

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 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	37.70 kW	34.49 kW
El input	7.98 kW	11.47 kW
COP	4.72	3.01

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
η_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 $T_j = T_{biv}$	4.78	2.82
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	38.00 kW	34.10 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	4.78	2.82
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
P _{off}	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 Q _{he}	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
η_s	208 %	139 %
Prated	47.00 kW	43.00 kW
SCOP	5.41	3.66
T_{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
$P_{dh} T_j = -7^{\circ}\text{C}$	38.80 kW	35.80 kW
COP $T_j = -7^{\circ}\text{C}$	5.38	3.48
$P_{dh} T_j = +2^{\circ}\text{C}$	39.10 kW	36.70 kW
COP $T_j = +2^{\circ}\text{C}$	5.67	3.91
$P_{dh} T_j = +7^{\circ}\text{C}$	39.30 kW	37.40 kW
COP $T_j = +7^{\circ}\text{C}$	5.90	4.32
$P_{dh} T_j = 12^{\circ}\text{C}$	39.30 kW	37.90 kW
COP $T_j = 12^{\circ}\text{C}$	5.94	4.66
$P_{dh} T_j = T_{biv}$	38.60 kW	34.10 kW
COP $T_j = T_{biv}$	5.26	2.82
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	38.60 kW	34.10 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	5.26	2.82
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
P _{off}	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 Q _{he}	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
η_s	199 %	132 %
Prated	38.00 kW	34.00 kW
SCOP	5.17	3.50
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{d,h} T _j = +2°C	38.00 kW	34.10 kW
COP T _j = +2°C	4.78	2.82
P _{d,h} T _j = +7°C	38.50 kW	35.20 kW
COP T _j = +7°C	5.12	3.24
P _{d,h} T _j = 12°C	39.10 kW	37.00 kW
COP T _j = 12°C	5.69	4.08
P _{d,h} T _j = T _{biv}	38.00 kW	34.10 kW
COP T _j = T _{biv}	4.78	2.82
P _{d,h} T _j = TOL or P _{d,h} T _j = T _{designh} if TOL < T _{designh}	38.00 kW	34.10 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	4.78	2.82
C _{d,h} T _j = TOL or P _{d,h} T _j = T _{designh} if TOL < T _{designh}	0.90	0.90
WTOL	60 °C	60 °C
P _{off}	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 Q _{he}	9834 kWh	13033 kWh