



Danfoss Heat Pump DHP-AL

Air/water heat pump that provides heating and hot water.



Danfoss DHP-AL is an air/water heat pump that uses new innovative technology to operate at the highest possible annual efficiency meaning you can save more on fuel bills and CO₂ emissions.



DHP-AL has a separate hot water tank, ideal if you have a low ceiling. The tank incorporates our patented TWS* technology, which produces hot water faster and at higher temperatures than with traditional technologies.



Defrosting is done automatically only on demand which further boosts efficiency.



DHP-AL operates at a low sound level and can be controlled and monitored via the Internet. The controller is advanced but very user friendly.



* Tap Water Stratificator, our patented technology developed to stratify hot water in a tank to ensure that heat is used optimally.



Kiwa applies to single phase models only

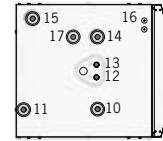
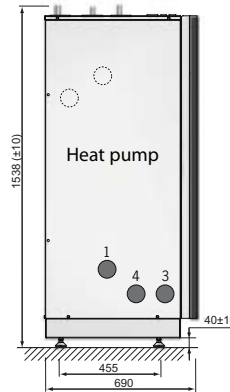
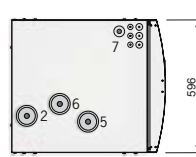
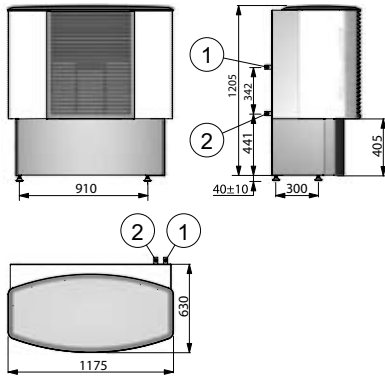
DANFOSS HEAT PUMPS

DANFOSS DHP-AL

Connection

The brine lines 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



Heat pump

- 1 Brine in, 28 Cu
- 2 Brine out, during normal operation, 28 Cu
- 3 Brine out, during defrosting to hwh pos 8, 28 Cu
- 4 Return pipe from water heater pos 9, 28 Cu
- 5 Heating system supply line, 22 Cu: 6-10 kW, 28 Cu: 12 kW
- 6 Heating system return line, 22 Cu: 6-10 kW, 28 Cu: 12 kW
- 7 Lead-in power and sensor lead

Water heater

- 8 Connection for brine out when defrosting from pos 3
- 9 Water heater, return pipe to pos 4
- 10 Bleed valve, at stainless steel water heater
- 11 Brine out during defrosting, 28 Cu
- 12 Domestic hot water, 22 Brass
- 13 Cold water, 22 Brass
- 14 Supply to water heater coil
- 15 Brine, expansion outlet when outdoor unit is positioned at high level
- 16 Lead-in sensor lead
- 17 Temperature and pressure valve

