Panasonic

heating & cooling solutions

R290 Heat Pump Chillers



ECOi-W AQUA-G BLUE: a revolutionary solution

Reversible heat pumps with high leaving water temperature

Introducing a revolutionary solution for sustainable cooling and heating needs, ECOi-W AQUA-G BLUE powered by R290, a natural refrigerant. It delivers both sustainability and efficiency in one innovative package.



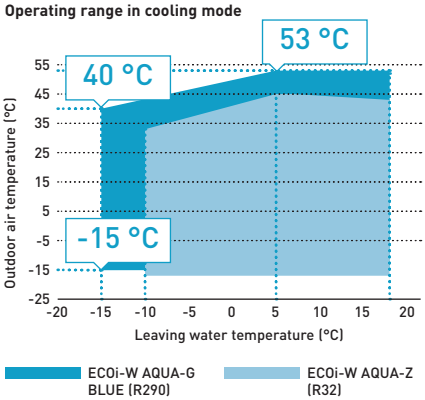
Air-cooled R290 heat pumps: the future of efficient commercial air to water heat pumps

Care about the environment and get greater efficiency
ECOi-W AQUA-G BLUE is born from a perfect combination of new green technology and our existing ECOi-W product range already known for its performance and reliability.
It operates with the natural R290 refrigerant that offers greater efficiency while having almost no impact on the environment with one of the lowest **GWP (Global Warming Potential): only 3!***
Make the choice to reach incredible efficiencies, extend the operating limits, and contribute to environmental preservation.

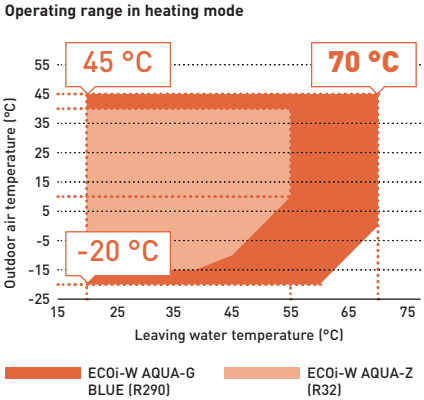
Based on the Sixth Assessment Report (AR6) adopted by the Intergovernmental Panel on Climate Change (IPCC).

Extended operating limits

Operating range in cooling mode



Operating range in heating mode



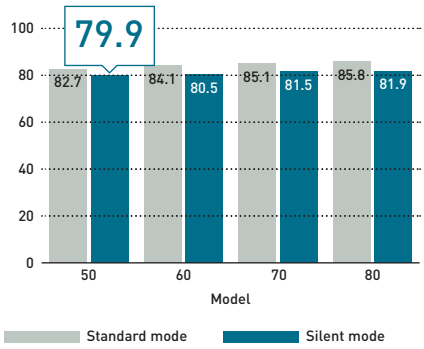
70 °C

Cooling mode
A water outlet temperature of -15 °C ensures optimal operation temperature for process equipment in factories.

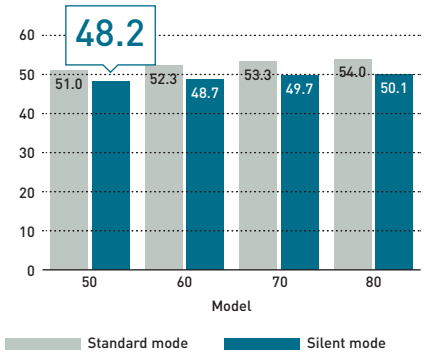
Heating mode
Ideal solution for Heating and Domestic Hot Water production. Reaching **70 °C** from 0 °C outside air temperature.

Quiet operation

Sound power level (dB(A))



Sound pressure level (dB(A))



Silent mode
Silent mode with an impressively low sound power level of only 79.9 dB(A), pressure level of only 48.2 dB(A). ECOi-W AQUA-G BLUE provides the perfect balance of efficiency and silent operation.
Optional compressor jackets for size 50 and optional compressor box for sizes 60-70-80 are available to provide an additional level of noise reduction.



50 kW



60 kW



70 - 80 kW

Natural refrigerant R290 with GWP 3[1]

Reliable quality

Scroll compressors

HIGH SEER Max. 4,4 [2] HIGH SCOP Max. 3,9 [3]

High seasonal efficiency

A++[4]

High energy efficiency class

DHW management

70 °C

Maximum 70 °C leaving water temperature

Quiet operation

640 kW

Boost the capacity up to 640 kW

1) Based on the Sixth Assessment Report (AR6) adopted by the Intergovernmental Panel on Climate Change (IPCC). 2) Size 50. According EN 14825 and Following COMMISSION REGULATION (EU) 2016/2281. 3) Size 70. According EN 14825 and Following COMMISSION REGULATION (EU) No 813/2013. 4) Scale A+++ to D. According EN 14825 and Following COMMISSION REGULATION (EU) No 813/2013.

