

Panasonic



EVERY BUILDING MATTERS

VRF SYSTEMS **2012/2013**



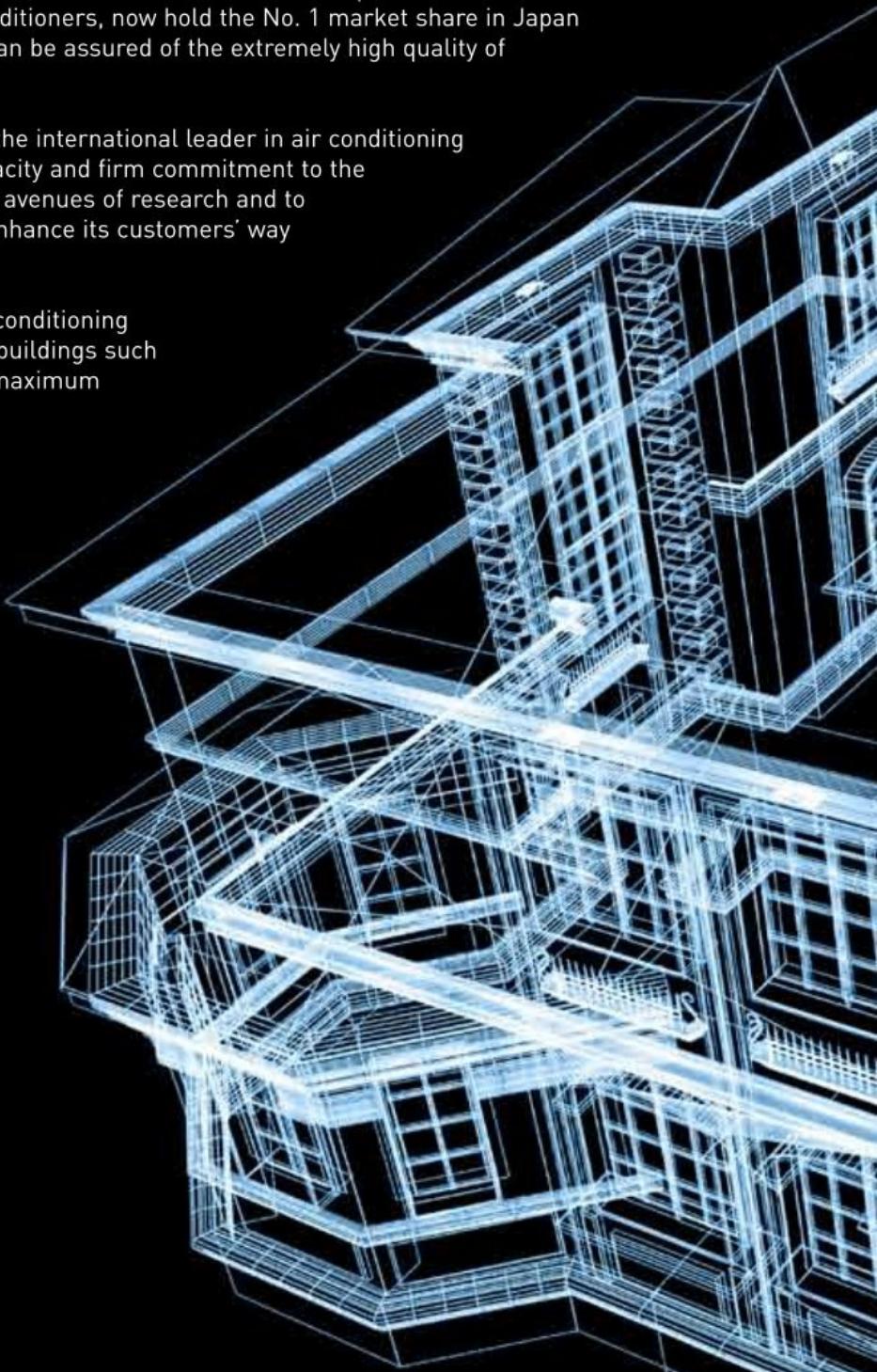
PANASONIC AIR CONDITIONING DESIGNED TO CARE FOR YOUR PROJECTS.

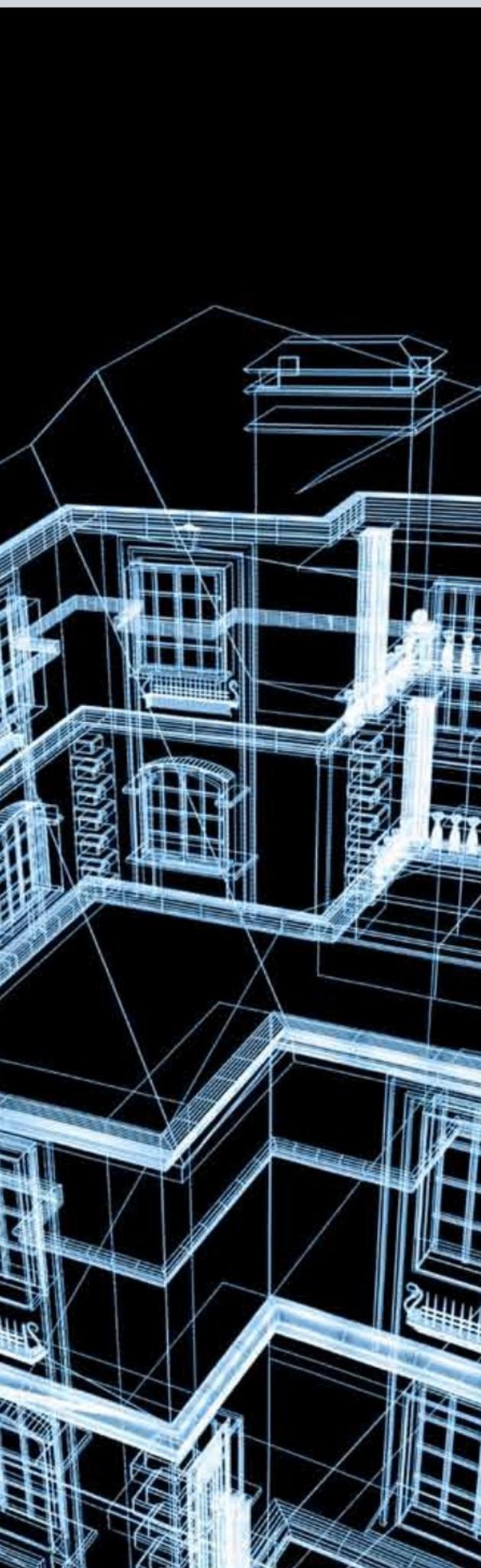
With more than 30 years of experience, exporting to more than 120 countries around the world, Panasonic is unquestionably one of the leaders in the air conditioning sector. The company is also a world leader in innovation as it has filed more than 91,539 patents to improve its customers' lives. Moreover, Panasonic is determined to remain at the forefront of its market. In all, the company has produced more than 200 million compressors and its products, particularly residential air conditioners, now hold the No. 1 market share in Japan and other major countries in Asia. You can be assured of the extremely high quality of Panasonic's air conditioners.

This wish to excel has made Panasonic the international leader in air conditioning solutions. The company's industrial capacity and firm commitment to the environment has enabled it to open new avenues of research and to develop innovative technologies which enhance its customers' way of life.

Panasonic offers a range of turnkey air conditioning solutions for homes and medium-sized buildings such as offices and restaurants. These offer maximum effectiveness, comply with the strictest environmental standards, and meet the most avant-garde construction requirements of our time.

At Panasonic we know what a great responsibility it is to install cooling and heating systems. Because offering you the best solutions in cooling and heating matters.
EVERY BUILDING MATTERS





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For small-scale commercial and residential use

2-WAY mini-FSV LE1 Series

Cooling or Heating type 1 phase
Cooling or Heating type 3 phase



Panasonic 2-way mini FSV, the 2-pipe heat pump is specifically designed for the most demanding applications. Mini FSV is available in 3 sizes with cooling capacities ranges from 12.1 kW to 15.5 kW and connectable up to 9 indoor units (applicable for 15.5 kW). An expansion for Panasonic's VRF line up, mini FSV is compatible with the same indoor units and controls as the rest of the FSV range.



- Obtaining all necessary Safety Approvals to ensure quality and safety
- Top-class EER:3.76 / COP:4.21 (In case of 12.1kW)
- Demand Response Capable(DRED Compatible)
- Cooling operation is possible when outdoor temperature as high as 46°C
- Maximum number of connectable indoor units : 12.1kW:6, 14.0kW:8, 15.5kW:9
- Diversity ratio 50-130%
- DC inverter technology combined with R410A for excellent efficiency
- Piping length:120m (Total piping length:150m)
- System difference of elevation:50m /40m (outdoor UP/DOWN)
- Difference in elevation between indoor units:15m
- Cooling operation is possible when outdoor temperature as low as -10°C
- Heating operation is possible when outdoor temperature as low as -20°C
- Compact outdoor unit 1,330 x 940 x 340 mm
- One ampere starting current
- Full range of indoor units and control options
- Auto restart from outdoor unit

Product Quality and Safety

All Panasonic air conditioners undergo strict quality and safety tests before sale. This rigorous process includes obtaining all necessary safety approvals to ensure that all air conditioners we sell are not only built to the highest market standards, but are also completely safe.

Energy-saving concept.

The use of energy saving designs for the structure of fans, fan motors, compressors and heat exchangers results in high COP values which rank among the top class in the industry. In addition, use of highly efficient R410A refrigerant reduces CO₂ emission and lowers operating costs.



① Inverter compressor

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

② Printed Circuit Board

The number of PCB was reduced from 3 into 2 pieces making maintenance easier.

③ Accumulator

A larger accumulator has been adopted to maintain compressor reliability due to the increased refrigerant quantity, which allows an extended maximum piping length. Furthermore, the refrigerant pressure loss is reduced, which contributes to an improved operating efficiency.

④ DC Fan Motor

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

⑤ Newly designed Fan

The newly designed fan blades have been developed to inhibit air turbulence and to increase efficiency. As fan diameter has been increased to 490mm, the air volume has been increased by 12% whilst maintaining a low sound level.

⑥ Heat Exchanger & Copper Tubes

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

⑦ Oil Separator

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

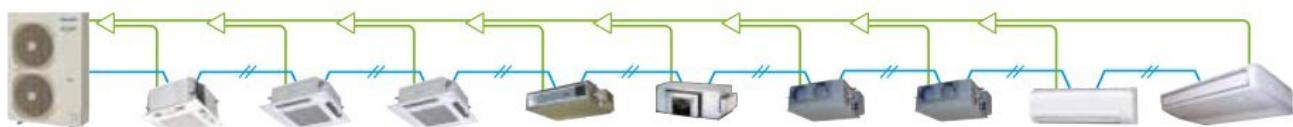


For small-scale commercial and residential use

2-WAY mini-FSV LE1 Series

System Example

12.1 kW - 15.5 kW



System / kW	12.1 kW	14.0 kW	15.5 kW
Connectable Indoor Unit	6	8	9

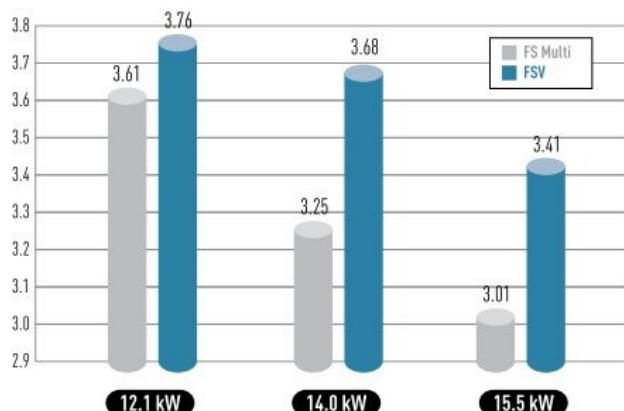
Refrigerant pipe

Control line

Improved Energy Saving

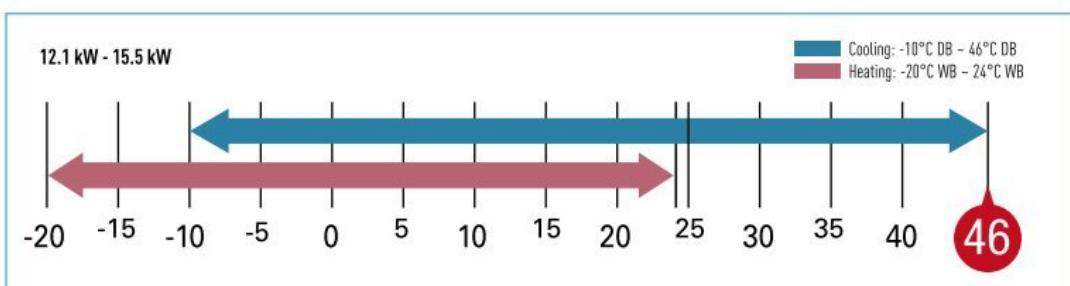
The operation efficiency has been improved using highly efficient R410A refrigerant, new DC Inverter compressor, new DC motor and a newly designed heat exchanger.

Cooling



Wide operating range

- Cooling operation is possible when outdoor temperature as low as -10°C
 - Cooling operation is possible when outdoor temperature as high as 46°C
 - Heating operation is possible when outdoor temperature as low as -20°C
- The remote controller temperature setting offers a range from 16°C to 30°C.

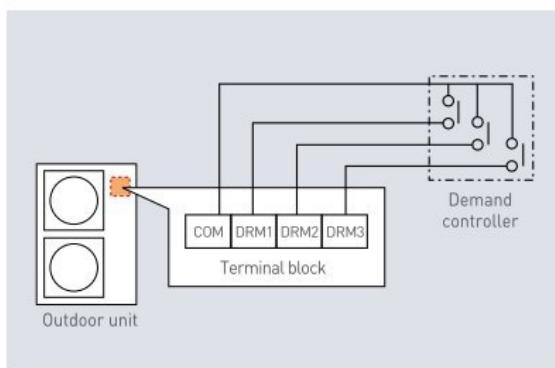


*For further information please refer to the Capacity Tables in the Data Book.

Demand Response Compliant

Panasonic air conditioners are equipped with Demand Response Capability which complies to both AS 4755 and AS 3823. Panasonic continues to design and develop products that are tailored to local needs and requirements. This ensures that Panasonic products that you are installing today are compliant with the demand response standards are likely to be implemented shortly (estimate: 2012).

The Equipment Energy Efficiency (E3) program has been supporting the development of Demand Response Enabling Device (DRED) standards for air-conditioners which should comply with AS 4755. DRED functionality is not compulsory today, however, this capability will be required for all installations in the very near future.



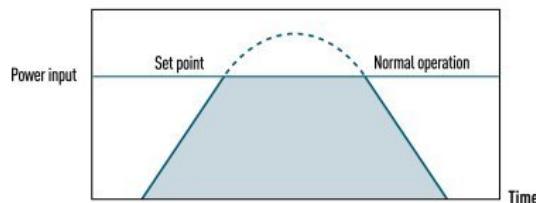
Demand control terminal is available to control 0-50-75-100% of capacities.

Demand Response Signal	Power Input
DRM 1	0%
DRM 2	50%
DRM 3	75%

Flexible Demand Control

FSV systems have a built-in demand control utilising Inverter technology. With this control, power consumption can be set in three steps to deliver optimum performance. This helps to reduce annual power consumption and electricity costs while maintaining comfort.

* 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%.



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

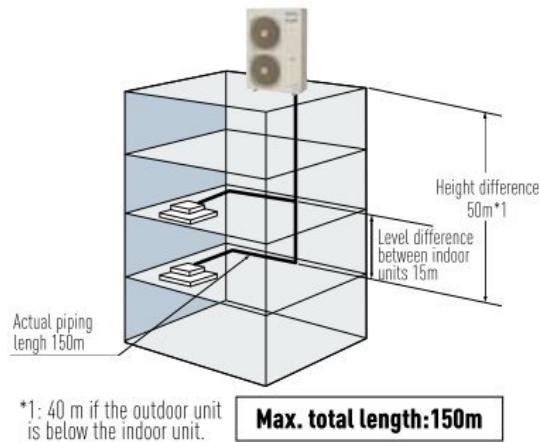
*An outdoor Seri-Para I/O unit (CZ-CAPDC2) is required for demand input signal.

Increased Piping Length for Greater Design Flexibility

Adaptable to various building types and sizes

Actual piping length : 120m (equivalent piping length 140m)

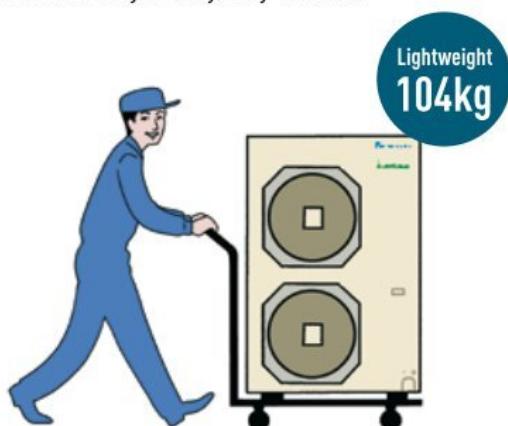
Maximum piping length : 150m



Compact and Lightweight

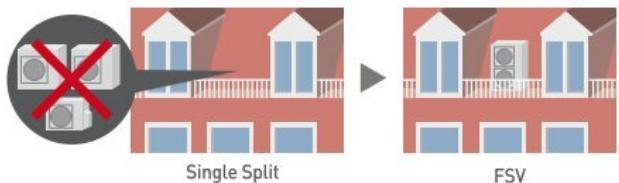
The weight is only 104kg.

Hence it is easy to carry, easy to install.



Compact & Flexible design

The slim and lightweight design can be installed in various places.



