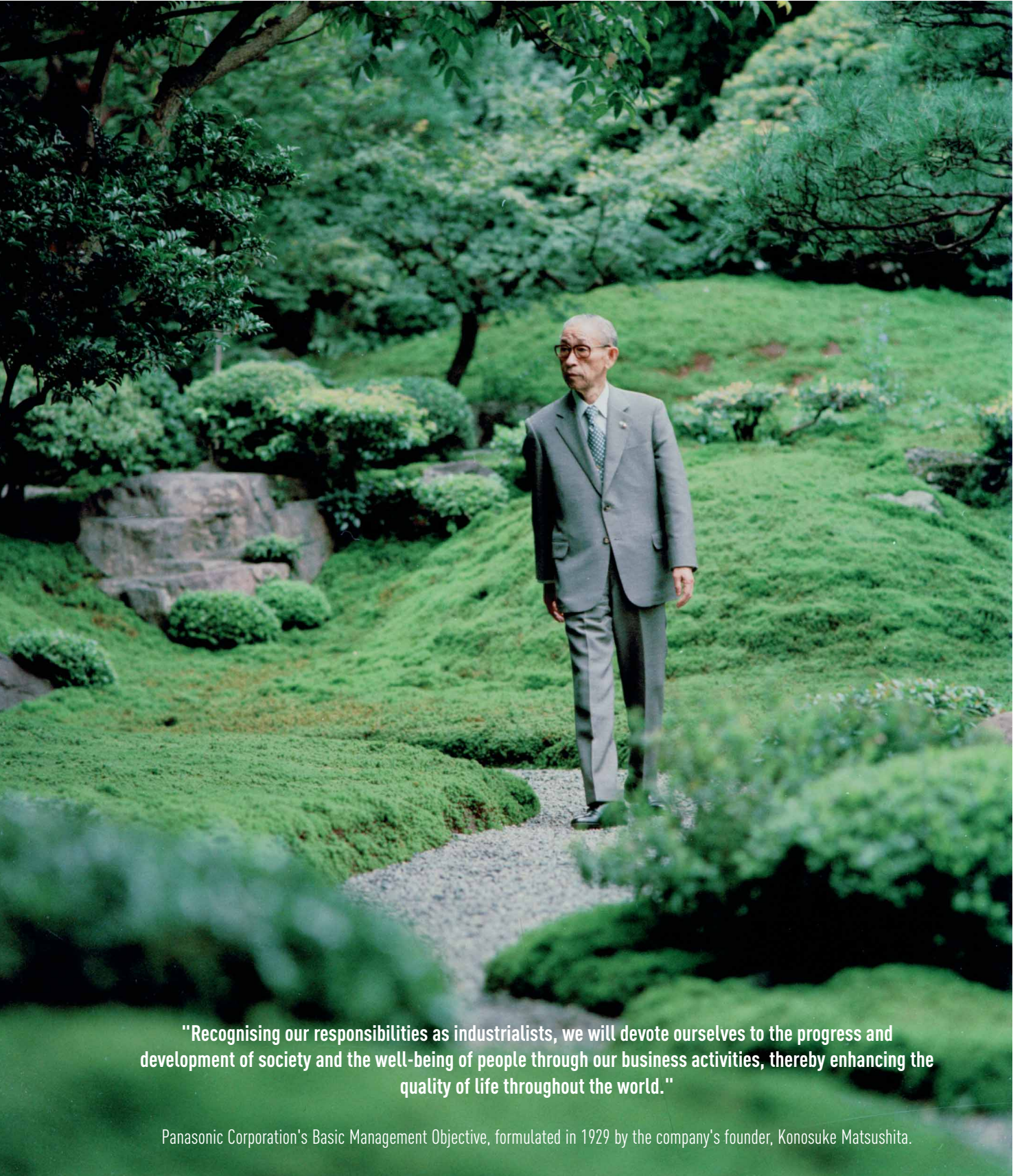


NEW ECO G VRF SYSTEMS 2018 — 2019

**THE ADVANCED GAS
DRIVEN VRF SYSTEM**



A DESIRE TO CREATE THINGS OF VALUE



"Recognising our responsibilities as industrialists, we will devote ourselves to the progress and development of society and the well-being of people through our business activities, thereby enhancing the quality of life throughout the world."

Panasonic Corporation's Basic Management Objective, formulated in 1929 by the company's founder, Konosuke Matsushita.

Panasonic: celebrating two major milestones in 2018.



Panasonic Corporation, 100th anniversary

Look ahead to the "Future," keep taking on challenges. Starting back in 1918, Panasonic has constantly added to its guarantee for innovation, taking tomorrow's technologies and applying them to today's needs.

Always making "people" central to our activities, and thereby focusing on "people's lives," we will continue to provide better living for our customers. This is the unchanging commitment we at Panasonic have had over many years.

Now, we are aiming to expand our contribution to "better living" everywhere. This means that in the variety of spaces where our customers go about their lives, ranging from inside the home, the office, the store, the automobile, and the airplane, as well as in the town, we will provide not only single pieces of hardware, but also total solutions including software and services. We will pursue the concept of "A Better Life, A Better World," meeting the needs of each individual customer.

To that end, we will leverage the strengths that we at Panasonic have long developed in our consumer electronics business, together with the strengths of our business partners who have in-depth expertise in many areas, and we will work to combine these strengths by pursuing "Cross-Value Innovation." In this way, we will create new value. This is the new and challenging task we are now addressing.



Panasonic Heating and Cooling, 60th anniversary

Panasonic starts with a desire to create things of value. Sixty years ago, as hard work and dedication results in one innovative product after another, the new company took its first steps towards becoming the electronics giant of today. Heating and Cooling Solutions designed and produced by Panasonic since 1958.



60th Anniversary
heating & cooling solutions



1971

Starts production of absorption chillers.



1973

Panasonic launches the first highly efficient air-to-water heat pump in Japan.



1975

Panasonic becomes the first Japanese air conditioner manufacturer in Europe.



1985

Introduces first GHP (gas heat pump) VRF air conditioner.



1989

Introduces world's first simultaneous 3-Pipe heating/cooling VRF system.



2008

Etherea new concept: high efficiency and high performances with a great design.



2010

New Aquarea. Panasonic introduces Aquarea, an innovative new, low-energy system in Europe.



2012

New GHP units. Panasonic's gas-driven VRF systems are ideal for projects where power restrictions apply.



2016

New VRF Systems ECOi EX with Extraordinary Energy-Saving Performance.



Looking ahead

The first Hybrid System with VRF and GHP in Europe.

100% PANASONIC, THE DNA OF
JAPANESE CRAFTSMANSHIP



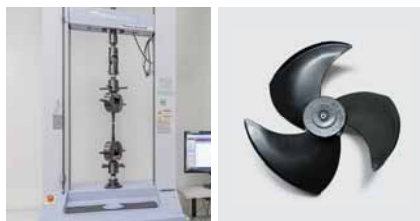
Applying advanced technologies that truly make life better, we live by an unparalleled commitment to product quality. Panasonic is building on the Japanese tradition of uncompromising quality control worldwide, developing and manufacturing fine products and delivering them to customers everywhere.

At Panasonic, we believe that the best air conditioner is one that works quietly and effectively in the background whilst minimising its impact on the environment

People who use our products can look forward to long years of high-quality performance without the need for constant service. As part of our rigorous design and development process, Panasonic air conditioners undergo a variety of stringent tests to ensure their effectiveness and long-term reliability. Tests for durability, waterproofing, shock resistance, and noise are conducted on component parts or on the finished products themselves. As a result of all of these time consuming efforts, Panasonic air conditioners meet industrial standards and regulations in every country where they are sold.

International Standard Quality

To uphold the company's reputation around the world, Panasonic strives continuously to offer quality with minimized environmental impact.



Reliable parts that meet or exceed industrial standards.

In every country where they are sold, Panasonic air conditioners comply with all required industrial standards and regulations. In addition, Panasonic conducts stringent testing to ensure the reliability of parts and materials. The strength of the resin material used in a propeller fan is confirmed by a tension test.



Compliance with RoHS / REACH substance restrictions.

Panasonic products and used materials strictly comply with chemical substance restrictions as defined by RoHS or REACH. During the development and production of parts, stringent inspections are conducted on over 100 materials to ensure that no hazardous substances are included.



Sophisticated production process.

Panasonic's air conditioner production lines employ state-of-the-art factory automation technologies to ensure products are manufactured with high attention to quality to meet expectations of reliability and trustworthiness.

Durability

At Panasonic we know the importance of a long service life with minimal maintenance. That's why we subject our air conditioners to a wide range of stringent durability tests.



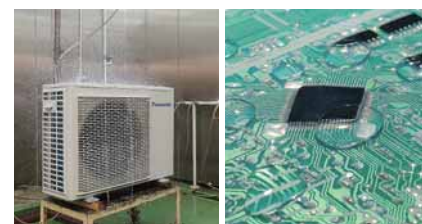
Long-term durability test.

To ensure durability and stable operation for many years, we conduct a long-term continuous operation test under conditions that are much more severe than actual operating conditions.



Compressor reliability test.

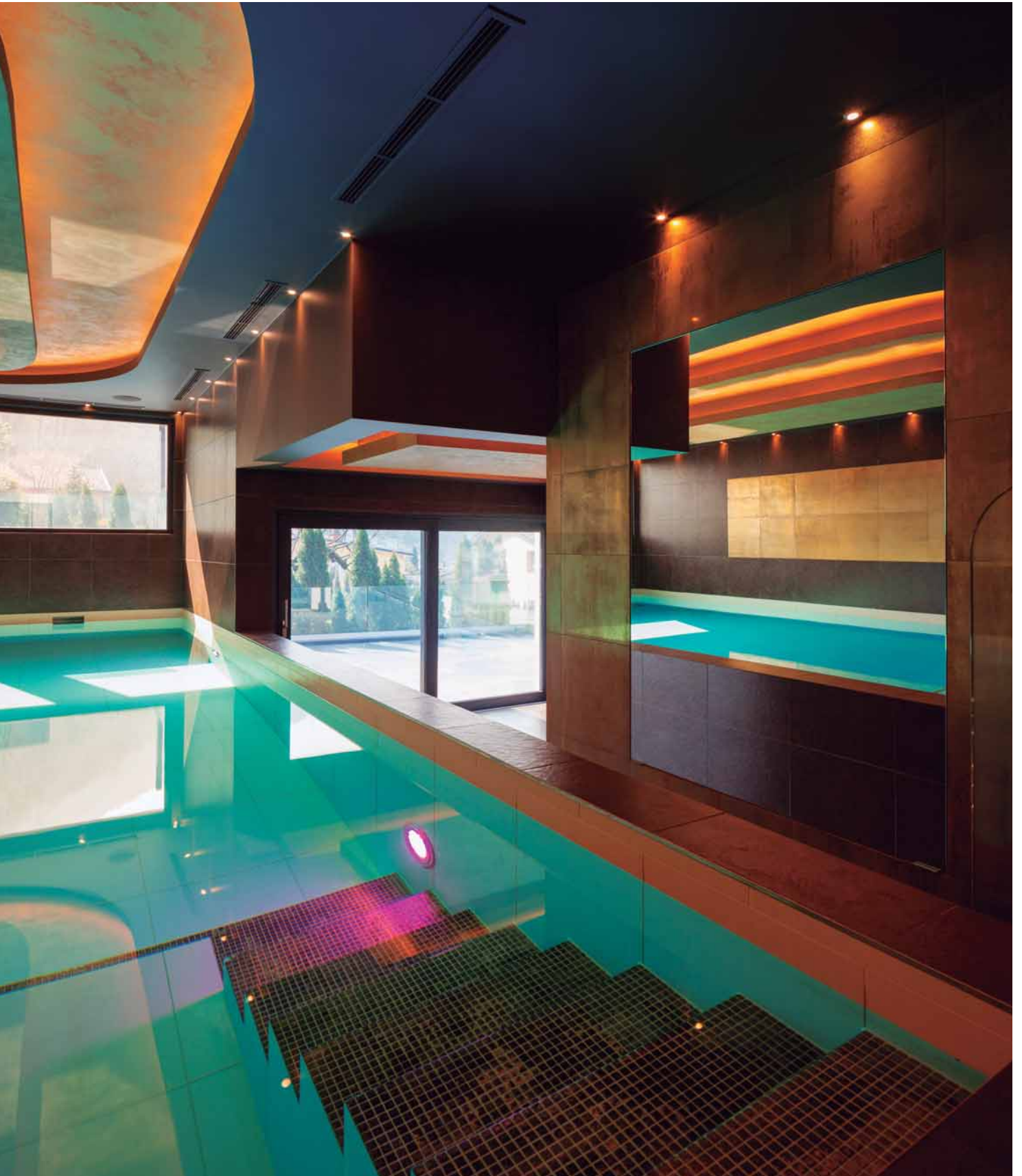
After the continuous operation test, we remove the compressor from a selected outdoor unit, disassemble it, and examine the internal mechanisms and parts for potential failure. This helps ensure reliable long-term performance under harsh conditions.



Waterproofing test.

The unit - which is subject to rain and wind - complies with IPX4 waterproof specifications. Contact sections on printed circuit boards are resin-potted to prevent adverse effects caused by exposure to water (an unlikely occurrence).

ECO G, THE GAS DRIVEN VRF





The advanced Gas Driven VRF system offers increased efficiency and performance across the range. Improvements include increased part load performance, reduced gas consumption with a Miller-cycle engine and reduced electrical consumption by using DC-Fan motors.

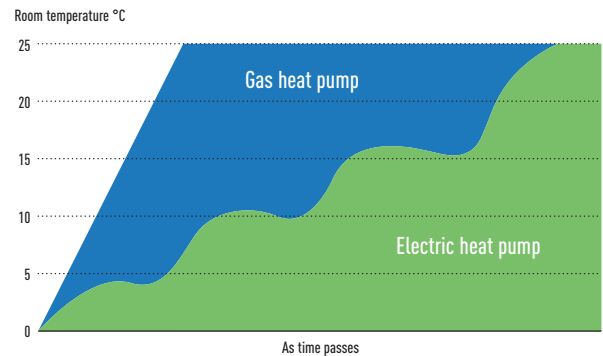
1 Limited electric supply
Electric consumption of ECO G is only 9% compared to ECOi because gas engine is utilized for the compressor driving source.

2 High demand of DHW with heating and cooling cogeneration
DHW is produced effectively thanks to heat from engine exhaust during heating and cooling.

