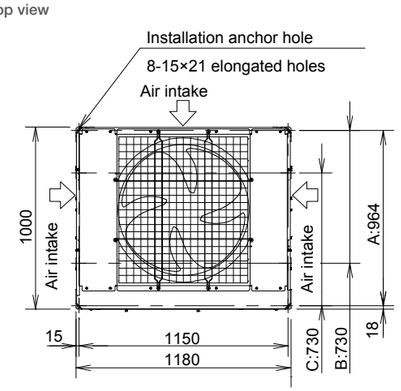
unit: mm

12 / 14 / 16 HP

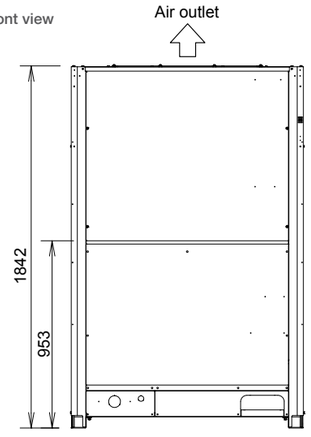
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

A: (Installation hole pitch) For removing tube forward
B: (Installation hole pitch) For removing the downward
C: (Installation hole pitch)

Top view



Front view



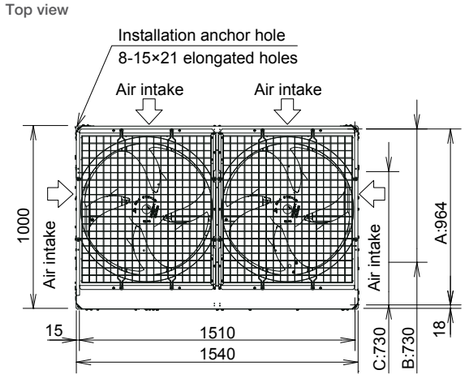
unit: mm

18 / 20 HP

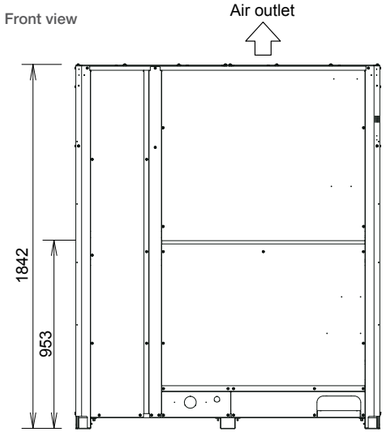
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

A: (Installation hole pitch) For removing tube forward
B: (Installation hole pitch) For removing the downward
C: (Installation hole pitch)

Top view



Front view



unit: mm

INVERTER

Simultaneous heating and cooling VRF system

3-WAY FSV-EX MF3 Series

Heat Recovery Type



New 3-WAY FSV-EX MF3 series enables simultaneous heating and cooling operation

- Suitable for R22 renewal projects (Refer to Page 128)
- Demand response ready (Peak cut)



* Office building with diverse room temperatures due to the different amount of sunshine received.
* The building with computer/business equipment rooms requiring year-round cooling.

Fully-automatic simultaneous cooling/heating operation and heat recovery

3-WAY MF3 series enables simultaneous heating and cooling operation by each solenoid valve kit.
New design to decrease chattering noise at low capacity load.



CZ-P56HR3
Up to 5.6 kW

CZ-P160HR3
From 5.7 to 16 kW

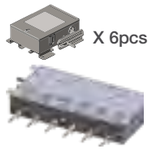


3-Pipe control PCB
CZ-CAPE2*

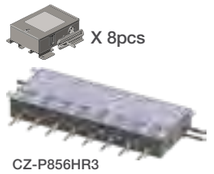
Must be added to the CZ-P56HR3 OR CZ-P160HR3.



CZ-P456HR3
CZ-P4160HR3



CZ-P656HR3

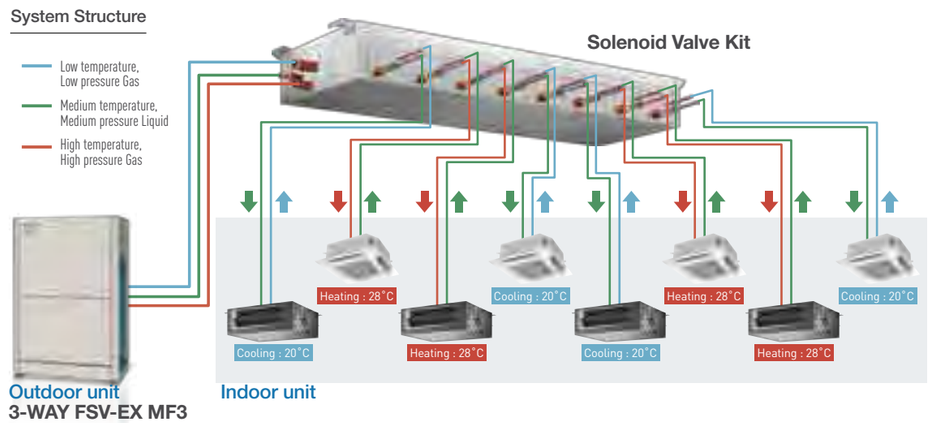


CZ-P856HR3

Individual control of multiple indoor units with solenoid valve kits

- Any design and layout can be used in a single system.
- Cooling operation is possible up to an outdoor temperature of -10℃ DB.

System Structure



FSV-EX MF3 Series

Simultaneous heating and cooling VRF system

3-WAY FSV-EX MF3 Series

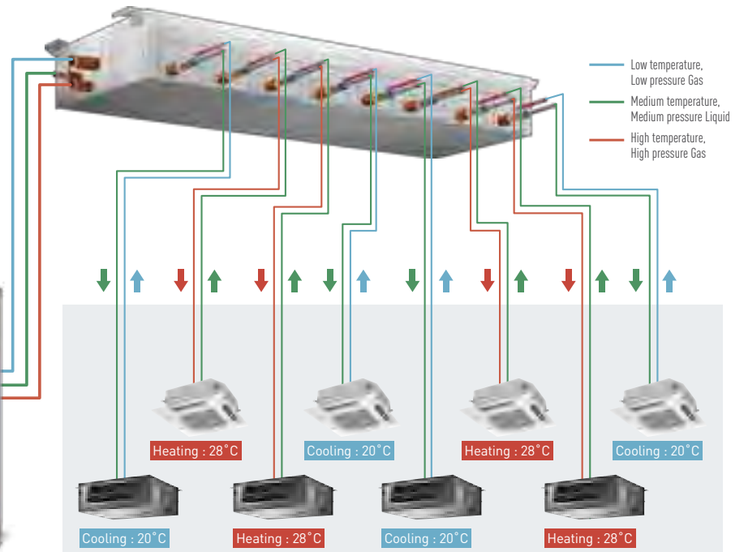
New Solenoid Valve Kit Multiple Connection Port Type

The new Panasonic Solenoid Valve Kit field installation work becomes more easy. In fact, our latest technology is designed new packages body without additional branch-kits and 3-way control PCB. Connection tube for main refrigerant circuit line comes on both side of the unit. It helps the system design and piping layout for more flexible.

System Structure

Solenoid Valve Kit

The system monitors high pressure, low pressure, and the heat exchanger mode to set an appropriate frequency. The heat exchanger controls the amounts of heat exchange.





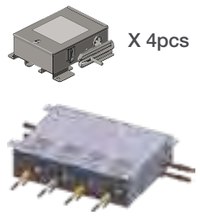
Outdoor unit

3-WAY FSV-EX MF3

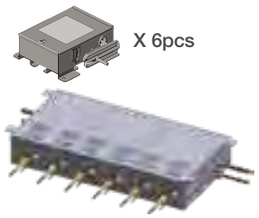
Indoor unit

Heat exchanger temperature is controlled by the temperature difference between target and return air.

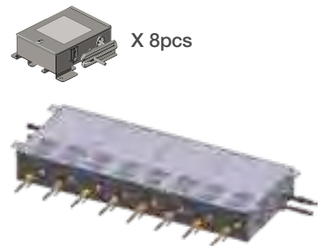
CZ-P456HR3
CZ-P4160HR3



CZ-P656HR3



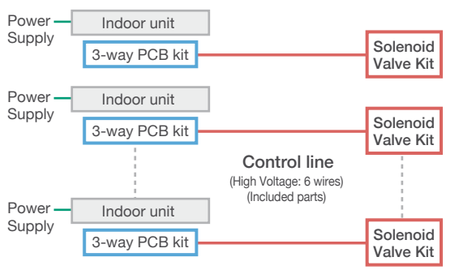
CZ-P856HR3



	1 port	4 port	6 port	8 port
56 type	CZ-P56HR3	**CZ-P456HR3**	**CZ-P656HR3**	**CZ-P856HR3**
160 type	CZ-P160HR3	**CZ-P4160HR3**	--	--

Solenoid Valve Kit / Wiring Work

Current Model / Single Connection Type



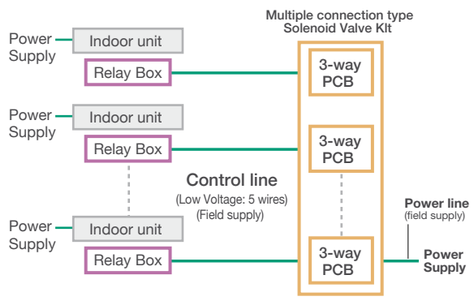
Parts included in HR3 kit



3-way PCB kit (separately purchased)



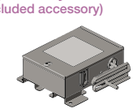
New Model / Multiple Connection Type



Parts included in HR3 kit



Signal Relay Box (included accessory)



FSV-EX MF3 Series

Simultaneous heating and cooling VRF system

3-WAY FSV-EX MF3 Series

Increased max. number of connectable indoor units

The 3-WAY MF3 series has four DC inverter outdoor units from 16HP as the basic models, and by combination of up to three units, an air-conditioning capacity of 8HP to 48HP can be set according to the user needs.

System (HP)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
Outdoor units	8	10	12	14	16	10	12	12	12	16	16	16	16	16	16	16	16	16	16	16	16
						8	8	10	12	10	12	14	16	10	12	12	16	16	16	16	16
														8	8	10	8	10	12	14	16
Connectable indoor units	15	19	22	27	30	34	38	41	46	49	52	52	52	52	52	52	52	52	52	52	52

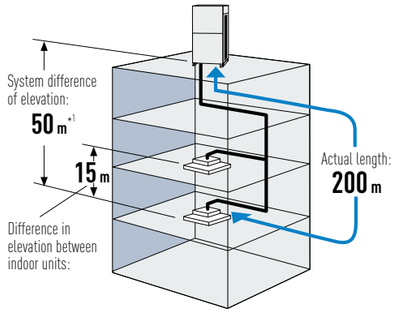
Connectable indoor/outdoor unit capacity ratio up to 150%

Long piping design

Adaptable to various building types and sizes
Actual piping length : 200m
Max piping length : 500m

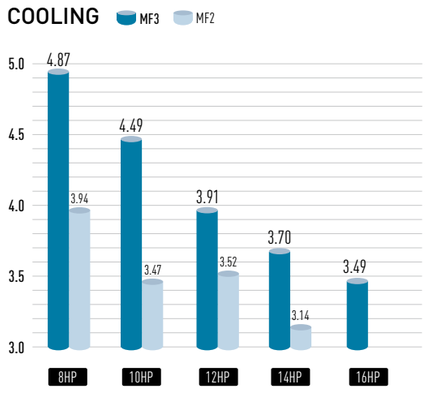
*1: 40 m if the outdoor unit is below the indoor unit.

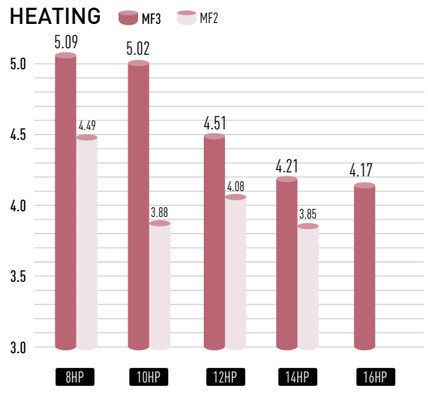
Max. total length:500 m



Excellent energy saving

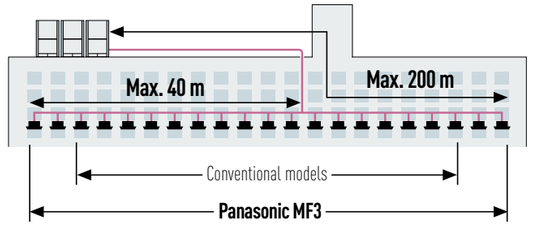
The operation efficiency has been improved using highly efficient R410A refrigerant, new DC inverter compressor, and new heat exchanger design.





Up to 40m piping after first branch

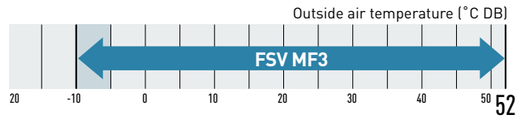
Up to 52 units can be connected to one system. Flexible piping layout makes it easier to design systems for locations such as train stations, airports, schools and hospitals.



Extended operating range

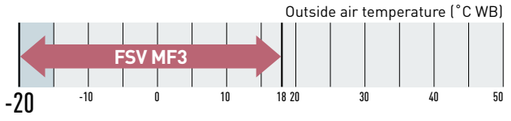
Cooling operation range:

The cooling operation range has been extended to -10℃ DB to +52℃ DB by changing the outdoor fan to an inverter type.



Heating operation range:

Stable heating operation even with an outside air temperature of -20℃ WB



Wide temperature setting range

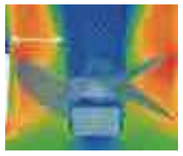
Wired remote control heating temperature setting range is 16 to 30°C

Remark: Cooling/heating capacity depend on indoor/outdoor temperature.
Please refer technical databook.

Newly designed fan

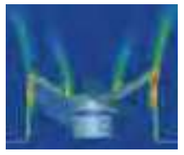
Optimised air flow

Newly designed fan and bell-mouth reduces stress on the fan by dispersing air quickly. Thus, lower air resistance results in lower energy consumption.



Noise reduction

Turbulence (blue) can be suppressed and the unwanted noise can be reduced. Even though a high speed fan is utilised, the noise level is still very low.



FSV-EX MF3 Series

Simultaneous heating and cooling VRF system

3-WAY FSV-EX MF3 Series

High external static pressure on condensers

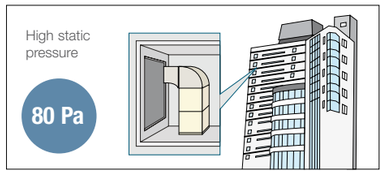
With a newly designed fan, fan guard, motor, and casing, new models can be custom-installed on-site to provide up to 80 Pa of external static pressure. An air discharge duct prevents shortages of air circulation, allowing outdoor units to be installed on every floor of a building.



Fan



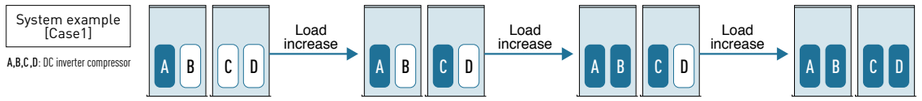
Fan Motor and Casing



Extended compressor life by uniform compressor operation time

The total run-time of compressors are monitored by a built-in microcomputer, which ensures that operation times of all compressors within the same refrigerant circuit are balanced.

Compressors with histories showing shorter run times are selected first, ensuring equal wear and tear across all units and extended the working life of the system.

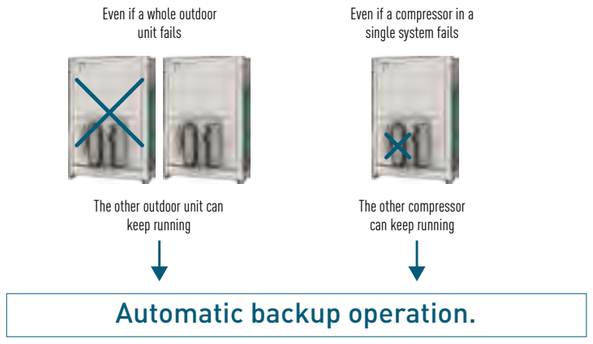


* Depend on accumulated operation time of each compressors.
* Compressor priority has possibility to be changed.
(e.g) Case1: A→C→B→D, Case2: C→A→D→B, Case3: A→C→D→B, Case4: C→A→B→D

Automatic backup operation in the case of compressor failure or outdoor unit malfunction

Except for 8, 10 & 12HP single unit installation

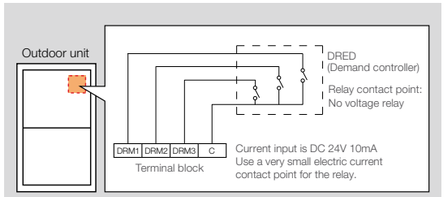
*Backup operation allows uninterrupted cooling or heating to continue whilst waiting for service.
Users should contact their authorised service centre as soon as fault occurs.



Flexible demand response

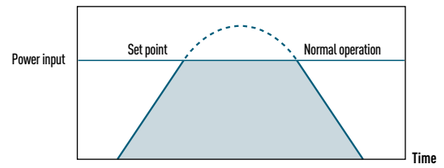
Demand response

Featuring inverter control technology, MF3 series systems are Demand Response Management (DRM) ready. With this control, power consumption at times of peak load can be set in three steps to deliver optimum performance. This helps to correspond with the local power management for reducing peak power consumption, and to reduce annual power consumption with minimal loss in comfort.



Demand control setting level and unit behavior image

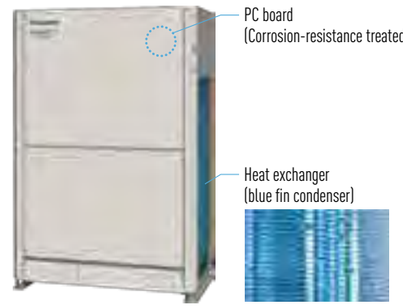
It is possible to limit the operating current of MF3 series system to 3 stages (75%/50%/0%) according to the demand control signal sent from the building.



Terminal no. for demand section	Description
DRM3	Approx. 75% of rated current
DRM2	Approx. 50% of rated current
DRM1	Compressor off

Blue fin condenser outdoor unit

The anti-corrosion Blue Fin treatment of the heat exchanger provides greater resistance against corrosion. All models are equipped with Blue Fin condenser.



FSV-EX MF3 Series

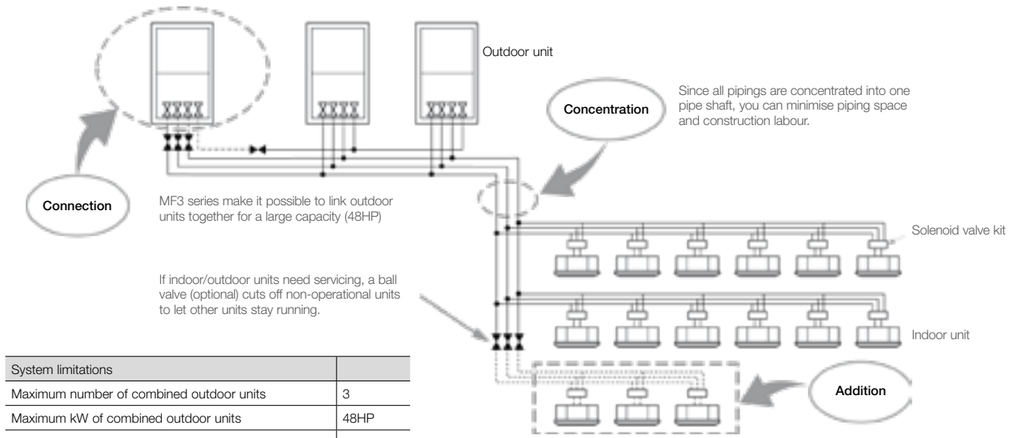
3-WAY FSV-EX MF3 Series

Appearance																								
HP			8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
Model name			**U-8MF3R7**	**U-10MF3R7**	**U-12MF3R7**	**U-14MF3R7**	**U-16MF3R7**	**U-8MF3R7 U-10MF3R7**	**U-8MF3R7 U-12MF3R7**	**U-10MF3R7 U-12MF3R7**	**U-12MF3R7 U-12MF3R7**	**U-10MF3R7 U-16MF3R7**	**U-12MF3R7 U-16MF3R7**	**U-14MF3R7 U-16MF3R7**	**U-16MF3R7 U-16MF3R7**	**U-8MF3R7 U-10MF3R7 U-16MF3R7**	**U-8MF3R7 U-12MF3R7 U-16MF3R7**	**U-10MF3R7 U-12MF3R7 U-16MF3R7**	**U-8MF3R7 U-16MF3R7 U-16MF3R7**	**U-10MF3R7 U-16MF3R7 U-16MF3R7**	**U-12MF3R7 U-16MF3R7 U-16MF3R7**	**U-14MF3R7 U-16MF3R7 U-16MF3R7**	**U-16MF3R7 U-16MF3R7 U-16MF3R7**
Power supply			380/400/415V/3-phase/50Hz 380/400V/3-phase/60										380/400/415V/3-phase/50Hz 380/400V/3-phase/60											
Capacity	Cooling	kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0	73.0	78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0
		BTU/h	76,500	95,600	114,300	136,500	153,600	170,600	191,100	209,900	232,100	249,100	267,900	290,100	307,200	327,600	344,700	365,200	385,700	402,700	423,200	443,700	460,800
	Heating	kW	25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	81.5	87.5	95.0	100.0	108.0	113.0	119.0	127.0	132.0	138.0	145.0	150.0
		BTU/h	85,300	107,500	128,000	153,600	170,600	191,100	215,000	235,500	261,100	278,200	298,600	324,200	341,300	368,600	385,700	406,100	433,400	450,500	471,000	494,900	511,900
EER / COP	Cooling	W/W	4.87	4.49	3.91	3.70	3.49	4.67	4.24	4.16	3.89	3.82	3.65	3.59	3.49	4.00	3.87	3.84	3.69	3.69	3.58	3.55	3.49
	Heating	W/W	5.09	5.02	4.51	4.21	4.17	5.09	4.70	4.73	4.47	4.45	4.31	4.19	4.17	4.56	4.45	4.47	4.29	4.34	4.25	4.18	4.17
Dimensions	H x W x D	mm	1,842x1,180 x1,000	1,842x1,180 x1,000	1,842x1,180 x1,000	1,842x1,180 x1,000	1,842x1,180 x1,000	1,842x2,420 x1,000	1,842x2,420 x1,000	1,842x2,420 x1,000	1,842x2,420 x1,000	1,842x2,420 x1,000	1,842x2,420 x1,000	1,842x2,420 x1,000	1,842x2,420 x1,000	1,842x3,660 x1,000	1,842x3,660 x1,000	1,842x3,660 x1,000	1,842x3,660 x1,000	1,842x3,660 x1,000	1,842x3,660 x1,000	1,842x3,660 x1,000	1,842x3,660 x1,000
Net weight		kg	264	265	289	337	337	529	553	554	578	602	626	674	674	866	890	891	938	939	963	1,011	1,011
Electrical ratings	Cooling Running current	A	7.52/7.14/6.88	10.4/9.88/9.52	13.9/13.2/12.7	18.2/17.3/16.7	21.3/20.2/19.5	17.7/16.8/16.2	21.3/20.3/19.5	24.2/23.0/22.1	28.3/26.9/25.9	31.5/30.0/28.9	35.1/33.4/32.2	39.6/37.6/36.2	42.6/40.5/39.0	39.6/37.7/36.3	42.6/40.5/39.0	46.1/43.8/42.2	50.5/48.0/46.3	52.8/50.2/48.4	56.5/53.7/51.8	61.1/58.1/56.0	63.9/60.7/58.
	Power input	kW	4.60	6.23	8.57	10.8	12.9	10.7	13.2	14.8	17.5	19.1	21.5	23.7	25.8	24.0	26.1	27.9	30.6	32.0	34.6	36.6	38.7
	Heating Running current	A	8.02/7.62/7.34	10.5/9.95/9.59	13.4/12.8/12.3	18.1/17.2/16.5	20.0/19.0/18.3	18.2/17.3/16.6	21.7/20.6/19.8	23.9/22.7/21.8	27.6/26.3/25.3	30.6/29.0/28.0	33.5/31.8/30.7	37.9/36.0/34.7	40.1/38.1/36.7	39.6/37.6/36.2	41.9/39.8/38.4	43.9/41.7/40.2	49.4/49.4/46.9	50.8/48.2/46.5	53.7/51.0/49.1	57.9/55.0/53.0	60.1/57.1/55.0
	Power input	kW	4.91	6,27	8.32	10.7	12.0	11.0	13.4	14.6	17.1	18.3	20.3	22.7	24.0	23.7	25.4	26.6	29.6	30.4	32.5	34.7	36.0
Air flow rate		m³/h	12,600	13,200	13,920	13,920	13,920	25,800	26,520	27120	27,840	27,120	27,840	27,840	27,840	39,720	40,440	41,040	40,440	41,040	41,760	41,760	41,760
		L/s	3,500	3,667	3,867	3,867	3,867	7,167	7,367	7,533	7,733	7,533	7,733	7,733	7,733	11,033	11,233	11,400	11,233	11,400	11,600	11,600	11,600
Refrigerant amount at shipment		kg	9.8	9.8	11.8	11.8	11.8	19.6	21.6	21.6	23.6	21.6	23.6	23.6	23.6	31.4	33.4	33.4	33.4	33.4	35.4	35.4	35.4
Piping connections	Suction pipe	mm (inches)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)	Ø25.40 (Ø1)	Ø25.40 (Ø1)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø38.1 (Ø1-1/2)	Ø38.1 (Ø1-1/2)	Ø38.1 (Ø1-1/2)	Ø38.1 (Ø1-1/2)	Ø38.1 (Ø1-1/2)	Ø38.1 (Ø1-1/2)	Ø38.1 (Ø1-1/2)
	Discharge pipe	mm (inches)	Ø15.88 (Ø5/8)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø25.40 (Ø1)	Ø25.40 (Ø1)	Ø25.40 (Ø1)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)
	Liquid pipe	mm (inches)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø12.70 (Ø1/2)	Ø12.70 (Ø1/2)	Ø12.70 (Ø1/2)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)
	Balance pipe	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Ambient temperature operating range													Cooling/Dry: -10℃~+52℃ (DB). Heating: -20℃~+18℃ (WB) Simultaneous operation: -10℃~+24℃ (DB)											
Sound pressure level	Normal mode	dB (A)	54.0	57.0	60.0	61.0	62.0	59.0	61.0	62.0	63.0	63.5	64.5	64.5	65.0	64.0	64.5	65.0	65.5	66.0	66.5	66.5	67.0
	Silent mode	dB (A)	51.0	54.0	57.0	58.0	59.0	56.0	58.0	59.0	60.0	60.5	61.5	61.5	62.0	61.0	61.5	62.0	62.5	63.0	63.5	63.5	64.0

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27℃ DB / 19℃ WB	20℃ DB
	Outdoor air temperature	35℃ DB	7℃ DB / 6℃ WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.
* For mixed heating and cooling operation with an outdoor temperature in excess of 24℃ DB, please use 50% or more of the horsepower of the outdoor unit for cooling operation.

System example

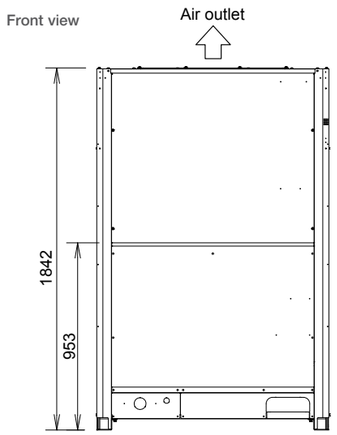


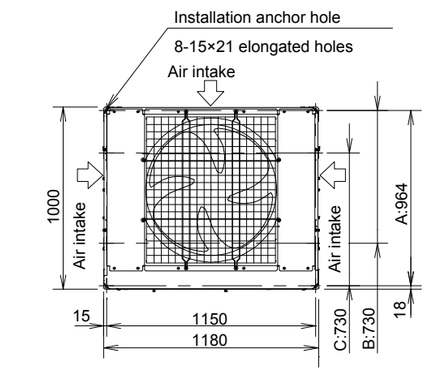
System limitations	
Maximum number of combined outdoor units	3
Maximum kW of combined outdoor units	48HP
Maximum number of connectable indoor units	52
Indoor/outdoor unit capacity ratio	50-150%
Maximum actual piping length	200 m
Maximum level difference (when outdoor unit is lower)	50 (40) m
Maximum total piping length in one direction	500 m

If your indoor capacity load changes in the future, it's easy to add on both indoor and outdoor units using the same pipings.

If the additional installment of outdoor and indoor units is expected, the size of refrigerant piping should be decided according to the total capacity after the addition.

Dimensions



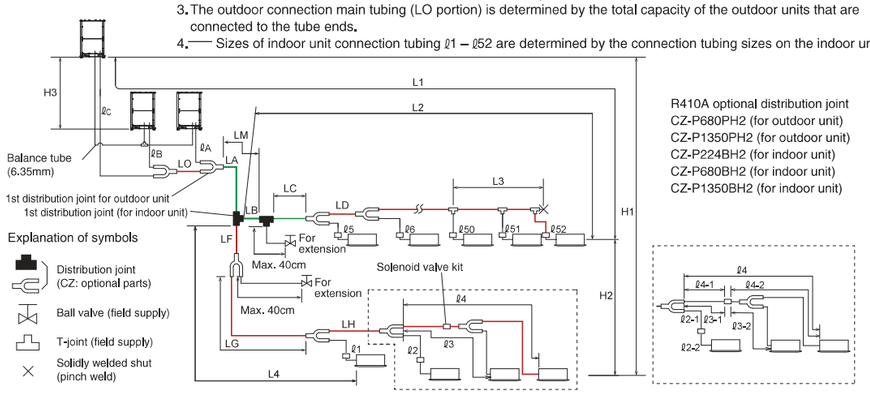


unit: mm

Piping design

Select the installation location so that the length and size of refrigerant tubing are within the allowable range shown in the figure below.

1. — Main tubing length (maximum tubing size) LM = LA + LB …
2. — Main distribution tubes LC – LH are selected according to the capacity after the distribution joint.
3. The outdoor connection main tubing (LO portion) is determined by the total capacity of the outdoor units that are connected to the tube ends.
4. — Sizes of indoor unit connection tubing ℓ1 – ℓ52 are determined by the connection tubing sizes on the indoor units.



R410A optional distribution joint
CZ-P680PH2 (for outdoor unit)
CZ-P1350PH2 (for outdoor unit)
CZ-P224BH2 (for indoor unit)
CZ-P680BH2 (for indoor unit)
CZ-P1350BH2 (for indoor unit)

* Be sure to use special R410A distribution joints (CZ: optional parts) for outdoor unit connections and tubing branches.

Table 2 Ranges that Apply to Refrigerant Tubing Lengths and to Differences in Installation Heights

Ranges that apply to refrigerant piping lengths and to differences in installation heights

Item	Mark	Contents		Length (m)
Allowable tubing length	L1	Max. tubing length	Actual length	≦200*2
			Equivalent length	≦210*2
	Δ L (L2 - L4)	Difference between max. length and min. length from the 1st distribution joint		≦50*4
	LM	Max. length of main tubing (at maximum size) *Even after 1st distribution joint,LM is allowed if at maximum tubing length.		—*3
	ℓ1,ℓ2~ℓ52	Max. length of each distribution tube		≦50*5
	L1+ℓ1+ℓ2~ℓ51+ℓA +ℓB+LF+LG+LH	Total max. tubing length including length of each distribution tube (only liquid tube)		≦500
	ℓA,ℓB+LO,ℓC+LO	Maximum tubing length from outdoor's 1st distribution joint to each outdoor unit		≦10
	ℓ1-2,ℓ2-2~ℓ52-2	Max.length between solenoid valve kit and indoor unit		≦30
Allowable elevation difference	H1	When outdoor unit is installed higher than indoor unit		≦50
		When outdoor unit is installed lower than indoor unit		≦40
	H2	Max. difference between indoor units		≦15
	H3	Max. difference between outdoor units		≦4
Allowable length of joint tubing	L3	T-joint tubing (field-supply); Max.tubing length between the first T-joint and solidly welded-shut end point		≦2

L = Length, H = Height
1: The outdoor connection main tubing (LO portion) is determined by the total capacity of the outdoor units that are connected to the tube ends.
2: If the longest tubing length (L1) exceeds 90 m (equivalent length), increase the sizes of the main tubes (LM) by 1 rank for the suction tubes,discharge tubes and liquid tubes.Use a field supply yeducer.Select the tube size from the table of main tubing sizes (Table 3) and from the table of refrigerant tubing sizes (Table 8).
3: If the longest main tubing length (LM) exceeds 50 m, increase the main tubing size at the portion before 50 m by 1 rank for the suction tubes and discharge tubes. Use a field supply reducer. Determine the length less than the limitation of allowable maximum tubing length. For the portion that exceeds 50 m, set based on the main tubing size (LA) listed in Table 3.
4: If the tubing length marksd "L" (L2-L4) exceeds 40 m, increase the tubing size at the portion after the 1st distribution joint by 1 rank for the liquid tube, suction tube and discharge tube. Refer to the Technical Data for the details.
5: If any of the tubing length exceeds 30m, increase the size of the suction tubes,discharge tubes and liquid tubes by 1rank.

System limitations

Max. number of combined outdoor units	3
Max. HP of combined outdoor units	135kW(48HP)
Max. number of connectable indoor units	52
Indoor/outdoor unit capacity ratio	50-150%

*1: In the case of 24 HP (type 68.0 kW) or smaller units, the number is limited by the total capacity of the connected indoor units.
*2: Up to 3 units can be connected if the system has been extended.
*3: It is strongly recommended that you choose the unit so the load can become between 50 and 130 %.

Additional refrigerant charge

Liquid piping size mm (inches)	Amount of refrigerant charge/m (g/m)
ø6.35 (ø1/4)	26
ø9.52 (ø3/8)	56
ø12.7 (ø1/2)	128
ø15.88 (ø5/8)	185
ø19.05 (ø3/4)	259
ø22.22 (ø7/8)	366

Necessary Amount of Additional Refrigerant Charge per meter, According to Discharge Tubing Size

Discharge tubing size	mm	ø12.7	ø15.88	ø19.05	ø22.22	ø25.4	ø28.58	ø31.75	ø38.1
Additional amount	g/m	12	21	31	41	55	71	89	126

*Additional refrigerant charge amount of discharge tubing should be less than 9,000g.

Distribution joint kits

Remarks	Model name	Cooling capacity after distribution
For outdoor unit	1. CZ-P680PH2	24HP or less
	2. CZ-P1350PH2	42HP or less
For indoor unit	3. CZ-P224BH2	8HP or less
	4. CZ-P680BH2	24HP or less
	5. CZ-P1350BH2	42HP or less

Refrigerant piping

Piping size mm (inches)			
Material 0		1/2 H, H material	
Outer diameter	Wall thickness	Outer diameter	Wall thickness
ø6.35 (ø1/4)	t 0.8 mm	ø22.22 (ø7/8)	t 1.0 mm
ø9.52 (ø3/8)	t 0.8 mm	ø 25.4 (ø1)	t 1.0 mm
ø12.7 (ø1/2)	t 0.8 mm	ø 28.58 (ø1-1/8)	t 1.0 mm
ø15.88 (ø5/8)	t 1.0 mm	ø 31.75 (ø1-1/4)	t 1.1 mm
ø19.05 (ø3/4)	t 1.0 mm	ø 38.1 (ø1-1/2)	t 1.15 mm
		ø 41.28 (ø1-5/8)	t 1.20 mm

Note: When pipe bending is to be performed, the bending radius shall be at least 4 times the outer diameter.
Also, take sufficient care to prevent pipe collapse and damage at the time of bending.

Refrigerant Branch Pipes (optional accessories) for 3-Way MF3 Series

Optional Distribution Joint Kits

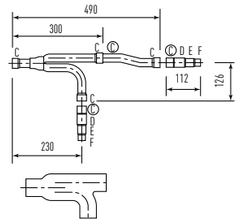
See the installation instructions packaged with the distribution joint kit for the installation procedure.

Model name	capacity after distribution JOINT	Remarks
1. CZ-P680PH2	68.0 kW or less	For outdoor unit
2. CZ-P1350PH2	greater than 68.0 kW and no more than 118.0 kW	For outdoor unit
3. CZ-P224BH2	22.4 kW or less	For indoor unit
4. CZ-P680BH2	greater than 22.4 kW and no more than 68.0 kW	For indoor unit
5. CZ-P1350BH2	greater than 68.0 kW and no more than 118.0 kW	For indoor unit

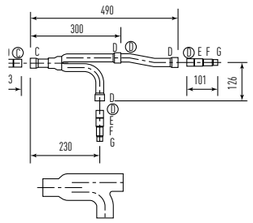
1. CZ-P680PH2

Use: For outdoor unit (Capacity after distribution joint is 68.0 kW or less.)

