

## Mini ECOi LZ2 Series R32

Outstanding efficiency in a compact body and continuous operation even at extreme ambient temperatures.





**INDUSTRY 1ST  
8 HP AND  
10 HP MINI  
VRF UNITS  
WITH R32**



## 1 Low GWP and less refrigerant

The Mini ECOi LZ2 Series utilizes environmentally friendly R32 refrigerant, reducing the total amount of refrigerant by 20 % and more, resulting in lower GWP, reduced by 75 %\*.

\* As a result of applying R32 while at the same time reducing the total refrigerant amount.

## 2 Outstanding efficiency at the most challenging ambient conditions

Re-engineered for better performance, the LZ2 series produces extraordinary savings with SEER levels up to 8,50 and SCOP levels up to 5,05 (for 4 HP model). The large range of outdoor units from 12 kW to 28 kW can also work at extreme ambient temperatures, down to -20 °C in heating and up to 52 °C in cooling, providing a very wide range of operating ability.

## 3 More flexibility for your project

The ECOi LZ2 series provides ease of installation with long piping lengths and small footprints in a lightweight body. A variety of indoor units, supporting Panasonic's optional R32 refrigerant leak detector, increases the flexibility for installers. A wide range of individual and central controllers, the new generation Smart and Service Cloud, as well as apps for end users and installers, provide a fully customizable monitoring and controlling solution.

### Minimum environmental impact

Panasonic has designed the LZ2 series in order to minimize the environmental impact of the system. Low GWP refrigerant R32 and highest efficiency levels ensure this through the total operational lifetime.



# VRF with outstanding energy-saving performance and superior SEER and SCOP

Mini ECOi LZ2 provides the optimal performance in any climatic condition.

## WIDE OPERATING RANGE

**-20 °C in heating to  
52 °C in cooling**

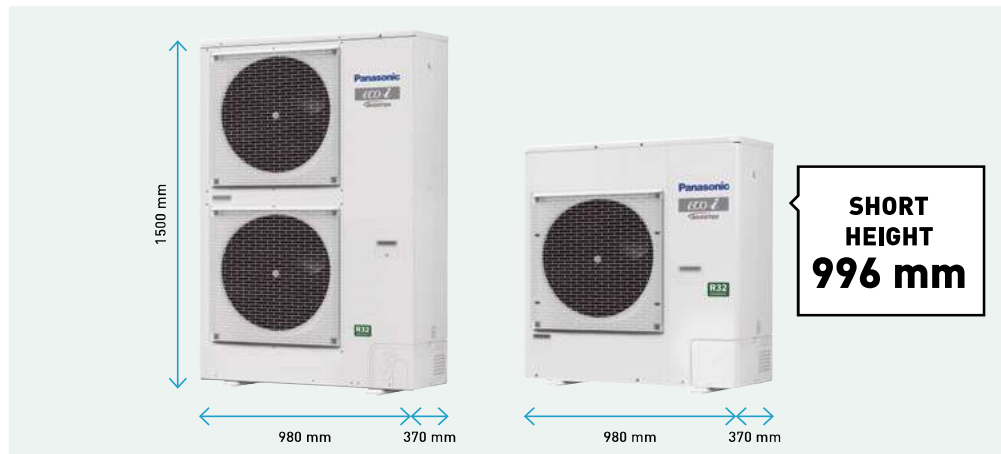
**8,50 | 5,05**  
**SEER | SCOP**  
**EXTRAORDINARY SAVINGS**

### ECOi LZ2 mini VRF series from 12 to 28 kW

- Improving protection 24/7. Unique indoors with nanoe™ X, hydroxyl radicals contained in water
- SEER levels up to 8,50 and SCOP levels up to 5,05 (for 4 HP model)
- Low GWP and highly reduced refrigerant volume
- Improved connectivity with CONEX remote controllers and app support, Smart and Service Cloud applications and support for communication protocols for BMS integration
- Wide range of connectable units allowing wide range of installations with and without refrigerant mitigation
- Increased indoor / outdoor capacity ratio up to 150 %
- Quiet mode operation with low capacity drop
- Same Panasonic DNA with Panasonic compressors and precise temperature control thanks to discharge temperature sensors in the indoor units
- Continuous operation at extreme ambient temperatures: -20 °C (heating) to 52 °C (cooling)
- Flexible mitigation measures, with Panasonic R32 refrigerant leak detector / alarm to be installed only when required
- 35 Pa static pressure

