



Thermia Calibra Eco Cool



Calibra Eco Cool

The complete energy system – ground source heat pump with passive cooling function

Calibra Eco Cool is a smart choice for the future and a sustainable society. It is an inverter-driven ground-source heat pump equipped with the latest technology and the next generation refrigerant - R452B. It is equipped with passive cooling and can provide cooling on the hottest days of the year at very low cost.

The next generation climate-friendly refrigerant

Thanks to the low GWP* of the refrigerant R452Bs and thanks to its unique design Calibra Eco Cool, requires less refrigerant than other heat pumps, giving it a very low CO₂ equivalent. In fact, the GWP of R452B is around 66% lower than the previous R410A refrigerant in a similar heat pump.

Minimal energy consumption all year round

Calibra Eco has a very high SCOP** value (up to 5.87), which keeps energy consumption at a minimum throughout the year. Calibra Eco Cool is available in two output sizes: 2-8 kW and 3-12 kW.

Built-in natural cooling

Calibra Eco Cool has a built-in passive cooling function. In passive cooling, the cold brine circulating in the underground loops is used to produce natural cooling to the house. Cooling can be distributed in different ways, such as certain under floor heating systems or by fan coils. Using a heat pump to provide passive cooling is significantly more cost efficient than traditional air conditioning in terms of both initial investment and running costs.

Plenty of hot water

Calibra Cool produces hot water faster and at higher temperatures than can be achieved using traditional systems, Calibra Eco Cool is using TWS*** technology, while a variety of other technical innovations provide excellent hot water comfort for its size class.

Thermia Online

Using the integrated Thermia Online functionality, you can remotely monitor your heat pump via a computer, tablet or smartphone.

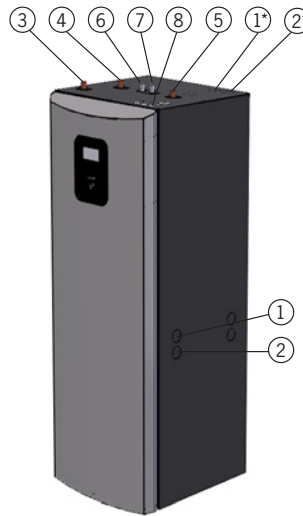


Technical data Calibra Eco Cool

Connections Calibra Eco Cool

The brine lines can be connected on either the left or right-hand sides of the heat pump.

- 1 Brine return line (Brine in), Ø28 mm
- 2 Brine supply line (Brine out), Ø28 mm
- 3 Heating system supply line, Ø28 mm
- 4 Heating system return line, Ø28 mm
- 5 Connection for bleed valve, Ø28 mm
- 6 Hot water, Ø22 mm
- 7 Cold water, Ø22 mm
- 8 Lead-in for incoming power supply, sensors and communication cable



Calibra Eco Cool

*Additional pipes needed for this type of connection

			Calibra Eco Cool 8	Calibra Eco Cool 12
Heating capacity		kW	2-8	3-12
Refrigerant	Type		R452B	R452B
	Amount ¹	kg	0.90	1.30
	GWP (CO ₂ equivalent)	tCO ₂	0.628	0.907
	Design pressure	Bar(g)	45	45
Compressor	Type		Inverter-controlled, Scroll	Inverter-controlled, Scroll
	Oil		POE	POE
Electrical data 400V 3-N, ~50Hz	Main power supply	V	400	400
	Max working power, compressor	kW	2,8	4,1
	Rated power, circulation pumps	kW	0,1	0,2
	Auxiliary heater, 3 steps	kW	(0)2/4/6	(0)3/6/9
	Fuse ^{2A, 2B}	A	(13)/13/13/16 ^{2A}	(10)/13/20/25 ^{2B}
Performance	SCOP, Floor heating (35°C) ³		5,87	5,85
	SCOP, Radiator (55°C) ³		4,10	4,39
	SCOP, Floor heating (35°C) ⁴		5,57	5,67
	SCOP, Radiator (55°C) ⁴		4,10	4,25
	COP ⁵		4,6	4,78
Energy class - system⁶	Floor heating (35°C)		A+++	A+++
	Radiator (55°C)		A+++	A+++
Energy class - product⁷	Floor heating (35°C)		A+++	A+++
	Radiator (55°C)		A+++	A+++
	Hot water (Economy) ⁸		A+	A
	Hot water (Normal/Comfort) ⁹		A	A
Max/min temperature	Cooling circuit	°C	20/-10 ¹⁴	20/-10
	Heating circuit	°C	65/20	65/20
Anti-freeze¹⁰			Ethanol + water solution ¹⁴ -17+/- 2 °C	
Max/min refrigerant circuit	Low pressure	Bar(g)	2,3	2,3
	Operating pressure	Bar(g)	41,5	41,5
	High pressure	Bar(g)	45	45
Sound power level	Calibra Eco Cool	dB(A)	30-42 ¹¹ (33) ¹²	29-44 ¹¹ (35) ¹²
Hot water performance	Volume 40°C hot water ¹³	l	260	260
	COP, Hot water ⁷		3.14	2.8
Water volume	Calibra Eco Cool	l	184	184
Weight	Calibra Eco Cool, Empty	kg	157	169
	Calibra Eco Cool, Filled	kg	347	359
Dimensions (WxDxH)	Calibra Eco Cool	mm	598x703x1863 +/-10	598x703x1863 +/-10