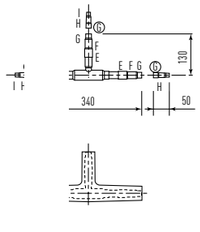
SUCTION PIPE



DISCHARGE PIPE



LIQUID PIPE



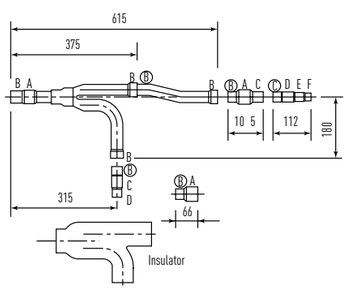
Unit: mm

Dimensions for connections of each part											
Position		A	B	C	D	E	F	G	H	I	J
Dimension	(mm)	Ø38.10	Ø31.75	Ø28.58	Ø25.40	Ø22.22	Ø19.05	Ø15.88	Ø12.70	Ø9.52	Ø6.35
	(inches)	Ø1-1/2	Ø1-1/4	Ø1-1/8	Ø1	Ø7/8	Ø3/4	Ø5/8	Ø1/2	Ø3/8	Ø1/4

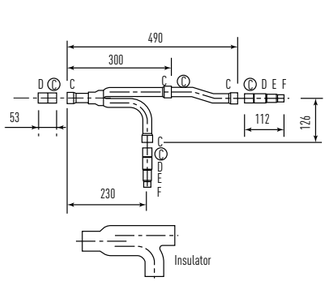
2. CZ-P1350PH2

Use: For outdoor unit (Capacity after distribution joint is greater than 68.0 kW and no more than 118.0 kW.)

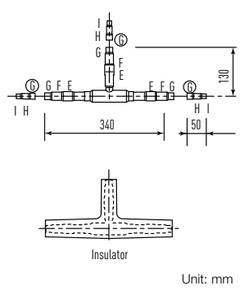
SUCTION PIPE



DISCHARGE PIPE



LIQUID PIPE



Unit: mm

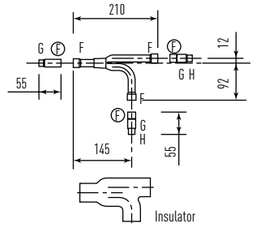
Dimensions for connections of each part											
Position		A	B	C	D	E	F	G	H	I	J
Dimension	(mm)	Ø38.10	Ø31.75	Ø28.58	Ø25.40	Ø22.22	Ø19.05	Ø15.88	Ø12.70	Ø9.52	Ø6.35
	(inches)	Ø1-1/2	Ø1-1/4	Ø1-1/8	Ø1	Ø7/8	Ø3/4	Ø5/8	Ø1/2	Ø3/8	Ø1/4

Example: (F below indicates inner diameter. (F) below indicates outer diameter.)

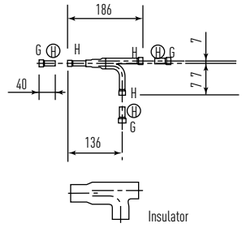
3. CZ-P224BH2

Use: For indoor unit (Capacity after distribution joint is 22.4 kW or less.)

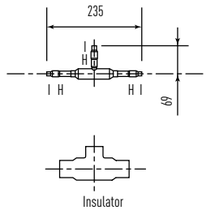
SUCTION PIPE



DISCHARGE PIPE



LIQUID PIPE



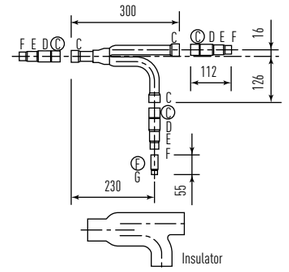
Unit: mm

Dimensions for connections of each part											
Position		A	B	C	D	E	F	G	H	I	J
Dimension	(mm)	Ø38.10	Ø31.75	Ø28.58	Ø25.40	Ø22.22	Ø19.05	Ø15.88	Ø12.70	Ø9.52	Ø6.35
	(inches)	Ø1-1/2	Ø1-1/4	Ø1-1/8	Ø1	Ø7/8	Ø3/4	Ø5/8	Ø1/2	Ø3/8	Ø1/4

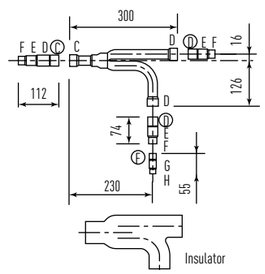
4. CZ-P680BH2

Use: For indoor unit (Capacity after distribution joint is greater than 22.4 kW and no more than 68.0 kW.)

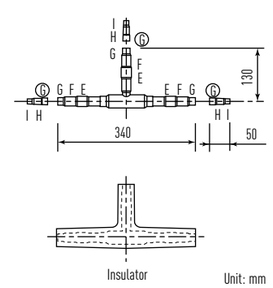
SUCTION PIPE



DISCHARGE PIPE



LIQUID PIPE



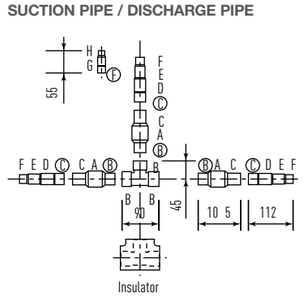
Unit: mm

Dimensions for connections of each part											
Position		A	B	C	D	E	F	G	H	I	J
Dimension	(mm)	Ø38.10	Ø31.75	Ø28.58	Ø25.40	Ø22.22	Ø19.05	Ø15.88	Ø12.70	Ø9.52	Ø6.35
	(inches)	Ø1-1/2	Ø1-1/4	Ø1-1/8	Ø1	Ø7/8	Ø3/4	Ø5/8	Ø1/2	Ø3/8	Ø1/4

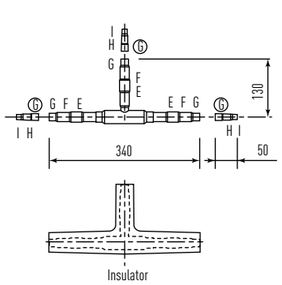
5. CZ-P1350BH2

Use: For indoor unit (Capacity after distribution joint is greater than 68.0 kW and no more than 118.0 kW.)

SUCTION PIPE / DISCHARGE PIPE

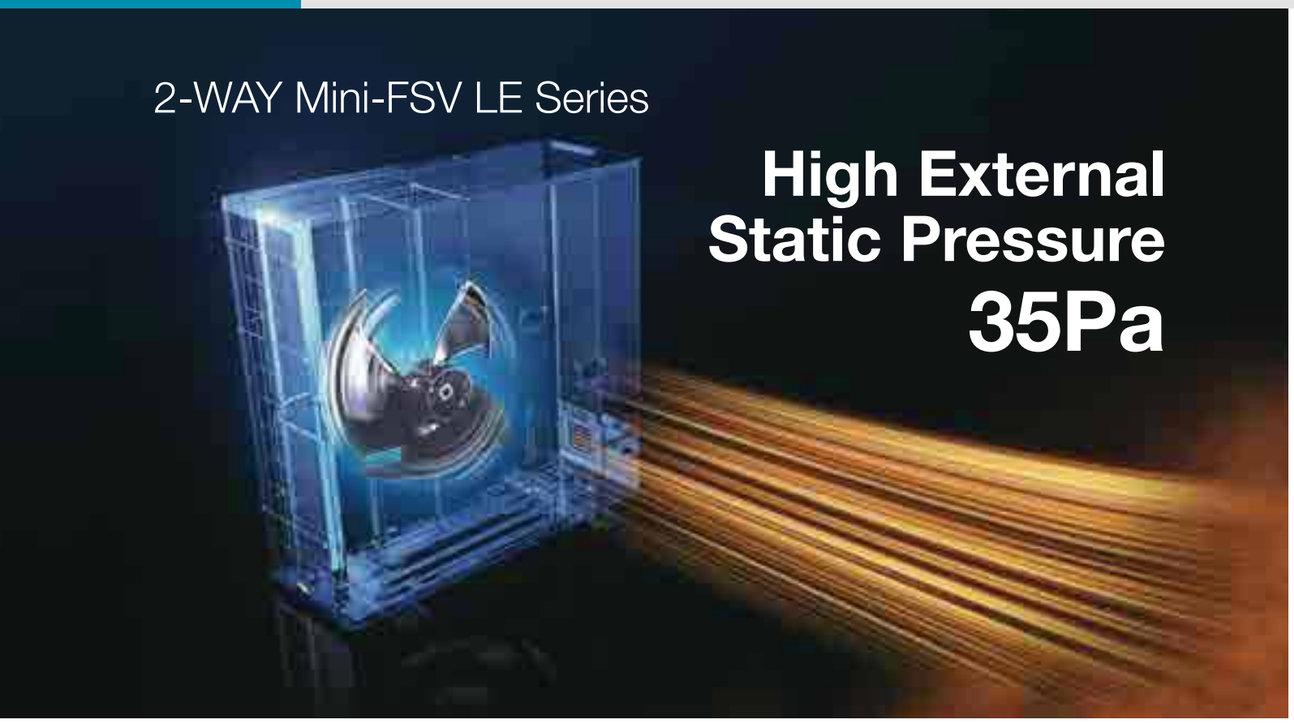


LIQUID PIPE



Unit: mm

Dimensions for connections of each part											
Position		A	B	C	D	E	F	G	H	I	J
Dimension	(mm)	Ø38.10	Ø31.75	Ø28.58	Ø25.40	Ø22.22	Ø19.05	Ø15.88	Ø12.70	Ø9.52	Ø6.35
	(inches)	Ø1-1/2	Ø1-1/4	Ø1-1/8	Ø1	Ø7/8	Ø3/4	Ø5/8	Ø1/2	Ø3/8	Ø1/4



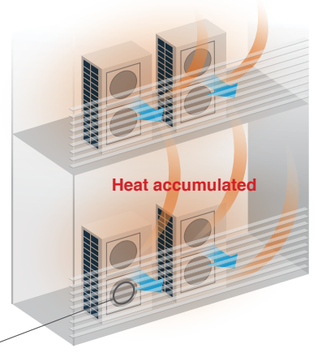
High external static pressure 35Pa LE1 LE2

When unit is installed on a narrow balcony and exposed to the sun, the fence at the front side would restrict hot air from being discharged. Heat accumulated in an enclosure can cause over-heating. This could potentially result in damage or shorten the product's life span. A high external static pressure sends the air further away from the outdoor unit and through the fence. This provides better air circulation and distribution.



Previous model - Low pressure

When the pressure is low, hot air will accumulate in the unit thus affecting its work performance and of the unit above it as well.



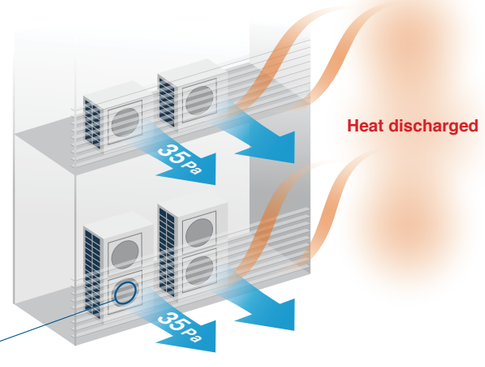
Previous fan

High electrostatic pressure disrupted the airflow of the previous fan, lowering the air pressure and preventing hot air from being discharged far enough.



LE series - High pressure

But with a high pressure of 35Pa, hot air is sent further away preventing overheating inside the outdoor unit enclosure.



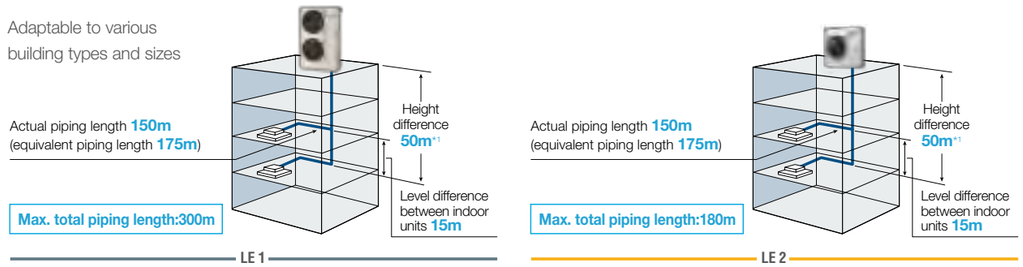
LE series fan

The new LE Series fan has ribs extending near the blade tips, in a structure that resists deformation. During high electrostatic pressure, this blade shape suppresses disruptions in the airflow, and a high air pressure of 35 Pa discharges the hot air a sufficient distance.



Long piping design length for greater design flexibility LE1 LE2

Adaptable to various building types and sizes



*1: 40m if the outdoor unit is below the indoor unit.

Refrigerant chargeless up to 50m LE2

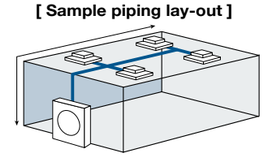
Up to 50m of piping without additional gas charging makes installation flexible, easy and hassle-free.

A 50m pipe length is sufficient for most residential and small business buildings. When total piping length exceeds 50m, additional refrigerant charge is required.

Chargeless
Max. total piping length: 50m

Charge
Max. total piping length: 180m
(Actual length: 150m)

[Sample piping lay-out]



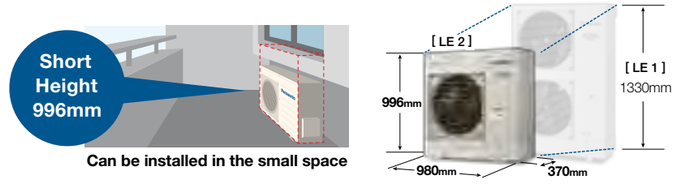
Compact design LE1 LE2

Also, since Mini VRF LE Series is a single unit, it is possible to install the unit in more various places compared to the Single Split system.



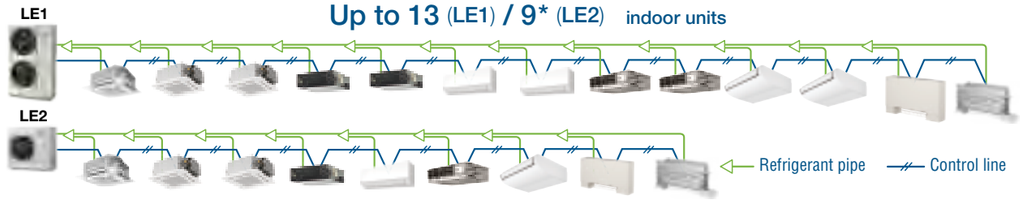
Short height of 996mm LE2

In addition to raising efficiency, we have made the outdoor unit more compact. It can now be installed in places that were previously too small.



Up to 13 indoor units connectable LE1 LE2

An expansion from Panasonic VRF line up, the mini FSV is compatible with the same indoor units and controls as the rest of the FSV range.



* Use any of the 22 type indoor models. Depending on the size or type of indoor unit, tubing size shall be changed. Please refer manuals for details.
* Diversity ratio 50-130%
* 6 HP only; 4 HP for 7 units, 5 HP for 8 units.

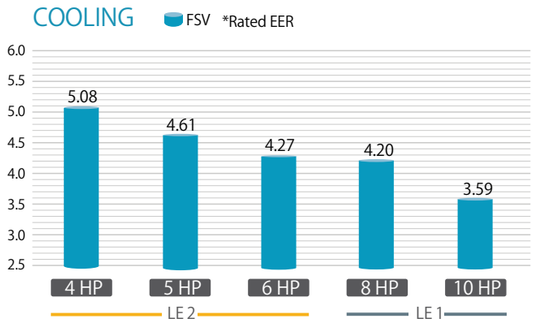
Mini-FSV LE Series

2-WAY Mini-FSV LE Series

High efficiency

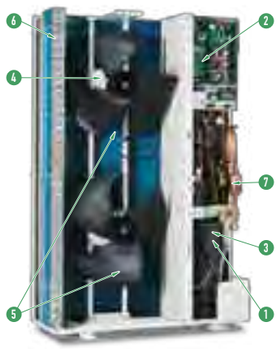
LE1 LE2

The operation efficiency has been improved using highly efficient R410A refrigerant, a DC Inverter compressor, DC motor and a heat exchanger design.



Energy savings design

LE1 LE2



1 Panasonic Inverter Compressor	A large-capacity inverter compressor has been adopted. The inverter compressor is superior in performance with improved partial-load capacity.
2 Printed Circuit Board	The number of PCB is 2 pieces for making maintenance easier.
3 Accumulator	A large accumulator has been adopted to maintain compressor reliability because of the increased refrigerant quantity, which allows an extended max piping length.
4 DC Fan Motor	Checking load and outside temperature, the DC motor is controlled for optimum air volume.
5 Newly Designed Fan	The newly designed fan blades have been developed to inhibit air turbulence and to increase efficiency. As fan diameter has been increased its size, the air volume has been increased whilst maintaining a same sound level.
6 Heat Exchanger & Copper Tubes	The heat exchanger size and the copper tube sizes in the heat exchanger have been redesigned to increase efficiency.
7 Oil Separator	A centrifugal separator has been adopted to improve oil separation efficiency and reduce refrigerant pressure loss.

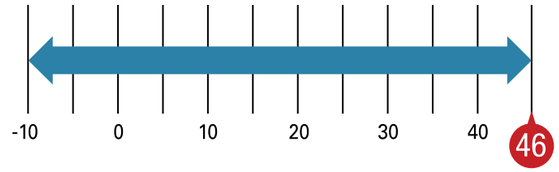
Wide operating range

LE1 LE2

- Cooling operation is possible even when outdoor temperature is as low as -10°C DB.
- Cooling operation is possible even when outdoor temperature is as high as 46°C DB.

The remote controller temperature can be set from 18°C up to 30°C *1.

*1 Depending on the type of remote controller.

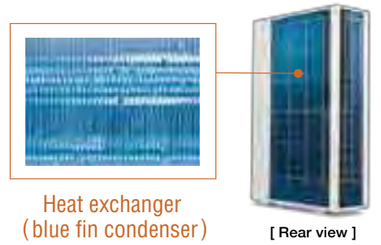


* For further information please refer to the capacity tables in the Technical Data Book.

Blue fin condenser

LE1 LE2

The anti-corrosion Blue Fin treatment of the heat exchanger provides greater resistance against corrosion. All models are equipped with Blue Fin condenser.



High durability outdoor unit

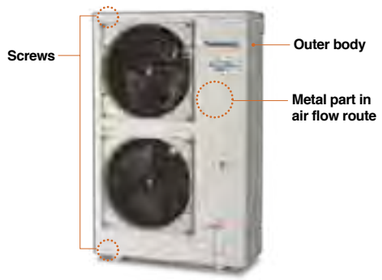
LE1 LE2

The high-durable specification improves corrosion resistance (rust and salty air) and durability with thicker polyester coatings and added protective treatments. Key components receive upgraded coating thicknesses (≥120 µm).

Note: Selecting this unit does not completely eliminate the possibility of rust developing. For details concerning unit installation and maintenance, please consult an authorised dealer.

* Specific model with suffix “E” has this treatment.





Quiet operation mode

LE1 LE2

- Quiet operation mode reduces outdoor unit operating sound down to 7dB than rating.
- 3-step set point is available.
- External input signal is also available.

* Timer setting of quiet operation mode is available in High-spec Remote Controller (CZ-RTC5B/CZ-RTC6 series).



2-WAY Mini-FSV LE2 Series

HP				4			4			5			5			6			6		
Model name				**U-4LE2H4**			**U-4LE2H7**			**U-5LE2H4**			**U-5LE2H7**			**U-6LE2H4**			**U-6LE2H7**		
Power supply				220/230/240V/ 1-phase/50Hz 220/230V/1-phase/60Hz			380/400/415V/ 3-phase/50Hz 380/400V/3-phase/60Hz			220/230/240V/ 1-phase/50Hz 220/230V/1-phase/60Hz			380/400/415V/ 3-phase/50Hz 380/400V/3-phase/60Hz			220/230/240V/ 1-phase/50Hz 220/230V/1-phase/60Hz			380/400/415V/ 3-phase/50Hz 380/400V/3-phase/60Hz		
Voltage				220V	230V	240V	380V	400V	415V	220V	230V	240V	380V	400V	415V	220V	230V	240V	380V	400V	415V
Capacity	Cooling		kW	12.1			12.1			14.0			14.0			15.5			15.5		
			BTU/h	41,300			41,300			47,800			47,800			52,900			52,900		
	Heating		kW	12.5			12.5			16.0			16.0			16.5			16.5		
			BTU/h	42,700			42,700			54,600			54,600			56,300			56,300		
EER/COP	Cooling		W/W	5.08			5.08			4.61			4.61			4.27			4.27		
	Heating		W/W	5.95			5.95			5.25			5.25			5.08			5.08		
Dimensions	H x W x D		mm	996 x 980 x 370			996 x 980 x 370			996 x 980 x 370			996 x 980 x 370			996 x 980 x 370			996 x 980 x 370		
Net weight			kg	106			106			106			106			106			106		
Electrical ratings	Cooling	Running current	A	11.90	11.40	10.90	3.89	3.69	3.56	15.20	14.50	13.90	4.91	4.67	4.50	18.10	17.30	16.60	5.87	5.57	5.37
		Power input	kW	2.38	2.38	2.38	2.38	2.38	2.38	3.04	3.04	3.04	3.04	3.04	3.04	3.63	3.63	3.63	3.63	3.63	3.63
	Heating	Running current	A	10.60	10.10	9.70	3.47	3.29	3.18	15.20	14.60	14.0	4.93	4.68	4.51	16.20	15.50	14.90	5.25	4.99	4.81
		Power input	kW	2.10	2.10	2.10	2.10	2.10	2.10	3.05	3.05	3.05	3.05	3.05	3.05	3.25	3.25	3.25	3.25	3.25	3.25
Starting current			A	1			1			1			1			1			1		
Air flow rate			m^3 / min	69			69			72			72			74			74		
			L/s	1,150			1,150			1,200			1,200			1,233			1,233		
Refrigerant amount at shipment			kg	R410A 6.70			R410A 6.70			R410A 6.70			R410A 6.70			R410A 6.70			R410A 6.70		
Piping connection	Gas pipe		mm (inches)	Ø15.88 (Ø5/8)			Ø15.88 (Ø5/8)			Ø15.88 (Ø5/8)			Ø15.88 (Ø5/8)			Ø15.88 (Ø5/8)			Ø15.88 (Ø5/8)		
	Liquid pipe		mm (inches)	Ø9.52 (Ø3/8)			Ø9.52 (Ø3/8)			Ø9.52 (Ø3/8)			Ø9.52 (Ø3/8)			Ø9.52 (Ø3/8)			Ø9.52 (Ø3/8)		
Ambient temperature operating range				Cooling: -10˚CDB~+46˚CDB, Heating: -20˚CWB~+18˚CWB			Cooling: -10˚CDB~+46˚CDB, Heating: -20˚CWB~+18˚CWB			Cooling: -10˚CDB~+46˚CDB, Heating: -20˚CWB~+18˚CWB			Cooling: -10˚CDB~+46˚CDB, Heating: -20˚CWB~+18˚CWB			Cooling: -10˚CDB~+46˚CDB, Heating: -20˚CWB~+18˚CWB			Cooling: -10˚CDB~+46˚CDB, Heating: -20˚CWB~+18˚CWB		
Sound pressure level (Cooling)	Normal mode		dB(A)	52.0			52.0			53.0			53.0			54.0			54.0		
	Silent mode (3)		dB(A)	45.0			45.0			46.0			46.0			47.0			47.0		
Sound power level (Cooling)	Normal mode		dB	69.0			69.0			71.0			71.0			73.0			73.0		

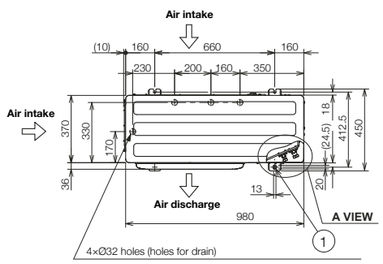
Global remarks	Rated conditions:	Cooling	Heating
	Indoor air temperature	27˚C DB / 19˚C WB	20˚C DB
	Outdoor air temperature	35˚C DB	7˚C DB / 6˚C WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.
High durable model (with suffix "E") has same specifications.

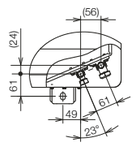
Dimensions

U-4LE2H4 / U-4LE2H7
U-5LE2H4 / U-5LE2H7
U-6LE2H4 / U-6LE2H7

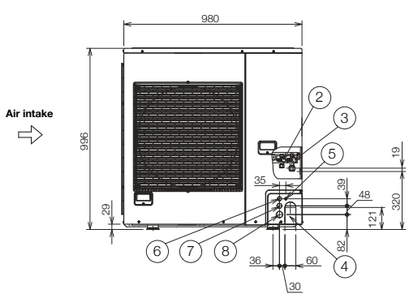


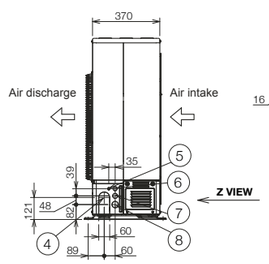


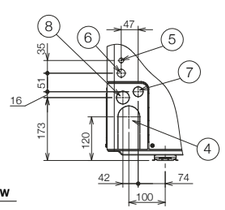
①	Mounting hole (4-R6.5), anchor bolt : M10
②	Refrigerant tubing (liquid tube), flared connection (Ø9.52)
③	Refrigerant tubing (gas tube), flared connection (Ø15.88)
④	Refrigerant tubing port
⑤	Electrical wiring port (Ø13)
⑥	Electrical wiring port (Ø22)
⑦	Electrical wiring port (Ø27)
⑧	Electrical wiring port (Ø35)



A VIEW







Z VIEW

Unit: mm

2-WAY Mini-FSV LE1 Series

HP				8			10		
Model name				**U-8LE1H7**			**U-10LE1H7**		
Power supply				380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz			380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz		
Voltage				380V	400V	415V	380V	400V	415V
Capacity	Cooling		kW	22.4			28.0		
			BTU/h	76,500			95,600		
	Heating		kW	25.0			28.0		
			BTU/h	85,300			95,600		
EER/COP	Cooling		W/W	4.20			3.59		
	Heating		W/W	4.52			4.55		
Dimensions (H/W/D)			mm	1,500 x 980 x 370			1,500 x 980 x 370		
Net weight			kg	132			133		
Electrical ratings	Cooling	Running current	A	8.70	8.25	7.95	12.7	12.1	11.7
		Power input	kW	5.33	5.33	5.33	7.8	7.80	7.80
	Heating	Running current	A	9.05	8.60	8.25	10.0	9.55	9.20
		Power input	kW	5.53	5.53	5.53	6.15	6.15	6.15
Starting current			A	1			1		
Air flow rate			m^3 / min	150			160		
			L/s	2,500			2,666		
Refrigerant amount at shipment			kg	R410A 6.30			R410A 6.60		
Piping connection	Gas pipe		mm (inches)	Ø19.05 (Ø3/4)			Ø22.22 (Ø7/8)		
	Liquid pipe		mm (inches)	Ø9.52 (Ø3/8)			Ø9.52 (Ø3/8)		
Ambient temperature operating range				Cooling:-10˚CDB~+46˚CDB, Heating:-20˚CWB~+18˚CWB			Cooling:-10˚CDB~+46˚CDB, Heating:-20˚CWB~+18˚CWB		
Sound pressure level (Cooling)	Normal mode		dB(A)	59.0			62.0		
	Silent mode (3)		dB(A)	52.0			55.0		
Sound power level (Cooling)	Normal mode		dB(A)	80.0			83.0		

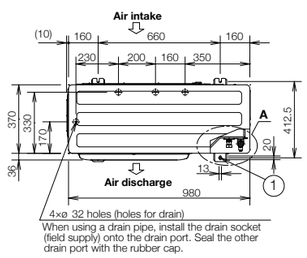
Global remarks	Rated conditions:	Cooling	Heating
	Indoor air temperature	27˚C DB / 19˚C WB	20˚C DB
	Outdoor air temperature	35˚C DB	7˚C DB / 6˚C WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.
High durable model (with suffix "E") has same specifications.

Dimensions

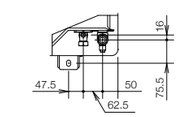
U-8LE1H7 / U-10LE1H7



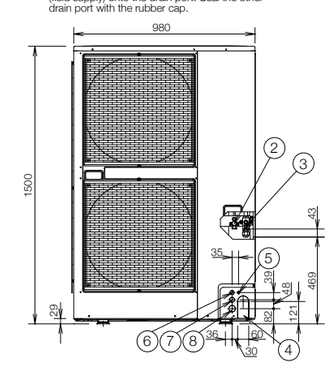


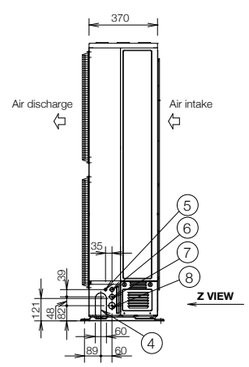
①	Mounting hole (4-R6.5), anchor bolt : M10
②	Refrigerant tubing (liquid tube), flared connection (ø9.52) for 8-10 HP finally.
③	Refrigerant tubing (gas tube), flared connection (ø19.05)
④	Refrigerant tubing port
⑤	Electrical wiring port (ø13)
⑥	Electrical wiring port (ø22)
⑦	Electrical wiring port (ø27)
⑧	Electrical wiring port (ø35)

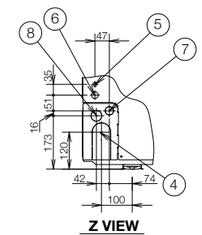
For U-10LE1H7
The tubing of the gas main has a diameter of ø22.22, but the connection to the service valve of the outdoor unit has a diameter of ø19.05, so a flare has to be used. Consequently, be sure to use the enclosed joint tube B and joint tube A in making connections (braze).



A VIEW







Z VIEW

Unit: mm

2-WAY Mini-FSV LE2 Series

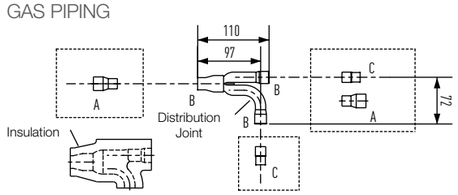
Distribution Joint Kits

CZ-P160BK2

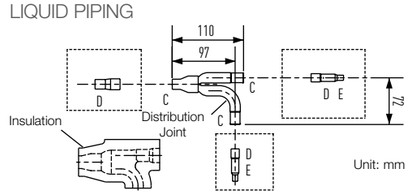
Use: For indoor unit (Capacity after distribution joint is 22.4 kW or less.)*

* In case the total capacity of indoor units connected after distribution exceeds the total capacity of the outdoor units, select the distribtuion piping size for the total capacity of the outdoor units.

GAS PIPING



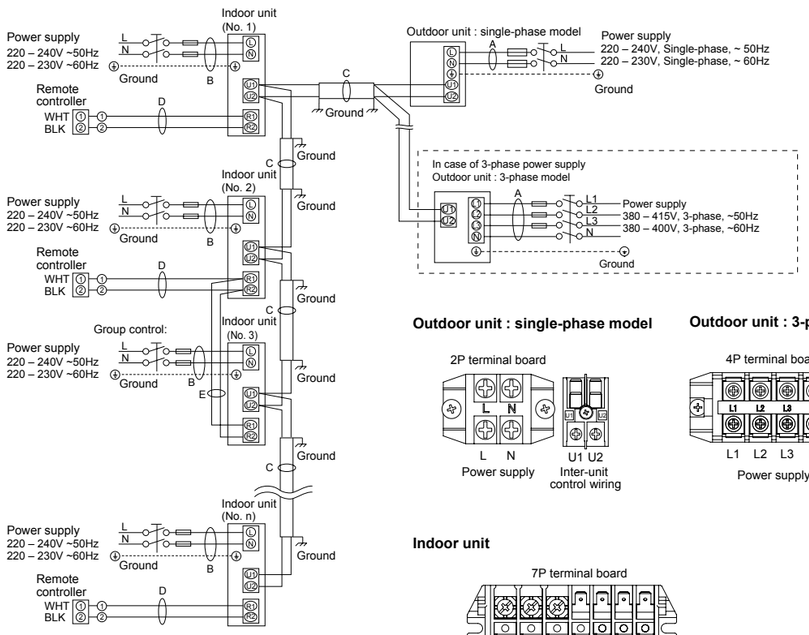
LIQUID PIPING



Unit: mm

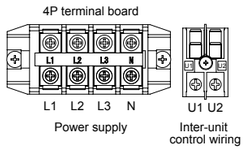
Size of connection point on each part (Shown are inside diameters of piping)						
Size		Part A	Part B	Part C	Part D	Part E
Dimension	(mm)	Ø19.05	Ø15.88	Ø12.70	Ø9.52	Ø6.35
	(inches)	Ø3/4	Ø5/8	Ø1/2	Ø3/8	Ø1/4

Wiring System Diagrams (LE2/LE1)

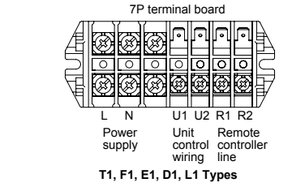


Outdoor unit : single-phase model

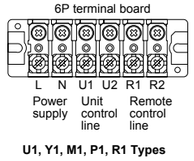
Outdoor unit : 3-phase model



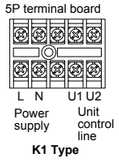
Indoor unit



T1, F1, E1, D1, L1 Types



U1, Y1, M1, P1, R1 Types

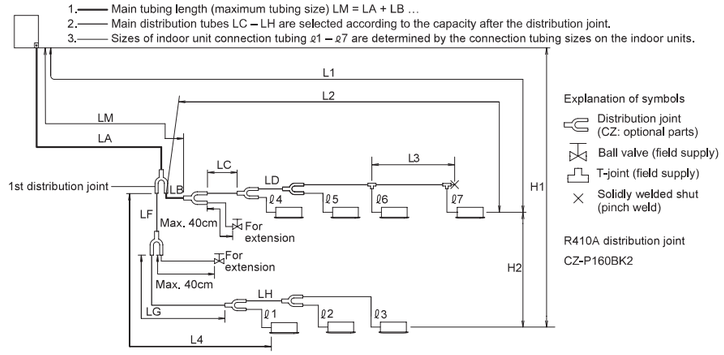


K1 Type

Fig. 2-1

Piping Design

Select the installation location so that the length and size of refrigerant piping are within the allowable range shown in the figure below.



Ranges that Apply to Refrigerant Piping Lengths and to Differences in Installation Heights

Items	Mark	Contents		Length (m)
Allowable piping length	L1	Max. piping length	Actual length	≤150
			Equivalent length	≤175
	ΔL (L2 – L4)	Difference between max. length and min. length from the 1st distribution joint		≤50
	LM	Max. length of main piping (at maximum size) *Even after 1st distribution joint, LM is allowed if at maximum piping length.		–
	ø1, ø2~ ø7	Max. length of each distribution pipe		≤50
	L1+ø1+ø2~ ø6 + LF + LG + LH	Total max. piping length including length of each distribution pipe (only liquid piping)		≤180
Allowable elevation difference	H1	When outdoor unit is installed higher than indoor unit		≤50
		When outdoor unit is installed lower than indoor unit		≤40
	H2	Max. difference between indoor units		≤15
Allowable length of joint piping	L3	T-joint piping (field-supply); Max. piping length between the first T-joint and solidly welded-shut end point		≤2

L = Length, H = Height

Piping Size

Main Piping Size (LA)

	12.1 kW	14.0 kW	15.5 kW
Gas tubing mm (inches)	ø15.88 (ø5/8)		
	Flare connection		
Liquid tubing mm (inches)	ø9.52 (ø3/8)		
	Flare connection		

Note :The refrigerant piping should be used with R410A refrigerant.

Indoor Unit Piping Connection (ø1,ø2...øn–1)

Indoor unite type	22	28	36	45	56	60	71/73	90	106	140	160
Gas piping mm (inches)	ø12.7 (ø1/2)					ø15.88 (ø5/8)					
Liquid piping mm (inches)	ø6.35 (ø1/4)					ø9.52 (ø3/8)					

Main Piping Size After Distribution (LB, LC...)

Total capacity after distribution	Below kW		7.1 (2.5HP)	–
	Over kW		–	7.1 (2.5HP)
Piping size	Gas piping	(mm)	ø12.7	ø15.88
		(inches)	ø1/2	ø5/8
	Liquid piping	(mm)	ø9.52	ø9.52
		(inches)	ø3/8	ø3/8

Note: In case the total capacity of indoor units connected after distribution exceeds the capacity of the outdoor unit, select the main piping size for the capacity of the outdoor unit.

System Limitations

Outdoor units	12.1 kW	14.0 kW	15.5 kW
Number of max. connectable indoor units	7	8	9
Max. allowable indoor/ outdoor capacity ratio	50 – 130%		

kW = kilowatts

2-WAY Mini-FSV LE1 Series

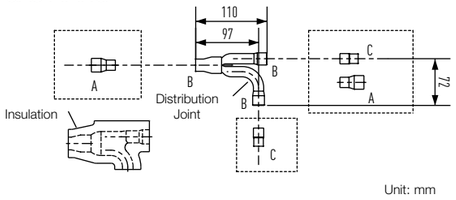
Distribution Joint Kits

CZ-P160BK2

Use: For indoor unit (Capacity after distribution joint is 22.4 kW or less.)*

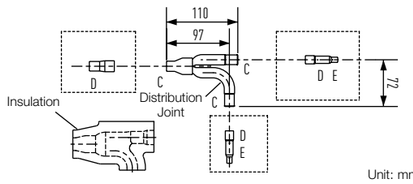
* In case the total capacity of indoor units connected after distribution exceeds the total capacity of the outdoor units, select the distribution piping size for the total capacity of the outdoor units.