The range at a glance

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

Advantages

- A super eco-friendly unit; employs natural refrigerant R290 with GWP of 3
- Very high performance and improved energy efficiencies
- Smart energy consumption
- Expanded operating limit
- Domestic hot water management
- Compact chassis
- Very quiet operation
- Cascade controller available for multi system operation
- SG ready
- Very low refrigerant charge
- Reliable safety measurements

Equipment

- Fan speed control: all units are equipped with EC fan technology
- Variable speed pump (optional): a variable speed pump can be added to the unit for even greater energy savings
- Controller: this new high standard control system provides excellent pressure control, as well as global and optimised unit management
- Removable panels: great accessibility to internal components for service operations
- Condenser: Highly optimised heat exchanger design enables a refrigerant charge reduction. Lower than 5.0 kg of R290 for the sizes 50 and 60
- Sealed electrical box: non-flammable control box; the core parts are protected with a sealed metallic box
- Electronic expansion valve: this reliable and high performance valve minimises overheating of the evaporator. It is directly managed by the control system
- Modbus RTU, Modbus TCP/IP, BACnet MSTP or BACnet IP
- 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

AC SELECT

Smart and user-friendly selection tool. Configure your air conditioning solution at required conditions: https://acselect.panasonic.eu/



SCAN HERE

Technical performance

Size			50	60	70	80
Power supply	Voltage	V	400	400	400	400
	Phase		Three phase	Three phase	Three phase	Three phase
	Frequency	Hz	50	50	50	50
ECOi-W AQUA-G BLUE 50-80 H EC fan - heat pump			**P-AQAG0050HA**	**P-AQAG0060HA**	**P-AQAG0070HA**	**P-AQAG0080HA**
Cooling capacity [1]		kW	48.2	56.1	64.9	74.1
Input power [1]		kW	15.0	19.0	21.6	25.0
EER [1]			3.20	3.00	3.00	3.00
SEER [2]			**4.37**	**4.30**	**4.31**	**4.21**
$n_{s,c}$ [2]		**%**	**171.9**	**168.9**	**169.4**	**165.4**
Heating capacity [3]		kW	49.2	61.1	73.5	83.6
Input power [3]		kW	15.6	18.6	21.7	24.9
COP [3]			3.2	3.3	3.4	3.4
SCOP [4]			**3.67**	**3.75**	**3.87**	**3.84**
$n_{s,h}$ [4]			**143.7**	**146.8**	**151.8**	**150.5**
Energy efficiency class (SCOP) [4]		**A+++ to D**	**A+**	**A+**	**A++**	**A++**
$SCOP_{MT}$ [4]			**3.11**	**3.14**	**3.26**	**3.22**
$n_{s,hMT}$ [4]			**121.4**	**122.7**	**127.3**	**126.0**
Energy efficiency class ($SCOP_{MT}$) [4]		**A+++ to D**	**A+**	**A+**	**A++**	**A++**
Sound power (STD / S)		dB(A)	82.7 / 79.9	84.1 / 80.5	85.1 / 81.5	85.8 / 81.9
Sound pressure at 10 m (STD / S) [5]		dB(A)	51.0 / 48.2	52.3 / 48.7	53.3 / 49.7	54.0 / 50.1

Physical features

ECOi-W AQUA-G BLUE 50-80 H EC fan - heat pump			50	60	70	80
Dimension	Height	mm	1730	2011	2030	2030
	Length w/o / w water tank	mm	2215 / 2915 [6]	2180 / 2680	2180 / 2680	2180 / 2680
	Width	mm	1032	1160	1160	1160
Operating weight		kg	538	603	628	669
Refrigerant and compressors						
Number of refrigerant circuits			1	1	1	1
Refrigerant (R290)		kg	4.50	4.80	5.30	6.80
GWP [7]		CO_2 eq.	3	3	3	3
Compressors	Number / type		2 / Scroll	2 / Scroll	2 / Scroll	2 / Scroll
Capacity steps		%	50 / 100	40 / 60 / 100	40 / 60 / 100	50 / 100
Water connections						
Type of water connections			Male gas threaded	Male gas threaded	Male gas threaded	Male gas threaded
Water inlet/outlet diameter		Inch	1 ¼	2	2	2 ½
Buffer tank (option)						
Volume		l	200	300	300	300

1) According EN 14511-2013: chilled water inlet/outlet temperature: 12/7 °C, outdoor ambient temperature 35 °C DB. 2) According EN 14825 and following COMMISSION REGULATION (EU) 2016/2281.
3) According 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. 5) Sound pressures refer to ISO 3744 standard, parallelepiped shape. 6) Tank is external to the unit chassis. 7) Based on the Sixth Assessment Report (AR6) adopted by the Intergovernmental Panel on Climate Change (IPCC).
* w/o: without, w: with.

Accessories and options
Anti-vibration rubber mount / spring dampers
Refrigerant gauges HP/LP
Shut off valves
Soft starter

Accessories and options
Electrical heater for the water tank
Variable or fixed speed pumps
Water tank 200 L for sizes 50
Water tank 300 L for sizes 60-70-80

Accessories supplied loose	
P-375281	SRC - mini BMS controller
P-586595_G	Cascade controller
P-372061_G	Remote keyboard panel
P-372615_G	Kit 4G modem

Accessories supplied loose	
P-3721027	3 way valve and probe for DHW management for size 50
P-3721028	3 way valve and probe for DHW management for size 60-80
P-3721050	Kit temperature probe for deported tank

R290 REFRIGERANT | HIGH SEER 4,33 | HIGH SCOP 3,54 | AIR COOLED | PLATE HEAT EXCHANGER | SCROLL COMPRESSOR

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Specifications subject to change without notice.