Adlår Castra

Building Control Document

V202502-1

ADLÅRCASTRA

Heat Pump Experts

1 Regulation 20

Installer: Adlar Ltd

MCS Registration: IAA10054

2 Part L: Efficiency, sizing, controls

SAP Calculations: BRE Database Lookup

MCS Product Directory: MCS Product Directory

Energy Performance Data - Heat Loss

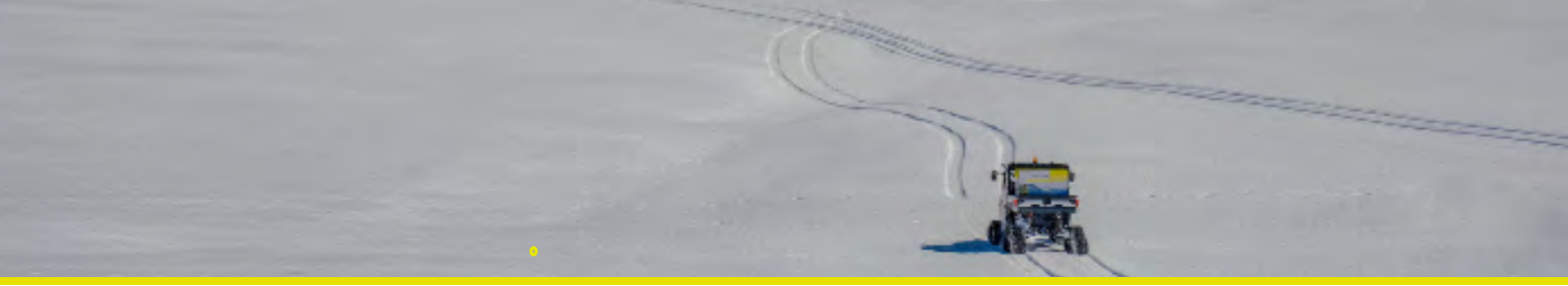
Please ask your Adlår Castra contact for your home heat loss simulation.

Data in your report includes:

The system sizing based on a whole-house heat loss calculation in accordance with CIBSE/BS EN12831 standards. The calculated heat load, and the heat pump capacity at the design temperature.

The system includes inbuilt weather-compensated controls and thermostats to ensure efficient operation in compliance with Part L.

Labelling and provision of installation manuals for safe ongoing maintenance and alteration are provided at the time of installation.



SPECIFICATIONS - AURORA II

	AURORA II		
MODEL	6 kW	10 kW	14 (1) kW
Voltage	220-240/50 Hz	220-240 50 Hz	380~415 50 Hz
Phases	1	1	1
HEATING: PERFORMANCE CONDITION 7 °C / 6 °C, INLET / OUTLET WATER 30 °C / 35 °C			
Heating Capcity (kW)	6.46(2.50~8.30)	10.58(4.20~12.20)	14.45(5.30~16.50)
Nominal Power Input (kW)	0.57-1.92	0.86-2.88	1.15-4.15
Nominal Input Current (A)	2.53-8.52	3.82-12.77	1.63-5.90
ERP Level (Outlet water temperature 35 °C)/SCOP	A+++/4.92	A+++/4.55	A+++/4.58
HEATING: PERFORMANCE CONDITION 7 °C / 6 °C, INLET / OUTLET WATER 47°C / 55°C			
Heating Capcity (kW)	2.30-7.62	3.85-11.20	4.90-15.10
Nominal Power Input (kW)	0.75-2.61	1.13-3.75	1.65-5.25
Nominal Input Current (A)	3.32-11.58	5.01-16.6	2.35-7.47
ERP Level (Outlet water temperature 55 °C)/SCOP	A++/3.37	A++/3.41	A++/3.39
COOLING: PERFORMANCE CONDITION 35°C / 24°C, INLET / OUTLET WATER 12°C / 7°C			
Cooling Capcity (kW)	1.80-7.10	2.60-10.30	4.50-13.50
Nominal Power Input (kW)	0.61-2.43	0.91-3.65	1.45-4.85
Nominal Input Current (A)	2.71-10.78	4.03-16.19	2.06-6.89
EER Level (Outlet water temperature 7 °C)/SCOP	3,25	3,14	3,21
GENERAL DATA			
Maximum Power Input (kW)	2.71	3.83	5.97
Maximum Input Current (A)	12.00	17	10.50
Refriderant/Weight	R32/1.25kg	R32/1.8kg	R32/2.8kg
Nominal Water Flow (m^3/h)	1.1	1.75	2.52
Fan Motor Type	DC inverter		
Compressor	Panasonic/DC Inverter/Rotary/EVI		
Circulation Pump	Grundfos/Inverter Type/Built-in		
IP Class	IPX4		
Noise Level (dB(A)) – 1m	50	51	52
Max. Outlet Water Temperature (°C)	60	60	60
Water Pipe Connections	DN 25 (1")	DN 25 (1")	DN 32 (1-1/4")
Pressure Drop at Nominal Water Flow (kPa)	25	27	30
Operating Temperarture Range (Heating Mode) (°C)	-30~45		
Operating Temperarture Range (Cooling Mode) (°C)	16~45		
Net Dimensions (L*D*H) (mm)	1100*445*850	1100*445*850	1110*480*850
Net weight (kg)	102	109	124