Quiet Mode

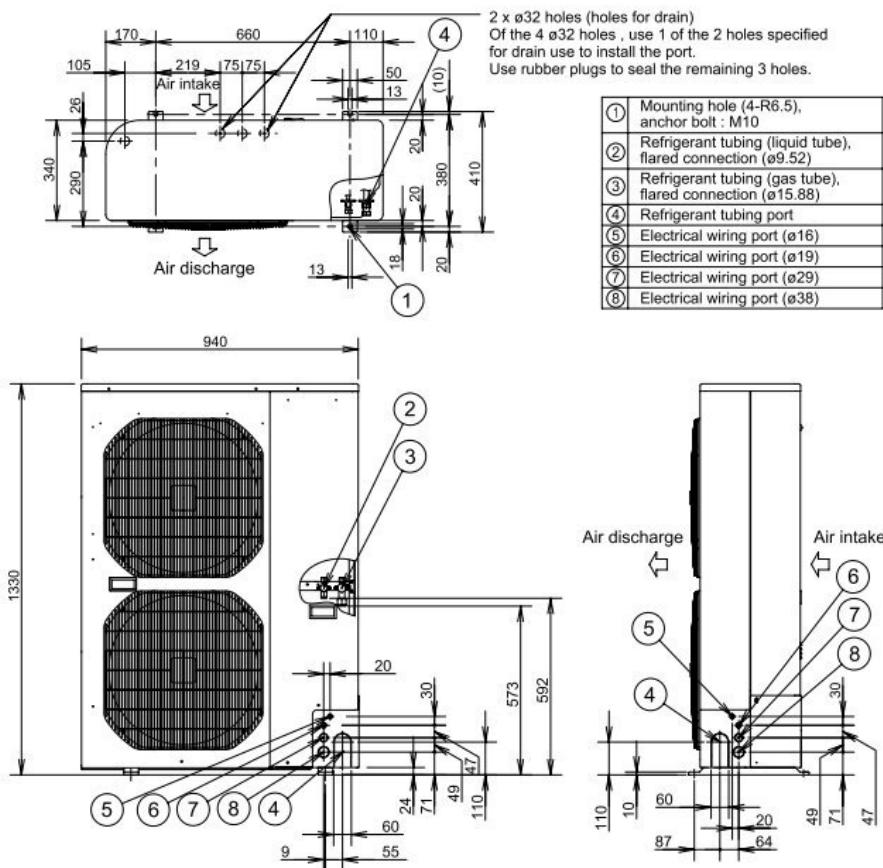
Quiet Mode reduces outdoor unit operating sound by 5dB.
External input signal is also available.



kW	12.1		14.0		15.5		
Model name	U-4LE1R5		U-5LE1R5		U-6LE1R5		
Power supply	240 V-1phase, 50 Hz		415 V-3phase, 50 Hz		240 V-1phase, 50 Hz		
Capacity	Cooling	kW	12.10	12.10	14.00	14.00	
		BTU/h	41,300	41,300	47,800	47,800	
	Heating	kW	12.50	12.50	16.00	16.00	
		BTU/h	42,700	42,700	54,600	54,600	
EER/COP	Cooling		W/W	3.76	3.68	3.68	
	Heating		W/W	4.21	3.91	3.91	
Dimensions (H/W/D)		mm	1,330 x 940 x 340[410*]				
Net weight		kg	104	104	104	104	
Electrical ratings	Cooling	Running current	A	14.6	5.1	17.0	
		Power input	kW	3.22	3.22	3.80	
	Heating	Running current	A	13.3	4.7	18.1	
		Power input	kW	2.97	2.97	4.09	
Starting current		A	1	1	1	1	
Air flow rate		m³/min	95	95	104	104	
Refrigerant amount at shipment		kg	3.50	3.50	3.50	3.50	
Piping connection	Gas pipe	mm	15.88	15.88	15.88	19.05	
	Liquid pipe	mm	9.52	9.52	9.52	9.52	
Ambient temperature operating range			Cooling:-10°CDB~+46°CDB, Heating:-20°CWB~+24°CWB	Cooling:-10°CDB~+46°CDB, Heating:-20°CWB~+24°CWB	Cooling:-10°CDB~+46°CDB, Heating:-20°CWB~+24°CWB	Cooling:-10°CDB~+46°CDB, Heating:-20°CWB~+24°CWB	
Sound pressure level	Normal mode	dB(A)	52/54:Cooling/Heating	52/54:Cooling/Heating	53/55:Cooling/Heating	54/57:Cooling/Heating	
	Silent mode	dB(A)	47/49:Cooling/Heating	47/49:Cooling/Heating	48/50:Cooling/Heating	49/52:Cooling/Heating	
Sound power level	Normal mode	dB(A)	70/72:Cooling/Heating	70/72:Cooling/Heating	71/73:Cooling/Heating	72/75:Cooling/Heating	
						72/75:Cooling/Heating	

* As a foot print.

Dimensions



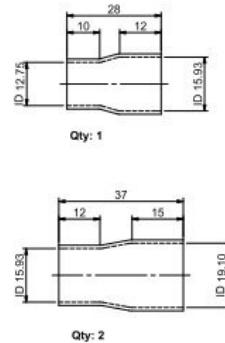
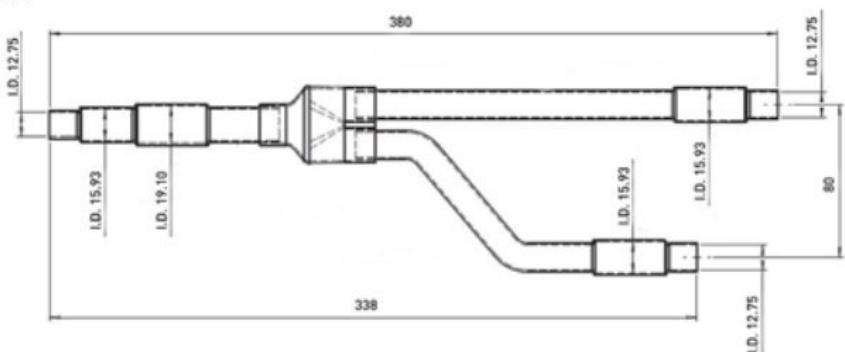
Unit: mm

Distribution Joint Kits

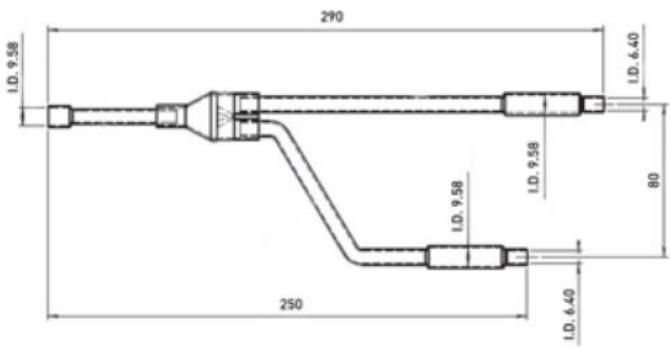
CZ-P160BK2

Use: For indoor unit (Capacity after distribution joint is 20.1 kW or less.)

GAS TUBING

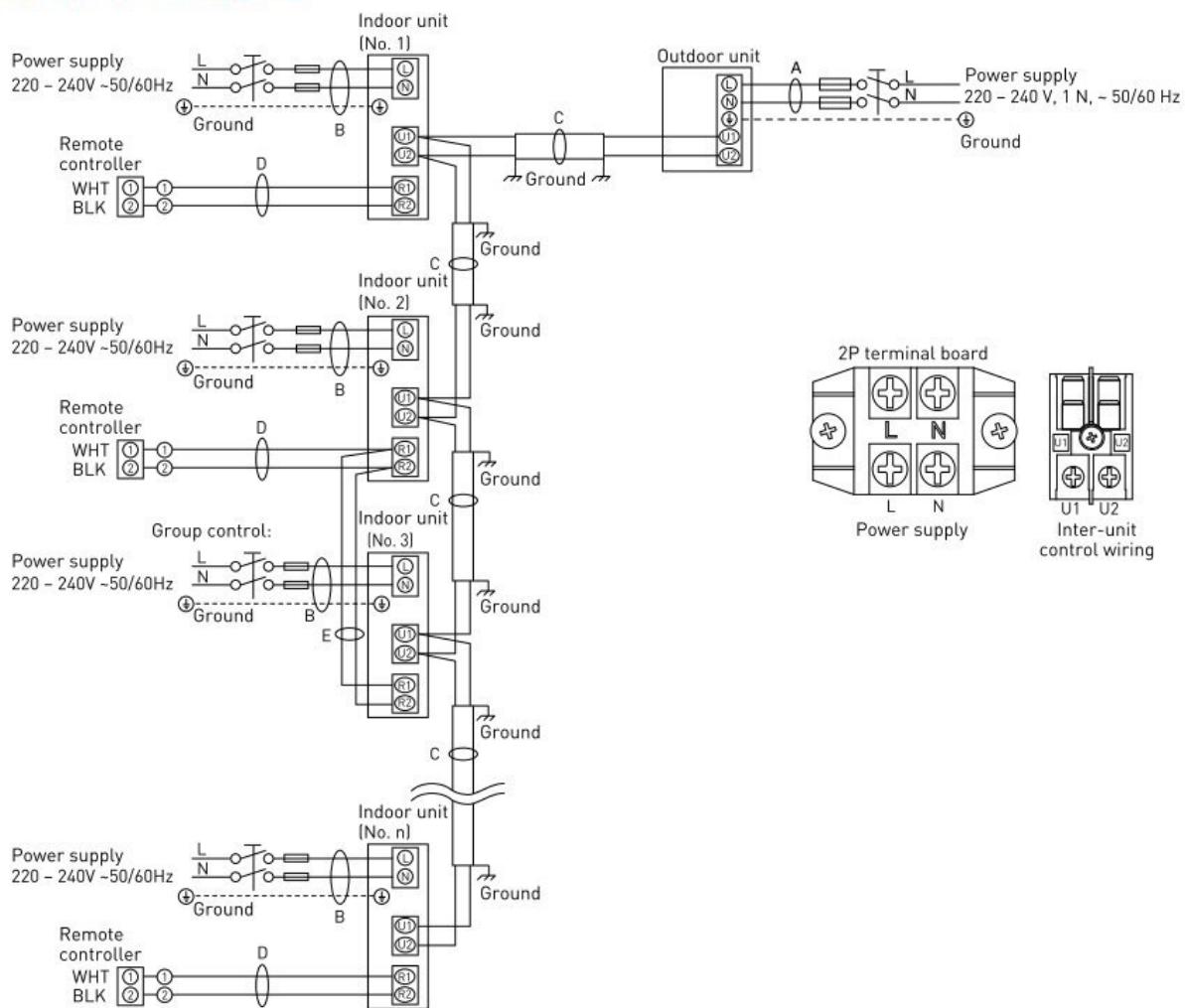


LIQUID TUBING



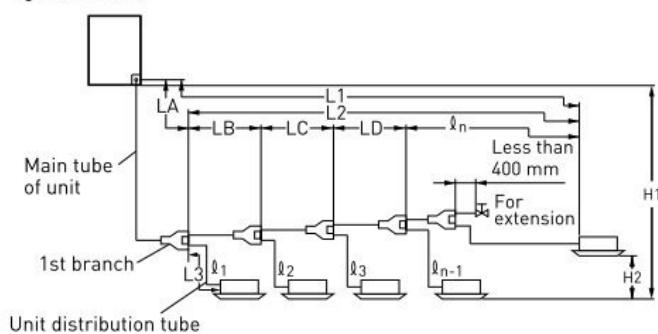
All measurements are in mm. Size of connection point on each part shown are inside diameters of tubing

Wiring System Diagrams



Piping design

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



↳ Distribution joint (CZ-P155BK1)
↗ Ball valve (field supply)

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

Items	Marks	Contents		Length (m)
Allowable tubing length	L1	Max. tubing length	Actual length	120
			Equivalent length	140
	ΔL (L2 - L3)	Difference between max. length and min. length from the No.1 distribution joint		40
	$l_1, l_2 \dots l_n$	Max. length of each distribution tube		30
Allowable elevation difference	$l_1, l_2 \dots l_{n-1} + L1$	Total max. tubing length including length of each distribution tube (only narrow tubing)		150
	H1	When outdoor unit is installed higher than indoor unit		50
		When outdoor unit is installed lower than indoor unit		40
	H2	Max. difference between indoor units		15

L = Length, H = Height

Tubing Size

Main Tubing Size (LA)

	12.1 kW	14.0 kW	15.5 kW
System kilowatts	12.1	14.0	15.5
Gas tubing (mm)	ø15.88		ø19.05
Liquid tubing (mm)	ø9.52		

Note : If the system consists of only one indoor unit with an outdoor 15.5kW, the main tube of the unit [LA] should be ø19.05. Convert ø19.05 to ø15.88 using a reducer [field supply] close to the indoor unit and then make the connection.

System Limitations

System Limitations			
Outdoor units	12.1 kW	14.0 kW	15.5 kW
Number of max. connectable indoor units	6	8	9
Max. allowable indoor/outdoor capacity ratio	50 - 130%		

kW = kilowatts

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

Total capacity after distribution	Below kW	7.1	12.1	14.0	15.5
	Over kW	-		7.1	
Tubing size	Gas tubing [mm]	ø12.7	ø15.88	ø19.05	
	Liquid tubing [mm]	ø9.52	ø9.52		

Unit: mm, kW = kilowatts

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

Indoor Unit Tubing Connection (l1, l2... ln-1)

Indoor unite type	22	28	36	45	56	73	90	106	140	160
Gas tubing (mm)			ø12.7					ø15.88		
Liquid tubing (mm)			ø6.35					ø9.52		

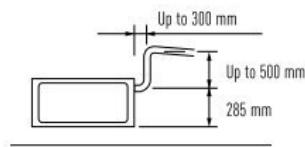
Unit: mm

Indoor Units

Wide choice of models depending
on the indoor requirements



F1 TYPE SLIM LOW SILHOUETTE DUCTED



Drain pump with increased power!

Using a high-lift drain pump, drain piping can be elevated up to 785 mm from the base of the unit.

Increased external static pressure

By using booster cable, external static pressure can be increased.

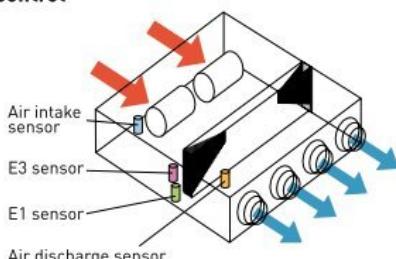
Type	22,28,36	45,56	73,90	106	140,160
Standard	49	40	50	79	78
With booster cable use (HT connector)	69	62	92	122	113

Discharge air temperature control

Able to control discharge air temperature for accurate room temperature control.

Possible to reduce cold drafts at heating operation.

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

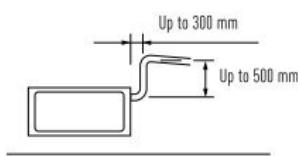


M1 TYPE SLIM LOW STATIC DUCTED

Ultra-slim profile:
200 mm height
for all models



Drain pump with increased power!



U1 TYPE 4-WAY CASSETTE

New technology for more energy savings



Higher efficiency split fin.

Improved heat transfer coefficient by adopting high efficiency grooved heat exchanger tube.

New DC-Fan motor.

Realized optimum air-flow by a new DC-fan motor with independent control.

High efficiency and silent turbo fan.

Development of bigger fan chassis and optimised design of airflow path results in higher air volume and lower noise level.

Individual flap control.

Flexible airflow direction enables 4 flaps to be individually controlled by setting on wired remote controller.

K1 TYPE WALL MOUNTED



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

External valve

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



Washable front panel.

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



Anti-mould filters are offered as standard filter.

FSV Indoor Units Range

Wide choice of models depending on the indoor requirements

Type \ Class	22	28	36	45	56	73
Capacity kW BTU/h	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating
	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	7.3/8.0 25,000/27,000
F1 type Low Silhouette Ducted						
E1 type High Static Pressure Ducted						 S-73ME1E5
M1 type Slim Low Static Ducted						
K1 type Wall Mounted						
U1 type 4-Way Cassette	 S-22MU1E5 Panel No. CZ-KPU2	 S-28MU1E5 Panel No. CZ-KPU2	 S-36MU1E5 Panel No. CZ-KPU2	 S-45MU1E5 Panel No. CZ-KPU2	 S-56MU1E5 Panel No. CZ-KPU2	 S-73MU1E5 Panel No. CZ-KPU2
Y1 type 4-Way Cassette 60x60	 S-22MY1E5 Panel No. CZ-KPY2	 S-28MY1E5 Panel No. CZ-KPY2	 S-36MY1E5 Panel No. CZ-KPY2	 S-45MY1E5 Panel No. CZ-KPY2	 S-56MY1E5 Panel No. CZ-KPY2	
T1 type Ceiling			 S-36MT1E5	 S-45MT1E5	 S-56MT1E5	 S-73MT1E5



90	106	140	160	Wireless remote control		
Cooling/Heating 9.0/10.0 30,000/34,000	Cooling/Heating 10.6/11.4 36,000/39,000	Cooling/Heating 14.0/16.0 47,800/54,600	Cooling/Heating 16.0/18.0 54,600/61,500	Type with built-in sensor	Type with separately installed sensor	Functions
						
					•	 Self-diagnosing  Auto fan  DRY  Auto restart  Drain pump
					•	 Self-diagnosing  Auto fan  DRY  Auto restart
					•	 Self-diagnosing  Auto fan  DRY  Auto restart  Drain pump
					•	•  Self-diagnosing  Auto fan  DRY  Auto flap  Auto restart  Air swing
	 Panel No. CZ-KPU2	 Panel No. CZ-KPU2	 Panel No. CZ-KPU2		•	•  Self-diagnosing  Auto fan  DRY  Auto flap  Auto restart  Air swing  Drain pump
					•	•  Self-diagnosing  Auto fan  DRY  Auto flap  Auto restart  Air swing  Drain pump
					•	•  Self-diagnosing  Auto fan  DRY  Auto flap  Auto restart  Air swing

 Self-diagnosing function Automatic restart function for power failure Automatic fan operation Air swing DRY Mild dry Built-in drain pump Intelligent auto flap control

F1
TYPE

Low Silhouette Ducted

The new F1 type is designed specifically for applications requiring fixed square ducting. The internal filter is equipped as standard.



