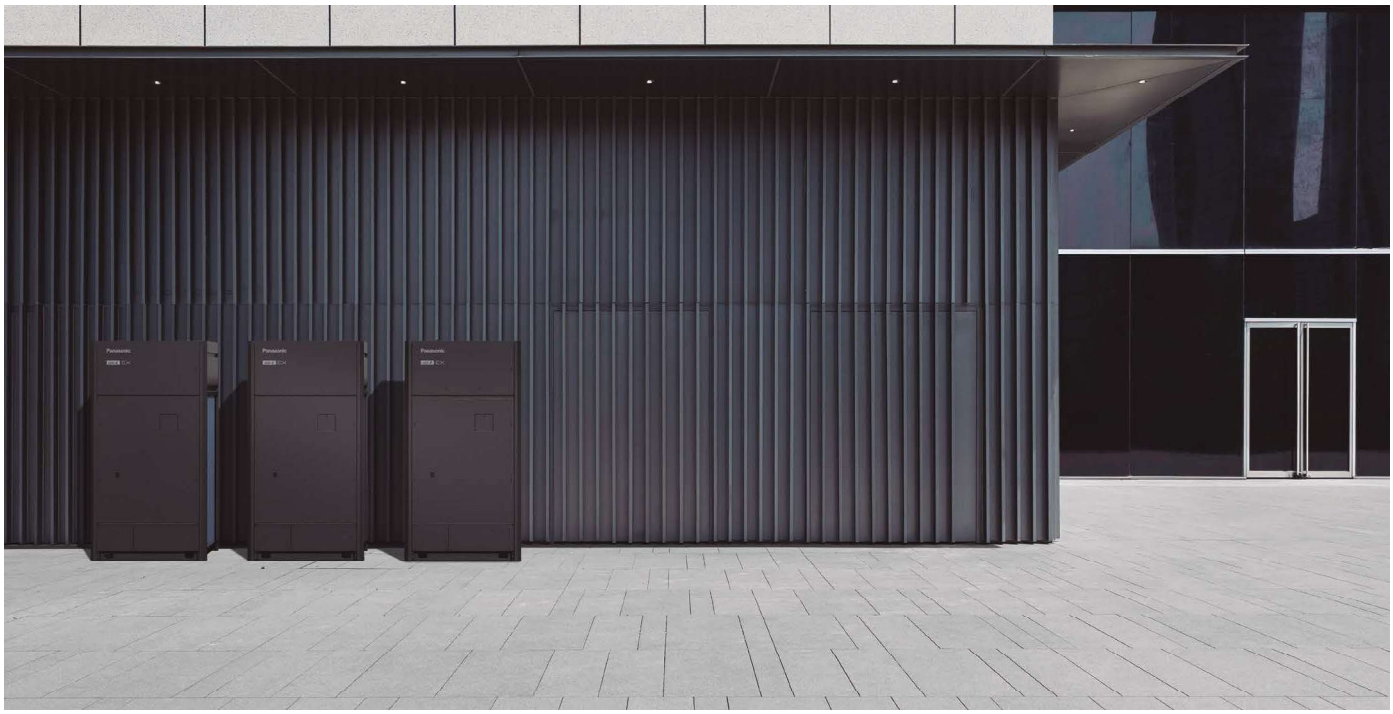
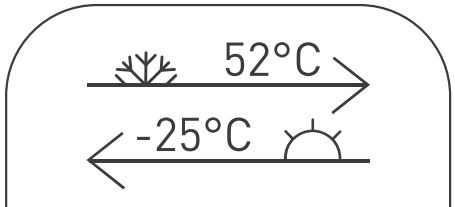
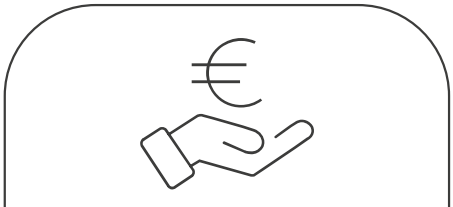
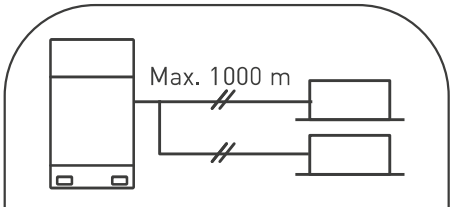
ECOi EX range

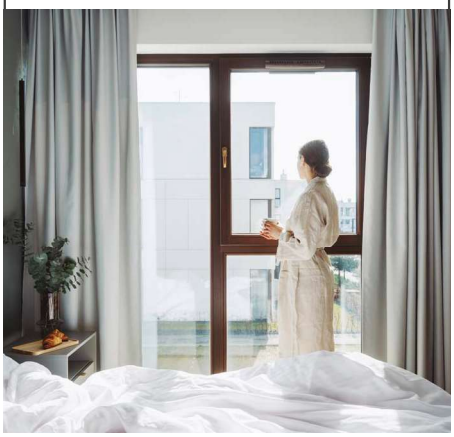
ECOi EX range system delivering energy saving performance, powerful operation, reliability and comfort surpassing anything previously possible. Taking quality to the extreme — that's the Panasonic challenge.











High performance at extreme conditions.
ECOi EX delivers reliable cooling up to 52 °C and heating down to –25 °C, ensuring strong performance even in extreme conditions. Bluefin-coated heat exchangers enhance efficiency in marine environments, while a silicone-coated PCB protects against moisture and dust*.

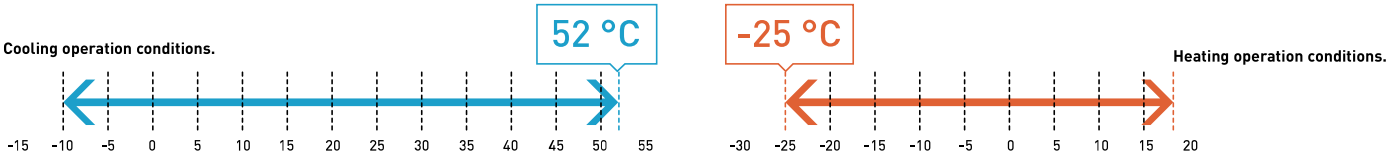
Outstanding efficiency and comfort.
- High SEER and efficient part-load performance
- All-inverter compressors with independent control for lower energy use
- Triple-surface heat exchanger + curved bell-mouth for improved efficiency
- Three-stage oil-recovery system reduces forced oil recovery and energy costs

Superior flexibility.
- Up to 1000 m piping length*
- 100 m maximum outdoor-to-indoor distance
- Wide indoor unit range for perfect project adaptation
- 30 m maximum indoor-to-indoor height difference
- Indoor/outdoor connected capacity ratio up to 200%
- Optimised with Pump Down, AHU and hydronic modules.

