ECOi-W AQUA-Z 50-170 C/H · R32

Air cooled chillers and heat pumps.

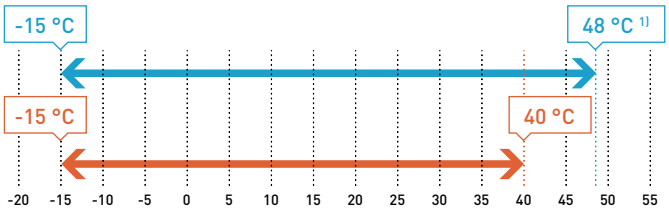
Cooling capacity: 51,6 to 173,0 kW.
Heating capacity: 51,7 to 180,0 kW.

R32
REFRIGERANT

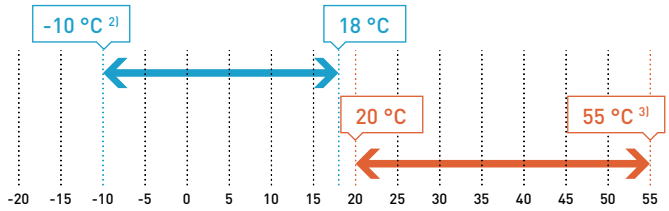
Operating limits

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

Ambient temperature.



Leaving water temperature.



1) 47 °C for sizes 150-170.
2) With glycol, 5 °C without glycol.
3) 53 °C for sizes 150-170.

The range at a glance

- 2 versions: C (chiller) and H (heat pump)
- 10 sizes
- SEER up to 4,88 (STD AC) / 5,31 (STD EC)
- SCOP up to 3,72 (STD AC) / 4,10 (STD EC)
- 2 configurations: STD (standard) and HPF (high pressure fan)
- 2 fan types: AC (standard fan) and EC (high efficiency fan)
- 2 acoustic options: STD (standard) and S (super low noise)

Advantages

- Low GWP R32 refrigerant (GWP= 675)
- Very high efficiency
- Wide operating limits
- Low footprint: one of the smallest footprint on the market with only 2,53 m² for sizes 50-130 and 4,36 m² for sizes 150-170
- Reduced sound levels: S version (super low noise) with EC fan and compressor sound jackets
- New advanced control system
- Easy maintenance: great accessibility to the internal components
- Cascade controller available for multi system operation
- SG Ready
- 100% factory tested

Equipment

- 1 refrigerant circuit with tandem scroll compressors for a higher efficiency at partial load
- Stainless steel plate heat exchanger insulated with closed cell synthetic foam
- Finned coil condenser constructed with seamless copper tubes mechanically expanded into aluminium fins - Bluefin treatment for H type
- Hydraulic circuit without pump
- Complete integrated control system with an external control panel that displays the operating parameters and alarms
- Modbus RTU, Modbus TCP/IP, BACnet MSTP or BACnet IP
- Night mode for energy savings and reduced sound levels
- Electronic expansion valve
- Water compensation curve control
- Return and leaving water temperature control
- External switch (cooling/heating, night mode, load shedding)
- Water filter and water flow switch
- Phase sequence monitor
- Without neutral

AC SELECT.