GAS PIPING



Unit: mm

LIQUID PIPING



Unit: mm

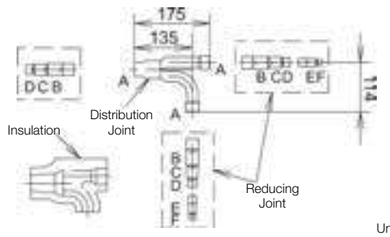
Size of connection point on each part (Shown are inside diameters of tubing)						
Size		Part A	Part B	Part C	Part D	Part E
Dimension	(mm)	Ø19.05	Ø15.88	Ø12.70	Ø9.52	Ø6.35
	(inches)	Ø3/4	Ø5/8	Ø1/2	Ø3/8	Ø1/4

CZ-P680BK2

Use: For indoor unit (Capacity after distribution joint is greater than 22.4 kW and no more than 68.0 kW.)*

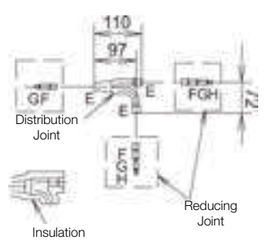
* In case the total capacity of indoor units connected after distribution exceeds the total capacity of the outdoor units, select the distribtuion piping size for the total capacity of the outdoor units.

GAS PIPING



Unit: mm

LIQUID PIPING



Unit: mm

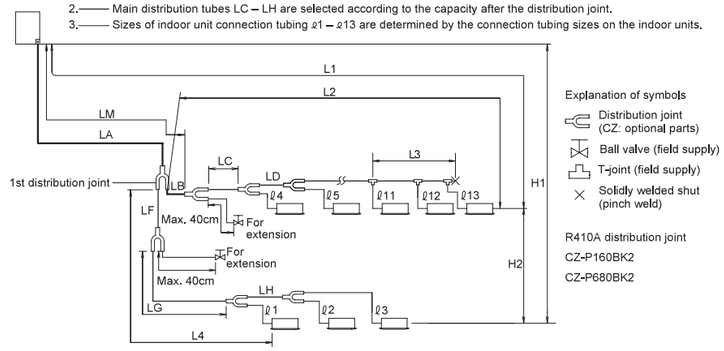
Size of connection point on each part (Shown are inside diameters of piping)								
Size		Part A	Part B	Part C	Part D	Part E	Part F	Part G	Part H
Dimension	(mm)	Ø28.58	Ø25.4	Ø22.22	Ø19.05	Ø15.88	Ø12.7	Ø9.52	Ø6.35
	(inches)	Ø1-1/8	Ø1	Ø7/8	Ø3/4	Ø5/8	Ø1/2	Ø3/8	Ø1/4

Mini-FSV LE Series

Piping design

Select the installation location so that the length and size of refrigerant piping are within the allowable range shown in the figure below.

1. —— Main tubing length (maximum tubing size) LM = LA + LB ...
2. —— Main distribution tubes LC – LH are selected according to the capacity after the distribution joint.
3. —— Sizes of indoor unit connection tubing ø1 – ø13 are determined by the connection tubing sizes on the indoor units.



Ranges that Apply to Refrigerant Piping Lengths and to Differences in Installation Heights

Items	Mark	Contents		Length (m)
Allowable piping length	L1	Max. piping length	Actual length	≤150
			Equivalent length	≤175
	ΔL (L2 – L4)	Difference between max. length and min. length from the 1st distribution joint		≤50
	LM	Max. length of main piping (at maximum size) *Even after 1st distribution joint, LM is allowed if at maximum piping length.		–
	ø1, ø2~ ø13	Max. length of each distribution pipe		≤50
	L1+ø1+ø2~ ø12 + LF + LG + LH	Total max. piping length including length of each distribution pipe (only liquid piping)		≤300
Allowable elevation difference	H1	When outdoor unit is installed higher than indoor unit		≤50
		When outdoor unit is installed lower than indoor unit		≤40
	H2	Max. difference between indoor units		≤15
Allowable length of joint piping	L3	T-joint piping (field-supply); Max. piping length between the first T-joint and solidly welded-shut end point		≤2

L = Length, H = Height

Piping Size

Main Piping Size (LA)

	22.4 kW	28.0 kW
Outdoor unit horsepower	8 HP	10 HP
Gas piping mm (inches)	ø19.05 (ø3/4)	ø22.22 (ø7/4)
	Flare connection	Brazing connection
Liquid piping mm (inches)	ø9.52 (ø3/8)	
	Flare connection	

Note :If future extension is planned, select the piping diameter based on the total horsepower after extension. The refrigerant piping should be used with R410A refrigerant.

Main Piping Size After Distribution (LB, LC...)

Total capacity after distribution	Below kW		7.1 (2.5HP)	16.0 (6 HP)	22.5 (8.1 HP)	–
	Over kW		–	7.1 (2.5 HP)	16.0 (6 HP)	22.5 (8.1 HP)
Piping size	Gas tubing	(mm)	ø12.7	ø15.88	ø19.05	ø22.22
		(inches)	ø1/2	ø5/8	ø3/4	ø7/8
	Liquid tubing	(mm)	ø9.52	ø9.52	ø9.52	ø9.52
		(inches)	ø3/8	ø3/8	ø3/8	ø3/8

kW = kilowatts

Note :In case the total capacity of connected indoor units exceeds the total capacity of the outdoor units, select the main piping size for the total capacity of the outdoor units.

Indoor Unit Piping Connection (ø1,ø2...øn–1)

Indoor unite type	22	28	36	45	56	60	71/73	90	106	140	160	180	224	280
Gas tubing mm (inches)	ø12.7 (ø1/2)					ø15.88 (ø5/8)						ø19.05 (ø3/4)		ø22.22 (ø7/8)
Liquid tubing mm (inches)	ø6.35 (ø1/4)					ø9.52 (ø3/8)								

System Limitations

Outdoor units	22.4 kW (8 HP)	28.0 kW (10 HP)
Number of max. connectable indoor units	13	13
Max. allowable indoor/ outdoor capacity ratio	50 – 130%	

24-hour nanoe® X Air Purification*

While the general filters in air purifiers are effective against airborne bacteria and viruses, nanoe® X also works to inhibit longer-living, adhered bacteria and viruses. As well as this, the Panasonic Comfort Cloud and WLAN smart adaptor (CZ-CAPWFC2) gives you access to your air conditioner anywhere, anytime, so you can turn nanoe® X on even while you're out and enjoy 24-hour quality air.



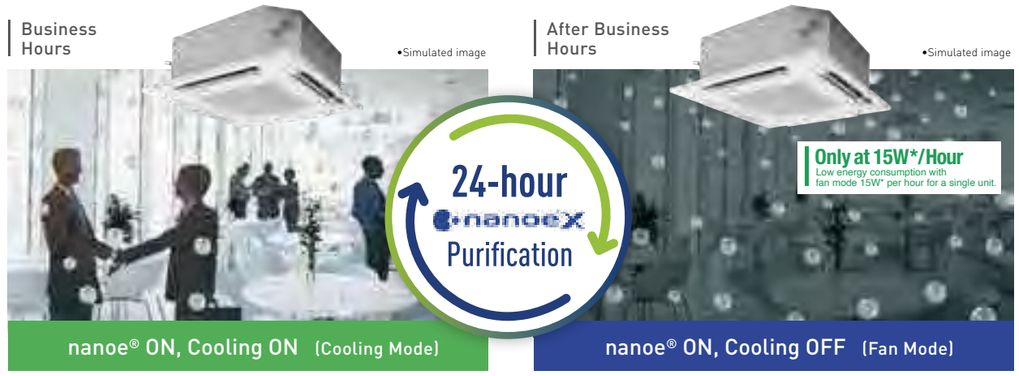
*Unit must be constantly turned on and operating in the air purification mode - nanoe® X.
** https://www.businessinsider.com/coronavirus-lifespan-on-surfaces-graphic-2020-3

24-hour nanoe® X air Purification, anywhere, anytime



Get 24 hr Quality Air for you and your loved ones by turning nanoe® X on using Panasonic Comfort Cloud even when you're out. nanoe® X functions in both cooling and heating modes and is maintenance-free, helping you keep your costs down with cleaner air.

- nanoe® X functions in cooling as well as fan mode after business hours.
- Cleans indoor air even when the space is not in use.
- No need to consume excessive electricity to clean the air.



nanoe® X cleans indoor air while maintaining a comfortable temperature when people are present.

After business hours, nanoe® X keeps cleaning indoor air in fan mode.

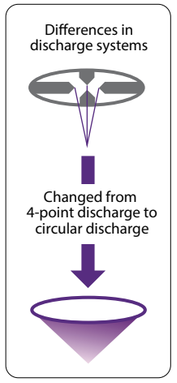
*In case of using 2.2 kW–7.3 kW 4 way cassette models with fan tap L, flap position 5, standard panel. Energy consumption may vary depending on models.

nanoe® X device evolution

Evolved Discharge System → Dramatically Increased Release of Hydroxyl Radicals

Higher Concentration of nanoe® X in the Space → Faster nanoe® X Effects

	nanoe®	nanoe® X Generator Mark 1	nanoe® X Generator Mark 2	nanoe® X Generator Mark 3
Hydroxyl radicals		10x times	20x times	100x times
	0.48 Trillion* hydroxyl radicals/sec	4.8 Trillion* hydroxyl radicals/sec	9.6 Trillion* hydroxyl radicals/sec	48 Trillion* hydroxyl radicals/sec
Device status		Electrostatic atomisation Multi-leader discharge		Electrostatic atomisation Circular discharge

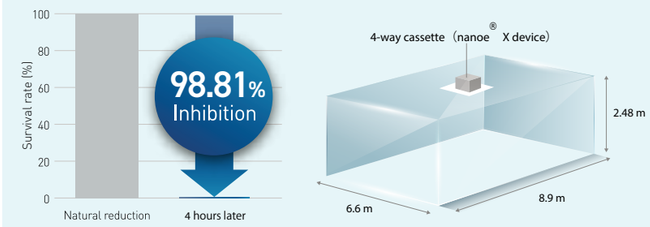


*Measured using the ESR (Electron Spin Resonance) method (amount of hydroxyl radicals immediately after release from the generator). (Source: Panasonic internal research)

nanoe® X Mark 3 achieves virus inhibition in a larger space in a shorter time

Mark 3 (100 x) Device: 4-Way Cassette Large-Space Test for Adherent Virus (Bacteriophage)
In a large space of 139 m³ (56 m²), a 98.81% inhibition rate was achieved in 4 hours.

[nanoe® X Mark 3]
139 m³, 98.81% with 4 hours (56 m², approx. 34 tatami mats, ceiling height 2.48 m)



Device type: nanoe® X Generator Mark 3
Subject: Adhesive virus (coliphage)
Indoor unit: 4-way cassette
Test Institute: SGS Inc
Test duration: 4 hours
Report No.: SHES210901902584

HACCP International-certified indoor units - First and only in the industry*

*First air conditioner certified by HACCP International as of Feb 2026

What is HACCP International?

HACCP International is an international certification organization that examines products, equipment, and services based on global food safety standards. This certification is granted to those who comply with food safety in production, processing, and preparation authentication.

Benefits of choosing certified indoor units

1. Improved food safety at restaurants, factories and food facilities
2. Enhanced operational efficiency (productivity)
3. Easier quality control
4. Increased social credibility on global basis



HACCP International-evaluated nanoe® X features

Air-purification effect



*Inhibits airborn and adhered bacteria and viruses

Maintenance-free



Internal cleaning function

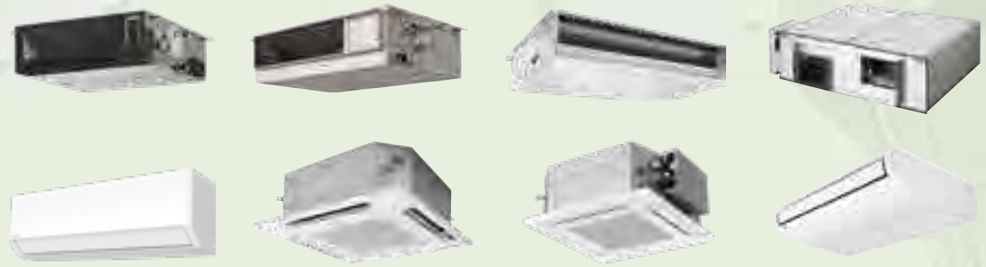


Note: For certified models, please refer to the indoor unit pages.

Indoor Units

Wide choice of models depending on the indoor requirements

Key Indoor Units Equipped DC motors



Simplified Wired Remote Controller





CZ-RTC6W
CZ-RTC6WBLW2

CZ-RTC6

Simple and Sophisticated Design In-and-Out

User friendly interface with stylish design measuring just 86 x 86 mm, this is an extremely compact remote controller which looks great in any room.



*Product availability may vary depending on regional regulations and market conditions.

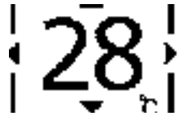
High-spec Wired Remote Controller



CZ-RTC5B

Large 3.5" full-dot LCD with white LED backlight

Characters and icons are clearly displayed for improved visibility. The display is also large enough to provide a wide range of information for easy confirmation of operation conditions.



Stylish, easy-to-use touch key design

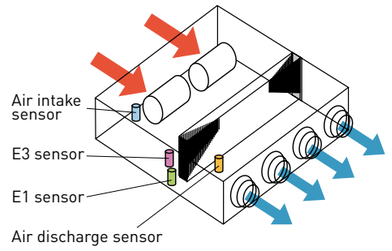
The elegant, flat design features large touch keys in a simple layout enabling easy, intuitive operation.



All Ducted Series / F3, M2, Z1, E3, E2, E1, type

Discharge air temperature control

Smart sensors control discharge air temperature for precise room temperature control.
Possible to reduce cold drafts during heating operation.



Wall Mounted / K3 (22~45), K3 (56~106) type



Compact design with flat surface enables seamless match with any type of room interior

Noise reducing external valve kit

To reduce noise level of expansion valve.
(Optional accessory)



CZ-P73SVK3 (for 22 - 73 type)
CZ-P106SVK3 (for 106 type)

*Please prepare field-supply reducer (Liquid Ø9.52 to Ø6.35) for 73 type indoor unit.

Remote Temperature Sensor



CZ-CSRC3

- This is a remote sensor which can be used with indoor units. Use it to detect the room temperature when no remote controller sensor or body sensor is used (connection to a system without a remote controller is possible).
- For joint use with a remote control switch, use the remote control switch as main remote controller.

Indoor Unit

FSV Indoor Units Range

Wide choice of models depending on the indoor requirements

Self-diagnosing function · Automatic fan operation · Dry mode · Intelligent auto flap control · Automatic restart function for power failure · Air swing · Built-in drain pump · DC motor

Class	22	28	36	45	56	60	73	90	106	112	140	160	180	224	280	Wireless remote control	
	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Type with built-in sensor	Type with separately installed sensor
Type / Capacity kW / BTU/h	2.2/2.5 7,500/8,500	2.8/3.2 9,600/10,900	3.6/4.2 12,300/14,300	4.5/5.0 15,400/17,100	5.6/6.3 19,100/21,500	6.0/7.1 20,500/24,200	7.3/8.0 24,900/27,300	9.0/10.0 30,700/34,100	10.6/11.4 36,200/38,900	11.2/12.5 38,200/42,700	14.0/16.0 47,800/54,600	16.0/18.0 54,600/61,400	18.0/20.0 61,400/68,200	22.4/25.0 76,400/85,300	28.0/31.5 95,500/107,500		Functions
nanoeX Generator Mark3 F3 type **Mid Static Adaptive Ducted**	S-22MF3E5AN	S-28MF3E5AN	S-36MF3E5AN	S-45MF3E5AN	S-56MF3E5AN	S-60MF3E5AN	S-73MF3E5AN	S-90MF3E5AN		S-112MF3E5AN	S-140MF3E5AN	S-160MF3E5AN					●
F2 type **Mid Static Ducted**	S-22MF2E5A	S-28MM2EA	S-36MM2EA	S-45MM2EA	S-56MM2EA	S-60MF2E5A	S-73MF2E5A	S-90MF2E5A	S-106MF2E5A		S-140MF2E5A	S-160MF2E5A					●
nanoeX Generator Mark3 M2 type **Slim Low Static Ducted**	S-22MM2EA	S-28MM2EA	S-36MM2EA	S-45MM2EA	S-56MM2EA												●
Z1 type **Slim Low Static Ducted Twenty Series**	S-22MZ1H4A	S-28MZ1H4A	S-36MZ1H4A	S-45MZ1H4A	S-56MZ1H4A	S-60MZ1H4A	S-73MZ1H4A										●
E2 type **High Static Ducted / Energy Saving High-Fresh Air Ducted**													S-180ME2E5 *	S-224ME2E5 (High Fresh Air)	S-280ME2E5 (High Fresh Air)		●
E1 type **High Static Ducted**							S-73ME1E5		S-106ME1E5		S-140ME1E5			S-224ME1E5	S-280ME1E5		●
nanoeX Generator Mark3 K3 type **Wall Mounted**	S-22MK3E	S-28MK3E	S-36MK3E	S-45MK3E	S-56MK3E		S-73MK3E		S-106MK3E							●	
K2 type **Wall Mounted**	S-22MK2E5A	S-28MK2E5A	S-36MK2E5A	S-45MK2E5A	S-56MK2E5A		S-73MK2E5A		S-106MK2E5A							●	
nanoeX Generator Mark3 U2 type **4-Way Cassette** Panel No. CZ-KPU3H	S-22MU2E5BN	S-28MU2E5BN	S-36MU2E5BN	S-45MU2E5BN	S-56MU2E5BN	S-60MU2E5BN	S-73MU2E5BN	S-90MU2E5BN		S-112MU2E5BN	S-140MU2E5BN	S-160MU2E5BN					●
nanoeX Generator Mark3 Y3 type **4-Way Mini Cassette** Panel No. CZ-KPY4W/B	S-22MY3EB	S-28MY3EB	S-36MY3EB	S-45MY3EB	S-56MY3EB												●
L1 type **2-Way Cassette** Panel No. CZ-02KPL2 Panel No. CZ-03KPL2 (Only for S-73ML1E5)	S-22ML1E5	S-28ML1E5	S-36ML1E5	S-45ML1E5	S-56ML1E5		S-73ML1E5										●
D1 type **1-Way Cassette** Panel No. CZ-KPD2		S-28MD1E5	S-36MD1E5	S-45MD1E5	S-56MD1E5		S-73MD1E5										●
T2 type **Ceiling**			S-36MT2E5A	S-45MT2E5A	S-56MT2E5A		S-73MT2E5A		S-106MT2E5A		S-140MT2E5A						●
nanoeX Generator Mark1 G1 type **Floor Console**	S-22MG1E5N	S-28MG1E5N	S-36MG1E5N	S-45MG1E5N	S-56MG1E5N												●
nanoeX Generator Mark3 P2 type **Floor Standing**	S-22MP2E	S-28MP2E	S-36MP2E	S-45MP2E	S-56MP2E		S-71MP2E										●
nanoeX Generator Mark3 R2 type **Concealed Floor Standing**	S-22MR2E	S-28MR2E	S-36MR2E	S-45MR2E	S-56MR2E		S-71MR2E										●

* High flesh air system is not allowed for 18 kW model. ** Product specifications and lineup may change without notifications.

F3 TYPE Mid Static Adaptive Ducted

Control all aspects of your environment with exceptional performance and quiet operation. Vertical installation flexibility offers the perfect solution when ceiling heights are restricted.



S-22MF3E5AN / S-28MF3E5AN / S-36MF3E5AN
S-45MF3E5AN / S-56MF3E5AN



S-60MF3E5AN / S-73MF3E5AN
S-90MF3E5AN

nanoe X Generator Mark3



S-112MF3E5AN / S-140MF3E5AN / S-160MF3E5AN

Optional accessory

ECONAVI
ECONAVI ready



CZ-RTC6W
CZ-RTC6WBLW2



CZ-RTC6



CZ-CENSC1



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver

Self-diagnosing Function | Automatic Fan Operation | Dry mode | Automatic Restart Function | Built-in Drain Pump | DC motor

Technical focus

- 4 installation possibilities with horizontal and vertical mounting and selectable rear or bottom air inlet
- Space saving 250mm height
- DC fan motor for variable external static pressure control
- Industry-leading horizontal/vertical design
- Powerful 150Pa static pressure in a compact unit.
- Leading-class low sound levels from 20 dB(A)
- Improved drain pan suitable for both horizontal / vertical installation
- nanoe® X : 100x for CAC (100 times more nanoe® particle for wide commercial space)
- Accurate temperature control to reduce cold drafts during operation

Variable external static pressure control

Optimal airflow set-up is possible depending on ducting design and conditions.

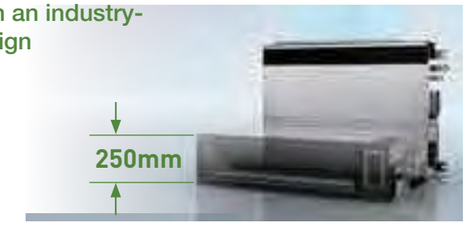
Optimal Control by DC Motor

For short ducting such as hotels — 10Pa — 150Pa — For long ducting or for usage with high efficiency filter

* Please refer to technical databook for detail.

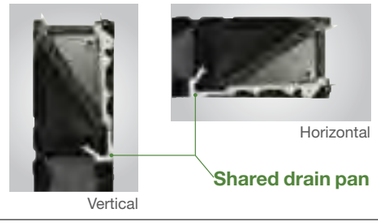
Powerful 150Pa external static pressure in an industry-leading horizontal/vertical installation design

Delivering static pressure up to 150Pa external static pressure, the industry-leading horizontal/vertical design offers the power you need in a compact form factor.



Improved drain pan design

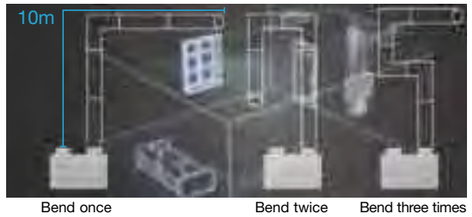
Drain pan is shared in both cases horizontal and vertical installation.
No need to alternate anymore.



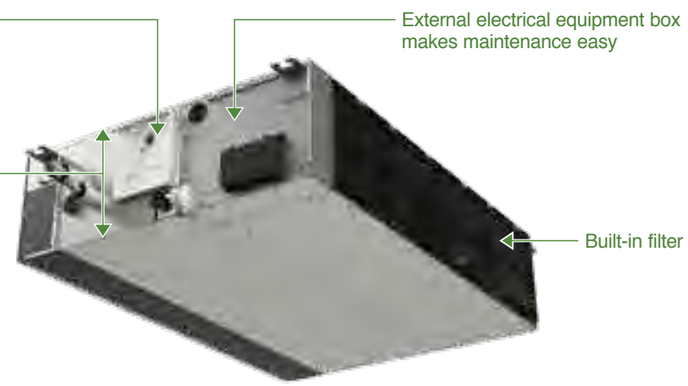
Superior Air Quality

Combined with the strong static pressure this model ensures pristine nanoe® X air travels unaffected even through multiple duct shapes at lengths of 10m, as well as making them ideal for use in larger spaces.

nanoe X Generator Mark3



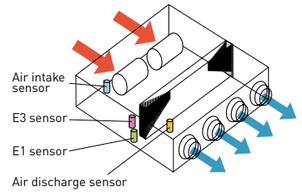
As the experiments demonstrate; even with a total duct work length of up to 10m, effectiveness of nanoe®: X is maintained.



Discharge air temperature control

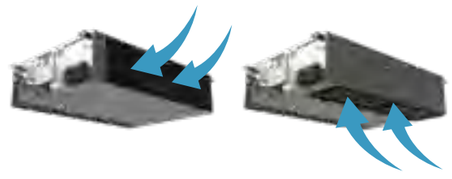
- Possible to control discharge air temperature for accurate room temperature control.
- Possible to reduce cold drafts during heating operation.

Note: Before spec-in, please consult with an authorised Panasonic dealer.



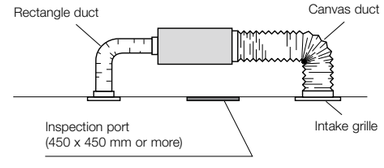
Selectable air inlet position

A removable panel allows air inlet position to be adjusted to enable rear or bottom entry, depending on ductwork installation.



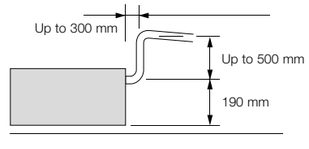
System example

An inspection port (450 mm x 450 mm or larger) is required at the lower side of the indoor unit body.



More powerful drain pump

Using a high-lift built-in drain pump, drain piping can be elevated up to 690 mm from the base of the unit.



Indoor Unit / F3 Type

F3 TYPE Mid Static Adaptive Ducted

Model Name			S-22MF3E5AN	S-28MF3E5AN	S-36MF3E5AN	S-45MF3E5AN	S-56MF3E5AN
Power source			220/230/240 V, 1 phase - 50/60 Hz				
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
		BTU/h	7,500	9,600	12,300	15,400	19,100
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3
		BTU/h	8,500	10,900	14,300	17,100	21,500
Power input	Cooling	kW	0.06/0.06/0.06	0.06/0.06/0.06	0.06/0.06/0.06	0.06/0.06/0.06	0.089/0.089/0.089
	Heating	kW	0.06/0.06/0.06	0.06/0.06/0.06	0.06/0.06/0.06	0.06/0.06/0.06	0.089/0.089/0.089
Running amperes	Cooling	A	0.46/0.45/0.44	0.46/0.45/0.44	0.46/0.45/0.44	0.46/0.45/0.44	0.65/0.63/0.61
	Heating	A	0.46/0.45/0.44	0.46/0.45/0.44	0.46/0.45/0.44	0.46/0.45/0.44	0.65/0.63/0.61
Fan motor	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Cooling Air flow rate (H/M/L)	m^3/h	768/660/480	768/660/480	840/720/480	840/720/480	960/840/600
		L/s	213/183/133	213/183/133	233/200/133	233/200/133	267/233/167
	Heating Air flow rate (H/M/L)	m^3/h	840/720/480	840/720/480	840/720/480	840/720/480	960/840/600
		L/s	233/200/133	233/200/133	233/200/133	233/200/133	267/233/167
	Output	kW	0.107	0.107	0.107	0.107	0.107
	External static pressure	Pa	30 (10-150)	30 (10-150)	30 (10-150)	30 (10-150)	30 (10-150)
Sound power level (H/M/L)		dB	54/51/43	54/51/43	54/51/43	54/51/43	58/55/47
Sound pressure level (H/M/L)		dB(A)	31/28/20	31/28/20	31/28/20	31/28/20	35/32/24
Dimensions	H x W x D	mm	250 x 800 x 730	250 x 800 x 730	250 x 800 x 730	250 x 800 x 730	250 x 800 x 730
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	26	26	26	26	26

S-60MF3E5AN	S-73MF3E5AN	S-90MF3E5AN	S-112MF3E5AN	S-140MF3E5AN	S-160MF3E5AN
220/230/240 V, 1 phase - 50/60 Hz					
6.0	7.3	9.0	11.2	14.0	16.0
20,500	24,900	30,700	38,200	47,800	54,600
7.1	8.0	10.0	12.5	16.0	18.0
24,200	27,300	34,100	42,700	54,600	61,400
0.079/0.079/0.079	0.079/0.079/0.079	0.136/0.136/0.136	0.265/0.265/0.265	0.265/0.265/0.265	0.330/0.330/0.330
0.079/0.079/0.079	0.079/0.079/0.079	0.136/0.136/0.136	0.265/0.265/0.265	0.265/0.265/0.265	0.330/0.330/0.330
0.53/0.52/0.51	0.53/0.52/0.51	0.92/0.90/0.88	1.80/1.76/1.72	1.80/1.76/1.72	2.22/2.14/2.09
0.53/0.52/0.51	0.53/0.52/0.51	0.92/0.90/0.88	1.80/1.76/1.72	1.80/1.76/1.72	2.22/2.14/2.09
Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
1,260/1,080/900	1,260/1,080/900	1,500/1,380/960	2,220/1,920/1,560	2,220/1,920/1,560	2,400/2,040/1,680
350/300/250	350/300/250	417/383/267	617/533/433	617/533/433	667/567/467
1,260/1,080/900	1,260/1,080/900	1,500/1,380/960	2,220/1,920/1,560	2,220/1,920/1,560	2,400/2,040/1,680
350/300/250	350/300/250	417/383/267	617/533/433	617/533/433	667/567/467
0.165	0.165	0.165	0.259	0.259	0.259
30 (10-150)	30 (10-150)	40 (10-150)	50 (10-150)	50 (10-150)	50 (10-150)
54/51/46	54/51/46	58/56/48	64/59/55	64/59/55	66/60/56
31/28/23	31/28/23	35/33/25	41/36/32	41/36/32	43/37/33
250 x 1,000 x 730	250 x 1,000 x 730	250 x 1,000 x 730	250 x 1,400 x 730	250 x 1,400 x 730	250 x 1,400 x 730
Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
31	31	31	40	40	40

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27℃ DB / 19℃ WB	20℃ DB
	Outdoor air temperature	35℃ DB / 24℃ WB	7℃ DB / 6℃ WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.



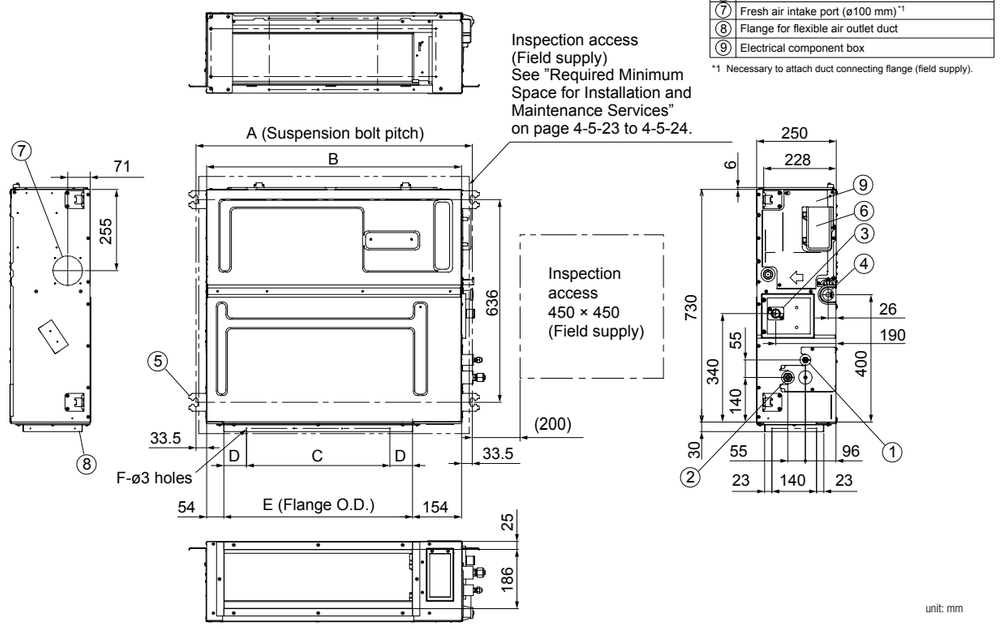


F3 TYPE MID STATIC DUCTED Dimensions

Type	A	B	C	D	E	F	Air intake port size
	mm	mm	mm	mm	mm	Q'ty	mm
22/28/36/45/56	867	800	450 (Pitch 150 × 3)	71	592	12	204 × 683
60/73/90	1,067	1,000	750 (Pitch 150 × 5)	21	792	16	204 × 883
112/140/160	1,467	1,400	1,050 (Pitch 150 × 7)	71	1,192	20	204 × 1,283

①	Refrigerant tubing joint **(liquid tube)** S-22/28/36/45/56MF3E5AN：Φ6.35 (flared) S-60/73/90/112/140/160MF3E5AN：Φ9.52 (flared)
②	Refrigerant tubing joint **(gas tube)** S-22/28/36/45/56MF3E5AN：Φ12.7 (flared) S-60/73/90/112/140/160MF3E5AN：Φ15.88 (flared)
③	Upper drain port VP20 (ø26 mm) 200 mm flexible hose supplied
④	Bottom drain port VP20 (ø26 mm)
⑤	Suspension lug (4 – 12 × 30 mm)
⑥	Power supply outlet
⑦	Fresh air intake port (ø100 mm)*1
⑧	Flange for flexible air outlet duct
⑨	Electrical component box

*1 Necessary to attach duct connecting flange (field supply).



unit: mm

Indoor Unit / F2 Type

F2 TYPE Mid Static Ducted

DC motor

F2 type is designed specifically for applications requiring fixed square ducting.



S-22MF2E5A / S-28MF2E5A / S-36MF2E5A
S-45MF2E5A / S-56MF2E5A



S-60MF2E5A / S-73MF2E5A / S-90MF2E5A



S-106MF2E5A / S-140MF2E5A / S-160MF2E5A

Optional accessory

ECONAVI
ECONAVI ready



CZ-RTC6W | CZ-RTC6 | CZ-CENSC1 | CZ-RTC5B | CZ-RWS3 Remote controller | CZ-RWRC3 Receiver

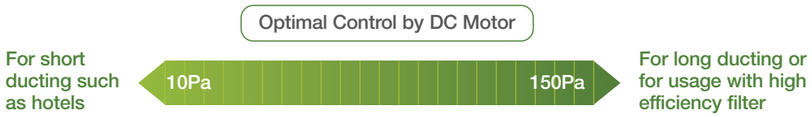
Self-diagnosing Function | Automatic Fan Operation | Dry mode | Automatic Restart Function | Built-in Drain Pump

Technical focus

- Variable external static pressure control
- Industry-leading low sound levels from 25 dB(A)
- Built-in drain pump provides 702 mm lift
- Easy to install and maintain
- Air off sensor avoids cold air drafts during heating operation
- Configurable air temperature control

Variable external static pressure control

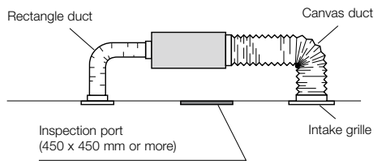
Optimal airflow set-up is possible depending on ducting design and conditions.



* Please refer to technical databook for detail.

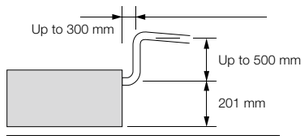
System example

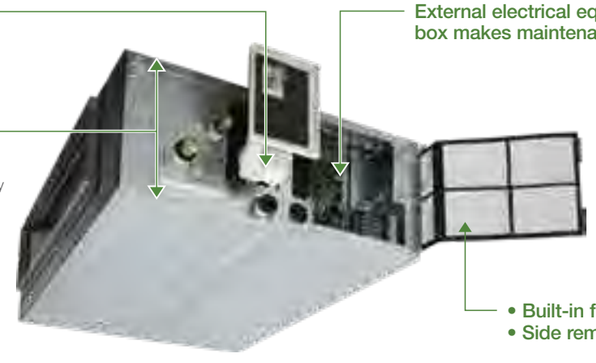
An inspection port (450 mm x 450 mm or larger) is required at the lower side of the indoor unit body.



More powerful drain pump

Using a high-lift drain pump, drain piping can be elevated up to 701 mm from the base of the unit.

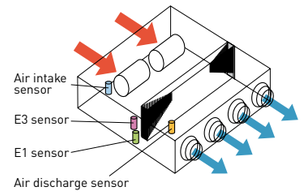




Discharge air temperature control

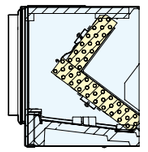
- Possible to control discharge air temperature for accurate room temperature control.
- Possible to reduce cold drafts during heating operation.

Note: Before spec-in, please consult with an authorised Panasonic dealer.



V-shaped heat exchanger

To improve heat exchange efficiency, an original V-shaped heat exchanger was developed incorporating a conventional high-efficiency slit fan and high-efficiency grooved heat transfer tubes. This increases the heat exchange surface area by about 80%.



