

Subtype AQUATOP T22H

Certificate Holder	ELCO GmbH
Address	Hohenzollernstrasse 31
ZIP	72379
City	Hechingen
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	AQUATOP T22H
Registration number	011-1W0309
Heat Pump Type	Brine/Water and Water/Water
Refrigerant	R407c
Mass of Refrigerant	4.1 kg
Certification Date	04.05.2019

Model AQUATOP T22H

Model name	AQUATOP T22H
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

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	21.00 kW	20.40 kW
El input	4.60 kW	7.00 kW
COP	4.60	2.90

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	54 dB(A)	54 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	201 %	167 %
Prated	21.00 kW	20.40 kW
SCOP	5.23	4.38
Tbiv	-10 °C	-10 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	21.21 kW	21.01 kW
COP Tj = -7°C	4.69	3.16
Cdh Tj = -7 °C		
Pdh Tj = +2°C	21.84 kW	22.64 kW
COP Tj = +2°C	5.24	4.35
Cdh Tj = +2 °C		
Pdh Tj = +7°C	22.26 kW	23.46 kW
COP Tj = +7°C	5.47	5.10
Cdh Tj = +7 °C		
Pdh Tj = 12°C	22.68 kW	24.48 kW

COP Tj = 12 °C	5.80	5.97
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	21.00 kW	20.40 kW
COP Tj = Tbiv	4.60	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	21.00 kW	20.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.60	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	60 °C	60 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 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	8297 kWh	9624 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	54 dB(A)	54 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	206 %	174 %
Prated	21.00 kW	20.40 kW
SCOP	5.35	4.54
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7 °C	21.84 kW	22.24 kW
COP Tj = -7 °C	5.24	4.09
Cdh Tj = -7 °C		
Pdh Tj = +2 °C	22.26 kW	23.46 kW
COP Tj = +2 °C	5.47	4.96
Cdh Tj = +2 °C		
Pdh Tj = +7 °C	22.47 kW	24.28 kW
COP Tj = +7 °C	5.70	5.63
Cdh Tj = +7 °C		
Pdh Tj = 12 °C	22.68 kW	24.89 kW
COP Tj = 12 °C	5.80	6.09
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	21.00 kW	20.40 kW
COP Tj = Tbiv	4.60	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	21.00 kW	20.40 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.60	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	60 °C	60 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 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	9677 kWh	11077 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	54 dB(A)	54 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	202 %	169 %
Prated	21.00 kW	20.40 kW
SCOP	5.25	4.42
Tbiv	2 °C	2 °C
TOL	-22 °C	-22 °C
Pdh Tj = +2°C	21.00 kW	20.40 kW
COP Tj = +2°C	4.60	2.90
Cdh Tj = +2 °C		
Pdh Tj = +7°C	21.63 kW	21.83 kW
COP Tj = +7°C	5.06	3.86
Cdh Tj = +7 °C		
Pdh Tj = 12°C	22.26 kW	23.87 kW
COP Tj = 12°C	5.57	5.37
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	21.00 kW	20.40 kW
COP Tj = Tbiv	4.60	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	21.00 kW	20.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.60	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	60 °C	60 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 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}	5341 kWh	6160 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	25.90 kW	25.60 kW
El input	4.70 kW	7.30 kW
COP	5.50	3.52

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	54 dB(A)	54 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	240 %	193 %
Prated	25.90 kW	25.56 kW
SCOP	6.20	5.03
T _{biv}	-10 °C	-10 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	26.11 kW	26.17 kW
COP T _j = -7°C	5.64	3.78
C _{dh} T _j = -7 °C		
P _{dh} T _j = +2°C	26.74 kW	27.80 kW
COP T _j = +2°C	6.19	4.97
C _{dh} T _j = +2 °C		
P _{dh} T _j = +7°C	27.16 kW	28.62 kW
COP T _j = +7°C	6.42	5.72
C _{dh} T _j = +7 °C		
P _{dh} T _j = 12°C	27.58 kW	29.64 kW
COP T _j = 12°C	6.74	6.59
C _{dh} T _j = +12 °C		
P _{dh} T _j = T _{biv}	25.90 kW	25.56 kW
COP T _j = T _{biv}	5.55	3.52
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	25.90 kW	25.56 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	5.55	3.53

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	60 °C	60 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 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	8634 kWh	10501 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	54 dB(A)	54 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	244 %	197 %
Prated	25.90 kW	25.56 kW
SCOP	6.29	5.12
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	26.74 kW	27.40 kW
COP Tj = -7°C	6.19	4.71
Cdh Tj = -7 °C		
Pdh Tj = +2°C	27.16 kW	28.62 kW
COP Tj = +2°C	6.42	5.58
Cdh Tj = +2 °C		
Pdh Tj = +7°C	27.37 kW	29.44 kW
COP Tj = +7°C	6.64	6.25
Cdh Tj = +7 °C		
Pdh Tj = 12°C	27.58 kW	30.05 kW
COP Tj = 12°C	6.74	6.71
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	25.90 kW	25.56 kW
COP Tj = Tbiv	5.55	3.52
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	25.90 kW	25.56 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.55	3.52
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	60 °C	60 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 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}	10151 kWh	12316 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	54 dB(A)	54 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	241 %	195 %
Prated	25.90 kW	25.56 kW
SCOP	6.22	5.08
T _{biv}	2 °C	2 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = +2°C	25.90 kW	25.56 kW
COP T _j = +2°C	5.55	3.52
C _{dh} T _j = +2 °C		
P _{dh} T _j = +7°C	26.53 kW	26.99 kW
COP T _j = +7°C	6.00	4.48
C _{dh} T _j = +7 °C		
P _{dh} T _j = 12°C	27.16 kW	29.03 kW
COP T _j = 12°C	6.51	5.99
C _{dh} T _j = +12 °C		
P _{dh} T _j = T _{biv}	25.90 kW	25.56 kW
COP T _j = T _{biv}	5.55	3.52
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	25.90 kW	25.56 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	5.55	3.52
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.000	1.000
WTOL	60 °C	60 °C
P _{off}	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 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}	5566 kWh	6720 kWh