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Product information



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FSV VRF SYSTEMS 2025/2026



NEW ///

FSV EX

COOLING ONLY ///



FSV EX

HEAT PUMP ///



FSV

HEAT PUMP ///



nanoe™

INVERTER

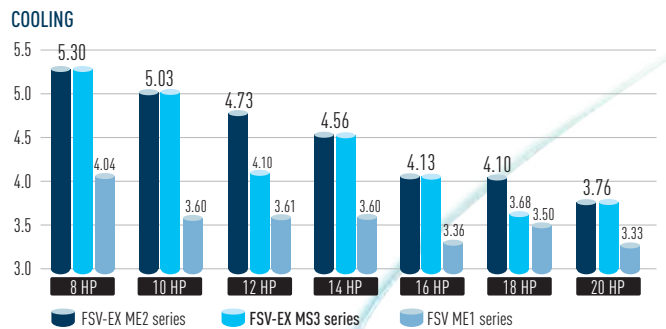
QUALITY AIR FOR LIFE

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.

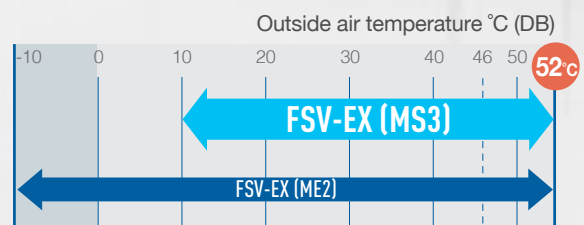
Extraordinary Energy-Saving Performance

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.



Extended Operation Range Up to 52°C

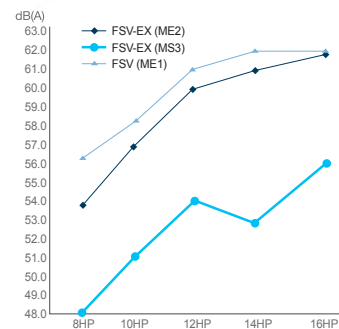
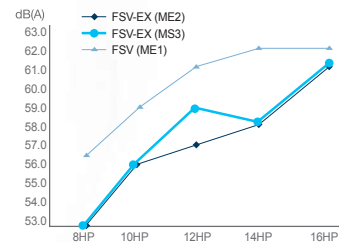
The FSV-EX can provide cooling even when the outside temperature reaches a maximum of about 52°C. And amazingly, it can still operate at 100% capacity when the outside temperature is as high as 43°C. This high power capability enables reliable operation even under extremely high temperature conditions.





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. The result is an even more comfortable building environment.



Multiple large-capacity all inverter twin rotary compressor

(multiple compressors for 14HP and above)

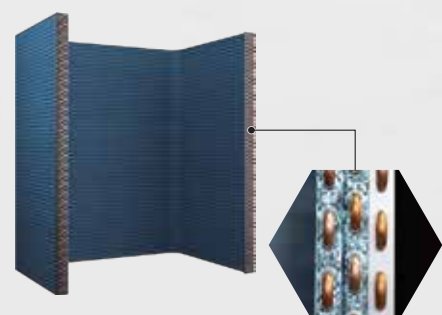
Two independently controlled inverter compressors achieve high efficiency. Redesigned components in the body provide performance improvement especially in the rated cooling condition and EER performance.



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

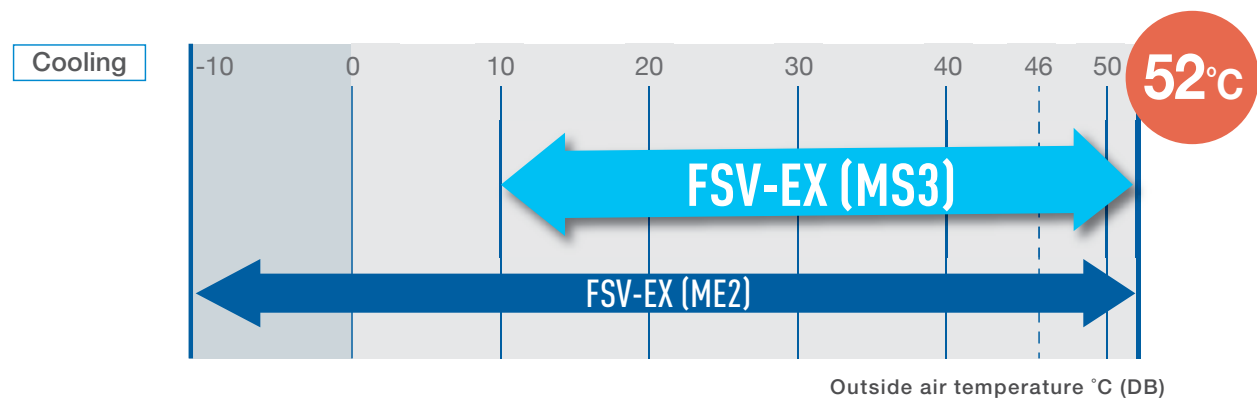


Extended Operation Range up to 52°C

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.

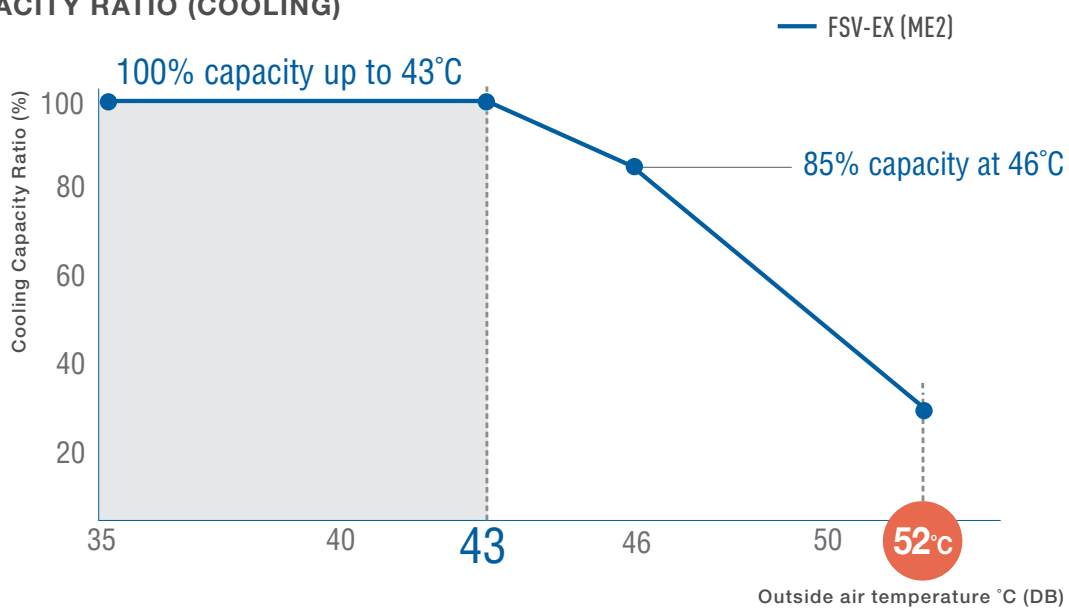
OPERATING RANGE



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]
Competitor A spec is from technical data book.

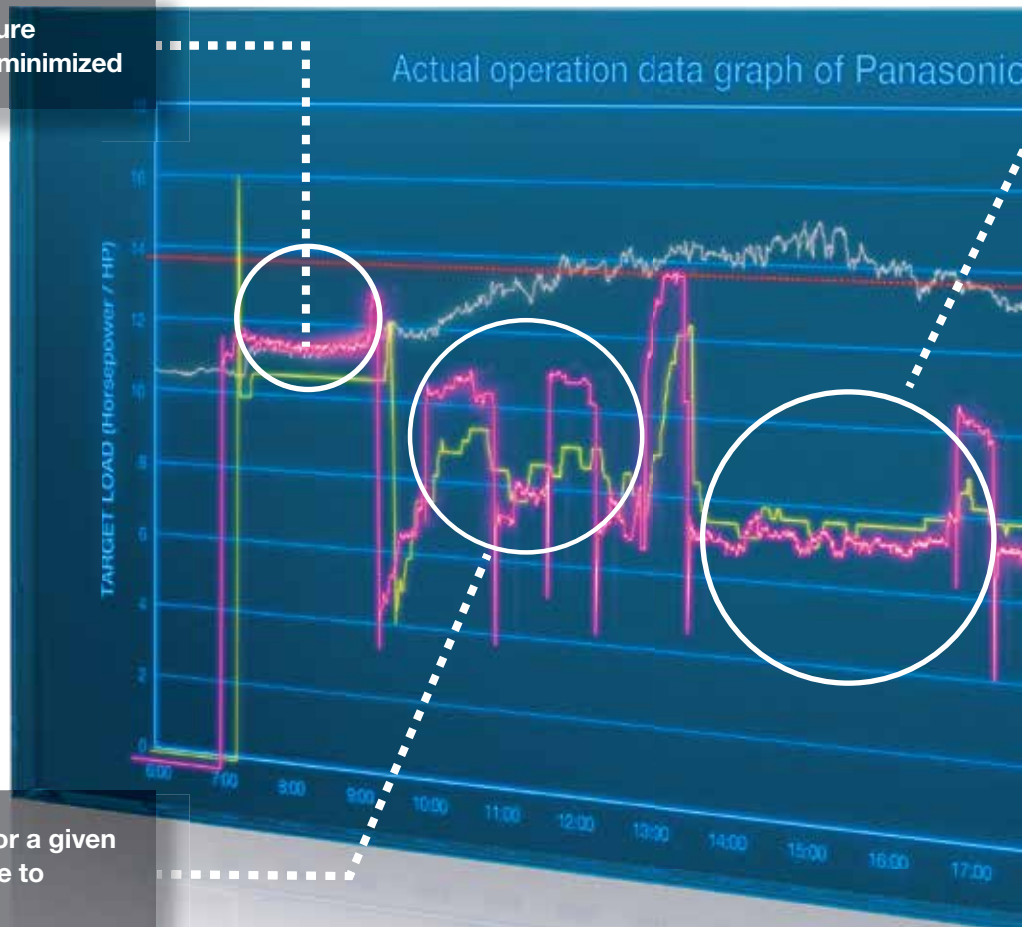


Extraordinary Energy-Saving Performance

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.

Rapidly reaches set temperature
→ full-load operation duration minimized



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

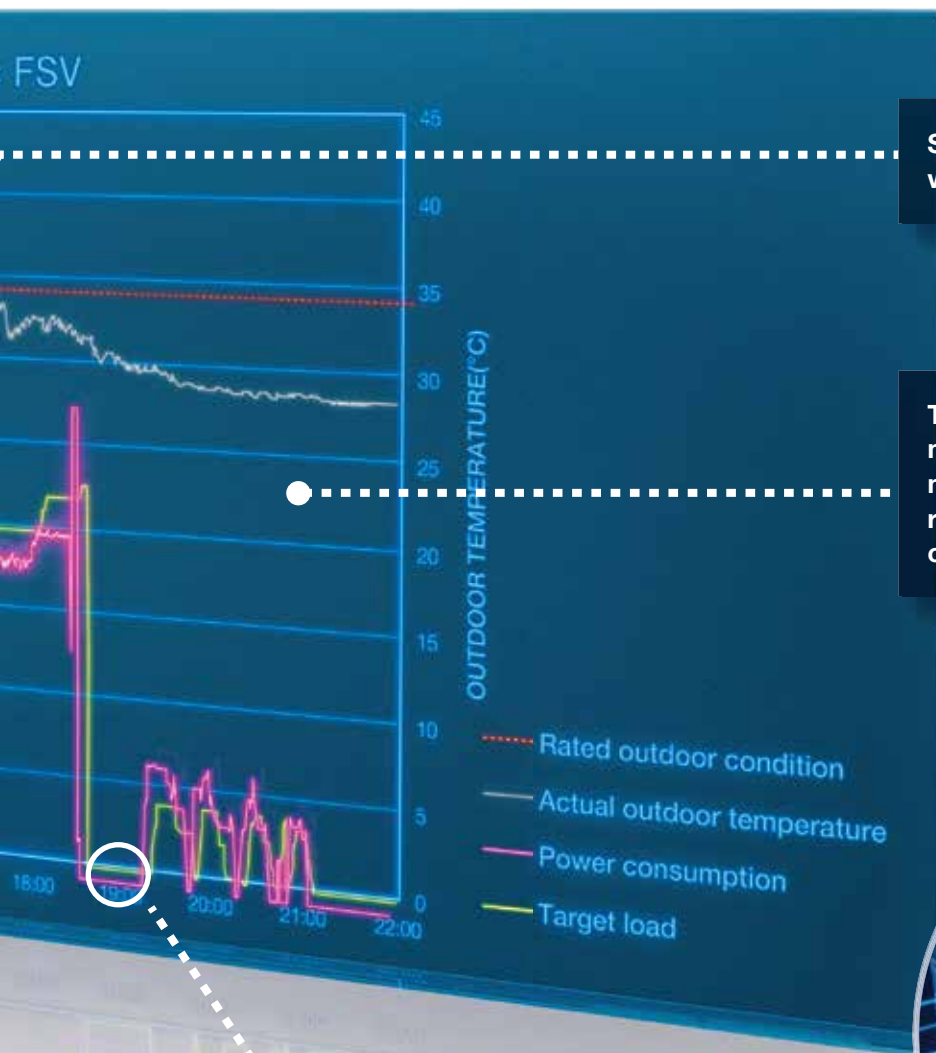
Actual performance data of Panasonic FSV installed in Asia

Simulated conditions

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

1. Set temperature is rapidly attained; full-load operating time is kept to a minimum.
2. The frequency of forced oil recovery is minimized. 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 a high EER in part load for energy-saving performance under a broad range of loads.

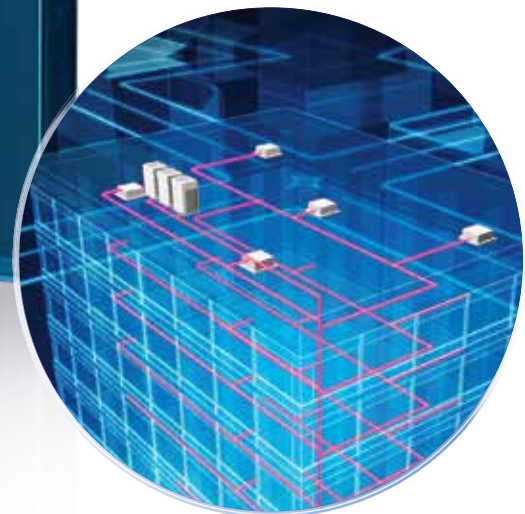
Panasonic's design concept contributes to substantial energy cost reductions.



Set temperature maintained with minimum load operation

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

When outdoor temperature drops, operation is immediately stopped



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.



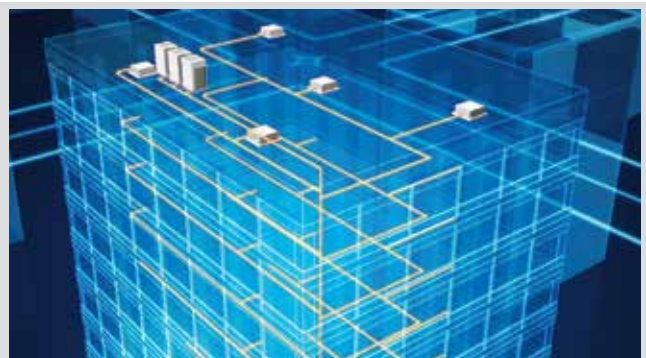
STAGE-2

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

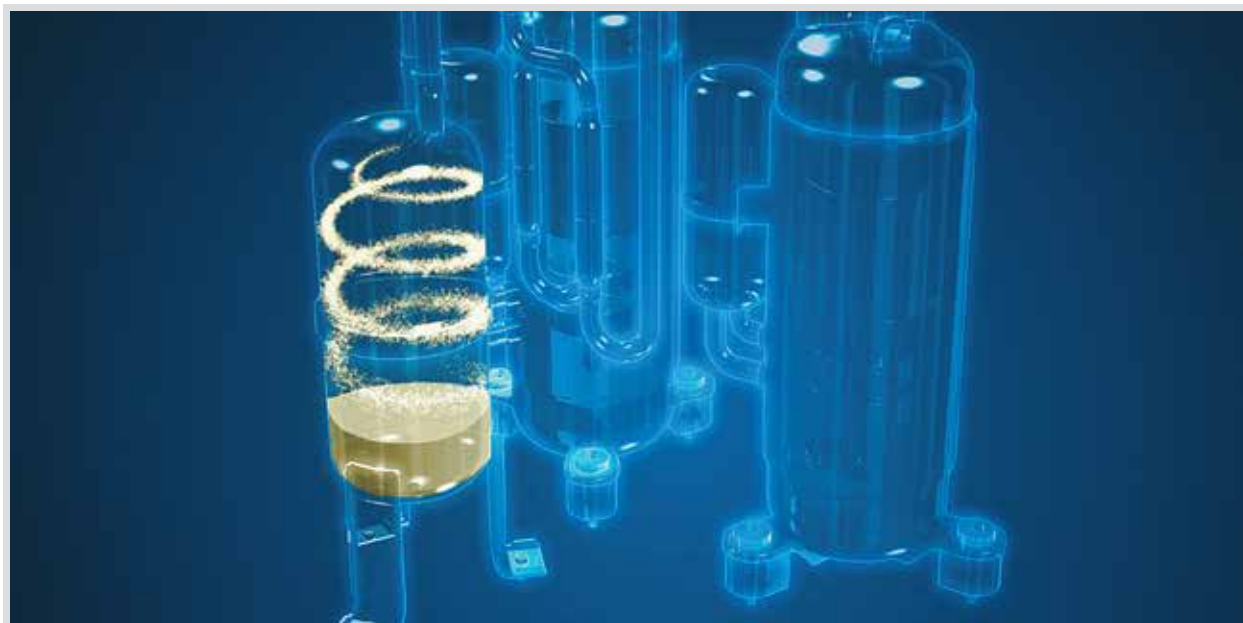
1 Oil sensors installed in each compressor

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



2 Highly functional oil separator

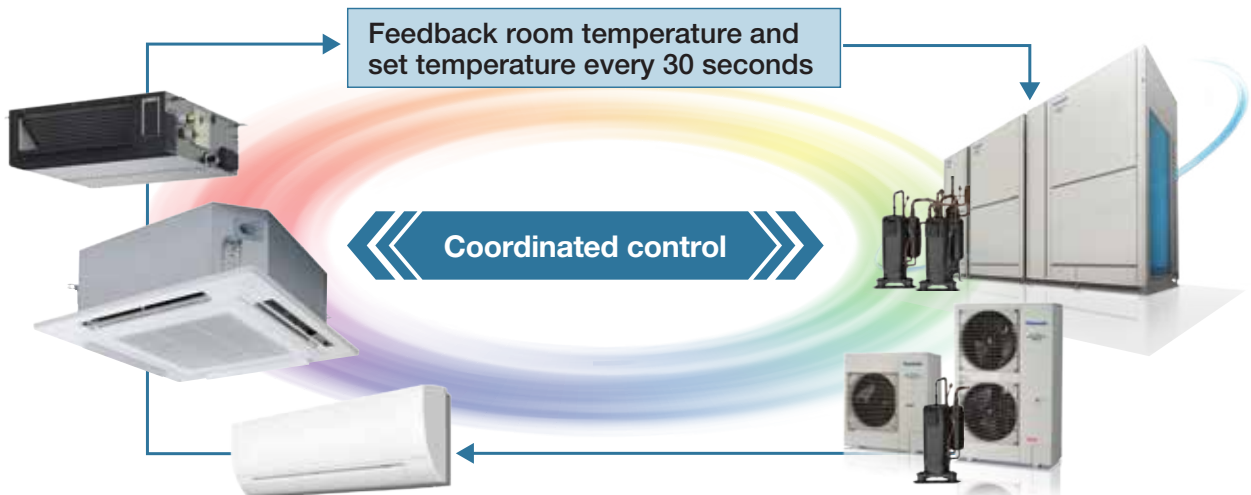
Thanks to extended separate piping, oil recovery efficiency reaches 90%, minimising the oil to be discharged from the compressor.



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.

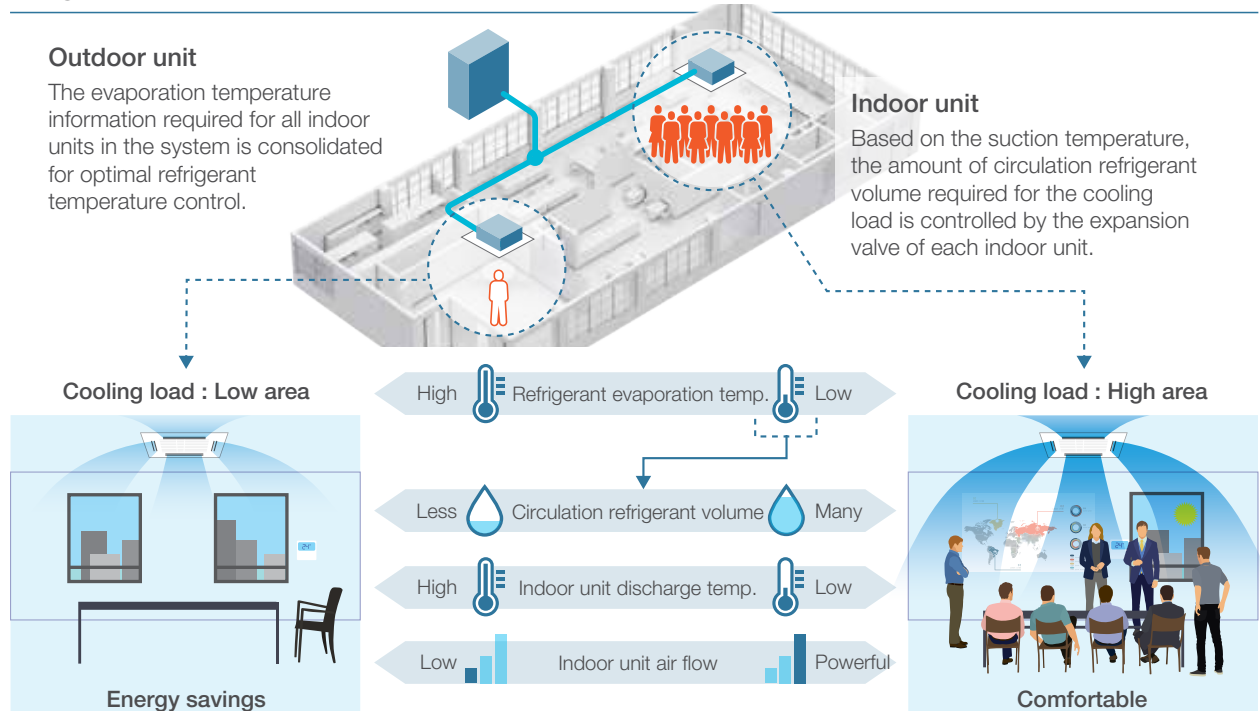


Calculate indoor refrigerant temperature and control the airflow automatically based on the difference between the setting temperature and actual indoor temperature.

Determine system refrigerant temperature and control compressor speed.

* When fan speed is Auto.

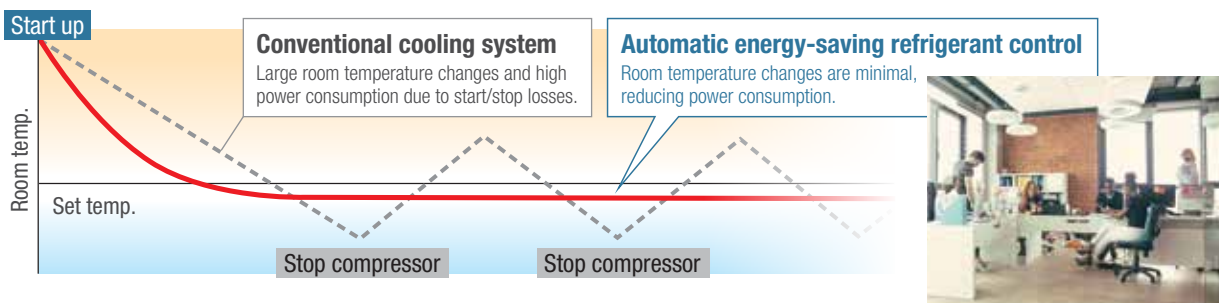
Achieves room-by-room comfort and overall system energy savings by controlling optimal refrigerant temperature and circulation volume based on all information of the entire system.



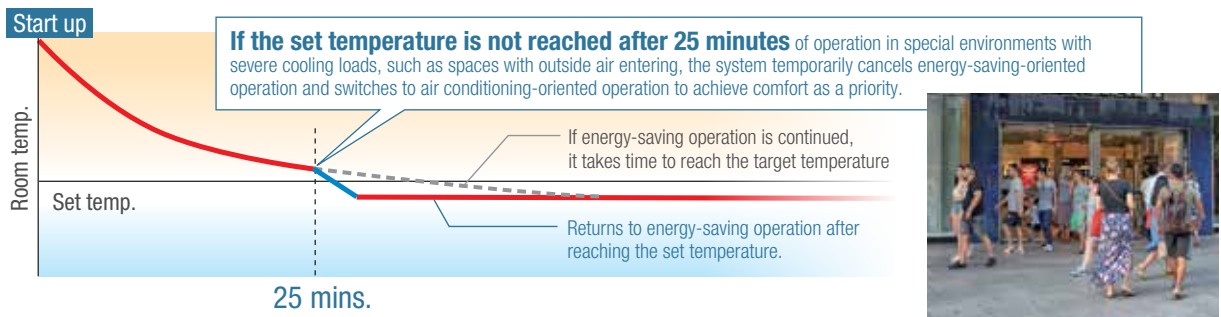
Combination of VET technology and inverter compressor achieves both energy savings and comfort by smoothly controlling the compressor to match the air conditioning load without stopping the compressor for optimum performance.

