

Subtype HHP R290

| | |
|---------------------|----------------------|
| Certificate Holder | Frigicoll |
| Address | Blasco de Garay, 4 6 |
| ZIP | 08960 |
| City | Sant Just Desvern |
| Country | ES |
| Certification Body | ICIM S.p.A. |
| Subtype title | HHP R290 |
| Registration number | ICIM-PDC-000261 |
| Heat Pump Type | Outdoor Air/Water |
| Refrigerant | R290 |
| Mass of Refrigerant | 0.7 kg |
| Certification Date | 18.06.2024 |
| Testing basis | V12 |

Model KHP-MO 4 DVP

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|-------------------------------------|-----------------------|
| Model name | KHP-MO 4 DVP |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | Colder, Warmer |
| Cooling mode application (optional) | n/a |
| Any additional heat sources | n/a |

General data

| | |
|------------------|-------------|
| Power supply | 1x230V 50Hz |
| Off-peak product | n/a |

Outdoor Air/Water

EN 14511-4 | Heating

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|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure | passed |
| Defrost test | passed |
| Starting and operating test | passed |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 4.5 kW | 4.6 kW |
| El input | 0.87 kW | 1.44 kW |
| COP | 5.15 | 3.20 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 56 dB(A) | 56 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 199 % | 148 % |
| Prated | 5.00 kW | 4.90 kW |
| SCOP | 5.07 | 3.79 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 4.45 kW | 4.36 kW |
| COP Tj = -7°C | 3.39 | 2.60 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 2.75 kW | 2.65 kW |
| COP Tj = +2°C | 5.04 | 3.75 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 2.72 kW | 2.57 kW |
| COP Tj = +7°C | 6.72 | 4.97 |

| | | |
|---|-------------|-------------|
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 3.14 kW | 3.04 kW |
| COP Tj = 12°C | 8.52 | 6.55 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 4.45 kW | 4.36 kW |
| COP Tj = Tbiv | 3.39 | 2.60 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.00 kW | 4.36 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.92 | 2.08 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | | |
| WTOL | 75 °C | 75 °C |
| Poff | 9 W | 9 W |
| PTO | 14 W | 14 W |
| PSB | 9 W | 9 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.57 kW |
| Annual energy consumption Qhe | 2034 kWh | 2668 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 56 dB(A) | 56 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs | 158 % | 124 % |
| Prated | 5.0 kW | 4.3 kW |
| SCOP | 4.03 | 3.18 |
| Tbiv | -15.00 °C | -15.00 °C |
| TOL | -22.00 °C | -22.00 °C |
| Pdh Tj = -7°C | 3.02 kW | 2.60 kW |
| COP Tj = -7°C | 3.54 | 2.75 |
| Cdh Tj = -7 °C | 0.90 | 0.90 |
| Pdh Tj = +2°C | 2.20 kW | 2.11 kW |
| COP Tj = +2°C | 4.89 | 3.91 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 2.61 kW | 2.47 kW |
| COP Tj = +7°C | 6.60 | 5.04 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 2.86 kW | 2.77 kW |
| COP Tj = 12°C | 7.03 | 6.14 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 4.08 kW | 3.51 kW |
| COP Tj = Tbiv | 2.56 | 2.11 |

| | | |
|---|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 3.40 kW | 2.96 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.98 | 1.43 |
| WTOL | 75.00 °C | 75.00 °C |
| Poff | 9.00 W | 9.00 W |
| PTO | 14 W | 14 W |
| PSB | 9.00 W | 9.00 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.60 kW | 1.34 kW |
| Annual energy consumption Qhe | 3056.00 kWh | 3328.00 kWh |
| Pdh Tj = -15°C (if TOL | 4.08 | 3.51 |
| COP Tj = -15°C (if TOL | 2.56 | 2.11 |
| Cdh Tj = -15 °C | 0.9 | 0.9 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 56 dB(A) | 56 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs | 235.00 % | 170.00 % |
| Prated | 4.6 kW | 4.7 kW |
| SCOP | 5.97 | 4.34 |
| Tbiv | 7.00 °C | 7.00 °C |
| TOL | 2.00 °C | 2.00 °C |
| Pdh Tj = +2°C | 4.47 kW | 4.61 kW |
| COP Tj = +2°C | 4.08 | 2.69 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 2.97 kW | 3.08 kW |
| COP Tj = +7°C | 5.78 | 3.91 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 3.05 kW | 2.94 kW |
| COP Tj = 12°C | 7.64 | 5.85 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 2.97 kW | 3.08 kW |
| COP Tj = Tbiv | 5.78 | 3.91 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.47 kW | 4.61 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.08 | 2.69 |
| WTOL | 75.00 °C | 75.00 °C |
| Poff | 9.00 W | 9.00 W |
| PTO | 14.00 W | 14.00 W |
| PSB | 9 W | 9 W |

