

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

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

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
EI 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

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 Qhe	1024.00 kWh	1446.00 kWh

Model KHP-MO 6 DVP

Model name	KHP-MO 6 DVP
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Units	Outdoor
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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
EI 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 Qhe	1198.00 kWh	1762.00 kWh