3 Open and flexible design
ECO G system is designed to connect various Indoor units and controllers which is available for ECOi system. With new GE3 series, Pump sown system has been also implemented to answer commercial needs.

4 Quick start up in heating at low ambient temperature
Gas heat pump systems make your building comfortably warm by a quick start up with waste heat from engine. Heating mode works from -21°C of ambient temperature.

Comparison of heating capacity.



2-Pipe ECO G GE3 Series

Designed for better energy efficiency. SEER has been increased by maximum 120%.



NEW 3-Pipe ECO G GF3 Series

Domestic hot water can be supplied by effectively using waste heat generated by heating & cooling.

GE3/GF3 connectable indoor units

Type	Model number reference	2-Pipe ECO G GE3 Series	NEW 3-Pipe ECO G GF3 Series
Standard AZA indoor units	—	Yes ¹	Yes ¹
Water Heat Exchanger	PAW-WX4E5N/5N2	Yes ²	No
High Static Pressure Hide Away	S-ME2E5	Yes	No
Heat Recovery with DX Coil	PAW-ZDX3N	Yes	Yes
Air Curtain with DX Coil	PAW-EAIRC-MJ/MS	Yes	Yes ³
AHU Connection Kit	PAW-MAH2/M/L	Yes	Yes ³

1) Except for 1,5kW capacity. 2) Allowed 1:1 and also mixed. If mixed, not operate at the same time WHE + DX only operate separately. 3) Smaller capacity than 16kW only.

ECO G, THE GAS DRIVEN VRF

200.000
GHP outdoor units
were sold in all over
the world

ECO G satisfies special requirement for your application and environmentally friendly solution by Panasonic professional technology.

Reliable quality by long development history since 1985.

Our ECO G VRF range of commercial systems is leading the industry in the development of efficient and flexible systems

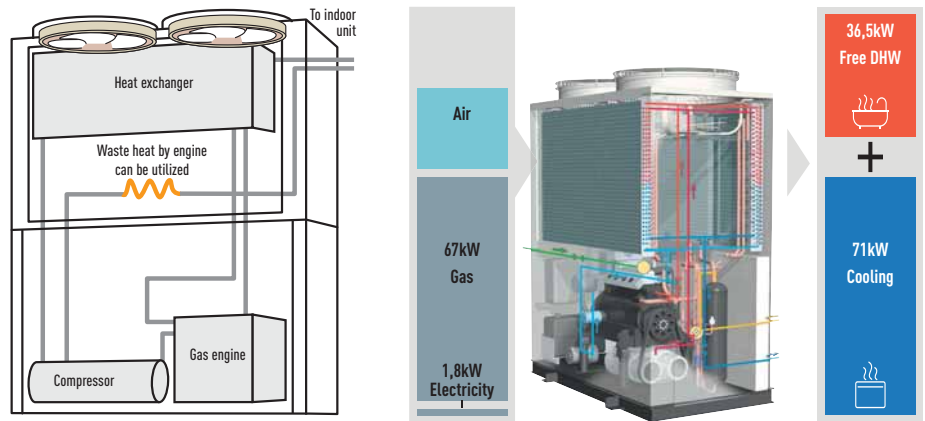


What is GHP? The Gas Heat Pump (GHP)

Panasonic Gas Heat Pump is a direct expansion system with compressor as same as VRF system. Gas engine is used as driving source of compressor instead of electric motor. This gas engine compressor drive has 2 advantages:

1. Waste heat from the gas engine available
2. No need for motor power consumption thanks to gas engine

GHP is the natural choice for commercial projects, especially for those projects where power restrictions apply.



* Regarding a 25HP model.

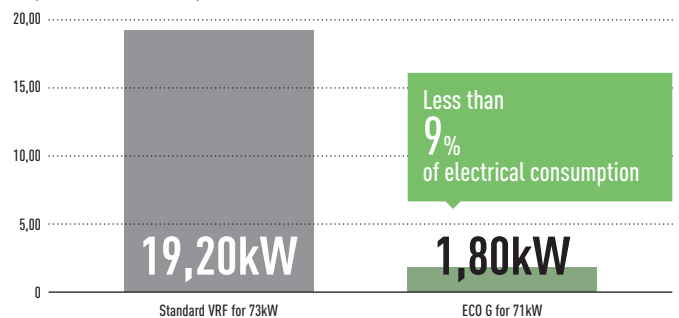
Power supply problems?

If you are short of electric power, our ECO G is a perfect solution.

- Runs on natural gas or LPG and just needs single phase supply
- Enables the building's electrical power supply to be used for other critical electrical demands
- Reduces capital cost to upgrade power substations to run heating and cooling systems
- Reduces power loadings within a building especially during peak periods
- Electricity supply freed up for other uses such as IT servers, commercial refrigeration, manufacturing, lighting, etc...

Limited electricity area.

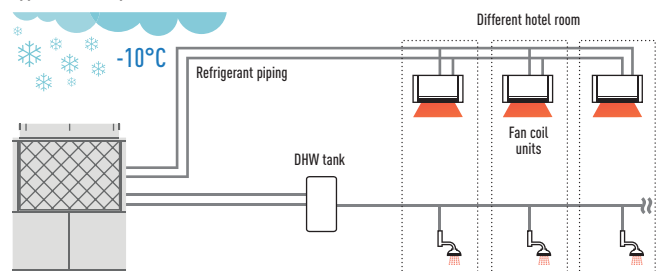
Comparison of electrical consumption on a 71kW outdoor unit.



High demand of Domestic Hot Water in heating and cooling

The rejected heat from the engine is available for DHW production and can supply up to 46kW of hot water at 65°C. DHW at 65°C is also ready to use in heating without additional electric heaters.

Application example: Hotel



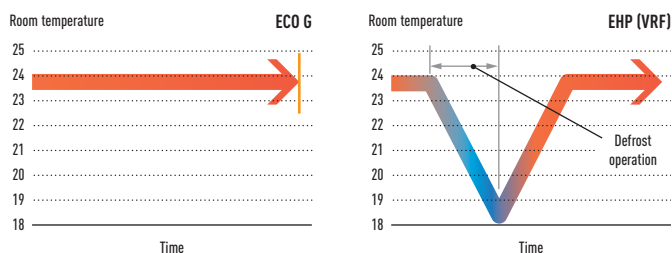
No need additional electric heaters. * This scheme is also valid with WHE.

Hot water at 65°C

Quick start up and great heating capacity at low ambient temperature

Waste heat from gas engine is utilized to raise temperature quicker than electric VRF system.

This contributes great heating capacity at extremely low ambient temperature.



Lowest nitrogen oxide emissions.

The ECO G VRF systems have low nitrogen oxide emissions. In a pioneering development, the Panasonic ECO G features a brand new lean-burn combustion system that utilizes air fuel ratio feedback control to reduce NOx emissions to an all time low.

Water chiller option.

Our ECO G system is also available with a water chiller option, which can be combined with individual outdoor units or as part of a DX chilled water mix of indoor units. The system can be operated via a BMS system or a Panasonic supplied control panel, with chilled water set points from -15°C ~ +15°C and heating set points 35°C ~ +55°C.

Application

Application	Condition	ECO G
Hotel	High DHW demand	✓
Hotel	Needs to warm up swimming pool	✓ Energy recovery of ECO G system can fulfill different requirement
Office	Quick start up is necessary	✓ Speed of start up is quicker than VRF system
Winery	1) Outlet water demand at specific temperature 2) Needs high amount of power temporary (not every month)	✓ 1) Chiller application with hydro module (ECO G + WHE) can make this special process ✓ 2) Running cost can be saved since fixed Gas tariff per month is cheaper than fixed electric tariff.
Any building	In a city with power restriction	✓ - No need an additional power transformer - Space and cost can be saved
	At extremely low ambient condition	✓ Heating capacity is kept up to -20°C without defrost process

Project Case Studies



Savills HQ Dublin & Google Block R. Ireland.

ECO G 3-way units with a 243kW load. The project has been such a success that it has recently been awarded a Panasonic PRO Award for Best Contribution of efficient projects within Europe.



Thomas Cook's Sunprime Atlantic View resort.

A holiday resort in the Canaries. Spain. 229 rooms plus full spa and swimming pool facility.



CAPITA call centre. UK.

11 ECO G 3-way units. Over 150 indoor units in meeting rooms and open-plan areas. Intelligent touch screen controller, the CZ-256ESMC2.



French winery Gennevilliers, France.

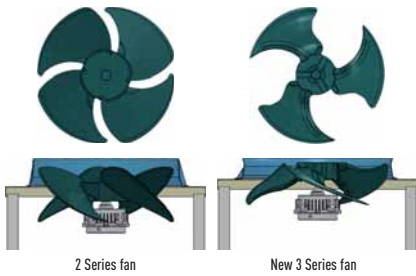
ECO G 3-way units. One of the best solution utilized our ECO G solution for wine production process.

ECO G 3 SERIES

Improvement in blast efficiency

New 3-blades fan.

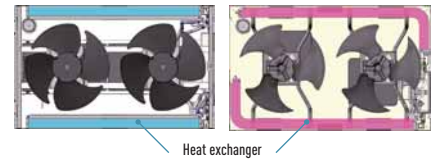
Propeller shape with 3 blades is more efficient
Max. 30% of fan electrical consumption is saved compared to conventional fan.



New "L" type heat exchanger

Heat exchanger surface area is included by 25% compared to conventional model to optimize efficiency.

Heat exchanger surface area **25% up**

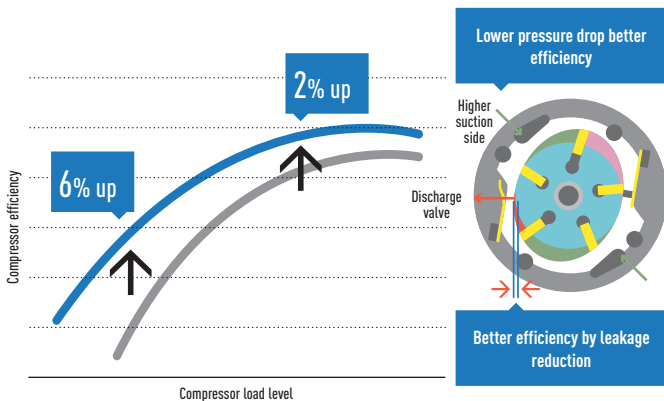


Better partial load control

Reduce start / stop loss has reduced by expanding the are where continuous operation is possible. Annual operation efficiency has further improved by better efficiency at lower partial load.

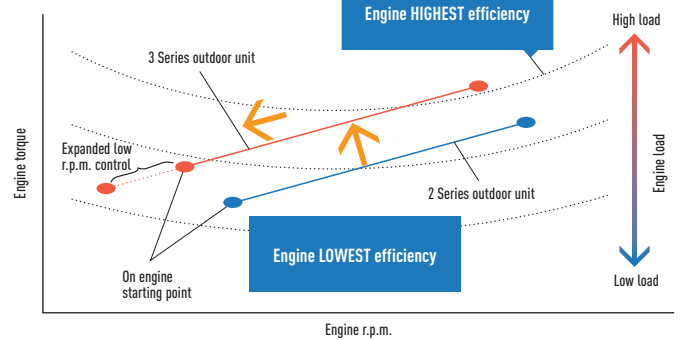
Compressor.

- Amount of internal leakage has reduced by the reduction of clearance, the compressor efficiency in the low load and low rotation region has been greatly improved. Moreover, efficiency of high speed and high load is also improved by reduction of suction pressure loss due to expansion of suction path
- Optimize compressor capacity



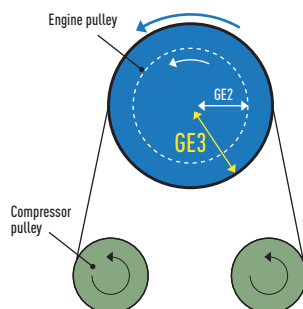
Engine.

- Continuous operation area has expanded at lower partial load by expanding operation area of lower speed
- Engine efficiency has improved by shifting output points to higher torque side



Engine pulley.

- Bigger diameter of engine pulley contributes the optimization of the compressor rotation speed ratio with engine speed
Higher engine pulley diameter giving better performance at partial load and reducing ON/OFF operation.



Line up of GE3 2-Pipe W-Multi

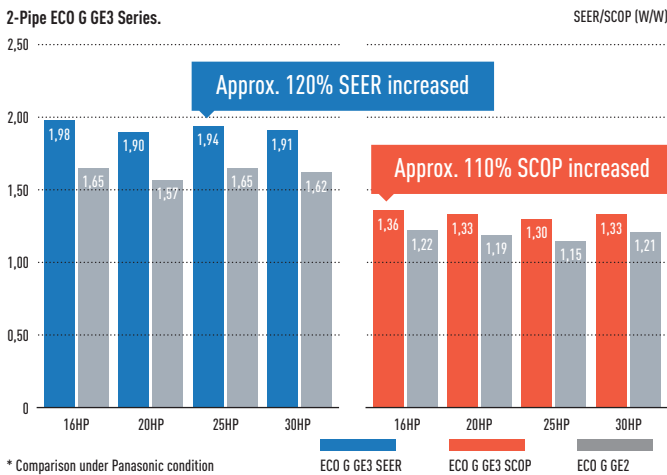
- For new or renewal
- Available for water heat exchanger
- Maximum 60HP combination

Introducing new ECO G 3 Series.
Optimized energy saving with reliable Panasonic technologies.

The highest seasonal performance in all capacity ranges

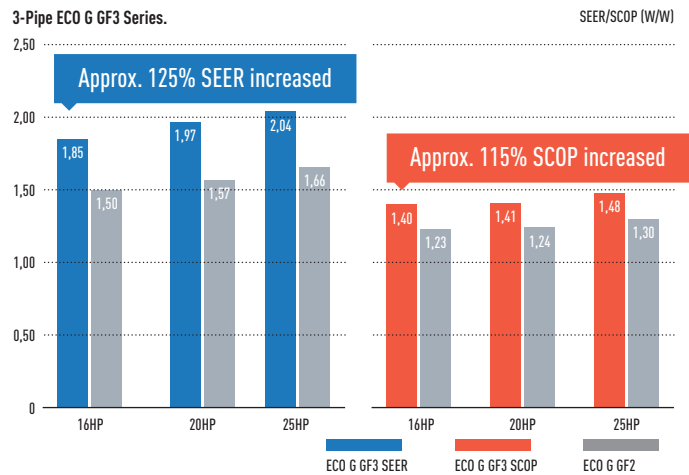
High power efficiency of W-Multi system.

