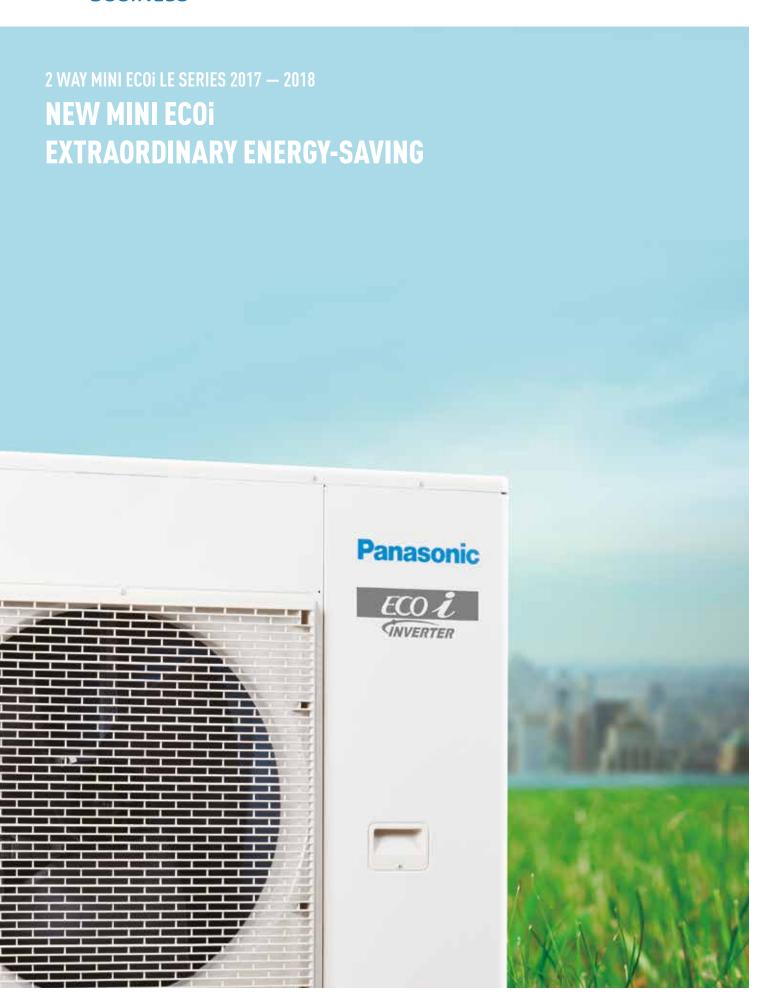
Panasonic

BUSINESS



heating & cooling solutions

Panasonic

NEW 2-PIPE MINI ECOI LE SERIES FOR LIGHT COMMERCIAL & RESIDENTIAL USE



The most flexible VRF system ever.

Meeting the needs of light commercial applications.



Advantages of Mini ECOi LE Series used for medium sized buildings.

1

Efficiency energy control

Upgraded outdoor units deliver high efficiency rating and reduced energy costs.

2

Space saving

Ideal for commercial locations with limited space such as banks and shops.
Compact units integrate easily and discreetly into building design.

3

Flexible installation

Reduced installation time thanks to compact units and extra long piping without additional refrigeration charge. High external static pressure 35Pa and small chassis maximize installation options.





New compact design: LE2 Series - 4 / 5 / 6HP

- Extraordinary energy saving: 4,50 EER and 5,19 COP (4HP)
- 50 m piping length without additional refrigerant charge
- Quiet operation mode with 4 levels
- High COP mode option

LE1 Series - 8 / 10HP

- 60 % smaller than ECOi ME2 8 / 10 HP with vertical flow type
- Flexible piping length (Total : 300m, Furthest : 150m)
- Maximum number of connectable indoor units: 15

Key features for LE1 / LE2

High external static pressure 35Pa
Full range of ECOi indoor units and controllers
Variable evaporation temperature control as standard
Connectable maximum indoor / outdoor capacity ratio up to 130%
Auto restart from outdoor units
Demand response (Peak cut) by optional parts
Suitable for R22 renewable projects

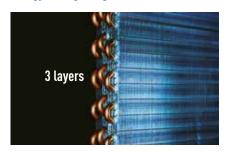
EFFICIENCY ENERGY CONTROL



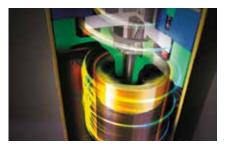
The new Mini ECOi LE Series with extraordinary energy performance. LE Series has been redesigned with a focus on energy saving performance, reliable quality and comfort.



