

Subtype TTL 20 AC

Certificate Holder	tecalor GmbH
Address	Fürstenbergerstr. 77
ZIP	37603
City	Holzminden
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	TTL 20 AC
Registration number	011-1W0489
Heat Pump Type	Outdoor Air/Water
Refrigerant	R410A
Mass of Refrigerant	5.5 kg
Certification Date	15.02.2017

Model TTL 20 AC

Model name	TTL 20 AC
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 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 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	55 dB(A)	55 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	192 %	147 %
Prated	11.00 kW	12.00 kW
SCOP	4.87	3.74
Tbiv	-5 °C	-5 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.50 kW	10.60 kW
COP Tj = -7°C	3.30	2.69
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.30 kW	8.40 kW
COP Tj = +2°C	4.72	3.51
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.00 kW	7.80 kW
COP Tj = +7°C	6.16	4.61
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	9.10 kW	9.00 kW
COP Tj = 12°C	8.11	6.66
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.80 kW	9.90 kW
COP Tj = Tbiv	3.46	2.81

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.53 kW	9.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.15	2.29
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.50 kW	2.50 kW
Annual energy consumption Qhe	4663 kWh	6625 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	167 %	133 %
Prated	15.00 kW	17.00 kW
SCOP	4.25	3.41
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.20 kW	10.10 kW
COP Tj = -7°C	3.50	2.91
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	8.30 kW	8.30 kW
COP Tj = +2°C	5.15	3.92
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	8.00 kW	7.90 kW
COP Tj = +7°C	6.57	5.12
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	9.10 kW	9.00 kW
COP Tj = 12°C	8.11	6.95
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	9.20 kW	10.10 kW
COP Tj = Tbiv	3.50	2.41
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.80 kW	12.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.06	2.56
WTOL	65 °C	65 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	15.27 kW	16.65 kW
Annual energy consumption Q _{he}	8698 kWh	12299 kWh
P _{d,h} T _j = -15°C (if TOL	11.80	12.60
COP T _j = -15°C (if TOL	3.06	2.56
C _{d,h} T _j = -15 °C	0.90	0.90

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	245 %	177 %
Prated	7.00 kW	8.00 kW
SCOP	6.20	4.51
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{d,h} T _j = +2°C	8.30 kW	8.40 kW
COP T _j = +2°C	4.14	2.74
C _{d,h} T _j = +2 °C	0.90	0.90
P _{d,h} T _j = +7°C	7.90 kW	7.50 kW
COP T _j = +7°C	5.47	3.64
C _{d,h} T _j = +7 °C	0.90	0.90
P _{d,h} T _j = 12°C	9.10 kW	9.00 kW
COP T _j = 12°C	7.72	6.11
C _{d,h} T _j = +12 °C	0.90	0.90
P _{d,h} T _j = T _{biv}	8.30 kW	8.40 kW
COP T _j = T _{biv}	4.14	2.74
P _{d,h} T _j = TOL or P _{d,h} T _j = T _{designh} if TOL < T _{designh}	11.90 kW	12.90 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.98	2.45
WTOL	65 °C	65 °C
P _{off}	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	1508 kWh	2369 kWh