Self-diagnosing
Function



Automatic Fan
Operation



Mild dry



Automatic
Restart Function



Built-in Drain
Pump

MODEL NAME		S-22MF1E5	S-28MF1E5	S-36MF1E5	S-45MF1E5	S-56MF1E5	S-73MF1E5	S-90MF1E5	S-106MF1E5	S-140MF1E5	S-160MF1E5
Power source		220/230/240V, 1 phase - 50Hz									
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3	9.0	10.6	14.0	16.0
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	30,000	36,000	47,800	54,600
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0	10.0	11.4	16.0	18.0
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	34,000	39,000	54,600	61,500
Power input	Cooling	kW	0.09/0.100/0.106	0.09/0.100/0.106	0.09/0.100/0.106	0.09/0.102/0.109	0.09/0.102/0.109	0.180/0.195/0.210	0.187/0.203/0.219	0.312/0.327/0.342	0.308/0.325/0.341
	Heating	kW	0.082/0.088/0.094	0.082/0.088/0.094	0.082/0.088/0.094	0.084/0.090/0.097	0.084/0.090/0.097	0.168/0.183/0.198	0.176/0.191/0.207	0.300/0.315/0.330	0.296/0.313/0.329
Running current	Cooling	A	0.45/0.46/0.47	0.45/0.46/0.47	0.45/0.46/0.47	0.44/0.45/0.46	0.44/0.45/0.46	0.83/0.86/0.89	0.88/0.91/0.94	1.44/1.45/1.46	1.42/1.43/1.44
	Heating	A	0.40/0.41/0.42	0.40/0.41/0.42	0.40/0.41/0.42	0.39/0.40/0.41	0.39/0.40/0.41	0.78/0.81/0.84	0.84/0.87/0.90	1.39/1.40/1.41	1.36/1.37/1.38
Fan	Type		Sirocco fan								
	Air flow rate (H/M/L)	m³/h	600/510/420	600/510/420	600/510/420	720/630/540	720/630/540	1,080/900/780	1,200/1,020/840	1,800/1,560/1,260	1,980/1,800/1,500
	Motor output	kW	0.05	0.05	0.05	0.05	0.05	0.07	0.07	0.14	0.14
	External static pressure	Pa	49(69)	49(69)	49(69)	40(62)	40(62)	50(92)	50(92)	79(122)	78(113)
Sound power level (L/M/H)		dB	33/37/40	33/37/40	33/37/40	36/39/41	36/39/41	38/41/45	38/41/45	42/44/49	44/48/51
Sound pressure level (L/M/H (H-booster))		dB(A)	22/26/29/[32]	22/26/29/[32]	22/26/29/[32]	25/28/30/[33]	25/28/30/[33]	27/30/34/[38]	27/30/34/[38]	31/33/38/[42]	33/37/40/[44]
Dimensions	H x W x D	mm	310x700x630	310x700x630	310x700x630	310x700x630	310x700x630	310x1,000x630	310x1,000x630	310x1,480x630	310x1,480x630
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	3/8 (Ø9.52)	3/8 (Ø9.52)	3/8 (Ø9.52)	3/8 (Ø9.52)				
	Gas	inches (mm)	1/2 (Ø12.7)	5/8 (Ø15.88)	5/8 (Ø15.88)	5/8 (Ø15.88)	5/8 (Ø15.88)				
	Drain piping		VP-25								
Net weight	kg		24	24	24	25	25	32	32	47	47

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 subject to change without notice.



S-22MF1E5 S-45MF1E5
S-28MF1E5 S-56MF1E5
S-36MF1E5



S-73MF1E5
S-90MF1E5



S-106MF1E5
S-140MF1E5
S-160MF1E5

OPTIONAL CONTROLLERS

Backlit remote controller
CZ-RELC2



Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWSC2



Simplified remote controller
CZ-RE2C2

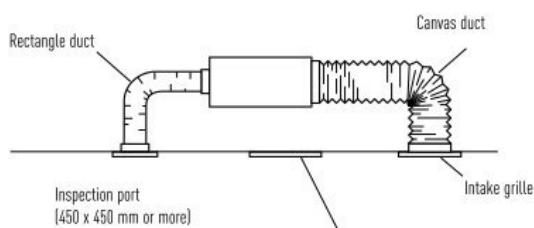


Technical focus

- Industry-leading low sound levels from 22 dB(A)
- Built-in drain pump provides 785 mm lift
- Easy to install and maintain
- Discharge air temperature control
- Configurable air temperature control
- Anti-mould washable filters are included

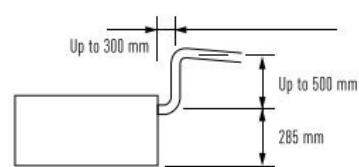
System example

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



More powerful drain pump

Using a high-lift drain pump, drain piping can be elevated up to 785 mm from the base of the unit.



Low noise level. Increased external static pressure.

By using the booster cable, the external static pressure can be increased.

TYPE	22-36	45-56	73-90	106	140-160
Standard	49 Pa	40 Pa	50 Pa	79 Pa	78 Pa
With booster cable use	69 Pa	62 Pa	92 Pa	122 Pa	113 Pa

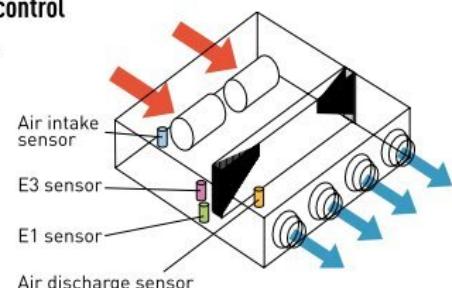
Standardized height of 310 mm for all models

Height standardisation enables easy and uniform installation for models with different capacities.

Discharge air temperature control

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

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



External electrical equipment box makes maintenance easy



E1 TYPE High Static Pressure Ducted

Concealed duct high-static pressure

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



Self-diagnosing Function



Automatic Fan Operation



Mild dry



Automatic Restart Function

MODEL NAME		S-73ME1E5	S-106ME1E5	S-140ME1E5	
Power source		220/230/240 V, 1 phase - 50			
Cooling capacity	kW	7.3	10.6	14.0	
	BTU/h	25,000	36,000	47,800	
Heating capacity	kW	8.0	11.4	16.0	
	BTU/h	27,000	39,000	54,600	
Power input	Cooling	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	
	Heating	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	
Running current	Cooling	A	2.29/2.30/2.31	2.46/2.46/2.47	
	Heating	A	2.29/2.30/2.31	2.46/2.46/2.47	
Fan	Type	Sirocco fan	Sirocco fan	Sirocco fan	
	Air flow rate (H/M/L)	m³/h	1,380/1,320/1,260	1,800/1,680/1,500	
	Motor output	kW	0.2	0.2	
	External static pressure	Pa	186	176	
Sound power level (L/M/H)		dB	53/54/55	55/57/58	
Sound pressure level (L/M/H)		dB(A)	42/43/44	44/46/47	
Dimensions	H x W x D	mm	420 x 1,065 x 620	450 x 1,065 x 620	
Pipe connections	Liquid	inches (mm)	3/8 (Ø9.52)	3/8 (Ø9.52)	
	Gas	inches (mm)	5/8 (Ø15.88)	5/8 (Ø15.88)	
	Drain piping		VP-25	VP-25	
Net weight	kg	47	50	54	

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 subject to change without notice.



OPTIONAL CONTROLLERS

Backlit remote controller
CZ-RELC2



Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWSC2



Simplified remote controller
CZ-RE2C2

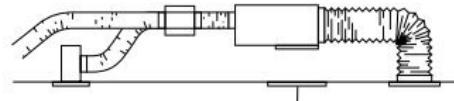


Technical focus

- Complete flexibility for ductwork design
- Can be located into a weatherproof housing for external installation
- Discharge air temperature control
- Configurable air temperature control

System example

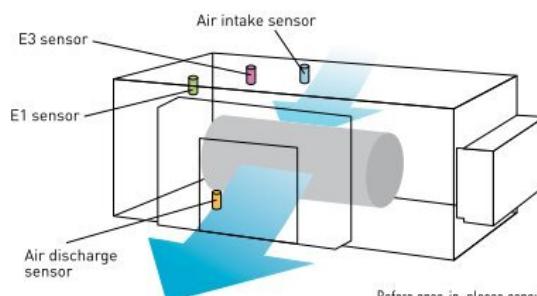
An inspection port (450 x 450 mm or more) is required at the lower side of the indoor unit body (field supply).



Inspection port (450 x 450 mm or more)

Discharge air temperature control

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



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

M1 TYPE Slim low static ducted concealed duct

The ultra slim M1 type is one of the leading products of its type in the industry. With a height of only 200 mm, it provides greater flexibility and adaptability for various applications.

In addition, high efficiency and extremely low noise level make it highly recommended for hotels and small offices.



Self-diagnosing Function



Automatic Fan Operation



Mild dry



Automatic Restart Function



Built-in Drain Pump

MODEL NAME		S-22MM1E5	S-28MM1E5	S-36MM1E5	S-45MM1E5	S-56MM1E5
Power source		220/230/240 V, 1 phase - 50				
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6
	BTU/h	7,500	9,600	12,000	15,000	19,000
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3
	BTU/h	8,500	11,000	14,000	17,000	21,000
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
	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
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
	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
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	480/420/360	510/450/390	540/480/420	630/570/480
	Motor output	kW	0.05	0.05	0.05	0.05
	External static pressure	Pa	10 (30)	15 (30)	15 (40)	15 (40)
Sound power level (L/M/H)		dB	40/42/43	42/44/45	43/45/47	45/47/49
Sound pressure level (L/M/H)		dB(A)	25/27/28 (27/29/30)*	27/29/30 (29/31/32)*	28/30/32 (30/32/34)*	30/32/34 (32/34/36)*
Dimensions	H x W x D	mm	200 x 750 x 640			
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)
	Gas	inches (mm)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)
	Drain piping		VP-20	VP-20	VP-20	VP-20
Net weight	kg	19	19	19	19	19

* With booster cable.

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 subject to change without notice.



OPTIONAL CONTROLLERS

Backlit remote controller
CZ-RELC2



Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWSC2



Simplified remote controller
CZ-RE2C2



Technical focus

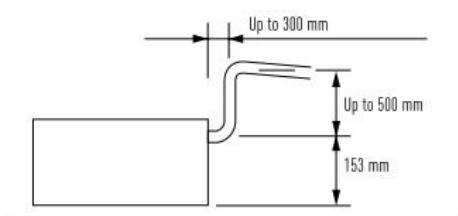
- Ultra-slim profile: 200 mm for all models
- DC fan motor greatly reduces power consumption
- Ideal for hotel application with very narrow false ceilings
- Anti-mould washable filters included
- Easy maintenance and service by external electrical box
- 40 Pa static pressure enables ductwork to be fitted.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

Ultra-slim profile for all models



Drain pump with increased power!

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



K1 TYPE Wall Mounted

The K1 type wall mounted unit has a stylish smooth panel with a washable front panel. Small, lightweight and low noise level makes it ideal for small offices and other commercial applications.



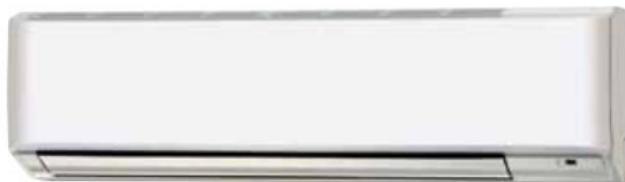
MODEL NAME		S-22MK1E5	S-28MK1E5	S-36MK1E5	S-45MK1E5	S-56MK1E5	S-73MK1E5	S-106MK1E5	
Power source		220/230/240 V, 1 phase - 50							
Cooling capacity	kW	2.20	2.80	3.60	4.5	5.6	7.3	10.6	
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	36,000	
Heating capacity	kW	2.50	3.20	4.20	5.0	6.3	8.0	11.4	
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	39,000	
Power input	Cooling	kW	0.018/0.019/0.019	0.018/0.019/0.019	0.021/0.022/0.023	0.020/0.020/0.021	0.029/0.030/0.030	0.056/0.057/0.057	
	Heating	kW	0.019/0.019/0.020	0.019/0.019/0.020	0.022/0.023/0.023	0.020/0.020/0.021	0.029/0.030/0.030	0.056/0.057/0.057	
Running current	Cooling	A	0.16/0.16/0.16	0.16/0.16/0.16	0.19/0.19/0.20	0.27/0.26/0.23	0.36/0.35/0.32	0.59/0.58/0.52	
	Heating	A	0.17/0.17/0.18	0.17/0.17/0.18	0.20/0.20/0.20	0.27/0.26/0.23	0.36/0.35/0.32	0.59/0.58/0.52	
Fan	Type		Sirocco fan						
	Air flow rate (H/M/L)	m³/h	540/450/360	540/450/360	600/510/390	720/630/510	840/720/630	1,080/870/690	
	Motor output	kW	0.047	0.047	0.047	0.047	0.047	0.047	
Sound power level (L/M/H)		dB	39/43/46	39/43/46	40/44/48	41/45/49	51/55/58	51/55/58	
Sound pressure level (L/M/H)		dB(A)	28/32/35	28/32/35	29/33/37	30/34/38	32/36/40	40/44/47	
Dimensions	H x W x D	mm	285 x 825 x 217	285 x 825 x 217	285 x 825 x 217	300 x 1,065 x 230	300 x 1,065 x 230	300 x 1,065 x 230	
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	3/8 (Ø9.52)	3/8 (Ø9.52)	
	Gas	inches (mm)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	5/8 (Ø15.88)	5/8 (Ø15.88)	
Drain piping		VP-13	VP-13	VP-13	VP-13	VP-13	VP-13	VP-13	
Net weight		kg	10	10	10	13	13	14.5	

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

Specifications subject to change without notice.



S-22MK1E5 / S-28MK1E5 / S-36MK1E5



S-45MK1E5 / S-56MK1E5 / S-73MK1E5 / S-106MK1E5

OPTIONAL CONTROLLERSBacklit remote controller
CZ-RELC2Timer remote controller
CZ-RTC2Wireless remote controller
CZ-RWSK2Wireless remote controller
CZ-RWSC2Simplified remote controller
CZ-RE2C2**Technical focus**

- Closed discharge port
- Lighter and smaller units make the installation easy
- Quiet operation
- Smooth and durable design
- Piping outlet in three directions
- Washable front panel
- Air distribution is automatically altered depending on the operational mode of the unit
- Anti-mould washable filters are included

External valve

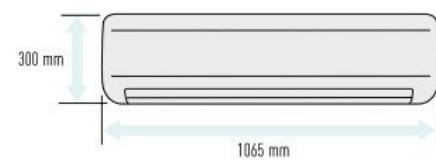
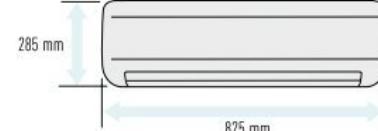
To reduce noise level of external valve.
(Optional accessory)



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

Closed discharge port

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

Compact indoor units make the installation easy**Quiet operation**

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

Smooth and durable design

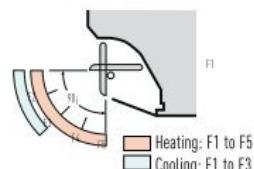
The smooth cover means these units match most modern interiors. Their compact size enables them to blend in, even in small spaces.

Piping outlet in three directions

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

Washable front panel

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

**Air distribution is automatically altered depending on the operational mode of the unit**

U1 TYPE 4-WAY Cassette

Semi Concealed Cassette

Our best selling U1 Type cassettes are made smaller, slimmer, lighter and comes with a standard 950 x 950mm panel for the entire product range.



Self-diagnosing Function



Automatic Fan Operation



Mild dry



Intelligent Auto Swing



Automatic Restart Function



Auto Swing (Auto Flap Control)



Built-in Drain Pump

MODEL NAME		S-22MU1E5	S-28MU1E5	S-36MU1E5	S-45MU1E5	S-56MU1E5	S-73MU1E5	S-106MU1E5	S-140MU1E5	S-160MU1E5
Power source		220/230/240 V, 1 phase - 50								
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3	10.6	14	16
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	36,000	47,800	54,600
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0	11.4	16.0	18.0
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	39,000	54,600	61,400
Power input	Cooling	kW	0.030/0.031/0.034	0.030/0.031/0.034	0.030/0.031/0.034	0.033/0.035/0.038	0.039/0.041/0.044	0.053/0.054/0.057	0.100/0.102/0.106	0.109/0.110/0.114
	Heating	kW	0.019/0.019/0.021	0.019/0.019/0.021	0.019/0.019/0.021	0.022/0.023/0.024	0.030/0.031/0.031	0.044/0.044/0.046	0.093/0.094/0.096	0.102/0.102/0.105
Running current	Cooling	A	0.25/0.26/0.26	0.25/0.26/0.26	0.25/0.26/0.26	0.29/0.29/0.29	0.34/0.34/0.34	0.46/0.46/0.45	0.84/0.82/0.82	0.90/0.88/0.88
	Heating	A	0.18/0.18/0.17	0.18/0.18/0.17	0.18/0.18/0.17	0.21/0.21/0.21	0.28/0.28/0.27	0.41/0.40/0.39	0.80/0.77/0.76	0.86/0.83/0.83
Fan	Type	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan
	Air flow rate (H/M/L)	m³/h	15.5/14/13	15.5/14/13	15.5/14/13	15.5/14/13	16/14/13	20/16/14	28/23/21	33/25/22
	Motor output	kW	0.05	0.05	0.05	0.05	0.05	0.05	0.09	0.09
Sound power level (L/M/H)		dB	38/40/42	38/40/42	38/40/42	38/40/42	38/40/42	39/42/45	44/47/50	45/49/53
Sound pressure level (L/M/H)		dB(A)	27/28/29	27/28/29	27/28/29	27/28/30	27/29/32	28/31/35	32/38/43	33/39/44
Dimensions	H x W x D	mm	256+(33.5) x 840 (950) x 840 (950)					319+(33.5) x 840 (950) x 840 (950)		
Pipe connections	Liquid	inches (mm)	1/4 (06.35)	1/4 (06.35)	1/4 (06.35)	1/4 (06.35)	1/4 (06.35)	3/8 (09.52)	3/8 (09.52)	3/8 (09.52)
	Gas	inches (mm)	1/2 (012.7)	1/2 (012.7)	1/2 (012.7)	1/2 (012.7)	1/2 (012.7)	5/8 (015.88)	5/8 (015.88)	5/8 (015.88)
	Drain piping	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25
Net weight	kg	24	24	24	24	24	25	29	29	29

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 subject to change without notice.

