This information was generated by the HP KEYMARK database on 17 Dec 2020

Summary of	Aquarea Monobloc 9-12 kW T-CAP (H Series)	Reg. No.	011-1W0206
Certificate Holder			
Name	Panasonic Marketing Europe GmbH		
Address	Hagenauer Strasse 43, Wiesbaden	Zip	65203
City	Wiesbaden	Country	Germany
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Name of testing laboratory	Danish Technological Institute (DTI)		
Subtype title	Aquarea Monobloc 9-12 kW T-CAP (H Series)		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R410a		
Mass Of Refrigerant	2.3 kg		
Certification Date	08.01.2020		

Model: WH-MXC09H3E5

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	9.00 kW	9.00 kW
El input	1.86 kW	3.06 kW
COP	4.84	2.94
Indoor water flow rate	1.50 m³/h	0.97 m³/h

Average Climate

EN 14825		
	Low temperature	**Medium temperature**

η_s	181 %	130 %
Prated	9.00 kW	9.00 kW
SCOP	4.59	3.32
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.50 kW	7.70 kW
COP Tj = -7°C	2.75	2.11
Cdh	1.00	1.00
Pdh Tj = +2°C	4.70 kW	4.80 kW
COP Tj = +2°C	4.57	3.24
Cdh	0.99	0.99
Pdh Tj = +7°C	5.00 kW	4.60 kW
COP Tj = +7°C	5.89	4.17
Cdh	0.99	0.99
Pdh Tj = 12°C	6.10 kW	5.50 kW
COP Tj = 12°C	7.67	5.74
Cdh	0.98	0.99
Pdh Tj = Tbiv	9.00 kW	8.70 kW
COP Tj = Tbiv	2.71	2.00
Pdh Tj = TOL	9.00 kW	8.70 kW
COP Tj = TOL	2.71	2.00

WTOL	55 °C	55 °C
Poff	3 W	3 W
PTO	12 W	12 W
PSB	12 W	12 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	230V 1ph 50Hz	230V 1ph 50Hz
Supplementary Heater: PSUP	3.00 kW	3.00 kW
Annual energy consumption Qhe	4049 kWh	5596 kWh

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	dB(A)	dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

Warmer Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	235 %	158 %
Prated	9.00 kW	9.00 kW
SCOP	5.95	4.02
Tbiv	2 °C	2 °C

TOL	2 °C	2 °C
Pdh Tj = +2°C	8.90 kW	9.00 kW
COP Tj = +2°C	3.49	2.39
Cdh	1.00	1.00
Pdh Tj = +7°C	5.70 kW	5.70 kW
COP Tj = +7°C	5.49	3.33
Cdh	0.99	0.99
Pdh Tj = 12°C	6.00 kW	5.30 kW
COP Tj = 12°C	7.29	5.35
Cdh	0.99	0.99
Pdh Tj = Tbiv	8.90 kW	9.00 kW
COP Tj = Tbiv	3.49	2.39
Pdh Tj = TOL	8.90 kW	9.00 kW
COP Tj = TOL	3.49	2.39
WTOL	55 °C	55 °C
Poff	3 W	3 W
PTO	12 W	12 W
PSB	12 W	12 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	230V 1-ph 50Hz	230V 1-ph 50Hz
Supplementary Heater: PSUP	3.00 kW	3.00 kW

Annual energy consumption Qhe	2020 kWh	2991 kWh

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	dB(A)	dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

Colder Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	160 %	125 %
Prated	11.00 kW	11.00 kW
SCOP	4.08	3.20
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.70 kW	6.50 kW
COP Tj = -7°C	3.28	2.56
Cdh	0.99	1.00
Pdh Tj = +2°C	4.30 kW	4.00 kW
COP Tj = +2°C	4.99	3.91
Cdh	0.99	0.99

Pdh Tj = +7°C	5.00 kW	4.80 kW
COP Tj = +7°C	6.29	4.99
Cdh	0.98	0.99
Pdh Tj = 12°C	5.80 kW	5.70 kW
COP Tj = 12°C	7.45	6.32
Cdh	0.98	0.99
Pdh Tj = Tbiv	9.20 kW	8.90 kW
COP Tj = Tbiv	2.48	1.93
Pdh Tj = TOL	9.80 kW	8.90 kW
COP Tj = TOL	1.85	1.52
WTOL	55 °C	55 °C
Poff	3 W	3 W
PTO	12 W	12 W
PSB	12 W	12 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	230V 1-ph 50Hz	230V 1-ph 50Hz
Supplementary Heater: PSUP	3.00 kW	3.00 kW
Annual energy consumption Qhe	6651 kWh	8468 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.20	8.90
COP Tj = -15°C (if TOL<-20°C)	2.48	1.93
Cdh	1.00	1.00

