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

#### **Login**

Summary of	Thermia Calibra Eco 16	Reg. No.	012-C700112		
Certificate Holder	Certificate Holder				
Name	Thermia	Thermia			
Address	Snickaregatan 1	Zip			
City	Arvika	Country	Sweden		
Certification Body	RISE CERT	RISE CERT			
Subtype title	Thermia Calibra Eco 16				
Heat Pump Type	Brine/Water and Water/Water				
Refrigerant	R452B				
Mass of Refrigerant	1.85 kg				
Certification Date	25.08.2021				
Testing basis	EN 14511:2018, EN 14825:2018, EN 12102:2017				

# **Model: Thermia Calibra Eco 16 400V**

Configure model		
Model name	Thermia Calibra Eco 16 400V	
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Brine/Water Heat Pump

# Heating

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

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	10.42 kW	12.19 kW	
El input	2.14 kW	4.00 kW	
СОР	4.87	3.05	

# Average Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	36 dB(A)	36 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	222 %	168 %
Prated	15.88 kW	14.68 kW
SCOP	5.76	4.40
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.05 kW	12.99 kW
COP Tj = -7°C	4.89	3.35
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	8.55 kW	7.91 kW
COP Tj = +2°C	5.86	4.48
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.50 kW	5.08 kW
COP Tj = +7°C	6.38	5.07
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	4.26 kW	4.18 kW





Cdh Tj = +12 °C       0.98       0.98         Pdh Tj = Tbiv       15.88 kW       14.68 kW         COP Tj = Tbiv       4.59       3.11         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh       15.88 kW       14.68 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh       4.59       3.11         WTOL       65 °C       65 °C         Poff       13 W       13 W         PTO       17 W       17 W         PSB       17 W       17 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       Electricity       Electricity         Supplementary Heater: PSUP       0.00 kW       0.00 kW			
Pdh Tj = Tbiv       15.88 kW       14.68 kW         COP Tj = Tbiv       4.59       3.11         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	COP Tj = 12°C	6.02	5.08
COP Tj = Tbiv       4.59       3.11         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	15.88 kW	14.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	4.59	3.11
WTOL         65 °C         65 °C           Poff         13 W         13 W           PTO         17 W         17 W           PSB         17 W         17 W           PCK         0 W         0 W           Supplementary Heater: Type of energy input         Electricity         Electricity           Supplementary Heater: PSUP         0.00 kW         0.00 kW	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.88 kW	14.68 kW
Poff 13 W 13 W  PTO 17 W 17 W  PSB 17 W 0 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.59	3.11
PTO 17 W 17 W  PSB 17 W 0 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	WTOL	65 °C	65 °C
PSB 17 W 17 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	Poff	13 W	13 W
PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	РТО	17 W	17 W
Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	17 W	17 W
Supplementary Heater: PSUP 0.00 kW 0.00 kW	PCK	o w	o w
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 5700 kWh 6893 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
	Annual energy consumption Qhe	5700 kWh	6893 kWh

# Warmer Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	36 dB(A)	36 dB(A)	

EN 14825		
	Low temperature	Medium temperature





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$\eta_{s}$	224 %	169 %
Prated	15.88 kW	14.68 kW
SCOP	5.79	4.42
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	15.88 kW	14.68 kW
COP Tj = +2°C	4.59	3.11
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	10.21 kW	9.44 kW
COP Tj = +7°C	5.56	3.98
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	4.54 kW	4.20 kW
COP Tj = 12°C	6.37	5.21
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	15.88 kW	14.68 kW
COP Tj = Tbiv	4.59	3.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.88 kW	14.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.59	3.11
WTOL	65 °C	65 °C
Poff	13 W	13 W





PTO	17 W	17 W
PSB	17 W	17 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	3666 kWh	4441 kWh

### Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	36 dB(A)	36 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	230 %	174 %
Prated	15.88 kW	14.68 kW
SCOP	5.96	4.54
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.61 kW	8.89 kW
COP Tj = -7°C	5.79	4.21





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Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = $+2$ °C	5.85 kW	5.41 kW
$COP Tj = +2^{\circ}C$	6.40	4.98
Cdh Tj = $+2$ °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	4.28 kW	4.20 kW
$COP Tj = +7^{\circ}C$	6.13	5.15
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	4.23 kW	4.22 kW
COP Tj = 12°C	5.83	5.21
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	15.88 kW	14.68 kW
COP Tj = Tbiv	4.59	3.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.88 kW	14.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.59	3.11
WTOL	65 °C	65 °C
Poff	13 W	13 W
PTO	17 W	17 W
PSB	17 W	17 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	6574 kWh	7969 kWh	
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Water/Water Heat Pump

# Heating

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

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	12.68 kW	18.11 kW	
El input	1.88 kW	4.60 kW	
СОР	6.73	3.94	