AIR INTAKE CHAMBER

Air intake plenum CZ-FDU2
Air intake box CZ-ATU2
Both Air intake plenum and Air intake box are necessary

**PANEL**

CZ-KPU2

**OPTIONAL CONTROLLERS**

Backlit remote controller
CZ-RELC2



Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWSU2



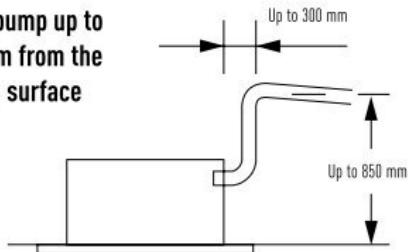
Wireless remote controller
CZ-RWSC2



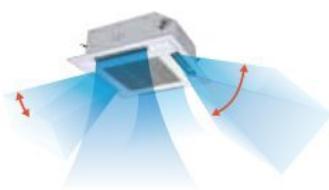
Simplified remote controller
CZ-RE2C2

**Technical focus**

- Compact design
- Reduced sound levels (from previous models)
- DC fan motor for increased efficiency
- Powerful drain pump gives 850 mm lift
- Lightweight design
- Fresh air knockout
- Branch duct connection
- Optional air-intake plenum CZ-FDU2

Drain pump up to 850 mm from the ceiling surface**Individual flap control**

Flexible Air flow direction control by individual flap control is possible. 4 Flaps can be controlled individually by setting on wired timer remote controller. This can allow flexible Air-flow control to be matched to several demands in a room.



* It needs pre-setting for this function at system test-run procedure.

EXAMPLE CASE FOR COOLING

Easy to clean suction grill & flap

It is easy to remove washable flaps by hand.



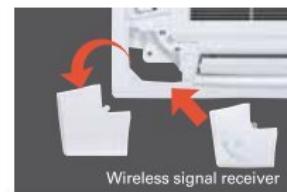
Suction grille can be rotated 90-degrees.

Easy fine adjustment of the body suspension height!

The four corners of the ceiling panel have removable corner pockets.



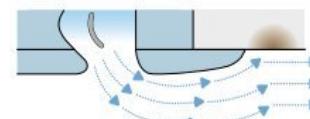
Even after installation, fine adjustment of the suspension height is possible easily by removing the corner pockets.



Wireless signal receiver

Air flow directed to avoid ceiling marking

The dew condensation and dirt appearing near the discharge ports of the conventional ceiling cassettes have been reduced.

**Conventional**

The discharged air hits the ceiling and causes dirt.

**U1 type cassette**

Upward air flow is suppressed.

Y1

4-WAY Cassette 60X60

Mini semi concealed cassette

Designed to fit perfectly into a 600 x 600 mm ceiling grid without the need to alter the bar configuration, the Y1 is ideal for small commercial and retro-fit applications.



Self-diagnosing Function



Automatic Fan Operation



Mild dry



Intelligent Auto Swing



Automatic Restart Function



Auto Swing (Auto Flap Control)



Built-in Drain Pump

MODEL NAME		S-22MY1E5	S-28MY1E5	S-36MY1E5	S-45MY1E5	S-56MY1E5
Power source		220/230/240 V, 1 phase - 50				
Cooling capacity	kW	2.2	2.8	3.6	4.7	5.6
	BTU/h	7,500	9,600	12,000	16,000	19,000
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3
	BTU/h	8,500	11,000	14,000	17,000	21,000
Power input	Cooling	kW	0.024/0.025/0.025	0.024/0.025/0.025	0.026/0.027/0.027	0.030/0.031/0.031
	Heating	kW	0.014/0.015/0.015	0.014/0.015/0.015	0.017/0.017/0.018	0.020/0.021/0.021
Running current	Cooling	A	0.16/0.16/0.15	0.16/0.16/0.15	0.18/0.18/0.17	0.21/0.21/0.20
	Heating	A	0.13/0.13/0.12	0.13/0.13/0.12	0.15/0.15/0.14	0.18/0.18/0.17
Fan	Type		Centrifugal fan	Centrifugal fan	Centrifugal fan	Centrifugal fan
	Air flow rate (H/M/L)	m³/h	480/420/360	480/420/360	540/480/420	640/510/450
	Motor output	kW	0.030	0.030	0.030	0.030
Sound power level (L/M/H)		dB	36/38/41	36/38/41	37/40/43	39/43/47
Sound pressure level (L/M/H)		dB(A)	25/27/30	25/27/30	26/29/32	28/32/36
Dimensions	H x W x D	mm	283 + [30] x 575 (625) x 575 (625)	283 + [30] x 575 (625) x 575 (625)	283 + [30] x 575 (625) x 575 (625)	283 + [30] x 575 (625) x 575 (625)
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)
	Gas	inches (mm)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)
	Drain piping		VP-20	VP-20	VP-20	VP-20
Net weight		kg	18.4	18.4	18.4	18.4

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 subject to change without notice.

PANEL
CZ-KPV2



OPTIONAL CONTROLLERS

Backlit remote controller
CZ-RELC2



Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWSY2



Wireless remote controller
CZ-RWSC2



Simplified remote controller
CZ-RE2C2



Technical focus

- Mini cassette fits into a 600x600 mm ceiling grid
- Fresh air knock out
- Multidirectional air flow
- Anti-mould and anti-bacteria washable filters
- Powerful drain pump gives 850 mm lift
- Turbo fans and heat exchanger fins with improved design
- DC fan motors with variable speed, new heat exchangers, etc. ensure efficient power consumption

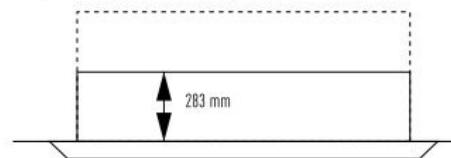
Special removable flap

The flap can be removed easily for cleaning.



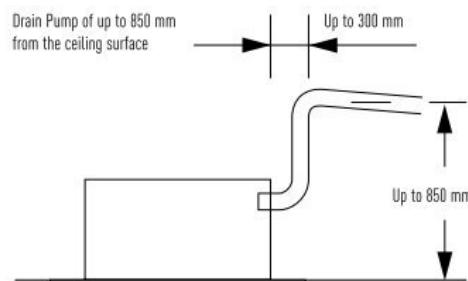
Lighter and slimmer, easier installation

A lightweight unit at 19 kg, the unit is also very slim with a height of only 283 mm, making installation possible even in narrow ceilings.



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

The drain height can be increased by approximately 350 mm over the conventional value by using a high-lift drain pump and long horizontal piping is possible.



T1 TYPE Ceiling

Floor/Ceiling mounted

The T1 type ceiling mounted unit features a DC fan motor for increased efficiency and reduced operating sound levels. All units have the same height and depth for a uniform appearance in mixed installations. It also features a fresh air knockout for improved air quality.



Self-diagnosing Function



Automatic Fan Operation



Mild dry



Intelligent Auto Swing



Automatic Restart Function



Auto Swing (Auto Flap Control)

MODEL NAME		S-36MT1E5	S-45MT1E5	S-56MT1E5	S-73MT1E5	S-106MT1E5	S-140MT1E5
Power source		220/230/240 V, 1 phase - 50					
Cooling capacity	kW	3.6	4.5	5.6	7.3	10.6	14.0
	BTU/h	12,000	15,000	19,000	25,000	36,000	47,800
Heating capacity	kW	4.2	5.0	6.3	8.0	11.4	16.0
	BTU/h	14,000	17,000	21,000	27,000	39,000	54,600
Power input	Cooling	kW	0.028/0.029/0.029	0.028/0.029/0.029	0.031/0.032/0.032	0.043/0.043/0.044	0.073/0.074/0.075
	Heating	kW	0.028/0.029/0.029	0.028/0.028/0.029	0.031/0.031/0.032	0.042/0.042/0.043	0.072/0.073/0.074
Running current	Cooling	A	0.26/0.24/0.23	0.26/0.24/0.23	0.28/0.26/0.24	0.38/0.35/0.33	0.62/0.57/0.53
	Heating	A	0.26/0.24/0.23	0.26/0.24/0.23	0.28/0.26/0.25	0.38/0.35/0.34	0.62/0.57/0.55
Fan	Type		Sirocco fan				
	Air flow rate (H/M/L)	m³/h	720/600/540	780/660/540	780/660/540	1,100/900/840	1,650/1,380/1,200
	Motor output	kW	0.03	0.03	0.03	0.04	0.08
Sound power level (L/M/H)		dB	41/43/46	41/44/47	41/44/47	44/47/49	46/49/52
Sound pressure level (L/M/H)		dB(A)	30/32/35	30/33/36	30/33/36	33/36/38	35/38/41
Dimensions	H x W x D	mm	210 x 910 x 680	210 x 910 x 680	210 x 910 x 680	210 x 1,180 x 680	210 x 1,595 x 680
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	3/8 (Ø9.52)	3/8 (Ø9.52)
	Gas	inches (mm)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	5/8 (Ø15.88)	5/8 (Ø15.88)
Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight		kg	21	21	21	25	33

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 subject to change without notice.



OPTIONAL CONTROLLERS

Backlit remote controller
CZ-RELC2



Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWST2



Wireless remote controller
CZ-RWSC2



Simplified remote controller
CZ-RE2C2

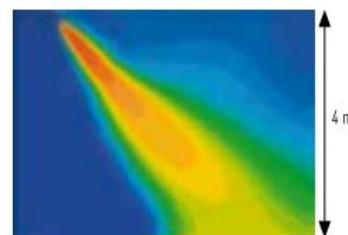


Technical focus

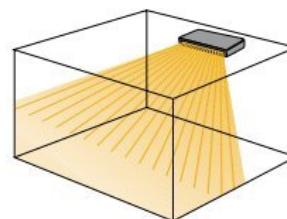
- Low sound levels
- Standardized height of 210 mm for all models
- Long and wide air distribution
- Easy to install and maintain
- Fresh air knockout

Further comfort improvement

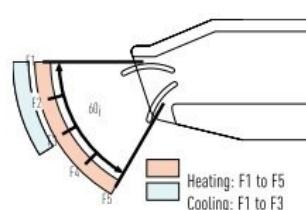
The wide air discharge opening widens the air flow to the left and the right so that a comfortable temperature is obtained through the entire room. The unpleasant feeling caused when the air flow directly hits the human body is prevented by the "Draft prevention position", which changes the swing width, so that comfort is increased.



Further comfort improvement with airflow distribution

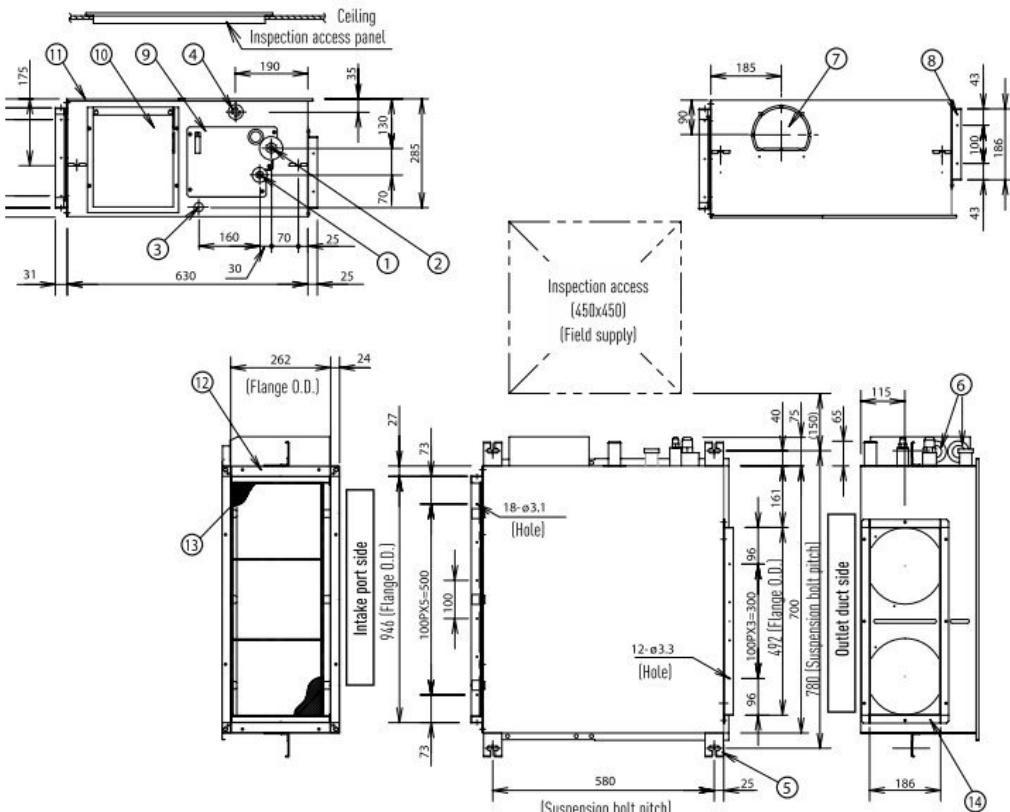


Air distribution is automatically altered depending on the operational mode of the unit



FSV Indoor Units Dimensions

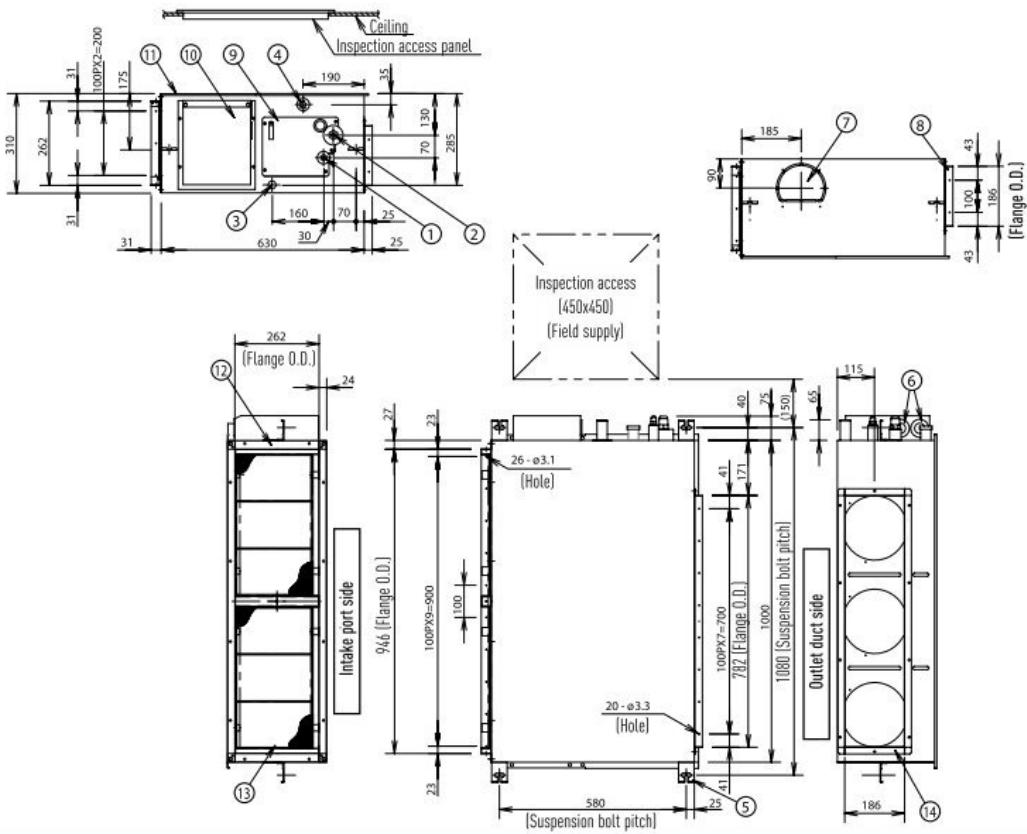
F1 TYPE LOW SILHOUETTE DUCTED SIZE 22-56 MF1E5



- 1 Refrigerant piping Ø6.35 Flare (liquid pipes)
- 2 Refrigerant piping Ø12.7 Flare (gas pipes)
- 3 Upper drain port VP25 [O.D. 32 mm]
 - 4 200 flexible hose supplied
- 4 Bottom drain port VP25 [O.D. 32 mm]
- 5 Suspension lug [4-12 × 37 mm]
- 6 Power supply outlet [Ø30 mm]
- 7 Fresh air intake port [Ø150 mm]
- 8 Flange for flexible air outlet duct
- 9 Tube cover
- 10 Electrical component box
- 11 Wind pressure endurance
- 12 Flange for air intake duct
- 13 Filter [608 × 241] × 1
- 14 Flange for air outlet duct