*Conditions of 2-Pipe ECOi EX ME2 and MZ1 Series.

Trusted reliability even under high and low temperature conditions.

Designed to be durable enough to withstand extreme heat, 2-Pipe ECOi EX Series ensures reliable cooling operation over an extended operating range up to 52 °C, and heating operation also at -25 °C.



Cooling: Outside air temperature °C (DB). Heating: Outside air temperature °C (WB).

Maximum allowable connected indoor / outdoor capacity ratio up to 200%*

ECOi EX attain maximum indoor unit connection capacity of up to 130% of the unit's connection range. This limit can be surpassed and reach up to 200% if some conditions are satisfied. With this feature, ECOi EX provides an ideal air conditioning solution for locations where full cooling / heating are not always required in all spaces at same time.

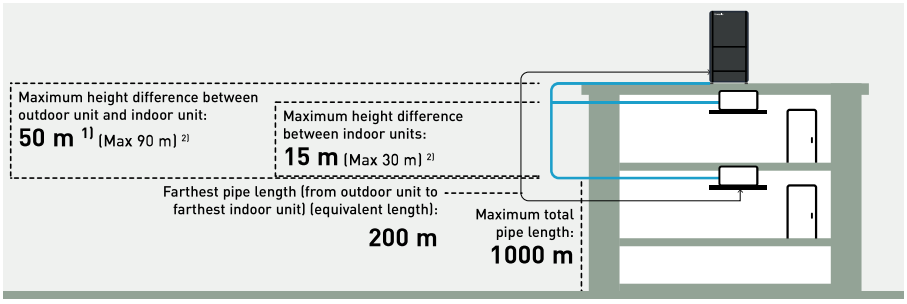
System (HP)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
Connectable indoor units: 130%	13	16	19	23	26	29	33	36	40	43	46	50	53	56	59	64																					
Connectable indoor units: 200%	20	25	30	35	40	45	50	55	60	64																											

Note: If more than 100% indoor units are operated with a high load, the units may not perform at the rated capacity. For the details, please consult with an authorised Panasonic dealer. *If the following conditions are satisfied, the effective range is above 130% up to 200%. Obey the limited number of connectable indoor units. The lower limit of operating range for heating outdoor temperature is limited to -10 °C WB (standard -25 °C WB). Simultaneous operation is limited to less than 130% of connectable indoor units. 1,5 kW capacity of Indoor Units are included. System range availability depends on the series.

Increased piping lengths and design flexibility

Adaptable to various building types and sizes. Actual piping length: 200 m. Maximum piping length: 1000 m.

1) 40 m if the outdoor unit is below the indoor unit.
2) For height differences between outdoor unit and indoor unit > 50 m, as well as for height differences between indoor units > 15 m, contact an authorized Panasonic dealer.



Superior quality, reliability and durability

High-quality components are selected to deliver exceptional energy savings and ensure long-lasting performance.

Invest in quality. Prioritise safety. Choose ECOi EX Series.

R32 MZ1 Series

R410A ME2/MF3 Series

1

High-efficiency refrigerant circuit.

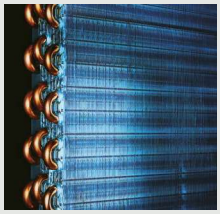
Panasonic Inverter-driven compressor.
Inverter-driven compressor equipped, to optimise high-efficiency operation year-round.
· MZ1 Series: Inverter-driven scroll compressor
· ME2/MF3 Series: Inverter-driven rotary compressor

Accumulator.
Oil returning circuit with control valve makes efficient oil recovery to compressors.

Oil separator.
Modified tank design makes efficient oil separation with less pressure drop.

Receiver tank-less design.
Improved refrigerant control program recovers the remaining refrigerant gas in the system back to the accumulator tank effectively.

2



Enlarged heat exchanger surface area with triple rows.
The unit has become more compact while maintaining high equivalent efficiency, thanks to the enlarged heat exchanger surface area with triple rows*.

*Subject to model specifications.

Anti-corrosion Bluefin treatment.
High corrosion resistance to rust and salty air for lasting performance.

3

Smooth exhaust flow by bell-mouth.
Specially designed curved air discharge bell-mouth for better aerodynamics.

4

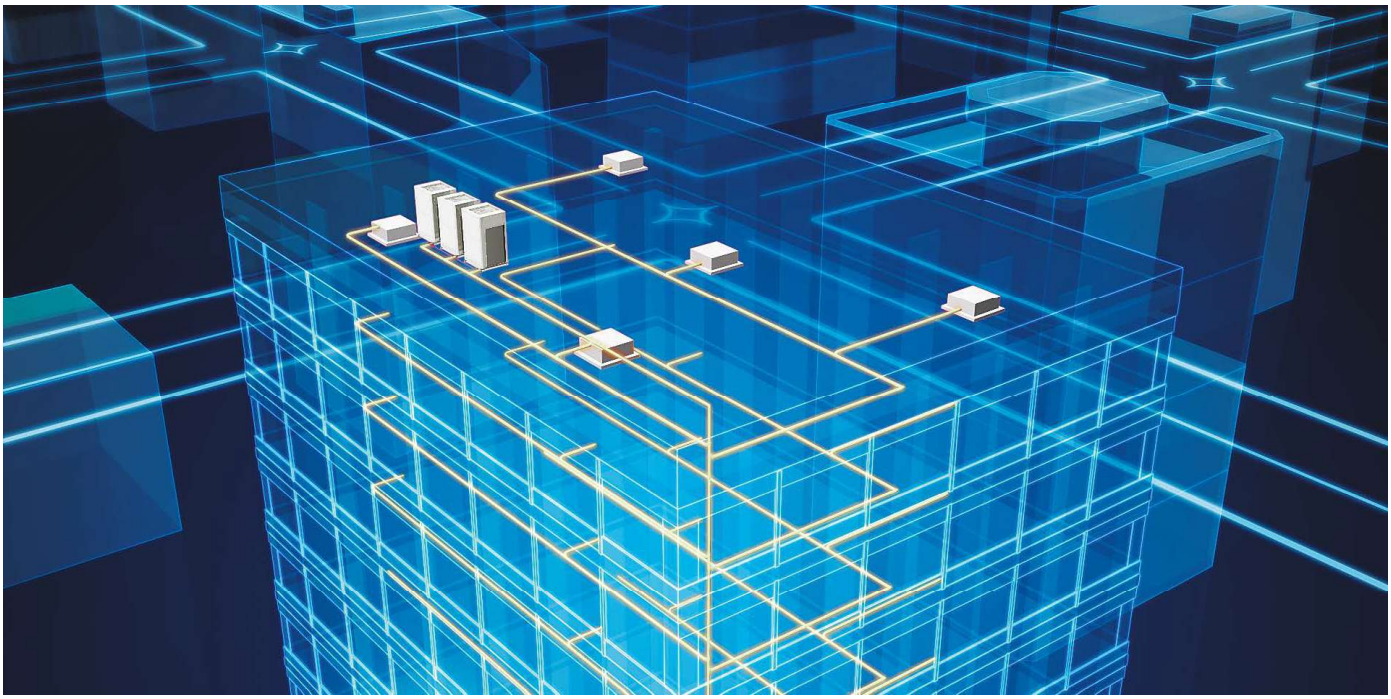
Grey panel colour.
The grey panel colour of the outdoor unit allows it to blend in and be installed discreetly on a wide variety of installations.

