

This information was generated by the HP KEYMARK database on 22 Jun 2022

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Summary of	Thermia Calibra Eco 12	Reg. No.	012-C700111
Certificate Holder			
Name	Thermia		
Address	Snickaregatan 1	Zip	
City	Arvika	Country	Sweden
Certification Body	RISE CERT		
Subtype title	Thermia Calibra Eco 12		
Heat Pump Type	Brine/Water and Water/Water		
Refrigerant	R452B		
Mass of Refrigerant	1.3 kg		
Certification Date	25.08.2021		
Testing basis	EN 14511:2018, EN 14825:2018, EN 12102:2017		

Model: Thermia Calibra Eco 12 400V

Configure model	
Model name	Thermia Calibra Eco 12 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	5.21 kW	8.42 kW
El input	1.09 kW	2.84 kW
COP	4.78	2.96

Warmer Climate

This information was generated by the HP KEYMARK database on 22 Jun 2022

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	222 %	164 %
Prated	11.52 kW	10.57 kW
SCOP	5.76	4.29
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.52 kW	10.57 kW
COP Tj = +2°C	4.39	2.96
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.41 kW	6.79 kW
COP Tj = +7°C	5.38	3.81
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.29 kW	3.02 kW
COP Tj = 12°C	6.47	5.12
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	11.52 kW	10.57 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

COP $T_j = T_{biv}$	4.39	2.96
P _{dh} $T_j = TOL$ or P _{dh} $T_j = T_{designh}$ if $TOL < T_{designh}$	11.52 kW	10.57 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	4.39	2.96
WTOL	65 °C	65 °C
P _{off}	7 W	7 W
PTO	9 W	9 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 Q _{he}	2674 kWh	3290 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	226 %	168 %
Prated	11.52 kW	10.57 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	5.85	4.39
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.97 kW	6.40 kW
COP Tj = -7°C	5.69	4.02
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.24 kW	3.89 kW
COP Tj = +2°C	6.38	4.92
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.73 kW	2.50 kW
COP Tj = +7°C	5.79	4.88
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	2.78 kW	2.74 kW
COP Tj = 12°C	5.51	4.74
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	11.52 kW	10.57 kW
COP Tj = Tbiv	4.39	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.52 kW	10.57 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.96
WTOL	65 °C	65 °C
Poff	7 W	7 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

PTO	9 W	9 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 Q _{he}	4856 kWh	5928 kWh

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	219 %	162 %
Prated	11.52 kW	10.57 kW
SCOP	5.67	4.25
T _{biv}	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P _{dh} T _j = -7°C	10.19 kW	9.35 kW
COP T _j = -7°C	4.66	3.23

This information was generated by the HP KEYMARK database on 22 Jun 2022

Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	6.20 kW	5.69 kW
COP Tj = +2°C	5.81	4.27
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.99 kW	3.66 kW
COP Tj = +7°C	6.39	5.06
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.77 kW	2.73 kW
COP Tj = 12°C	5.67	4.67
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	11.52 kW	10.57 kW
COP Tj = Tbiv	4.39	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.52 kW	10.57 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.96
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 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

This information was generated by the HP KEYMARK database on 22 Jun 2022

Annual energy consumption Q _{he}	4195 kWh	5134 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	12.24 kW	14.24 kW
El input	2.01 kW	3.84 kW
COP	6.08	3.71

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	295 %	214 %
Prated	12.24 kW	14.24 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	7.57	5.56
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.24 kW	14.24 kW
COP Tj = +2°C	6.08	3.71
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.87 kW	9.16 kW
COP Tj = +7°C	7.15	4.96
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.50 kW	4.07 kW
COP Tj = 12°C	8.40	6.62
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2161 kWh	3425 kWh

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	300 %	223 %
Prated	12.24 kW	14.24 kW
SCOP	7.70	5.77
T _{biv}	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	7.41 kW	8.62 kW
COP T _j = -7°C	7.43	5.28
C _{dh} T _j = -7 °C	0.99	1.00
P _{dh} T _j = +2°C	4.51 kW	5.25 kW
COP T _j = +2°C	8.14	6.31
C _{dh} T _j = +2 °C	0.98	0.99
P _{dh} T _j = +7°C	3.71 kW	3.37 kW
COP T _j = +7°C	8.35	7.00
C _{dh} T _j = +7 °C	0.98	0.98

This information was generated by the HP KEYMARK database on 22 Jun 2022

Pdh Tj = 12°C	3.68 kW	3.66 kW
COP Tj = 12°C	7.96	6.72
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 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	3917 kWh	6086 kWh

