

Subtype AQUATOP T43H

Certificate Holder	ELCO GmbH
Address	Hohenzollernstrasse 31
ZIP	72379
City	Hechingen
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	AQUATOP T43H
Registration number	011-1W0312
Heat Pump Type	Brine/Water and Water/Water
Refrigerant	R407c
Mass of Refrigerant	7.4 kg
Certification Date	04.05.2019

Model AQUATOP T43H

Model name	AQUATOP T43H
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	44.44 kW	41.30 kW
El input	10.00 kW	13.50 kW
COP	4.40	3.10

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	61 dB(A)	61 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	192 %	180 %
Prated	44.40 kW	41.30 kW
SCOP	5.01	4.69
Tbiv	-10 °C	-10 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	44.84 kW	42.54 kW
COP Tj = -7°C	4.49	3.38
Cdh Tj = -7 °C		
Pdh Tj = +2°C	46.18 kW	45.84 kW
COP Tj = +2°C	5.02	4.65
Cdh Tj = +2 °C		
Pdh Tj = +7°C	47.06 kW	47.50 kW
COP Tj = +7°C	5.24	5.46
Cdh Tj = +7 °C		
Pdh Tj = 12°C	47.95 kW	49.56 kW

COP Tj = 12°C	5.54	6.39
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	44.40 kW	41.30 kW
COP Tj = Tbiv	4.40	3.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	44.40 kW	41.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	3.10
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	18311 kWh	18195 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	61 dB(A)	61 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	197 %	187 %
Prated	44.40 kW	41.30 kW
SCOP	5.13	4.87
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	46.18 kW	45.02 kW
COP Tj = -7°C	5.02	4.37
Cdh Tj = -7 °C		
Pdh Tj = +2°C	47.06 kW	47.50 kW
COP Tj = +2°C	5.24	5.30
Cdh Tj = +2 °C		
Pdh Tj = +7°C	47.51 kW	49.15 kW
COP Tj = +7°C	5.46	6.01
Cdh Tj = +7 °C		
Pdh Tj = 12°C	47.95 kW	50.39 kW
COP Tj = 12°C	5.54	6.51
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	44.40 kW	41.30 kW
COP Tj = Tbiv	4.40	3.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	44.40 kW	41.30 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	3.10
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	21336 kWh	20905 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	61 dB(A)	61 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	193 %	181 %
Prated	44.40 kW	41.30 kW
SCOP	5.04	4.74
Tbiv	2 °C	2 °C
TOL	-22 °C	-22 °C
Pdh Tj = +2°C	44.40 kW	41.30 kW
COP Tj = +2°C	4.40	3.10
Cdh Tj = +2 °C		
Pdh Tj = +7°C	45.73 kW	44.19 kW
COP Tj = +7°C	4.84	4.12
Cdh Tj = +7 °C		
Pdh Tj = 12°C	47.06 kW	48.32 kW
COP Tj = 12°C	5.32	5.74
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	44.40 kW	41.30 kW
COP Tj = Tbiv	4.40	3.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	44.40 kW	41.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	3.10
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}	11777 kWh	11648 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	59.00 kW	54.50 kW
El input	11.30 kW	15.11 kW
COP	5.20	3.60

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	61 dB(A)	61 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	224 %	199 %
Prated	58.60 kW	54.50 kW
SCOP	5.81	5.17
T _{biv}	-10 °C	-10 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	59.04 kW	55.74 kW
COP T _j = -7°C	5.28	3.84
C _{dh} T _j = -7 °C		
P _{dh} T _j = +2°C	60.38 kW	59.04 kW
COP T _j = +2°C	5.81	5.11
C _{dh} T _j = +2 °C		
P _{dh} T _j = +7°C	61.26 kW	60.70 kW
COP T _j = +7°C	6.02	5.92
C _{dh} T _j = +7 °C		
P _{dh} T _j = 12°C	62.15 kW	62.76 kW
COP T _j = 12°C	6.33	6.85
C _{dh} T _j = +12 °C		
P _{dh} T _j = T _{biv}	58.60 kW	54.50 kW
COP T _j = T _{biv}	5.19	3.56
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	58.60 kW	54.50 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	5.19	3.56

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	20831 kWh	21775 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	61 dB(A)	61 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	228 %	203 %
Prated	58.60 kW	54.50 kW
SCOP	5.90	5.26
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	60.38 kW	58.22 kW
COP Tj = -7°C	5.81	4.83
Cdh Tj = -7 °C		
Pdh Tj = +2°C	61.26 kW	60.70 kW
COP Tj = +2°C	6.02	5.76
Cdh Tj = +2 °C		
Pdh Tj = +7°C	61.71 kW	62.35 kW
COP Tj = +7°C	6.25	6.47
Cdh Tj = +7 °C		
Pdh Tj = 12°C	62.15 kW	63.59 kW
COP Tj = 12°C	6.33	6.97
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	58.60 kW	54.50 kW
COP Tj = Tbiv	5.19	3.56
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	58.60 kW	54.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.19	3.56
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}	24485 kWh	25527 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	61 dB(A)	61 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	225 %	201 %
Prated	58.60 kW	54.50 kW
SCOP	5.83	5.23
T _{biv}	2 °C	2 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = +2°C	58.60 kW	54.50 kW
COP T _j = +2°C	5.19	3.56
C _{dh} T _j = +2 °C		
P _{dh} T _j = +7°C	59.93 kW	57.39 kW
COP T _j = +7°C	5.63	4.58
C _{dh} T _j = +7 °C		
P _{dh} T _j = 12°C	61.26 kW	61.52 kW
COP T _j = 12°C	6.11	6.20
C _{dh} T _j = +12 °C		
P _{dh} T _j = T _{biv}	58.60 kW	54.50 kW
COP T _j = T _{biv}	5.19	3.56
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	58.60 kW	54.50 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	5.19	3.56
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}	13422 kWh	13929 kWh