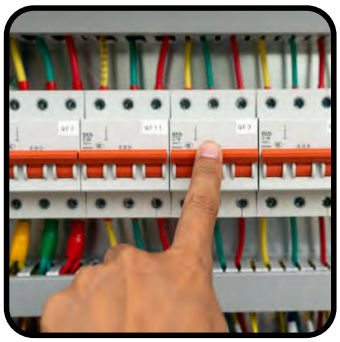
3 Part P: Electrical Safety Provision

A. Outdoor Unit

Power Cable:
A power cable is run to the heat pump from a separate earthed circuit breaker on the fuse board. No other connections can share this circuit.

The minimum required circuit requirements are as follows:

- Aurora II 6kW — 16A type B
- Aurora II 10kw — 20A type B
- Aurora II 14kW — 32A type B
- Aurora II 14kW (3~) — 16A type B 3P+N



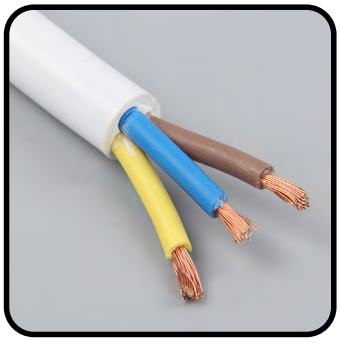
Fuse Board

Fuse Box
The fuse box must also be fully functional and installed in accordance with the BS 7671 + P standard. If this is not the case, Adlår will cease its work and only resume after the customer has provided a meter cupboard in accordance with the BS 7671 + P standard, with sufficient capacity for the heat pump.

Adlår will take care of the above if the customer requests.

Supply Cable:
The specifications for the supply cable from the meter cupboard to the heat pump are as follows:

- 6kW: Armoured 3-core cable (3x2,5mm2)*
- 10kW & 14 kW: Armoured 3-core cable (3x4mm2)*
- 14 kW-3 phase: Armoured 5-core cable (5x2,5mm2)*



Armoured 3-core cable

*if the cable is run >20m or is at risk of being coiled during the run, please discuss with us or a qualified electrian to determine the cable size and routing, if in doubt you should upgrade the size.

Power Requirements
The power requirements of an AURORA II heat pump are as follows:

	6kW	10kW	14kW-1
Supply Power		220~240V / 1 / 50Hz	
Max Current	15A	17A	27.5A
Fuse Characteristics		Type B	
Nominal Current	16A	20A	30A
Pole		1P + N	
Nominal Fault Current		30mA	

Rotary Isolator Switch

Rotary Switch
The supply cable needs to connect into a isolated rotary switch on the outside wall where the heat pump will be located.