5

7-segment display.
7-segment display for ease of user installation, commissioning, service and maintenance.

Oil recovery intelligent control

Oil recovery intelligent control advantages: higher efficiency, durability and comfort (continuous operation, low noise and low vibration).



Intelligent 3-stage oil management system

In a VRF system, where lengthy piping and a large number of indoor units need to be controlled collectively, the key to maintaining the system's reliability is to ensure an appropriate amount of oil is secured in the compressors. In order to avoid oil shortage in the compressor, maximum operation is normally forcibly conducted at regular intervals to recover oil from indoor units. This method, typically employed in a standard VRF, causes the system to overheat or overcool and thus waste energy.
In Panasonic VRF systems, a sensor for detecting oil levels is mounted in each compressor. In installations with multiple outdoor units, a shortage of oil in one compressor can be compensated for by recovering oil either from another compressor in the same unit, from a compressor in an adjacent outdoor unit, or from connected indoor units. Panasonic VRF systems provide users with a comfortable environment whilst saving energy.

The Panasonic system efficiently manages oil recovery in three stages; minimising the frequency of forced oil recovery while reducing energy cost and maintaining comfort.

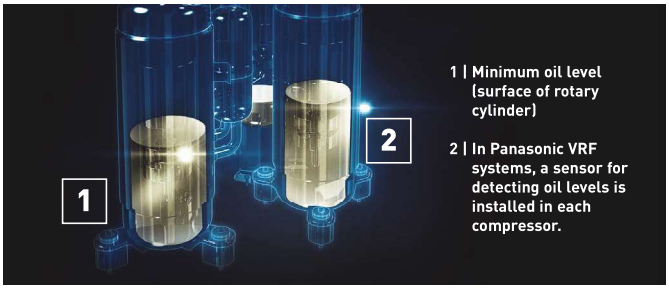
STAGE-1: Panasonic compressors are equipped with sensors which monitor oil levels precisely at all times. If oil levels fall, oil can be transferred from other compressors within the same outdoor unit*.
STAGE-2: If oil levels in all compressors within the outdoor unit fall, oil can be replenished from adjacent outdoor units.
STAGE-3: Forced oil recovery is implemented only if oil levels become insufficient in spite of above measures. The Panasonic system's design concept is radically different from conventional oil systems.

*Applicable to ECOi EX outdoor units over 14 HP (2-compressor models).

Features of oil recovery design

Oil sensors installed in each compressor*.
Oil sensors installed in each Panasonic compressor precisely monitor oil levels, eliminating unnecessary oil recovery.

*Applicable to ECOi EX outdoor units over 14 HP (2-compressor models).



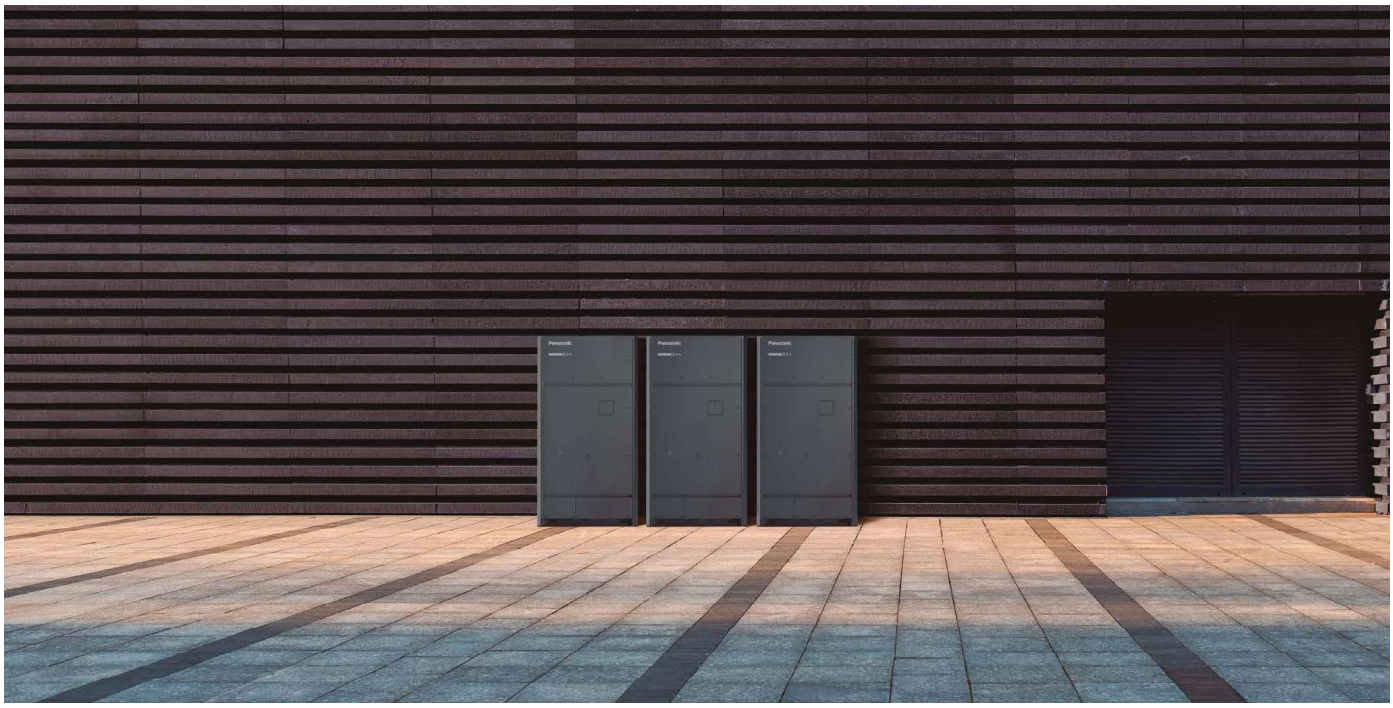
Highly functional oil separator.
Thanks to extended separate piping, oil recovery efficiency reaches 90%, minimising the oil discharged from the compressor.

