Panasonic

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for Thailand

for Thailand

for Indonesia







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

FSV Mini FSV ID, TH_FEBRUARY_2025

FSV VRF SYSTEMS 2025/2026















QUALITY AIR FOR LIFE

FSV-EX Advantages



The most efficient, powerful and quiet system in Panasonic's history.

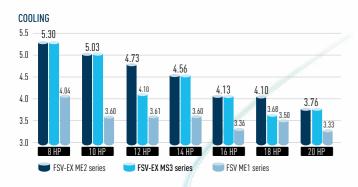
There has never been a VRF system like it.

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.



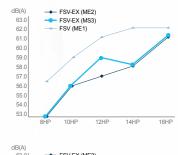


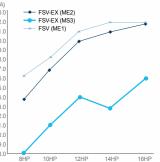




Low-Noise Operation

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.



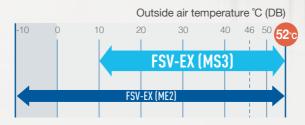


Extended Operation Range Up to 52°C

The FSV-EX can provide cooling even when the outside temperature reaches a maximum of about 52°C.

And amazingly, it can still operate at 100% capacity when the outside temperature is as high as 43°C.

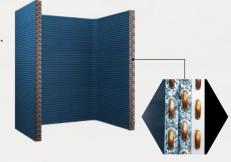
This high power capability enables reliable operation even under extremely high temperature conditions.



Enlarged heat exchanger surface area with triple surface*

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

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



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.



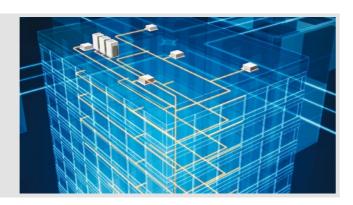
STAGE-2

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



STAGE-3

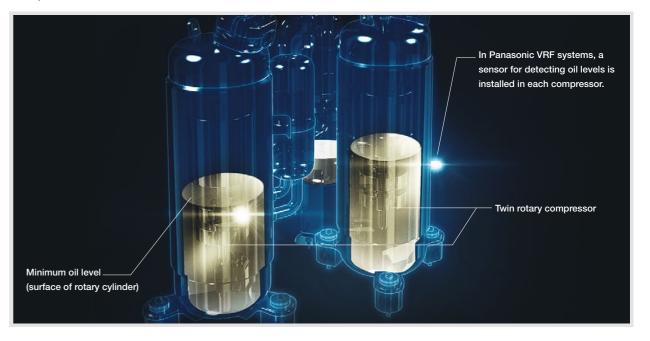
Forced oil recovery is implemented only if oil levels become insufficient in spite of above measures. The Panasonic system's design concept is radically different from conventional oil systems.



Features of 3-stage oil recovery design

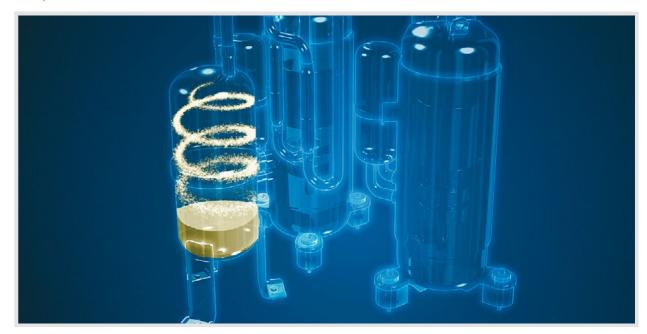
Oil sensors installed in each compressor

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



Highly functional oil separator

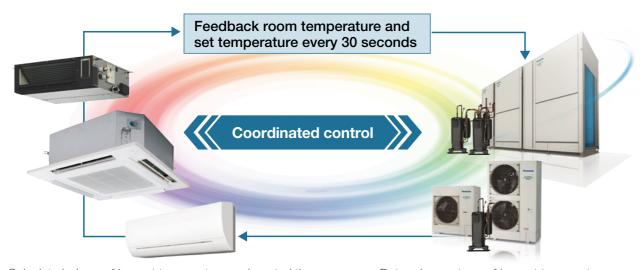
Thanks to extended separate piping, oil recovery efficiency reaches 90%, minimising the oil to be discharged from the compressor.



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.

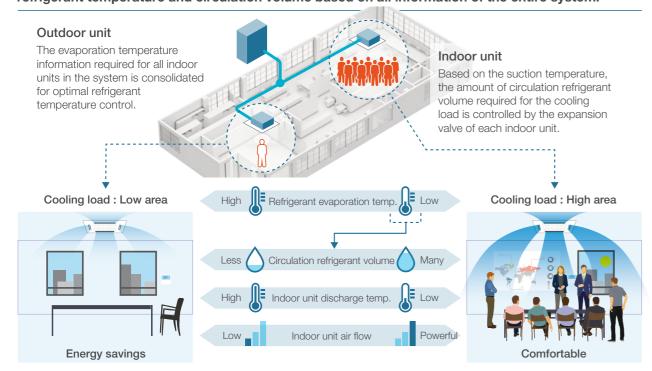


Calculate indoor refrigerant temperature and control the airflow automatically based on the difference between the setting temperature and actual indoor temperature.

* When fan speed is Auto.

Determine system refrigerant temperature and control compressor speed.

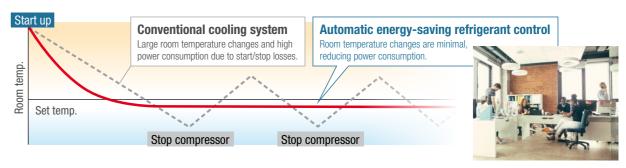
Achieves room-by-room comfort and overall system energy savings by controlling optimal refrigerant temperature and circulation volume based on all information of the entire system.



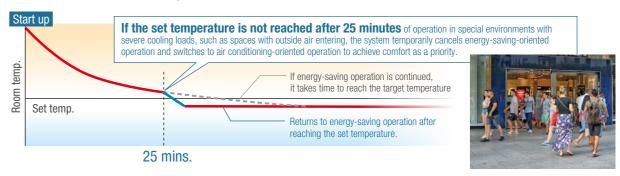
Combination of VET technology and inverter compressor achieves both energy savings and comfort by smoothly controlling the compressor to match the air conditioning load without stopping the compressor for optimum performance.

Image of room temperature change during cooling operation by scene.

1) Normal environment



2) Environment with severe cooling load





FSV-EX Advantages

ME2 MS3 Increased piping length for greater design flexibility Adaptable to various building types and sizes Elevation difference of Max. 90m in case of ODU is Actual piping length: 200m higher than IDU may be allowed following certain conditions. (equivalent piping length: 210m) Actual piping *1, *2: Please consult with Panasonic sales engineers about the certain conditions in case of Max. total piping length:1,000m piping elevation of over 50m or level difference (equivalent piping between indoor units over 15m is required. Level difference MS3 series with exceeding 82HP does not support a between indoor height difference of 90m and a level difference of 30m.

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 80HF

SYSTEM / HP	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96
SYSTEM / kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0	73.0	78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0	140.0	145.0	151.0	156.0	162.0	168.0	174.0	180.0	185.0	190.0	196.0	202.0	208.0	213.0	219.0	224.0	232.0	238.0	244.0	249.0	254.0	260.0	266.	272.0
																		ME2	SE	RIES																									
																						MS	SE	RIES																					
MNcIU	13	16	19	23	26	29	33	36	40	43	46	50	53	56	59	63	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
No.1	29.1	36.4	43.6	52.0	58.5	65.0	72.8	80.0	88.4	94.9	102.1	110.5	117.0	124.8	131.3	139.1	146.9	153.4	161.2	169.0	175.5	182.0	188.5	196.3	202.8	210.6	218.4	226.2	234.0	240.5	247.0	254.8	262.6	270.4	276.9	284.7	291.2	291.2	291.2	291.2	291.2	291.2	291.2	291.	2 291.2
No.2	44.8	56.0	67.0	80.0	90.0	100.0	112.0	123.0	136.0	146.0	157.0	170.0	180.0	192.0	202.0	214.0	226.0	236.0	248.0	260.0	270.0	280.0	290.0	302.0	312.0	324.0	336.0	348.0	360.0	370.0	380.0	392.0	404.0	416.0	426.0	438.0	448.0	448.0	448.0	448.0	448.0	448.0	448.0	448.	0 448.0

MNcIU: Maximum Number of Connectable Indoor Unit

 $No.1: Max\ connectable\ \ IDU\ capacity\ /\ kW\ (without\ condition) \\ No.2: Max\ connectable\ \ IDU\ capacity\ /\ kW\ (with\ below\ ^{\star_2}\ condition)$

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

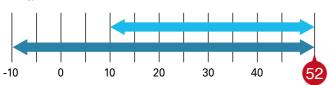
- *2 If the following conditions are satisfied, the effective range is "Max connectable IDU capacity / kW (with below *condition) figures" written in above No.2.
- i) Obey the limited number of connectable indoor units.
- ii) The lower limit of operating range for heating outdoor temperature is limited 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

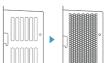
ME2 MS3

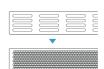
One of the common causes of failures of the outdoor unit is electrical short circuits caused by geckos, small animals such as rats and insects entering the unit. The unit eliminates gaps that prevent geckos from entering the internal PCB and thus prevent operation stoppages.

Change Slit







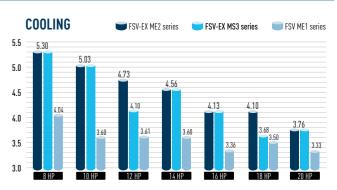




Excellent energy savings

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.





High static pressure

80 Pa

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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 Headquaters



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

Thermistor x2

(Refrigerant: E1, E3)

Residential + Commercial Malaysia Utropolis, Glenmarie



Air Conditioning VRF 2-way FSV ME1 Indoor Units: 168 unit AHU Kit: 9 units Cooling Capacity: 3.077 kW / 875 USRT



Air Handling Unit Kit to connect to your ventilation system

Expansion

AHU Connection Kit

Power trans, Terminal block

Remote control can be easily installed on the AHU Kit box.















Thermistor x2

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.

• 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
- \bullet 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

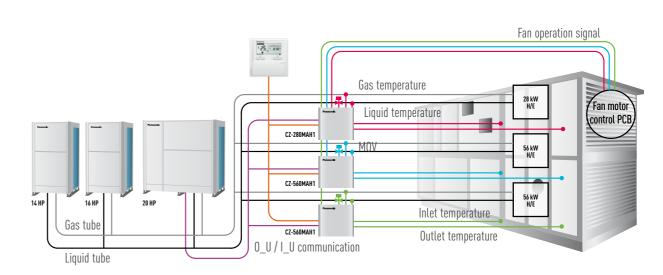
- Max. piping length: 100m (actual)/ 120m (equivalent)
- Difference between longest and shortest piping from first branch: 10m
- Max. length of branch tubing: 12m * Other conditions to be referred the standard piping design regulations.
- Available temperature range in Heating: -20 °C (WB)~15 °C (WB)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

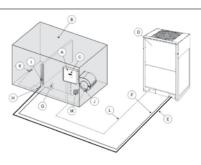
states output

- 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) H: Thermistor for gas pipe (E3)
- 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
- 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)



11

AHU Connec	ction Kit / Syste	m Combina	ation							
	Capacity (HP)	Outdoor u	nit combin	ation		AHU kit co	ombination			
	28.0 kW (10 HP)	U-10MS3H7 U-10ME2H7				CZ-280MAH1				
	56.0 kW (20 HP)	U-20MS3H7 U-20ME2H7				CZ-560MAH1				
	85.0 kW (30 HP)	U-12MS3H7 U-14ME2H7	U-18MS3H7 U-16ME2H7			CZ-560MAH1	CZ-280MAH1			
FSV-FX ME2/	113.0 kW (40 HP)	U-16MS3H7 U-20ME2H7	U-24MS3H7 U-20ME2H7			CZ-560MAH1	CZ-560MAH1			
MS3 series (Space-saving Combination)	140.0 kW (50 HP)	U-8MS3H7 U-14ME2H7	U-18MS3H7 U-16ME2H7	U-24MS3H7 U-20ME2H7		CZ-560MAH1	CZ-560MAH1	CZ-280MAH1		
	168.0 kW (60 HP)	U-12MS3H7 U-20ME2H7	U-24MS3H7 U-20ME2H7	U-24MS3H7 U-20ME2H7		CZ-560MAH1	CZ-560MAH1	CZ-560MAH1		
	196.0 kW (70 HP)	U-22MS3H7 U-10ME2H7	U-24MS3H7 U-20ME2H7	U-24MS3H7 U-20ME2H7	U-20ME2H7	CZ-560MAH1	CZ-560MAH1	CZ-560MAH1	CZ-280MAH1	
	224.0 kW (80 HP)	U-8MS3H7 U-20ME2H7	U-24MS3H7 U-20ME2H7	U-24MS3H7 U-20ME2H7	U-24MS3H7 U-20ME2H7	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.

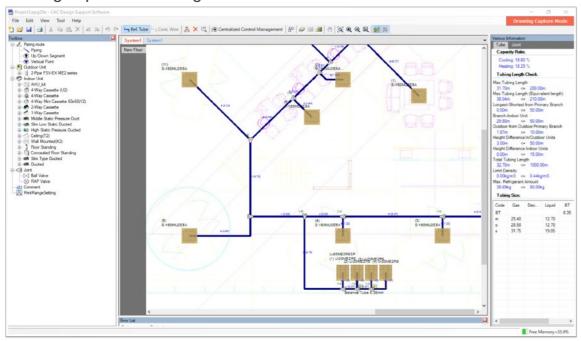
CAC Design Support Software



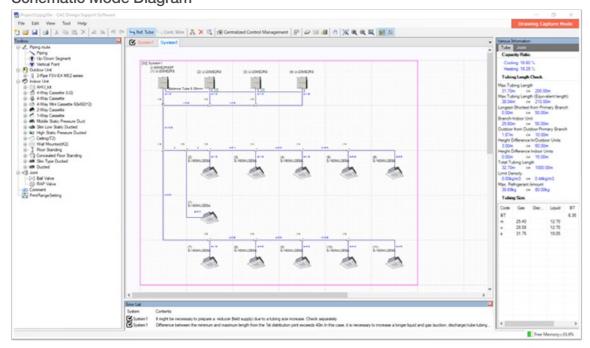


Features the unique Drawing Capture Mode function providing More thorough spec-in and tender quotation support for easier, Faster completion of work.