| DHP-AL | | | 6 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|
| Refrigerant | Type | | R404A | R404A | R404A | R404A |
| | Amount | kg | 0.95 | 1.45 | 1.50 | 1.60 |
| Compressor | Type | | Scroll | Scroll | Scroll | Scroll |
| | Main supply | Volt | 400 | 400 | 400 | 400 |
| Electrical data 3-N ~50Hz | Rated power compressor | kW | 2.0 | 2.3 | 3.6 | 4.4 |
| | Rated power, circulation-pumps/fan | W | 0.4 | 0.6 | 0.6 | 0.6 |
| | Auxiliary heater, 5 steps | kW | 3/6/9/12/15 | 3/6/9/12/15 | 3/6/9/12/15 | 3/6/9/12/15 |
| | Start current per phase | A | 12 | 10 | 18 | 17 |
| | Circuit breaker | A | 10 ³ /16 ⁴ /20 ⁵ /20 ⁵ /25 ⁷ /25 ⁹ /30 ⁹ | 16 ³ /16 ⁴ /20 ⁵ /20 ⁵ /25 ⁷ /25 ⁹ /30 ⁹ | 16 ³ /16 ⁴ /20 ⁵ /20 ⁵ /25 ⁷ /30 ⁹ /35 ⁹ | 16 ³ /20 ⁴ /25 ⁵ /25 ⁵ /25 ⁷ /30 ⁹ /35 ⁹ |
| | Main supply | Volt | 230 | 230 | 230 | 230 |
| Electrical data 1-N ~50Hz | Rated power compressor | kW | 3.3 | 4.2 | 5.4 | 5.7 |
| | Rated power, circulation-pumps/fan | W | 0.4 | 0.6 | 0.6 | 0.6 |
| | 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 - soft start | A | 11 | 21 | 26 | 28 |
| Circuit breaker | A | 25 ³ /32 ⁴ /40 ⁵ | 25 ³ /32 ⁴ /40 ⁵ | 32 ³ /40 ⁴ /50 ⁵ | 32 ³ /40 ⁴ /50 ⁵ | |
| Performance | COP ¹ | | 3.88 | 4.06 | 4.21 | 4.06 |
| | COP ² | | 3.26 | 3.45 | 3.29 | 3.35 |
| | Heating capacity ² | kW | 5.90 | 7.96 | 9.85 | 11.3 |
| | Power input ² | kW | 1.8 | 2.3 | 3.0 | 3.4 |
| Lowest outdoor temperature allowed for compressor start | °C | | -20 | -20 | -20 | -20 |
| Max/min temperature | Cooling circuit | °C | 20/-25 | 20/-25 | 20/-25 | 20/-25 |
| | Heating circuit | °C | 55/20 | 55/20 | 55/20 | 55/20 |
| Water volume | Water heater | l | 180 | 180 | 180 | 180 |
| Anti freeze media ¹⁰ | | | Ethylene glycol + water solution to -32°C +/- 1°C | | | |
| Indoor unit | Dimensions LxWxH | mm | 690x596x1538 | 690x596x1538 | 690x596x1538 | 690x596x1538 |
| | Weight | kg | 154 | 154 | 154 | 162 |
| | Sound power level ¹¹ | dB(A) | 42.5 | 47.7 | 45.5 | 48.1 |
| Water heater unit | Dimensions LxWxH | mm | 690x596x1538 | 690x596x1538 | 690x596x1538 | 690x596x1538 |
| | Weight empty | kg | 172 | 172 | 172 | 172 |
| | Weight filled | kg | 352 | 352 | 352 | 352 |
| Outdoor unit | Dimensions LxWxH | mm | 630x1175x1245 | 630x1175x1245 | 630x1175x1245 | 630x1175x1245 |
| | Weight | kg | 94 | 94 | 94 | 94 |
| | Sound power level, low/high ¹² | dB(A) | 53/63 | 53/63 | 54/67 | 54/67 |
| Max pipe/cable length between indoor & outdoor units | m | | 60 (30 + 30) | 60 (30 + 30) | 60 (30 + 30) | 60 (30 + 30) |

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) At A7W35 Δ10 warm side (excluding circulation pumps and outdoor unit).
- 2) At A7W35 according to EN 14511 (including circulation pumps and outdoor unit).
- 3) Heat pump with 3 kW auxiliary heater (1-N 1.5 kW).
- 4) Heat pump with 6 kW auxiliary heater (1-N 3 kW).
- 5) Heat pump with 9 kW auxiliary heater (1-N 4.5 kW).
- 6) 12 kW auxiliary heater (compressor off).

- 7) 15 kW auxiliary heater (compressor off).
- 8) Heat pump with 12 kW auxiliary heater.
- 9) Heat pump with 15 kW auxiliary heater.
- 10) Propylene glycol or ethanol may not be used.
- 11) Sound power level measured according to EN ISO 3741 at A7W45 (EN 12102).
- 12) Sound power level measured according to EN ISO 3741.

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