

Subtype Polestar R290 45KW

Certificate Holder	GD Shenling Thermal Tech Co., Ltd
Address	No.29 Shunye East Rd.
ZIP	528325
City	Foshan
Country	CN
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	Polestar R290 45KW
Registration number	011-1W1020
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	5.5 kg
Certification Date	24.03.2025
Testing basis	HP KEYMARK certification scheme rules rev. 14

Model HPM-V450W/SR3

Model name	HPM-V450W/SR3
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
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	45.00 kW	42.00 kW
El input	10.95 kW	15.20 kW
COP	4.10	2.80

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	75 dB(A)	75 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	187 %	142 %
Prated	38.00 kW	36.00 kW
SCOP	4.74	3.62
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	34.48 kW	31.95 kW
COP Tj = -7°C	2.74	2.05
Cdh Tj = -7 °C	0.998	0.998
Pdh Tj = +2°C	19.68 kW	19.42 kW
COP Tj = +2°C	4.50	3.47
Cdh Tj = +2 °C	0.994	0.995
Pdh Tj = +7°C	13.77 kW	13.32 kW

COP Tj = +7°C	6.80	5.09
Cdh Tj = +7 °C	0.987	0.990
Pdh Tj = 12°C	10.08 kW	9.81 kW
COP Tj = 12°C	8.95	7.02
Cdh Tj = +12 °C	0.977	0.981
Pdh Tj = Tbiv	34.48 kW	31.95 kW
COP Tj = Tbiv	2.74	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	31.50 kW	29.74 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.67	1.88
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.998	0.998
WTOL	75 °C	75 °C
Poff	25 W	25 W
PTO	26 W	26 W
PSB	25 W	25 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.50 kW	6.30 kW
Annual energy consumption Qhe	16549 kWh	20539 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	75 dB(A)	75 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	164 %	125 %
Prated	38.00 kW	37.00 kW
SCOP	4.17	3.20
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	23.57 kW	22.86 kW
COP Tj = -7°C	3.44	2.63
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	14.69 kW	13.66 kW
COP Tj = +2°C	4.96	3.75
Cdh Tj = + 2 °C	0.991	0.993
Pdh Tj = +7°C	9.21 kW	8.62 kW
COP Tj = +7°C	7.26	5.38
Cdh Tj = + 7 °C	0.980	0.984
Pdh Tj = 12°C	10.44 kW	9.84 kW
COP Tj = 12°C	8.33	6.69
Cdh Tj = +12 °C	0.979	0.982
Pdh Tj = Tbiv	31.38 kW	30.63 kW

COP Tj = Tbiv	2.51	1.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	25.50 kW	24.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.09	1.55
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.998	0.998
WTOL	75 °C	75 °C
Poff	25 W	25 W
PTO	26 W	26 W
PSB	25 W	25 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.50 kW	12.60 kW
Annual energy consumption Qhe	22446 kWh	28471 kWh
Pdh Tj = -15°C (if TOL)	31.38	30.63
COP Tj = -15°C (if TOL)	2.51	1.99
Cdh Tj = -15 °C	0.998	0.998

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	75 dB(A)	75 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	228 %	171 %
Prated	41.00 kW	39.00 kW
SCOP	5.78	4.34
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	26.00 kW	24.94 kW
COP Tj = +2°C	3.77	2.56
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	26.47 kW	25.19 kW
COP Tj = +7°C	5.65	3.88
Cdh Tj = +7 °C	0.994	0.996
Pdh Tj = 12°C	11.93 kW	11.57 kW
COP Tj = 12°C	8.82	6.46
Cdh Tj = +12 °C	0.981	0.985
Pdh Tj = Tbiv	26.47 kW	25.19 kW
COP Tj = Tbiv	5.65	3.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	26.00 kW	24.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.56

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.997
WTOL	75 °C	75 °C
Poff	25 W	25 W
PTO	26 W	26 W
PSB	25 W	25 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	15.00 kW	14.10 kW
Annual energy consumption Qhe	9477 kWh	12015 kWh