Increases surface area by about 30 to 80%



Indoor Unit / F2 Type

F2 TYPE Mid Static Ducted

Model Name			S-22MF2E5A	S-28MF2E5A	S-36MF2E5A	S-45MF2E5A	S-56MF2E5A
Power source			220/230/240 V, 1 phase - 50/60 Hz				
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
		BTU/h	7,500	9,600	12,300	15,400	19,100
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3
		BTU/h	8,500	10,900	14,300	17,100	21,500
Power input	Cooling	kW	0.070/0.070/0.070	0.070/0.070/0.070	0.070/0.070/0.070	0.070/0.070/0.070	0.100/0.100/0.100
	Heating	kW	0.070/0.070/0.070	0.070/0.070/0.070	0.070/0.070/0.070	0.070/0.070/0.070	0.100/0.100/0.100
Running amperes	Cooling	A	0.60/0.57/0.56	0.60/0.57/0.56	0.60/0.57/0.56	0.60/0.57/0.56	0.77/0.74/0.71
	Heating	A	0.60/0.57/0.56	0.60/0.57/0.56	0.60/0.57/0.56	0.60/0.57/0.56	0.77/0.74/0.71
Fan motor	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m^3/h	840/780/540	840/780/540	840/780/540	840/780/600	960/900/720
		L/s	233/217/150	233/217/150	233/217/150	233/217/167	267/250/200
	Output	kW	0.119	0.119	0.119	0.119	0.119
	External static pressure	Pa	70(10-150)	70(10-150)	70(10-150)	70(10-150)	70(10-150)
Sound power level (H/M/L)		dB	55/51/44	55/51/44	55/51/44	56/54/47	56/54/47
Sound pressure sound (H/M/L)		dB(A)	33/29/22	33/29/22	33/29/22	34/32/25	34/32/25
Dimensions	H x W x D	mm	290x800x700	290x800x700	290x800x700	290x800x700	290x800x700
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25
Net weight		kg	29	29	29	29	29

S-60MF2E5A	S-73MF2E5A	S-90MF2E5A	S-106MF2E5A	S-140MF2E5A	S-160MF2E5A
220/230/240V, 1 phase - 50/60 Hz					
6.0	7.3	9.0	10.6	14.0	16.0
20,500	24,900	30,700	36,200	47,800	54,600
7.1	8.0	10.0	11.4	16.0	18.0
24,200	27,300	34,100	38,900	54,600	61,400
0.120/0.120/0.120	0.120/0.120/0.120	0.135/0.135/0.135	0.195/0.195/0.195	0.215/0.215/0.215	0.225/0.225/0.225
0.120/0.120/0.120	0.120/0.120/0.120	0.135/0.135/0.135	0.200/0.200/0.200	0.210/0.210/0.210	0.225/0.225/0.225
0.91/0.89/0.87	0.91/0.89/0.87	0.99/0.97/0.95	1.35/1.30/1.27	1.48/1.44/1.39	1.55/1.50/1.47
0.91/0.89/0.87	0.91/0.89/0.87	0.99/0.97/0.95	1.37/1.34/1.29	1.46/1.42/1.38	1.55/1.50/1.46
Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
1,260/1,140/900	1,260/1,140/900	1,500/1,380/1,140	1,920/1,560/1,260	2,040/1,740/1,380	2,160/1,860/1,500
350/317/250	350/317/250	417/383/317	533/433/350	567/483/383	600/533/417
0.124	0.124	0.124	0.235	0.235	0.235
70(10-150)	70(10-150)	70(10-150)	100(10-150)	100(10-150)	100(10-150)
57/54/48	57/54/48	59/56/50	60/56/53	61/57/54	62/58/55
35/32/26	35/32/26	37/34/28	38/34/31	39/35/32	40/36/33
290x1,000x700	290x1,000x700	290x1,000x700	290x1,400x700	290x1,400x700	290x1,400x700
Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
VP-25	VP-25	VP-25	VP-25	VP-25	VP-25
34	34	34	46	46	46

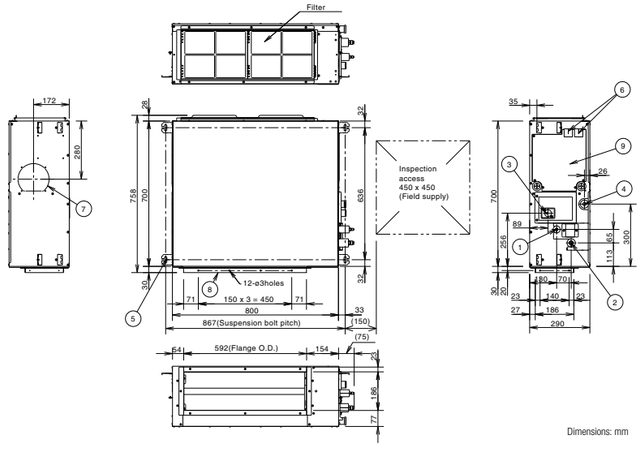
GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27℃ DB / 19℃ WB	20℃ DB
	Outdoor air temperature	35℃ DB / 24℃ WB	7℃ DB / 6℃ WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

F2 TYPE MID STATIC DUCTED Dimensions

SIZE 22-56

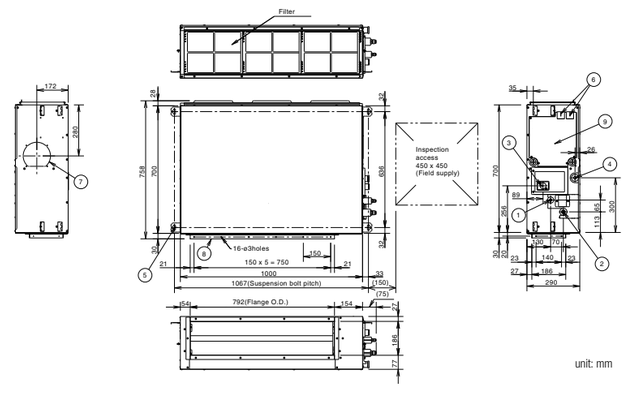
1 Refrigerant piping joint (liquid tube) Ø6.35 Flare
2 Refrigerant piping joint (gas tube) Ø12.7 Flare
3 Upper drain port VP25 (O.D. Ø32 mm)
  ℄ 200 flexible hose supplied
4 Bottom drain port VP25 (O.D. Ø32 mm)
5 Suspension lug (4-12 × 30 mm)
6 Power supply outlet
7 Fresh air intake port (Ø150 mm)
8 Flange for flexible air outlet duct
9 Electrical component box



Dimensions: mm

SIZE 60-90

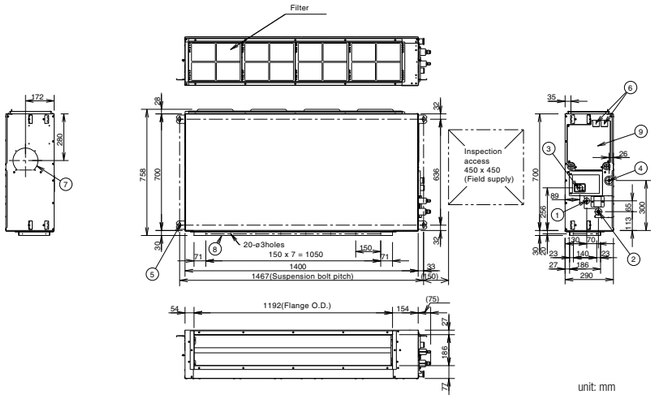
1 Refrigerant piping joint (liquid tube) Ø9.52 Flare
2 Refrigerant piping joint (gas tube) Ø15.88 Flare
3 Upper drain port VP25 (O.D. Ø32 mm)
  ℄ 200 flexible hose supplied
4 Bottom drain port VP25 (O.D. Ø32 mm)
5 Suspension lug (4-12 × 30 mm)
6 Power supply outlet
7 Fresh air intake port (Ø150 mm)
8 Flange for flexible air outlet duct
9 Electrical component box



unit: mm

SIZE 106-160

1 Refrigerant piping joint (liquid tube) Ø9.52 Flare
2 Refrigerant piping joint (gas tube) Ø15.88 Flare
3 Upper drain port VP25 (O.D. Ø32 mm)
  ℄ 200 flexible hose supplied
4 Bottom drain port VP25 (O.D. Ø32 mm)
5 Suspension lug (4-12 × 30 mm)
6 Power supply outlet
7 Fresh air intake port (Ø150 mm)
8 Flange for flexible air outlet duct
9 Electrical component box



unit: mm

M2 TYPE Slim Low Static Ducted

Concealed duct

The ultra slim M2 type is one of the leading products of its type in the industry.
With a depth and height of only 450 mm and 200 mm, it provides greater flexibility and adaptability for various applications.
In addition, high efficiency and extreme low noise level make it highly suitable for hotels and small offices.

nanoe X Generator Mark3



S-22MM2EA
S-28MM2EA
S-36MM2EA



S-45MM2EA/S-56MM2EA

Optional accessory

ECONAVI ready



CZ-RTC6W



CZ-RTC6



CZ-CENSC1



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver



Self-diagnosing Function



Automatic Fan Operation



Dry mode



Automatic Restart Function



Built-in Drain Pump



DC motor

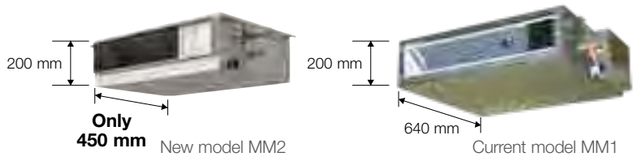
Technical focus

- Ultra-slim profile: depth 450 mm and height 200 mm for all models
- DC fan motor greatly reduces power consumption
- Ideal for hotel application with very narrow false ceilings
- Easy maintenance and service by external electrical box
- 40 Pa static pressure enables ductwork to be fitted.
- Includes drain pump
- Includes built in filter.
- nanoe® X : 100x for CAC (100 times more nanoe® particle for wide commercial space)

More flexible Installation

The depth is 190mm less than the current model, making it possible to install it in a narrower ceiling space.





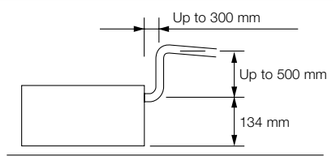
Low noise design for a more comfortable space

Improved fan and fan casing design reduces noise levels by 2 -5 dB(A) compared to current models, providing a more comfortable space.



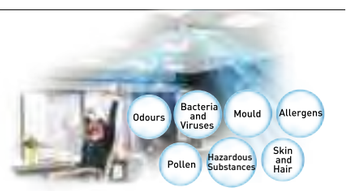
Drain pump with increased power!

Using the built-in high-lift drain pump, the drain piping rise height can be increased to 634 mm from the lower surface of the body.



nanoe® X Generator Mark3

nanoe® X contains plenty of OH radicals that have outstanding effects on various air pollutants, including bacteria and viruses, mould, allergens, pollen, hazadous substances, as well as deodorise odours. It also keeps moisture in your skin and hair.



Invisible Air Contaminants are Suppressed

Model Name			S-22MM2EA	S-28MM2EA	S-36MM2EA	S-45MM2EA	S-56MM2EA
Power source			220/230/240 V, 1 phase - 50/60 Hz				
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
		BTU/h	7,500	9,600	12,300	15,400	19,100
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3
		BTU/h	8,500	10,900	14,300	17,100	21,500
Power input	Cooling	kW	0.025/0.025/0.025	0.029/0.029/0.029	0.032/0.032/0.032	0.039/0.039/0.039	0.054/0.054/0.054
	Heating	kW	0.025/0.025/0.025	0.029/0.029/0.029	0.032/0.032/0.032	0.039/0.039/0.039	0.054/0.054/0.054
Running current	Cooling	A	0.33/0.33/0.33	0.35/0.35/0.35	0.36/0.36/0.36	0.44/0.44/0.44	0.51/0.51/0.51
	Heating	A	0.33/0.33/0.33	0.35/0.35/0.35	0.36/0.36/0.36	0.44/0.44/0.44	0.51/0.51/0.51
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	480/420/300	510/450/390	540/480/420	780/660/630	900/780/660
		L/s	133/117/83	142/125/108	150/133/117	217/183/175	250/217/183
	Motor output	kW	0.04	0.04	0.04	0.04	0.04
	External static pressure	Pa	10 (30)	15 (30)	15 (40)	15 (40)	15 (40)
Sound power level (H/M/L)		dB	41/40/35	42/41/38	43/41/38	45/42/41	47/44/42
Sound pressure level (H/M/L)		dB(A)	26/25/20	27/26/23	28/26/23	30/27/26	32/29/27
Dimensions	H x W x D	mm	200×700×450	200×700×450	200×700×450	200×900×450	200×900×450
Pipe connections	Liquid	mm (inches)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)
	Gas	mm (inches)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	17	17	17	19	19

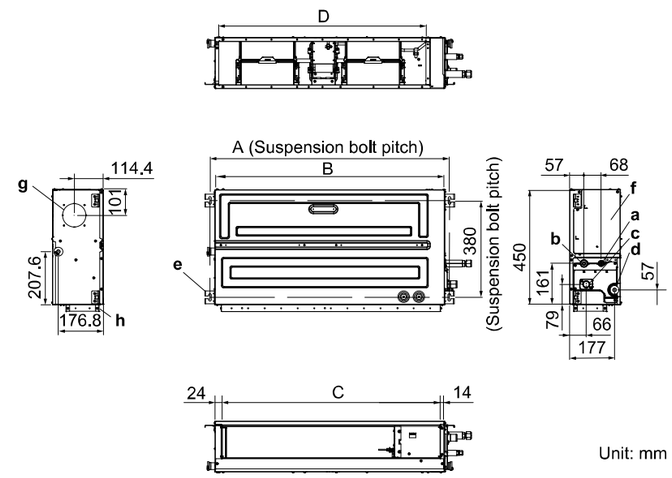
GLOBAL REMARKS			
	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

M2 TYPE SLIM LOW STATIC DUCTED Dimensions

Detailed dimensions of indoor unit

Type	A	B	C	D
	mm	mm	mm	mm
22, 28, 36	740	700	662	615
45, 56	940	900	862	815



a) Refrigerant piping joint (liquid tube)
b) Refrigerant tubing joint (gas tube)
c) Upper drain port
d) Bottom drain port
e) Suspension lug
f) Electrical component box
g) Fresh air intake port
h) Flange for flexible air outlet duct

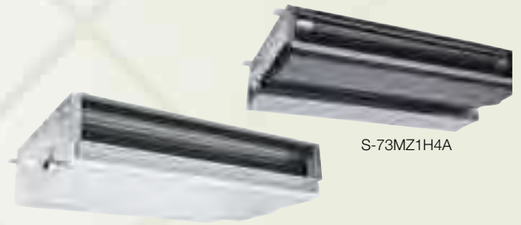
Unit: mm

Indoor Unit / Z1 Type

Z1 TYPE Slim Low Static Ducted Twenty Series

Concealed duct

The ultra slim Z1 type is one of the leading products of its type in the industry.
With a height of only 200 mm, it provides greater flexibility and adaptability for various applications.
In addition, high efficiency and extreme low noise level make it highly suitable for hotels and small offices.



S-73MZ1H4A

S-22MZ1H4A/ S-28MZ1H4A/ S-36MZ1H4A
S-45MZ1H4A/ S-56MZ1H4A/ S-60MZ1H4A

Optional accessory

ECONAVI ready



CZ-RTC6W | CZ-RTC6 | CZ-CENSC1 | CZ-RTC5B | CZ-RWS3 Remote controller | CZ-RWRC3 Receiver

Self-diagnosing Function | Automatic Fan Operation | Dry mode | Automatic Restart Function | DC motor

Technical focus

- Ultra-slim profile: 200 mm for all models
- DC fan motor greatly reduces power consumption
- Ideal for hotel application with very narrow false ceilings
- Easy maintenance and service by external electrical box
- 29 Pa static pressure enables duct work to be fitted.
- Drain pump (optional)

Ultra-slim profile for all models

200mm height for all models allows installation in very narrow ceilings.



Drain pump with increased power! (optional)

Using the optional high-lift drainage pump, the drain piping rise height can be increased up to 1,000 mm from the drain pipe port.



CZ-73DMZ1

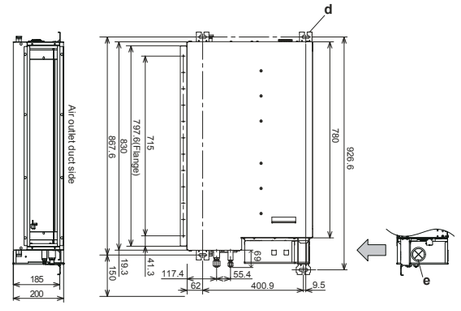
Model Name			S-22MZ1H4A	S-28MZ1H4A	S-36MZ1H4A	S-45MZ1H4A	S-56MZ1H4A	S-60MZ1H4A	S-73MZ1H4A
Power source			220/230/240 V, 1 phase - 50/60 Hz						
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6	6.0	7.3
		BTU/h	7,500	9,500	12,200	15,300	19,100	20,500	24,900
Heating capacity		kW	2.5	3.2	4.2	5.1	6.4	7.1	8.0
		BTU/h	8,500	10,900	14,300	17,400	21,800	24,200	27,300
Power input	Cooling	kW	0.075/0.075/0.075	0.080/0.080/0.080	0.085/0.085/0.085	0.095/0.095/0.095	0.100/0.100/0.100	0.100/0.100/0.100	0.125/0.125/0.125
	Heating	kW	0.075/0.075/0.075	0.080/0.080/0.080	0.085/0.085/0.085	0.095/0.095/0.095	0.100/0.100/0.100	0.100/0.100/0.100	0.125/0.125/0.125
Running current	Cooling	A	0.50/0.47/0.45	0.55/0.52/0.50	0.60/0.57/0.55	0.70/0.68/0.65	0.75/0.72/0.70	0.75/0.72/0.70	0.80/0.78/0.75
	Heating	A	0.50/0.47/0.45	0.55/0.52/0.50	0.60/0.57/0.55	0.70/0.68/0.65	0.75/0.72/0.70	0.75/0.72/0.70	0.80/0.78/0.75
Fan	Type		Sirroco fan	Sirroco fan	Sirroco fan	Sirroco fan	Sirroco fan	Sirroco fan	Sirroco fan
	Air flow rate (H/M/L)	m³/h	480/420/360	600/540/420	600/540/420	690/630/510	720/660/540	870/750/630	1,080/840/660
		L/s	133/117/100	167/150/117	167/150/117	192/175/142	200/183/150	242/208/175	300/233/183
	Motor output	W	60	60	60	60	60	60	60
	External static pressure	Pa	10-30	10-30	10-30	10-30	10-30	10-30	10-30
Sound power level (H/M/L)		dB	50/49/47	52/51/49	54/52/50	56/54/52	57/55/53	60/57/55	62/60/58
Sound pressure level (H/M/L)		dB(A)	28/27/25	30/29/27	32/30/28	34/32/30	35/33/31	38/35/33	40/38/36
Dimensions	H x W x D	mm	200×830×500	200×830×500	200×830×500	200×830×500	200×830×500	200×830×500	200x1,050×550
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
	Drain piping		O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm
Net weight		kg	17	17	18	18	18	18	24

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

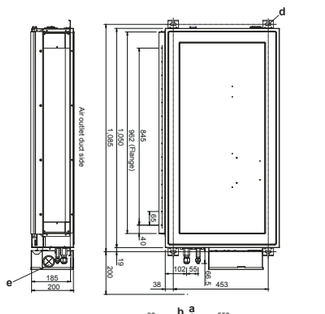
These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

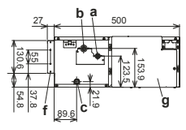
Z1 TYPE SLIM LOW STATIC DUCTED TWENTY SERIES Dimensions

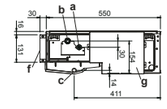
SIZE 22-60



SIZE 73







a) Refrigerant tubing joint (liquid tube)
b) Refrigerant tubing joint (gas tube)
c) Bottom drain port O.D.Ø20.5 mm / I.D. Ø15.5mm
d) Suspension lug (4 – 12 × 30 mm)
e) Power supply outlet
f) Flange for flexible air outlet duct
g) Electrical component box

unit: mm

E2 TYPE High Static Ducted

Concealed duct / Air conditioning mode

High static and large airflow ducted for exceptional installation flexibility.



S-180ME2E5 / S-224ME2E5 / S-280ME2E5

Optional accessory



CZ-RTC6W
CZ-RTC6WBL



CZ-RTC6
CZ-RTC6BL



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver



Self-diagnosing Function



Automatic Fan Operation



Dry mode



Automatic Restart Function



DC motor

Technical focus

- Design flexibility thanks to high static pressure and large air volume
- DC motor equipped
- Power input 45% less (compared to E1 type)
- Discharge air temperature control to reduce cold drafts during heating operation
- Configurable air temperature control
- Available Fresh Air Intake mode (See page 80-81)

3-step static pressure set up

You can select between the three Static Pressure modes of 270 Pa/140 Pa/60(72*) Pa for extra installation flexibility.



* 28 kW model

Max. 270 Pa static pressure setting

A maximum static pressure setting of a high 270 Pa enables the use of long ducts for installation in a wide range of spaces. Ideal for large-scale offices, restaurants and other facilities.

Sensible cooling 5-10% improved

New heat exchanger with ϕ7mm pipe that increases the heat transfer surface to improve sensible cooling (5-10% improvement)

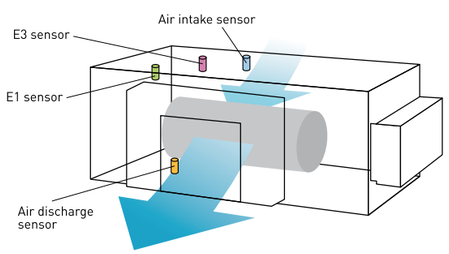
No Rap Valve Kit required

Thanks to improved performance, a Rap Valve Kit (CZ-P160RVK2) is no longer required.



Discharge air temperature control

- Equipped with 4 sensors (Intake/ Discharge)
- Able to control discharge air temperature for accurate room temperature control.
- Possible to reduce cold drafts during heating operation.



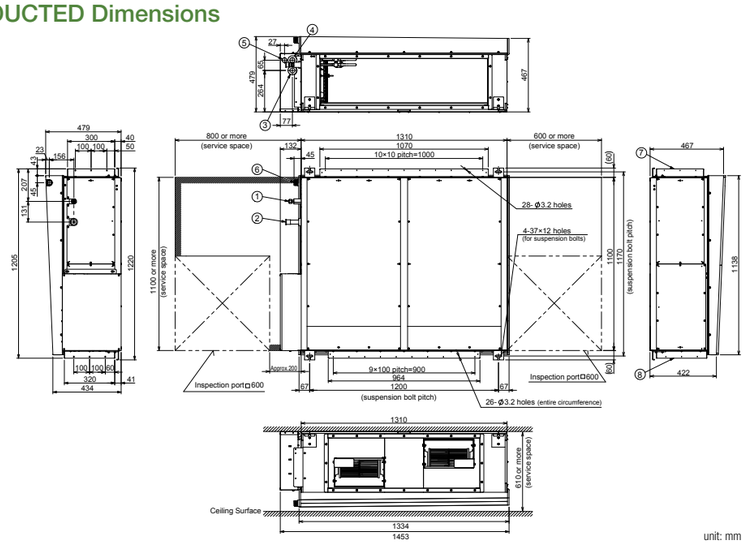
Model Name			S-180ME2E5	S-224ME2E5	S-280ME2E5
Power source			220/230/240 V, 1 phase - 50 Hz, 220/230 V, 1 phase - 60 Hz		
Cooling capacity		kW	18.0	22.4	28.0
		BTU/h	61,400	76,400	95,500
Heating capacity		kW	20.0	25.0	31.5
		BTU/h	68,200	85,300	107,500
Power input	Cooling	kW	0.400	0.440	0.715
	Heating	kW	0.400	0.440	0.715
Running current	Cooling	A	2.40/2.30/2.20	2.55/2.45/2.35	3.95/3.85/3.70
	Heating	A	2.40/2.30/2.20	2.55/2.45/2.35	3.95/3.85/3.70
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	2,940/2,640/2,340	3,360/3,060/2,640	4,320/3,780/3,180
		L/s	817/733/650	933/850/733	1,200/1,050/883
	Motor output	kW	0.560 x 2	0.560 x 2	0.750 x 2
	External static pressure	Pa	140 (60/270)	140 (60/270)	140 (72/270)
Sound power level (H/M/L)		dB	76/74/72	77/75/73	81/79/75
Sound pressure level (H/M/L)		dB(A)	44/42/40	45/43/41	49/47/43
Dimensions	H x W x D	mm	479 x 1,453 x 1,205	479 x 1,453 x 1,205	479 x 1,453 x 1,205
Pipe connections	Liquid	mm (inches)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
	Gas	mm (inches)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)
	Drain piping		VP-25	VP-25	VP-25
Net weight		kg	102	102	106

GLOBAL REMARKS			
	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

E2 TYPE HIGH STATIC DUCTED Dimensions

1 Refrigerant piping (liquid pipes) Ø9.52
2 Refrigerant piping (gas pipes)
180 & 224 type: Ø19.05, 280 type: Ø22.22
3 Power supply outlet (Ø25 grommet, rubber)
4 Power supply outlet (spare) (Ø30 knock-out)
5 Optional outlet for piping
6 Drain port 25 A, male thread
7 Duct connection for suction
8 Duct connection for discharge

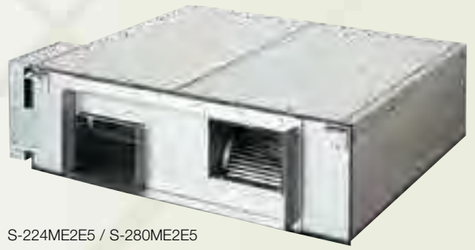


unit: mm

Indoor Unit / E2 Type

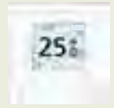
E2 TYPE High Static Ducted / Energy Saving High-Fresh Air Ducted

High static and large airflow ducted for exceptional installation flexibility.



S-224ME2E5 / S-280ME2E5

Optional accessory



CZ-RTC6W



CZ-RTC6



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver

Self-diagnosing Function

Automatic Fan Operation

Automatic Restart Function

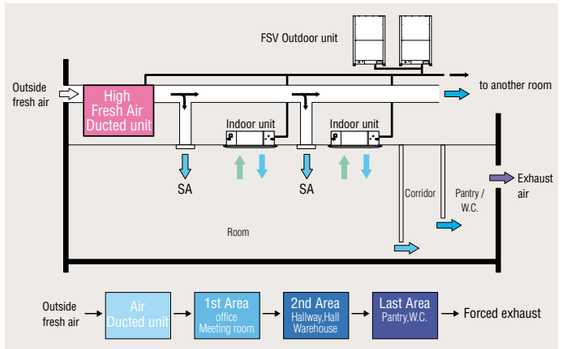
DC motor

Technical focus

- 100% fresh air intake for ventilation purpose
- Design flexibility with high static pressure and large air volume
- DC motor equipped
- Power input 45% less (compared to H1 type)
- Discharge air temperature control to reduce cold drafts during heating operation
- Configurable air temperature control

High Fresh System

High Fresh System enables delivery of fresh outside air at almost the same temperature and humidity as indoor air without putting a burden on air conditioning.
* Capable of treating outdoor air only. Indoor air conditioner units are required to adjust indoor air temperature.

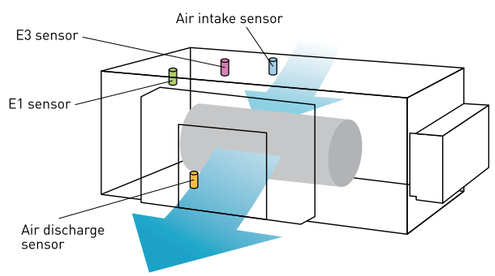


Mix operation unit with standard indoor units

Possible to combine High Fresh Air ducted indoor unit and standard air ducted indoor units.
When other indoor units are connected in same circuit, keep following capacity ratio.
E2 type/Outdoor unit < 30%, and Total of indoors(incl. E2)/outdoor <100%

Discharge air temperature control

- Equipped with 4 sensors (Intake/ Discharge)
- Able to control discharge air temperature for accurate room temperature control.
- Possible to reduce cold drafts during heating operation.



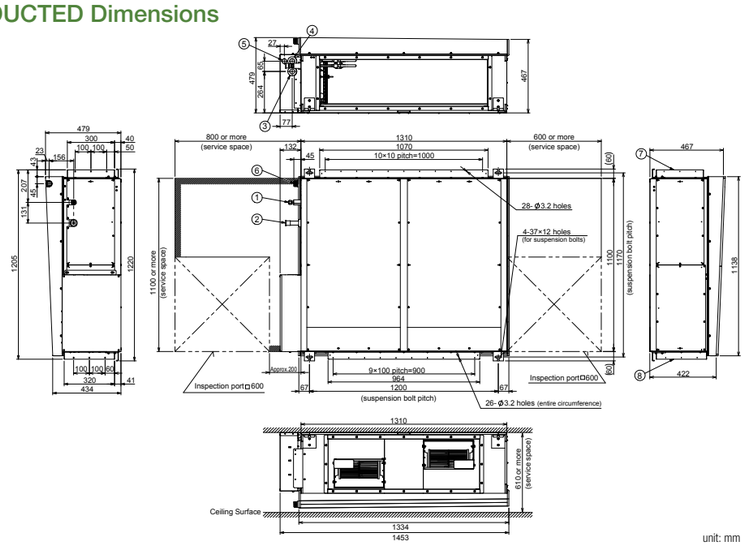
Model Name			S-224ME2E5	S-280ME2E5
Power source			220/230/240 V, 1 phase - 50 Hz, 220/230 V, 1 phase - 60 Hz	
Cooling capacity		kW	22.4	28.0
		BTU/h	76,400	95,500
Heating capacity		kW	21.2	26.5
		BTU/h	72,300	90,400
Power input	Cooling	kW	0.290	0.350
	Heating	kW	0.290	0.350
Running current	Cooling	A	1.90/1.85/1.80	2.30/2.20/2.10
	Heating	A	1.90/1.85/1.80	2.30/2.20/2.10
Fan	Type		Sirocco fan	Sirocco fan
	Air flow rate	m³/h	1,700	2,100
		L/s	472	583
	Motor output	kW	0.560 x 2	0.750 x 2
	External static pressure	Pa	200	200
Sound power level		dB	75	76
Sound pressure level		dB(A)	43	44
Dimensions	H x W x D	mm	479 x 1,453 x 1,205	479 x 1,453 x 1,205
Pipe connections	Liquid	inches (mm)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
	Gas	inches (mm)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)
	Drain piping		VP-25	VP-25
Net weight		kg	102	106

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27℃ DB / 19℃ WB	20℃ DB
	Outdoor air temperature	35℃ DB / 24℃ WB	7℃ DB / 6℃ WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

E2 TYPE HIGH STATIC DUCTED Dimensions

1 Refrigerant piping (liquid pipes) Ø9.52
2 Refrigerant piping (gas pipes)
224 type: Ø19.05, 280 type: Ø22.22
3 Power supply outlet (Ø25 grommet, rubber)
4 Power supply outlet (spare) (Ø30 knock-out)
5 Optional outlet for piping
6 Drain port 25 A, male thread
7 Duct connection for suction
8 Duct connection for discharge



unit: mm

Indoor Unit / E1 Type

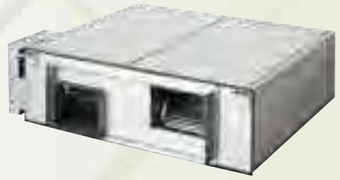
E1 TYPE High Static Ducted

Concealed duct high-static pressure

The E1 range of ducted units offers improved design flexibility for extended duct layouts as a result of their increased external static pressures.

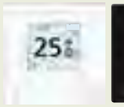


S-73ME1E5/S106ME1E5/S-140ME1E5



S-224ME1E5 / S-280ME1E5

Optional accessory



CZ-RTC6W



CZ-RTC6



CZ-RTC5B



Optional Controller
Wireless remote controller
CZ-RWS3 + CZ-RWRC3



Self-diagnosing Function



Automatic Fan Operation



Dry mode



Automatic Restart Function

Technical focus

- Complete flexibility for duct work design
- Can be located into a weatherproof housing for external installation
- Discharge air temperature control to reduce cold drafts during heating operation
- Configurable air temperature control

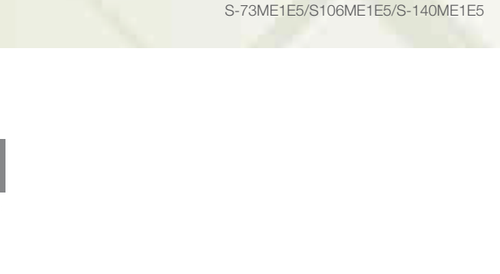
System example

An inspection port (600 x 600 mm or more) is required at the lower side of the indoor unit body (field supply).



Discharge air temperature control

- Equipped with 4 sensors (Intake/ Discharge)
- Able to control discharge air temperature for accurate room temperature control.
- Possible to reduce cold drafts during heating operation.



Note: When installing either 224 type or 280 type, you must install RAP Valve Kit (CZ-P160RVK2). RAP Valve Kit is not required for cooling only system. For details, please consult an authorised dealer.

Model Name			S-73ME1E5	S-106ME1E5	S-140ME1E5	S-224ME1E5	S-280ME1E5
Power source			220/230/240 V, 1 phase - 50/60 Hz				220/230/240 V, 1 phase - 50 Hz
Cooling capacity		kW	7.3	10.6	14.0	22.4	28.0
		BTU/h	25,000	36,000	47,800	76,400	95,500
Heating capacity		kW	8.0	11.4	16.0	25.0	31.5
		BTU/h	27,000	39,000	54,600	85,300	107,500
Power input	Cooling	kW	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	0.870/0.900/0.930	1.270/1.330/1.390
	Heating	kW	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	0.870/0.900/0.930	1.270/1.330/1.390
Running current	Cooling	A	2.29/2.30/2.31	2.46/2.46/2.47	2.80/2.90/3.00	4.05/4.06/4.07	6.04/6.06/6.07
	Heating	A	2.29/2.30/2.31	2.46/2.46/2.47	2.80/2.90/3.00	4.05/4.06/4.07	6.04/6.06/6.07
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	1,380/1,320/1,260	1,800/1,680/1,500	2,160/2,100/1,980	3,360/3,190/2,980	4,320/4,200/3,960
		L/s	383/367/350	500/467/417	600/583/550	933/886/828	1,200/1,167/1,100
	Motor output	kW	0.2	0.2	0.35	0.2	0.4
	External static pressure	Pa	186	176	167	176	216 (235)*
Sound power level (H/M/L)		dB	55/54/53	56/55/53	58/57/55	59/58/57	62/61/60
Sound pressure level (H/M/L)		dB(A)	44/43/42	45/44/42	47/46/44	48/47/46	51/50/49 (52/51/50)*
Dimensions	H x W x D	mm	420 x 1,065 x 620	420 x 1,065 x 620	450 x 1,065 x 620	479 x 1,428 x 1,230	479 x 1,428 x 1,230
Pipe connections	Liquid	mm (inches)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
	Gas	mm (inches)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)
	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25
Net weight		kg	47	50	54	110	120

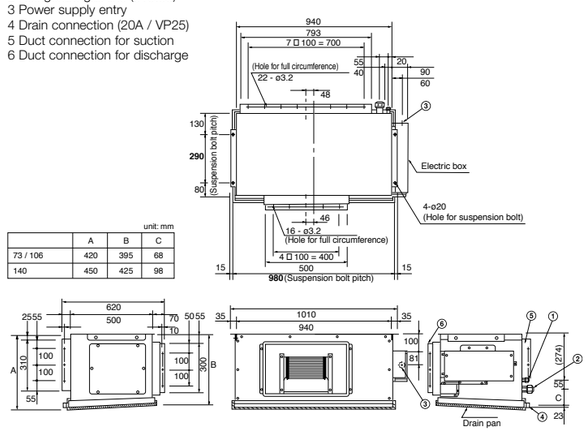
GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

* With booster cable.

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

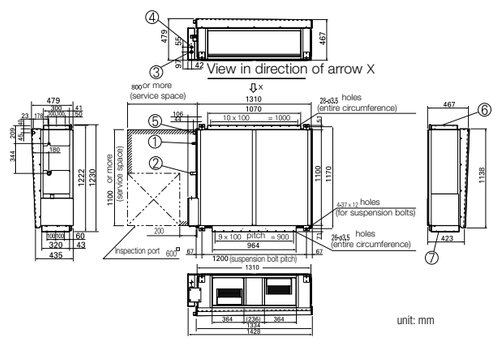
E1 TYPE HIGH STATIC DUCTED Dimensions

1 Refrigerant liquid line (ø9.52)
2 Refrigerant gas line (ø15.88)
3 Power supply entry
4 Drain connection (20A / VP25)
5 Duct connection for suction
6 Duct connection for discharge



	A	B	C
73 / 106	420	395	68
140	450	425	98

1 Refrigerant piping (liquid pipes) Ø9.52
2 Refrigerant piping (gas pipes)
224 type: Ø19.05, 280 type: Ø22.22
3 Power supply outlet (Ø25 grommet, rubber)
4 Power supply outlet (spare) (Ø30 knock-out)
5 Drain port 25 A, male thread
6 Duct connection for suction
7 Duct connection for discharge



Indoor Unit /K3Type

K3 TYPE Wall Mounted

The K3 type wall mounted unit has a stylish smooth design with a washable front panel.
Small, lightweight and low noise level makes it ideal for small offices and other commercial applications.

nanoe X Generator Mark3



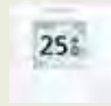
S-22MK3E / S-28MK3E
S-36MK3E / S-45MK3E



S-56MK3E / S-73MK3E
S-106MK3E

Optional accessory

ECONAVI ready



CZ-RTC6W
CZ-RTC6WBLW2



CZ-RTC6



CZ-CENSC1



CZ-RTC5B



CZ-RWS3
*Remote controller

*Receiver is included in the wall mounted indoor unit.



Self-diagnosing Function



Automatic Fan Operation



Dry mode



Intelligent Auto Swing



Automatic Restart Function



Auto Swing (Auto Flap Control)



DC motor

Technical focus

- Closed discharge port when not in use
- Lighter and smaller units make installation easy
- Quiet operation
- Smooth and durable design
- Piping outlet in six directions
- Washable front panel
- Air distribution is automatically altered depending on the operational mode of the unit
- nanoe® X : 100x for CAC (100 times more nanoe® particle for wide commercial space)

Noise reducing external valve kit

To reduce noise level of expansion valve.
(Optional accessory)

CZ-P73SVK3 (for 22 - 73 type)
CZ-P106SVK3 (for 106 type)

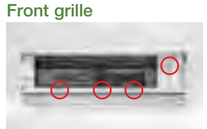
*Please prepare field-supply reducer (Liquid Ø9.52 to Ø6.35) for 73 type indoor unit.



Easy installation and servicing

Installation and service, such as removing the crossflow fan and fixing the drain hose, has been made easier and simpler.

