

## Subtype ZHHS-01-10K-R290-V5-M

Certificate Holder	JBG-2 Sp. z o.o.
Address	ul. Gajowa 5
ZIP	43-254
City	Warszowice
Country	PL
Certification Body	SZU - Strojirensky zkusebni ustav (Engineering Test Institute, Public Enterprise)
Subtype title	ZHHS-01-10K-R290-V5-M
Registration number	037-0140-23
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	0.55 kg
Certification Date	21.11.2023
Testing basis	HP Keymark certification scheme rules rev. no.12
Testing laboratory	SZU Brno, CZ

## Model ZHHS-01-10K-R290-V5-M + BSEM01-0000

Model name	ZHHS-01-10K-R290-V5-M + BSEM01-0000
Application	Heating (medium temp)
Units	Indoor, 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	6.60 kW	5.50 kW
El input	1.45 kW	2.00 kW
COP	4.56	2.75

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	dB(A)	dB(A)
Sound power level outdoor	58 dB(A)	59 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	198 %	154 %
Prated	6.60 kW	6.60 kW
SCOP	5.04	3.92
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.08 kW	5.95 kW
COP Tj = -7°C	2.96	2.13
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	3.71 kW	3.91 kW
COP Tj = +2°C	5.13	4.08
Cdh Tj = +2 °C	1.000	1.000

Pdh Tj = +7°C	2.84 kW	2.84 kW
COP Tj = +7°C	6.83	5.41
Cdh Tj = +7 °C	0.970	0.980
Pdh Tj = 12°C	3.20 kW	3.16 kW
COP Tj = 12°C	8.30	6.55
Cdh Tj = +12 °C	0.970	0.970
Pdh Tj = Tbiv	6.60 kW	6.56 kW
COP Tj = Tbiv	2.51	1.83
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.60 kW	6.56 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.51	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	65 °C	65 °C
Poff	13 W	13 W
PTO	13 W	13 W
PSB	13 W	13 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2708 kWh	3475 kWh