Image of room temperature change during cooling operation by scene.

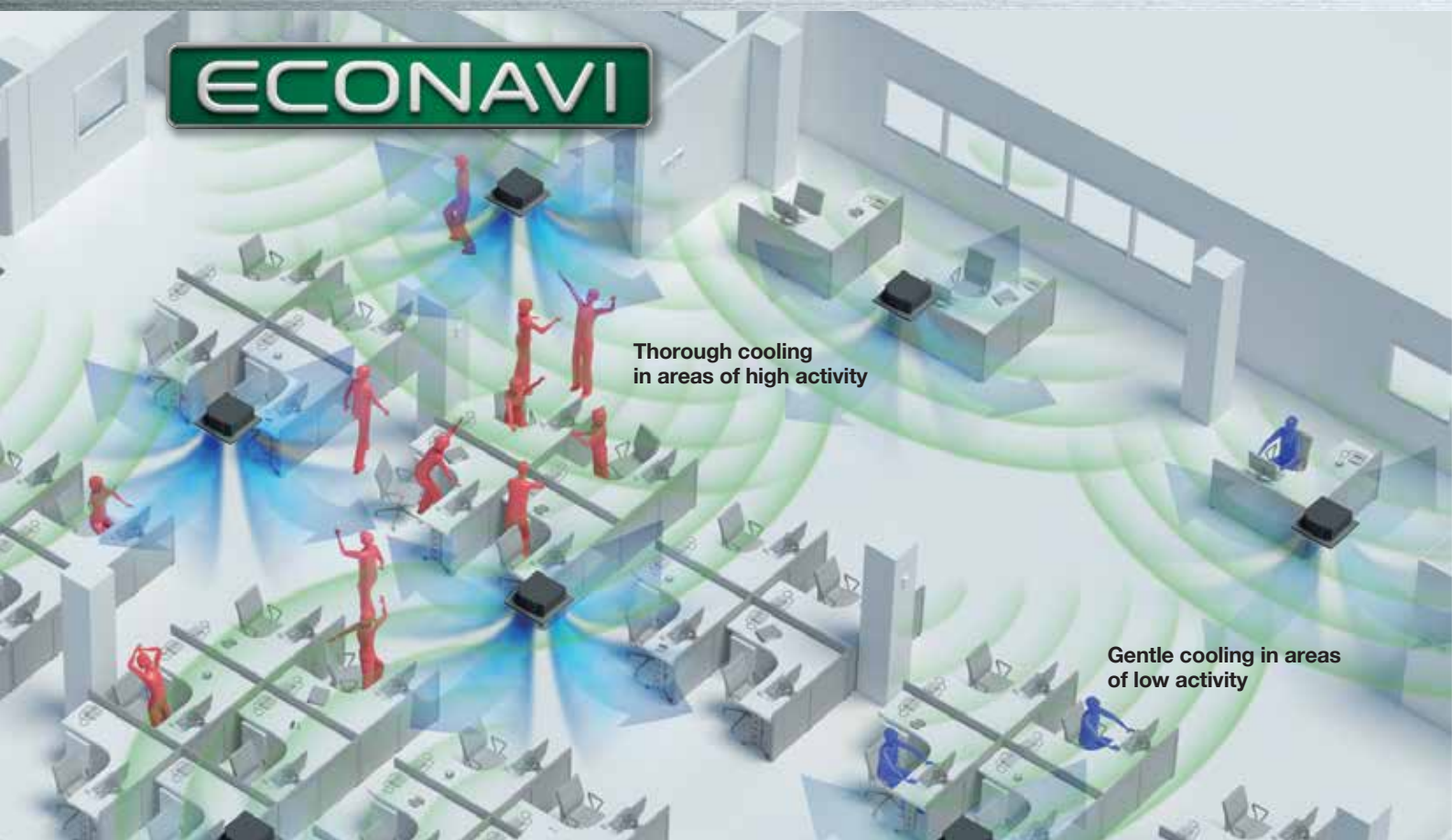
1) Normal environment



2) Environment with severe cooling load



ECONAVI Detects Inefficiencies and Saves Energy



Detection of the level of activity enables precise power saving.

Presence or absence of people at their desks and the level of activity in the office are detected in real time. Set temperature is automatically adjusted to optimise the lower power consumption.



In the morning
Thorough cooling when there is a high level of activity



In the afternoon
Reduced cooling when there are fewer people



At night
Automatic Thermo Off depending on conditions at the end of the day*

Human activity and presence detection

Activity detection

HIGHER ACTIVITY	LOWER ACTIVITY
Cooling Set Temp. +/-0°C	Cooling Set Temp. +1°C
Heating Set Temp. -1°C	Heating Set Temp. +/-0 °C

Every 2 min

Every 2 min



Presence detection

After 20 mins absence	After 3 hours absence
Cooling Set Temp. +2°C	Cooling Thermo OFF*
Heating Set Temp. -2°C	Heating Thermo OFF*

After 3 hours the setting can change to Stop or Temperature Shift



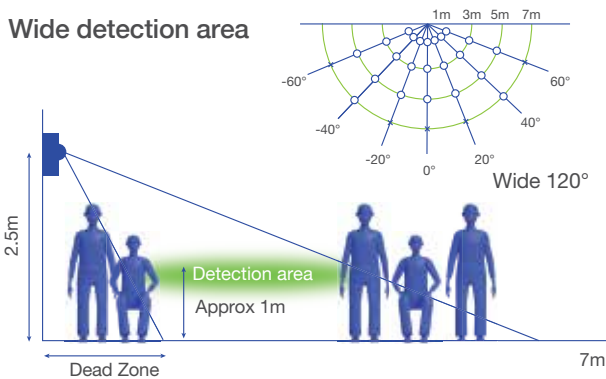
*Depending on conditions, the setting can change to Switch Off After 3 Hours, Thermo Off or Temperature Shift.

ECONAVI

Remote ECONAVI sensor allows optimum energy operation

Pillars, walls, cabinets, and other fittings obstruct the sensor, reducing the area of detection and lowering the energy-saving effect. Taking into consideration blind spots, Panasonic enables the optimum layout for sensors in any office.

Wide detection area



- A sensor is remotely set to maximize the detection area.
- Installation flexibility ready for indoor unit replacement and layout changes.

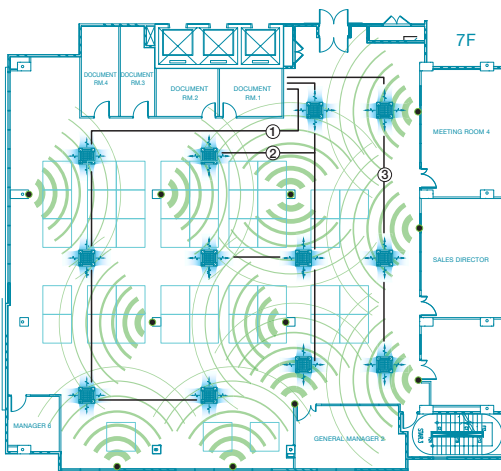


ECONAVI sensor CZ-CENSC1

Panasonic enables use with various types of indoor units

Providing outstanding energy-saving performance, Panasonic's inverter VRF System can be connected to ECONAVI to detect when energy is being wasted. ECONAVI senses the presence or absence of people and the level of activity in each area of an office. When unnecessary heating or cooling is detected, indoor units are individually controlled to match office conditions for energy-saving operation.

ECONAVI VRF Field Test



- Indoor units (12)
- Sensors (12)
- Trial term: 11 Apr - 16 May 2014
- Location: Panasonic Malaysia Building
- Office floor: Cooling capacity 112kW
- Testing conditions:
 - Remote controller setting temperature 23°C
 - Setting time AM7:00~PM21:00
- Units used

System	Outdoor unit	Indoor unit
① CU-L7-6	U-20ME1E8	1 S-106MU1E5
		2 S-106MU1E5
		3 S-106MU1E5
		4 S-106MU1E5
		5 S-56MU1E5
② CU-L7-7	U-20ME1E8	6 S-106MU1E5
		7 S-106MU1E5
		8 S-56MU1E5
		9 S-106MU1E5
③ CU-L7-7	U-14ME1E8	10 S-106MU1E5
		11 S-56MU1E5
		12 S-106MU1E5



Power consumption



Up to **15%** energy saving

Energy-saving effect tested and verified by Field test

FSV-EX Advantages

Increased piping length for greater design flexibility

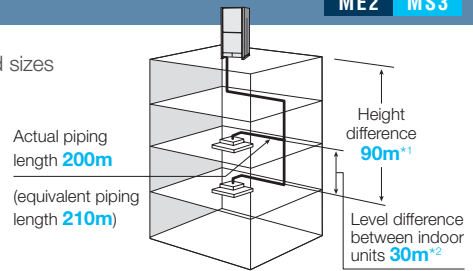
ME2 MS3

*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. MS3 series with exceeding 82HP does not support a height difference of 90m and a level difference of 30m.

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

ME2 MS3

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	265.0	272.0			
	ME2 SERIES																																															
	MS3 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	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	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	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). (Only for ME2 series.)
iii) Simultaneous operation is limited to less than "Max connectable IDU capacity / kW (without condition) figures" written in above No.1.

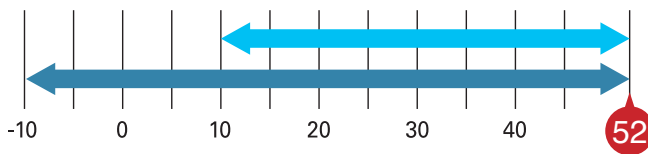
Wide operating range

ME2 MS3

- 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 (MS3)
■ 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

ME2

Corrosion-resistance treated for high resistance to rust and salty air to assure long-lasting performance.



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.

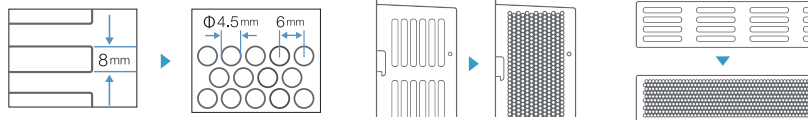


Prevents unit stoppages due to short circuits caused by geckos

ME2 MS3

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.

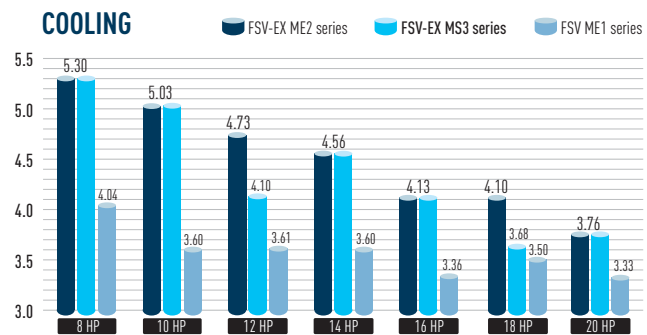
Change Slit



Excellent energy savings

ME2 MS3

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



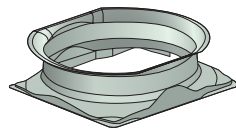
High external static pressure on condensers

ME2 MS3

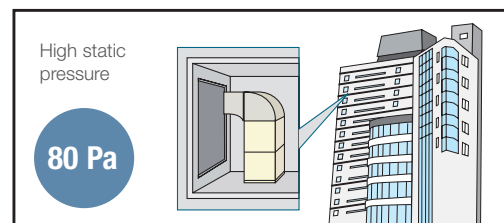
With a newly designed fan, fan guard, motor, and casing, new models can be custom-installed on-site to provide up to 80 Pa of external static pressure. An air discharge duct prevents shortages of air circulation, allowing outdoor units to be installed on every floor of a building.



Fan



Fan Motor and Casing



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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 Headquarters



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 purchased 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

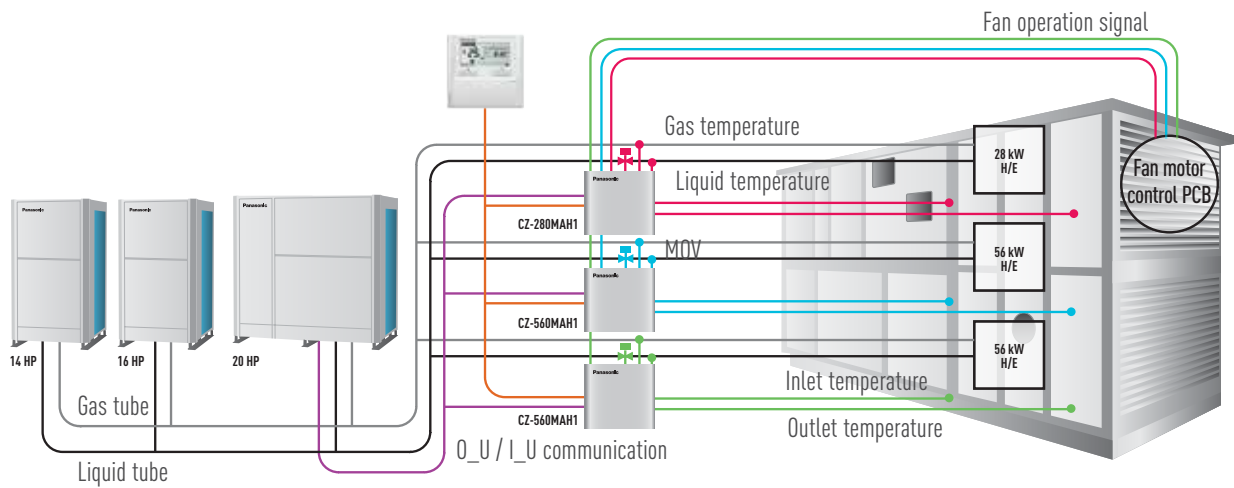
- Max. piping length: 100m (actual)/ 120m (equivalent)
- Difference between longest and shortest piping from first branch: 10m
- Max. length of branch tubing: 12m
- * Other conditions to be referred the standard piping design regulations.
- Available temperature range in Heating: -20 °C (WB)-15 °C (WB)
- 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)
- 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

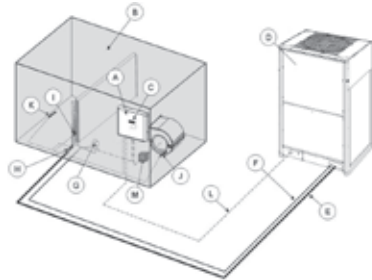
states output

- 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/ MS3 series (Space-saving Combination)	28.0 kW (10 HP)	U-10MS3H7				CZ-280MAH1				
	56.0 kW (20 HP)	U-20MS3H7				CZ-560MAH1				
	85.0 kW (30 HP)	U-12MS3H7	U-18MS3H7			CZ-560MAH1	CZ-280MAH1			
	113.0 kW (40 HP)	U-16MS3H7	U-24MS3H7			CZ-560MAH1	CZ-560MAH1			
	140.0 kW (50 HP)	U-8MS3H7	U-18MS3H7	U-24MS3H7		CZ-560MAH1	CZ-560MAH1	CZ-280MAH1		
	168.0 kW (60 HP)	U-12MS3H7	U-24MS3H7	U-24MS3H7		CZ-560MAH1	CZ-560MAH1	CZ-560MAH1		
	196.0 kW (70 HP)	U-22MS3H7	U-24MS3H7	U-24MS3H7		CZ-560MAH1	CZ-560MAH1	CZ-560MAH1	CZ-280MAH1	
	224.0 kW (80 HP)	U-8MS3H7	U-24MS3H7	U-24MS3H7	U-24MS3H7	CZ-560MAH1	CZ-560MAH1	CZ-560MAH1	CZ-560MAH1	
	254.0 kW (90HP)	U-18MS3H7	U-24MS3H7	U-24MS3H7	U-24MS3H7	CZ-560MAH1	CZ-560MAH1	CZ-560MAH1	CZ-560MAH1	CZ-280MAH1

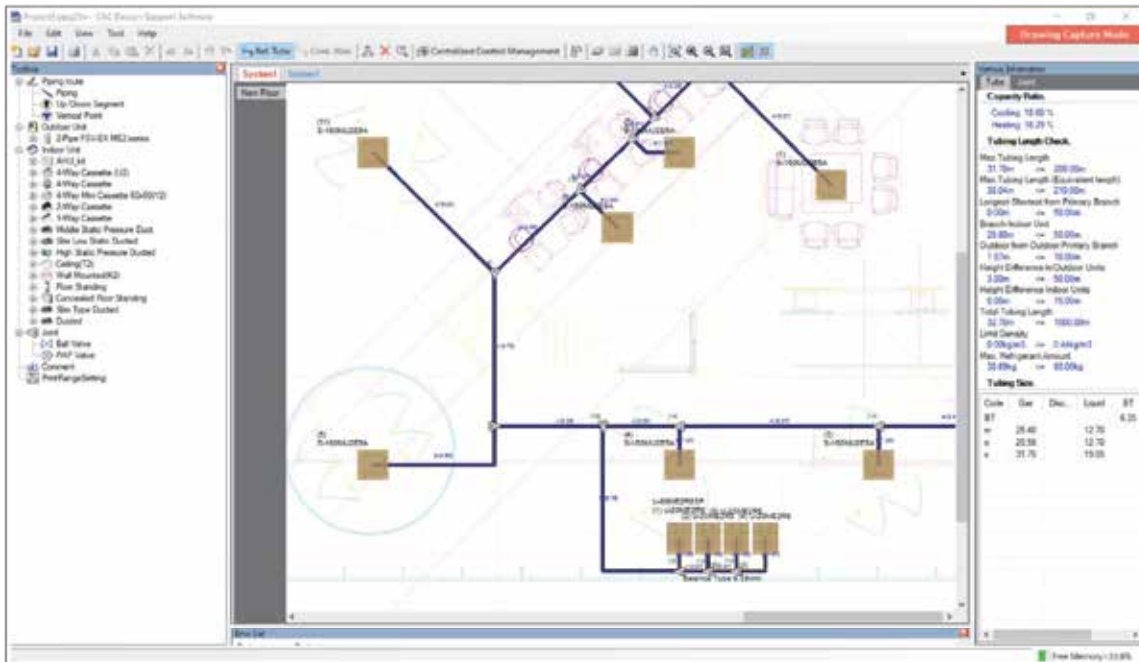
*These are preliminary. Please consult with Panasonic sales engineers.

CAC Design Support Software

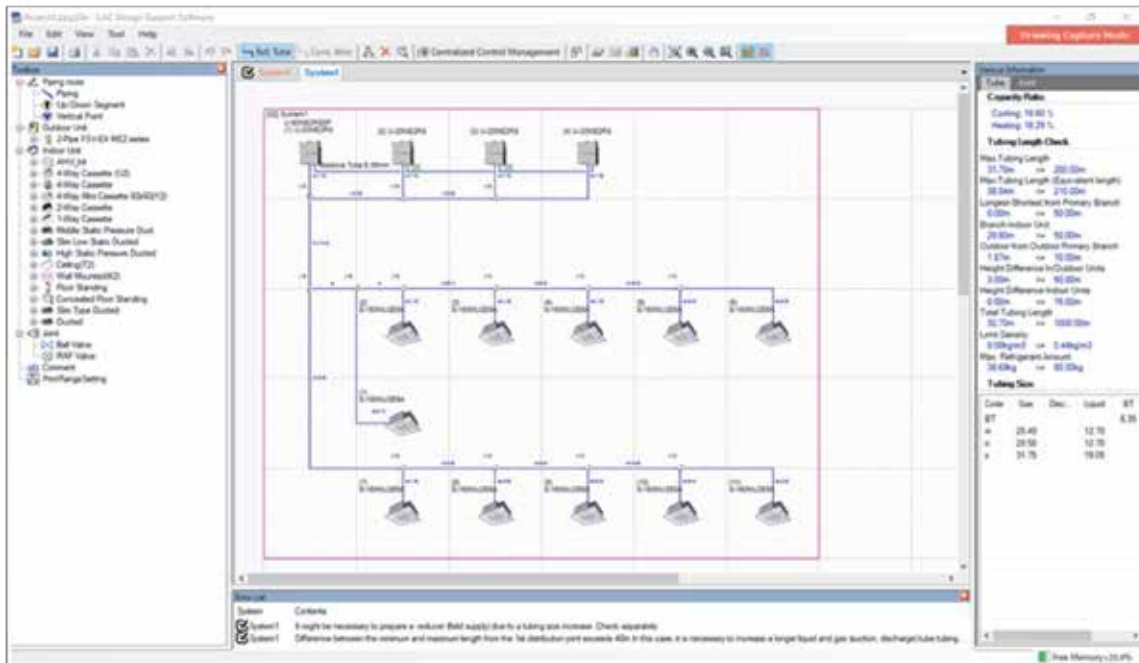


Features the unique Drawing Capture Mode function providing More thorough spec-in and tender quotation support for easier, Faster completion of work.

Drawing Capture Mode Diagram

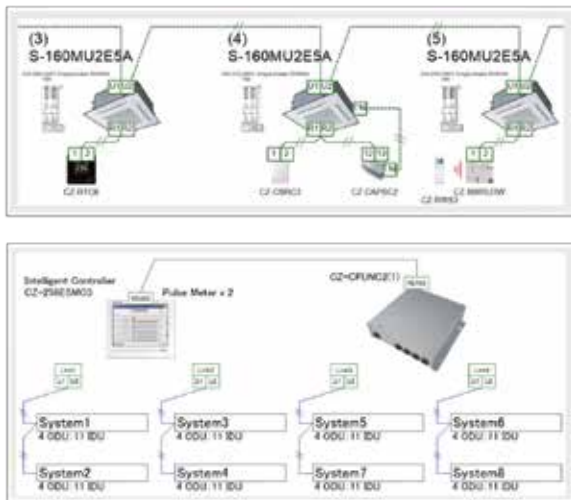


Schematic Mode Diagram



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.



Order No.	Room Name	Room Area	Room Volume	Room Conditions	Estimate Cooling	Estimate Heating	Est. Outdoor/Indoor	Est. Length	Estimate Capacity	Est. Outdoor Unit No.	Est. Indoor Unit No.	Est. Total Capacity	Est. Total Length
01	01-00000001	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
02	01-00000002	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
03	01-00000003	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
04	01-00000004	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
05	01-00000005	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
06	01-00000006	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
07	01-00000007	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
08	01-00000008	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
09	01-00000009	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
10	01-00000010	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
11	01-00000011	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
12	01-00000012	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
13	01-00000013	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
14	01-00000014	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
15	01-00000015	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
16	01-00000016	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
17	01-00000017	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
18	01-00000018	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
19	01-00000019	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0
20	01-00000020	Living	20.0	25.0 C 65% RH	2.00	0.00	0.0	0.0	2.00	0	1	2.00	0.0

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.



FSV-EX MS3 Series

Cooling-only model with space-saving system and high efficiency

Space-saving Combination Model

Cooling only Type

- Wide range of systems from 8HP to 96HP
- 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

High Efficiency Combination Model

Cooling only Type

- 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.

NEW ///



MS3 series movie



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)

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.