ECO G 3 Series system offers seasonal efficiency which has been drastically improved with new heat exchanger design, blast efficiency, partial load control.



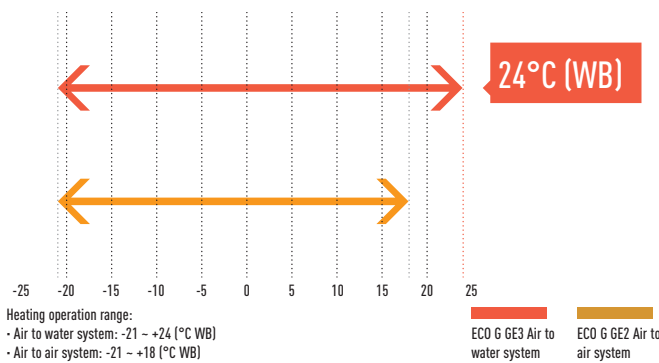
Compared to conventional model ECO G 2 Series.

All models are newly developed and have maximum 25% of SEER, 15% of SCOP better than conventional model.



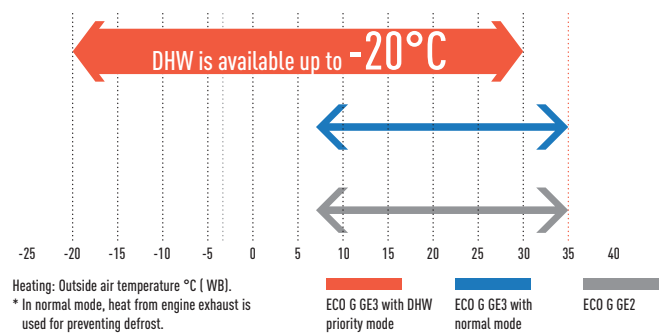
Heating design operation conditions (GE3)

Operating range in heating has been expanded up to 24°C (WB) for air to water system to meet the demand of swimming pool application.



DHW priority mode setting in heating (GE3)

Ambient temperature range for DHW production is expandable by setting depending on DHW needs. Hot water at 65°C is available in heating without additional electric heaters.



No defrost requirement (GE3 / GF3)

No defrost mode is selectable to get higher capacity under low ambient temperature.

Flexible design with wide line up of indoor units

The advanced GE3 series can connect up to 64 indoor units.

Series	16HP	20HP	25HP	30HP	32HP	36HP	40HP	45HP	50HP	55HP	60HP
2-Pipe ECO G GE3 Series	26	33	41	50	52	59	64	64	64	64	64
3-Pipe ECO G GF3 Series	24	24	24	—	—	—	—	—	—	—	—

2-PIPE ECO G GE3 SERIES



The new GE3 Series has a top level of seasonal efficiency in this category. In addition, this product fits with special needs for commercial application thanks to DHW priority setting and Auto pump down functions.

Technical focus

- Superior seasonal energy efficiency, maximum 240,1%
- DHW priority setting
- Operating range in heating down to -21°C and up to +24°C for air to water system
- No defrost cycle
- Capacity ratio 50 ~ 200%¹⁾
- 0-10V control demand by a connection with 3rd party controllers (CZ-CAPBC2 required)
- Option of DX or chilled water for indoor heat exchange
- Maximum total piping length: 780m

1) 50 ~ 200% only when one outdoor unit is installed. In other cases 50 ~ 130%.

HP			16HP	20HP	25HP	30HP
Model			U-16GE3E5	U-20GE3E5	U-25GE3E5	U-30GE3E5
Power supply	Voltage	V	220/230/240	220/230/240	220/230/240	220/230/240
	Phase		Single Phase	Single Phase	Single Phase	Single Phase
	Frequency	Hz	50	50	50	50
Cooling capacity		kW	45,00	56,00	71,00	85,00
Refrigeration load Pdesign		kW	45,00	56,00	71,00	85,00
ηsc (LOT21)¹⁾		%	220,60	219,30	240,10	229,30
Input power cooling		kW	1,17	1,12	1,80	1,80
Hot water in cooling mode (at 65°C outlet)		kW	23,60	29,10	36,40	46,00
Max COP in hot water		W/W	1,55	1,55	1,49	1,47
Gas consumption cooling		kW	41,10	52,10	67,20	84,10
Heating capacity	Standard	kW	50,00	63,00	80,00	95,00
	Low temperature	kW	53,00	67,00	78,00	90,00
Refrigeration load Pdesign		kW	37,00	53,00	60,00	65,00
ηsh (LOT21)¹⁾		%	150,60	143,70	146,90	151,30
Input power heating		kW	0,56	1,05	0,91	1,75
Gas consumption heating	Standard	kW	38,00	51,10	68,60	75,30
	Low temperature	kW	45,40	62,70	60,70	73,90
Starter amperes		A	30	30	30	30
External static pressure		Pa	10	10	10	10
Air volume		m ³ /min	370	420	460	460
Sound power		dB	80/77	80/77	84/81	84/81
Dimension	H x W x D	mm	2255 x 1650 x 1000	2255 x 1650 x 1000	2255 x 2026 x 1000	2255 x 2026 x 1000
Net weight		kg	765	765	870	880
Piping connections	Liquid pipe	Inch (mm)	1/2 (12,70)	5/8 (15,88)	5/8 (15,88)	3/4 (19,05)
	Gas pipe	Inch (mm)	1-1/8 (28,58)	1-1/8 (28,58)	1-1/8 (28,58)	1-1/4 (31,75)
	Balance pipe	Inch (mm)	—	—	—	—
Elevation difference (in/out)			50	50	50	50
Refrigerant (R410A)		kg/TCO ₂ Eq.	11,50/24,00	11,50/24,00	11,50/24,00	11,50/24,00
Maximum number of connectable indoor units			26	33	41	50
Operating range	Cool Min ~ Max	°C (DB)	-10 ~ +43	-10 ~ +43	-10 ~ +43	-10 ~ +43
	Heat Min ~ Max	°C (WB)	-21 ~ +18	-21 ~ +18	-21 ~ +18	-21 ~ +18

1) SEER/SCOP is calculated based on the seasonal space cooling/heating efficiency "η" values of the COMMISSION REGULATION (EU) 2016/2281.

Hot water take out function added, EU safety regulation standard cleared. 25HP chassis enlarged due to specification improvement. Pre-coat corrosion fin. Auto pump down function.



2-PIPE ECO G GE3 SERIES COMBINATION



The new GE3 Series has a top level of seasonal efficiency in this category. In addition, this product fits with special needs for commercial application thanks to DHW priority setting and Auto pump down functions.

Technical focus

- Maximum 60HP combination
- Superior seasonal energy efficiency, maximum 240,1%
- DHW priority setting
- Operating range in heating down to -21°C and up to +24°C for air to water system
- No defrost cycle
- 0-10V control demand by a connection with 3rd party controllers (CZ-CAPBC2 required)
- Option of DX or chilled water for indoor heat exchange
- Maximum total piping length: 780m

HP			32HP	36HP	40HP	45HP	50HP	55HP	60HP
Model			U-16GE3E5	U-16GE3E5	U-20GE3E5	U-20GE3E5	U-25GE3E5	U-25GE3E5	U-30GE3E5
			U-16GE3E5	U-20GE3E5	U-20GE3E5	U-25GE3E5	U-25GE3E5	U-30GE3E5	U-30GE3E5
Power supply	Voltage	V	220/230/240	220/230/240	220/230/240	220/230/240	220/230/240	220/230/240	220/230/240
	Phase		Single Phase	Single Phase	Single Phase	Single Phase	Single Phase	Single Phase	Single Phase
	Frequency	Hz	50	50	50	50	50	50	50
Cooling capacity		kW	90,00	101,00	112,00	127,00	142,00	156,00	170,00
Input power cooling		kW	2,34	2,29	2,24	2,92	3,60	3,60	3,60
Hot water in cooling mode (at 65°C outlet)		kW	47,20	52,70	58,20	65,50	72,80	82,40	92,00
Max COP in hot water		W/W	1,55	1,55	1,55	1,52	1,49	1,48	1,47
Gas consumption cooling		kW	82,20	93,20	104,20	119,30	134,40	151,30	168,20
Heating capacity	Standard	kW	100,00	113,00	126,00	143,00	160,00	175,00	190,00
	Low temperature	kW	106,00	120,00	134,00	145,00	156,00	168,00	180,00
Input power heating		kW	1,12	1,61	2,10	1,96	1,82	2,66	3,50
Gas consumption heating	Standard	kW	76,00	89,10	102,20	119,70	137,20	143,90	150,60
	Low temperature	kW	90,80	108,10	125,40	123,40	121,40	134,60	147,80
Starter amperes		A	30	30	30	30	30	30	30
External static pressure		Pa	10	10	10	10	10	10	10
Air volume		m ³ /min	370/370	370/420	420/420	420/460	460/460	460/460	460/460
Sound power		dB	83/80	83/80	83/80	86/83	87/84	87/84	87/84
Dimension	Height	mm	2255	2255	2255	2255	2255	2255	2255
	Width	mm	1650 + 100 + 1650	1650 + 100 + 1650	1650 + 100 + 1650	1650 + 100 + 2026	2026 + 100 + 2026	2026 + 100 + 2026	2026 + 100 + 2026
	Depth	mm	1000	1000	1000	1000	1000	1000	1000
Net weight		kg	1530 (765 + 765)	1530 (765 + 765)	1530 (765 + 765)	1635 (765 + 870)	1740 (870 + 870)	1750 (870 + 880)	1760 (880 + 880)
Piping connections	Liquid pipe	Inch (mm)	3/4 (19,05)	3/4 (19,05)	3/4 (19,05)	3/4 (19,05)	3/4 (19,05)	7/8 (22,22)	7/8 (22,22)
	Gas pipe	Inch (mm)	1-1/4 (31,75)	1-1/4 (31,75)	1-1/2 (38,10)	1-1/2 (38,10)	1-1/2 (38,10)	1-1/2 (38,10)	1-1/2 (38,10)
	Balance pipe	Inch (mm)	—	—	—	—	—	—	—
Elevation difference (in/out)			50	50	50	50	50	50	
Refrigerant (R410A)		kg/TCO ₂ Eq.	2x 11,50/24,00	2x 11,50/24,00	2x 11,50/24,00	2x 11,50/24,00	2x 11,50/24,00	2x 11,50/24,00	2x 11,50/24,00
Maximum number of connectable indoor units			52	59	64	64	64	64	64
Operating range	Cool Min ~ Max	°C	-10 ~ +43	-10 ~ +43	-10 ~ +43	-10 ~ +43	-10 ~ +43	-10 ~ +43	-10 ~ +43
	Heat Min ~ Max	°C	-21 ~ +18	-21 ~ +18	-21 ~ +18	-21 ~ +18	-21 ~ +18	-21 ~ +18	-21 ~ +18

Data is for reference. Hot water take out function added, EU safety regulation standard cleared. 25HP chassis enlarged due to specification improvement. Pre-coat corrosion fin. Auto pump down function.



3-PIPE ECO G GF3 SERIES



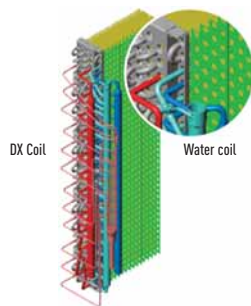
Power supply problems?

If you are short of electrical power, our gas heat pump could be the perfect solution:

- Runs on natural gas or LPG and just needs Single Phase supply
- Enables the building's electrical power supply to be used for other critical electrical demands
- Reduces capital cost to upgrade power substations to run heating and cooling systems
- Reduces power loadings within a building especially during peak periods
- Electricity supply freed up for other uses such as IT servers, commercial refrigeration, manufacturing, lighting etc.

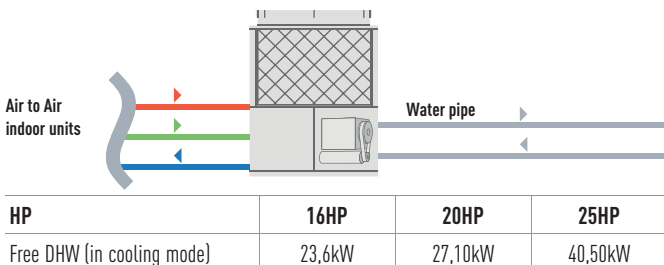
ECO G Outdoor Heat Exchanger.

- Integrated DX and hot water coil
- No defrost required
- Faster reaction to demand for heating



DHW production in heating and cooling

Free DHW is available 365 days a year, in all seasons. Hot water is produced effectively from waste heat from engine. Perfect solution for hotel projects required high demand of hot water.



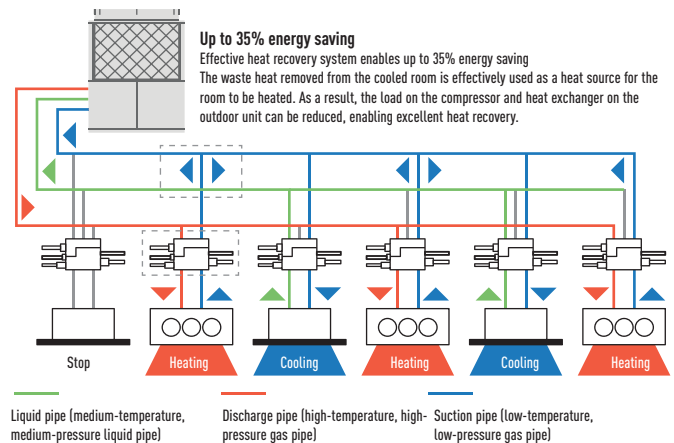
Excellent performance and free Domestic Hot Water

Panasonic 3-Pipe Multi system is capable of simultaneous heating/cooling and individual operation of each indoor unit by only one outdoor unit. As a result, efficient individual air conditioning is possible in buildings having diverse room temperatures.

In addition, Domestic Hot Water is created for free in cooling mode without additional boilers or electric heaters.

System example.

Improved maintenance intervals. The unit only needs to be serviced every 10,000 hours. This is the best in the industry.



Solenoid valve kit.

To be fitted on all 'zones' to allow simultaneous heating and cooling. Up to 24 indoor units are capable of simultaneous heating/cooling operation. Oil-recovery operation to gives more stable comfort air-conditioning control.