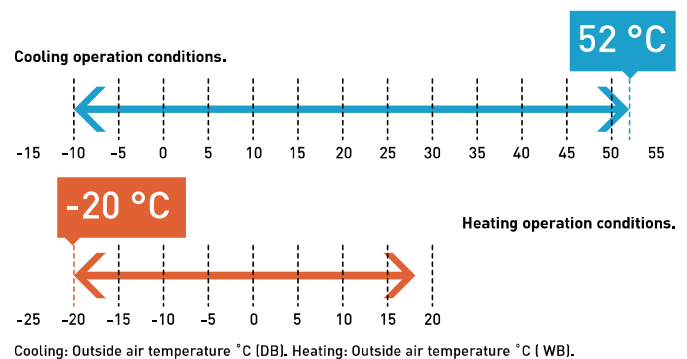
### For the most challenging spaces

The Mini ECOi LZ2 R32 VRF system is the ideal solution to fit into any application thanks to its compact design and long piping length support.



### Extended design operation conditions

LZ2 mini VRF is extremely reliable even under the most difficult conditions. The units can operate in cooling mode at extreme temperatures, 52 °C in cooling and -20 °C in heating mode.













# Compatible with a large range of indoor units and controls

An expansion of Panasonic VRF line up, the Mini ECOi R32 is compatible with a large range of indoor units and can utilize all Panasonic's scalable control and monitoring solutions.

Wide range of indoor units, either supporting Panasonic's optional R32 refrigerant leak detector alarm or having built-in detectors provide a great flexibility for all types of installation.

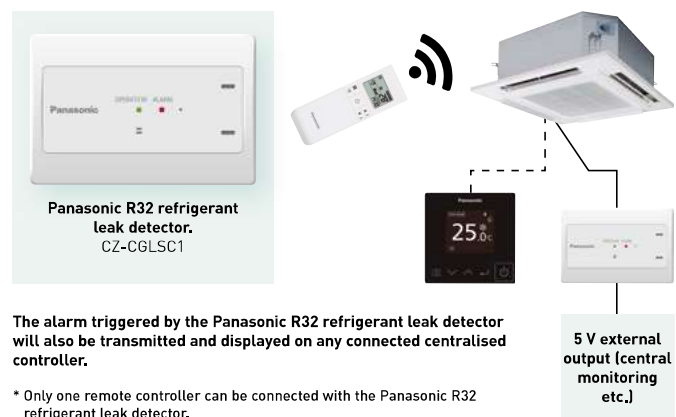
## Scaling your control options from a single zone to geographically distributed facilities.

LZ2 series are fully compatible with all control and connectivity solutions from Panasonic. With a wide range of individual controllers, hotel room controllers, optional wireless adapters, VRF Smart Connectivity+, easy BMS connection with P-link and Panasonic AC Smart Cloud compatibility. LZ2 series, the most flexible control and monitoring R32 solution in the market.

	4 way 90x90 cassette		Connects to Panasonic R32 sensor
	4 way 60x60 cassette		Connects to Panasonic R32 sensor
	Variable static pressure adaptive duct		Built-in R32 sensors
	Wall-mounted		Connects to Panasonic R32 sensor
	Slim variable static pressure hide-away		Connects to Panasonic R32 sensor

## Panasonic R32 refrigerant leak detector/alarm (optional)

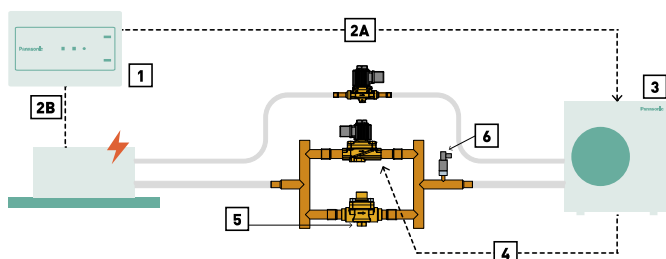
For compatible indoor unit models, Panasonic offers its optional external Panasonic R32 refrigerant leak detector (CZ-CGLSC1). This enables the customer to decide if a Panasonic R32 refrigerant leak detector is required to comply with the restrictions, or if the indoor unit may be safely installed in this room without it. This optional leakage detection sensor has an integrated alarm buzzer and can output a signal to a central alarm system in the building. The device is connected to the remote control terminals of the indoor unit and can be used in combination with any of the Panasonic VRF remote controllers, either wired or wireless.