2-WAY Mini-FSV LE2 Series

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

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



Cooling Only FSV-EX MS3 Series HIGH EFFICIENCY COMBINATION MODEL

Appearance												
HP			8	10	12	14	16	18	20	22	24	
Model name			U-8MS3H7	U-10MS3H7	U-12MS3H7	U-14MS3H7	U-16MS3H7	U-18MS3H7HE U-10MS3H7	U-20MS3H7HE U-10MS3H7	U-22MS3H7HE U-12MS3H7	U-24MS3H7HE U-12MS3H7	
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	
EER / COP	Cooling	W/W	5.30	5.03	4.10	4.56	4.13	5.15	5.05	4.49	4.07	
Dimensions	H x W x D	mm	1,842 x 770 x 1,000	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 1,600 x 1,000	1,842 x 1,600 x 1,000	1,842 x 1,600 x 1,000	1,842 x 1,600 x 1,000	
Net weight		kg	210	210	210	313	313	420	420	420	420	
Electrical ratings	Cooling	Running current	A	7.14 / 6.78 / 6.54	9.62 / 9.14 / 8.81	13.6 / 13.0 / 12.5	15.3 / 14.5 / 14.0	18.4 / 17.5 / 16.8	16.6 / 15.7 / 15.2	19.2 / 18.2 / 17.5	23.1 / 22.0 / 21.2	27.9 / 26.5 / 25.5
		Power input	kW	4.23	5.57	8.17	8.77	10.9	9.70	11.1	13.7	16.7
Starting current		A	1	1	1	2	2	2	2	2	2	
Air flow rate		m³/h	13,440	13,440	13,440	13,920	13,920	26,880	26,880	26,880	26,880	
		L/s	3,733	3,733	3,733	3,867	3,867	7,467	7,467	7,467	7,467	
Refrigerant amount at shipment		kg	5.6	5.6	5.6	8.3	8.3	11.2	11.2	11.2	11.2	
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)	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)	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°C (DB)~ +52°C (DB)									
Sound pressure level	Normal mode	dB (A)	53.0	56.0	59.0	58.0	61.0	58.0	59.0	61.0	62.0	
	Silent mode (2)	dB (A)	48.0	51.0	54.0	53.0	56.0	53.0	54.0	56.0	57.0	
Sound power level	Normal mode	dB	74.0	77.0	80.0	79.0	82.0	79.0	80.0	82.0	83.0	

Appearance									
HP			54	56	58	60	62	64	
Model name			U-54MS3H7HE U-10MS3H7 U-12MS3H7 U-16MS3H7 U-16MS3H7	U-56MS3H7HE U-12MS3H7 U-12MS3H7 U-16MS3H7 U-16MS3H7	U-58MS3H7HE U-10MS3H7 U-16MS3H7 U-16MS3H7 U-16MS3H7	U-60MS3H7HE U-12MS3H7 U-16MS3H7 U-16MS3H7 U-16MS3H7	U-62MS3H7HE U-14MS3H7 U-16MS3H7 U-16MS3H7 U-16MS3H7	U-64MS3H7HE U-16MS3H7 U-16MS3H7 U-16MS3H7 U-16MS3H7	
Power supply			380/400/415V/3-phase/50Hz 380/400/3-phase/60Hz						
Capacity	Cooling	kW	151.0	156.0	162.0	168.0	174.0	180.0	
		BTU/h	515,400	532,400	552,900	573,400	593,900	614,300	
EER / COP	Cooling	W/W	4.27	4.13	4.27	4.13	4.23	4.13	
Dimensions	H x W x D	mm	1,842 x 4,080 x 1,000	1,842 x 4,080 x 1,000	1,842 x 4,490 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	
Net weight		kg	1,046	1,046	1,149	1,149	1,252	1,252	
Electrical ratings	Cooling	Running current	A	59.8 / 56.8 / 54.7	63.8 / 60.6 / 58.4	64.0 / 60.8 / 58.6	68.7 / 65.3 / 62.9	70.2 / 66.7 / 64.2	73.6 / 69.9 / 67.4
		Power input	kW	35.4	37.8	37.9	40.7	41.1	43.6
Starting current		A	6	6	7	7	8	8	
Air flow rate		m³/h	54,720	54,720	55,200	55,200	55,680	55,680	
		L/s	15,200	15,200	15,333	15,333	15,467	15,467	
Refrigerant amount at shipment		kg	27.8	27.8	30.5	30.5	33.2	33.2	
External static pressure		Pa	80	80	80	80	80	80	
Piping connections	Gas pipe	mm (inches)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	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)	
	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)	
Ambient temperature operating range			Cooling: 10°C (DB)~ +52°C (DB)						
Sound pressure level	Normal mode	dB (A)	66.0	66.0	66.0	67.0	66.0	67.0	
	Silent mode (2)	dB (A)	61.0	61.0	61.0	62.0	61.0	62.0	
Sound power level	Normal mode	dB	87.0	87.0	87.0	88.0	87.0	88.0	

GLOBALREMARKS

Rated conditions:	Cooling
Indoor air temperature	27°C DB / 19°C WB
Outdoor air temperature	35°C DB

These specifications are subject to change without notice.



26	28	30	32	34	36	38	40	42	44	46	48	50	52																
U-26MS3H7HE	U-28MS3H7HE	U-30MS3H7HE	U-32MS3H7HE	U-34MS3H7HE	U-36MS3H7HE	U-38MS3H7HE	U-40MS3H7HE	U-42MS3H7HE	U-44MS3H7HE	U-46MS3H7HE	U-48MS3H7HE	U-50MS3H7HE	U-52MS3H7HE																
U-10MS3H7	U-12MS3H7	U-14MS3H7	U-16MS3H7	U-10MS3H7	U-12MS3H7	U-12MS3H7	U-12MS3H7	U-10MS3H7	U-12MS3H7	U-14MS3H7	U-16MS3H7	U-10MS3H7	U-12MS3H7	U-12MS3H7	U-12MS3H7	U-10MS3H7	U-12MS3H7	U-14MS3H7	U-16MS3H7	U-10MS3H7	U-12MS3H7	U-12MS3H7	U-12MS3H7	U-10MS3H7	U-12MS3H7	U-12MS3H7	U-12MS3H7		

380/400/415V/3-phase/50Hz
380/400V/3-phase/60Hz

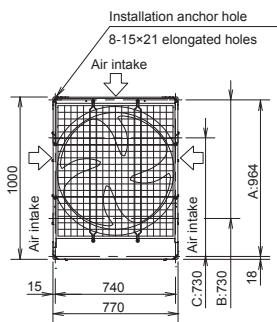
73.0	78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0	140.0	145.0												
249,100	267,900	290,100	307,200	327,600	344,700	365,200	385,700	402,700	423,200	443,700	460,800	477,800	494,900												
4.42	4.11	4.31	4.13	4.30	4.09	4.31	4.09	4.31	4.11	4.25	4.13	4.27	4.12												
1,842 x 2,010 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 2,430 x 1,000	1,842 x 2,430 x 1,000	1,842 x 2,840 x 1,000	1,842 x 2,840 x 1,000	1,842 x 3,250 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 3,670 x 1,000	1,842 x 3,670 x 1,000												
523	523	626	626	630	630	733	733	836	836	939	939	943	943												
28.2 / 26.8 / 25.8	32.2 / 30.6 / 29.5	33.6 / 31.9 / 30.8	36.8 / 35.0 / 33.7	37.6 / 35.8 / 34.5	41.2 / 39.2 / 37.8	41.9 / 39.8 / 38.3	46.1 / 43.8 / 42.2	46.3 / 43.9 / 42.4	51.0 / 48.4 / 46.7	52.2 / 49.6 / 47.8	55.2 / 52.4 / 50.5	55.4 / 52.6 / 50.7	58.8 / 55.8 / 53.8												
16.5	19.1	19.7	21.8	22.3	24.7	24.8	27.6	27.4	30.2	30.6	32.7	32.8	35.2												
3	3	4	4	3	3	4	4	5	5	6	6	5	5												
27,360	27,360	27,840	27,840	40,320	40,320	40,800	40,800	41,280	41,280	41,760	41,760	54,240	54,240												
7,600	7,600	7,733	7,733	11,200	11,200	11,333	11,333	11,467	11,467	11,600	11,600	15,067	15,067												
13.9	13.9	16.6	16.6	16.8	16.8	19.5	19.5	22.2	22.2	24.9	24.9	25.1	25.1												
80	80	80	80	80	80	80	80	80	80	80	80	80	80												
Ø34.92 (Ø1-3/8)	Ø34.92 (Ø1-3/8)	Ø34.92 (Ø1-3/8)	Ø34.92 (Ø1-3/8)	Ø34.92 (Ø1-3/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)												
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)												
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)												
Cooling: 10°C (DB)~ +52°C (DB)																									
62.0	63.0	63.0	64.0	63.0	64.0	64.0	65.0	65.0	65.0	65.0	66.0	65.0	66.0												
57.0	58.0	58.0	59.0	58.0	59.0	59.0	60.0	60.0	60.0	60.0	61.0	60.0	61.0												
83.0	84.0	84.0	85.0	84.0	85.0	85.0	86.0	86.0	86.0	86.0	87.0	86.0	87.0												

8 / 10 / 12 HP

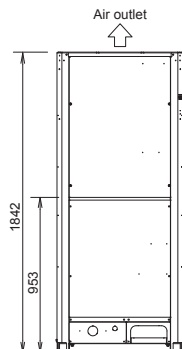
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

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

Top view



Front view



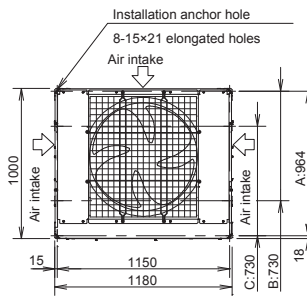
unit: mm

14 / 16 HP

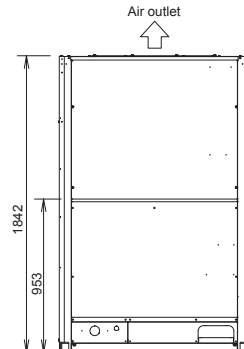
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

- 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

Cooling Only FSV-EX MS3 Series

SPACE SAVING COMBINATION MODEL

Appearance												
HP	8	10	12	14	16	18	20	22	24			
Model name	U-8MS3H7	U-10MS3H7	U-12MS3H7	U-14MS3H7	U-16MS3H7	U-18MS3H7	U-20MS3H7	U-22MS3H7	U-24MS3H7			
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	
EER / COP	Cooling	W/W	5.30	5.03	4.10	4.56	4.13	3.68	3.76	3.60	3.42	
Dimensions	H x W x D	mm	1,842 x 770 x 1,000	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 1,540 x 1,000	
Net weight		kg	210	210	210	313	313	313	366	366	366	
Electrical ratings	Cooling	Running current	A	7.14 / 6.78 / 6.54	9.62 / 9.14 / 8.81	13.6 / 13.0 / 12.5	15.3 / 14.5 / 14.0	18.4 / 17.5 / 16.8	23.0 / 21.8 / 21.0	24.6 / 23.4 / 22.5	28.2 / 26.8 / 25.9	32.8 / 31.2 / 30.1
		Power input	KW	4.23	5.57	8.17	8.77	10.9	13.6	14.9	17.1	19.9
Starting current		A	1	1	1	2	2	2	2	2	2	
Air flow rate		m³/h	13,440	13,440	13,440	13,920	13,920	13,920	24,300	24,300	24,300	
		L/s	3,733	3,733	3,733	3,867	3,867	3,867	6,750	6,750	6,750	
Refrigerant amount at shipment		kg	5.6	5.6	5.6	8.3	8.3	8.3	9.5	9.5	9.5	
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)	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)	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°C (DB)~ +52°C (DB)									
Sound pressure level	Normal mode	dB (A)	53.0	56.0	59.0	58.0	61.0	62.0	59.0	62.0	62.0	
	Silent mode (2)	dB (A)	48.0	51.0	54.0	53.0	56.0	57.0	54.0	57.0	57.0	
Sound power level	Normal mode	dB	74.0	77.0	80.0	79.0	82.0	83.0	80.0	83.0	83.0	

Appearance												
HP	50	52	54	56	58	60	62	64	66			
Model name	U-50MS3H7SP	U-52MS3H7SP	U-54MS3H7SP	U-56MS3H7SP	U-58MS3H7SP	U-60MS3H7SP	U-62MS3H7SP	U-64MS3H7SP	U-66MS3H7SP			
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	
EER / COP	Cooling	W/W	3.72	3.75	3.65	3.63	3.64	3.55	3.65	3.59	3.50	
Dimensions	H x W x D	mm	1,842 x 3,610 x 1,000	1,842 x 3,610 x 1,000	1,842 x 3,610 x 1,000	1,842 x 3,970 x 1,000	1,842 x 3,970 x 1,000	1,842 x 3,970 x 1,000	1,842 x 4,380 x 1,000	1,842 x 4,380 x 1,000	1,842 x 4,380 x 1,000	
Net weight		kg	889	889	889	942	942	942	1,045	1,045	1,045	
Electrical ratings	Cooling	Running current	A	62.8 / 59.6 / 57.5	64.6 / 61.4 / 59.2	69.1 / 65.7 / 63.3	71.0 / 67.5 / 65.0	73.5 / 69.8 / 67.3	78.1 / 74.2 / 71.5	79.6 / 75.7 / 72.9	82.9 / 78.8 / 75.9	87.4 / 83.0 / 80.0
		Power input	KW	37.6	38.7	41.4	43.0	44.5	47.3	47.7	50.2	52.9
Starting current		A	5	5	5	5	5	5	6	6	6	
Air flow rate		m³/h	51,660	51,660	51,660	62,040	62,040	62,040	62,520	62,520	62,520	
		L/s	14,350	14,350	14,350	17,233	17,233	17,233	17,367	17,367	17,367	
Refrigerant amount at shipment		kg	23.4	23.4	23.4	24.6	24.6	24.6	27.3	27.3	27.3	
External static pressure		Pa	80	80	80	80	80	80	80	80	80	
Piping connections	Gas pipe	mm (inches)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	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°C (DB)~ +52°C (DB)									
Sound pressure level	Normal mode	dB (A)	65.0	66.0	66.0	65.0	66.0	66.0	66.0	66.0	67.0	
	Silent mode (2)	dB (A)	60.0	61.0	61.0	60.0	61.0	61.0	61.0	61.0	62.0	
Sound power level	Normal mode	dB	86.0	87.0	87.0	86.0	87.0	87.0	87.0	87.0	88.0	



26	28	30	32	34	36	38	40	42	44	46	48
U-26MS3H7SP	U-28MS3H7SP	U-30MS3H7SP	U-32MS3H7SP	U-34MS3H7SP	U-36MS3H7SP	U-38MS3H7SP	U-40MS3H7SP	U-42MS3H7SP	U-44MS3H7SP	U-46MS3H7SP	U-48MS3H7SP
U-8MS3H7 U-10MS3H7 U-12MS3H7	U-10MS3H7 U-18MS3H7	U-12MS3H7 U-18MS3H7	U-8MS3H7 U-24MS3H7	U-10MS3H7 U-24MS3H7	U-12MS3H7 U-24MS3H7	U-14MS3H7 U-24MS3H7	U-16MS3H7 U-24MS3H7	U-18MS3H7 U-24MS3H7	U-20MS3H7 U-24MS3H7	U-22MS3H7 U-24MS3H7	U-24MS3H7 U-24MS3H7

380/400/415V/3-phase/50Hz
380/400V/3-phase/60Hz

73.0	78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0
249,100	267,900	290,100	307,200	327,600	344,700	365,200	385,700	402,700	423,200	443,700	460,800
4.03	4.05	3.79	3.75	3.76	3.63	3.78	3.67	3.52	3.56	3.49	3.44
1,842 x 2,010 x 1,000	1,842 x 2,010 x 1,000	1,842 x 2,010 x 1,000	1,842 x 2,370 x 1,000	1,842 x 2,370 x 1,000	1,842 x 2,370 x 1,000	1,842 x 2,780 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 3,140 x 1,000
523	523	523	576	576	576	679	679	679	732	732	732
30.6 / 29.0 / 28.0	33.1 / 31.5 / 30.3	37.8 / 35.9 / 34.6	39.6 / 37.7 / 36.3	42.6 / 40.4 / 39.0	45.9 / 43.6 / 42.0	47.8 / 45.4 / 43.7	51.4 / 48.9 / 47.1	55.9 / 53.1 / 51.2	57.5 / 54.6 / 52.6	61.4 / 58.4 / 56.3	64.9 / 61.7 / 59.4
18.1	19.4	22.4	24.0	25.5	27.8	28.3	30.8	33.5	34.8	37.2	39.3
3	3	3	3	3	3	4	4	4	4	4	4
27,360	27,360	27,360	37,740	37,740	37,740	38,220	38,220	38,220	48,600	48,600	48,600
7,600	7,600	7,600	10,483	10,483	10,483	10,617	10,617	10,617	13,500	13,500	13,500
13.9	13.9	13.9	15.1	15.1	15.1	17.8	17.8	17.8	19.0	19.0	19.0
80	80	80	80	80	80	80	80	80	80	80	80
Ø34.92 (Ø1-3/8)	Ø34.92 (Ø1-3/8)	Ø34.92 (Ø1-3/8)	Ø34.92 (Ø1-3/8)	Ø34.92 (Ø1-3/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)
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)
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)

Cooling: 10°C (DB)- +52°C (DB)

63.0	63.0	64.0	63.0	63.0	64.0	63.0	65.0	65.0	64.0	65.0	65.0
58.0	58.0	59.0	58.0	58.0	59.0	58.0	60.0	60.0	59.0	60.0	60.0
84.0	84.0	85.0	84.0	84.0	85.0	84.0	86.0	86.0	85.0	86.0	86.0

68	70	72	74	76	78	80	82	84	86	88	90
U-68MS3H7SP	U-70MS3H7SP	U-72MS3H7SP	U-74MS3H7SP	U-76MS3H7SP	U-78MS3H7SP	U-80MS3H7SP	U-80MS3H7SP	U-80MS3H7SP	U-86MS3H7SP	U-88MS3H7SP	U-90MS3H7SP
U-20MS3H7 U-24MS3H7 U-24MS3H7	U-22MS3H7 U-24MS3H7 U-24MS3H7	U-24MS3H7 U-24MS3H7 U-24MS3H7	U-8MS3H7 U-18MS3H7 U-24MS3H7 U-24MS3H7	U-10MS3H7 U-18MS3H7 U-24MS3H7 U-24MS3H7	U-12MS3H7 U-18MS3H7 U-24MS3H7 U-24MS3H7	U-8MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7	U-10MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7	U-12MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7	U-14MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7	U-16MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7	U-18MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7

380/400/415V/3-phase/50Hz
380/400/3-phase/60Hz


190.0	196.0	202.0	208.0	213.0	219.0	224.0	232.0	238.0	244.0	249.0	254.0
648,500	668,900	689,400	709,900	727,000	747,400	764,500	791,800	812,300	832,800	849,800	866,900
3.53	3.49	3.44	3.62	3.64	3.57	3.56	3.56	3.50	3.57	3.53	3.47
1,842 x 4,740 x 1,000	1,842 x 4,740 x 1,000	1,842 x 4,740 x 1,000	1,842 x 5,210 x 1,000	1,842 x 5,210 x 1,000	1,842 x 5,210 x 1,000	1,842 x 5,570 x 1,000	1,842 x 5,570 x 1,000	1,842 x 5,570 x 1,000	1,842 x 5,980 x 1,000	1,842 x 5,980 x 1,000	1,842 x 5,980 x 1,000
1,098	1,098	1,098	1,255	1,255	1,255	1,308	1,308	1,308	1,411	1,411	1,411
88.8 / 84.4 / 81.4	92.8 / 88.2 / 85.0	97.1 / 92.3 / 88.9	95.8 / 91.0 / 87.8	97.7 / 92.8 / 89.4	101.2 / 96.2 / 92.7	103.9 / 98.7 / 95.1	107.7 / 102.3 / 98.6	112.3 / 106.7 / 102.8	114.2 / 108.5 / 104.6	116.4 / 110.6 / 106.6	120.9 / 114.8 / 110.7
53.8	56.2	58.8	57.4	58.5	61.3	62.9	65.2	68.0	68.4	70.5	73.2
6	6	6	7	7	7	7	7	7	8	8	8
72,900	72,900	72,900	75,960	75,960	75,960	86,340	86,340	86,340	86,820	86,820	86,820
20,250	20,250	20,250	21,100	21,100	21,100	23,983	23,983	23,983	24,117	24,117	24,117
28.5	28.5	28.5	32.9	32.9	32.9	34.1	34.1	34.1	36.8	36.8	36.8
80	80	80	80	80	80	80	80	80	80	80	80
Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)
Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)
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)

Cooling: 10°C (DB)- +52°C (DB)

66.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	68.0	68.0
61.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	63.0	63.0
87.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	89.0	89.0

Cooling Only FSV-EX MS3 Series

SPACE SAVING COMBINATION MODEL

Appearance						
HP		92	94	96		
		U-92MS3H7SP	U-94MS3H7SP	U-96MS3H7SP		
Model name		U-20MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7	U-22MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7	U-24MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7		
Power supply		380/400/415V/3-phase/50Hz 380/400/3-phase/60Hz				
Capacity	Cooling	kW	260.0	266.0	272.0	
		BTU/h	887,400	907,800	928,300	
EER / COP	Cooling	W/W	3.49	3.45	3.42	
Dimensions	H x W x D	mm	1,842 x 6,340 x 1,000	1,842 x 6,340 x 1,000	1,842 x 6,340 x 1,000	
			Net weight	kg	1,464	1,464
Electrical ratings	Cooling	Running current	A	123.0 / 116.9 / 112.7	127.2 / 120.8 / 116.4	131.3 / 124.7 / 120.2
		Power input	kW	74.5	77.0	79.5
Starting current		A	8	8	8	
Air flow rate		m³/h	97,200	97,200	97,200	
		L/s	27,000	27,000	27,000	
Refrigerant amount at shipment		kg	38.0	38.0	38.0	
External static pressure		Pa	80	80	80	
Piping connections	Gas pipe	mm (inches)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)	Ø53.98 (Ø2-1/8)	
	Liquid pipe	mm (inches)	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)	
Ambient temperature operating range			Cooling: 10°C (DB)~ +52°C (DB)			
Sound pressure level	Normal mode	dB (A)	67.0	68.0	68.0	
	Silent mode (2)	dB (A)	62.0	63.0	63.0	
Sound power level	Normal mode	dB	88.0	89.0	89.0	

GLOBALREMARKS

Rated conditions:	Cooling
Indoor air temperature	27°C DB / 19°C WB
Outdoor air temperature	35°C DB

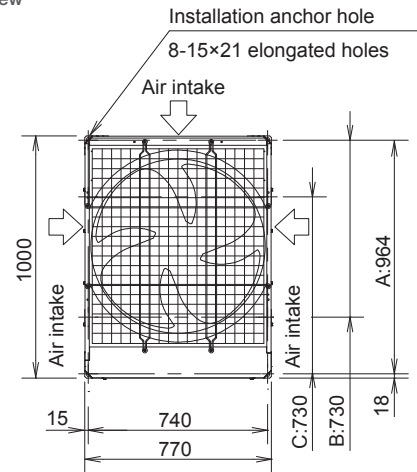
These specifications are subject to change without notice.

8 / 10 / 12 HP

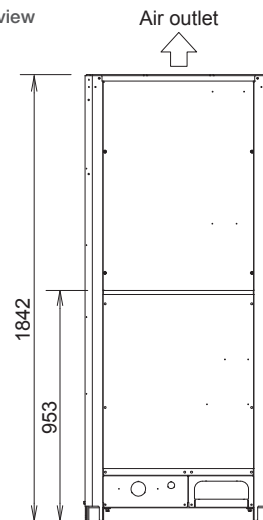
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

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

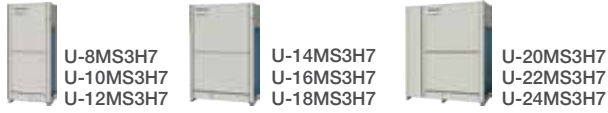
Top view



Front view



unit: mm

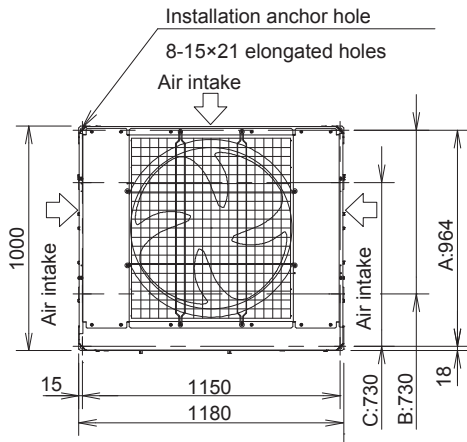


14 / 16 / 18 HP

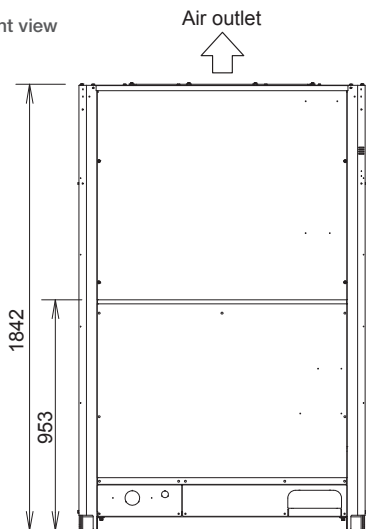
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

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

Top view



Front view



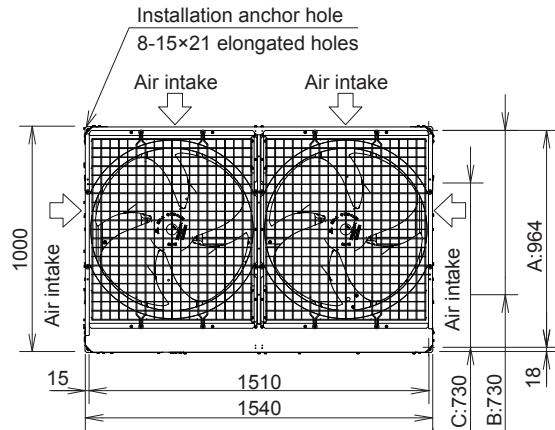
unit: mm

20 / 22 / 24 HP

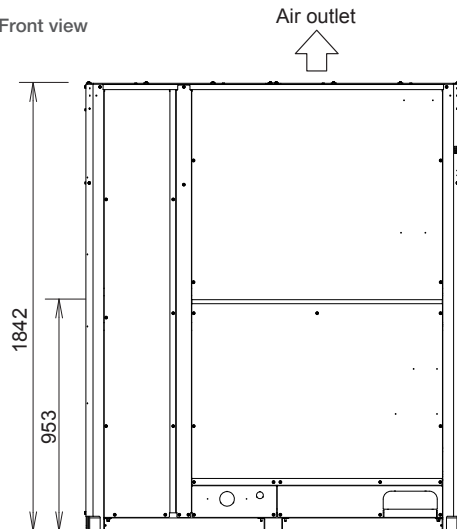
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

- 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

2-WAY FSV-EX ME2 Series

High Efficiency Combination Model

Appearance													
HP		8	10	12	14	16	18	20	22	24	26		
Model name		U-8ME2H7	U-10ME2H7	U-12ME2H7	U-14ME2H7	U-16ME2H7	U-8ME2H7 U-10ME2H7	U-10ME2H7 U-10ME2H7	U-10ME2H7 U-12ME2H7	U-12ME2H7 U-12ME2H7	U-10ME2H7 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	
		BTU/h	76,500	95,600	114,300	136,500	153,600	170,600	191,100	209,900	232,100	249,100	
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	
	Heating	W/W	5.84	5.56	5.38	5.29	5.13	5.71	5.58	5.48	5.31	5.29	
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	
Net weight		kg	210	210	270	315	315	420	420	480	540	525	
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
		Power input	kW	4.23	5.57	7.08	8.77	10.9	9.70	11.1	12.7	14.5	16.5
	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	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
		Power input	kW	4.28	5.67	6.97	8.51	9.75	9.80	11.3	12.6	14.4	15.4
Starting current		A	1	1	1	2	2	2	2	2	2	3	
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	
		L/s	3,733	3,733	3,867	3,867	3,867	7,467	7,467	7,600	7,733	7,600	
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	
External static pressure		Pa	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)	
	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)	
	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)	
Ambient temperature operating range			Cooling: -10°C (DB)~ +52°C (DB). Heating: -25°C (WB)~ +18°C (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	
	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	
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	

Appearance								
HP		56	58	60	62	64		
Model name		U-56ME2H7E U-12ME2H7 U-12ME2H7 U-16ME2H7 U-16ME2H7	U-58ME2H7E U-10ME2H7 U-16ME2H7 U-16ME2H7 U-16ME2H7	U-60ME2H7E U-12ME2H7 U-16ME2H7 U-16ME2H7 U-16ME2H7	U-62ME2H7 U-14ME2H7 U-16ME2H7 U-16ME2H7 U-16ME2H7	U-64ME2H7 U-16ME2H7 U-16ME2H7 U-16ME2H7 U-16ME2H7		
Power supply		380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz						
Capacity	Cooling	kW	156.0	162.0	168.0	174.0	180.0	
		BTU/h	532,400	552,900	573,400	593,900	614,300	
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°C (DB)~ +52°C (DB). Heating: -25°C (WB)~ +18°C (WB)					
Sound pressure level	Normal mode	dB (A)	65.5	66.5	66.5	66.5	67.0	
	Silent mode (2)	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	

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.
High durable model (with suffix "E") has same specifications.