* GWP: Global Warming Potential, is the amount of heat a greenhouse gas traps in the atmosphere compared to the heat trapped by the same amount of CO₂, which is the reference gas with a GWP of 1.

** SCOP (Seasonal Coefficient of Performance according to the international EN14825 standard) is a measurement that shows how effective the heat pump is on an annual basis under all seasonal weather conditions.

*** TWS = Tap Water Stratification = a heating technique for water heaters, developed by Thermia.

1) The refrigerant circuit is hermetically sealed and subject to the F-gas directive. Global Warming Potential (GWP) for R452B according to EC 517/2014 is 698.

2a) The minimum recommended fuse size depends on auxiliary heater setting in combination with compressor. The maximal steps of auxiliary heater may be configured differently with/without compressor in the controller. Controller and circulation pumps are connected by L1, electrical immersion heater is connected by L1 and L2 and the frequency converter

for the compressor is connected by L3. Meets IEC 61000-3-12 without action.

2b) The minimum recommended fuse size depends on auxiliary heater setting in combination with compressor. The maximal steps of auxiliary heater may be configured differently with/without compressor in the controller. Controller and circulation pumps are connected by L1, Electrical immersion heater and frequency converter for the compressor are connected by L1, L2 and L3. Meets IEC61000-3-12 at Ssc connection point min 1,3 MVA without action.

3) SCOP according to EN14825, Cold climate (Helsinki), P-design: (All climate zones) P-design Calibra Eco Cool 8: 6 kW (BOW55), 7 kW (BOW35). P-design Calibra Eco Cool 12: 11 kW (BOW55), 12 kW (BOW35)

4) SCOP according to EN14825, Average climate (Strasbourg), P-design: (All climate zones) P-design Calibra Eco Cool 8: 6 kW (BOW55), 7 kW (BOW35). P-design Calibra Eco Cool 12: 11 kW (BOW55), 12 kW (BOW35)

5) At B0/W35, according to EN14511

6) When the heat pump is part of an integrated system.

According to Eco-design Directive 811/2013

7) When the heat pump is the sole heat generator and the built-in controller is not included. According to Eco-design Directive 811/2013.

8) Hot water performance according to EN16147, COP according to XL cycle with the control computer set for Economy mode and built-in tank.

9) Hot water performance according to EN16147, COP according to XL cycle with the control computer set for Normal / Comfort mode and built-in tank.

10) Always check local rules and regulations before using antifreeze.

11) According to EN12102:2017 and EN 3741:2010 (max BOW35, min BOW35).

12) Sound power level according to Energy label, EN 12102:2017 and EN 3741:2010 (BOW55)

13) Hot water performance according to EN 16147: 2017, V40 according to XL cycle, COP with the control computer set for Comfort mode and built-in tank.

14) Applies only to Calibra Eco Cool 400V BW (Brine/Water) versions.

Calibra Eco Cool 8 400V WW (Water/Water) version is intended for specific applications only within +20/+8 °C.