

Subtype TTF 33.5

Certificate Holder	tecalor GmbH
Address	Fürstenbergerstr. 77
ZIP	37603
City	Holzminden
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	TTF 33.5
Registration number	011-1W0457
Heat Pump Type	Brine/Water
Refrigerant	R410A
Mass of Refrigerant	3.9 kg
Certification Date	15.03.2021
Testing basis	HP KEYMARK certification scheme rules V8

Model TTF 33.5

Model name	TTF 33.5
Application	Heating (medium temp)
Units	Indoor
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

Brine/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	failed
Starting and operating test	passed

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	214 %	159 %
Prated	33.28 kW	31.13 kW
SCOP	5.55	4.18
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	29.44 kW	27.54 kW
COP Tj = -7°C	4.63	3.14
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	17.92 kW	16.76 kW
COP Tj = +2°C	5.57	4.21
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	11.52 kW	10.78 kW
COP Tj = +7°C	6.11	4.83
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	12.52 kW	12.16 kW
COP Tj = 12°C	6.05	5.00
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	33.28 kW	31.13 kW
COP Tj = Tbiv	4.26	2.86

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	33.28 kW	31.13 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.86
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	12 W	12 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	12358 kWh	15305 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	221 %	165 %
Prated	33.28 kW	31.13 kW
SCOP	5.72	4.33
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	20.14 kW	18.84 kW
COP Tj = -7°C	5.49	3.99
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	12.26 kW	11.47 kW
COP Tj = +2°C	6.11	4.73
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	12.53 kW	12.14 kW
COP Tj = +7°C	6.10	4.98
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	12.49 kW	12.22 kW
COP Tj = 12°C	5.91	5.12
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	33.28 kW	31.13 kW
COP Tj = Tbiv	4.26	2.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	33.28 kW	31.13 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.86
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	12 W	12 W
PSB	12 W	12 W

PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	14325 kWh	17698 kWh
P _{dh} T _j = -15°C (if TOL	33.28	31.13
COP T _j = -15°C (if TOL	4.26	2.86
C _{dh} T _j = -15 °C	0.90	0.90

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	214 %	160 %
Prated	33.28 kW	31.13 kW
SCOP	5.54	4.19
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	33.28 kW	31.13 kW
COP T _j = +2°C	4.26	2.86
C _{dh} T _j = +2 °C	0.90	0.90
P _{dh} T _j = +7°C	21.39 kW	20.01 kW
COP T _j = +7°C	5.30	3.78
C _{dh} T _j = +7 °C	0.90	0.90
P _{dh} T _j = 12°C	12.51 kW	12.08 kW
COP T _j = 12°C	6.06	4.85
C _{dh} T _j = +12 °C	0.90	0.90
P _{dh} T _j = T _{biv}	33.28 kW	31.13 kW
COP T _j = T _{biv}	4.26	2.86
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	33.28 kW	31.13 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	4.26	2.86
WTOL	65 °C	65 °C
P _{off}	12 W	12 W
PTO	12 W	12 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	7963 kWh	9906 kWh