ECOi-W AQUA-Z DC 150-380 C/H · R32

Air cooled chillers and heat pumps.

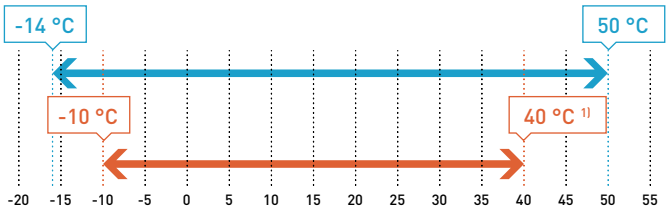
Cooling capacity: 151 to 377 kW.
Heating capacity: 154 to 384 kW.

R32
REFRIGERANT

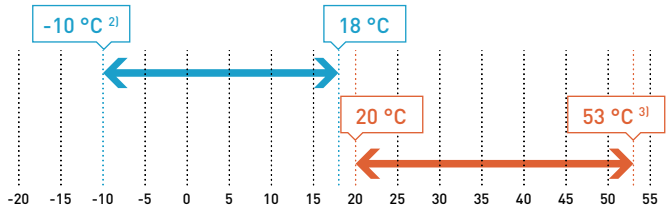
Operating limits

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

Ambient temperature.



Leaving water temperature.



1) With EC fans.
2) With glycol, 5 °C without glycol.
3) 55 °C sizes 150-170.

The range at a glance

- 2 versions: C (chiller) and H (heat pump)
- 10 sizes for C version and 13 sizes for H version
- 3 different chassis
- SEER up to 4,93 (STD AC) / 5,23 (STD EC)
- SCOP up to 3,90 (STD AC) / 4,00 (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)
- Double circuit units able to work in partial load from around 20% of total capacity
- Very high efficiency
- Wide operating limits
- Reduced sound levels: S version (super low noise) with EC fan and compressor sound jackets for sizes 150-380, additional compressor box for sizes 190-380
- New intelligent control logic
- Easy maintenance: great accessibility to the internal components
- Cascade controller available for multi system operation with capacity boost up to 3040 kW
- SG Ready
- 100% factory tested

Equipment

- 2 refrigerant circuits with tandem scroll compressors for a higher efficiency at partial load
- Stainless steel plate heat exchanger insulated with closed cell synthetic foam
- Microchannel coils only for C version (sizes 190-380)
- Fin&Tube coil condenser constructed with seamless copper tubes mechanically expanded into aluminium fins - Bluefin treatment for H version
- 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
- Digital input for Night Mode, Demand mode or Eco Mode for energy savings and reduced sound levels
- Electronic expansion valve
- Water compensation curve control
- Return and leaving water temperature control
- Water flow switch (sizes 150-170)
- Differential pressure switch (sizes 190-380)
- Phase sequence monitor
- Automatic circuit breaker
- Without neutral

Technical performance

Size			150	170	190	210	230	260	290	320	350	380
ECOi-W AQUA-Z DC 150-380 C - chiller	**P-AQADZ****CA**		**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**
Cooling capacity [1]		kW	151,0/151,0	170,0/170,0	189,0/189,0	212,0/214,0	229,0/229,0	260,0/260,0	307,0/307,0	326,0/325,0	346,0/347,0	377,0/377,0
Input power [1]		kW	49,7/49,0	56,7/55,9	59,4/57,3	69,1/66,5	75,1/72,7	90,0/87,8	95,9/92,5	104,2/100,0	112,0/108,1	126,9/122,8
EER [1]			3,04/3,08	3,00/3,04	3,18/3,30	3,07/3,22	3,05/3,15	2,89/2,96	3,20/3,32	3,13/3,25	3,09/3,21	3,0/3,1
SEER [2]			**4,93/5,2**	**4,90/5,15**	**4,68/5,23**	**4,62/5,20**	**4,48/4,90**	**4,40/4,79**	**4,63/5,13**	**4,33/5,12**	**4,43/4,79**	**4,35/4,8**
$\eta_{s,c}$ [2]		%	**194,0/204,0**	**192,8/203,0**	**184,3/206,1**	**181,8/204,8**	**176,3/192,9**	**173,1/188,4**	**182,0/202,2**	**170,0/188,8**	**174,2/188,5**	**171,0/188,8**
Cooling capacity (A 35 °C, W 23/18 °C)		kW	191,0/193,0	213,0/217,0	242,0/243,0	269,0/271,0	294,0/295,0	331,0/339,7	389,0/390,0	415,0/412,0	442,0/444,0	483,0/484,0
Input power (A 35 °C, W 23/18 °C)		kW	53,8/52,7	62,1/61,2	64,2/61,3	74,5/71,6	82,9/79,9	98,2/96,8	103,0/99,4	112,0/109,0	123,0/119,0	139,0/136,0
Water flow		m³/h	26,0/25,9	29,2/29,2	32,5/32,5	36,5/36,8	39,4/39,4	44,7/44,7	52,8/52,8	56,1/55,9	59,5/59,7	64,8/64,8
Sound power (STD)		dB(A)	89,6/89,0	90,4/89,9	91,1/90,9	91,5/91,3	92,0/91,9	92,4/92,3	93,3/93,1	94,3/94,2	95,2/95,1	95,4/95,3
Sound pressure (STD) *		dB(A)	57,5/56,9	58,3/57,8	59,0/58,8	59,4/59,2	59,9/59,8	60,3/60,2	61,1/60,9	62,1/62,0	63,0/62,9	63,2/63,1
Sound power (S)		dB(A)	—/85,0	—/85,4	—/87,2	—/87,4	—/87,6	—/87,8	—/88,6	—/89,7	—/90,1	—/90,3
Sound pressure (S) *		dB(A)	—/52,9	—/53,3	—/55,1	—/55,3	—/55,5	—/55,7	—/56,4	—/57,5	—/57,9	—/58,1

