Panasonic

FSV VRF SYSTEMS 2021/2022

FSV

Residential &
Light Commercial Use

FSV EX

Commercial Use

nanoe™ TECHNOLOGY

INVERTER

A Better Life, A Better World

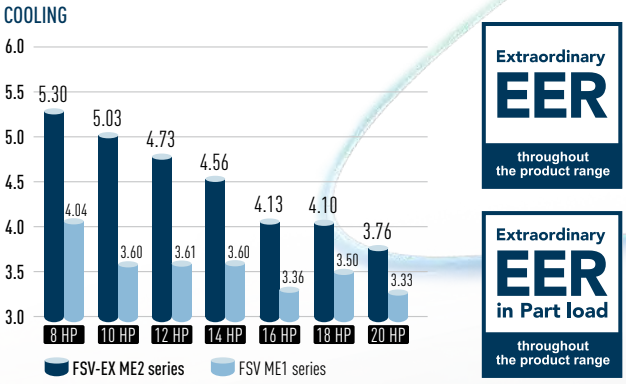
QUALITY AIR FOR LIFE

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.

Extraordinary energy-saving performance

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

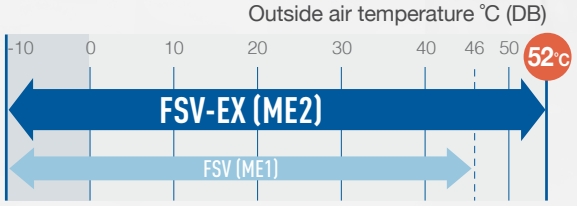


Extraordinary EER throughout the product range

Extraordinary EER in Part load throughout the product range

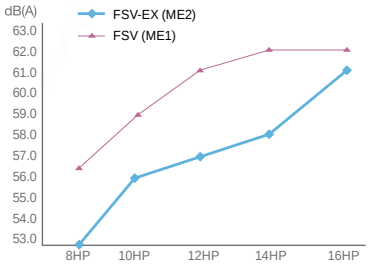
Extended operation range up to 52°C

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



Low-noise operation

Numerous technological innovations, including an improved compressor and a newly designed bell mouth and larger fan, have dramatically reduced the outdoor noise level. The result is an even more comfortable building environment.



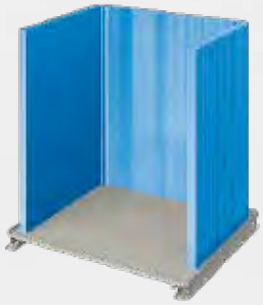
Multiple large-capacity all inverter compressors

(more than 14HP)

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

Enlarged heat exchanger surface area with triple surface*

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



* For 8 & 10HP unit, the heat exchanger is 2 row design.

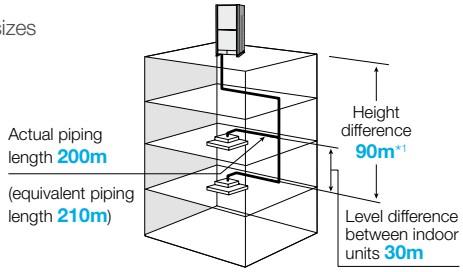
FSV-EX Advantages

Increased piping length for greater design flexibility

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

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

Max. total piping length:1,000m



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

FSV systems attain maximum indoor unit connection capacity of up to 130 %* 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.

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
MNcIU : 130%	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

MNcIU : Maximum Number of Connectable Indoor Unit

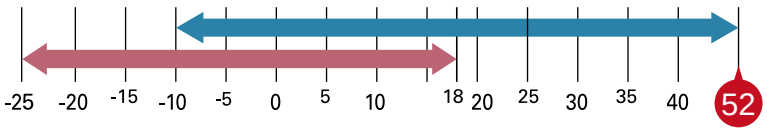
Note: If more than 100% indoor units are operated with a high load, the units may not perform at the rated capacity.
For the details, please consult with an authorised Panasonic dealer

* If the following conditions are satisfied, the effective range is above 130 % up to 200 %.
i) Obey the limited number of connectable indoor units.
ii) The lower limit of operating range for heating outdoor temperature is limited to -10°CWB (standard -25°CWB).
iii) Simultaneous operation is limited to less than 130 % of connectable indoor units.

Wide operating range

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

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



Cooling: -10°C DB ~ 52°C DB
Heating: -25°C WB ~ 18°C WB

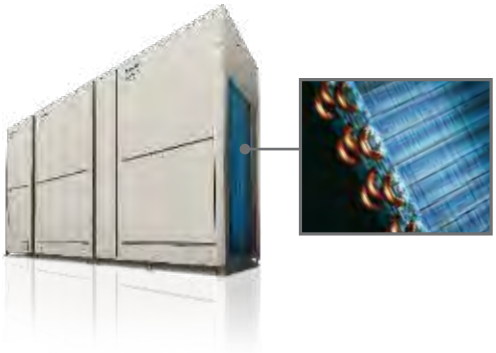
* For further information please refer to the capacity tables in the Technical Data Book.

Hi-durability outdoor unit

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

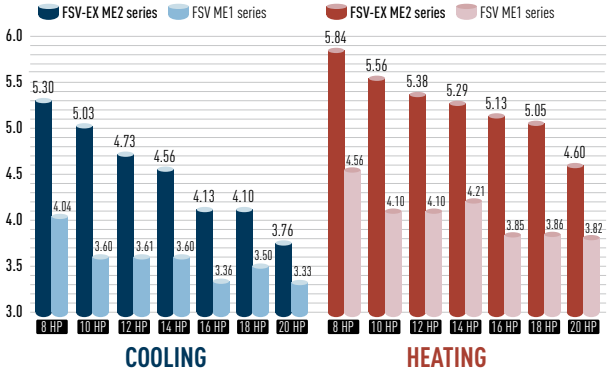
Note: Selecting this unit does not completely eliminate the possibility of rust developing.
For details concerning unit installation and maintenance, please consult an authorised dealer.

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



Excellent energy savings

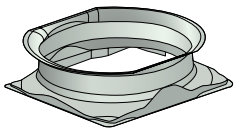
The operation efficiency has been improved using highly efficient R410A refrigerant, new DC inverter compressor, and new heat exchanger design.



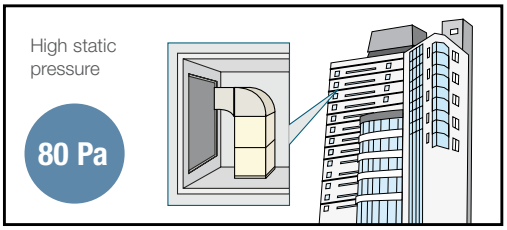
High external static pressure on condensers

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

Fan



Fan Motor and Casing



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Air Handling Unit Kit

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

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

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

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

Project References

Office

Hong Kong
Red Cross Headquaters

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

Residential + Commercial

Malaysia Utropolis, Glenmarie

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

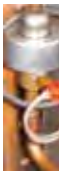
Air Handling Unit Kit to connect to your ventilation system

AHU Connection Kit

PCB, Power trans, Terminal block

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

Expansion valve



Thermistor x2 (Refrigerant: E1, E3)

Thermistor x2 (Air: Tf, Tb)

Optional remote controller

Timer remote controller.
CZ-RTC4

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

CZ-RTC4 Wired remote controller
- Operation-ON/OFF
- Mode select
- Temperature setting
  * Fan operation signal can be taken from the PCB.

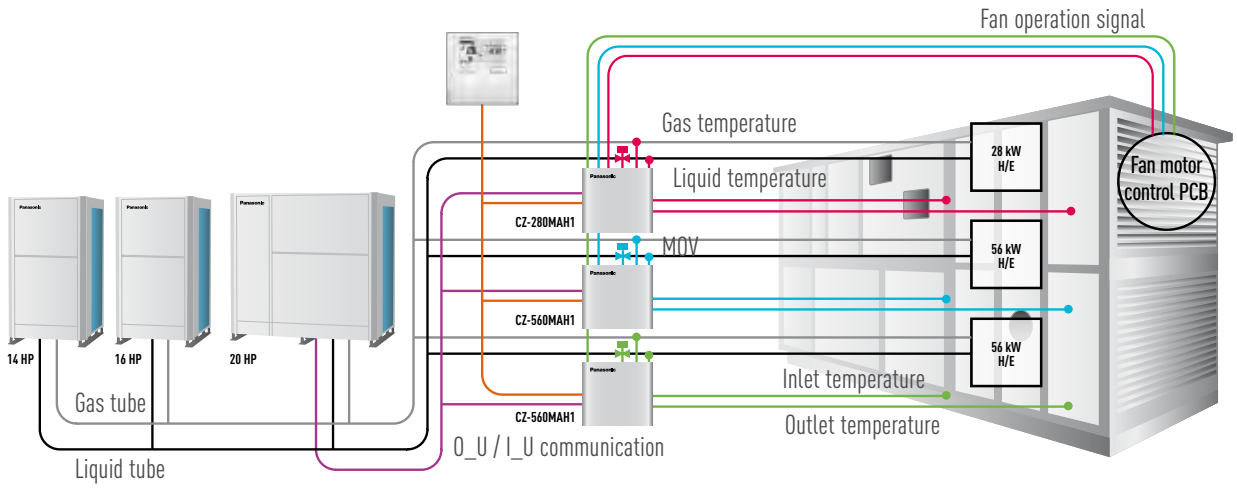
T10 terminal
- Input signal= Operation ON/OFF
- Remote controller prohibition
- Output signal= Operating-ON status
- Alarm output (by DC12 V)

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

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

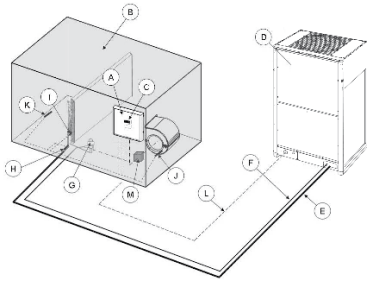
Technical Zoom
- Max. piping length: 100m (actual)/ 120m (equivalent)
- Difference between longest and shortest piping from first branch: 10m
- Max. length of branch tubing: 12m
  * Other conditions to be referred the standard piping design regulations.
- Available temperature range in Heating: -20 °C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

CZ-280MAH1 // CZ-560MAH1
- The system controlled by the suction air (or return air from room) temperature as same as standard indoor unit. (Selectable mode: Automatic / Cooling / Heating / Fan / Dry (but same as Cool)
- The discharge air temperature is also controlled to prevent too-low air discharge in Cooling or too-high air discharge in Heating. (in case of VRF system)
- Demand control (Forcible thermostat-OFF control by operating current)
- Defrost operation signal, Thermo-ON/OFF states output
- External target temperature setting via Indoor/Outdoor signal interface is available with CZ-CAPBC2. (Ex. 0 – 10 V)
- Connectable with P-LINK system



System and regulations. System overview

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



AHU Connection Kit / System Combination

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

*These are combination examples for space-saving combination. These combinations are also compatible for high efficiency models on page 10-11.

FSV Systems

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

2-WAY FSV-EX ME2 Series

Extraordinary energy-saving performance and powerful operation

Space-saving Combination Model

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

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

High Efficiency Combination Model

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

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

2-WAY Mini-FSV LE2 Series

For small-scale commercial and residential use

Cooling or Heating Type 1/3-phase **4/5/6 HP**

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

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

2-WAY Mini-FSV LE1 Series

For small-scale commercial and residential use

Cooling or Heating Type 3-phase **8/10 HP**

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

2-WAY FSV-EX ME2 Series

High Efficiency Combination Model

Appearance													
HP				**8**	**10**	**12**	**14**	**16**	**18** **U-18ME2H7HE**	**20** **U-20ME2H7HE**	**22** **U-22ME2H7**	**24** **U-24ME2H7**	**26** **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				380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz									
Capacity	Cooling		kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0	73.0
			BTU/h	76,500	95,600	114,300	136,500	153,600	170,600	191,100	209,900	232,100	249,100
	Heating		kW	25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	81.5
			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
	Heating		W/W	5.84	5.56	5.38	5.29	5.13	5.71	5.58	5.48	5.31	5.29
Dimensions	H x W x D		mm	1,842 x 770 x 1,000	1,842 x 770 x 1,000	1,842 x 1,180 x 1,000	1,842 x 1,180 x 1,000	1,842 x 1,180 x 1,000	1,842 x 1,600 x 1,000	1,842 x 1,600 x 1,000	1,842 x 2,010 x 1,000	1,842 x 2,420 x 1,000	1,842 x 2,010 x 1,000
Net weight			kg	210	210	270	315	315	420	420	480	540	525
Electrical ratings	Cooling	Running current	A	7.14 / 6.78 / 6.54	9.62 / 9.14 / 8.81	11.8 / 11.2 / 10.8	15.3 / 14.5 / 14.0	18.4 / 17.5 / 16.8	16.6 / 15.7 / 15.2	19.2 / 18.2 / 17.5	21.4 / 20.4 / 19.6	24.2 / 23.0 / 22.2	28.2 / 26.8 / 25.8
		Power input	kW	4.23	5.57	7.08	8.77	10.9	9.70	11.1	12.7	14.5	16.5
	Heating	Running current	A	7.15 / 6.79 / 6.54	9.68 / 9.20 / 8.86	11.6 / 11.1 / 10.7	14.9 / 14.1 / 13.6	16.6 / 15.8 / 15.2	16.5 / 15.7 / 15.1	19.3 / 18.3 / 17.7	21.3 / 20.2 / 19.5	24.0 / 22.8 / 22.0	26.3 / 25.0 / 24.1
		Power input	kW	4.28	5.67	6.97	8.51	9.75	9.80	11.3	12.6	14.4	15.4
Starting current			A	1	1	1	2	2	2	2	2	2	3
Air flow rate			m³/h	13,440	13,440	13,920	13,920	13,920	26,880	26,880	27,360	27,840	27,360
			L/s	3,733	3,733	3,867	3,867	3,867	7,467	7,467	7,600	7,733	7,600
Refrigerant amount at shipment			kg	5.6	5.6	8.3	8.3	8.3	11.2	11.2	13.9	16.6	13.9
External static pressure			Pa	80	80	80	80	80	80	80	80	80	80
Piping connections	Gas pipe		mm (inches)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)	Ø25.40 (Ø1)	Ø25.40 (Ø1)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø28.58 (Ø1-1/8)	Ø31.75 (Ø1-1/4)
	Liquid pipe		mm (inches)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø12.70 (Ø1/2)	Ø12.70 (Ø1/2)	Ø12.70 (Ø1/2)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø19.05 (Ø3/4)
	Balance pipe		mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Ambient temperature operating range				Cooling: -10˚C (DB)~ +52˚C (DB). Heating: -25˚C (WB)~ +18˚C (WB)									
Sound pressure level	Normal mode		dB (A)	53.0	56.0	57.0	58.0	61.0	58.0	59.0	59.5	60.0	62.5
	Silent mode (2)		dB (A)	48.0	51.0	52.0	53.0	56.0	53.0	54.0	54.5	55.0	57.5
Sound power level	Normal mode		dB	74.0	77.0	78.0	79.0	82.0	79.0	80.0	80.5	81.0	83.5

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

Global remarks

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

These specifications are subject to change without notice.

U-8ME2H7
U-10ME2H7

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

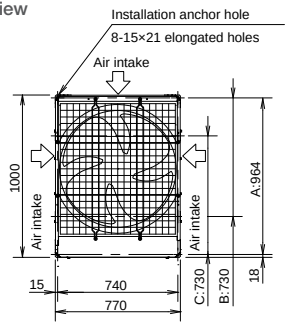
28	30	32	34	36	38	40	42	44	46	48	50	52	54
U-28ME2H7	U-30ME2H7	U-32ME2H7	U-34ME2H7HE	U-36ME2H7HE	U-38ME2H7HE	U-40ME2H7HE	U-42ME2H7	U-44ME2H7	U-46ME2H7	U-48ME2H7	U-50ME2H7HE	U-52ME2H7HE	U-54ME2H7HE
U-12ME2H7 U-16ME2H7	U-14ME2H7 U-16ME2H7	U-16ME2H7 U-16ME2H7	U-10ME2H7 U-12ME2H7 U-12ME2H7	U-12ME2H7 U-12ME2H7 U-12ME2H7	U-10ME2H7 U-12ME2H7 U-16ME2H7	U-12ME2H7 U-12ME2H7 U-16ME2H7	U-10ME2H7 U-16ME2H7 U-16ME2H7	U-12ME2H7 U-16ME2H7 U-16ME2H7	U-14ME2H7 U-16ME2H7 U-16ME2H7	U-16ME2H7 U-16ME2H7 U-16ME2H7	U-10ME2H7 U-12ME2H7 U-12ME2H7 U-12ME2H7 U-16ME2H7	U-12ME2H7 U-12ME2H7 U-12ME2H7 U-16ME2H7 U-16ME2H7	U-10ME2H7 U-12ME2H7 U-16ME2H7 U-16ME2H7
380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz													
78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0	140.0	145.0	151.0
267,900	290,100	307,200	327,600	344,700	365,200	385,700	402,700	423,200	443,700	460,800	477,800	494,900	515,400
87.5	95.0	100.0	108.0	113.0	119.0	127.0	132.0	138.0	145.0	150.0	155.0	160.0	169.0
298,600	324,200	341,300	368,600	385,700	406,100	433,400	450,500	471,000	494,900	511,900	529,000	546,100	576,800
4.36	4.31	4.13	4.80	4.72	4.51	4.45	4.31	4.26	4.25	4.13	4.58	4.53	4.40
5.24	5.19	5.13	5.40	5.38	5.31	5.23	5.22	5.19	5.18	5.12	5.36	5.33	5.26
1,842 x 2,420 x 1,000	1,842 x 2,420 x 1,000	1,842 x 2,420 x 1,000	1,842 x 3,250 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,250 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,250 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,660 x 1,000	1,842 x 3,660 x 1,000	1,842 x 4,490 x 1,000	1,842 x 4,900 x 1,000	1,842 x 4,490 x 1,000
585	630	630	750	810	795	855	840	900	945	945	1,065	1,125	1,110
30.4 / 28.9 / 27.8	33.6 / 31.9 / 30.8	36.8 / 35.0 / 33.7	33.8 / 32.1 / 30.9	35.7 / 33.9 / 32.7	40.0 / 38.0 / 36.6	42.4 / 40.3 / 38.8	46.3 / 43.9 / 42.4	49.1 / 46.7 / 45.0	52.2 / 49.6 / 47.8	55.2 / 52.4 / 50.5	51.7 / 49.1 / 47.3	53.4 / 50.8 / 48.9	57.9 / 55.0 / 53.0
18.0	19.7	21.8	20.0	21.4	23.7	25.4	27.4	29.1	30.6	32.7	30.6	32.0	34.3
28.2 / 26.8 / 25.8	31.6 / 30.0 / 28.9	33.3 / 31.6 / 30.5	33.8 / 32.1 / 30.9	35.1 / 33.3 / 32.1	37.8 / 35.9 / 34.6	41.0 / 39.0 / 37.6	43.2 / 41.0 / 39.5	44.9 / 42.7 / 41.1	48.3 / 45.9 / 44.3	50.0 / 47.5 / 45.8	48.8 / 46.3 / 44.7	50.6 / 48.1 / 46.4	54.8 / 52.1 / 50.2
16.7	18.3	19.5	20.0	21.0	22.4	24.3	25.3	26.6	28.0	29.3	28.9	30.0	32.1
3	4	4	3	3	4	4	5	5	6	6	5	5	6
27,840	27,840	27,840	41,280	41,760	41,280	41,760	41,280	41,760	41,760	41,760	55,200	55,680	55,200
7,733	7,733	7,733	11,467	11,600	11,467	11,600	11,467	11,600	11,600	11,600	15,333	15,467	15,333
16.6	16.6	16.6	22.2	24.9	22.2	24.9	22.2	24.9	24.9	24.9	30.5	33.2	30.5
80	80	80	80	80	80	80	80	80	80	80	80	80	80
Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø31.75 (Ø1-1/4)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)
Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)
Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Cooling: -10˚C (DB)~ +52˚C (DB). Heating: -25˚C (WB)~ +18˚C (WB)													
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

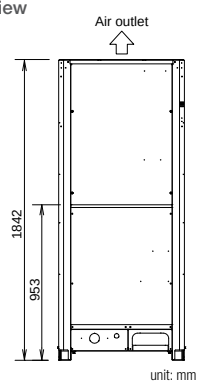
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

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

Top view



Front view

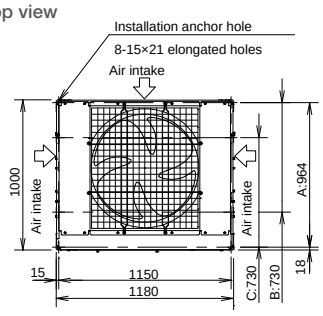


12 / 14 / 16 HP

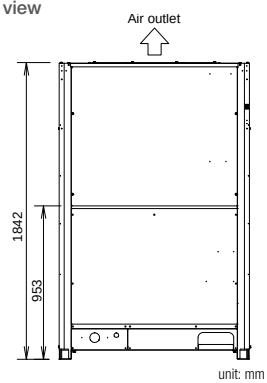
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

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

Top view



Front view

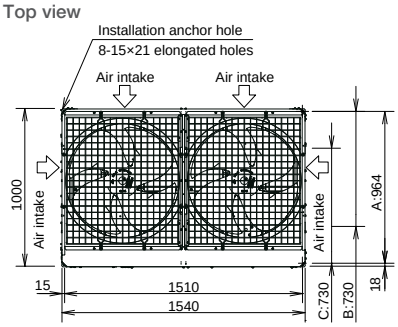


18 / 20 HP

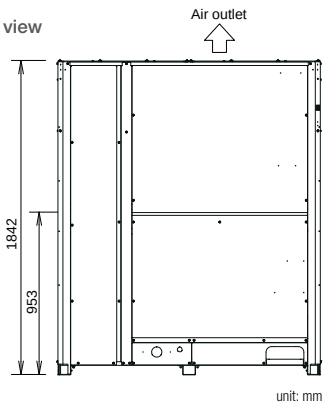
According to the installation site, you may choose the setting position in the depth direction of the anchor bolt from A, B or C.

