

## Subtype TTL 9.6/12.6 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 9.6/12.6 AC
Registration number	011-1W0648
Heat Pump Type	Outdoor Air/Water
Refrigerant	R452B
Mass of Refrigerant	5 kg
Certification Date	22.06.2023
Testing basis	European KEYMARK Scheme for Heat Pumps Rev. 12 (as of 2023-04)

## Model TTL 9.6 AC

Model name	TTL 9.6 AC
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
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
$\eta_s$	169 %	135 %
Prated	11.20 kW	11.60 kW
SCOP	4.31	3.44
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.89 kW	10.22 kW
COP Tj = -7°C	3.36	2.59
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.12 kW	7.06 kW
COP Tj = +2°C	4.17	3.28
Cdh Tj = +2 °C	0.980	0.990
Pdh Tj = +7°C	8.31 kW	8.01 kW
COP Tj = +7°C	5.24	4.25
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	9.57 kW	9.28 kW
COP Tj = 12°C	6.41	5.25
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	9.89 kW	10.22 kW
COP Tj = Tbiv	3.36	2.59

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.25 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.11	2.32
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	1.95 kW	1.60 kW
Annual energy consumption Qhe	5368 kWh	6969 kWh

## Model TTL 12.6 AC

Model name	TTL 12.6 AC
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
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
$\eta_s$	171 %	139 %
Prated	14.00 kW	14.80 kW
SCOP	4.35	3.54
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.34 kW	13.11 kW
COP Tj = -7°C	3.00	2.41
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.70 kW	8.08 kW
COP Tj = +2°C	4.31	3.48
Cdh Tj = +2 °C	0.980	0.990
Pdh Tj = +7°C	8.28 kW	8.00 kW
COP Tj = +7°C	5.31	4.37
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	9.52 kW	9.23 kW
COP Tj = 12°C	6.43	5.28
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	12.34 kW	13.11 kW
COP Tj = Tbiv	3.00	2.41

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.63 kW	13.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.93	2.27
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	1.37 kW	1.32 kW
Annual energy consumption Qhe	6657 kWh	8643 kWh