Login

Summary of	Thermia Calibra 7	Reg. No.	012-SC0066-19
Certificate Holder			
Name	Thermia		
Address	Snickaregatan 1	Zip	
City	Arvika	Country	Sweden
Certification Body	RISE CERT		
Subtype title	Thermia Calibra 7		
Heat Pump Type	Brine/Water and Water/Water		
Refrigerant	R410A		
Mass of Refrigerant	0.95 kg		
Certification Date	04.10.2019		

Model: Thermia Calibra 7 400V

Configure model	
Model name	Thermia Calibra 7 400V
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder 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	4.45 kW	5.05 kW
El input	0.96 kW	1.74 kW
COP	4.65	2.90

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	214 %	150 %
Prated	7.11 kW	6.39 kW
SCOP	5.56	3.96
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.29 kW	5.65 kW
COP Tj = -7°C	4.85	3.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.83 kW	3.44 kW
COP Tj = +2°C	5.70	4.03
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.46 kW	2.21 kW
COP Tj = +7°C	6.15	4.55
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.16 kW	2.07 kW

COP Tj = 12°C	6.01	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	2597 kWh	3291 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	223 %	157 %
Prated	7.11 kW	6.39 kW
SCOP	5.77	4.12
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.30 kW	3.87 kW
COP Tj = -7°C	5.67	3.84
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.62 kW	2.35 kW
COP Tj = +2°C	6.21	4.51
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.17 kW	2.07 kW
COP Tj = +7°C	6.09	4.65
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.15 kW	2.09 kW
COP Tj = 12°C	5.84	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	3008 kWh	3802 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.80	5.21
COP Tj = -15°C (if TOL<-20°C)	5.05	3.33
Cdh Tj = -15 °C	0.99	0.99

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	9.43 kW	8.51 kW
El input	1.58 kW	2.35 kW
COP	5.96	3.63

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	305 %	211 %
Prated	9.43 kW	8.51 kW
SCOP	7.82	5.47
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.34 kW	7.53 kW
COP Tj = -7°C	6.48	4.03
Cdh Tj = -7 °C	1.00	1.00

Pdh Tj = +2°C	5.08 kW	4.58 kW
COP Tj = +2°C	7.93	5.47
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	3.26 kW	2.95 kW
COP Tj = +7°C	8.76	6.55
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.91 kW	2.78 kW
COP Tj = 12°C	8.65	6.84
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2463 kWh	3186 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	317 %	219 %
Prated	9.43 kW	8.51 kW
SCOP	8.12	5.68
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.71 kW	5.15 kW
COP Tj = -7°C	7.77	5.12
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.47 kW	3.14 kW
COP Tj = +2°C	8.76	6.31
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.91 kW	2.78 kW
COP Tj = +7°C	8.76	6.85
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	2.89 kW	2.79 kW
COP Tj = 12°C	8.39	7.06
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2847 kWh	3676 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.69	6.94
COP Tj = -15°C (if TOL<-20°C)	6.87	4.37
Cdh Tj = -15 °C	1.00	1.00

Model: Thermia Calibra 7 Duo 400V

Configure model	
Model name	Thermia Calibra 7 Duo 400V
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder 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	4.45 kW	5.05 kW
El input	0.96 kW	1.74 kW
COP	4.65	2.90

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	33 dB(A)	33 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	214 %	150 %
Prated	7.11 kW	6.39 kW
SCOP	5.56	3.96
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.29 kW	5.65 kW
COP Tj = -7°C	4.85	3.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.83 kW	3.44 kW
COP Tj = +2°C	5.70	4.03
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.46 kW	2.21 kW
COP Tj = +7°C	6.15	4.55
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.16 kW	2.07 kW

COP Tj = 12°C	6.01	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	2597 kWh	3291 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	33 dB(A)	33 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	223 %	157 %
Prated	7.11 kW	6.39 kW
SCOP	5.77	4.12
Tbiv	-22 °C	-22 °C
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Pdh Tj = -7°C	4.30 kW	3.87 kW
COP Tj = -7°C	5.67	3.84
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.62 kW	2.35 kW
COP Tj = +2°C	6.21	4.51
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.17 kW	2.07 kW
COP Tj = +7°C	6.09	4.65
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.15 kW	2.09 kW
COP Tj = 12°C	5.84	4.54
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	3008 kWh	3802 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.80	5.21
COP Tj = -15°C (if TOL<-20°C)	5.05	3.33
Cdh Tj = -15 °C	0.99	0.99

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	9.43 kW	8.51 kW
El input	1.58 kW	2.35 kW
COP	5.96	3.63