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	dB(A)	dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

Cooling

EN 14511-2		
	+7°C/+12°C	**+18°C/+23°C**
El input	kW	kW
Indoor water flow rate	m³/h	m³/h
Cooling capacity		
EER		

Model: WH-MXC12H6E5

General Data	
Power supply	1x230V 50Hz

Average Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	170 %	130 %
Prated	12.00 kW	12.00 kW
SCOP	4.32	3.32
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.70 kW	10.80 kW
COP Tj = -7°C	2.84	2.03
Cdh	1.00	1.00
Pdh Tj = +2°C	6.70 kW	6.10 kW
COP Tj = +2°C	3.96	3.19
Cdh	0.99	0.99
Pdh Tj = +7°C	5.10 kW	4.70 kW
COP Tj = +7°C	5.93	4.38
Cdh	0.99	0.99
Pdh Tj = 12°C	6.00 kW	5.70 kW

COP Tj = 12°C	7.88	5.89
Cdh	0.98	0.99
Pdh Tj = Tbiv	12.00 kW	11.70 kW
COP Tj = Tbiv	2.56	1.95
Pdh Tj = TOL	12.00 kW	11.70 kW
COP Tj = TOL	2.56	1.95
WTOL	55 °C	55 °C
Poff	3 W	3 W
PTO	12 W	12 W
PSB	12 W	12 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	230V 1ph 50Hz	230V 1ph 50Hz
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Qhe	5745 kWh	7466 kWh

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	dB(A)	dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

Warmer Climate

EN 14825

	Low temperature	**Medium temperature**
η_s	231 %	158 %
Prated	12.00 kW	12.00 kW
SCOP	5.86	4.02
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.90 kW	11.70 kW
COP Tj = +2°C	3.18	2.15
Cdh	1.00	1.00
Pdh Tj = +7°C	7.60 kW	7.80 kW
COP Tj = +7°C	5.25	3.33
Cdh	0.99	0.99
Pdh Tj = 12°C	5.90 kW	5.70 kW
COP Tj = 12°C	7.33	5.39
Cdh	0.99	0.99
Pdh Tj = Tbiv	11.90 kW	11.70 kW
COP Tj = Tbiv	3.18	2.15
Pdh Tj = TOL	11.90 kW	11.70 kW
COP Tj = TOL	3.18	2.15
WTOL	55 °C	55 °C
Poff	3 W	3 W

PTO	12 W	12 W
PSB	12 W	12 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	230V 1-ph 50Hz	230V 1-ph 50Hz
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Qhe	2738 kWh	3990 kWh

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	dB(A)	dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

Colder Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	160 %	125 %
Prated	14.00 kW	13.00 kW
SCOP	4.08	3.20
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.40 kW	7.90 kW

COP Tj = -7°C	3.20	2.54
Cdh	1.00	1.00
Pdh Tj = +2°C	5.00 kW	4.10 kW
COP Tj = +2°C	5.09	3.97
Cdh	0.99	0.99
Pdh Tj = +7°C	5.10 kW	4.80 kW
COP Tj = +7°C	6.61	4.89
Cdh	0.98	0.99
Pdh Tj = 12°C	5.90 kW	5.60 kW
COP Tj = 12°C	7.99	6.00
Cdh	0.98	0.99
Pdh Tj = Tbiv	11.20 kW	10.40 kW
COP Tj = Tbiv	2.48	1.94
Pdh Tj = TOL	10.90 kW	8.90 kW
COP Tj = TOL	1.92	1.50
WTOL	55 °C	55 °C
Poff	3 W	3 W
PTO	12 W	12 W
PSB	12 W	12 W
PCK	33 W	33 W
Supplementary Heater: Type of energy input	230V 1-ph 50Hz	230V 1-ph 50Hz

Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Qhe	8460 kWh	10012 kWh
Pdh Tj = -15°C (if TOL<-20°C)	11.20	10.40
COP Tj = -15°C (if TOL<-20°C)	2.48	1.94
Cdh	1.00	1.00

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	dB(A)	dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	12.00 kW	12.00 kW
El input	2.53 kW	4.16 kW
COP	4.74	2.88
Indoor water flow rate	2.10 m³/h	1.29 m³/h

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Cooling

EN 14511-2		
	+7°C/+12°C	**+18°C/+23°C**
El input	3.56 kW	1.95 kW
Indoor water flow rate	1.70 m³/h	1.70 m³/h
Cooling capacity	10.00	10.00
EER	2.81	5.13