Size			150	170	190	210	220	230	260	270	290	300	320	350	380
ECOi-W AQUA-Z DC 150-380 H - heat pump	**P-AQADZ****HA**		**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD EC**	**STD AC / STD EC**	**STD EC**	**STD AC / STD EC**	**STD AC / STD EC**	**STD AC / STD EC**
Cooling capacity [1]		kW	150/150	167/167	184/183	204/204	208	224/224	251/251	265	291,1/289,3	295	307,7/310,7	330/331	364/364,3
Input power [1]		kW	49,7/49,0	56,6/55,9	62,0/59,6	72,1/69,9	67,3	76,7/74,4	93,0/90,6	83,1	101,3/96,6	93,1	107,5/103,3	114,2/110,0	131,7/128,1
Total EER [1]			3,02/3,06	2,95/2,99	2,97/3,07	2,83/2,92	3,09	2,92/3,01	2,7/2,77	3,19	2,87/2,99	3,17	2,86/3,00	2,89/3,01	2,76/2,84
Total EER (A 35 °C, W 23/18 °C)			3,53/3,60	3,41/3,51	3,41/3,58	3,22/3,37	3,63	3,45/3,60	3,12/3,18	3,83	3,32/3,46	3,72	3,31/3,52	3,32/3,52	3,16/3,30
SEER [2]			**4,75/5,03**	**4,71/4,97**	**4,45/4,94**	**4,39/4,82**	**5,03**	**4,34/4,71**	**4,21/4,55**	**5,01**	**4,34/4,83**	**5,01**	**4,33/4,89**	**4,40/4,79**	**4,34/4,65**
$\eta_{s,c}$ [2]		%	**187,1 / 198,1**	**185,3 / 195,7**	**175,2 / 194,6**	**172.5 / 189,6**	**198**	**170,6 / 185,5**	**165,5 / 179,1**	**197,5**	**170,4 / 190,1**	**197,3**	**170 / 192,4**	**172,9 / 188,5**	**170,5 / 182,9**
Water flow		m³/h	25,8/25,8	28,7/28,7	31,6/31,5	35,1/35,1	35,8	38,5/38,5	43,2/43,2	45,6	50,1/49,8	50,7	52,9/53,4	56,8/56,9	62,6/62,7
Heating capacity [3]		kW	154/154	178/179	190/190	201/201	219	241/241	256,9/258,5	288	285,6/284,8	312	301,3/316,5	337/340	384/384,5
Input power [3]		kW	48,8/48,2	54,9/54,4	61,3/58,6	68,5/65,9	67	75,4/72	87,6/85,0	88,3	97,5/93,2	94,6	103,2/100,1	111/107	128/122,4
Total COP [3]			3,16/3,20	3,24/3,29	3,10/3,24	2,93/3,05	3,27	3,20/3,35	2,93/3,04	3,26	2,93/3,05	3,30	2,92/3,16	3,04/3,18	3,00/3,14
Total COP (A 7 °C, W 30/35 °C)			3,67/3,82	3,98/4,04	3,57/3,80	3,43/3,59	4,01	3,86/4,04	3,56/3,68	4,00	3,47/3,61	3,86	3,45/3,86	3,69/3,82	3,54/3,66
SCOP [4]			**3,83/4,00**	**3,90/4,00**	**3,46/3,89**	**3,44/3,90**	**3,86**	**3,64/3,99**	**3,52/3,85**	**3,82**	**3,51/3,91**	**3,92**	**3,50/3,85**	**3,50/3,87**	**3,66/3,95**
$\eta_{s,h}$ [4]		%	**150 / 157,1**	**152,8 / 156,8**	**135,6 / 152,7**	**134,7 / 152,8**	**151,3**	**142,5 / 156,4**	**137,9 / 151**	**149,7**	**137,4 / 153,2**	**153,7**	**137 / 151,2**	**136,9 / 151,9**	**143,4 / 155,1**
Water flow		m³/h	26,5/26,5	30,6/30,8	32,7/32,7	34,6/34,6	37,7	41,5/41,5	44,2/44,5	49,5	49,1/49,0	53,7	51,8/54,4	58,0/58,5	66,0/66,1
Sound power (STD)		dB(A)	89,6/89,0	90,4/89,9	91,1/90,9	91,5/91,3	91,3	92,0/91,9	92,4/92,3	92,8	93,3/93,1	93,1	94,3/94,2	95,2/95,1	95,4/95,3
Sound pressure (STD) [5]		dB(A)	57,5/56,9	58,3/57,8	59,0/58,8	59,4/59,2	59,2	59,9/59,8	60,3/60,2	60,7	61,1/60,9	60,9	62,1/62,0	63,0/62,9	63,2/63,1
Sound power (S)		dB(A)	—/85,0	—/85,4	—/87,2	—/87,4	87,4	—/87,6	—/87,8	88,5	—/88,6	88,6	—/89,7	—/90,1	—/90,3
Sound pressure (S) [5]		dB(A)	—/52,9	—/53,3	—/55,1	—/55,3	55,3	—/55,5	—/55,7	56,4	—/56,4	56,4	—/57,5	—/57,9	—/58,1

