

# FSV SYSTEMS OVERVIEW

AIR IS LIFE

AIR IS COMFORT

AIR IS ENERGY

**QUALITY AIR FOR LIFE**

- Please read the Installation Instructions carefully before installing the unit, and the Operating Instructions before using it.
- Specifications are subject to change without prior notice.
- The contents of this catalogue are accurate as of December 2018.
- Due to printing considerations, the actual colours may vary slightly from those shown.
- All graphics are provided merely for the purpose of illustrating a point.

 Do not add or replace refrigerant other than the specified type. Manufacturer is not responsible for the damage and deterioration in safety due to usage of other refrigerant.

Authorised Dealer

18VRF1201OVERVIEW



**FSV**  
MINI-FSV HEAT PUMP  
12.1 - 25.0kW



**FSV EX**  
FSV-EX HEAT PUMP  
22.4 - 224.0kW



**FSV EX**  
FSV-EX HEAT RECOVERY  
22.4 - 135.0kW

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Air Conditioning



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QUALITY AIR FOR LIFE



# FSV SYSTEMS

Panasonic's FSV systems are designed for energy savings, high durability, and even operation at extreme ambient temperature.

Panasonic continuously apply advanced technologies to meet the requirements of a variety of diverse situations, constantly contributing to the creation of comfortable living spaces.



## 2-PIPE FSV-EX HEAT PUMP ME2 Series

Extraordinary energy-saving performance and powerful operation

### Space-saving Combination Model

Cooling or Heating Type

Anti-Corrosion Model

- Wide range of systems from 22.4kW to 224.0kW
- Class-leading EER of 4.7 (22.4kW model)
- Industry-leading low noise of 54dB (22.4kW model)
- Cooling operation possible with outdoor temperature as high as 52°C (DB)
- Long piping length (up to 1,000m)
- Up to 64 indoor units connectable
- External static pressure up to 80Pa
- Extended operating range allows heating with outdoor temperatures as low as -25°C (WB)
- Suitable for R22 renewal projects\*

\*(Please refer to technical document for further details)



### High Efficiency Combination Model

Cooling or Heating Type

Anti-Corrosion Model

- Wide range of systems from 22.4kW to 180.0kW
- Higher EER than the Space-saving Combination Model



## 3-PIPE FSV-EX HEAT RECOVERY MF3 Series

Extraordinary energy-saving for simultaneous cooling and heating operation

Cooling and Heating Simultaneous

- Wide range of systems from 22.4kW to 135.0kW
- Class-leading EER : 4.87 / COP : 5.09 (22.4kW model)
- Long piping length (up to 500m)
- Increased maximum number of connectable indoor units (up to 52)
- External static pressure up to 80Pa
- Cooling operation is possible when outdoor temperature as high as 52°C DB
- Operating range to provide heating at outdoor temperature as low as -20°C WB
- Suitable for R22 renewal projects

(Please refer to technical document for further details)



## 2-PIPE Mini-FSV HEAT PUMP LE Series

For small-scale commercial and residential use

Cooling or Heating

Anti-Corrosion Model

- Wide range of systems from 12.1kW to 25.0kW
- High external static pressure 35Pa
- Class leading EER: 4.50 (12.1kW model) / 3.80 (22.4kW model)
- Less than 1 metre high (LE2 range)
- Wide operation range: Cooling: -10°C to 46°C DB, Heating at: -20°C to 18°C DB
- Maximum number of connectable indoor units : 13 (22.4/ 28.0kW model)
- Actual piping length: 150m
- Maximum piping length: 150m (12.1/ 14.0/ 15.5kW) / 300m (22.4/ 28.0kW)
- Suitable for R22 renewal projects

(Please refer to technical document for further details)



LE2

LE1



# FSV Indoor Units Range

Wide choice of models depending on the indoor requirements

Class	22	28	36	45	56	60	73	90
Capacity	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating
Type	2.2/2.5	2.8/3.2	3.6/4.2	4.5/5.0	5.6/6.3	6.0/7.1	7.3/8.0	9.0/10.0
F2 type <b>ECONAVI</b> Mid Static Ducted	 S-22MF2E5A	 S-28MF2E5A	 S-36MF2E5A	 S-45MF2E5A	 S-56MF2E5A	 S-60MF2E5A	 S-73MF2E5A	 S-90MF2E5A
M1 type <b>ECONAVI</b> Slim Low Static Ducted	 S-22MM1E5A	 S-28MM1E5A	 S-36MM1E5A	 S-45MM1E5A	 S-56MM1E5A			
Z1 type <b>ECONAVI</b> Slim & Narrow Ducted	 S-22MZ1H4A	 S-28MZ1H4A	 S-36MZ1H4A	 S-45MZ1H4A	 S-56MZ1H4A	 S-60MZ1H4A	 S-73MZ1H4A	
E1/E2 type High Static Ducted / Energy Saving High-Fresh Air Ducted*							 S-73ME1E5	
ER1 type High Static Compact Ducted								 S-90ME1R5A
K2 type <b>ECONAVI</b> Wall Mounted	 S-22MK2E5A	 S-28MK2E5A	 S-36MK2E5A	 S-45MK2E5A	 S-56MK2E5A		 S-73MK2E5A	
U2 type <b>ECONAVI</b> ** 4-Way Cassette Panel No. CZ-KPU3	 S-22MU2E5A	 S-28MU2E5A	 S-36MU2E5A	 S-45MU2E5A	 S-56MU2E5A	 S-60MU2E5A	 S-73MU2E5A	 S-90MU2E5A
Y2 type <b>ECONAVI</b> 4-Way Mini Cassette Panel No. CZ-KPY3AW	 S-22MY2E5A	 S-28MY2E5A	 S-36MY2E5A	 S-45MY2E5A	 S-56MY2E5A			
L1 type 2-Way Cassette Panel No. CZ-02KPL2 Panel No. CZ-03KPL2 (Only for S-73ML1E5)	 S-22ML1E5	 S-28ML1E5	 S-36ML1E5	 S-45ML1E5	 S-56ML1E5		 S-73ML1E5	
D1 type 1-Way Cassette Panel No. CZ-KPD2		 S-28MD1E5	 S-36MD1E5	 S-45MD1E5	 S-56MD1E5		 S-73MD1E5	
T2 type <b>ECONAVI</b> Ceiling			 S-36MT2E5A	 S-45MT2E5A	 S-56MT2E5A		 S-73MT2E5A	
P1 type Floor Standing	 S-22MP1E5	 S-28MP1E5	 S-36MP1E5	 S-45MP1E5	 S-56MP1E5		 S-71MP1E5	
R1 type Concealed Floor Standing	 S-22MR1E5	 S-28MR1E5	 S-36MR1E5	 S-45MR1E5	 S-56MR1E5		 S-71MR1E5	