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|--|-------------|-------------|
| PCK | 0.00 W | 0.00 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.13 kW | 0.09 kW |
| Annual energy consumption Q _{he} | 1024.00 kWh | 1446.00 kWh |

Model KHP-MO 6 DVP

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|-------------------------------------|-----------------------|
| Model name | KHP-MO 6 DVP |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | Colder, Warmer |
| Cooling mode application (optional) | n/a |
| Any additional heat sources | n/a |

General data

| | |
|------------------|-------------|
| Power supply | 1x230V 50Hz |
| Off-peak product | n/a |

Outdoor Air/Water EN 14511-4 | Heating

| | |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure | passed |
| Defrost test | passed |
| Starting and operating test | passed |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 6.2 kW | 6.2 kW |
| El input | 1.27 kW | 2.00 kW |
| COP | 4.90 | 3.10 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 58 dB(A) | 58 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 192 % | 149 % |
| Prated | 6.4 kW | 5.9 kW |
| SCOP | 4.89 | 3.82 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10.00 °C | -10.00 °C |
| Pdh Tj = -7°C | 5.75 kW | 5.36 kW |
| COP Tj = -7°C | 3.10 | 2.41 |
| Cdh Tj = -7 °C | 0.90 | 0.90 |
| Pdh Tj = +2°C | 3.71 kW | 3.12 kW |
| COP Tj = +2°C | 4.73 | 3.73 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 2.72 kW | 2.62 kW |
| COP Tj = +7°C | 6.92 | 5.21 |

| | | |
|---|-------------|-------------|
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 3.15 kW | 3.03 kW |
| COP Tj = 12°C | 8.65 | 6.78 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 5.75 kW | 5.36 kW |
| COP Tj = Tbiv | 3.10 | 2.41 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.50 kW | 5.10 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.87 | 2.15 |
| WTOL | 75.00 °C | 75.00 °C |
| Poff | 9.00 W | 9.00 W |
| PTO | 14.00 W | 14.00 W |
| PSB | 9.00 W | 9.00 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.90 kW | 0.75 kW |
| Annual energy consumption Qhe | 2700 kWh | 3191 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 58 dB(A) | 58 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs | 166 % | 132 % |
| Prated | 6.3 kW | 5.9 kW |
| SCOP | 4.24 | 3.38 |
| Tbiv | -15.00 °C | -15.00 °C |
| TOL | -22.00 °C | -22.00 °C |
| Pdh Tj = -7°C | 3.90 kW | 3.56 kW |
| COP Tj = -7°C | 3.71 | 2.89 |
| Cdh Tj = -7 °C | 0.90 | 0.90 |
| Pdh Tj = +2°C | 2.34 kW | 2.28 kW |
| COP Tj = +2°C | 5.15 | 4.12 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 2.69 kW | 2.55 kW |
| COP Tj = +7°C | 6.85 | 5.31 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 2.91 kW | 2.82 kW |
| COP Tj = 12°C | 7.46 | 6.22 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 5.15 kW | 4.94 kW |
| COP Tj = Tbiv | 2.56 | 2.08 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 3.96 kW | 3.44 kW |

| | | |
|---|-------------|-------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.95 | 1.44 |
| WTOL | 75.00 °C | 75.00 °C |
| Poff | 9.00 W | 9.00 W |
| PTO | 14 W | 14 W |
| PSB | 9.00 W | 9.00 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 2.35 kW | 2.48 kW |
| Annual energy consumption Qhe | 3663.00 kWh | 4325.00 kWh |
| Pdh Tj = -15°C (if TOL | 5.15 | 4.94 |
| COP Tj = -15°C (if TOL | 2.56 | 2.08 |
| Cdh Tj = -15 °C | 0.9 | 0.9 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 58 dB(A) | 58 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs | 242.00 % | 179.00 % |
| Prated | 5.5 kW | 6.0 kW |
| SCOP | 6.14 | 4.55 |
| Tbiv | 7.00 °C | 7.00 °C |
| TOL | 2.00 °C | 2.00 °C |
| Pdh Tj = +2°C | 5.48 kW | 5.96 kW |
| COP Tj = +2°C | 3.87 | 2.59 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 3.57 kW | 3.89 kW |
| COP Tj = +7°C | 5.77 | 4.00 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 3.03 kW | 2.99 kW |
| COP Tj = 12°C | 7.67 | 6.05 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 3.57 kW | 3.89 kW |
| COP Tj = Tbiv | 5.77 | 4.00 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.48 kW | 5.96 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.87 | 2.59 |
| WTOL | 75.00 °C | 75.00 °C |
| Poff | 9.00 W | 9.00 W |
| PTO | 14.00 W | 14.00 W |
| PSB | 9 W | 9 W |
| PCK | 0.00 W | 0.00 W |

| | | |
|--|-------------|-------------|
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.02 kW | 0.04 kW |
| Annual energy consumption Q _{he} | 1198.00 kWh | 1762.00 kWh |