

DHP-L Opti Pro ground source heat pump

Save energy and money without economising on hot water

Danfoss DHP-L Opti Pro uses new innovative technology to operate at the highest possible annual efficiency saving you more on energy and CO2 emissions. The Opti technology incorporates an intelligent control system that via speed controlled circulation pumps ensures that the performance is always adjusted to the prevailing requirements and conditions of the heating system.

This makes the heat pump always work under the most ideal conditions available, guaranteeing maximum efficiency, second by second, hour by hour. DHP-L Opti Pro produces large amounts of hot water, using less energy than any other heat pump on the market. Surplus heat from indoor heating is used to produce hot water by means of our new, patented HGW* technique.

DHP-L Opti Pro operates at a 18 percent higher annual efficiency than standard heat pumps. A separate hot water tank (the Danfoss DWH Opti) is available in volumes of 200 and 300 litres. These hot water tanks are fitted with our TWS** technique, ensuring that hot water is produced faster and at higher temperatures than with traditional techniques.



18%

**higher annual
efficiency (SPF)**

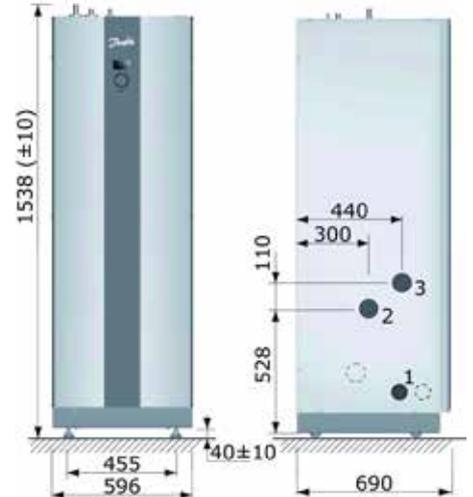
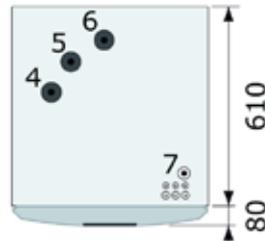
using Opti Pro
technique

Technical specification **Danfoss DHP-L Opti Pro**

Connection

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

- 1 Return pipe from water heater
- 2 Brine return line (Brine in), 28 Cu
- 3 Brine supply line (Brine out), 28 Cu
- 4 Heating system supply line, 22 Cu: 6-10 kW, 28 Cu: 12-16 kW
- 5 Heating system return line, 22 Cu: 6-10 kW, 28 Cu: 12-16 kW
- 6 Supply line to water heater
- 7 Lead-in for incoming power supply, sensors and communication cable



DHP-L Opti Pro		6	8	10	12	16	
Refrigerant	Type	R407C	R407C	R407C	R407C	R407C	
	Amount	kg	1.15	1.35	1.40	1.55	1.70
Compressor	Type	Scroll	Scroll	Scroll	Scroll	Scroll	
	Main supply	Volt	400	400	400	400	400
Electrical data 3-N~50Hz	Rated power, compressor	kW	3.0	3.2	4.2	5.0	7.2
	Rated power, circulation pumps	kW	0.1	0.1	0.3	0.3	0.5
	Auxiliary heater, 3 steps	kW	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
	Start current ¹	A	9	10	12	14	20
	Fuse	A	10 ⁴ /16 ⁵ /20 ⁶	16 ⁴ /16 ⁵ /20 ⁶	16 ⁴ /16 ⁵ /20 ⁶	16 ⁴ /20 ⁵ /25 ⁶	20 ⁴ /20 ⁵ /25 ⁶
	Main supply	Volt	230	230	230	230	***
Electrical data 1-N~50Hz	Rated power, compressor	kW	3.2	4.1	4.5	5.5	***
	Rated power, circulation pumps	kW	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	***
	Start current ¹	A	22	24	26	28	***
	Fuse	A	25 ⁴ /32 ⁵ /40 ⁶	32 ⁴ /40 ⁵ /50 ⁶	32 ⁴ /40 ⁵ /50 ⁶	32 ⁴ /40 ⁵ /50 ⁶	***
	COP ²		4.74	4.88	4.84	4.75	4.80
Performance	COP ³		4.04	4.34	4.24	4.20	4.19
	Heating capacity ³	kW	5.33	7.51	9.40	11.0	16.8
	Power input ³	kW	1.3	1.7	2.2	2.6	4.0
	Energy class - system ⁹	Floor heating (35°C)/Radiator (55°C)	A++/A+	A++/A++	A++/A++	A+++/A++	A++/A++
Energy class - product ¹⁰	Floor heating (35°C)/Radiator (55°C)	A++/A+	A++/A++	A++/A++	A++/A++	A++/A++	
	Domestic hot water	A	A	A	A	A	
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 ⁷	Ethanol + water solution with freezing point -17 ±2 °C						
Dimensions LxWxH	mm	690x596x1538	690x596x1538	690x596x1538	690x596x1538	690x596x1538	
Sound power level ⁸	dB(A)	45	44	47	48	50	
Weight	kg	150	155	160	170	180	

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.

*) Hot Gas Water: our patented technology that utilises existing heating production to heat domestic hot water simultaneously.

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

***) Not available in this version.

1) According to IEC61000.

2) At B0W35 Δ10°K 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) Always check local rules and regulations before using antifreeze.

8) Sound power level measured according to EN ISO 3741 at B0W45 (EN 12102).

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

According to Eco-design Directive 811/2013

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

A++ energy class when the heat pump is part of an integrated system

A++ energy class when the heat pump is the sole heat generator, Energy class according to Eco-design Directive 811/2013