

Subtype TTF 87.5

Certificate Holder	tecalor GmbH
Address	Lüchtringer Weg 3
ZIP	37603
City	Holzminden
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	TTF 87.5
Registration number	011-1W0460
Heat Pump Type	Brine/Water
Refrigerant	R410A
Mass of Refrigerant	9 kg
Certification Date	15.03.2021
Testing basis	HP KEYMARK certification scheme rules V8

Model TTF 87.5

Model name	TTF 87.5
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 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	52.18 kW	48.32 kW
El input	11.09 kW	17.02 kW
COP	4.71	2.84

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	50 dB(A)	50 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	199 %	157 %
Prated	84.67 kW	79.00 kW
SCOP	5.17	4.13
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	74.90 kW	69.88 kW
COP Tj = -7°C	4.26	3.00
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	45.59 kW	42.54 kW
COP Tj = +2°C	5.14	4.08
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	29.31 kW	27.35 kW

COP Tj = +7°C	5.81	4.94
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	24.37 kW	24.08 kW
COP Tj = 12°C	5.65	5.16
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	84.67 kW	79.00 kW
COP Tj = Tbiv	3.97	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	84.67 kW	79.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.97	2.72
WTOL	65 °C	65 °C
Poff	9 W	9 W
PTO	11 W	11 W
PSB	11 W	11 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	33804 kWh	39457 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	50 dB(A)	50 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	204 %	165 %
Prated	84.67 kW	79.00 kW
SCOP	5.30	4.32
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	51.25 kW	48.52 kW
COP Tj = -7°C	5.06	3.85
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	31.20 kW	29.11 kW
COP Tj = +2°C	5.81	4.83
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	24.49 kW	24.11 kW
COP Tj = +7°C	5.85	5.20
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	24.39 kW	24.22 kW
COP Tj = 12°C	5.66	5.27
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	84.67 kW	79.00 kW
COP Tj = Tbiv	3.97	2.72

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	84.67 kW	79.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.97	2.72
WTOL	65 °C	65 °C
Poff	9 W	9 W
PTO	11 W	11 W
PSB	11 W	11 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	39378 kWh	45048 kWh
Pdh Tj = -15°C (if TOL	84.67	79.00
COP Tj = -15°C (if TOL	3.97	2.72
Cdh Tj = -15 °C	0.90	0.90

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	50 dB(A)	50 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	202 %	160 %
Prated	84.67 kW	79.00 kW
SCOP	5.25	4.21
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	84.67 kW	79.00 kW
COP Tj = +2°C	3.97	2.72
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	54.43 kW	50.79 kW
COP Tj = +7°C	4.85	3.60
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	24.19 kW	24.07 kW
COP Tj = 12°C	5.85	5.16
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	84.67 kW	79.00 kW
COP Tj = Tbiv	3.97	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	84.67 kW	79.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.97	2.72
WTOL	65 °C	65 °C
Poff	9 W	9 W
PTO	11 W	11 W
PSB	11 W	11 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}	21524 kWh	23056 kWh