Dimensions: mm

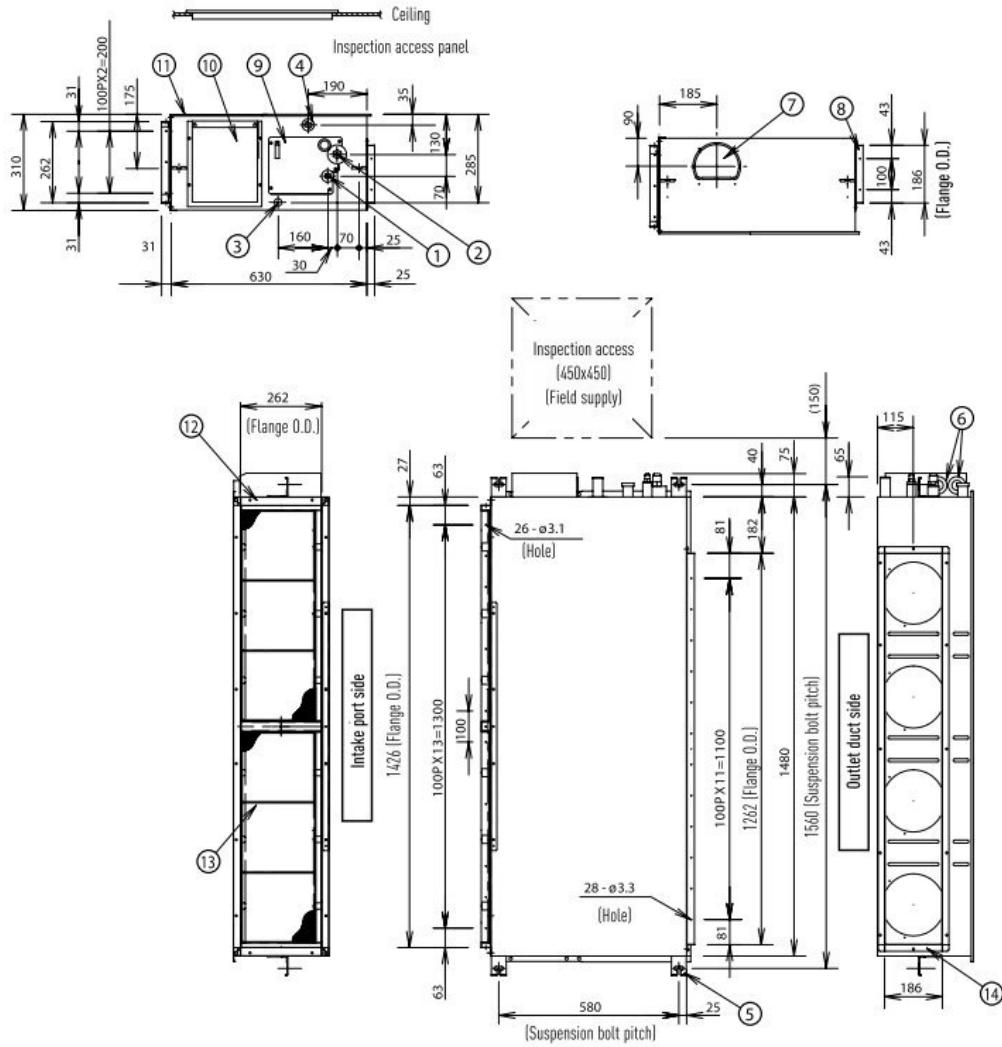
F1 TYPE LOW SILHOUETTE DUCTED SIZE 73-90 MF1E5



- 1 Refrigerant tubing joint Ø9.52 Flare (liquid tube)
- 2 Refrigerant tubing joint Ø15.88 Flare (gas tube)
- 3 Upper drain port VP25 (O.D. 32 mm) 200 flexible hose supplied
- 4 Bottom drain port VP25 (O.D. 32 mm)
- 5 Suspension lug [4 - 12 x 37 mm]
- 6 Power supply outlet [2 - Ø30 mm]
- 7 Fresh air intake port (Ø150 mm)
- 8 Flange for flexible air outlet duct
- 9 Tube cover
- 10 Electrical component box
- 11 Wind pressure endurance
- 12 Flange for air intake duct
- 13 Filter (437 x 241) x 2
- 14 Flange for air outlet duct

Dimensions: mm

F1 TYPE LOW SILHOUETTE DUCTED SIZE 106-160 MF1E5

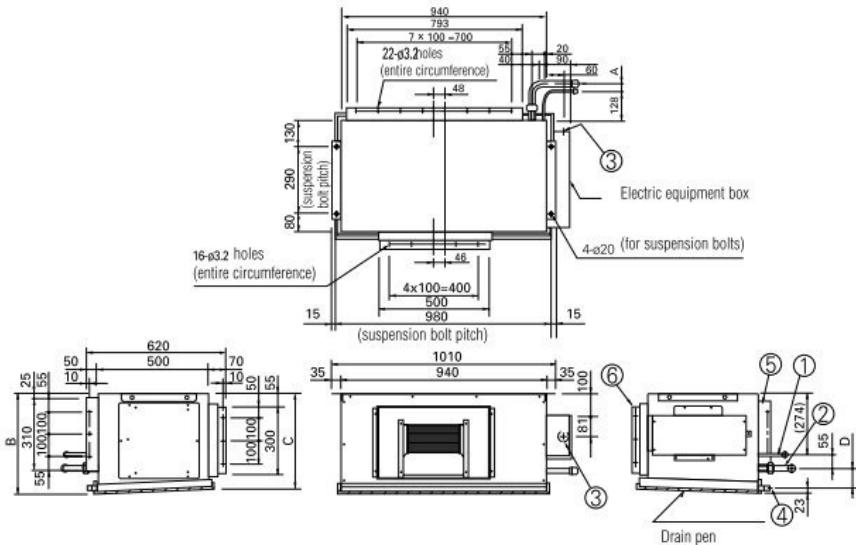


- Dimensions: mm
- 1 Refrigerant tubing joint Ø9.52 Flare (liquid tube)
 - 2 Refrigerant tubing joint Ø15.88 Flare (gas tube)
 - 3 Upper drain port VP25 (O.D. 32 mm)
 - 4 Bottom drain port VP25 (O.D. 32 mm)
 - 5 Suspension lug (4-12 x 37 mm)
 - 6 Power supply outlet (2-Ø30 mm)
 - 7 Fresh air intake port (Ø150 mm)
 - 8 Flange for flexible air outlet duct
 - 9 Tube cover
 - 10 Electrical component box
 - 11 Wind pressure endurance
 - 12 Flange for air intake duct
 - 13 Filter (677 x 241) x 2
 - 14 Flange for air outlet duct

E1 TYPE HIGH STATIC PRESSURE DUCTED

SIZE 73-140

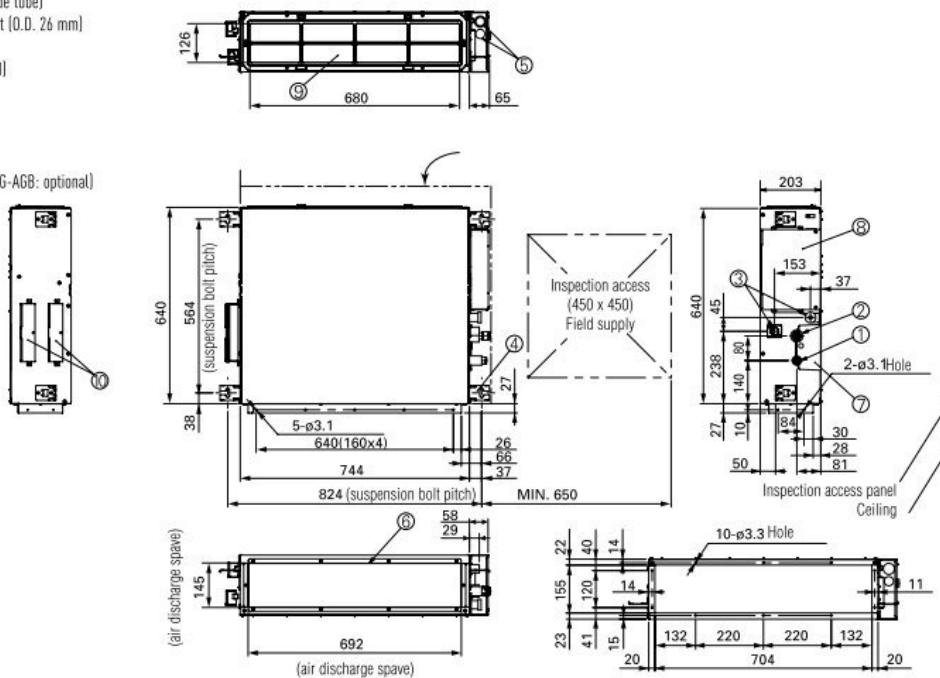
- 1 Refrigerant piping (liquid pipes)
- 2 Refrigerant piping (gas pipes)
- 3 Power supply inlet
- 4 Drain 25 A or VP25
- 5 Duct connection for suction
- 6 Duct connection for discharge



Dimensions: mm

M1 TYPE SLIM LOW STATIC DUCTED

- 1 Refrigerant tubing joint (narrow tube)
- 2 Refrigerant tubing joint (wide tube)
- 3 Upper and bottom drain port (O.D. 26 mm)
- 4 Suspension lug
- 5 Power supply outlet (2- Ø30)
- 6 Flange for air intake duct
- 7 PI cover
- 8 Electrical component box
- 9 Frame filter
- 10 Signal output board (ACC-SG-AGB: optional)

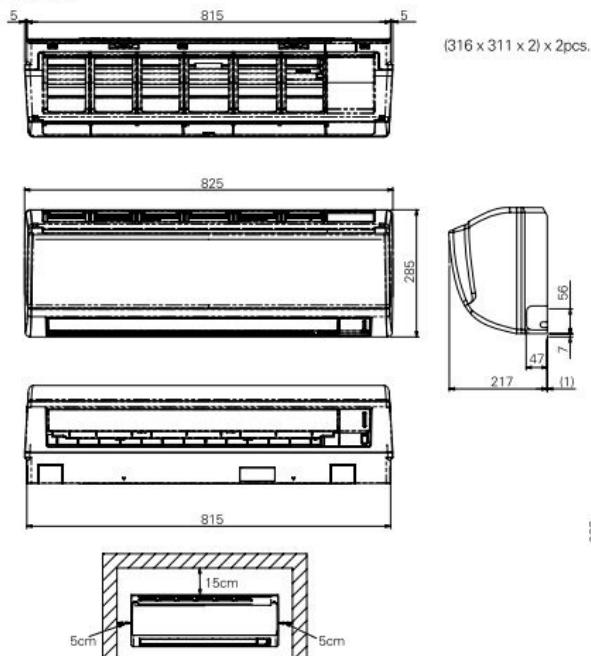


Dimensions: mm

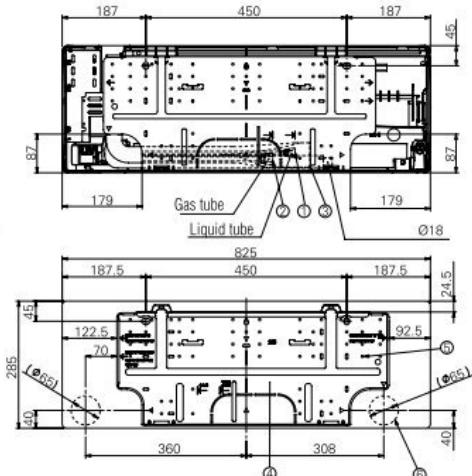
K1 TYPE WALL MOUNTED

Indoor unit:

S-22MK1E5 / S-28MK1E5 / S-36MK1E5

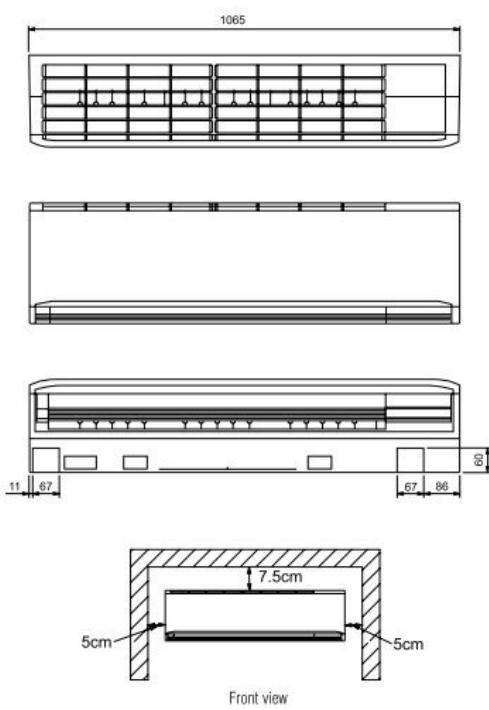


- 1 Refrigerant piping (liquid pipes) Ø6.35 (flared)
- 2 Refrigerant piping (gas pipes) Ø12.7 (flared)
- 3 Drain hose VP13 (outer Ø18)
- 4 Rear panel (PL BLACK)
- 5 Rear panel fixing holes (Ø5 holes or 5 x 13 oval holes)
- 6 Piping & coiling holes (Ø65)

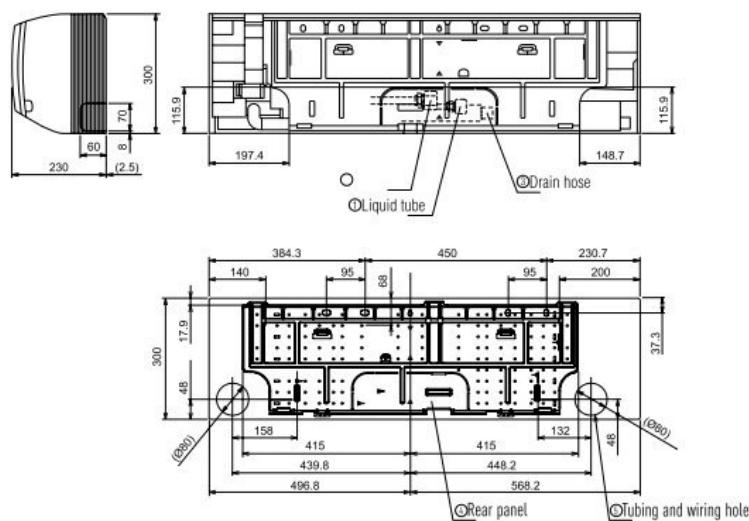


Indoor unit:

S-45MK1E5 / S-56MK1E5 / S-73MK1E5 / S-106MK1E5



- 1 Refrigerant tubing (liquid tube) 45-56 / 73-106 type Ø6.35 / Ø9.52 (flared)
- 2 Refrigerant tubing (gas tube) 45-56 / 73-106 type Ø12.7 / Ø15.88 (flared)
- 3 Drain hose VP13 (outer dia. Ø18)
- 4 Rear panel (PL BACK)
- 5 Tubing and wiring holes (Ø 80)

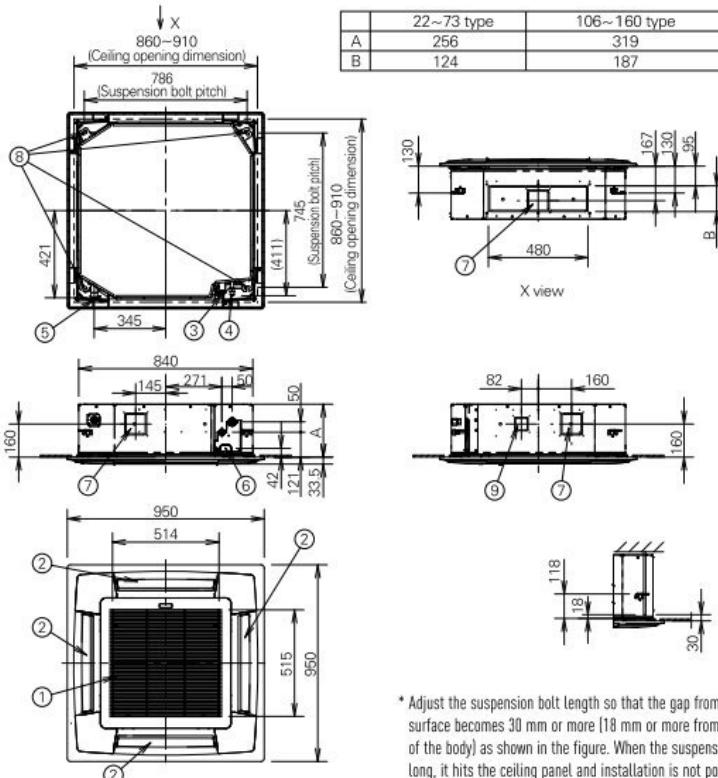
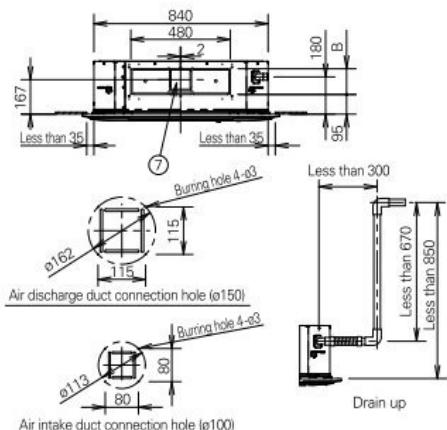


Dimensions: mm

U1 TYPE 4-WAY CASSETTE

- 1 Air intake grill
- 2 Air discharge outlet
- 3 Refrigerant piping (liquid pipes)
22~56 type: ø6.35(flared), 73~160 type: ø9.52(flared)
- 4 Refrigerant piping (gas pipes)
22~56 type: ø12.7(flared), 73~160 type: ø15.88(flared)
- 5 Drain outlet VP25(outer ø32)
- 6 Power supply port
- 7 Discharge duct (ø150)
- 8 Suspension bolt hole (4-12x30 slot)
- 9 Fresh air intake duct connection port (ø100)*1

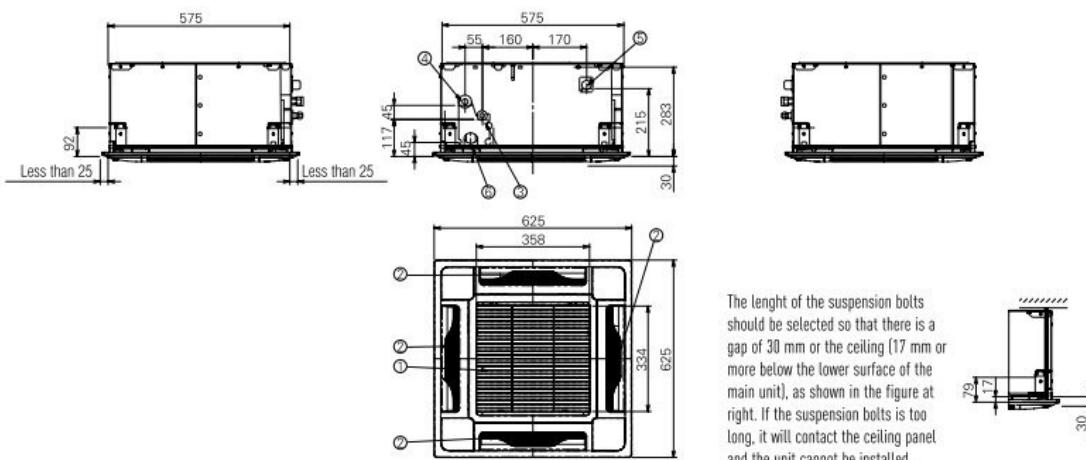
*1: Air inlet kit is necessary. Filter size: 520 x 520 x 16



* Adjust the suspension bolt length so that the gap from the lower ceiling surface becomes 30 mm or more [18 mm or more from the lower surface of the body] as shown in the figure. When the suspension bolt length is long, it hits the ceiling panel and installation is not possible.