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
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-12ME2H7	U-12ME2H7 U-12ME2H7 U-16ME2H7	U-12ME2H7 U-12ME2H7 U-16ME2H7	U-12ME2H7 U-12ME2H7 U-16ME2H7	U-14ME2H7 U-16ME2H7 U-16ME2H7	U-16ME2H7 U-16ME2H7 U-16ME2H7	U-16ME2H7 U-12ME2H7 U-12ME2H7 U-16ME2H7	U-12ME2H7 U-12ME2H7 U-12ME2H7 U-16ME2H7	U-10ME2H7 U-12ME2H7 U-12ME2H7 U-16ME2H7

380/400/415V/3-phase/50Hz
380/400V/3-phase/60Hz

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
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
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
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
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
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
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 4,490 x 1,000	1,842 x 4,900 x 1,000	1,842 x 4,490 x 1,000
585	630	630	750	810	795	855	840	900	945	945	1,065	1,125	1,110
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
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
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
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
3	4	4	3	3	4	4	5	5	6	6	5	5	6
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
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
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
80	80	80	80	80	80	80	80	80	80	80	80	80	80
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)
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)
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)

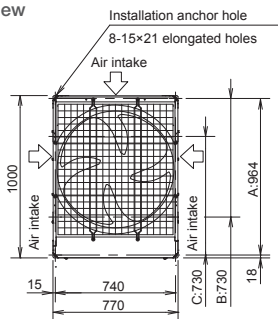
Cooling: -10°C (DB)~ +52°C (DB). Heating: -25°C (WB)~ +18°C (WB)

8 / 10 HP

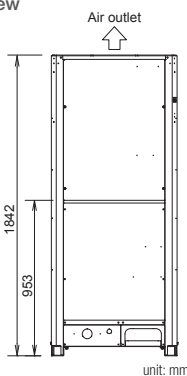
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

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

Top view



Front view

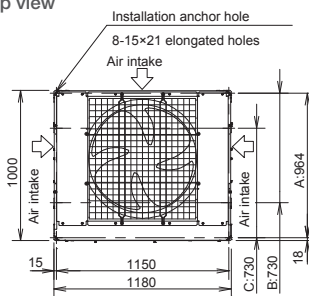


12 / 14 / 16 HP

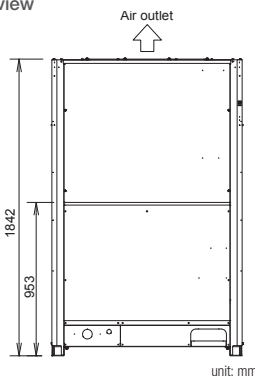
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

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

Top view



Front view

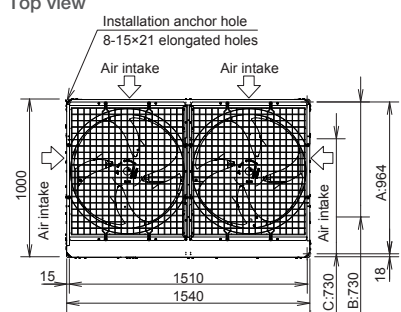


18 / 20 HP

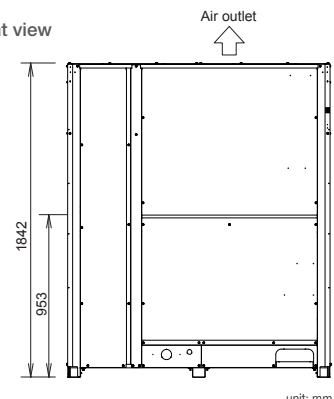
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

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

Top view



Front view

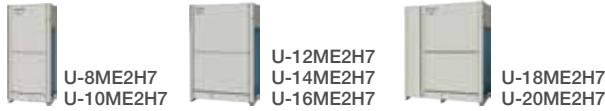


2-WAY FSV-EX ME2 Series

Space-saving Combination Model

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-10ME2H7 U-12ME2H7		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
EER / COP	Cooling	W/W	5.30	5.03	4.73	4.56	4.13	4.10	3.76	4.84	4.69	W/W	5.84	5.56	5.38	5.29	5.13	5.05	4.60	5.48	5.31
		Heating	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									
		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									
		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		m ³ /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°C (DB)~ +52°C (DB). Heating: -25°C (WB)~ +18°C (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	50		52		54		56		58		60		62		64		66				
Model name	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-16ME2H7 U-20ME2H7				
Power supply	380/400/415V/3-phase/50Hz 380/400V/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
EER / COP	Cooling	W/W	4.09	3.99	3.95	3.87	3.86	3.76	4.23	4.13	4.00	W/W	5.00	4.95	4.79	4.76	4.73	4.60	5.16	5.11	4.85
		Heating	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	77.3 / 73.4 / 70.8										
		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									
		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		m ³ /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	17,367	17,367	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°C (DB)~ +52°C (DB). Heating: -25°C (WB)~ +18°C (WB)																		
Sound pressure level	Normal mode	dB (A)	64.5	65.5	63.5	64.5	64.0	66.5	67.0	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										



26	28	30	32	34	36	38	40	42	44	46	48
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

380/400/415V/3-phase/50Hz
380/400V/3-phase/60Hz

73.0	78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0
249,100	267,900	290,100	307,200	327,600	344,700	365,200	385,700	402,700	423,200	443,700	460,800
81.5	87.5	95.0	100.0	108.0	113.0	119.0	127.0	132.0	138.0	145.0	150.0
278,200	298,600	324,200	341,300	368,600	385,700	406,100	433,400	450,500	471,000	494,900	511,900
4.42	4.36	4.31	4.13	4.05	3.91	3.89	3.74	4.31	4.26	4.25	4.13
5.29	5.24	5.19	5.13	4.86	4.81	4.80	4.58	5.22	5.19	5.18	5.12
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
525	585	630	630	690	690	750	750	840	900	945	945
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
16.5	18.0	19.7	21.8	23.7	25.8	27.5	30.2	27.4	29.1	30.6	32.7
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
15.4	16.7	18.3	19.5	22.2	23.5	24.8	27.7	25.3	26.6	28.0	29.3
3	3	4	4	4	4	4	4	5	5	6	6
27,360	27,840	27,840	27,840	38,220	38,220	48,600	48,600	41,280	41,760	41,760	41,760
7,600	7,733	7,733	7,733	10,617	10,617	13,500	13,500	11,467	11,600	11,600	11,600
13.9	16.6	16.6	16.6	17.8	17.8	19.0	19.0	22.2	24.9	24.9	24.9
80	80	80	80	80	80	80	80	80	80	80	80
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)
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)
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)

Cooling: -10°C (DB)~ +52°C (DB). Heating: -25°C (WB)~ +18°C (WB)

62.5	62.5	63.0	64.0	61.5	63.5	62.0	62.0	65.0	65.0	65.0	66.0
57.5	57.5	58.0	59.0	56.5	58.5	57.0	57.0	60.0	60.0	60.0	61.0
83.5	83.5	84.0	85.0	82.5	84.5	83.0	83.0	86.0	86.0	86.0	87.0

68	70	72	74	76	78	80
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

380/400/415V/3-phase/50Hz
380/400/3-phase/60Hz

190.0	196.0	202.0	208.0	213.0	219.0	224.0
648,500	668,900	689,400	709,900	727,000	747,400	764,500
213.0	219.0	226.0	233.0	239.0	245.0	252.0
727,000	747,400	771,300	795,200	815,700	836,200	860,100
3.99	3.90	3.91	3.90	3.83	3.82	3.76
4.84	4.73	4.82	4.79	4.70	4.69	4.60
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
1,335	1,335	1,380	1,440	1,440	1,500	1,500
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
47.6	50.3	51.6	53.3	55.6	57.3	59.6
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
44.0	46.3	46.9	48.6	50.9	52.2	54.8
7	7	8	8	8	8	8
76,440	86,340	76,440	86,820	86,820	97,200	97,200
21,233	23,983	21,233	24,117	24,117	27,000	27,000
35.6	34.1	35.6	36.8	36.8	38.0	38.0
80	80	80	80	80	80	80
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)
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)
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)

Cooling: -10°C (DB)~ +52°C (DB). Heating: -25°C (WB)~ +18°C (WB)

65.5	64.5	66.5	66.0	66.0	65.0	65.0
60.5	59.5	61.5	61.0	61.0	60.0	60.0
86.5	85.5	87.5	87.0	87.0	86.0	86.0

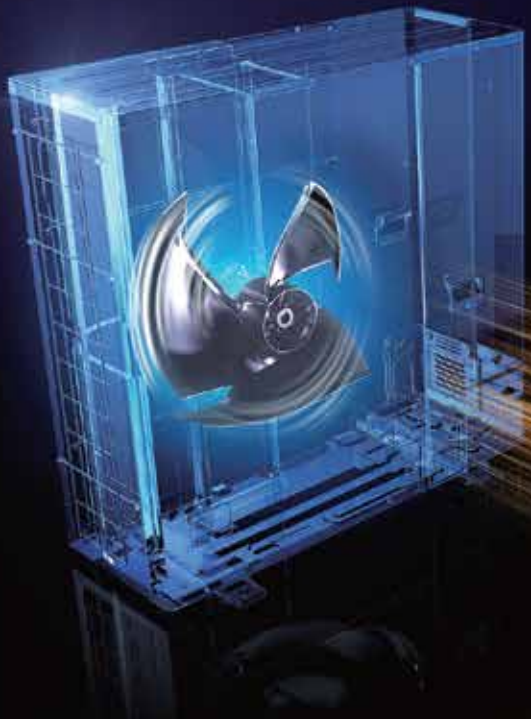
Global remarks

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.
High durable model (with suffix "E") has same specifications.

2-WAY Mini-FSV LE Series

High External Static Pressure 35Pa



High external static pressure 35Pa

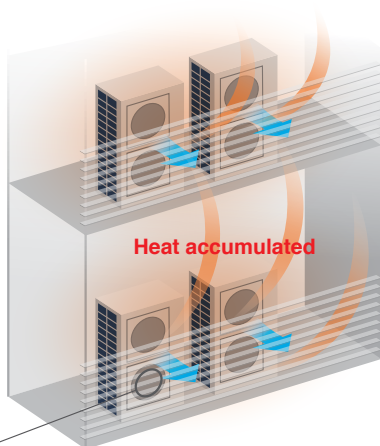
LE1 LE2

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.



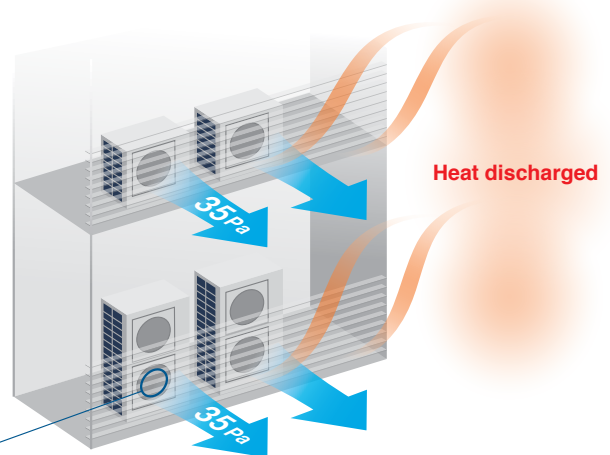
Previous fan

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.



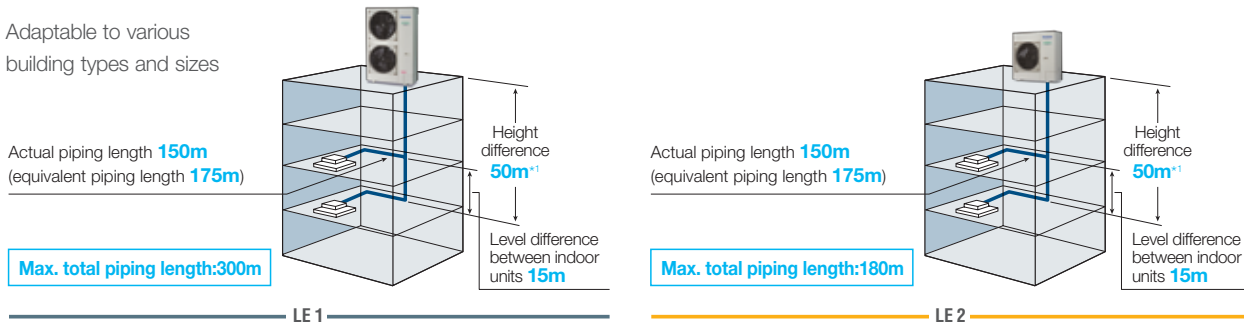
LE series fan

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

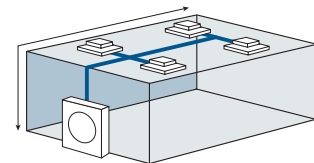
Up to 50m of piping without additional gas charging makes installation flexible, easy and hassle-free.

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

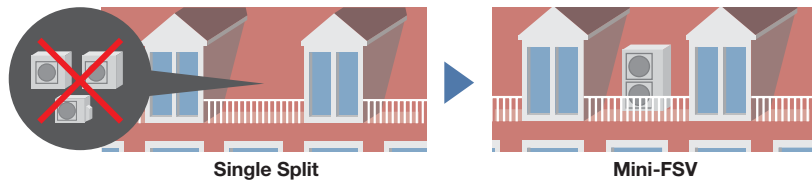
Charge
Max. total piping length: 180m
(Actual length: 150m)

[Sample piping lay-out]



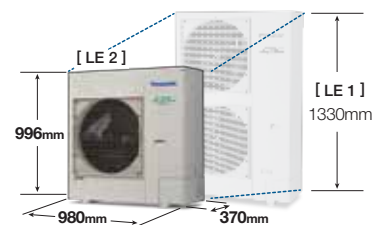
Compact design LE1 LE2

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.



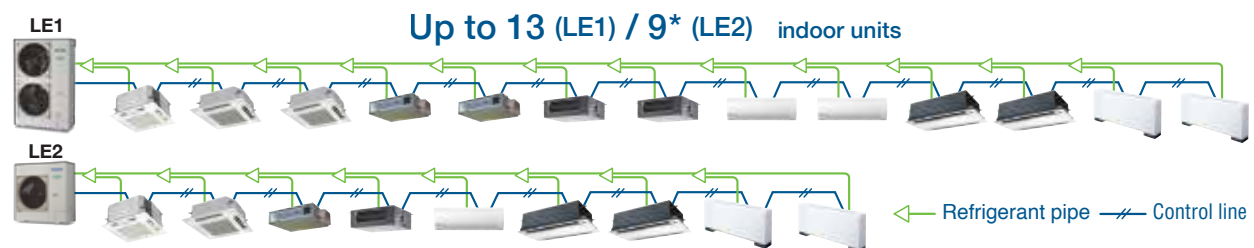
Short height of 996mm LE2

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.



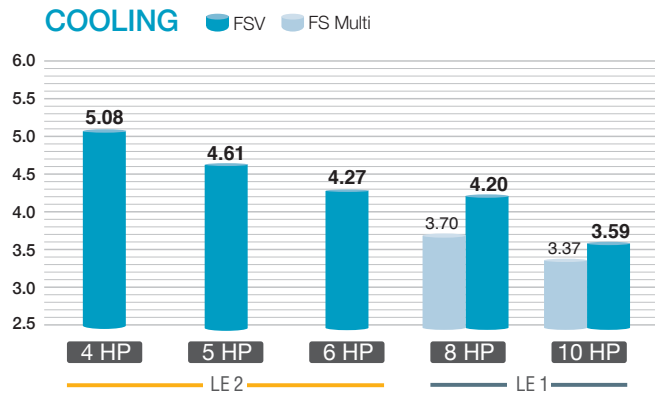
* Use any of the 22 type indoor models. Depending on the size or type of indoor unit, tubing size shall be changed. Please refer manuals for details.
 * Diversity ratio 50-130%
 * 6 HP only; 4 HP for 7 units, 5 HP for 8 units.

2-WAY Mini-FSV LE Series

High efficiency

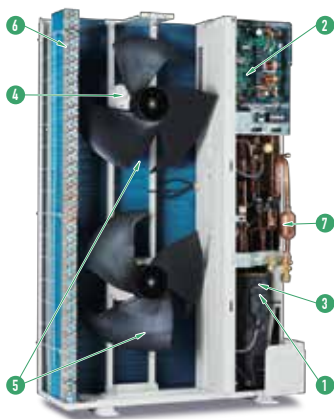
LE1 LE2

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.

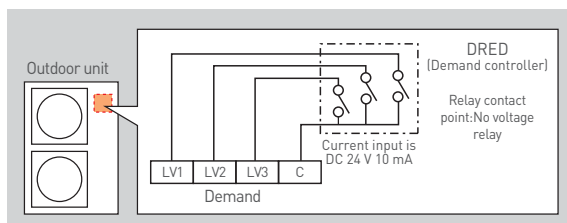
Flexible demand response with the optional terminal block

LE1 LE2

Demand Response

Featuring inverter control technology, all Panasonic Mini FSV 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 reduce annual power consumption with minimal loss in comfort.

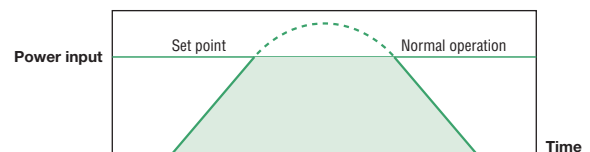
*Terminal block supplied as optional kit. (CZ-CAPDC2) Please ask you dealer.



Flexible Demand Response with the CZ-CAPDC2*1

Setting is possible as 0% or in the range from 40 to 100% (in steps of 5%). At the time of shipping, setting has been done to the three steps of 0%, 70% and 100%.

*1 An outdoor Seri-Para I/O unit (CZ-CAPDC2) is required for demand input signal.
* Demand timer setting for high spec remote controller is available.



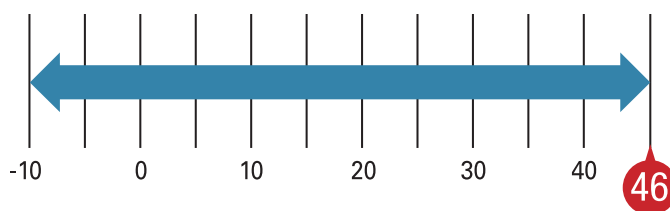
	Power input	
Level 1	100% (Preset)	Possible to change 40-100%
Level 2	70% (Preset)	
Level 3	0% (Always in stop condition)	

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.

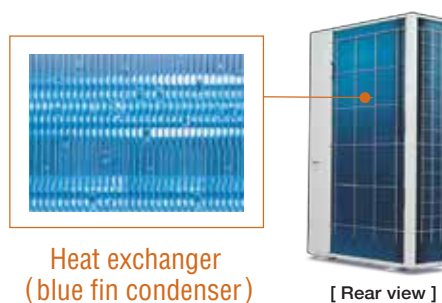


Cooling: -10°C DB ~ 46°C DB

* 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.



Heat exchanger (blue fin condenser)

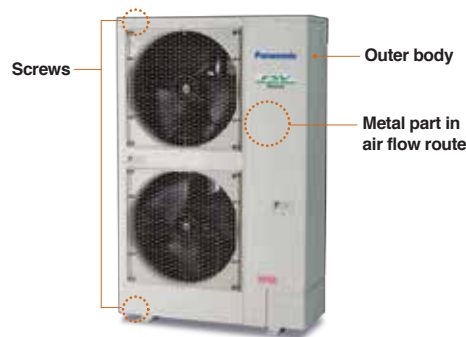
[Rear view]

High durability outdoor unit LE1 LE2

Corrosion-resistance treated for high resistance to rust and salty air to assure long-lasting performance.

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

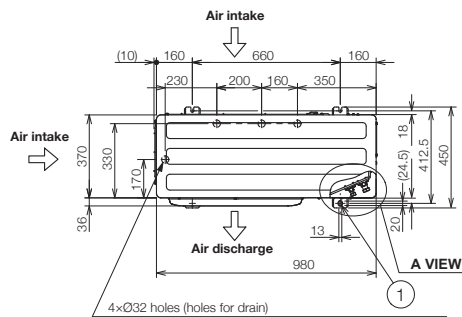
HP	4			4			5			5			6			6					
Model name	U-4LE2H4			U-4LE2H7			U-5LE2H4			U-5LE2H7			U-6LE2H4			U-6LE2H7					
Power supply	220/230/240V/ 1-phase/50Hz 220/230V/1-phase/60Hz			380/400/415V/ 3-phase/50Hz 380/400V/3-phase/60Hz			220/230/240V/ 1-phase/50Hz 220/230V/1-phase/60Hz			380/400/415V/ 3-phase/50Hz 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			

These specifications are subject to change without notice.
High durable model (with suffix "E") has same specifications.

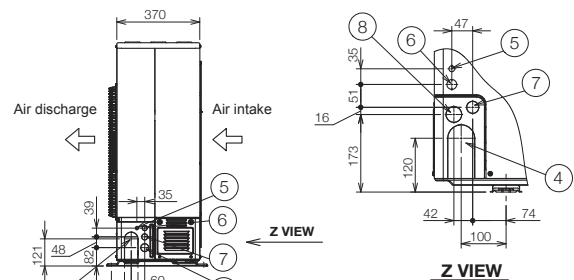
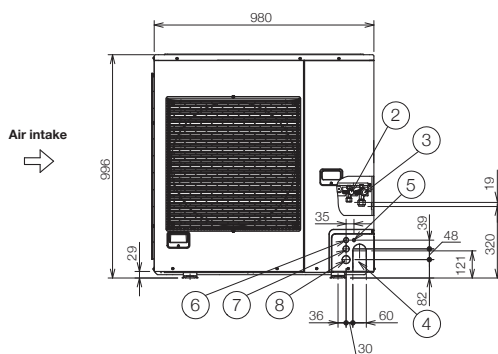
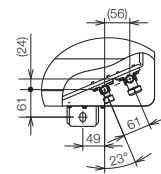
Global remarks	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB	7°C DB / 6°C WB

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)



Unit: mm

2-WAY Mini-FSV LE1/LEY Series

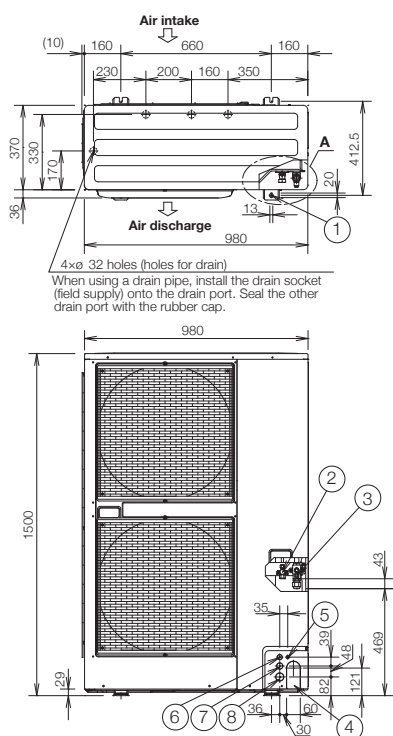
HP	8			8	10			10								
Model name	U-8LE1H7			U-8LEY1V9	U-10LE1H7			U-10LEY1V9								
Power supply	380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz			220V/3-phase/60Hz	380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz			220V/3-phase/60Hz								
Voltage	380V	400V	415V	220V	380V	400V	415V	220V								
Capacity	Cooling	kW	22.4			20.0			28.0			28.0				
		BTU/h	76,500			68,300			95,600			95,600				
	Heating	kW	25.0			22.5			28.0			31.5				
		BTU/h	85,300			76,800			95,600			107,500				
EER/COP	Cooling	W/W	4.20			3.88			3.59			2.89				
	Heating	W/W	4.52			3.09			4.55			2.33				
Dimensions (H/W/D)	mm			1,500 x 980 x 370			1,500 x 980 x 370			1,500 x 980 x 370			1,500 x 980 x 370			
Net weight	kg			132			132			133			133			
Electrical ratings	Cooling	Running current	A	8.70	8.25	7.95	20.0			12.7	12.1	11.7	37.0			
		Power input	kW	5.33	5.33	5.33	5.16			7.8	7.80	7.80	9.68			
	Heating	Running current	A	9.05	8.60	8.25	27.0			10.0	9.55	9.20	40.0			
		Power input	kW	5.53	5.53	5.53	7.29			6.15	6.15	6.15	6.15			
Starting current	A			1			20			1			37			
Air flow rate	m ³ / min			150			150			160			160			
	L/s			2,500			2,500			2,666			2,666			
Refrigerant amount at shipment	kg			R410A 6.30			R410A 6.30			R410A 6.60			R410A 6.60			
Piping connection	Gas pipe	mm (inches)			Ø19.05 (Ø3/4)			Ø19.05 (Ø3/4)			Ø22.22 (Ø7/8)			Ø22.22 (Ø7/8)		
	Liquid pipe	mm (inches)			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~+43°CDB, Heating: -20°CWB~+18°CWB			Cooling: -10°CDB~+46°CDB, Heating: -20°CWB~+18°CWB			Cooling: -10°CDB~+43°CDB, Heating: -20°CWB~+18°CWB					
Sound pressure level (Cooling)	Normal mode	dB(A)			59.0			59.0			62.0			62.0		
	Silent mode (3)	dB(A)			52.0			52.0			55.0			52.0		
Sound power level (Cooling)	Normal mode	dB(A)			80.0			80.0			83.0			80.0		

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.
High durable model (with suffix "E") has same specifications.