Energy saving design



Powerful heat exchanger. 3 layers of heat exchanger for all LE series. LE Series features the same heat exchange volume as conventional model even though it is 15% smaller in size.



Panasonic twin Rotary Compressor. A large capacity inverter compressor has been adopted. This new compressor features wider and 0,1Hz step inverter control.

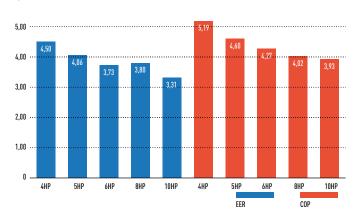


New design fan. Fan braves have been redesigned to inhibit air resistence and to increase efficiency. The larger fan increases air volume while maintaining low noise levels.

Superior energy efficiency

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





Maximum comfort with quiet operation mode

- Quiet operation mode reduces outdoor unit operating sound by 7dB(A)
- 4-step set point is available
- Silent mode 1 maintains rated cooling capacity
- * Timer setting of quiet operation mode is available in High-spec remote controller.

Silent mode options	Sound pressure level
Silent mode 1	-1,5dB(A)
Silent mode 2	-3dB(A)
Silent mode 3	-5dB(A)
Silent mode 4	-7dB(A)

Wide operating range (LE2 / LE1)

Cooling operation is possible from -10°C DB to +46°C DB. Heating operation is possible as low as -20°C WB. The remote controller temperature can be set from 18°C up to 30°C in cooling and 16°C up to 30°C in heating*.

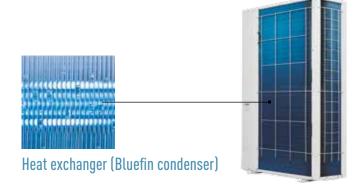
* Depending on the type of remote controller.



Cooling: Outside air temperature $^{\circ}\text{C}$ (DB). Heating: Outside air temperature $^{\circ}\text{C}$ (WB).

Bluefin condenser: High durability outdoor unit (LE2 / LE1)

The anti-corrosion Bluefin treatment of the heat exchanger provides greater resistance against corrosion. All models are equipped with Bluefin condenser and treated with high corrosion resistance to rust and salty air for long-lasting performance.





- Compact space-saving design
- High external static pressure 35Pa
- Long piping length for flexible installation

- No refrigeration charge up to 50m
- 130% ratio for connectable indoor capacity units

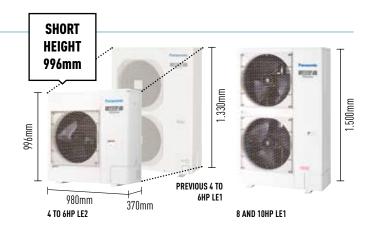
Compact design

Mini ECOi LE Series is a single unit

Perfect for installations with limited space and easy to hide within a modern building. Flexible space-saving options compared to single split system.

LE2 lower height of 996mm

New LE2 Series is 25% smaller in height than conventional model.



High external static pressure 35Pa

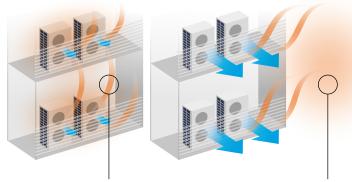
- · High air pressure
- · New blade shape
- · Good for high class condominiums

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

And a high air pressure of 35Pa discharges the hot air a sufficient distance.

Previous Model - Low Pressure

LE Series - High Pressure

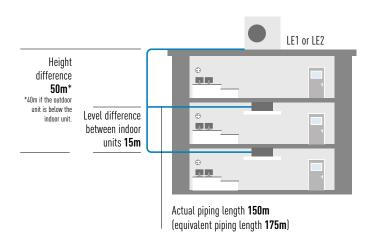


Heat Accumulated When the pressure is low, hot air will accumulate in the unit thus affecting its work performance and that of unit above it as well.

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

Long piping length for greater design flexibility

LE1: Maximum total piping length: 300m LE2: Maximum total piping length: 180m

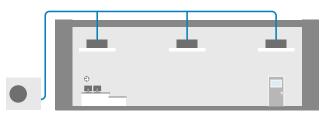


Flexible & easy installation

• 50m piping length without refrigerant charge

- A 50m pipe length is sufficient for most residential and small business buildings

NO REFRIGERANT CHARGE UP TO 50M



Maximum 15 indoor units per system

System / HP	4HP	5HP	6HP	8HP	10HP
Maximum number of	4	0	12*	15*	15*
connectable indoor units	0	0	12	10	10

^{*} In case of 1,5kW indoor unit's connection.