Y1 TYPE 4-WAY CASSETTE 60X60

- 1 Air intake
- 2 Discharge outlet
- 3 Refrigerant piping (liquid pipes)
Size 22 to 56: ø6.35 (flared)
- 4 Refrigerant piping (gas pipes)
Size 22 to 56: ø12.7 (flared)
- 5 Drain tube connection port VP20 (outer ø26)
- 6 Power supply port
- 7 Suspension bolt hole (4-12 x 30 hole)
- 8 Fresh air intake duct connection port (ø100)



Dimensions: mm

T1 TYPE CEILING

- 1 Drain port VP20 (inner Ø26, hose accessory)
- 2 Drain for left piping
- 3 Upper piping outlet port (knock-out hole)
- 4 Right piping outlet port (knock-out hole)
- 5 Drain left piping outlet port (knock-out hole)
- 6 Power supply entry port (knock-out hole Ø40)
- 7 Remote controller wiring inlet port
- 8 Wireless remote control receiver mounting part

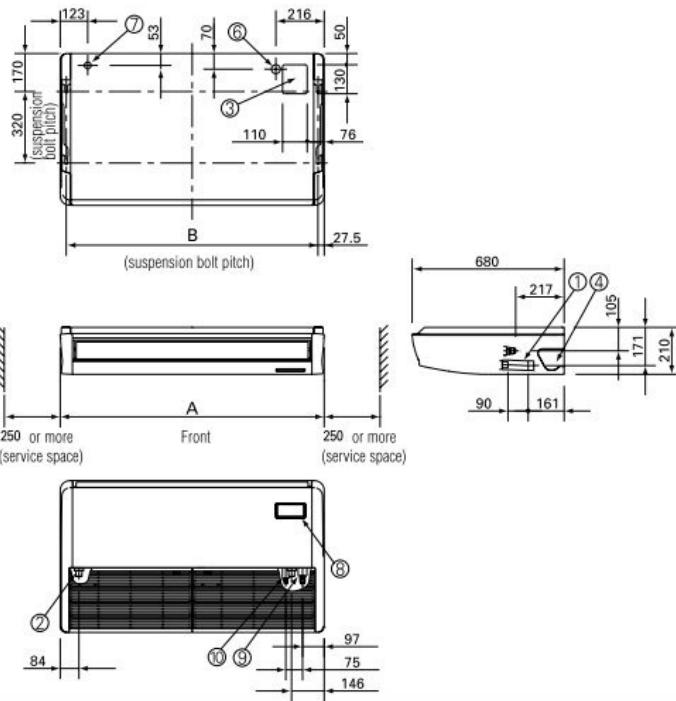
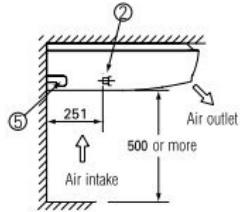
	28-56 type	73 type	105-140 type
A (body)	910	1,180	1,595
B (suspension bolt pitch)	855	1,125	1,540

9 Refrigerant gas piping

Size 28-56: Ø12.7
Size 73-140: Ø15.88

10 Refrigerant liquid piping

Size 28-56: Ø6.35
Size 73-140: Ø9.52



Dimensions: mm

FSV Controllers

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

OPERATION SYSTEM	INDIVIDUAL CONTROL SYSTEMS				TIMER OPERATION
Requirements	Normal operation	Operation from anywhere in the room	Quick and easy operation		Daily and weekly program
External appearance					
Type, model name	Timer Remote Controller (Wired)	Wireless Remote Controller	Simplified Remote Controller	Backlit remote controller	Schedule Timer
	CZ-RTC2	CZ-RWSU2 CZ-RWSY2 CZ-RWSL2	CZ-RWSC2 CZ-RWST2 CZ-RWSK2	CZ-RE2C2	CZ-RELC2
Built-in Temp Sensor	●	●	●		—
Number of indoor units which can be controlled	1 group, 8 units	1 group, 8 units	1 group, 8 units		64 groups, max. 64 units
Use limitations	- Up to 2 controllers can be connected per group.	- Up to 2 controllers can be connected per group.	- Up to 2 controllers can be connected per group.		- Required power supply from the system controller - When there is no system controller, connection is possible to the T10 terminal of an indoor unit.
Function ON/OFF	●	●	●		—
Mode setting	●	●	●		—
Fan speed setting	●	●	●		—
Temperature setting	●	●	●		—
Air flow direction	●	●	●		—
Permit/Prohibit switching	—	—	—		—
Weekly program	●	—	—		●

1. Setting is not possible when a remote control unit is present. (Use the remote control for setting.)
All specifications subject to change without notice.

Backlit remote controller [CZ-RELC2]



Backlight remote controller with simple and friendly operation

- LCD backlight display.
- ON/OFF, operation mode switching, temperature setting, airflow velocity switching, airflow direction setting, alarm display, and remote controller self diagnosis can be performed.
- Built-in temp sensor.
- Batch group control for up to 8 indoor units.
- Remote control by main remote controller and sub controller is possible with a simplified remote controller or a wired remote controller (up to two units).

Outing Function

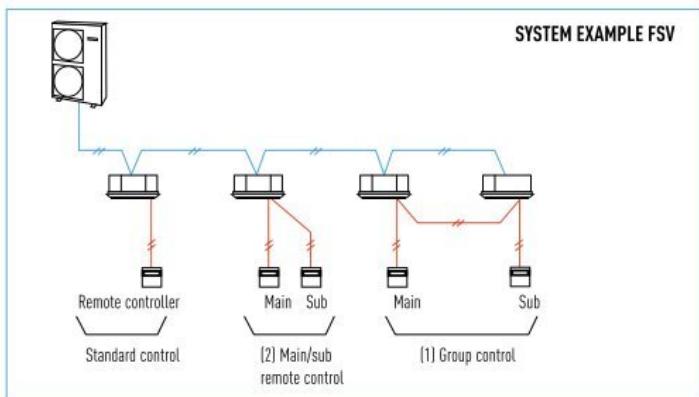
- This function can prevent the room temperature from dropping or rising when the occupants are out for a long time.

CENTRALISED CONTROL SYSTEMS

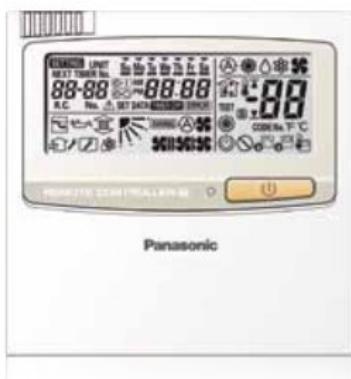
Operation with various function from a central location	Only ON/OFF operation from a central location	Simplified load distribution ratio (LDR) for each tenant	BMS System PC Base	Connection with 3rd Party Controller
Operation with various function from a central location	Only ON/OFF operation from a central location	Touch screen panel	P-AIMS Basic Software  CZ-CSWKC2 Optional software  CZ-CSWAC2 for Load distribution CZ-CSWWC2 for Web application CZ-CSWGC2 for Object layout display CZ-CSWBC2 for BAC net software interface *PC required (field supply)	Seri-Para I/O unit for outdoor unit  CZ-CSWKC2 Local adaptor for ON/OFF control  CZ-CAPC2 MINI Seri-Para I/O Unit  CZ-CAPBC2 Communication Adaptor  CZ-CFUNC2 LonWorks Interface  CZ-CLNC2
System Controller	ON/OFF Controller	Intelligent Controller		
CZ-64ESMC2	CZ-ANC2	CZ-256ESMC2 (CZ-CFUNC2)		
—	—	—		
64 groups, max. 64 units	16 groups, max. 64 units	64 units x 4 systems, max. 256 units		
• 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 systems.		
●	●	●		
●	—	●		
●	—	●		
●	—	●		
● ¹	—	● ¹		
●	●	●		
—	—	●		

Individual Control Systems

CONTROL CONTENTS	PART NAME, MODEL NO.	QUANTITY
Standard Control <ul style="list-style-type: none"> • Control of the various operations of the indoor unit by wired or wireless remote controller. • Cooling or heating mode of the outdoor unit is decided by the first priority of the remote controller. • Switching between remote controller sensor and body sensor is possible. 	Timer remote controller CZ-RTC2 Simplified remote controller CZ-RE2C2 Backlit remote controller [CZ-RELC2] Wireless remote controller CZ-RWSY2 CZ-RWSU2 CZ-RWSL2 CZ-RWSC2 CZ-RWSK2 CZ-RWST2	1 unit each
(1) Group control <ul style="list-style-type: none"> • Batch remote control on all indoor units. • Operation of all indoor cells in the same mode. • Up to 8 units can be connected. • The sensor is the body sensor, and thermostat ON/OFF setting in regard to the temperature set by the remote controller is possible for each indoor unit. 	Timer remote controller CZ-RTC2	1 unit
(2) Main/sub remote control <ul style="list-style-type: none"> • Max 2 remote controllers per indoor unit. (Main remote controller can be connected) • The button pressed last has priority. • Timer setting is possible even with the sub remote controller. 	Main or sub Timer remote controller CZ-RTC2 Simplified remote controller CZ-RE2C2 Backlit remote controller [CZ-RELC2] Wireless remote controller CZ-RWSY2 CZ-RWSU2 CZ-RWSL2 CZ-RWSC2 CZ-RWSK2 CZ-RWST2	As required



Timer remote controller (CZ-RTC2)



Dimensions
H 120 x W 120 x D 16 mm

Basic remote controller ON/OFF

- Operation mode changeover (Cooling, Heating, Dry, Auto, Fan).
- Temperature setting (Cooling/Dry: 18-30 deg Heating: 16-30 deg).
- Fan speed setting H/ M/ L and Auto.
- Air flow direction adjustment.

Time Function 24 hours real time clock

- Day of the week indicator.

Weekly Programme Function

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

Outing Function

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

Sleeping Function

- This function controls the room temperature for comfortable sleeping.

Built-in Temp Sensor

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

Remote control by main remote controller and sub controller is possible

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

Wireless remote controller



Y1 TYPE
CZ-RWSY2



U1 TYPE
CZ-RWSU2



L1 TYPE
CZ-RWSL2



Remote control by main remote controller and sub controller is possible

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



K1 TYPE
CZ-RWSK2



T1 / D1 TYPE
CZ-RWST2



FOR ALL INDOOR UNITS
CZ-RWSC2

When CZ-RWSC2 is used, wireless control becomes possible for all indoor units

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

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

Ventilation independent operation is possible

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

Simplified remote controller (CZ-RE2C2)



Dimensions
H 120 x W 70 x D 16 mm

A remote controller with simple functions and basic operation

- Suitable for open rooms or hotels where detailed functions are not required.
- ON/OFF, operation mode switching, temperature setting, airflow velocity switching, airflow direction setting, alarm display, and remote controller self-diagnosis can be performed.
- Batch group control for up to 8 indoor units.
- Remote control by main remote controller and sub controller is possible with a simplified remote controller or a wired remote controller (up to two units).

Remote temperature sensor (CZ-CSRC2)



Dimensions
H 120 x W 70 x D 16 mm

- This is a remote sensor which can be used with indoor units. Please 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.

System controller (CZ-64ESMC2)



Dimensions
160 x W 160 x D 21 + 69
(embedding dimension mm)

Power supply: AC 220 to 240 V
I/O part: Remote input (effective voltage: DC 24 V): All ON/All OFF
Remote output (voltage-free contact): All ON/All OFF (external Power supply within DC 30 V, max 1 A)
Total wiring length 1 km

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

Control of 64 indoor units divided into 4 zones. (One zone can have up to 16 groups, and one group can have up to 8 units.)
Control is possible for ON/OFF, operation mode, fan speed, air flow direction (only when used without a remote controller), operation monitoring, alarm monitoring, ventilation, remote controller local operation prohibition, etc.

- | | |
|------------|--|
| Individual | All operations are possible also from the remote controller.
However, the contents will be changed to the contents of the controller operated last. |
| Central 1 | The remote controller cannot be used for ON/OFF. (All other operations are possible from the remote controller.) |
| Central 3 | The remote controller cannot be used for mode change or temperature setting change. (All other operations are possible from the remote controller.) |
| Central 4 | The remote controller cannot be used for operation mode change. (All other operations are possible from the remote controller.) |

Joint use with a remote controller, an intelligent controller, a schedule timer, etc. is possible

(The maximum number of connectable system controllers is 10, including other central controllers on the same circuit.)

(In case of joint use with a wireless remote controller, there are limitations for the control mode. Please use only with "Individual" and "Central 1".)

Control of systems without a remote controller and of main/sub systems (a total of up to 2 units) is possible

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

A Operation mode: Central control mode or remote control mode can be selected

Central control mode: The system controller is used as centralised control device. (Setting from a remote controller can be prohibited by prohibiting local operation from the system controller.)

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

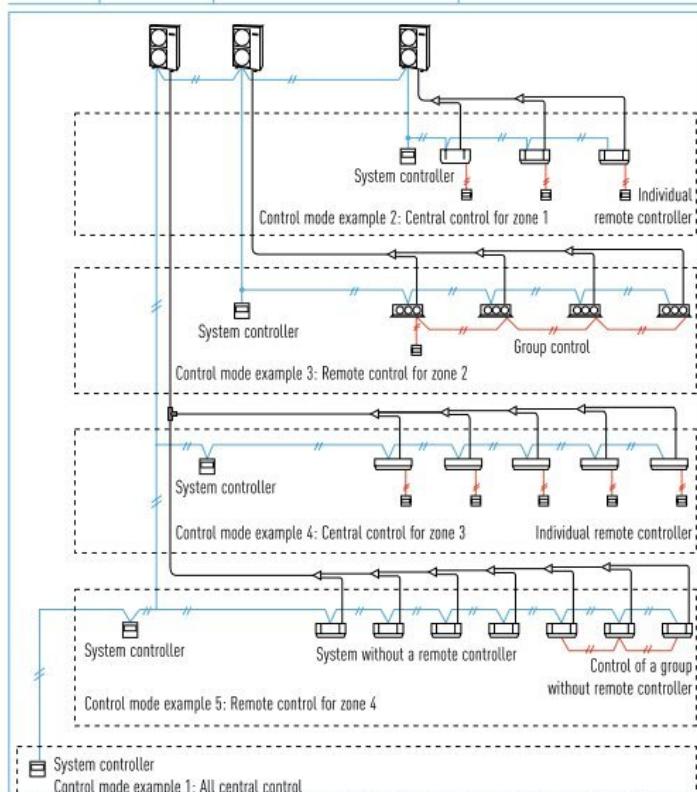
B Controlled unit number mode: All mode or zone 1, 2, 3, 4 mode can be selected

All mode: All, zone, or group unit can be selected.

Zone 1, 2, 3, 4 mode: Setting is possible only for the indoor units of zone 1, 2, 3, or 4.

CONNECTION EXAMPLE

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



Centralised Control Systems

Schedule timer (CZ-ESWC2)



The power supply for the schedule timer is taken from one of the following.

1. Control circuit board (T10) of a nearby indoor unit (power supply wiring length: within 200m from the indoor unit).
2. System controller (power supply wiring length: within 100 m from the indoor unit).

When the power supply for the schedule timer is taken from the control circuit board of the indoor unit, that indoor unit cannot be used with other control devices using the T10 terminal.

As operation mode and temperature settings are not possible with the schedule timer, it must be used together with a remote controller, a system controller, an intelligent controller, etc. Also, as it does not have an address setting function, the control function of a system controller etc. must be used for address setting.

Up to 64 groups (max 64 indoor units) can be controlled divided into 8 timer groups

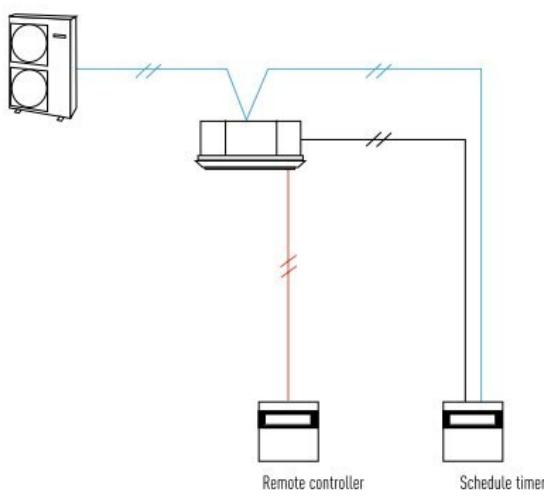
Six program operations (Operation/Stop/Local permission/ Local prohibition) per day can be set in a program for one week

- Only operation or stop, remote controller local permission or remote controller local prohibition, and their respective combinations are possible. (Operation + local permission, stop + local prohibition, only local permission, etc.)
- Local prohibition and the combination of the three items of temperature setting, mode change, and operation/stop can be set at the time of installation.