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

Top view



Front view



2-WAY FSV-EX ME2 Series

Space-saving Combination Model

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

Appearance												
HP				**50**	**52**	**54**	**56**	**58**	**60**	**62**	**64**	**66**
				U-50ME2H7SP	**U-52ME2H7SP**	**U-54ME2H7SP**	**U-56ME2H7SP**	**U-58ME2H7SP**	**U-60ME2H7SP**	**U-62ME2H7**	**U-64ME2H7**	**U-66ME2H7SP**
Model name				**U-14ME2H7** **U-16ME2H7** **U-20ME2H7**	**U-16ME2H7** **U-16ME2H7** **U-20ME2H7**	**U-14ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-16ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-18ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-20ME2H7** **U-20ME2H7** **U-20ME2H7**	**U-14ME2H7** **U-16ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-16ME2H7** **U-16ME2H7** **U-16ME2H7** **U-16ME2H7**	**U-10ME2H7** **U-16ME2H7** **U-20ME2H7** **U-20ME2H7**
Power supply				380/400/415V/3-phase/50Hz 380/400/3-phase/60Hz								
Capacity	Cooling		kW	140.0	145.0	151.0	156.0	162.0	168.0	174.0	180.0	185.0
			BTU/h	477,800	494,900	515,400	532,400	552,900	573,400	593,900	614,300	631,400
	Heating		kW	155.0	160.0	169.0	175.0	182.0	189.0	195.0	201.0	207.0
			BTU/h	529,000	546,100	576,800	597,300	621,200	645,100	665,500	686,000	706,500
EER / COP	Cooling		W/W	4.09	3.99	3.95	3.87	3.86	3.76	4.23	4.13	4.00
	Heating		W/W	5.00	4.95	4.79	4.76	4.73	4.60	5.16	5.11	4.85
Dimensions	H x W x D		mm	1,842 x 4,020 x 1,000	1,842 x 4,020 x 1,000	1,842 x 4,380 x 1,000	1,842 x 4,380 x 1,000	1,842 x 4,740 x 1,000	1,842 x 4,740 x 1,000	1,842 x 4,900 x 1,000	1,842 x 4,900 x 1,000	1,842 x 5,210 x 1,000
Net weight			kg	1,005	1,005	1,065	1,065	1,125	1,125	1,260	1,260	1,275
Electrical ratings	Cooling	Running current	A	57.7 / 54.8 / 52.9	60.6 / 57.6 / 55.5	63.8 / 60.6 / 58.4	67.3 / 63.9 / 61.6	70.1 / 66.6 / 64.2	73.8 / 70.1 / 67.6	70.2 / 66.7 / 64.2	73.6 / 69.9 / 67.4	77.3 / 73.4 / 70.8
		Power input	kW	34.2	36.3	38.2	40.3	42.0	44.7	41.1	43.6	46.3
	Heating	Running current	A	52.9 / 50.3 / 48.5	54.5 / 51.8 / 49.9	59.6 / 56.6 / 54.6	62.1 / 59.0 / 56.9	65.0 / 61.7 / 59.5	68.6 / 65.2 / 62.8	64.5 / 61.3 / 59.1	67.1 / 63.7 / 61.4	72.1 / 68.5 / 66.0
		Power input	kW	31.0	32.3	35.3	36.8	38.5	41.1	37.8	39.3	42.7
Starting current			A	6	6	6	6	6	6	8	8	7
Air flow rate			m³/h	52,140	52,140	62,520	62,520	72,900	72,900	55,680	55,680	75,960
			L/s	14,483	14,483	17,367	17,367	20,250	20,250	15,467	15,467	21,100
Refrigerant amount at shipment			kg	26.1	26.1	27.3	27.3	28.5	28.5	33.2	33.2	32.9
External static pressure			Pa	80	80	80	80	80	80	80	80	80
Piping connections	Gas pipe		mm (inches)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø38.10 (Ø1-1/2)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)
	Liquid pipe		mm (inches)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)	Ø19.05 (Ø3/4)
	Balance pipe		mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Ambient temperature operating range				Cooling: -10˚C (DB)~ +52˚C (DB). Heating: -25˚C (WB)~ +18˚C (WB)								
Sound pressure level	Normal mode		dB (A)	64.5	65.5	63.5	64.5	64.0	64.0	66.5	67.0	65.5
	Silent mode		dB (A)	59.5	60.5	58.5	59.5	59.0	59.0	61.5	62.0	60.5
Sound power level	Normal mode		dB	85.5	86.5	84.5	85.5	85.0	85.0	87.5	88.0	86.5


U-8ME2H7
U-10ME2H7


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


U-18ME2H7
U-20ME2H7






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





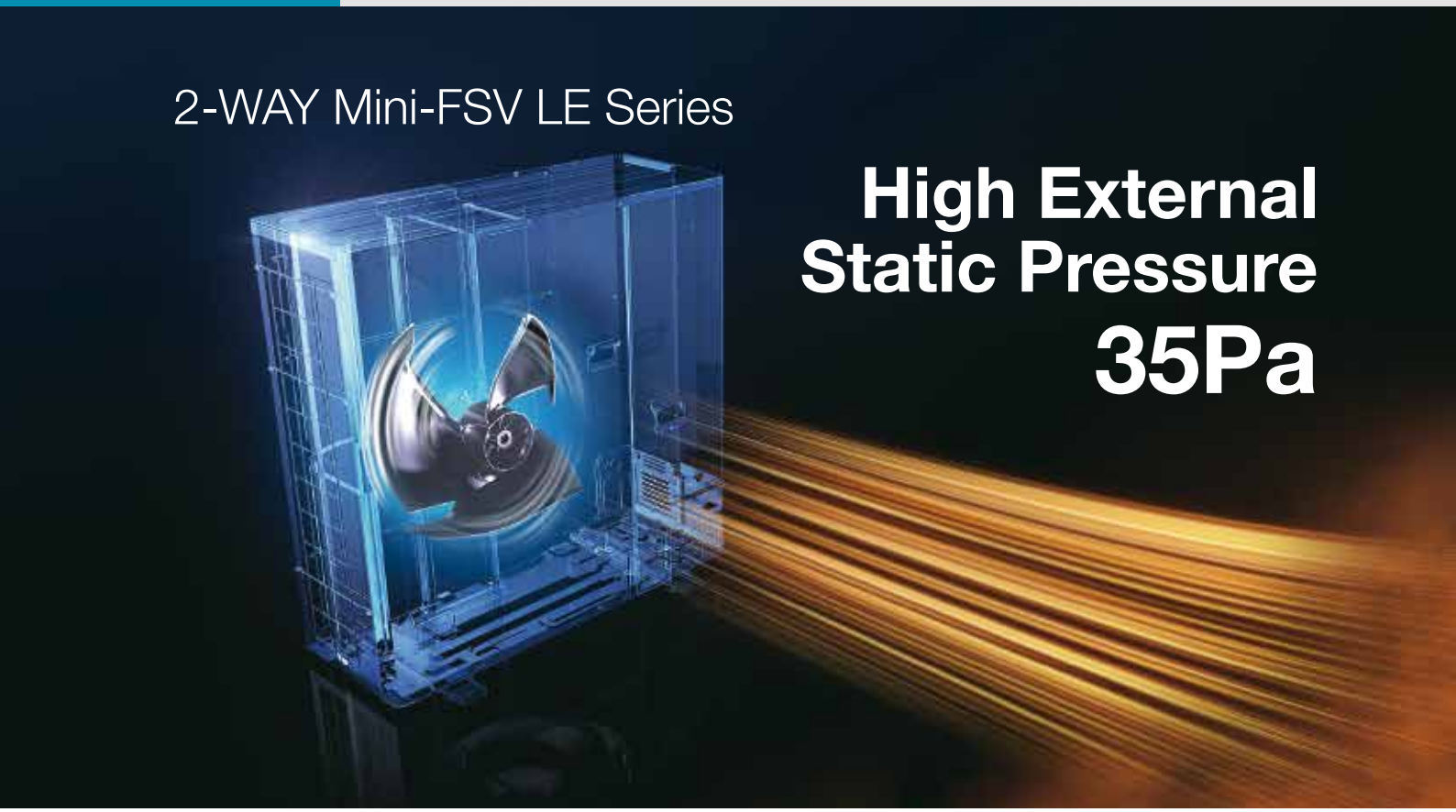
68	70	72	74	76	78	80
U-68ME2H7SP	U-70ME2H7SP	U-72ME2H7SP	U-74ME2H7SP	U-76ME2H7SP	U-78ME2H7SP	U-80ME2H7SP
U-12ME2H7 U-16ME2H7 U-20ME2H7 U-20ME2H7	U-10ME2H7 U-20ME2H7 U-20ME2H7 U-20ME2H7	U-16ME2H7 U-16ME2H7 U-20ME2H7 U-20ME2H7	U-16ME2H7 U-18ME2H7 U-20ME2H7 U-20ME2H7	U-16ME2H7 U-20ME2H7 U-20ME2H7 U-20ME2H7	U-18ME2H7 U-20ME2H7 U-20ME2H7 U-20ME2H7	U-20ME2H7 U-20ME2H7 U-20ME2H7 U-20ME2H7
380/400/415V/3-phase/50Hz 380/400/3-phase/60Hz						
190.0	196.0	202.0	208.0	213.0	219.0	224.0
648,500	668,900	689,400	709,900	727,000	747,400	764,500
213.0	219.0	226.0	233.0	239.0	245.0	252.0
727,000	747,400	771,300	795,200	815,700	836,200	860,100
3.99	3.90	3.91	3.90	3.83	3.82	3.76
4.84	4.73	4.82	4.79	4.70	4.69	4.60
1,842 x 5,620 x 1,000	1,842 x 5,570 x 1,000	1,842 x 5,620 x 1,000	1,842 x 5,980 x 1,000	1,842 x 5,980 x 1,000	1,842 x 6,340 x 1,000	1,842 x 6,340 x 1,000
1,335	1,335	1,380	1,440	1,440	1,500	1,500
79.5 / 75.5 / 72.8	84.0 / 79.8 / 76.9	86.2 / 81.8 / 78.9	89.0 / 84.5 / 81.5	91.8 / 87.2 / 84.1	94.6 / 89.9 / 86.6	98.4 / 93.5 / 90.1
47.6	50.3	51.6	53.3	55.6	57.3	59.6
73.5 / 69.8 / 67.3	77.3 / 73.4 / 70.8	79.2 / 75.2 / 72.5	82.0 / 77.9 / 75.1	85.0 / 80.7 / 77.8	87.2 / 82.8 / 79.8	91.5 / 86.9 / 83.8
44.0	46.3	46.9	48.6	50.9	52.2	54.8
7	7	8	8	8	8	8
76,440	86,340	76,440	86,820	86,820	97,200	97,200
21,233	23,983	21,233	24,117	24,117	27,000	27,000
35.6	34.1	35.6	36.8	36.8	38.0	38.0
80	80	80	80	80	80	80
Ø41.28 (Ø1-5/8)	Ø41.28 (Ø1-5/8)	Ø44.45 (Ø1-3/4)	Ø44.45 (Ø1-3/4)	Ø44.45 (Ø1-3/4)	Ø44.45 (Ø1-3/4)	Ø44.45 (Ø1-3/4)
Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)	Ø22.22 (Ø7/8)
Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
Cooling: -10˚C (DB)~ +52˚C (DB). Heating: -25˚C (WB)~ +18˚C (WB)						
65.5	64.5	66.5	66.0	66.0	65.0	65.0
60.5	59.5	61.5	61.0	61.0	60.0	60.0
86.5	85.5	87.5	87.0	87.0	86.0	86.0

Global remarks

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

These specifications are subject to change without notice.

2-WAY Mini-FSV LE Series



High External Static Pressure 35Pa

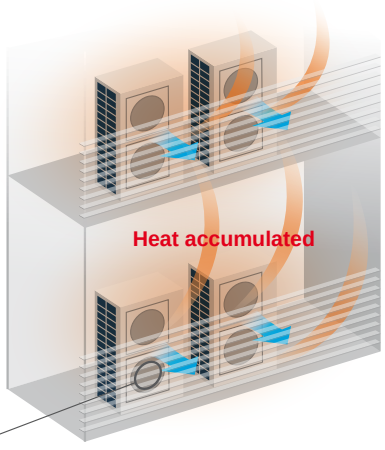
High external static pressure 35Pa

LE1 LE2

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

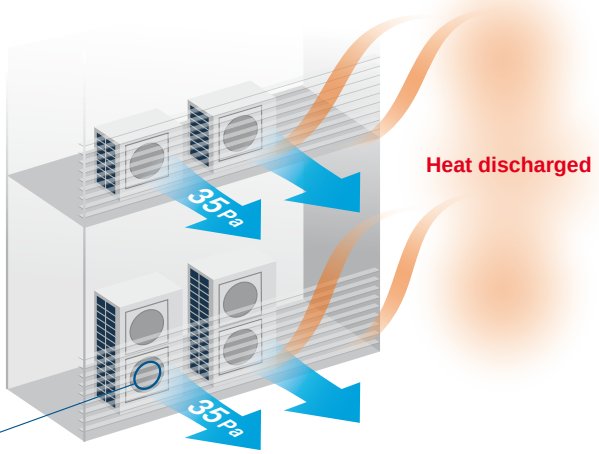
Previous model - Low pressure

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



LE series - High pressure

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



Previous fan

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

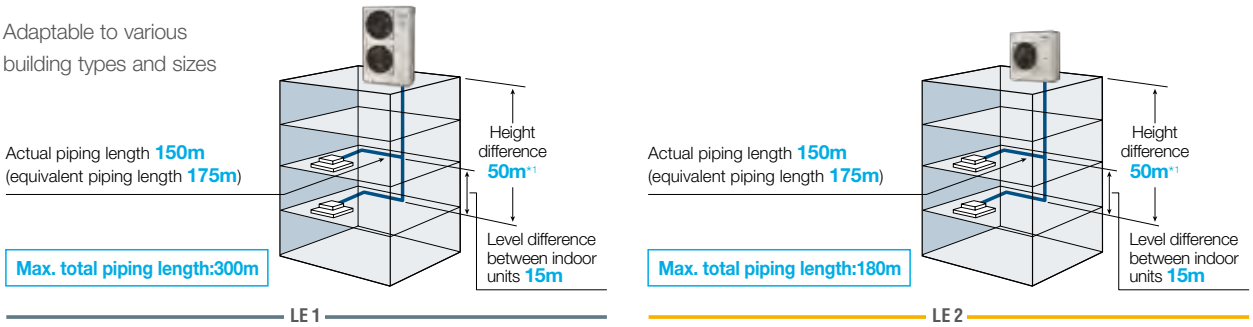
LE series fan

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

Long piping design length for greater design flexibility

LE1 LE2

Adaptable to various building types and sizes



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

Refrigerant chargeless up to 50m

LE2

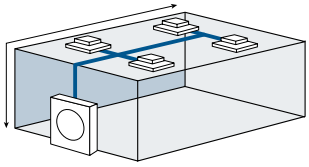
Up to 50m of piping without additional gas charging makes installation flexible, easy and hassle-free.

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

Chargeless
Max. total piping length: 50m

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

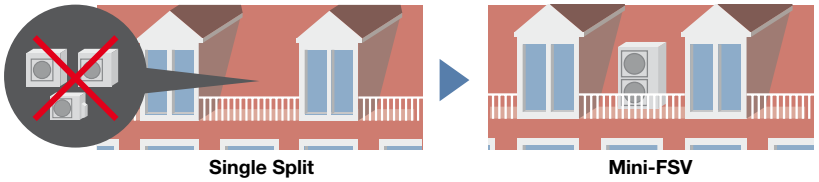
[Sample piping lay-out]



Compact design

LE1 LE2

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

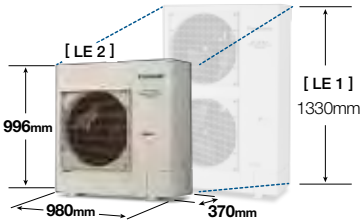


Single Split **Mini-FSV**

Short height of 996mm LE2

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

Can be installed in the small space



Up to 13 indoor units connectable

LE1 LE2

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

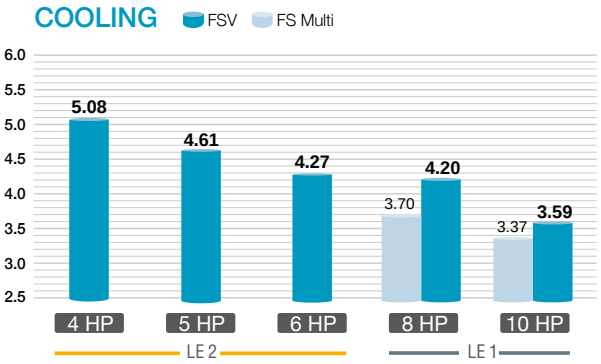
* Use any of the 22 type indoor models. Depending on the size or type of indoor unit, tubing size shall be changed. Please refer manuals for details.
* Diversity ration 50-130%
* 6 HP only; 4 HP for 7 units, 5 HP for 8 units.

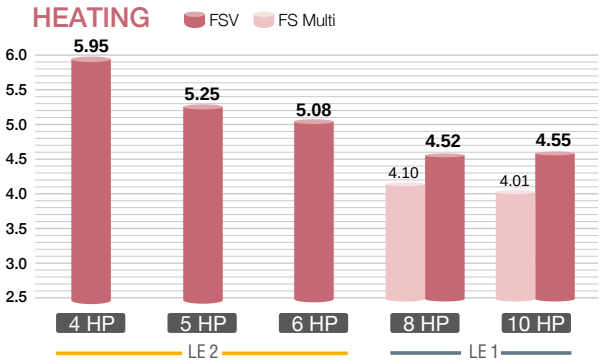
2-WAY Mini-FSV LE Series

High efficiency

LE1 LE2

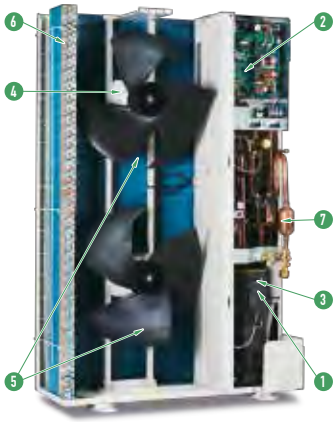
The operation efficiency has been improved using highly efficient R410A refrigerant, a DC Inverter compressor, DC motor and a heat exchanger design.





Energy savings design

LE1 LE2



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

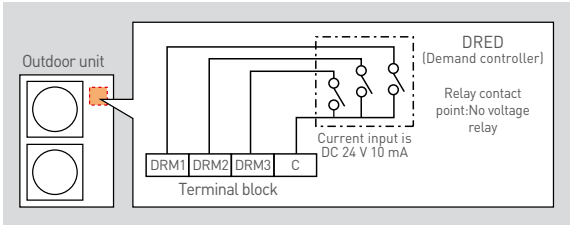
Flexible demand response with the optional terminal block

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.

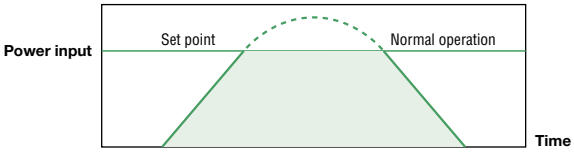
*Terminal block parts to be supplied separately. Please ask your dealer.



Flexible Demand Response with the CZ-CAPDC2*1

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

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



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

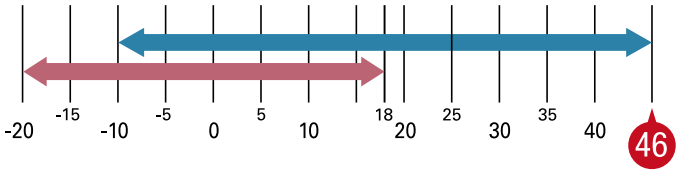
Wide operating range

LE1 LE2

- Cooling operation is possible even when outdoor temperature is as low as -10°C DB.
- Cooling operation is possible even when outdoor temperature is as high as 46°C DB.
- Heating operation is possible even when outdoor temperature is as low as -20°C WB.

The remote controller temperature can be set from 18°C up to 30°C (Cooling), 16°C up to 30°C (Heating)*1.

*1 Depending on the type of remote controller.



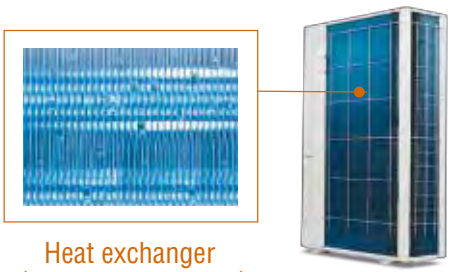
Cooling: -10°C DB ~ 46°C DB Heating: -20°C WB ~ 18°C WB

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

Blue fin condenser

LE1 LE2

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



Heat exchanger (blue fin condenser)

[Rear view]

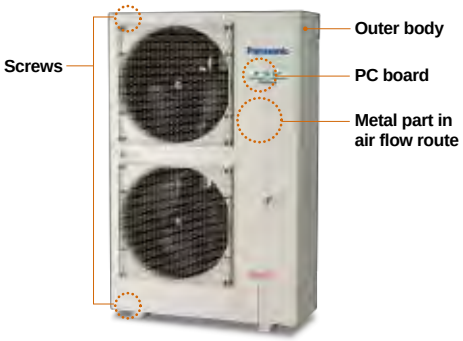
High durability outdoor unit

LE1 LE2

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

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

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



Quiet operation mode

LE1 LE2

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

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

2-WAY Mini-FSV LE2 Series

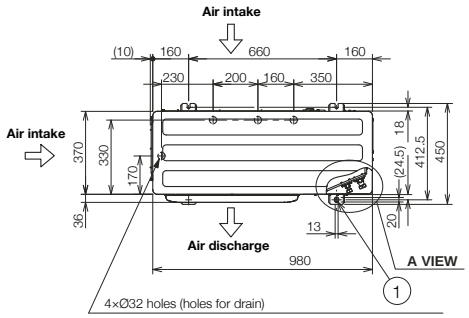
HP				4			4			5			5			6			6		
Model name				**U-4LE2H4**			**U-4LE2H7**			**U-5LE2H4**			**U-5LE2H7**			**U-6LE2H4**			**U-6LE2H7**		
Power supply				220/230/240V/ 1-phase/50Hz 220/230V/1-phase/60Hz			380/400/415V/ 3-phase/50Hz 380/400V/3-phase/60Hz			220/230/240V/ 1-phase/50Hz 220/230V/1-phase/60Hz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

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

* As a foot print.
** High durable model (with suffix "E") has same specifications.