2-PIPE MINI ECOI LE SERIES HIGH EFFICIENCY 4-6HP

New Panasonic Mini ECOi. Extraordinary energy-saving. The most compact ECOi system ever.

For light commercial use

Mini ECOi allows easier installation in condominiums and medium sized buildings with limited spaces. Utilising R410A and DC inverter technology, Panasonic offers VRF to a new and growing market.

Short height of 996mm

In addition to raising efficiency, the outdoor unit has been designed to be as compact as possible. It can now be installed in places that were previously too small.

Technical focus

- The TOP EER and COP in industry
- The best efficiency even compared to 2 fan outdoor units
- 50m piping length free of refrigeration charge
- 35Pa high static pressure
- High COP mode selectable with maintenance remote controller
- Selectable silent mode

COMPACT LE2 THREE PHASE MODEL COMING SOON



Sing	le F	hase
U-4L	E2E	5
U-5L	E2E	5
11 41	בסו	

HP				4HP				5HP					6НР							
Model			U-4LE2E5		U-4LE1E8		U-5LE2E5		U-5LE1E8		U-6LE2E5		U-6LE1E8							
	Voltage	٧	220	230	240	380	400	415	220	230	240	380	400	415	220	230	240	380	400	415
Power supply Phase			S	ingle Phas	se	T	hree Phas	se	S	Single Phase		T	hree Phas	se	Si	ngle Phase	9	T	ree Phas	e
	Frequency	Hz	50		50		50 50		50			50		50						
Cooling capacity		kW	12,10		12,1		14,00			14,0		15,50		15,5						
EER 1)		W/W	4,50		4,30			4,06			4,20			3,73			3,45			
Running current cooling		A	13,30 12,70 12,20		4,9 4,7 4,5		16,30	15,60	17,00	5,7 5,4 5,2		20,30	19,40	18,60	7,5	7,1	6,9			
Input power cooling		kW	2,69		2,81			3,45		3,33			4,15			4,49				
Heating capacity		kW	12,50		12,5		16,00		16,0			16,5		18,0						
COP 1)		W/W	5,19		4,62			4,60			4,30			4,27		3,95				
Running current heating		A	12,20 11,60 11,20		4,7	4,5	4,3	17,60	16,80	16,10	6,3	6,0	5,8	19,10	18,20	17,50	7,5	7,2	6,9	
Input power heating		kW	2,41		2,71			3,48			3,72			3,86			4,56			
Starting current		A	1,00		1,0	1,0	1,0		1,00		1,0	1,0	1,0		1,00		1,0	1,0	1,0	
Maximum current				8,5	8,5	8,5		24,30		10,0	10,0	10,0		27,40		12,0	12,0	12,0		
		kW	3,50	3,66	3,82	5,15	5,42	5,62	4,92	5,14	5,37	6,06	6,37	6,61	5,61	5,86	6,12	7,27	7,65	7,94
Maximum number of connectable indoor units		1	7		6		8		8		9 (12)2		9							
External static pressure				0 ~ 35		0 ~ 35		0 ~ 35			0 ~ 35			0 ~ 35						
Air volume		m³/min		69		95		72		104			74			104				
	Cooling	dB(A)		52		47		53 48			54			49						
Sound pressure	Cooling (Silent 1 / 2 / 3 / 4)	dB(A)	50,5	6 49 47	/ 45				48,5 / 50 / 48 / 46 —		52,5 / 51 / 49 / 47		_							
	Heating	dB(A)		54			49		56		50			56			52			
Sound power	Cooling / Heating	dB		69 / 72		68 / 70			71 / 75		69 / 71			73 / 75		70 / 73				
Dimensions / Net weight	H x W x D	mm / kg	_	980 x 370			940 x 34			980 x 37			940 x 34		_	980 x 370 /	/ 106		940 x 34	
Piping connections	Liquid pipe	Inch (mm)	3/8 (9,52)			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)			/8 (15,88			5/8 (15,8			5/8 (15,88			/8 (15,88)			/4 (19,05		
Maximum piping length (to	Maximum piping length (total) m		_	150 (180)			120 (150)			150 (180			120 (150)			150 (180)			120 (150)	
Elevation difference (in/out)		m		door unit			door unit			50 (Outdoor unit upper) /		50 (Outdoor unit upper) /		50 (Outdoor unit upper) /		50 (Outdoor unit upper) /				
		""		tdoor unit	,		tdoor unit			tdoor uni			tdoor unit			door unit l			door unit	,
Refrigerant (R410A)		kg / TCO2 Eq.	6,	7 (14,4) /	_		3,5 / 7,30		6,7 (14,4) / —			3,5 / 7,308		6,7 (14,4) / —		-	3,5 / 7,308			
Maximum allowable indoor		%		50 ~ 130			50 ~ 130			50 ~ 13		50 ~ 130		-	50 ~ 130		50 ~ 130			
Operating range	Cooling / Heating Min ~ Max	°C	-10 -	+46 / -20) ~ 18	-10 ~	-10 ~ +46 / -20 ~ +24		-10 ~ +46 / -20 ~ 18		-10 ~ +46 / -20 ~ +24		-10 ~ +46 / -20 ~ 18		-10 ~ +46 / -20 ~ +24					

