Subtype TTF\TTC 5.5

Certificate Holder	tecalor GmbH
Address	Lüchtringer Weg 3
ZIP	37603
City	Holzminden
Country	DE
Certification Body	RISE CERT
Subtype title	TTF\TTC 5.5
Registration number	012-C700168
Heat Pump Type	Brine/Water and Water/Water
Refrigerant	R452B
Mass of Refrigerant	0.575 kg
Certification Date	22.02.2023
Testing basis	EN 14511:2018, EN 14825:2018, EN 12102:2017.
Testing laboratory	RISE Research Institutes of Sweden

Model TTC 5.5	
Model name	TTC 5.5
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Colder, Warmer, 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	5.56 kW	5.00 kW
El input	1.26 kW	1.80 kW
COP	4.40	2.78

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	42 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	181 %	135 %
Prated	6.03 kW	6.33 kW
SCOP	4.74	3.56
Tbiv	-8 °C	-5 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.58 kW	5.14 kW
COP Tj = -7°C	4.51	3.07
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	5.64 kW	5.23 kW
COP Tj = +2°C	4.74	3.60
Cdh Tj = +2 °C	0.990	1.000
Pdh Tj = +7°C	5.69 kW	5.31 kW
COP Tj = +7°C	4.99	3.94
Cdh Tj = +7 °C	0.990	0.990

Pdh Tj = 12°C	5.75 kW	5.39 kW
COP Tj = 12°C	5.25	4.27
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	5.57 kW	5.12 kW
COP Tj = Tbiv	4.47	3.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.54 kW	5.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.49 kW	1.33 kW
Annual energy consumption Qhe	2630 kWh	3672 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	42 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	187 %	138 %
Prated	6.26 kW	6.07 kW
SCOP	4.87	3.65
Tbiv	-18 °C	-16 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.65 kW	5.19 kW
COP Tj = -7°C	4.80	3.47
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	5.70 kW	5.29 kW
COP Tj = +2°C	5.02	3.86
Cdh Tj = +2 °C	0.990	1.000
Pdh Tj = +7°C	5.73 kW	5.37 kW
COP Tj = +7°C	5.18	4.17
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	5.74 kW	5.43 kW
COP Tj = 12°C	5.22	4.40
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	5.60 kW	5.11 kW
COP Tj = Tbiv	4.60	3.21

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.54 kW	5.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.72 kW	1.07 kW
Annual energy consumption Qhe	3170 kWh	4104 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	42 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	183 %	135 %
Prated	6.53 kW	6.00 kW
SCOP	4.78	3.58
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.54 kW	5.00 kW
COP Tj = +2°C	4.39	2.77
Cdh Tj = +2 °C	0.990	1.000
Pdh Tj = +7°C	5.63 kW	5.15 kW
COP Tj = +7°C	4.72	3.34
Cdh Tj = +7 °C	0.990	1.000
Pdh Tj = 12°C	5.71 kW	5.34 kW
COP Tj = 12°C	5.09	4.04
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	5.60 kW	5.14 kW
COP Tj = Tbiv	4.59	3.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.54 kW	5.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W

PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.99 kW	1.00 kW
Annual energy consumption Qhe	1825 kWh	2237 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	7.21 kW	6.66 kW
El input	1.27 kW	1.86 kW
COP	5.70	3.57

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	237 %	175 %
Prated	7.85 kW	8.07 kW
SCOP	6.12	4.58
Tbiv	-8 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.26 kW	6.78 kW
COP Tj = -7°C	5.85	3.85
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	7.32 kW	7.02 kW
COP Tj = +2°C	6.14	4.60
Cdh Tj = +2 °C	0.990	1.000
Pdh Tj = +7°C	7.36 kW	7.15 kW
COP Tj = +7°C	6.43	5.12
Cdh Tj = +7 °C	0.990	1.000
Pdh Tj = 12°C	7.37 kW	7.27 kW
COP Tj = 12°C	6.71	5.70
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	7.24 kW	6.83 kW
COP Tj = Tbiv	5.80	3.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.21 kW	6.66 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.70	3.57

