ECOi-W AQUA-G EVO range. Unmatched innovation

Introducing an innovative solution with Inverter technology and natural refrigerant R290. Combine efficiency and comfort in one compact package.

R290
NATURAL REFRIGERANT

INVERTER

- INVERTER SCROLL COMPRESSORS
- HIGH SEASONAL EFFICIENCY
- A++[1] HIGH ENERGY EFFICIENCY CLASS
- DHW MANAGEMENT
- 75 °C MAXIMUM 75 °C LEAVING WATER TEMPERATURE
- SMALL FOOTPRINT

1) Scale A+++ to D. According to EN 14825 and Following COMMISSION REGULATION (EU) No 813/2013.

NEW

ECOi-W AQUA-G EVO – Heating optimised solution for superior efficiency in low ambient climates.

High-performance components, enhanced refrigerant circuits, and optimised defrost management. This solution is suitable for gas boiler replacement and DHW production.

Inverter technology: reliable performances under variable load conditions

Inverter compressor and inverter driven pump for high energy-efficiency and stable temperature control, improving comfort and reducing energy consumption.

Enhanced capacity with cascade and modular configurations

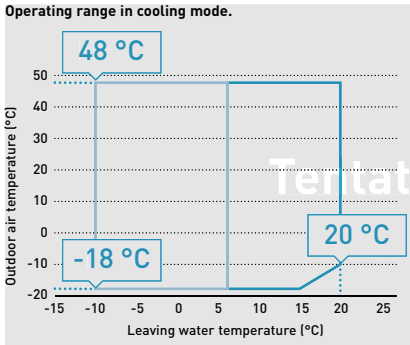
· Scalable up to 880 kW with multiple units
· Modular configuration with minimum installation space*

*Up to 440 kW.

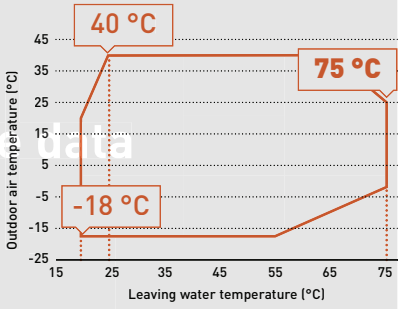
Extended operating limits for high temperature heating

Exceptional operating limits delivering leaving water temperatures up to **75 °C** at 0 °C outdoor air temperature for domestic hot water production.

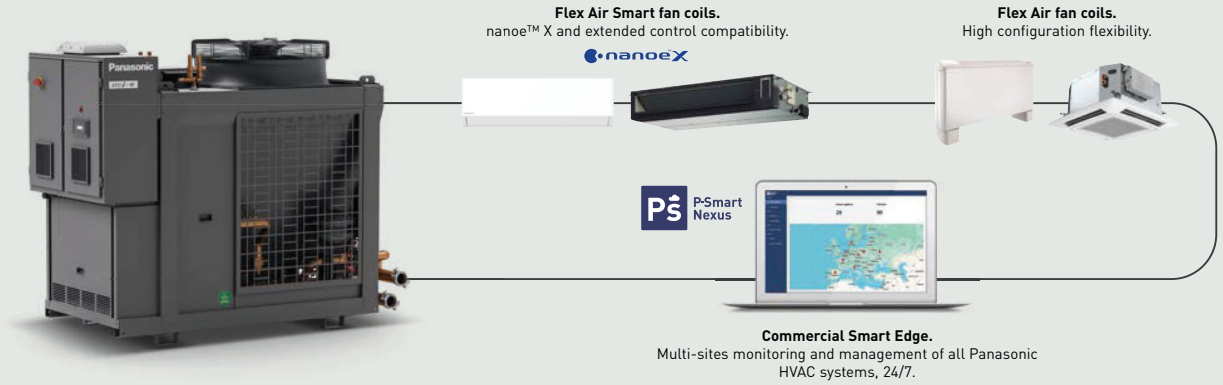
Operating range in cooling mode.



Operating range in heating mode.



Comprehensive range of solutions for commercial applications.



Commercial Smart Edge.
Multi-sites monitoring and management of all Panasonic HVAC systems, 24/7.

Extension of the R290 heat pump range.

ECOi-W AQUA-G BLUE — Cooling optimised solution.