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

Technical performance

Power supply	Voltage	V	400	400	400	400	400	400	400	400	400	400
	Phase		Three phase	Three phase	Three phase	Three phase	Three phase	Three phase	Three phase	Three phase	Three phase	Three phase
	Frequency	Hz	50	50	50	50	50	50	50	50	50	50
Size			**50**	**60**	**70**	**75**	**85**	**100**	**115**	**130**	**150**	**170**
ECOi-W AQUA-Z 50-170 C - chiller	**P-AQAZ****CA**		**0050**	**0060**	**0070**	**0075**	**0085**	**0100**	**0115**	**0130**	**0150**	**0170**
Cooling capacity [1]	kW		51,6	57,6	69,7	78,2	82,8	100	116	126	154	173
Input power [1]	kW		16,5	19,6	22,4	24	26,8	31,4	37,4	42,3	47,4	55,7
EER (STD AC / STD EC) *[1]			3,13/3,25	2,94/3,03	3,11/3,29	3,26/3,41	3,09/3,23	3,18/3,30	3,10/3,20	2,98/3,07	3,25/3,38	3,11/3,20
SEER (STD AC / STD EC) *[2] [3]			**4,60/5,05**	**4,59/5,02**	**4,61/5,31**	**4,72/5,29**	**4,45/4,96**	**4,88/5,19**	**4,59/5,01**	**4,43/4,71**	**4,70/5,22**	**4,68/5,16**
$\eta_{s,c}$ (STD AC / STD EC) *[2] [3]			**180,9 / 198,9**	**180,5 / 197,8**	**181,3 / 209,6**	**185,6 / 208,7**	**175,0 / 195,6**	**192,3 / 204,9**	**180,5 / 197,3**	**174,2 / 185,6**	**184,8 / 205,6**	**184,2 / 203,2**
Nominal water flow (in the evaporator)	m³/h		9,2	10,6	12,2	13,2	14,7	17,9	21,1	23,5	27,2	30,7
Sound power (STD AC / S) *	dB(A)		83 / 81	84 / 81	81 / 78	81 / 78	84 / 82	86 / 83	87 / 84	87 / 84	89 / 86	91 / 88
Sound pressure at 10 m (STD AC / S) *[4]	dB(A)		51 / 49	52 / 49	50 / 47	49 / 46	52 / 50	54 / 51	55 / 52	55 / 53	57 / 54	59 / 56
ECOi-W AQUA-Z 50-170 H - heat pump	**P-AQAZ****HA**		**0050**	**0060**	**0070**	**0075**	**0085**	**0100**	**0115**	**0130**	**0150**	**0170**
Cooling capacity [1]			51,1	57	69	77,4	82	99,3	115	125	152	170
Input power [1]			16,7	19,8	22,6	24,3	27,1	31,8	37,7	42,7	47,9	57,1
EER (STD AC / STD EC) *[1]			3,06/3,17	2,88/2,97	3,05/3,22	3,19/3,35	3,03/3,17	3,12/3,25	3,05/3,14	2,93/3,00	3,17/3,30	2,98/3,07
EER (STD AC / STD EC) *[5]			3,53/3,67	3,40/3,50	3,57/3,64	3,78/3,96	3,52/3,66	3,63/3,76	3,51/3,54	3,39/3,50	3,63/3,76	3,39/3,56
SEER (STD AC / STD EC) *[2]			**4,46/4,83**	**4,42/4,50**	**4,51/5,04**	**4,61/4,99**	**4,33/4,80**	**4,77/4,93**	**4,44/4,82**	**4,23/4,51**	**4,59/5,04**	**4,49/4,92**
$\eta_{s,c}$ (STD AC / STD EC) *[2]			**175,2 / 190,2**	**173,6 / 176,9**	**177,5 / 198,8**	**181,5 / 196,7**	**170,3 / 188,9**	**187,7 / 194,1**	**174,6 / 190,0**	**166 / 177,2**	**180,5 / 198,7**	**176,6 / 193,8**
Nominal water flow (in the evaporator)	m³/h		8,7	10,6	12,2	13,2	14,7	17,9	21,1	23,5	27,2	30,7
Heating capacity [6]	kW		51,7	59,7	71,8	78,5	86,5	107,6	122,3	137,5	159,1	180,1
Input power [6]	kW		16,5	19,3	22,1	24,2	27,2	32,5	37,0	41,0	48,2	54,5
COP (STD AC / STD EC) *[6]			3,12/3,27	3,10/3,21	3,24/3,43	3,24/3,41	3,19/3,30	3,31/3,45	3,31/3,42	3,36/3,42	3,30/3,48	3,31/3,40
COP (STD AC / STD EC) *[7]			3,81/4,00	3,80/3,92	3,92/4,21	3,91/4,16	3,92/4,16	3,99/4,19	4,10/4,26	4,04/4,12	4,07/4,31	4,02/4,16
SCOP (STD AC / STD EC) *[2] [8]			**3,53/3,90**	**3,54/3,94**	**3,47/3,71**	**3,65/3,80**	**3,60/4,02**	**3,64/4,10**	**3,66/4,02**	**3,72/3,97**	**3,57/4,04**	**3,60/3,95**
Energy efficiency class (STD AC / STD EC) *[2] [7]	**A+++ to D**		**A+ / A+**	**A+ / A+**	**A+ / A++**	**A+ / A++**	**A+ / A++**	**— / —**	**— / —**	**— / —**	**— / —**	**— / —**
$\eta_{s,h}$ (STD AC / STD EC) *[2] [7]			**138,0 / 152,8**	**138,5 / 154,5**	**135,6 / 145,3**	**143,2 / 148,8**	**141,2 / 157,8**	**142,5 / 160,9**	**143,2 / 157,9**	**145,7 / 155,9**	**139,9 / 158,4**	**140,9 / 155,2**
Nominal water flow (in the evaporator)	m³/h		9,3	10,7	12,5	13,9	15,0	18,3	21,5	23,9	27,5	31,7
Sound power (STD AC / S) *	dB(A)		83 / 81	84 / 81	81 / 78	81 / 78	84 / 82	86 / 83	87 / 84	87 / 84	89 / 86	91 / 88
Sound pressure at 10 m (STD AC / S) *[4]	dB(A)		51 / 49	52 / 49	50 / 47	50 / 46	52 / 50	54 / 51	55 / 52	56 / 53	57 / 54	59 / 56