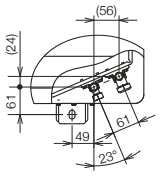
Dimensions

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

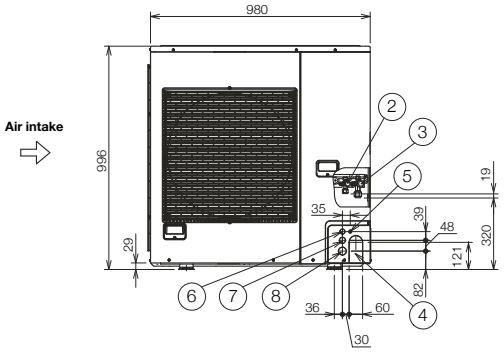


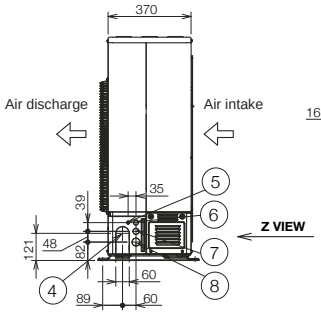
When using a drain pipe, install the drain socket (field supply) on to the drain port.Seal the other drain port with the rubber cap.

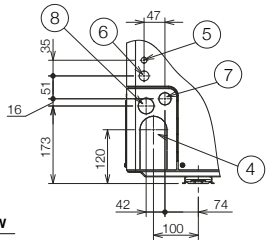
①	Mounting hole (4-R6.5), anchor bolt : M10
②	Refrigerant tubing (liquid tube), flared connection (Ø9.52)
③	Refrigerant tubing (gas tube), flared connection (Ø15.88)
④	Refrigerant tubing port
⑤	Electrical wiring port (Ø13)
⑥	Electrical wiring port (Ø22)
⑦	Electrical wiring port (Ø27)
⑧	Electrical wiring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



A VIEW







Z VIEW

Unit: mm

2-WAY Mini-FSV LE1 Series

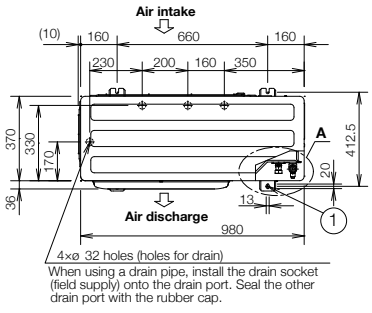
HP				8			10		
Model name				**U-8LE1H7**			**U-10LE1H7**		
Power supply				380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz			380/400/415V/3-phase/50Hz 380/400V/3-phase/60Hz		
Voltage				380V	400V	415V	380V	400V	415V
Capacity	Cooling		kW	22.4			28.0		
			BTU/h	76,500			95,600		
	Heating		kW	25.0			28.0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

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

* As a foot print.
** High durable model (with suffix "E") has same specifications.

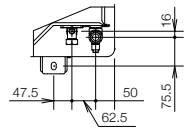
Dimensions

U-8LE1H7 / U-10LE1H7

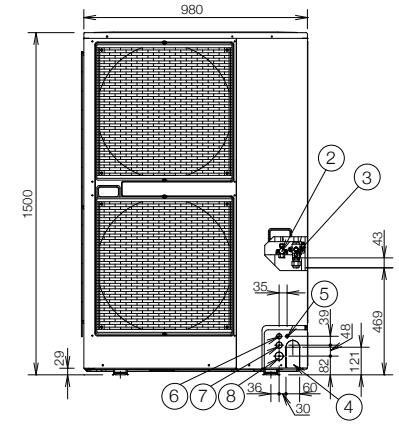


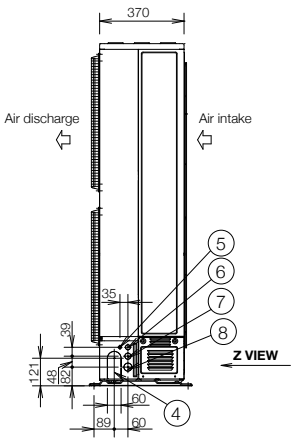
①	Mounting hole (4-R6.5), anchor bolt : M10
②	Refrigerant tubing (liquid tube), flared connection (ø9.52) for 8-10 HP finally.
③	Refrigerant tubing (gas tube), flared connection (ø19.05)
④	Refrigerant tubing port
⑤	Electrical wiring port (ø13)
⑥	Electrical wiring port (ø22)
⑦	Electrical wiring port (ø27)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

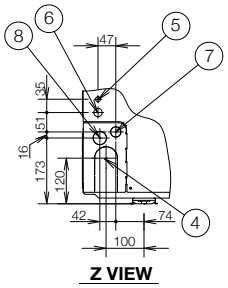
For U-10LE1H7
The tubing of the gas main has a diameter of ø22.22, but the connection to the service valve of the outdoor unit has a diameter of ø19.05, so a flare has to be used. Consequently, be sure to use the enclosed joint tube B and joint tube A in making connections (braze).



A VIEW







Z VIEW

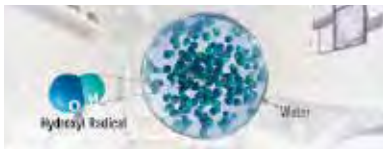
Unit: mm

24-hour nanoe™ X Air Protection*

While the general filters in air purifiers are effective against airborne bacteria and viruses, nanoe™ X also works to inhibit longer-living, adhered bacteria and viruses. As well as this, the Panasonic Comfort Cloud and WLAN smart adaptor (CZ-CAPWFC1) gives you access to your air conditioner anywhere, anytime, so you can turn nanoe™ X on even while you're out and enjoy 24-hour quality air.

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

What is unique about nanoe™ X ?



❶ Huge Quantity

9.6 trillion hydroxyl radicals are generated per a second, inhibiting bacteria and adhered viruses. (nanoe X Generator Mark 1 generates 4.8 trillion hydroxyl radicals/ sec)

❷ Longer lifespan

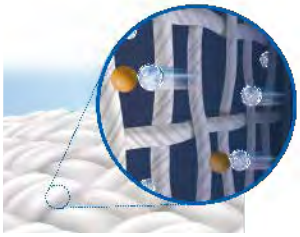
By creating hydroxyl radicals contained in water, nanoe™ X technology, increasing hydroxyl radicals lifetime so that nanoe™ X can spread over long distance.

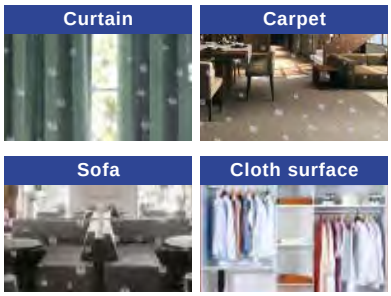
❸ Actively fill in the room

Going beyond standard filter technology, hydroxyl radicals circulate throughout rooms inhibiting both airborne and adhered bacteria and viruses.

Effective on Adhered Pollutants

Nano-sized (5-20 nm) nanoe™ X penetrates deep into fabrics and deodorises, inhibits bacteria, viruses, mould, allergens, pollen and hazardous substances. nanoe™ X extensively spread out through the room to inhibit adhered pollutants adhering to surfaces, while air filters only collect airborne dust but adhered substances.





24-hour nanoe™ X air protection, 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.

Clean air independently when you are away (Fan Mode + nanoe™ X ON)

Comfort and Clean air when you are at home (Cooling or Heating Mode + nanoe™ X ON)

*1 Wireless LAN Remote Control for Internet Connection required optional network adaptor.
*1 Indoor temperature display and some special function are not available through the App for some models.
*2 Energy consumption may vary depending on models and the external static pressure.

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

nanoe ON, Cooling ON (Cooling Mode)

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

nanoe ON, Cooling OFF (Fan Mode)

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

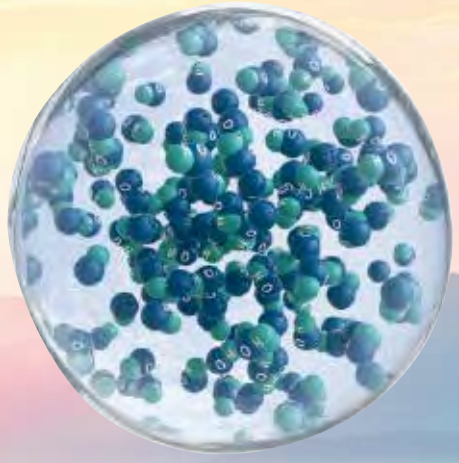
*In case of using 2.2kW~7.3kW 4 way cassette models with fan tap L, flap position 5, standard panel. Energy consumption may vary depending on models.

Bringing Nature's Balance Indoors

nanoe™X, technology with the benefits of hydroxyl radicals

The well-being benefits of nature are well known - but do you know the power of hydroxyl radicals?

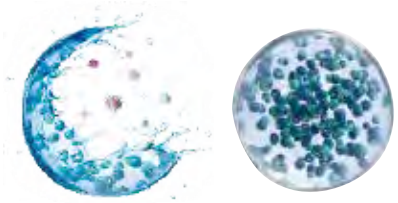
Abundant in nature, hydroxyl radicals (also known as OH radicals) inhibit pollutants, viruses and bacteria to clean and deodorise.nanoe™ X technology bring these incredible benefits indoors by containing hydroxyl radicals in water, so that hard surfaces, soft furnishings and the indoor environment can be a clean and pleasant place to be, whether at home, at work, or visiting hotels, shops, restaurants etc.



Hydroxyl radicals contained in water

A naturally occurring process

Hydroxyl radicals are unstable molecules looking to react with other elements like hydrogen molecules of pollutants, capturing it. Thanks to this reaction, hydroxyl radicals inhibit the growth of pollutants such as viruses, bacteria, moulds, and odours, breaking them down and neutralising the unpleasant effects. This naturally occurring process has major benefits to improve indoor environments.



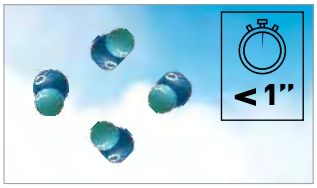
Bringing nature's balance indoors nanoe™ X, technology with the benefits of hydroxyl radicals

nanoe™ X, technology with the benefits of hydroxyl radicals

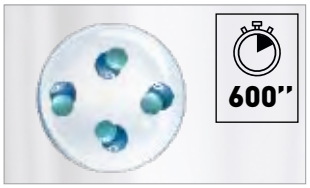
Panasonic's nanoe™ X technology takes a step further and brings nature's detergent - hydroxyl radicals - indoors to help create an ideal environment.

By creating hydroxyl radicals contained in water, nanoe™ X technology significantly boosts their effectiveness, increasing hydroxyl radicals lifetime from less than a second in nature, to more than 600 seconds – 10 minutes.

https://www.panasonic.com/global/consumer/clean/hydroxyl/technology.html



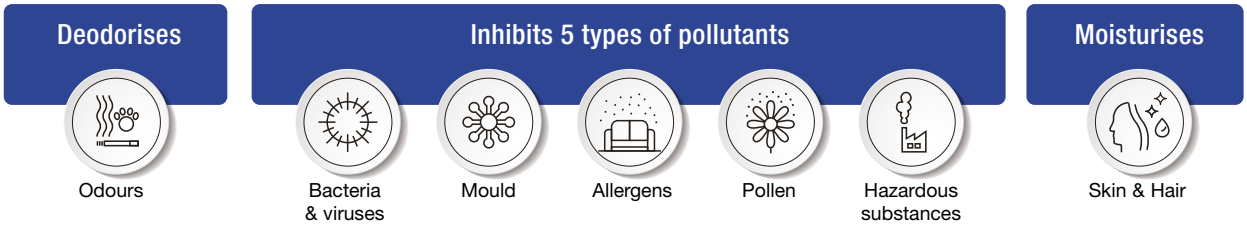
Hydroxyl radicals in nature



Hydroxyl radicals contained in water - nanoe™ X

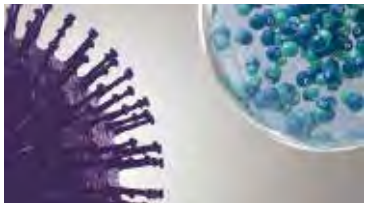
Effectiveness of nanoe™ X

nanoe™ X deodorises, inhibits bacteria & viruses, mould, allergens, pollen and hazardous substances, as well as moisturising the whole room for smoother skin and hair.

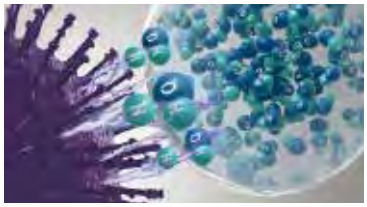


For further details and validation data, please refer to the following website:
https://aircon.panasonic.com/introducing/whats_nanoe/nanoex.html

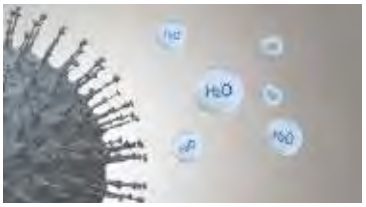
Thanks to the nanoe™ X properties, several types of pollutants can be inhibited.



nanoe™ X reliably reaches pollutants.



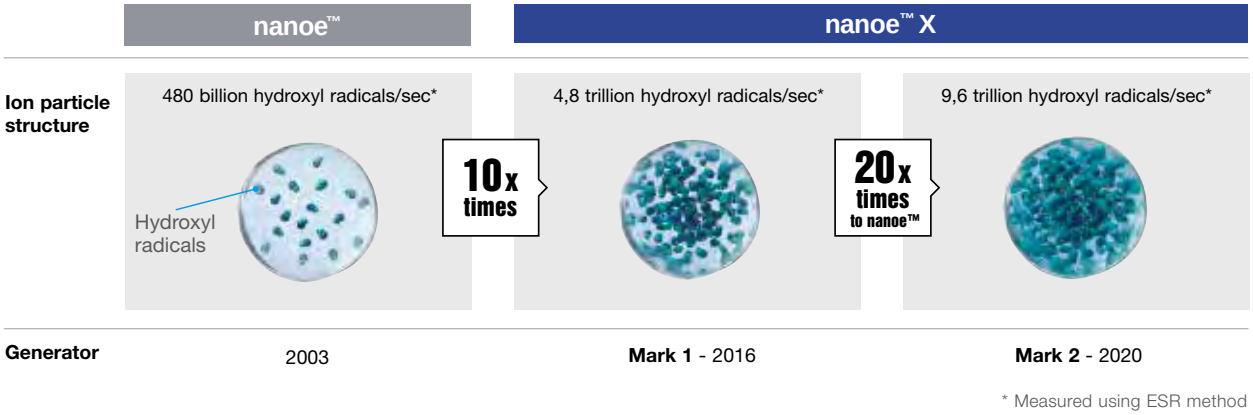
Hydroxyl radicals transform pollutants' proteins.



Pollutants activity is inhibited.

The evolution of nanoe™ X technology

After annual R&D investments, the technology has been improved with launch of nanoe™ X.



* Measured using ESR method

Verification tests for nanoe™ X effects in large spaces

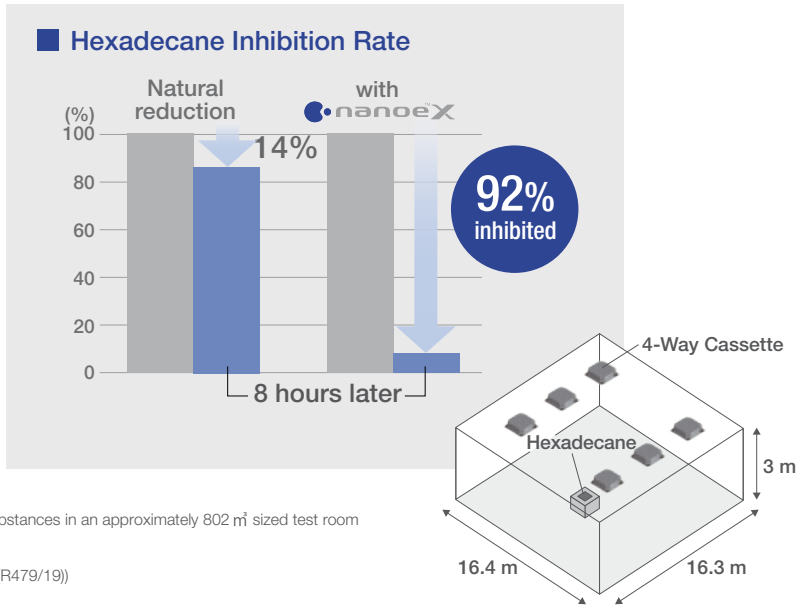
Hazardous substances

The nanoe™ X inhibited hexadecane, a chemical contained in PM2.5 (267m²)

3rd party

A third-party certification organization SIRIM Berhad (SIRIM)*1, conducted the performance experiment using a 4-Way Cassette equipped with a nanoe™ X device to inhibit hexadecane*2, a chemical contained in PM2.5.

*1 SIRIM is a premier industrial research and technology organisation in Malaysia, a wholly-owned company of the Malaysian Government under the Ministry of International Trade and Industry (MITI).
*2 Hexadecane is a hazardous substance contained in gasoline and diesel exhaust gas.



Testing method: Measured the amount of attached organic substances in an approximately 802 ㎥ sized test room
Inhibition method: nanoe X Generator Mark 1 released
Test substance: Hexadecane
Test result: Broken down 92% in 8 hours (ETRC257/16/1402 (R479/19))

odours

The nanoe™ X reduced the odours adhering to fibers such as curtains and carpets (139m²)

3rd party

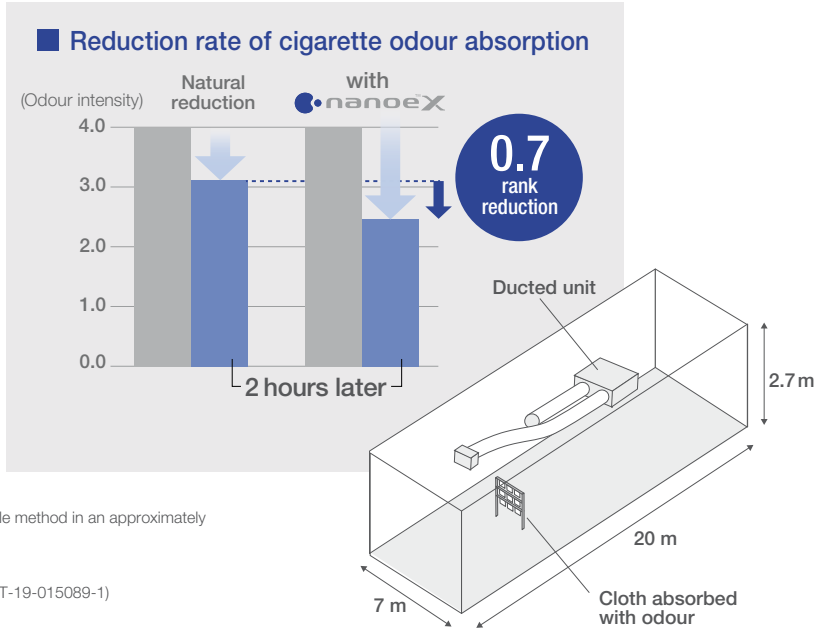
Cigarette smoke odour

Results

Compared to natural reduction, the nanoe™ X blast reduced the odour intensity by more than approximately 0.7 after two hours.

Testing organization

KAKEN TEST CENTER General Incorporated Foundation in Japan, international testing institute.



Testing method: Verified using the six-level odour intensity scale method in an approximately 378㎥ sized test room
Inhibition method: nanoe X Generator Mark 2 released
Test substance: Surface-attached cigarette smoke odour
Test result: Odour intensity reduced by 0.7 levels in 2 hours (KT-19-015089-1)

The effects of nanoe™ X are recognised by experts in each field

Professor
Masafumi Mukamoto

Osaka Prefecture University
Veterinary Infectious Disease Studies





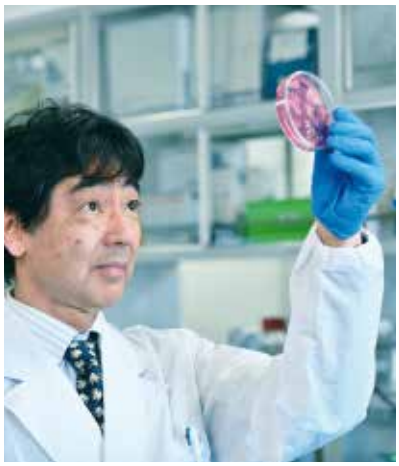
Various types of moulds enter houses along with people and air. Even if preventive action is taken in our everyday lives, it is often very difficult to inhibit the growth of mould, especially in humid environments. With nanoe™ X, we have experimental results*3*4 that show we can inhibit the growth of the types of mould and bacteria commonly found in various places in the house.

Hope for the creation of more comfortable spaces for those who have problems with asthma or atopic dermatitis

Professor
Masahiro Sakaguchi

Azabu University
School of Veterinary Medicine
Laboratory of Veterinary Microbiology I





We have experimental results that show nanoe™ X is capable of inhibiting allergens, such as pollen and dust mites. It is important to take precautions against the allergens that we inadvertently inhale in our daily lives.
As nanoe™ X is effective in inhibiting invisible allergens, we can expect it will create a cleaner environment. As the safety of nanoe™ X has also been verified, nanoe™ X gives peace of mind to families with small children.

