Panasonic
BUSINESS

FSV Indoor Unit Lineup

Type	Class	22	28	36	45	56	60	73	90	106	140	160	180	224	280
	Capacity Cooling/Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating	Cooling/ Heating
	kW	2.2/2.5	2.8/3.2	3.6/4.2	4.5/5.0	5.6/6.3	9.0/10.0	9.0/10.0	9.0/10.0	10.6/11.4	14.0/16.0	16.0/18.0	18.0/20.0	22.4/25.5	28.0/31.5
	BTU/h	7,500/8,500	9,600/11,000	12,000/14,000	15,000/17,000	19,000/21,000	30,000/34,000	30,000/34,000	30,000/34,000	36,000/39,000	47,600/54,600	54,600/61,500	61,400/68,200	76,400/85,300	95,500/107,500
F2 type Mid Static Ducted		●	●	●	●	●	●	●	●	●	●	●			
M1 type Slim Low Static Ducted		●	●	●	●	●									
Z1 type Slim Low Static Ducted Twenty Series		●	●	●	●	●	●	●							
E2 type High Static Ducted / Energy Saving High-Fresh Air Ducted													●*	●	●
E1 type High Static Ducted							●			●	●			●	
K2 type Wall Mounted		●	●	●	●	●		●		●					
U2 type 4-Way Cassette Panel No. CZ-KPU3 Panel No. CZ-KPU3A		●	●	●	●	●	●	●	●	●	●	●			
Y2 type 4-Way Mini Cassette Panel No. CZ-KPY3AW		●	●	●	●	●									
L1 type 2-Way Cassette Panel No. CZ-02KPL2 Panel No. CZ-03KPL2 (Only for S-73ML1E5)		●	●	●	●	●		●							
D1 type 1-Way Cassette Panel No. CZ-KPD2				●	●	●		●							
T2 type Ceiling				●	●	●		●			●	●			
P1 type Floor Standing		●	●	●	●	●		●							
R1 type Concealed Floor Standing		●	●	●	●	●		●							

*Only for High Static Ducted
**Only for CZ-KPU3A

FSV Outdoor Unit Lineup

HP	4	5	6	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
2-WAY FSV ME2 Series SPACE-SAVING MODEL			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2-WAY FSV ME2 Series HIGH EFFICIENCY MODEL			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
2-WAY Mini-FSV LE1 Series		●	●																																					
2-WAY Mini-FSV LE2 Series	●	●	●																																					

FSV VRF SYSTEMS
2019 / 2020
Simplified Version

FSV Residential & Light Commercial Use

FSV EX Commercial Use

nanoe TECHNOLOGY   INVERTER

QUALITY AIR FOR LIFE

2-WAY FSV-EX ME2 Series
Extraordinary energy-saving performance and powerful operation

FSV EX **ALL INVERTER**

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℃ (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℃ (WB)
- Suitable for R22 refurbishing projects **R22 RENEWAL**

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/LE1 Series
For small-scale commercial and residential use

FSV **INVERTER**

LE2 NEW (3-phase)

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

- High external static pressure 35Pa
- Wide operation range: Cooling: -10℃ to 46℃ DB, Heating at: -20℃ to 18℃ WB
- Refrigerant chargeless up to 50m
- Extraordinary energy saving: 5.08 EER for 4HP model
- Suitable for R22 renewal projects **RENEWAL R22**
- Maximum number of connectable indoor units : 9*
- * 6 HP only; 4 HP for 7 units, 5 HP for 8 units.

LE1

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

- High external static pressure 35Pa
- Wide operation range: Cooling: -10℃ to 46℃ DB, Heating at: -20℃ to 18℃ DB
- Actual piping length: 150m (Total piping length: 300m)
- System difference of elevation:50m /40m (outdoor above/below)
- Difference in elevation between indoor units:15m
- Suitable for R22 renewal project **RENEWAL R22**
- Maximum number of connectable indoor units : 13

VRF Smart Connectivity+

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

Panasonic **Schneider Electric**

Energy Management System for Rooms

Sensing & Control technology
Detecting a room's temperature, humidity and CO2 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 TE2 (Relay Pack) based on this detected information.
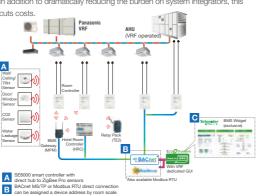
Schneider Electric smart controller SE8000

- Dramatic Reduction of OpEx with Outstanding IAQ.
- User-/Owner-friendly.
- Ultimate Customisation.
- Easy Design and Plug and Play Reducing CapEx.