1) EER and COP classification is at 400 V in accordance with EU directive 2002/31/EC. 2) In case of 1,5kW indoor unit's connection, it is able to connect maximum 12 indoor units.





















2-PIPE MINI ECOI LE SERIES HIGH EFFICIENCY 8-10HP

Prepare to be blown away by Panasonic's New Mini VRF system. The Mini VRF compact system is the ideal solution for minimum outdoor space. Panasonic extends the Mini VRF range by 8 and 10HP units.

Increase external static pressure

When unit is installed on a narrow balcony, the fence at front side will be the obstacle. High external static pressure will overcome this obstacle and maintain operation capacity.

High ambient temperature performance

Cooling operation range up to 46° C. The system can maintain the rated (100%) capacity up to 40° C by 8HP model & up to 37° C by 10HP model.

Technical focus

- Piping flexibility with 150m maximum length
- High efficiency
- 15 indoor units connectable
- Quiet operation mode (one of the lowest in the market)
- · High ambient temp performance
- High static pressure 35Pa



HP				8HP		10HP				
Model				U-8LE1E8*		U-10LE1E8*				
	Voltage	V	380	400	415	380	400	415		
Power supply Phase				Three Phase		Three Phase				
	Frequency	Hz		50		50				
Cooling capacity		kW		22,40		28,00				
EER 1)		W/W		3,80		3,11				
Running current cooling		A	9,60	9,15	8,80	14,70	14,00	13,50		
Input power cooling		kW		5,89			9,00			
Heating capacity kW		kW		25,00			28,00			
COP 1)		W/W		4,02			3,93			
Running current heating		A	10,20	9,65	9,30	11,60	11,10	10,70		
Input power heating		kW		6,22		7,13				
Starting current		A		1,00		1,00				
Maximum current		A	13,70				19,60			
Maximum input power		kW		9,16		13,10				
Maximum number of connectable indoor units			15 ²⁾			15 ²⁾				
External static pressure	External static pressure Pa			0 ~ 35		0 ~ 35				
Air volume		m³/min		150		160				
	Cooling	dB(A)		60		63				
Sound pressure	Cooling (Silent 1 / 2 / 3)	dB(A)		57 / 55 / 53		60 / 58 / 56				
	Heating	dB(A)		64		65				
Sound power	Cooling / Heating	dB		81 / 85		84 / 86				
Dimensions / Net weight	H x W x D	mm / kg		1.500 x 980 x 370 / 132			1.500 x 980 x 370 / 133			
Piping connections	Liquid pipe Inch (mm)			3/8 (9,52) 3) / 1/2 (12,70) 4)			3/8 (9,52) ³⁾ / 1/2 (12,70) ⁴⁾			
riping connections	Gas pipe	Inch (mm)		3/4 (19,05) 3 / 7/8 (22,22) 4			7/8 (22,22) 3) / 1 (25,40) 4)			
Maximum piping length range (total) m		m		7,5 ~ 150 (7,5 ~ 300)		7,5 ~ 150 (7,5 ~ 300)				
Elevation difference (in/out	t)	m	50 (Outdo	or unit upper) / 40 (Outdoor u	nit lower)	50 (Outdoor unit upper) / 40 (Outdoor unit lower)				
Refrigerant (R410A)		kg / TCO2 Eq.		6,3 (24,0) / 13,1544		6,6 (24,0) / 13,7808				
Maximum allowable indoor		%		50 ~ 130		50 ~ 130				
Operating range	Cooling / Heating Min ~ M	ax °C		-10 ~ +46 / -20 ~ +18			-10 ~ +46 / -20 ~ +18			

1) EER and COP classification is at 400 V in accordance with EU directive 2002/31/EC. 2) If the heating utilized, it is necessary to increase 1 size with respect to the main liquid pipe, depending on the combination of the indoor unit. 3) Under 90m for ultimate indoor unit. 4) Over 90m for ultimate indoor unit. If the longest piping equivalent length exceeds 90m, increase the sizes of the main tubes by 1 rank for gas and liquid pipes. * Tentative data.



