Front grille



Remove front grille with just two screws and slider lock

Built-in support holders for drain hose and piping



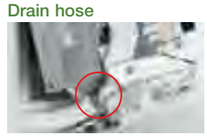
Providing easy access to set up drain hose and piping

Cross flow fan



Removal of cross flow fan without lifting the evaporator

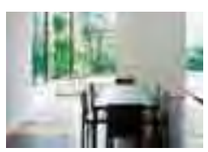
Drain hose

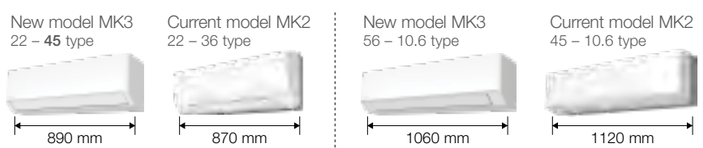


Smooth and secure connection of drain hose with lock

Compact and uniform design

The width of 45MK3 is 230mm less than the current 45MK2 model, making it possible to install it in a narrower space.
The two types of exteriors with a unified design make it easy to match with any interior.





Closed discharge port

When the unit is turned off, the flap closes completely to prevent entry of dust into the unit and to keep the equipment clean.

Quiet operation

Low operating noise level makes these units ideal for hotels and hospital applications.

Smooth and durable design

The smooth cover means these units match most modern interiors.
Their compact size enables them to blend in, even in small spaces.

Piping outlet in six directions

Piping outlet is possible in the six directions of right, right rear, right bottom, left, left rear, left bottom, making installation easier.

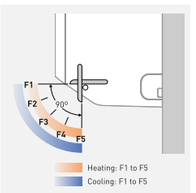
Washable front panel

The indoor unit's front panel can be easily removed and washed for trouble-free maintenance.



Air distribution is automatically adjusted depending on the operational mode of the unit

Air outlet angle is automatically adjusted for cooling and heating operation.



nanoe® X Generator Mark3

nanoe® X contains plenty of OH radicals that have outstanding effects on various air pollutants, including bacteria and viruses, mould, allergens, pollen, hazardous substances, as well as deodorise odours. It also keeps moisture in your skin and hair.

nanoe X Generator Mark3



Invisible Air Contaminants are Suppressed

Indoor Unit /K3Type

K3TYPE Wall Mounted

Model Name			S-22MK3E	S-28MK3E	S-36MK3E	S-45MK3E
Power source			220/230/240 V, 1 phase - 50/60 Hz			
Cooling capacity		kW	2.20	2.80	3.60	4.5
		BTU/h	7,500	9,600	12,300	15,400
Heating capacity		kW	2.50	3.20	4.20	5.0
		BTU/h	8,500	10,900	14,300	17,100
Power input	Cooling	kW	0.018/0.018/0.018	0.019/0.019/0.019	0.020/0.020/0.020	0.025/0.025/0.025
	Heating	kW	0.018/0.018/0.018	0.019/0.019/0.019	0.020/0.020/0.020	0.025/0.025/0.025
Running current	Cooling	A	0.19/0.19/0.19	0.20/0.20/0.20	0.22/0.22/0.22	0.25/0.25/0.25
	Heating	A	0.19/0.19/0.19	0.20/0.20/0.20	0.22/0.22/0.22	0.25/0.25/0.25
Fan	Type		Cross-flow fan	Cross-flow fan	Cross-flow fan	Cross-flow fan
	Air flow rate (H/M/L)	m³/h	540/480/420	570/510/420	630/540/450	690/600/450
		L/s	150/133/117	158/142/117	175/150/125	192/167/125
	Motor output	kW	0.03	0.03	0.03	0.03
Sound power level (H/M/L)		dB	47/45/44	48/46/44	50/47/44	53/48/44
Sound pressure level (H/M/L)		dB(A)	32/30/29	33/31/29	35/32/29	38/33/29
Dimensions	H x W x D	mm	295×890×244	295×890×244	295×890×244	295×890×244
Pipe connections	Liquid	mm (inches)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)
	Gas	mm (inches)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)
	Drain piping	mm	Ø18	Ø18	Ø18	Ø18
Net weight		kg	12	12	12	12

GLOBAL REMARKS		
Rated conditions:	Cooling	Heating
Indoor air temperature	27℃ DB / 19℃ WB	20℃ DB
Outdoor air temperature	35℃ DB / 24℃ WB	7℃ DB / 6℃ WB

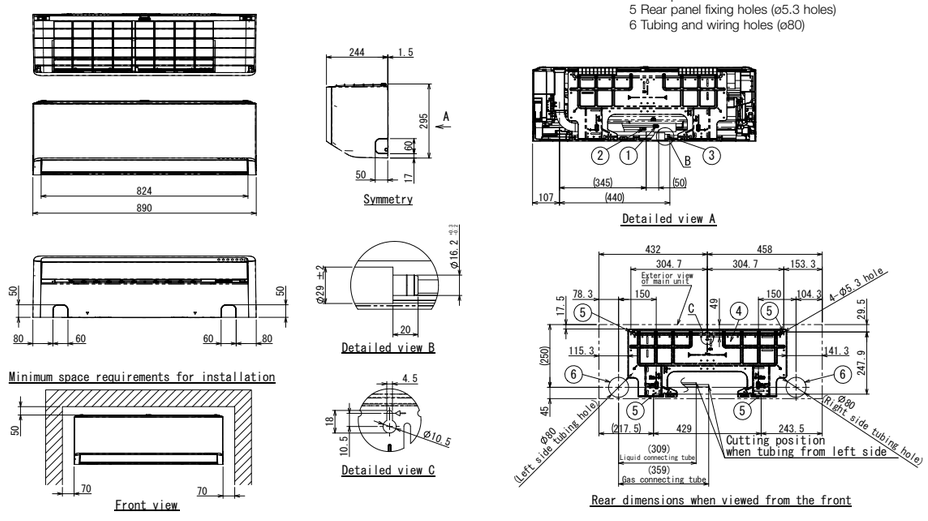
These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

S-56MK3E	S-73MK3E	S-106MK3E
220/230/240 V, 1 phase - 50/60 Hz		
5.6	7.3	10.6
19,100	24,900	36,200
6.3	8.0	10.6
21,500	27,300	36,200
0.040/0.040/0.040	0.055/0.055/0.055	0.080/0.080/0.080
0.040/0.040/0.040	0.055/0.055/0.055	0.080/0.080/0.080
0.35/0.35/0.35	0.50/0.50/0.50	0.70/0.70/0.70
0.35/0.35/0.35	0.50/0.50/0.50	0.70/0.70/0.70
Cross-flow fan	Cross-flow fan	Cross-flow fan
900/840/780	1140/1020/840	1320/1080/840
250/233/217	317/283/233	367/300/233
0.03	0.03	0.03
55/53/50	62/59/55	65/60/55
40/38/35	47/44/40	50/45/40
295×1060×249	295×1060×249	295×1060×249
Ø6.35(Ø1/4)	Ø9.52(Ø3/8)	Ø9.52(Ø3/8)
Ø12.7(Ø1/2)	Ø15.88(Ø5/8)	Ø15.88(Ø5/8)
Ø18	Ø18	Ø18
14	14	14

K3 (22-45) TYPE WALL MOUNTED Dimensions

SIZE 22-45

1 Refrigerant tubing (liquid tube) ø6.35 (flared)
2 Refrigerant tubing (gas tube) ø12.7(flared)
3 Drain hose
4 Rear panel
5 Rear panel fixing holes (ø5.3 holes)
6 Tubing and wiring holes (ø80)

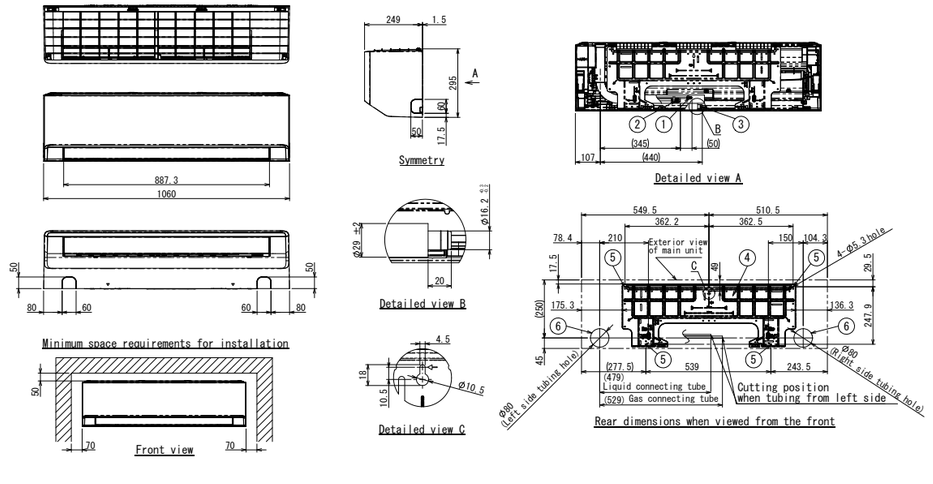


unit: mm

K3 (56-106) TYPE WALL MOUNTED Dimensions

SIZE 56-106

1 Refrigerant tubing (liquid tube) Type 56 Ø6.35 (flared) Type 73-106 Ø9.52 (flared)
2 Refrigerant tubing (gas tube) Type 56 Ø12.7 (flared) Type 73-106 Ø15.88 (flared)
3 Drain hose
4 Rear panel
5 Rear panel fixing holes (Ø5.3 holes)
6 Tubing and wiring holes (ø80)



unit: mm

Indoor Unit / K2 Type

K2 TYPE Wall Mounted

DC motor

The K2 type wall mounted unit has a stylish smooth design with a washable front panel.
Small, lightweight and low noise level makes it ideal for small offices and other commercial applications.



S-22MK2E5A / S-28MK2E5A
S-36MK2E5A



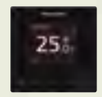
S-45MK2E5A / S-56MK2E5A
S-73MK2E5A / S-106MK2E5A

Optional accessory

ECONAVI ready



CZ-RTC6W



CZ-RTC6



CZ-CENSC1



CZ-RTC5B



CZ-RWS3
*Remote controller

*Receiver is included in the wall mounted indoor unit.

Self-diagnosing Function | Automatic Fan Operation | Dry mode | Intelligent Auto Swing | Automatic Restart Function | Auto Swing (Auto Flap Control)

Technical focus

- Closed discharge port when not in use
- Lighter and smaller units make installation easy
- Quiet operation
- Smooth and durable design
- Piping outlet in six directions
- Washable front panel
- Air distribution is automatically altered depending on the operational mode of the unit

Noise reducing external valve kit

To reduce noise level of expansion valve.
(Optional accessory)



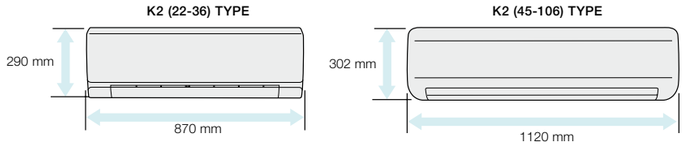
CZ-P56SVK2 (for 22 - 56 type)
CZ-P160SVK2 (for 73* - 106 type)

*When the pipe diameter is (Liquid) Ø6.35 - (Gas) Ø12.7, please use CZ-P56SVK2.

Closed discharge port

When the unit is turned off, the flap closes completely to prevent entry of dust into the unit and to keep the equipment clean.

Compact indoor units make the installation easy



Quiet operation

Low operating noise level makes these units ideal for hotels and hospital applications.

Smooth and durable design

The smooth cover means these units match most modern interiors.
Their compact size enables them to blend in, even in small spaces.

Piping outlet in six directions

Piping outlet is possible in the six directions of right, right rear, right bottom, left, left rear, left bottom, making installation easier.

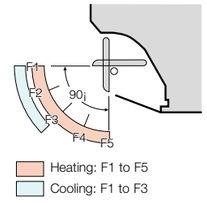
Washable front panel

The indoor unit's front panel can be easily removed and washed for trouble-free maintenance.



Air distribution is automatically adjusted depending on the operational mode of the unit

Air outlet angle is automatically adjusted for cooling and heating operation.



Indoor Unit / K2 Type

K2 TYPE Wall Mounted

Model Name			S-22MK2E5A	S-28MK2E5A	S-36MK2E5A	S-45MK2E5A
Power source			220/230/240 V, 1 phase - 50/60 Hz			
Cooling capacity		kW	2.20	2.80	3.60	4.5
		BTU/h	7,500	9,600	12,300	15,400
Heating capacity		kW	2.50	3.20	4.20	5.0
		BTU/h	8,500	10,900	14,300	17,100
Power input	Cooling	kW	0.025/0.025/0.025	0.025/0.025/0.025	0.030/0.030/0.030	0.030/0.030/0.030
	Heating	kW	0.025/0.025/0.025	0.025/0.025/0.025	0.030/0.030/0.030	0.030/0.030/0.030
Running current	Cooling	A	0.21	0.23	0.25	0.33/0.32/0.31
	Heating	A	0.21	0.23	0.25	0.33/0.32/0.31
Fan	Type		Cross-flow fan	Cross-flow fan	Cross-flow fan	Cross-flow fan
	Air flow rate (H/M/L)	m³/h	540/450/390	570/498/390	654/540/390	870/750/600
		L/s	150/125/108	158/138/108	182/150/108	242/208/167
	Motor output	kW	0.03	0.03	0.03	0.054
Sound power level (H/M/L)		dB	51/48/44	52/49/44	55/51/44	53/50/48
Sound pressure level (H/M/L)		dB(A)	36/33/29	37/34/29	40/36/29	38/35/33
Dimensions	H x W x D	mm	290 x 870 x 214	290 x 870 x 214	290 x 870 x 214	302 x 1,120 x 236
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping	mm	Ø18	Ø18	Ø18	Ø18
Net weight		kg	9	9	9	13

GLOBAL REMARKS			
	Rated conditions:	Cooling	Heating
	Indoor air temperature	27℃ DB / 19℃ WB	20℃ DB
	Outdoor air temperature	35℃ DB / 24℃ WB	7℃ DB / 6℃ WB

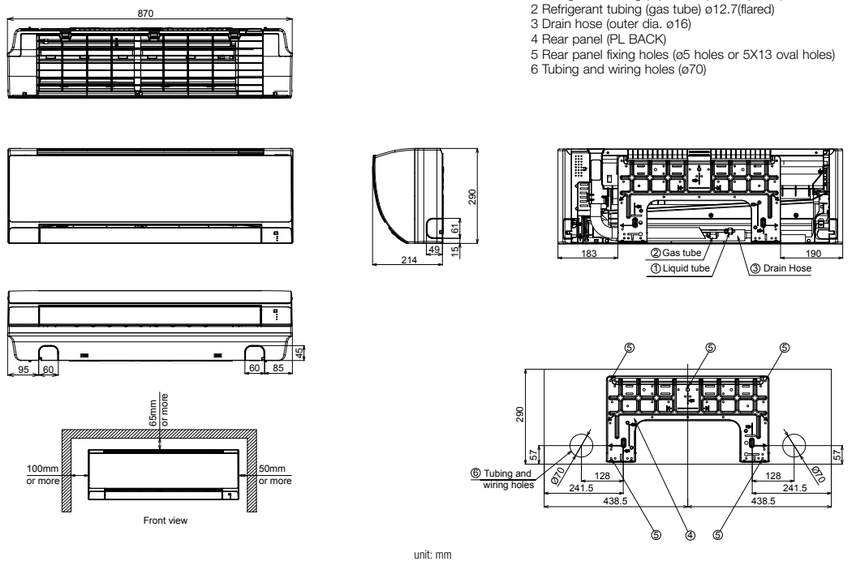
These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

S-56MK2E5A	S-73MK2E5A	S-106MK2E5A
220/230/240 V, 1 phase - 50/60 Hz		
5.6	7.3	10.6
19,100	24,900	36,200
6.3	8.0	11.4
21,500	27,300	38,900
0.035/0.035/0.035	0.055/0.055/0.055	0.080/0.080/0.080
0.035/0.035/0.035	0.055/0.055/0.055	0.080/0.080/0.080
0.36/0.35/0.34	0.52/0.51/0.50	0.72/0.70/0.68
0.36/0.35/0.34	0.52/0.51/0.50	0.72/0.70/0.68
Cross-flow fan	Cross-flow fan	Cross-flow fan
960/840/720	1,170/1,020/840	1,290/1,110/900
267/233/200	325/283/233	358/308/250
0.054	0.054	0.054
55/52/50	62/59/55	64/61/57
40/37/35	47/44/40	49/46/42
302 x 1,120 x 236	302 x 1,120 x 236	302 x 1,120 x 236
Ø6.35 (Ø1/4)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
Ø12.7 (Ø1/2)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
Ø18	Ø18	Ø18
13	14	14

K2 (22-36) TYPE WALL MOUNTED Dimensions

SIZE 22-36

1 Refrigerant tubing (liquid tube) ø6.35(flared)
2 Refrigerant tubing (gas tube) ø12.7(flared)
3 Drain hose (outer dia. ø16)
4 Rear panel (PL BACK)
5 Rear panel fixing holes (ø5 holes or 5X13 oval holes)
6 Tubing and wiring holes (ø70)

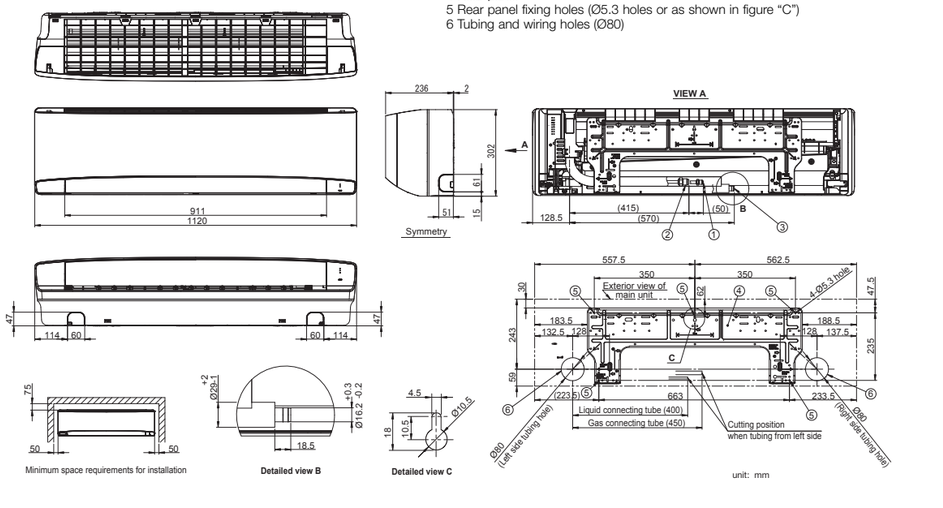


unit: mm

K2 (45-106) TYPE WALL MOUNTED Dimensions

SIZE 45-106

1 Refrigerant tubing (liquid tube) Type 45-56 Ø6.35 (flared) Type 73-106 Ø9.52 (flared)
2 Refrigerant tubing (gas tube) Type 45-56 Ø12.7 (flared) Type 73-106 Ø15.88 (flared)
3 Drain hose
4 Rear panel
5 Rear panel fixing holes (Ø5.3 holes or as shown in figure "C")
6 Tubing and wiring holes (Ø80)

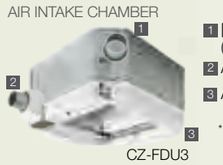


unit: mm

U2TYPE 4-Way Cassette

Semi concealed cassette

Provides a neat fit in the ceiling to match modern décor, and uniform cooling through out the room, and easy installation.



CZ-FDU3

1 [1] Air intake flange (Ø100) (field supply)
2 Air intake box CZ-ATU2*(Ø100)
3 Air intake plenum CZ-FDU3

* When using Air intake box (CZ-ATU2), Air intake plenum (CZ-FDU3) is required.



Normal Panel : CZ-KPU3H



Self-diagnosing Function | Automatic Fan Operation | Dry mode | Intelligent Auto Swing | Automatic Restart Function | Auto Swing (Auto Flap Control) | Built-in Drain Pump | DC motor

Technical focus

- New high performance turbo fan, new path system for heat exchanger
- Lower noise in slow fan operation
- Industry top light weight, easy piping
- Easy installation structure of the panel
- nanoe® X : 100x for CAC (100 times more nanoe® particle for wide commercial space). Inside cleaning by 100x nanoe® + dry control

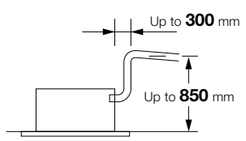
Flat Horizontal Design

The horizontal design of 4-way cassette achieves an elegant designed panel. Its slim design allow to protrude 33.5mm from the ceiling.



Drain pump of up to 850 mm from the ceiling surface

Built in drain pump allows flexible install and design options with up to 850mm lift. Long horizontal piping is also possible.



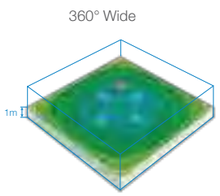
Easy to clean suction grille

Suction grille is able to make 90-degree turns.



360° Wide & Comfortable Airflow

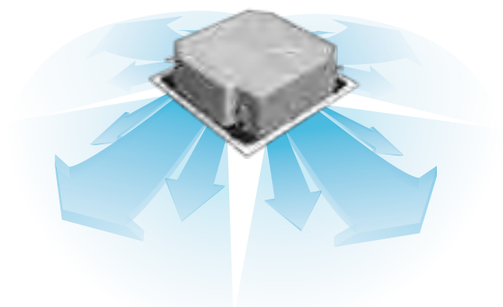
Comfort air flow control and proper energy use. Flexible Air Flow direction control by individual flap control:
-4 Flaps can be controlled individually (by standard wired remote controller*)
-Versatile air flow control to cover a wide variety of demands.



Temperature distribution by thermograph (cooling operation)

Simulation conditions:
140M 4-way ceiling-mounted cassette type in cooling mode
/ Floor area of 225 m²
/ Ceiling height of 3 m

Ample airflow: 36 m³/min

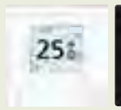


*Pre-setting is required for this function at System Test-run procedure

Indoor Unit / U2 Type

nanoeX Generator Mark3

Optional accessory



CZ-RTC6W



CZ-RTC6



CZ-RTC5B



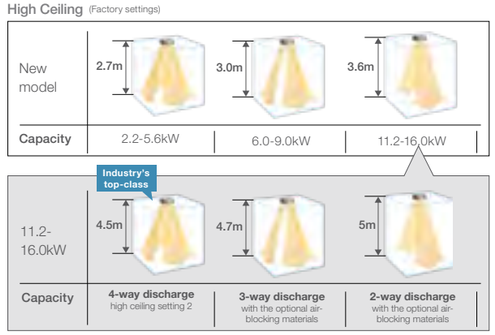
CZ-RWS3 Remote controller



CZ-RWRU3 Receiver

High-ceiling installation (Up to 5 m for 10.6 kW and higher capacity models)

The units can be installed in rooms with high ceilings, where they provide ample floor-level heating in the winter. (See ceiling height guidelines below.)



Ceiling height guidelines

*1 settings / Indoor unit	4-way discharge			3-way discharge (optional air-blocking materials)	2-way discharge (optional air-blocking materials) *2
	Factory setting 1	High ceiling setting 1	High ceiling setting 2		
2.2-5.6kW	2.7	3.2	3.5	3.8	4.2
6.0-9.0kW	3.0	3.3	3.6	3.8	4.2
11.2-16.0kW	3.6	4.3	5.0	4.7	5.0

*1 When using the unit in a configuration other than the factory settings, it is necessary to make settings on site to increase airflow.
*2 Use air-blocking materials (CZ-CFU3) to completely block two discharge outlets for 2-way airflow.

nanoe® X Generator Mark 3

nanoe® X contains plenty of OH radicals that have outstanding effects on various air pollutants, including bacteria and viruses, mould, allergens, pollen, hazadous substances, as well as deodorise odours. It also keeps moisture in your skin and hair.

nanoeX Generator Mark3



Invisible Air Contaminants are Suppressed

U2TYPE 4-WAY Cassette

Model Name			S-22MU2E5BN	S-28MU2E5BN	S-36MU2E5BN	S-45MU2E5BN	S-56MU2E5BN
Power source			220/230/240 V, 1 phase - 50Hz/60Hz				
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
		BTU/h	7,500	9,600	12,300	15,400	19,100
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3
		BTU/h	8,500	10,900	14,300	17,100	21,500
Power input	Cooling	kW	0.020/0.020/0.020	0.020/0.020/0.020	0.020/0.020/0.020	0.020/0.020/0.020	0.025/0.025/0.025
	Heating	kW	0.020/0.020/0.020	0.020/0.020/0.020	0.020/0.020/0.020	0.020/0.020/0.020	0.025/0.025/0.025
Running current	Cooling	A	0.21/0.21/0.20	0.21/0.21/0.20	0.21/0.21/0.20	0.21/0.21/0.20	0.24/0.23/0.22
	Heating	A	0.20/0.20/0.19	0.20/0.20/0.19	0.20/0.20/0.19	0.20/0.20/0.19	0.23/0.22/0.21
Fan	Type		Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan
	Air flow rate (H/M/L)	m^3/h	768/726/690	768/726/690	870/780/690	930/780/690	990/810/690
		L/s	213/202/192	213/202/192	242/217/192	258/217/192	275/225/192
	Motor output	kW	0.06	0.06	0.06	0.06	0.06
Sound power level (H/M/L)		dB	45/44/43	45/44/43	45/44/43	46/44/43	47/45/43
Sound pressure level (H/M/L)		dB(A)	30/29/28	30/29/28	30/29/28	31/29/28	32/30/28
Dimensions*	H x W x D	mm	256+(33.5) x 840 (950) x 840 (950)				
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25
Net weight* (Panel)		kg	19 (+5)	19 (+5)	19 (+5)	19 (+5)	19 (+5)

Global remarks		Cooling	Heating
	Rated conditions:		
	Indoor air temperature	27℃ DB / 19℃ WB	20℃ DB
	Outdoor air temperature	35℃ DB / 24℃ WB	7℃ DB / 6℃ WB

* The values in ( ) for external dimensions and Net weight are the values for the optional ceiling panel.

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

Standard Equipped nanoe® Technology

nanoeX

- nanoe® X, charged water particles, contain hydroxyl radical (OH radical) that work to provide quality air.
- The electrodes of nanoe® X devices are made of titanium and electricity discharge into the water particles of nanoe®. So no need to clean or replace the device (maintenance free without wear).



nanoe® X module

Unique nanoe® X module casing releases 48 trillion hydroxyl radical (OH radical) per second.

Made in JAPAN

Craftsmanship in Japan enables the adoption of titanium

Electrodes of nanoe® X devices are produced with the support of craftsmen in Japan that has advanced expertise on processing ultra-small parts of titanium glass frames although titanium is very strong material and difficult to process.



nanoe® X device

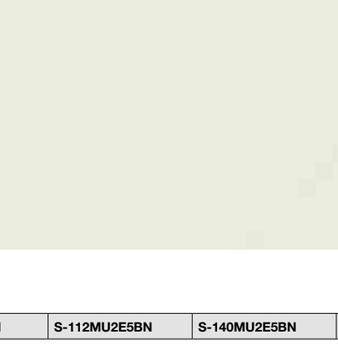
S-60MU2E5BN	S-73MU2E5BN	S-90MU2E5BN	S-112MU2E5BN	S-140MU2E5BN	S-160MU2E5BN
220/230/240 V, 1 phase - 50Hz/60Hz					
6.0	7.3	9.0	11.2	14.0	16.0
20,500	24,900	30,700	38,200	47,800	54,600
7.1	8.0	10.0	14.0	16.0	18.0
24,200	27,300	34,100	47,800	54,600	61,400
0.035/0.035/0.035	0.040/0.040/0.040	0.040/0.040/0.040	0.095/0.095/0.095	0.095/0.095/0.095	0.105/0.105/0.105
0.035/0.035/0.035	0.040/0.040/0.040	0.040/0.040/0.040	0.090/0.090/0.090	0.090/0.090/0.090	0.100/0.100/0.100
0.34/0.33/0.32	0.37/0.36/0.35	0.39/0.38/0.37	0.77/0.74/0.71	0.77/0.74/0.71	0.85/0.82/0.79
0.33/0.32/0.31	0.36/0.35/0.34	0.38/0.37/0.36	0.75/0.72/0.69	0.75/0.72/0.69	0.83/0.80/0.77
Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan
1,260/960/780	1,350/960/780	1,380/1,110/840	2,160/1,560/1,200	2,160/1,560/1,200	2,220/1,680/1,440
350/267/217	375/267/217	383/308/233	600/433/333	600/433/333	617/467/400
0.06	0.06	0.06	0.09	0.09	0.09
51/47/44	52/47/44	53/50/47	60/54/50	60/54/50	61/55/53
36/32/29	37/32/29	38/35/32	45/39/35	45/39/35	46/40/38
			319+(33.5) x 840 (950) x 840 (950)		
Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
VP-25	VP-25	VP-25	VP-25	VP-25	VP-25
20 (+5)	20 (+5)	20 (+5)	25 (+5)	25 (+5)	25 (+5)

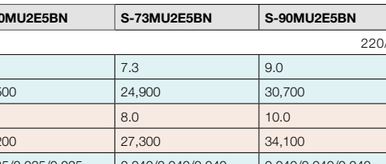
U2 TYPE 4-WAY CASSETTE Dimensions

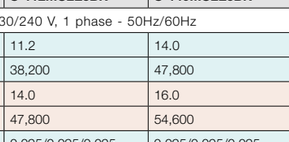
	22~90 type	112~160 type
A	256	319
B	124	187

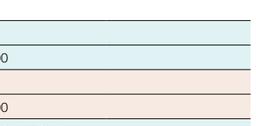
1 Air intake
2 Discharge outlet
3 Refrigerant tubing (liquid tube) 22-56 type ø6.35 (flared), 60-90 type ø9.52 (flared)
4 Refrigerant tubing (gas tube) 22-56 type ø12.7 (flared), 60-90 type ø15.88 (flared)
5 Drain tube connection port VP25 (outer dia. ø32)
6 Power supply port
7 Discharge duct connection port (ø150)
8 Suspension bolt hole (4-12×30 elongated hole)
9 Fresh air intake duct connection port (ø100) *

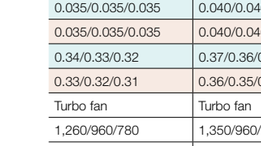
*1: Necessary to attach duct connecting flange (field supplied).
Filter size: 520 x 520 x 15



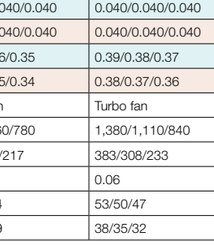




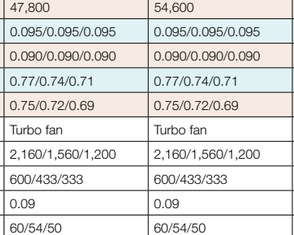


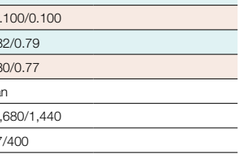


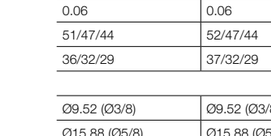
Detailed view Y



Raise dimension of drain tube







Detailed view Z

unit: mm

The length of the suspension bolts should be selected so that there is a gap of 30 mm or more below the lower surface of the ceiling (18 mm or more below the lower surface of the main unit), as shown in the figure at right. If the suspension bolt is too long, it will contact the ceiling panel and the unit cannot be installed.

Y3TYPE 4-Way Mini Cassette

Mini semi concealed cassette

Designed to fit perfectly into a 60 x 60 cm ceiling grid without the need to alter the bar configuration, the Y3 is ideal for small commercial and retrofit applications. In addition, improvements to the Y3's efficiency make this model one of the most advanced units in the industry.



nanoe X Generator Mark3



Panel
CZ-KPY4W (RAL9003)
CZ-KPY4B (RAL9011) *Black color **Release schedule: TBD

Optional accessory

ECONAVI ready



CZ-RTC6W
CZ-RTC6WBLW2



CZ-RTC6
CZ-RTC6BLW2



CZ-CENSC1



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRY3W
Receiver
(RAL9003)
*Black color(RAL9100) not availalbe

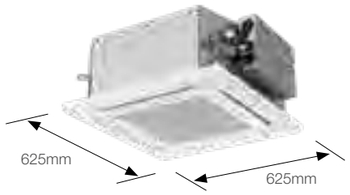
Self-diagnosing Function | Automatic Fan Operation | Dry mode | Auto Flap Control | Automatic Restart Function | Air Swing | Built-in Drain Pump | DC motor

Technical focus

- Mini cassette fits into a 600 x 600 mm ceiling grid
- Powerful drain pump gives 850 mm lift
- Multi-directional air flow
- Easy installation
- DC fan motor with variable speed and a new heat exchanger ensures efficient power consumption
- nanoe® X : 100x for CAC (100 times more nanoe® particle for wide commercial space). Inside cleaning by 100x nanoe® + dry control

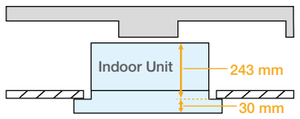
Compact design

Thanks to advanced Panasonic design the panel is a compact 625 x 625 mm, offering elegant, unobtrusive installation even where space is limited.



Lighter and slimmer, easier installation

When only 230 mm of indoor body height, it can easily fit in limited spaces and tight spots.
(Required 243 mm from bottom of panel to top of the unit)



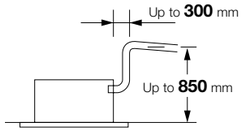
Individual flap control

Keep everyone comfortable by directing air where it's needed and away from where it isn't with individual flap control.



A drain height of up to 850 mm from the ceiling surface

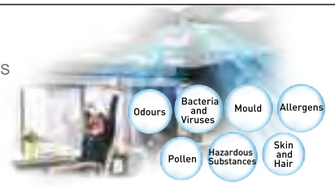
The internal pump allows the drain pipe to be elevated up to 850 mm above the base of the unit.



nanoe® X Generator Mark3

nanoe® X contains plenty of OH radicals that have outstanding effects on various air pollutants, including bacteria and viruses, mould, allergens, pollen, hazadous substances, as well as deodorise odours. It also keeps moisture in your skin and hair.

nanoeX Generator Mark3



Invisible Air Contaminants are Suppressed

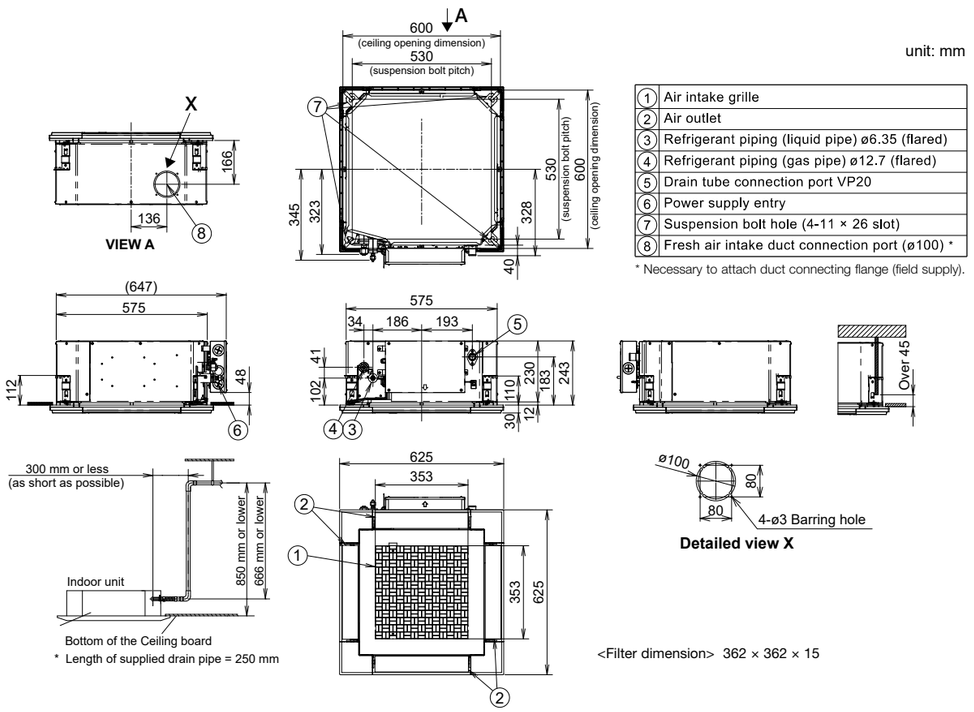
Model Name			S-22MY3EB	S-28MY3EB	S-36MY3EB	S-45MY3EB	S-56MY3EB
Power source			220/230/240 V, 1 phase - 50Hz/60Hz				
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
		BTU/h	7,500	9,600	12,300	15,400	19,100
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3
		BTU/h	8,500	10,900	14,300	17,100	21,500
Power input	Cooling	kW	0.020	0.021	0.022	0.030	0.042
	Heating	kW	0.018	0.019	0.020	0.028	0.040
Running current	Cooling	A	0.25 / 0.24 / 0.23	0.26 / 0.25 / 0.24	0.27 / 0.26 / 0.25	0.35 / 0.34 / 0.33	0.44 / 0.43 / 0.42
	Heating	A	0.22 / 0.21 / 0.20	0.23 / 0.22 / 0.21	0.24 / 0.23 / 0.22	0.32 / 0.31 / 0.30	0.41 / 0.40 / 0.39
Fan motor	Type		Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan
	Airflow rate (H/M/L)	m³/h	522/420/360	540/450/360	570/468/360	690/540/390	810/630/480
		L/s	145/117/100	150/125/100	158/130/100	192/150/108	225/175/133
	Output	kW	0.03	0.03	0.03	0.03	0.03
Sound power level (H/M/L)	Cooling	dB	48/45/43	49/45/43	50/46/43	54/49/45	57/52/48
	Heating	dB	48/45/43	49/45/43	50/46/43	54/49/45	57/52/48
Sound pressure level (H/M/L)	Cooling	dB(A)	33/30/28	34/30/28	35/31/28	39/34/30	42/37/33
	Heating	dB(A)	33/30/28	34/30/28	35/31/28	39/34/30	42/37/33
Dimensions*	H x W x D	mm	243(+30) x 575(625) x 575(625)	243(+30) x 575(625) x 575(625)	243(+30) x 575(625) x 575(625)	243(+30) x 575(625) x 575(625)	243(+30) x 575(625) x 575(625)
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20
Net weight*		kg	15(+2.8)	15(+2.8)	15(+2.8)	15(+2.8)	15(+2.8)

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

* The values in ( ) for external dimensions and Net weight are the values for the optional ceiling panel.
These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

Y3 TYPE 4-WAY MINI CASSETTE Dimensions

unit: mm



1	Air intake grille
2	Air outlet
3	Refrigerant piping (liquid pipe) ø6.35 (flared)
4	Refrigerant piping (gas pipe) ø12.7 (flared)
5	Drain tube connection port VP20
6	Power supply entry
7	Suspension bolt hole (4-11 × 26 slot)
8	Fresh air intake duct connection port (ø100) *

* Necessary to attach duct connecting flange (field supply).