Physical features

ECOi-W AQUA-Z 50-170 C/H - chiller / heat pump			**50**	**60**	**70**	**75**	**85**	**100**	**115**	**130**	**150**	**170**
Dimension	Height (STD / EC/HPF)	mm	1986/2034	1986/2034	1986/2034	1986/2034	2286/2334	2286/2334	2286/2334	2286/2334	2285/2333	2285/2333
	Width	mm	1160	1160	1160	1160	1160	1160	1160	1160	1151	1151
	Length without water tank	mm	2180	2180	2180	2180	2180	2180	2180	2180	3789	3789
Operating weight without water tank - 1 pump		kg	527	547	621	637	701	731	813	815	1265	1279
Water connections												
Type of water connections (evaporator)			Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228
Water inlet/outlet diameter		Inch	2	2	2	2	2 ½	2 ½	2 ½	2 ½	2 ½	2 ½

1) According EN 14511-2018: chilled water inlet/outlet temperature: 12/7 °C, outdoor ambient temperature 35 °C DB. 2) According EN 14825. 3) ErP compliant: following COMMISSION REGULATION (EU) 2016/2281. 4) Sound pressures refer to ISO 3744 standard, parallelepiped shape. 5) According EN 14511-2018: chilled water inlet/outlet temperature: 23/18 °C, outdoor ambient temperature 35 °C DB.
6) According EN 14511-2018: warm water inlet/outlet temperature: 40/45 °C, outdoor ambient temperature 7 °C DB/6 °C WB. 7) According EN 14511-2018: warm water inlet/outlet temperature: 30/35 °C, outdoor ambient temperature 7 °C DB/6 °C WB. 8) ErP compliant: following COMMISSION REGULATION (EU) No 813/2013.
* STD AC: standard version with AC fan, STD EC: standard version with high efficiency EC fan, S: super low noise version with high efficiency EC fan + compressor sound jackets.

Accessories and options
Anti-vibration rubber mount / spring dampers *
Compressor jackets (standard for S versions)
Desuperheater
Electrical heater for the water tank
Fin&Tube Al/Cu with epoxy / Blygold treatment
High efficiency EC fan

Accessories and options
High pressure fan (HPF)
Outdoor coil protection grid
Power factor corrector capacitors
Refrigerant gauges HP/LP
Shut off valves
Soft starter

Accessories and options
Variable speed pumps
Water pressure switch *
Water tank 300 L
Without neutral
Communication protocols: Modbus RTU (Std.), Modbus TCP/IP, BACnet MSTP, BACnet IP

* Field-installed accessories. All other accessories are factory-installed.

Accessories supplied loose	
P-375281	SRC - mini BMS controller
P-586595	Cascade controller
P-372061	Remote keyboard panel

Accessories supplied loose	
P-372615	Kit 4G modem
SVC-HYD-COMM-CLD1	1-year pre-paid Cloud access
SVC-HYD-COMM-CLD3	3-year pre-paid Cloud access

R32 REFRIGERANT | ErP | HIGH SEER 5,22 | HIGH SCOP 4,10 | AIR COOLED | PLATE HEAT EXCHANGER | SCROLL COMPRESSOR | SUPER QUIET | VERY HIGH PERFORMANCE

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Specifications subject to change without notice. For detailed information about ErP / Energy Labelling, please visit our websites www.aircon.panasonic.eu or www.ptc.panasonic.eu.