Drawing Capture Mode Diagram

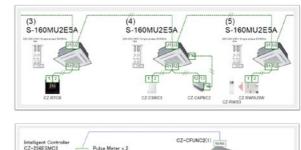


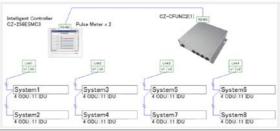
Schematic Mode Diagram

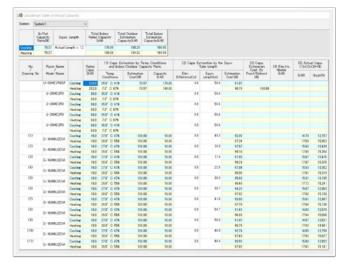


The Panasonic CAC Design Support software can be used for all Panasonic FSV

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.







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-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.













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

High Efficiency Combination Model

Cooling or Heating Type High-Durability Model

14



- 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
 Renewal * 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



- 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.



FSV-EX MS3 Series FSV-EX MS3 Series

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-8MS3H7 U-10MS3H7	U-20MS3H7HE U-10MS3H7 U-10MS3H7	U-22MS3H7HE U-10MS3H7 U-12MS3H7	U-24MS3H7HE U-12MS3H7 U-12MS3H7
Power supply						380/400/415 380/400V/3-	iV/3-phase/50Hz phase/60Hz				
0	O lin -	kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0
Capacity	Cooling	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	HxWxD	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
		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
Electrical ratings	Power	input kW	4.23	5.57	8.17	8.77	10.9	9.70	11.1	13.7	16.7
Starting current		А	1	1	1	2	2	2	2	2	2
A ! #		m³/h	13,440	13,440	13,440	13,920	13,920	26,880	26,880	26,880	26,880
Air flow rate		L/s	3,733	3,733	3,733	3,867	3,867	7,467	7,467	7,467	7,467
Refrigerant amor	unt at shipment	kg	5.6	5.6	5.6	8.3	8.3	11.2	11.2	11.2	11.2
External static p	ressure	Pa	80	80	80	80	80	80	80	80	80
	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)
Piping connections	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 temper	ature operating ra	ange				Cooling: 10°C (I	DB)~ +52°C (DB)				
Sound	Normal mode	dB (A)	53.0	56.0	59.0	58.0	61.0	58.0	59.0	61.0	62.0
pressure level	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

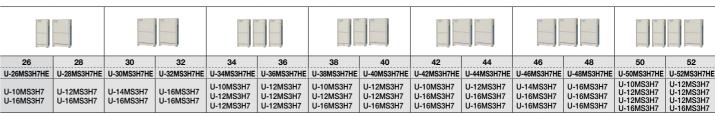
Appearance									F F
НР				54 U-54MS3H7HE	56 U-56MS3H7HE	58 U-58MS3H7HE	60 U-60MS3H7HE	62 U-62MS3H7HE	64 U-64MS3H7HE
Model name				U-10MS3H7 U-12MS3H7 U-16MS3H7 U-16MS3H7	U-12MS3H7 U-12MS3H7 U-16MS3H7 U-16MS3H7	U-10MS3H7 U-16MS3H7 U-16MS3H7 U-16MS3H7	U-12MS3H7 U-16MS3H7 U-16MS3H7 U-16MS3H7	U-14MS3H7 U-16MS3H7 U-16MS3H7 U-16MS3H7	U-16MS3H7 U-16MS3H7 U-16MS3H7 U-16MS3H7
Power supply						415V/3-phase/50 3-phase/60Hz	DHz		
Canacity	Caalina		kW	151.0	156.0	162.0	168.0	174.0	180.0
Capacity	Cooling		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	HxWx	: 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
Flootrical rations	Caalina	Running cu	rrent 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
Electrical ratings	Cooling	Power in	put kW	35.4	37.8	37.9	40.7	41.1	43.6
Starting current			Α	6	6	7	7	8	8
Air flow rate			m³/h	54,720	54,720	55,200	55,200	55,680	55,680
Air ilow rate			L/s	15,200	15,200	15,333	15,333	15,467	15,467
Refrigerant amou	unt at ship	oment	kg	27.8	27.8	30.5	30.5	33.2	33.2
External static pr	ressure		Pa	80	80	80	80	80	80
	Gas pip	е	mm (inches)	Ø41.28 (Ø1-5/8)					
Piping connections	Liquid p	ipe	mm (inches)	Ø19.05 (Ø3/4)					
	Balance	pipe	mm (inches)	Ø6.35 (Ø1/4)					
Ambient tempera	ature ope	rating rang	ge			Cooling: 10°C (DB)~ +52°C (DB)		
Sound	Normal	mode	dB (A)	66.0	66.0	66.0	67.0	66.0	67.0
pressure level	Silent m	ode (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

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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.





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

					380/4	400V/3-pnase/	bUHZ						
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 2,840x 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)	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)					
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 (I	DB)~ +52°C (DE	3)					
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.

U-14MS3H7

U-16MS3H7

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

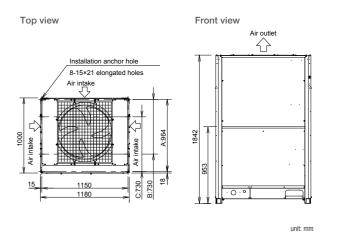
Top view

Front view Installation anchor hole 8-15×21 elongated holes 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)



FSV-EX MS3 Series FSV-EX MS3 Series

Cooling Only FSV-EX MS3 Series

dB (A) 60.0 dB 86.0

Sound power level Normal mode

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						380/400/415 380/400V/3-	5V/3-phase/50Hz phase/60Hz				
Capacity	Cooling	kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0
Сарасну	Cooling	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	$H \times W \times D$	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 actions	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
Electrical ratings	Power	input kW	4.23	5.57	8.17	8.77	10.9	13.6	14.9	17.1	19.9
Starting current		А	1	1	1	2	2	2	2	2	2
A :		m³/h	13,440	13,440	13,440	13,920	13,920	13,920	24,300	24,300	24,300
Air flow rate		L/s	3,733	3,733	3,733	3,867	3,867	3,867	6,750	6,750	6,750
Refrigerant amou	unt at shipment	kg	5.6	5.6	5.6	8.3	8.3	8.3	9.5	9.5	9.5
External static pr	ressure	Pa	80	80	80	80	80	80	80	80	80
	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
Piping connections	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)
COLI IGOLIOI IS	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 tempera	ature operating rai	nge				Cooling	g: 10°C (DB)~ +52	°C (DB)			
Sound	Normal mode	dB (A)	53.0	56.0	59.0	58.0	61.0	62.0	59.0	62.0	62.0
pressure level	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-8MS3H7 U-18MS3H7 U-24MS3H7	U-52MS3H7SP U-10MS3H7 U-18MS3H7 U-24MS3H7	U-54MS3H7SP U-12MS3H7 U-18MS3H7 U-24MS3H7	U-56MS3H7SP U-8MS3H7 U-24MS3H7 U-24MS3H7	U-58MS3H7SP U-10MS3H7 U-24MS3H7 U-24MS3H7	U-60MS3H7SP U-12MS3H7 U-24MS3H7 U-24MS3H7	U-62MS3H7SP U-14MS3H7 U-24MS3H7 U-24MS3H7	U-64MS3H7SP U-16MS3H7 U-24MS3H7 U-24MS3H7	U-66MS3H7SP U-18MS3H7 U-24MS3H7 U-24MS3H7
Power supply						380/400/415V/3 380/400/3-phase					
		kW	140.0	145.0	151.0	156.0	162.0	168.0	174.0	180.0	185.0
Capacity	Cooling	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	HxWxD	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	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
Electrical ratings	Power	input kW	37.6	38.7	41.4	43.0	44.5	47.3	47.7	50.2	52.9
Starting current		Α	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
All now rate		L/s	14,350	14,350	14,350	17,233	17,233	17,233	17,367	17,367	17,367
Refrigerant amou	unt at shipment	kg	23.4	23.4	23.4	24.6	24.6			27.3	27.3
External static pr	essure	Pa	80	80	80	80	80			80	80
Piping	Gas pipe	, ,	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)
connections	Liquid pipe	, ,	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 tempera	ature operating ra						10°C (DB)~ +52°C				
Sound	Normal mode	dB (A)	65.0			65.0	66.0				67.0
pressure level	Silent mode (2)	. ()	60.0	61.0	61.0	60.0	61.0			61.0	62.0
	Niamani manda	٩D	000	07.0	07.0	00.0	07.0	07 0	07.0	07.0	00.0

60.0

61.0 87.0

61.0 87.0



26 U-26MS3H7SP	28 U-28MS3H7SP	30 U-30MS3H7SP	32 U-32MS3H7SP	34 U-34MS3H7SP	36 U-36MS3H7SP	38 U-38MS3H7SP	40 U-40MS3H7SP	42 U-42MS3H7SP	44 U-44MS3H7SP	46 U-46MS3H7SP	48 U-48MS3H7SP
U-8MS3H7 U-18MS3H7	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/ 380/400V/3-ph			,			
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)	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)					
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	3)				
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/ 380/400/3-pha						
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 (E)B)~ +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

62.0 88.0

FSV-EX MS3 Series FSV-EX MS3 Series

Cooling Only FSV-EX MS3 Series

Appearance U-92MS3H7SP U-94MS3H7SP U-96MS3H7SP U-22MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7 U-24MS3H7 380/400/415V/3-phase/50Hz Power supply kW 260.0 266.0 272.0 Capacity Cooling BTU/h 887,400 907,800 928,300 3.42 FFR / COP Cooling W/W 3.49 3.45 1,842 x 6,340 x 1,842 x 6,340 x 1,842 x 6,340 x $H \times W \times D$ Dimensions mm 1.000 1,000 1,000 Net weight 1,464 ,464 1,464 kg Running current A 123.0 / 116.9 / 112.7 | 127.2 / 120.8 / 116.4 | 131.3 / 124.7 / 120.2 Electrical ratings Cooling Power input kW 74.5 77.0 79.5 Starting currer m³/h 97,200 97,200 97,200 Air flow rate L/s 27,000 27,000 27,000 Refrigerant amount at shipment kg 38.0 38.0 38.0 External static pressure Pa mm (inches) Ø53.98 (Ø2-1/8) Ø53.98 (Ø2-1/8) Ø53.98 (Ø2-1/8) Gas pipe mm (inches) Ø22.22 (Ø7/8) Ø22.22 (Ø7/8) Ø22.22 (Ø7/8) Liquid pipe connections Balance pipe mm (inches) Ø6.35 (Ø1/4) Ø6.35 (Ø1/4) Ø6.35 (Ø1/4) Cooling: 10°C (DB)~ +52°C (DB) Ambient temperature operating range Normal mode 68.0 68.0 pressure level 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.

SPACE SAVING COMBINATION MODEL

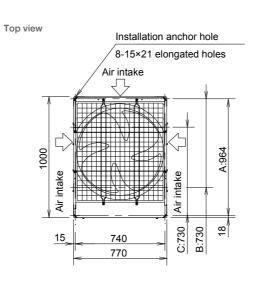


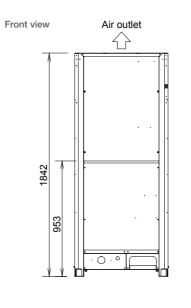
8/10/12 HP

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





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.

U-20MS3H7

U-22MS3H7

U-24MS3H7

A: (Installation hole pitch) For removing tube forward

B: (Installation hole pitch) For removing the downward

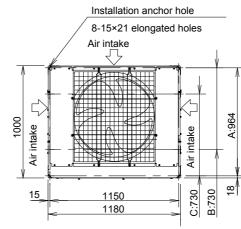
20 / 22 / 24 HP

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

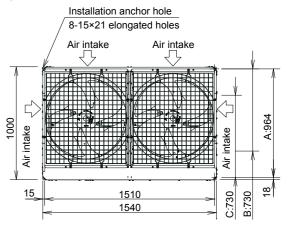
A: (Installation hole pitch) For removing tube forward

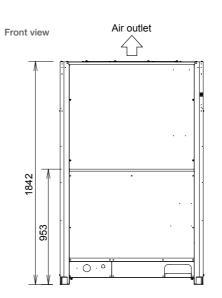
B: (Installation hole pitch) For removing the downward

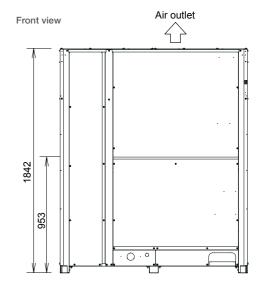




Top view







FSV-EX ME2 Series FSV-EX ME2 Series

2-WAY FSV-EX ME2 Series

High Efficiency Combination Model

								-					
Appearance										7			
HP				8	10	12	14	16	18	20	22	24	26
пг				0	10	12	14	10	U-18ME2H7HE	U-20ME2H7HE	U-22ME2H7	U-24ME2H7	U-26ME2H7
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									//3-phase/50Hz 3-phase/60Hz				
	Cooling		kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0	73.0
Canacity	Cooling		BTU/h	76,500	95,600	114,300	136,500	153,600	170,600	191,100	209,900	232,100	249,100
Capacity	Heating		kW	25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	81.5
	Heating		BTU/h	85,300	107,500	128,000	153,600	170,600	191,100	215,000	235,500	261,100	278,200
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
EER / GUP	Heating		W/W	5.84	5.56	5.38	5.29	5.13	5.71	5.58	5.48	5.31	5.29
Dimensions	HxWxE)	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
	Coolina	Running curre	ent 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
Floatrical rations	Cooling	Power input	kW	4.23	5.57	7.08	8.77	10.9	9.70	11.1	12.7	14.5	16.5
Electrical ratings	Heating	Running curre	ent 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
	пеашу	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			Α	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
All now rate			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 shipmen	t	kg	5.6	5.6	8.3	8.3	8.3	11.2	11.2	13.9	16.6	13.9
External static press	ure		Pa	80	80	80	80	80	80	80	80	80	80
	Gas pipe	mr	m (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)	028.58 (01-1/8)	028.58 (01-1/8)	031.75 (01-1/4)
Piping connections	Liquid pip	oe mr	m (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 p	pipe mr	m (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	06.35 (01/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	06.35 (01/4)	Ø6.35 (Ø1/4)
Ambient temperatur	e operating	range					Cooling: -10°C	(DB)~ +52°C (DB).	. Heating: -25°C (V	VB)~ +18°C (WB)			
Sound	Normal m	node	dB (A)	53.0	56.0	57.0	58.0	61.0	58.0	59.0	59.5	60.0	62.5
pressure level	Silent mo	de (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 m	node	dB	74.0	77.0	78.0	79.0	82.0	79.0	80.0	80.5	81.0	83.5

