

Subtype AEROTOP T20 / T20R

Certificate Holder	ELCO GmbH
Address	Hohenzollernstrasse 31
ZIP	72379
City	Hechingen
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	AEROTOP T20 / T20R
Registration number	011-1W0300
Heat Pump Type	Outdoor Air/Water
Refrigerant	R407c
Mass of Refrigerant	6 kg
Certification Date	04.05.2019

Model AEROTOP T20

Model name	AEROTOP T20
Application	Heating (medium temp)
Units	Indoor, Outdoor
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

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	22.40 kW	19.95 kW
El input	5.90 kW	7.50 kW
COP	3.80	2.66

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	59 dB(A)	59 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	139 %	107 %
Prated	14.00 kW	12.00 kW
SCOP	3.56	2.75
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.66 kW	12.81 kW
COP Tj = -7°C	2.64	1.99
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	17.48 kW	15.81 kW
COP Tj = +2°C	3.48	2.59
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	23.38 kW	22.28 kW

COP Tj = +7°C	4.35	3.73
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	25.43 kW	25.02 kW
COP Tj = 12°C	4.74	4.33
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	25.29 kW	12.00 kW
COP Tj = Tbiv	2.50	1.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.90 kW	12.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.50	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	57 °C	57 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	80 W	80 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	8071 kWh	10203 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	59 dB(A)	59 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	127 %	91 %
Prated	14.83 kW	18.80 kW
SCOP	3.25	2.34
Tbiv	-15 °C	-10 °C
TOL	-20 °C	-10 °C
Pdh Tj = -7°C	15.08 kW	13.63 kW
COP Tj = -7°C	2.80	2.25
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	17.89 kW	16.50 kW
COP Tj = +2°C	3.70	2.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	23.63 kW	22.77 kW
COP Tj = +7°C	4.48	4.01
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	25.43 kW	25.16 kW
COP Tj = 12°C	4.74	4.47
Cdh Tj = +12 °C	1.000	1.000

Pdh Tj = Tbiv	12.10 kW	12.86 kW
COP Tj = Tbiv	2.37	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	12.86 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.34	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	57 °C	57 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	80 W	80 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.83 kW	18.80 kW
Annual energy consumption Qhe	11167 kWh	20867 kWh
Pdh Tj = -15°C (if TOL	0.01	0.01
COP Tj = -15°C (if TOL	0.01	0.01
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	59 dB(A)	59 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	156 %	108 %
Prated	16.78 kW	14.00 kW
SCOP	3.97	2.77
Tbiv	2 °C	2 °C
TOL	-10 °C	-10 °C
Pdh Tj = +2°C	16.78 kW	14.00 kW
COP Tj = +2°C	3.10	1.89
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	22.89 kW	21.05 kW
COP Tj = +7°C	4.07	3.11
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	25.29 kW	24.75 kW
COP Tj = 12°C	4.60	2.17
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	16.78 kW	14.00 kW
COP Tj = Tbiv	3.10	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.78 kW	14.00 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.10	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	57 °C	57 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	80 W	80 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6362 kWh	9220 kWh

Model AEROTOP T20R

Model name	AEROTOP T20R
Application	Heating (medium temp)
Units	Indoor, Outdoor
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

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	22.40 kW	19.95 kW
El input	5.90 kW	7.50 kW
COP	3.80	2.66

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	59 dB(A)	59 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	145 %	110 %
Prated	13.90 kW	12.00 kW
SCOP	3.69	2.84
Tbiv	-10 °C	-10 °C
TOL	-20 °C	-10 °C
Pdh Tj = -7°C	14.66 kW	12.81 kW
COP Tj = -7°C	2.64	1.99
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	17.48 kW	15.81 kW
COP Tj = +2°C	3.48	2.59
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	23.38 kW	22.28 kW

COP Tj = +7°C	4.35	3.73
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	25.43 kW	25.02 kW
COP Tj = 12°C	4.74	4.33
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	13.90 kW	12.00 kW
COP Tj = Tbiv	2.50	1.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.90 kW	12.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.50	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	57 °C	57 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	80 W	80 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7777 kWh	9910 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	59 dB(A)	59 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	129 %	91 %
Prated	14.83 kW	18.80 kW
SCOP	3.30	2.36
Tbiv	-15 °C	-10 °C
TOL	-20 °C	-10 °C
Pdh Tj = -7°C	15.08 kW	13.63 kW
COP Tj = -7°C	2.80	2.25
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	17.89 kW	16.50 kW
COP Tj = +2°C	3.70	2.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	23.63 kW	22.77 kW
COP Tj = +7°C	4.48	4.01
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	25.43 kW	25.16 kW
COP Tj = 12°C	4.48	4.47
Cdh Tj = +12 °C	1.000	1.000

Pdh Tj = Tbiv	12.10 kW	12.86 kW
COP Tj = Tbiv	2.37	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	12.86 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.34	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	57 °C	57 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	80 W	80 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.83 kW	18.80 kW
Annual energy consumption Qhe	10990 kWh	20690 kWh
Pdh Tj = -15°C (if TOL	0.01	0.01
COP Tj = -15°C (if TOL	0.01	0.01
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	59 dB(A)	59 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	165 %	112 %
Prated	16.78 kW	14.00 kW
SCOP	4.20	2.88
Tbiv	2 °C	2 °C
TOL	-20 °C	-10 °C
Pdh Tj = +2°C	16.78 kW	14.00 kW
COP Tj = +2°C	3.10	1.89
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	22.89 kW	21.05 kW
COP Tj = +7°C	4.07	3.11
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	25.29 kW	24.75 kW
COP Tj = 12°C	4.60	2.17
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	16.78 kW	14.00 kW
COP Tj = Tbiv	3.10	4.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.78 kW	14.00 kW

COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	3.10	1.89
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	1.000	1.000
WTOL	57 °C	57 °C
P _{off}	0 W	0 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	80 W	80 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	6009 kWh	8867 kWh