

Page 1 of 37

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<u>Login</u> Rea. No. TTF 04 TTF 04 cool TTC 04 TTC 04 cool

Summary of	TTF 04, TTF 04 cool, TTC 04, TTC 04 cool	Reg. No.	011-1W0038
Certificate Holder		<u> </u>	
Name	tecalor GmbH		
Address	Fürstenbergerstr. 77	Zip	37603
City	Holzminden	Country	Germany
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	TTF 04, TTF 04 cool, TTC 04, TTC 04 cool		
Heat Pump Type	Brine/Water		
Refrigerant	R410A		
Mass of Refrigerant	1.05 kg		
Certification Date	01.11.2016		



Model: TTF 04, all climates

Configure model		
Model name	TTF 04, all climates	
Application	Heating (low temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-2	
Low temperature	
Heat output	4.77 kW
El input	1.06 kW
СОР	4.50

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



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

EN 14825	
	Low temperature
η_{s}	189 %
Prated	5.00 kW
SCOP	4.92
Tbiv	-10 °C
TOL	-10 °C
Pdh Tj = -7°C	4.80 kW
$COPTj = -7^{\circ}C$	4.55
Cdh Tj = -7 °C	0.90
Pdh Tj = +2°C	4.80 kW
$COP Tj = +2^{\circ}C$	4.87
Cdh Tj = +2 °C	0.90
Pdh Tj = +7°C	4.90 kW
$COP Tj = +7^{\circ}C$	5.18
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	4.90 kW





COP Tj = 12°C	5.52
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50
WTOL	65 °C
Poff	o w
РТО	54 W
PSB	9 W
PCK	o w
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	2002 kWh

Warmer Climate

EN 14825	
	Low temperature
η_{s}	187 %
Prated	5.00 kW
SCOP	4.87





This information was generated by the FF KETI	ANN database on 10 Mai 2022
Tbiv	2 °C
TOL	0 °C
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.50
Cdh Tj = +2 °C	0.90
Pdh Tj = $+7^{\circ}$ C	4.80 kW
$COPTj = +7^{\circ}C$	4.80
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.29
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50
WTOL	65 °C
Poff	0 W
РТО	54 W
PSB	9 W
PCK	o w
Supplementary Heater: Type of energy input	Electricity





Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	1310 kWh

Colder Climate

EN 14825	
	Low temperature
η_{s}	195 %
Prated	6.00 kW
SCOP	5.07
Tbiv	-15 °C
TOL	-22 °C
Pdh Tj = -7°C	4.90 kW
COP Tj = -7°C	5.03
Cdh Tj = -7 °C	0.90
Pdh Tj = +2°C	4.90 kW
COP Tj = +2°C	5.27
Cdh Tj = +2 °C	0.90
Pdh Tj = +7°C	4.90 kW
COP Tj = +7°C	5.47
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	4.90 kW





This information was generated by the fir Kern	
COP Tj = 12°C	5.50
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.92
WTOL	65 °C
Poff	o w
PTO	54 W
PSB	9 W
PCK	o w
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	1.17 kW
Annual energy consumption Qhe	2888 kWh
Pdh Tj = -15°C (if TOL<-20°C)	4.80
COP Tj = -15°C (if TOL<-20°C)	4.92
Cdh Tj = -15 °C	0.90



Model: TTF 04, average climates

Configure model		
Model name	TTF 04, average climates	
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	n/a	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	4.77 kW	4.25 kW
El input	1.06 kW	1.56 kW
СОР	4.50	2.72

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



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}	189 %	128 %
Prated	5.00 kW	4.00 kW
SCOP	4.92	3.40
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.80 kW	4.30 kW
COP Tj = -7°C	4.55	2.85
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	4.80 kW	4.50 kW
COP Tj = +2°C	4.87	3.35
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	4.90 kW	4.60 kW
COP Tj = +7°C	5.18	3.73
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	4.90 kW	4.70 kW



$$\operatorname{\textit{Page}}\ 10$$ of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = 12°C	5.52	4.18
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	4.80 kW	4.30 kW
COP Tj = Tbiv	4.50	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW	4.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50	2.72
WTOL	65 °C	65 °C
Poff	o w	0 W
РТО	54 W	54 W
PSB	9 W	9 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2002 kWh	2583 kWh

Model: TTF 04 cool, all climates

Configure model		
Model name TTF 04 cool, all climates		
Application	Heating (low temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

