

Page 1 of 8

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Summary of	TTF 59.5	Reg. No.	011-1W0459
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 59.5		
Heat Pump Type	Brine/Water		
Refrigerant	R410A		
Mass of Refrigerant	6.3 kg		
Certification Date	15.03.2021		
Testing basis	HP KEYMARK certification scheme rules V8		



Model: TTF 59.5

Configure model			
Model name	TTF 59.5		
Application	Heating (medium temp)		
Units	Indoor		
Climate Zone	Colder Climate + Warmer Climate		
Reversibility	Yes		
Cooling mode application (optional) n/a			

General Data		
Power supply	3x400V 50Hz	

Heating

COP

EN 14511-2				
	Low temperature	Medium temperature		
Heat output	34.97 kW	31.56 kW		
El input	7.76 kW	11.04 kW		

2.86

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

Average Climate

4.51

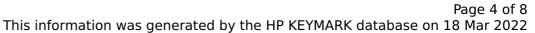


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EN 12102-1				
	Low temperature	Medium temperature		
Sound power level indoor	43 dB(A)	43 dB(A)		

EN 14825		
	Low temperature	Medium temperature
η_{s}	200 %	155 %
Prated	59.64 kW	55.34 kW
SCOP	5.19	4.07
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	52.76 kW	48.96 kW
COP Tj = -7°C	4.26	3.01
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	32.11 kW	29.80 kW
COP Tj = +2°C	5.23	4.11
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	20.64 kW	19.16 kW
COP Tj = +7°C	5.74	4.84
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	16.56 kW	16.33 kW

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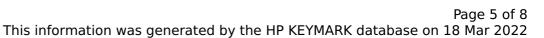




COP Tj = 12°C	5.58	4.66
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	59.64 kW	55.34 kW
COP Tj = Tbiv	3.93	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	59.64 kW	55.34 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.93	2.77
WTOL	65 °C	65 °C
Poff	9 W	9 W
РТО	11 W	11 W
PSB	18 W	18 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	23714 kWh	28063 kWh

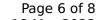
Warmer Climate

Low temperature	Medium temperature
203 %	157 %
59.64 kW	55.34 kW
5.28	4.13
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Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	59.64 kW	55.34 kW
$COP Tj = +2^{\circ}C$	3.93	2.77
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	38.34 kW	35.58 kW
$COPTj = +7^{\circ}C$	5.00	3.69
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	17.04 kW	15.81 kW
COP Tj = 12°C	5.79	4.85
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	59.64 kW	55.34 kW
COP Tj = Tbiv	3.93	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	59.64 kW	55.34 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.93	2.77
WTOL	65 °C	65 °C
Poff	9 W	9 W
РТО	11 W	11 W
PSB	18 W	18 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a





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Supplementary Heater: PSUP	0.00 kW	0.00 kW

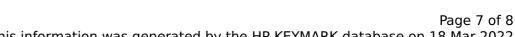
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	15055 kWh	17857 kWh

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	43 dB(A)	43 dB(A)	

Colder Climate

EN 14825			
	Low temperature	Medium temperature	
η_{s}	204 %	160 %	
Prated	59.64 kW	55.34 kW	
SCOP	5.29	4.20	
Tbiv	-22 °C	-22 °C	
TOL	-22 °C	-22 °C	
Pdh Tj = -7°C	35.77 kW	33.80 kW	
COP Tj = -7°C	5.14	3.85	
Cdh Tj = -7 °C	0.90	0.90	
Pdh Tj = +2°C	21.97 kW	20.39 kW	
COP Tj = +2°C	5.71	4.59	
Cdh Tj = +2 °C	0.90	0.90	

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Pdh Tj = $+7^{\circ}$ C	16.74 kW	16.35 kW
COP Tj = +7°C	5.86	4.85
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	16.58 kW	16.38 kW
COP Tj = 12°C	5.58	4.88
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	59.64 kW	55.34 kW
COP Tj = Tbiv	3.93	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	59.64 kW	55.34 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.93	2.77
WTOL	65 °C	65 °C
Poff	9 W	9 W
РТО	11 W	11 W
PSB	18 W	18 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	27759 kWh	32491 kWh
Pdh Tj = -15°C (if TOL<-20°C)	59.64	55.34
COP Tj = -15 °C (if TOL< -20 °C)	3.93	2.77

CEN heat pump KEYMARK

Cdh Tj = -15 $^{\circ}$ C

0.90

0.90





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EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	43 dB(A)	43 dB(A)	