## R32 Pump Down solution

New R32 Pump Down solution which offers the assurance of additional safety protection, whilst expanding the potential installation cases, allowing for installation within smaller rooms.

Suitable for the Mini ECOi LZ2 range up to 10 HP, compatible indoor units connected to CZ-CGLSC1 or integrated Panasonic R32 refrigerant leak detector.

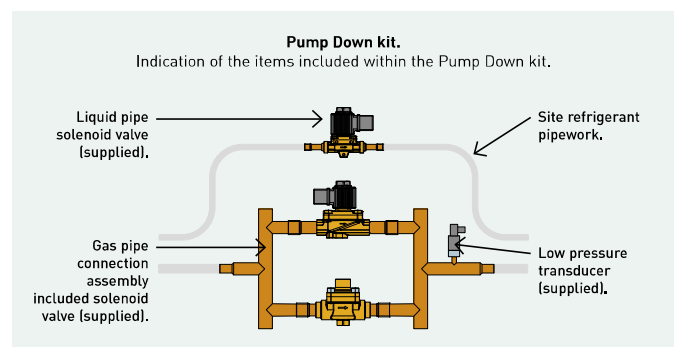


Operation steps: 1 | A leak is detected by the leak detection sensor, 2A | Leak alarm signal is sent to the outdoor unit, 2B | Indoor unit fan activated and runs at maximum speed, 3 | Pump Down procedure is activated, 4 | Solenoid valves are closed preventing refrigerant returning to indoor units, 5 | Outdoor unit is operating in Pump Down mode and check valve only allows flow to the outdoor unit, 6 | Low pressure switch threshold is reached. Error signal isolates the outdoor unit, preventing restart.

## Technical Focus

- Simplified design and installation
- Complies with IEC 60335-2-40 ed.6.0
- Recovers base charge within outdoor unit
- Expands potential installation cases
- IP rated connections for outdoor installation

Model reference	Description
PAW-PUD2WB-1	Basic Pump Down system (2 way) for one R32 Mini ECOi outdoor unit



**SHORT  
HEIGHT  
996 mm**



### Mini ECOi LZ2 Series 4 to 6 HP - R32

Outstanding efficiency in a compact body and continuous operation even at extreme ambient temperatures.