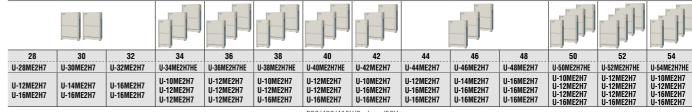
Appearance											
НР				56 U-56ME2H7HE	58 U-58ME2H7HE	60 U-60ME2H7HE					
Model name	U-12ME2H7 U-10ME2H7 U-12ME2H7 U-14ME2H7 U- U-12ME2H7 U-16ME2H7 U-1							U-64ME2H7 U-16ME2H7 U-16ME2H7 U-16ME2H7 U-16ME2H7			
Power supply				380/400/415V/3-phase/50Hz 380/400/3-phase/60Hz							
	0		kW	156.0	162.0	168.0	174.0	180.0			
0	Cooling		BTU/h	532,400	552,900	573,400	593,900	614,300			
Capacity	Heating		kW	175.0	182.0	189.0	195.0	201.0			
	Heating		BTU/h	597,300	621,200	645,100	665,500	686,000			
EER / COP	Cooling		W/W	4.38	4.27	4.24	4.23	4.13			
EER / COP	Heating		W/W	5.24	5.19	5.15	5.16	5.11			
Dimensions	HxWx	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			
	0	Running current	Α	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			
Flactrical rations	Cooling	Power input	kW	35.6	37.9	39.6	41.1	43.6			
Electrical ratings	Heating	Running current	Α	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			
	Heating	Power input	kW	33.4	35.1	36.7	37.8	39.3			
Starting current			Α	6	7	7	8	8			
Air flow rate			m³/h	55,680	55,200	55,680	55,680	55,680			
All now rate			L/s	15,467	15,333	15,467	15,467	15,467			
Refrigerant amount	at shipmer	nt	kg	33.2	30.5	33.2	33.2	33.2			
External static press	sure		Pa	80	80	80	80	80			
Distan	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			
Piping connections	Liquid pi	pe 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)	06.35 (01/4)	06.35 (01/4)	Ø6.35 (Ø1/4)			
Ambient temperature operating range Cooling: -10°C (DB)~ +52°C (DB). Heating: -25°C (WB)~ +					-25°C (WB)~ +18	3°C (WB)					
Sound	Normal r	node	dB (A)	65.5	66.5	66.5	66.5	67.0			
pressure level	Silent mo	ode (2)	dB (A)	60.5	61.5	61.5	61.5	62.0			
Sound power level	Normal r	node	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.





300/400/4131/	з-рназелэнп.
200/4001//2	phono/GOUz

						380/400V/3	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
031.75 (01-1/4)	Ø31.75 (Ø1-1/4)	031.75 (01-1/4)	031.75 (01-1/4)	Ø38.10 (Ø1-1/2)									
019.05 (03/4)	Ø19.05 (Ø3/4)												
06.35 (01/4)	Ø6.35 (Ø1/4)	06.35 (01/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	06.35 (01/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	06.35 (01/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
					Cooling: -10°C (I	DB)~ +52°C (DB)	Heating: -25°C (WB)~ +18°C (WB					
62.5	63.0	64.0	61.5	62.0	63.5	63.5	65.0	65.0	65.0	66.0	64.5	64.5	65.5
57.5	58.0	59.0	56.5	57.0	58.5	58.5	60.0	60.0	60.0	61.0	59.5	59.5	60.5
83.5	84.0	85.0	82.5	83.0	84.5	84.5	86.0	86.0	86.0	87.0	85.5	85.5	86.5

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

Air outlet

Installation anchor hole

8-15×21 elongated holes

C: (Installation hole pitch)

Top view

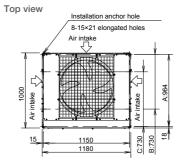
Front view

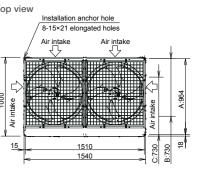
12/14/16 HP

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

C: (Installation hole pitch)





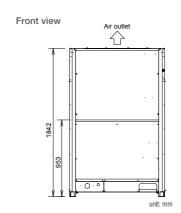
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

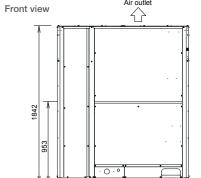
A: (Installation hole pitch) For removing tube forward

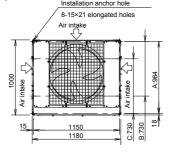
B: (Installation hole pitch) For removing the tube

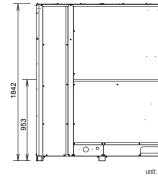
18 / 20 HP

C: (Installation hole pitch)









FSV-EX ME2 Series FSV-EX ME2 Series

2-WAY FSV-EX ME2 Series

Space-saving Combination Model

Appearance									Ī			
HP				8	10	12	14	16	18	20	22 U-22ME2H7	24 U-24ME2H7
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								400/415V/3-phase 0/400V/3-phase/6				
Cooling			kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0
Canacity	Cooling		BTU/h	76,500	95,600	114,300	136,500	153,600	170,600	191,100	209,900	232,100
Capacity		kW	25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	
Heating BTU/h		BTU/h	85,300	107,500	128,000	153,600	170,600	191,100	215,000	235,500	261,100	
Cooling W/W			W/W	5.30	5.03	4.73	4.56	4.13	4.10	3.76	4.84	4.69
EER / COP Heating W/W			W/W	5.84	5.56	5.38	5.29	5.13	5.05	4.60	5.48	5.31
Dimensions	H x W x [)	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
	0	Running current	A 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
Flootrical rations	Cooling	Power input	kW	4.23	5.57	7.08	8.77	10.9	12.2	14.9	12.7	14.5
Electrical ratings	Heating	Running current	A 1	7.15 / 6.79 / 6.54	9.68 / 9.20 / 8.86	11.6 / 11.1 / 10.7	14.9 / 14.1 / 13.6	16.6 / 15.8 / 15.2	18.9 / 18.0 / 17.4	22.9 / 21.7 / 20.9	21.3 / 20.2 / 19.5	24.0 / 22.8 / 22.0
	Heating	Power input	kW	4.28	5.67	6.97	8.51	9.75	11.1	13.7	12.6	14.4
Starting current			Α	1	1	1	2	2	2	2	2	2
Air flow rate			m³/h	13,440	13,440	13,920	13,920	13,920	24,300	24,300	27,360	27,840
All llow rate			L/s	3,733	3,733	3,867	3,867	3,867	6,750	6,750	7,600	7,733
Refrigerant amount	at shipmer	it	kg	5.6	5.6	8.3	8.3	8.3	9.5	9.5	13.9	16.6
External static press	ure		Pa	80	80	80	80	80	80	80	80	80
Gas pipe mm (inches)			(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)
Piping connections	Piping 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)
					06.35 (01/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	06.35 (01/4)	06.35 (01/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	
Ambient temperature operating range						Cod	oling: -10°C (DB)~ +	52°C (DB). Heating:	-25°C (WB)~ +18°C	(WB)		
Sound	Normal n	node	dB (A)	53.0	56.0	57.0	58.0	61.0	59.0	59.0	59.5	60.0
pressure level	Silent mo	ode (2)	dB (A)	48.0	51.0	52.0	53.0	56.0	54.0	54.0	54.5	55.0
Sound power level				74.0	77.0	78.0	79.0	82.0	80.0	80.0	80.5	81.0

Appearance				v v										
НР				50 U-50ME2H7SP	52 U-52ME2H7SP	54 U-54ME2H7SP	56 U-56ME2H7SP	58 U-58ME2H7SP	60 U-60ME2H7SP	62 64 6 U-62ME2H7 U-64ME2H7 U-66ME				
U-14ME2H7							U-16ME2H7	U-10ME2H7 U-16ME2H7 U-20ME2H7 U-20ME2H7						
Power supply					380/400/415W3-phase/50Hz 380/400/3-phase/60Hz									
	Ozaliza		kW	140.0	145.0	151.0	156.0	162.0	168.0	174.0	180.0	185.0		
0 "	Cooling		BTU/h	477,800	494,900	515,400	532,400	552,900	573,400	593,900	614,300	631,400		
Capacity Heating kW			kW	155.0	160.0	169.0	175.0	182.0	189.0	195.0	201.0	207.0		
Heating BTU/h			BTU/h	529,000	546,100	576,800	597,300	621,200	645,100	665,500	686,000	706,500		
Cooling W/W				4.09	3.99	3.95	3.87	3.86	3.76	4.23	4.13	4.00		
EER / COP	Heating		W/W	5.00	4.95	4.79	4.76	4.73	4.60	5.16	5.11	4.85		
Dimensions	HxWxI)	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		
	0 "	Running currer	nt A	57.7 / 54.8 / 52.9	60.6 / 57.6 / 55.5	63.8 / 60.6 / 58.4	67.3 / 63.9 / 61.6	70.1 / 66.6 / 64.2	73.8 / 70.1 / 67.6	70.2 / 66.7 / 64.2	73.6 / 69.9 / 67.4	77.3 / 73.4 / 70.8		
Electrical actions	Cooling	Power input	kW	34.2	36.3	38.2	40.3	42.0	44.7	41.1	43.6	46.3		
Electrical ratings		Running currer	nt A	52.9 / 50.3 / 48.5	54.5 / 51.8 / 49.9	59.6 / 56.6 / 54.6	62.1 / 59.0 / 56.9	65.0 / 61.7 / 59.5	68.6 / 65.2 / 62.8	64.5 / 61.3 / 59.1	67.1 / 63.7 / 61.4	72.1 / 68.5 / 66.0		
	Heating	Power input	kW	31.0	32.3	35.3	36.8	38.5	41.1	37.8	39.3	42.7		
Starting current			Α	6	6	6	6	6	6	8	8	7		
Air flanning			m³/h	52,140	52,140	62,520	62,520	72,900	72,900	55,680	55,680	75,960		
Air flow rate			L/s	14,483	14,483	17,367	17,367	20,250	20,250	15,467	15,467	21,100		
Refrigerant amount	at shipmer	nt	kg	26.1	26.1	27.3	27.3	28.5	28.5	33.2	33.2	32.9		
External static press	sure		Pa	80	80	80	80	80	80	80	80	80		
	Gas pipe	mn	n (inches)	038.10 (01-1/2)	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)		
Piping connections	Liquid pi	pe mn	n (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 (inche:			n (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	Normal r	node	dB (A)	64.5	65.5	63.5	64.5	64.0	64.0	66.5	67.0	65.5		
pressure level	Silent mo	ode (2)	dB (A)	59.5	60.5	58.5	59.5	59.0	59.0	61.5	62.0	60.5		
Olione mode (E) do (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
						V/3-phase/50Hz 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
031.75 (01-1/4)	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)
019.05 (03/4)	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)						
				Cooling: -10°	C (DB)~ +52°C (DB)	. Heating: -25°C (WE	8)~ +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-76ME2H						m	
U-12ME2H7 U-10ME2H7 U-16ME2H7 U-16ME2H7 U-16ME2H7 U-16ME2H7 U-20ME2H U-16ME2H7 U-20ME2H7 U-20ME2							
U-16ME2H7 U-20ME2H7 U-16ME2H7 U-18ME2H7 U-20ME2H7 U-20ME2H7 U-20ME2H7	II COMEQUIZED						
U-20ME2H7 U-20ME	U-DOINIEZH/3P	U-/UMEZH/SP	U-12ME2H13P	U-/4WE2H/5P	U-/bME2H/SP	U-/8ME2H/SP	U-8UMEZH/SP

			/400/415V/3-phase 80/400/3-phase/60			
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)
06.35 (01/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Cod	oling: -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.

Mini-FSV LE Series Mini-FSV LE Series



LE1 LE2 Long piping design length for greater design flexibility building types and sizes Heiaht Actual piping length 150m Actual piping length 150m (equivalent piping length 175m) (equivalent piping length 175m Level difference Level difference between indoor units 15m between indoor Max. total piping length:300m Max. total piping length:180m units 15m

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

Max. total piping length: 50m

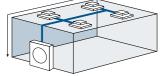
Max. total piping length: 180n (Actual length: 150m)

Refrigerant chargeless up to 50m

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 charge is required.

[Sample piping lay-out]



LE1 LE2

buildings. When total piping length exceeds 50m, additional refrigerant

Compact design

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.

Single Split

Short height of 996mm LE2

996mm Can be installed in the small space



[LE1] 1330mm

Mini-FSV

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

High external static pressure 35Pa

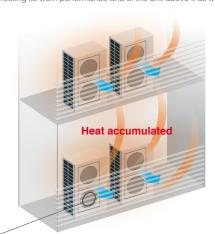
When unit is installed on a narrow balcony and exposed to the sun, the fence at the front side would restrict hot air from being discharged. Heat accumulated in an enclosure can cause over-heating. This could potentially result in damage or shorten the product's life span. A high external static pressure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



LE1 LE2

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.



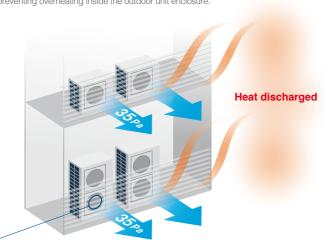
Previous fan

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



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 resist 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.