ECOi EX range R32

Extreme efficiency, quality, compact.

The ECOi EX Series with R32 refrigerant has been expanded to minimise the environmental impact of VRF Systems for the decarbonised buildings.

WATCH VIDEO



Advanced R32 technology and optimised design make it a more sustainable alternative to R410A.

With lower GWP and superior efficiency, it ensures sustainability throughout its lifetime.

R32 REFRIGERANT

	2-Pipe ECOi EX MZ1 Series	3-Pipe ECOi EX MF4 Series
Capacity range	8 HP – 48 HP	8 HP – 36 HP
High seasonal efficiency ($\eta_{s,c}$ / $\eta_{s,h}$)	310,1% – 172,4% [1]	308,3% – 171,0% [2]
Extended operation range	-25 °C in heating to +52 °C in cooling	-20 °C in heating to +52 °C in cooling
Flexible piping installation	1000 m	500 m

1) U-10MZ1E8. 2) U-10MF4E8.

- RELIABLE QUALITY - R32 STANDARD-COMPLIANT [1]
- R32 MORE SUSTAINABLE SOLUTION [2]
- SAVING INSTALLATION SPACE
- SILENT MODE, MAINTAINING HIGH CAPACITY

1) Panasonic's R32 safety measures comply with IEC 60335-2-40 (ed. 7.0) and EN 378 (ISO 5149). 2) Compared to R410A systems.

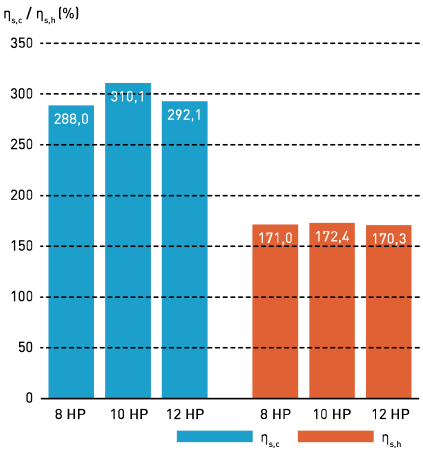
ECOi EX range R32.

Enjoy greater installation flexibility and cost savings.

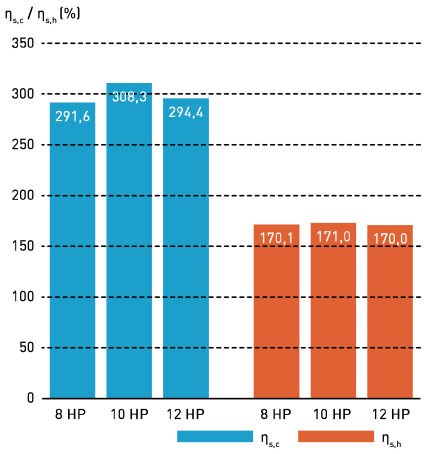
High-efficiency in a compact outdoor unit

Significantly reduced volume and a lightweight chassis help reduce design and installation work.

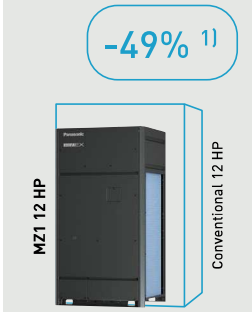
MZ1 Series seasonal efficiency.



MF4 Series seasonal efficiency.



Volume reduction.



Compact and light weight.

1) 12 HP model compared to the equivalent conventional R410A ECOi EX model. 2) 8 and 10 HP models.

R32 safety measures by Panasonic.

Everything necessary for R32 refrigerant safety is prepared by Panasonic.
Panasonic provides safety measure compliant with the latest standards, as required based on R32 refrigerant density under specific project conditions.

The safety measures which comply with EN 378 (ISO 5149) and IEC 60335-2-40 (ed. 7.0).

Leak detector – CZ-CGLSC2.
Leak detector designed for 4 way 90x90 cassettes, 4 way 60x60 cassettes, and wall-mounted units.

Leak alarm – CZ-CGLALC1.
R32 refrigerant leak alarm designed for adaptive duct, slim duct, floor standing and concealed floor standing.

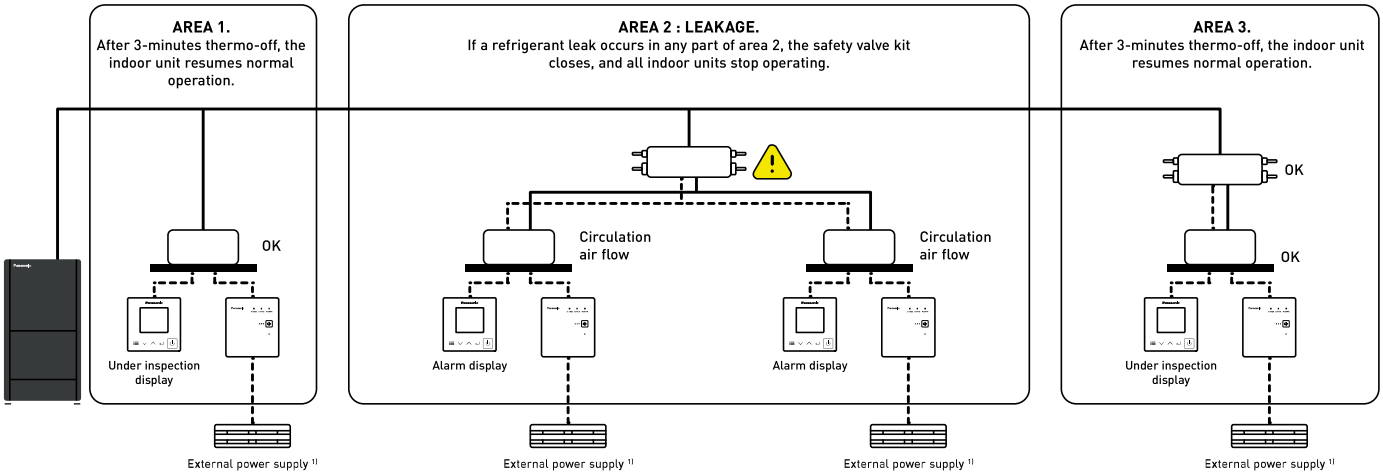
External power supply – PAW-16DC-ALC1.
External 16 V power supply (EN 378 compliant), including a leak alarm for remote locations. The leak alarm can be deactivated.

