

This information was generated by the HP KEYMARK database on 17 Dec 2020

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

Model: TTF 04, all climates

General Data

Power supply	3x400V 50Hz
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Heating

EN 14511-2

	Low temperature
Heat output	4.77 kW
El input	1.06 kW
COP	4.50
Indoor water flow rate	0.78 m ³ /h

EN 14511-4

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

Average Climate

EN 12102-1

	Low temperature
Sound power level indoor	43 dB(A)

This information was generated by the HP KEYMARK database on 17 Dec 2020

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	0.90
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.87
Cdh	0.90
Pdh Tj = +7°C	4.90 kW
COP Tj = +7°C	5.18
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.52
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	4.80 kW
COP Tj = TOL	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

Warmer Climate

EN 14825	
	Low temperature
η_s	187 %
Prated	5.00 kW
SCOP	4.87
Tbiv	2 °C
TOL	0 °C
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.50

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Cdh	0.90
Pdh Tj = +7°C	4.80 kW
COP Tj = +7°C	4.80
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.29
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50
Pdh Tj = TOL	4.80 kW
COP Tj = TOL	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	1310 kWh

Colder Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

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	0.90
Pdh Tj = +2°C	4.90 kW
COP Tj = +2°C	5.27
Cdh	0.90
Pdh Tj = +7°C	4.90 kW
COP Tj = +7°C	5.47
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.50
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.92

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	4.80 kW
COP Tj = TOL	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	0.90

Model: TTF 04, average climates

General Data

Power supply	3x400V 50Hz
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Heating

EN 14511-2

	Low temperature	Medium temperature
Heat output	4.77 kW	4.25 kW
El input	1.06 kW	1.56 kW
COP	4.50	2.72
Indoor water flow rate	0.78 m ³ /h	0.58 m ³ /h

EN 14511-4

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

This information was generated by the HP KEYMARK database on 17 Dec 2020

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	0.90	0.90
Pdh Tj = +2°C	4.80 kW	4.50 kW
COP Tj = +2°C	4.87	3.35
Cdh	0.90	0.90
Pdh Tj = +7°C	4.90 kW	4.60 kW
COP Tj = +7°C	5.18	3.73
Cdh	0.90	0.90
Pdh Tj = 12°C	4.90 kW	4.70 kW
COP Tj = 12°C	5.52	4.18
Cdh	0.90	0.90
Pdh Tj = Tbiv	4.80 kW	4.30 kW
COP Tj = Tbiv	4.50	2.72

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	4.80 kW	4.30 kW
COP Tj = TOL	4.50	2.72
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	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

Model: TTF 04 cool, all climates

General Data

Power supply	3x400V 50Hz
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Heating

EN 14511-2

	Low temperature
Heat output	4.77 kW
El input	1.06 kW
COP	4.50
Indoor water flow rate	0.78 m ³ /h

EN 14511-4

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

Average Climate

EN 12102-1

	Low temperature
Sound power level indoor	43 dB(A)

This information was generated by the HP KEYMARK database on 17 Dec 2020

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	0.90
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.87
Cdh	0.90
Pdh Tj = +7°C	4.90 kW
COP Tj = +7°C	5.18
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.52
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	4.80 kW
COP Tj = TOL	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

Warmer Climate

EN 14825	
	Low temperature
η_s	187 %
Prated	5.00 kW
SCOP	4.87
Tbiv	2 °C
TOL	0 °C
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.50

This information was generated by the HP KEYMARK database on 17 Dec 2020

Cdh	0.90
Pdh Tj = +7°C	4.80 kW
COP Tj = +7°C	4.80
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.29
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50
Pdh Tj = TOL	4.80 kW
COP Tj = TOL	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	1310 kWh

Colder Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

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	0.90
Pdh Tj = +2°C	4.90 kW
COP Tj = +2°C	5.27
Cdh	0.90
Pdh Tj = +7°C	4.90 kW
COP Tj = +7°C	5.47
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.50
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.92

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	4.80 kW
COP Tj = TOL	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	0.90

Model: TTF 04 cool, average climates

General Data

Power supply	3x400V 50Hz
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Heating

EN 14511-2

	Low temperature	Medium temperature
Heat output	4.77 kW	4.25 kW
El input	1.06 kW	1.56 kW
COP	4.50	2.72
Indoor water flow rate	0.78 m ³ /h	0.58 m ³ /h

EN 14511-4

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

This information was generated by the HP KEYMARK database on 17 Dec 2020

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	0.90	0.90
Pdh Tj = +2°C	4.80 kW	4.50 kW
COP Tj = +2°C	4.87	3.35
Cdh	0.90	0.90
Pdh Tj = +7°C	4.90 kW	4.60 kW
COP Tj = +7°C	5.18	3.73
Cdh	0.90	0.90
Pdh Tj = 12°C	4.90 kW	4.70 kW
COP Tj = 12°C	5.52	4.18
Cdh	0.90	0.90
Pdh Tj = Tbiv	4.80 kW	4.30 kW
COP Tj = Tbiv	4.50	2.72

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	4.80 kW	4.30 kW
COP Tj = TOL	4.50	2.72
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	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

Model: TTC 04, all climates

General Data

Power supply	3x400V 50Hz
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Heating

EN 14511-2

	Low temperature
Heat output	4.77 kW
El input	1.06 kW
COP	4.50
Indoor water flow rate	0.78 m ³ /h

