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#### This information was generated by the HP KEYMARK database on 21 Jun 2022

#### Login

Summary of	Thermia Calibra 12	Reg. No.	012-SC0356-19
Certificate Holder	'		
Name	Thermia		
Address	Snickaregatan 1	Zip	
City	Arvika	Country	Sweden
Certification Body	RISE CERT		
Subtype title	Thermia Calibra 12		
Heat Pump Type	Brine/Water and Water/Water		
Refrigerant	R410A		
Mass of Refrigerant	1.4 kg		
Certification Date	04.10.2019		



# **Model: Thermia Calibra 12 400V**

Configure model		
Model name	Thermia Calibra 12 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	

EN 14511-2		
	Low temperature	Medium temperature
El input	1.10 kW	1.68 kW
СОР	4.75	2.85



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	219 %	157 %
Prated	11.69 kW	10.60 kW
SCOP	5.68	4.12
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.34 kW	9.38 kW
COP Tj = -7°C	4.77	3.15
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = $+2$ °C	6.29 kW	5.71 kW
COP Tj = +2°C	5.82	4.20
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	4.05 kW	3.67 kW
COP Tj = +7°C	6.40	4.81
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.91 kW	2.91 kW





		<u> </u>
COP Tj = 12°C	5.97	4.66
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	11.69 kW	10.60 kW
COP Tj = Tbiv	4.39	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.69 kW	10.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.88
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W
PSB	18 W	18 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4249 kWh	5320 kWh

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	224 %	163 %
Prated	11.69 kW	10.60 kW
SCOP	5.80	4.29





ring information was gener	acca by the in Reinn	in in database on 21 jun 202
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.07 kW	6.41 kW
COP Tj = -7°C	5.46	3.99
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.31 kW	3.90 kW
$COPTj = +2^{\circ}C$	6.39	4.77
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = $+7^{\circ}$ C	2.77 kW	2.92 kW
$COPTj = +7^{\circ}C$	6.32	4.71
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.89 kW	2.92 kW
COP Tj = 12°C	5.78	4.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	11.69 kW	10.60 kW
COP Tj = Tbiv	4.39	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.69 kW	10.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.88
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W





PSB	18 W	18 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	4963 kWh	6094 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.53	8.65
COP Tj = -15°C (if TOL $<$ -20°C)	4.92	3.44
Cdh Tj = -15 °C	0.99	1.00

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	

EN 14511-2			
Low temperature Medium temperature			
El input	1.08 kW	1.71 kW	
СОР	6.56	3.66	



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	35 dB(A)	35 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	290 %	206 %
Prated	10.42 kW	11.60 kW
SCOP	7.45	5.36
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.22 kW	10.26 kW
$COPTj = -7^{\circ}C$	6.60	4.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.61 kW	6.25 kW
COP Tj = +2°C	7.78	5.49
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	3.88 kW	4.02 kW
$COP Tj = +7^{\circ}C$	8.02	6.19
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.88 kW	3.74 kW





COP Tj = 12°C	8.04	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	10.42 kW	11.60 kW
COP Tj = Tbiv	6.34	3.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	11.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.34	3.73
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W
PSB	18 W	18 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2890 kWh	4473 kWh

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	299 %	214 %
Prated	10.42 kW	11.60 kW
SCOP	7.68	5.56





	•	NK database on 21 juli 202.
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.31 kW	7.02 kW
$COP Tj = -7^{\circ}C$	7.84	5.18
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	3.84 kW	4.27 kW
COP Tj = +2°C	7.93	6.12
Cdh Tj = +2 °C	0.96	0.98
Pdh Tj = $+7$ °C	3.88 kW	3.75 kW
COP Tj = +7°C	8.07	6.35
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.89 kW	3.78 kW
COP Tj = 12°C	7.88	6.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	10.42 kW	11.60 kW
COP Tj = Tbiv	6.34	3.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	11.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.34	3.73
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W