2-pipe safety valve kit – CZ-P1160SVK.
The safety valve manages the shutdown of only the area / zone experiencing a refrigerant leak, instead of shutting down the whole 2-pipe ECOi EX system.

3-pipe heat recovery box with safety valve kit – CZ-P1160SVHR.
Single-port heat recovery box for the 3-pipe ECOi EX system. The safety valve manages the shutdown of only the area / zone experiencing a refrigerant leak, instead of shutting down the whole system.

3-pipe heat recovery box – CZ-P1160HR4.
Standard single-port heat recovery box for the 3-pipe ECOi EX system.

Example of how R32 safety measures work in an HVAC system.



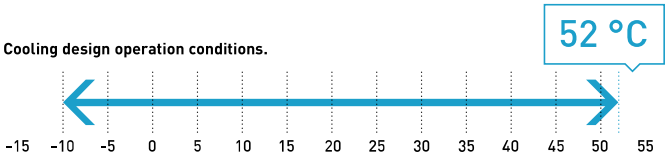
*A maximum of 1 leak detector can be connected per indoor unit or group. If a leak detector is connected, only 1 wired remote controller is allowed (no sub-controller). Up to 8 units, including indoor units and a safety valve, can be connected. 1) In accordance with EN 378-3, alarm systems such as external leak detectors and safety alarms require a power source independent of the air conditioning system they are protecting. In addition, they must have a backup power source and be able to alert a monitored location. For further information, please contact an authorised Panasonic dealer.

NEW 3-Pipe ECOi EX MF4 Series R32

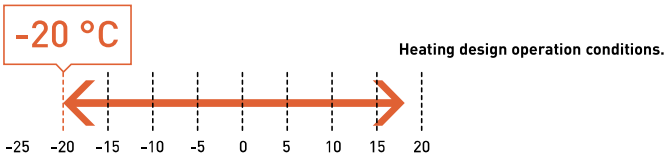
Simultaneous heating and cooling VRF system.

Core features.

Wide operating limits



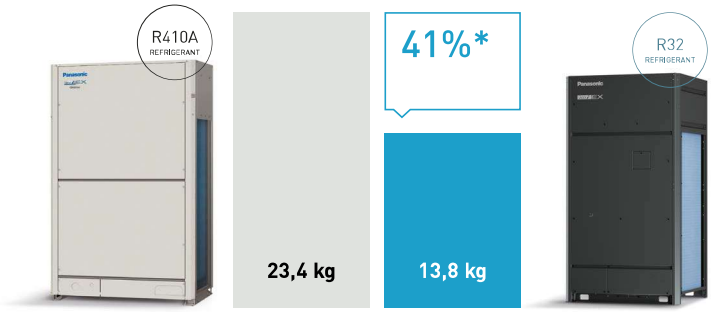
Cooling: Outside air temperature °C (DB). Heating: Outside air temperature °C (WB).



Reduced refrigerant charge, lowering the requirements for additional safety measures and piping material choice

The new MF4 Series uses only 41%* of the R32 refrigerant compared to the R410A equivalent system and supports imperial or metric piping installation.

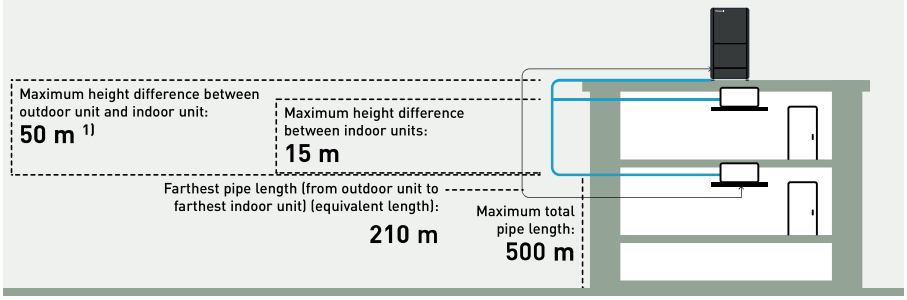
*Panasonic's internal research. 12 HP model with 80 m piping installation.



Increased piping lengths and design flexibility

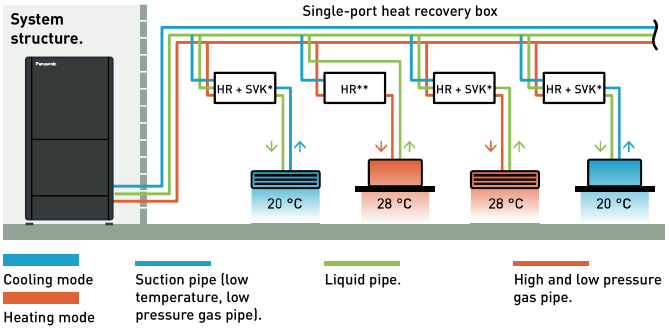
Adaptable to various building types and sizes. Actual piping length: 200 m. Maximum piping length: 500 m.

1) 40 m if the outdoor unit is below the indoor unit.



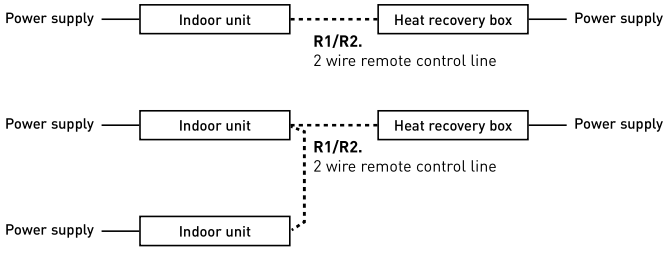
Individual control of multiple indoor units with heat recovery boxes

· Cooling operation is possible with an outdoor temperature of -10 °C.