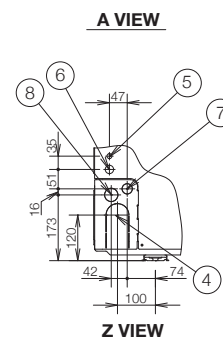
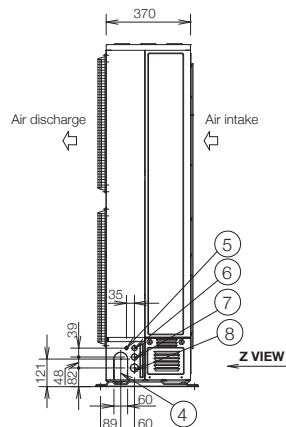
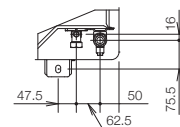
Dimensions

U-8LE1H7 / U-10LE1H7 / U-8LEY1V9 / U-10LEY1V9



- 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-10LEY1H7
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 (brazing).



Unit: mm

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

Actively purifies your air and inhibits pollutants all day long

+

Comfort Cloud App

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.



Business Hours

• Simulated image

After Business Hours

• Simulated image

Only at 15W*/Hour
 Low energy consumption with fan mode 15W* per hour for a single unit.

nanoe ON, Cooling ON (Cooling Mode)

nanoe ON, Cooling OFF (Fan Mode)

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				
	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				
		10x times	20x times	100x times
		Electrostatic atomisation Multi-leader discharge		Electrostatic atomisation Circular discharge

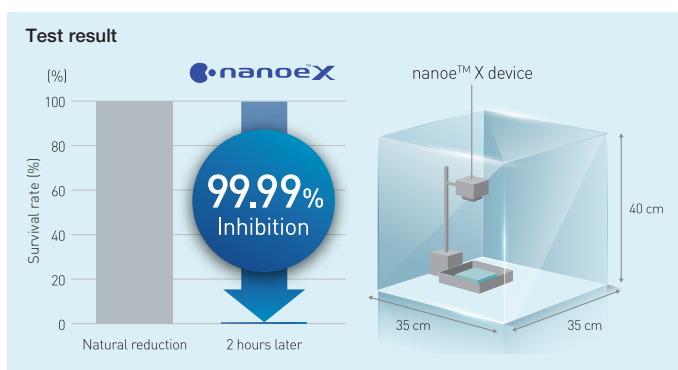
Differences in discharge systems

Changed from 4-point discharge to 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 technology inhibits novel coronavirus

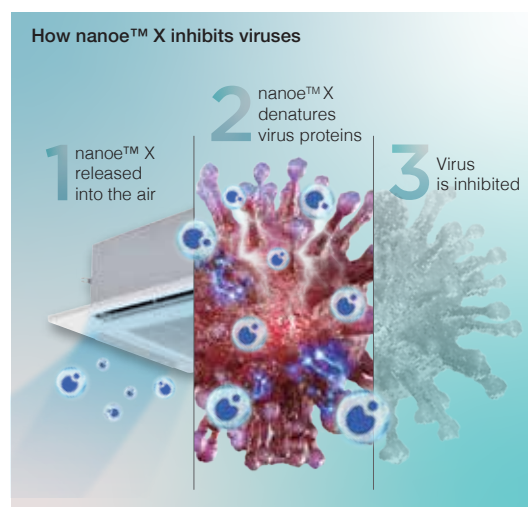
Our nanoe™ X technology has shown to suppress the activity of viiuses & bacteria. Enjoy cleaner and quality air at home. Stay safer indoors with nanoe™ X.



Overview

The objective of this test was to determine if nanoe™ X inhibit the activity of the SARS-CoV-2 virus. Gauze saturated with SARS-CoV-2 virus solution was exposed to a generator of nanoe™ X from a distance of 15 cm in a 45-liter box for 2 hours. Over 99.99%* of the activity of the SARS-CoV-2 virus was inhibited.

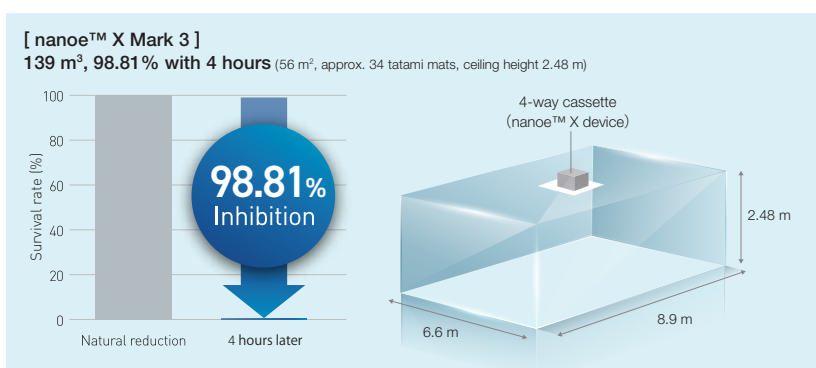
Device type: 10 x nanoe™ X (Mark 1)
Subject: Novel coronavirus (SARS-CoV-2)
Test Institute: TEXCELL (France) Test duration: 2 hours



Notes: 1) The virus infectious titer was measured and used to calculate the inhibition rate. 2) This verification was designed to generate basic research data on the effects of nanoe™ X on the novel coronavirus in laboratory conditions. It was not designed to evaluate product performance.

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, approx. 34 tatami mats, ceiling height 2.48 m), a 98.81% inhibition rate was achieved in 4 hours.



Please refer to the nanoe™ X website for the Mark 3 information.

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

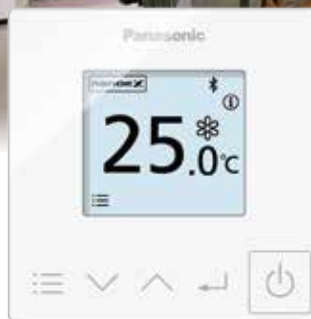
Smart comfort with CONEX

CONEX goes beyond simple remote control to combine sophistication with simplicity, offering IoT integration that connects directly to a variety of apps for next-generation solutions.



Simple and sophisticated design in-and-out

User friendly interface with stylish design measuring just 86 x 86 mm, CONEX is an extremely compact remote controller which perfectly matches with all kinds of modern building.



(CZ-RTC6W/CZ-RTC6WBL/CZ-RTC6WBLW2)



(CZ-RTC6/CZ-RTC6BL/CZ-RTC6BLW2)



Easy control and access for end users and installers with just one remote

User-friendly day-to-day operation for end users and simplified set up for installers.



A next-generation remote control solution optimised for usability



H&C Control App

► End user ► Installer

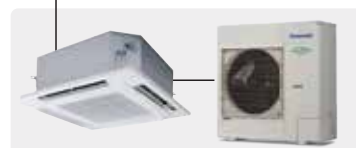
- Easy setting of timers and scheduling as well as monitoring power consumption.
- Fine tune the equipment to the environment.



(CZ-RTC6WBL/CZ-RTC6BL)



Scan QR code to download free Panasonic H&C Control App



True-comfort for end user and installer – H&C Control App

H&C Control App makes complex initial set-up visually touch and feel easy and respond swiftly to clients' requests via Bluetooth using a smartphone or tablet.



Advantages

Comfort day-to day operations

It's now simpler than ever for end users to further customize settings to meet their needs and perform operations including basic settings.

Intuitive operation for easy configuration

Simplifies initial controller configuration as well as access to comprehensive settings including weekly timers and maintenance.

Straightforward suggestions to clients

Share a single screen with your customer and together tailor everything to meet their needs, from basic setup to weekly timers, all in real time.

Quicker configuration for multiple controllers

Save time and copy templates for weekly timers and settings to multiple remote controllers.



Indoor Units

Wide choice of models depending on the indoor requirements

ECONAVI sensor



Providing outstanding energy-saving performance, Panasonic's inverter VRF System can be connected to ECONAVI to detect when energy is being wasted. ECONAVI senses the presence or absence of people and the level of activity in each area of an office. When unnecessary heating or cooling is detected, indoor units are individually controlled to match office conditions for energy-saving operation.



ECONAVI Sensor
CZ-CENSC1



Detection of the level of activity enables optimum power saving

Activity or absence of people at their desks and the level of activity in the office are detected in real time. Cooling or heating is automatically adjusted for optimum operation required to lower power consumption.



Sensor is remotely located to maximize the energy saving effect

Pillars, walls, cabinets and other fittings obstruct the sensors, reducing the area of detection and lowering the energy-saving effect. Taking into consideration blind spots, Panasonic enables the optimum layout for sensors in any office.

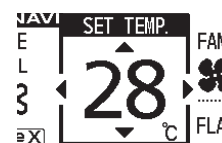
High-spec wired remote controller



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.



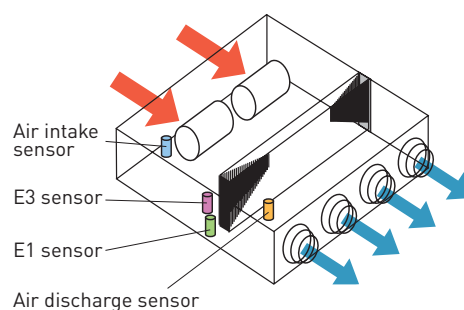
Key Indoor Units Equipped DC motors



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.







































































































FSV Indoor Units Range

Wide choice of models depending on the indoor requirements

Class	22	28	36	45	56	60	73	90
Capacity	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating
Type	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
nanoeX Generator Mark3 F3 type ECONAVI Mid Static Adaptive Ducted	 S-22MF3E5AN	 S-28MF3E5AN	 S-36MF3E5AN	 S-45MF3E5AN	 S-56MF3E5AN	 S-60MF3E5AN	 S-73MF3E5AN	 S-90MF3E5AN
nanoeX Generator Mark3 M2 type ECONAVI Slim Low Static Ducted	NEW  S-22MM2EA	NEW  S-28MM2EA	NEW  S-36MM2EA	NEW  S-45MM2EA	NEW  S-56MM2EA			
Z1 type ECONAVI Slim Low Static Ducted Twenty Series	 S-22MZ1H4A	 S-28MZ1H4A	 S-36MZ1H4A	 S-45MZ1H4A	 S-56MZ1H4A	 S-60MZ1H4A	 S-73MZ1H4A	
nanoeX Generator Mark3 E3 type ECONAVI High Static Ducted								
E2 type High Static Ducted / Energy Saving High-Fresh Air Ducted								
E1 type High Static Ducted							 S-73ME1E5	
nanoeX Generator Mark3 K3 type ECONAVI Wall Mounted	NEW  S-22MK3E	NEW  S-28MK3E	NEW  S-36MK3E	NEW  S-45MK3E	NEW  S-56MK3E		NEW  S-73MK3E	
nanoeX Generator Mark3 U2 type ECONAVI ** 4-Way Cassette Panel No. CZ-KPU3H/Panel No. CZ-KPU3A	 S-22MU2E5BN	 S-28MU2E5BN	 S-36MU2E5BN	 S-45MU2E5BN	 S-56MU2E5BN	 S-60MU2E5BN	 S-73MU2E5BN	 S-90MU2E5BN
nanoeX Generator Mark3 Y3 type ECONAVI 4-Way Mini Cassette Panel No. CZ-KPY4	NEW  S-22MY3EB	NEW  S-28MY3EB	NEW  S-36MY3EB	NEW  S-45MY3EB	NEW  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 ECONAVI Ceiling			 S-36MT2E5A	 S-45MT2E5A	 S-56MT2E5A		 S-73MT2E5A	
P1 type Floor Standing	 S-22MP1E5	 S-28MP1E5	 S-36MP1E5	 S-45MP1E5	 S-56MP1E5		 S-71MP1E5	
R1 type Concealed Floor Standing	 S-22MR1E5	 S-28MR1E5	 S-36MR1E5	 S-45MR1E5	 S-56MR1E5		 S-71MR1E5	

* High fresh air system is not allowed for 18 kW model. ** Only for CZ-KPU3A

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

106	112	140	160	180	224	280	Wireless remote control	
Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Type with built-in sensor	Type with separately installed sensor
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		
	 S-112MF3E5AN	 S-140MF3E5AN	 S-160MF3E5AN				●	 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  DP Built-in drain pump  DC motor
								 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  DP Built-in drain pump  DC motor
								 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  DC motor
				 S-180ME3H	 S-224ME3H	 S-228ME3H		 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  DC motor
				 S-180ME2E5 *	 S-224ME2E5	 S-280ME2E5		 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  DC motor
 S-106ME1E5		 S-140ME1E5			 S-224ME1E	 S-280ME1E5		 self-diagnosing  Auto fan  DRY Dry mode  Auto restart
 S-106MK3E							●	 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  Air swing  DP Built-in drain pump  AUTO Auto flap
	 S-112MU2E5BN	 S-140MU2E5BN	 S-160MU2E5BN					 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  Air swing  DP Built-in drain pump  DC motor  AUTO Auto flap
								 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  Air swing  DP Built-in drain pump  DC motor  AUTO Auto flap
								 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  Air swing  DP Built-in drain pump
								 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  Air swing  DP Built-in drain pump  DC motor  AUTO Auto flap
 S-106MT2E5A		 S-140MT2E5A						 self-diagnosing  Auto fan  DRY Dry mode  Auto restart  Air swing  DC motor  AUTO Auto flap
								 self-diagnosing  Auto fan  DRY Dry mode  Auto restart
								 self-diagnosing  Auto fan  DRY Dry mode  Auto restart

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



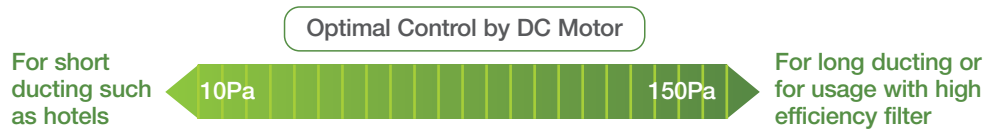
S-60MF3E5AN / S-73MF3E5AN
S-90MF3E5AN

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

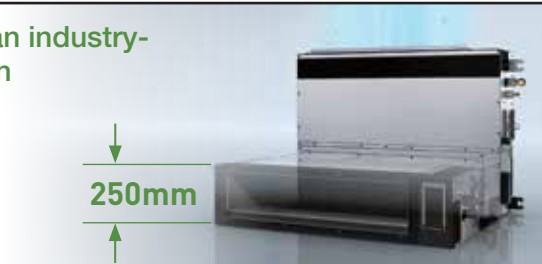
Optimal airflow set-up is possible depending on ducting design and conditions.



* Please refer to technical databook for detail.

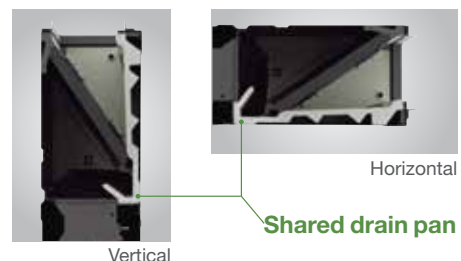
Powerful 150Pa external static pressure in an industry-leading horizontal/vertical installation design

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.



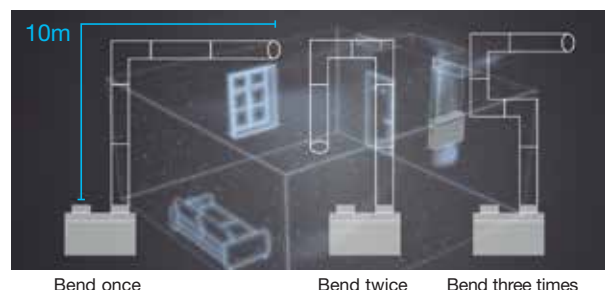
Improved drain pan design

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.



As the experiments demonstrate; even with a total ductwork length of up to 10m, effectiveness of nanoe™ X is maintained.



nanoe™ X
Generator Mark3



Please refer to the nanoe™ X website for the Mark 3 information.



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

Optional accessory

ECONAVI
ECONAVI ready



CZ-RTC6W
CZ-RTC6WBL
CZ-RTC6WBLW2

CZ-RTC6
CZ-RTC6BL
CZ-RTC6BLW2

CZ-CENSC1

CZ-RTC5B

CZ-RWS3
Remote controller

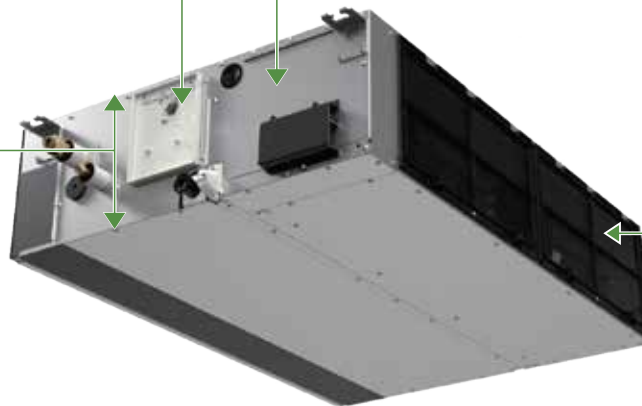
CZ-RWRC3
Receiver

Built-in Drain pump
(DC motor pump)

External electrical equipment box
makes maintenance easy

Space saving height of
250mm for all models

250mm standardised height provides easy and uniform installation for models with different capacities, especially when ceiling heights are restricted.

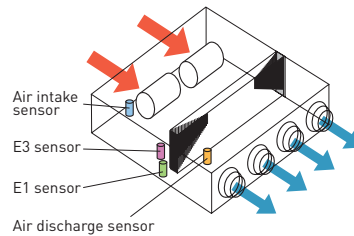


Built-in filter

Discharge air temperature control

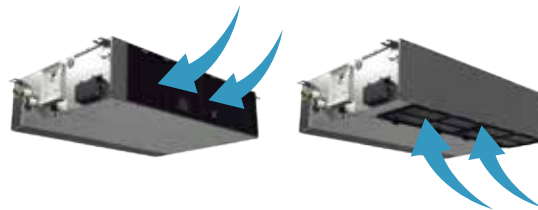
- Possible to control discharge air temperature for accurate room temperature control.
- Possible to reduce cold drafts during heating operation.

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



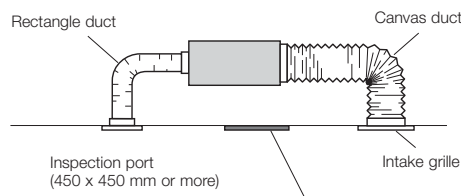
Selectable air inlet position

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



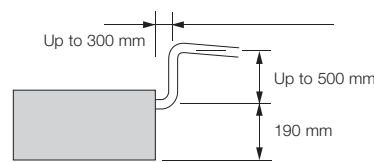
System example

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.



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					
	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 sound (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	
	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	
Pipe connections	Gas	mm (inches)	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	
Net weight	kg	26	26	26	26	26	

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

Specifications are subject to change without notice.



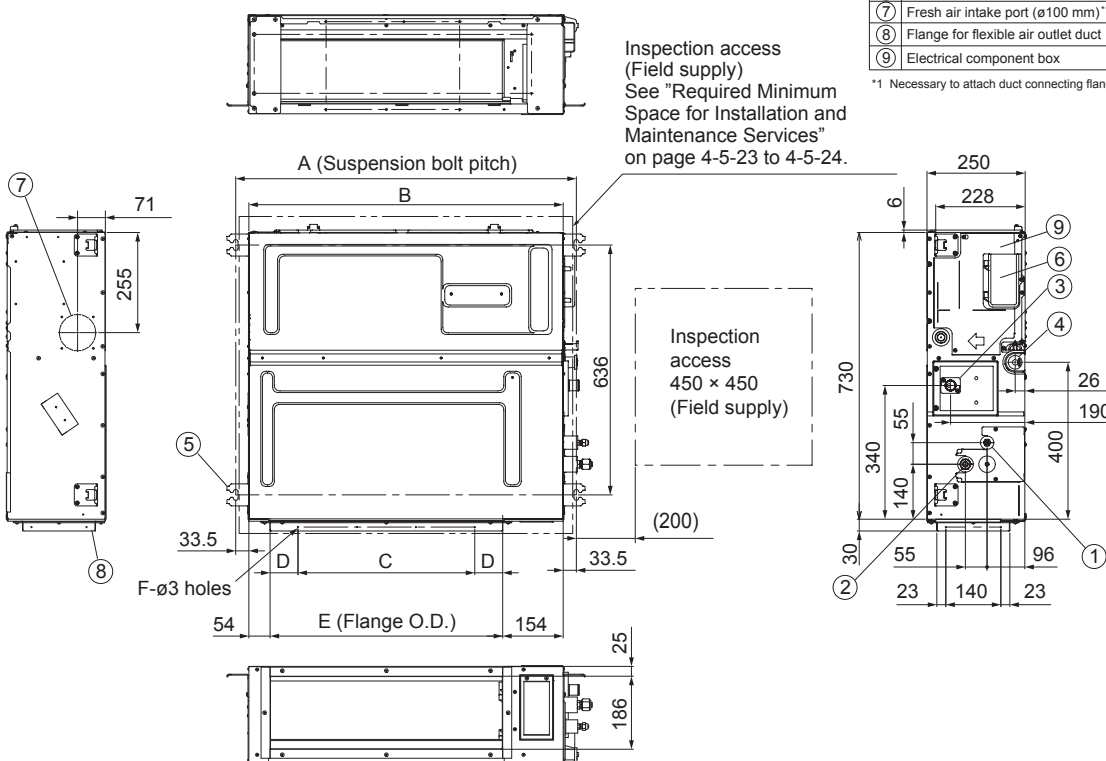
S-60MF3E5AN	S-73MF3E5AN	S-90MF3E5AN	S-112MF3E5AN	S-140MF3E5AN	S-160MF3E5AN
220/230/240 V, 1 phase - 50/60 Hz					
6.0	7.3	9.0	11.2	14.0	16.0
20,500	24,900	30,700	38,200	47,800	54,600
7.1	8.0	10.0	12.5	16.0	18.0
24,200	27,300	34,100	42,700	54,600	61,400
0.079/0.079/0.079	0.079/0.079/0.079	0.136/0.136/0.136	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

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

NEW ///

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.



Please refer to the nanoe™ X website for the Mark3 information.



Self-diagnosing Function



Automatic Fan Operation



Dry mode



Automatic Restart Function



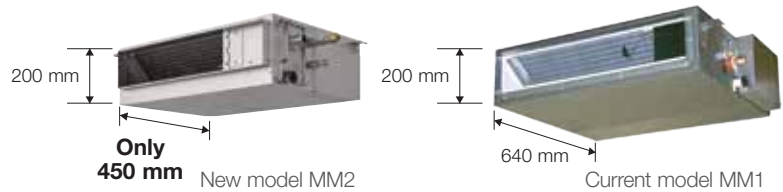
Built-in Drain Pump

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.



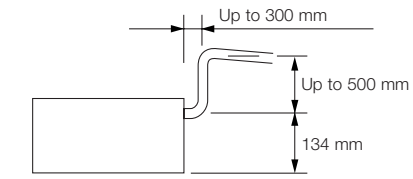
Low noise design for a more comfortable space

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, hazardous substances, as well as deodorise odours. It also keeps moisture in your skin and hair.