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.64 kW	1.41 kW
Annual energy consumption Qhe	2651 kWh	3641 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	243 %	181 %
Prated	8.14 kW	8.16 kW
SCOP	6.27	4.72
Tbiv	-18 °C	-16 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.34 kW	6.98 kW
COP Tj = -7°C	6.22	4.45
Cdh Tj = -7 °C	0.990	0.996
Pdh Tj = +2°C	7.36 kW	7.13 kW
COP Tj = +2°C	6.46	5.02
Cdh Tj = +2 °C	0.990	0.995
Pdh Tj = +7°C	7.37 kW	7.24 kW
COP Tj = +7°C	6.64	5.52
Cdh Tj = +7 °C	0.990	0.995
Pdh Tj = 12°C	7.37 kW	7.31 kW
COP Tj = 12°C	6.68	5.94
Cdh Tj = +12 °C	0.990	0.994
Pdh Tj = Tbiv	7.29 kW	6.87 kW
COP Tj = Tbiv	5.96	4.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.21 kW	6.66 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.70	3.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.996
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.93 kW	1.50 kW

Annual energy consumption Qhe	3199 kWh	4265 kWh

EN 14825 | Warmer Climate		
	Low temperature	Medium temperature
ηs	238 %	177 %
Prated	7.81 kW	7.94 kW
SCOP	6.16	4.62
Tbiv	3 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.21 kW	6.66 kW
COP Tj = +2°C	5.70	3.57
Cdh Tj = +2 °C	0.990	1.000
Pdh Tj = +7°C	7.31 kW	6.93 kW
COP Tj = +7°C	6.07	4.25
Cdh Tj = +7 °C	0.990	1.000
Pdh Tj = 12°C	7.37 kW	7.19 kW
COP Tj = 12°C	6.53	5.31
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	7.25 kW	6.81 kW
COP Tj = Tbiv	5.82	3.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.21 kW	6.66 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.70	3.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.60 kW	1.28 kW
Annual energy consumption Qhe	1694 kWh	2299 kWh

Model TTF 5.5	
Model name	TTF 5.5
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Colder, Warmer, 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	5.56 kW	5.00 kW
El input	1.26 kW	1.80 kW
COP	4.40	2.78

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	44 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	181 %	135 %
Prated	6.03 kW	6.33 kW
SCOP	4.74	3.56
Tbiv	-8 °C	-5 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.58 kW	5.14 kW
COP Tj = -7°C	4.51	3.07
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	5.64 kW	5.23 kW
COP Tj = +2°C	4.74	3.60
Cdh Tj = +2 °C	0.990	1.000
Pdh Tj = +7°C	5.69 kW	5.31 kW
COP Tj = +7°C	4.99	3.94
Cdh Tj = +7 °C	0.990	0.990

Pdh Tj = 12°C	5.75 kW	5.39 kW
COP Tj = 12°C	5.25	4.27
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	5.57 kW	5.12 kW
COP Tj = Tbiv	4.47	3.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.54 kW	5.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.49 kW	1.33 kW
Annual energy consumption Qhe	2630 kWh	3672 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	44 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	187 %	138 %
Prated	6.26 kW	6.07 kW
SCOP	4.87	3.65
Tbiv	-18 °C	-16 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.65 kW	5.19 kW
COP Tj = -7°C	4.80	3.47
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	5.70 kW	5.29 kW
COP Tj = +2°C	5.02	3.86
Cdh Tj = +2 °C	0.990	1.000
Pdh Tj = +7°C	5.73 kW	5.37 kW
COP Tj = +7°C	5.18	4.17
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	5.74 kW	5.43 kW
COP Tj = 12°C	5.22	4.40
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	5.60 kW	5.11 kW
COP Tj = Tbiv	4.60	3.21