*Heat recovery box with safety valve kit. **Heat recovery box.

Single-port heat recovery box: Wiring work.



Heat recovery box – Available with or without safety valve kit.

3-pipe heat recovery box with safety valve kit CZ-P1160SVHR.

- Single-port
- Fully compliant with IEC 60335-2-40 Ed.7
- Ideal for areas requiring R32 safety measures
- Suitable for hotel rooms, small offices

3-pipe heat recovery box CZ-P1160HR4.

- Single-port design
- Perfect for large spaces where no additional safety measures are required
- Cost-effective solution

NEW

NEW! 3-Pipe ECOi EX MF4 Series - R32

Extreme efficiency, quality, compact.
Advanced R32 refrigerant technology and optimised system design.
Wide operation range from -20 °C in heating to +52 °C in cooling.

HP			8 HP	10 HP	12 HP
Outdoor unit			**U-8MF4E8**	**U-10MF4E8**	**U-12MF4E8**
Power supply	Voltage	V	380 - 400 - 415	380 - 400 - 415	380 - 400 - 415
	Phase		Three phase	Three phase	Three phase
	Frequency	Hz	50	50	50
Cooling capacity		kW	22,4	28,0	33,5
EER [1]		W/W	3,4	3,5	3,1
Current		A	11,2 / 10,7 / 10,3	13,4 / 12,7 / 12,2	17,8 / 16,9 / 16,3
Input power		kW	6,43	7,92	10,8
Heating capacity		kW	25,0	31,5	37,5
COP [1]		W/W	4,3	4,2	3,9
Current		A	10,1 / 9,57 / 9,23	12,7 / 12,1 / 11,6	15,9 / 15,1 / 14,6
Input power		kW	5,70	7,49	9,61
Starting current		A	1,00	1,00	1,00
External static pressure (Max)		Pa	80	80	80
Air flow		m^3/min	196	205	205
Sound pressure	Normal mode (Cool / Heat)	dB(A)	58,0 / 58,0	61,0 / 61,0	64,0 / 67,0
	Silent mode 1 / 2 / 3 (Cool)	dB(A)	55,0 / 53,0 / 50,0	58,0 / 56,0 / 50,0	61,0 / 59,0 / 50,0
Sound power	Normal mode (Cool / Heat)	dB(A)	76,0 / 76,0	78,0 / 78,0	81,0 / 84,0
Dimension	H x W x D	mm	1660 x 880 x 765	1660 x 880 x 765	1660 x 880 x 765
Net weight		kg	217	218	218
Piping diameter [2]	Liquid	Inch (mm)	3/8 (9,52) / 1/2 (12,70)	3/8 (9,52) / 1/2 (12,70)	1/2 (12,70) / 5/8 (15,88)
	Gas	Inch (mm)	5/8 (15,88) / 3/4 (19,05)	5/8 (15,88) / 3/4 (19,05)	3/4 (19,05) / 7/8 (22,22)
	Suction	Inch (mm)	3/4 (19,05) / 7/8 (22,22)	3/4 (19,05) / 7/8 (22,22)	7/8 (22,22) / 1-1/8 (28,58)
	Balance	Inch (mm)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)
Refrigerant (R32) / CO_2 Eq		kg / T	8,10 / 5,47	8,80 / 5,94	9,20 / 6,21
Maximum allowable indoor / outdoor capacity ratio [3]		%	50 ~ 150	50 ~ 150	50 ~ 150
Operating range	Cool Min ~ Max	°C	-10 ~ +52	-10 ~ +52	-10 ~ +52
	Heat Min ~ Max	°C	-20 ~ +18	-20 ~ +18	-20 ~ +18
	Simultaneous op.	°C	-10 ~ +24	-10 ~ +24	-10 ~ +24

ErP data [4]			
SEER [5]	**7,36**	**7,78**	**7,43**
$\eta_{s,c}$	**291,6%**	**308,3%**	**294,4%**
SCOP [5]	**4,32**	**4,35**	**4,32**
$\eta_{s,h}$	**170,1%**	**171,0%**	**170,0%**

1) EER and COP calculation is based in accordance to EN 14511. 2) Piping diameter under 100 m for ultimate indoor unit / over 100 m for ultimate indoor unit (if the longest piping equivalent length exceeds 100 m, increase the sizes of the main tubes by 1 rank for gas tubes and liquid tubes). 3) If the following conditions are satisfied, the effective range is above 130% and below 200%: A. Obey the limited number of connectable indoor units. B. The lower limit of operating range for heating outdoor temperature is limited to -10 °C WB (standard -25 °C WB). C. Simultaneous operation is limited to less than 130% of connectable indoor units. 4) SEER / SCOP and $\eta_{s,c}$ / $\eta_{s,h}$ are in accordance with ErP test data for U2 type 4 way 90x90 cassette indoor units. 5) 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.
*Available in Summer 2026.

Technical focus

- 8-12 HP available in single systems, with scalability up to 36 HP in multi-combination systems
- Optional R32 refrigerant safety measures, including a heat recovery box with integrated safety valve kit, are available
- Compact outdoor unit with up to 43% smaller footprint and 49% reduced volume
- Uses only 41% of the R32 refrigerant charge required by an equivalent R410A system, reducing the need for additional safety measures
- Bluefin-coated heat exchanger as standard
- Extensive R32 product range, with all air-to-air indoor units equipped with nanoe™ X
- Wide range of connectivity options, including BMS integration for seamless system control and monitoring

R32 REFRIGERANT | INVERTER+ | ALL INVERTER COMPRESSORS | -20 °C HEATING MODE | 52 °C COOLING MODE | BLUEFIN | PS COMMERCIAL SMART EDGE | 5 YEARS COMPRESSOR WARRANTY

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

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 or www.ptc.panasonic.eu.