INDOOR UNITS RANGE

	1,5kW	2,2kW	2,8kW	3,0kW	3,6kW	4,0kW	4,5kW
NEW U2 Type. 4 Way 90x90 Cassette		S-22MU2E5A	S-28MU2E5A		S-36MU2E5A		S-45MU2E5A
U1 Type. 4 Way 90x90 Cassette		S-22MU1E5A	S-28MU1E5A		S-36MU1E5A		S-45MU1E5A
Y2 TYPE. 4 Way 60x60 Cassette	S-15MY2E5A	S-22MY2E5A	S-28MY2E5A		S-36MY2E5A		S-45MY2E5A
L1 Type. 2 Way Cassette		S-22ML1E5	S-28ML1E5		S-36ML1E5		S-45ML1E5
D1 Type. 1 Way Cassette			S-28MD1E5		S-36MD1E5		S-45MD1E5
F2 Type. Variable Static Pressure Hide Away	S-15MF2E5A	S-22MF2E5A	S-28MF2E5A		S-36MF2E5A		S-45MF2E5A
M1 Type. Slim Variable Static Pressure Hide Away	S-15MM1E5A	S-22MM1E5A	S-28MM1E5A		S-36MM1E5A		S-45MM1E5A
E2 Type. High Static Pressure Hide Away							
Heat Recovery with DX Coil				PAW-500ZDX2N		PAW-800ZDX2N	PAW-01KZDX2N
T2 Type. Ceiling					S-36MT2E5A		S-45MT2E5A
K2/K1 Type. Wall Mounted	S-15MK2E5A	S-22MK2E5A	S-28MK2E5A		S-36MK2E5A		S-45MK2E5A
P1 Type. Floor Standing		S-22MP1E5	S-28MP1E5		S-36MP1E5		S-45MP1E5
R1 Type. Concealed Floor Standing		S-22MR1E5	S-28MR1E5		S-36MR1E5		S-45MR1E5

 $\label{prop:continuous} \mbox{Wide choice of models depending on the indoor requirements.}$

3-14 ES	THE RESERVE AND ADDRESS OF THE PERSON NAMED IN					
AHU Connection Kit 16, 28 and 56kW	PAW-280MAH2/M/L	PAW-560MAH2/M/L	PAW-280MAH2/M/L + PAW-560MAH2/M/L	PAW-560MAH2/M/L x 2	PAW-280MAH2/M/L + PAW-560MAH2/M/L x 2	PAW-560MAH2/M/L x 3

5,6kW	6,0kW	7,3kW	9,0kW	10,6kW	14,0kW	16,0kW	22,4kW	28,0kW
S-56MU2E5A	S-60MU2E5A	S-73MU2E5A	S-90MU2E5A	S-106MU2E5A	S-140MU2E5A	S-160MU2E5A		
The state of the s								
S-56MU1E5A	S-60MU1E5A	S-73MU1E5A	S-90MU1E5A	S-106MU1E5A	S-140MU1E5A	S-160MU1E5A		
S-56MY2E5A								
S- 56ML1E5		S-73ML1E5						
S-56MD1E5		S-73MD1E5						
3-JUNIUILU		O-70PIDTE0						
S-56MF2E5A	S-60MF2E5A	S-73MF2E5A	S-90MF2E5A	S-106MF2E5A	S-140MF2E5A	S-160MF2E5A		
S-56MM1E5A								
							S-224ME2E5	S-280ME2E5
S-56MT2E5A		S-73MT2E5A		S-106MT2E5A	S-140MT2E5A			
S-56MK2E5A		S-73MK2E5A		S-106MK2E5A				
S-56MP1E5		S-71MP1E5						
S-56MR1E5		S-71MR1E5						
		11,4kW	25,0kW	31,5kW	37,5kW	-	1	1
Air Curtain Jet-F	low with					-		
DX Coil		PAW-10EAIRC-MJ	PAW-15EAIRC-MJ	PAW-20EAIRC-MJ	PAW-25EAIRC-MJ			
Air Curtain Stand	dard with				-	-		
DX Coil								

Panasonic

To find out how Panasonic cares for you, log on to: www.aircon.panasonic.eu

Panasonic Marketing Europe GmbH Panasonic Air Conditioning Hagenauer Strasse 43, 65203 Wiesbaden, Germany

•	damage and deterioration in safety due to usage of the other refrigerant. The outdoor units in this catalogue contains fluorinated greenhouse gases with a GWP higher than 150.