Subtype TTF 12.6, TTF 15.6

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 12.6, TTF 15.6
Registration number	011-1W0397
Heat Pump Type	Brine/Water
Refrigerant	R454C
Mass of Refrigerant	3.1 kg
Certification Date	08.09.2020

Model TTF 12.6 (cool), TTC 12.6 (cool)	
Model name	TTF 12.6 (cool), TTC 12.6 (cool)
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x400V 50Hz
Off-peak product	No

Brine/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	4.19 kW	4.20 kW
El input	0.84 kW	1.34 kW
COP	5.01	3.13

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	39 dB(A)	39 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	216 %	169 %
Prated	12.03 kW	11.99 kW
SCOP	5.59	4.42
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.61 kW	10.59 kW
COP Tj = -7°C	4.81	3.55
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	6.45 kW	6.44 kW
COP Tj = +2°C	5.72	4.49
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	4.14 kW	4.13 kW
COP Tj = +7°C	6.12	4.99

Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	2.30 kW	2.21 kW
COP Tj = 12°C	6.29	5.25
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	12.03 kW	11.99 kW
COP Tj = Tbiv	4.53	3.29
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.03 kW	11.99 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.53	3.29
WTOL	75 °C	75 °C
Poff	19 W	19 W
PTO	19 W	19 W
PSB	19 W	19 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4445 kWh	5607 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	39 dB(A)	39 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	224 %	174 %
Prated	12.03 kW	11.99 kW
SCOP	5.80	4.56
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.26 kW	7.24 kW
COP Tj = -7°C	5.69	4.31
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	4.41 kW	4.40 kW
COP Tj = +2°C	6.16	4.91
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	2.82 kW	2.82 kW
COP Tj = +7°C	6.19	5.16
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	2.29 kW	2.23 kW
COP Tj = 12°C	6.12	5.40
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	12.03 kW	11.99 kW
COP Tj = Tbiv	4.53	3.29
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.03 kW	11.99 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.53	3.29
WTOL	75 °C	75 °C
Poff	19 W	19 W
PTO	19 W	19 W
PSB	19 W	19 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5108 kWh	6485 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	39 dB(A)	39 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	214 %	168 %
Prated	12.03 kW	11.99 kW
SCOP	5.55	4.39
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.03 kW	11.99 kW
COP Tj = +2°C	4.53	3.29
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	7.71 kW	7.69 kW
COP Tj = +7°C	5.51	4.12
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.41 kW	3.41 kW
COP Tj = 12°C	6.14	5.10
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	12.03 kW	11.99 kW
COP Tj = Tbiv	4.53	3.29
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.03 kW	11.99 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.53	3.29
WTOL	75 °C	75 °C
Poff	19 W	19 W
PTO	19 W	19 W
PSB	19 W	19 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2896 kWh	3650 kWh

Model TTF 15.6 (cool), TTC 15.6 (cool)

Model name	TTF 15.6 (cool), TTC 15.6 (cool)
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Brine/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	5.18 kW	4.72 kW
El input	1.07 kW	1.48 kW
COP	4.86	3.18

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	39 dB(A)	39 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	210 %	168 %
Prated	14.46 kW	13.77 kW
SCOP	5.44	4.39
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.77 kW	12.16 kW
COP Tj = -7°C	4.46	3.40
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	7.76 kW	7.40 kW
COP Tj = +2°C	5.51	4.44
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	4.98 kW	4.75 kW
COP Tj = +7°C	6.13	5.03

Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	2.29 kW	2.22 kW
COP Tj = 12°C	6.18	5.31
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	14.46 kW	13.77 kW
COP Tj = Tbiv	4.30	3.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.46 kW	13.77 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.30	3.26
WTOL	75 °C	75 °C
Poff	19 W	19 W
PTO	19 W	19 W
PSB	19 W	19 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5489 kWh	6476 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	39 dB(A)	39 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	218 %	174 %
Prated	14.46 kW	13.77 kW
SCOP	5.66	4.56
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.73 kW	8.32 kW
COP Tj = -7°C	5.32	4.24
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	5.30 kW	5.05 kW
COP Tj = +2°C	6.15	4.94
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	3.40 kW	3.24 kW
COP Tj = +7°C	6.27	5.24
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	2.29 kW	2.23 kW
COP Tj = 12°C	6.12	5.44
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	14.46 kW	13.77 kW
COP Tj = Tbiv	4.30	3.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.46 kW	13.77 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.30	3.26
WTOL	75 °C	75 °C
Poff	19 W	19 W
PTO	19 W	19 W
PSB	19 W	19 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6298 kWh	7451 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	39 dB(A)	39 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	208 %	167 %
Prated	14.46 kW	13.77 kW
SCOP	5.41	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.46 kW	13.77 kW
COP Tj = +2°C	4.30	3.26
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	9.27 kW	8.83 kW
COP Tj = +7°C	5.13	3.99
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	4.11 kW	3.92 kW
COP Tj = 12°C	6.17	5.16
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	14.46 kW	13.77 kW
COP Tj = Tbiv	4.30	3.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.46 kW	13.77 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.30	3.26
WTOL	75 °C	75 °C
Poff	19 W	19 W
PTO	19 W	19 W
PSB	19 W	19 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3573 kWh	4211 kWh