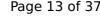
EN 14511-2	
	Low temperature
Heat output	4.77 kW
El input	1.06 kW
СОР	4.50

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



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

EN 14825		
	Low temperature	
η_{s}	189 %	
Prated	5.00 kW	
SCOP	4.92	
Tbiv	-10 °C	
TOL	-10 °C	
Pdh Tj = -7°C	4.80 kW	
$COPTj = -7^{\circ}C$	4.55	
Cdh Tj = -7 °C	0.90	
Pdh Tj = +2°C	4.80 kW	
$COP Tj = +2^{\circ}C$	4.87	
Cdh Tj = +2 °C	0.90	
Pdh Tj = $+7^{\circ}$ C	4.90 kW	
$COP Tj = +7^{\circ}C$	5.18	
Cdh Tj = +7 °C	0.90	
Pdh Tj = 12°C	4.90 kW	





 $$\operatorname{\textit{Page}}\ 13$$ of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = 12°C	5.52
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50
WTOL	65 °C
Poff	o w
РТО	54 W
PSB	9 W
PCK	o w
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	2002 kWh

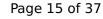
Warmer Climate

Low temperature
187 %
5.00 kW
4.87





Tbiv	2 °C
TOL	0 °C
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.50
Cdh Tj = +2 °C	0.90
Pdh Tj = $+7^{\circ}$ C	4.80 kW
$COP Tj = +7^{\circ}C$	4.80
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.29
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50
WTOL	65 °C
Poff	0 W
РТО	54 W
PSB	9 W
РСК	0 W
Supplementary Heater: Type of energy input	Electricity





Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	1310 kWh

Colder Climate

EN 14825		
	Low temperature	
n _s	195 %	
Prated	6.00 kW	
SCOP	5.07	
Гbіv	-15 °C	
TOL	-22 °C	
Pdh Tj = -7°C	4.90 kW	
COP Tj = -7°C	5.03	
Cdh Tj = -7 °C	0.90	
Pdh Tj = +2°C	4.90 kW	
COP Tj = +2°C	5.27	
Cdh Tj = +2 °C	0.90	
Pdh Tj = +7°C	4.90 kW	
COP Tj = +7°C	5.47	
Cdh Tj = +7 °C	0.90	
Pdh Tj = 12°C	4.90 kW	



$$\operatorname{\textit{Page}}\ 16$$ of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = 12°C	5.50
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.92
WTOL	65 °C
Poff	0 W
РТО	54 W
PSB	9 W
PCK	o w
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	1.17 kW
Annual energy consumption Qhe	2888 kWh
Pdh Tj = -15°C (if TOL<-20°C)	4.80
COP Tj = -15°C (if TOL<-20°C)	4.92
Cdh Tj = -15 °C	0.90



Model: TTF 04 cool, average climates

Configure model		
Model name	TTF 04 cool, average climates	
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	n/a	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	4.77 kW	4.25 kW
El input	1.06 kW	1.56 kW
СОР	4.50	2.72

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



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}	189 %	128 %
Prated	5.00 kW	4.00 kW
SCOP	4.92	3.40
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.80 kW	4.30 kW
$COPTj = -7^{\circ}C$	4.55	2.85
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2^{\circ}$ C	4.80 kW	4.50 kW
COP Tj = +2°C	4.87	3.35
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	4.90 kW	4.60 kW
$COP Tj = +7^{\circ}C$	5.18	3.73
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	4.90 kW	4.70 kW



$$\operatorname{\textit{Page}}\ 19$ of 37$$ This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = 12°C	5.52	4.18
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	4.80 kW	4.30 kW
COP Tj = Tbiv	4.50	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW	4.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50	2.72
WTOL	65 °C	65 °C
Poff	o w	0 W
РТО	54 W	54 W
PSB	9 W	9 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2002 kWh	2583 kWh



Model: TTC 04, all climates

Configure model		
Model name	TTC 04, all climates	
Application	Heating (low temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-2	
Low temperature	
Heat output	4.77 kW
El input	1.06 kW
СОР	4.50