B. Indoor Equipment

Power Availability:
A power cable must be able to be run to the equipment from a separate earthed circuit breaker on the fuse board.

The minimum required circuit requirements are as follows:

Connection 1:

ASHP Cylinder	230V 50Hz - 13A
Thermostat	230V 50Hz - 3A
Total (Thermostat & Cylinder)	Shared 16A type B fuse box (RCBO) connection

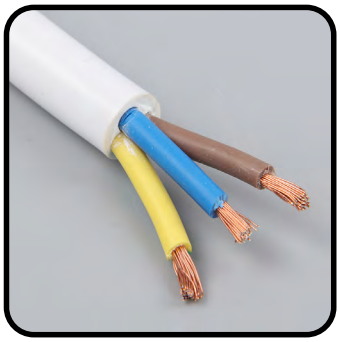
Connection 2:

Buffer Tank Immersion	16A type B fuse box (RCBO) connection


Fuse Board

Fuse Box
The Fuse Box must also be fully functional and installed in accordance with the BS 7671 + P standard. If this is not the case, Adlår will cease its work and only resume after the customer has provided a meter cupboard in accordance with the BS 7671 + P standard, with sufficient capacity for the heat pump.

Adlår will take care of the above if the customer requests.


Armoured 3-core cable

Supply Cable:
The specifications for the supply cable from the meter cupboard to the heat pump are as follows:

- 16A RCBO Supply: Armoured: 3-core cable (3x2,5mm2)*

*if the cable is run >10m, or is at risk of being coiled during the run, please discuss with us or a qualified electrian to determine the cable size and routing, if in doubt you should upgrade the size.

Connections:
The connections of the indoor equipment is as follows:

Connection 1 (Cylinder & Thermostat)	20A double-pole contactor in series with supply
Connection 2 (Immersion)	20A double-pole contactor in series with supply

Connection 1:

ASHP Cylinder	Separate Fuse Spur
Thermostat	Separate Fuse Spur ON/OFF command back to heat pump

Connection 2:

Buffer Tank Immersion	Relay switch with wiring back to the heat pump for ON/OFF control


20A double-pole contactor

Power Requirements:
The maximum power requirements of the indoor equipment is as follows:

