



Performance worth celebrating

# Danfoss Heat Pump DHP-AQ

The DHP-AQ (air-water heat pump) provides heating and domestic hot water to the temperatures required in the heating system.

Supporting a wide range of applications, the DHP-AQ features a class leading seasonal performance on the market thanks to the unique control system that constantly coordinates and optimises three key parameters in the product: airflow (efficient variable speed EC fan), the refrigerant circuit (electronic expansion valve), heat distribution (OPTI technology).

The efficiency of the DHP-AQ enables it to perform perfectly at very low outdoor temperatures keeping a house comfortably heated. State-of-the-art defrosting technology ensures the energy efficiency and full functionality of the heat pump even during a cold winter.

The DHP-AQ is available with three different indoor kits: Mini, Midi and Maxi.



[www.uk.heatpumps.danfoss.com](http://www.uk.heatpumps.danfoss.com)

## Technical specification DHP-AQ

### Indoor kit

Mini: controller

Midi: controller, circulation pump (class A), auxiliary heater (400V - 3/6/9/12/15 kW; 230V - 3/6/9 kW), three way valve

Maxi: controller, hot water tank (180 l), circulation pump (class A), auxiliary heater (400V - 3/6/9/12/15 kW; 230V - 3/6/9 kW), three way valve

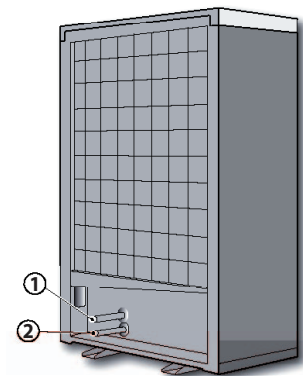


### Connections:

1. Supply line heating system (all sizes) - 28 mm Cu
2. Return line heating system (all sizes) - 28 mm Cu



DHP-AQ front view



DHP-AQ rear view

| DHP-AQ                        |                                    |       | 6                         | 9            | 11            | 13            | 16              | 18            |
|-------------------------------|------------------------------------|-------|---------------------------|--------------|---------------|---------------|-----------------|---------------|
| Refrigerant                   | Type                               |       | R407C                     | R407C        | R407C         | R407C         | R407C           | R407C         |
|                               | Amount                             | kg    | 4.3                       | 4.3          | 5.0           | 5.0           | 5.7             | 6.0           |
|                               | Test pressure                      | MPa   | 3.4                       | 3.4          | 3.4           | 3.4           | 3.4             | 3.4           |
|                               | Design pressure                    | MPa   | 3.1                       | 3.1          | 3.1           | 3.1           | 3.1             | 3.1           |
| Compressor                    | Type                               |       | Scroll                    | Scroll       | Scroll        | Scroll        | Scroll          | Scroll        |
|                               | Oil                                |       | POE                       | POE          | PVE           | POE           | PVE             | POE           |
| Electrical data<br>3-N, ~50Hz | Main supply                        | Volt  | 400                       | 400          | 400           | 400           | 400             | 400           |
|                               | Rated power, compressor            | kW    | 2.2                       | 2.9          | 3.3           | 4.2           | 5               | 6.1           |
|                               | Rated power, fan                   | kW    | 0.2                       | 0.2          | 0.2           | 0.3           | 0.3             | 0.7           |
|                               | Start current                      | A     | 12                        | 10           | 18            | 17            | UT <sup>8</sup> | 18            |
|                               | Fuse                               | A     | 10                        | 10           | 16            | 16            | 16              | 16            |
| Electrical data<br>1-N, ~50Hz | Main supply                        | Volt  | 230                       | 230          | 230           | 230           | 230             | -             |
|                               | Rated power, compressor            | kW    | 2.4                       | 2.8          | 3.6           | 4.3           | 5.5             | -             |
|                               | Rated power, fan                   | kW    | 0.2                       | 0.2          | 0.2           | 0.3           | 0.3             | -             |
|                               | Start current                      | A     | 11                        | 21           | 26            | 28            | 39              | -             |