Average Climate

EN 14825		
	Low temperature	Medium temperature
η_s	292 %	213 %
Prated	12.24 kW	14.24 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	7.51	5.52
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.83 kW	12.60 kW
COP Tj = -7°C	6.35	4.09
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	6.59 kW	7.67 kW
COP Tj = +2°C	7.52	5.56
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.24 kW	4.93 kW
COP Tj = +7°C	8.40	6.49
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.70 kW	3.65 kW
COP Tj = 12°C	8.22	6.57
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

PTO	9 W	9 W
PSB	9 W	9 W
PCK	0 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	3369 kWh	5331 kWh

Model: Thermia Calibra Eco 12 Duo 400V

Configure model	
Model name	Thermia Calibra Eco 12 Duo 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	5.21 kW	8.42 kW
El input	1.09 kW	2.84 kW
COP	4.78	2.96

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
η_s	222 %	164 %
Prated	11.52 kW	10.57 kW
SCOP	5.76	4.29
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.52 kW	10.57 kW
COP Tj = +2°C	4.39	2.96
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.41 kW	6.79 kW
COP Tj = +7°C	5.38	3.81
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.29 kW	3.02 kW
COP Tj = 12°C	6.47	5.12
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	11.52 kW	10.57 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

COP $T_j = T_{biv}$	4.39	2.96
P _{dh} $T_j = TOL$ or P _{dh} $T_j = T_{designh}$ if $TOL < T_{designh}$	11.52 kW	10.57 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	4.39	2.96
WTOL	65 °C	65 °C
P _{off}	7 W	7 W
PTO	9 W	9 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 Q _{he}	2674 kWh	3290 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
η_s	226 %	168 %
Prated	11.52 kW	10.57 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	5.85	4.39
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.97 kW	6.40 kW
COP Tj = -7°C	5.69	4.02
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.24 kW	3.89 kW
COP Tj = +2°C	6.38	4.92
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.73 kW	2.50 kW
COP Tj = +7°C	5.79	4.88
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	2.78 kW	2.74 kW
COP Tj = 12°C	5.51	4.74
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	11.52 kW	10.57 kW
COP Tj = Tbiv	4.39	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.52 kW	10.57 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.96
WTOL	65 °C	65 °C
Poff	7 W	7 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

PTO	9 W	9 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 Q _{he}	4856 kWh	5928 kWh

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
η_s	219 %	162 %
Prated	11.52 kW	10.57 kW
SCOP	5.67	4.25
T _{biv}	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P _{dh} T _j = -7°C	10.19 kW	9.35 kW
COP T _j = -7°C	4.66	3.23

This information was generated by the HP KEYMARK database on 22 Jun 2022

Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	6.20 kW	5.69 kW
COP Tj = +2°C	5.81	4.27
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.99 kW	3.66 kW
COP Tj = +7°C	6.39	5.06
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.77 kW	2.73 kW
COP Tj = 12°C	5.67	4.67
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	11.52 kW	10.57 kW
COP Tj = Tbiv	4.39	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.52 kW	10.57 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.96
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 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 Q _{he}	4195 kWh	5134 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	12.24 kW	14.24 kW
El input	2.01 kW	3.84 kW
COP	6.08	3.71

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	295 %	214 %
Prated	12.24 kW	14.24 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	7.57	5.56
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.24 kW	14.24 kW
COP Tj = +2°C	6.08	3.71
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.87 kW	9.16 kW
COP Tj = +7°C	7.15	4.96
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.50 kW	4.07 kW
COP Tj = 12°C	8.40	6.62
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2161 kWh	3425 kWh

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	300 %	223 %
Prated	12.24 kW	14.24 kW
SCOP	7.70	5.77
T _{biv}	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	7.41 kW	8.62 kW
COP T _j = -7°C	7.43	5.28
C _{dh} T _j = -7 °C	0.99	1.00
P _{dh} T _j = +2°C	4.51 kW	5.25 kW
COP T _j = +2°C	8.14	6.31
C _{dh} T _j = +2 °C	0.98	0.99
P _{dh} T _j = +7°C	3.71 kW	3.37 kW
COP T _j = +7°C	8.35	7.00
C _{dh} T _j = +7 °C	0.98	0.98

This information was generated by the HP KEYMARK database on 22 Jun 2022

Pdh Tj = 12°C	3.68 kW	3.66 kW
COP Tj = 12°C	7.96	6.72
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 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	3917 kWh	6086 kWh

Average Climate

EN 14825		
	Low temperature	Medium temperature
η_s	292 %	213 %
Prated	12.24 kW	14.24 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	7.51	5.52
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.83 kW	12.60 kW
COP Tj = -7°C	6.35	4.09
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	6.59 kW	7.67 kW
COP Tj = +2°C	7.52	5.56
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.24 kW	4.93 kW
COP Tj = +7°C	8.40	6.49
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.70 kW	3.65 kW
COP Tj = 12°C	8.22	6.57
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

