

Subtype DC Inverter Air to Water Heat Pump Unit- R290- 15- C

Certificate Holder	Zhongshan Amitime Electric Co., Ltd
Address	5th Yandong Rd
ZIP	
City	Zhongshan City - Guangdong
Country	CN
Certification Body	BRE Global Limited
Subtype title	DC Inverter Air to Water Heat Pump Unit- R290- 15- C
Registration number	041-K027-16
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	1.5 kg
Certification Date	22.09.2023
Testing basis	Heat Pump Keymark Scheme Rules Rev 12

Model Indoor unit: PAVH-06-20V1GX-250L/IX, Outdoor unit: PAVH-15V4GXX

Model name	Indoor unit: PAVH-06-20V1GX-250L/IX, Outdoor unit: PAVH-15V4GXX
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

#### General data

Power supply	3x400V 50Hz
Off-peak product	No

#### Outdoor Air/Water

##### EN 16147 | Operating test

Temperature operating range	2
Safety devices checking test	2
Condensate draining	2

##### EN 12102-2 | Average Climate

Sound power level indoor	37 dB(A)
Sound power level outdoor	60 dB(A)

##### EN 16147 | Average Climate

Declared load profile	XL
Efficiency $\eta_{DHW}$	128 %
COP	3.08
Heating up time	31:37:40 h:min
Standby power input	41.0 W
Reference hot water temperature	45.4 °C
Mixed water at 40°C	218 l

##### 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	9.99 kW	12.82 kW
El input	2.23 kW	4.39 kW

COP	4.47	2.92
EN 12102-1   Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	36 dB(A)
Sound power level outdoor	56 dB(A)	60 dB(A)
EN 14825   Average Climate		
	Low temperature	Medium temperature
$\eta_s$	187 %	137 %
P <sub>rated</sub>	12.55 kW	11.01 kW
SCOP	4.74	3.50
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-25 °C	-25 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	9.74 kW
COP T <sub>j</sub> = -7°C	3.05	2.28
C <sub>dh</sub> T <sub>j</sub> = -7 °C	0.900	0.900
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.53 kW	5.99 kW
COP T <sub>j</sub> = +2°C	4.89	3.55
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.900	0.900
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.87 kW	5.15 kW
COP T <sub>j</sub> = +7°C	6.05	4.38
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.900	0.900
P <sub>dh</sub> T <sub>j</sub> = 12°C	6.83 kW	6.58 kW
COP T <sub>j</sub> = 12°C	7.94	6.30
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.900	0.900
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	11.11 kW	9.74 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.05	2.28
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	10.21 kW	9.15 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.90	2.04
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	0.900	0.900
WTOL	55 °C	55 °C
P <sub>off</sub>	20 W	20 W
PTO	28 W	28 W
PSB	20 W	20 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.35 kW	1.87 kW
Annual energy consumption Q <sub>he</sub>	5475 kWh	6505 kWh

**Model Indoor unit: ecoSTAR AI-in-one, Outdoor unit: ecoSTAR15**

Model name	Indoor unit: ecoSTAR AI-in-one, Outdoor unit: ecoSTAR15
Application	Heating + DHW + low 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 16147 | Operating test**

Temperature operating range	2
Safety devices checking test	2
Condensate draining	2

**EN 12102-2 | Average Climate**

Sound power level indoor	37 dB(A)
Sound power level outdoor	60 dB(A)

**EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	128 %
COP	3.08
Heating up time	31:37:40 h:min
Standby power input	41.0 W
Reference hot water temperature	45.4 °C
Mixed water at 40°C	218 l

**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	9.99 kW	12.82 kW
El input	2.23 kW	4.39 kW
COP	4.47	2.92

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	37 dB(A)	36 dB(A)
Sound power level outdoor	56 dB(A)	60 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	187 %	137 %
Prated	12.55 kW	11.01 kW
SCOP	4.74	3.50
Tbiv	-7 °C	-7 °C
TOL	-25 °C	-25 °C
Pdh Tj = -7°C	11.11 kW	9.74 kW
COP Tj = -7°C	3.05	2.28
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.53 kW	5.99 kW
COP Tj = +2°C	4.89	3.55
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.87 kW	5.15 kW
COP Tj = +7°C	6.05	4.38
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	6.83 kW	6.58 kW
COP Tj = 12°C	7.94	6.30
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.11 kW	9.74 kW
COP Tj = Tbiv	3.05	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.21 kW	9.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.90	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	55 °C	55 °C
Poff	20 W	20 W
PTO	28 W	28 W
PSB	20 W	20 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.35 kW	1.87 kW
Annual energy consumption Qhe	5475 kWh	6505 kWh