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.54 kW	5.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.72 kW	1.07 kW
Annual energy consumption Qhe	3170 kWh	4104 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	44 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	183 %	135 %
Prated	6.53 kW	6.00 kW
SCOP	4.78	3.58
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.54 kW	5.00 kW
COP Tj = +2°C	4.39	2.77
Cdh Tj = +2 °C	0.990	1.000
Pdh Tj = +7°C	5.63 kW	5.15 kW
COP Tj = +7°C	4.72	3.34
Cdh Tj = +7 °C	0.990	1.000
Pdh Tj = 12°C	5.71 kW	5.34 kW
COP Tj = 12°C	5.09	4.04
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	5.60 kW	5.14 kW
COP Tj = Tbiv	4.59	3.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.54 kW	5.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W

PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.99 kW	1.00 kW
Annual energy consumption Qhe	1825 kWh	2237 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	7.21 kW	6.66 kW
El input	1.27 kW	1.86 kW
COP	5.70	3.57

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	237 %	175 %
Prated	7.85 kW	8.07 kW
SCOP	6.12	4.58
Tbiv	-8 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.26 kW	6.78 kW
COP Tj = -7°C	5.85	3.85
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	7.32 kW	7.02 kW
COP Tj = +2°C	6.14	4.60
Cdh Tj = +2 °C	0.990	1.000
Pdh Tj = +7°C	7.36 kW	7.15 kW
COP Tj = +7°C	6.43	5.12
Cdh Tj = +7 °C	0.990	1.000
Pdh Tj = 12°C	7.37 kW	7.27 kW
COP Tj = 12°C	6.71	5.70
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	7.24 kW	6.83 kW
COP Tj = Tbiv	5.80	3.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.21 kW	6.66 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.70	3.57

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.64 kW	1.41 kW
Annual energy consumption Qhe	2651 kWh	3641 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	243 %	181 %
Prated	8.14 kW	8.16 kW
SCOP	6.27	4.72
Tbiv	-18 °C	-16 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.34 kW	6.98 kW
COP Tj = -7°C	6.22	4.45
Cdh Tj = -7 °C	0.990	0.996
Pdh Tj = +2°C	7.36 kW	7.13 kW
COP Tj = +2°C	6.46	5.02
Cdh Tj = +2 °C	0.990	0.995
Pdh Tj = +7°C	7.37 kW	7.24 kW
COP Tj = +7°C	6.64	5.52
Cdh Tj = +7 °C	0.990	0.995
Pdh Tj = 12°C	7.37 kW	7.31 kW
COP Tj = 12°C	6.68	5.94
Cdh Tj = +12 °C	0.990	0.994
Pdh Tj = Tbiv	7.29 kW	6.87 kW
COP Tj = Tbiv	5.96	4.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.21 kW	6.66 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.70	3.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.996
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.93 kW	1.50 kW

Annual energy consumption Qhe	3199 kWh	4265 kWh

EN 14825 | Warmer Climate		
	Low temperature	Medium temperature
ηs	238 %	177 %
Prated	7.81 kW	7.94 kW
SCOP	6.16	4.62
Tbiv	3 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.21 kW	6.66 kW
COP Tj = +2°C	5.70	3.57
Cdh Tj = +2 °C	0.990	1.000
Pdh Tj = +7°C	7.31 kW	6.93 kW
COP Tj = +7°C	6.07	4.25
Cdh Tj = +7 °C	0.990	1.000
Pdh Tj = 12°C	7.37 kW	7.19 kW
COP Tj = 12°C	6.53	5.31
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	7.25 kW	6.81 kW
COP Tj = Tbiv	5.82	3.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.21 kW	6.66 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.70	3.57
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	65 °C	65 °C
Poff	4 W	4 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.60 kW	1.28 kW
Annual energy consumption Qhe	1694 kWh	2299 kWh