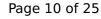
# **Average Climate**

EN 14825		
	Low temperature	Medium temperature
$\eta_{S}$	303 %	220 %
Prated	12.68 kW	18.11 kW





SCOP	7.78	5.70
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.22 kW	16.02 kW
COP Tj = -7°C	7.04	4.25
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	6.83 kW	9.75 kW
COP Tj = +2°C	8.03	5.83
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	5.79 kW	6.27 kW
$COP Tj = +7^{\circ}C$	8.26	6.57
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	5.80 kW	5.61 kW
COP Tj = 12°C	8.49	6.63
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.68 kW	18.11 kW
COP Tj = Tbiv	6.73	3.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.68 kW	18.11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.73	3.94
WTOL	65 °C	65 °C
Poff	13 W	13 W

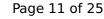




РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3370 kWh	6569 kWh

# Warmer Climate

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	301 %	219 %
Prated	12.68 kW	18.11 kW
SCOP	7.72	5.66
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.68 kW	18.11 kW
COP Tj = +2°C	6.73	3.94
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	8.15 kW	11.64 kW
COP Tj = +7°C	7.78	5.15
Cdh Tj = +7 °C	0.99	0.99





Pdh Tj = 12°C	5.79 kW	5.17 kW
COP Tj = 12°C	8.34	6.65
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.68 kW	18.11 kW
COP Tj = Tbiv	6.73	3.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.68 kW	18.11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.73	3.94
WTOL	65 °C	65 °C
Poff	13 W	13 W
РТО	17 W	17 W
PSB	17 W	17 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	2195 kWh	4271 kWh

# Colder Climate

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	312 %	227 %
Prated	12.68 kW	18.11 kW
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SCOP	8.00	5.88
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.68 kW	10.96 kW
COP Tj = -7°C	8.04	5.48
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	5.79 kW	6.67 kW
COP Tj = +2°C	8.32	6.44
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.80 kW	5.61 kW
$COP Tj = +7^{\circ}C$	8.46	6.66
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	5.79 kW	5.64 kW
COP Tj = 12°C	8.35	6.80
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.68 kW	18.11 kW
COP Tj = Tbiv	6.73	3.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.68 kW	18.11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.73	3.94
WTOL	65 °C	65 °C
Poff	13 W	13 W
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РТО	17 W	17 W
PSB	17 W	17 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	3908 kWh	7589 kWh

# Model: Thermia Calibra Eco 16 Duo 400V

Co	onfigure model
Model name	Thermia Calibra Eco 16 Duo 400V
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

Genera	al Data
Power supply	3x400V 50Hz

Brine/Water Heat Pump

# Heating

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

	EN 14511-2	
	Low temperature	Medium temperature
Heat output	10.42 kW	12.19 kW
El input	2.14 kW	4.00 kW
СОР	4.87	3.05

# Average Climate



	EN 12102-1	
	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)

	EN 14825	
	Low temperature	Medium temperature
$\eta_{s}$	222 %	168 %
Prated	15.88 kW	14.68 kW
SCOP	5.76	4.40
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.05 kW	12.99 kW
COP Tj = -7°C	4.89	3.35
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	8.55 kW	7.91 kW
COP Tj = +2°C	5.86	4.48
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.50 kW	5.08 kW
$COP Tj = +7^{\circ}C$	6.38	5.07
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	4.26 kW	4.18 kW





Cdh Tj = +12 °C       0.98       0.98         Pdh Tj = Tbiv       15.88 kW       14.68 kW         COP Tj = Tbiv       4.59       3.11         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh       15.88 kW       14.68 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh       4.59       3.11         WTOL       65 °C       65 °C         Poff       13 W       13 W         PTO       17 W       17 W         PSB       17 W       17 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       Electricity       Electricity         Supplementary Heater: PSUP       0.00 kW       0.00 kW			
Pdh Tj = Tbiv       15.88 kW       14.68 kW         COP Tj = Tbiv       4.59       3.11         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	COP Tj = 12°C	6.02	5.08
COP Tj = Tbiv       4.59       3.11         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	15.88 kW	14.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	4.59	3.11
WTOL         65 °C         65 °C           Poff         13 W         13 W           PTO         17 W         17 W           PSB         17 W         17 W           PCK         0 W         0 W           Supplementary Heater: Type of energy input         Electricity         Electricity           Supplementary Heater: PSUP         0.00 kW         0.00 kW	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.88 kW	14.68 kW
Poff 13 W 13 W  PTO 17 W 17 W  PSB 17 W 0 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.59	3.11
PTO 17 W 17 W  PSB 17 W 0 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	WTOL	65 °C	65 °C
PSB 17 W 17 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	Poff	13 W	13 W
PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	РТО	17 W	17 W
Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	17 W	17 W
Supplementary Heater: PSUP 0.00 kW 0.00 kW	PCK	o w	o w
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 5700 kWh 6893 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
	Annual energy consumption Qhe	5700 kWh	6893 kWh