*3 Experimental results show that nanoe™ X is effective in inhibiting the growth of the following types of mould and bacteria commonly found in homes:
Mould: Trichophyton, Cladosporium, Malassezia furfur, Sporothrix schenckii, Exophiala jeanselmei, Absidia corymbifera, Rhodotorula rubra, Neurospora sitophila, Schizophyllum communeBacteria: Methicillin-resistant Staphylococcus aureus (MRSA), Listeria monocytogenes, Bacillus subtilis, Mycobacterium smegmatis, Nocardia asteroids, Neisseria gonorrhoeae, Salmonella enterica subsp. Enterica, Haemophilus influenza, Campylobacter jejuni.
*4 This verification was designed to generate basic research data on the effects of nanoe™ X on the mould and bacteria in laboratory conditions different from those found in living spaces. It was not designed to evaluate product performance.

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

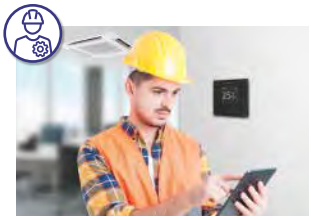
User friendly interface with stylish design measuring just 86 x 86 mm, CONEX is an extremely compact remote controller which perfectly matches with all kinds of modern building.

CONEX

(CZ-RTC6/CZ-RTC6BL)

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

H&C Control App

▸ End user ▸ Installer

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

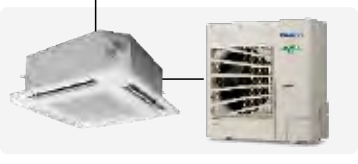
Panasonic

Download on the App Store

GET IT ON Google Play

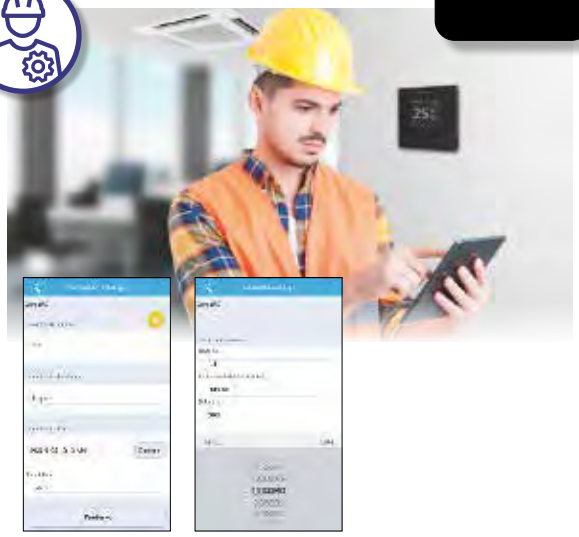
Scan QR code to download free Panasonic H&C Control App

(CZ-RTC6BL)



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

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



Advantages

Comfort day-to day operations

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

Intuitive operation for easy configuration

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

Straightforward suggestions to clients

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

Quicker configuration for multiple controllers

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

Indoor Units

Wide choice of models depending on the indoor requirements

ECONAVI sensor

ECONAVI

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

ECONAVI Sensor
CZ-CENSC1

Detection of the level of activity enables optimum power saving

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

Sensor is remotely located to maximize the energy saving effect

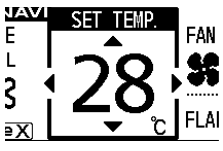
Pillars, walls, cabinets and other fittings obstruct the sensors, reducing the area of detection and lowering the energy-saving effect. Taking into consideration blind spots, Panasonic enables the optimum layout for sensors in any office.

High-spec wired remote controller

CZ-RTC5B

Large 3.5" full-dot LCD with white LED backlight

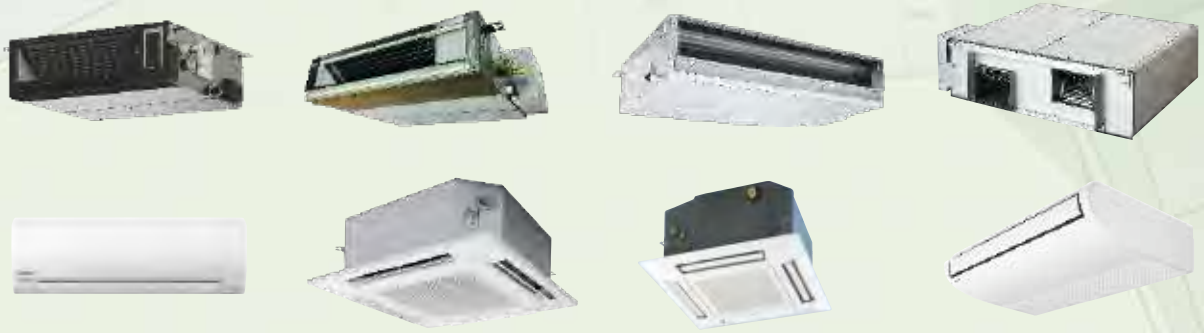
Characters and icons are clearly displayed for improved visibility. The display is also large enough to provide a wide range of information for easy confirmation of operation conditions.



Stylish, easy-to-use touch key design

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

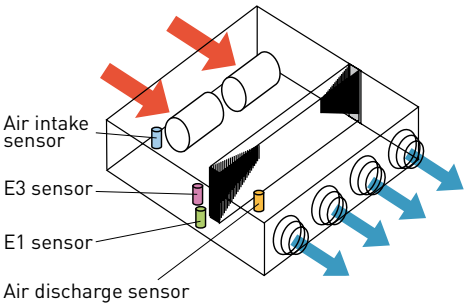
Key Indoor Units Equipped DC motors



All ducted series / F3,M1,Z1,E2,E1,H1, 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 / K2 type

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

Noise reducing external valve kit

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

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

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

Remote temperature sensor

CZ-CSRC3

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

FSV Indoor Units Range

Wide choice of models depending on the indoor requirements

Class	22	28	36	45	56	60	73
	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating
Capacity kW / Type BTU/h	2.2/2.5 7,500/8,500	2.8/3.2 9,600/11,000	3.6/4.2 12,000/14,000	4.5/5.0 15,000/17,000	5.6/6.3 19,000/21,000	6.0/7.1 20,400/24,200	7.3/8.0 25,000/27,000
nanoe™ X as a standard F3 type ECONAVI **Mid Static Adaptive Ducted**	NEW S-22MF3E5A	NEW S-28MF3E5A	NEW S-36MF3E5A	NEW S-45MF3E5A	NEW S-56MF3E5A	NEW S-60MF3E5A	NEW S-73MF3E5A
M1 type ECONAVI **Slim Low Static Ducted**	S-22MM1E5A	S-28MM1E5A	S-36MM1E5A	S-45MM1E5A	S-56MM1E5A		
Z1 type ECONAVI **Slim Low Static Ducted Twenty Series**	S-22MZ1H4A	S-28MZ1H4A	S-36MZ1H4A	S-45MZ1H4A	S-56MZ1H4A	S-60MZ1H4A	S-73MZ1H4A
E2 type **High Static Ducted / Energy Saving High-Fresh Air Ducted**							
E1 type **High Static Ducted**							S-73ME1E5
H1 type **High Fresh Air Ducted**							
K2 type ECONAVI **Wall Mounted**	S-22MK2E5A	S-28MK2E5A	S-36MK2E5A	S-45MK2E5A	S-56MK2E5A		S-73MK2E5A
nanoe™ X as a standard U2 type ECONAVI** **4-Way Cassette** Panel No. CZ-KPU3H Panel No. CZ-KPU3A	NEW S-22MU2E5B	NEW S-28MU2E5B	NEW S-36MU2E5B	NEW S-45MU2E5B	NEW S-56MU2E5B	NEW S-60MU2E5B	NEW S-73MU2E5B
Y2 type ECONAVI **4-Way Mini Cassette** Panel No. CZ-KPY3AW	S-22MY2E5A	S-28MY2E5A	S-36MY2E5A	S-45MY2E5A	S-56MY2E5A		
L1 type **2-Way Cassette** Panel No. CZ-02KPL2 Panel No. CZ-03KPL2 (Only for S-73ML1E5)	S-22ML1E5	S-28ML1E5	S-36ML1E5	S-45ML1E5	S-56ML1E5		S-73ML1E5
D1 type **1-Way Cassette** Panel No. CZ-KPD2		S-28MD1E5	S-36MD1E5	S-45MD1E5	S-56MD1E5		S-73MD1E5
T2 type ECONAVI **Ceiling**			S-36MT2E5A	S-45MT2E5A	S-56MT2E5A		S-73MT2E5A
P1 type **Floor Standing**	S-22MP1E5	S-28MP1E5	S-36MP1E5	S-45MP1E5	S-56MP1E5		S-71MP1E5
R1 type **Concealed Floor Standing**	S-22MR1E5	S-28MR1E5	S-36MR1E5	S-45MR1E5	S-56MR1E5		S-71MR1E5

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

90	106	140	160	180	224	280	Wireless remote control		
Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Type with built-in sensor	Type with separately installed sensor	Functions
9.0/10.0 30,000/34,000	10.6/11.4 36,000/39,000	14.0/16.0 47,800/54,600	16.0/18.0 54,600/61,500	18.0/20.0 61,400/68,200	22.4/25.0 76,400/85,300	28.0/31.5 95,500/107,500			
NEW S-90MF3E5A	NEW S-106MF3E5A	NEW S-140MF3E5A	NEW S-160MF3E5A					●	self-diagnosing, Auto fan, Dry mode, Auto restart, Drain pump, DC motor
								●	self-diagnosing, Auto fan, Dry mode, Auto restart, Drain pump, DC motor
								●	self-diagnosing, Auto fan, Dry mode (High Static Ducted), Auto restart, DC motor
				S-180ME2E5 *	High Fresh Air S-224ME2E5	High Fresh Air S-280ME2E5			self-diagnosing, Auto fan, Dry mode, Auto restart, DC motor
	S-106ME1E5	S-140ME1E5			S-224ME1E5	S-280ME1E5		●	self-diagnosing, Auto fan, Dry mode, Auto restart
		High Fresh Air S-140MH1H5			High Fresh Air S-224MH1H5	High Fresh Air S-280MH1H5			self-diagnosing, Auto fan, Auto restart
	S-106MK2E5A						●	●	self-diagnosing, Auto fan, Dry mode, Auto flap, Auto restart, Air swing, DC motor
NEW S-90MU2E5B	NEW S-106MU2E5B	NEW S-140MU2E5B	NEW S-160MU2E5B				●	●	self-diagnosing, Auto fan, Dry mode, Auto flap, Auto restart, Air swing, Drain pump, DC motor
							●	●	self-diagnosing, Auto fan, Dry mode, Auto flap, Auto restart, Air swing, Drain pump, DC motor
							●	●	self-diagnosing, Auto fan, Dry mode, Auto flap, Auto restart, Air swing, Drain pump
							●	●	self-diagnosing, Auto fan, Dry mode, Auto flap, Auto restart, Air swing, Drain pump, DC motor
	S-106MT2E5A	S-140MT2E5A					●	●	self-diagnosing, Auto fan, Dry mode, Auto flap, Auto restart, Air swing, DC motor
								●	self-diagnosing, Auto fan, Dry mode, Auto restart
								●	self-diagnosing, Auto fan, Dry mode, Auto restart

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

NEW

F3 TYPE Mid Static Adaptive Ducted

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

S-22MF3E5A / S-28MF3E5A / S-36MF3E5A
S-45MF3E5A / S-56MF3E5A

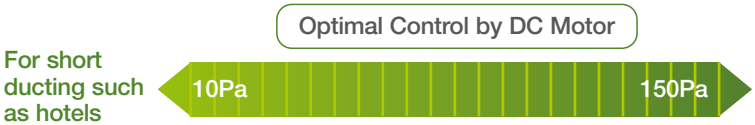
S-60MF3E5A / S-73MF3E5A / S-90MF3E5A

Technical focus

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

Variable external static pressure control

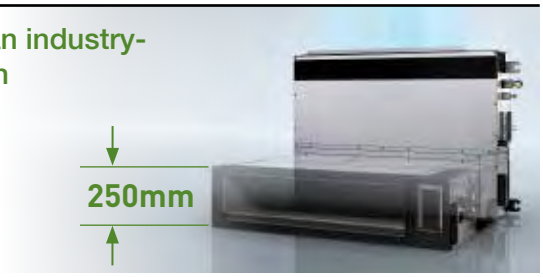
Optimal airflow set-up is possible depending on ducting design and conditions.



* Please refer to technical databook for detail.

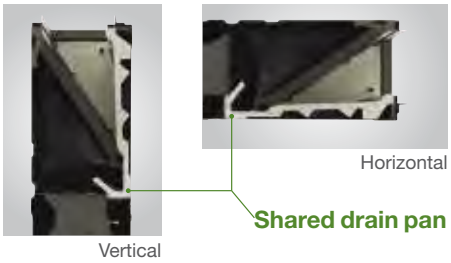
Powerful 150Pa external static pressure in an industry-leading horizontal/vertical installation design

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



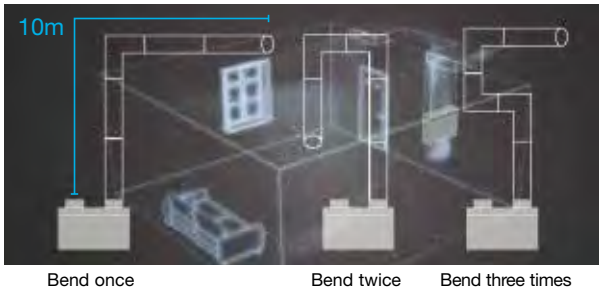
Improved drain pan design

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



Superior Air Quality

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



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

nanoe™ X as a standard*
*nanoe X Generator Mark 2

S-106MF3E5A / S-140MF3E5A / S-160MF3E5A

DC motor

Self-diagnosing Function

Automatic Fan Operation

DRY
Dry mode

Automatic Restart Function

Built-in Drain Pump

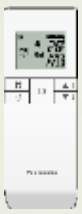
Optional accessory

ECONAVI
ECONAVI ready

CZ-RTC6
CZ-RTC6BL

CZ-CENSC1

CZ-RTC5B



CZ-RWS3
Remote controller

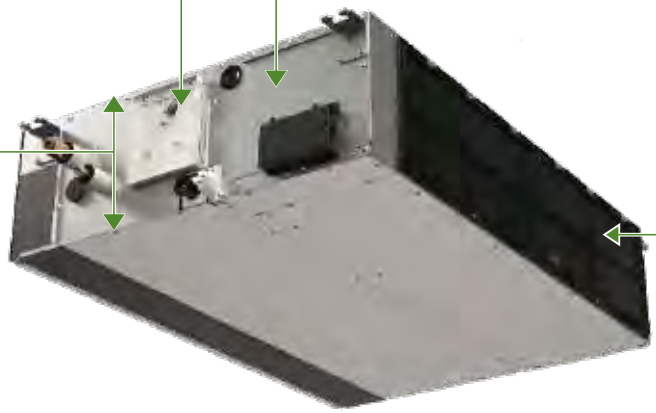
CZ-RWRC3
Receiver

Built-in Drain pump (DC motor pump)

External electrical equipment box makes maintenance easy

Space saving height of 250mm for all models

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

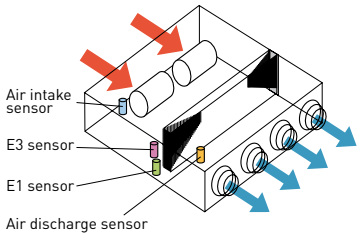


Built-in filter

Discharge air temperature control

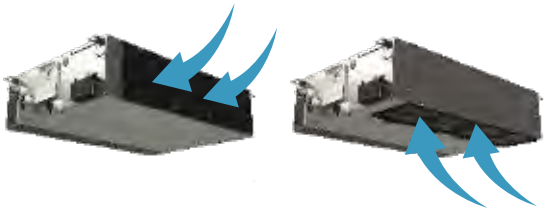
- Possible to control discharge air temperature for accurate room temperature control.
- Possible to reduce cold drafts during heating operation.

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



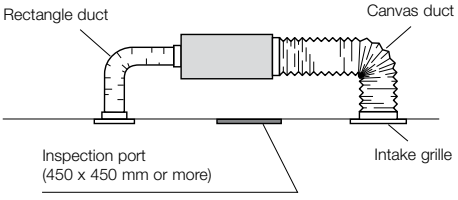
Selectable air inlet position

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



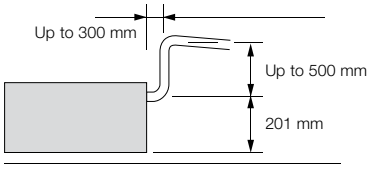
System example

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



More powerful drain pump

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

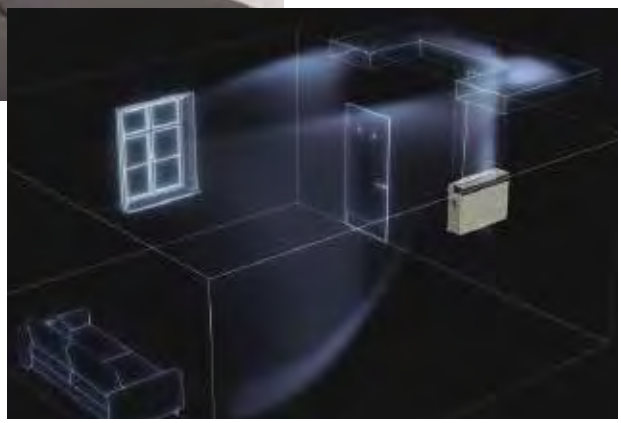


F3 TYPE Mid Static Adaptive Ducted

Model Name			S-22MF3E5A	S-28MF3E5A	S-36MF3E5A	S-45MF3E5A	S-56MF3E5A
Power source			220/230/240 V, 1 phase - 50/60 Hz				
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
		BTU/h	7,500	9,600	12,300	15,400	19,100
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3
		BTU/h	8,500	10,900	14,300	17,100	21,500
Power input	Cooling	kW	0.06/0.06/0.06	0.06/0.06/0.06	0.06/0.06/0.06	0.06/0.06/0.06	0.089/0.089/0.089
	Heating	kW	0.06/0.06/0.06	0.06/0.06/0.06	0.06/0.06/0.06	0.06/0.06/0.06	0.089/0.089/0.089
Running amperes	Cooling	A	0.46/0.45/0.44	0.46/0.45/0.44	0.46/0.45/0.44	0.46/0.45/0.44	0.65/0.63/0.61
	Heating	A	0.46/0.45/0.44	0.46/0.45/0.44	0.46/0.45/0.44	0.46/0.45/0.44	0.65/0.63/0.61
Fan motor	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m^3/h	840/720/480	840/720/480	840/720/480	840/720/480	960/840/600
		L/s	233/200/133	233/200/133	233/200/133	233/200/133	267/233/167
	Output	kW	0.107	0.107	0.107	0.107	0.107
	External static pressure	Pa	30 (10-150)	30 (10-150)	30 (10-150)	30 (10-150)	30 (10-150)
Sound power level (H/M/L)		dB	54/51/43	54/51/43	54/51/43	54/51/43	58/55/47
Sound pressure sound (H/M/L)		dB(A)	31/28/20	31/28/20	31/28/20	31/28/20	35/32/24
Dimensions	H x W x D	mm	250 x 800 x 730	250 x 800 x 730	250 x 800 x 730	250 x 800 x 730	250 x 800 x 730
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	26	26	26	26	26

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.



