

## Subtype Monoblock Heat Pump 12 14 16 kW

Certificate Holder	Zhejiang Zhongguang Electrical Co., Ltd.
Address	No. 96 Yunjing Road Shuige Industry Area, Lishui
ZIP	323000
City	Zhejiang
Country	CN
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	Monoblock Heat Pump 12 14 16 kW
Registration number	011-1W0672
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.6 kg
Certification Date	23.08.2023
Testing basis	HP KEYMARK certification scheme rules V12

## Model AHb12VR3HP

Model name	AHb12VR3HP
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
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	12.10 kW	11.90 kW
El input	2.42 kW	3.90 kW
COP	5.00	3.05

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	67 dB(A)	67 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	189 %	140 %
Prated	12.00 kW	12.10 kW
SCOP	4.80	3.58
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.64 kW	10.71 kW
COP Tj = -7°C	2.97	2.15
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	8.26 kW	8.32 kW
COP Tj = +2°C	4.33	3.35
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	6.07 kW	5.90 kW

COP Tj = +7°C	7.10	4.90
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.41 kW	5.95 kW
COP Tj = 12°C	11.38	8.05
Cdh Tj = +12 °C	0.970	0.980
Pdh Tj = Tbiv	10.64 kW	10.71 kW
COP Tj = Tbiv	2.97	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.41 kW	10.61 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.77	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	16 W	16 W
PSB	15 W	15 W
PCK	49 W	49 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.59 kW	1.49 kW
Annual energy consumption Qhe	5165 kWh	6991 kWh

## Model AHb14VR3HP

Model name	AHb14VR3HP
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
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	14.50 kW	14.10 kW
El input	3.12 kW	4.70 kW
COP	4.65	3.00

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	68 dB(A)	68 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	185 %	136 %
Prated	14.10 kW	14.10 kW
SCOP	4.70	3.47
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.48 kW	12.48 kW
COP Tj = -7°C	2.79	2.10
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	8.74 kW	8.85 kW
COP Tj = +2°C	4.24	3.23
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	6.01 kW	5.91 kW

COP Tj = +7°C	7.10	4.77
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	5.97 kW	6.24 kW
COP Tj = 12°C	11.42	8.03
Cdh Tj = +12 °C	0.970	0.980
Pdh Tj = Tbiv	12.48 kW	12.48 kW
COP Tj = Tbiv	2.79	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.03 kW	10.96 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	2.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	16 W	16 W
PSB	15 W	15 W
PCK	49 W	49 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.07 kW	3.14 kW
Annual energy consumption Qhe	6198 kWh	8396 kWh

## Model AHb16VR3HP

Model name	AHb16VR3HP
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
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	16.00 kW	16.00 kW
El input	3.52 kW	5.52 kW
COP	4.55	2.90

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	68 dB(A)	68 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	185 %	138 %
Prated	15.10 kW	15.20 kW
SCOP	4.70	3.53
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.37 kW	13.49 kW
COP Tj = -7°C	2.65	2.16
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	9.42 kW	9.72 kW
COP Tj = +2°C	4.30	3.24
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.90 kW	5.68 kW

COP Tj = +7°C	7.23	4.98
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.36 kW	5.81 kW
COP Tj = 12°C	11.45	8.05
Cdh Tj = +12 °C	0.970	0.980
Pdh Tj = Tbiv	13.37 kW	13.49 kW
COP Tj = Tbiv	2.65	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.90 kW	11.67 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.41	1.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	16 W	16 W
PSB	15 W	15 W
PCK	49 W	49 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.20 kW	3.53 kW
Annual energy consumption Qhe	6632 kWh	8904 kWh

## Model AHb12VR3XP

Model name	AHb12VR3XP
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

Power supply	3x400V 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	12.10 kW	11.90 kW
El input	2.42 kW	3.90 kW
COP	5.00	3.05

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	67 dB(A)	67 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	189 %	140 %
Prated	12.00 kW	12.10 kW
SCOP	4.80	3.58
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.64 kW	10.71 kW
COP Tj = -7°C	2.97	2.15
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	8.26 kW	8.32 kW
COP Tj = +2°C	4.33	3.35
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	6.07 kW	5.90 kW



COP Tj = +7°C	7.10	4.90
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.41 kW	5.95 kW
COP Tj = 12°C	11.38	8.05
Cdh Tj = +12 °C	0.970	0.980
Pdh Tj = Tbiv	10.64 kW	10.71 kW
COP Tj = Tbiv	2.97	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.41 kW	10.61 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.77	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	16 W	16 W
PSB	15 W	15 W
PCK	49 W	49 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.59 kW	1.49 kW
Annual energy consumption Qhe	5165 kWh	6991 kWh

## Model AHb14VR3XP

Model name	AHb14VR3XP
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

Power supply	3x400V 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	14.50 kW	14.10 kW
El input	3.12 kW	4.70 kW
COP	4.65	3.00

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Sound power level outdoor	68 dB(A)	68 dB(A)

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COP Tj = -7°C	2.79	2.10
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WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	16 W	16 W
PSB	15 W	15 W
PCK	49 W	49 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.07 kW	3.14 kW
Annual energy consumption Qhe	6198 kWh	8396 kWh

## Model AHb16VR3XP

Model name	AHb16VR3XP
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

Power supply	3x400V 50Hz
Off-peak product	n/a

## Outdoor Air/Water

### EN 14511-4 | Heating

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### EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	16.00 kW	16.00 kW
El input	3.52 kW	5.52 kW
COP	4.55	2.90

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COP Tj = -7°C	2.65	2.16
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	9.42 kW	9.72 kW
COP Tj = +2°C	4.30	3.24
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.90 kW	5.68 kW

COP Tj = +7°C	7.23	4.98
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Pdh Tj = Tbiv	13.37 kW	13.49 kW
COP Tj = Tbiv	2.65	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.90 kW	11.67 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.41	1.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	16 W	16 W
PSB	15 W	15 W
PCK	49 W	49 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.20 kW	3.53 kW
Annual energy consumption Qhe	6632 kWh	8904 kWh