3-Pipe control Solenoid valve kit



CZ-P56HR3
Up to 5,6kW
CZ-P160HR3
Up to 16,0kW

KIT-P56HR3
(CZ-P56HR3+CZ-CAPE2)
KIT-P160HR3
(CZ-P160HR3+CZ-CAPE2)

3-Pipe control PCB



CZ-CAPE2*
3-Pipe control PCB

* For wall mounted. Must be added to the CZ-P56HR3 or CZ-P160HR3.

**HOT WATER
AT 65°C
OUTLET FOR
FREE**





New 3-Pipe ECO G GF3 Series.

DHW available in all seasons

Domestic hot water can be taken out from waste heat of engine effectively in heating & cooling - all year round.

Outstanding seasonal energy efficiency, maximum 204,9%

- Capacity ratio 50 ~ 200%
- No defrost cycle
- Maximum total piping length: 780m

Flexible installation

- Full heating capacity down to -21°C (WB)
- DHW production for all the year
- Maximum 24 indoor units connectable

HP			16HP	20HP	25HP
Model			U-16GF3E5	U-20GF3E5	U-25GF3E5
Power supply	Voltage	V	220/230/240	220/230/240	220/230/240
	Phase		Single Phase	Single Phase	Single Phase
	Frequency	Hz	50	50	50
Cooling capacity		kW	45,00	56,00	71,00
Refrigeration load Pdesign		kW	45,00	56,00	71,00
η_{sc} (LOT21) ¹		%	185,20	198,80	204,90
Input power cooling		kW	1,17	1,40	1,80
Hot water in cooling mode (at 65°C outlet)		kW	23,60	27,10	40,50
Gas consumption cooling		kW	45,80	54,80	73,70
Heating capacity	Standard	kW	50,00	63,00	80,00
	Low temperature	kW	53,00	67,00	78,00
Refrigeration load Pdesign		kW	38,00	52,00	60,00
η_{sh} (LOT21) ¹		%	139,20	140,20	150,90
Input power heating		kW	0,56	1,05	0,91
Gas consumption heating	Standard	kW	42,20	51,10	68,60
Starter amperes		A	30	30	30
Air volume		m ³ /min	370	400	460
Sound power		dB	80/77	81/78	84/81
Dimension	H x W x D	mm	2255 x 1650 x 1000	2255 x 1650 x 1000	2255 x 2026 x 1000
Net weight		kg	775	775	880
	Gas	Inch (mm)	1 1/8 (28,58)	1 1/8 (28,58)	1 1/8 (28,58)
Piping connections	Liquid	Inch (mm)	3/4 (19,05)	3/4 (19,05)	3/4 (19,05)
	Discharge	Inch (mm)	7/8 (22,22)	1 (25,40)	1 (25,40)
	Fuel gas		R3/4	R3/4	R3/4
	Exhaust drain port	mm	25	25	25
Elevation difference (in/out)		m	50	50	50
Refrigerant (R410A)		kg/TCO ₂ Eq.	11,50/24,00	11,50/24,00	11,50/24,00
Maximum number of connectable indoor units			24	24	24
Operating range	Cool Min ~ Max	°C	-10 ~ +43	-10 ~ +43	-10 ~ +43
	Heat Min ~ Max	°C	-21 ~ +18	-21 ~ +18	-21 ~ +18

Solenoid valve kit

KIT-P56HR3	KIT-P56HR3	3-Pipe control Solenoid valve kit (up to 5,6kW)
	CZ-P56HR3	Solenoid valve kit (up to 5,6kW)
	CZ-CAPE2	3-Pipe control PCB
KIT-P160HR3	KIT-P160HR3	3-Pipe control Solenoid valve kit (from 5,6 to 10,6kW)
	CZ-P160HR3	Solenoid valve kit (up to 16,0kW)
	CZ-CAPE2	3-Pipe control PCB
CZ-CAPEK2	3-Pipe control PCB for wall mounted	

3-Pipe control box kit

CZ-P456HR3	4 ports 3 pipe box (up to 5,6kW)
CZ-P656HR3	6 ports 3 pipe box (up to 5,6kW)
CZ-P856HR3	8 ports 3 pipe box (up to 5,6kW)
CZ-P4160HR3	4 ports 3 pipe box (up to 16,0kW)



1) SEER/SCOP is calculated based on the seasonal space cooling/heating efficiency " η " values of the COMMISSION REGULATION (EU) 2016/2281.
Hot water take out function added, EU safety regulation standard cleared. 25HP chassis enlarged due to specification improvement.
Pre-coat corrosion fin. Auto pump down function.

WATER HEAT EXCHANGER FOR HYDRONIC APPLICATIONS

When a top London restaurant opened, it needed large volumes of fresh air to ensure the optimum dining environment. ECO G units connected to the cooling coils within the air handling equipment ensured the air was introduced in the right condition in both summer and winter.

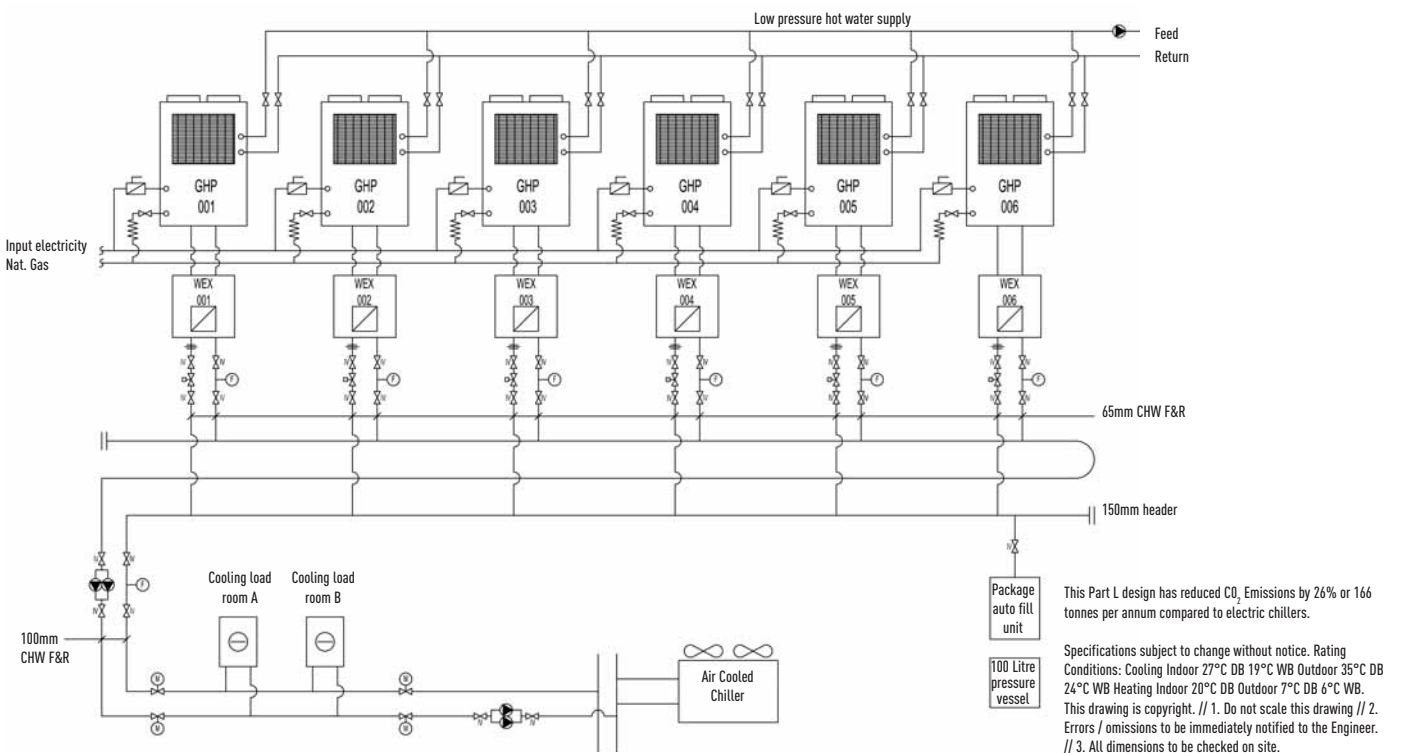
Chiller replacement. Chilled water supply to fan coils

When some old chillers needed replacing at the end of their operational lifetime, ECO Gs with Water Heat Exchangers enabled the project to be carried out in stages whilst still utilising the existing water pipe work and fan coils. This enabled the project to be delivered on time, to a restricted budget and avoided all issues regarding refrigerant in confined spaces.



Connection to 'close control' computer equipment. Computer room applications.

When all available electrical power needed to be utilised for the IT equipment for a leading international bank, the cooling load of over 450kW had to be powered by gas. The outdoor units were connected via Water Heat Exchangers to cooling coils inside the 'close control' units thereby maintaining a conditioned environment for temperature and humidity. By utilising the hot water function over 100kW of hot water are supplied to the building and therefore the additional benefit of considerable CO₂ savings is ensured.



Excellent applicability when there is a thermal demand for heat, DHW and cooling, as well as additional thermal usages.



For hydronic applications

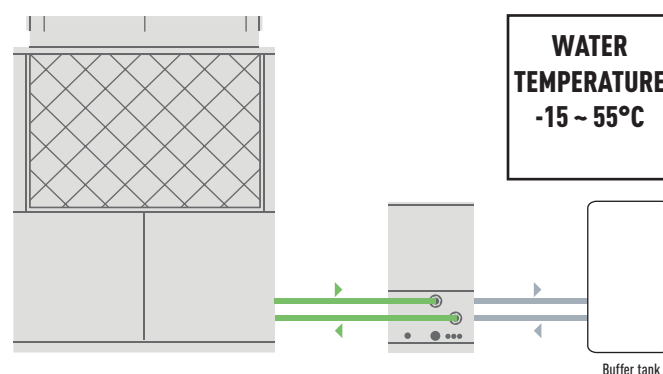
Water Heat Exchanger. Operation and control by timer remote control CZ-RTC5B. Energy-efficient capacity control. Stainless steel plate heat exchanger with anti-freeze protection control. Change-over between heating and cooling operation.

Technical focus

- A class water pump included (only in N model)
- No cascade installation up to 80kW
- Water connections R2,5" f
- Maximum distance between outdoor units and WHE: 170m
- Possibility to mix DX and Water Heat Exchanger systems
- Silent outdoor units
- Hot water outlet temperatures from 35°C to 55°C
- Chilled water outlet temperatures from -15°C to +15°C
- Outdoor temperature range in cooling mode: -10°C to +43°C
- Minimum outdoor temperature in heating mode: -21°C

Example of Hotel renewal of existing Chiller and Boiler system with Panasonic ECO G and Aquarea mixed solution.

ECO G and Aquarea are the smart solution for renewal Chiller/Boiler applications with annual running cost savings around 13.600€.






























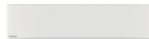











Hydrokit with A class water pump*		PAW-500WX4E5N	PAW-710WX4E5N
Hydrokit without pump		PAW-500WX4E5N2	PAW-710WX4E5N2
Heating Capacity	kW	60,00	80,00
Heating Capacity at +7°C, heating water temperature at 35°C	kW	60,90	81,20
COP at +7°C with heating water temperature at 35°C	W/W	1,15	1,18
Heating Capacity at +7°C, heating water temperature at 45°C	kW	60,00	80,00
COP at +7°C with heating water temperature at 45°C	W/W	1,02	1,04
Heating Capacity at -7°C, heating water temperature at 35°C	kW	48,20	50,80
COP at -7°C, heating water temperature at 35°C	W/W	0,80	0,80
Heating Capacity at -15°C, heating water temperature at 35°C	kW	46,30	50,00
COP at -15°C with heating water temperature at 35°C	W/W	0,80	0,80
Refrigeration load Pdesign	kW	48,00	—
Heating Energy Efficiency class at 35°C¹⁾		A+	—
ηsh (LOT21) ²⁾	%	130,04	—
Cooling capacity	kW	—	—
Cooling capacity at +35°C, outlet temperature 7°C, inlet temperature 12°C	kW	50	67
EER at +35°C, outlet temperature 7°C, inlet temperature 12°C	W/W	0,78	0,89
Dimension HxWxD	mm	1010x570x960	1010x570x960
Net weight	kg	145	180
Water pipe connector		—	—
Heating water flow (ΔT=5 K, 35°C)	m ³ /h	10,32	13,76
Capacity of integrated electric heater	kW	—	—
Input power	kW	—	—
Maximum current	A	—	—
Outdoor Unit		U-20GE3E5	U-30GE3E5
Sound power	Normal / Silent	dB	83 / 80
Dimension / Net weight	HxWxD	mm / kg	2255 x 1650 x 1000 / 765
Piping connections	Liquid pipe	Inch (mm)	5/8 (15,88)
	Gas pipe	Inch (mm)	1-1/8 (28,58)
Pipe length / for nominal capacity		m	7 / 170
Elevation difference (in/out)		m	50 (OD above) 35 (OD below)
Operation range	Heat Min - Max	°C	-21 - 24 (until outlet temperature 45)
Water outlet at -15 / 15		°C	35 - 55








1) Unit efficiency energy level: Scale from A++ to G. 2) Seasonal space cooling/heating energy efficiency following COMMISSION REGULATION (EU) 813/2013.

* PAW-500WX4E5N and PAW-710WX4E5N includes pump with 0-10 Volt with optional IF. Performance calculation in agreement with Eurovent. Sound pressure measured at 1m from the outdoor unit and at 1,5m height.

ECO G SYSTEMS INDOOR UNITS RANGE

	2,2kW	2,8kW	3,0kW	3,6kW	4,0kW	4,5kW	5,6kW
U2 Type 4 Way 90x90 Cassette	 S-22MU2E5A	 S-28MU2E5A		 S-36MU2E5A		 S-45MU2E5A	 S-56MU2E5A
Y2 Type 4 Way 60x60 Cassette	 S-22MY2E5A	 S-28MY2E5A		 S-36MY2E5A		 S-45MY2E5A	 S-56MY2E5A
L1 Type 2 Way Cassette	 S-22ML1E5	 S-28ML1E5		 S-36ML1E5		 S-45ML1E5	 S-56ML1E5
D1 Type 1 Way Cassette		 S-28MD1E5		 S-36MD1E5		 S-45MD1E5	 S-56MD1E5
F2 Type Variable Static Pressure Hide Away	 S-22MF2E5A	 S-28MF2E5A		 S-36MF2E5A		 S-45MF2E5A	 S-56MF2E5A
M1 Type Slim Variable Static Pressure Hide Away	 S-22MM1E5A	 S-28MM1E5A		 S-36MM1E5A		 S-45MM1E5A	 S-56MM1E5A
E2 Type High Static Pressure Hide Away							
Heat Recovery with DX Coil			 PAW-500ZDX3N		 PAW-800ZDX3N	 PAW-01KZDX3N	
T2 Type Ceiling				 S-36MT2E5A		 S-45MT2E5A	 S-56MT2E5A
K2 Type Wall Mounted	 S-22MK2E5A	 S-28MK2E5A		 S-36MK2E5A		 S-45MK2E5A	 S-56MK2E5A
P1 Type Floor Standing	 S-22MP1E5	 S-28MP1E5		 S-36MP1E5		 S-45MP1E5	 S-56MP1E5
R1 Type Concealed Floor Standing	 S-22MR1E5	 S-28MR1E5		 S-36MR1E5		 S-45MR1E5	 S-56MR1E5

Wide choice of models depending on the indoor requirements.