Invisible Air Contaminants are Suppressed



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



S-45MM2EA/S-56MM2EA

Optional accessory



CZ-RTC6W
CZ-RTC6WBL
CZ-RTC6WBLW2



CZ-RTC6
CZ-RTC6BL
CZ-RTC6BLW2



CZ-CENSC1



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver

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					
	Air flow rate (H/M/L)	m ³ /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					
	External static pressure	Pa					
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					
		200x700x450	200x700x450	200x700x450	200x900x450	200x900x450	
Pipe connections	Liquid	mm (inches)					
		Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	
	Gas	mm (inches)					
		Ø12.7(1/2)	Ø12.7(1/2)	Ø12.7(1/2)	Ø12.7(1/2)	Ø12.7(1/2)	
	Drain piping	VP-20					
Net weight	kg	17	17	17	19	19	

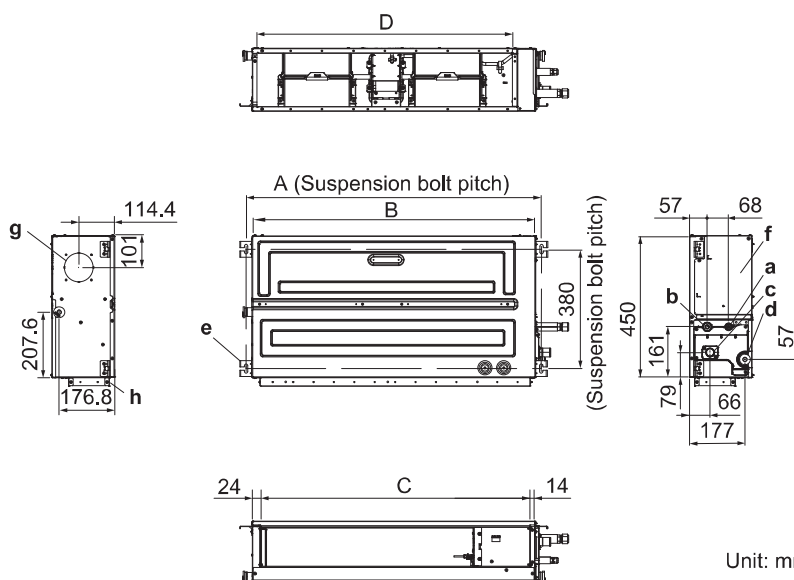
GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications are subject to change without notice.

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



Unit: mm

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.



Self-diagnosing Function



Automatic Fan Operation



Dry mode



Automatic Restart Function

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 ductwork 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 drain pump, the drain piping rise height can be increased to 700 mm from the drain pipe port.



CZ-73DMZ1



S-73MZ1H4A

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

Optional accessory



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	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco 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	
	External static pressure	Pa	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	200x830x500	200x830x500	200x830x500	200x830x500	200x830x500	200x1,050x550	
	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)	
Pipe connections	Gas	mm (inches)	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	
	Net weight	kg	17	17	18	18	18	24	

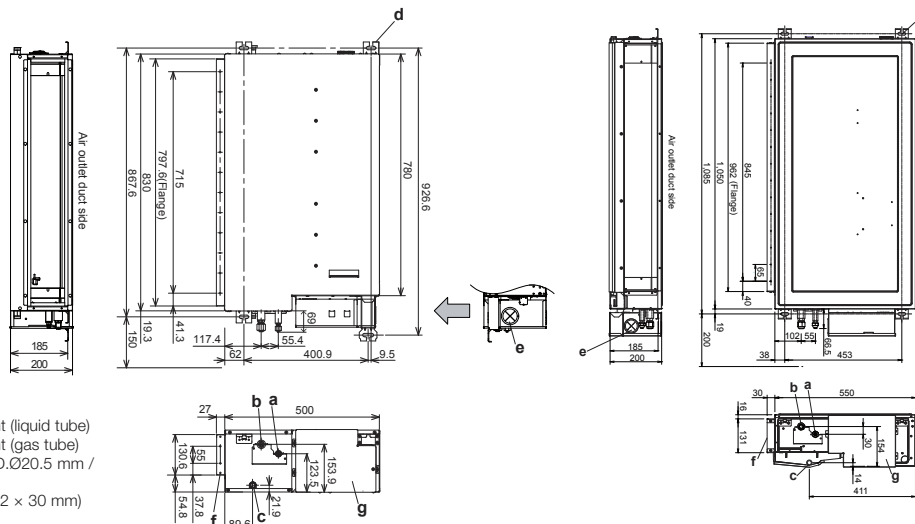
GLOBAL REMARKS	Rated conditions:	
	Indoor air temperature	27°C DB / 19°C WB
	Outdoor air temperature	35°C DB / 24°C WB

Specifications are subject to change without notice.

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 x 30 mm)
- e) Power supply outlet
- f) Flange for flexible air outlet duct
- g) Electrical component box

unit: mm

COOLING ONLY

NEW

E3 TYPE High Static Ducted

Splittable duct

High static and large airflow splittable ducted.



nanoe™ X
Generator Mark3



Please refer to the nanoe™ X website for the Mark3 information.



Self-diagnosing function



Automatic fan operation



Dry mode



Automatic restart function

Technical focus

- Easy installation and maintenance with compact and splittable chassis design
 - Max. 200 Pa static pressure setting*1
 - Design flexibility thanks to high static pressure and large air volume
 - DC motor equipped
 - Accurate temperature control to reduce cold drafts during operation
 - nanoe™ X : 100x for CAC (100 times more nanoe™ particle for wide commercial space)
- *1 In case of S-224ME3H and S-280ME3H

3-step static pressure set up

You can select between the three Static Pressure modes for extra installation flexibility.



* 22.4/28kW model

Max. 200 Pa static pressure setting

A maximum static pressure setting of a high 200 Pa enables the use of long ducts for installation in a wide range of spaces. Ideal for large-scale offices, restaurants and other facilities.

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.

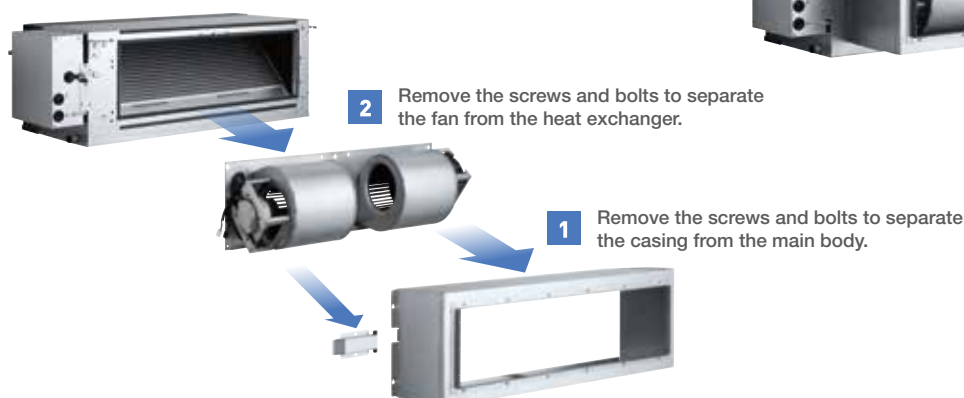
nanoe™ X
Generator Mark3



Invisible Air Contaminants are Suppressed

Easy disassembly steps

It can be disassembled in two steps, even in limited space, making maintenance easier when working on the ground.



Optional accessory



S-180ME3H / S-224ME3H / S-280ME3H



CZ-RTC6W
CZ-RTC6WBL
CZ-RTC6WBLW



CZ-RTC6
CZ-RTC6BL
CZ-RTC6BLW



CZ-CENSC1



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver

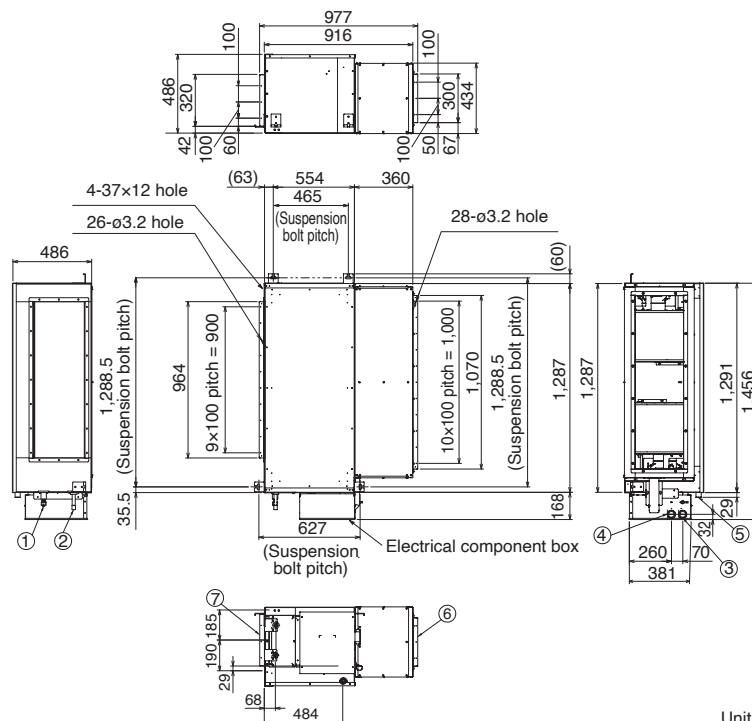
Model Name		S-180ME3H	S-224ME3H	S-280ME3H	
Power source		220V/230V/240 V, 1 phase-50 Hz, 220V/230 V, 1 phase-60 Hz			
Cooling capacity	kW	18.0	22.4	28.0	
	BTU/h	61,400	76,400	95,500	
Power input	Cooling kW	0.750	0.950	0.950	
Running current	Cooling A	4.20/4.10/4.00	5.30/5.10/5.00	5.30/5.10/5.00	
	Type	Sirocco fan	Sirocco fan	Sirocco fan	
Fan	Air flow rate (H/M/L)	m ³ /h 4,320/3,780/3,180	5,040/4,320/3,540	5,040/4,320/3,540	
		L/s 1,200/1,050/883	1,400/1,200/983	1,400/1,200/983	
	Motor output	kW	0.750	0.750 x 2	0.750 x 2
	External static pressure	Pa	120 (75/180)	130 (75/200)	130 (75/200)
Sound power level (H/M/L)	dB	80/78/75	81/79/76	81/79/76	
Sound pressure level (H/M/L)	dB(A)	48/46/43	49/47/44	49/47/44	
Dimensions	H x W x D	mm	486 x 1,456 x 916	486 x 1,456 x 916	
Pipe connections	Liquid	mm (inches)	Ø12.7 (1/2)	Ø12.7 (1/2)	
	Gas	mm (inches)	Ø19.05 (3/4)	Ø19.05 (3/4)	
	Drain piping		VP-25	VP-25	VP-25
Net weight	kg	84	88	88	

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

* Can only be connected to the Cooling Only FSV-EX MS3 Series, not to the 2-Way FSV-EX ME2 Series, the 3-Way FSV-EX MF3 Series or the 2-Way Mini-FSV LE Series.

E3 TYPE HIGH STATIC SPLITTABLE DUCTED

1	Refrigerant liquid tubing (Flare) Type 180/224/280 : ø12.7
2	Refrigerant gas tubing (Brazing) Type 180 & Type 224 : ø19.05 Type 280 : ø22.22
3	Power supply port
4	Communication port
5	Drain port VP25
6	Air intake duct connecting side flange
7	Air discharge duct connecting side flange



Unit: mm

E2 TYPE High Static Ducted



Concealed duct / Air conditioning mode

Optional accessory



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



CZ-RTC6W
CZ-RTC6WBL



CZ-RTC6
CZ-RTC6BL



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver

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 29)

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.



Max. 270Pa static pressure setting

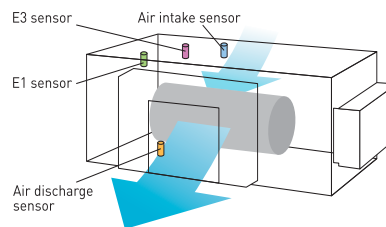
A maximum static pressure setting of a high 270Pa enables the use of long ducts for installation in a wide range of spaces. Ideal for large-scale offices, restaurants and other facilities.

Sensible cooling 5-10% improved

New heat exchanger with ϕ 7mm pipe that increases the heat transfer surface to improve sensible cooling (5-10% improvement)

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		220/230/240V, 1 Phase-50 Hz, 220/230V, 1 Phase-60Hz		
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)	m ³ /h 817 / 733 / 650	933 / 850 / 733	1,200 / 1,050 / 883
	Motor output	kW	0.560 x 2	0.750 x 2
	External static pressure	Pa	140 (60/270)	140 (60/270)
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
Pipe connections	Liquid	mm (inches)	Ø9.52 (3/8)	Ø9.52 (3/8)
	Gas	mm (inches)	Ø19.05 (3/4)	Ø19.05 (3/4)
	Drain piping		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
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

E2 TYPE Energy Saving High Fresh Air Ducted



Concealed duct high-static pressure

Optional accessory



S-224ME2E5
S-280ME2E5



CZ-RTC6W
CZ-RTC6WBL



CZ-RTC6
CZ-RTC6BL



CZ-RTC5B



CZ-RWS3
Remote controller



CZ-RWRC3
Receiver

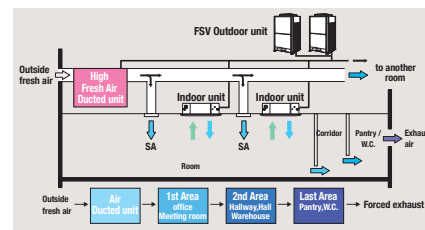
Technical focus

- 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

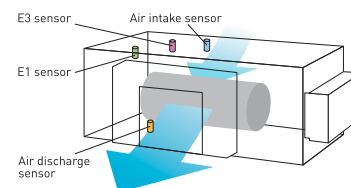
Possible to combine High Fresh Air ducted indoor unit and standard air ducted indoor units.

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		Sirocco fan				
Fan	Type	Sirocco fan				
	Air flow rate	m ³ /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:		
	Indoor air temperature	Cooling 27°C DB / 19°C WB	Heating 20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications are subject to change without notice.

NEW ///

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.



Please refer to the nanoe™ X website for the Mark3 information.



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
- 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

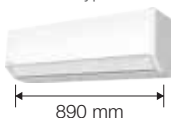
Compact and uniform design

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.



New model MK3
22 - 45 type



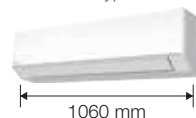
890 mm

Current model MK2
22 - 36 type



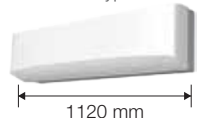
870 mm

New model MK3
56 - 10.6 type



1060 mm

Current model MK2
45 - 10.6 type



1120 mm

Optional accessory



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



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

ECONAVI
ECONAVI ready



CZ-RTC6W
CZ-RTC6WBL
CZ-RTC6WBLW2



CZ-RTC6
CZ-RTC6BL
CZ-RTC6BLW2



CZ-CENSC1



CZ-RTC5B



CZ-RWS3
*Remote controller

*Receiver is included in the wall mounted indoor unit.

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.

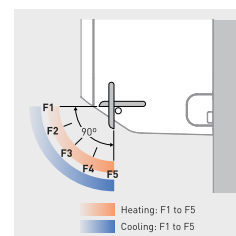
Washable front panel

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.



Invisible Air Contaminants are Suppressed

K3_{TYPE} Wall Mounted

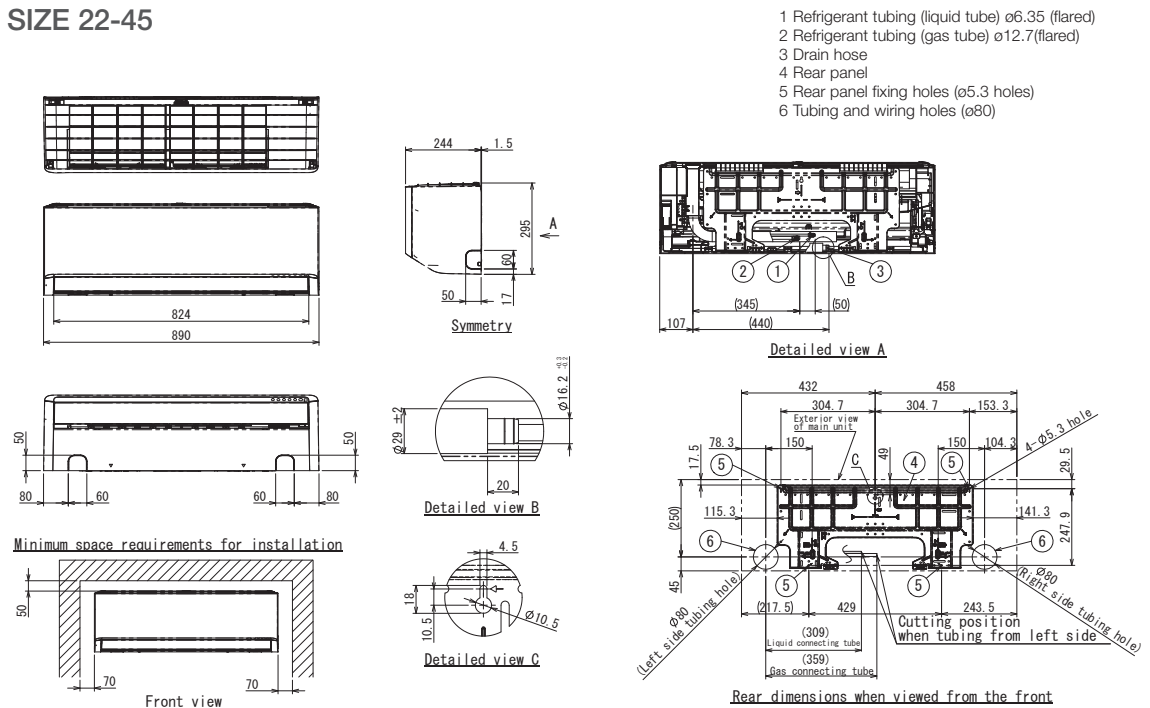
Model Name			S-22MK3E	S-28MK3E	S-36MK3E	S-45MK3E
Power source			220/230/240 V, 1 phase - 50/60 Hz			
Cooling capacity	kW		2.20	2.80	3.60	4.5
	BTU/h		7,500	9,600	12,300	15,400
Heating capacity	kW		2.50	3.20	4.20	5.0
	BTU/h		8,500	10,900	14,300	17,100
Power input	Cooling	kW	0.018/0.018/0.018	0.019/0.019/0.019	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)	m ³ /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(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)
	Gas	mm (inches)	Ø12.7(1/2)	Ø12.7(1/2)	Ø12.7(1/2)	Ø12.7(1/2)
	Drain piping	mm	Ø18	Ø18	Ø18	Ø18
Net weight		kg	12	12	12	12

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

Specifications are subject to change without notice.

K3 (22-45) TYPE WALL MOUNTED Dimensions

SIZE 22-45



unit: mm

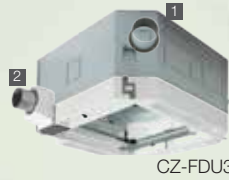
U2_{TYPE} 4-Way Cassette

Semi concealed cassette



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

AIR INTAKE CHAMBER



- 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.

NEW PANEL DESIGN
Flat design, well-matched with interior, building.



Normal Panel : CZ-KPU3H
ECONAVI Panel : CZ-KPU3A

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

- 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
- Econavi : Floor temperature and human sensor added. Activity amount detection and new circulator
- nanoe™ X : 100x for CAC (100 times more nanoe™ particle for wide commercial space). Inside cleaning by 100x nanoe™ + dry control

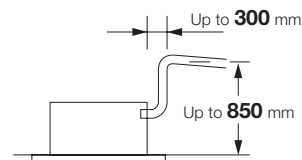
Flat Horizontal Design

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



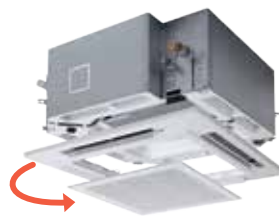
Drain pump of up to 850 mm from the ceiling surface

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

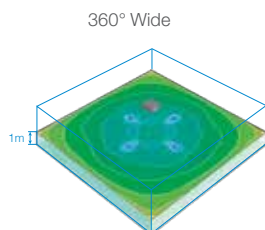
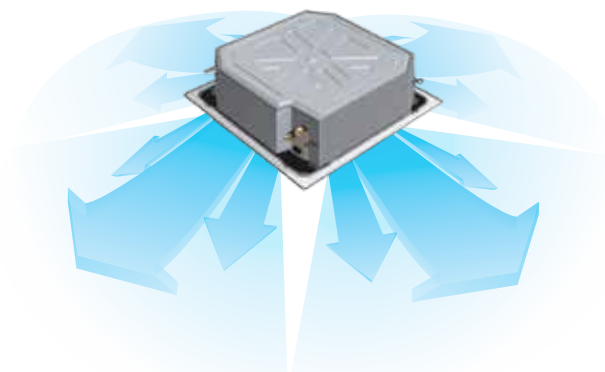
Suction grille is able to make 90-degree turns.



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.

Ample airflow: 36 m³/min



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

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

nanoe™ X
Generator Mark3



Please refer to the nanoe™ X website for the Mark 3 information.



Optional accessory

ECONAVI
ECONAVI ready



CZ-RTC6W
CZ-RTC6WBL



CZ-RTC6
CZ-RTC6BL



CZ-RTC5B



CZ-RWS3
Remote controller

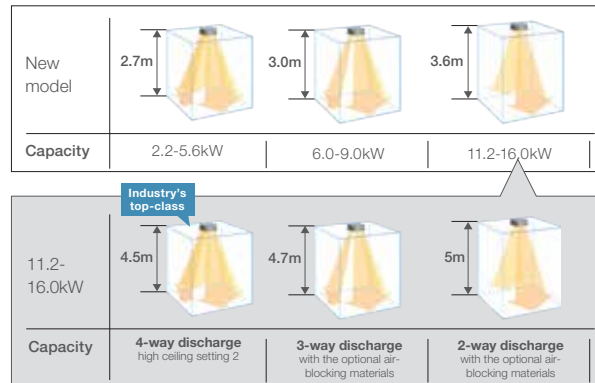


CZ-RWRU3
Receiver

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.)

High Ceiling (Factory settings)



Ceiling height guidelines

Indoor unit	*1 settings			3-way discharge (optional air-blocking materials)	2-way discharge (optional air-blocking materials) *2
	4-way discharge 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
10.6-16.0kW	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.

Econavi panel is added into the line up

Continue Conventional function (Energy saving & comfort) and following are newly added.

- Energy saving function: comfortable energy saving based on temperature and humidity

- New circulate function that improves comfort
- Movement detection is improved improving comfort

Econavi energy saving function

Newly put humidity sensor on air suction part, and achieve more comfort and energy saving operation.

- Energy saving operation in case of low humidity during cooling operation

- Energy saving operation in case of high humidity during heating operation

Energy saving operation based on activity amount and comfort and energy saving based on temperature and humidity.

Panels & Panel parts

Normal panel: CZ-KPU3H
Econavi panel: CZ-KPU3A

Wireless receiver (option)



Econavi panel

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, hazardous substances, as well as deodorise odours. It also keeps moisture in your skin and hair.



Invisible Air Contaminants are Suppressed

nanoe™ X
Generator Mark3

U2_{TYPE} 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					
	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					
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)					
	Liquid mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	
Pipe connections	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					
Net weight* (Panel)	kg	19 (+5)	19 (+5)	19 (+5)	19 (+5)	19 (+5)	

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.
In the case of nanoe X OFF Specifications are subject to change without notice.

Standard Equipped nanoe™ Technology



- 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).