|                               | Fuse                               | A     | 20                        | 20           | 32            | 32            | 40              | -             |
| Performance <sup>7</sup>      | COP <sup>1</sup>                   |       | 4.1                       | 4.6          | 4.6           | 4.3           | 4.4             | 4.0           |
|                               | COP <sup>2</sup>                   |       | 4.0                       | 4.4          | 4.3           | 4.3           | 4.2             | 3.9           |
|                               | Heating capacity <sup>2</sup>      | kW    | 6.2                       | 8.6          | 10.8          | 12.2          | 15.3            | 17.9          |
|                               | Power input - heating <sup>2</sup> | kW    | 1.5                       | 2.0          | 2.5           | 2.9           | 3.7             | 4.6           |
|                               | EER <sup>3</sup>                   |       | 2.2                       | 2.4          | 2.3           | 2.3           | 2.3             | 2.1           |
|                               | Cooling capacity <sup>3</sup>      |       | 4.3                       | 5.9          | 7.4           | 8.6           | 10.0            | 11.4          |
| Nominal flow <sup>4</sup>     | Power input - cooling <sup>3</sup> |       | 1.9                       | 2.5          | 3.2           | 3.7           | 4.4             | 5.4           |
|                               | Heating circuit                    | l/s   | 0.150                     | 0.216        | 0.263         | 0.299         | 0.372           | 0.432         |
| Operating range (outdoor)     |                                    | °C    | -20~+45°C                 | -20~+45°C    | -20~+45°C     | -20~+45°C     | -20~+45°C       | -20~+45°C     |
| Max temperature <sup>5</sup>  | Heating circuit                    | °C    | 60                        | 60           | 60            | 60            | 60              | 60            |
|                               | Low pressure                       | MPa   | 0.05                      | 0.05         | 0.05          | 0.05          | 0.05            | 0.05          |
| Pressure levels               | Operating                          | MPa   | 2.85                      | 2.85         | 2.85          | 2.85          | 2.85            | 2.85          |
|                               | High pressure                      | MPa   | 3.1                       | 3.1          | 3.1           | 3.1           | 3.1             | 3.1           |
| Sound power level             | Regular mode <sup>6</sup>          | dB(A) | 61                        | 62           | 64            | 66            | 66              | 74            |
|                               | Silent mode <sup>6</sup>           | dB(A) | 58                        | 59           | 61            | 63            | 63              | 71            |
| Weight                        | Outdoor unit                       | kg    | 125                       | 131          | 150           | 155           | 191             | 185           |
|                               | Mini                               | kg    | 18                        | 18           | 18            | 18            | 18              | 18            |
|                               | Midi                               | kg    | 21                        | 21           | 21            | 21            | 21              | 21            |
|                               | Maxi                               | kg    | 106                       | 106          | 106           | 106           | 106             | 106           |
| Outdoor unit                  | Width x Depth x Height             | mm    | 856x510x1272              | 856x510x1272 | 1016x564x1477 | 1016x564x1477 | 1166x570x1557   | 1166x570x1557 |
| Mini (Indoor kit)             | Width x Depth x Height             | mm    | 380x204x600               |              |               |               |                 |               |
| Midi (Indoor kit)             | Width x Depth x Height             | mm    | 420x255x625 (+50mm pipes) |              |               |               |                 |               |
| Maxi (Indoor kit)             | Width x Depth x Height             | mm    | 596x690x1845 ±10          |              |               |               |                 |               |

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 A7/W35 Δ10K warm side. (EN 255)
- 2) At A7/W35 according to EN 14511.
- 3) At A35/W7 according to EN14511.
- 4) Nominal flow: heating circuit Δ10K.
- 5) At outdoor temperature 0°C

- 6) According to SS-EN 12102, EN ISO 3741.
- 7) The values apply to a new heat pump with clean heat exchangers.
- 8) Under test