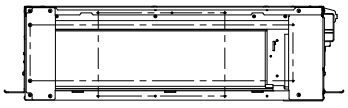
S-60MF3E5A	S-73MF3E5A	S-90MF3E5A	S-106MF3E5A	S-140MF3E5A	S-160MF3E5A
220/230/240 V, 1 phase - 50/60 Hz					
6.0	7.3	9.0	10.6	14.0	16.0
20,500	24,900	30,700	36,200	47,800	54,600
7.1	8.0	10.0	11.4	16.0	18.0
24,200	27,300	34,100	38,900	54,600	61,400
0.079/0.079/0.079	0.079/0.079/0.079	0.136/0.136/0.136	0.146/0.146/0.146	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	0.146/0.146/0.146	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	1.03/1.00/0.97	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	1.03/1.00/0.97	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	1,920/1,560/1,260	2,220/1,920/1,560	2,400/2,040/1,680
350/300/250	350/300/250	417/383/267	533/433/350	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)	40 (10-150)	50 (10-150)	50 (10-150)
54/51/46	54/51/46	58/56/48	59/55/50	64/59/55	66/60/56
31/28/23	31/28/23	35/33/25	36/32/27	41/36/32	43/37/33
250 x 1,000 x 730	250 x 1,000 x 730	250 x 1,000 x 730	250 x 1,400 x 730	250 x 1,400 x 730	250 x 1,400 x 730
Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
31	31	31	40	40	40

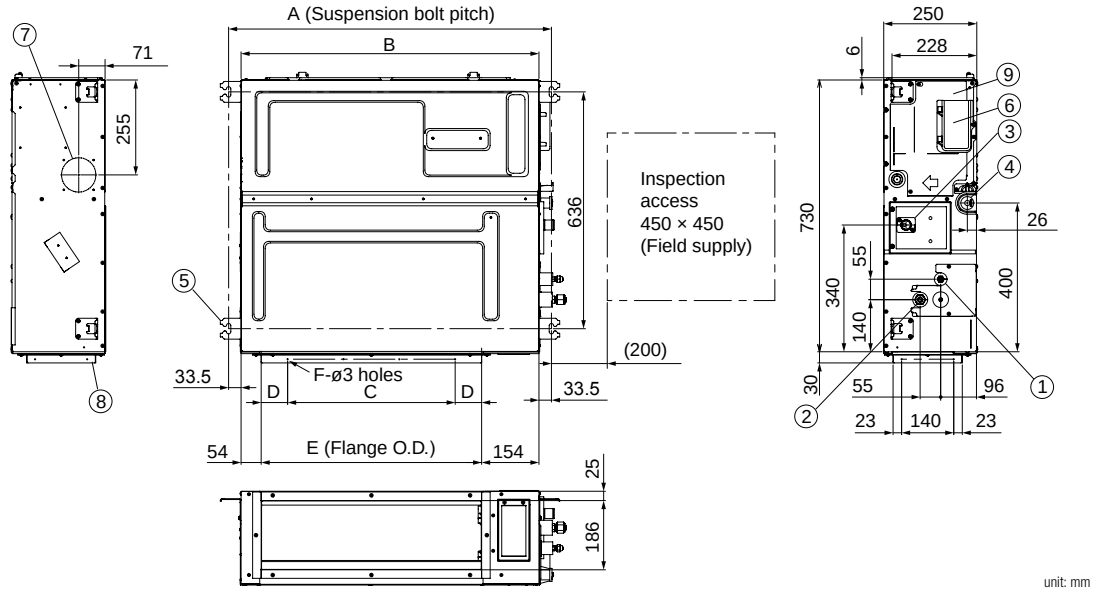
F3 TYPE MID STATIC DUCTED Dimensions

Type	A	B	C	D	E	F
	mm	mm	mm	mm	mm	Q'ty
22/28/36/45/56	867	800	450 (Pitch 150 × 3)	71	592	12
60/73/90	1,067	1,000	750 (Pitch 150 × 5)	21	792	16
106/140/160	1,467	1,400	1,050 (Pitch 150 × 7)	71	1,192	20

①	Refrigerant tubing joint **(liquid tube)** S-22/28/36/45/56MF3E5A : Φ6.35 (flared) S-60/73/90/106/140/160MF3E5A : Φ9.52 (flared)
②	Refrigerant tubing joint **(gas tube)** S-22/28/36/45/56MF3E5A : Φ12.7 (flared) S-60/73/90/106/140/160MF3E5A : Φ15.88 (flared)
③	Upper drain port VP20 (ø26 mm) 200 mm flexible hose supplied
④	Bottom drain port VP20 (ø26 mm)
⑤	Suspension lug (4 – 12 × 30 mm)
⑥	Power supply outlet
⑦	Fresh air intake port (ø100 mm)*1
⑧	Flange for flexible air outlet duct
⑨	Electrical component box

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





unit: mm

M1 TYPE Slim Low Static Ducted

DC motor

Concealed duct

S-22MM1E5A
S-28MM1E5A
S-36MM1E5A
S-45MM1E5A
S-56MM1E5A

Optional accessory

CZ-RTC6
CZ-RTC6BL

ECONAVI ready

CZ-CENSC1

CZ-RTC5B

CZ-RWS3
Remote controller

CZ-RWRC3
Receiver

Technical focus

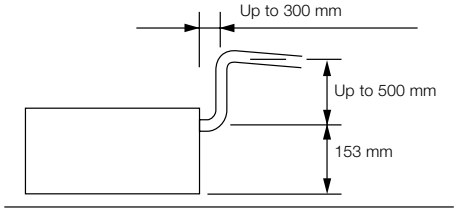
- Ultra-slim profile: 200 mm for all models
- DC fan motor greatly reduces power consumption
- Ideal for hotel application with very narrow false ceilings
- Easy maintenance and service by external electrical box
- 40 Pa static pressure enables ductwork to be fitted.
- Includes drain pump
- Includes built in filter

Ultra-slim profile for all models

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

Drain pump with increased power

Using the built-in high-lift drain pump, the drain piping rise height can be increased to 653 mm from the lower surface of the body.



Model Name			S-22MM1E5A	S-28MM1E5A	S-36MM1E5A	S-45MM1E5A	S-56MM1E5A
Power source			220/230/240 V, 1 phase - 50 / 60 Hz				
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
		BTU/h	7,500	9,600	12,300	15,400	19,100
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3
		BTU/h	8,500	10,900	14,300	17,100	21,500
Power input	Cooling	kW	0.036/0.036/0.036	0.040/0.040/0.040	0.042/0.042/0.042	0.049/0.049/0.049	0.064/0.064/0.064
	Heating	kW	0.026/0.026/0.026	0.030/0.030/0.030	0.032/0.032/0.032	0.039/0.039/0.039	0.054/0.054/0.054
Running current	Cooling	A	0.26/0.26/0.26	0.30/0.30/0.30	0.31/0.31/0.31	0.37/0.37/0.37	0.48/0.48/0.48
	Heating	A	0.23/0.23/0.23	0.27/0.27/0.27	0.28/0.28/0.28	0.34/0.34/0.34	0.45/0.45/0.45
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m^3/h	480/420/360	510/450/390	540/480/420	630/570/480	750/690/600
		L/s	133/117/100	142/125/108	150/133/117	175/158/133	208/192/167
	Motor output	kW	0.06	0.06	0.06	0.06	0.06
	External static pressure	Pa	10 (30)	15 (30)	15 (40)	15 (40)	15 (40)
Sound power level (H/M/L)		dB	43/42/40	45/44/42	47/45/43	49/47/45	50/48/46
Sound pressure level (H/M/L)		dB(A)	28/27/25 (30/29/27)*	30/29/27 (32/31/29)*	32/30/28 (34/32/30)*	34/32/30 (36/34/32)*	35/33/31 (37/35/32)*
Dimensions	H x W x D	mm	200 x 750 x 640	200 x 750 x 640	200 x 750 x 640	200 x 750 x 640	200 x 750 x 640
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	19	19	19	19	19

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

Specifications are subject to change without notice.

* With booster cable.

Z1 TYPE Slim Low Static Ducted Twenty Series

DC motor

Concealed duct

S-73MZ1H4A

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

Optional accessory

CZ-RTC6
CZ-RTC6BL

ECONAVI ready

CZ-CENSC1

CZ-RTC5B

CZ-RWS3
Remote controller

CZ-RWRC3
Receiver

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

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

Specifications are subject to change without notice.

E2 TYPE High Static Ducted

DC motor

Concealed duct / Air conditioning mode

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

Optional accessory

CZ-RTC6
CZ-RTC6BL

CZ-RTC5B

CZ-RWS3
Remote controller

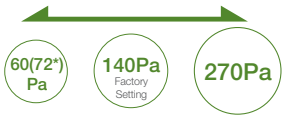
CZ-RWRC3
Receiver

Technical focus

- Design flexibility thanks to high static pressure and large air volume
- DC motor equipped
- Power input 45% less (compared to E1 type)
- Discharge air temperature control to reduce cold drafts during heating operation
- Configurable air temperature control
- Available Fresh Air Intake mode (See page 29)

3-step static pressure set up

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



* 28 kW model

Max. 270Pa static pressure setting

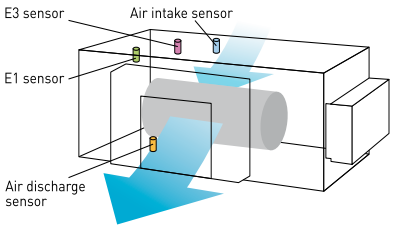
A maximum static pressure setting of a high 270Pa enables the use of long ducts for installation in a wide range of spaces. Ideal for large-scale offices, restaurants and other facilities.

Sensible cooling 5-10% improved

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

Discharge air temperature control

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



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

E2 TYPE Energy Saving High Fresh Air Ducted

DC motor

Concealed duct high-static pressure

S-224ME2E5
S-280ME2E5

Optional accessory

CZ-RTC6
CZ-RTC6BL

CZ-RTC5B

CZ-RWS3
Remote controller

CZ-RWRC3
Receiver

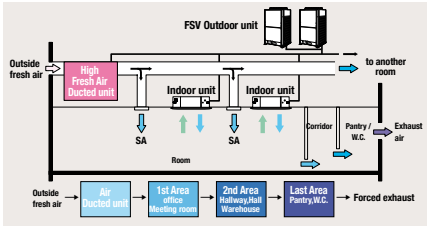
Technical focus

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

High fresh system

High Fresh System enables delivery of fresh outside air at almost the same temperature and humidity as indoor air without putting a burden on air conditioning.

* Capable of treating outdoor air only. Indoor air conditioner units are required to adjust indoor air temperature.

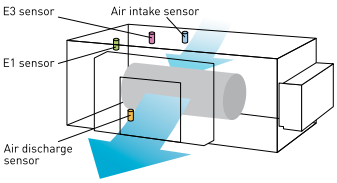


Mix operation unit with standard indoor units

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

Discharge air temperature control

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



Model Name			S-224ME2E5	S-280ME2E5
Power source			220/230/240V, 1 Phase-50 Hz, 220/230V, 1 Phase-60Hz	
Cooling capacity		kW	22.4	28.0
		BTU/h	76,400	95,500
Heating capacity		kW	21.2	26.5
		BTU/h	72,300	90,400
Power input	Cooling	kW	0.290	0.350
	Heating	kW	0.290	0.350
Running current	Cooling	A	1.90/1.85/1.80	2.30/2.20/2.10
	Heating	A	1.90/1.85/1.80	2.30/2.20/2.10
Fan	Type		Sirocco fan	Sirocco fan
	Air flow rate	m^3/h	1,700	2,100
		L/s	472	583
	Motor output	kW	0.560 x 2	0.750 x 2
	External static pressure	Pa	200	200
Sound power level		dB	75	76
Sound pressure level		dB(A)	43	44
Dimensions	H x W x D	mm	479 x 1,453 x 1,205	479 x 1,453 x 1,205
Pipe connections	Liquid	mm (inches)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
	Gas	mm (inches)	Ø19.05 (Ø3/4)	Ø22.22 (Ø7/8)
	Drain piping		VP-25	VP-25
Net weight		kg	102	106

Global remarks	Rated conditions:	Cooling	Heating
	Outdoor air temperature	33°C DB / 28°C WB	0°C DB / -2.9°C WB

E1 TYPE High Static Ducted

Concealed duct high-static pressure

S-73ME1E5 / S-106ME1E5
S-140ME1E5

S-224ME1E5
S-280ME1E5

Optional accessory

CZ-RTC6
CZ-RTC6BL

CZ-RTC5B

CZ-RWS3
Remote controller

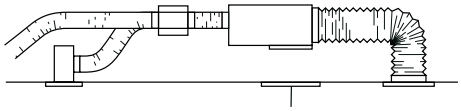
CZ-RWRC3
Receiver

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

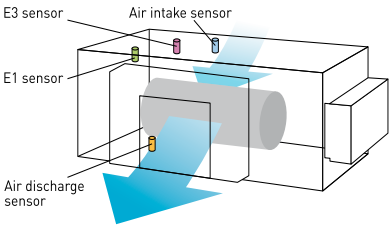
System example

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

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

Specifications are subject to be changed without notice.
* Via booster cable.

H1 TYPE High-Fresh Air Ducted

Concealed duct

S-140MH1H5

S-224MH1H5
S-280MH1H5

Optional accessory

CZ-RTC6
CZ-RTC6BL

CZ-RTC5B

CZ-RWS3
Remote controller

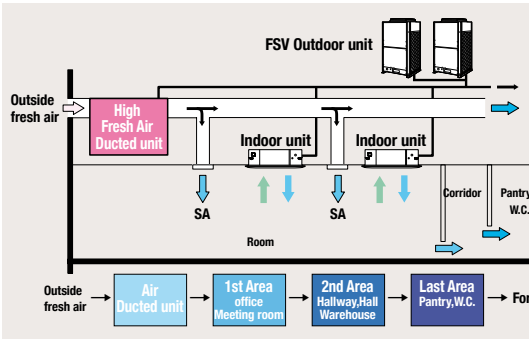
CZ-RWRC3
Receiver

Technical focus

- 100% fresh Air intake for ventilation purpose
- Design flexibility thanks to high static pressure and large air volume
- 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.
H1 type/Outdoor unit < 30%, and Total of indoors(incl. H1)/outdoor <100%

Model Name			S-140MH1H5	S-224MH1H5	S-280MH1H5
Power source			220/230/240 V, 1 phase - 50Hz		
Cooling capacity		kW	14.0	22.4	28.0
		BTU/h	47,800	76,400	95,500
Heating capacity		kW	13.2	21.2	26.5
		BTU/h	45,000	72,300	90,400
Power input	Cooling	kW	0.430/0.430/0.430	0.670/0.670/0.670	0.730/0.730/0.730
	Heating	kW	0.430/0.430/0.430	0.670/0.670/0.670	0.730/0.730/0.730
Running current	Cooling	A	2.0/1.9/1.9	3.2/3.1/3.0	3.6/3.4/3.3
	Heating	A	2.0/1.9/1.9	3.2/3.1/3.0	3.6/3.4/3.3
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate	m³/h	1,560	1,800	2,100
		L/s	433	500	583
	Motor output	kW	0.3	0.38	0.38
Sound power level (H/M/L)		dB	75/76/76	78/79/79	79/80/80
Sound pressure level (H/M/L)		dB(A)	43/44/44	46/47/47	47/48/48
Dimensions	H x W x D	mm	420 x 1,065 x 620	479 x 1,428 x 1,230	479 x 1,428 x 1,230
Pipe connections	Liquid	mm (inches)	Ø9.52 (Ø3/8)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Gas	mm (inches)	Ø15.88 (Ø5/8)	Ø25.4 (Ø1)	Ø25.4 (Ø1)
	Drain piping		VP-25	VP-25	VP-25
Net weight		kg	50	110	110

Global remarks	Rated conditions:	Cooling	Heating
	Outdoor air temperature	33°C DB / 28°C WB	0°C DB / -2.9°C WB

Specifications are subject to change without notice.

K2 TYPE Wall Mounted

DC motor

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

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

Optional accessory

CZ-RTC6
CZ-RTC6BL

ECONAVI ready

CZ-CENSC1

CZ-RTC5B

CZ-RWS3
*Remote controller

*Receiver is included in the wall mounted indoor unit.

Technical focus

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

Noise reducing external valve kit

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

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

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

Closed discharge port

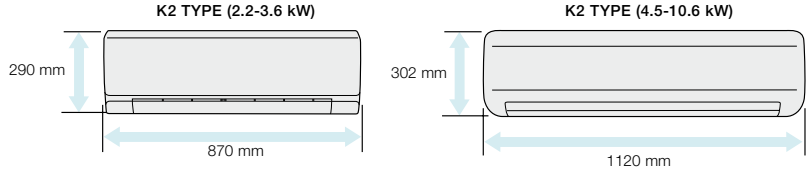
When the unit is turned off, the flap closes completely to prevent entry of dust into the unit and to keep the equipment clean.

Model Name			S-22MK2E5A	S-28MK2E5A	S-36MK2E5A	S-45MK2E5A
Power source			220/230/240 V, 1 phase - 50 / 60 Hz			
Cooling capacity		kW	2.2	2.8	3.6	4.5
		BTU/h	7,500	9,600	12,300	15,400
Heating capacity		kW	2.50	3.20	4.20	5.0
		BTU/h	8,500	10,900	14,300	17,100
Power input	Cooling	kW	0.025/0.025/0.025	0.025/0.025/0.025	0.030/0.030/0.030	0.030/0.030/0.030
	Heating	kW	0.025/0.025/0.025	0.025/0.025/0.025	0.030/0.030/0.030	0.030/0.030/0.030
Running current	Cooling	A	0.21	0.23	0.25	0.33/0.32/0.31
	Heating	A	0.21	0.23	0.25	0.33/0.32/0.31
Fan	Type		Cross-flow fan	Cross-flow fan	Cross-flow fan	Cross-flow fan
	Air flow rate (H/M/L)	m^3/h	540/450/390	570/498/390	654/540/390	870/750/600
		L/s	150/125/108	158/138/108	182/150/108	242/208/167
	Motor output	kW	0.03	0.03	0.03	0.054
Sound power level (H/M/L)		dB	51/48/44	52/49/44	55/51/44	53/50/48
Sound pressure level (H/M/L)		dB(A)	36/33/29	37/34/29	40/36/29	38/35/33
Dimensions	H x W x D	mm	290 x 870 x 214	290 x 870 x 214	290 x 870 x 214	302 x 1,120 x 236
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping	mm	Ø18	Ø18	Ø18	Ø18
Net weight		kg	9	9	9	13

Global remarkszz	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.

Compact indoor units make the installation easy



Quiet operation

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

Smooth and durable design

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

Piping outlet in six directions

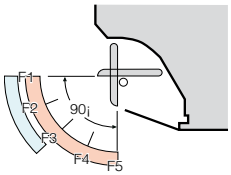
Piping outlet is possible in the six directions of right, right rear, right bottom, left, left rear, left bottom, making installation easier.

Washable front panel

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

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

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



Heating: F1 to F5
Cooling: F1 to F3

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

NEW

U2 TYPE 4-WAY Cassette

DC motor

nanoe™ X as a standard*
*nanoe X Generator Mark 2

Semi concealed cassette

AIR INTAKE CHAMBER

CZ-FDU3

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

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

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

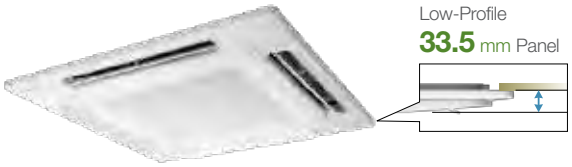
Normal Panel : CZ-KPU3H
ECONAVI Panel : CZ-KPU3A

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 : 20x for CAC (20 times more nanoe™ particle for wide commercial space). Inside cleaning by 20x nanoe™ + dry control

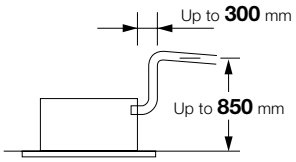
Flat horizontal design

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



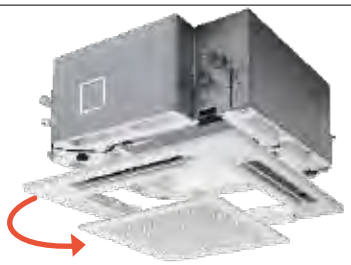
Drain pump of up to 850 mm from the ceiling surface

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



Easy to clean suction grille

Suction grille is able to make 90-degree turns.

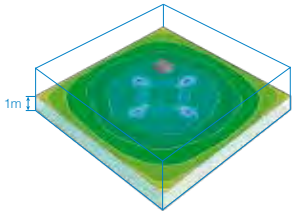


360˚ wide & comfortable airflow

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

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

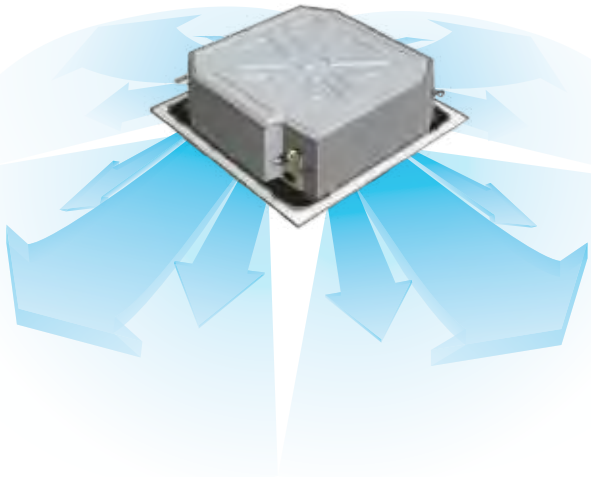
360° Wide



Temperature distribution by thermograph (cooling operation)

Simulation conditions:
14.0kW 4-way ceiling-mounted cassette type in cooling mode
/ Floor area of 225 m²
/ Ceiling height of 3 m

Ample airflow: 36 m³/min



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

Optional accessory


CZ-RTC6
CZ-RTC6BL

ECONAVI ready


CZ-RTC5B

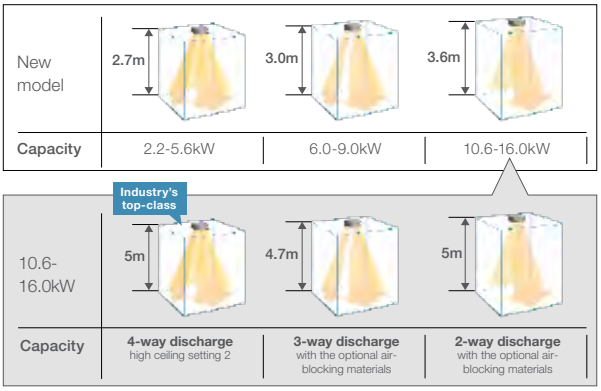

CZ-RWS3
Remote controller


CZ-RWRU3
Receiver

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

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

High Ceiling (Factory settings)



Ceiling height guidelines

*1 settings / Indoor unit	4-way discharge			3-way discharge (optional air-blocking materials)	2-way discharge (optional air-blocking materials) *2
	Factory setting 1	High ceiling setting 1	High ceiling setting 2		
2.2-5.6kW	2.7	3.2	3.5	3.8	4.2
6.0-9.0kW	3.0	3.3	3.6	3.8	4.2
10.6-16.0kW	3.6	4.3	5.0	4.7	5.0

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

Econavi panel is added into the line up

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

- Energy saving function: comfortable energy saving based on temperature and humidity
- New circulate function that improves comfort
- Movement detection is improved improving comfort

Econavi energy saving function

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

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

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

Panels & panel parts

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


Wireless receiver (option)

Econavi panel

nanoe™ X

nanoe X Generator Mark 2

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

U2TYPE 4-WAY Cassette

Model Name			S-22MU2E5B	S-28MU2E5B	S-36MU2E5B	S-45MU2E5B	S-56MU2E5B
Power source			220/230/240 V, 1 phase - 50Hz/60Hz				
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
		BTU/h	7,500	9,600	12,300	15,400	19,100
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3
		BTU/h	8,500	10,900	14,300	17,100	21,500
Power input	Cooling	kW	0.020/0.020/0.020	0.020/0.020/0.020	0.020/0.020/0.020	0.020/0.020/0.020	0.025/0.025/0.025
	Heating	kW	0.020/0.020/0.020	0.020/0.020/0.020	0.020/0.020/0.020	0.020/0.020/0.020	0.025/0.025/0.025
Running current	Cooling	A	0.21/0.21/0.20	0.21/0.21/0.20	0.21/0.21/0.20	0.21/0.21/0.20	0.24/0.23/0.22
	Heating	A	0.20/0.20/0.19	0.20/0.20/0.19	0.20/0.20/0.19	0.20/0.20/0.19	0.23/0.22/0.21
Fan	Type		Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan
	Air flow rate (H/M/L)	m^3/h	870/780/690	870/780/690	870/780/690	930/780/690	990/810/690
		L/s	242/217/192	242/217/192	242/217/192	258/217/192	275/225/192
	Motor output	kW	0.06	0.06	0.06	0.06	0.06
Sound power level (H/M/L)		dB	45/44/43	45/44/43	45/44/43	46/44/43	47/45/43
Sound pressure level (H/M/L)		dB(A)	30/29/28	30/29/28	30/29/28	31/29/28	32/30/28
Dimensions*	H x W x D	mm	256+(33.5) x 840 (950) x 840 (950)				
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25
Net weight* (Panel)		kg	19 (+5)	19 (+5)	19 (+5)	19 (+5)	19 (+5)

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

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

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

Standard Equipped nanoe™ Technology

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

nanoe™ X module

Unique nanoe™ X module casing releases 9.6 trillion hydroxyl radical (OH radical) per second.