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PSB	18 W	18 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	3346 kWh	5142 kWh
Pdh Tj = -15°C (if TOL<-20°C)	8.50	9.46
COP Tj = -15°C (if TOL $<$ -20°C)	7.09	4.46
Cdh Tj = -15 °C	0.99	0.99

# **Model: Thermia Calibra 12 Duo 400V**

Configure model		
Model name Thermia Calibra 12 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

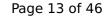
EN 14511-4		
Starting and operating test	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	

EN 14511-2			
Low temperature Medium temperature			
El input	1.10 kW	1.68 kW	
СОР	4.75	2.85	



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

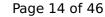
EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	219 %	157 %
Prated	11.69 kW	10.60 kW
SCOP	5.68	4.12
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.34 kW	9.38 kW
COP Tj = -7°C	4.77	3.15
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = $+2$ °C	6.29 kW	5.71 kW
COP Tj = +2°C	5.82	4.20
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	4.05 kW	3.67 kW
COP Tj = +7°C	6.40	4.81
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.91 kW	2.91 kW





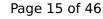
COP Tj = 12°C	5.97	4.66
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	11.69 kW	10.60 kW
COP Tj = Tbiv	4.39	2.88
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.88
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W
PSB	18 W	18 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4249 kWh	5320 kWh

perature Medium temperature
163 %
10.60 kW
4.29





ring information was gener	acca by the in Reinn	in in database on 21 jun 202
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.07 kW	6.41 kW
COP Tj = -7°C	5.46	3.99
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.31 kW	3.90 kW
$COPTj = +2^{\circ}C$	6.39	4.77
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = $+7^{\circ}$ C	2.77 kW	2.92 kW
$COPTj = +7^{\circ}C$	6.32	4.71
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.89 kW	2.92 kW
COP Tj = 12°C	5.78	4.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	11.69 kW	10.60 kW
COP Tj = Tbiv	4.39	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.69 kW	10.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.88
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W





PSB	18 W	18 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	4963 kWh	6094 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.53	8.65
COP Tj = -15°C (if TOL $<$ -20°C)	4.92	3.44
Cdh Tj = -15 °C	0.99	1.00

Water/Water Heat Pump

## Heating

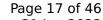
EN 14511-4		
Starting and operating test	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	

EN 14511-2		
	Low temperature	Medium temperature
El input	1.08 kW	1.71 kW
СОР	6.56	3.66



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

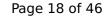
EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	290 %	206 %
Prated	10.42 kW	11.60 kW
SCOP	7.45	5.36
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.22 kW	10.26 kW
COP Tj = -7°C	6.60	4.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.61 kW	6.25 kW
COP Tj = +2°C	7.78	5.49
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	3.88 kW	4.02 kW
COP Tj = +7°C	8.02	6.19
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.88 kW	3.74 kW





COP Tj = 12°C       8.04       6.34         Cdh Tj = +12 °C       0.96       0.97         Pdh Tj = Tbiv       10.42 kW       11.60 kW         COP Tj = Tbiv       6.34       3.73         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh       10.42 kW       11.60 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh       6.34       3.73         WTOL       65 °C       65 °C         Poff       15 W       15 W         PTO       18 W       18 W         PSB       18 W       18 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       2890 kWh       4473 kWh			
Pdh Tj = Tbiv       10.42 kW       11.60 kW         COP Tj = Tbiv       6.34       3.73         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	COP Tj = 12°C	8.04	6.34
COP Tj = Tbiv       6.34       3.73         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	10.42 kW	11.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	6.34	3.73
WTOL 65 °C 65 °C  Poff 15 W 15 W  PTO 18 W 18 W  PSB 18 W 18 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	10.42 kW	11.60 kW
Poff 15 W 15 W  PTO 18 W 18 W  PSB 18 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	6.34	3.73
PTO  18 W  18 W  18 W  PCK  0 W  0 W  Supplementary Heater: Type of energy input  Electricity  Electricity  Union to the property of the prope	WTOL	65 °C	65 °C
PSB 18 W 18 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	Poff	15 W	15 W
PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	РТО	18 W	18 W
Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	18 W	18 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 2890 kWh 4473 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
	Annual energy consumption Qhe	2890 kWh	4473 kWh