ASHP Cylinder	9.41A
Buffer Tank Immersion	13.7A
Thermostat	3A
Total	26.11A


Fuse Spur Switch

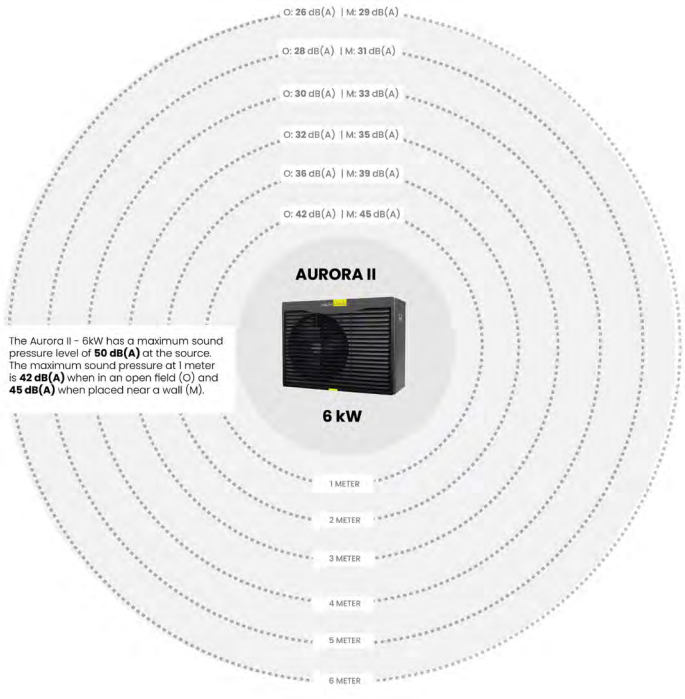
4 MCS 020 - Noise

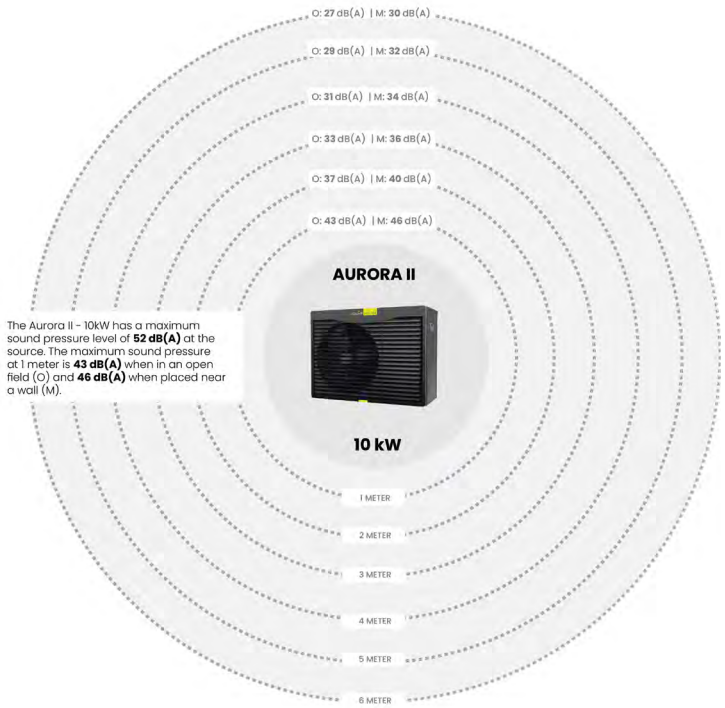
In accordance with MCS 020 regulations, air source heat pump installations must meet permitted development requirements, including limits on noise impact at neighbouring properties. We will assess noise levels as part of our design process to ensure compliance.

MCS 020 Standard: Full standard link

MCS 020 Sound Calculator: Calculator link

	AURORA II		
MODEL	6 kW	10 kW	14 (1) kW
Noise Level (dB(A)) – 1m	50	51	52
Sound Power Level	63	66	67



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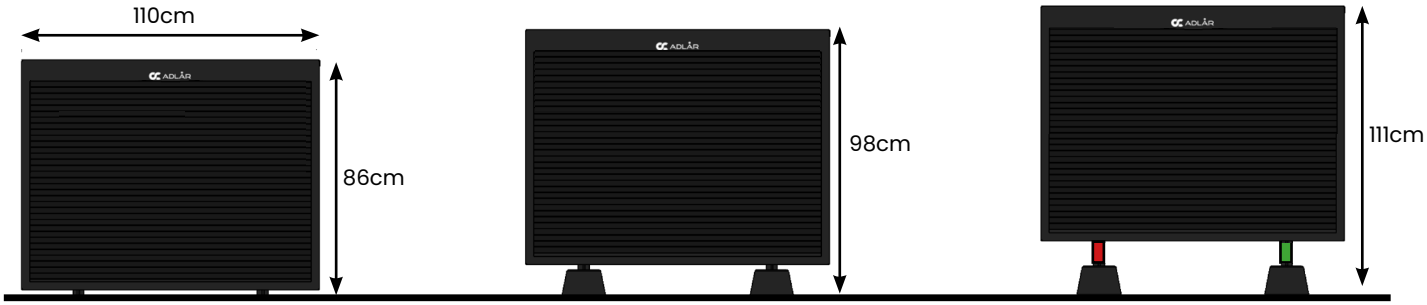
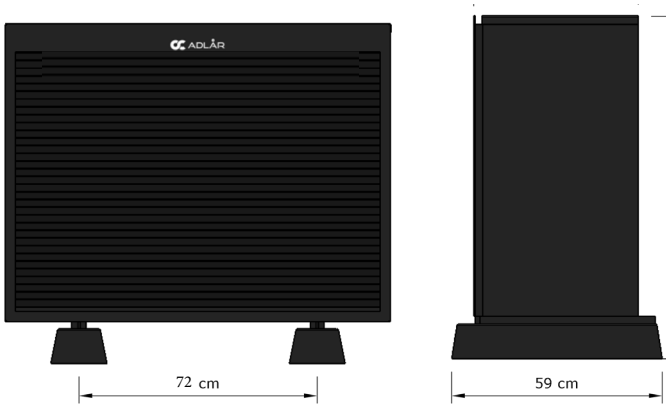
4 Heat Pump Dimensions