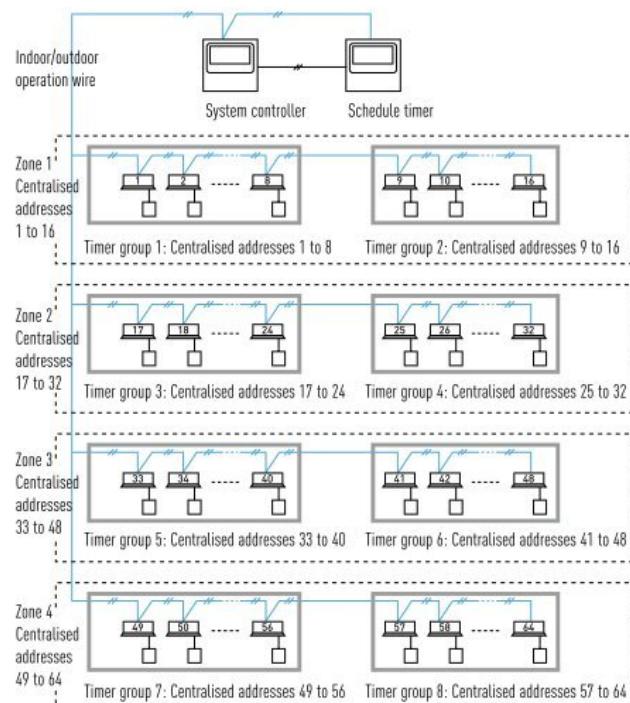
A function for pausing the timer in case of national holidays has been added, and timer operation also can be stopped for a long time

- By setting holidays or operation stop within one week, the timer can be paused just for that week.
- All timer settings can be stopped with the timer "ON/OFF effective" button. (Return to timer operation is made by pressing the button again.)

**CONNECTION EXAMPLE 1
(POWER SUPPLY FROM THE INDOOR UNIT)**



**CONNECTION EXAMPLE 2
(POWER SUPPLY FROM THE CENTRAL CONTROLLER)**



ON/OFF controller (CZ-ANC2)



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

Power supply: AC 220 to 240 V
I/O part: Remote input (effective voltage: within DC 240 V): All ON/OFF
Remote output (allowable voltage: within DC 30 V): All ON, All alarm

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

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

Web Interface Systems

Web Interface (CZ-CWEB2)



(Dimensions: H 248 x W 185 x D 80 mm)

*Power supply

○ AC 100 to 240 V [50/60Hz], 17 W [separate power supply]

Functions

- Access and operation by Web browser
- Icon display
- Language codes available in English, French, German, Italian, Portuguese, Spanish
- Individual control possible (max. 64 indoor units) ON/OFF operation mode, set temperature, fan speed, Flap set, timer on/off alarm code monitoring, prohibit Remote Control
- Zone control *

- All units control
- Alarm Log
- Mail Sent Log
- Program Timer set 50 daily timers with 50 actions each day, 50 weekly timers 50 weekly timers, 1 holiday timer, 5 special day timers, for each tenant
- Prohibit Remote Control set
- IP ADDRESS could be changed via Internet

Note: It is recommended to install a remote controller or a system controller on site to enable local control if the network experiences a problem.



Easy to set to every room by recognisable icon and user-friendly remote control window

If any of the indoor units is selected, the remote control window shown will be displayed for detailed setting modifications.



Easy to manage and monitor each tenant use *

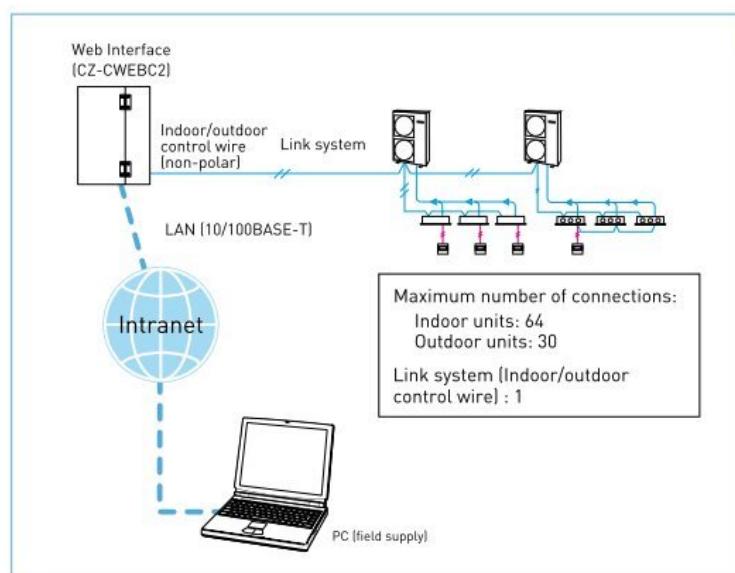
Each floor or tenant, otherwise each zone can be displayed and controlled.
All unit statuses can also be displayed on one screen.



Program Timer set

50 daily timers with 50 actions each day, 50 weekly timers, holiday timer, 5 special day timers, for each tenant

* Web interface system not applicable for load distribution.



Intelligent controller (CZ-256ESMC2)



Touch panel

Dimensions:
H 240 x W 280 x D 138 mm
Power supply: AC 100 to 240 V (50 Hz), 20 W (separate power supply)
I/O part:
Remote in put (voltage-free contact): All ON/OFF
Remote output (voltage-free contact): All ON, All alarm (external power supply within DC 30 V, 0.5 A)
Total wiring length: 1 km for each system
Only for embedding in the panel.

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.) |

Max 256 indoor units (4 systems x 64 units) can be controlled. In case of three or more systems (more than 129 units), a communication adapter CZ-CFUNC2 must be installed

Operation is possible as batch in zone units, in tenant 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

A system without a remote controller is possible. Joint use with a remote controller or a system controller is also possible

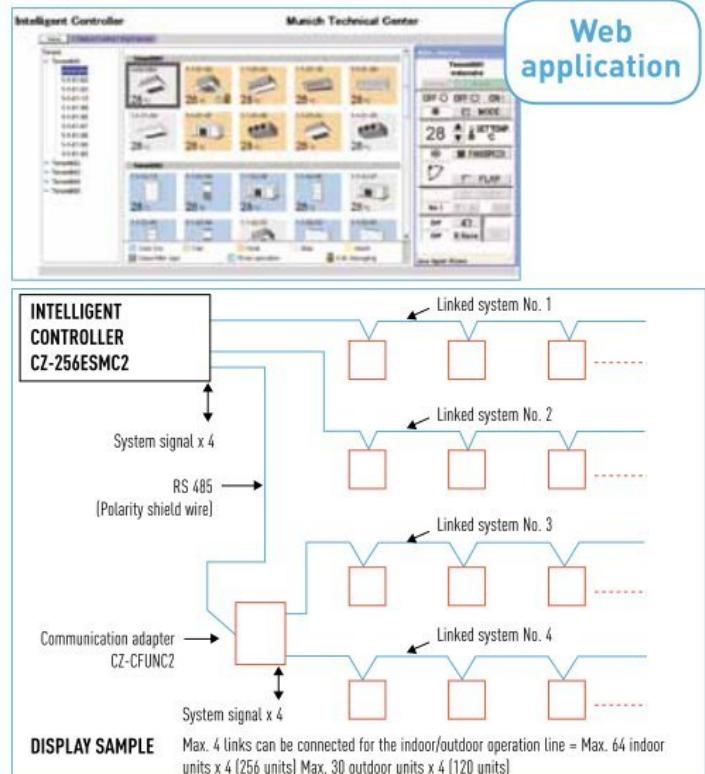
Use of a schedule timer and holiday setting also can be done

Proportional distribution of the air conditioning energy is possible. Including csv-file export via CF-card (supplementary accessory)

NEW function: Pulse signal input from electric/gas consumption meter

In case of joint use with a wireless remote control system, there are limitations for the control mode. Please use only with "Permission" and "Prohibition 1".

Web application



Communication adaptor (CZ-CFUNC2)



- Required to connect three or more linked wiring systems (indoor/outdoor operation lines) to the intelligent controller CZ-256ESMC2
- Also required for connection of P-AIMS software
- Two linked wiring systems can be connected to one CZ-CFUNC2, but max. 4 systems can be connected for the entire controllers

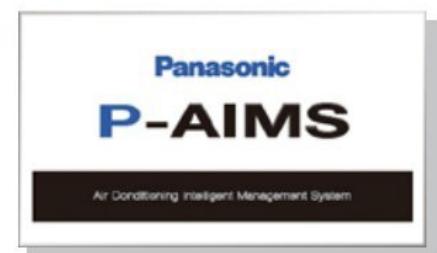
* As this is not a splash-proof design, it must be installed indoors or in the control panel, etc.

Panasonic total air conditioning management system

P-AIMS

P-AIMS Basic software / CZ-CSWKC2

- Up to 1024 indoor units can be controlled by one PC ~



Functions of basic software

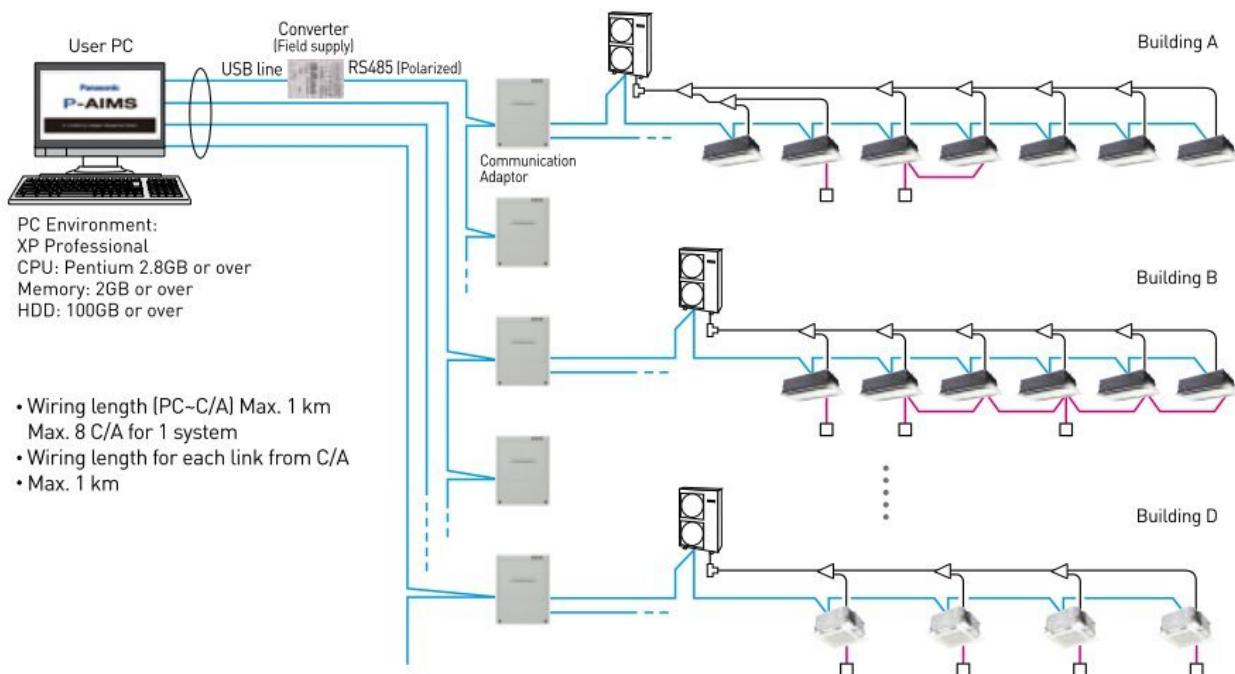
- Standard remote control for all indoor units
- Many timer schedule programs can be set on the calendar
- Detailed information display for alarms
- CSV file output with alarm history, operating status.
- Automatic data backup to HDD



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



P-AIMS is suitable for large shopping centers and universities with many areas/ buildings. 1 "P-AIMS" PC can have 4 independent systems at once. Each system can have max. 8 C/A units, and control max. 512 units. In total, 1024 indoor units can be controlled by 1 "P-AIMS" PC.



P-AIMS optional software

CZ-CSWAC2 for Load distribution

- Load distribution calculation for each tenant ~

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

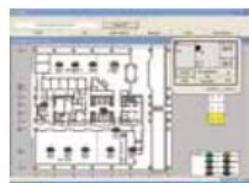


P-AIMS optional software

CZ-CSWGC2 for Object layout display

- Whole system can be controlled visually ~

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



P-AIMS optional software

CZ-CSWWC2 for Web application

- Web access & control from remote station ~

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

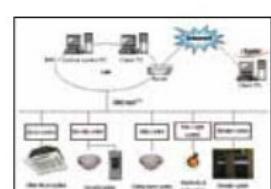


P-AIMS optional software

CZ-CSWBC2 for BACnet software interface

- Connectable to BMS system ~

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



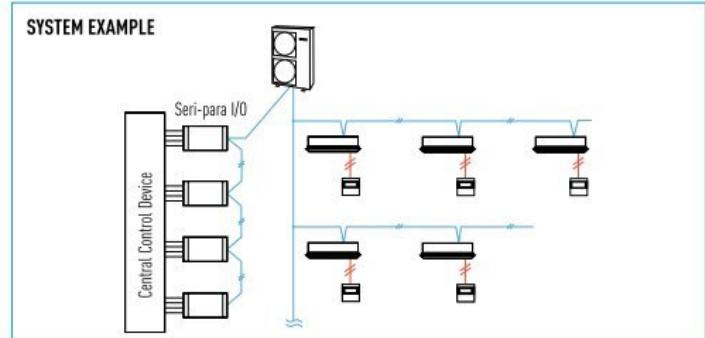
Interfaces for External Control (Digital Connection)

Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)



Dimensions	H 80 x W 290 x D 260 mm
Power supply	Single phase 100/200 V (50/60 Hz), 18 W
Input	Batch operation/Batch stop (non-voltage contact/DC 24 V, pulse signal). Cooling/Heating (non-voltage contact/static signal). Demand 1/2 (non-voltage contact/static signal) (Local stop by switching)
Output	Operation output (non-voltage contact). Alarm output (non-voltage contact)
Wiring length	Indoor/Outdoor operation lines: Total length 1 km. Digital signal: 100 m or shorter

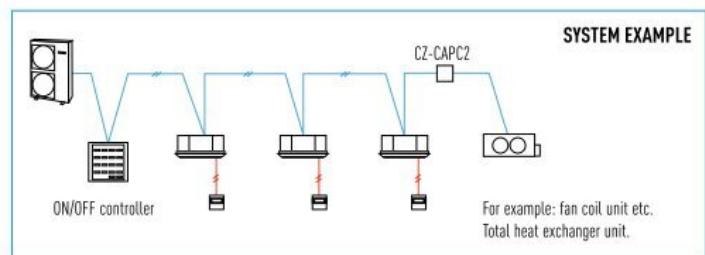
- This unit can control up to 4 outdoor units.
- From the centre control device, mode changing and batch operation/batch stop are possible.
- Required for demand control.



Local adaptor for ON/OFF control (CZ-CAPC2)



- Control and status monitoring is possible for individual indoor unit (or any external electrical device up to 250 V AC, 10 A) by contact signal.

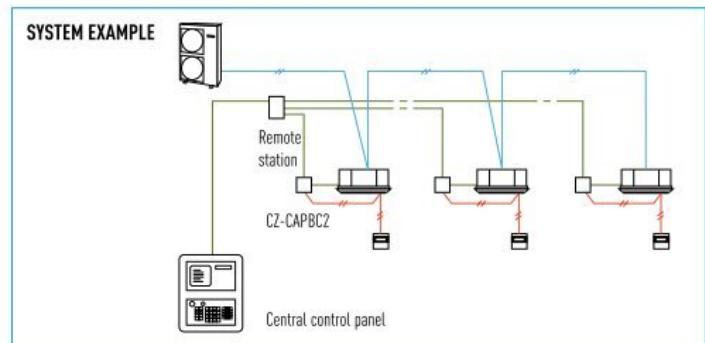


MINI Seri-Para I/O Unit (CZ-CAPBC2)



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

- Power is supplied from the T10 terminal of the indoor units.
- Separate power supply also is possible (in case of suction temperature measuring).



LonWorks Interface (CZ-CLNC2)

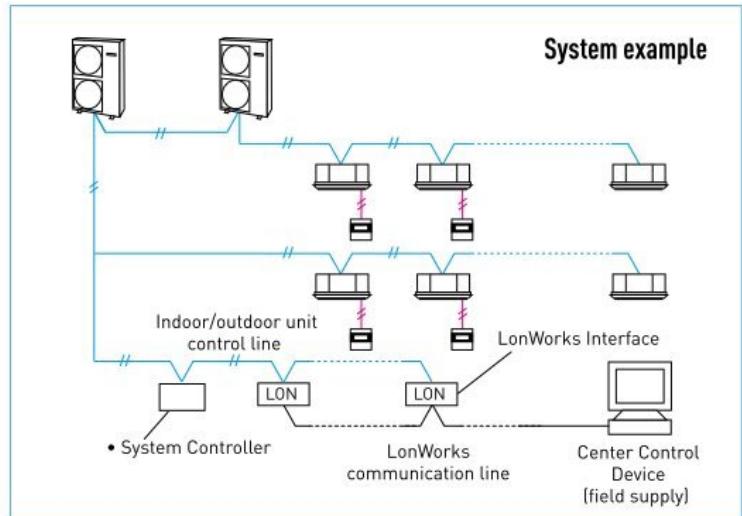


- This interface is a communications converter for connecting LonWorks to the control network of FSV.
- From the host connected to LonWorks, basic settings and status monitoring is possible for up to 16 groups of A/C units.