<Filter dimension> 362 × 362 × 15

L1 TYPE 2-Way Cassette

The L1 is very thin, compact and light, allowing flexible install options.
A redesigned fan has been used to achieve this size and weight reduction.

PANEL



CZ-02KPL2

Big size panel (for S-73ML1E5)
CZ-03KPL2



Optional accessory



CZ-RTC6W



CZ-RTC6



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRL3
Receiver



Self-diagnosing Function



Automatic Fan Operation



Dry mode



Intelligent Auto Swing



Automatic Restart Function



Auto Swing (Auto Flap Control)



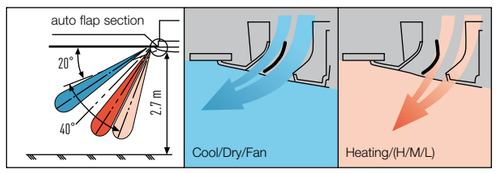
Built-in Drain Pump

Technical focus

- Airflow and distribution is automatically altered depending on the operational mode of the unit
- Drain up is possible up to 500 mm via the built-in drain pump
- Simple maintenance

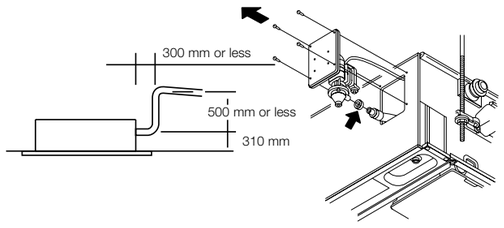
Auto flap control

Airflow and distribution is automatically altered depending on the operational mode (cooling or heating) of the unit.



Drain up is possible up to 500 mm via the built-in drain pump.

Maintenance of the drain pump is possible from both sides, from the left side (piping side) and from the inside of the unit.



Simple maintenance

The drain pan is equipped with site wiring and can be removed. The fan case has a split construction, and the fan motor can be removed easily when the lower case is removed.

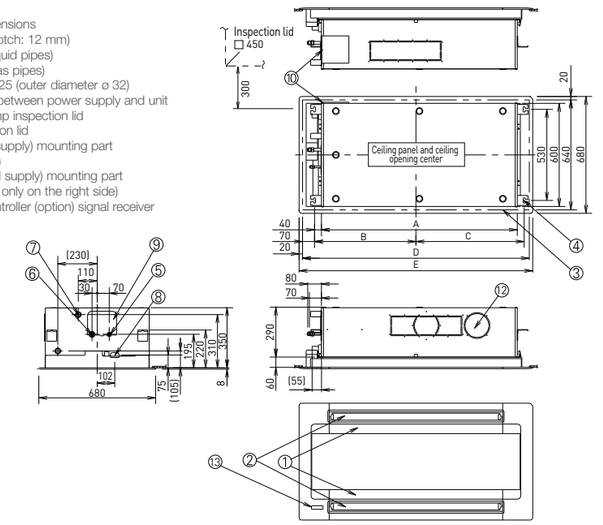
Model Name			S-22ML1E5	S-28ML1E5	S-36ML1E5	S-45ML1E5	S-56ML1E5	S-73ML1E5
Power source			220/230/240 V, 1 phase - 50/60 Hz					
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6	7.3
		BTU/h	7,500	9,600	12,000	15,000	19,000	25,000
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3	8.0
		BTU/h	8,500	11,000	14,000	17,000	21,000	27,000
Power input	Cooling	kW	0.086/0.090/0.095	0.086/0.092/0.097	0.088/0.093/0.099	0.091/0.097/0.103	0.091/0.097/0.103	0.135/0.145/0.154
	Heating	kW	0.055/0.058/0.062	0.055/0.060/0.064	0.057/0.061/0.066	0.060/0.065/0.070	0.060/0.065/0.070	0.100/0.109/0.117
Running current	Cooling	A	0.45/0.45/0.45	0.44/0.45/0.45	0.44/0.45/0.45	0.45/0.45/0.45	0.45/0.45/0.45	0.64/0.65/0.66
	Heating	A	0.29/0.29/0.30	0.28/0.29/0.30	0.28/0.29/0.30	0.29/0.29/0.30	0.29/0.29/0.30	0.46/0.48/0.49
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	480/420/360	540/480/420	580/520/460	660/540/480	660/540/480	1,140/960/840
		L/s	133/117/100	150/133/117	161/144/128	183/150/133	183/150/133	317/267/233
	Motor output	kW	0.03	0.03	0.03	0.03	0.03	0.05
Sound power level (H/M/L)		dB	40/38/35	44/40/37	45/42/39	46/44/40	46/44/40	49/46/44
Sound pressure level (H/M/L)		dB(A)	30/27/24	33/29/26	34/31/28	35/33/29	35/33/29	38/35/33
Dimensions *	H x W x D	mm	350+(8)x840 (1,060) x600 (680)	350+(8)x840 (1,060) x600 (680)	350+(8)x840 (1,060) x600 (680)	350+(8)x840 (1,060) x600 (680)	350+(8)x840 (1,060) x600 (680)	350+(8)x 1,140 (1,360) x600 (680)
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø9.52 (Ø3/8)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø15.88 (Ø5/8)
	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25	VP-25
Net weight *		kg	23 (+5.5)	23 (+5.5)	23 (+5.5)	23 (+5.5)	23 (+5.5)	30 (+9)

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

* The values in ( ) for external dimensions and Net weight are the values for the optional ceiling panel.
These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

L1 TYPE 2-WAY CASSETTE Dimensions

1 Air intake
2 Air outlet
3 Ceiling opening dimensions
4 Suspension fitting (notch: 12 mm)
5 Refrigerant piping (liquid pipes)
6 Refrigerant piping (gas pipes)
7 Drain connection VP25 (outer diameter ø 32)
8 Inlet for option cord between power supply and unit
9 Drain pan, drain pump inspection lid
10 Drain pump inspection lid
11 Round flange (field supply) mounting part (fresh air inlet ø 125)
12 Discharge duct (field supply) mounting part (installation possible only on the right side)
13 Wireless remote controller (option) signal receiver installation part



	22~56 type	73 type
A	840	1,140
B	440	590
C	480	630
D	1,020	1,320
E	1,060	1,360
③Ceiling opening dimensions	1,020x640	1,320x640
⑤Refrigerant piping (liquid pipes)	ø6.35	ø9.52
⑥Refrigerant piping (gas pipes)	ø12.7	ø15.88
⑫Duct connection port (only on the right side)	⑫x 1 pc.	⑫x 2 pc.

unit: mm

D1 TYPE 1-Way Cassette

Semi concealed slim cassette

Designed for installation within the ceiling void, the D1 range of slimline 1 way cassettes feature a quiet yet powerful fan that can reach the floor up 4.2 m from ceiling height.



Optional accessory



Self-diagnosing Function · Automatic Fan Operation · Dry mode · Intelligent Auto Swing · Automatic Restart Function · Auto Swing (Auto Flap Control) · Built-in Drain Pump · DC motor

Technical focus

- Ultra-Slim profile
- Suitable for standard and high ceilings
- Built-in drain pump provides 590 mm lift from ceiling
- Easy to install and maintain
- Hanging height can be easily adjusted
- Uses a DC fan motor to improve energy-efficiency

Drain height

A built-in drain pump provides up to 590mm lift from ceiling height for flexible install options.

With 3 types of air-blow systems, the units can be used in various ways.



(1) One-direction “down-blow” system

Powerful one-direction “down-blow” system reaches the floor even from high ceilings (up to 4.2 m).



(2) Two-direction ceiling-mounted system

“Down-blow” and “front-blow” systems are combined in a ceiling-mounted unit to blow air over a wide area.



(3) One-direction ceiling-mounted system

This powerful ceiling-mounted “front-blow” system efficiently air-conditions the space in front of the unit.
(Additional accessories required)

Model Name			S-28MD1E5	S-36MD1E5	S-45MD1E5	S-56MD1E5	S-73MD1E5
Power source			220/230/240 V, 1 phase - 50/60 Hz				
Cooling capacity		kW	2.8	3.6	4.5	5.6	7.3
		BTU/h	9,600	12,000	15,000	19,000	25,000
Heating capacity		kW	3.2	4.2	5.0	6.3	8.0
		BTU/h	11,000	14,000	17,000	21,000	27,000
Power input	Cooling	kW	0.050/0.051/0.052	0.050/0.051/0.052	0.050/0.051/0.052	0.058/0.060/0.061	0.086/0.087/0.089
	Heating	kW	0.039/0.040/0.042	0.039/0.040/0.042	0.039/0.040/0.042	0.046/0.048/0.049	0.075/0.076/0.077
Running current	Cooling	A	0.40/0.39/0.39	0.40/0.39/0.39	0.40/0.39/0.39	0.46/0.46/0.46	0.71/0.70/0.69
	Heating	A	0.36/0.35/0.35	0.36/0.35/0.35	0.36/0.35/0.35	0.42/0.41/0.41	0.66/0.65/0.63
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	720/600/540	720/600/540	720/660/600	780/690/600	1,080/900/780
		L/s	200/167/150	200/167/150	200/183/167	217/192/167	300/250/217
	Motor output	kW	0.05	0.05	0.05	0.05	0.05
Sound power level (H/M/L)		dB	47/45/44	47/45/44	47/46/45	49/47/45	56/51/47
Sound pressure level (H/M/L)		dB(A)	36/34/33	36/34/33	36/35/34	38/36/34	45/40/36
Dimensions *	H x W x D	mm	200+(20) x 1,000 (1,230) x 710 (800)	200+(20) x 1,000 (1,230) x 710 (800)	200+(20) x 1,000 (1,230) x 710 (800)	200+(20) x 1,000 (1,230) x 710 (800)	200+(20) x 1,000 (1,230) x 710 (800)
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø9.52 (Ø3/8)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø15.88 (Ø5/8)
	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25
Net weight *		kg	21 (+5.5)	21 (+5.5)	21 (+5.5)	21 (+5.5)	22 (+5.5)

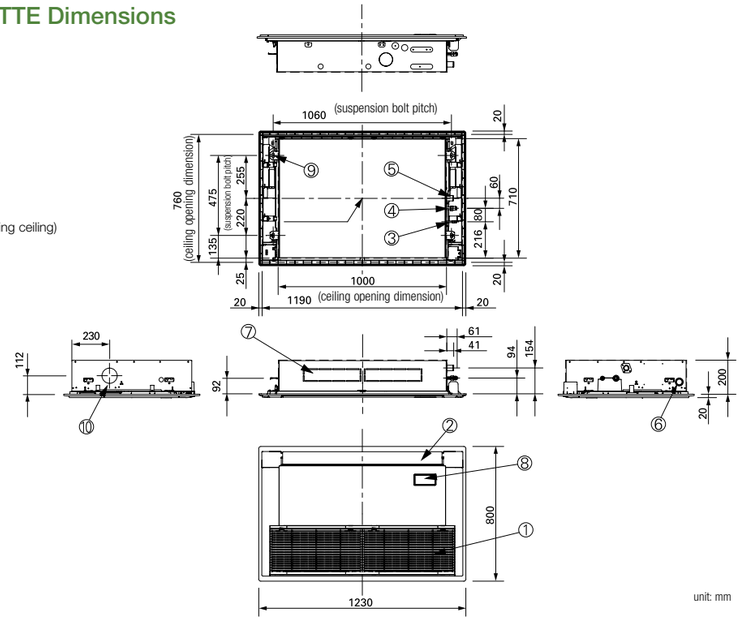
GLOBAL REMARKS		Cooling	Heating
	Rated conditions:		
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

* The values in ( ) for external dimensions and Net weight are the values for the optional ceiling panel.

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

D1 TYPE 1-WAY CASSETTE Dimensions

1 Air intake grille
2 Air outlet
3 Refrigerant piping (liquid pipes)
Size 28 to 56: Ø6.35 (flared)
Size 73: Ø9.52 (flared)
4 Refrigerant piping (gas pipes)
Size 28 to 56: Ø12.7 (flared)
Size 73: Ø15.88 (flared)
5 Drain connection VP25 (outer Ø32)
6 Power supply entry
7 Discharge duct connection port (for descending ceiling)
8 Wireless remote control receiver (option)
9 Suspension mounting (4-12 x 30 slot)
10 Fresh air intake (Ø100)



Indoor Unit / T2 Type

T2 TYPE Ceiling Mounted

Ceiling mounted

Providing outstanding energy-saving performance and comfortable, long-distance air flow distribution, it's recommended for stores and schools.



S-36MT2E5A / S-45MT2E5A
S-56MT2E5A



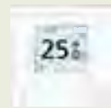
S-73MT2E5A



S-106MT2E5A
S-140MT2E5A

Optional accessory

ECONAVI
ECONAVI ready



CZ-RTC6W



CZ-RTC6



CZ-CENSC1



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRT3
Receiver



Self-diagnosing Function



Automatic Fan Operation



Dry mode



Intelligent Auto Swing



Automatic Restart Function



Auto Swing (Auto Flap Control)



DC motor

Technical focus

- Lower sound levels
- Standardised height and depth for all models
- Long and wide air distribution
- Easy to install and maintain
- Fresh air knockout

Compact Looking, Stylish, One-Motion Design

With its streamlined, one-motion form, the unit looks slim and compact when installed for a neat appearance in any room. When not operating, the louver closes to provide an elegant look while keeping the unit clean.



Energy-Saving Technology Delivering Top-Class Efficiency

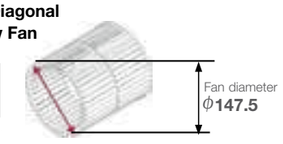
Optimization of the shape of the casing and fan assures bigger air flow and higher efficiency.
Energy-saving performance is top class in the industry.

Top Class Energy Saving

Large Diagonal Air Flow Fan



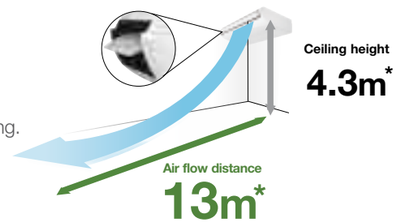
DC monitor



Comfortable, Long-Distance Air Flow Distribution

The shape of the outlet has been optimized to provide long-distance air flow distribution. Even in deep spaces, air flow reaches every corner for exceptionally comfortable air conditioning.

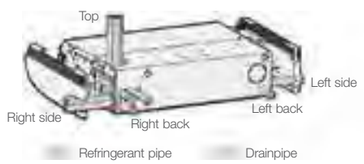
High Ceiling Setting *Setting by remote control	Air flow distance
	140
4.3m	13m



*Results are based on specific testing conditions.

Multiple Piping Directions For Flexible Installation

The 5-directional drain pipe and 3-directional refrigerant pipe make installation much easier. And the neat fit with walls and ceilings assures more installation flexibility.



Model Name			S-36MT2E5A	S-45MT2E5A	S-56MT2E5A	S-73MT2E5A	S-106MT2E5A	S-140MT2E5A
Power source			220/230/240 V, 1 phase - 50/60 Hz					
Cooling capacity		kW	3.6	4.5	5.6	7.3	10.6	14.0
		BTU/h	12,300	15,400	19,100	24,900	36,200	47,800
Heating capacity		kW	4.2	5.0	6.3	8.0	11.4	16.0
		BTU/h	14,300	17,100	21,500	27,300	38,900	54,600
Power input	Cooling	kW	0.035/0.035/0.035	0.040/0.040/0.040	0.040/0.040/0.040	0.055/0.055/0.055	0.080/0.080/0.080	0.100/0.100/0.100
	Heating	kW	0.035/0.035/0.035	0.040/0.040/0.040	0.040/0.040/0.040	0.055/0.055/0.055	0.080/0.080/0.080	0.100/0.100/0.100
Running current	Cooling	A	0.37/0.36/0.35	0.39/0.38/0.37	0.39/0.38/0.37	0.45/0.44/0.43	0.69/0.67/0.65	0.82/0.79/0.77
	Heating	A	0.37/0.36/0.35	0.39/0.38/0.37	0.39/0.38/0.37	0.45/0.44/0.43	0.69/0.67/0.65	0.82/0.79/0.77
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	840/720/630	900/750/630	900/750/630	1,260/1,080/930	1,800/1,500/1,380	1,920/1,680/1,440
		L/s	233/200/175	250/208/175	250/208/175	350/300/258	500/417/383	533/467/400
	Motor output	kW	0.043	0.043	0.043	0.074	0.111	0.111
Sound power level (H/M/L)		dB	54/50/48	55/51/48	55/51/48	57/53/51	60/55/54	62/58/55
Sound pressure level (H/M/L)		dB(A)	36/32/30	37/33/30	37/33/30	39/35/33	42/37/36	44/40/37
Dimensions	H x W x D	mm	235 x 960 x 690	235 x 960 x 690	235 x 960 x 690	235 x 1,275 x 690	235 x 1,590 x 690	235 x 1,590 x 690
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	27	27	27	33	40	40

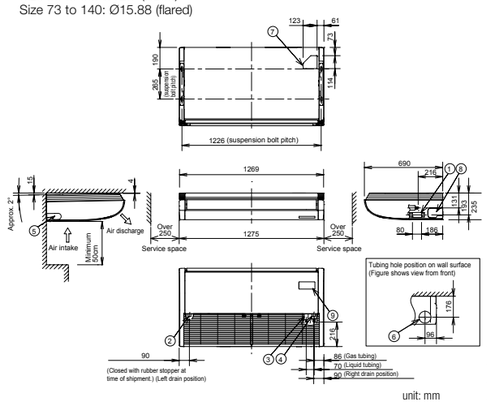
GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

T2 TYPE CEILING Dimensions

SIZE 36-56

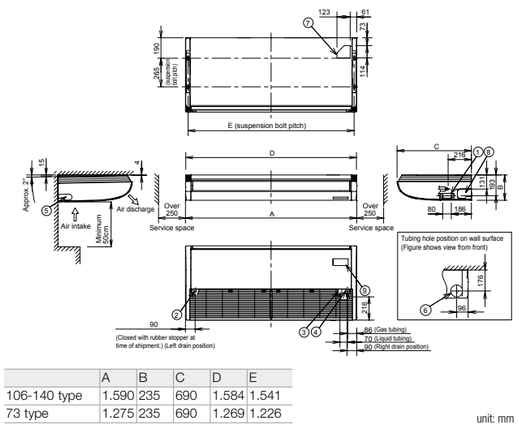
1 Drain port VP20 (inside siameter Ø26mm, drain hose supplied)
2 Left drain position
3 Refrigerant piping (liquid pipes)
Size 36 to 56: Ø6.35 (flared)
Size 73 to 140: Ø9.52 (flared)
4 Refrigerant piping (gas pipes)
Size 36 to 56: Ø12.7 (flared)
Size 73 to 140: Ø15.88 (flared)



unit: mm

SIZE 73-140

5 Left side drain hose outlet port (cutout)
6 Piping hole on wall surface Ø100mm
7 Upper side piping port
8 Right side drain hose outlet port (cutout)
9 Wireless remote controller receiver installation location



	A	B	C	D	E
106-140 type	1.590	235	690	1.584	1.541
73 type	1.275	235	690	1.269	1.226

unit: mm

Indoor Unit / G1 Type

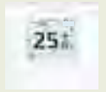
G1 TYPE Floor Console

nanoe™ X Generator Mark1

Compact and versatile, this system is capable of being installed in an area with limited space.
It is a perfect solution for retrofit, replacing existing radiator panels.



Optional accessory



CZ-RTC6W



CZ-RTC6



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver

Self-diagnosing Function

Automatic Fan Operation

Dry mode

Automatic Restart Function

Technical focus

- Clean and stylish design with slim depth
- Modern matt white color panel
- Flexible and easy installation
- Washable air filter
- Quiet operation
- Dry mode to reduce humidity in rooms
- nanoe™ X with nano-technology, nano-sized electrostatic atomised water particles purify the air in the room

Stylish and simple

The stylish and compact unit profile, also used for residential market range, is easy to integrate into any design of building.



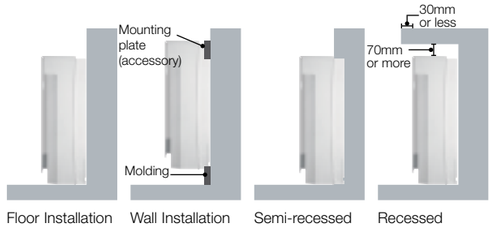
Dimension:
W x H x D = 750 x 600 x 207mm

Weight:
14kg

Flexible easy installation

Four different mounting styles possible: Exposed (floor or wall), semi-recessed and recessed

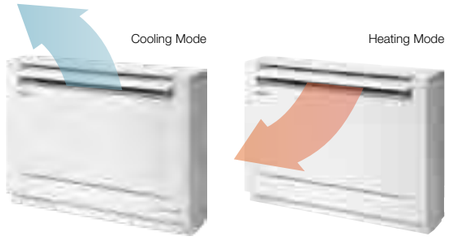
The compact unit can be installed within a limited space, such as under a window. Thus, it is a perfect solution to replace an existing boiler system radiator.



Functions for comfort

- Double Air Flow direction to maximize comfort
- Self-cleaning function

Self-cleaning function.
Self cleaning function can be pre-scheduled with remote controller, up to a maximum of 90 minutes following cooling/dry operation. Air flow will not blow directly at occupants during self-cleaning.



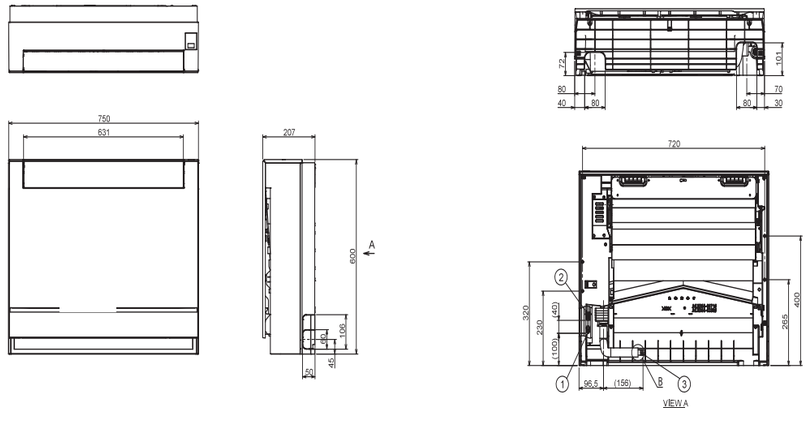
Model Name			S-22MG1E5N	S-28MG1E5N	S-36MG1E5N	S-45MG1E5N	S-56MG1E5N
Power source			220/230/240 V, 1 phase - 50 / 60 Hz				
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
		BTU/h	7,500	9,600	12,300	15,400	19,100
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3
		BTU/h	8,500	10,900	14,300	17,100	21,500
Power input	Cooling	kW	0.018/0.018/0.018	0.018/0.018/0.018	0.021/0.021/0.021	0.023/0.023/0.023	0.025/0.025/0.025
	Heating	kW	0.018/0.018/0.018	0.018/0.018/0.018	0.022/0.022/0.022	0.024/0.024/0.024	0.026/0.026/0.026
Running current	Cooling	A	0.18/0.18/0.18	0.18/0.18/0.18	0.21/0.21/0.21	0.23/0.23/0.23	0.25/0.25/0.25
	Heating	A	0.18/0.18/0.18	0.18/0.18/0.18	0.22/0.22/0.22	0.24/0.24/0.24	0.26/0.26/0.26
Fan	Type		Cross flow	Cross flow	Cross flow	Cross flow	Cross flow
	Air flow rate (H/M/L)	m³/h	552/450/360	552/450/360	582/492/360	630/540/390	720/570/390
		L/s	153/125/100	153/125/100	162/137/100	175/150/108	200/158/108
	Motor output	kW	0.03	0.03	0.03	0.03	0.03
Sound power level (H/M/L)		dB	52/49/44	52/49/44	53/50/44	56/52/45	58/53/45
Sound pressure level (H/M/L)		dB(A)	38/34/29	38/34/29	39/35/29	42/37/30	44/38/30
Dimensions *	H x W x D	mm	600 x 750 x 207	600 x 750 x 207	600 x 750 x 207	600 x 750 x 207	600 x 750 x 207
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20
Net weight *		kg	14	14	14	14	14

GLOBAL REMARKS		
Rated conditions:	Cooling	Heating
Indoor air temperature	27°C DB / 19°C WB	20°C DB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Infrared remote controller (CZ-RWS3) doesn't need receiver as an optional. Receiver is included in the unit shipment.
These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

G1 TYPE FLOOR CONSOLE Dimensions

1 Refrigerant piping (liquid pipes): Ø6.35 (flared)
2 Refrigerant piping (gas pipes): Ø9.52 (flared)
3 Drain hose



unit: mm

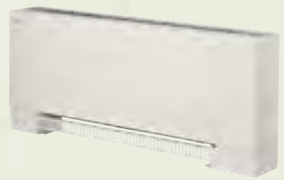
P2 TYPE Floor Standing

The compact floor standing P2 units are the ideal solution for providing perimeter air conditioning.
A standard wired controller can be incorporated into the body of the unit.

nanoe X Generator Mark3

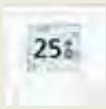


S-22MP2E / S-28MP2E / S-36MP2E



S-45MP2E / S-56MP2E / S-71MP2E

Optional accessory



CZ-RTC6W
CZ-RTC6WBLW2



CZ-RTC6



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver

Self-diagnosing Function



Automatic Fan Operation



Dry mode



Automatic Restart Function



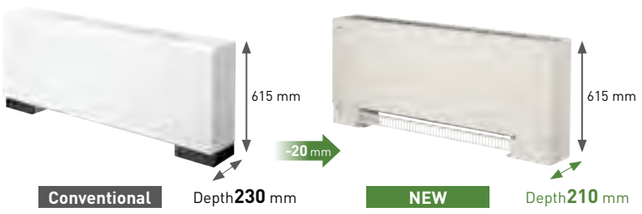
DC motor

Technical focus

- Slimmer by 20mm, it fits perfectly into narrow spaces—maximizing installation flexibility.
- Equipped with a high-efficiency DC fan motor, significantly reducing power consumption.
- nanoe® X : 100x for CAC (100 times more nanoe® particle for wide commercial space)

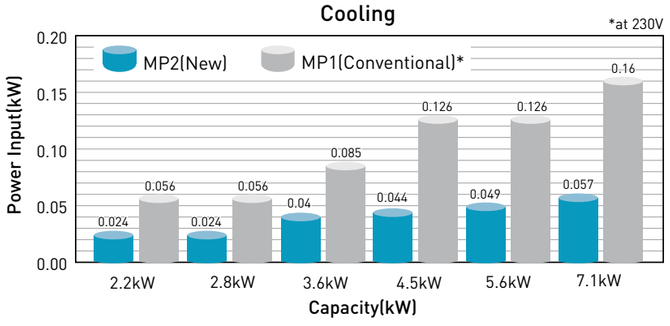
More flexible installation

With a reduced depth of just 210mm—20mm slimmer than the previous model —it's now easier to install in space-constrained environments.



Improving Energy Efficiency

Significant improvement achieved by switching from an AC motor to a DC motor.



Model Name			S-22MP2E	S-28MP2E	S-36MP2E	S-45MP2E	S-56MP2E	S-71MP2E
Power source			220/230/240 V, 1 phase - 50/60Hz					
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6	7.1
		BTU/h	7,500	9,600	12,300	15,400	19,100	24,200
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3	8.0
		BTU/h	8,500	10,900	14,300	17,100	21,500	27,300
Power input	Cooling	kW	0.024/0.024/0.024	0.024/0.024/0.024	0.040/0.040/0.040	0.044/0.044/0.044	0.049/0.049/0.049	0.057/0.057/0.057
	Heating	kW	0.026/0.026/0.026	0.026/0.026/0.026	0.042/0.042/0.042	0.051/0.051/0.051	0.056/0.056/0.056	0.064/0.064/0.064
Running current	Cooling	A	0.31	0.31	0.40	0.46	0.51	0.56
	Heating	A	0.35	0.35	0.44	0.52	0.57	0.62
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	420/360/300	420/360/300	540/420/360	870/750/660	900/780/660	960/840/720
		L/s	117/100/83	117/100/83	150/117/100	242/208/183	250/217/183	267/233/200
	Motor output	kW	0.04	0.04	0.04	0.06	0.06	0.06
Sound power level (H/M/L)		dB	48/45/43	48/45/43	54/50/44	53/50/46	54/51/46	55/53/50
Sound pressure level (H/M/L)		dB(A)	33/30/28	33/30/28	39/35/29	38/35/31	39/36/31	40/38/35
Dimensions	H x W x D	mm	615 x 1060 x 210	615 x 1060 x 210	615 x 1060 x 210	615 x 1460 x 210	615 x 1460 x 210	615 x 1460 x 210
Pipe connections	Liquid	mm (inches)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø9.52(3/8)
	Gas	mm (inches)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø15.88(5/8)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	29	29	29	38	38	38

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

P2 TYPE FLOOR STANDING Dimensions

unit: mm

Type	Outline dimensions			Installation hole pitch		
	A	B	C	D	E	F
22, 28, 36	1060	210	615	100	665	–
45, 56, 71	1460	210	615	100	–	980

- Anchor bolts M8 (×4)
- Installation hole ø12

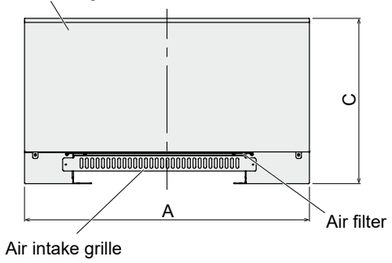
For R410A

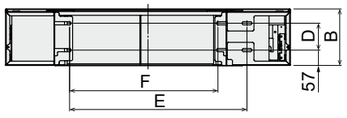
unit: mm

Type	Liquid pipes	Gas pipes
22, 28, 36	ø6.35	ø12.7
45, 56	ø6.35	ø12.7
71*	ø9.52	ø15.88

*For 71 type connecting pipes (ø15.88 x1pc, ø12.7 x1pc, ø6.35 x1pc) are attached as a standard accessory.

Front panel :
When the front panel is removed, the electrical component box, refrigerant tubing joint and drain port are attached at the same location as the Concealed Floor Standing as shown on the right.





unit: mm

Indoor Unit / R2 Type

R2 TYPE Concealed Floor Standing

At just 229 mm deep, the R1 unit can be easily concealed in perimeter areas to provide powerful and effective air conditioning.

nanoe X Generator Mark3



S-22MR2E / S-28MR2E / S-36MR2E



S-45MR2E / S-56MR2E / S-71MR2E

Optional accessory



CZ-RTC6W
CZ-RTC6WBLW2



CZ-RTC6



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver

Self-diagnosing Function

Automatic Fan Operation

Dry mode

Automatic Restart Function

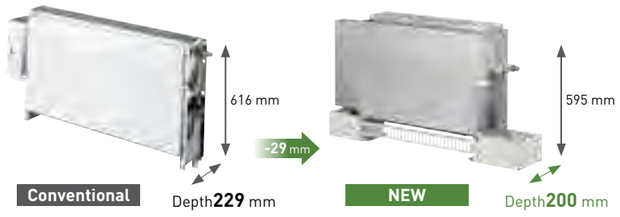
DC motor

Technical focus

- Slimmer by 29mm, it fits perfectly into narrow spaces—maximizing installation flexibility.
- Equipped with a high-efficiency DC fan motor, significantly reducing power consumption.
- nanoe® X : 100x for CAC (100 times more nanoe® particle for wide commercial space)

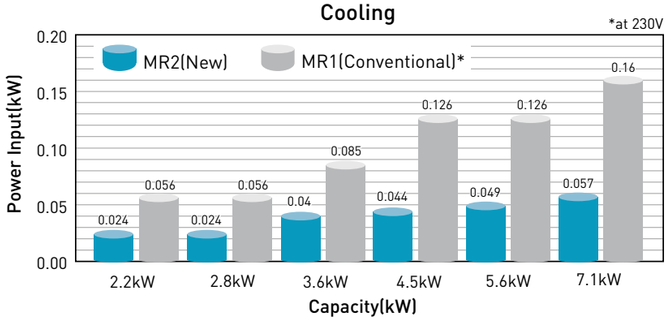
More flexible installation

With a reduced depth of just 200mm—29mm slimmer than the previous model —it's now easier to install in space-constrained environments.



Improving Energy Efficiency

Significant improvement achieved by switching from an AC motor to a DC motor.



Model Name			S-22MR2E	S-28MR2E	S-36MR2E	S-45MR2E	S-56MR2E	S-71MR2E
Power source			220/230/240 V, 1 phase - 50/60Hz					
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6	7.1
		BTU/h	7,500	9,600	12,300	15,400	19,100	24,200
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3	8.0
		BTU/h	8,500	10,900	14,300	17,100	21,500	27,300
Power input	Cooling	kW	0.024/0.024/0.024	0.024/0.024/0.024	0.040/0.040/0.040	0.044/0.044/0.044	0.049/0.049/0.049	0.057/0.057/0.057
	Heating	kW	0.026/0.026/0.026	0.026/0.026/0.026	0.042/0.042/0.042	0.051/0.051/0.051	0.056/0.056/0.056	0.064/0.064/0.064
Running current	Cooling	A	0.31	0.31	0.40	0.46	0.51	0.56
	Heating	A	0.35	0.35	0.44	0.52	0.57	0.62
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m^3/h	420/360/300	420/360/300	540/420/360	870/750/660	900/780/660	960/840/720
		L/s	117/100/83	117/100/83	150/117/100	242/208/183	250/217/183	267/233/200
	Motor output	kW	0.04	0.04	0.04	0.06	0.06	0.06
Sound power level (H/M/L)		dB	48/45/43	48/45/43	54/50/44	53/50/46	54/51/46	55/53/50
Sound pressure level (H/M/L)		dB(A)	33/30/28	33/30/28	39/35/29	38/35/31	39/36/31	40/38/35
Dimensions	H x W x D	mm	595 x 1060 x 200	595 x 1060 x 200	595 x 1060 x 200	595 x 1460 x 200	595 x 1460 x 200	595 x 1460 x 200
Pipe connections	Liquid	mm (inches)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø6.35(Ø1/4)	Ø9.52(3/8)
	Gas	mm (inches)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø12.7(Ø1/2)	Ø15.88(5/8)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	21	21	21	28	28	28

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

These specifications are subject to change without notice.
The sound pressure level and sound power level comply with the conditions specified in EN 12102.

R2 TYPE CONCEALED FLOOR STANDING Dimensions

unit: mm

Type	Outline dimensions			Installation hole pitch		
	A	B	C	D	E	F
22, 28, 36	1060	200	595	100	665	–
45, 56, 71	1460	200	595	100	–	980

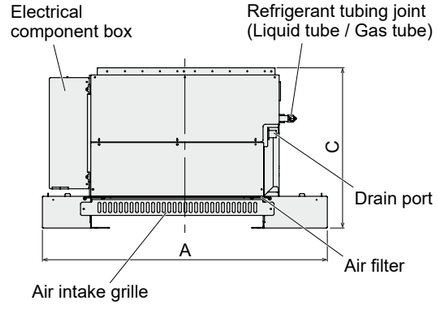
- Anchor bolts M8 (×4)
- Installation hole ø12
- Provide inspection ports to allow maintenance of the electrical component box, air filter, piping connections, and drain section.