3-Pipe ECOi EX MF4 Series combination from 16 to 36 HP - R32

HP			16 HP	18 HP	20 HP	20 HP	22 HP	24 HP	24 HP	26 HP
Outdoor unit			U-8MF4E8	U-8MF4E8	U-8MF4E8	U-10MF4E8	U-10MF4E8	U-12MF4E8	U-8MF4E8	U-8MF4E8
			U-8MF4E8	U-10MF4E8	U-12MF4E8	U-10MF4E8	U-12MF4E8	U-12MF4E8	U-8MF4E8	U-8MF4E8
									U-8MF4E8	U-10MF4E8
Power supply	Voltage	V	380-400-415	380-400-415	380-400-415	380-400-415	380-400-415	380-400-415	380-400-415	380-400-415
	Phase		Three phase	Three phase	Three phase	Three phase	Three phase	Three phase	Three phase	Three phase
	Frequency	Hz	50	50	50	50	50	50	50	50
Cooling capacity		kW	44,8	50,4	55,9	56,0	61,5	67,0	67,2	72,8
EER [1]		W/W	3,4	3,5	3,2	3,5	3,2	3,1	3,4	3,5
SEER [2] / $\eta_{s,c}$			**7,36-291,6%**	**7,58-300,4%**	**7,38-292,3%**	**7,78-308,3%**	**7,55-299,3%**	**7,38-292,5%**	**291,6-7,36%**	**7,50-297,0%**
Current		A	11,2-10,7-10,3	13,4-12,7-12,2	17,8-16,9-16,3	13,4-12,7-12,2	17,8-16,9-16,3	17,8-16,9-16,3	11,2-10,7-10,3	13,4-12,7-12,2
Input power		kW	12,9	14,4	17,3	15,9	18,8	21,6	19,3	20,8
Heating capacity		kW	50,0	56,5	62,5	63,0	69,0	75,0	75,0	81,5
COP [1]		W/W	4,3	4,2	4,0	4,2	4,0	3,8	4,3	4,3
SCOP [2] / $\eta_{s,h}$			**4,32-170,0%**	**4,32-169,9%**	**4,30-169,3%**	**4,35-171,0%**	**4,30-169,2%**	**4,32-169,9%**	**4,32-170,0%**	**4,30-169,1%**
Current		A	10,1-9,57-9,23	12,7-12,1-11,6	15,9-15,1-14,6	12,7-12,1-11,6	15,9-15,1-14,6	15,9-15,1-14,6	10,1-9,57-9,23	12,7-12,1-11,6
Input power		kW	11,4	13,2	15,4	15,0	17,1	19,3	17,1	18,9
Starting current		A	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
External static pressure (Max)		Pa	80	80	80	80	80	80	80	80
Air flow		m^3/min	392	401	401	410	410	410	588	597
Sound pressure	Normal mode (Cool / Heat)	dB(A)	61,0/61,0	63,0/63,0	65,0/67,5	64,0/64,0	66,0/68,0	67,0/70,0	63,0/63,0	64,0/64,0
	Silent mode 1 / 2 (Cool)	dB(A)	58,0/56,0	60,0/58,0	62,0/60,0	61,0/59,0	63,0/61,0	64,0/62,0	60,0/58,0	61,0/59,0
Sound power	Normal mode (Cool / Heat)	dB(A)	79,0/79,0	80,5/80,5	82,5/85,0	81,0/81,0	83,0/85,0	84,0/87,0	81,0/81,0	81,5/81,5
Dimension	H x W x D	mm	1660 x 1760 (+60) x 765	1660 x 1760 (+60) x 765	1660 x 1760 (+60) x 765	1660 x 1760 (+60) x 765	1660 x 1760 (+60) x 765	1660 x 1760 (+60) x 765	1660 x 2640 (+120) x 765	1660 x 2640 (+120) x 765
Net weight		kg	434	435	435	436	436	436	651	652
Piping diameter [3]	Liquid	Inch (mm)	1/2 (12,70) / 5/8 (15,88)	1/2 (12,70) / 5/8 (15,88)	1/2 (12,70) / 5/8 (15,88)	1/2 (12,70) / 5/8 (15,88)	1/2 (12,70) / 5/8 (15,88)	1/2 (12,70) / 5/8 (15,88)	1/2 (12,70) / 5/8 (15,88)	1/2 (12,70) / 5/8 (15,88)
	Gas	Inch (mm)	3/4 (19,05) / 7/8 (22,22)	3/4 (19,05) / 7/8 (22,22)	7/8 (22,22) / 1-1/8 (28,58)	7/8 (22,22) / 1-1/8 (28,58)	7/8 (22,22) / 1-1/8 (28,58)	7/8 (22,22) / 1-1/8 (28,58)	7/8 (22,22) / 1-1/8 (28,58)	7/8 (22,22) / 1-1/8 (28,58)
	Suction	Inch (mm)	7/8 (22,22) / 1-1/8 (28,58)	7/8 (22,22) / 1-1/8 (28,58)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)
	Balance	Inch (mm)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)
Refrigerant (R32) / CO_2 Eq.		kg / T	16,2/10,94	16,9/11,41	17,3/11,68	17,6/11,88	18,0/12,15	18,4/12,42	24,3/16,40	25,0/16,88
Maximum allowable indoor / outdoor capacity ratio [4]		%	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150
Operating range	Cool Min ~ Max	°C	-10 ~ +52	-10 ~ +52	-10 ~ +52	-10 ~ +52	-10 ~ +52	-10 ~ +52	-10 ~ +52	-10 ~ +52
	Heat Min ~ Max	°C	-20 ~ +18	-20 ~ +18	-20 ~ +18	-20 ~ +18	-20 ~ +18	-20 ~ +18	-20 ~ +18	-20 ~ +18
	Simultaneous op.	°C	-10 ~ +24	-10 ~ +24	-10 ~ +24	-10 ~ +24	-10 ~ +24	-10 ~ +24	-10 ~ +24	-10 ~ +24

1) EER and COP calculation is based in accordance to 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. SEER / SCOP and ηs,c / ηs,h are in accordance with ErP test data for U2 type 4 way 90x90 cassette indoor units. 3) Piping diameter under 100 m for ultimate indoor unit / over 100 m for ultimate indoor unit (if the longest piping equivalent length exceeds 100 m, increase the sizes of the main tubes by 1 rank for gas tubes and liquid tubes). 4) If the following conditions are satisfied, the effective range is above 130% and below 200%: A. Obey the limited number of connectable indoor units. B. The lower limit of operating range for heating outdoor temperature is limited to -10 °C WB (standard -25 °C WB). C. Simultaneous operation is limited to less than 130% of connectable indoor units.