Functions

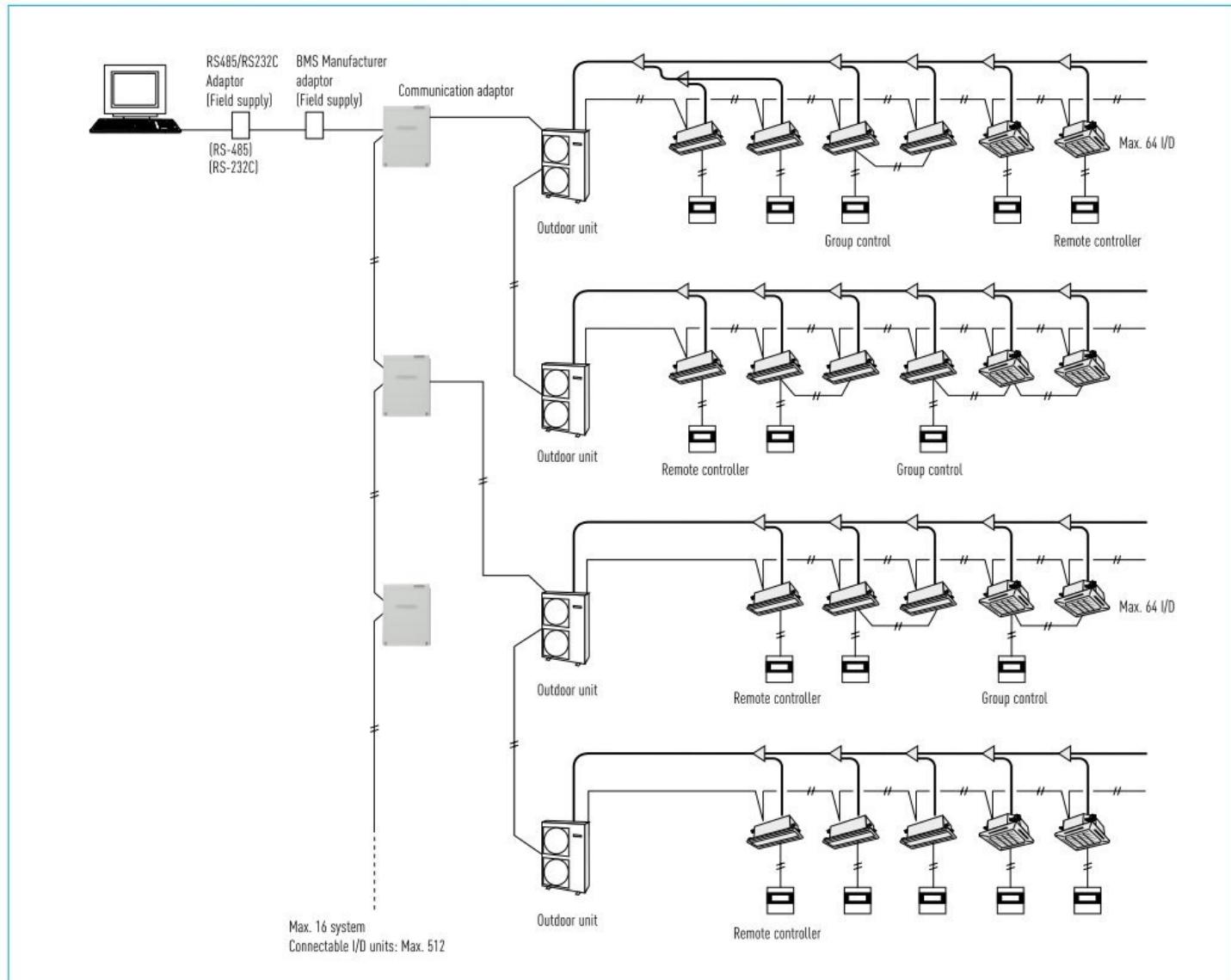
A/C unit settings from the LonWorks communicator	Settings for each group of indoor units	Start/stop Temp. setting Operation mode Option 1 settings(*) Option 2 settings(*)
	Settings for all units	Emergency stop Start/stop Temp setting Operation mode Option 1 settings(*) Option 2 settings(*)
		Alarm status Indoor units with active alarms Room temp. A/C unit status
		Transmission intervals settings
		Minimum time secured for transmission
A/C unit status notifications made to the LonWorks communicator		
Configuration properties		

* Select two of the following: remote controller prohibit, fan speed setting, air direction setting, filter sign reset.



Serial Interface for 3rd Party External Controller

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

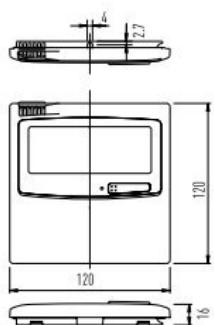


FUNCTIONS VIA COMMUNICATION ADAPTOR [CZ-CFUNC2]

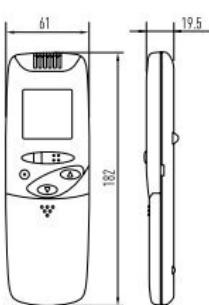
A/C unit settings	Unit ON/OFF Mode-change Room temperature setting Fan speed setting Flap setting Central control setting Filter-sign clear Alarm reset
A/C unit status	Unit ON/OFF status Operation mode Setting temperature Fan speed status Flap status Central control setting Filter-sign situation Correct/incorrect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

FSV Controller External Dimensions

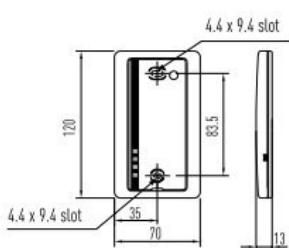
TIMER REMOTE CONTROLLER
[CZ-RTC2]



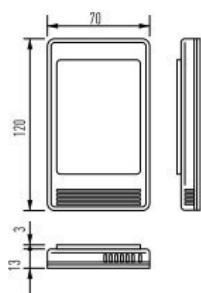
WIRELESS REMOTE CONTROLLER



**SEPARATE RECEIVER FOR
WIRELESS REMOTE CONTROLLER**
[CZ-RW5C2]



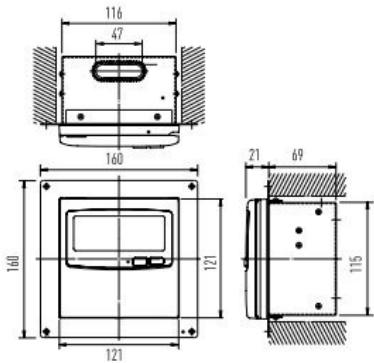
SIMPLIFIED REMOTE CONTROLLER
[CZ-RE2C2]
REMOTE SENSOR
[CZ-CSRC2]



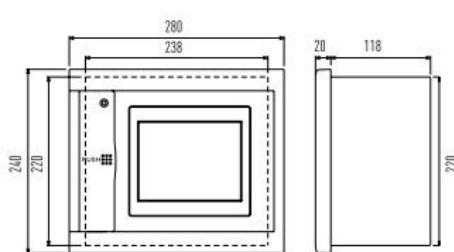
BACKLIT REMOTE CONTROLLER
[CZ-RELC2]



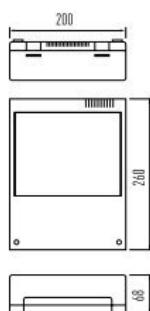
SYSTEM CONTROLLER
[CZ-64ESMC2]



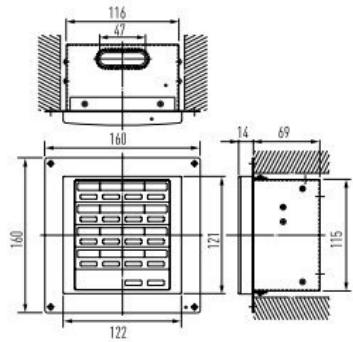
INTELLIGENT CONTROLLER
[CZ-256ESMC2]



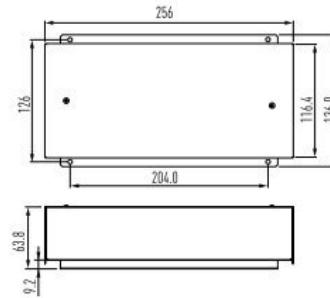
COMMUNICATION ADAPTER
[CZ-CFUNC2]



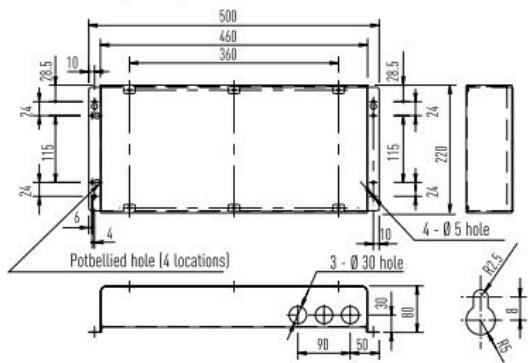
ON/OFF CONTROLLER
(CZ-ANC2)



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

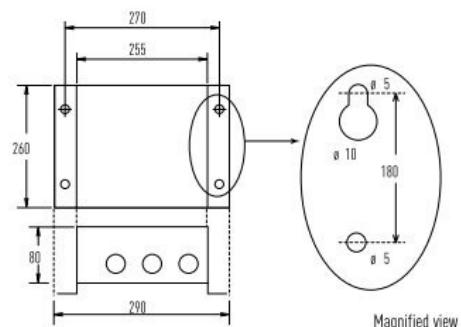


LONWORKS INTERFACE
(CZ-CLNC2)



Detail of the
potbellied hole

SERI-PARA I/O UNIT FOR OUTDOOR UNIT
(CZ-CAPDC2)

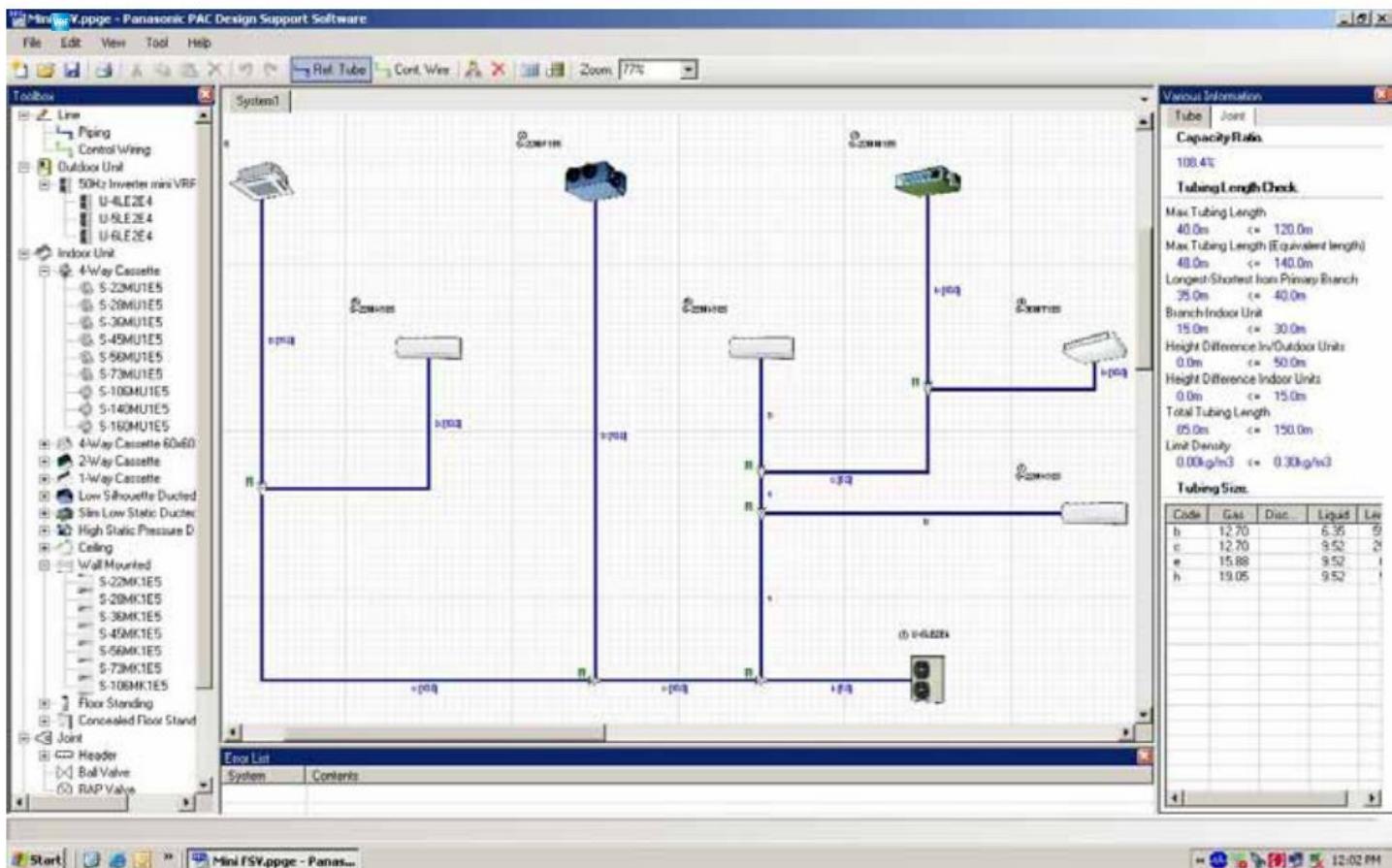


Magnified view

Panasonic Design Support Software for FSV

Panasonic proprietary Design Support Software for FSV gives architects, consultants or end users the advantages to calculate cooling / heating loads and produce information of actual design conditions.

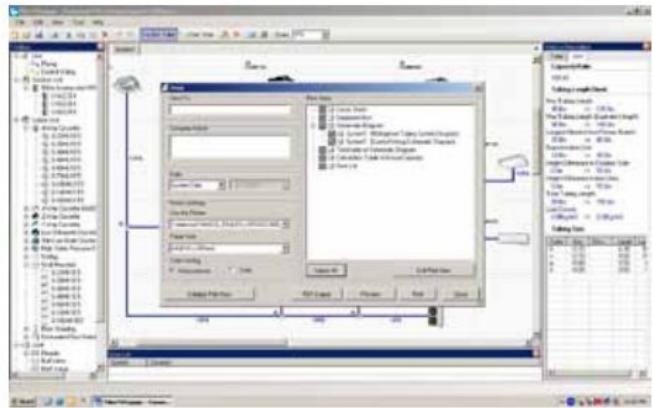
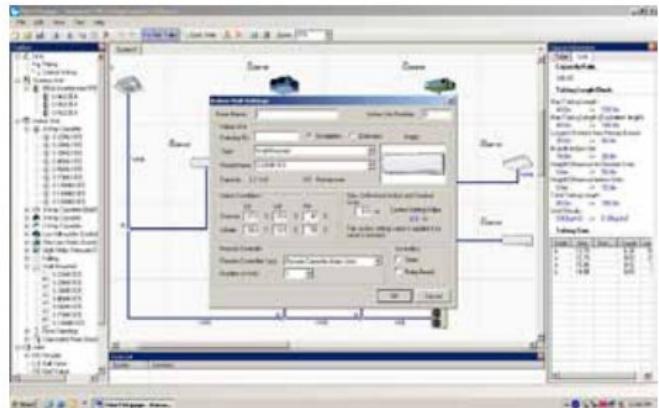
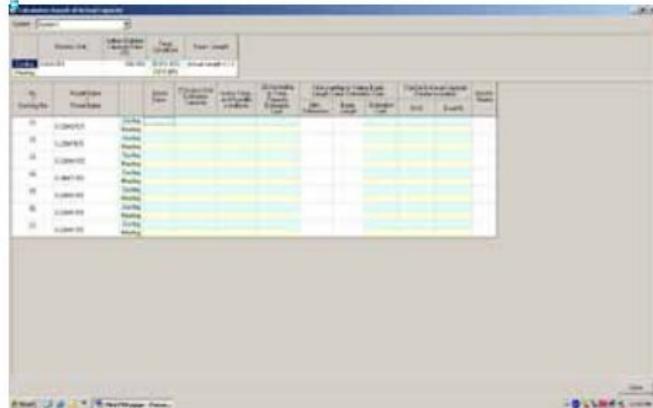
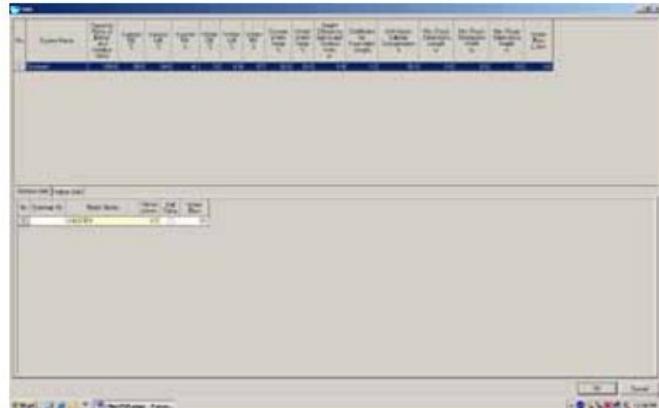
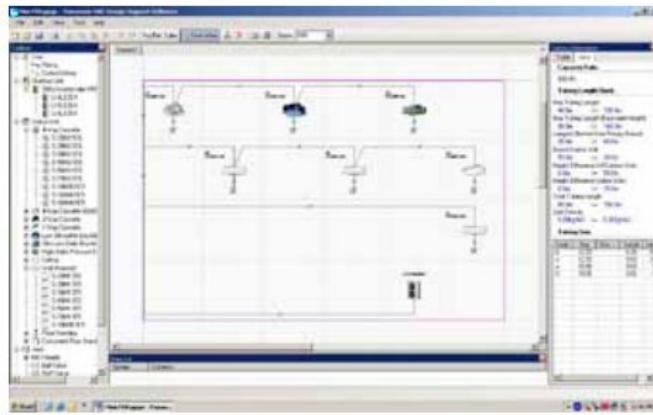
This advanced software is designed to be customisable to make any selections and design processes in a quick and easy way. The design software utilises system wizards and import tools to enable both simple and complex systems to be created. In addition, the system will allow outdoor and indoor units to be dragged and dropped on an interactive desktop. This allows users to create everything from realistic floor plans with detailed piping and wiring schematics to send out with quotations, through to installation guidance drawings.



The Panasonic VRF Designer system software can be used for all Panasonic FSV.

Features include

- Actual capacity calculation
- Auto calculation of refrigerant charged amount
- Auto piping (inc. joint kit selection) and wiring features
- Detailed wiring and piping diagram
- Auto CAD (DXF) export



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Quality Management System Certificate



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Cert. No.: MY-AR 1010



Certified to ISO 9001: 2008
Registration Number: 01209Q20645R5L

Certified to ISO 9001: 2008

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Cert. No.: MY-AR 1010

Certified to ISO 9001: 2008

Panasonic Home Appliances Air-Conditioning (Guangzhou) Co., Ltd.
Registration Number: 01209Q20645R5L

Environmental Management System Certificate



Certified to ISO 14001: 2004
Cert. No.: MY-ER 0112



Certified to ISO 14001: 2004
Registration Number: 02107E10411R3L

Certified to ISO 14001: 2004

Panasonic HA Air-Conditioning (M) Sdn.Bhd.
Cert. No.: MY-ER 0112

Certified to ISO 14001: 2004

Panasonic Home Appliances Air-Conditioning (Guangzhou) Co., Ltd.
Registration Number: 02107E10411R3L

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