HP		4 HP	5 HP	6 HP	4 HP	5 HP	6 HP	
Outdoor unit		U-4LZ2E5	U-5LZ2E5	U-6LZ2E5	U-4LZ2E8	U-5LZ2E8	U-6LZ2E8	
Power supply	Voltage	V	220-230-240	220-230-240	220-230-240	380-400-415	380-400-415	
	Phase		Single phase	Single phase	Single phase	Three phase	Three phase	
	Frequency	Hz	50	50	50	50	50	
Cooling capacity	kW	12,1	14,0	15,5	12,1	14,0	15,5	
EER <sup>1)</sup>	W/W	4,53	4,12	3,88	4,53	4,12	3,88	
Recommended combination		2 x S-60MU2E5B	4 x S-36MU2E5B	2 x S-36MU2E5B + 2 x S-45MU2E5B	2 x S-60MU2E5B	4 x S-36MU2E5B	2 x S-36MU2E5B + 2 x S-45MU2E5B	
<b>SEER <sup>2)</sup></b>		<b>8,50</b>	<b>8,12</b>	<b>7,71</b>	<b>8,50</b>	<b>8,12</b>	<b>7,71</b>	
$\eta_{s,c}$	%	<b>337,0</b>	<b>321,8</b>	<b>305,4</b>	<b>337,0</b>	<b>321,8</b>	<b>305,4</b>	
Current	A	13,30-12,80-12,20	16,90-16,20-15,50	19,60-18,70-18,00	4,37-4,15-4,00	5,50-5,23-5,04	6,44-6,12-5,89	
Input power	kW	2,67	3,40	4,00	2,67	3,40	4,00	
Heating capacity	kW	12,5	16,0	16,5	12,5	16,0	16,5	
COP <sup>1)</sup>	W/W	5,27	4,71	4,42	5,27	4,71	4,42	
<b>SCOP <sup>2)</sup></b>		<b>5,05</b>	<b>4,61</b>	<b>4,59</b>	<b>5,05</b>	<b>4,61</b>	<b>4,59</b>	
$\eta_{s,h}$	%	<b>199,0</b>	<b>181,4</b>	<b>180,6</b>	<b>199,0</b>	<b>181,4</b>	<b>180,6</b>	
Current	A	12,00-11,40-11,00	16,90-16,20-15,50	18,50-17,70-17,00	3,91-3,71-3,58	5,50-5,22-5,03	6,02-5,72-5,51	
Input power	kW	2,37	3,40	3,73	2,37	3,40	3,73	
Starting current	A	1,0	1,0	1,0	1,0	1,0	1,0	
Maximum current	A	19,6	23,7	26,5	7,2	9,2	9,9	
Maximum input power	kW	3,92-4,10-4,28	4,76-4,98-5,19	5,41-5,66-5,90	4,40-4,63-4,80	5,69-5,99-6,22	6,15-6,47-6,72	
Maximum number of connectable indoor units <sup>3)</sup>		7(10)	8(12)	9(12)	7(10)	8(12)	9(12)	
External static pressure	Pa	0-35	0-35	0-35	0-35	0-35	0-35	
Air flow	m <sup>3</sup> /min	69	72	74	69	72	74	
Sound pressure	Cool	dB(A)	52	53	54	52	53	
	Cool (Silent 1/2/3/4)	dB(A)	49/47/45/45	50/48/46/45	51/49/47/45	49/47/45/45	50/48/46/45	51/49/47/45
	Heat	dB(A)	54	56	56	54	56	56
Sound power	Cool / Heat	dB(A)	69/72	70/74	72/75	69/72	70/74	72/75
Dimension	H x W x D	mm	996 x 980 x 370	996 x 980 x 370	996 x 980 x 370	996 x 980 x 370	996 x 980 x 370	
Net weight		kg	94	94	94	94	94	
Piping diameter	Liquid pipe	Inch (mm)	3/8(9,52)	3/8(9,52)	3/8(9,52)	3/8(9,52)	3/8(9,52)	
	Gas pipe	Inch (mm)	5/8(15,88)	5/8(15,88)	5/8(15,88)	5/8(15,88)	5/8(15,88)	
Maximum piping length (total)	m	90(180)	90(180)	90(180)	90(180)	90(180)	90(180)	
Elevation difference (in / out)	m	50(OD above)/ 40(OD below)	50(OD above)/ 40(OD below)	50(OD above)/ 40(OD below)	50(OD above)/ 40(OD below)	50(OD above)/ 40(OD below)	50(OD above)/ 40(OD below)	
Refrigerant [R32]	kg	2,7	2,7	2,7	2,7	2,7	2,7	
Maximum allowable indoor / outdoor capacity ratio <sup>4)</sup>	%	50-150(130)	50-150(130)	50-150(130)	50-150(130)	50-150(130)	50-150(130)	
Operating range	Cool Min - Max	°C	-10-52	-10-52	-10-52	-10-52	-10-52	
	Heat Min - Max	°C	-20-18	-20-18	-20-18	-20-18	-20-18	

1) EER and COP calculation is based on EN 14511. 2) SEER / SCOP is calculated based on the seasonal space cooling / heating efficiency "η" values of the COMMISSION REGULATION (EU) 2016/2281. SEER, SCOP = (η + Correction) × PEF. 3) The number in parenthesis indicates maximum number of connectable indoor unit in case of 1,5kW indoor units connection. 4) The number in parenthesis indicates maximum allowed indoor / outdoor capacity ratio in case of 1,5 kW indoor units connection.

#### Minimum environmental impact

Panasonic has designed the LZ2 series in order to minimize the environmental impact of the system. Low GWP refrigerant R32 and highest efficiency levels ensure this through the total operational lifetime.

#### For the most challenging spaces

The Mini ECOi LZ2 R32 VRF system is the ideal solution to fit into any application thanks to its compact design and long piping lengths.

#### Technical focus

- SEER levels up to 8,50 and SCOP levels up to 5,05 (for 4 HP model)
- Continuous operation at extreme ambient temperatures: -20 °C (heating) to 52 °C (cooling)
- Wide range of connectable units
- Unique indoors with nanoe™ X, hydroxyl radicals contained in water
- Allowing wide range of installations with and without mitigation measures
- Flexible mitigation measures, with Panasonic R32 refrigerant leak detector / alarm to be installed only when required



INTERNET CONTROL: Optional.



**INDUSTRY 1<sup>ST</sup>  
8 HP AND 10 HP  
MINI VRF UNITS  
WITH R32**

### Mini ECOi LZ2 Series 8 and 10 HP - R32

Introducing widest range of R32 Mini VRF.