HP			28 HP	28 HP	30 HP	30 HP	32 HP	32 HP	34 HP	36 HP
Outdoor unit			U-8MF4E8	U-8MF4E8	U-8MF4E8	U-10MF4E8	U-8MF4E8	U-10MF4E8	U-10MF4E8	U-12MF4E8
			U-8MF4E8	U-10MF4E8	U-10MF4E8	U-10MF4E8	U-12MF4E8	U-10MF4E8	U-12MF4E8	U-12MF4E8
			U-12MF4E8	U-10MF4E8	U-12MF4E8	U-10MF4E8	U-12MF4E8	U-12MF4E8	U-12MF4E8	U-12MF4E8
Power supply	Voltage	V	380-400-415	380-400-415	380-400-415	380-400-415	380-400-415	380-400-415	380-400-415	380-400-415
	Phase		Three phase	Three phase	Three phase	Three phase	Three phase	Three phase	Three phase	Three phase
	Frequency	Hz	50	50	50	50	50	50	50	50
Cooling capacity		kW	78,3	78,4	83,9	84,0	89,4	89,5	95,0	100,0
EER [1]		W/W	3,3	3,5	3,3	3,5	3,1	3,3	3,2	3,0
SEER [2] / $\eta_{s,c}$			**7,34-290,6%**	**7,59-300,9%**	**7,51-297,6%**	**7,73-306,2%**	**7,34-290,7%**	**7,61-301,5%**	**7,50-297,3%**	**7,39-292,8%**
Current		A	17,8-16,9-16,3	13,4-12,7-12,2	17,8-16,9-16,3	13,4-12,7-12,2	17,8-16,9-16,3	17,8-16,9-16,3	17,8-16,9-16,3	17,8-16,9-16,3
Input power		kW	23,7	22,3	25,2	23,8	28,1	26,7	29,6	32,4
Heating capacity		kW	87,5	88,0	94,0	94,5	100,0	100,0	106,0	112,0
COP [1]		W/W	4,1	4,2	4,1	4,2	4,0	4,0	3,9	3,8
SCOP [2] / $\eta_{s,h}$			**4,29-168,7%**	**4,32-170,0%**	**4,31-169,4%**	**4,35-171,0%**	**4,29-168,9%**	**4,33-170,3%**	**4,30-169,2%**	**4,32-170,0%**
Current		A	15,9-15,1-14,6	12,7-12,1-11,6	15,9-15,1-14,6	12,7-12,1-11,6	15,9-15,1-14,6	15,9-15,1-14,6	15,9-15,1-14,6	15,9-15,1-14,6
Input power		kW	21,1	20,7	22,8	22,5	25,0	24,6	26,8	28,9
Starting current		A	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
External static pressure (Max)		Pa	80	80	80	80	80	80	80	80
Air flow		m^3/min	597	606	606	615	606	615	615	615
Sound pressure	Normal mode (Cool / Heat)	dB(A)	66,0/68,0	65,0/65,0	66,5/68,5	66,0/66,0	67,5/70,5	67,0/69,0	68,0/70,5	69,0/72,0
	Silent mode 1 / 2 (Cool)	dB(A)	63,0/61,0	62,0/60,0	63,5/61,5	63,0/61,0	64,5/62,5	64,0/62,0	65,0/63,0	66,0/64,0
Sound power	Normal mode (Cool / Heat)	dB(A)	83,5/85,5	82,5/82,5	83,5/85,5	83,0/83,0	85,0/87,5	84,0/86,0	85,0/87,5	86,0/89,0
Dimension	H x W x D	mm	1660 x 2640 (+120) x 765	1660 x 2640 (+120) x 765	1660 x 2640 (+120) x 765	1660 x 2640 (+120) x 765	1660 x 2640 (+120) x 765	1660 x 2640 (+120) x 765	1660 x 2640 (+120) x 765	1660 x 2640 (+120) x 765
Net weight		kg	652	653	653	654	653	654	654	654
Piping diameter [3]	Liquid	Inch (mm)	1/2 (12,70) / 5/8 (15,88)	1/2 (12,70) / 5/8 (15,88)	5/8 (15,88) / 3/4 (19,05)	5/8 (15,88) / 3/4 (19,05)	5/8 (15,88) / 3/4 (19,05)	5/8 (15,88) / 3/4 (19,05)	5/8 (15,88) / 3/4 (19,05)	5/8 (15,88) / 3/4 (19,05)
	Gas	Inch (mm)	7/8 (22,22) / 1-1/8 (28,58)	7/8 (22,22) / 1-1/8 (28,58)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)
	Suction	Inch (mm)	1-1/8 (28,58) / 1-3/8 (34,96)	1-1/8 (28,58) / 1-3/8 (34,96)	1-3/8 (34,96) / 15/8 (15,88)	1-3/8 (34,96) / 15/8 (15,88)	1-3/8 (34,96) / 15/8 (15,88)	1-3/8 (34,96) / 15/8 (15,88)	1-3/8 (34,96) / 15/8 (15,88)	1-3/8 (34,96) / 15/8 (15,88)
	Balance	Inch (mm)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)
Refrigerant (R32) / CO_2 Eq.		kg / T	25,4/17,15	25,7/17,35	26,1/17,62	26,4/17,82	26,5/17,89	26,8/18,09	27,2/18,36	27,6/18,63
Maximum allowable indoor / outdoor capacity ratio [4]		%	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150
Operating range	Cool Min ~ Max	°C	-10 ~ +52	-10 ~ +52	-10 ~ +52	-10 ~ +52	-10 ~ +52	-10 ~ +52	-10 ~ +52	-10 ~ +52
	Heat Min ~ Max	°C	-20 ~ +18	-20 ~ +18	-20 ~ +18	-20 ~ +18	-20 ~ +18	-20 ~ +18	-20 ~ +18	-20 ~ +18
	Simultaneous op.	°C	-10 ~ +24	-10 ~ +24	-10 ~ +24	-10 ~ +24	-10 ~ +24	-10 ~ +24	-10 ~ +24	-10 ~ +24

1) EER and COP calculation is based in accordance to 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. SEER / SCOP and ηs,c / ηs,h are in accordance with ErP test data for U2 type 4 way 90x90 cassette indoor units. 3) Piping diameter under 100 m for ultimate indoor unit / over 100 m for ultimate indoor unit (if the longest piping equivalent length exceeds 100 m, increase the sizes of the main tubes by 1 rank for gas tubes and liquid tubes). 4) If the following conditions are satisfied, the effective range is above 130% and below 200%: A. Obey the limited number of connectable indoor units. B. The lower limit of operating range for heating outdoor temperature is limited to -10 °C WB (standard -25 °C WB). C. Simultaneous operation is limited to less than 130% of connectable indoor units.

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 or www.ptc.panasonic.eu.