

Subtype AQUATOP S11

Certificate Holder	ELCO GmbH
Address	Hohenzollernstrasse 31
ZIP	72379
City	Hechingen
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	AQUATOP S11
Registration number	011-1W0306
Heat Pump Type	Brine/Water and Water/Water
Refrigerant	R410A
Mass of Refrigerant	2.9 kg
Certification Date	04.05.2019

Model AQUATOP S11

Model name	AQUATOP S11
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 50Hz
Off-peak product	n/a

Brine/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
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EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.49 kW	9.10 kW
El input	2.11 kW	3.20 kW
COP	4.98	2.84

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	198 %	153 %
Prated	10.75 kW	9.86 kW
SCOP	5.15	4.04
Tbiv	-10 °C	-10 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.80 kW	9.99 kW
COP Tj = -7°C	4.80	3.12
Cdh Tj = -7 °C		
Pdh Tj = +2°C	10.97 kW	10.44 kW
COP Tj = +2°C	5.18	4.06
Cdh Tj = +2 °C		
Pdh Tj = +7°C	11.11 kW	10.70 kW
COP Tj = +7°C	5.46	4.62
Cdh Tj = +7 °C		
Pdh Tj = 12°C	11.24 kW	10.97 kW

COP Tj = 12 °C	5.75	5.18
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	10.75 kW	9.86 kW
COP Tj = Tbiv	4.71	2.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.75 kW	9.86 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.71	2.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4316 kWh	5046 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	202 %	158 %
Prated	10.75 kW	9.86 kW
SCOP	5.25	4.15
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7 °C	10.97 kW	10.35 kW
COP Tj = -7 °C	5.18	3.87
Cdh Tj = -7 °C		
Pdh Tj = +2 °C	11.11 kW	10.66 kW
COP Tj = +2 °C	5.46	4.52
Cdh Tj = +2 °C		
Pdh Tj = +7 °C	11.20 kW	10.88 kW
COP Tj = +7 °C	5.65	4.99
Cdh Tj = +7 °C		
Pdh Tj = 12 °C	11.24 kW	11.06 kW
COP Tj = 12 °C	5.74	5.36
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	10.75 kW	9.86 kW
COP Tj = Tbiv	4.71	2.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.75 kW	9.86 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.71	2.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5050 kWh	5859 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	199 %	154 %
Prated	10.75 kW	9.86 kW
SCOP	5.18	4.05
Tbiv	2 °C	2 °C
TOL	-22 °C	-22 °C
Pdh Tj = +2°C	10.75 kW	9.86 kW
COP Tj = +2°C	4.71	2.84
Cdh Tj = +2 °C		
Pdh Tj = +7°C	10.93 kW	10.26 kW
COP Tj = +7°C	5.08	3.68
Cdh Tj = +7 °C		
Pdh Tj = 12°C	11.15 kW	10.79 kW
COP Tj = 12°C	5.55	4.80
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	10.75 kW	9.86 kW
COP Tj = Tbiv	4.71	2.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.75 kW	9.86 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.71	2.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2772 kWh	3252 kWh

Water/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	13.34 kW	12.51 kW
El input	2.19 kW	3.31 kW
COP	6.08	3.78

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	258 %	207 %
Prated	13.34 kW	12.51 kW
SCOP	6.65	5.38
T _{biv}	-10 °C	-10 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	13.40 kW	12.67 kW
COP T _j = -7°C	6.20	4.15
C _{dh} T _j = -7 °C		
P _{dh} T _j = +2°C	13.61 kW	13.25 kW
COP T _j = +2°C	6.69	5.40
C _{dh} T _j = +2 °C		
P _{dh} T _j = +7°C	13.79 kW	13.58 kW
COP T _j = +7°C	7.05	6.15
C _{dh} T _j = +7 °C		
P _{dh} T _j = 12°C	13.95 kW	13.92 kW
COP T _j = 12°C	7.41	6.89
C _{dh} T _j = +12 °C		
P _{dh} T _j = T _{biv}	13.34 kW	12.51 kW
COP T _j = T _{biv}	6.08	3.78
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	13.34 kW	12.51 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	6.08	3.78

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4145 kWh	4801 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	262 %	212 %
Prated	13.34 kW	12.51 kW
SCOP	6.75	5.51
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	13.61 kW	13.13 kW
COP Tj = -7°C	6.69	5.15
Cdh Tj = -7 °C		
Pdh Tj = +2°C	13.79 kW	13.53 kW
COP Tj = +2°C	7.05	6.02
Cdh Tj = +2 °C		
Pdh Tj = +7°C	13.90 kW	13.80 kW
COP Tj = +7°C	7.29	6.64
Cdh Tj = +7 °C		
Pdh Tj = 12°C	13.95 kW	14.03 kW
COP Tj = 12°C	7.41	7.13
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	13.34 kW	12.51 kW
COP Tj = Tbiv	6.08	3.78
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.34 kW	12.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	20 W	20 W
PSB	20 W	20 W

PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	4869 kWh	5595 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	259 %	207 %
Prated	13.34 kW	12.51 kW
SCOP	6.68	5.38
T _{biv}	2 °C	2 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = +2°C	13.34 kW	12.51 kW
COP T _j = +2°C	6.08	3.78
C _{dh} T _j = +2 °C		
P _{dh} T _j = +7°C	13.56 kW	13.02 kW
COP T _j = +7°C	6.56	4.90
C _{dh} T _j = +7 °C		
P _{dh} T _j = 12°C	13.84 kW	13.69 kW
COP T _j = 12°C	7.16	6.39
C _{dh} T _j = +12 °C		
P _{dh} T _j = T _{biv}	13.34 kW	12.51 kW
COP T _j = T _{biv}	6.08	3.78
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	13.34 kW	12.51 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	6.08	3.78
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.000	1.000
WTOL	65 °C	65 °C
P _{off}	0 W	0 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2668 kWh	3105 kWh