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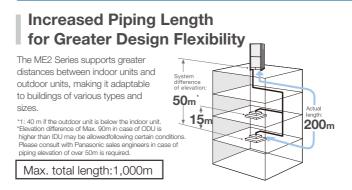
Plug and Play BMS connection.
With the SE8000, connection to BMS is extremely easy. Better still, a remote controller is all that's needed to enable use as a stand-alone system. In addition to dramatically reducing the burden on system integrators, this cuts costs.

A SE8000 smart controller with direct hub to ZigBee Pro sensors
B BACnet MS/TP or Modbus RTU direct connection can be assigned a device address by room scale. For Schneider Electric BMS connection, Panasonic VRF widgets enable easy Plug and Play
C *Also available Modbus RTU

Flexible Installation (FSV-EX ME2 Series)

Increased Piping Length for Greater Design Flexibility

The ME2 Series supports greater distances between indoor units and outdoor units, making it adaptable to buildings of various types and sizes.

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

System difference of elevation: **50m***
15m
Actual length: **200m**

Max. total length:1,000m

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.

80 Pa

Single Outdoor Units Combine to Expand Capacity up to 80HP
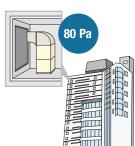
Designed to be durable enough to withstand extreme heat, FSV EX ensures reliable cooling operation over an extended operation range up to 52℃.

3 types of single outdoor unit

| Small (8-10HP) | Medium (12-16HP) | Large (18-20HP) |

From 8HP up to 80HP*

8HP — Expanded air conditioning space in building — 80HP*

*High efficiency combination model provides capacity up to 64HP.

Up to 64* Indoor Units can be connected

Flexibility in piping makes it easier to design air conditioning systems for locations such as train stations, airports, schools, and hospitals

Up to 64*
indoor units ca be connected

*Maximum number of indoor units depends on outdoor unit capacity.

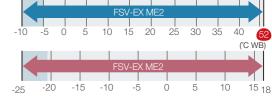## High Efficiency (FSV-EX ME2 Series)

High Reliability Even Under High Temperature Conditions

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

Extended operating range (Outside air temperature)

Cooling (℃ DB): FSV-EX ME2
-10 -5 0 5 10 15 20 25 30 35 40 52

Heating (℃ WB): FSV-EX ME2
-25 -20 -15 -10 -5 0 5 10 15 18

Advanced Control Solutions

OPERATION SYSTEM	INDIVIDUAL CONTROL SYSTEMS				TIMER OPERATION	CENTRALISED CONTROL SYSTEMS				BMS System PC Base	Connection with 3rd Party Controller
Requirements	High-spec operation	Normal operation	Operation from anywhere in the room	Quick and easy operation	Daily and weekly program	Operation with various functions from a central location	Only ON/OFF operation from a central location	Simplified load distribution ratio (LDR) for each tenant 10.4 in. touch screen panel color LCD		**P-AIMS Software** Up to 1024 units CZ-CSWMC2 / **Optona Software**	**Seri-Para I/O unit for outdoor unit** CZ-CAPDC2 / **Interface Adaptor** CZ-CAPC5 / **Seri-Para I/O unit for each indoor unit** CZ-CAPBC2 / **Communication Adaptor** CZ-CFUNC2 / **LonWorks Interface** CZ-CLNC2
External appearance											
Type, model name	High-spec Wired Remote Controller CZ-RTC5B	Timer Remote Controller (Wired) CZ-RTC4	Wireless Remote Controller Controller:CZ-RWS3 Receiver: CZ-RWRL3 CZ-RWRL3 CZ-RWRD3 CZ-RWRT3 CZ-RWRC3	Simplified Remote Controller CZ-RE2C2	Schedule Timer CZ-ESWC2	System Controller CZ-64ESMC3	ON/OFF Controller CZ-ANC3	Intelligent Controller CZ-256ESMC3 (CZ-CFUNC2)		for Load distribution CZ-CSWMC2 for Web application CZ-CSWKC2 for Object layout display CZ-CSWBC2 for BACnet software interface *PC required (field supply)	
Built-in thermostat	●	●	–	●	–	–	–	–			
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	64 groups, max. 64 units	64 groups, max. 64 units	16 groups, max. 64 units	64 units x 16 systems, max. 256 units			