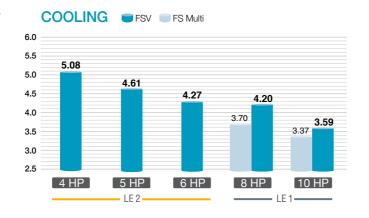


Mini-FSV LE Series

2-WAY Mini-FSV LE Series

High efficiency LE1 LE2

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



Energy savings design

LE1 LE2



Panasonic Inverter Compressor A large-capacity inverter compressor has been adopted. The inverter compressor is superior in performance with improved partial-load capacity.

Printed Circuit Board The number of PCB is 2 pieces for making maintenance easier.

A large accumulator has been adopted to maintain compressor reliability

Accumulator because of the increased refrigerant quantity, which allows an extended

max piping length.

Checking load and outside temperature, the DC motor is controlled for optimum air volume.

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.

Heat Exchanger & The heat exchanger size and the copper tube sizes in the heat exchanger have been redesigned to increase efficiency.

Oil Separator
A centrifugal separator has been adopted to improve oil separation efficiency and reduce refrigerant pressure loss.

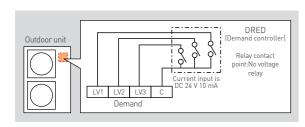
Flexible demand response with the optional terminal block

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.

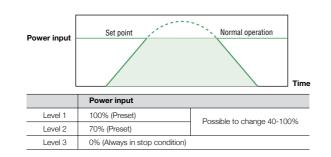
*Terminal block supplied as optional kit. (CZ-CAPDC2) Please ask you dealer.



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.

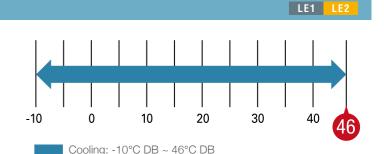


Wide operating range

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

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

*1 Depending on the type of remote controller.



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

Blue fin condenser

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



LE1 LE2

LE1 LE2

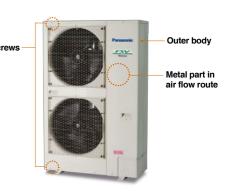
High durability outdoor unit

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

- 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).



LE1

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Mini-FSV LE Series

Mini-FSV LE Series

2-WAY Mini-FSV LE2 Series

HP					4			4			5			5			6			6												
Model name	е			U.	-4LE2H	14	υ	-4LE2H	17	U	-5LE2H	H4	U.	5LE2H	17	U.	-6LE2H	14	U.	-6LE2H	17											
Power supply	у			1-	0/230/240 phase/50/ 0V/1-phas	Ηz	3-	0/400/418 phase/50/ 0V/3-phas	Hz	1-	0/230/240 phase/500 0V/1-phas	Hz	3-	0/400/415 phase/506 0V/3-phas	-Iz	1-	0/230/240 phase/50H 0V/1-phas	-Iz	3-phase		Hz											
Voltage				220V	230V	240V	380V	400V	415V	220V	230V	240V	380V	400V	415V	220V 230V 240V			380V	400V	415V											
	Ozaliza		kW		12.1			12.1			14.0			14.0			15.5			15.5												
0	Cooling		BTU/h		41,300			41,300			47,800			47,800			52,900			52,900												
Capacity	I I ti		kW		12.5			12.5			16.0			16.0		16.5				16.5												
	Heating		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												
EER/COP	Heating		W/W		5.95			5.95			5.25			5.25		5.08			5.08		5.08		5.08		5.08		5.08		5.08		5.08	
Dimensions	HxWxI)	mm	996	x 980 x	370	996	x 980 x	370	996	x 980 x	370	996	x 980 x	370	996	996 x 980 x 370			996 x 980 x 370 996 x 980 x		370										
Net weight			kg		106			106			106			106			106			106												
	Coolina	Running current	Α	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											
Electrical	Cooling	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											
ratings	Heating	Running current	Α	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											
	rieating	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 curre	ent		Α		1			1			1			1			1			1												
Air flow rate			m³/ min		69			69			72			72			74			74												
All llow rate			L/s		1,150			1,150			1,200			1,200			1,233			1,233												
Refrigerant a at shipment	mount		kg	R	410A 6.7	70	R	410A 6.7	70	R	410A 6.7	70	R	410A 6.7	70	R	R410A 6.70		R	410A 6.7	70											
Piping	Gas pipe		mm (inches) Ø15.88 (Ø5/8) Ø15.88 (Ø5/8) Ø15.88 (Ø5/8) Ø15.88 (Ø5/8)		5/8)	Ø15.88 (Ø5/8)		/8) Ø15.88 (Ø5/8)		Ø1	5.88 (Ø5	5/8)																				
connection	Liquid pip	ое	mm (inches)	Ø9	9.52 (Ø3	/8)	Ø9	9.52 (Ø3	/8)	Ø9	9.52 (Ø3	3/8)	Ø9	9.52 (Ø3	/8)	Ø9	9.52 (Ø3/	/8)	Ø	9.52 (Ø3	/8)											
Ambient tem operating rar				-10°C	Cooling: DB~+46 Heating: WB~+18	°CDB,	-10°C	Cooling: DB~+46 Heating: WB~+18	°CDB,	Heating: Heating: Heating:		-10°CDB~+46°CDB,		-10°Cl	Cooling: DB~+46 Heating: NB~+18	°CDB,																
Sound pressure level	Normal n	node	dB(A)		52.0			52.0			53.0			53.0		54.0				54.0												
(Cooling)	Silent mo	ode (3)	dB(A)		45.0			45.0			46.0			46.0		47.0				47.0												
Sound power level (Cooling)	Normal n	node	dB		69.0			69.0			71.0			71.0		73.0			73.0													

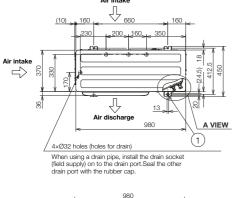
Air intake

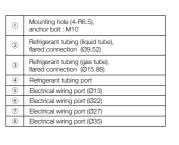
These specifications are subject to change without notice. High durable model (with suffix "E") has same specifications.

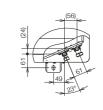
Dimensions

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

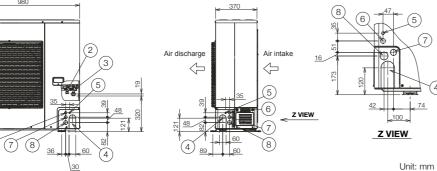








A VIEW



2-WAY Mini-FSV LE1 Series

HP				8		10				
Model nam	e			U-8LE1H7			U-10LE1H7			
Power supp	ly		380/400/415V/3	3-phase/50Hz 380/400	V/3-phase/60Hz	380/400/415V/3	3-phase/50Hz 380/400	V/3-phase/60Hz		
Voltage			380V	400V	415V	380V	400V	415V		
		kW		22.4			28.0	I		
0	Cooling	BTU/h		76,500			95,600			
Capacity				25.0			28.0			
Heating		BTU/h		85,300			95,600			
FED (OOD	Cooling	W/W		4.20			3.59			
EER/COP	Heating	W/W		4.52			4.55			
Dimensions	HxWxD	mm		1,500 x 980 x 370		1,500 x 980 x 370				
Net weight		kg		132		133				
	Running current	Α	8.70	8.25	7.95	12.7	12.1	11.7		
Electrical	Cooling Power input	kW	5.33	5.33	5.33	7.80	7.80	7.80		
ratings	Running current	Α	9.05	8.60	8.25	10.0	9.55	9.20		
	Heating Power input	kW	5.53	5.53	5.53	6.15	6.15	6.15		
Starting curr	ent	Α		1			1			
Air flow rate		m³/ min		150		160				
All llow rate		L/s		2,500		2,667				
Refrigerant a	amount at shipment	kg		R410A 6.30			R410A 6.60			
Piping	Gas pipe	mm (inches)		Ø19.05 (Ø3/4)			Ø22.22 (Ø7/8)			
connection	Liquid pipe	mm (inches)		Ø9.52 (Ø3/8)		Ø9.52 (Ø3/8)				
Ambient temperature operating range				ooling:-10°CDB~+46°CD eating:-20°CWB~+18°CV		Cooling:-10°CDB~+46°CDB, Heating:-20°CWB~+18°CWB				
Sound pressure level	Normal mode	dB(A)	59.0			62.0				
(Cooling)	Silent mode (3)	dB(A)	52.0				55.0			
Sound power level (Cooling)	Normal mode	dB		80.0	0.0 83.0					

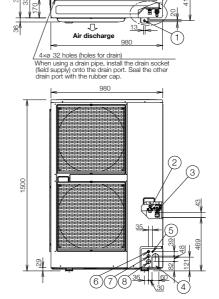
	Rated conditions:	Cooling	Heating
Global remarks	Indoor air temperature	27°C DB / 19°C WB	20°C DB
remarks	Outdoor air temperature	35°C DB	7°C DB / 6°C WB

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

Dimensions

U-8LE1H7 / U-10LE1H7



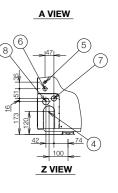


1	Mounting hole (4-R6.5), anchor bolt : M10
2	Refrigerant tubing (liquid tube), flared connection (Ø9.52) for 8-10 HP finally.
3	Refrigerant tubing (gas tube), flared connection (ø19.05)
4	Refrigerant tubing port
(5)	Electrical wiring port (ø13)
6	Electrical wiring port (ø22)
7	Electrical wiring port (ø27)
(8)	Electrical wiring port (ø35)

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

Air discharge Ar intake





Unit: mm

nanoe™ X nanoe™ X



*Unit must be constantly turned on and operating in the air purification mode - nanoe™ X.

** https://www.businessinsider.com/coronavirus-lifespan-on-surfaces-graphic-2020-3

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



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

- nanoeTM 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.



e™ X tion for

nanoe

nanoe™ X r information fo Thailand



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

 $^{\circ}$ 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.

C•nanoe X

■ nanoe™ X device evolution



	nanoe™	nanoe™ X Generator Mark 1	nanoe™ X Generator Mark 2	nanoe™ X Generator Mark 3
Hydroxyl				
radicals	10x t	imes 20x	times 100x	times
	0.48 Trillion* hydroxyl radicals/sec	4.8 Trillion* hydroxyl radicals/sec	9.6 Trillion* hydroxyl radicals/sec	48 Trillion* hydroxyl radicals/sec
Device status		Electrostatic Multi-leade	atomisation r discharge	Electrostatic atomisatic Circular discharge

Differences in discharge systems

Changed from 4-point discharge to circular discharge

nanoe™ X technology inhibits novel coronavirus

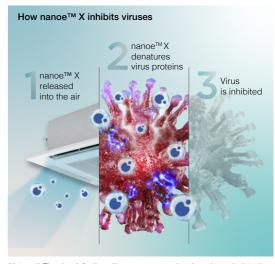
Our nanoeTM X technology has shown to suppress the activity of viurses & bacteria. Enjoy cleaner and quality air at home. Stay safer indoors with nanoeTM X.



Overview

The objective of this test was to determine if nanoeTM X inhibit the activity of the SARS-CoV-2 virus. Gauze saturated with SARS-CoV-2 virus solution was exposed to a generator of nanoeTM 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), a 98.81% inhibition rate was achieved in 4 hours.





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

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

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

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.



CONEX

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

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





A next-generation remote control solution optimised for usability













25.00

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.

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.

Intuitive operation for easy configuration

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

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

Key Indoor Units Equipped DC motors



















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.





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.



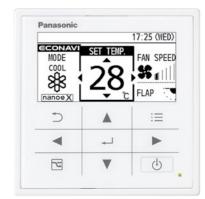
conditions.

Sensor is remotely located to maximize the energy saving effect

Large 3.5" full-dot LCD with white LED backlight

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



Stylish, easy-to-use touch key design

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

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

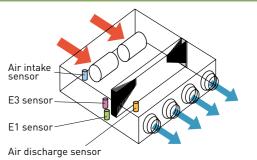


All Ducted Series / F3, M2, Z1, E3, E2, E1, type

Discharge air temperature control

Smart sensors control discharge air temperature for precise room temperature control.

Possible to reduce cold drafts during heating operation.



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



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

Noise reducing external valve kit

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



Remote Temperature Sensor



- 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.

CZ-RTC5B

Indoor Unit

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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 kW BTU/h	2.2/2.5 7,500/8,500	2.8/3.2 9,600/10,900	3.6/4.2 12,300/14,300	4.5/5.0 15,400/17,100	5.6/6.3 19,100/21,500	6.0/7.1 20,500/24,200	7.3/8.0 24,900/27,300	9.0/10.0 30,700/34,100
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
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	
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	
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	
Generator Mark3 U2 type CONAVI ** 4-Way Cassette Panel No. CZ-KPU3H/Panel No. CZ-KPU3H	S-22MU2E5BN	S-28MU2E5BN	S-36MU2E5BN	S-45MU2E5BN	S-56MU2E5BN	S-60MU2E5BN	S-73MU2E5BN	S-90MU2E5BN
Generator Mark3 Y3 type CONAVI 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	

 $^{^{\}star}$ High flesh air system is not allowed for 18 kW model. ** Only for CZ-KPU3A

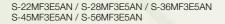
106	112	140	160	180	224	280	Wireless re	mote control		
Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Type with	Type with		
10.6/11.4 36,200/38,900	11.2/12.5 38,200/42,700	14.0/16.0 47,800/54,600	16.0/18.0 54,600/61,400	18.0/20.0 61,400/68,200	22.4/25.0 76,400/85,300	28.0/31.5 95,500/107,500	built-in sensor	separately installed sensor	Functions	
,,_,		,	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,,,						DDV
	Па	Па	T T						self-diagnosing Auto fan	DRY Dry mo
	0.440145055411	0.440145055411	0.4001/5055411					•	₹ œ	DC
	S-112MF3E5AN	S-140MF3E5AN	S-160MF3E5AN						Auto restart Drain pum	
									((!)	DRY
									self-diagnosing Auto fan	Dry mo
									Auto restart Drain pum	DC mo
										DRY
									self-diagnosing Auto fan	Dry mo
									₹ (DC)	
									Auto restart DC motor	
				NEW ///	NEW ///	NEW ///				DRY
								•	self-diagnosing Auto fan	Dry mo
				S-180ME3H	S-224ME3H	S-228ME3H			Auto restart DC motor	
					High Fresh Air	High Fresh Air			((!)	DRY
								•	self-diagnosing Auto fan	Dry mo
				S-180ME2E5 *	S-224ME2E5	S-280ME2E5		-	Auto restart DC motor	
										D.DV
Same 1		Time!							self-diagnosing Auto fan	DRY Dry mo
								•	#	
S-106ME1E5		S-140ME1E5			S-224ME1E	S-280ME1E5			Auto restart	
EW ///										DRY
							•			ry mode A
S-106MK3E									Auto restart Air swing D	D.P. Irain pump
									((!)) (A) [DRY
								•	self-diagnosing Auto fan D	ry mode A
	S-112MU2E5BN	S-140MU2E5BN	S-160MU2E5BN							DP
	O TIZMOZZOBIT	0 1 101110220311	0 100///0220211							rain pump
										DRY Dry mode A
										DP-
									Auto restart Air swing D	rain pump D
										DRY
								•	self-diagnosing Auto fan E	DP A
									Auto restart Air swing D	rain pump
										DRY
								•	self-diagnosing Auto fan E	ry mode A
										OP-
										rain pump D
										DRY Dry mode A
								•		DC motor
S-106MT2E5A		S-140MT2E5A							Auto restart Air swing D	
									((!)	DRY
								•	self-diagnosing Auto fan	Dry mo
									Auto restart	
									((!)	DRY
									self-diagnosing Auto fan	Dry mo
	I		l	I	1	I	1	_	#	

Indoor Unit / F3 Type Indoor Unit / F3 Type

F3 TYPE Mid Static Adaptive Ducted

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







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

Consone **Generator Mark3**





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

Optional accessory

ECONAVI **ECONAVI** ready



CZ-RTC6WBL

CZ-RTC6WBLW2



CZ-RTC6BL









Technical focus

For short

as hotels

- 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.