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



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

EN 14825		
	Low temperature	
η_s	189 %	
Prated	5.00 kW	
SCOP	4.92	
Tbiv	-10 °C	
TOL	-10 °C	
Pdh Tj = -7°C	4.80 kW	
COP Tj = -7°C	4.55	
Cdh Tj = -7 °C	0.90	
Pdh Tj = +2°C	4.80 kW	
$COPTj = +2^{\circ}C$	4.87	
Cdh Tj = +2 °C	0.90	
Pdh Tj = $+7^{\circ}$ C	4.90 kW	
$COPTj = +7^{\circ}C$	5.18	
Cdh Tj = +7 °C	0.90	
Pdh Tj = 12°C	4.90 kW	





 $$\operatorname{\textit{Page}}\xspace$ 22 of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = 12°C 5.52 Cdh Tj = +12 °C 0.90 Pdh Tj = Tbiv 4.80 kW COP Tj = Tbiv 4.50 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 4.80 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 4.50 WTOL 65 °C Poff 0 W PTO 54 W PSB 9 W PCK 0 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.00 kW Annual energy consumption Qhe 2002 kWh		
Pdh Tj = Tbiv 4.80 kW COP Tj = Tbiv 4.50 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 4.80 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 4.50 WTOL 65 °C Poff 0 W PTO 54 W PSB 9 W PCK Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP	COP Tj = 12°C	5.52
COP Tj = Tbiv 4.50 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 4.80 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 4.50 WTOL 65 °C Poff 0 W PTO 54 W PSB 9 W PCK 0 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP	Cdh Tj = +12 °C	0.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 4.80 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 4.50 WTOL 65 °C Poff 0 W PTO 54 W PSB 9 W PCK 0 w Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.00 kW	Pdh Tj = Tbiv	4.80 kW
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WTOL Poff 0 W PTO 54 W PSB 9 W PCK 0 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.00 kW	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
Poff 0 W PTO 54 W PSB 9 W PCK 0 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.00 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50
PTO 54 W PSB 9 W PCK 0 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.00 kW	WTOL	65 °C
PSB 9 W PCK 0 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.00 kW	Poff	o w
PCK 0 W Supplementary Heater: Type of energy input Electricity Supplementary Heater: PSUP 0.00 kW	РТО	54 W
Supplementary Heater: Type of energy input Supplementary Heater: PSUP 0.00 kW	PSB	9 W
Supplementary Heater: PSUP 0.00 kW	PCK	0 W
	Supplementary Heater: Type of energy input	Electricity
Annual energy consumption Qhe 2002 kWh	Supplementary Heater: PSUP	0.00 kW
	Annual energy consumption Qhe	2002 kWh

Warmer Climate

Low temperature
187 %
5.00 kW
4.87





This information was generated by the FF KETI	ANN database on 10 Mai 2022
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TOL	0 °C
Pdh Tj = +2°C	4.80 kW
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$COPTj = +7^{\circ}C$	4.80
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.29
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50
WTOL	65 °C
Poff	0 W
РТО	54 W
PSB	9 W
PCK	o w
Supplementary Heater: Type of energy input	Electricity

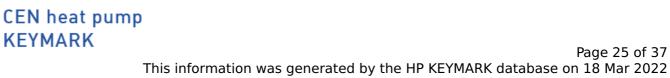




Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	1310 kWh

Colder Climate

EN 14825	
	Low temperature
η_s	195 %
Prated	6.00 kW
SCOP	5.07
Tbiv	-15 °C
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Pdh Tj = -7°C	4.90 kW
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COP Tj = +7°C	5.47
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	4.90 kW



COP Tj = 12°C	5.50
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.92
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Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	1.17 kW
Annual energy consumption Qhe	2888 kWh
Pdh Tj = -15°C (if TOL<-20°C)	4.80
COP Tj = -15°C (if TOL<-20°C)	4.92
Cdh Tj = -15 °C	0.90



Model: TTC 04, average climates

Configure model		
Model name	TTC 04, average climates	
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	n/a	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	4.77 kW	4.25 kW
El input	1.06 kW	1.56 kW
СОР	4.50	2.72

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



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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}	189 %	128 %
Prated	5.00 kW	4.00 kW
SCOP	4.92	3.40
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.80 kW	4.30 kW
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Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2^{\circ}$ C	4.80 kW	4.50 kW
COP Tj = +2°C	4.87	3.35
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	4.90 kW	4.60 kW
$COP Tj = +7^{\circ}C$	5.18	3.73
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	4.90 kW	4.70 kW



Page 28 of 37

This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = 12°C	5.52	4.18
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	4.80 kW	4.30 kW
COP Tj = Tbiv	4.50	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW	4.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50	2.72
WTOL	65 °C	65 °C
Poff	o w	0 W
РТО	54 W	54 W
PSB	9 W	9 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2002 kWh	2583 kWh