EN 14825			
Low temperature Medium temperatur			
$\eta_{s}$	299 %	214 %	
Prated	10.42 kW	11.60 kW	
SCOP	7.68	5.56	





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Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.31 kW	7.02 kW
COP Tj = -7°C	7.84	5.18
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	3.84 kW	4.27 kW
$COPTj = +2^{\circ}C$	7.93	6.12
Cdh Tj = +2 °C	0.96	0.98
Pdh Tj = +7°C	3.88 kW	3.75 kW
$COPTj = +7^{\circ}C$	8.07	6.35
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.89 kW	3.78 kW
COP Tj = 12°C	7.88	6.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	10.42 kW	11.60 kW
COP Tj = Tbiv	6.34	3.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	11.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.34	3.73
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W



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PSB	18 W	18 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	3346 kWh	5142 kWh
Pdh Tj = -15°C (if TOL<-20°C)	8.50	9.46
COP Tj = -15°C (if TOL $<$ -20°C)	7.09	4.46
Cdh Tj = -15 °C	0.99	0.99



## **Model: Thermia Calibra 12 230V**

Configure model		
Model name	Thermia Calibra 12 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	

EN 14511-2		
	Low temperature	Medium temperature
El input	1.10 kW	1.68 kW
СОР	4.75	2.85



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	35 dB(A)	35 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
$\eta_{s}$	219 %	157 %	
Prated	11.69 kW	10.60 kW	
SCOP	5.68	4.12	
Tbiv	-10 °C	-10 °C	
TOL	-10 °C	-10 °C	
Pdh Tj = -7°C	10.34 kW	9.38 kW	
COP Tj = -7°C	4.77	3.15	
Cdh Tj = -7 °C	0.99	0.99	
Pdh Tj = $+2$ °C	6.29 kW	5.71 kW	
COP Tj = +2°C	5.82	4.20	
Cdh Tj = +2 °C	0.98	0.99	
Pdh Tj = $+7^{\circ}$ C	4.05 kW	3.67 kW	
COP Tj = +7°C	6.40	4.81	
Cdh Tj = +7 °C	0.97	0.98	
Pdh Tj = 12°C	2.91 kW	2.91 kW	





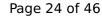
COP Tj = 12°C	5.97	4.66
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	11.69 kW	10.60 kW
COP Tj = Tbiv	4.39	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.69 kW	10.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.88
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W
PSB	18 W	18 W
PCK	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	4249 kWh	5320 kWh

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	224 %	163 %
Prated	11.69 kW	10.60 kW
SCOP	5.80	4.29





This information was gener	<u> </u>	•
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.07 kW	6.41 kW
$COP Tj = -7^{\circ}C$	5.46	3.99
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.31 kW	3.90 kW
COP Tj = +2°C	6.39	4.77
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = $+7^{\circ}$ C	2.77 kW	2.92 kW
COP Tj = +7°C	6.32	4.71
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.89 kW	2.92 kW
COP Tj = 12°C	5.78	4.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	11.69 kW	10.60 kW
COP Tj = Tbiv	4.39	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.69 kW	10.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.88
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W





				_
This information was o	generated by the	HP KEYMARK	database on	21 Jun 2022

PSB	18 W	18 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	4963 kWh	6094 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.53	8.65
COP Tj = -15°C (if TOL<-20°C)	4.92	3.44
Cdh Tj = -15 °C	0.99	1.00

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	

EN 14511-2		
	Low temperature	Medium temperature
El input	1.08 kW	1.71 kW
СОР	6.56	3.66