S-60MU2E5B	S-73MU2E5B	S-90MU2E5B	S-106MU2E5B	S-140MU2E5B	S-160MU2E5B
220/230/240 V, 1 phase - 50Hz/60Hz					
6.0	7.3	9.0	10.6	14.0	16.0
20,500	24,900	30,700	36,200	47,800	54,600
7.1	8.0	10.0	11.4	16.0	18.0
24,200	27,300	34,100	38,900	54,600	61,400
0.035/0.035/0.035	0.040/0.040/0.040	0.040/0.040/0.040	0.090/0.090/0.090	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	0.085/0.085/0.085	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	0.74/0.71/0.68	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	0.72/0.69/0.66	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	2,040/1,500/1,140	2,160/1,560/1,200	2,220/1,680/1,440
350/267/217	375/267/217	383/308/233	567/417/317	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	59/53/49	60/54/50	61/55/53
36/32/29	37/32/29	38/35/32	44/38/34	45/39/35	46/40/38
			319+(33.5) x 840 (950) x 840 (950)		
Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)	Ø9.52 (Ø3/8)
Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)	Ø15.88 (Ø5/8)
VP-25	VP-25	VP-25	VP-25	VP-25	VP-25
20 (+5)	20 (+5)	20 (+5)	25 (+5)	25 (+5)	25 (+5)

Made in JAPAN

Craftsmanship in Japan enables the adoption of titanium

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

nanoe™ X device

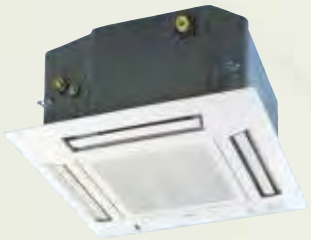
Y2TYPE 4-WAY Mini Cassette

DC motor

Mini semi concealed cassette

PANEL

31 x 700 x 700mm (HxWxD)
CZ-KPY3AW



Optional accessory

CZ-RTC6
CZ-RTC6BL

ECONAVI
ECONAVI ready

CZ-CENSC1

CZ-RTC5B

CZ-RWS3
*Remote controller

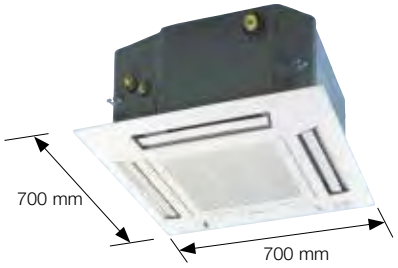
*Receiver is included in the 4-way mini cassette indoor unit.

Technical focus

- Mini cassette fits into a 60 x 60cm ceiling grid
- Powerful drain pump gives 750mm lift
- DC fan motor with variable speed and a new heat exchanger ensures efficient power consumption
- Fresh air knock out
- Multi directional air flow

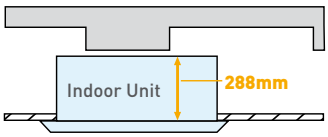
Compact design

The panel is a compact (70×70cm) so it can be installed even in a small room where space is limited.



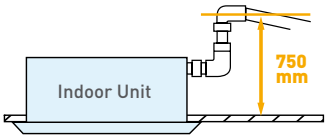
Lighter and slimmer, easier installation

When only 260mm of indoor body height, it can easily fit in limited spaces and tight spots.
(Required 288mm from bottom of panel to top of the unit)



A drain height of up to 750 mm from the ceiling surface

The internal pump allows the drain pipe to be elevated up to 750mm above the base of the unit.



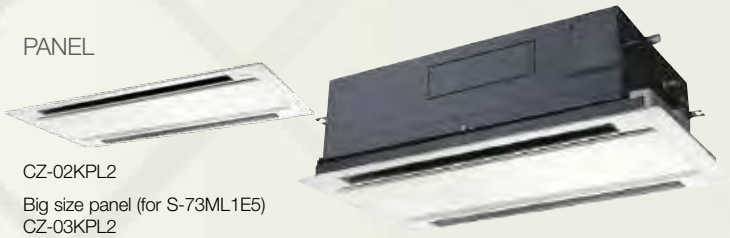
Model Name			S-22MY2E5A	S-28MY2E5A	S-36MY2E5A	S-45MY2E5A	S-56MY2E5A
Power source			220/230/240 V, 1 phase - 50, 60 Hz				
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
		BTU/h	7,500	9,600	12,300	15,400	19,100
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3
		BTU/h	8,500	10,900	14,300	17,100	21,500
Power input	Cooling	kW	0.035	0.035	0.040	0.040	0.045
	Heating	kW	0.030	0.030	0.035	0.035	0.040
Running amperes	Cooling	A	0.30	0.30	0.30	0.32	0.35
	Heating	A	0.25	0.30	0.30	0.30	0.35
Fan motor	Type		Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan
	Airflow rate (H/M/L)	m³/h	546/492/336	558/504/336	582/522/360	600/558/492	624/588/510
		L/s	152/137/93	155/140/93	162/145/100	167/155/137	173/163/142
	Output	kW	0.04	0.04	0.04	0.04	0.04
Sound power level (H/M/L)	Cooling	dB	50/46/40	50/46/40	51/47/41	53/49/43	55/52/49
	Heating	dB	50/46/40	50/46/40	51/47/41	53/49/43	55/52/49
Sound pressure level (H/M/L)	Cooling	dB(A)	35/31/25	35/31/25	36/32/26	38/34/28	40/37/34
	Heating	dB(A)	35/31/25	35/31/25	36/32/26	38/34/28	40/37/34
Dimensions*	H x W x D	mm	288 (+31) x 575 (700) x 575 (700)	288 (+31) x 575 (700) x 575 (700)	288 (+31) x 575 (700) x 575 (700)	288 (+31) x 575 (700) x 575 (700)	288 (+31) x 575 (700) x 575 (700)
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)
	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25
Net weight*		kg	18 (+2.4)	18 (+2.4)	18 (+2.4)	18 (+2.4)	18 (+2.4)

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

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

L1 TYPE 2-WAY Cassette

PANEL



CZ-02KPL2

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

Optional accessory

CZ-RTC6
CZ-RTC6BL

CZ-RTC5B

CZ-RWS3
Remote controller

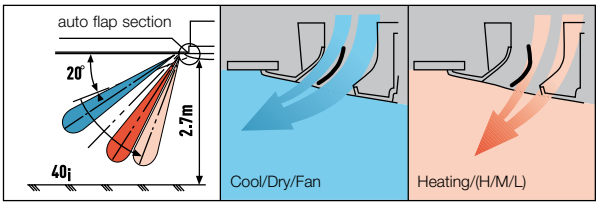
CZ-RWRL3
Receiver

Technical focus

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

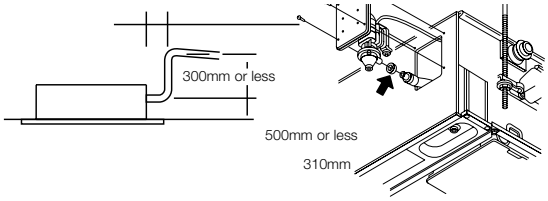
Auto flap control

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



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

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

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

D1 TYPE 1-WAY Cassette

DC motor

Semi concealed slim cassette

PANEL

CZ-KPD2

Optional accessory

CZ-RTC6
CZ-RTC6BL

CZ-RTC5B

CZ-RWS3
Remote controller

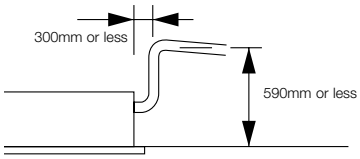
CZ-RWRD3
Receiver

Technical focus

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

Drain height

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



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

(1) One-direction "down-blow" system

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

(2) Two-direction ceiling-mounted system

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

(3) One-direction ceiling-mounted system

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

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

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

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

T2 TYPE Ceiling Mounted

DC motor

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

S-73MT2E5A

S-106MT2E5A
S-140MT2E5A

Optional accessory

CZ-RTC6
CZ-RTC6BL

ECONAVI ready

CZ-CENSC1

CZ-RTC5B

CZ-RWS3
Remote controller

CZ-RWRT3
Receiver

Technical focus

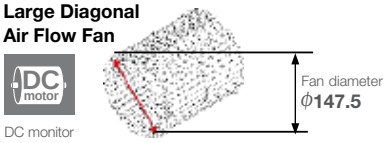
- Lower sound levels
- Standardised height and depth for all models
- Long and wide air distribution
- Easy to install and maintain
- Fresh air knockout

Energy-saving technology Delivering top-class efficiency

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

Top Class Energy Saving

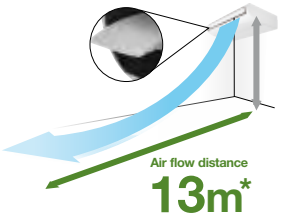
Large Diagonal Air Flow Fan



Comfortable, long-distance air flow distribution

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

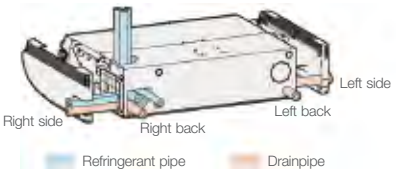
High Ceiling Setting *Setting by remote control	Air flow distance		
	112	140	160
4.3m	12m	13m	13m



*Results are based on specific testing conditions.

Multiple piping directions for flexible installation

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



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

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

Specifications are subject to change without notice.

P1 TYPE Floor Standing

Optional accessory

CZ-RTC6
CZ-RTC6BL

CZ-RTC5B

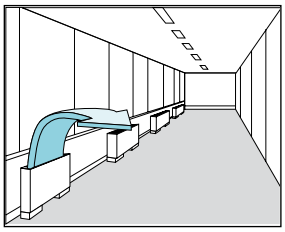
CZ-RWS3
Remote controller

CZ-RWRC3
Receiver

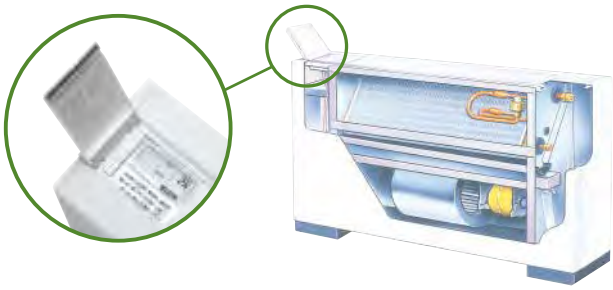
Technical focus

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

Effective perimeter air conditioning



A wired remote control (CZ-RTC4/CZ-RTC5B) can be installed in the body

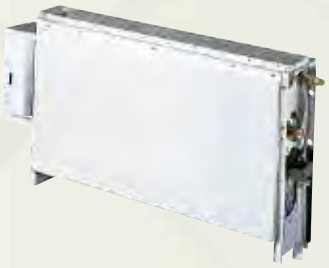


Model Name			S-22MP1E5	S-28MP1E5	S-36MP1E5	S-45MP1E5	S-56MP1E5	S-71MP1E5
Power source			220/230/240 V, 1 phase - 50 / 60 Hz					
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6	7.1
		BTU/h	7,500	9,600	12,000	15,000	19,000	24,000
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3	8.0
		BTU/h	8,500	11,000	14,000	17,000	21,000	27,000
Power input	Cooling	kW	0.051/0.056/0.061	0.051/0.056/0.061	0.079/0.085/0.091	0.116/0.126/0.136	0.116/0.126/0.136	0.150/0.160/0.170
	Heating	kW	0.036/0.040/0.045	0.036/0.040/0.045	0.064/0.070/0.076	0.079/0.091/0.101	0.079/0.091/0.101	0.110/0.120/0.130
Running current	Cooling	A	0.24/0.25/0.26	0.24/0.25/0.26	0.37/0.38/0.39	0.54/0.56/0.58	0.54/0.56/0.58	0.70/0.72/0.73
	Heating	A	0.17/0.18/0.19	0.17/0.18/0.19	0.30/0.31/0.32	0.37/0.41/0.43	0.37/0.41/0.43	0.52/0.54/0.56
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	420/360/300	420/360/300	540/420/360	720/540/480	900/780/660	1,020/840/720
		L/s	117/100/83	117/100/83	150/117/100	200/150/133	250/217/183	283/233/200
	Motor output	kW	0.01	0.01	0.02	0.02	0.03	0.06
Sound power level (H/M/L)		dB	44/41/39	44/41/39	50/46/40	49/46/42	50/47/42	52/49/46
Sound pressure level (H/M/L)		dB(A)	33/30/28	33/30/28	39/35/29	38/35/31	39/36/31	41/38/35
Dimensions	H x W x D	mm	615 x 1,065 x 230	615 x 1,065 x 230	615 x 1,065 x 230	615 x 1,380 x 230	615 x 1,380 x 230	615 x 1,380 x 230
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø9.52 (Ø3/8)
	Gas	mm (inches)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø12.7 (Ø1/2)	Ø15.88 (Ø5/8)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	29	29	29	39	39	39

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

R1 TYPE Concealed Floor Standing



Optional accessory

CZ-RTC6
CZ-RTC6BL

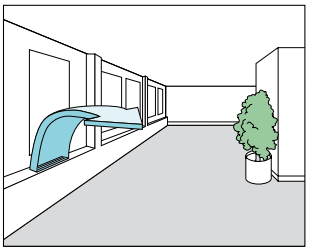
CZ-RTC5B

CZ-RWS3
Remote controller

CZ-RWRC3
Receiver

Technical focus

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



Perimeter air conditioning with high interior quality

Model Name			S-22MR1E5	S-28MR1E5	S-36MR1E5	S-45MR1E5	S-56MR1E5	S-71MR1E5
Power source			220/230/240 V. 1 phase - 50. 60 Hz					
Cooling capacity		kW	2.2	2.8	3.6	4.5	5.6	7.1
		BTU/h	7,500	9,600	12,000	15,000	19,000	24,000
Heating capacity		kW	2.5	3.2	4.2	5.0	6.3	8.0
		BTU/h	8,500	11,000	14,000	17,000	21,000	27,000
Power input	Cooling	kW	0.051/0.056/0.061	0.051/0.056/0.061	0.079/0.085/0.091	0.116/0.126/0.136	0.116/0.126/0.136	0.150/0.160/0.170
	Heating	kW	0.036/0.040/0.045	0.036/0.040/0.045	0.064/0.070/0.076	0.079/0.091/0.101	0.079/0.091/0.101	0.110/0.120/0.130
Running current	Cooling	A	0.24/0.25/0.26	0.24/0.25/0.26	0.37/0.38/0.39	0.54/0.56/0.58	0.54/0.56/0.58	0.70/0.72/0.73
	Heating	A	0.17/0.18/0.19	0.17/0.18/0.19	0.30/0.31/0.32	0.37/0.41/0.43	0.37/0.41/0.43	0.52/0.54/0.56
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m^3/h	420/360/300	420/360/300	540/420/360	720/540/480	900/780/660	1,020/840/720
		L/s	117/100/83	117/100/83	150/117/100	200/150/133	250/217/183	283/233/200
	Motor output	kW	0.01	0.01	0.02	0.02	0.03	0.06
Sound power level (H/M/L)		dB	44/41/39	44/41/39	50/46/40	49/46/42	49/46/42	52/49/46
Sound pressure level (H/M/L)		dB(A)	33/30/28	33/30/28	39/35/29	38/35/31	39/36/31	41/38/35
Dimensions	H x W x D	mm	616 x 904 x 229	616 x 904 x 229	616 x 904 x 229	616 x 1,219 x 229	616 x 1,219 x 229	616 x 1,219 x 229
Pipe connections	Liquid	mm (inches)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø6.35 (Ø1/4)	Ø9.52 (Ø3/8)
	Gas 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)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	21	21	21	28	28	28

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

Specifications are subject to change without notice.

Smart Connectivity and Control Solutions

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

Wide Range of Smart Control Solutions for All Needs

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

Panasonic Comfort Cloud

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

VRF Smart Connectivity+

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

Panasonic AC Smart Cloud

Monitor and manage energy consumption of multiple location through a cloud computing system.

For Residential

Panasonic
Comfort Cloud

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-CAPWFC1

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

For Light Commercial

Panasonic
Comfort Cloud

VRF Smart
Connectivity+

Cost effective Energy Management Solution

Connectable up to 200 Units with just 1 device

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 Multiple Building Management

Panasonic AC
Smart Cloud

Full Control of All Installations From A Single Internet Connection

Panasonic AC Smart Cloud

Manage and monitor energy consumption patterns

Analyse energy usage, running time and optimise temperatures to reduce energy costs.

Centralised control solution with zero downtime

Receive real-time status updates to prevent breakdowns.

Flexible and scalable solution for expanding businesses and multi sites

Adaptable solutions that can easily be upgraded for new features, meet user demand and better IT management.

Panasonic Comfort Cloud

Control air conditioning units from wherever and whenever with your smartphone, by using Panasonic Comfort Cloud and WLAN smart adaptor.
This scalable solution is ideal for one system, one site or multiple locations. Coupling the adapter with the already feature rich systems, makes it an ideal solution for both residential and commercial applications.

For Residential	For Light Commercial
Remotely manage and monitor air conditioning units from anywhere anytime.	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

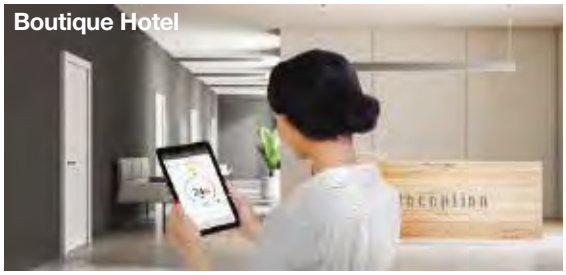
Complex weekly scheduling made simple. Not only for one units, but across multiple sites and from a smartphone.

Custom timer according to your working day and hour

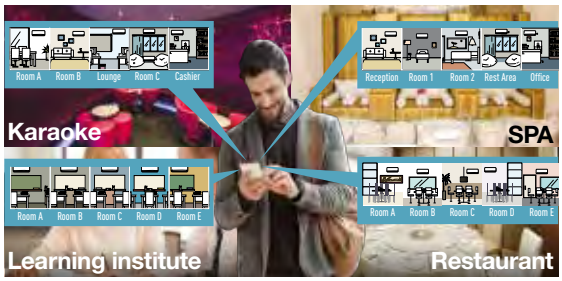
Error Codes

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.

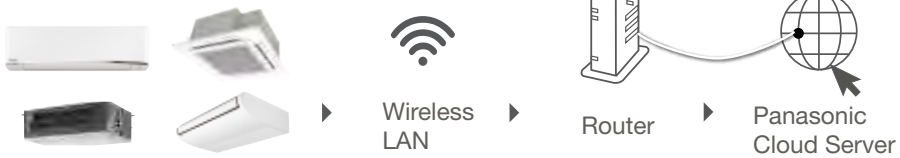
System configuration

Network Adaptor

CZ-CAPWFC1

CZ-CAPWFC1: Available for all types of VRF

Connection Diagram



In conformity with IEEE 802.11

WLAN Smart Adaptor specification

	CZ-CAPWFC1
Input Voltage	DC 12V (Supplied from indoor unit)
Power Consumption	Maximum 2.4W
Size [H x W x D]	120 x 70 x 25mm
Weight	190g (including communications lines)
Interface	Wireless LAN
Wireless LAN Standard	IEEE 802.11 b/g/n
Frequency range	2.4GHz band
Encryption	WPA2-PSK(TKIP/AES)
Operation range	0-55°C, 20 - 80RH%

Panasonic Comfort Cloud App

Download on the App Store

GET IT ON Google Play

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.

Schneider Electric

VRF Smart Connectivity+

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 (BMS) can also be connected for Plug & Play centralised control of the building's entire energy consumption.

Advantages

Dramatic Reduction of OpEx with Outstanding IAQ.
- 3 Built-in sensors: Temperature, RH and Occupancy
- ZigBee wireless sensors: CO_2/Temperature/RH%, window/door, ceiling/wall

User-/Owner-friendly.
- Colour touch screen
- Ease and simply of use
- 22 Languages
- Easy-to-understand error description

Ultimate Customisation.
- Background colour customisable
- Custom display/icons, messages
- Programmable logic (also stand alone)
- Various controls and various external connection devices

Easy Design and Plug and Play to Reduce CapEx.
- Simple Plug & Play VRF connection to Building Energy Management System (BMS)
- Stand alone or BMS connected
- Easy Installation of ZigBee Sensors

VRF Smart Connectivity+
~New SE8000~

1. Quality Air Control

Optimum IAQ is realized using the CO_2 & humidity sensors. The interior remains comfortable, while heating and cooling costs are minimized.
The CO_2 sensor controls ventilation systems which contributes to improving the room's air quality.

