

## Subtype TTF 35

Certificate Holder	tecalor GmbH
Address	Fürstenbergerstr. 77
ZIP	37603
City	Holzminden
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	TTF 35
Registration number	011-1W0043
Heat Pump Type	Brine/Water
Refrigerant	R410A
Mass of Refrigerant	10 kg
Certification Date	01.11.2016

## Model TTF 35

Model name	TTF 35
Application	Heating (medium temp)
Units	Indoor, Outdoor
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

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	56 dB(A)	56 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	200 %	133 %
Prated	38.00 kW	34.00 kW
SCOP	5.19	3.52
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	38.10 kW	34.50 kW
COP Tj = -7°C	4.84	2.95
Pdh Tj = +2°C	38.60 kW	35.80 kW
COP Tj = +2°C	5.20	3.50
Pdh Tj = +7°C	39.00 kW	37.50 kW
COP Tj = +7°C	5.96	4.42
Pdh Tj = 12°C	38.00 kW	34.10 kW
COP Tj = 12°C	4.75	2.82
Pdh Tj = Tbiv	38.00 kW	34.10 kW
COP Tj = Tbiv	4.78	2.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	38.00 kW	34.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.78	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90

WTOL	60 °C	60 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	74 W	74 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	15136 kWh	20029 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	56 dB(A)	56 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	208 %	139 %
Prated	47.00 kW	43.00 kW
SCOP	5.41	3.66
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	38.80 kW	35.80 kW
COP Tj = -7°C	5.38	3.48
Pdh Tj = +2°C	39.10 kW	36.70 kW
COP Tj = +2°C	5.67	3.91
Pdh Tj = +7°C	39.30 kW	37.40 kW
COP Tj = +7°C	5.90	4.32
Pdh Tj = 12°C	39.30 kW	37.90 kW
COP Tj = 12°C	5.94	4.66
Pdh Tj = Tbiv	38.60 kW	34.10 kW
COP Tj = Tbiv	5.26	2.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	38.60 kW	34.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.26	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	74 W	74 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	9.32 kW	9.15 kW
Annual energy consumption Qhe	21594 kWh	28986 kWh

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	56 dB(A)	56 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	199 %	132 %
Prated	38.00 kW	34.00 kW
SCOP	5.17	3.50
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	38.00 kW	34.10 kW
COP Tj = +2°C	4.78	2.82
Pdh Tj = +7°C	38.50 kW	35.20 kW
COP Tj = +7°C	5.12	3.24
Pdh Tj = 12°C	39.10 kW	37.00 kW
COP Tj = 12°C	5.69	4.08
Pdh Tj = Tbiv	38.00 kW	34.10 kW
COP Tj = Tbiv	4.78	2.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	38.00 kW	34.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.78	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	74 W	74 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	9834 kWh	13033 kWh