Thermia Robust Eco

Robust Eco

Maximum performance and full flexibility.

Thermia Robust Eco has nine control circuits for heating/cooling, which means that it is suitable for all types of buildings and heating systems. The simultaneous production of heating and cooling can be used to save energy in different ways, e.g. the cooling effect that occurs as flats warm up can be used to cool retail or storage premises in the same building. Hot gas exchangers as standard also give additional cost-effective production of hot water.

The newly developed cooling circuit with a more efficient compressor, new refrigerant and the latest generation of heat exchanger means that Robust Eco can work even more efficiently throughout the year.

Classed as a hermetically sealed system, which means there is no requirement for a yearly inspection.

How you want to communicate with the system is entirely up to you. You can control and monitor the heat pump in real time via the integrated web server, wherever you are in the world. This gives you total control over all settings, e.g. alarm management, temperatures and operating history. In the unlikely event that a problem does occur, a message is automatically sent via sms or e-mail, to you or your installer. If you have a number of buildings, the web server provides the best opportunities for coordination and overall control.

Thermia Robust Eco can also be integrated with other control systems, Modbus communication is standard and OPC is available as an option.

To give you complete security we have created a smartphone app. This allows you to check the status of your system(s) whenever you want in order to see that everything is working correctly.

Robust Eco is available in four different power outputs from 22 kW to 42 kW. It is possible to cascade-connect up to eight units to provide a total power output of 336 kW.

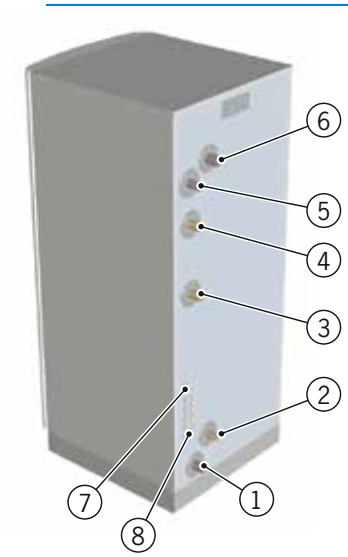
The pump utilizes bedrock, surface ground, ground water, lake water or recycled exhaust air as its heat sources.

RETAILER:

Technical data Robust Eco

Connection

1 Coolant out (from HP)
2 Heat return (return line)
3 Return line hot-gas exchanger
4 Supply line hot-gas exchanger
5 Heat supply (supply line)
6 Coolant in (to HP)
7 Lead-in for communication cable
8 Lead-in for incoming power supply and sensors



Robust Eco			22	26	33	42
Refrigerant	Type		R410A	R410A	R410A	R410A
	Amount	kg	3.8	3.9	4.5	4.6
	Test pressure	MPa	4.5	4.5	4.5	4.5
	Design pressure	MPa	4.3	4.3	4.3	4.3
Compressor	Type		Scroll	Scroll	Scroll	Scroll
	Oil		POE	POE	POE	POE
Electrical data 3-N	Main supply	Volt	400	400	400	400
	Rated power, compressor	kW	9.91	12.40	14.83	19.12
	Rated power, circulationpumps	kW	0.5	0.5	0.6	0.6
	Start current	A	21.7	23.8	32.2	37.1
	Fuse	A	20	25	32	32
Performance	COP[1]		4.40	4.40	4.37	4.31
	Heating capacity[1]	kW	21.9	25.4	33.5	41.4
	Electrical power[1]	kW	5.0	5.8	7.7	9.6
Nominal flow[2]	Cooling circuit[3]	l/s	1.4	1.5	2.1	2.4
	Heating circuit	l/s	0.5	0.6	0.8	0.9
External available pressure drop[4]	Cooling circuit	kPa	81	75	73	63
	Heating circuit	kPa	75	70	66	50
Internal pressure drop	Condenser	kPa	2.3	6.6	5.0	16.0
	Evaporator	kPa	23.8	27.0	33.0	37.0
Maximum system pressure	Brine	bar	6	6	6	6
	Heat transfer fluid	bar	6	6	6	6
Min/max temperature[5]	Cooling circuit	°C	20/-10	20/-10	20/-10	20/-10
	Heating circuit[6]	°C	65/20	65/20	65/20	65/20
Pressure switches	Low pressure	MPa	0.35	0.35	0.35	0.35
	Operating	MPa	4.0	4.0	4.0	4.0
	High pressure	MPa	4.3	4.3	4.3	4.3
Sound power level[7]		dB (A)	<55.0	<55.2	<56.4	<56.0
Anti freeze media			Ethanol+water solution -17°C ± 2[8]			
Weight		kg	244	260	281	290

The measurements are performed on a limited number of heat pumps which can cause variations in the results. Tolerances in the measuring methods can also cause variations.

1) B0/W35, According to EN14511 incl. circ.pump.
2) Nominal flow heating circuit Δ10K , cooling circuit Δ3K.
3) Anti-freeze in cooling circuit: Ethanol-water.
4) At nominal flow.
5) Please note that not all cooling circuit temperatures and heating temperatures can be combined.
6) Min. incoming cooling circuit temperature 0°C.
7) B0/W35, accordning to ISO 3741.
8) Always check local rules and regulations before using antifreeze.

Thermia Heat Pumps reserves the right to make changes without further notice. 131018_R_ENG