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	290 %	206 %
Prated	10.42 kW	11.60 kW
SCOP	7.45	5.36
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.22 kW	10.26 kW
$COPTj = -7^{\circ}C$	6.60	4.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.61 kW	6.25 kW
COP Tj = +2°C	7.78	5.49
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	3.88 kW	4.02 kW
$COP Tj = +7^{\circ}C$	8.02	6.19
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.88 kW	3.74 kW

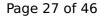




				19C 20 01 10
This information was	generated by the	- HP KFYMARK	database on	21 lun 2022

COP Tj = 12°C	8.04	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	10.42 kW	11.60 kW
COP Tj = Tbiv	6.34	3.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	11.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.34	3.73
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W
PSB	18 W	18 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2890 kWh	4473 kWh

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	299 %	214 %
Prated	10.42 kW	11.60 kW
SCOP	7.68	5.56





Inis information was gener	ated by the HP KEYMA	irk database on 21 Jun 202
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.31 kW	7.02 kW
$COP Tj = -7^{\circ}C$	7.84	5.18
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = $+2$ °C	3.84 kW	4.27 kW
COP Tj = +2°C	7.93	6.12
Cdh Tj = +2 °C	0.96	0.98
Pdh Tj = +7°C	3.88 kW	3.75 kW
$COP Tj = +7^{\circ}C$	8.07	6.35
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.89 kW	3.78 kW
COP Tj = 12°C	7.88	6.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	10.42 kW	11.60 kW
COP Tj = Tbiv	6.34	3.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	11.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.34	3.73
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W
РТО	18 W	18 W



### Page 28 of 46

PSB	18 W	18 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	3346 kWh	5142 kWh
Pdh Tj = -15°C (if TOL<-20°C)	8.50	9.46
COP Tj = -15°C (if TOL $<$ -20°C)	7.09	4.46
Cdh Tj = -15 °C	0.99	0.99



## **Model: Thermia Calibra 12 Duo 230V**

Configure model		
Model name	Thermia Calibra 12 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

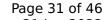
EN 14511-4		
Starting and operating test	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	

EN 14511-2				
Low temperature Medium temperature				
El input	1.10 kW	1.68 kW		
СОР	4.75	2.85		



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

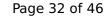
	EN 14825	
	Low temperature	Medium temperature
$\eta_{s}$	219 %	157 %
Prated	11.69 kW	10.60 kW
SCOP	5.68	4.12
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.34 kW	9.38 kW
COP Tj = -7°C	4.77	3.15
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	6.29 kW	5.71 kW
COP Tj = +2°C	5.82	4.20
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	4.05 kW	3.67 kW
$COP Tj = +7^{\circ}C$	6.40	4.81
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.91 kW	2.91 kW





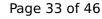
	reed by the fill RETHIN	THE GUILDUSE ON 21 July 2021
COP Tj = 12°C	5.97	4.66
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	11.69 kW	10.60 kW
COP Tj = Tbiv	4.39	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.69 kW	10.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.88
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W
PSB	18 W	18 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	4249 kWh	5320 kWh

EN 14825		
	Low tem	nperature Medium temperature
$\eta_{s}$	224 %	163 %
Prated	11.69 kW	V 10.60 kW
SCOP	5.80	4.29





ring information was gener	acca by the in Reinn	in in database on 21 jun 202
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.07 kW	6.41 kW
COP Tj = -7°C	5.46	3.99
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.31 kW	3.90 kW
$COPTj = +2^{\circ}C$	6.39	4.77
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = $+7^{\circ}$ C	2.77 kW	2.92 kW
$COPTj = +7^{\circ}C$	6.32	4.71
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.89 kW	2.92 kW
COP Tj = 12°C	5.78	4.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	11.69 kW	10.60 kW
COP Tj = Tbiv	4.39	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.69 kW	10.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.88
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W





PSB	18 W	18 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	4963 kWh	6094 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.53	8.65
COP Tj = -15°C (if TOL $<$ -20°C)	4.92	3.44
Cdh Tj = -15 °C	0.99	1.00