	16,0kW	28,0kW	56,0kW	84,0kW	112,0kW	140,0kW	168,0kW
AHU Connection Kit 16, 28 and 56kW	 PAW-160MAH2/M/L	 PAW-280MAH2/M/L	 PAW-560MAH2/M/L	 PAW-280MAH2/M/L + PAW-560MAH2/M/L	 PAW-560MAH2/M/L x2	 PAW-280MAH2/M/L + PAW-560MAH2/M/L x2	 PAW-560MAH2/M/L x3

6,0kW

7,3kW

9,0kW

10,6kW

14,0kW

16,0kW

22,4kW

28,0kW



S-60MU2E5A



S-73MU2E5A



S-90MU2E5A



S-106MU2E5A



S-140MU2E5A



S-160MU2E5A



S-73ML1E5



S-73MD1E5



S-60MF2E5A



S-73MF2E5A



S-90MF2E5A



S-106MF2E5A



S-140MF2E5A



S-160MF2E5A



S-224ME2E5



S-280ME2E5



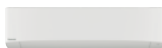
S-73MT2E5A



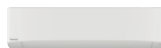
S-106MT2E5A



S-140MT2E5A



S-73MK2E5A



S-106MK2E5A



S-71MP1E5



S-71MR1E5

11,4kW

25,0kW

31,5kW

37,5kW

Air Curtain Jet-Flow with DX Coil



PAW-10EAIRC-MJ



PAW-15EAIRC-MJ



PAW-20EAIRC-MJ



PAW-25EAIRC-MJ

Air Curtain Standard with DX Coil



PAW-10EAIRC-MS



PAW-20EAIRC-MS

U2 Type 4 Way 90x90 Cassette. 2-Pipe GE3 / 3-Pipe GF3

- New high performance turbo fan, new path system for heat exchanger
- Econavi: Floor temperature and humidity sensor added. Activity amount detection and new circulator
- nanoE X: nanoe X air purifier for commercial air conditioning. Inhibiting certain viruses, bacteria and odours



Model*		S-22MU2E5A	S-28MU2E5A	S-36MU2E5A	S-45MU2E5A	S-56MU2E5A	S-60MU2E5A	S-73MU2E5A	S-90MU2E5A	S-106MU2E5A	S-140MU2E5A	S-160MU2E5A
Cooling capacity	kW	2,20	2,80	3,60	4,50	5,60	6,00	7,30	9,00	10,60	14,00	16,00
Input power cooling	W	20,00	20,00	20,00	20,00	25,00	35,00	40,00	40,00	95,00	100,00	115,00
Current (cool)	A	0,19	0,19	0,19	0,19	0,22	0,31	0,33	0,36	0,71	0,76	0,89
Heating capacity	kW	2,50	3,20	4,20	5,00	6,30	7,10	8,00	10,00	11,40	16,00	18,00
Input power heating	W	20,00	20,00	20,00	20,00	25,00	35,00	40,00	40,00	85,00	100,00	105,00
Current (heat)	A	0,17	0,17	0,17	0,17	0,20	0,30	0,32	0,34	0,65	0,73	0,80
Fan type		Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan
Air volume	Hi/Med/Lo m ³ /min	14,50/13,00/11,50	14,50/13,00/11,50	14,50/13,00/11,50	15,50/13,00/11,50	17,00/13,50/11,50	21,00/16,00/13,00	22,50/16,00/13,00	23,00/18,50/14,00	35,00/26,00/20,00	36,00/27,00/21,50	37,00/29,00/25,00
Sound pressure	Hi/Med/Lo dB(A)	30/29/28	30/29/28	30/29/28	31/29/28	33/30/28	36/32/29	37/32/29	38/35/32	44/38/34	45/39/35	46/40/38
Sound power	Hi/Med/Lo dB	45/44/43	45/44/43	45/44/43	46/44/43	48/45/43	51/47/44	52/47/44	53/50/47	59/53/49	60/54/50	61/55/53
Dimension	Indoor mm	256x840x840	256x840x840	256x840x840	256x840x840	256x840x840	256x840x840	256x840x840	256x840x840	319x840x840	319x840x840	319x840x840
(HxWxD)	Panel mm	33,5x950x950	33,5x950x950	33,5x950x950	33,5x950x950	33,5x950x950	33,5x950x950	33,5x950x950	33,5x950x950	33,5x950x950	33,5x950x950	33,5x950x950
Net weight (Panel)	kg	21(5)	21(5)	21(5)	21(5)	21(5)	21(5)	21(5)	21(5)	25(5)	25(5)	25(5)
Piping connections	Liquid Inch (mm)	1/4(6,35)	1/4(6,35)	1/4(6,35)	1/4(6,35)	1/4(6,35)	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 Inch (mm)	1/2(12,7)	1/2(12,7)	1/2(12,7)	1/2(12,7)	1/2(12,7)	5/8(15,88)	5/8(15,88)	5/8(15,88)	5/8(15,88)	5/8(15,88)	5/8(15,88)



* Sound pressure with no refrigerant flow.

ECONAVI, NanoE X and INTERNET CONTROL: Optional.

Y2 Type 4 Way 60x60 Cassette. 2-Pipe GE3 / 3-Pipe GF3

- Mini cassette fits into a 600 x 600mm ceiling grid
- Fresh air knock out
- Multidirectional airflow



Model ¹		S-22MY2E5A	S-28MY2E5A	S-36MY2E5A	S-45MY2E5A	S-56MY2E5A
Cooling capacity	kW	2,20	2,80	3,60	4,50	5,60
Input power cooling	W	35,00	35,00	40,00	40,00	45,00
Operating current cooling	A	0,30	0,30	0,30	0,32	0,35
Heating capacity	kW	2,50	3,20	4,20	5,00	6,30
Input power heating	W	30,00	30,00	35,00	35,00	40,00
Operating current heating	A	0,25	0,30	0,30	0,30	0,30
Fan type		Centrifugal fan	Centrifugal fan	Centrifugal fan	Centrifugal fan	Centrifugal fan
Air volume	Cooling m ³ /min	9,10/8,20/5,60	9,30/8,40/5,60	9,70/8,70/6,00	10,00/9,30/8,20	10,40/9,80/8,50
(Hi / Med / Lo)	Heating m ³ /min	9,30/8,40/5,60	9,60/8,70/5,60	9,90/9,10/6,00	10,30/9,60/8,20	11,10/9,80/8,70
Sound pressure	Hi / Med / Lo dB(A)	35/31/25	35/31/25	36/32/26	38/34/28	40/37/34
Sound power	Hi / Med / Lo dB	50/46/40	50/46/40	51/47/41	53/49/43	55/52/49
Dimension	Indoor mm / kg	288 x 583 x 583 / 18	288 x 583 x 583 / 18	288 x 583 x 583 / 18	288 x 583 x 583 / 18	288 x 583 x 583 / 18
(HxWxD) /	Panel 3A mm / kg	31 x 700 x 700 / 2,4	31 x 700 x 700 / 2,4	31 x 700 x 700 / 2,4	31 x 700 x 700 / 2,4	31 x 700 x 700 / 2,4
	Panel 3B mm / kg	31 x 625 x 625 / 2,4	31 x 625 x 625 / 2,4	31 x 625 x 625 / 2,4	31 x 625 x 625 / 2,4	31 x 625 x 625 / 2,4
Net weight	Panel 3B mm / kg	31 x 625 x 625 / 2,4	31 x 625 x 625 / 2,4	31 x 625 x 625 / 2,4	31 x 625 x 625 / 2,4	31 x 625 x 625 / 2,4
Piping connections	Liquid / Gas pipe Inch (mm)	1/4(6,35)/1/2(12,7)	1/4(6,35)/1/2(12,7)	1/4(6,35)/1/2(12,7)	1/4(6,35)/1/2(12,7)	1/4(6,35)/1/2(12,7)



ECONAVI and INTERNET CONTROL: Optional.

L1 Type 2 Way Cassette. 2-Pipe GE3 / 3-Pipe GF3

- Airflow and distribution is automatically altered depending on the operational mode of the unit
- Drain up is possible up to 500mm from the drain port
- Simple maintenance



Model		S-22ML1E5	S-28ML1E5	S-36ML1E5	S-45ML1E5	S-56ML1E5	S-73ML1E5
Cooling capacity	kW	2,20	2,80	3,60	4,50	5,60	7,30
Input power cooling	W	90,00	92,00	93,00	97,00	97,00	145,00
Operating current cooling	A	0,45	0,45	0,45	0,45	0,45	0,65
Heating capacity	kW	2,50	3,20	4,20	5,00	6,30	8,00
Input power heating	W	58,00	60,00	61,00	65,00	65,00	109,00
Operating current heating	A	0,29	0,29	0,29	0,29	0,29	0,48
Fan type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
Air volume	Hi / Med / Lo m ³ /min	8,00/7,00/6,00	9,00/8,00/7,00	9,70/8,70/7,70	11,00/9,00/8,00	11,00/9,00/8,00	19,00/16,00/14,00
Sound pressure	Hi / Med / Lo dB(A)	30/27/24	33/29/26	34/31/28	35/33/29	35/33/29	38/35/33
Dimension	Indoor mm	350x840x600	350x840x600	350x840x600	350x840x600	350x840x600	350x1140x600
(HxWxD)	Panel mm	8 x 1060 x 680	8 x 1060 x 680	8 x 1060 x 680	8 x 1060 x 680	8 x 1060 x 680	8 x 1360 x 680
Net weight (Panel)	kg	23(5,5)	23(5,5)	23(5,5)	23(5,5)	23(5,5)	30(9)
Piping connections	Liquid pipe Inch (mm)	1/4(6,35)	1/4(6,35)	1/4(6,35)	1/4(6,35)	1/4(6,35)	3/8(9,52)
	Gas pipe Inch (mm)	1/2(12,7)	1/2(12,7)	1/2(12,7)	1/2(12,7)	1/2(12,7)	5/8(15,88)

* For S-73ML1E5.



ECONAVI and INTERNET CONTROL: Optional.

D1 Type 1 Way Cassette. 2-Pipe GE3 / 3-Pipe GF3

- Ultra-Slim
- Suitable for standard and high ceilings
- Built-in drain pump provides 590mm lift



Model		S-28MD1E5	S-36MD1E5	S-45MD1E5	S-56MD1E5	S-73MD1E5
Cooling capacity	kW	2,80	3,60	4,50	5,60	7,30
Input power cooling	W	51,00	51,00	51,00	60,00	87,00
Operating current cooling	A	0,39	0,39	0,39	0,46	0,70
Heating capacity	kW	3,20	4,20	5,00	6,30	8,00
Input power heating	W	40,00	40,00	40,00	48,00	76,00
Operating current heating	A	0,35	0,35	0,35	0,41	0,65
Fan type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
Air volume	Hi / Med / Lo m ³ /min	12,00/10,00/9,00	12,00/10,00/9,00	12,00/11,00/10,00	13,00/11,50/10,00	18,00/15,00/13,00
Sound pressure	Hi / Med / Lo dB(A)	36 / 34 / 33	36 / 34 / 33	36 / 35 / 34	38 / 36 / 34	45 / 40 / 36
Dimension	Indoor mm	200x1000x710	200x1000x710	200x1000x710	200x1000x710	200x1000x710
[HxWxD]	Panel mm	20x1230x800	20x1230x800	20x1230x800	20x1230x800	20x1230x800
Net weight [Panel]	kg	21 (5,5)	21 (5,5)	21 (5,5)	21 (5,5)	22 (5,5)
Piping connections	Liquid pipe Inch (mm)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	3/8 (9,52)
	Gas pipe Inch (mm)	1/2 (12,7)	1/2 (12,7)	1/2 (12,7)	1/2 (12,7)	5/8 (15,88)

ECONAVI and INTERNET CONTROL: Optional.

F2 Type Variable Static Pressure Hide Away. 2-Pipe GE3 / 3-Pipe GF3

- Industry-leading low sound levels from 25dB(A)
- Built-in drain pump provides 785mm lift
- Easy to install and maintain



Model		S-22MF2E5A	S-28MF2E5A	S-36MF2E5A	S-45MF2E5A	S-56MF2E5A	S-60MF2E5A	S-73MF2E5A	S-90MF2E5A	S-106MF2E5A	S-140MF2E5A	S-160MF2E5A
Cooling capacity	kW	2,20	2,80	3,60	4,50	5,60	6,00	7,30	9,00	10,60	14,00	16,00
Input power cooling	W	70,00	70,00	70,00	70,00	100,00	120,00	120,00	135,00	195,00	215,00	225,00
Current (cool)	A	0,57	0,57	0,57	0,57	0,74	0,89	0,89	0,97	1,30	1,44	1,50
Heating capacity	kW	2,50	3,20	4,20	5,00	6,30	7,10	8,00	10,00	11,40	16,00	18,00
Input power heating	W	70,00	70,00	70,00	70,00	100,00	120,00	120,00	135,00	200,00	210,00	225,00
Current (heat)	A	0,57	0,57	0,57	0,57	0,74	0,89	0,89	0,97	1,34	1,42	1,50
Fan type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
Air volume ¹	Hi/Med/Lo m ³ /min	14,00/13,00/9,00	14,00/13,00/9,00	14,00/13,00/9,00	14,00/13,00/10,00	16,00/15,00/12,00	21,00/19,00/15,00	21,00/19,00/15,00	25,00/23,00/19,00	32,00/26,00/21,00	34,00/29,00/23,00	36,00/32,00/25,00
External static pressure	Pa	70 (10-150)	70 (10-150)	70 (10-150)	70 (10-150)	70 (10-150)	70 (10-150)	70 (10-150)	70 (10-150)	100 (10-150)	100 (10-150)	100 (10-150)
Sound pressure ²	Hi/Med/Lo dB(A)	33/29/22	33/29/22	33/29/22	34/32/25	34/32/25	35/32/26	37/34/28	37/34/28	39/35/32	40/36/33	
Sound power ²	Hi/Med/Lo dB	55/51/44	55/51/44	55/51/44	56/54/47	56/54/47	57/54/48	57/54/48	59/56/50	60/56/53	61/57/54	62/58/55
Dimension / Net weight	HxWxD mm / kg	290x800x700/29	290x800x700/29	290x800x700/29	290x800x700/29	290x800x700/29	290x1000x700/34	290x1000x700/34	290x1000x700/34	290x1400x700/46	290x1400x700/46	290x1400x700/46
Piping connections	Liquid pipe Inch (mm)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	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)	1/2 (12,7)	1/2 (12,7)	1/2 (12,7)	1/2 (12,7)	1/2 (12,7)	5/8 (15,88)	5/8 (15,88)	5/8 (15,88)	5/8 (15,88)	5/8 (15,88)	5/8 (15,88)

1) Value referred to standard settings at shipment (H curve 8, M curve 5, L curve 1). 2) Sound pressure without refrigerant flow.
ECONAVI and INTERNET CONTROL: Optional.