PTO	9 W	9 W
PSB	9 W	9 W
PCK	0 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	3369 kWh	5331 kWh

Model: Thermia Calibra Eco 12 230V

Configure model	
Model name	Thermia Calibra Eco 12 230V
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 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	5.21 kW	8.42 kW
El input	1.09 kW	2.84 kW
COP	4.78	2.96

Warmer Climate

This information was generated by the HP KEYMARK database on 22 Jun 2022

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	222 %	164 %
Prated	11.52 kW	10.57 kW
SCOP	5.76	4.29
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.52 kW	10.57 kW
COP Tj = +2°C	4.39	2.96
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.41 kW	6.79 kW
COP Tj = +7°C	5.38	3.81
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.29 kW	3.02 kW
COP Tj = 12°C	6.47	5.12
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	11.52 kW	10.57 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

COP $T_j = T_{biv}$	4.39	2.96
P _{dh} $T_j = TOL$ or P _{dh} $T_j = T_{designh}$ if $TOL < T_{designh}$	11.52 kW	10.57 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	4.39	2.96
WTOL	65 °C	65 °C
P _{off}	7 W	7 W
PTO	9 W	9 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 Q _{he}	2674 kWh	3290 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	226 %	168 %
Prated	11.52 kW	10.57 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	5.85	4.39
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.97 kW	6.40 kW
COP Tj = -7°C	5.69	4.02
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.24 kW	3.89 kW
COP Tj = +2°C	6.38	4.92
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.73 kW	2.50 kW
COP Tj = +7°C	5.79	4.88
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	2.78 kW	2.74 kW
COP Tj = 12°C	5.51	4.74
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	11.52 kW	10.57 kW
COP Tj = Tbiv	4.39	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.52 kW	10.57 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.96
WTOL	65 °C	65 °C
Poff	7 W	7 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

PTO	9 W	9 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 Q _{he}	4856 kWh	5928 kWh

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	34 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	219 %	162 %
Prated	11.52 kW	10.57 kW
SCOP	5.67	4.25
T _{biv}	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P _{dh} T _j = -7°C	10.19 kW	9.35 kW
COP T _j = -7°C	4.66	3.23

This information was generated by the HP KEYMARK database on 22 Jun 2022

Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	6.20 kW	5.69 kW
COP Tj = +2°C	5.81	4.27
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.99 kW	3.66 kW
COP Tj = +7°C	6.39	5.06
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.77 kW	2.73 kW
COP Tj = 12°C	5.67	4.67
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	11.52 kW	10.57 kW
COP Tj = Tbiv	4.39	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.52 kW	10.57 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.96
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 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 Q _{he}	4195 kWh	5134 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	12.24 kW	14.24 kW
El input	2.01 kW	3.84 kW
COP	6.08	3.71

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	295 %	214 %
Prated	12.24 kW	14.24 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	7.57	5.56
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.24 kW	14.24 kW
COP Tj = +2°C	6.08	3.71
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.87 kW	9.16 kW
COP Tj = +7°C	7.15	4.96
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.50 kW	4.07 kW
COP Tj = 12°C	8.40	6.62
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2161 kWh	3425 kWh

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	300 %	223 %
Prated	12.24 kW	14.24 kW
SCOP	7.70	5.77
T _{biv}	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	7.41 kW	8.62 kW
COP T _j = -7°C	7.43	5.28
C _{dh} T _j = -7 °C	0.99	1.00
P _{dh} T _j = +2°C	4.51 kW	5.25 kW
COP T _j = +2°C	8.14	6.31
C _{dh} T _j = +2 °C	0.98	0.99
P _{dh} T _j = +7°C	3.71 kW	3.37 kW
COP T _j = +7°C	8.35	7.00
C _{dh} T _j = +7 °C	0.98	0.98

This information was generated by the HP KEYMARK database on 22 Jun 2022

Pdh Tj = 12°C	3.68 kW	3.66 kW
COP Tj = 12°C	7.96	6.72
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 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	3917 kWh	6086 kWh

Average Climate

EN 14825		
	Low temperature	Medium temperature
η_s	292 %	213 %
Prated	12.24 kW	14.24 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	7.51	5.52
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.83 kW	12.60 kW
COP Tj = -7°C	6.35	4.09
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	6.59 kW	7.67 kW
COP Tj = +2°C	7.52	5.56
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.24 kW	4.93 kW
COP Tj = +7°C	8.40	6.49
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.70 kW	3.65 kW
COP Tj = 12°C	8.22	6.57
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

PTO	9 W	9 W
PSB	9 W	9 W
PCK	0 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	3369 kWh	5331 kWh