For long ducting or for usage with high efficiency filter

* Please refer to technical databook for detail.

Powerful 150Pa external static pressure in an industryleading horizontal/vertical installation design

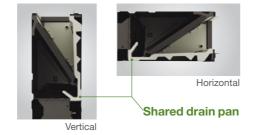
Delivering static pressure up to 150Pa external static pressure, the industry-leading horizontal/vertical design offers the power you need in a compact form factor.



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.



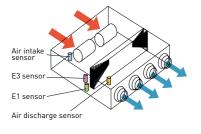
As the experiments demonstrate: even with a total ductwork length of up to 10 m, effectiveness of nanoe™ X is maintained.

Built-in Drain pump External electrical equipment box (DC motor pump) makes maintenance easy Space saving height of 250mm for all models 250mm standardised height provides Built-in filter easy and uniform installation for models with different capacities, especially when ceiling heights are restricted

Discharge air temperature control

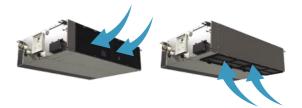
- Possible to control discharge air temperature for accurate room temperature control.
- Possible to reduce cold drafts during heating operation.

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



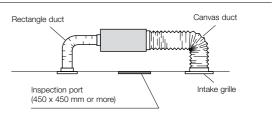
Selectable air inlet position

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



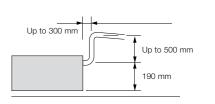
System example

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



More powerful drain pump

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



Indoor Unit / F3 Type Indoor Unit / F3 Type

F3 TYPE Mid Static Adaptive Ducted

Model Name			S-22MF3E5AN	S-28MF3E5AN	S-36MF3E5AN	S-45MF3E5AN	S-56MF3E5AN
Power source)			22	0/230/240 V, 1 phase -	50/60 Hz	
0 "		kW	2.2	2.8	3.6	4.5	5.6
Cooling capacity		BTU/h	7,500	9,600	12,300	15,400	19,100
		kW	2.5	3.2	4.2	5.0	6.3
Heating capa	city	BTU/h	8,500	10,900	14,300	17,100	21,500
	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
Power input	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	Cooling	Α	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
amperes	Heating	Α	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
	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Cooling	m³/h	768/660/480	768/660/480	840/720/480	840/720/480	960/840/600
	Air flow rate (H/M/L)	L/s	213/183/133	213/183/133	233/200/133	233/200/133	267/233/167
Fan motor	Heating Air flow rate (H/M/L)	m³/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 pressu	ire sound (H/M/L)	dB(A)	31/28/20	31/28/20	31/28/20	31/28/20	35/32/24
Dimensions	HxWxD	mm	250 x 800 x 730	250 x 800 x 730	250 x 800 x 730	250 x 800 x 730	250 x 800 x 730
	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)
COLLIGORIOLIS	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	26	26	26	26	26

	Rated conditions:	Cooling	Heating
GLOBAL REMARKS	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
		22	0/230/240 V, 1 phase - 5	0/60 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

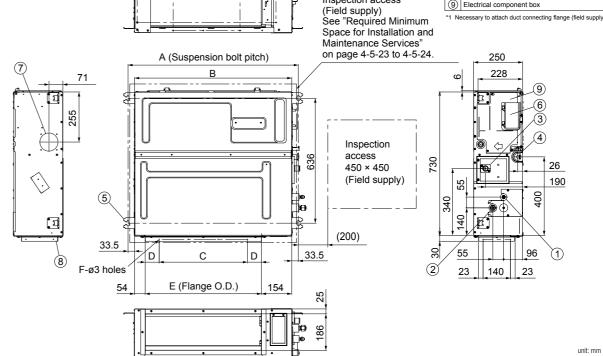
F3 TYPE MID STATIC DUCTED Dimensions

	Type	Α	В	С	D	E	F	Air intake port size
Type		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
ſ	112/140/160	1,467	1,400	1,050 (Pitch 150 × 7)	71	1,192	20	204 × 1,283

Refrigerant tubing joint (liquid tube)
S-22/28/36/45/56MF3E5AN : Ф6.35 (flared)
S-60/73/90/112/140/160MF3E5AN : Ф9.52 (flared Refrigerant tubing joint (gas tube)

S-22/28/36/45/56MF3E5AN: Ф12.7 (flared)
S-60/73/90/112/140/160MF3E5AN: Ф15.88 (flared) 3 Upper drain port VP20 (ø26 mm) 200 mm flexible hose supplied Bottom drain port VP20 (ø26 mm) Suspension lug (4 – 12 × 30 mm) Power supply outlet Fresh air intake port (ø100 mm)* Flange for flexible air outlet duct Electrical component box

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



Inspection access

Indoor Unit / M2 Type Indoor Unit / M2 Type

NEW ///

M2TYPE Slim Low Static Ducted

Concealed duct

The ultra slim M2 type is one of the leading products of its type in

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.







S-45MM2FA/S-56MM2FA

Optional accessory

25.0

C7-RTC6W

CZ-RTC6WBL

CZ-RTC6WBLW2

ECONAVI ECONAVI ready



CZ-RTC6

CZ-RTC6BL







28

CZ-RWS3 CZ-RWRC3









Operation

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
- Easy maintenance and service by external electrical
- 40 Pa static pressure enables ductwork to be fitted.
- Includes drain pump
- Includes built in filter.
- nanoe™ X : 100x for CAC (100 times more nanoe™ particle for wide commercial space)

More flexible Installation

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

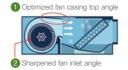






Low noise design for a more comfortable space

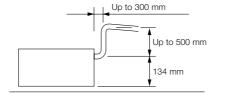
Improved fan and fan casing design reduces noise levels by 2 -5 dB(A) compared to current models, providing a more comfortable space.





Drain pump with increased power!

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



nanoe™ X Generator Mark3

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







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

M2 TYPE SLIM LOW STATIC DUCTED **Dimensions**

RFMARKS

Detailed dimensions of indoor unit

a) Refrigerant piping joint (liquid tube)

b) Refrigerant tubing joint (gas tube)

h) Flange for flexible air outlet duct

c) Upper drain port d) Bottom drain port

e) Suspension lug

g) Fresh air intake port

f) Electrical component box

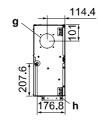
Rated conditions:

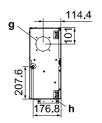
Indoor air temperature

Cooling 27°C DB / 19°C WB

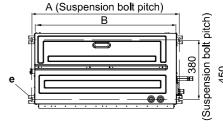
Outdoor air temperature 35°C DB / 24°C WB

Time	Α	В	С	D
Туре	mm	mm	mm	mm 615
22, 28, 36	740	700	662	615
45, 56	940	900	862	815

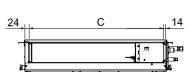


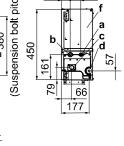


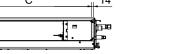
7°C DB / 6°C WB



Specifications are subject to change without notice.







Unit: mm

45

Indoor Unit / Z1 Type Indoor Unit / Z1 Type

Z1 TYPE Slim Low Static Ducted Twenty Series Concealed duct

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





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

Optional accessory

CZ-RTC6W

ECONAVI ECONAVI ready





CZ-RTC6 CZ-CENSC1 CZ-RTC5B





CZ-RWS3 CZ-RWRC3











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.



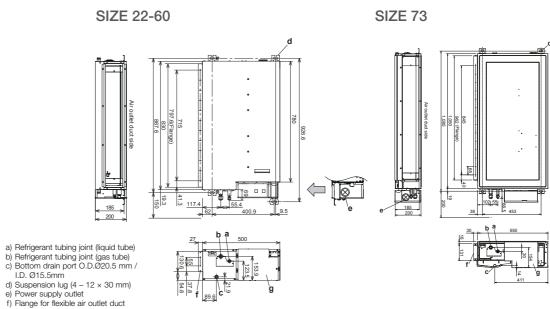
CZ-73DMZ1

Model Nar	ne		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
		kW	2.5	3.2	4.2	5.1	6.4	7.1	8.0
Heating capac	ity	BTU/h	8,500	10,900	14,300	17,400	21,800	24,200	27,300
Davies inc. 4	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
Power input	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 Cooling current Heating	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
	Type		Sirroco fan	Sirroco fan	Sirroco fan	Sirroco fan	Sirroco fan	Sirroco fan	Sirroco fan
	Air flow rate (H/M/L)	m³/h	480/420/360	600/540/420	600/540/420	690/630/510	720/660/540	870/750/630	1,080/840/660
Fan		L/s	133/117/100	167/150/117	167/150/117	192/175/142	200/183/150	242/208/175	300/233/183
	Motor output	W	60	60	60	60	60	60	60
	External static pressure	e Pa	10-30	10-30	10-30	10-30	10-30	10-30	10-30
Sound power	level (H/M/L)	dB	50/49/47	52/51/49	54/52/50	56/54/52	57/55/53	60/57/55	62/60/58
Sound pressur	re 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	HxWxD	mm	200×830×500	200×830×500	200×830×500	200×830×500	200×830×500	200×830×500	200x1,050×550
	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
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)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
CONTRICTIONS	Drain piping		O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm	O.D. Ø20.5 mm / I.D. Ø15.5mm
Net weight		kg	17	17	18	18	18	18	24

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
1 12141/ 11 11 (0	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications are subject to change without notice.

Z1 TYPE SLIM LOW STATIC DUCTED TWENTY SERIES Dimensions



47

g) Electrical component box

Indoor Unit / E3 Type Indoor Unit / E3 Type

COOLINGONLY

E3 TYPE High Static Ducted



High static and large airflow splittable ducted.







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

Optional accessory

25.0

C7-RTC6W

CZ-RTC6WBL

CZ-RTC6WBLW













* 28°











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





Easy disassembly steps

It can be disassembled in two steps, even in limited space,





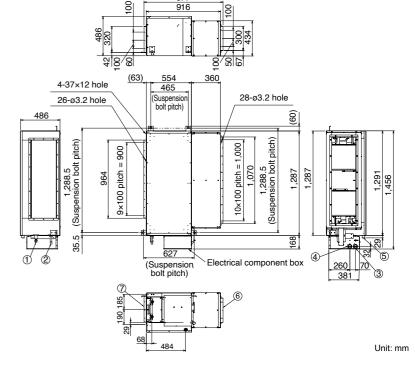


	Rated conditions:	Cooling
GLOBAL REMARKS	Indoor air temperature	27°C DB / 19°C WB
	Outdoor air temperature	35°C DB / 24°C WB

^{*} 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



Indoor Unit / E2 Type Indoor Unit / E2 Type

E2 TYPE High Static Ducted



Concealed duct / Air conditioning mode

Optional accessory





CZ-RTC6WBL



CZ-RTC6BL





E2 TYPE Energy Saving High Fresh Air Ducted

Concealed duct high-static pressure Optional accessory















CZ-RWS3 CZ-RWRC3

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

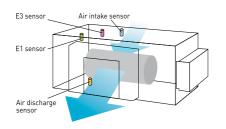
A maximum static pressure setting of a high 270Pa enables the use of long ducts for installation in a wide range of spaces. Ideal for largescale offices, restaurants and other facilities.

Sensible cooling 5-10% improved

New heat exchanger with \$\phi\$ 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			
0 "		kW	18.0	22.4	28.0	
Cooling capac	city	BTU/h	61,400	76,400	95,500	
Ulaskian sanas		kW	20.0	25.0	31.5	
Heating capac	orty	BTU/h	68,200	85,300	107,500	
Davisas inness	Cooling	kW	0.400	0.440	0.715	
Power input	Heating	kW	0.400	0.440	0.715	
Running	Cooling	A	2.40 / 2.30 / 2.20	2.55 / 2.45 / 2.35	3.95 / 3.85 / 3.70	
current	Heating	A	2.40 / 2.30 / 2.20	2.55 / 2.45 / 2.35	3.95 / 3.85 / 3.70	
	Type		Sirocco fan	Sirocco fan	Sirocco fan	
	A: 0	m³/h	2,940 / 2,640 / 2,340	3,360 / 3,060 / 2,640	4,320 / 3,780 / 3,180	
Fan	Air flow rate (H/M/L)	L/s	817 / 733 / 650	933 / 850 / 733	1,200 / 1,050 / 883	
	Motor output	kW	0.560 x 2	0.560 x 2	0.750 x 2	
	External static pressure	Pa	140 (60/270)	140 (60/270)	140 (72/270)	
Sound power	level (H/M/L)	dB	76 / 74 / 72	77 / 75 / 73	81 / 79 / 75	
Sound pressu	re level (H/M/L)	dB(A)	44 / 42 / 40	45 / 43 / 41	49 / 47 / 43	
Dimensions	HxWxD	mm	479 x 1,453 x 1,205	479 x 1,453 x 1,205	479 x 1,453 x 1,205	
Pipe	Liquid	mm (inches)	Ø9.52 (3/8)	Ø9.52 (3/8)	Ø9.52 (3/8)	
connections	Gas	mm (inches)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø22.22 (7/8)	
	Drain piping		VP-25	VP-25	VP-25	
Net weight		kg	102	102	106	

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

Technical focus

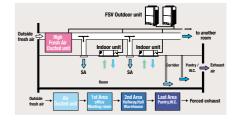
- 100% fresh air intake for ventilation purpose
- Design flexibility with high static pressure and large air volume
- DC motor equipped

- 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.

