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Summary of	TTF 35	Reg. No.	011-1W0043
Certificate Holder			
Name	tecalor GmbH		
Address	Fürstenbergerstr. 77	Zip	37603
City	Holzminden	Country	Germany
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	TTF 35		
Heat Pump Type	Brine/Water		
Refrigerant	R410A		
Mass of Refrigerant	10 kg		
Certification Date	01.11.2016		

## Model: TTF 35

Configure model	
Model name	TTF 35
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

### Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2		
	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

### Warmer Climate

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### EN 12102-1

	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

	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

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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

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	56 dB(A)	56 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	208 %	139 %
Prated	47.00 kW	43.00 kW

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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

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Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	9.32 kW	9.15 kW
Annual energy consumption Q <sub>he</sub>	21594 kWh	28986 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	56 dB(A)	56 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	200 %	133 %
Prated	38.00 kW	34.00 kW
SCOP	5.19	3.52
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	38.10 kW	34.50 kW
COP T <sub>j</sub> = -7°C	4.84	2.95
P <sub>dh</sub> T <sub>j</sub> = +2°C	38.60 kW	35.80 kW
COP T <sub>j</sub> = +2°C	5.20	3.50

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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