Model: Thermia Calibra Eco 12 Duo 230V

Configure model	
Model name	Thermia Calibra Eco 12 Duo 230V
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 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	5.21 kW	8.42 kW
El input	1.09 kW	2.84 kW
COP	4.78	2.96

Warmer Climate

This information was generated by the HP KEYMARK database on 22 Jun 2022

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	36 dB(A)	36 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	222 %	164 %
Prated	11.52 kW	10.57 kW
SCOP	5.76	4.29
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.52 kW	10.57 kW
COP Tj = +2°C	4.39	2.96
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.41 kW	6.79 kW
COP Tj = +7°C	5.38	3.81
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.29 kW	3.02 kW
COP Tj = 12°C	6.47	5.12
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	11.52 kW	10.57 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

COP $T_j = T_{biv}$	4.39	2.96
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	11.52 kW	10.57 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	4.39	2.96
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 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 Q_{he}	2674 kWh	3290 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
η_s	226 %	168 %
Prated	11.52 kW	10.57 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	5.85	4.39
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.97 kW	6.40 kW
COP Tj = -7°C	5.69	4.02
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.24 kW	3.89 kW
COP Tj = +2°C	6.38	4.92
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.73 kW	2.50 kW
COP Tj = +7°C	5.79	4.88
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	2.78 kW	2.74 kW
COP Tj = 12°C	5.51	4.74
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	11.52 kW	10.57 kW
COP Tj = Tbiv	4.39	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.52 kW	10.57 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.96
WTOL	65 °C	65 °C
Poff	7 W	7 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

PTO	9 W	9 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 Q _{he}	4856 kWh	5928 kWh

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
η_s	219 %	162 %
Prated	11.52 kW	10.57 kW
SCOP	5.67	4.25
T _{biv}	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P _{dh} T _j = -7°C	10.19 kW	9.35 kW
COP T _j = -7°C	4.66	3.23

This information was generated by the HP KEYMARK database on 22 Jun 2022

Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	6.20 kW	5.69 kW
COP Tj = +2°C	5.81	4.27
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.99 kW	3.66 kW
COP Tj = +7°C	6.39	5.06
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.77 kW	2.73 kW
COP Tj = 12°C	5.67	4.67
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	11.52 kW	10.57 kW
COP Tj = Tbiv	4.39	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.52 kW	10.57 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.96
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 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 Q _{he}	4195 kWh	5134 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	12.24 kW	14.24 kW
El input	2.01 kW	3.84 kW
COP	6.08	3.71

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	295 %	214 %
Prated	12.24 kW	14.24 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	7.57	5.56
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.24 kW	14.24 kW
COP Tj = +2°C	6.08	3.71
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.87 kW	9.16 kW
COP Tj = +7°C	7.15	4.96
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	3.50 kW	4.07 kW
COP Tj = 12°C	8.40	6.62
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2161 kWh	3425 kWh

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	300 %	223 %
Prated	12.24 kW	14.24 kW
SCOP	7.70	5.77
T _{biv}	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	7.41 kW	8.62 kW
COP T _j = -7°C	7.43	5.28
C _{dh} T _j = -7 °C	0.99	1.00
P _{dh} T _j = +2°C	4.51 kW	5.25 kW
COP T _j = +2°C	8.14	6.31
C _{dh} T _j = +2 °C	0.98	0.99
P _{dh} T _j = +7°C	3.71 kW	3.37 kW
COP T _j = +7°C	8.35	7.00
C _{dh} T _j = +7 °C	0.98	0.98

This information was generated by the HP KEYMARK database on 22 Jun 2022

Pdh Tj = 12°C	3.68 kW	3.66 kW
COP Tj = 12°C	7.96	6.72
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	9 W	9 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	3917 kWh	6086 kWh

Average Climate

EN 14825		
	Low temperature	Medium temperature
η_s	292 %	213 %
Prated	12.24 kW	14.24 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

SCOP	7.51	5.52
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.83 kW	12.60 kW
COP Tj = -7°C	6.35	4.09
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	6.59 kW	7.67 kW
COP Tj = +2°C	7.52	5.56
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.24 kW	4.93 kW
COP Tj = +7°C	8.40	6.49
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.70 kW	3.65 kW
COP Tj = 12°C	8.22	6.57
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.24 kW	14.24 kW
COP Tj = Tbiv	6.08	3.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.24 kW	14.24 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.08	3.71
WTOL	65 °C	65 °C
Poff	7 W	7 W

This information was generated by the HP KEYMARK database on 22 Jun 2022

PTO	9 W	9 W
PSB	9 W	9 W
PCK	0 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	3369 kWh	5331 kWh