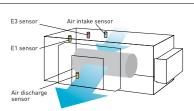


Mix operation unit with standard indoor units

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		
0	4.	kW	22.4	28.0	
Cooling capac	city	BTU/h	76,400	95,500	
Linating cons	ia.	kW	21.2	26.5	
Heating capac	ally	BTU/h	72,300	90,400	
Power input	Cooling	kW	0.290	0.350	
rower input	Heating	kW	0.290	0.350	
Running	Cooling	Α	1.90/1.85/1.80	2.30/2.20/2.10	
current	Heating	Α	1.90/1.85/1.80	2.30/2.20/2.10	
	Type		Sirocco fan	Sirocco fan	
	Air flow rate	m³/h	1,700	2,100	
Fan		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 pressu	re level	dB(A)	43	44	
Dimensions	HxWxD	mm	479 x 1,453 x 1,205	479 x 1,453 x 1,205	
Ď.	Liquid	inches (mm)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	
Pipe connections	Gas	inches (mm)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)	
COLITICATIONS	Drain piping		VP-25	VP-25	
Net weight		kg	102	106	

01.0041	Rated conditions:	Cooling	Heating
GLOBAL REMARKS	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.

Indoor Unit / E1 Type Indoor Unit / E1 Type

E1 TYPE High Static Ducted

Concealed duct high-static pressure

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





Optional accessory



CZ-RTC6W

CZ-RTC6WBL



CZ-RTC6BL





CZ-RTC5B



CZ-RWS3 CZ-RWRC3







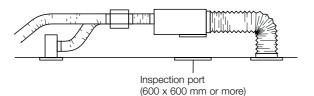


Technical focus

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

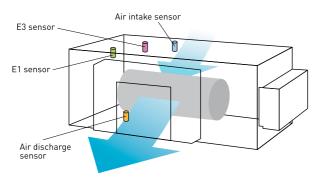
System example

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



Discharge air temperature control

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



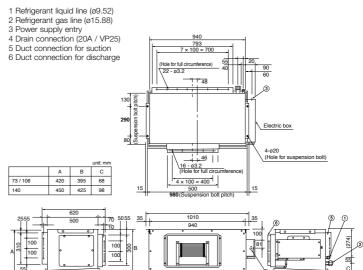
Model Name		S-73ME1E5	S-106ME1E5	S-140ME1E5	S-224ME1E5	S-280ME1E5		
Power source				220/230/240 V, 1 phase - 50/60 Hz				
0	· ·	kW	7.3	10.6	14.0	22.4	28.0	
Cooling capac	nty	BTU/h	25,000	36,000	47,800	76,400	95,500	
Heating cons		kW	8.0	11.4	16.0	25.0	31.5	
Heating capac	orty	BTU/h	27,000	39,000	54,600	85,300	107,500	
D	Cooling	kW	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	0.870/0.900/0.930	1.270/1.330/1.390	
Power input	Heating	kW	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	0.870/0.900/0.930	1.270/1.330/1.390	
Running	Cooling	Α	2.29/2.30/2.31	2.46/2.46/2.47	2.80/2.90/3.00	4.05/4.06/4.07	6.04/6.06/6.07	
current	Heating	Α	2.29/2.30/2.31	2.46/2.46/2.47	2.80/2.90/3.00	4.05/4.06/4.07	6.04/6.06/6.07	
	Туре		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	
	Air flow rate (H/M/L)	m³/h	1,380/1,320/1,260	1,800/1,680/1,500	2,160/2,100/1,980	3,360/3,190/2,980	4,320/4,200/3,960	
Fan		L/s	383/367/350	500/467/417	600/583/550	933/886/828	1,200/1,167/1,100	
	Motor output	kW	0.2	0.2	0.35	0.2	0.4	
	External static pressure	Pa	186	176	167	176	216 (235)*	
Sound power	level (H/M/L)	dB	55/54/53	56/55/53	58/57/55	59/58/57	62/61/60	
Sound pressu	re level (H/M/L)	dB(A)	44/43/42	45/44/42	47/46/44	48/47/46	51/50/49 (52/51/50)*	
Dimensions H x W x D m		mm	420 x 1,065 x 620	420 x 1,065 x 620	450 x 1,065 x 620	479 x 1,428 x 1,230	479 x 1,428 x 1,230	
	Liquid	mm (inches)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	
Pipe connections	Gas	mm (inches)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)	
55/11/00/10/10	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25	
Net weight		kg	47	50	54	110	120	

	Rated conditions:	Cooling	Heating
GLOBAL REMARKS	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

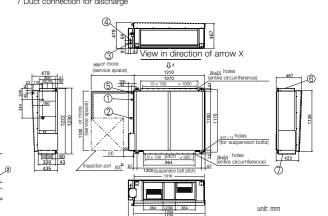
Specifications are subject to be changed without notice.

* With booster cable.

E1 TYPE HIGH STATIC DUCTED Dimensions



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



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Indoor Unit /K3Type Indoor Unit / K3Type

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.





the nanoe™ X

Optional accessory

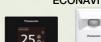
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CZ-RTC6W

CZ-RTC6WBL

CZ-RTC6WBLW2 CZ-RTC6BLW2











CZ-RWS3

*Receiver is included in the wall mounted indoor unit.













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 arille 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



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

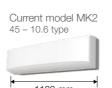
The two types of exteriors with a unified design make it easy to match with any interior.



New model MK3 22 - **45** type

Current model MK2 22 - 36 type





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.

S-56MK3E / S-73MK3E

S-106MK3E

Quiet operation

S-22MK3E / S-28MK3E

S-36MK3E / S-45MK3E

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.

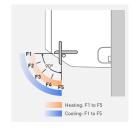
Washable front panel

The indoor unit's front panel can be easily removed and washed for troublefree 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.



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nanoe™ X Generator Mark3

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





Indoor Unit / K3Type Indoor Unit /K3Type

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				
kW		2.20	2.80	3.60	4.5		
Cooling capa	city	BTU/h	7,500	9,600	12,300	15,400	
I I antino a social	-14.	kW	2.50	3.20	4.20	5.0	
Heating capa	City	BTU/h	8,500	10,900	14,300	17,100	
	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	
Power input	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	Cooling	Α	0.19/0.19/0.19	0.20/0.20/0.20	0.22/0.22/0.22	0.25/0.25/0.25	
current	Heating	Α	0.19/0.19/0.19	0.20/0.20/0.20	0.22/0.22/0.22	0.25/0.25/0.25	
	Type		Cross-flow fan	Cross-flow fan	Cross-flow fan	Cross-flow fan	
_	Air flow rate (H/M/L)	m³/h	540/480/420	570/510/420	630/540/450	690/600/450	
Fan		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 pressu	ure level (H/M/L)	dB(A)	32/30/29	33/31/29	35/32/29	38/33/29	
Dimensions	HxWxD	mm	295×890×244	295×890×244	295×890×244	295×890×244	
	Liquid	mm (inches)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	
Pipe connections	Gas	mm (inches)	Ø12.7(1/2)	Ø12.7(1/2)	Ø12.7(1/2)	Ø12.7(1/2)	
COLLIGORIOLIS	Drain piping	mm	Ø18	Ø18	Ø18	Ø18	
Net weight		kg	12	12	12	12	

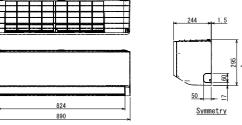
GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

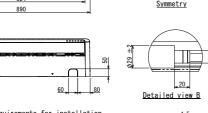
Specifications are subject to change without notice.

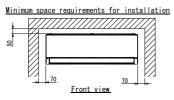
S-56MK3E	S-73MK3E	S-106MK3E
2	20/230/240 V, 1 phase - 50/6	0 Hz
5.6	7.3	10.6
19,100	24,900	36,200
6.3	8.0	10.6
21,500	27,300	36,200
0.040/0.040/0.040	0.055/0.055/0.055	0.080/0.080/0.080
0.040/0.040/0.040	0.055/0.055/0.055	0.080/0.080/0.080
0.35/0.35/0.35	0.50/0.50/0.50	0.70/0.70/0.70
0.35/0.35/0.35	0.50/0.50/0.50	0.70/0.70/0.70
Cross-flow fan	Cross-flow fan	Cross-flow fan
900/840/780	1140/1020/840	1320/1080/840
250/233/217	317/283/233	367/300/233
0.03	0.03	0.03
55/53/50	62/59/55	65/60/55
40/38/35	47/44/40	50/45/40
295×1060×249	295×1060×249	295×1060×249
Ø6.35(1/4)	Ø9.52(3/8)	Ø9.52(3/8)
Ø12.7(1/2)	Ø15.88(5/8)	Ø15.88(5/8)
Ø18	Ø18	Ø18
14	14	14

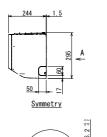
K3 (22-45) TYPE WALL MOUNTED Dimensions

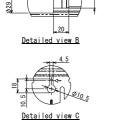
SIZE 22-45





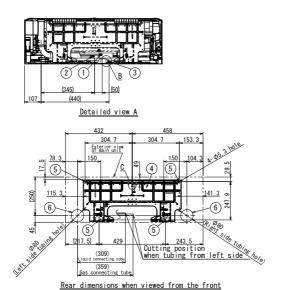






unit: mm

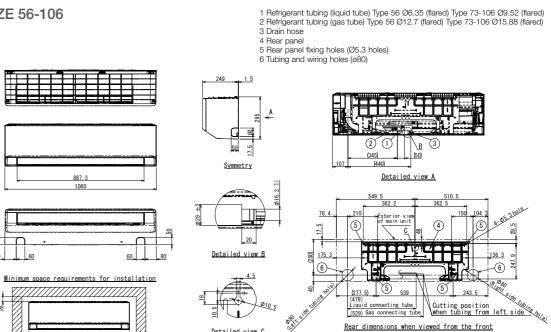
1 Refrigerant tubing (liquid tube) ø6.35 (flared) 2 Refrigerant tubing (gas tube) ø12.7(flared) 3 Drain hose 4 Rear panel 5 Rear panel fixing holes (ø5.3 holes) 6 Tubing and wiring holes (ø80)



K3 (56-106) TYPE WALL MOUNTED Dimensions

SIZE 56-106

57



unit: mm

Indoor Unit / U2 Type Indoor Unit / U2 Type

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.



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-ATLI2). Air intake plenum (CZ-FDU3) is required





Nomal Panel: CZ-KPU3H ECONAVI Panel: CZ-KPU3A







CZ-RTC6W

CZ-RTC6WBL

Optional accessory



ECONAVI

ECONAVI ready

















Built-in Drain (Auto Flap Control) Pump

Automatic Far Operation

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

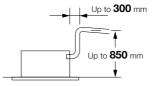
Flat Horizontal Design

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

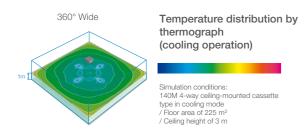
Suction grille is able to make 90-degree turns.



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
- -Versatile air flow control to cover a wide variety of demands.



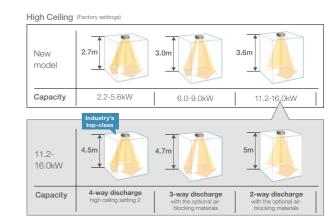
Ample airflow: 36 m3/min



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

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

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



Ceiling height guidelines

*1 settings	4-way discharge			3-way discharge	2-way discharge
Indoor unit	Factory setting 1	High ceiling setting 1	High ceiling setting 2	(optional air-blocking materials)	(optional air-blocking materials) *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
- *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





Econavi panel

nanoe X Generator Mark 3

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





Invisible Air Contaminants are Suppressed

Indoor Unit / U2 Type Indoor Unit / U2 Type

U2_{TYPE} 4-WAY Cassette

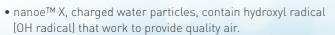
Model Name			S-22MU2E5BN	S-28MU2E5BN	S-36MU2E5BN	S-45MU2E5BN	S-56MU2E5BN		
Power source			220/230/240 V, 1 phase - 50Hz/60Hz						
0 "		kW	2.2	2.8	3.6	4.5	5.6		
Cooling capac	city	BTU/h	7,500	9,600	12,300	15,400	19,100		
Lientine conc	oib.	kW	2.5	3.2	4.2	5.0	6.3		
Heating capa	CILY	BTU/h	8,500	10,900	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		
Power Input	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	А	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	А	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		
	Туре		Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan		
Fan	A	m³/h	768/726/690	768/726/690	870/780/690	930/780/690	990/810/690		
ran	Air flow rate (H/M/L)	L/s	213/202/192	213/202/192	242/217/192	258/217/192	275/225/192		
	Motor output	kW	0.06	0.06	0.06	0.06	0.06		
Sound power	level (H/M/L)	dB	45/44/43	45/44/43	45/44/43	46/44/43	47/45/43		
Sound pressu	ire level (H/M/L)	dB(A)	30/29/28	30/29/28	30/29/28	31/29/28	32/30/28		
Dimensions*	HxWxD	mm		256+(33.5) x 840 (950) x 84	40 (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)		
00.11.0000010	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25		
Net weight* (F	Panel)	kg	19 (+5)	19 (+5)	19 (+5)	19 (+5)	19 (+5)		

	Rated conditions:	Cooling	Heating	
Global remarks	Indoor air temperature	27°C DB / 19°C WB	20°C DB	
TOTTIGITE	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



• The electrodes of nanoe™ X devices are made of titanium and electricity discharge into the water particles of nanoe™. So no need to clean or replace the device (maintenance free without wear).



nanoe™ X module

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





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



nanoe™ X device

S-60MU2E5BN	S-73MU2E5BN	S-90MU2E5BN	S-112MU2E5BN	S-140MU2E5BN	S-160MU2E5BN			
	-	220/	230/240 V, 1 phase - 5	0/240 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 84	10 (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)			

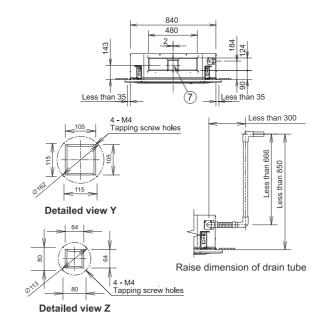
515 (Air intake)

U2 TYPE 4-WAY CASSETTE Dimensions

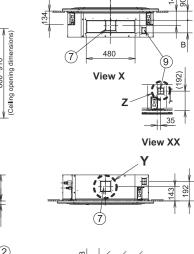
- 1 Air intake 2 Discharge outlet 3 Refrigerant tubing (liquid tube) 22-56 type ø6.35 (flared), 60-90 type ø9.52 (flared)
- 4 Refrigerant tubing (gas tube) 22-56 type ø12.7 (flared), 60-90 type ø15.88 (flared) 5 Drain tube connection port VP25 (outer dia. ø32)

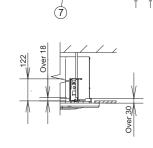
- 5 Drain tube connection port VP25 (outer dia. 832 6 Power supply port 7 Discharge duct connection port (ø150) 8 Suspension bolt hole (4-12×30 elongated hole) 9 Fresh air intake duct connection port (ø100) * 10 ECONAVI sensor (Only CZ-KPU3A)

 $^{\star}1:$ Necessary to attach duct connecting flange (field supplied). Filter size: 520 x 520 x 15









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

Indoor Unit / Y3 Type

R410A

R410A

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.