M1 Type Slim Variable Static Pressure Hide Away Concealed Duct. 2-Pipe GE3 / 3-Pipe GF3

- Ultra-slim profile: 200mm for all models
- DC-Fan motor greatly reduces power consumption
- Ideal for hotel application with very narrow false ceilings



Model		S-22MM1E5A	S-28MM1E5A	S-36MM1E5A	S-45MM1E5A	S-56MM1E5A
Cooling capacity	kW	2,20	2,80	3,60	4,50	5,60
Input power cooling	W	36,00	40,00	42,00	49,00	64,00
Operating current cooling	A	0,26	0,30	0,31	0,37	0,48
Heating capacity	kW	2,50	3,20	4,20	5,00	6,30
Input power heating	W	26,00	30,00	32,00	39,00	54,00
Operating current heating	A	0,23	0,27	0,28	0,34	0,45
Fan type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
Air volume	Hi / Med / Lo m ³ /min	8,00/7,00/6,00	8,50/7,50/6,50	9,00/8,00/7,00	10,50/9,50/8,00	12,50/11,50/10,00
External static pressure	Pa	10(30)	15(30)	15(40)	15(40)	15(40)
Sound pressure	Hi / Med / Lo ¹ dB(A)	28/27/25(30/29/27)	30/29/27(32/31/29)	32/30/28(34/32/30)	34/32/30(36/34/32)	35/33/31(37/35/32)
Sound power	Hi / Med / Lo dB	43/42/40	45/44/42	47/45/43	49/47/45	50/48/46
Dimension	HxWxD mm	200x750x640	200x750x640	200x750x640	200x750x640	200x750x640
Net weight	kg	19	19	19	19	19
Piping connections	Liquid pipe Inch (mm)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)
	Gas pipe Inch (mm)	1/2 (12,70)	1/2 (12,70)	1/2 (12,70)	1/2 (12,70)	1/2 (12,70)

1) With booster cable using short circuit connection.
ECONAVI and INTERNET CONTROL: Optional.

E2 Type High Static Pressure Hide Away. 2-Pipe GE3

- No need of rap valve
- 100% Fresh air duct function
- DC-Fan motor for more savings



Model	100% Fresh air duct function (by using Kit for 100% Fresh air)						High pressure duct			
	S-224ME2E5		S-280ME2E5		S-224ME2E5		S-280ME2E5			
	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
Capacity	kW		22,40	21,20	28,00	26,50	22,40	25,00	28,00	31,50
Input power	W		290,00	290,00	350,00	350,00	440,00	440,00	715,00	715,00
Operating current	A		1,85	1,85	2,20	2,20	2,45	2,45	3,95	3,95
Air volume	Hi / Med / Lo	m³/min	28,30 / — / —		35,00 / — / —		56,00 / 51,00 / 44,00		72,00 / 63,00 / 53,00	
External static pressure	Pa		200		200		140 (60 - 270) ¹		140 (72 - 270) ¹	
Sound pressure ²	Hi / Med / Lo	dB(A)	43 / — / —		44 / — / —		45 / 43 / 41		49 / 47 / 43	
Sound power	Hi / Med / Lo	dB	75 / — / —		76 / — / —		77 / 75 / 73		81 / 79 / 75	
Dimension	H x W x D	mm	479 x 1453 x 1205		479 x 1453 x 1205		479 x 1453 x 1205		479 x 1453 x 1205	
Net weight	kg		102		106		102		106	
Piping connections	Liquid pipe	Inch (mm)	3/8 (9,52)		3/8 (9,52)		3/8 (9,52)		3/8 (9,52)	
	Gas pipe	Inch (mm)	3/4 (19,05)		7/8 (22,22)		3/4 (19,05)		7/8 (22,22)	

Rating Conditions for 100% Fresh air duct function: Cooling Outdoor 33°C DB / 28°C WB. Heating Outdoor 0°C DB / -2,9°C WB. 1) Available to select the setting by initial setup. 2) Values with 140Pa setting. * No filter included.



ECONAVI and INTERNET CONTROL: Optional.

Heat Recovery with DX Coil. 2-Pipe GE3 / 3-Pipe GF3

- Motorised heat recovery by-pass device automatically controlled by unit control to use fresh air free-cooling when convenient
- Galvanized steel self-supporting panels, internally and externally insulated
- Low consumption, high efficiency & low noise direct driven fans with 3-speed EC motors



Model	PAW-500ZDX3N		PAW-800ZDX3N		PAW-01KZDX3N			
	230V / Single Phase / 50Hz		230V / Single Phase / 50Hz		230V / Single Phase / 50Hz			
Air volume	m³/min		8,33		13,33		16,66	
External static pressure ¹	Pa		90		120		115	
Maximum current	Total full load	A	0,6		1,4		2,1	
Input power	W		115		320		330	
Sound pressure ²	dB(A)		39		42		43	
Piping connections	Liquid / Gas pipe	Inch (mm)	1/4 (6,35) / 1/2 (12,70)		1/4 (6,35) / 1/2 (12,70)		1/4 (6,35) / 1/2 (12,70)	
Heat recovery			Cooling	Heating	Cooling	Heating	Cooling	Heating
Temperature efficiency	%		76		76		76	
Enthalpy efficiency	%		63		63		65	
Saved power summer mode or winter mode*	kW		1,70		2,50		3,20	
DX Coil								
Total / Sensible capacity	kW		3,00 / 2,10		5,10 / 3,50		4,40 / 4,80	
Off temperature	°C		15,9		30,1 (29,2)		27,5 (26,5)	
Off relative humidity	%		90		16 (15)		90	



ECONAVI and INTERNET CONTROL: Optional.

Nominal summer conditions: Outside air: 32°C DB, RH 50%. Ambient air: 26°C DB, RH 50%. Nominal winter conditions: Outside air: -5°C DB, RH 80%. Ambient air: 20°C DB, RH 50%. Cooling mode air inlet condition: 28,5°C DB, RH 50%; evaporating temperature 7°C. Heating mode air inlet condition: 13°C DB, RH 40% (11°C DB, RH 45%); condensating temperature 40°C. DB: Dry Bulb; RH: Relative Humidity. 1) Referred to the nominal air flow after filter and plate heat exchanger. 2) Sound pressure level calculated at 1m far from: ducted supply exhaust air ducted return - first air intake / service side, at normal condition. * Tentative data.

T2 Type Ceiling. 2-Pipe GE3 / 3-Pipe GF3

- Low sound levels
- New design, all units just 235mm high
- Large and wide air distribution



Model	S-36MT2E5A	S-45MT2E5A	S-56MT2E5A	S-73MT2E5A	S-106MT2E5A	S-140MT2E5A		
Cooling capacity	kW		3,60	4,50	5,60	7,30	10,60	14,00
Input power cooling	W		35,00	40,00	40,00	55,00	80,00	100,00
Operating current cooling	A		0,36	0,38	0,38	0,44	0,67	0,79
Heating capacity	kW		4,20	5,00	6,30	8,00	11,40	16,00
Input power heating	W		35,00	40,00	40,00	55,00	80,00	100,00
Operating current heating	A		0,36	0,38	0,38	0,44	0,67	0,79
Fan type	Sirocco fan		Sirocco fan		Sirocco fan		Sirocco fan	
Air volume	Hi / Med / Lo	m³/min	14,00 / 12,00 / 10,50	15,00 / 12,50 / 10,50	15,00 / 12,50 / 10,50	21,00 / 18,00 / 15,50	30,00 / 25,00 / 23,00	32,00 / 28,00 / 24,00
Sound pressure	Hi / Med / Lo	dB(A)	36 / 32 / 30	37 / 33 / 30	37 / 33 / 30	39 / 35 / 33	42 / 37 / 36	46 / 40 / 37
Sound power	Hi / Med / Lo	dB	54 / 50 / 48	55 / 51 / 48	55 / 51 / 48	57 / 53 / 51	60 / 55 / 54	62 / 58 / 55
Dimension	H x W x D	mm	235 x 960 x 690	235 x 960 x 690	235 x 960 x 690	235 x 1275 x 690	235 x 1590 x 690	235 x 1590 x 690
Net weight	kg		27		27		33	
Piping connections	Liquid pipe	Inch (mm)	1/4 (6,35)		1/4 (6,35)		3/8 (9,52)	
	Gas pipe	Inch (mm)	1/2 (12,7)		1/2 (12,7)		5/8 (15,88)	

* Tentative data.



ECONAVI and INTERNET CONTROL: Optional.

K2 Type Wall Mounted. 2-Pipe GE3 / 3-Pipe GF3

- Closed discharge port
- Lighter and smaller units make the installation easy
- Quiet operation



Model		S-22MK2E5A	S-28MK2E5	S-36MK2E5	S-45MK2E5A	S-56MK2E5A	S-73MK2E5A	S-106MK2E5A	
Cooling capacity	kW	2,20	2,80	3,60	4,50	5,60	7,30	10,60	
Input power cooling	W	25,00	25,00	30,00	30,00	35,00	55,00	80,00	
Operating current cooling	A	0,21	0,23	0,25	0,32	0,35	0,51	0,70	
Heating capacity	kW	2,50	3,20	4,20	5,00	6,30	8,00	11,40	
Input power heating	W	25,00	25,00	30,00	30,00	35,00	55,00	80,00	
Operating current heating	A	0,21	0,23	0,25	0,32	0,35	0,51	0,70	
Fan type		Cross flow	Cross flow	Cross flow	Cross flow	Cross flow	Cross flow	Cross flow	
Air volume	Cool	m³/min	9,00/7,50/6,50	9,50/8,30/6,50	10,90/9,00/6,50	14,50/12,50/10,00	16,00/14,00/12,00	19,50/17,00/14,00	21,50/18,50/15,00
Hi / Med / Lo	Heat	m³/min	9,20/8,30/6,80	9,70/8,50/6,80	11,20/9,50/6,80	14,50/12,50/10,00	16,00/14,00/12,00	19,50/17,00/14,00	21,50/18,50/15,00
Sound pressure	Hi / Med / Lo	dB(A)	36/33/29	37/34/29	40/36/29	38/34/30	40/36/32	47/44/40	49/45/42
Sound power	Hi / Med / Lo	dB	51/48/44	52/49/44	55/51/44	—	—	—	—
Dimension	H x W x D	mm	290 x 870 x 214	290 x 870 x 214	290 x 870 x 214	300 x 1120 x 240	300 x 1120 x 240	300 x 1120 x 240	300 x 1120 x 240
Net weight		kg	9	9	9	13	13	14,5	14,5
Piping connections	Liquid pipe	Inch (mm)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	3/8 (9,52)	3/8 (9,52)
	Gas pipe	Inch (mm)	1/2 (12,7)	1/2 (12,7)	1/2 (12,7)	1/2 (12,7)	1/2 (12,7)	5/8 (15,88)	5/8 (15,88)

ECONAVI and INTERNET CONTROL- Optional.

P1 Type Floor Standing. 2-Pipe GE3 / 3-Pipe GF3

- Pipes can be connected to either side of the unit from the bottom or rear
- Easy to install
- Front panel opens fully for easy maintenance



Model P1 Type		S-22MP1E5	S-28MP1E5	S-36MP1E5	S-45MP1E5	S-56MP1E5	S-71MP1E5	
Cooling capacity	kW	2,20	2,80	3,60	4,50	5,60	7,10	
Input power cooling	W	56,00	56,00	85,00	126,00	126,00	160,00	
Operating current cooling	A	0,25	0,25	0,38	0,56	0,56	0,72	
Heating capacity	kW	2,50	3,20	4,20	5,00	6,30	8,00	
Input power heating	W	40,00	40,00	70,00	91,00	91,00	120,00	
Operating current heating	A	0,18	0,18	0,31	0,41	0,41	0,54	
Fan type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	
Air volume	Hi / Med / Lo	m³/min	7,00/6,00/5,00	7,00/6,00/5,00	9,00/7,00/6,00	12,00/9,00/8,00	15,00/13,00/11,00	17,00/14,00/12,00
Sound pressure	Hi / Med / Lo	dB(A)	33/30/28	33/30/28	39/35/29	38/35/31	39/36/31	41/38/35
Dimension	H x W x D	mm	615 x 1065 x 230	615 x 1065 x 230	615 x 1065 x 230	615 x 1380 x 230	615 x 1380 x 230	615 x 1380 x 230
Net weight		kg	29	29	29	39	39	
Piping connections	Liquid pipe	Inch (mm)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	3/8 (9,52)
	Gas pipe	Inch (mm)	1/2 (12,70)	1/2 (12,70)	1/2 (12,70)	1/2 (12,70)	1/2 (12,70)	5/8 (15,88)

ECONAVI and INTERNET CONTROL- Optional.