Water/Water Heat Pump

## Heating

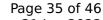
EN 14511-4	
Starting and operating test	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2				
Low temperature Medium temperature				
El input	1.08 kW	1.71 kW		
СОР	6.56	3.66		



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

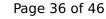
EN 14825			
	Low temperature	Medium temperature	
$\eta_{s}$	290 %	206 %	
Prated	10.42 kW	11.60 kW	
SCOP	7.45	5.36	
Tbiv	-10 °C	-10 °C	
TOL	-10 °C	-10 °C	
Pdh Tj = -7°C	9.22 kW	10.26 kW	
COP Tj = -7°C	6.60	4.09	
Cdh Tj = -7 °C	0.99	0.99	
Pdh Tj = +2°C	5.61 kW	6.25 kW	
COP Tj = +2°C	7.78	5.49	
Cdh Tj = +2 °C	0.98	0.99	
Pdh Tj = +7°C	3.88 kW	4.02 kW	
COP Tj = +7°C	8.02	6.19	
Cdh Tj = +7 °C	0.96	0.97	
Pdh Tj = 12°C	3.88 kW	3.74 kW	





COP Tj = 12°C       8.04       6.34         Cdh Tj = +12 °C       0.96       0.97         Pdh Tj = Tbiv       10.42 kW       11.60 kW         COP Tj = Tbiv       6.34       3.73         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh       10.42 kW       11.60 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh       6.34       3.73         WTOL       65 °C       65 °C         Poff       15 W       15 W         PTO       18 W       18 W         PSB       18 W       18 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       2890 kWh       4473 kWh			
Pdh Tj = Tbiv       10.42 kW       11.60 kW         COP Tj = Tbiv       6.34       3.73         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	COP Tj = 12°C	8.04	6.34
COP Tj = Tbiv       6.34       3.73         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	10.42 kW	11.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	6.34	3.73
WTOL 65 °C 65 °C  Poff 15 W 15 W  PTO 18 W 18 W  PSB 18 W 18 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	10.42 kW	11.60 kW
Poff 15 W 15 W  PTO 18 W 18 W  PSB 18 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	6.34	3.73
PTO  18 W  18 W  18 W  PCK  0 W  0 W  Supplementary Heater: Type of energy input  Electricity  Electricity  Union to the property of the prope	WTOL	65 °C	65 °C
PSB 18 W 18 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	Poff	15 W	15 W
PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	РТО	18 W	18 W
Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	18 W	18 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 2890 kWh 4473 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
	Annual energy consumption Qhe	2890 kWh	4473 kWh

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	299 %	214 %
Prated	10.42 kW	11.60 kW
SCOP	7.68	5.56





ins mornation was gener	acca by the in Reinn	in in adiabase on 21 jain 202
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.31 kW	7.02 kW
COP Tj = -7°C	7.84	5.18
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	3.84 kW	4.27 kW
$COPTj = +2^{\circ}C$	7.93	6.12
Cdh Tj = +2 °C	0.96	0.98
Pdh Tj = +7°C	3.88 kW	3.75 kW
$COPTj = +7^{\circ}C$	8.07	6.35
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.89 kW	3.78 kW
COP Tj = 12°C	7.88	6.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	10.42 kW	11.60 kW
COP Tj = Tbiv	6.34	3.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	11.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.34	3.73
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W



PSB	18 W	18 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	3346 kWh	5142 kWh
Pdh Tj = -15°C (if TOL<-20°C)	8.50	9.46
COP Tj = -15°C (if TOL $<$ -20°C)	7.09	4.46
Cdh Tj = -15 °C	0.99	0.99



# Model: Thermia Calibra 12 400V (White)

Configure model		
Model name Thermia Calibra 12 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	

EN 14511-2		
	Low temperature	Medium temperature
El input	1.10 kW	1.68 kW
СОР	4.75	2.85



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)

