

**Subtype Air to Water Heat Pump- R290- 12kW-C-250L**

Certificate Holder	Aira Group AB
Address	Norra Stationsgatan 93C
ZIP	11364
City	Stockholm
Country	SE
Certification Body	BRE Global Limited
Subtype title	Air to Water Heat Pump- R290- 12kW-C-250L
Registration number	041-K087-05
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	1.5 kg
Certification Date	21.08.2024
Testing basis	Heat Pump Keymark Scheme Rules Rev 13
Testing laboratory	TÜV SÜD Certification and Testing Co., Ltd. Guangzhou Branch, CN

Model Indoor unit: HPI-AO-250-1.0, Outdoor unit: HPO-AW-12-400V-1.0

Model name	Indoor unit: HPI-AO-250-1.0, Outdoor unit: HPO-AW-12-400V-1.0
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 | Average Climate

Declared load profile	XL
Efficiency $\eta_{DHW}$	107 %
COP	2.54
Heating up time	1:25:18 h:min
Standby power input	73.0 W
Reference hot water temperature	45.0 °C
Mixed water at 40°C	163 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	9.97 kW	12.80 kW
El input	2.23 kW	4.42 kW
COP	4.48	2.90

##### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	45 dB(A)
Sound power level outdoor	57 dB(A)	60 dB(A)

##### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	185 %	136 %

Prated	12.61 kW	11.68 kW
SCOP	4.70	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.16 kW	10.33 kW
COP Tj = -7°C	2.96	2.23
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.32 kW	6.29 kW
COP Tj = +2°C	4.58	3.36
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.88 kW	5.52 kW
COP Tj = +7°C	6.66	4.94
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	6.84 kW	6.61 kW
COP Tj = 12°C	8.56	6.38
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.16 kW	10.33 kW
COP Tj = Tbiv	2.96	2.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.38 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.73	2.03
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	70 °C	70 °C
Poff	22 W	22 W
PTO	56 W	56 W
PSB	22 W	22 W
PCK	60 W	60 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.23 kW	2.26 kW
Annual energy consumption Qhe	5543 kWh	6923 kWh

**Model Indoor unit HPI-AO-250-1.0, Outdoor unit HPO-AW-12-230V-1.0**

Model name	Indoor unit HPI-AO-250-1.0, Outdoor unit HPO-AW-12-230V-1.0
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	1x230V 50Hz
Off-peak product	n/a

**Outdoor Air/Water**
**EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.18
Heating up time	1:49:55 h:min
Standby power input	28.0 W
Reference hot water temperature	45.2 °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	10.33 kW	12.55 kW
El input	2.14 kW	4.22 kW
COP	4.83	2.98

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	44 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	186 %	136 %

Prated	12.69 kW	11.79 kW
SCOP	4.72	3.47
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.23 kW	10.43 kW
COP Tj = -7°C	2.96	2.21
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.43 kW	6.37 kW
COP Tj = +2°C	4.59	3.38
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	6.10 kW	5.87 kW
COP Tj = +7°C	6.77	4.87
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	6.89 kW	6.97 kW
COP Tj = 12°C	8.48	6.42
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.23 kW	10.43 kW
COP Tj = Tbiv	2.96	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.34 kW	9.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.75	2.06
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	70 °C	70 °C
Poff	24 W	24 W
PTO	57 W	57 W
PSB	24 W	24 W
PCK	50 W	50 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.35 kW	2.25 kW
Annual energy consumption Qhe	5556 kWh	7013 kWh