Subtype TTF 57.6 I topline

Certificate Holder	tecalor GmbH
Address	Lüchtringer Weg 3
ZIP	37603
City	Holzminden
Country	DE
Certification Body	RISE CERT
Subtype title	TTF 57.6 I topline
Registration number	012-C700277
Heat Pump Type	Brine/Water and Water/Water
Refrigerant	R454B
Mass of Refrigerant	5.9 kg
Certification Date	10.07.2024
Testing basis	EN 14511:2018, EN 14825:2016, EN 12102:2017.
Testing laboratory	RISE Research Institutes of Sweden

Model TTF 57.6 I topline

Model name	TTF 57.6 I topline
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	Yes

Brine/Water

EN 14511-4 | Heating

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

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	35.44 kW	33.49 kW
El input	7.51 kW	10.82 kW
COP	4.72	3.10

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	205 %	163 %
Prated	58.48 kW	56.10 kW
SCOP	5.32	4.27
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	51.73 kW	49.60 kW
COP Tj = -7°C	4.28	3.09
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	31.49 kW	30.21 kW
COP Tj = +2°C	5.33	4.25
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	20.24 kW	19.42 kW
COP Tj = +7°C	5.98	5.05
Cdh Tj = +7 °C	1.000	1.000

Pdh Tj = 12°C	15.94 kW	15.72 kW
COP Tj = 12°C	5.92	5.29
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	58.48 kW	56.10 kW
COP Tj = Tbiv	3.96	2.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	58.48 kW	56.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.96	2.85
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
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	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	22720 kWh	27150 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	213 %	170 %
Prated	58.48 kW	56.10 kW
SCOP	5.54	4.46
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	35.40 kW	33.95 kW
COP Tj = -7°C	5.25	3.99
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	21.55 kW	20.67 kW
COP Tj = +2°C	5.95	4.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	15.95 kW	15.75 kW
COP Tj = +7°C	6.01	5.35
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	15.91 kW	15.76 kW
COP Tj = 12°C	5.78	5.39
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	58.48 kW	56.10 kW
COP Tj = Tbiv	3.96	2.85

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	58.48 kW	56.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.96	2.85
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
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	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	26039 kWh	30994 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	207 %	165 %
Prated	58.48 kW	56.10 kW
SCOP	5.37	4.33
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	58.48 kW	56.10 kW
COP Tj = +2°C	3.96	2.85
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	37.59 kW	36.06 kW
COP Tj = +7°C	5.00	3.77
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	16.71 kW	16.03 kW
COP Tj = 12°C	6.00	5.23
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	58.48 kW	56.10 kW
COP Tj = Tbiv	3.96	2.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	58.48 kW	56.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.96	2.85
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
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	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	14551 kWh	17310 kWh

Water/Water

EN 14511-4 | Heating

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

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	47.43 kW	44.05 kW
El input	7.73 kW	11.14 kW
COP	6.13	3.95

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	303 %	215 %
Prated	52.53 kW	54.94 kW
SCOP	7.77	5.58
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	46.47 kW	48.60 kW
COP Tj = -7°C	6.44	4.08
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	28.29 kW	29.58 kW
COP Tj = +2°C	7.83	5.59
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	20.03 kW	19.02 kW
COP Tj = +7°C	8.56	6.53
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	20.03 kW	20.02 kW
COP Tj = 12°C	8.56	6.83
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	52.53 kW	54.94 kW
COP Tj = Tbiv	5.92	3.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	52.53 kW	54.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.92	3.69

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
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	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	13969 kWh	20358 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	314 %	223 %
Prated	52.53 kW	54.94 kW
SCOP	8.06	5.77
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	31.79 kW	33.25 kW
COP Tj = -7°C	7.78	5.27
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	19.35 kW	20.24 kW
COP Tj = +2°C	8.56	6.33
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	20.04 kW	20.02 kW
COP Tj = +7°C	8.59	6.79
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	20.02 kW	20.05 kW
COP Tj = 12°C	8.36	7.05
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	52.53 kW	54.94 kW
COP Tj = Tbiv	5.92	3.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	52.53 kW	54.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.92	3.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
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	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW

Annual energy consumption Qhe	16072 kWh	23456 kWh

EN 14825 | Warmer Climate		
	Low temperature	Medium temperature
ηs	304 %	215 %
Prated	52.53 kW	54.94 kW
SCOP	7.79	5.57
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	52.53 kW	54.94 kW
COP Tj = +2°C	5.92	3.69
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	33.77 kW	35.32 kW
COP Tj = +7°C	7.49	4.97
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	20.03 kW	19.99 kW
COP Tj = 12°C	8.48	6.59
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	52.53 kW	54.94 kW
COP Tj = Tbiv	5.92	3.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	52.53 kW	54.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.92	3.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
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	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	9008 kWh	13182 kWh