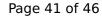
EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	219 %	157 %
Prated	11.69 kW	10.60 kW
SCOP	5.68	4.12
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.34 kW	9.38 kW
COP Tj = -7°C	4.77	3.15
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = $+2$ °C	6.29 kW	5.71 kW
COP Tj = +2°C	5.82	4.20
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	4.05 kW	3.67 kW
COP Tj = +7°C	6.40	4.81
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.91 kW	2.91 kW





COP Tj = 12°C	5.97	4.66
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	11.69 kW	10.60 kW
COP Tj = Tbiv	4.39	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.69 kW	10.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.88
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W
PSB	18 W	18 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	4249 kWh	5320 kWh

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	224 %	163 %
Prated	11.69 kW	10.60 kW
SCOP	5.80	4.29





ring information was gener	acca by the in Reinn	in in database on 21 jun 202
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.07 kW	6.41 kW
COP Tj = -7°C	5.46	3.99
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.31 kW	3.90 kW
$COPTj = +2^{\circ}C$	6.39	4.77
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = $+7$ °C	2.77 kW	2.92 kW
$COPTj = +7^{\circ}C$	6.32	4.71
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.89 kW	2.92 kW
COP Tj = 12°C	5.78	4.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	11.69 kW	10.60 kW
COP Tj = Tbiv	4.39	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.69 kW	10.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.39	2.88
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W





PSB	18 W	18 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	4963 kWh	6094 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.53	8.65
COP Tj = -15°C (if TOL $<$ -20°C)	4.92	3.44
Cdh Tj = -15 °C	0.99	1.00

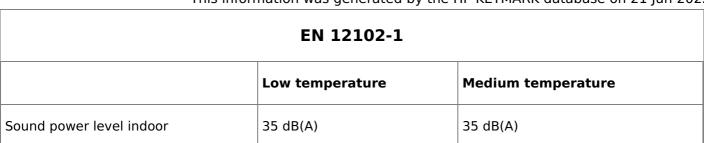
Water/Water Heat Pump

## Heating

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

EN 14511-2		
	Low temperature	Medium temperature
El input	1.08 kW	1.71 kW
СОР	6.56	3.66





CEN heat pump

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	290 %	206 %
Prated	10.42 kW	11.60 kW
SCOP	7.45	5.36
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.22 kW	10.26 kW
COP Tj = -7°C	6.60	4.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.61 kW	6.25 kW
COP Tj = +2°C	7.78	5.49
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	3.88 kW	4.02 kW
COP Tj = +7°C	8.02	6.19
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.88 kW	3.74 kW





		·
COP Tj = 12°C	8.04	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	10.42 kW	11.60 kW
COP Tj = Tbiv	6.34	3.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	11.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.34	3.73
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W
PSB	18 W	18 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2890 kWh	4473 kWh

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	299 %	214 %
Prated	10.42 kW	11.60 kW
SCOP	7.68	5.56





This information was gener	acea by the in item.	in in database on EI jan EoE
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.31 kW	7.02 kW
COP Tj = -7°C	7.84	5.18
Cdh Tj = -7 °C	0.98	0.99
Pdh Tj = +2°C	3.84 kW	4.27 kW
$COPTj = +2^{\circ}C$	7.93	6.12
Cdh Tj = +2 °C	0.96	0.98
Pdh Tj = $+7$ °C	3.88 kW	3.75 kW
$COPTj = +7^{\circ}C$	8.07	6.35
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	3.89 kW	3.78 kW
COP Tj = 12°C	7.88	6.54
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	10.42 kW	11.60 kW
COP Tj = Tbiv	6.34	3.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	11.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.34	3.73
WTOL	65 °C	65 °C
Poff	15 W	15 W
РТО	18 W	18 W



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PSB	18 W	18 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	3346 kWh	5142 kWh
Pdh Tj = -15°C (if TOL<-20°C)	8.50	9.46
COP Tj = -15°C (if TOL $<$ -20°C)	7.09	4.46
Cdh Tj = -15 °C	0.99	0.99