Physical features

ECOi-W AQUA-Z DC 150-380 C/H - chiller / heat pump			150	170	190	210	220	230	260	270	290	300	320	350	380
Dimension	Height (STD AC) / (EC/HPF)	mm	2240 / 2312	2240 / 2312	2250 / 2300	2250 / 2300	— / 2300	2250 / 2300	2250 / 2300	— / 2300	2250 / 2300	— / 2300	2250 / 2300	2250 / 2300	2250 / 2300
	Width	mm	1152	1152	2211	2211	2211	2211	2211	2211	2211	2211	2211	2211	2211
	Length	mm	3795	3795	2676	2676	2676	2676	2676	3801	3801	3801	3801	3801	3801

1) According EN 14511-2018: 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 14511-2018: warm water inlet/outlet temperature: 40/45 °C, outdoor ambient temperature 7 °C DB/6 °C WB. 4) According EN 14825 and Following COMMISSION REGULATION (EU) No 813/2013.
5) Sound levels are at fully loaded conditions. Sound power values refers to ISO 3744 standard.

Accessories and options
Anti-vibration rubber mount *
Desuperheater for sizes 190-380
Energy meter for power input
Fin&Tube Al/Cu with Epoxy / Blygold treatment
High efficiency EC fan
High pressure fan (HPF)

Accessories and options
Mechanical gauges kit (HP and LP manometers)
Coil guards for sizes 150-170
Chiller grilles and drain pan for sizes 190-380
Power factor corrector capacitors
Shut off valves *
Soft starter

Accessories and options
Super low noise (S) version
Compressor jackets
Compressor box for sizes 190-380
Variable speed pumps
Water pressure switch
Water tank

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

Accessories supplied loose	
P-586595	Cascade controller
P-372061	Remote keyboard panel
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
P-477042	AVS - anti-vibration spring for sizes 150-170
P-477044	AVS - anti-vibration Spring for sizes 190-260 C version
P-477045	AVS - anti-vibration Spring for sizes 190-260 H version

Accessories supplied loose	
P-477047	AVS - anti-vibration Spring for sizes 270-380
P-477043	AVS - anti-vibration Spring with tank for sizes 150-170
P-477046	AVS - anti-vibration Spring with tank for sizes 190-260
P-477048	AVS - anti-vibration Spring with tank for sizes 290-380 C version
P-477049	AVS - anti-vibration Spring with tank for sizes 270-380 H version
P-348619	WF - water filter

R32 REFRIGERANT | ErP | HIGH SEER 5,23 | HIGH SCOP 4,00 | 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.