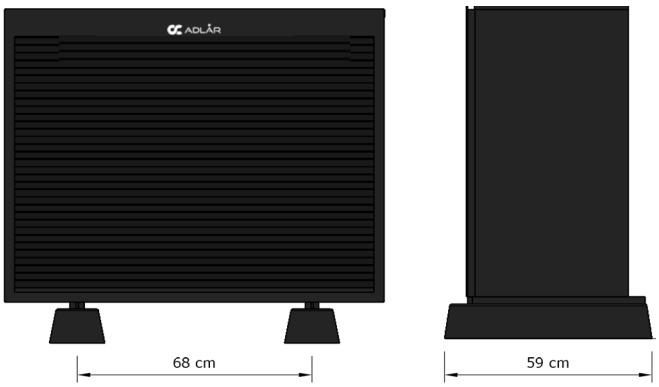
AURORA II - Height



AURORA II - 6&10kW



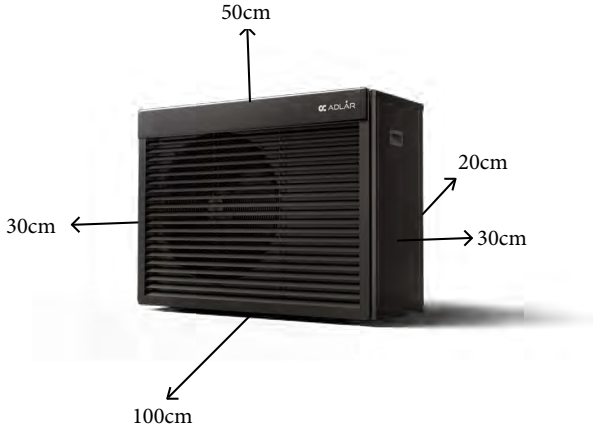
AURORA II - 14kW



Space Around Heat Pump

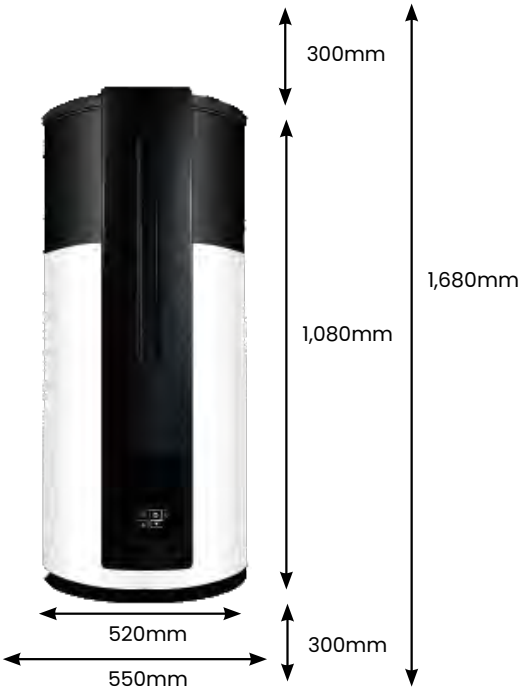
Please be aware that solid brick walls or placement in narrow alleyways can amplify noise from the heat pump, even if those walls are located beyond the minimum clearance distances.

Best practice is to install the heat pump so that the fan faces into open space, allowing unobstructed airflow and minimising noise reflection.



Dimensions - Floor Standing 200L & 300L

Dimensions - Wall Hung 80L & 120L



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