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 module

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



nanoe™ X device

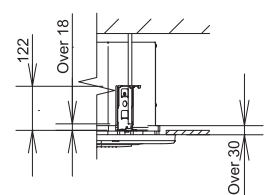
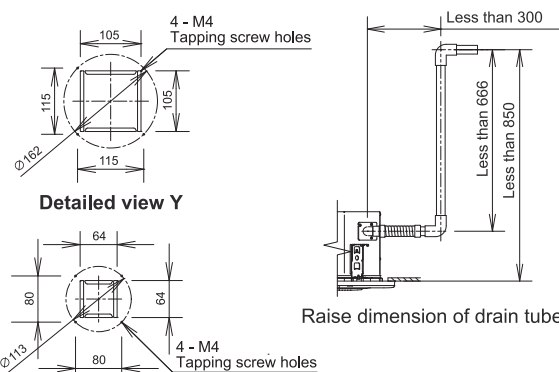
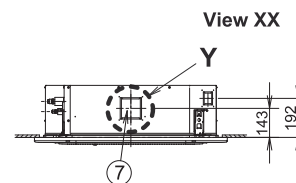
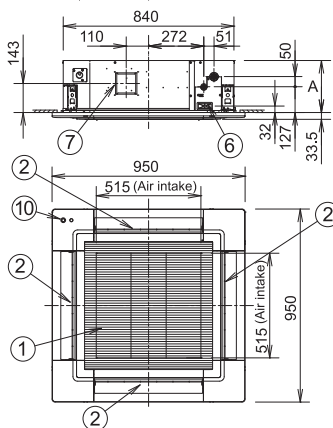
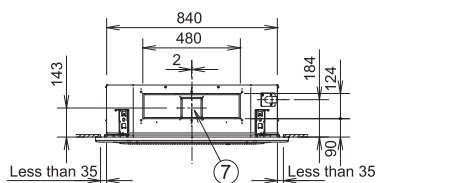
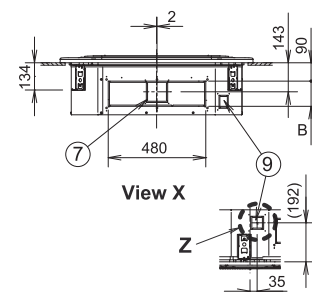
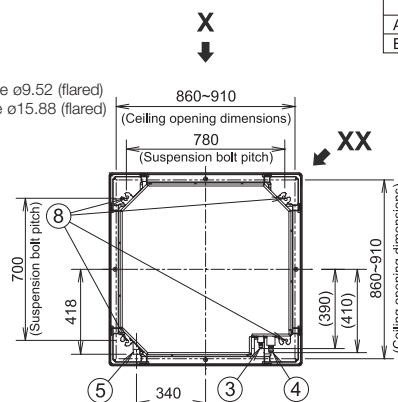
S-60MU2E5BN	S-73MU2E5BN	S-90MU2E5BN	S-112MU2E5BN	S-140MU2E5BN	S-160MU2E5BN
220/230/240 V, 1 phase - 50Hz/60Hz					
6.0	7.3	9.0	11.2	14.0	16.0
20,500	24,900	30,700	38,200	47,800	54,600
7.1	8.0	10.0	14.0	16.0	18.0
24,200	27,300	34,100	47,800	54,600	61,400
0.035/0.035/0.035	0.040/0.040/0.040	0.040/0.040/0.040	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

- 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 (4-12x30 elongated hole)
- 9 Fresh air intake duct connection port (ø100) *
- 10 ECONAVI sensor (Only CZ-KPU3A)

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

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



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.

NEW

Y3 TYPE 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.



Self-diagnosis
Function



Automatic
Fan
Operation



Dry mode



Auto Flap
Control



Automatic
Restart
Function



Air Swing



Built-in Drain
Pump



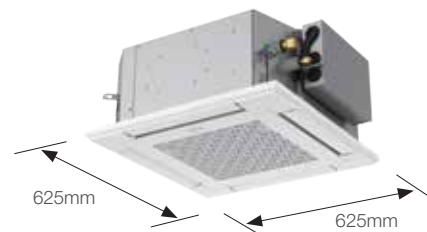
Please refer to
the nanoe™ X
website for the
Mark 3
information.

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

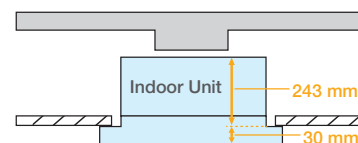
Thanks to advanced Panasonic design the panel is a compact 625 x 625 mm, offering elegant, unobtrusive installation even where space is limited.



Lighter and slimmer, easier installation

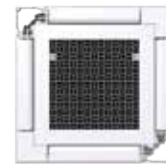
When only 230 mm of indoor body height, it can easily fit in limited spaces and tight spots.

(Required 243 mm from bottom of panel to top of the unit)



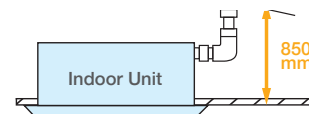
Individual flap control

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, hazardous substances, as well as deodorise odours. It also keeps moisture in your skin and hair.



Invisible Air Contaminants are Suppressed

nanoe™
Generator Mark3



Panel
CZ-KPY4

Optional accessory

ECONAVI
ECONAVI ready



CZ-RTC6W
CZ-RTC6WBL
CZ-RTC6WBLW2



CZ-RTC6
CZ-RTC6BL
CZ-RTC6BLW2



CZ-CENSC1



CZ-RTC5B



CZ-RWS3
Remote controller



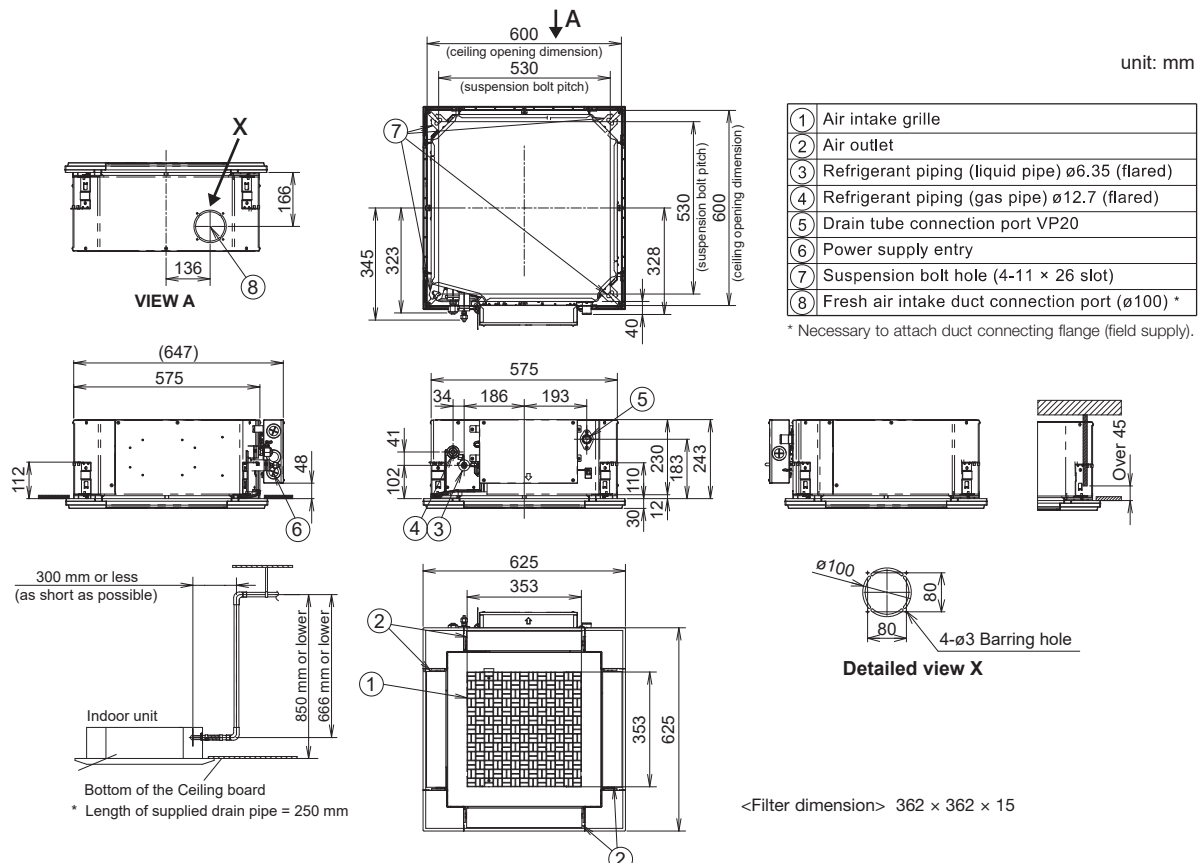
CZ-RWRY3
Receiver

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 amperes	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
	Airflow rate m³/h	522/420/360	540/450/360	570/468/360	690/540/390	810/630/480
	(H/M/L) 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)
	Liquid mm (inches)	Ø6.35	Ø6.35	Ø6.35	Ø6.35	Ø6.35
	Gas mm (inches)	Ø12.7	Ø12.7	Ø12.7	Ø12.7	Ø12.7
Pipe connections	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:	
	Indoor air temperature	27°C DB / 19°C WB
	Outdoor air temperature	35°C DB / 24°C WB

* The values in () for external dimensions and Net weight are the values for the optional ceiling panel.
Specifications are subject to change without notice.

Y3 TYPE 4-WAY MINI CASSETTE Dimensions



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



Self-diagnosing Function



Automatic Fan Operation



Dry mode



Intelligent Auto Swing



Automatic Restart Function



Auto Swing (Auto Flap Control)



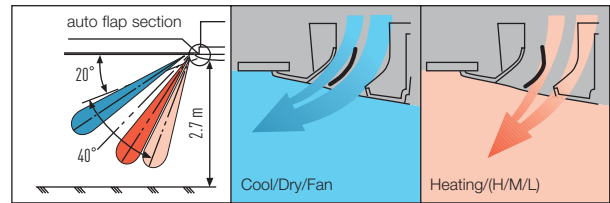
Built-in Drain Pump

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

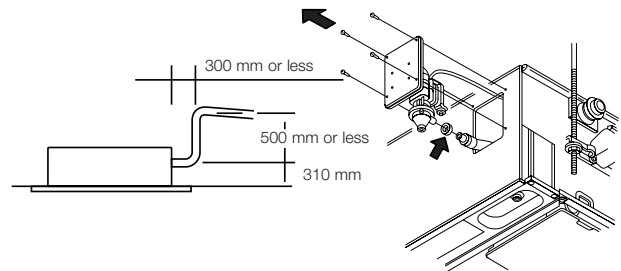
Auto flap control

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.



Optional accessory



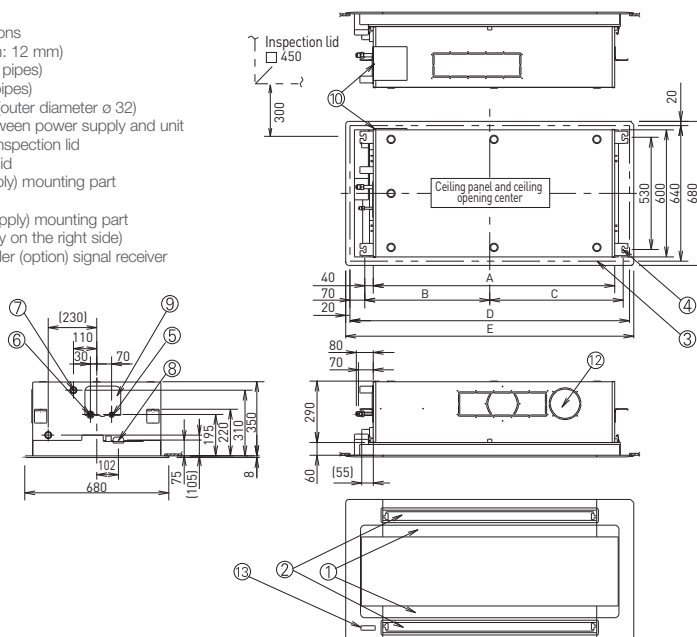
Model Name		S-22ML1E5	S-28ML1E5	S-36ML1E5	S-45ML1E5	S-56ML1E5	S-73ML1E5	
Power source		220/230/240 V, 1 phase - 50/60 Hz						
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3	
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0	
	BTU/h	8,500	11,000	14,000	17,000	21,000	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						
	Air flow rate (H/M/L)	m ³ /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+ β x840 (1,060) x600 (680)						
	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						
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. Specifications are subject to change without notice.

L1 TYPE 2-WAY CASSETTE Dimensions

- Air intake
- Air outlet
- Ceiling opening dimensions
- Suspension fitting (notch: 12 mm)
- Refrigerant piping (liquid pipes)
- Refrigerant piping (gas pipes)
- Drain connection VP25 (outer diameter ϕ 32)
- Inlet for option cord between power supply and unit
- Drain pan, drain pump inspection lid
- Drain pump inspection lid
- Round flange (field supply) mounting part (fresh air inlet ϕ 125)
- Discharge duct (field supply) mounting part (installation possible only on the right side)
- 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
③ Ceiling opening dimensions	1,020x640	1,320x640
⑤ Refrigerant piping (liquid pipes)	ϕ 6.35	ϕ 9.52
⑥ Refrigerant piping (gas pipes)	ϕ 12.7	ϕ 15.88
⑦ Duct connection port (only on the right side)	ϕ 2 x 1 pc.	ϕ 2 x 2 pc.

unit: mm

D1 TYPE 1-WAY Cassette



Semi concealed slim cassette

Optional accessory



PANEL

CZ-KPD2



CZ-RTC6W
CZ-RTC6WBL



CZ-RTC6
CZ-RTC6BL



CZ-RTC5B



CZ-RWS3
Remote controller



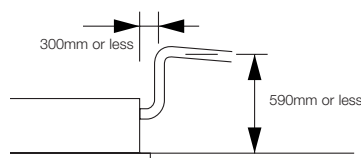
CZ-RWRD3
Receiver

Technical focus

- Ultra-Slim profile
- Suitable for standard and high ceilings
- Built-in drain pump provides 590mm 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 4.2m).



(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				
	Air flow rate (H/M/L)	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				
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)
	Liquid mm (inches)	Ø6.35 (Ø1/4)				
Pipe connections	Gas mm (inches)	Ø12.7 (Ø1/2)				
	Drain piping	VP-25				
Net weight *	kg	21 (+5.5)	21 (+5.5)	21 (+5.5)	21 (+5.5)	22 (+5.5)

Global remarks	Rated conditions:	
	Indoor air temperature	27°C DB / 19°C WB
	Outdoor air temperature	35°C DB / 24°C WB

* The values in () for external dimensions and Net weight are the values for the optional ceiling panel.
Specifications are subject to change without notice.

T2 TYPE Ceiling Mounted



Optional accessory



ECONAVI

ECONAVI ready



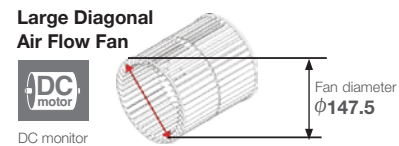
Technical focus

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

Energy-saving technology Delivering top-class efficiency

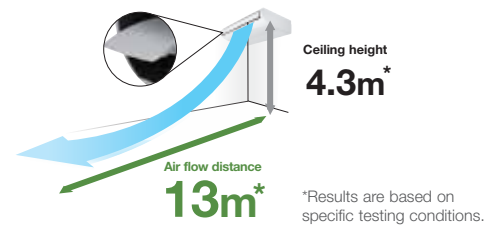
Optimization of the shape of the casing and fan assures bigger air flow and higher efficiency.
Energy-saving performance is top class in the industry.

Top Class Energy Saving



Comfortable, long-distance air flow distribution

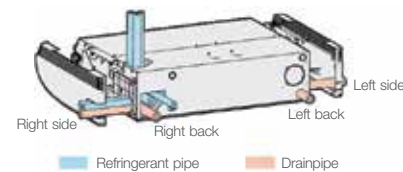
The shape of the outlet has been optimized to provide long-distance air flow distribution. Even in deep spaces, air flow reaches every corner for exceptionally comfortable air conditioning.



High Ceiling Setting <small>*Setting by remote control</small>	Air flow distance
4.3m	13m

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						
	Air flow rate (H/M/L)	m ³ /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						
Pipe connections	Liquid	mm (inches)						
	Gas	mm (inches)						
	Drain piping	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	

Specifications are subject to change without notice.

P1 TYPE Floor Standing



Optional accessory



CZ-RTC6W
CZ-RTC6WBL



CZ-RTC6
CZ-RTC6BL



CZ-RTC5B



CZ-RWS3
Remote controller

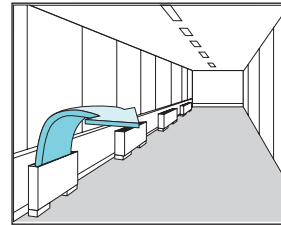


CZ-RWRC3
Receiver

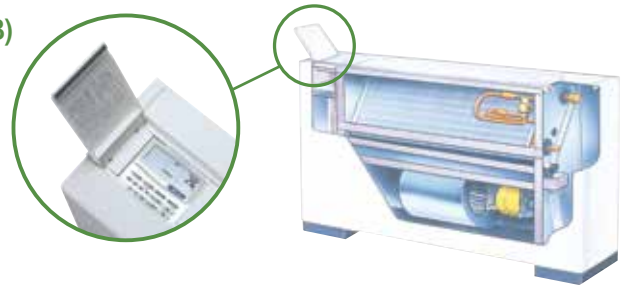
Technical focus

- Pipes can be connected to either side of the unit from the bottom or rear
- Easy to install
- Front panel opens fully for easy maintenance
- Removable air discharge grille gives flexible air flow

Effective perimeter air conditioning



A wired remote control (CZ-RTC4A/CZ-RTC5B) can be installed in the body

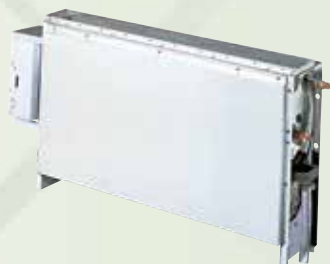


Model Name			S-22MP1E5	S-28MP1E5	S-36MP1E5	S-45MP1E5	S-56MP1E5	S-71MP1E5
Power source			220/230/240 V, 1 phase - 50 / 60 Hz					
Cooling capacity	kW		2.2	2.8	3.6	4.5	5.6	7.1
	BTU/h		7,500	9,600	12,000	15,000	19,000	24,000
Heating capacity	kW		2.5	3.2	4.2	5.0	6.3	8.0
	BTU/h		8,500	11,000	14,000	17,000	21,000	27,000
Power input	Cooling	kW	0.051/0.056/0.061	0.051/0.056/0.061	0.079/0.085/0.091	0.116/0.126/0.136	0.116/0.126/0.136	0.150/0.160/0.170
	Heating	kW	0.036/0.040/0.045	0.036/0.040/0.045	0.064/0.070/0.076	0.079/0.091/0.101	0.079/0.091/0.101	0.110/0.120/0.130
Running current	Cooling	A	0.24/0.25/0.26	0.24/0.25/0.26	0.37/0.38/0.39	0.54/0.56/0.58	0.54/0.56/0.58	0.70/0.72/0.73
	Heating	A	0.17/0.18/0.19	0.17/0.18/0.19	0.30/0.31/0.32	0.37/0.41/0.43	0.37/0.41/0.43	0.52/0.54/0.56
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	720/540/480	900/780/660	1,020/840/720
		L/s	117/100/83	117/100/83	150/117/100	200/150/133	250/217/183	283/233/200
	Motor output	kW	0.01	0.01	0.02	0.02	0.03	0.06
Sound power level (H/M/L)	dB	44/41/39	44/41/39	50/46/40	49/46/42	50/47/42	52/49/46	
Sound pressure level (H/M/L)	dB(A)	33/30/28	33/30/28	39/35/29	38/35/31	39/36/31	41/38/35	
Dimensions	H x W x D	mm	615 x 1,065 x 230	615 x 1,065 x 230	615 x 1,065 x 230	615 x 1,380 x 230	615 x 1,380 x 230	615 x 1,380 x 230
	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)
Pipe connections	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight	kg		29	29	29	39	39	39

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

Specifications are subject to change without notice.

R1 TYPE Concealed Floor Standing



Optional accessory

CZ-RTC6W
CZ-RTC6WBLCZ-RTC6
CZ-RTC6BL

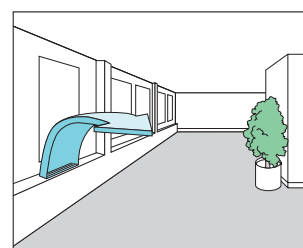
CZ-RTC5B

CZ-RWS3
Remote controllerCZ-RWRC3
Receiver

Technical focus

- Chassis unit for discrete customisable installation
- Complete with removable filters
- Pipes can be connected to the unit either from the bottom or rear
- Easy to install

Perimeter air conditioning with high interior quality



Model Name		S-22MR1E5	S-28MR1E5	S-36MR1E5	S-45MR1E5	S-56MR1E5	S-71MR1E5	
Power source		220/230/240 V, 1 phase - 50, 60 Hz						
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	
	BTU/h	7,500	9,600	12,000	15,000	19,000	24,000	
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	0.051/0.056/0.061	0.051/0.056/0.061	0.079/0.085/0.091	0.116/0.126/0.136	0.116/0.126/0.136	0.150/0.160/0.170	
	Heating kW	0.036/0.040/0.045	0.036/0.040/0.045	0.064/0.070/0.076	0.079/0.091/0.101	0.079/0.091/0.101	0.110/0.120/0.130	
Running current	Cooling A	0.24/0.25/0.26	0.24/0.25/0.26	0.37/0.38/0.39	0.54/0.56/0.58	0.54/0.56/0.58	0.70/0.72/0.73	
	Heating A	0.17/0.18/0.19	0.17/0.18/0.19	0.30/0.31/0.32	0.37/0.41/0.43	0.37/0.41/0.43	0.52/0.54/0.56	
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	720/540/480	900/780/660	1,020/840/720
		L/s	117/100/83	117/100/83	150/117/100	200/150/133	250/217/183	283/233/200
	Motor output	kW	0.01	0.01	0.02	0.02	0.03	0.06
Sound power level (H/M/L)	dB	44/41/39	44/41/39	50/46/40	49/46/42	49/46/42	52/49/46	
Sound pressure level (H/M/L)	dB(A)	33/30/28	33/30/28	39/35/29	38/35/31	39/36/31	41/38/35	
Dimensions	H x W x D	mm	616 x 904 x 229	616 x 904 x 229	616 x 904 x 229	616 x 1,219 x 229	616 x 1,219 x 229	
	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	
	Gas 410 A	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	
Pipe connections	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	
Net weight	kg	21	21	21	28	28	28	

Global remarks	Rated conditions:	
	Indoor air temperature	27°C DB / 19°C WB
	Outdoor air temperature	35°C DB / 24°C WB

Specifications are subject to change without notice.

Remark for High Static Ducted Series




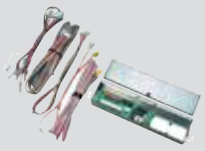
E2 type
High Static Ducted




E2 type
Energy Saving High-Fresh Air 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, MS3	Cooling Only	-	-
	2-Way ME1&ME2	Cooling or Heating	-	-
	2-Way ME1, ME2, MS3	Cooling Only	-	-
E2 Type High Fresh Air Ducted S-224ME2E5 S-280ME2E5	2-Way ME1&ME2	Cooling or Heating	2pcs	2pcs
	2-Way ME1, ME2, MS3	Cooling Only	-	-
E3 Type High Static Ducted S-180ME3H S-224ME3H S-280ME3H	2-Way ME1, ME2, MS3	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 (Accessory 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	-
-	-	-	-	-
-	-	-	-	-

Smart Connectivity and Control Solutions

Panasonic offers a range of smart connectivity and control solutions for residential and commercial applications that allows you to conveniently manage and monitor air conditioning units in single or multiple locations from one mobile device.



Wide Range of Smart Control Solutions for All Needs

Whether you need to control multiple sites, a single office, or your home, we offer a range of innovative smart control solutions for a variety of needs.



**Panasonic
Comfort Cloud**

Intuitive and scalable air conditioning control solution using a personal mobile device.



**VRF Smart
Connectivity+**

Offers efficient energy management with high indoor air quality (IAQ) control.

For Residential



Personal Control Solutions

Panasonic Comfort Cloud

Remotely manage and monitor multiple air conditioning units in your home

Easily control and access all features of the air conditioning units with smart centralised control.



CZ-CAPWFC2

Network adaptor. Available for all types of VRF indoor units.



**CZ-RTC6WBLW2
CZ-RTC6BLW 2**

WLAN remote controller

*Available for particular types of VRF indoor units. Please consult with Panasonic sales engineers.

For Light Commercial



Cost effective Energy Management Solution



Multiple location control at your convenience with Comfort Cloud

Gain control of multiple zones and sites intuitively adjusting temperature by areas with differentiated user rights settings.

Indoor Air Quality (IAQ) and efficient energy usage with VRF Smart Connectivity+

- Ultimate cooling comfort with sensing technology and automatic IAQ control.
- Simplified Plug & Play installation with BMS connection for better energy consumption.

Panasonic Comfort Cloud

Control air conditioning units from wherever and whenever with your smartphone, by using Panasonic Comfort Cloud and WLAN smart adaptor.

This scalable solution is ideal for one system, one site or multiple locations. Coupling the adaptor with the already feature rich systems, makes it an ideal solution for both residential and commercial applications.



For Residential

Remotely manage and monitor air conditioning units from anywhere anytime.

For Light Commercial

Gain control of multiple zones and sites intuitively up to 200 indoor units.

Panasonic Comfort Cloud features

From 1 to 200 units

User can control up to 200 indoor units. 10 different sites, with up to 20 units / groups per site.



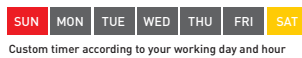
Multiple User

The Panasonic Comfort Cloud App allows multiuser access control. Restrict user access to specific units.



Easy Scheduling

Complex weekly scheduling made simple. Not only for one units, but across multiple sites and from a smartphone.



Error Codes

Error code notification through the App, provides early notification and allows for faster repair.



Application examples



Centralised control from reception.



Multiple location control for small businesses.

System configuration

Network Adaptor Connection Diagram



CZ-CAPWFC2: Available for all types of VRF

*Available for particular types of VRF indoor units. Please consult with Panasonic sales engineers.

WLAN smart adaptor specification

CZ-CAPWFC2	
Input Voltage	DC 12V (Supplied from the T10 connector of the indoor unit)
Power Consumption	Maximum 2.4W
Size [H x W x D]	120 x 70 x 25mm
Weight	190g (including communications lines)
Interface	Wireless LAN
Wireless LAN Standard	IEEE 802.11 b/g/n
Frequency range	2.4GHz band
Encryption	WPA2-PSK(TKIP/AES)
Operation range	0-55°C, 20 - 80RH%



Comfort Cloud App



Scan QR code to download free Panasonic Comfort Cloud App

Compatible Device and Browsers

1. IOS 9.0 or above
2. Android™ 4.4 or above

VRF Smart Connectivity+

Through thorough energy management, Panasonic's VRF Smart Connectivity+ is a completely new, state-of-the-art solution providing energy saving and comfort as well as simple installation, operation and running.