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	33 dB(A)	33 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	305 %	211 %
Prated	9.43 kW	8.51 kW
SCOP	7.82	5.47
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.34 kW	7.53 kW
COP Tj = -7°C	6.48	4.03
Cdh Tj = -7 °C	1.00	1.00

Pdh Tj = +2°C	5.08 kW	4.58 kW
COP Tj = +2°C	7.93	5.47
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	3.26 kW	2.95 kW
COP Tj = +7°C	8.76	6.55
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.91 kW	2.78 kW
COP Tj = 12°C	8.65	6.84
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2463 kWh	3186 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	33 dB(A)	33 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	317 %	219 %
Prated	9.43 kW	8.51 kW
SCOP	8.12	5.68
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.71 kW	5.15 kW
COP Tj = -7°C	7.77	5.12
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.47 kW	3.14 kW
COP Tj = +2°C	8.76	6.31
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.91 kW	2.78 kW
COP Tj = +7°C	8.76	6.85
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	2.89 kW	2.79 kW
COP Tj = 12°C	8.39	7.06
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2847 kWh	3676 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.69	6.94
COP Tj = -15°C (if TOL<-20°C)	6.87	4.37
Cdh Tj = -15 °C	1.00	1.00

Model: Thermia Calibra 7 230V

Configure model	
Model name	Thermia Calibra 7 230V
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder 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	4.45 kW	5.05 kW
El input	0.96 kW	1.74 kW
COP	4.65	2.90

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	214 %	150 %
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Pdh Tj = +2°C	3.83 kW	3.44 kW
COP Tj = +2°C	5.70	4.03
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.46 kW	2.21 kW
COP Tj = +7°C	6.15	4.55
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Pdh Tj = Tbiv	7.11 kW	6.39 kW
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	2597 kWh	3291 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	223 %	157 %
Prated	7.11 kW	6.39 kW
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COP Tj = +2°C	6.21	4.51
Cdh Tj = +2 °C	0.97	0.98
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	3008 kWh	3802 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.80	5.21
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Water/Water Heat Pump

Heating

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

EN 14511-2		
	Low temperature	**Medium temperature**
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Average Climate

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	Low temperature	**Medium temperature**
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Pdh Tj = +7°C	3.26 kW	2.95 kW
COP Tj = +7°C	8.76	6.55
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Pdh Tj = 12°C	2.91 kW	2.78 kW
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Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2463 kWh	3186 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

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	Low temperature	**Medium temperature**
η_s	317 %	219 %
Prated	9.43 kW	8.51 kW
SCOP	8.12	5.68
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.71 kW	5.15 kW
COP Tj = -7°C	7.77	5.12
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.47 kW	3.14 kW
COP Tj = +2°C	8.76	6.31
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.91 kW	2.78 kW
COP Tj = +7°C	8.76	6.85
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	2.89 kW	2.79 kW
COP Tj = 12°C	8.39	7.06
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2847 kWh	3676 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.69	6.94
COP Tj = -15°C (if TOL<-20°C)	6.87	4.37
Cdh Tj = -15 °C	1.00	1.00

Model: Thermia Calibra 7 Duo 230V

Configure model	
Model name	Thermia Calibra 7 Duo 230V
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder 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	4.45 kW	5.05 kW
El input	0.96 kW	1.74 kW
COP	4.65	2.90

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	33 dB(A)	33 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	214 %	150 %
Prated	7.11 kW	6.39 kW
SCOP	5.56	3.96
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.29 kW	5.65 kW
COP Tj = -7°C	4.85	3.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.83 kW	3.44 kW
COP Tj = +2°C	5.70	4.03
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.46 kW	2.21 kW
COP Tj = +7°C	6.15	4.55
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.16 kW	2.07 kW

COP Tj = 12°C	6.01	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	2597 kWh	3291 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	33 dB(A)	33 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	223 %	157 %
Prated	7.11 kW	6.39 kW
SCOP	5.77	4.12
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.30 kW	3.87 kW
COP Tj = -7°C	5.67	3.84
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.62 kW	2.35 kW
COP Tj = +2°C	6.21	4.51
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.17 kW	2.07 kW
COP Tj = +7°C	6.09	4.65
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.15 kW	2.09 kW
COP Tj = 12°C	5.84	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	3008 kWh	3802 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.80	5.21
COP Tj = -15°C (if TOL<-20°C)	5.05	3.33
Cdh Tj = -15 °C	0.99	0.99

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	9.43 kW	8.51 kW
El input	1.58 kW	2.35 kW
COP	5.96	3.63

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	33 dB(A)	33 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	305 %	211 %
Prated	9.43 kW	8.51 kW
SCOP	7.82	5.47
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.34 kW	7.53 kW
COP Tj = -7°C	6.48	4.03
Cdh Tj = -7 °C	1.00	1.00