CZ-KPY4

GI OBAI



CZ-RTC6W CZ-RTC6WBL CZ-RTC6WBLW2

25.00

Optional accessory

CZ-RTC6

CZ-RTC6BL



ECONAVI

ECONAVI ready



CZ-RTC5B



* The values in () for external dimensions and Net weight are the values



CZ-RWS3 CZ-RWRY3



















Technical focus

- Mini cassette fits into a 600 x 600 mm ceiling grid
- Powerful drain pump gives 850 mm lift
- Multi-directional air flow
- Easy installation

- DC fan motor with variable speed and a new heat exchanger ensures efficient power consumption
- nanoe™ X : 100x for CAC (100 times more nanoe™ particle for wide commercial space). Inside cleaning by 100x nanoe™ + dry control

Compact design

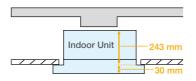
Thanks to advanced Panasonic design the panel is a compact 625 x 625 mm, offering elegant, unobtrusive installation even where space is limited.



Lighter and slimmer, easier installation

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

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



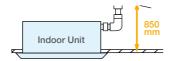
Individual flap control

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



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

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



nanoe™ X Generator Mark3

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



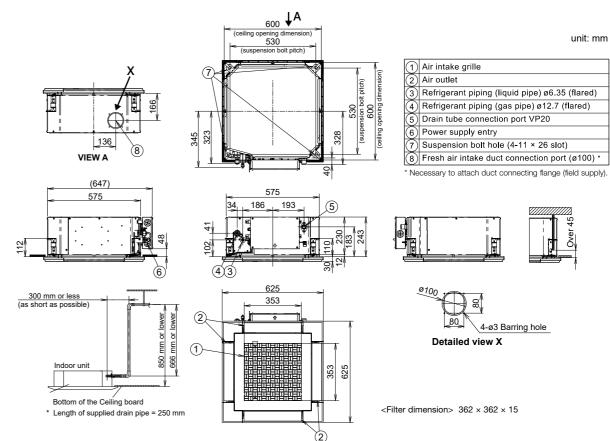


Invisible Air Contaminants are Suppressed

Model Name		S-22MY3EB	S-28MY3EB	S-36MY3EB	S-45MY3EB	S-56MY3EB			
Power source			220/230/240 V, 1 phase - 50Hz/60Hz						
0		kW	2.2	2.8	3.6	4.5	5.6		
Cooling capacity		BTU/h	7,500	9,600	12,300	15,400	19,100		
		kW	2.5	3.2	4.2	5.0	6.3		
Heating capacity	1	BTU/h	8,500	10,900	14,300	17,100	21,500		
Daniel in the	Cooling	kW	0.020	0.021	0.022	0.030	0.042		
Power input	Heating	kW	0.018	0.019	0.020	0.028	0.040		
Running	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		
amperes	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		
	Type		Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan		
Con meter	Airflow rate (H/M/L)	m³/h	522/420/360	540/450/360	570/468/360	690/540/390	810/630/480		
Fan motor		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	Cooling	dB	48/45/43	49/45/43	50/46/43	54/49/45	57/52/48		
level (H/M/L)	Heating	dB	48/45/43	49/45/43	50/46/43	54/49/45	57/52/48		
Sound pressure	Cooling	dB(A)	33/30/28	34/30/28	35/31/28	39/34/30	42/37/33		
level (H/M/L)	Heating	dB(A)	33/30/28	34/30/28	35/31/28	39/34/30	42/37/33		
Dimensions*	HxWxD	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		
Pipe connection	s Gas	mm (inches)	Ø12.7	Ø12.7	Ø12.7	Ø12.7	Ø12.7		
	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)		

	nateu conditions.	Cooling	i icalii ig
3	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

Y3 TYPE 4-WAY MINI CASSETTE Dimensions



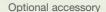
Indoor Unit / L1 Type Indoor Unit / L1 Type

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.

















CZ-RWS3 CZ-RWRL3



Self-diagnosing Function



AUTO Intelligent Auto



Auto Swing (Auto Flap Control)



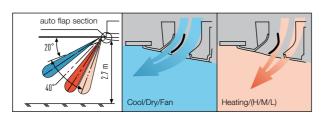
Built-in Drain

Technical focus

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

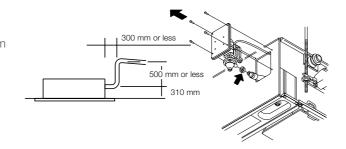
Auto flap control

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



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

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



Simple maintenance

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

Model Name			S-22ML1E5	S-28ML1E5	S-36ML1E5	S-45ML1E5	S-56ML1E5	S-73ML1E5	
Power source			220/230/240 V, 1 phase - 50/60 Hz						
0 "		kW	2.2	2.8	3.6	4.5	5.6	7.3	
Cooling capacity		BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	
Harling and St.		kW	2.5	3.2	4.2	5.0	6.3	8.0	
Heating capacity		BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	
D	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	
Power input	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	
Di	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	
Running current	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	
	Туре		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	
F	A (1848)	m³/h	480/420/360	540/480/420	580/520/460	660/540/480	660/540/480	1,140/960/840	
Fan	Air flow rate (H/M/L)	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 leve	(H/M/L)	dB	40/38/35	44/40/37	45/42/39	46/44/40	46/44/40	49/46/44	
Sound pressure le	vel (H/M/L)	dB(A)	30/27/24	33/29/26	34/31/28	35/33/29	35/33/29	38/35/33	
Dimensions *	HxWxD	mm	350+(8)x840 (1,060) x600 (680)	350+(8)x840 (1,060) x600 (680)	350+(8)x840 (1,060) x600 (680)	350+(8)x840 (1,060) x600 (680)	350+(8)x840 (1,060) x600 (680)	350+(8)x 1,140 (1,360) x600 (680)	
	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)	Ø12.7 (Ø1/2)	Ø15.88 (Ø5/8)	
	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	
Net weight *		kg	23 (+5.5)	23 (+5.5)	23 (+5.5)	23 (+5.5)	23 (+5.5)	30 (+9)	

	Rated conditions:	Cooling	Heating
GLOBAL REMARKS	Indoor air temperature	27°C DB / 19°C WB	20℃ DB
I ILIVI II II CO	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.

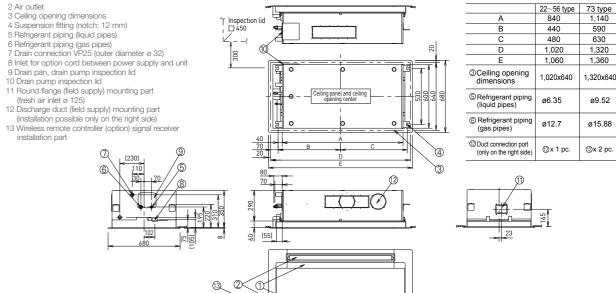
Specifications are subject to change without notice.

L1 TYPE 2-WAY CASSETTE Dimensions

- 1 Air intake 2 Air outlet
- 3 Ceiling opening dimensions 4 Suspension fitting (notch: 12 mm)
- 5 Refrigerant piping (liquid pipes)

- 9 Drain pan, drain pump inspection lid 10 Drain pump inspection lid

- Wireless remote controller (option) signal receif installation part



A B C	840 440	1,140 590
		590
С	400	
	480	630
D	1,020	1,320
E	1,060	1,360
③Ceiling opening dimensions	1,020x640	1,320x640
⑤Refrigerant piping (liquid pipes)	ø6.35	ø9.52
© Refrigerant piping (gas pipes)	ø12.7	ø15.88
Duct connection port (only on the right side)	⊚x 1 pc.	⊚x 2 pc.

unit: mm

65

Indoor Unit / D1 Type Indoor Unit / T2 Type

D1_{TYPE} 1-WAY Cassette



Semi concealed slim cassette









C7-RTC6 CZ-RTC5B CZ-RTC6WBL

T2 TYPE Ceiling Mounted







ECONAVI **ECONAVI** ready







28



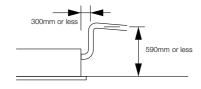
CZ-RWS3 CZ-RWRT3

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

This powerful ceiling-mounted "frontblow" 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						
0 "		kW	2.8	3.6	4.5	5.6	7.3		
Cooling capaci	ıy	BTU/h	9,600	12,000	15,000	19,000	25,000		
Linating concei		kW	3.2	4.2	5.0	6.3	8.0		
Heating capaci	ty	BTU/h	11,000 14,000 17,000		21,000	27,000			
Davisar innus	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		
Power input	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	Cooling	Α	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		
current	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		
	Type		Sirocco fan						
Fan	Air flow rate	m³/h	720/600/540	720/600/540	720/660/600	780/690/600	1,080/900/780		
ran	(H/M/L)	L/s	200/167/150	200/167/150	200/183/167	217/192/167	300/250/217		
	Motor output	kW	0.05	0.05	0.05	0.05	0.05		
Sound power le	evel (H/M/L)	dB	47/45/44	47/45/44	47/46/45	49/47/45	56/51/47		
Sound pressure	e level (H/M/L)	dB(A)	36/34/33	36/34/33	36/35/34	38/36/34	45/40/36		
Dimensions *	HxWxD	mm	200+(20) x 1,000 (1,230) x 710 (800)						
D:	Liquid	mm (inches)	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)		
COLLICOTION	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25		
Net weight *		kg	21 (+5.5)	21 (+5.5)	21 (+5.5)	21 (+5.5)	22 (+5.5)		

	Rated conditions:	Cooling	Heating	
Global remarks	Indoor air temperature	27°C DB / 19°C WB	20°C DB	
Terriains	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.

Technical focus

- Lower sound levels
- Standardised height and depth for all models
- Long and wide air distribution

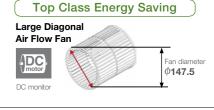
CZ-RTC6WBL

- 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

Energy-saving performance is top class in the industry.



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.

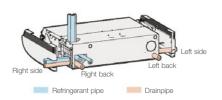
High Ceiling Setting	Air flow distance		
*Setting by remote control	140		
4.3m	13m		



*Results are based on specific testing conditions.

Multiple piping directions for flexible installation

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



Model Name)		S-36MT2E5A	S-45MT2E5A	S-56MT2E5A	S-73MT2E5A	S-106MT2E5A	S-140MT2E5A
Power source)				220 / 230 / 240 V, 1	1 phase - 50 / 60 Hz		
Caslina sono	ait.	kW	3.6	4.5	5.6	7.3	10.6	14.0
Cooling capa	City	BTU/h	12,300	15,400	19,100	24,900	36,200	47,800
Harden and	-14.	kW	4.2	5.0	6.3	8.0	11.4	16.0
Heating capa	City	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
Power input	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	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
current	Heating	Α	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
	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
Fan	Air flour voto (LL/AA/L)	m³/h	840/720/630	900/750/630	900/750/630	1,260/1,080/930	1,800/1,500/1,380	1,920/1,680/1,440
ran	Air flow rate (H/M/L)	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 pressu	ure 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	HxWxD	mm	235 x 960 x 690	235 x 960 x 690	235 x 960 x 690	235 x 1,275 x 690	235 x 1,590 x 690	235 x 1,590 x 690
	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
Pipe connections	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
COLLIGECTIONS	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	27	27	27	33	40	40

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

Specifications are subject to change without notice.

Indoor Unit / P1 Type Indoor Unit / R1 Type

P1 TYPE Floor Standing





R1 TYPE Concealed Floor Standing



Optional accessory





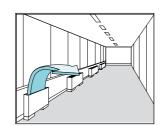




Technical focus

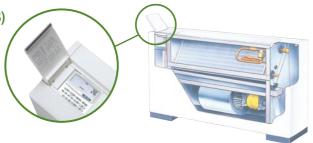
- Pipes can be connected to either side of the unit from the bottom or
- Easy to install

- 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						
kW		kW	2.2	2.8	3.6	4.5	5.6	7.1	
Cooling capa	City	BTU/h	7,500	9,600	12,000	15,000	19,000	24,000	
Harting and	- 14	kW	2.5	3.2	4.2	5.0	6.3	8.0	
Heating capa	CITY	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	
Power input	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	Cooling	А	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	
current	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	
	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	
Fan	4: 0	m³/h	420/360/300	420/360/300	540/420/360	720/540/480	900/780/660	1,020/840/720	
ran	Air flow rate (H/M/L)	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 pressu	ire 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)	
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)	Ø15.88 (Ø5/8)	
23111000010	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	VP-20	
Net weight		kg	29	29	29	39	39	39	

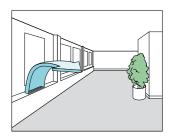
Cooling Global 27°C DB / 19°C WB Indoor air temperature Outdoor air temperature 35°C DB / 24°C WB 7°C DB / 6°C WB

Specifications are subject to change without notice.