Dramatic reduction of OpEx with outstanding IAQ.

3 built-in sensors: Temperature, RH and occupancy.

ZigBee wireless sensors: CO₂ / temperature / RH%, window / door, ceiling / wall / water leakage.

Relay Pack, Hotel Room Controller.



Ultimate customisation.

Customisable colour background.

Custom display/icons, messages.

Programmable logic (also stand alone).

Various controls and various external connection devices.



User-/owner-friendly.

Colour touch screen.

Simple and easy to use.

22 languages.

Easy-to-understand error description.



Easy design and Plug & Play to reduce CapEx.

Simple Plug & Play VRF connection to Building Energy Management System (BEMS).

Stand alone or BEMS connected. Easy installation of ZigBee sensors.

VRF Smart Connectivity+ offers efficient energy management and a new air conditioning control solution with high IAQ (indoor air quality).



Energy management system for rooms.

Each room is monitored by high-precision sensors, making it possible to make every room's temperature comfortable without wasting energy.

Management system for the entire building.

A Building Energy Management System (BEMS) can also be connected for Plug & Play centralised control of the building's entire energy consumption.

1 Quality air control

Optimum IAQ is realized using the CO₂ and humidity sensors. The interior environment remains comfortable, while heating and cooling costs are minimized. The CO₂ sensor can control ventilation systems, which contribute to improving the room's air quality.

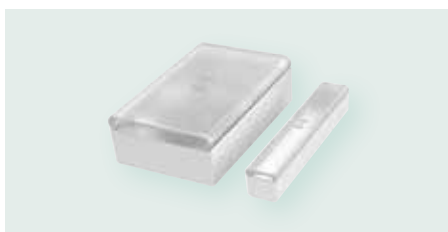
2 Easy installation and integration

A remote controller is all that's required for occupancy control and optimum automatic indoor air quality (IAQ) control. Simple operation with a rented interface further contributes to increased energy efficiency and productivity for reduced capital expenditure (CapEx) and operating expense (OpEx).

3 Other equipment control

One room controller manages various devices including lighting and the blinds. A ventilation system and other external connection devices can be connected by using HRC or SE8350 so that various control is possible with this controller alone, even without BMS.

VRF Smart Connectivity+: SER8150.



Door/window sensor.
Door and window contact detection sensor to monitor opening and closing.



Wall/ceiling motion/temperature/humidity sensor.
Wall and ceiling sensor to detect the presence or absence of occupants.



CO₂ /temperature/humidity sensor.
Monitor indoor air quality, review data on interfacing devices, and control fresh air inside customisable zones.



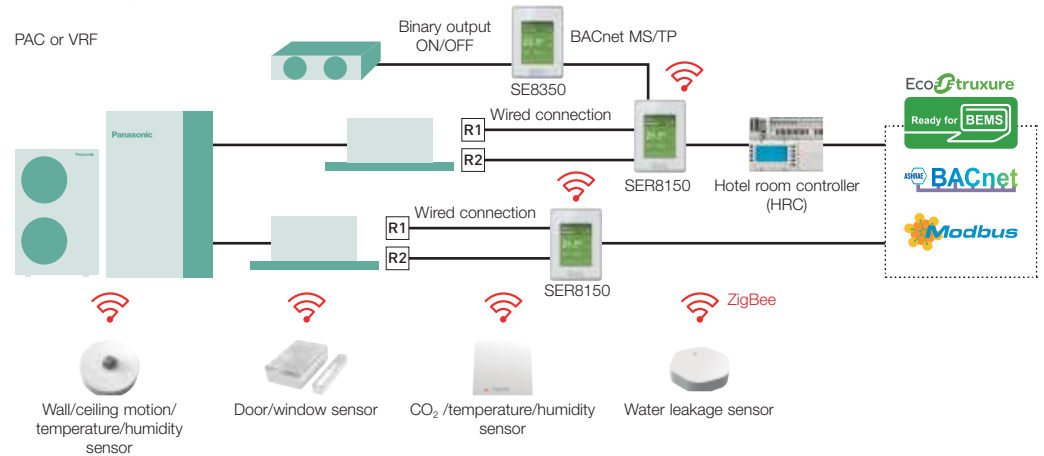
Water leakage sensor.
Two sensing pads under the body activate when water is present between the two pads. Detecting the water, the sensor reports the event to the controller (and BEMS).



Hotel Room Controller (HRC).
The Hotel Room Controller controls guest room devices and aggregates data, making it visible to guest room and property management systems.

Energy management system for rooms

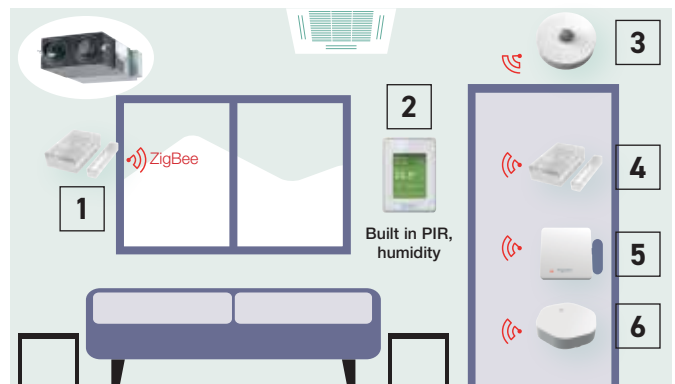
By installing a wall/ceiling motion temperature sensor, window/door sensor, and CO₂ sensor in the room, ideal, waste-free air conditioning is achieved.




Sensing and control technology

Using sensors from Schneider Electric, high-quality occupancy control and automatic IAQ control are realised. The sensors detect the presence or absence of occupants, and the opening and closing of doors and windows to achieve the most efficient energy management for exceptional air-conditioned comfort. Flexible installation is possible to match different applications and building features such as walls, ceilings and proximity to doors and windows. No wiring means extra installation versatility.

Batteries last for up to five years (10-year battery for CO₂ sensor) and are easy to install and replace.



- 1 | Window sensor (optional).
- 2 | Room controller.
- 3 | Ceiling motion sensor (optional).
- 4 | Door sensor (optional).
- 5 | CO₂ sensor (optional).
- 6 | Water leakage sensor (optional).



Pana Net Con, RH, No PIR, SE Brand, R1R2.
SER8150R0B1194



Pana Net Con, RH, PIR, SE Brand, R1R2.
SER8150R5B1194



Wireless ZigBee® Pro communication card.
VCM8000V5094P



Hotel room expansion module 14 indoor units.
HRCEP14R



Hotel room controller 28 indoor units.
HRCPBG28R



Hotel room controller w/display 42 indoor units.
HRCPDG42R

* Those accessories require system integrator support on site.



Sensor with room CO₂,
temperature and humidity.
SED-CO2-G-5045



Sensor with room temperature
and humidity.
SED-TRH-G-5045




Door/window sensor.
SED-WDC-G-5045




Wall/ceiling motion/temperature/
humidity sensor.
SED-MTH-G-5045




Water leakage sensor.
SED-WLS-G-5045




Cover frame. Silver.
FAS-00




Cover frame. White.
FAS-01




Cover frame. Glossy translucent white.
FAS-03




Cover frame. Light tan wood.
FAS-05



Cover frame. Dark brown wood
FAS-06



Cover frame. Dark black wood.
FAS-07



Cover frame. Brushed steel finish.
FAS-10

Up to 5 year battery life (batteries included). Battery life of CO₂ sensor up to 10 years. Battery level data point.

Smart management solutions



1 Hotels

Room key card or key cardless solutions for hotels. The SER8150 and ZigBee sensor automatic detection function offer optimal air conditioning regardless of whether there is a hotel room key or not. Sensors detect the presence or absence of occupants and the opening and closing of doors and windows for the optimum air-conditioned environment guests expect. Automatic control ensures the most efficient operation when guests are away or when windows are open. This contributes to an appreciable reduction in operation costs.



2 Small and medium offices

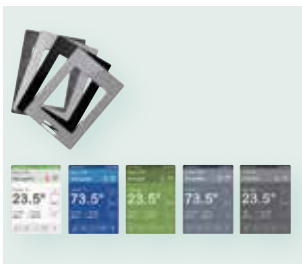
CO₂ sensors (option) and humidity sensors. CO₂ sensors (option) take measurements in units of ppm, and humidity sensors enable fine air quality control. This creates the most comfortable space for occupants while contributing to improved employee satisfaction.



3 Super markets

Humidity sensors. Humidity sensors enable automatic dehumidification for the optimum IAQ regardless of climatic conditions. This creates an even more comfortable environment for customers, employees, and products themselves.

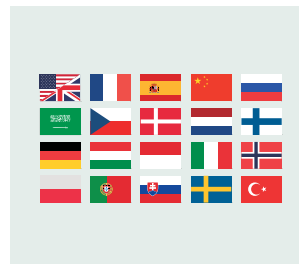
Innovative and unrivalled advantages



Colour and design to match office interiors.
Colour combinations and design can be set to match different facilities.



Easy-to-understand error description.
Error description during an emergency is easy to understand, enabling staff to respond quickly.







Customisation in 22 languages possible.
The display can be customised to match the native languages of guests to enable smooth, stress-free communication for hospitality at its finest.



Programmable logic.
Full customisation of remote controller logic possible, and updating to match conditions.

FSV Controllers

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

Operation system	Individual control systems			
Requirements	Simplified high-spec operation	High-spec operation	Normal operation	Operation from anywhere in the room
External appearance				
Type, model name	Simplified high-spec Wired Remote Controller with Bluetooth CZ-RTC6W (Basic, white) CZ-RTC6 (Basic, black) CZ-RTC6WBL (with Bluetooth, white) CZ-RTC6BL (with Bluetooth, black) *CZ-RTC6WBLW2 (with WiFi, white) *CZ-RTC6BLW2 (with WiFi, black) *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-RWRY3 CZ-RWRL3 CZ-RWRD3 CZ-RWRT3 CZ-RWRC3
Built-in thermostat	●	●	●	—
nanoe™ X on/off control *not applies to Floor Console	●	●	—	●
ECONAVI 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
Use limitations	<ul style="list-style-type: none"> · CZ-RTC6(W) : Up to 2 controllers can be connected per group (only combination possible with CZ-RTC6(W)) · CZ-RTC6(W)BL/CZ-RTC6(W)BLW2 : Up to 1 controller can be connected per group 	<ul style="list-style-type: none"> · Up to 2 controllers can be connected per group (When using ECONAVI sensor, only one remote controller is possible to connect at indoor unit) 	<ul style="list-style-type: none"> · Up to 2 controllers can be connected per group (When using ECONAVI sensor, only one remote controller is possible to connect at indoor unit) 	<ul style="list-style-type: none"> · Up to 2 controllers can be connected per group.
Function ON/OFF	●	●	●	●
Mode setting	●	●	●	●
Fan speed setting	●	●	●	●
Temperature setting	●	●	●	●
Air flow direction	●	●	●	●
Permit/Prohibit switching	—	—	—	—
Weekly program*	●	●	●	—

All specifications are subject to change without notice.
*(CZ-RTC6(W)BL/CZ-RTC6(W)BLW2 with H&C Control App)

ECONAVI

ECONAVI Sensor

CZ-CENSC1



Utilises ECONAVI Sensor and Control Program technologies to detect where energy is normally wasted and self-adjusts cooling power to reduce energy waste.

- Activity detection
- Absence detection

Timer operation	Centralised control systems			BMS System PC Base	Connection with 3rd Party Controller
Daily and weekly program	Operation with various functions from a central location	Only ON/OFF operation from a central location	Simplified load distribution ratio (LDR) for each tenant 10.4 in. touch screen panel color LCD		
				P-AIMS Software Up to 1024 units CZ-CSWKC2	Seri-Para I/O unit for outdoor unit CZ-CAPDC2
Schedule Timer	System Controller	ON/OFF Controller	Intelligent Controller		
CZ-ESWC2	CZ-64ESMC3	CZ-ANC3	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)	Interface Adaptor CZ-CAPC3 Seri-Para I/O unit for each indoor unit CZ-CAPBC2
—	—	—	—		
—	●	—	●	Communication Adaptor CZ-CFUNC2	
64 groups, max. 64 units	64 groups, max. 64 units	16 groups, max. 64 units	64 units x 16 systems, max. 256 units		
· Required power supply from the system controller · When there is no system controller, connection is possible to the T10 terminal of an indoor unit.	· 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.	LonWorks Interface CZ-CLNC2	
—	●	●	●		
—	●	—	●		
—	●	—	●		
—	●	—	●		
—	●	—	●		
—	●	●	●		
●	●	—	●		

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 Program 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.

A maximum of 8 indoor units can be controlled from one remote controller

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.

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

Wireless remote controller

 <p>4-Way Cassette CZ-RWS3 + CZ-RWRU3</p>	 <p>Mini Cassette CZ-RWS3 + CZ-RWRU3</p>
 <p>2-WAY Cassette CZ-RWS3 + CZ-RWRL3</p>	 <p>1-WAY Cassette CZ-RWS3 + CZ-RWRD3</p>
 <p>Ceiling Mounted CZ-RWS3 + CZ-RWRT3</p>	 <p>For all indoor units CZ-RWS3 + CZ-RWRC3</p>
 <p>Wall CZ-RWS3</p>	

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

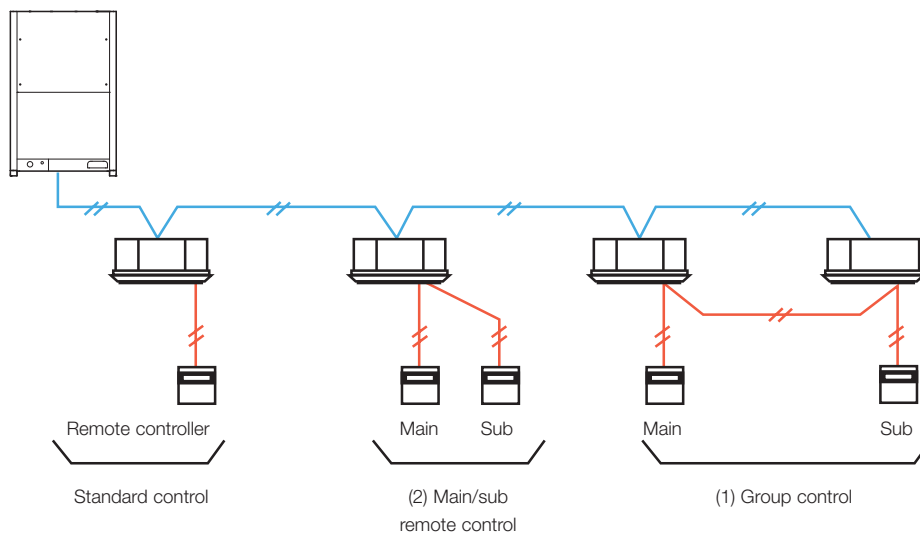
Ventilation independent operation is possible

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).

Individual Control Systems

Control contents	Part name, Model no.	Quantity
<p>Standard Control</p> <ul style="list-style-type: none"> 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. 	<p>Wired remote controller CZ-RTC4A,CZ-RTC5B,CZ-RTC6W,CZ-RTC6WBL, CZ-RTC6,CZ-RTC6BL</p> <p>Wireless remote controller + Receiver CZ-RWS3 (Wall Mounted/ Mini Cassette) CZ-RWS3 + CZ-RWRLU3 (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)</p>	1 unit each
<p>(1) Group control</p> <ul style="list-style-type: none"> 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. 	<p>Wired remote controller CZ-RTC4A,CZ-RTC5B,CZ-RTC6W,CZ-RTC6WBL, CZ-RTC6,CZ-RTC6BL</p> <p>Wireless remote controller + Receiver CZ-RWS3 (Wall Mounted/ Mini Cassette) CZ-RWS3 + CZ-RWRLU3 (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)</p>	1 unit
<p>(2) Main/sub remote control</p> <ul style="list-style-type: none"> 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) 	<p>Wired remote controller CZ-RTC4A,CZ-RTC5B,CZ-RTC6W,CZ-RTC6WBL, CZ-RTC6,CZ-RTC6BL</p> <p>Wireless remote controller + Receiver CZ-RWS3 (Wall Mounted/ Mini Cassette) CZ-RWS3 + CZ-RWRLU3 (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)</p>	As required

FSV SYSTEM EXAMPLE



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.

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

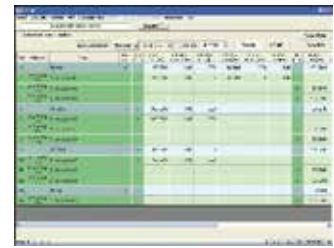
- Standard remote control for all indoor units
- Many timer schedule programs can be set on the calendar
- Detailed information display for alarms
- CSV file output with alarm history, operating status.
- Automatic data backup to HDD



With 4 upgrade packages the basic software can be upgraded to suit individual requirements. For Load Distribution software, digital power meter c/w pulse require (field supply)



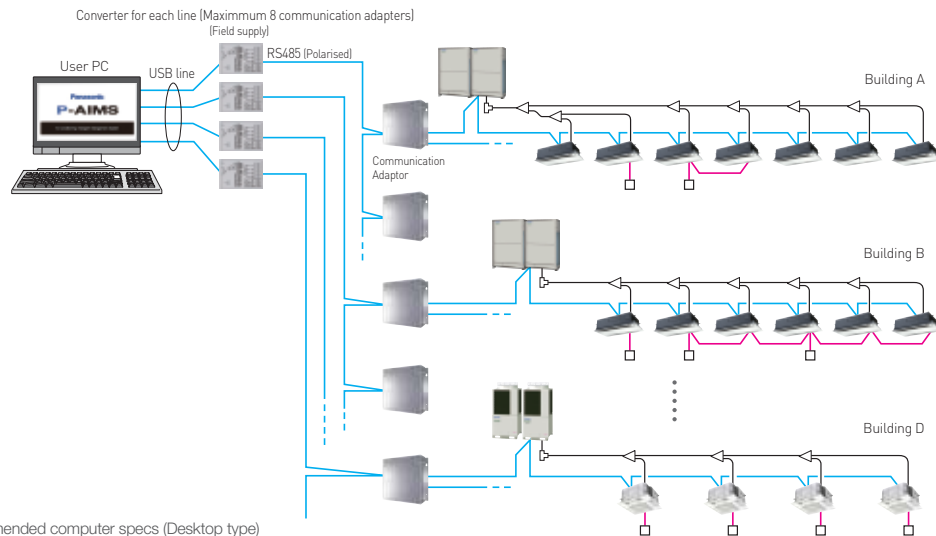
CZ-CFUNC2



The P-AIMS is ideal for large areas/buildings such as shopping centers, universities and office buildings.

Each line can have max.8 communication adaptors 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

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
 UPS (Field Supply):select UPS with a sine output wave form

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 links [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 to a network. Connecting to internet will enable you to operate the unit and check the status using a PC from remote location.

• Power Distribution function

You can view cumulative electrical consumption per indoor unit or in a area.
 Digital power meter with pulse require (Field Supply) for this function

Gateways for Panasonic AC systems integration



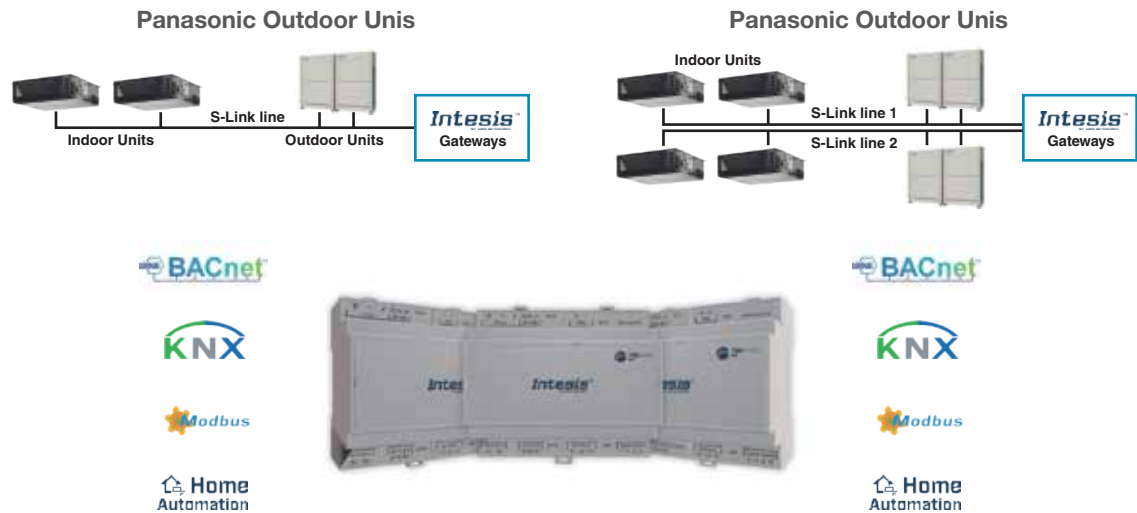
INTESIS PORTFOLIO FOR PANASONIC AIR CONDITIONING SYSTEMS ENSURE THE PERFECT INTERCONNECTION BETWEEN THE MOST EXTENDED PROTOCOLS INTO BUILDING AUTOMATION AND PANASONIC SYSTEMS.

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)	IN770PAN00S0000: Small version - Up to 16 Indoor Units, 30 Outdoor Units. IN770PAN00M0000: Medium version - Up to 64 Indoor Units, 30 Outdoor Units IN771PAN00L0000: 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	INWMPAN001R000 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)	IN485UNI0011100 Universal Infrared AC Can be configured as BACnet MS/TP or Modbus RTU using MAPS. 1 Indoor unit	INKNXUNI0011000 Universal Infrared AC 1 Indoor unit 2 Binary inputs	IN485UNI0011100 Universal Infrared AC Can be configured as BACnet MS/TP or Modbus RTU using MAPS. 1 Indoor unit	INWMPUNI0011000 Universal Infrared AC 1 Indoor unit	INWFIUNI0011000 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	INBACPAN0011000 IN485PAN0011000 AC units 1 Indoor unit	INKNXPAN0011000 AC units 1 Indoor unit, 4 Binary Inputs INKNXPAN001A000 Air to Water (Aquaregia H) 1 Indoor unit	INMBSPAN0011100 AC units 1 Indoor unit INMBSPAN001A000 Air to Water (Aquaregia H) 1 Indoor unit	INWMPAN0011000 AC units 1 Indoor unit	INWFIPAN0011100 AC units 1 Indoor unit

Reliability and Durability

At Panasonic, we believe that the best air conditioner is one that works quietly and effectively in the background whilst minimizing 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.



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.



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.



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).



A resin-potted circuit board



Testing laboratory Panasonic Gunma, Japan (PAPARS)

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.

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.

HOTEL

Australia Travelodge Hobart



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



Indonesia Patra Jasa Hotel



Air Conditioning System:
VRF 2-way FSV ME1 series 14 systems
Indoor Units: 132 units
Cooling Capacity:
677 kW / 193 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

Russia River Park Hotel



Air Conditioning System:
VRF 2-way ME1 series 47 systems
Indoor Units: 96 units
Cooling Capacity: 788 kW / 224 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

OFFICE

Malaysia Gaprana 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



Russia Russian Government Building



Air Conditioning System:
VRF 2-way ME1 series 42 systems
Indoor Units: 277 units
Cooling Capacity:
2,045 kW / 581 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



RETAIL

Italy Le Centurie CENTRO COMMERCIALE



Air Conditioning System:
VRF 3-way MF1 series
18 systems
Indoor Units: 57 units
Cooling Capacity:
656 kW / 186 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

Russia Sun City Mall



Air Conditioning System:
VRF 2-way ME1 series
47 systems,
VRF 3-way 12 systems
Indoor Units: 283 units
Cooling Capacity:
1,605 kW / 456 USRT



SCHOOL

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



SCHOOL

Malaysia Xiamen University



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

Russia Technopark of Nobosibirsk Academgorodok



Air Conditioning System:
VRF 2-way ME1 series 38 systems,
VRF 3-way 12 systems
Indoor Units: 234 units
Cooling Capacity:
1,487 kW / 422 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

RESIDENTIAL

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



Singapore Punggol Eco-Town



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

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



India Royal Orchids Eco-Green Homz



Air Conditioning System:
VRF 2-way FSV ME1 series
22 systems,
Indoor Units: 139 units
Cooling Capacity:
802 kW / 228 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 ME1 series 156 systems
Indoor Units: 357 units
Cooling Capacity: 2,338 kW / 664 USRT

Panasonic®

Building Passion, Building Solutions.

Panasonic Air Conditioning Systems

We face a time in which "quality air" differentiates business. It's a time for Panasonic to fully display its strengths. Our ability to assemble and build superior systems isn't just due to the rich resources we have as a comprehensive electronics manufacturer, but also to Panasonic's 100 years of tradition, where each person thinks and acts on their own initiative while working in a team to reach further heights. We do not compromise. Each of our independent selves is a one stop solution. We face our customers' challenges together with our customers and do all that we can to build effective systems. As a true partner for our customers, we strive to always be at the forefront of business.

- 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 Feb 2025.
- 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