Pdh Tj = +2°C	5.08 kW	4.58 kW
COP Tj = +2°C	7.93	5.47
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	3.26 kW	2.95 kW
COP Tj = +7°C	8.76	6.55
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.91 kW	2.78 kW
COP Tj = 12°C	8.65	6.84
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2463 kWh	3186 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	33 dB(A)	33 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	317 %	219 %
Prated	9.43 kW	8.51 kW
SCOP	8.12	5.68
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.71 kW	5.15 kW
COP Tj = -7°C	7.77	5.12
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.47 kW	3.14 kW
COP Tj = +2°C	8.76	6.31
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.91 kW	2.78 kW
COP Tj = +7°C	8.76	6.85
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	2.89 kW	2.79 kW
COP Tj = 12°C	8.39	7.06
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2847 kWh	3676 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.69	6.94
COP Tj = -15°C (if TOL<-20°C)	6.87	4.37
Cdh Tj = -15 °C	1.00	1.00

Model: Thermia Calibra 7 400V (White)

Configure model	
Model name	Thermia Calibra 7 400V (White)
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder 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	4.45 kW	5.05 kW
El input	0.96 kW	1.74 kW
COP	4.65	2.90

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	214 %	150 %
Prated	7.11 kW	6.39 kW
SCOP	5.56	3.96
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.29 kW	5.65 kW
COP Tj = -7°C	4.85	3.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.83 kW	3.44 kW
COP Tj = +2°C	5.70	4.03
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.46 kW	2.21 kW
COP Tj = +7°C	6.15	4.55
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.16 kW	2.07 kW

COP Tj = 12°C	6.01	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	2597 kWh	3291 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	223 %	157 %
Prated	7.11 kW	6.39 kW
SCOP	5.77	4.12
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.30 kW	3.87 kW
COP Tj = -7°C	5.67	3.84
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.62 kW	2.35 kW
COP Tj = +2°C	6.21	4.51
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.17 kW	2.07 kW
COP Tj = +7°C	6.09	4.65
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.15 kW	2.09 kW
COP Tj = 12°C	5.84	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	3008 kWh	3802 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.80	5.21
COP Tj = -15°C (if TOL<-20°C)	5.05	3.33
Cdh Tj = -15 °C	0.99	0.99

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	9.43 kW	8.51 kW
El input	1.58 kW	2.35 kW
COP	5.96	3.63

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	305 %	211 %
Prated	9.43 kW	8.51 kW
SCOP	7.82	5.47
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.34 kW	7.53 kW
COP Tj = -7°C	6.48	4.03
Cdh Tj = -7 °C	1.00	1.00

Pdh Tj = +2°C	5.08 kW	4.58 kW
COP Tj = +2°C	7.93	5.47
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	3.26 kW	2.95 kW
COP Tj = +7°C	8.76	6.55
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.91 kW	2.78 kW
COP Tj = 12°C	8.65	6.84
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2463 kWh	3186 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	317 %	219 %
Prated	9.43 kW	8.51 kW
SCOP	8.12	5.68
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.71 kW	5.15 kW
COP Tj = -7°C	7.77	5.12
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.47 kW	3.14 kW
COP Tj = +2°C	8.76	6.31
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.91 kW	2.78 kW
COP Tj = +7°C	8.76	6.85
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	2.89 kW	2.79 kW
COP Tj = 12°C	8.39	7.06
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2847 kWh	3676 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.69	6.94
COP Tj = -15°C (if TOL<-20°C)	6.87	4.37
Cdh Tj = -15 °C	1.00	1.00

Model: Thermia Calibra Cool 7 400V BW

Configure model	
Model name	Thermia Calibra Cool 7 400V BW
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder 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	4.45 kW	5.05 kW
El input	0.96 kW	1.74 kW
COP	4.65	2.90

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	214 %	150 %
Prated	7.11 kW	6.39 kW
SCOP	5.56	3.96
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.29 kW	5.65 kW
COP Tj = -7°C	4.85	3.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.83 kW	3.44 kW
COP Tj = +2°C	5.70	4.03
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.46 kW	2.21 kW
COP Tj = +7°C	6.15	4.55
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.16 kW	2.07 kW

COP Tj = 12°C	6.01	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	2597 kWh	3291 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	223 %	157 %
Prated	7.11 kW	6.39 kW
SCOP	5.77	4.12
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.30 kW	3.87 kW
COP Tj = -7°C	5.67	3.84
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.62 kW	2.35 kW
COP Tj = +2°C	6.21	4.51
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.17 kW	2.07 kW
COP Tj = +7°C	6.09	4.65
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.15 kW	2.09 kW
COP Tj = 12°C	5.84	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	3008 kWh	3802 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.80	5.21
COP Tj = -15°C (if TOL<-20°C)	5.05	3.33
Cdh Tj = -15 °C	0.99	0.99