# Warmer Climate

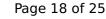
	EN 12102-1	
	Low temperature	Medium temperature
Sound power level indoor	38 dB(A)	38 dB(A)

EN 1482	25	
	Low temperature	Medium temperature





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η <sub>s</sub>	224 %	169 %
Prated	15.88 kW	14.68 kW
SCOP	5.79	4.42
Tbiv	2 °C	2 °C
гоц	2 °C	2 °C
Pdh Tj = +2°C	15.88 kW	14.68 kW
COP Tj = +2°C	4.59	3.11
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	10.21 kW	9.44 kW
$COP Tj = +7^{\circ}C$	5.56	3.98
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	4.54 kW	4.20 kW
COP Tj = 12°C	6.37	5.21
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	15.88 kW	14.68 kW
COP Tj = Tbiv	4.59	3.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.88 kW	14.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.59	3.11
NTOL	65 °C	65 °C
Poff	13 W	13 W





PTO	17 W	17 W
PSB	17 W	17 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	3666 kWh	4441 kWh

### Colder Climate

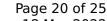
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	38 dB(A)	38 dB(A)	

EN 14825		
	Low temperature	e Medium temperature
$\eta_{s}$	230 %	174 %
Prated	15.88 kW	14.68 kW
SCOP	5.96	4.54
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.61 kW	8.89 kW
COP Tj = -7°C	5.79	4.21





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Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.85 kW	5.41 kW
COP Tj = +2°C	6.40	4.98
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	4.28 kW	4.20 kW
$COP Tj = +7^{\circ}C$	6.13	5.15
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	4.23 kW	4.22 kW
COP Tj = 12°C	5.83	5.21
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	15.88 kW	14.68 kW
COP Tj = Tbiv	4.59	3.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.88 kW	14.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.59	3.11
WTOL	65 °C	65 °C
Poff	13 W	13 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	0 W	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW





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Annual energy consumption Qhe	6574 kWh	7969 kWh	

Water/Water Heat Pump

# Heating

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

EN 14511-2			
Low temperature Medium temperature			
Heat output	12.68 kW	18.11 kW	
El input	1.88 kW	4.60 kW	
СОР	6.73	3.94	

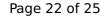
# Average Climate

EN 14825		
	Low temperature	Medium temperature
$\eta_{S}$	303 %	220 %
Prated	12.68 kW	18.11 kW





SCOP	7.78	5.70
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.22 kW	16.02 kW
COP Tj = -7°C	7.04	4.25
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	6.83 kW	9.75 kW
COP Tj = +2°C	8.03	5.83
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7$ °C	5.79 kW	6.27 kW
$COP Tj = +7^{\circ}C$	8.26	6.57
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	5.80 kW	5.61 kW
COP Tj = 12°C	8.49	6.63
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.68 kW	18.11 kW
COP Tj = Tbiv	6.73	3.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.68 kW	18.11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.73	3.94
WTOL	65 °C	65 °C
Poff	13 W	13 W

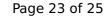




РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3370 kWh	6569 kWh

# Warmer Climate

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	301 %	219 %
Prated	12.68 kW	18.11 kW
SCOP	7.72	5.66
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.68 kW	18.11 kW
COP Tj = +2°C	6.73	3.94
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	8.15 kW	11.64 kW
COP Tj = +7°C	7.78	5.15
Cdh Tj = +7 °C	0.99	0.99





Pdh Tj = 12°C	5.79 kW	5.17 kW
COP Tj = 12°C	8.34	6.65
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.68 kW	18.11 kW
COP Tj = Tbiv	6.73	3.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.68 kW	18.11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.73	3.94
WTOL	65 °C	65 °C
Poff	13 W	13 W
РТО	17 W	17 W
PSB	17 W	17 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	2195 kWh	4271 kWh

### Colder Climate

EN 14825			
	Low temperature	Medium temperature	
$\eta_{S}$	312 %	227 %	
Prated	12.68 kW	18.11 kW	





		N database on 10 Mai 2022
SCOP	8.00	5.88
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.68 kW	10.96 kW
COP Tj = -7°C	8.04	5.48
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	5.79 kW	6.67 kW
COP Tj = +2°C	8.32	6.44
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	5.80 kW	5.61 kW
$COPTj = +7^{\circ}C$	8.46	6.66
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	5.79 kW	5.64 kW
COP Tj = 12°C	8.35	6.80
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.68 kW	18.11 kW
COP Tj = Tbiv	6.73	3.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.68 kW	18.11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.73	3.94
WTOL	65 °C	65 °C
Poff	13 W	13 W
FOII	13 14	12 W



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РТО	17 W	17 W
PSB	17 W	17 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	3908 kWh	7589 kWh