· Reliable and stable cooling capacity at high ambient temperatures
· Capacities from 50 to 80 kW
· Scalable solution and intelligent control logic
· Quiet operation: low sound power of only 79,9 dB(A)*
· Wide range of applications including offices, hotels, and multi-family houses

*Size 50.

NEW! ECOi-W AQUA-G EVO 60-110 H - R290

Air cooled heat pumps Inverter.

Cooling capacity: 56,7 to 91,0 kW.
Heating capacity: 61,2 to 101,9 kW.

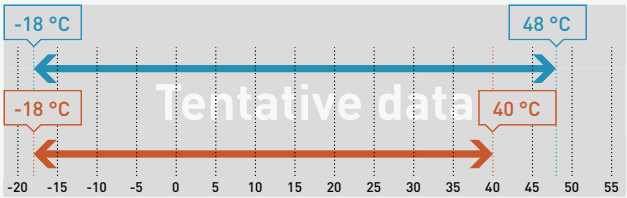
R290 NATURAL REFRIGERANT

NEW

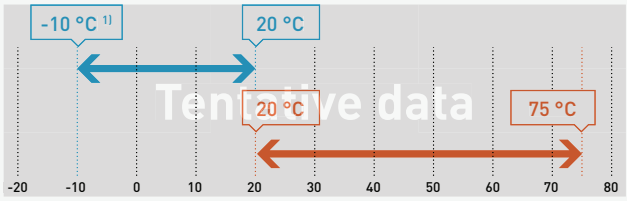
Operating limits

To be confirmed with AC SELECT:
https://acselect.panasonic.eu/

Ambient temperature.



Leaving water temperature.



1) With glycol, 5 °C without glycol.

The range at a glance

- 1 version: H (heat pump)
- 3 sizes
- 2 acoustic options: STD (standard) and S (super low noise)

Advantages

- Natural refrigerant R290
- Inverter driven compressor
- Very high performance
- Improved heating capacity at low ambient temperature
- Expanded operating limit
- Domestic Hot Water management
- Compact chassis
- Very quiet operation
- Modular configuration with integrated main/sub logic
- Ultra-compact design allows multiple units to be installed side by side with minimal spacing.
- SG Ready
- Reliable safety measurements
- Suitable for boiler replacement with DT 12 °C in heating

Equipment

- Fan speed control. All units are equipped with EC fan technology and flow grid to reduce Sound power
- Electronic expansion valve. This reliable and high-performant valve minimises overheating of the evaporator. It is directly managed by the control system
- Compressor: 1 inverter compressor for size 60 and tandem compressor (fixed + Inverter) for sizes 80-110
- Compressor box providing both protection and noise reduction
- Automatic circuit breakers
- Integrated HMI to manage unit operation
- An advanced built-in controller enabling fully autonomous operation
- Communication protocol: Modbus RTU, Modbus TCP/IP
- Highly optimised finned tube Al/Cu heat exchanger with Bluefin treatment
- Condensate drain pan to collect and direct the condensate away from the unit
- Antifreeze electric heater on the plate heat exchanger
- Pressure relief valve
- Differential pressure switch on the plate heat exchanger from water side
- Water expansion vessel (only with pump and/or tank)
- Leak detector and safety ventilation fans to detect R290 leakages and exhaust refrigerant to atmosphere in the event of a leak
- DHW function available on the controller with DHW probe and 3 way valve available as options
- Removable panels. Great accessibility to internal components for service operations
- Multiple lifting point (lateral, frontal and upper side) for an easy handling of the unit