For R410A

unit: mm

Type	Liquid pipes	Gas pipes
22, 28, 36	ø6.35	ø12.7
45, 56	ø6.35	ø12.7
71*	ø9.52	ø15.88

*For 71 type connecting pipes (ø15.88 x1pc, ø12.7 x1pc, ø6.35 x1pc) are attached as a standard accessory.



unit: mm

Remark for High Static Ducted Series



E2 type
High Static Ducted



E2 type
Energy Saving
High-Fresh Air Ducted

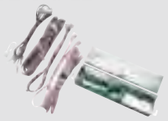


E1 type
High Static Ducted



E3 type
High Static Ducted



Model indoor unit	**Model outdoor unit**	**Operation**	**Rap Valve Kit**	**3-Way control PCB**
			CZ-P160RVK2 	**CZ-CAPE2** 
E2 Type **High Static Ducted** S-180ME2E5 S-224ME2E5 S-280ME2E5	2-Way ME1, ME2	Cooling Only	-	-
	2-Way ME1&ME2	Cooling or Heating	-	-
E2 Type **High Fresh Air Ducted** S-224ME2E5 S-280ME2E5	2-Way ME1, ME2	Cooling Only	-	-
	2-Way ME1&ME2	Cooling or Heating	2pcs	2pcs
E1 Type **High Static Ducted** S-224ME1E5 S-280ME1E5	2-Way ME1, ME2	Cooling Only	-	-
	2-Way ME1&ME2	Cooling or Heating	2pcs	-
E3 Type **High Static Ducted** S-180ME3H S-224ME3H S-280ME3H	2-Way ME1, ME2	Cooling Only	-	-
	-	-	-	-

*Valve Kit is not required for cooling only system. For the details on the information, please consult an authorised dealer.

3-Way Valve Kit (Single SVK)	**3-Way Valve Kit Multiple connection port type 4 ports** (Multiple SVK)		**Distribution Joint Kit** (2-Way)	**Distribution Joint Kit** (3-Way)
CZ-P160HR3 	**CZ-P4160HR3** (160 type x 4)	**Solenoid Valve Relay Kit** (Accessary parts)	**CZ-P160BK2** for 22.4 kW or less **CZ-P680BK2** for more than 22.4 kW	**CZ-P224BH2** for 22.4 kW or less **CZ-P680BH2** for more than 22.4 kW
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	2pcs	-
-	-	-	-	-
-	-	-	2pcs	-
-	-	-	-	-
-	-	-	-	-

FSV Controllers

A wide variety of control options to meet the requirements of different applications.

Operation system	Individual control systems				Centralised control systems				
Requirements	Simplified high-spec operation	High-spec operation	Normal operation	Operation from anywhere in the room	Operation with various functions from a central location	Only ON/OFF operation from a central location	Simplified load distribution ratio (LDR) for each tenant	BMS System PC Base	Connection with 3rd Party Controller
							10.4 in. touch screen panel color LCD		
External appearance								P-AIMS Software Up to 1024 units  CZ-CSWKC2	Interface Adaptor  CZ-CAPC4 Seri-Para I/O unit for each indoor unit  CZ-CAPBC2 Communication Adaptor  CZ-CFUNC2
Type, model name	Simplified high-spec Wired Remote Controller with Bluetooth CZ-RTC6W (Basic, white) CZ-RTC6 (Basic, black) *CZ-RTC6WBLW2 (with WiFi, white) *Available for particular types of VRF indoor units.	High-spec Wired Remote Controller CZ-RTC5B	Timer Remote Controller (Wired) CZ-RTC4A	Wireless Remote Controller Controller: CZ-RWS3 Receiver: CZ-RWRU3 CZ-RWRY3W CZ-RWRL3 CZ-RWRD3 CZ-RWRT3 CZ-RWRC3	System Controller CZ-64ESMC3	ON/OFF Controller CZ-ANC3	Intelligent Controller CZ-256ESMC3 (CZ-CFUNC2)	Optional software  CZ-CSWAC2 for Load distribution CZ-CSWWC2 for Web application CZ-CSWGC2 for Object layout display CZ-CSWBC2 for BACnet software interface *PC required (field supply)	
Built-in thermostat	●	●	●	—	—	—	—		
nanoe® X on/off control	●	●	●	●	—	—	—		
Number of indoor units which can be controlled	1 group, 8 units	1 group, 8 units	1 group, 8 units	1 group, 8 units	64 groups, max. 64 units	16 groups, max. 64 units	64 units x 16 systems, max. 256 units		
Use limitations	· CZ-RTC6(W) : Up to 2 controllers can be connected per group (only combination possible with CZ-RTC6(W)) · CZ-RTC6(W)BLW2 : Up to 1 controller can be connected per group.	· Up to 2 controllers can be connected per group (When using ECONAVI sensor, only one remote controller is possible to connect at indoor unit)	· Up to 2 controllers can be connected per group (When using ECONAVI sensor, only one remote controller is possible to connect at indoor unit)	· Up to 2 controllers can be connected per group.	· Up to 10 controllers, can be connected to one system. · Main unit/sub unit (1 main unit + 1 sub unit) connection is possible. · Use without remote controller is possible.	· Up to 8 controllers (4 main units + 4 sub units) can be connected to one system. · Use without remote controller is impossible.	· A communication adaptor (CZ-CFUNC2) must be installed for three or more links.		
Function ON/OFF	●	●	●	●	●	●	●		
Mode setting	●	●	●	●	●	—	●		
Fan speed setting	●	●	●	●	●	—	●		
Temperature setting	●	●	●	●	●	—	●		
Air flow direction	●	●	●	●	●	—	●		
Permit/Prohibit switching	—	—	—	—	●	●	●		
Weekly program	●*	●	●	—	●	—	●		

*CZ-RTC6(W)BLW2 with H&C Control App
All specifications are subject to change without notice.
Product availability may vary depending on regional regulations and market conditions.

Smart Connect with CONEX



CONEX

A next-generation remote control solution with smart apps

CONEX offers IoT integration that connects directly to a variety of apps for next-generation solutions.
Easy control and access for end users, installers, and service partners with just one remote.

*Product availability may vary depending on regional regulations and market conditions.

CONEX Control

Smart design with built-in BLE & WLAN model.



Comfort Cloud-End User
High level control and energy monitoring via WLAN and cloud giving access from anywhere anytime.

H&C Control App-End User & Installer
H&C Control App makes complex initial set-up easy and allows installers to respond swiftly to clients' requests via Bluetooth.

H&C Diagnosis App-Service Partner
Provides the service partner with detailed operational data, for in-depth analysis and optimising the system.

For End Users





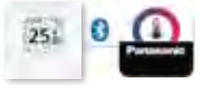
Remote operation via Wireless LAN

With the Comfort Cloud App, you can maintain your own custom air quality even when you're outside.



Intuitive operation for easy configuration

It is very easy to customize settings and perform operations including initial controller configuration such as weekly timer.

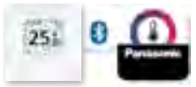


Comfort day to day operations

H&C Control App makes complex initial set-up easy via Bluetooth .

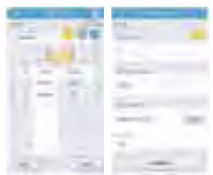
For Installers





Detailed operation and maintenance setting

H&C Control App makes complex initial set-up easy and allows installers to respond swiftly to clients' requests via Bluetooth.



Intuitive operation for easy configuration

Simplified initial controller configuration together with easy access to comprehensive settings including weekly timer and maintenance.

Quicker configuration for multiple controllers

Save time with templates - Copy weekly timers and settings to multiple controllers.

For Service Partners





Diagnosis and trouble shooting

The H&C Diagnosis App allows users to intuitively browse current stats and information about the air conditioners via Bluetooth.



Diagnosis from both indoor and outdoor

With CONEX, operation status can be checked and failure can be diagnosed from both indoor and outdoor units even when site access may be difficult for either indoor or outdoor unit.

CONEX Remote Controller Information

Compatibility Table			
CONEX Type		CZ-RTC6WBLW2 Built-in BLE & WLAN	CZ-RTC6W
App	Panasonic	○	—
	Panasonic	○	—
	Panasonic Comfort Cloud	○	—

Wired Remote Controller



CZ-RTC6WBLW2
CZ-RTC6W



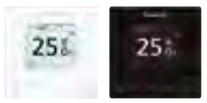
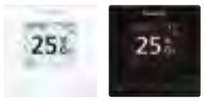
CZ-RTC6

WLAN Smart Adaptor



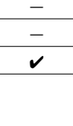
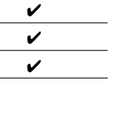
CZ-CAPWFC2

Connectivity matrix.

White model [1]	CZ-RTC6W	CZ-RTC6WBLW2
Black model	**CZ-RTC6**	**CZ-RTC6BLW2**
Wireless functions	No wireless capability	Bluetooth® + Wi-Fi
App compatibility		
Panasonic Comfort Cloud App	—	✔
Panasonic H&C App	—	✔

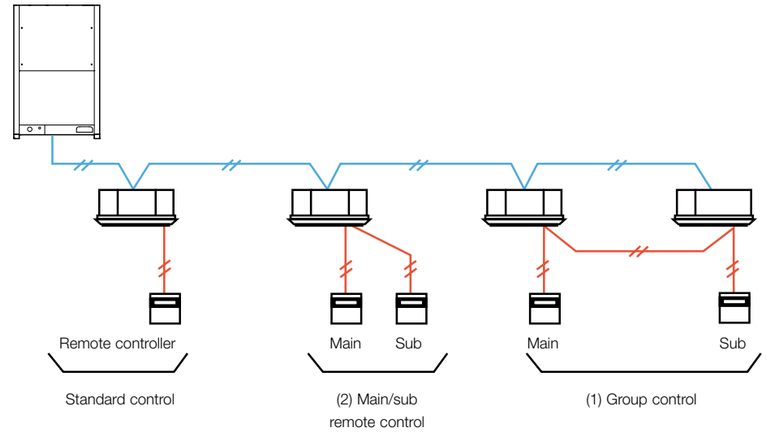
Function comparison

		Remote controller functionalities		CONEX Control with smart apps
			CONEX	
				
		CZ-RTC5B	CZ-RTC6W / CZ-RTC6	CZ-RTC6WBLW2 + app
Basic operation	ON / OFF, mode, temperature, air flow volume, air flow direction	✔	✔	✔
Timer functions	Time display	✔	—	✔
	Easy ON / OFF timer	✔	—	✔
	Weekly program timer	✔	—	✔
Energy saving	Outing function	✔	✔	✔
	Temperature auto return	✔	—	✔
	Temperature setting range limitation	✔	—	✔
	OFF reminder	✔	—	✔
	Energy saving mode	✔	—	✔
	Schedule demand control	✔	—	✔
	Energy monitoring	✔	—	✔
	Econavi	✔	✔	✔
Maintenance	System failure information (alarm history)	✔	✔	✔
	Alarm display	✔	✔	✔
	Service contact registration	✔	—	✔
	Filter sign	✔	✔	✔
	Test run	✔	✔	✔
	Sensor value monitor	✔	✔	✔
	Simple setting mode	✔	✔	✔
	Detailed setting mode	✔	✔	✔
Others	Key lock	✔	✔	✔
	Ventilation fan control	✔	—	✔
	Display contrast adjustment	✔	✔	✔
	Rotation	✔	—	✔
	Quiet operation mode	✔	—	✔
	nanoe® X	✔	✔	✔

Individual Control Systems

Control contents	Part name, model No.	Quantity
Standard Control • Control of the various operations of the indoor unit by wired or wireless remote controller. • Cooling or heating mode of the outdoor unit is decided by the first priority of the remote controller. • Switching between remote controller sensor and body sensor is possible.	Wired remote controller CZ-RTC4A,CZ-RTC5B,CZ-RTC6W/BLW2,CZ-RTC6 Wireless remote controller + Receiver CZ-RWS3 (Wall Mounted) CZ-RWS3 + CZ-RWRY3W (Mini Cassette) CZ-RWS3 + CZ-RWRU3 (4-WAY Cassette) CZ-RWS3 + CZ-RWRL3 (2-WAY Cassette) CZ-RWS3 + CZ-RWRD3 (1-WAY Cassette) CZ-RWS3 + CZ-RWRT3 (Ceiling Mounted) CZ-RWS3 + CZ-RWRC3 (All split type) *Availability may vary depending on counties/areas	1 unit each
(1) Group control • Batch remote control on all indoor units. • Operation of all indoor units in the same mode. • Up to 8 units can be connected. • The sensor is the body sensor, and thermostat ON/OFF setting in regard to the temperature set by the remote controller is possible for each indoor unit.	Wired remote controller CZ-RTC4A,CZ-RTC5B,CZ-RTC6W/BLW2,CZ-RTC6 Wireless remote controller + Receiver CZ-RWS3 (Wall Mounted) CZ-RWS3 + CZ-RWRY3W (Mini Cassette) CZ-RWS3 + CZ-RWRU3 (4-WAY Cassette) CZ-RWS3 + CZ-RWRL3 (2-WAY Cassette) CZ-RWS3 + CZ-RWRD3 (1-WAY Cassette) CZ-RWS3 + CZ-RWRT3 (Ceiling Mounted) CZ-RWS3 + CZ-RWRC3 (All split type) *Availability may vary depending on counties/areas	1 unit
(2) Main/sub remote control • Max 2 remote controllers per indoor unit. (Main remote controller can be connected) • The button pressed last has priority. • Timer setting is possible even with the sub remote controller. (When using ECONAVI sensor, only one remote controller is possible to connect at indoor unit)	Wired remote controller CZ-RTC4A,CZ-RTC5B,CZ-RTC6W/BLW2,CZ-RTC6 Wireless remote controller + Receiver CZ-RWS3 (Wall Mounted) CZ-RWS3 + CZ-RWRY3W (Mini Cassette) CZ-RWS3 + CZ-RWRU3 (4-WAY Cassette) CZ-RWS3 + CZ-RWRL3 (2-WAY Cassette) CZ-RWS3 + CZ-RWRD3 (1-WAY Cassette) CZ-RWS3 + CZ-RWRT3 (Ceiling Mounted) CZ-RWS3 + CZ-RWRC3 (All split type) *Availability may vary depending on counties/areas	As required

SYSTEM EXAMPLE FSV



NOTE: Connectable number of controllers, controller combination, connectable indoor units, remote control maximum wiring length are different between the controller. Please confirm the installation Instructions of controller or consult with Panasonic service center.

Timer remote controller (CZ-RTC4A)



Dimensions
H 120 x W 120 x D 20 mm

Basic remote controller ON/OFF
- Operation mode changeover (Cooling, Heating, Dry, Auto, Fan).
- Temperature setting (Cooling/Dry: 18-30 deg Heating: 16-30 deg).
- Fan speed setting H/ M/ L and Auto.
- Air flow direction adjustment.
- nanoe® X on/off control
- ECONAVI on/ off*

Time Function 24 hours real time clock
- Day of the week indicator.

Weekly Programme Function
- A maximum of 6 settings/day and 42 settings/week can be programmed.

Outing Function
- This function can prevent the room temperature from dropping or rising when the occupants are out for a long time.

Sleeping Function
- This function controls the room temperature for comfortable sleeping.

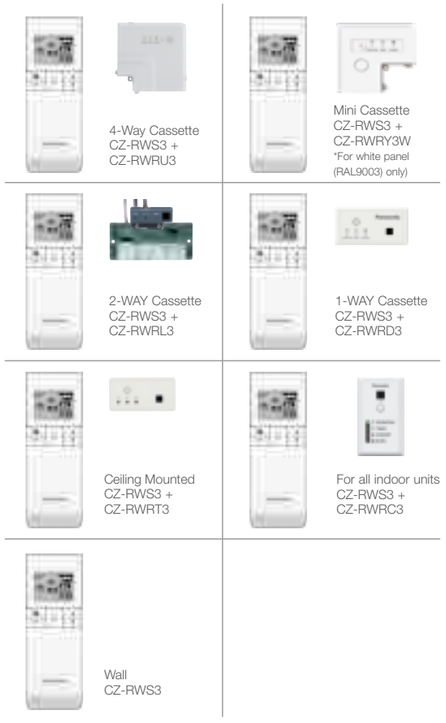
Max. 8 indoor units can be controlled from one remote controller

Remote control by main remote controller and sub controller is possible

* Depending on the model, some menus cannot be used.

Max. 2 remote controllers (main remote controller and sub controller) can be installed for one indoor unit.

Wireless remote controller



4-Way Cassette
CZ-RWS3 +
CZ-RWRU3

Mini Cassette
CZ-RWS3 +
CZ-RWRY3W
*For white panel
(RAL9003) only)

2-WAY Cassette
CZ-RWS3 +
CZ-RWRL3

1-WAY Cassette
CZ-RWS3 +
CZ-RWRD3

Ceiling Mounted
CZ-RWS3 +
CZ-RWRT3

For all indoor units
CZ-RWS3 +
CZ-RWRC3

Wall
CZ-RWS3

Remote control by main remote controller and sub controller is possible
- Max. 2 remote controllers (main remote controller and sub controller) can be installed for one indoor unit.

When CZ-RWS3 is used, wireless control becomes possible for all indoor units
- When a separate receiver is set up in a different room, control from that room also becomes possible.
- Automatic operation by means of the emergency operation button is possible even when the remote controller has been lost or the batteries have been exhausted.

In addition, there are other functions such as temperature setting, operation switching, airflow direction/fan speed setting, etc

Ventilation independent operation is possible
When commercial ventilation fans or heat-exchange ventilation fans have been installed, they can be operated with this remote control (interlocked operation with the indoor unit or independent ventilation ON/OFF).

FSV Controllers

MEMO

Centralised Control Systems

System controller (CZ-64ESMC3)



Dimensions
H 120 x W 120 x D 16 + 52
(embedding dimension mm)

Power supply: AC 100 to 240 V
I/O part:
Remote input part (effective voltage:DC24V) All operation,All stop,Demand 1,Demand 2
Remote output part (non voltage contact) Operation, Alarm (external power supply within DC 30V, max 0.5A)
Total wiring length : 1 km

Individual control is possible for max 64 groups, 64 indoor units.

- **Control of 64 indoor units divided into 4 zones. (One zone can have up to 16 groups, and one group can have up to 8 units.)**
- **Control is possible for ON/OFF, operation mode, fan speed, air flow direction, operation monitoring, alarm monitoring, ventilation, remote controller local operation prohibition, etc.**

Prohibition setting for Remote controller operation

Setting mode	ON/OFF	Mode	Temperature	Fan speed	Flap
Permit	●	●	●	●	●
Prohibit 1	–	●	●	●	●
Prohibit 2	–	–	–	●	●
Prohibit 3	●	–	–	●	●
Prohibit 4	●	–	●	●	●

In case of joint use with a wireless remote controller, there are limitations for the control mode. Please use only with setting “Permit” and “Prohibit1 (prohibition for ON/OFF)”.

*Contents for Prohibit 1~4 can be modified.
● : Operation from the remote controller is possible.
– : Operation from the remote controller is prohibited.

- **Joint use with a remote controller, an intelligent controller, etc. is possible**

(The maximum number of connectable system controllers is 10, including other central controllers on the same circuit.)
(In case of joint use with a wireless remote controller, there are limitations for the control mode. Please use only with setting “Permit” and “Prohibit1 (prohibition for ON/OFF)”.)

- **Control of systems without a remote controller and of main/sub systems (a total of up to 2 units) is possible**
- **Weekly timer function**
  - 8 programs per day (with ON/OFF/Mode/Temperature/Central control setting items) for 1 week (7 days) can be set.
  - Special holiday setting can ignore the timer operation temporary by keeping original timer setting. (Special holiday setting can be removed by same setting display.)
- **5 types of Energy saving function**

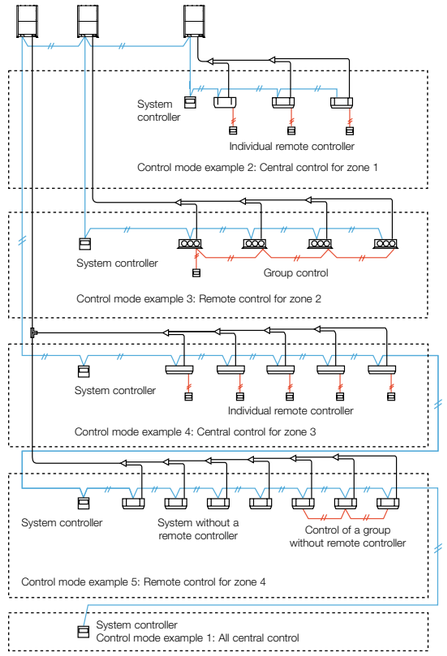
Set temperature automatic return / Set temperature range limitation / Off remind / Off timer operation / Demand control timer

- **A control mode corresponding to the use condition can be selected from 10 patterns**

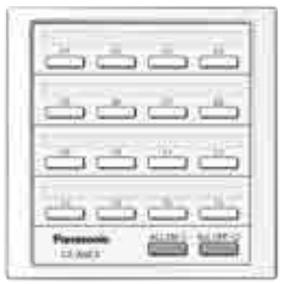
A : Operation mode: Central control mode or remote control mode can be selected
Central control mode: The system controller is used as centralised control device. (Setting from a remote controller can be prohibited by prohibiting local operation from the system controller.)
Remote control mode: The system controller is used as a remote controller. (Setting from the system controller can be prohibited by prohibiting local operation from another central control unit.)

B : Controlled unit number mode: All mode or zone 1, 2, 3, 4 mode can be selected
All mode: All, zone, or group unit can be selected.
Zone 1, 2, 3, 4 mode: Setting is possible only for the indoor units of zone 1, 2, 3, or 4.

Connection example			
		A Operation mode	
		Central control mode	**Remote control mode**
B Controlled unit number mode	All mode	All central control Example 1	All remote control
	Zone 1 mode	Zone 1 central control Example 2	Zone 1 remote control
	Zone 2 mode	Zone 2 central control	Zone 2 remote control Example 3
	Zone 3 mode	Zone 3 central control Example 4	Zone 3 remote control
	Zone 4 mode	Zone 4 central control	Zone 4 remote control Example 5



ON/OFF controller (CZ-ANC3)



Dimensions
H 121 x W 122 x D 14 + 52
(embedding dimension mm)

Power supply: AC 100 to 240 V
I/O part:
Remote input (effective voltage: within DC 24 V): All ON/OFF
Remote output (allowable voltage: within DC 30 V): All ON, All alarm

- 16 groups of indoor units can be controlled.
- Collective control and individual group (unit) control can also be performed.
- Up to 8 ON/OFF controller (4 main, 4 sub) can be installed in one link system.
- The operation status can be determined immediately.

*As operation mode and temperature settings are not possible with the ON/OFF controller, it must be used together with a remote controller, a system controller etc.

Intelligent controller (CZ-256ESMC3)



Touch panel

Dimensions
H 240 x W 280 x D 85 mm
Power supply　AC 100 to 240 V (50/60 Hz)
LCD: 10.4 in. TFT, XGA(1024 x 768), LED backlight

Product Features

- 10.4 in., Large, easy-to-use color LCD
  - With smartphone like operations, such as swiping and flicking
- Enhanced energy-saving control functions
  - Packed with demand functions
  - Set temperature auto return settings, Auto shutoff, Set temperature range limit settings
- Energy Visualization
  - Displays electricity & gas usage distribution
  - Supports energy-saving plans with graph display function

New Features

- Max 256 indoor unit [4 links x 64 units] can be controlled. In case of three or more systems [more than 128 units], a communication adaptor CZ-CFUNC2 must be installed for three or more links.
- Operation is possible as batch, in zone units, and in group units.
- ON/OFF, operation mode setting, temperature setting, for fan speed setting, air flow direction setting (when used without a remote controller) and remote controller local operation prohibition [prohibition 1,2,3,4] can be done
- Graph display [trends, comparisons]
- ECONAVI ON/OFF
- Outdoor unit quiet operation ON/OFF
- Energy-saving Functions
- Event control [such as equipment linkage]
- Limitation contents for prohibited operation

Prohibition means limitation of the operation contents from the remote controller. It is also possible to change the prohibition items.

Limitation contents
(Limitations can be user defined)

Individual	There is no limitation for the operation of the remote controller. However, the contents will be changed to the contents of the controller operated last. (Last-pressed priority.)
Prohibition 1	The remote controller cannot be used for ON/OFF. (All other operations are possible from the remote controller.)
Prohibition 2	The remote controller cannot be used for ON/OFF, operation mode change and temperature setting. (All other operations are possible from the remote controller.)
Prohibition 3	The remote controller cannot be used for operation mode change and temperature setting. (All other operations are possible from the remote controller.)
Prohibition 4	The remote controller cannot be used for operation mode change. (All other operations are possible from the remote controller.)

- Remote Control

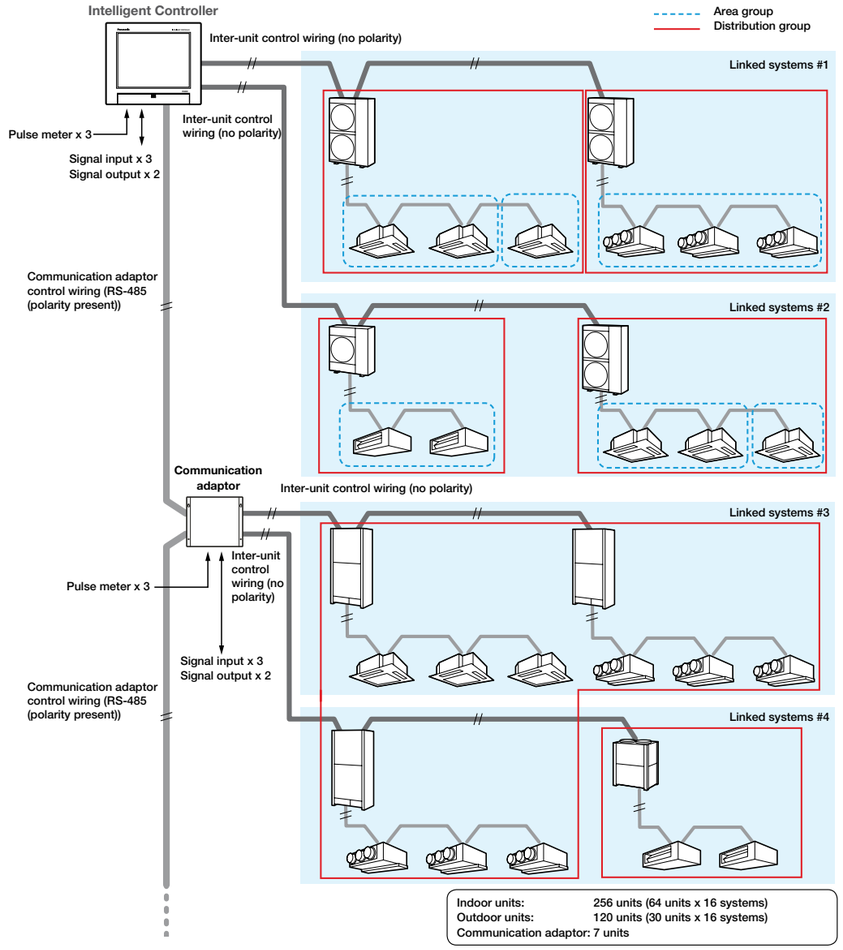
The LAN terminal on this unit enables you to connect it to a network. Connecting to internet will enable you to operate the unit and check the status using a PC from remote location.



Display image on the remote PC is same design as the controller unit.

System configuration

The following is an example of a system configuration.



Communication adaptor (CZ-CFUNC2)



* Required when more than 129 indoor units are connected.



FSV Controllers

Panasonic total air conditioning management system

P-AIMS

P-AIMS Basic software / CZ-CSWKC2

Up to 1024 indoor units can be controlled by one PC



Functions of basic software

- Standard remote control for all indoor units
- Many timer schedule programs can be set on the calender
- Detailed information display for alarms
- CSV file output with alarm history, operating status.
- Automatic data backup to HDD



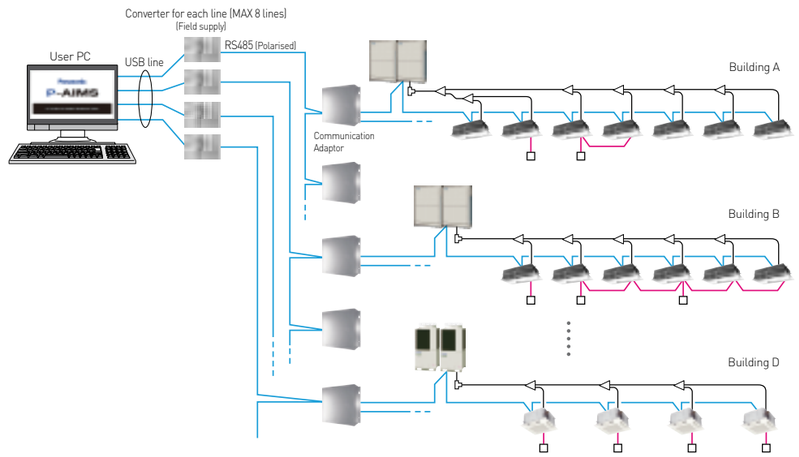
With 4 upgrade packages the basic software can be upgraded to suit individual requirements



CZ-CFUNC2



The P-AIMS is ideal for large areas/buildings such as shopping centers, universities and office buildings. Each line can have max.8C/A units, and control max.512 units. In total, 1024 indoor units can be controlled by 1 “P-AIMS” PC.



Recommended computer specs (Desktop type)

Operating system	Windows 10 Pro 64bit
CPU	Intel Core™ i5-6500 3.20GHz or higher (Recommended computer) Intel Core™ i7-7700 3.60GHz or higher (When installing Layout Display Software or using 512 or more indoor units)
Memory	8GB or larger
HDD	SSD (Solid State Drive) 250GB or larger
Monitor	1920 × 1080 (full HD) Recommended (1280 × 1024 (SXGA) minimum)
(Built-in speaker)	1920 × 1080 (full HD) Required (when installing Layout Display Software)
External HDD	500GB or larger (An external power supply type is preferable because the HDD will be used for backing up data.)
LAN	Network adaptor equipped machine (when Web Software or BACnet Communication Software installed)
UPS (Field Supply)	Select a UPS with a sine output wave form

P-AIMS optional software CZ-CSWAC2 for Load distribution

Load distribution calculation for each tenant

- Air-conditioner load distribution ratio is calculated for each unit (tenant) with used energy consumption data (m3, kWh).
- Calculated data is stored with CSV type file.
- Data of last 365 days is stored



P-AIMS optional software CZ-CSWWC2 for Web application

Web access & control from remote station

- Accessing P-AIMS software from remote PC.
- You can monitor/operate FSV systems by using Web browser (Internet Explorer).



P-AIMS optional software CZ-CSWGC2 for Object layout display

Whole system can be controlled visually

- Operating status monitor is available on the layout display.
- Object’s layout and indoor unit’s location can be checked at once.
- Each unit can be controlled by virtual remote controller on the display.
- Max 4 layout screens are shown at once.



P-AIMS optional software CZ-CSWBC2 for BACnet software interface

Connectable to BMS system

- Can communicate with other equipment by BACnet protocol.
- FSV systems can be controlled by both BMS and P-AIMS.
- Max 255 indoor units can be connected to 1 PC (that has P-AIMS basic & BACnet software).



T10 Terminal for External Control (Digital Connection)

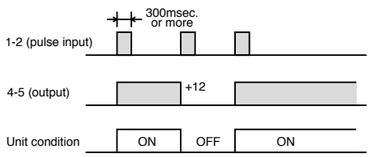
Connecting an FSV indoor unit to an external device is easy.
The T10 Terminal featured in the electronic circuit board of all indoor units enables digital connection to external devices.





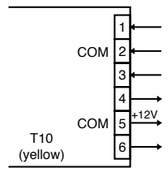
1. T10 Terminal Specification (T10:CN061 at indoor unit PCB)

- **Control items**: 1. Start/stop input (eg. hotel key card, push button operation)
  2. Remote controller prohibit input
  3. Operation status output (eg. fresh air fan)
  4. Fault status output



NOTE: The wire length from indoor unit to the Relay must be within 2.0m.
Pulse signal changeable to static with JP cutting. (Refer to JP001)

- **Example of wiring**



Condition

1. 1-2 (Pulse input): Unit ON/OFF condition switching with a pulse signal. (1 pulse signal: shortage status more than 300msec.or more)
2. 2-3 (Static input): Open/ Operation with Remote is permitted.(Normal condition) Close/ Remote controller is prohibited.
3. 4-5 (Static output): 12V output during the unit ON. / No output at OFF.
4. 5-6 (Static output): 12V output when some errors occur / No output at normal.

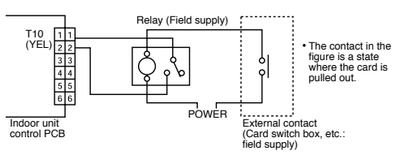
2. Usage Example

Forced OFF control

- **Condition**

1-2 (Static input): Close/ Operation with Remote is permitted. (Normal condition) Open/ Unit is forcibly OFF and Remote controller operation is prohibited.

- **Example of wiring**



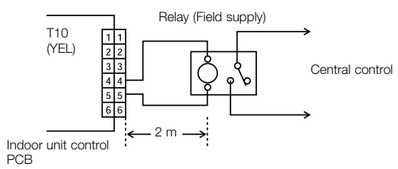
NOTE: The wire length from indoor unit to the Relay must be within 2.0m

Operation ON/OFF signal output

- **Condition**

4-5 (Static output): 12V output during the unit ON / No output at OFF

- **Example of wiring**



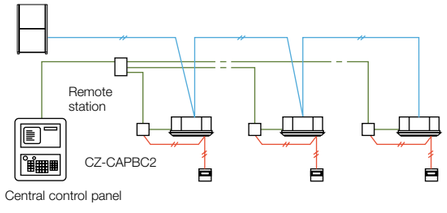
NOTE: The wire length from indoor unit to the Relay must be within 2.0m
Pulse signal changeable to static with JP cutting. (Refer to JP001)

Interfaces for External Control (Digital Connection)

Seri-Para I/O unit for each indoor unit (CZ-CAPBC2)



System example



- Control and status monitoring is possible for individual indoor unit (1 group).
- In addition to operation and stop, there is a digital input function for air speed and operation mode.
- Temperature setting and measuring of the indoor suction temperature can be performed from central monitoring.
- The analog input for temperature setting is 0 to 10 V, or 0 to 140 Ohm.
- Power is supplied from the T10 terminal of the indoor units.
- Separate power supply also is possible (in case of suction temperature measuring).

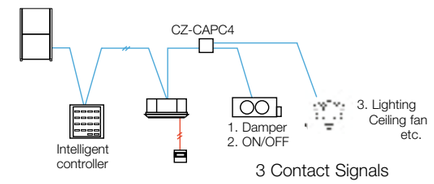
Interface adaptor (CZ-CAPC4)



- Control and status monitoring of an ERV unit, as well as external electrical devices up to 240V AC, 0.5A, is achievable through multiple contact signals up to 3.

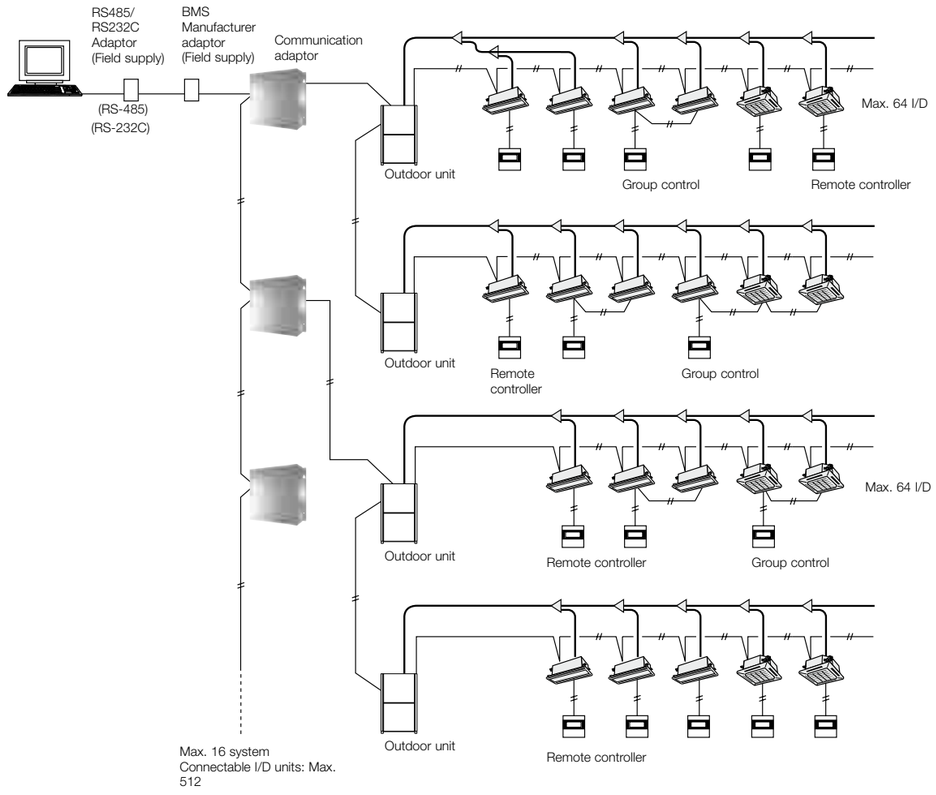
*Please consult with Panasonic staffs or authorized partners for details.