R1 Type Concealed Floor Standing. 2-Pipe GE3 / 3-Pipe GF3

- Chassis unit for discreet installation
- Complete with removable filters
- Pipes can be connected to either side of the unit from the bottom or rear



Model R1 Type		S-22MR1E5	S-28MR1E5	S-36MR1E5	S-45MR1E5	S-56MR1E5	S-71MR1E5	
Cooling capacity	kW	2,20	2,80	3,60	4,50	5,60	7,10	
Input power cooling	W	56,00	56,00	85,00	126,00	126,00	160,00	
Operating current cooling	A	0,25	0,25	0,38	0,56	0,56	0,72	
Heating capacity	kW	2,50	3,20	4,20	5,00	6,30	8,00	
Input power heating	W	40,00	40,00	70,00	91,00	91,00	120,00	
Operating current heating	A	0,18	0,18	0,31	0,41	0,41	0,54	
Fan type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	
Air volume	Hi / Med / Lo	m³/min	7,00/6,00/5,00	7,00/6,00/5,00	9,00/7,00/6,00	12,00/9,00/8,00	15,00/13,00/11,00	17,00/14,00/12,00
Sound pressure	Hi / Med / Lo	dB(A)	33/30/28	33/30/28	39/35/29	38/35/31	39/36/31	41/38/35
Dimension	H x W x D	mm	616 x 904 x 229	616 x 904 x 229	616 x 904 x 229	616 x 1219 x 229	616 x 1219 x 229	616 x 1219 x 229
Net weight		kg	21	21	21	28	28	
Piping connections	Liquid pipe	Inch (mm)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	1/4 (6,35)	3/8 (9,52)	
	Gas pipe	Inch (mm)	1/2 (12,70)	1/2 (12,70)	1/2 (12,70)	1/2 (12,70)	5/8 (15,88)	

ECONAVI and INTERNET CONTROL- Optional.

PANASONIC VENTILATION SOLUTIONS

AHU Connection Kit 16, 28 and 56kW. 2-Pipe GE3 / 3-Pipe GF3

- Maximum capacity/system: 60HP (168kW)
- Maximum indoor unit number: 3 units
- Outdoor temperature range in heating: -20 ~ +15°C



IP 65		IP 65, 0-10V demand control*		IP 65, 0-10V demand control*, Outdoor temperature shift compensation. Cold draft prevention	
PAW-160MAH2L	AHU Kit for 16kW	PAW-160MAH2M	AHU Kit for 16kW	PAW-160MAH2	AHU Kit for 16kW
PAW-280MAH2L	AHU Kit for 28kW	PAW-280MAH2M	AHU Kit for 28kW	PAW-280MAH2	AHU Kit for 28kW
PAW-560MAH2L	AHU Kit for 56kW	PAW-560MAH2M	AHU Kit for 56kW	PAW-560MAH2	AHU Kit for 56kW

* With CZ-CAPBC2.

Air Curtain with DX Coil. 2-Pipe GE3 / 3-Pipe GF3

- Save up to 40% Energy Costs by use of the integrated EC Fan Technology (High performance than conventional AC fan, soft start and longer motor duration)
- 3 Lengths of Air Curtains Jet-Flow, from 1,0 to 2,0m and 2 lengths of Air Curtains Standard, 1,0 and 2,0m



HP		4HP	6HP	8HP	14HP	4HP	8HP
Air Curtain		PAW-10EAIRC-MJ	PAW-15EAIRC-MJ	PAW-20EAIRC-MJ	PAW-25EAIRC-MJ	PAW-10EAIRC-MS	PAW-20EAIRC-MS
Air flow type		Jet-Flow				Standard	
Air Flow Length (A)	m	1,00	1,50	2,00	2,50	1,00	2,00
Air volume	Hi / Med / Lo m ³ /min	30,00/25,00/20,00	45,00/38,30/31,70	60,00/50,00/41,70	75,00/63,30/51,70	30,00/25,00/20,00	45,00/38,30/31,70
Cooling capacity nominal ²	kW	9,20	17,50	23,10	24,40	9,20	17,50
Heating capacity nominal	kW	11,40	25,00	31,50	31,50	11,40	31,50
Heating capacity with air in 20°C, air out 40 / 35 / 30°C	kW	11,90/8,90/5,90	17,90/13,40/8,90	23,90/17,90/11,90	29,90/22,40/14,90	11,90/8,90/5,900	17,90/13,40/8,90
Max installation height	Good / Normal / Bad m	3,5/3,1/2,7	3,5/3,1/2,7	3,5/3,1/2,7	3,5/3,1/2,7	3/2,7/2,4	3/2,7/2,4
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)
	Gas pipe	Inch (mm)	5/8(15,88)	3/4(19,05)	7/8(22,22)	7/8(22,22)	5/8(15,88)
Noise		dB(A)		40-55	40-56	40-57	40-58
Dimension	W x H x D	mm	260 x 1210 x 590	260 x 1710 x 590	260 x 2210 x 590	260 x 2710 x 590	260 x 1210 x 490
Net weight	kg	70	100	138	160	60	128
Mini ECOi with air out 40°C		U-4LE1E5/8 ¹	U-6LE1E5/8 ¹	—	—	U-4LE1E5/8 ¹	U-6LE1E5/8 ¹
Mini ECOi with air out 35°C		U-4LE1E5/8 ¹	U-4LE1E5/8 ¹	U-6LE1E5/8 ¹	—	U-4LE1E5/8 ¹	U-4LE1E5/8 ¹
Mini ECOi with air out 30°C		U-4LE1E5/8 ¹	U-4LE1E5/8 ¹	U-4LE1E5/8 ¹	U-5LE1E5/8 ¹	U-4LE1E5/8 ¹	U-4LE1E5/8 ¹
ECOi with air out 40°C		All models	All models	All models	All models without 8HP	All models	All models
ECOi with air out 30°C or 35°C		All models	All models	All models	All models	All models	All models
ECO G all temperatures		All models	All models	All models	All models	All models	All models

All combinations under rated conditions: Heating Outdoor +7°C DB/+6°C WB Indoor +20°C DB. In case of lower outdoor temperatures a higher capacity outdoor unit model may be necessary. 1) Or bigger size. 2) Rated Conditions Cooling Outdoor +35°C DB Indoor +27°C DB/+19°C WB, Discharge temperature ³ 16°C.



Energy Recovery Ventilation System. 2-Pipe GE3 / 3-Pipe GF3

- High energy saving, up to 20%
- Counter Cross Flow technology for better efficiency
- Long life element core

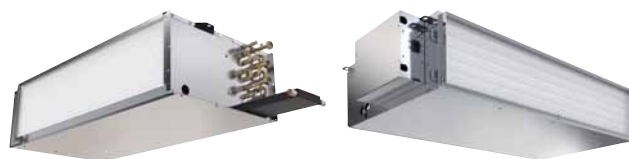


Rated flow rate Models	250m ³ /h			350m ³ /h			500m ³ /h			800m ³ /h			1000m ³ /h			
	FY-250ZDY8			FY-350ZDY8			FY-500ZDY8			FY-800ZDY8			FY-01KZDY8A			
	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	
Power source	220V / 240V / 50Hz			220V / 240V / 50Hz			220V / 240V / 50Hz			220V / 240V / 50Hz			220V / 240V / 50Hz			
Heat exchange ventilation	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	
Input power	W	112/128	108/123	87/96	182/190	178/185	175/168	263/289	204/225	165/185	387/418	360/378	293/295	437/464	416/432	301/311
Air volume	m ³ /h	250	250	190	350	350	240	500	500	440	800	800	630	1000	1000	700
External static pressure	Pa	105	95	45	140	60	45	120	60	35	140	110	55	105	80	75
Sound power	dB	30,0/31,5	29,5/30,5	23,5/26,5	32,5/33,0	30,5/31,0	22,5/25,5	36,5/37,5	34,5/35,5	31,0/32,5	37,0/37,5	36,5/37,0	33,5/34,5	37,5/38,5	37,0/37,5	33,5/34,5
Temp. exchange efficiency	%	75	75	77	75	75	78	75	75	76	75	75	76	75	75	79
Normal ventilation	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	
Input power	W	112/128	108/123	87/96	182/190	178/185	175/168	263/289	204/225	165/185	387/418	360/378	293/295	437/464	416/432	301/311
Air volume	m ³ /h	250	250	190	350	350	240	500	500	440	800	800	630	1000	1000	700
External static pressure	Pa	105	95	45	140	60	45	120	60	35	140	110	55	105	80	75
Sound power	dB	30,0/31,5	29,5/30,5	23,5/26,5	32,5/33,0	30,5/31,0	22,5/25,5	37,5/38,5	37,0/38,0	31,0/32,5	37,0/37,5	36,5/37,0	33,5/34,5	39,5/40,5	39,0/39,5	35,5/36,5
Temp. exchange efficiency	%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dimension	H x W x D	mm 270 x 882 x 599			mm 317 x 1050 x 804			mm 317 x 1090 x 904			mm 388 x 1322 x 884			mm 388 x 1322 x 1134		
Net weight	kg	29			49			57			71			83		

This noise of the product is the value which was measured at the acoustic room. Actually, in the established condition, that undergo influence by the echoing of the room and so that become bigger than the display numerical value. The input, the current and the heat exchange efficiency are values at the time of the mentioned air volume. The noise level shall be measured 1,5m below the centre of the unit. The temperature exchange efficiency averages that of when cooling and when heating.

NEW VERSATILE AND EFFICIENT FAN COIL RANGE

NEW
18



New range of Fan Coil units

Easy to install, improvement in sounds levels and performances, are the key developments carried on our Fan Coil units. The Fan Coil is issued from that development striving to meet customers' wishes and advices.

New Fan Coil range consist on one compact ducted range ideal for residential and commercial use and one model with high static pressure for commercial applications. The range certified by Eurovent includes drain pan and filter and are equipped with a low consumption fan motor. Easy maintenance and access.

1 Innovation for an optimum comfort

New range of Fan Coil for heating and cooling with 6 capacities from 2,4 to 14,8kw in cooling and from 3,0 to 19,9kW in heating. It can bring full year comfort together with an Aquarea system or VRF systems.

2 Low energy consumption fan

5 Speed level. The units are fitted with a fan-motor assembly of which the fun is composed of double inlet forward curved centrifugal wheel dynamically balanced and specially designed for an optimal air flow.

3 Quality and efficient Coil

Made of staggered copper tubes, mechanically expanded into aluminium fins, assuring maximum heat transfer efficiency. Equipped with a main chilled water coil with 3 rows.

4 Easy and flexible installation

- Suction G2 air filter from both sides and for the bottom
- Includes drain pan

Model			Compact units					High Static Pressure
			PAW-FC-D24	PAW-FC-D40	PAW-FC-D55	PAW-FC-D65	PAW-FC-D90	PAW-FC-H150
Total cooling capacity	Med / S-Hi	kW	2,00/2,40	3,10/4,10	4,20/5,50	5,80/6,60	6,70/9,10	11,90/14,80
Sensible cooling	Med / S-Hi	kW	1,70/2,10	2,20/3,00	3,00/4,00	4,30/5,00	4,90/7,00	9,60/12,90
Heating capacity	Med / S-Hi	kW	2,40/3,00	3,90/5,40	4,00/5,30	7,40/8,70	9,30/12,60	14,90/19,90
Power consumption	S-Lo / Med / S-Hi	W	24/50/81	33/57/86	39/76/112	60/114/161	90/112/188	180/421/675
Fuse rating		A	2,00	2,00	2,00	2,00	2,00	3,17
Dimensions	H x W x D	mm	220x624x430	220x994x430	220x1179x430	220x994x530	220x1250x530	356x1380x798
Dimensions (including pan and electrical box)	H x W x D	mm	220x862x430	220x1232x430	220x1417x430	220x1232x530	220x1463x530	356x1600x798
Weight (without water content)		kg	15,5	24	28	29	43	63
Sound power global	S-Lo / Med / S-Hi	dB(A)	31/45/53	36/48/57	40/52/58	46/59/63	52/57/66	52/64/71
Static pressure	Max	Pa	50	70	70	70	70	110
Airflow ¹	Med / S-Hi	m ³ /h	388/483	486/716	640/933	989/1064	936/1397	2112/3176
Water pressure drop	Med / S-Hi	kPa	9,9/14,3	13,0/22,4	25,2/42,2	13,9/17,9	22,6/40,3	19,8/26,1
Fan speeds			3 speeds	3 speeds	3 speeds	3 speeds	3 speeds	3 speeds
Fan motor and total speeds			AC 5 speeds	AC 5 speeds	AC 5 speeds	AC 5 speeds	AC 5 speeds	AC 5 speeds
Drain pan			Included	Included	Included	Included	Included	Included
Air filter			Included	Included	Included	Included	Included	Included
Water connections	Cool / Heat Coil	Inch	1/2/1/2	1/2/1/2	1/2/1/2	3/4/1/2	3/4/1/2	1/3/4

¹) Airflow at 0Pa of static pressure.

Performances based on: Summer air 27°C /19°C (wet Bulb and chilled water 7/12°C - Winter air 20°C, entering water temperature 50°C.

VRF SMART CONNECTIVITY

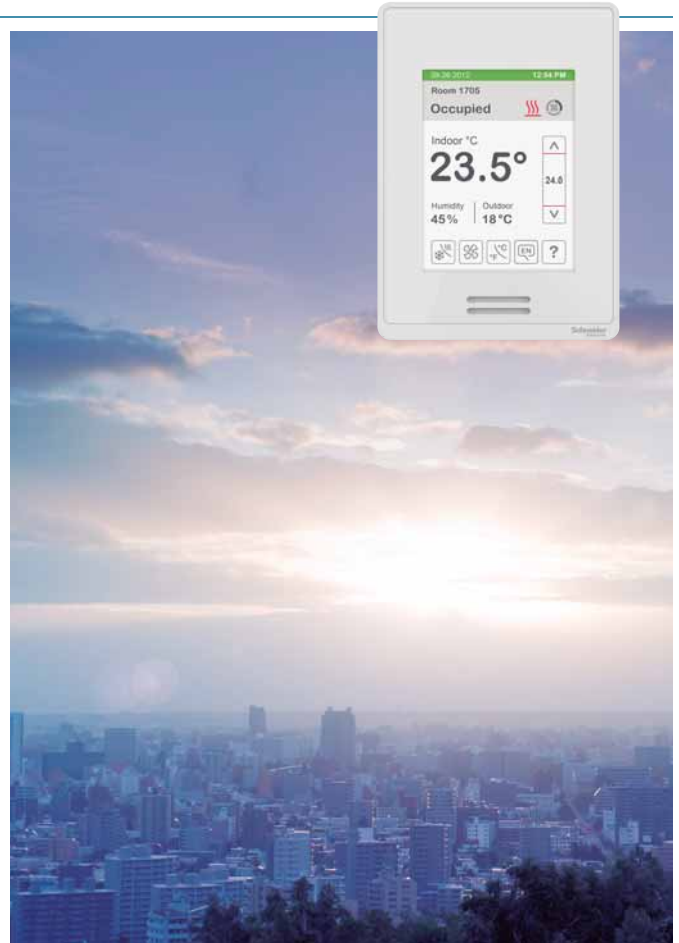
Connect to the future. VRF Smart Connectivity

Through thorough energy management, Panasonic's VRF Smart Connectivity is a completely new, state-of-the-art solution providing energy saving and comfort as well as simple installation, operation and running.

