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Login

Summary of	TTL 9.5/12.5 AC	Reg. No.	011-1W0441
Certificate Holder			
Name	tecalor GmbH		
Address	Fürstenbergerstr. 77	Zip	37603
City	Holzminden	Country	Germany
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	TTL 9.5/12.5 AC		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R410A		
Mass of Refrigerant	5.5 kg		
Certification Date	14.10.2021		
Testing basis	HP KEYMARK certification scheme rules rev. 8		

Model: TTL 9.5 AC

Configure model	
Model name	TTL 9.5 AC
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	8.66 kW	7.90 kW
El input	1.88 kW	2.75 kW
COP	4.61	2.87

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	55 dB(A)	55 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	159 %	125 %
Prated	10.29 kW	11.45 kW
SCOP	4.04	3.21
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.10 kW	10.13 kW
COP Tj = -7°C	3.11	2.56
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.30 kW	7.75 kW
COP Tj = +2°C	3.93	3.31
Cdh Tj = +2 °C	0.990	0.900
Pdh Tj = +7°C	8.92 kW	8.38 kW
COP Tj = +7°C	5.04	4.14
Cdh Tj = +7 °C	0.980	0.900
Pdh Tj = 12°C	9.10 kW	9.05 kW

COP Tj = 12°C	5.53	4.74
Cdh Tj = +12 °C	0.980	0.900
Pdh Tj = Tbiv	9.10 kW	10.13 kW
COP Tj = Tbiv	3.11	2.56
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.52 kW	9.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.94	2.26
WTOL	65 °C	65 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.77 kW	2.05 kW
Annual energy consumption Qhe	5265 kWh	7377 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	55 dB(A)	55 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	187 %	128 %
Prated	7.90 kW	8.14 kW
SCOP	4.76	3.28
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.90 kW	8.14 kW
COP Tj = +2°C	3.75	2.78
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.76 kW	8.04 kW
COP Tj = +7°C	4.77	3.40
Cdh Tj = +7 °C	0.990	0.900
Pdh Tj = 12°C	9.09 kW	9.03 kW
COP Tj = 12°C	5.41	4.48
Cdh Tj = +12 °C	0.980	0.900
Pdh Tj = Tbiv	7.90 kW	8.14 kW
COP Tj = Tbiv	3.75	2.78
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	8.14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.75	2.78
WTOL	65 °C	65 °C
Poff	10 W	10 W

PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2218 kWh	3314 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	55 dB(A)	55 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	133 %	112 %
Prated	14.53 kW	15.94 kW
SCOP	3.40	2.88
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.80 kW	9.65 kW
COP Tj = -7°C	3.27	2.82

Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.19 kW	7.58 kW
COP Tj = +2°C	4.08	3.55
Cdh Tj = +2 °C	0.980	0.900
Pdh Tj = +7°C	9.02 kW	8.57 kW
COP Tj = +7°C	5.21	4.46
Cdh Tj = +7 °C	0.980	0.900
Pdh Tj = 12°C	9.10 kW	9.06 kW
COP Tj = 12°C	5.53	4.88
Cdh Tj = +12 °C	0.980	0.900
Pdh Tj = Tbiv	8.80 kW	9.65 kW
COP Tj = Tbiv	3.27	2.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.38 kW	7.53 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.54	1.85
WTOL	65 °C	65 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	15.94 kW

Annual energy consumption Qhe	10540 kWh	13625 kWh

Model: TTL 12.5 AC

Configure model	
Model name	TTL 12.5 AC
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	8.66 kW	7.90 kW
El input	1.88 kW	2.75 kW
COP	4.61	2.87

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	55 dB(A)	55 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	159 %	130 %
Prated	12.80 kW	13.42 kW
SCOP	4.05	3.32
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.30 kW	11.87 kW
COP Tj = -7°C	2.84	2.43
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.24 kW	7.67 kW
COP Tj = +2°C	4.01	3.42
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.94 kW	8.41 kW
COP Tj = +7°C	5.08	4.19
Cdh Tj = +7 °C	0.980	0.900
Pdh Tj = 12°C	9.10 kW	9.05 kW

COP Tj = 12°C	5.55	4.76
Cdh Tj = +12 °C	0.980	0.900
Pdh Tj = Tbiv	11.32 kW	11.87 kW
COP Tj = Tbiv	2.84	2.43
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.58 kW	11.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.83	2.16
WTOL	65 °C	65 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.22 kW	2.32 kW
Annual energy consumption Qhe	6537 kWh	8358 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	55 dB(A)	55 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	188 %	128 %
Prated	8.10 kW	8.14 kW
SCOP	4.77	3.28
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.10 kW	8.14 kW
COP Tj = +2°C	3.74	2.78
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.76 kW	8.04 kW
COP Tj = +7°C	4.77	3.40
Cdh Tj = +7 °C	0.990	0.900
Pdh Tj = 12°C	9.09 kW	9.03 kW
COP Tj = 12°C	5.41	4.48
Cdh Tj = +12 °C	0.980	0.900
Pdh Tj = Tbiv	8.10 kW	8.41 kW
COP Tj = Tbiv	3.74	2.78
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.10 kW	8.14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.74	2.78
WTOL	65 °C	65 °C
Poff	10 W	10 W

PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2271 kWh	3314 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	55 dB(A)	55 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	133 %	115 %
Prated	18.44 kW	19.19 kW
SCOP	3.39	2.94
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.16 kW	11.61 kW
COP Tj = -7°C	3.15	2.69

Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.13 kW	7.49 kW
COP Tj = +2°C	4.16	3.66
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	9.05 kW	8.61 kW
COP Tj = +7°C	5.25	4.53
Cdh Tj = +7 °C	0.980	0.900
Pdh Tj = 12°C	9.10 kW	9.06 kW
COP Tj = 12°C	5.55	4.91
Cdh Tj = +12 °C	0.980	0.900
Pdh Tj = Tbiv	11.16 kW	11.61 kW
COP Tj = Tbiv	3.15	2.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.29 kW	9.65 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.47	1.85
WTOL	65 °C	65 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	18.44 kW	19.19 kW

Annual energy consumption Qhe	13397 kWh	16099 kWh