



## DHP-H Opti Pro ground source heat pump

# A heat pump which provides an unbeatable level of comfort

The DHP-H Opti Pro 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 Pro can produce large quantities of hot water whilst using a minimum amount of energy, made possible by our two patented technologies; the integrated hot water tank (180ltr) incorporates

TWS\* technology, producing hot water faster than traditional alternatives can allow and HGW\*\* (Hot Gas Water) allows the hot water to be constantly topped up to the desired temperature during heat production, meaning simultaneous production and fewer cycles, increased domestic hot water temperature, and significantly improved seasonal performance.

The DHP-H Opti Pro 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 Pro via the Internet. The control system, although highly advanced is both intuitive and very user friendly.



**Highest**

annual efficiency (SPF)

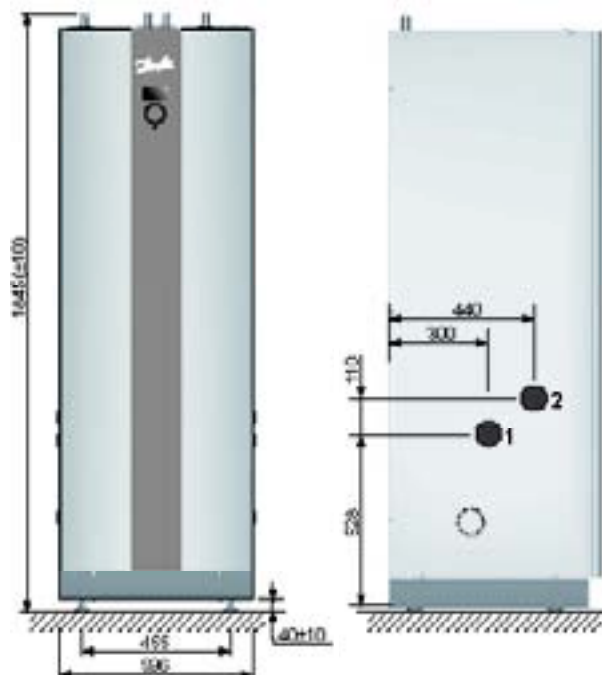
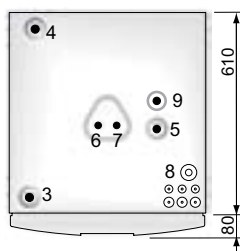
using Opti Pro technique



**Connection**

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

- 1 Brine in, 28 Cu
- 2 Brine out, 28 Cu
- 3 Heating system supply line, 22 Cu: 6-10 kW, 28 Cu: 12-16 kW
- 4 Heating system return line, 22 Cu: 6-10 kW, 28 Cu: 12-16 kW
- 5 Connection for bleed valve, 22 Cu
- 6 Hot water line, 22 Brass
- 7 Cold water line, 22 Brass
- 8 Lead-in for supply, sensor and communication cables and sensors
- 9 Temperature and pressure valve (valid only on certain models and markets)



<b>DHP-H Opti Pro</b>			<b>6</b>	<b>8</b>	<b>10</b>	<b>12</b>	<b>16</b>
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 <sup>1</sup>	A	9	10	12	14	20
	Fuse	A	10 <sup>4</sup> /16 <sup>5</sup> /20 <sup>6</sup>	16 <sup>4</sup> /16 <sup>5</sup> /20 <sup>6</sup>	16 <sup>4</sup> /16 <sup>5</sup> /20 <sup>6</sup>	16 <sup>4</sup> /20 <sup>5</sup> /25 <sup>6</sup>	20 <sup>4</sup> /20 <sup>5</sup> /25 <sup>6</sup>
Electrical data 1-N~50Hz	Main supply	Volt	230	230	230	230	***
	Rated power, compressor	kW	3.2	3.6	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 <sup>1</sup>	A	22	24	26	28	***
Fuse	A	25 <sup>4</sup> /32 <sup>5</sup> /40 <sup>6</sup>	25 <sup>4</sup> /32 <sup>5</sup> /40 <sup>6</sup>	32 <sup>4</sup> /40 <sup>5</sup> /50 <sup>6</sup>	32 <sup>4</sup> /40 <sup>5</sup> /50 <sup>6</sup>	***	
Performance	COP <sup>2</sup>		4.74	4.88	4.84	4.75	4.80
	COP <sup>3</sup>		4.04	4.34	4.24	4.20	3.99
	Heating capacity <sup>3</sup>	kW	5.33	7.51	9.40	11.0	16.4
	Power input <sup>3</sup>	kW	1.3	1.7	2.2	2.6	4.1
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
Water volume	Water heater	l	180	180	180	180	180
Anti freeze media <sup>7</sup>			glycol + water solution with freezing point -17 ±2 °C				
Dimensions LxWxH	mm		690x596x1845	690x596x1845	690x596x1845	690x596x1845	690x596x1845
Weight empty	kg		231	231	231	240	244
Weight filled	kg		411	411	411	420	424
Sound power level <sup>8</sup>	dB(A)		45	42	45	49	50

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

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

\*\*\*) Not available in this version.

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

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



Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without consequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are registered trademarks of Danfoss A/S. All rights reserved