ENGINEERING
TOMORROW

DHP-H Opti ground source heat pump

Minimum energy consumption with optimised technology for **added comfort**

The DHP-H Opti uses Opti technology that incorporates an intelligent control system using speed controlled circulation pumps to ensure the output is constantly adjusted to the prevailing requirements and conditions of both the heating system and collector. This means the heat pump will always operate under ideal conditions, therefore guaranteeing maximum efficiency, second by second, hour by hour.

DHP-H Opti can produce large quantities of hot water whilst using a minimum amount of energy, made possible by our patented technology; the integrated hot water tank (180 l) incorporates TWS* technology, producing hot water faster than traditional alternatives can allow.

The DHP-H Opti operates at a very low sound level and it can easily be adapted to produce cost effective cooling. There is an option to control and monitor DHP-H Opti via the Internet.
The control system, although highly advanced is both intuitive and user friendly.

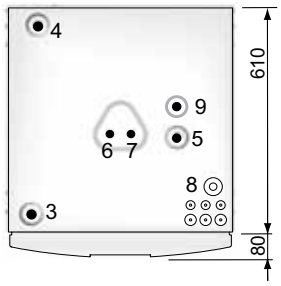
50-75%
less energy used
thanks to our heat-pump-based system compared with traditional heating sources

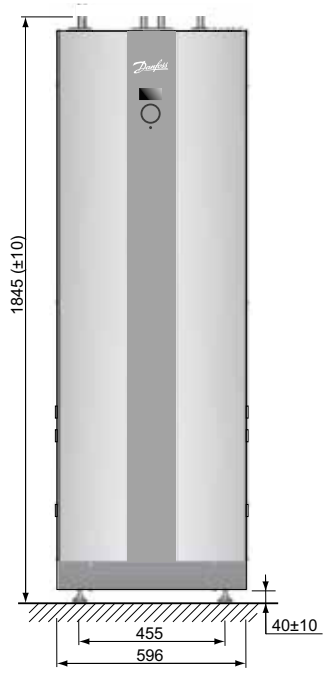
www.heating.danfoss.com

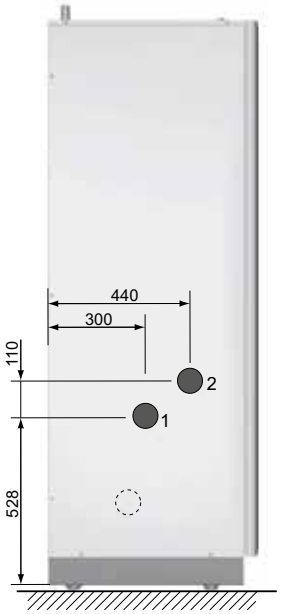
Technical specification Danfoss DHP-H Opti

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

1. Brine return line (Brine in), 28 Cu
2. Brine supply line (Brine out), 28 Cu
3. Heating system supply line, 22 Cu: 4-10 kW, 28 Cu: 12-16 kW
4. Heating system return line, 22 Cu: 4-10 kW, 28 Cu: 12-16 kW
5. Connection for bleed valve, 22 Cu
6. Hot water pipe, 22 mm
7. Cold water pipe, 22 mm
8. Lead-in for incoming power supply, sensors and communication cable
9. Safety valve for temperature and pressure (only applies to certain models)







DHP-H Opti			4	6	8	10	12
Refrigerant	Type		R407C	R407C	R407C	R407C	R407C
	Amount	kg	0.75	1.05	1.20	1.4	1.55
Compressor	Type		Scroll	Scroll	Scroll	Scroll	Scroll
Electrical data 3-N~50Hz	Main supply	Volt	400	400	400	400	400
	Rated power, compressor	kW	2.3	3.0	3.2	4.2	5.0
	Rated power, circulation pumps	kW	0.1	0.1	0.1	0.3	0.3
	Auxiliary heater, 3 steps	kW	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
	Start current[1]	A	15	9	10	12	14
	Fuse	A	16[7]/10[4]/10[5]/16[6]	10[4]/16[5]/20[6]	16[4]/16[5]/20[6]	16[4]/16[5]/20[6]	16[4]/20[5]/25[6]
Electrical data 1-N~50Hz	Main supply	Volt	230	230	230	230	230
	Rated power, compressor	kW	2.3	3.2	4.1	4.5	5.5
	Rated power, circulation pumps	kW	0.1	0.1	0.1	0.3	0.3
	Auxiliary heater, 3 steps	kW	1.5/3/4.5	1.5/3/4.5	1.5/3/4.5	1.5/3/4.5	1.5/3/4.5
	Start current[1]	A	15	22	24	26	28
	Fuse	A	20[4]/25[5]/32[6]	25[4]/32[5]/40[6]	32[4]/40[5]/50[6]	32[4]/40[5]/50[6]	32[4]/40[5]/50[6]
Performance	COP[2]		4.57	4.74	4.88	4.84	4.75
	COP[3]		4.09	4.04	4.34	4.24	4.20
	Heating capacity[3]	kW	4.09	5.33	7.51	9.40	11.0
	Power input[3]	kW	1.0	1.3	1.7	2.2	2.6
Max/min temperature	Cooling circuit	°C	20/-10	20/-10	20/-10	20/-10	20/-10
	Heating circuit	°C	60/20	60/20	60/20	60/20	60/20
Anti freeze media[8]			Ethanol + water solution with freezing point -17 ±2 °C				
Dimensions LxWxH		mm	690x596x1845	690x596x1845	690x596x1845	690x596x1845	690x596x1845
Weight empty		kg	225	229	229	229	238
Weight filled		kg	405	409	409	409	418
Sound power level[9]		dB(A)	42	47	44	46	49

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.

*) TWS - Tap Water Stratification, our patented technology developed to ensure that the stored heat is always used optimally.

1) According to IEC61000.
2) At B0W35 Δ10K warm side (excluding circulation pumps).
3) At B0W35 according to EN 14511 (including circulation pumps).
4) Heat pump with 3 kW auxiliary heater (1-N 1.5 kW).
5) Heat pump with 6 kW auxiliary heater (1-N 3 kW)
6) Heat pump with 9 kW auxiliary heater (1-N 4.5 kW).
7) Fuse protection phase L1 (size 4 is equipped with an 1-phase compressor).
8) Always check local rules and regulations before using antifreeze.
9) Sound power level measured according to EN ISO 3741 at B0W45 (EN 12102).