

Summary of	AQUATOP T22H	Reg. No.	011-1W0309
Certificate Holder			
Name	ELCO GmbH		
Address	Hohenzollernstrasse 31	Zip	72379
City	Hechingen	Country	Germany
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Name of testing laboratory	TÜV Rheinland Energy GmbH		
Subtype title	AQUATOP T22H		
Heat Pump Type	Brine/Water and Water/Water	Brine/Water and Water/Water	
Refrigerant	R407c		
Mass Of Refrigerant	4.1 kg	4.1 kg	
Certification Date	04.05.2019		



Model: AQUATOP T22H

General Data	
Power supply	3x230V 50Hz

Brine/Water Heat Pump

Heating

EN 14511-4		
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed	
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	

EN 14511-2		
Low temperature Medium temperature		
Heat output	21.00 kW	20.40 kW
El input	4.60 kW	7.00 kW
СОР	4.60	2.90
Indoor water flow rate	3.65 m³/h	2.58 m³/h

Average Climate



EN 12102-1		
Low temperature Medium temperature		
Sound power level indoor	54 dB(A)	54 dB(A)

	EN 14825	
	Low temperature	Medium temperature
η_{s}	201 %	167 %
Prated	21.00 kW	20.00 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
Pdh Tj = +2°C	21.84 kW	22.64 kW
COP Tj = +2°C	5.24	4.35
Pdh Tj = +7°C	22.26 kW	23.46 kW
COP Tj = +7°C	5.47	5.10
Pdh Tj = 12°C	22.68 kW	24.48 kW
COP Tj = 12°C	5.80	5.97
Pdh Tj = Tbiv	21.00 kW	20.40 kW
COP Tj = Tbiv	4.60	2.90

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com





Pdh Tj = TOL	21.00 kW	20.40 kW
COP Tj = TOL	4.60	2.90
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	0 W	0 W
РТО	10 W	10 W
PSB	10 W	10 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Elektrizität	Elektrizität
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	8297 kWh	9624 kWh

Warmer Climate

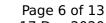
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	54 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	202 %	169 %
Prated	21.00 kW	20.00 kW





This information was generated by the HP KEYMARK database on 17 Dec 202				
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		
Pdh Tj = +7°C	21.63 kW	21.83 kW		
$COPTj = +7^{\circ}C$	5.06	3.86		
Pdh Tj = 12°C	22.26 kW	23.87 kW		
COP Tj = 12°C	5.57	5.37		
Pdh Tj = Tbiv	21.00 kW	20.40 kW		
COP Tj = Tbiv	4.60	2.90		
Pdh Tj = TOL	21.00 kW	20.40 kW		
COP Tj = TOL	4.60	2.90		
Cdh	1.00	1.00		
WTOL	60 °C	60 °C		
Poff	o w	0 W		
РТО	10 W	10 W		
PSB	10 W	10 W		
PCK	0 W	0 W		
Supplementary Heater: Type of energy input	Elektrizität	Elektrizität		
Supplementary Heater: PSUP	0.00 kW	0.00 kW		
	·			





This information was gen	erated by the	he HP KEYMA	ARK database o	on 17 Dec 2020

Annual energy consumption Qhe	5341 kWh	6160 kWh
-------------------------------	----------	----------

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	206 %	174 %
Prated	21.00 kW	20.00 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
Pdh Tj = +2°C	22.26 kW	23.46 kW
COP Tj = +2°C	5.47	4.96
Pdh Tj = +7°C	22.47 kW	24.28 kW
COP Tj = +7°C	5.70	5.63
Pdh Tj = 12°C	22.68 kW	24.89 kW