2. Room Key Card or Key Cardless Solutions for Hotels

Solutions are provided that meet the needs of various regions and hotel grades.
Whilst the previous model's automatic detection function offered optimal air conditioning with or without a hotel room key card, the latest model enables conventional key cards to control air conditioners and other devices coordinately.The increase in the types of devices that can be connected enables customized control of any hotel room.

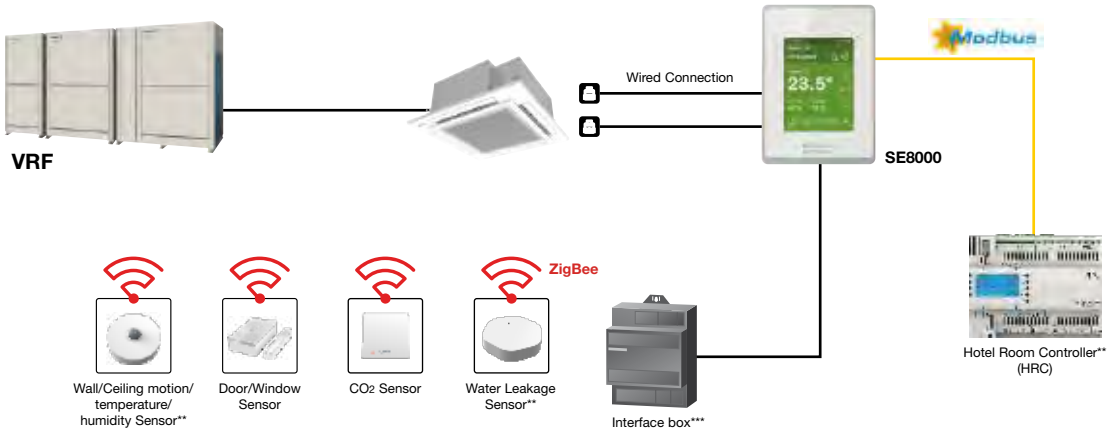
3. Other Equipment Control

One room controller manages various devices including lighting and the blinds.
A ventilation system and other external connection devices (dry contact input) can be connected so that various control is possible with this controller alone, even without BMS.

Schneider Electric

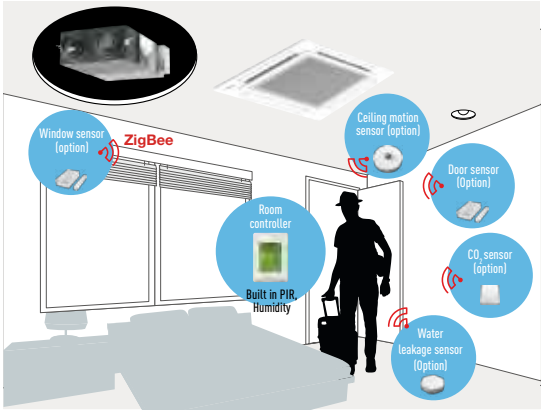
Energy Management System for Rooms

By installing a ceiling motion sensor, wall motion temperature sensor, window/door sensor, and CO_2 sensor in the room, ideal, waste-free air conditioning is achieved.

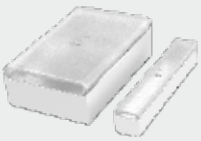


Sensing & Control technology

Using sensors from Schneider Electric, high-quality occupancy control and automatic IAQ control were 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.



Door/Window Sensor

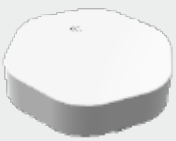
Door and window contact detection sensor to monitor opening and closing.

Wall/Ceiling motion/ temperature/humidity Sensor**

Wall and ceiling sensor to detect the presence or absence of occupants.

CO_2 Sensor

Monitor indoor air quality, review data on interfacing devices, and control fresh air inside customizable 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.

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.

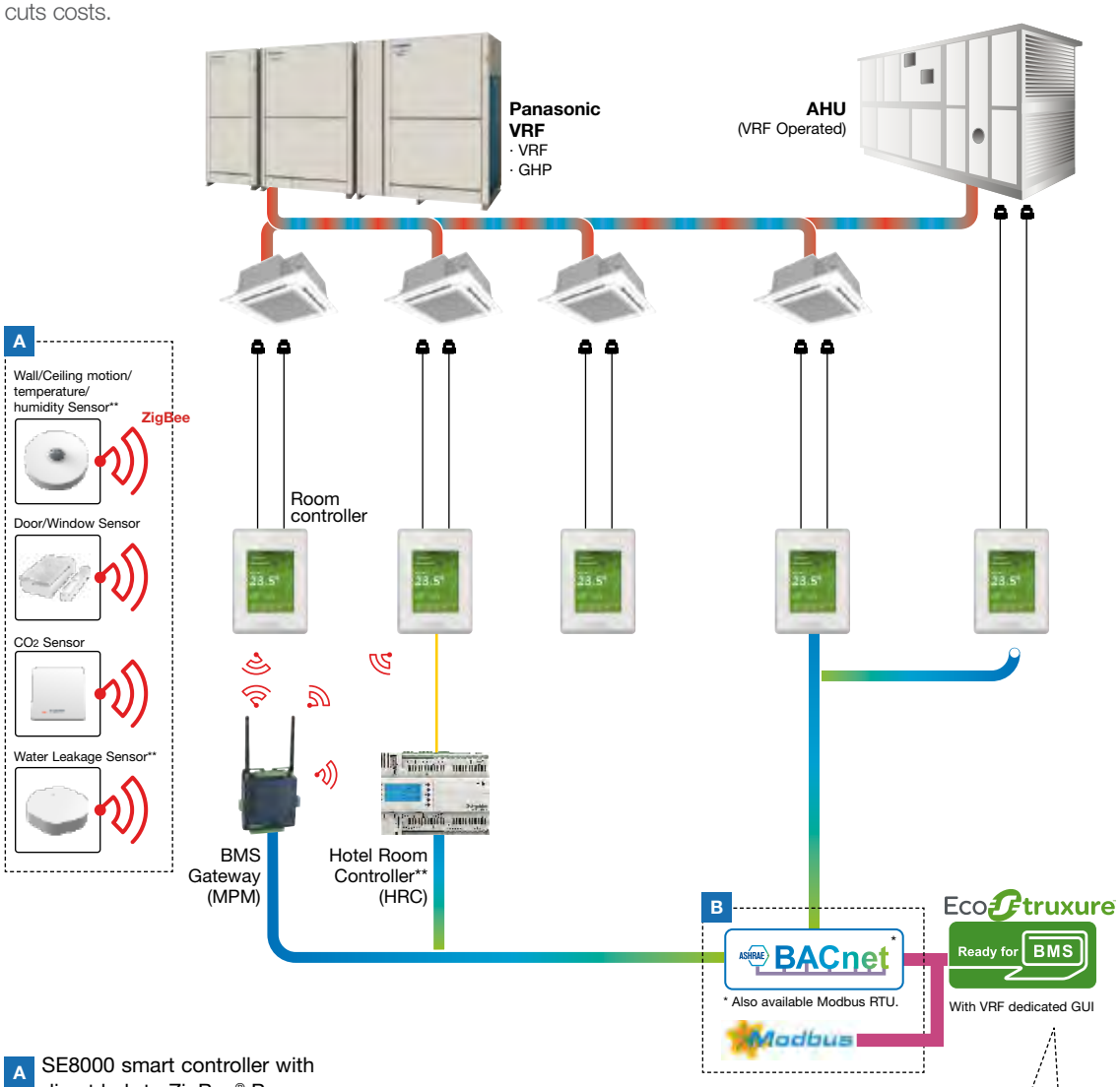
* Specifications are subject to change.
**Available through a Schneider Electric distribution channel.
*** Product availability may vary by sales area. Please consult with an authorized Panasonic distributor.

Management System for the Entire Building

The smarter solution to simplify energy management, optimise building efficiency and drive savings.

Plug and Play BMS connection.

With the SE8000, connection to BMS is extremely easy. Better still, a remote controller is all that's needed to enable use as a stand-alone system. In addition to dramatically reducing the burden on system integrators, this cuts costs.



A SE8000 smart controller with direct hub to ZigBee® Pro sensors.
Great Occupancy and IAQ control.
Ex: Hotel room occupancy check by PIR sensor, IAQ by CO_2 sensor, Door / Window contacts.

B BACnet IP connection would be prefferable (BACnet MS/TP or Modbus RTU could be selectable as an option).

C For Schneider Electric BMS connection, Panasonic VRF widgets enable easy Plug and Play.
Better understanding for VRF as a chiller system.

BMS Gateway (MPM)

Multi-Purpose Management devices enable the control, monitoring, and management of entire sites via Schneider Electric's BMS system.

* Graphic shows combination of products from Panasonic, Schneider Electric and others.
Please consult with an authorised dealer for more details.
**Available through a Schneider Electric distribution channel.

Smart Management Solutions

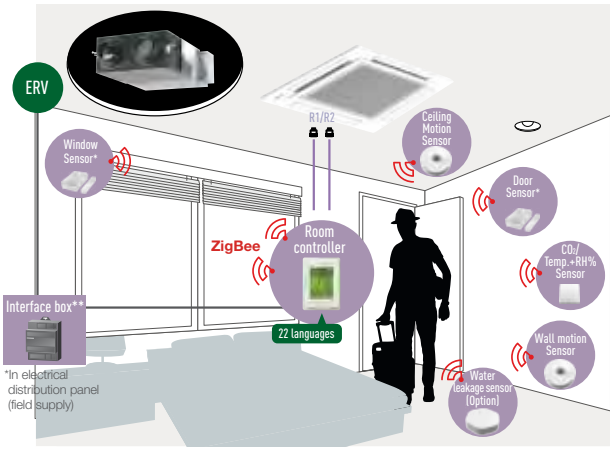
1 Hotels

Room Key Card or Key Cardless Solutions for Hotels

The SE8000 and ZigBee Sensor automatic detection function offer optimal air conditioning regardless of whether there is a hotel room key or not. Sensors detect the presence or absence of occupants and the opening and closing of doors and windows for the optimum air-conditioned environment guests expect. Automatic control ensures the most efficient operation when guests are away or when windows are open. This contributes to an appreciable reduction in operation costs.

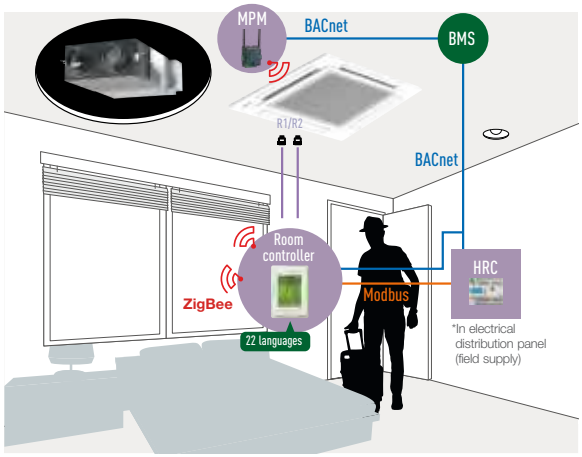
1. Remote sensing & IAQ contorol

In addition to detecting a room's temperature, humidity and CO_2 concentration, ZigBee remote sensors detect the opening/closing of windows and doors, and the presence/absence of people in a room.
Various IAQ controls and detailed energy savings are possible by using Interface box** based on this detected information.



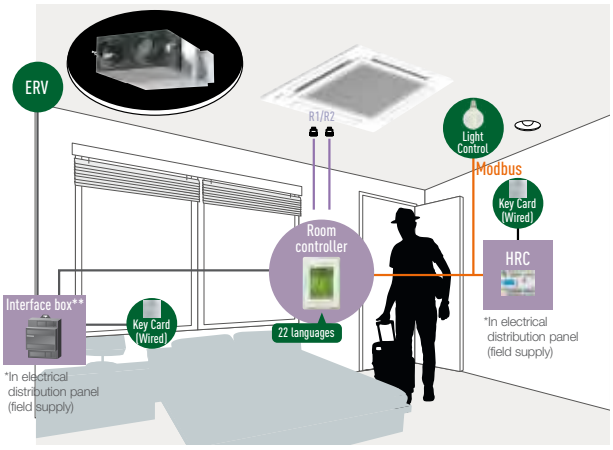
2. BMS Connectivity

With MPM as the BMS gateway and by setting HRC as the guestroom controller, sensing, control and BMS connection can be realized in coordination with SE8000!



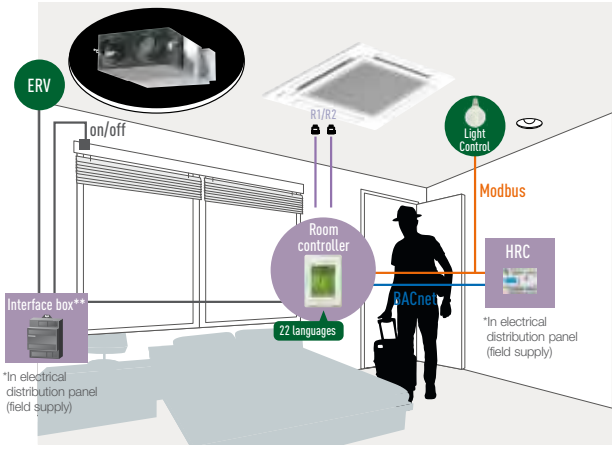
3. Key Cardless control

The introduction of Interface box** and HRC enables conventional wired keycards to be connected to the system so that it is possible to meet the specific requirements of various hotel and room types.



4. Other control

The introduction of Interface box**, HRC and MPM enables the on/off control of devices having dry contact input, such as ventilation, lighting and blinds.



** Product availability may vary by sales area. Please consult with an authorized Panasonic distributor.

2 Small and Medium Offices

CO_2 sensors (option) and Humidity sensors

CO_2 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.

Customisation in Approx. 22 Languages Possible

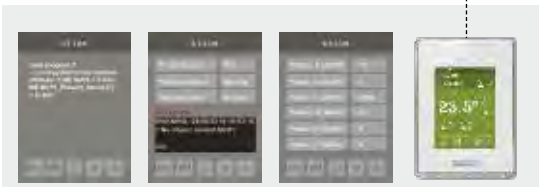
The display can be customised to match the native languages of guests to enable smooth, stress-free communication for hospitality at its finest.

Easy-to-Understand Error Description

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

Programmable Logic

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

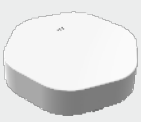


Smart Connectivity Devices

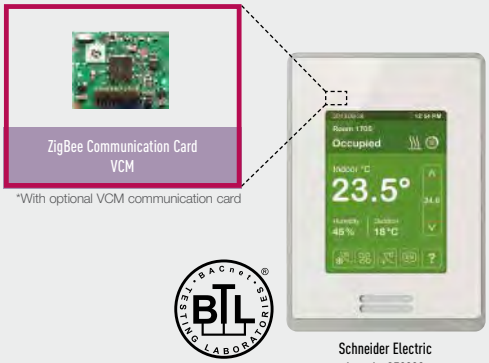
Door/Window Sensor
SED-WDC-G-5045

Wall/Ceiling motion/temperature/ humidity Sensor**

CO_2 Sensor
SED-CO_2-G-5045



Water Leakage Sensor**
SED-WLS-G-5045



Features

- Up to 5-year battery life (10-year battery for CO_2 sensor), batteries included
- Battery level is a point
- Sensor points visible when SE8000 is integrated via BACnet MS/TP
- Sensor status and battery level visible when SE8000 is integrated via ZigBee® Pro
- Integration to BMS only recommended when each MPM is connected to Ethernet and set as a ZigBee® Coordinator node

**Available through a Schneider Electric distribution channel.

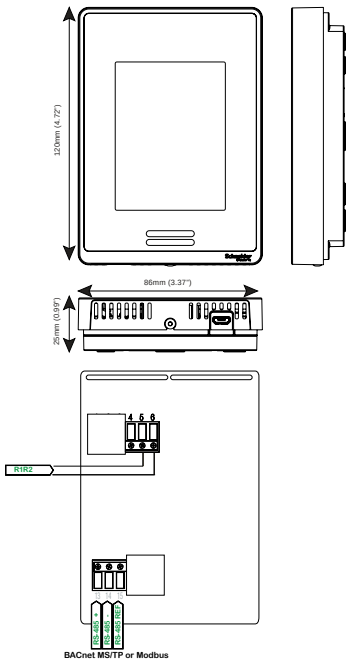
Reference	Description
SER8150R0B1194	Pana Net Con, RH, No PIR, SE Brand, R1R2
SER8150R5B1194	Pana Net Con, RH, PIR, SE Brand, R1R2
VCM8000V5094P	Wireless ZigBee Pro communication card
MPM	
MPM-UN-0I4-5045	Universal network controller with Building Expert and StruXureWare integration, High Power, 6 I/60, Modbus
MPM-RAEC-5045	Universal network controller Cable extension

Reference	Description
HRC	
HRCEP14R	Hotel Room Expansion Module 1410
HRCPBG28R	Hotel Room Controller 2810
HRCPDG42R	Hotel Room Controller w/Display 4210
ZigBee Sensors	
SED-CO2-G-5045	Sensor with Room CO_2, Temperature and Humidity
SED-TRH-G-5045	Sensor with Room Temperature and Humidity
SED-WDC-G-5045	Door/Window Sensor
SED-MTH-G-5045	Wall/Ceiling motion/temperature/humidity Sensor
SED-WLS-G-5045	Water Leakage Sensor

VRF Smart Connectivity+ controller external dimensions

Room Controller for SER8150

Dimensions



Specifications

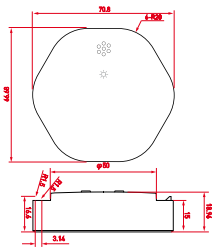
Dimensions
Height: 12cm/4.72in
Width: 8.6cm/3.39in
Depth: 2.7cm/1.06in
Power Requirements
16 Vdc from Panasonic R-R IDU connectors
50/60 Hz, 4VA, Class 2 Supply
Range from Indoor Unit
Recommended 500ft (150 m)
Operating Conditions
0 °C to 50°C (32°F to122°F)
0% to 95% R.H. non-condensing
Storage Conditions
-30°C to 50°C (-22°F to 122°F)
0% to 95% R.H. non-condensing
Temperature Sensor
Local 10 K NTC type 2 thermistor
Temperature Sensor Resolution
± 0.1°C (± 0.2°F)
Temperature Sensor Accuracy
± 0.5°C (± 0.9°F) @ 21°C (70°F) typical calibrated
Humidity Sensor and Calibration
Single point calibrated bulk polymer type sensor
Humidity Sensor Precision
Reading range from 10 to 90 % R.H. non-condensing 10 to 20% precision: 10%
20% to 80% precision: 5%
80% to 90% precision: 10%
Humidity Sensor Stability
Less than 1.0 % yearly (typical drift)
Wiring
Maximum wire length between last indoor unit to SER8150RxB1194 equals 490ft (150m) with AWG #18 wire (0.82 mm²). Refer to Panasonic VRF guidelines "Wiring System Diagram for Remote Controller" for this limitation.
Approximate Shipping Weight
0.34 kg (0.75 lb)

Check with your local government for instruction on disposal of these products.

THIS PRODUCT FOR COMMERCIAL USE ONLY

Water Leakage Sensor

Dimensions



Specifications

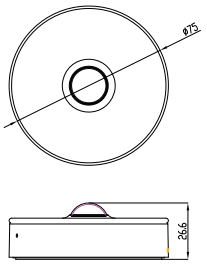
Dimensions	70.8mmx66.7mmx19mm
Colour	White
Weight	64g
Communication	ZigBee 3.0 HA
Battery Voltage	3V
Battery Cell	LR03 AAA (2pcs)
Battery Life	Up to 5 years
Rated Power	IV 90 mW
Maximum Transmitted Power	≧ 5 dBm
Ambient Temperature	-10° - +50°C
Frequency Band	2405–2480 MHz

Certification

Check with your local government for instruction on disposal of these products.

Wall/Ceiling Wireless Sensor SED-MTH-G-5045

Dimensions



Specifications

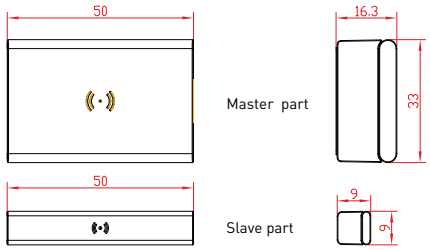
Dimensions	70mm diam..x26.6mm
Colour	White
Weight	59g
Communication	ZigBee 3.0 HA
Detection Range	Ceiling: Ø4m (installation height 2.5m) Wall: R5m (installation height 1.2m)
Battery Voltage	3V
Battery Cell	LR03 AAA (2pcs)
Battery Life	Up to 5 years
Ambient Temperature	-10° - +50°C

Certification

Check with your local government for instruction on disposal of these products.

Door/Window Wireless Sensor SED-WDC-G-5045

Dimensions



Specifications

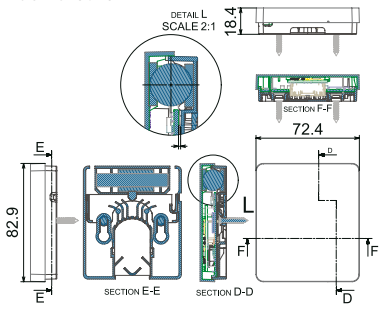
Dimensions	Master part: 50mmx33mmx16.3mm Slave part: 50mmx9mmx9mm
Colour	White/transp.
Weight	30g
Communication	ZigBee 3.0 HA
Detection Range	Trigger 'close': wood 30mm, metal 18mm Tigger 'open': wood 32mm, metal 20mm
Battery Voltage	3V
Battery Cell	CR2450
Battery Life	Up to 5 years
Ambient Temperature	-10° - +50°C

Certification

Check with your local government for instruction on disposal of these products.