System example



Serial Interface for 3rd Party External Controller

Example of 3rd party BMS connection with CZ-CFUNC2
(For the detail please consult to authorized dealer)



Functions via communication adaptor [CZ-CFUNC2]	
A/C unit settings	Unit ON/OFF
	Mode-change
	Room temperature setting
	Fan speed setting
	Flap setting
	Central control setting
	Filter-sign clear
	Alarm reset
A/C unit status	Unit ON/OFF status
	Operation mode
	Setting temperature
	Fan speed status
	Flap status
	Central control setting
	Filter-sign situation
	Correct/incorrect status
	Alarm code

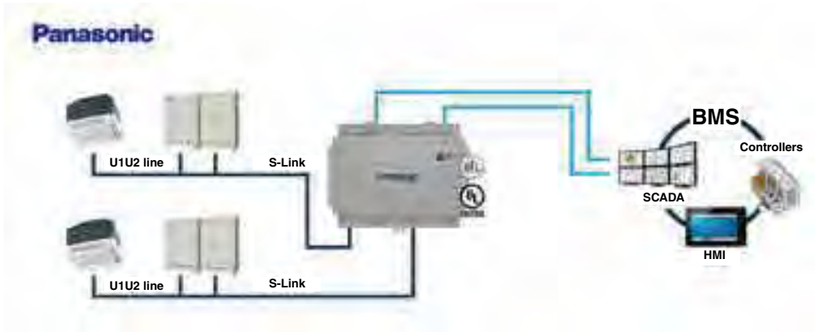
Communication Adaptor (CZ-CFUNC2)



Up to 128 indoor units can be connected to one Communication Adaptor.

MEMO

Gateways for Panasonic AC systems integration

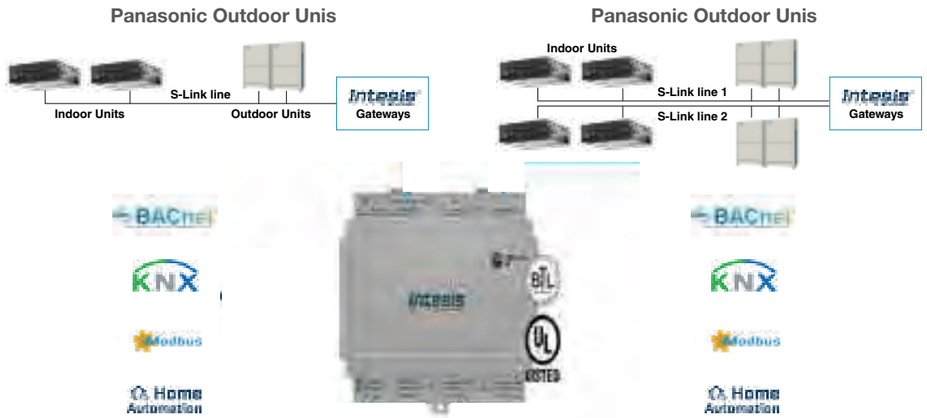


INTESIS PORTFOLIO FOR PANASONIC AIR CONDITIONING SYSTEMS ENSURE THE PERFECT INTERCONNECTION BETWEEN THE MOST EXTENDED PROTOCOLS INTO BUILDING AUTOMATION AND PANASONIC SYSTEMS.

The products from Intesis make it easy to meet Panasonic integration needs, giving the possibility to control from domestic AC lines to the most recent FSV systems.
From the automation side, it does not matter the model of your Panasonic unit.

Multiple indoor unit gateways:

Connection to S-link bus from the outdoor units (one or two lines)



Connection	BACnet	KNX	Modbus	Home Automation	Note
S-Link (U1U2)	IN770PAN00SO000: Small version - Up to 16 Indoor Units, 30 Outdoor Units. IN770PAN00MO000: Medium version - Up to 64 Indoor Units, 30 Outdoor Units IN771PAN00LO000: Large version - Up to 128 Indoor Units, 60 Outdoor Units				With the configuration tool IntesisMAPS, you can select the protocol of your control system: BACnet, Modbus, KNX or Home Automation

Connection with Panasonic AC indoor units

Individual Controllers:

- Connection to R1R2 port from the wired remote controller bus



Connection	BACnet	KNX	Modbus	Home Automation	AC Cloud Control
R1R2	**INBACPAN001R000** **INBACPAN001R100** VRF and PAC Systems 1 Indoor unit	**INKNXPAN001R000** VRF and PAC Systems 1 Indoor unit 4 Binary inputs	**INMBSPAN001R000** VRF and PAC Systems 1 Indoor unit	**INWMPPAN001R000** VRF and PAC Systems 1 Indoor unit	**INWFIPAN001R100** VRF and PAC Systems 1 Indoor unit

- Infrared communication with IR receiver (Bidirectional with AC's IR remotes)



Connection	BACnet	KNX	Modbus	Home Automation	AC Cloud Control
Infrared (IR)	**IN485UNI001I100** Universal Infrared AC Can be configured as BACnet MS/TP or Modbus RTU using MAPS. 1 Indoor unit	**INKNXUNI001I000** Universal Infrared AC 1 Indoor unit 2 Binary inputs	**IN485UNI001I100** Universal Infrared AC Can be configured as BACnet MS/TP or Modbus RTU using MAPS. 1 Indoor unit	**INWMPUNI001I000** Universal Infrared AC 1 Indoor unit	**INWFIUNI001I000** Universal Infrared AC 1 Indoor unit 1 Binary input

- Connection to CN-CNT port from the indoor unit

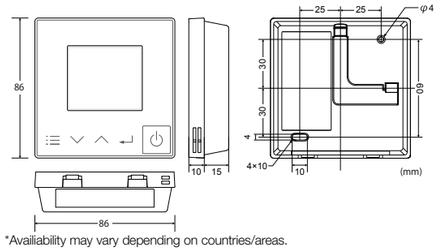


Connection	BACnet	KNX	Modbus	Home Automation	AC Cloud Control
CN-CNT	**INBACPAN001I000** **IN485PAN001I000** AC units 1 Indoor unit	**INKNXPAN001I000** AC units 1 Indoor unit, 4 Binary Inputs **INKNXPAN001A000** Air to Water (Aquarea H) 1 Indoor unit	**INMBSPAN001I100** AC units 1 Indoor unit **INMBSPAN001A000** Air to Water (Aquarea H) 1 Indoor unit	**INWMPPAN001I000** AC units 1 Indoor unit	**INWFIPAN001I100** AC units 1 Indoor unit

FSV Controllers

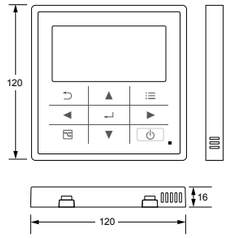
FSV Controller External Dimensions

SIMPLIFIED WIRED REMOTE CONTROLLER (CZ-RTC6(W)/CZ-RTC6(W)BL/CZ-RTC6(W)BLW2)

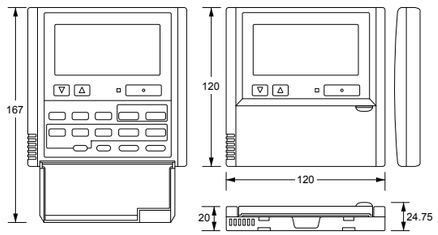


*Availiability may vary depending on countries/areas.

HIGH-SPEC WIRED REMOTE CONTROLLER (CZ-RTC5B)



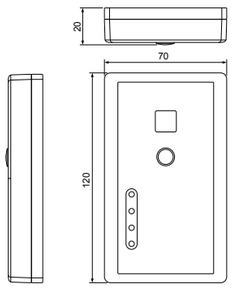
TIMER REMOTE CONTROLLER (CZ-RTC4A)



WIRELESS REMOTE CONTROLLER (CZ-RWS3)

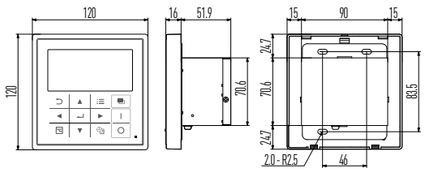


SEPARATE RECEIVER FOR WIRELESS REMOTE CONTROLLER (CZ-RWSC3)

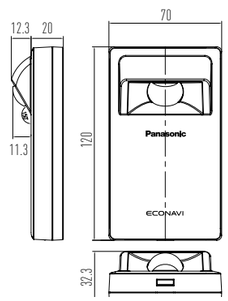


Unit: mm

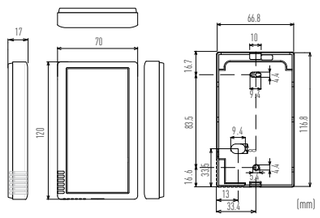
SYSTEM CONTROLLER (CZ-64ESMC3)



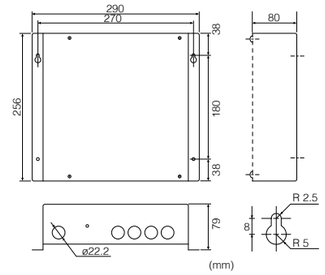
ECONAVI SENSOR (CZ-CENSC1)



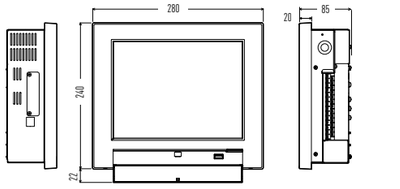
REMOTE SENSOR (CZ-CSRC3)



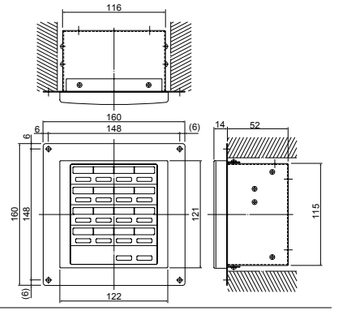
COMMUNICATION ADAPTOR (CZ-CFUNC2)



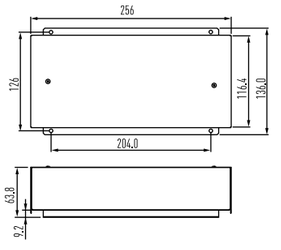
INTELLIGENT CONTROLLER (CZ-256ESMC3)



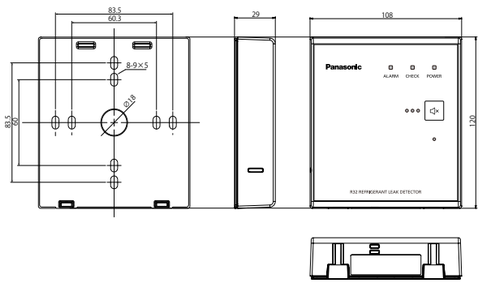
ON/OFF CONTROLLER (CZ-ANC3)



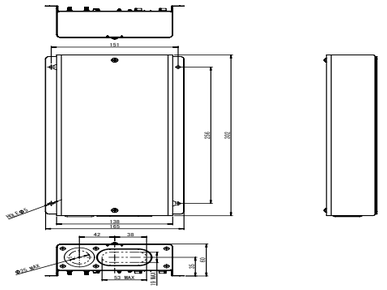
SERI-PARA I/O UNIT FOR EACH INDOOR UNIT (CZ-CAPBC2)



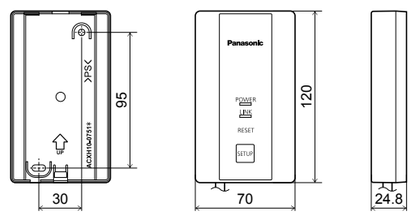
R32 LEAK DETECTOR / R32 LEAK ALARM (CZ-CGLSC2/CZ-CGLALC1)



INTERFACE ADAPTOR (CZ-CAPC4)



WLAN ADAPTOR (CZ-CAPWFC2)



All specifications are subject to change without notice.
Product availability may vary depending on regional regulations and market conditions.

VRF Renewal

An important drive to further reduce the potential damage to our ozone



RENEWAL R22

R22 is a HCFC and classified as an ozone depleting substance banned under the Montreal Protocol.
Many existing R22 VRF Systems will need to be replaced over the coming years by more modern and efficient R410A VRF Systems.

Panasonic takes proactive action to switch to R410A refrigerant

Recognising consumers' anxiety and financial difficulties to adapt to the new R22 regulations, Panasonic developed a new cost-effective and simple solution to switch to R410A refrigerant.

What is Panasonic VRF Renewal?

Panasonic VRF Renewal enables reuse of good quality existing R22 pipe work to be installed with a new high efficiency R410A system.

What's so unique about Panasonic's solution?

By enabling reuse of existing R22 piping, consumers get to save substantially from reduced installation cost, and without any sacrifices to warranty or performance.

Ozone Depletion Potential		
R22	HCFCs	0.055
R410A	HFC	0
R407C	HFC	0

R22 - The reduction of Chlorine critical for a cleaner future

Before renewing piping, be sure to contact an authorised Panasonic dealer for advice.

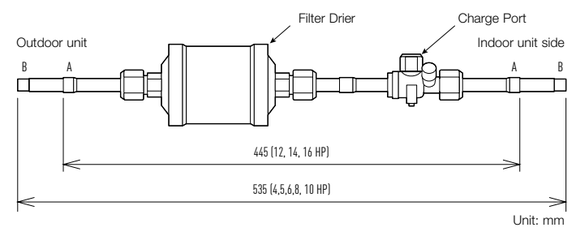
VRF Renewal

Panasonic's Renewal system allows a completely new VRF system, indoor and outdoor units, to be installed using the existing systems pipe work. Panasonic's advanced technology enables the system to work with previously installed pipe work by managing the working pressure within the system down to R22 (3.3 bar) levels. This ensures the system works safely and efficiently without loss of capacity.
The new equipment has potential to increase COP/EER by using state of the art inverter compressor and heat exchanger technology.
Having contacted your Panasonic supplier regarding pipe work restrictions and gained approval to use the Panasonic Renewal System there are three main tests that have to be carried out to ensure that the system can be used effectively.
Firstly a thorough inspection of the pipe work must be carried out and any damage must be repaired.
Secondly an oil test has to be carried out to ensure that the system has not been subject to a compressor burnout during its lifetime.
Lastly a VRF Renewal Kit (CZ-SLK2) has to be installed within the pipe work to ensure that the system is cleaned of any oil residue.

VRF Renewal Kit (CZ-SLK2) and Sight Glass

The following shows an overview of the VRF Renewal Kit (CZ-SLK2) that is required when existing tubing is reused. If the exact tube length and tube size of the existing tubing are uncertain, attach a sight glass in accordance with the figure below. It will be used for checking the amount of additional refrigerant charge.

VRF Renewal Kit: CZ-SLK2



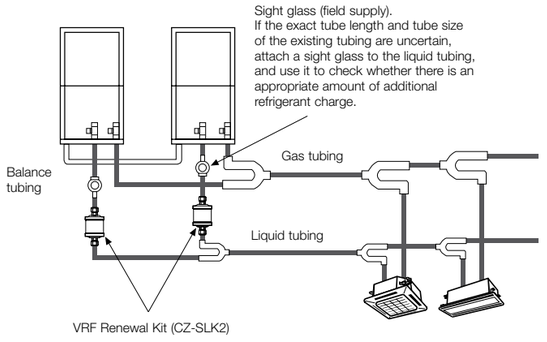
Attaching the Renewal Kit and sight glass

- To adjust the limited pressure level into 3.3 MPa, special setting is necessary on site.
- A filter drier shall be attached to the liquid tubing of each outdoor unit.
- Do not need to remove Renewal Kit after a test run is performed as it can be retained for normal operation.
- When attaching Renewal Kit, be extra careful with regards to installation location and orientation of the filter drier and ball valve. Any mistakes will complicate maintenance work.
- Thermal insulation material (field supply: heat resistance of 80℃ or higher and thickness of 10 mm or greater) shall be applied to the Renewall Kit.
- The filter drier of the Renewal Kit may need to be replaced depending on the condition of the existing unit. Use a Danfoss DMB 164 as the replacement filter drier (field supply).

Connecting tube dimensions (Inch mm)
A Ø 1/2 (12.7) (12,14,16 HP)
B Ø 3/8 (9.52) (8,10 HP)

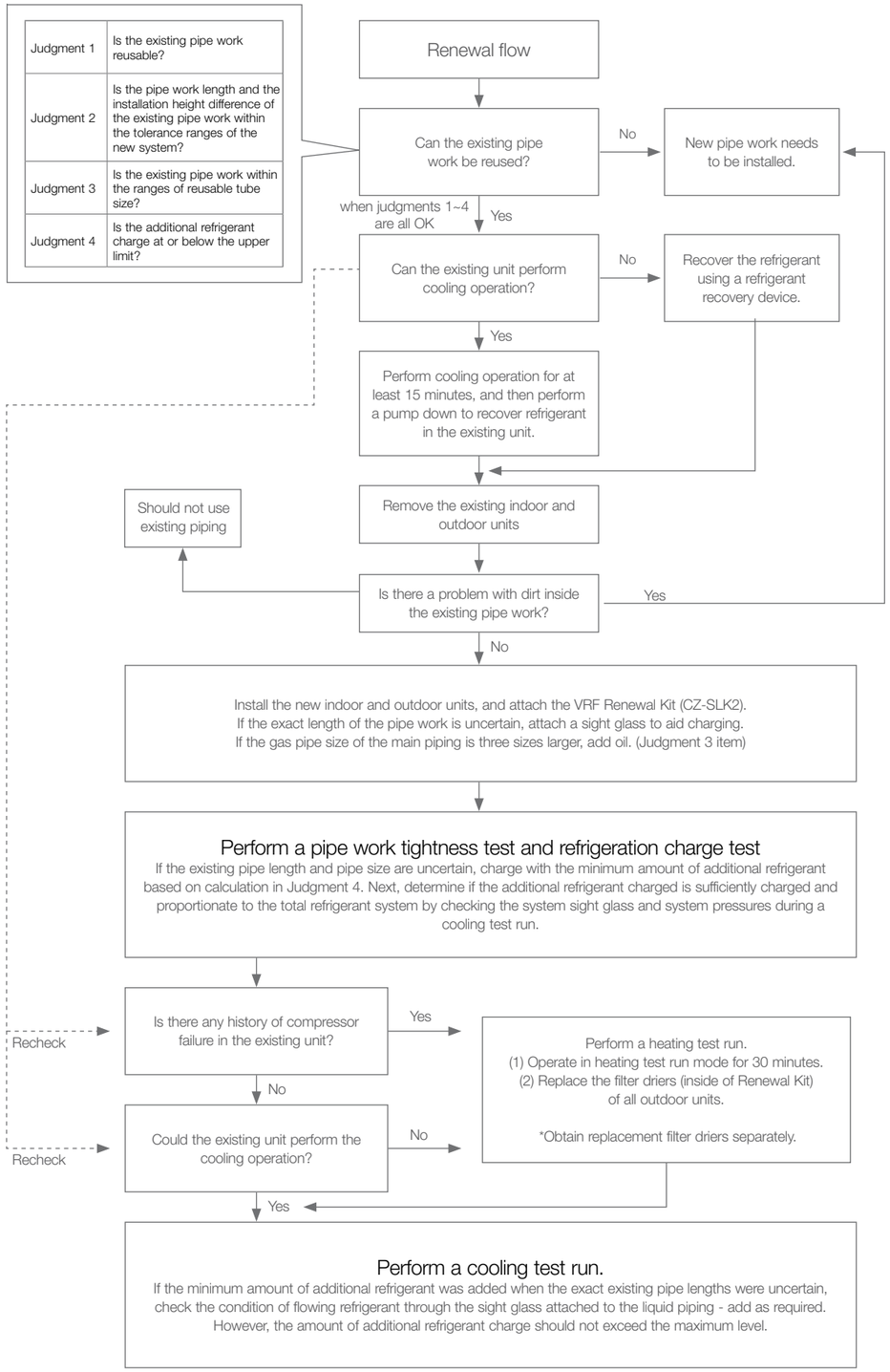
Note: If the tube size does not match that of the existing tubing, use a reducer (field supply) to adjust the tube diameter.

Sight glass (field supply)
If the exact tube length and tube size of the existing tubing are uncertain, attach a sight glass to the liquid tubing, and use it to check whether there is an appropriate amount of additional refrigerant charge.



Procedure for VRF Renewal

Judgment 1	Is the existing pipe work reusable?
Judgment 2	Is the pipe work length and the installation height difference of the existing pipe work within the tolerance ranges of the new system?
Judgment 3	Is the existing pipe work within the ranges of reusable tube size?
Judgment 4	Is the additional refrigerant charge at or below the upper limit?











A Globally Trusted Air Conditioning Brand

With roots going back 60 years, the Panasonic Air Conditioning Business Division has grown to become a multinational company recognised around the world. Driven by a never-ending quest for product innovation, the group has evolved from manufacturing compressors to providing comprehensive air conditioning solutions. Panasonic has become a brand that people trust to deliver products with superior quality and reliability.

Panasonic's persistent innovation spurs the evolution of air conditioning solutions.



Starts production of absorption chillers

1971



Introduces first GHP (gas heat pump) VRF air conditioner

1985



1989

Introduces the world's first simultaneous 3-pipe heating/cooling VRF system

1993



Releases the world's first large-capacity modular combination VRF system

1995



Releases the world's first large-capacity modular combination VRF system with simultaneous heating/cooling

1957
- Start of the Home Cooler business

1958
- Panasonic (using the National brand) introduces its first Home Cooler, a window-type air conditioner model



- Electrical Appliance Business Group (Kadoma) starts manufacture of Home Coolers
- Sales of Home Coolers begin

1961
- Starts exports of Home Coolers to South Vietnam

1965
- Launches Room Coolers



1968
- Begins development of rotary compressors
- The high efficiency and quality of these compressors draw interest from domestic and overseas air conditioner manufacturers
- External sales begin

1969
- Begins production at the Kusatsu Factory in Shiga Prefecture, Japan

1972
- MAICO, the Division's first overseas manufacturing base, established in Malaysia
- Begins operating twin-based system in Japan and Malaysia



1983
- Launches inverter air conditioners
- Starts sale of Panasonic's first inverter air conditioners
- Inverters grow to become a core technology in the air conditioner industry
- Starts shipment of air conditioners to Panasonic America



1985
- Begins development of scroll compressors

1990
- Launches world's first air conditioner equipped with compact scroll compressor

1993
- Establishes Matsushita-Wanbao (Guangzhou) Air Conditioner (MWAC)
- Establishes Matsushita-Wanbao (Guangzhou) Compressor (MWCC)
- Establishes Matsushita Air Conditioner Engineering (Matsushita ACE)

2003
- Launches automatic filter-cleaning function for air conditioners (AC robot)



- Debuts quiet, lightweight, compact EcoCute systems with improved energy-saving technology
- EcoCute adopts highly efficient, accumulator-less CO_2 scroll compressor
- CO_2 heat-pump hot water heater (Eco Cute) uses non-toxic, non-combustible natural refrigerant (CO_2) in place of freon, to reduce environmental impact
- Begins production of new energy-saving mini-VRF series multi-split packaged air conditioners for residential use



2005
- Panasonic products become extremely successful in Japan's air conditioner market as innovations such as airstream robots and motion sensors help grow Panasonic's market share

2006
- Cumulative global production of Panasonic compressors reaches 200 million units

2008
- Starts air-to-water heat pump business in Europe
- Hot water heating considered an eco-friendly alternative to conventional fuel-type heating systems
- At the Energy Conservation Grand Prize awards, Panasonic air conditioners wins the Energy Conservation Center of Japan (ECCJ) Chairman's Prize, whilst EcoCute wins the Agency of Natural Resources and Energy Director General's Prize (prizes presented by ECCJ)
- nanoe® technology installed on room air conditioners

nanoe

2009
- Establishes sales company in Europe (PHAAE) dedicated to selling air conditioners
- Panasonic HA Air-Conditioning Europe (PHAAE) strengthens company's commercial air conditioning business

2010
- Begins collaboration with SANYO air conditioner business
- Through share exchange, SANYO and Panasonic Electric Works become wholly owned subsidiaries

2012
- Launches FSV series of large-capacity VRF air conditioners
- New Panasonic Group inaugurated

2013
- Expands VRF operation in Malaysia



2015
- Air-Conditioner Company established

2016
- Partnership with Schneider Electric begins
- At the Energy Conservation Grand Prize awards, WX series room air conditioner wins the Ministry of Economic, Trade and Industry Prize for energy conservation



2017
- Celebrates 60th anniversary in air conditioning business
- Division completes its first acquisitions: A.M.P. Air Conditioning Ltd of the UK. and UNION RHAC TECNOLOGIA of Brazil

2018
- Establishes commercial air conditioner sales company in China (PAPAECN)

2019
- Name changes to Heating and Cooling Solutions Business Division
- Panasonic and Welcome Air Tech's SAIVER announce development of connected air handling and VRF solution for Southeast Asia

2021
- R32 mini-VRF launches in Europe
- Heating & Ventilation A/C Company is established

2022
- nanoe® X Generator Mark 3 (100 x) is introduced

2023
- Completes the acuisition of Systemair AC SAS, Systemair S.r.l. and Tecnair S.p.A.
- Cooling-only FSV launches

Reliability and Durability

At Panasonic, we believe that the best air conditioner is one that works quietly and effectively in the background whilst minimising its impact on the environment. People who use our products can look forward to long years of high-quality performance without the need for constant maintenance.
As part of our rigorous design and development process, Panasonic air conditioners undergo a variety of stringent tests to ensure their effectiveness and long-term reliability. Tests for durability, waterproofing, shock resistance, and noise are conducted on component parts or on the finished products themselves.
As a result of all of these painstaking efforts, Panasonic air conditioners meet even the most demanding industrial standards and regulations in every country where they are sold.

JAPAN QUALITY

Applying advanced technologies that truly make life better, we live by an unparalleled commitment to product quality. Our approach to product development originates in the DNA of Japanese craftsmanship.
Panasonic is building on the Japanese tradition of uncompromising quality control worldwide, developing and manufacturing fine products and delivering them to customers everywhere.



Testing laboratory Panasonic Gunma, Japan (PAPARS)

Durability

At Panasonic we know the importance of a long service life with minimal maintenance. That's why we subject our air conditioners to a wide range of stringent durability tests.



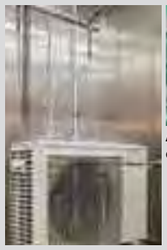
Long-Term Durability Test

To ensure durability and stable operation for many years, we conduct a long-term continuous operation test under conditions that are much more severe than actual operating conditions.



Compressor Reliability Test

After the continuous operation test, we remove the compressor from a selected outdoor unit, disassemble it, and examine the internal mechanisms and parts for potential failure. This helps ensure reliable long-term performance under harsh conditions.





A resin-potted circuit board

Waterproofing Test

The outdoor unit, which is subject to rain and wind, complies with IPX4 waterproof specifications. Contact sections on printed circuit boards are resin-potted to prevent adverse effects caused by exposure to water (an unlikely occurrence).

International Standard Quality

To uphold the company's reputation around the world, Panasonic strives continuously to offer the highest quality with the lowest possible environment impact.





The strength of the resin material used in a propeller fan is confirmed by a tension test

Reliable Parts That Meet or Exceed Industrial Standards

In every country where they are sold, Panasonic air conditioners comply with all required industrial standards and regulations. In addition, Panasonic conducts stringent testing to ensure the reliability of parts and materials.



RoHS / REACH Compliant Parts

All Panasonic parts and materials comply with Europe's strict RoHS/REACH environmental regulations. During the development and production of parts, stringent inspections are conducted on over 100 materials to ensure that no hazardous substances are included.



Sophisticated Production Process

Panasonic's air conditioner production lines employ state-of-the-art factory automation technologies to ensure products are manufactured efficiently and with uniformly high levels of quality and reliability.

Global Networking of Heating and Cooling Solutions

In any indoor environment, eco-friendly air conditioning plays a vital role in maintaining our health, comfort, and productivity. Whether it's an office, a hotel, or a shopping mall, every building matters. That's why Panasonic has developed energy-efficient large-scale heating and cooling solutions to suit a variety of business applications. As one of the pillars of Panasonic's BtoB operations, our heating and cooling sector provides comprehensive solutions to businesses around the world. Harnessing our advanced technology and extensive on-site expertise, we serve clients in a diverse range of environments throughout the world.
Panasonic air conditioning solutions are designed from the ground up to meet the specific needs of each location, whilst placing a premium on efficiency and reliability. At every stage, we seek to make optimal use of resources and energy to create solutions that benefit the environment.



PACT Training Facilities

Panasonic Air Conditioning Training Centers (PACTs) around the world provide a wide range of support for Panasonic's business-use air conditioning systems. PACT represents Panasonic's unwavering commitment to our sales partners, distributors, and service teams in Europe, Asia, Oceania, and the Americas.



Quality Assurance from Japan to the World

With a diverse network of production and R&D facilities, Panasonic delivers innovative products incorporating cutting-edge technologies that set the standard for air conditioners worldwide. As our business expands globally, we strive to transcend borders with our superior-quality products.

Japan



Heating & Ventilation A/C Company

Panasonic HVAC & CC System Co., Ltd.
Headquarters
(From April 2026)



Panasonic Appliances Air-Conditioning and Refrigeration Systems Co., Ltd.

Panasonic HVAC & CC System Co., Ltd.
Oizumi Plant
Commercial Air-Conditioning Business Division
(From April 2026)

Malaysia



PAPAMY
Panasonic Appliances Air Conditioning Malaysia Sdn Bhd.



PAPARADMY
Panasonic Appliances Air Conditioning R&D Malaysia Sdn. Bhd.



PAPAMY Compressor



PAPAMY Compressor R&D

China



PAPAGZ
Panasonic Appliances Air Conditioning (Guangzhou) Co., Ltd.

PWAPCGZ
Panasonic Wanbao Appliances Compressor (Guangzhou) Co., Ltd.



PRDCS
Panasonic R&D Center Suzhou Co., Ltd.

Taiwan



PTW
Panasonic Taiwan Co., Ltd.

Indonesia



PMI
Panasonic Manufacturing Indonesia

Philippines



PMPC
Panasonic Manufacturing Philippines Corporation

India



PI
Panasonic India Pvt. Ltd.

PACT

EUROPE

Germany Wiesbaden



Nordic Stockholm



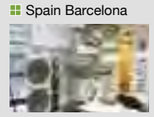
Hungary Budapest



Czec Rep. Pilsen



Spain Barcelona



Spain Madrid



France Paris



ASIA

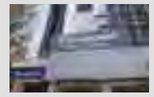
Malaysia Shah Alam



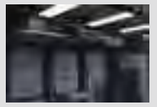
Vietnam Hanoi



India New Delhi



Cambodia Phnom Penh



Indonesia Jakarta



AMERICAS

Latin America Panama



Panasonic VRF Global Project References

Panasonic air conditioning systems provides comprehensive solutions to businesses around the world. Harnessing our advanced technology and extensive on-site expertise, we serve clients in a diverse range of environments throughout the world.

OFFICE

Malaysia Gapruna project



Air Conditioning System:
VRF 2-way FSV ME1 series
109 systems
Indoor Units: 537 units
Cooling Capacity:
5,370 kW / 1,526 USRT



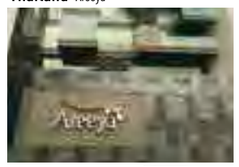
Malaysia Plaza 33 Office Block A



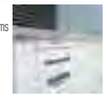
Air Conditioning System:
VRF 2-way FSV ME1 series
99 systems
Indoor Units: 153 units
Cooling Capacity:
3,667 kW / 1,042 USRT



Thailand Areeya



Air Conditioning System:
VRF 2-way FSV ME1 series 19 systems
Single split system 67 systems
Indoor Units: 85 units
Cooling Capacity:
1,519 kW / 432 USRT



HongKong King Yip Road



Air Conditioning System:
VRF FSM LA1 series
136 systems
Indoor Units: 294 units
Cooling Capacity:
2,108 kW / 599 USRT



England Soapworks



Air Conditioning System:
VRF 3-way MF2
77 systems
with ERV 167 systems



Spain PTA Malaga



Air Conditioning System:
VRF 2-way ME1 series
20 systems
Indoor Units: 74 units
Cooling Capacity:
908 kW / 258 USRT



Kazakhstan Asbis Kazakhstan LLP



Air Conditioning System:
VRF 2-way ME2 series 14 systems
VRF 3-way MF3 series 2 systems
VRF 2-way GE3 series 18 systems
VRF 3 way GF3 series 6 systems
Indoor Units: 234 units
Cooling Capacity: 2,223kW / 632 USRT

New Zealand IAG Christchurch



Air Conditioning System:
VRF 3-PIPE FSV MF2 series:
25 systems
Indoor Units: 132 units
Cooling Capacity:
976 kW / 278 USRT



HOTEL

Cambodia The Peninsula Hotel & Residences



Air Conditioning System:
VRF 2-way FSV ME2 series 10 systems
Indoor Units: 48 units Single split 56 systems
Multi split 216 systems
Cooling Capacity: 2,125kW / 604 USRT

Australia Travelodge Hobart



Air Conditioning System:
VRF 3-way FSV MF2
series 8 systems
Indoor Units: 116 units
Cooling Capacity:
302 kW / 86 USRT



Spain Hotel Claris 5 GL



Air Conditioning System:
VRF 2-way ME1&LE1 series
11 systems
VRF 3-way MF1 series 14 systems
Indoor Units: 233 units
Cooling Capacity: 769 kW / 218 USRT



Spain Monument Hotel



Air Conditioning System:
VRF 2-way ME1 series 4 systems,
VRF 3-way 12 systems
Indoor Units: 171 units
Cooling Capacity:
592 kW / 168.33 USRT



Spain LAVIDA Hotel PGA Cataluña Resort



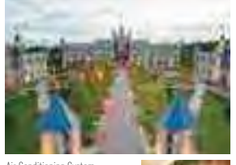
Air Conditioning System:
VRF 2-way FSV ME2 series 2 systems
Indoor Units: 54 units
Cooling Capacity: 236 kW / 67 USRT

France ibis Styles Fougères



Air Conditioning System:
VRF Mini ECOi LE1 Series 7 systems
Indoor Units: 65 units
Capacity: 170kW / 48 USRT

Germany The LEGOLAND Castle Hotel



Air Conditioning System:
VRF 3-way MF2
12 systems
Indoor Units: 144 units
Cooling Capacity:
592 kW / 168.33 USRT



Ireland K Club, Co. Kildare



Air Conditioning System: VRF 3-way FSV MF2
Indoor Units: 70 units
Cooling Capacity: 200 kW / 56.87 USRT

RETAIL

Cambodia HCN Mall and Residence



Air Conditioning System:
VRF 2-way FSV ME2 series 14 systems
Indoor Units: 99 units Single split 600 systems
Cooling Capacity: 1,600kW / 455 USRT

India Sai Aarav Motors, Mehsana



Air Conditioning System:
VRF 2-way FSV ME1 series 3 systems
Indoor Units: 19 units
Cooling Capacity: 156 kW / 44 USRT

Oman Muscat Pavilion



Air Conditioning System:
VRF 2-way FSV ME2 series 26 systems
Indoor Units: 155 units
Cooling Capacity: 1215 kW / 346 USRT

Spain Mercat de Autors



Air Conditioning System:
VRF 2-way ME2 series 5 systems
VRF Mini ECOi LE1 Series 1 system
PACi NX 1 system
Indoor Units: 15 units
Cooling Capacity: 258 kW / 74 USRT

SCHOOL

Malaysia Xiamen University

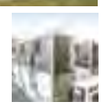


Air Conditioning System:
VRF FSV Systems 110 systems
Indoor Units: 1,349 units
Cloud adapter: CZ-CFUSCC1 17pcs

United States Shippensburg University



Air Conditioning System:
VRF 3-Way MF1 series
55 systems
Indoor Units: 530 units
Cooling Capacity:
1,498 kW / 426 USRT

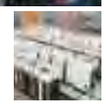


HOSPITAL

Indonesia Bekasi Hospital



Air Conditioning System:
VRF 2-way FSV ME1 series
42 systems
Indoor Units: 283 units
Cooling Capacity:
1,834 kW / 524 USRT



Indonesia Persada Hospital



Air Conditioning System:
VRF 2-way FSV ME1 series
21 systems
Indoor Units:116 units
Cooling Capacity:
989 kW / 281 USRT



HOSPITAL

France Clinique Dentaire Ablis (Dental Clinic)



Air Conditioning System:
mini VRF 2-way mini FSV LE1 series 3 systems
Cooling Capacity:
36.3 kW / 10.3 USRT

Hong Kong The Green Project



Air Conditioning System:
VRF FSM LA1 series 239 systems
Twenty series 538 systems
Indoor Units: 999 units
Cooling Capacity:
6,425 kW / 1,825 USRT

RESIDENTIAL

Cambodia The Penthouse Residence

Air Conditioning System:
VRF 2-way FSV ME2,LE2,
LE1 series 42 systems
Indoor Units: 785 units
Single split 212 systems
Multi split 149 systems
Cooling Capacity: 3,685kW / 1048 USRT

Singapore Punggol Eco-Town

Air Conditioning System:
Inverter multi-split
room air conditioner
Indoor Units:
Wall mounted S series (with ECOAVI)
Control System: Panasonic HEMS

Hong Kong Gloucester Road Project

Air Conditioning System:
VRF FSM LA1 series 67 systems
Twenty series 105 systems
Indoor Units: 255 units
Cooling Capacity: 1,391 kW / 395 USRT

China Star River Group Luxury Condominium

Air Conditioning System:
VRF Master series 966 systems
Indoor Units: 3,948 systems
Cooling Capacity:
16,737 kW / 4,755 USRT

India Heera Windfaire

Air Conditioning System:
VRF 2-way FSV ME1 series 96 systems,
VRF 3-way 12 systems
Indoor Units: 479 units
Cooling Capacity: 2,184kW / 620 USRT

Panama Mosaic Building PANAMA PACIFICO

Air Conditioning System:
VRF 2-way FSV LE1 series 156 systems
Indoor Units: 357 units
Cooling Capacity: 2,338 kW / 664 USRT