

## Subtype TTF 7 basic

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 7 basic
Registration number	011-1W0045
Heat Pump Type	Brine/Water
Refrigerant	R410A
Mass of Refrigerant	2 kg
Certification Date	28.10.2016

### Model TTF 7 basic, all climates

Model name	TTF 7 basic, all climates
Application	Heating (low 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	n/a

### 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	7.64 kW	
El input	1.70 kW	
COP	4.50	

#### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	55 dB(A)	

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	192 %	
Prated	8.00 kW	
SCOP	5.01	
Tbiv	-10 °C	
TOL	-20 °C	
Pdh Tj = -7°C	7.70 kW	
COP Tj = -7°C	4.56	
Cdh Tj = -7 °C	0.90	
Pdh Tj = +2°C	7.80 kW	
COP Tj = +2°C	4.93	
Cdh Tj = +2 °C	0.90	
Pdh Tj = +7°C	7.80 kW	
COP Tj = +7°C	5.31	

Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	7.90 kW
COP Tj = 12°C	5.74
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	7.60 kW
COP Tj = Tbiv	4.49
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.49
WTOL	60 °C
Poff	0 W
PTO	78 W
PSB	3 W
PCK	0 W
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	3153 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	55 dB(A)	

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	200 %	
Prated	10.00 kW	
SCOP	5.20	
Tbiv	-15 °C	
TOL	-22 °C	
Pdh Tj = -7°C	7.80 kW	
COP Tj = -7°C	5.13	
Cdh Tj = -7 °C	0.90	
Pdh Tj = +2°C	7.90 kW	
COP Tj = +2°C	5.42	
Cdh Tj = +2 °C	0.90	
Pdh Tj = +7°C	7.90 kW	
COP Tj = +7°C	5.42	
Cdh Tj = +7 °C	0.90	
Pdh Tj = 12°C	7.90 kW	
COP Tj = 12°C	5.68	
Cdh Tj = +12 °C	0.90	
Pdh Tj = Tbiv	7.80 kW	
COP Tj = Tbiv	5.00	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.80 kW	

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.00
WTOL	60 °C
Poff	0 W
PTO	78 W
PSB	3 W
PCK	0 W
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	1.89 kW
Annual energy consumption Qhe	4517 kWh
Pdh Tj = -15°C (if TOL	6.80
COP Tj = -15°C (if TOL	2.53
Cdh Tj = -15 °C	0.90

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	55 dB(A)	

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	191 %	
Prated	8.00 kW	
SCOP	4.97	
Tbiv	2 °C	
TOL	2 °C	
Pdh Tj = +2°C	7.60 kW	
COP Tj = +2°C	4.49	
Cdh Tj = +2 °C	0.90	
Pdh Tj = +7°C	7.70 kW	
COP Tj = +7°C	4.85	
Cdh Tj = +7 °C	0.90	
Pdh Tj = 12°C	7.90 kW	
COP Tj = 12°C	5.45	
Cdh Tj = +12 °C	0.90	
Pdh Tj = Tbiv	7.60 kW	
COP Tj = Tbiv	4.49	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.60 kW	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.49	
WTOL	60 °C	
Poff	0 W	
PTO	78 W	
PSB	3 W	
PCK	0 W	

Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Q <sub>he</sub>	2052 kWh

### Model TTF 7 basic, average climates

Model name	TTF 7 basic, average climates
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	n/a
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	passed
Starting and operating test	passed

#### EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	7.64 kW	6.76 kW
El input	1.70 kW	2.67 kW
COP	4.50	2.53

#### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	55 dB(A)	55 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	192 %	122 %
Prated	8.00 kW	7.00 kW
SCOP	5.01	3.25
Tbiv	-10 °C	-10 °C
TOL	-20 °C	-10 °C
Pdh Tj = -7°C	7.70 kW	6.80 kW
COP Tj = -7°C	4.56	2.66
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	7.80 kW	7.10 kW
COP Tj = +2°C	4.93	3.19
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	7.80 kW	7.30 kW
COP Tj = +7°C	5.31	3.60

Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	7.90 kW	7.50 kW
COP Tj = 12°C	5.74	4.11
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	7.60 kW	6.80 kW
COP Tj = Tbiv	4.49	2.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.60 kW	6.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.49	2.53
WTOL	60 °C	60 °C
Poff	0 W	0 W
PTO	78 W	78 W
PSB	3 W	3 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	3153 kWh	4298 kWh