CO_2 Sensor SED-CO2-G-5045

Dimensions



Specifications

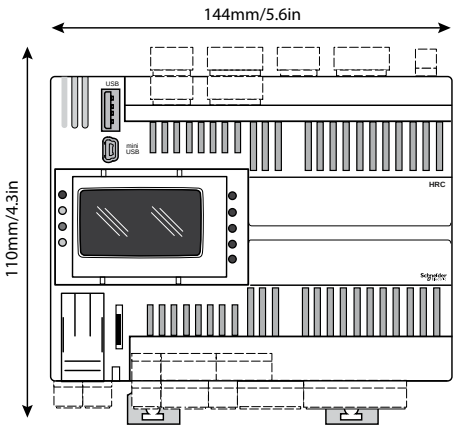
Dimensions	3.26in x 2.85in x 0.72in 82.9 mm x 72.4 mm x 18.4 mm
Operating Temperature	0°C to 50°C (32°F to 122°F)
Temperature Accuracy	±0.3°C (0.54 °F) typical within operating range
Humidity Range	0% to 100%
Humidity Accuracy	± 3% RH (typical within 0% to 80% RH)
Measurement Range	0 to 5000 ppm
Measurement/ Transmission Intervals	2.5 minutes (day), 10 minutes (evening) Note: Battery life will be reduced should interval be shortened (i.e. using remote temperature/humidity functions)
CO2 Accuracy at NTP	±60ppm +3% of reading (400 - 2,000ppm range)
Communication	Zigbee 3.0 Green Power (encrypted, bi-directional)
Battery Voltage	3.6 V
Battery Cell	AA Lithium ion
Battery Life	10+ years (non-replaceable) Note: Battery life can be reduced when sensor is operated at temperatures approaching the operating limits.
Ambient Temperature	-30°C to 70°C

Certification

Check with your local government for instruction on disposal of these products.

Hotel Room Controller HRC

Dimensions



Specifications

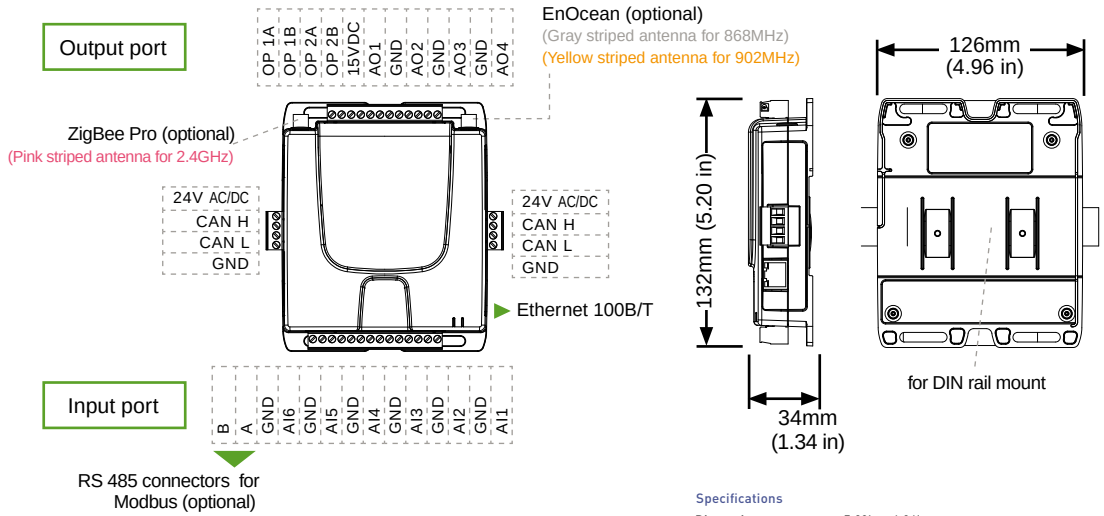
Dimensions	5.6in x 4.3in x 2.4in 144m x 110mm x 60.5mm
Digital Inputs	12
High Voltage Relay	10 x 3 A SPST +250 VAC relays
Digital Outputs	
Analog Inputs	12 x configurable analog inputs DI: voltage free DI, 10 kΩ input impedance 0-20mA: range 0..1000, < 150 Ω impedance 0-10V: range 0..1000 > 10 kΩ impedance
Analog Outputs	6 x 0-10 V outputs. Load impedance > 700 Ω
Supply Voltage	24 VAC + 10% NOT ISOLATED +20...38 Vdc NOT ISOLATED
Supply Frequency	50/60 Hz
Power Cycle	35 VA / 15 W
Operating Temperature	-20 to 60 °C (-4 to 140 °F) conforming to UL 60730-1
Storage Temperature	-30 to 70 °C (-22 to 158 °F)

Certification

Check with your local government for instruction on disposal of these products.

BEMS Gateway MPM

Dimensions



Specifications

Dimensions	5.20in x 4.96in 132mm x 126mm
Voltage	24VAC; ± 15%; 50/60HZ 24VDC ± 10%
Typical Consumption	5 VA + Output (VAC), 1.6 W + Output (VDC)
Communication	ZigBee Pro, EnOcean, BACnet CANbus (125-500 Kbps) Ethernet (10/100 Mbps)
Analog Inputs	Current: 4-20mA with 249 external resistor Voltage: 0-10V
Outputs	Analog (x4): 0-12V,nominal 50mAmax each, 12-bit resolution Relay (x2): 24V, 1.1 Amp per relay
RS485 (optional)	Supported protocols: Modbus
ZigBee Pro (Optional)	Frequency: 868MHz, 902MHz

Certification

Check with your local government for instruction on disposal of these products.

Panasonic AC Smart Cloud

With Panasonic AC Smart Cloud, have your business under control, and start saving!

Flexible and scalable solution

- **Energy saving**
- **Zero downtime**
- **Site(s) management**

Centralise control of your business premises, from wherever you are, 24/7/365.
It doesn't matter how many sites you have, or where they are!
The AC Smart Cloud system from Panasonic allows you to have complete control of all your installations, from your tablet or from your computer.
In a simple click, all your units from several locations, receive status updates in real-time of all your installations, preventing breakdowns and optimising costs.

Flexible solution for your business.

Every time | Everywhere | Multiplatform | Internet browser

Scalable solution for your business.

Small to large | 1 to multi sites | Upgrade features* | PAC / VRF

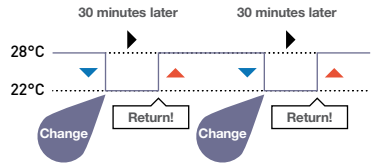
* Customised to meet user demand / Continuous upgrades: new functions and product introductions / IT smart management.

Panasonic AC Smart Cloud offers continuous improvement always thinking about users

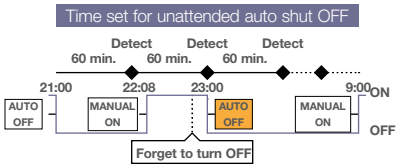
New e-CUT function

E-CUT functions are newly available in Panasonic AC Smart Cloud.
5 energy saving settings reduces automatically its energy consumption.

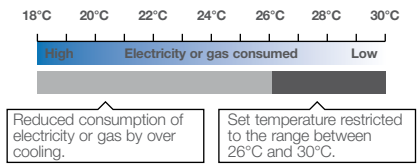
1. Set temperature auto return.
When you want to return to the set temperature after a certain time even if the temperature is changed.



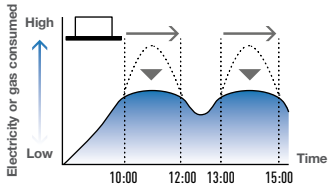
2. Unattended auto shut OFF.
When you want to operate outside of a schedule but to monitor and stop automatically.



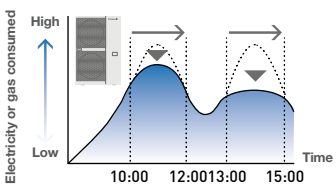
3. Set temperature range limit.
When you want to limit the temperatures that can be set.



4. Energy saving timer / Efficient operation setting.
Specify time slots when you want operation capacity reduced.



5. Demand / peak shaving settings/ Peak cut settings.
Specify time slots when you want operation capacity of the outdoor units reduced.



Key functions and uniqueness

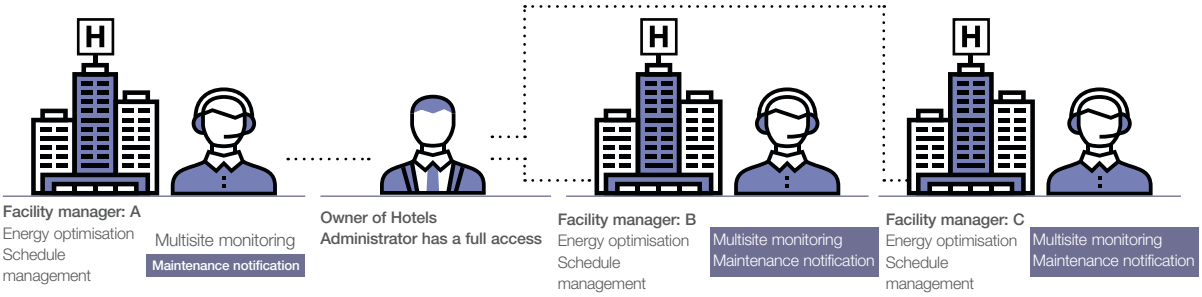
Multi site monitoring.
- It doesn't matter how many sites you have, easy to manage, operate, compare sites, locations, rooms.

Schedule setting.
- Yearly / weekly / holiday timer setting as you want

Powerful statistics for energy savings.
· Power consumption, capacity, efficiency level can be compared with different parameters (Yearly / monthly / weekly / daily bases)

Maintenance notification.
· Error notification by email and with floor layout
· Maintenance notification of PAC / VRF outdoor units
· Remote service checker function

User customisation[1].
Site administrator can create users as desired and assign customised profiles.



Main functions per user type

Function / Main Tab	Sub-Tab	Basic type (Eg.: Owners, facility managers)	Professional type (Eg.: Installers, maintenance companies)
AC setting	I_U / O_U operation details	✔	✔
	Cloud adapter (CZ-CFUSCC1) details	✔	✔
	AC maintenance		✔
	Map view	✔	✔
Energy saving function	NEW e-CUT	✔	✔
Schedule	Yearly, weekly schedule setting / view	✔	✔
Powerful statistics	Power consumption	✔	
	Capacity	✔	
	Efficiency ranking	✔	

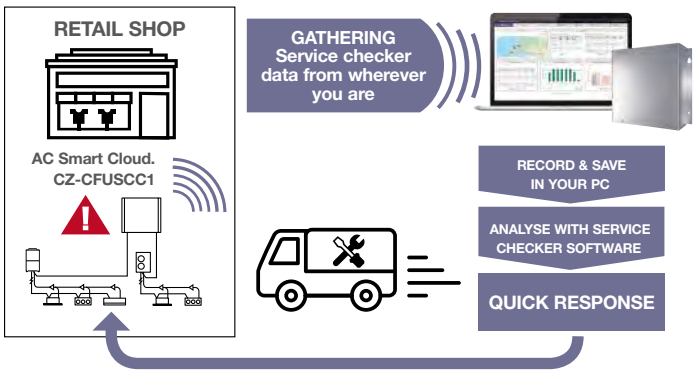
Function / Main Tab	Sub-Tab	Basic type (Eg.: Owners, facility managers)	Professional type (Eg.: Installers, maintenance companies)
Maintenance function	Notification overview / details	✔	✔
	Maintenance settings	✔	✔
	Map view	✔	✔
	Remote service checker		✔
User account [1]	New / update user registration	✔	
System setting	Distribution group overview / details	✔	
	Cut OFF request	✔	
	Map editor		✔

Remote service checker function

For professional profile

Zero down time
- Quick analysis & response
- Time & Cost saving for service maintenance task

Recording service checker parameters from wherever you are!
· Data duration: Maximum 120 minutes
· Data frequency: 10 – 90 seconds
· Mode selection: With test run or Without test run
· Count down schedule setting available



Panasonic AC Smart Cloud parts lists

*** Cloud service fee is additionally required. Please contact an authorised Panasonic dealer.**

CZ-CFUSCC1	AC Smart Cloud communication adaptor. Up to 128 groups. 128 units control

1) Please contact an authorized Panasonic dealer.

FSV Controllers

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

Operation system	Individual control systems			
Requirements	Simplified high-spec operation	High-spec operation	Normal operation	Operation from anywhere in the room
External appearance				
Type, model name	Simplified high-spec Wired Remote Controller	High-spec Wired Remote Controller	Timer Remote Controller (Wired)	Wireless Remote Controller
	CZ-RTC6 (Basic) CZ-RTC6BL (with Bluetooth)	CZ-RTC5B	CZ-RTC4	Controller: CZ-RWS3 Receiver: CZ-RWRU3 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 : Up to 2 controllers can be connected per group (only combination possible with CZ-RTC6) · CZ-RTC6BL : 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-RTC6BL with H&C Control App)

ECONAVI Sensor

CZ-CENSC1

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

- Activity detection
- Absence detection

Timer operation	Centralised control systems				
Daily and weekly program	Operation with various functions from a central location	Only ON/OFF operation from a central location	Simplified load distribution ratio (LDR) for each tenant	BMS System PC Base	Connection with 3rd Party Controller
			10.4 in. touch screen panel color LCD	**P-AIMS Software** Up to 1024 units  CZ-CSWKC2	**Seri-Para I/O unit for outdoor unit**  CZ-CAPDC2
					
Schedule Timer	System Controller	ON/OFF Controller	Intelligent Controller		
CZ-ESWC2	CZ-64ESMC3	CZ-ANC3	CZ-256ESMC3 (CZ-CFUNC2)	**Optional software**  CZ-CSWAC2 for Load distribution CZ-CSWWC2 for Web application CZ-CSWGC2 for Object layout display CZ-CSWBC2 for BACnet software interface *PC required (field supply)	**Interface Adaptor**  CZ-CAPC3
—	—	—	—		**Seri-Para I/O unit for each indoor unit**  CZ-CAPBC2
—	—	—	—		
—	●	—	●		**Communication Adaptor**  CZ-CFUNC2
64 groups, max. 64 units	64 groups, max. 64 units	16 groups, max. 64 units	64 units x 16 systems, max. 256 units		
· Required power supply from the system controller · When there is no system controller, connection is possible to the T10 terminal of an indoor unit.	· Up to 10 controllers, can be connected to one system. · Main unit/sub unit (1 main unit + 1 sub unit) connection is possible. · Use without remote controller is possible.	· Up to 8 controllers (4 main units + 4 sub units) can be connected to one system. · Use without remote controller is impossible.	· A communication adaptor (CZ-CFUNC2) must be installed for three or more links.		**LonWorks Interface**  CZ-CLNC2
—	●	●	●		
—	●	—	●		
—	●	—	●		
—	●	—	●		
—	●	—	●		
—	●	●	●		
●	●	—	●		

Panasonic Total Air Conditioning Management System
P-AIMS

P-AIMS basic software / CZ-CSWKC2

Up to 1024 indoor units can be controlled by one PC

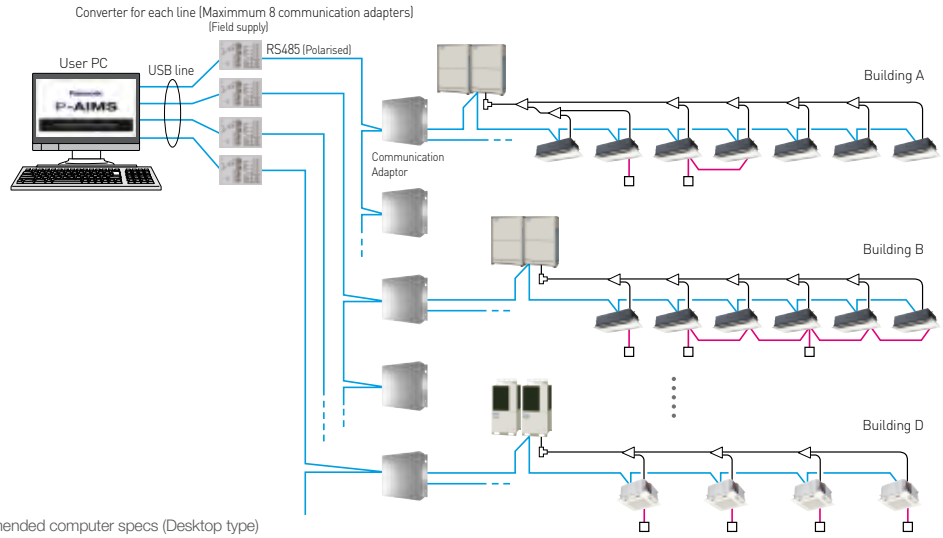
Functions of basic software

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

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

CZ-CFUNC2

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



Recommended computer specs (Desktop type)

Operating system	Windows 10 Pro 64bit Windows 8.1 Professional 64bit
CPU	Intel Core™ i5-6500 3.20GHz or higher (Recommended computer) Intel Core™ i7-7700 3.60GHz or higher (When installing Layout Display Software or using 512 or more indoor units)
Memory	8GB or larger
HDD	SSD (Solid State Drive) 250GB or larger
Monitor (Built-in speaker)	1920 × 1080 (full HD) Recommended (1280 × 1024 (SXGA) minimum) 1920 × 1080 (full HD) Required (when installing Layout Display Software)
External HDD	500GB or larger (An external power supply type is preferable because the HDD will be used for backing up data.)
LAN	Network adaptor equipped machine (when Web Software or BACnet Communication Software installed)
UPS (Field Supply)	Select a UPS with a sine output wave form

Intelligent Controller (CZ-256ESMC3)

Touch panel

Dimensions
H 240 x W 280 x D 85 mm
Power supply AC 100 to 240 V (50/60 Hz)
LCD: 10.4 in. TFT, XGA(1024 x 768), LED backlight
UPS (Field Supply):select UPS with a sine output wave form

Product features

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

New features

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

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

Limitation contents (Limitations can be user defined)

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

- **Remote control**

The LAN terminal on this unit enables you to 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**

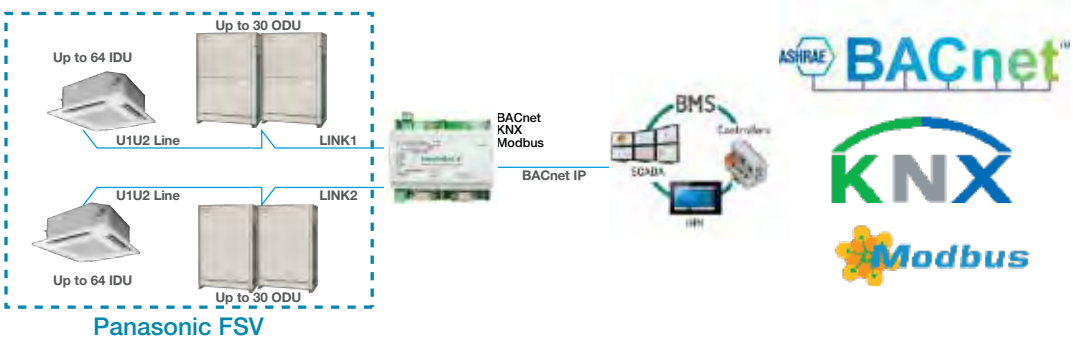
You can view cumulative electrical consumption per indoor unit or in a area.
Digital power meter with pulse require (Field Supply) for this function

Gateway for Panasonic Communication Adaptor

IntesisBox®

Gateway for Panasonic FSV systems integration intoBACnet/KNX/Modbus networks

Easily connect with integrated controllers to become part of your building management system.



For further information, please check IntesisBox website.
https://www.intesisbox.com/

Panasonic VRF Global Project References

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

HOTEL

Australia Travelodge Hobart

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

Indonesia Patra Jasa Hotel

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

Spain Hotel Claris 5 GL

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

Spain Monument Hotel

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

Russia River Park Hotel

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

Germany The LEGOLAND Castle Hotel

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

OFFICE

Malaysia Gapruna project

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

Malaysia Plaza 33 Office Block A

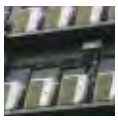
Air Conditioning System:
VRF 2-way FSV ME1 series
99 systems
Indoor Units: 153 units
Cooling Capacity:
3,667 kW / 1,042 USRT

Thailand Areeya

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

HongKong King Yip Road

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



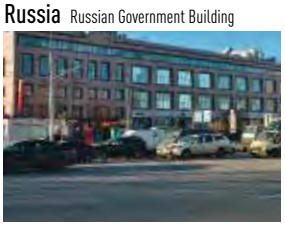
England Soapworks

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

Spain PTA Malaga

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

Russia Russian Government Building



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

RETAIL

Italy Le Centurie CENTRO COMMERCIALE

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

India Sai Aarav Motors, Mehsana

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

Russia Sun City Mall

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

SCHOOL

United States Shippensburg University

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

SCHOOL

Malaysia Xiamen University

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

Russia Technopark of Nobosibirsk Academgorodok

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

HOSPITAL

Indonesia Bekasi Hospital

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

Indonesia Persada Hospital

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

RESIDENTIAL

China Star River Group Luxury Condominium

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

Singapore Punggol Eco-Town

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

Hong Kong Gloucester Road Project

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

Hong Kong The Green Project

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

India Royal Orchids Eco-Green Homz

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

India Heera Windfaire

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

Panama Mosaic Building PANAMA PACIFICO

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

MEMO

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 June 2021.
- 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 MALAYSIA_JUNE 2021

Panasonic Air-Conditioning Malaysia (PACMY)

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Address: Lot 10, Jalan 13/2, 46200 Petaling Jaya,
Selangor Darul Ehsan.

Panasonic Heating & Cooling Solutions

Global site : aircon.panasonic.com
PRO Club : panasonicproclub.global

Panasonic HVAC Global