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	9.43 kW	8.51 kW
El input	1.58 kW	2.35 kW
COP	5.96	3.63

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	305 %	211 %
Prated	9.43 kW	8.51 kW
SCOP	7.82	5.47
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.34 kW	7.53 kW
COP Tj = -7°C	6.48	4.03
Cdh Tj = -7 °C	1.00	1.00

Pdh Tj = +2°C	5.08 kW	4.58 kW
COP Tj = +2°C	7.93	5.47
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	3.26 kW	2.95 kW
COP Tj = +7°C	8.76	6.55
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.91 kW	2.78 kW
COP Tj = 12°C	8.65	6.84
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2463 kWh	3186 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	317 %	219 %
Prated	9.43 kW	8.51 kW
SCOP	8.12	5.68
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.71 kW	5.15 kW
COP Tj = -7°C	7.77	5.12
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.47 kW	3.14 kW
COP Tj = +2°C	8.76	6.31
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.91 kW	2.78 kW
COP Tj = +7°C	8.76	6.85
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	2.89 kW	2.79 kW
COP Tj = 12°C	8.39	7.06
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2847 kWh	3676 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.69	6.94
COP Tj = -15°C (if TOL<-20°C)	6.87	4.37
Cdh Tj = -15 °C	1.00	1.00

Model: Thermia Calibra Cool 7 400V WW

Configure model	
Model name	Thermia Calibra Cool 7 400V WW
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder 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	4.45 kW	5.05 kW
El input	0.96 kW	1.74 kW
COP	4.65	2.90

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	214 %	150 %
Prated	7.11 kW	6.39 kW
SCOP	5.56	3.96
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.29 kW	5.65 kW
COP Tj = -7°C	4.85	3.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	3.83 kW	3.44 kW
COP Tj = +2°C	5.70	4.03
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.46 kW	2.21 kW
COP Tj = +7°C	6.15	4.55
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.16 kW	2.07 kW

COP Tj = 12°C	6.01	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	2597 kWh	3291 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	223 %	157 %
Prated	7.11 kW	6.39 kW
SCOP	5.77	4.12
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.30 kW	3.87 kW
COP Tj = -7°C	5.67	3.84
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	2.62 kW	2.35 kW
COP Tj = +2°C	6.21	4.51
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.17 kW	2.07 kW
COP Tj = +7°C	6.09	4.65
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.15 kW	2.09 kW
COP Tj = 12°C	5.84	4.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	7.11 kW	6.39 kW
COP Tj = Tbiv	4.43	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.11 kW	6.39 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.43	2.81
WTOL	65 °C	65 °C
Poff	12 W	10 W
PTO	15 W	13 W
PSB	15 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
Annual energy consumption Qhe	3008 kWh	3802 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.80	5.21
COP Tj = -15°C (if TOL<-20°C)	5.05	3.33
Cdh Tj = -15 °C	0.99	0.99

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	9.43 kW	8.51 kW
El input	1.58 kW	2.35 kW
COP	5.96	3.63

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	305 %	211 %
Prated	9.43 kW	8.51 kW
SCOP	7.82	5.47
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.34 kW	7.53 kW
COP Tj = -7°C	6.48	4.03
Cdh Tj = -7 °C	1.00	1.00

Pdh Tj = +2°C	5.08 kW	4.58 kW
COP Tj = +2°C	7.93	5.47
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	3.26 kW	2.95 kW
COP Tj = +7°C	8.76	6.55
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.91 kW	2.78 kW
COP Tj = 12°C	8.65	6.84
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2463 kWh	3186 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	32 dB(A)	32 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	317 %	219 %
Prated	9.43 kW	8.51 kW
SCOP	8.12	5.68
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.71 kW	5.15 kW
COP Tj = -7°C	7.77	5.12
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.47 kW	3.14 kW
COP Tj = +2°C	8.76	6.31
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.91 kW	2.78 kW
COP Tj = +7°C	8.76	6.85
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	2.89 kW	2.79 kW
COP Tj = 12°C	8.39	7.06
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.43 kW	8.51 kW
COP Tj = Tbiv	5.96	3.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.43 kW	8.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.96	3.63
WTOL	65 °C	65 °C
Poff	8 W	8 W
PTO	4 W	4 W
PSB	4 W	4 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	2847 kWh	3676 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.69	6.94
COP Tj = -15°C (if TOL<-20°C)	6.87	4.37
Cdh Tj = -15 °C	1.00	1.00