HP			8 HP	10 HP
<b>Outdoor unit</b>			<b>U-8LZ2E8</b>	<b>U-10LZ2E8</b>
Power supply	Voltage	V	380-400-415	380-400-415
	Phase		Three phase	Three phase
	Frequency	Hz	50	50
Cooling capacity		kW	22,4	28,0
EER <sup>1)</sup>		W/W	3,84	3,47
Recommended combination			4 x S-56MU2E5B	4 x S-73MU2E5B
SEER <sup>2)</sup>			<b>7,56</b>	<b>7,08</b>
$\eta_{s,c}$		%	<b>293,3</b>	<b>274,7</b>
Current		A	9,73-9,25-8,91	13,2-12,5-12,1
Input power		kW	5,83	8,07
Heating capacity		kW	25,0	28,0
COP <sup>1)</sup>		W/W	4,30	4,47
SCOP <sup>2)</sup>			<b>4,59</b>	<b>4,60</b>
$\eta_{s,h}$		%	<b>170,3</b>	<b>178,5</b>
Current		A	9,81-9,32-8,98	10,5-9,93-9,57
Input power		kW	5,81	6,26
Starting current		A	1,0	1,0
Maximum current		A	13,7	19,5
Maximum input power		kW	8,21-8,64-8,96	11,9-12,6-13,0
Maximum number of connectable indoor units <sup>3)</sup>			16	16
External static pressure		Pa	0-35	0-35
Air flow		m <sup>3</sup> /min	158	167
Sound pressure	Cool	dB(A)	59,0	60,0
	Cool (Silent 1/2/3/4)	dB(A)	56/54/52/50	57/55/53/50
Sound power	Cool	dB(A)	72	74
Dimension	HxWxD	mm	1500x980x370	1500x980x370
Net weight		kg	125	126
Piping diameter	Liquid pipe	Inch (mm)	3/8(9,52)	3/8(9,52)
	Gas pipe	Inch (mm)	3/4(19,05)	7/8(22,22)
Maximum piping length (total)		m	100(300)	100(300)
Elevation difference (in / out)		m	50(OD above)/40(OD below)	50(OD above)/40(OD below)
Refrigerant (R32)		kg	4,9	5,1
Maximum allowable indoor / outdoor capacity ratio <sup>4)</sup>		%	50-150(130)	50-150(130)
Operating range	Cool Min ~ Max	°C	-10-52	-10-52
	Heat Min ~ Max	°C	-20-18	-20-18

1) EER and COP calculation is based on EN 14511. 2) SEER / SCOP is calculated based on the seasonal space cooling / heating efficiency " $\eta$ " values of the COMMISSION REGULATION (EU) 2016/2281. SEER, SCOP =  $(\eta + \text{Correction}) \times \text{PEF}$ . 3) The number in parenthesis indicates maximum number of connectable indoor unit in case of 1,5kW indoor units connection. 4) The number in parenthesis indicates maximum allowed indoor / outdoor capacity ratio in case of 1,5 kW indoor units connection.

### Perfect fit for small to medium size projects

8 and 10 HP LZ2 Mini VRF units bring in the total benefits of a VRF system in a smaller application. You can enjoy advanced individual and central VRF control options including the revolutionary Panasonic AC Smart Cloud and AC Service Cloud.

### For the most difficult conditions

The Mini ECOi LZ2 series are able to operate at the hardest conditions from -20 °C up to +52 °C providing continuous and efficient, heating and cooling for your space all year long.

### Technical focus

- SEER levels up to 7,56 and SCOP levels up to 4,59 (for 8 HP model)
- Continuous operation at extreme ambient temperatures: -20 °C (heating) to 52 °C (cooling)
- Widest range of connectable units in R32 VRF
- Unique indoors with nanoe™ X, hydroxyl radicals contained in water
- Allowing wide range of installations with and without refrigerant mitigation
- Flexible mitigation measures, with Panasonic R32 refrigerant leak detector / alarm to be installed only when required



INTERNET CONTROL: Optional.

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB, Cooling Outdoor 35 °C DB / 24 °C WB, Heating Indoor 20 °C DB, Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb, WB: Wet Bulb). Specifications subject to change without notice. For detailed information about ErP / Energy Labelling, please visit our websites [www.aircon.panasonic.eu](http://www.aircon.panasonic.eu) or [www.ptc.panasonic.eu](http://www.ptc.panasonic.eu).