Model: TTC 04 cool, all climates

Configure model		
Model name	TTC 04 cool, all climates	
Application	Heating (low temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

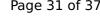
EN 14511-2	
	Low temperature
Heat output	4.77 kW
El input	1.06 kW
СОР	4.50

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



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

EN 14825	
	Low temperature
η_{s}	189 %
Prated	5.00 kW
SCOP	4.92
Tbiv	-10 °C
TOL	-10 °C
Pdh Tj = -7°C	4.80 kW
COP Tj = -7°C	4.55
Cdh Tj = -7 °C	0.90
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.87
Cdh Tj = +2 °C	0.90
Pdh Tj = +7°C	4.90 kW
$COP Tj = +7^{\circ}C$	5.18
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	4.90 kW





 $$\operatorname{\textit{Page}}\ 31$$ of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = 12°C	5.52
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50
WTOL	65 °C
Poff	o w
РТО	54 W
PSB	9 W
PCK	o w
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	2002 kWh

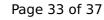
Warmer Climate

EN 14825	
	Low temperature
ls	187 %
Prated	5.00 kW
SCOP	4.87





This information was generated by the FF KETI	ANN database on 10 Mai 2022
Tbiv	2 °C
TOL	0 °C
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.50
Cdh Tj = +2 °C	0.90
Pdh Tj = $+7^{\circ}$ C	4.80 kW
$COPTj = +7^{\circ}C$	4.80
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.29
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50
WTOL	65 °C
Poff	0 W
РТО	54 W
PSB	9 W
PCK	o w
Supplementary Heater: Type of energy input	Electricity





Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	1310 kWh

Colder Climate

EN 14825	
	Low temperature
n _s	195 %
Prated	6.00 kW
SCOP	5.07
Гbіv	-15 °C
TOL	-22 °C
Pdh Tj = -7°C	4.90 kW
COP Tj = -7°C	5.03
Cdh Tj = -7 °C	0.90
Pdh Tj = +2°C	4.90 kW
COP Tj = +2°C	5.27
Cdh Tj = +2 °C	0.90
Pdh Tj = +7°C	4.90 kW
COP Tj = +7°C	5.47
Cdh Tj = +7 °C	0.90
Pdh Tj = 12°C	4.90 kW



$$\operatorname{\textit{Page}}$ 34 of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = 12°C	5.50
Cdh Tj = +12 °C	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.92
WTOL	65 °C
Poff	0 W
PTO	54 W
PSB	9 W
PCK	0 W
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	1.17 kW
Annual energy consumption Qhe	2888 kWh
Pdh Tj = -15°C (if TOL<-20°C)	4.80
COP Tj = -15°C (if TOL<-20°C)	4.92
Cdh Tj = -15 °C	0.90



Model: TTC 04 cool, average climates

Configure model		
Model name	TTC 04 cool, average climates	
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	n/a	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-2				
	Low temperature	Medium temperature		
Heat output	4.77 kW	4.25 kW		
El input	1.06 kW	1.56 kW		
СОР	4.50	2.72		

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



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}	189 %	128 %		
Prated	5.00 kW	4.00 kW		
SCOP	4.92	3.40		
Tbiv	-10 °C	-10 °C		
TOL	-10 °C	-10 °C		
Pdh Tj = -7°C	4.80 kW	4.30 kW		
COP Tj = -7°C	4.55	2.85		
Cdh Tj = -7 °C	0.90	0.90		
Pdh Tj = +2°C	4.80 kW	4.50 kW		
COP Tj = +2°C	4.87	3.35		
Cdh Tj = +2 °C	0.90	0.90		
Pdh Tj = +7°C	4.90 kW	4.60 kW		
COP Tj = +7°C	5.18	3.73		
Cdh Tj = +7 °C	0.90	0.90		
Pdh Tj = 12°C	4.90 kW	4.70 kW		



$$\operatorname{\textit{Page}}\xspace$ 37 of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = 12°C	5.52	4.18
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	4.80 kW	4.30 kW
COP Tj = Tbiv	4.50	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW	4.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.50	2.72
WTOL	65 °C	65 °C
Poff	o w	0 W
РТО	54 W	54 W
PSB	9 W	9 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2002 kWh	2583 kWh