Technical performance

Power supply	Voltage	V	400	400	400
	Phase		Three phase	Three phase	Three phase
	Frequency	Hz	50	50	50
Size			**60**	**80**	**110**
ECOi-W AQUA-G EVO 60-110 H - heat pump			**P-AQAVG0060CA**	**P-AQAVG0080CA**	**P-AQAVG0110CA**
Cooling capacity [1]		kW	56,7	67,4	91,0
Input power [1]		kW	18,9	22,6	33,9
Total EER [1]			3,00	2,98	2,68
Total EER (A 35 °C, W 23/18 °C)			2,48	3,68	3,29
SEER [2]			**4,07**	**4,84**	**4,77**
$\eta_{s,c}$ [2]		**%**	**160,0**	**190,5**	**187,2**
Heating capacity [3]		kW	61,2	80,8	101,9
Input power [3]		kW	17,6	22,3	29,7
Total COP [3]			3,48	3,62	3,43
Heating capacity (A 7 °C, W 30/35 °C)		kW	62,7	83,2	104,8
Input power (A 7 °C, W 30/35 °C)		kW	14,9	18,7	25,4
COP (A 7 °C, W 30/35 °C)			4,21	4,45	4,13
SCOP [4]			**4,32**	**4,13**	**4,49**
$\eta_{s,h}$ [4]		**%**	**169,6**	**162,0**	**176,5**
SCOP [5]			**3,72**	**3,56**	**3,87**
$\eta_{s,h}$ [5]		**%**	**145,9**	**139,4**	**151,7**
SCOP [6]			**3,41**	**3,25**	**3,55**
$\eta_{s,h}$ [6]		**%**	**133,3**	**127,1**	**138,8**
SCOP [7]			**3,00**	**2,88**	**3,15**
$\eta_{s,h}$ [7]		**%**	**118,1**	**112,2**	**123,1**
Energy efficiency class (SCOP) [4]		**A+++ to D**	**A++**	**A++**	**A++**
Sound power (STD)		dB(A)	79,0	80,0	81,0
Sound pressure at 10 m (STD) [8]		dB(A)	47,2	48,0	49,0

Physical features

ECOi-W AQUA-G EVO 60-110 H - heat pump			**60**	**80**	**110**
Dimension	Height x Width	mm	1998 x 1116	1998 x 1116	1998 x 1116
	Length w/o / w water tank	mm	2385	3385	3385
Operating weight (STD)		kg	572	906	950
Refrigerant and compressors					
Number of refrigerant circuit			1	1	1
Compressor	Number / type		1 / Scroll	2/ Scroll	2 / Scroll
Capacity steps		%	25-100	25-100	25-100
Water connections					
Type of connections			Victaulic®	Victaulic®	Victaulic®
Inlet/outlet diameter		Inch	2	2 ½	2 ½
Buffer tank (option)					
Volume		l	Not available	230	230

1) According to EN 14511-2013: chilled water inlet/outlet temperature: 12/7 °C, outdoor ambient temperature 35 °C DB. 2) According to EN 14825 and following COMMISSION REGULATION (EU) 2016/2281. 3) According to EN 14511-2013: warm water inlet/outlet temperature: 40/45 °C, outdoor ambient temperature 7 °C DB/6 °C WB. 4) According to EN 14825 and following COMMISSION REGULATION (EU) No 813/2013. 4) According EN 14825 and following COMMISSION REGULATION (EU) No 813/2013: low temperature application. 5) According EN 14825 and following COMMISSION REGULATION (EU) No 813/2013: intermediate temperature application. 6) According EN 14825 and following COMMISSION REGULATION (EU) No 813/2013: medium temperature application. 7) According EN 14825 and following COMMISSION REGULATION (EU) No 813/2013: high temperature application. 5) Sound pressures refer to ISO 3744 standard, parallelepiped shape. 8) Sound pressures refer to ISO 3744 standard, parallelepiped shape.
*w/o: without, w: with.

Accessories and options
Dual pressure safety valve with changeover device
Epoxy or blygold treatment
Chiller protection grids
Anti-vibration rubber mount / spring dampers
Compressor jacket (super low noise version)

Accessories and options
Pump acoustic box (super low noise version)
Power factor corrector capacitor (for sizes 80-110)
Variable pump
Water pressure switch
Shut off valve

Accessories and options
Water tank (for sizes 80-110)
Hydro connection pipes
Energy meter
Flow meter
BACnet MSTP or BACnet IP

Accessories supplied loose
Water filter
Kit remote control
Kit 4G modem
1-year pre-paid Cloud access
3-year pre-paid Cloud access
Flow switch

Accessories supplied loose
Separator refrigerant/water
Manifold 3'' for modular configuration standard (60 cm distance)
Manifold 3'' for modular configuration ultra-compact (5 cm distance)
Manifold 4'' for modular configuration standard (60 cm distance)
Manifold 4'' for modular configuration ultra-compact (5 cm distance)
DHW kit including a water temperature probe, a 230 V motorised 3 way valve

R290 REFRIGERANT | ErP | HIGH SEER 5,19 | HIGH SCOP 4,59 | INVERTER | AIR COOLED | PLATE HEAT EXCHANGER | SCROLL INVERTER COMPRESSOR | DHW | COMMERCIAL SMART EDGE