\* Only for High Static Ducted (22.4kW & 28.0kW only)  
 \*\* Only for CZ-KPU3A (ECONAVI Panel)  
 \*\*\* Only for CZ-CNEXU1 (nanoEX Sensor) with CZ-RTC5B

106	112	140	160	180	224	280	Wireless remote control	Type with built-in sensor / Type with separately installed sensor		Functions
Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating	Cooling/Heating				
10.6/11.4	11.2/12.5	14.0/16.0	16.0/18.0	18.0/20.0	22.4/25.0	28.0/31.5				
 S-106MF2E5A		 S-140MF2E5A	 S-160MF2E5A					●		self-diagnosing, Auto fan, Mild dry, Auto restart, Drain pump, DC motor
								●		self-diagnosing, Auto fan, Mild dry, Auto restart, Drain pump, DC motor
								●		self-diagnosing, Auto fan, Mild dry, Auto restart, DC motor
 S-106ME1E5		 S-140ME1E5		 S-180ME2E5	 S-224ME2E5*	 S-280ME2E5*				self-diagnosing, Auto fan, Mild dry (High Static Ducted), Auto restart, DC motor
	 S-112ME1R5A	 S-140ME1R5A	 S-160ME1R5A					●		self-diagnosing, Auto fan, Mild dry, Auto restart
 S-106MK2E5A								●	●	self-diagnosing, Auto fan, Mild dry, Auto restart, Air swing, DC motor, Auto flap
 S-106MU2E5A		 S-140MU2E5A	 S-160MU2E5A					●	●	self-diagnosing, Auto fan, Mild dry, Auto restart, Air swing, Drain pump, DC motor, Auto flap
								●	●	self-diagnosing, Auto fan, Mild dry, Auto restart, Air swing, Drain pump, DC motor, Auto flap
								●	●	self-diagnosing, Auto fan, Mild dry, Auto restart, Air swing, Drain pump, DC motor, Auto flap
 S-106MT2E5A		 S-140MT2E5A						●	●	self-diagnosing, Auto fan, Mild dry, Auto restart, Air swing, DC motor, Auto flap
								●		self-diagnosing, Auto fan, Mild dry, Auto restart
								●		self-diagnosing, Auto fan, Mild dry, Auto restart

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

# FSV Controllers

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

## ECONAVI ECONAVI Sensor CZ-CENSC1



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

- Activity detection
- Absence detection

OPERATION SYSTEM	INDIVIDUAL CONTROL SYSTEMS		
Requirements	Advanced operation	Normal operation	Operation from anywhere in the room
External appearance			
Type, model name	Deluxe Wired Remote Controller CZ-RTC5B	Timer Remote Controller (Wired) CZ-RTC4	Wireless Remote Controller CZ-RWSU3 CZ-RWSL2N CZ-RWSC3 CZ-RWSD2 CZ-RWST3N CZ-RWSK2
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
Use limitations	· Up to 2 controllers can be connected per group (When using ECONAVI sensor, only one remote controller is possible to connect at indoor unit)	· Up to 2 controllers can be connected per group (When using ECONAVI sensor, only one remote controller is possible to connect at indoor unit)	· Up to 2 controllers can be connected per group.
Function ON/OFF	●	●	●
Mode setting	●	●	●
Fan speed setting	●	●	●
Temperature setting	●	●	●
Air flow direction	●	●	●
Permit/Prohibit switching	—	—	—
Weekly program	●	●	—

All specifications are subject to change without notice.

CENTRALISED CONTROL SYSTEMS			
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 colour LCD	Connection with 3rd Party Controller
			<b>Seri-Para I/O unit for outdoor unit</b> 
System Controller CZ-64ESMC3	ON/OFF Controller CZ-ANC3	Intelligent Controller CZ-256ESMC3 (CZ-CFUNC2)	<b>Interface Adaptor</b> 
—	—	—	<b>Seri-Para I/O unit for each indoor unit</b> 
●	—	●	<b>Communication Adaptor</b> 
64 groups, maximum 64 units	16 groups, maximum 64 units	64 units x 16 systems, maximum 256 units	<b>LonWorks Interface</b> 
· Up to 10 controllers, can be connected to one system. · Main unit/sub unit (1 main unit + 1 sub unit) connection is possible. · Use without remote controller is possible.	· Up to 8 controllers (4 main units + 4 sub units) can be connected to one system. · Use without remote controller is impossible.	· A communication adaptor (CZ-CFUNC2) must be installed for three or more links.	
●	●	●	
●	—	●	
●	—	●	
●	—	●	
●	—	●	
●	●	●	
●	—	●	