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						
0	-14.	kW	2.2	2.8	3.6	4.5	5.6	7.1	
Cooling capa	City	BTU/h	7,500	9,600	12,000	15,000	19,000	24,000	
Lienting cone	aib.	kW	2.5	3.2	4.2	5.0	6.3	8.0	
Heating capa	City	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	
Danuar innut	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	
Power input Heating kV		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	Cooling	Α	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	
current Heating		Α	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	
	Туре		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	
F	A:- 0	m³/h	420/360/300	420/360/300	540/420/360	720/540/480	900/780/660	1,020/840/720	
Fan	Air flow rate (H/M/L)	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 pressu	ure 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	HxWxD	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	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)	Ø9.52 (Ø3/8)	
Pipe connections	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)	Ø15.88 (Ø5/8)	
33.1.130110110	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	VP-20	
Net weight		kg	21	21	21	28	28	28	

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

Specifications are subject to change without notice.

Indoor Unit Indoor Unit

Remark for High Static Ducted Series



E2 type **High Static Ducted**



E2 type
Energy Saving
High-Fresh Air Ducted



E1 type
High Static Ducted



E3 type **High Static Ducted**





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

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

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.



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.







WLAN remote controller

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



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 Light Commercial

Panasonic Comfort Cloud



Panasonic Comfort Cloud

VRF Smart Connectivity-

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.



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



CZ-RTC6WBLW2

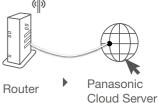


WLAN remote controller

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

Indoor Unit

Wireless LAN



In conformity with IEEE 802.11

WLAN smart adaptor specification

CZ-CAPWFC2

Input Voltage	DC 12V (Supplied from the T10 connector of the indoor un
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%







75



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.



User-/owner-friendly.

Colour touch screen.
Simple and easy to use.
22 languages.
Easy-to-understand error description.



Ultimate customisation.

Customisable colour background.
Custom display/icons, messages.
Programmable logic (also stand alone).

Various controls and various external connection devices.



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 CO_2 and humidity sensors. The interior environment remains comfortable, while heating and cooling costs are minimized. The CO_2 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.





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).



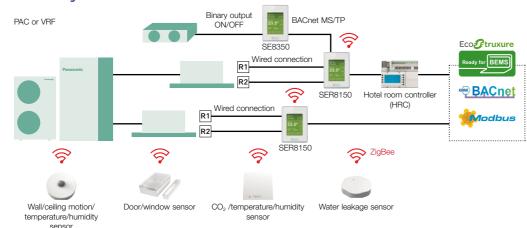
Hotel Room Controller (HRC).

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

VRF Smart Connectivity+ VRF Smart Connectivity+

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.

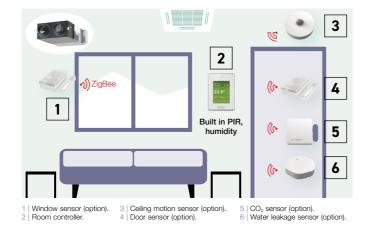


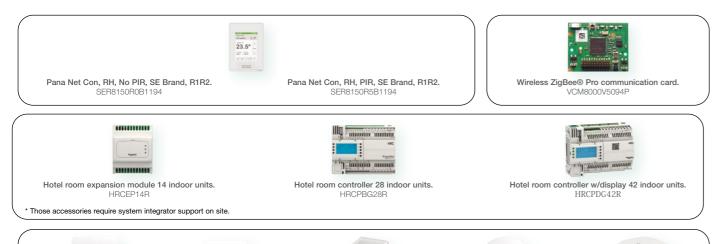
Sensing and control technology

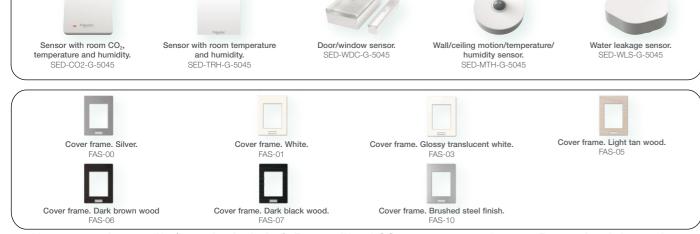
Using sensors from Schneider Electric, high-quality occupancy control and automatic IAQ control are realised. The sensors detect the presence or absence of occupants, and the opening and closing of doors and windows to achieve the most efficient energy management for exceptional air-conditioned comfort.

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.







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 airconditioned 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	25.0c = V A A O		25 500	<u> </u>
	Simplified high-spec Wired Remote Controller with Bluetooth	High-spec Wired Remote Controller	Timer Remote Controller (Wired)	Wireless Remote Controller
Type, model name	CZ-RTC6W (Basic, white) CZ-RTC6 (Basic, black) CZ-RTC6WBL (with Bluetooth, white) CZ-RTC6BL (with Bluetooth, black) "CZ-RTC6WBLW2 (with WiFi, white) "CZ-RTC6BBLW2 (with WiFi, black) "Available for particular types of VRF indoor units.	CZ-RTC5B	CZ-RTC4A	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	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	Up to 2 controllers can be connected per group (When using ECONAVI sensor, only one remote controller is possible to connect at indoor unit)	Up to 2 controllers can be connected per group (When using ECONAVI sensor, only one remote controller is possible to connect at indoor unit)	Up to 2 controllers can be connected per group.
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)

Timer operation	Centralised control systems				
Daily and weekly program	Operation with various functions from a central	Only ON/OFF operation from a central location	Simplified load distribution ratio (LDR) for each tenant	BMS System PC Base	Connection with 3rd Party Controller
	location	IIOIT a Certifal location	10.4 in. touch screen panel color LCD		
8000 200	Promote the second seco		Section of Contract of Contrac	P-AIMS Software Up to 1024 units	Seri-Para I/O unit for outdoor unit
Schedule Timer	System Controller	ON/OFF Controller	Intelligent Controller	CZ-CSWKC2	CZ-CAPDC2
CZ-ESWC2	CZ-64ESMC3	CZ-ANC3	CZ-256ESMC3 (CZ-CFUNC2)	Optional software	Interface Adaptor
_	_	_	_	tes bries (see bries) P-AIMS P-AIMS	CZ-CAPC3
_	_	_	_		Seri-Para I/O unit for each indoor uni
_	•	_	•	CZ-CSWAC2 for Load distribution CZ-CSWWC2 for Web application	-
64 groups, max. 64 units	64 groups, max. 64 units	16 groups, max. 64 units	64 units x 16 systems, max. 256 units	for Web application CZ-CSWGC2 for Object layout display CZ-CSWBC2	CZ-CAPBC2
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.	CZ-CSWBC2 for BACnet software interface *PC required (field supply)	Communication Adaptor
_		•	•		
_		_			LonWorks Interface
_	•	_			
_		_			900
_		_			CZ-CLNC2
_					
		_			

ECONAVI Sensor

ECONAVI

Utilises ECONAVI Sensor and Control Program technologies to detect where energy is normally

wasted and self-adjusts cooling power to reduce

energy waste.

Activity detectionAbsence detection

FSV Controllers FSV Controllers

Panasonic Total Air Conditioning Management System P-AIMS

P-AIMS basic software / CZ-CSWKC2

Up to 1024 indoor units can be controlled by one PC

Functions of basic software

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



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

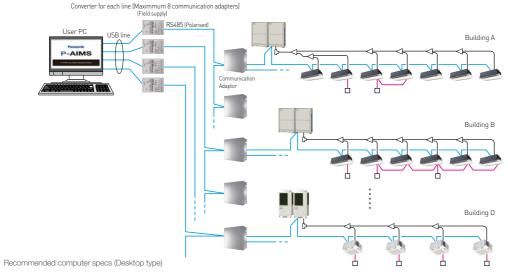


Panasonic

P-AIMS

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

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.



Operating system

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 HDD

External HDD

SSD (Solid State Drive) 250GB or larger 1920 × 1080 (full HD) Recommended (1280 × 1024 (SXGA) minimum) Monitor

1920 × 1080 (full HD) Required (when installing Layout Display Software 500GB or larger (An external power supply type is preferable because the HDD will be used for backing up data.)

(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

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)

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.)

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.) 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 connectit 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

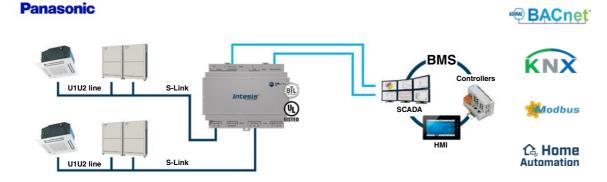
You can view cumulative electrical consumption per indoor unit or in a area.

Digital power meter with pulse require (Field Supply) for this function

FSV Controllers

FSV Controllers

Gateways for Panasonic AC systems integration



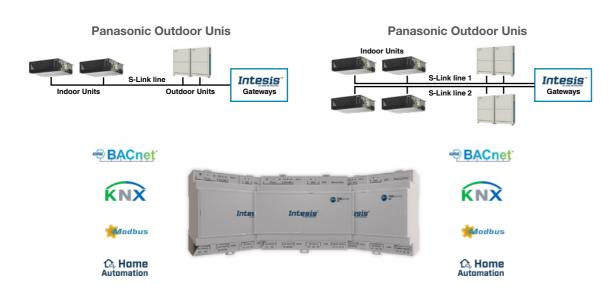
INTESIS PORTFOLIO FOR PANASONIC AIR CONDITIONING SYSTEMS ENSURE THE PERFECT INTERCONNECTION BETWEEN THE MOST EXTENDED PROTOCOLS INTO BUILDING AUTOMATION AND PANASONIC SYSTEMS.

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)	IN770PAN	- 00M0000: Medium version	o to 16 Indoor Units, 30 Outdo Up to 64 Indoor Units, 30 Out to 128 Indoor Units, 60 Out	utdoor Units	With the configuration tool IntesisMAPS, you can select the protocol of your control system: BACnet, Modbus, KNX or Home Automation

Connection with Panasonic AC indoor units

Individual Controllers:

• Connection to R1R2 port from the wired remote controller bus



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

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



Connection	BACnet	KNX	Modbus	Home Automation	AC Cloud Control
	IN485UNI001I100 Universal Infrared AC Can be configured as	INKNXUNI001I000 Universal Infrared AC	IN485UNI001I100 Universal Infrared AC Can be configured as	INWMPUNIO01I000 Universal Infrared AC	INWFIUNI001I000 Universal Infrared AC
Infrared (IR)	BACnet MS/TP or Modbus RTU using	1 Indoor unit	BACnet MS/TP or Modbus RTU using	1 Indoor unit	1 Indoor unit
	MAPS. 1 Indoor unit	2 Binary inputs	MAPS. 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	INKNXPAN001I000 AC units 1 Indoor unit, 4 Binary Inputs INKNXPAN001A000 Air to Water (Aquarea H) 1 Indoor unit	INMBSPAN0011100 AC units 1 Indoor unit INMBSPAN001A000 Air to Water (Aquarea H) 1 Indoor unit	INWMPPAN0011000 AC units 1 Indoor unit	INWFIPAN0011100 AC units 1 Indoor unit

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 Hobari



Spain LAVIDA Hotel PGA Cataluña Resort

VRF 3-way FSV MF2 series 8 systems Indoor Units: 116 units





Indonesia Patra Jasa Hotel







Germany The LEGOLAND Castle Hotel

Spain Hotel Claris 5 GL



VRF 2-way ME1 series 47 systems Cooling Capacity: 788 kW / 224 USRT

Malaysia Plaza 33 Office Block A



Indoor Units: 144 units



Cooling Capacity: 592 kW / 168.33 USRT





Ireland K Club, Co. Kildare



Indoor Units: 70 units Cooling Capacity: 200 kW / 56.87 USRT

HongKong King Yip Road

RETAIL

Italy Le Centurie CENTRO COMMERCIALE



VRF 3-way MF1 series 18 systems Indoor Units 57 units

India Sai Aarav Motors, Mehsana



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

Russia Sun City Mall



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



SCHOOL

United States Shippensburg University



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



SCHOOL

Malaysia Xiamen University



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

HOSPITAL

France Clinique Dentaire Ablis (Dental Clinic)

mini VRF 2-way mini FSV LE1 series 3 systems

Cooling Capacity: 36.3 kW / 10.3 USRT

Russia Technopark of Nobosibirsk Academgorodok



Indoor Units: 234 units



RESIDENTIAL

China Star River Group Luxury Condominium



42 systems Indoor Units: 283 units

HOSPITAL Indonesia Persada Hospital

Indonesia Bekasi Hospital



VRF 2-way FŠV ME1 series

Singapore Punggol Eco-Town



Persada Hospital

VRF 2-way FSV ME1 series



OFFICE

Malaysia Gapruna project

VRF 2-way FSV ME2 series 2 systems

Cooling Capacity: 236 kW / 67 USRT



VRF 2-way FSV ME1 series Indoor Units: 537 units



England Soapworks



VRF 3-way MF2



Spain PTA Malaga

VRF 2-way FSV ME1 series

Indoor Units: 153 units



VRF 2-way ME1 series

Thailand Areeva



VRF 7-way FSV MF1 series 19 system Indoor Units: 85 units

Russian Government Building

VRF 2-way ME1 series 42 systems

Indoor Units: 277 units

2,045 kW / 581 USRT









New Zealand IAG Christchurch



VRF 3-PIPE FSV MF2 series:

Hong Kong The Green Project



VRF FSM LA1 series 239 system Indoor Units: 999 units 6.475 kW / 1.875 USRT

India Royal Orchids Eco-Green Homz

VRF Master series 966 system

Indoor Units: 3,948 systems

16,737 kW / 4,755 USRT



22 systems



India Heera Windfaire

Wall mounted S series (with

Inverter multi-solit



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

Hong Kong Gloucester Road Project



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

Panama Mosaic Building PANAMA PACIFICO



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