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com





Pdh Tj = Tbiv 21.00 kW 20.40 kW COP Tj = Tbiv 4.60 2.90 Pdh Tj = TOL 21.00 kW 20.40 kW COP Tj = TOL 4.60 2.90 Cdh 1.00 1.00 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 Elektrizität Elektrizität Supplementary Heater: PSUP 0.00 kW 0.00 kW			
COP Tj = Tbiv 4.60 2.90 Pdh Tj = TOL 21.00 kW 20.40 kW COP Tj = TOL 4.60 2.90 Cdh 1.00 1.00 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 Elektrizit¤t Elektrizit¤t Supplementary Heater: PSUP 0.00 kW 0.00 kW	COP Tj = 12°C	5.80	6.09
Pdh Tj = TOL 21.00 kW 20.40 kW COP Tj = TOL 4.60 2.90 Cdh 1.00 1.00 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 Elektrizität Elektrizität Supplementary Heater: PSUP 0.00 kW 0.00 kW	Pdh Tj = Tbiv	21.00 kW	20.40 kW
COP Tj = TOL 4.60 2.90 Cdh 1.00 1.00 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 ElektrizitÃxt ElektrizitÃxt Supplementary Heater: PSUP 0.00 kW 0.00 kW	COP Tj = Tbiv	4.60	2.90
Cdh 1.00 1.00 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 Elektrizität Elektrizität Supplementary Heater: PSUP 0.00 kW 0.00 kW	Pdh Tj = TOL	21.00 kW	20.40 kW
WTOL 60 °C 60 °C 0 W 0 W PTO 10 W 10 W 10 W PSB 10 W 10 W 0 W PCK 0 W Elektrizität Elektrizität Supplementary Heater: PSUP 0.00 kW	COP Tj = TOL	4.60	2.90
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 Elektrizität Elektrizität Supplementary Heater: PSUP 0.00 kW 0.00 kW	Cdh	1.00	1.00
PTO 10 W 10 W PSB 10 W 0 W PCK 0 W 0 W Supplementary Heater: Type of energy input Elektrizität Elektrizität Supplementary Heater: PSUP 0.00 kW 0.00 kW	WTOL	60 °C	60 °C
PSB 10 W 10 W PCK 0 W 0 W Supplementary Heater: Type of energy input Elektrizität Elektrizität Supplementary Heater: PSUP 0.00 kW 0.00 kW	Poff	0 W	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Elektrizität Elektrizität Supplementary Heater: PSUP 0.00 kW 0.00 kW	РТО	10 W	10 W
Supplementary Heater: Type of energy input Elektrizität Elektrizität Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	10 W	10 W
Supplementary Heater: PSUP 0.00 kW 0.00 kW	PCK	o w	0 W
	Supplementary Heater: Type of energy input	Elektrizität	Elektrizität
Annual energy consumption Qhe 9677 kWh 11077 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
	Annual energy consumption Qhe	9677 kWh	11077 kWh

Water/Water Heat Pump

Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	25.90 kW	25.60 kW	
El input	4.70 kW	7.30 kW	
СОР	5.50	3.90	
Indoor water flow rate	4.45 m³/h	3.19 m³/h	

Average Climate

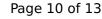
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	240 %	193 %





Tins information was get	Terated by the fir RETH	ANN database on 17 Dec 2020
Prated	26.00 kW	26.00 kW
SCOP	6.20	5.03
Tbiv	-10 °C	-10 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	26.11 kW	26.17 kW
$COP Tj = -7^{\circ}C$	5.64	3.78
Pdh Tj = $+2$ °C	26.74 kW	27.80 kW
COP Tj = +2°C	6.19	4.97
Pdh Tj = $+7^{\circ}$ C	27.16 kW	28.62 kW
$COPTj = +7^{\circ}C$	6.42	5.72
Pdh Tj = 12°C	27.58 kW	29.64 kW
COP Tj = 12°C	6.74	6.59
Pdh Tj = Tbiv	25.90 kW	25.56 kW
COP Tj = Tbiv	5.55	3.52
Pdh Tj = TOL	25.90 kW	25.56 kW
COP Tj = TOL	5.55	3.53
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	o w	0 W
РТО	10 W	10 W
PSB	10 W	10 W



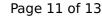


PCK	o w	0 W
Supplementary Heater: Type of energy input	Elektrizität	Elektrizität
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	8634 kWh	10501 kWh

Warmer Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	241 %	195 %
Prated	26.00 kW	26.00 kW
SCOP	6.22	5.08
Tbiv	2 °C	2 °C
TOL	-22 °C	-22 °C
Pdh Tj = +2°C	25.90 kW	25.56 kW
COP Tj = +2°C	5.55	3.52
Pdh Tj = +7°C	26.53 kW	26.99 kW
COP Tj = +7°C	6.00	4.48





	<u> </u>	
Pdh Tj = 12°C	27.16 kW	29.03 kW
COP Tj = 12°C	6.51	5.99
Pdh Tj = Tbiv	25.90 kW	25.56 kW
COP Tj = Tbiv	5.55	3.52
Pdh Tj = TOL	25.90 kW	25.56 kW
COP Tj = TOL	5.55	3.52
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	0 W	0 W
РТО	10 W	10 W
PSB	10 W	10 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Elektrizität	Elektrizität
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5566 kWh	6720 kWh

Colder Climate

EN 12102-1				
	Low temperature	Medium temperature		
Sound power level indoor	54 dB(A)	54 dB(A)		





EN 14825

	Low temperature	Medium temperature
η_{s}	244 %	197 %
Prated	26.00 kW	26.00 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
Pdh Tj = +2°C	27.16 kW	28.62 kW
COP Tj = +2°C	6.42	5.58
Pdh Tj = +7°C	27.37 kW	29.44 kW
COP Tj = +7°C	6.64	6.25
Pdh Tj = 12°C	27.58 kW	30.05 kW
COP Tj = 12°C	6.74	6.71
Pdh Tj = Tbiv	25.90 kW	25.56 kW
COP Tj = Tbiv	5.55	3.52
Pdh Tj = TOL	25.90 kW	25.56 kW
COP Tj = TOL	5.55	3.52
Cdh	1.00	1.00
WTOL	60 °C	60 °C



$$\operatorname{\textit{Page}}\ 13$$ of 13 This information was generated by the HP KEYMARK database on 17 Dec 2020

Poff	o w	o w
РТО	10 W	10 W
PSB	10 W	10 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Elektrizität	Elektrizität
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	10151 kWh	12316 kWh