Panasonic, passionately pursuing the ultimate in energy saving through the application of cutting-edge technology, and Schneider Electric, an advanced global energy management specialist offering innovative control systems. This collaboration has set the new standard for creating the next generation of contemporary buildings.

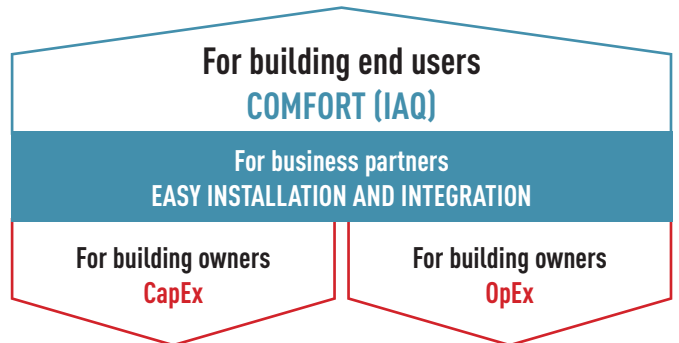
VRF Smart Connectivity Advantages

-  Easy Design and Plug and Play to Reduce CapEx
-  Dramatic Reduction of OpEx with Outstanding IAQ
-  Ultimate Customization
-  User-/Owner-friendly



VRF Smart Connectivity. The future of Control

A remote controller is all that's required for occupancy control and optimum automatic indoor air quality (IAQ) control. Simple operation with a rented interface further contributes to increased energy efficiency and productivity for reduced capital expenditure (CapEx) and operating expense (OpEx).



VRF Smart Connectivity Devices

2 types of devices depending on type connection with indoor units wireless or wired. Wireless connection to indoor unit requires ZigBee interface for indoor unit.

Features

- Up to 5-year battery life, batteries included
- Battery level is a point
- Sensor points visible in SBO when SE8000 is integrated via BACnet MS/TP
- Sensor status and battery level visible in SBE when SE8000 is integrated via ZigBee® Pro
- Integration to SBE only recommended when each MPM is connected to Ethernet and are set as ZigBee® Coordinator nodes



PANASONIC AC SMART CLOUD



Flexible solution and scalable solution

Energy saving, zero downtime and site(s) management

Centralize control of your business premises, from wherever you are, 24/7/365. It doesn't matter how many sites you have, or where they are! The AC Smart Cloud system from Panasonic allows you to have complete control of all your installations, from your tablet or from your computer. In a simple click, all your units from several locations, receive status updates in real-time of all your installations, preventing breakdowns and optimizing costs.

With Panasonic AC Smart Cloud, have your business under control, and start saving!

Flexible solution for your business



Every time



Everywhere



Multiplatform



Internet browser

Scalable solution for your business



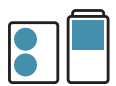
Small to large



1 to multi sites



Upgrade features*



PACi / ECOi / ECO G

*Customized to meet user demand / Upgraded new functions / Upgraded by new products / IT smart management.

Key functions and uniqueness

Multi site monitoring

- It doesn't matter how many sites you have, easy to manage, operate, compare per sites, locations, rooms.



Schedule setting

- Weekly / holiday timer setting as you want
- One setting can be copied to other sites



User customization

Site administrator can create users as desired and assign customized profiles.



Facility manager: A
Energy optimization
Schedule management
Multisite monitoring
Maintenance notification

Owner of Hotels Administrator
Administrator has a full access

Facility manager: B
Energy optimization
Schedule management
Multisite monitoring
Maintenance notification

Facility manager: C
Energy optimization
Schedule management
Multisite monitoring
Maintenance notification

Powerful statistics for energy savings

- Power consumption, capacity, efficiency level can be compared per different parameters (Yearly / monthly / weekly / daily bases)



Maintenance notification

- Error notification by email and with floor layout
- Maintenance notification of ECOi / ECO G outdoor units



One of our uniqueness is "Stable and secured communication package"

- Connectivity is included in the service. Customers do not have to take time to find and prepare suitable connectivity.
- With an all inclusive service offering, the customer has peace of mind and a one stop shop for all AC Smart Cloud issues they may face including connectivity



3G router

SIM card

INTELLIGENT CONTROLLER

This controller is the smart solution for your advanced requirement in buildings.

Intuitive operation

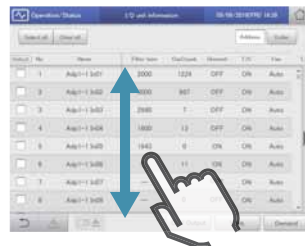
The screens used for operations all follow a common pattern, with the screens being easy to read and easy to use.

- Enlarged screen (10,4 inch) with colour LDC
- Smartphone-like operations (Swiping, flicking)

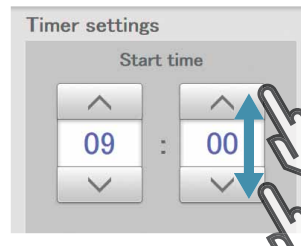
Large screen display. Enlarged by 60%.



Easy Swipe or flick operation.



Swipe.
This is an operation where the finger is slid in a direction (up or down) on the touch panel. This is used to scroll slowly.



Select.
This is an up and down movement of the finger touching the screen, used to pick settings in elements such as spin boxes.

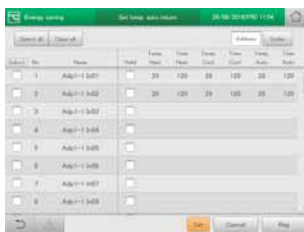


Pull out.
This is an operation where the finger on the touch panel is flicked in a direction (up or down). This is used to scroll quickly.

Enhanced functions for energy saving as standards

Set temperature auto return settings, Auto shutoff, Set temperature range limit settings and demand control function

Screen of Set temperature auto return setting.



Auto shutoff.



Screen of Outdoor demand control.



- Outdoor demand input and timer settings possible
- Indoor can be set at $\pm 1^{\circ}\text{C}$ / $\pm 2^{\circ}\text{C}$ or thermostat OFF
- Indoor units controlled in sequence at 10-minute intervals

Energy Visualization

- Energy-saving plans are supported with graph display function
- Displays electricity & gas usage distribution

Screen of graph display.



Useful parameters are shown for your better energy saving. Ex.) Bar graph:

Indoor unit:
Total operating time, thermostat ON operation time (Min.)
Amount used (electricity, gas)
Electricity or gas charges

Outdoor unit:
Outdoor unit operation cycles (# cycles)
Engine time in operation (Hrs.)
Cumulative Inverter power output
Cumulative PV power output

Pulse value selection per different data intervals 1 hour/1 day/ 1 month compared with last year.

Main new function

Gesture function (Flick, Swipe)	✓
Graph display (Trends, comparisons)	✓
Web functions (Max. 64 users)	✓
Recipient setting for warning email	✓ (Maximum 8)
Automatic return to setting temperature	✓
Limitation of setting temperature range	✓
Left-on prevention	✓
Quiet operation of outdoor unit	✓
Occupant sensor linkage	✓
Demand function	✓
Charge calculation	✓
Log display	✓ Warning 10,000 items. Status change 50,000 items
Linked control Event definition 50 events, Input: 32, Output: 32	✓
Under maintenance (Under inspection registration)	✓

ACCESSORIES & CONTROL

Heat Recovery Box

KIT-P56HR3

Box recovery kit up to 5,6kW
(CZ-P56HR3 + CZ-CAPE2).



KIT-P160HR3

Box recovery kit from 5,6kW
(CZ-P160HR3 + CZ-CAPE2).

CZ-P56HR3

Heat recovery box up to 5,6kW.



CZ-CAPE2

Heat recovery PCB.



CZ-P456HR3

4 ports 3 pipe box up to 5,6kW.



CZ-P656HR3

6 ports 3 pipe box up to 5,6kW.



CZ-P856HR3

8 ports 3 pipe box up to 5,6kW.

CZ-P160HR3

Solenoid valve kit up to 10,6kW.

CZ-P4160HR3

4 ports 3 pipe box up to 16,0kW.

Accessories Cables



CZ-T10

Cable for all the T10 functions.



PAW-FDC

Cable to operate external EC fan.



PAW-OCT

Cable for all option monitoring signals.

PAW-EXCT

Cable with force Thermo OFF/
leakage Detection.

Accessories PCB



PAW-T10

All T10 functions.



PAW-PACR3

Redundancy of 2 or 3 systems;
for PACi and ECOi.

PAW-ECF

PCB for fan speed control of
external EC Fan.

Accessories Interfaces



PAW-RC2-KNX-1i

KNX Interface.



PAW-AC-BAC-1

BACnet Interface for 1 unit.



PAW-RC2-MBS-1

Modbus Interface.



PAW-RC2-MBS-4

Modbus interface to control 4
indoor/groups.



PAW-MBS-TCP2RTU

ModBus RTU Slave devices.



PAW-RC2-ENO-1i

EnOcean Interface.

PAW-AC-KNX-64

KNX Interface for 64 indoors.

PAW-AC-BAC-64

BACnet Interface for 64 indoor
units.

PAW-AC-MBS-64

Modbus Interface for 64 indoors.

PAW-AC-MBS-128

Modbus Interface for 128 indoors.

PAW-AC-KNX-128

KNX Interface for 128 indoors.

PAW-AC-BAC-128

BACnet Interface for 128 indoor
units.

PAW-TM-MBS-RTU-64

Modbus Interface for 64 indoors.

PAW-TM-MBS-TCP-128

Modbus Interface for 128 indoors.



PAW-RC2-WIFI-1

Interface for Intesishome for PACi
& ECOi.



CZ-CAPRA1

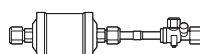
Domestic with CZ-CNT port
integration to PACi and ECOi.



CZ-CLNC2

Lonworks® Interface controls up
to 16 groups and 64 indoor units.

R-22 Replacement Kit



CZ-SLK

Replacement kit for R-22.

Other Accessory



CZ-CENSC1

Econavi energy savings sensor.

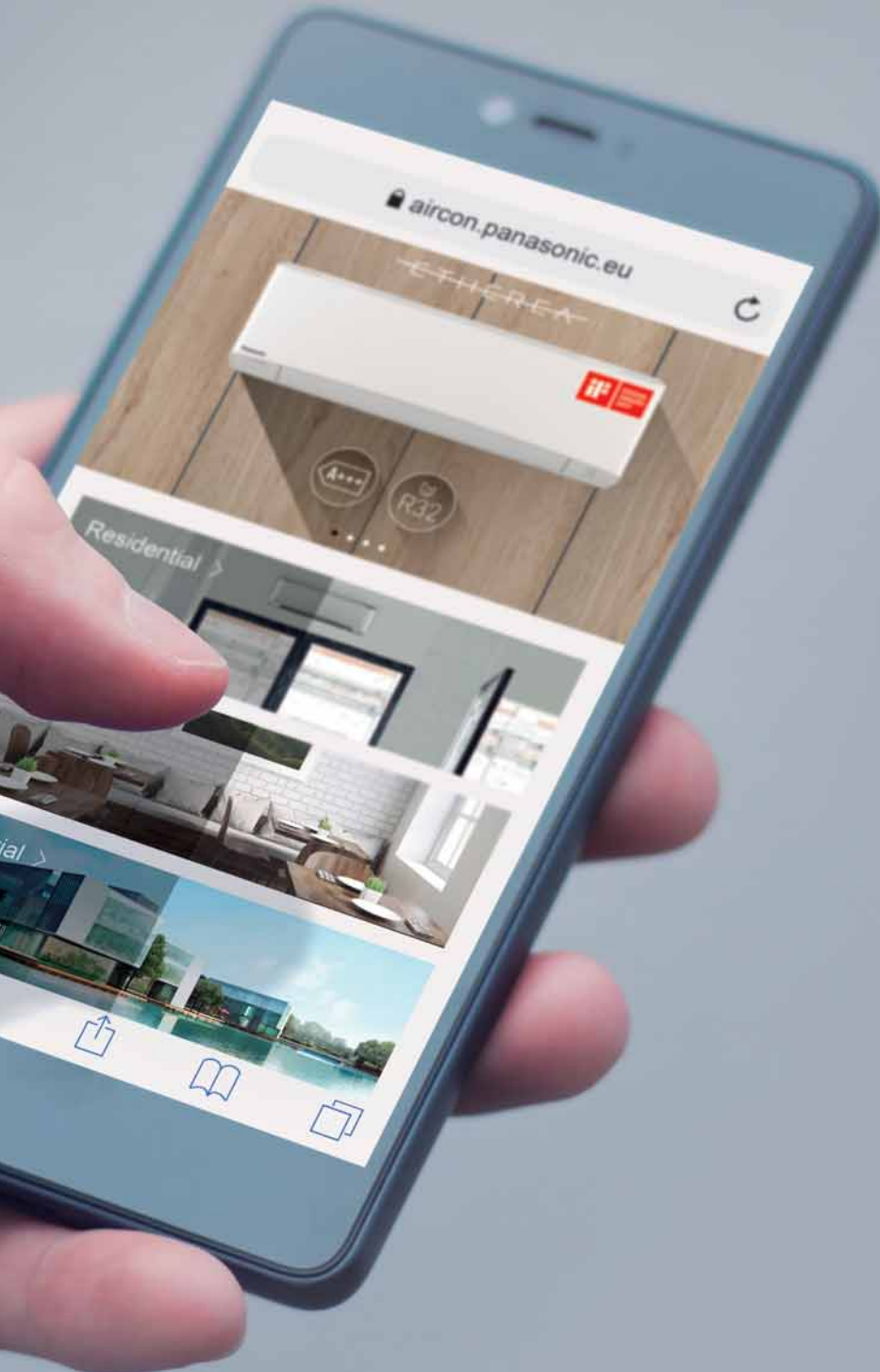
Gateway



CZ-20GWAP

UD Gateway.





www.aircon.panasonic.eu

heating & cooling solutions

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Panasonic®

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



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 the other refrigerant.
The outdoor units in this catalogue contains fluorinated greenhouse gases with a GWP higher than 150.