EN 14511-4

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

Average Climate

EN 12102-1

	Low temperature
Sound power level indoor	43 dB(A)

This information was generated by the HP KEYMARK database on 17 Dec 2020

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	0.90
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.87
Cdh	0.90
Pdh Tj = +7°C	4.90 kW
COP Tj = +7°C	5.18
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.52
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50

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Pdh Tj = TOL	4.80 kW
COP Tj = TOL	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

Warmer Climate

EN 14825	
	Low temperature
η_s	187 %
Prated	5.00 kW
SCOP	4.87
Tbiv	2 °C
TOL	0 °C
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.50

This information was generated by the HP KEYMARK database on 17 Dec 2020

Cdh	0.90
Pdh Tj = +7°C	4.80 kW
COP Tj = +7°C	4.80
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.29
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50
Pdh Tj = TOL	4.80 kW
COP Tj = TOL	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	1310 kWh

Colder Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

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	0.90
Pdh Tj = +2°C	4.90 kW
COP Tj = +2°C	5.27
Cdh	0.90
Pdh Tj = +7°C	4.90 kW
COP Tj = +7°C	5.47
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.50
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.92

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	4.80 kW
COP Tj = TOL	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	0.90

Model: TTC 04, average climates

General Data

Power supply	3x400V 50Hz
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Heating

EN 14511-2

	Low temperature	Medium temperature
Heat output	4.77 kW	4.25 kW
El input	1.06 kW	1.56 kW
COP	4.50	2.72
Indoor water flow rate	0.78 m ³ /h	0.58 m ³ /h

EN 14511-4

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

This information was generated by the HP KEYMARK database on 17 Dec 2020

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	0.90	0.90
Pdh Tj = +2°C	4.80 kW	4.50 kW
COP Tj = +2°C	4.87	3.35
Cdh	0.90	0.90
Pdh Tj = +7°C	4.90 kW	4.60 kW
COP Tj = +7°C	5.18	3.73
Cdh	0.90	0.90
Pdh Tj = 12°C	4.90 kW	4.70 kW
COP Tj = 12°C	5.52	4.18
Cdh	0.90	0.90
Pdh Tj = Tbiv	4.80 kW	4.30 kW
COP Tj = Tbiv	4.50	2.72

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	4.80 kW	4.30 kW
COP Tj = TOL	4.50	2.72
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	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

Model: TTC 04 cool, all climates

General Data

Power supply	3x400V 50Hz
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Heating

EN 14511-2

	Low temperature
Heat output	4.77 kW
El input	1.06 kW
COP	4.50
Indoor water flow rate	0.78 m ³ /h

EN 14511-4

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

Average Climate

EN 12102-1

	Low temperature
Sound power level indoor	43 dB(A)

This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 14825

	Low temperature
η_s	189 %
Prated	5.00 kW
SCOP	4.92
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Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.87
Cdh	0.90
Pdh Tj = +7°C	4.90 kW
COP Tj = +7°C	5.18
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.52
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	4.80 kW
COP Tj = TOL	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

Warmer Climate

EN 14825	
	Low temperature
η_s	187 %
Prated	5.00 kW
SCOP	4.87
Tbiv	2 °C
TOL	0 °C
Pdh Tj = +2°C	4.80 kW
COP Tj = +2°C	4.50

This information was generated by the HP KEYMARK database on 17 Dec 2020

Cdh	0.90
Pdh Tj = +7°C	4.80 kW
COP Tj = +7°C	4.80
Cdh	0.90
Pdh Tj = 12°C	4.90 kW
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Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.50
Pdh Tj = TOL	4.80 kW
COP Tj = TOL	4.50
WTOL	65 °C
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PCK	0 W
Supplementary Heater: Type of energy input	electricity
Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	1310 kWh

Colder Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 14825

	Low temperature
η_s	195 %
Prated	6.00 kW
SCOP	5.07
Tbiv	-15 °C
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COP Tj = +2°C	5.27
Cdh	0.90
Pdh Tj = +7°C	4.90 kW
COP Tj = +7°C	5.47
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Pdh Tj = 12°C	4.90 kW
COP Tj = 12°C	5.50
Cdh	0.90
Pdh Tj = Tbiv	4.80 kW
COP Tj = Tbiv	4.92

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Pdh Tj = TOL	4.80 kW
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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	0.90

Model: TTC 04 cool, average climates

General Data

Power supply	3x400V 50Hz
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Heating

EN 14511-2

	Low temperature	Medium temperature
Heat output	4.77 kW	4.25 kW
El input	1.06 kW	1.56 kW
COP	4.50	2.72
Indoor water flow rate	0.78 m ³ /h	0.58 m ³ /h

EN 14511-4

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 14825

	Low temperature	Medium temperature
η_s	189 %	128 %
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COP Tj = -7°C	4.55	2.85
Cdh	0.90	0.90
Pdh Tj = +2°C	4.80 kW	4.50 kW
COP Tj = +2°C	4.87	3.35
Cdh	0.90	0.90
Pdh Tj = +7°C	4.90 kW	4.60 kW
COP Tj = +7°C	5.18	3.73
Cdh	0.90	0.90
Pdh Tj = 12°C	4.90 kW	4.70 kW
COP Tj = 12°C	5.52	4.18
Cdh	0.90	0.90
Pdh Tj = Tbiv	4.80 kW	4.30 kW
COP Tj = Tbiv	4.50	2.72

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	4.80 kW	4.30 kW
COP Tj = TOL	4.50	2.72
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	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