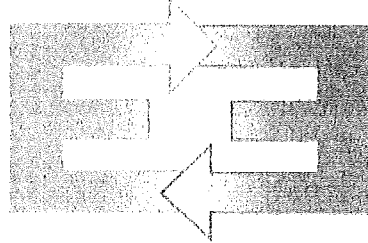


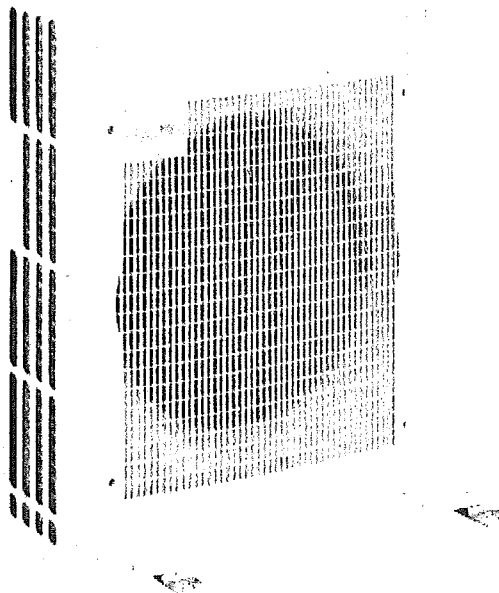
ICE ENERGY



HEAT PUMPS

IVT Ecolane Air Source Heat Pump

Installation Manual



4 Dimensions, clearance and pipe connections

4.1 Heat pump and AW module

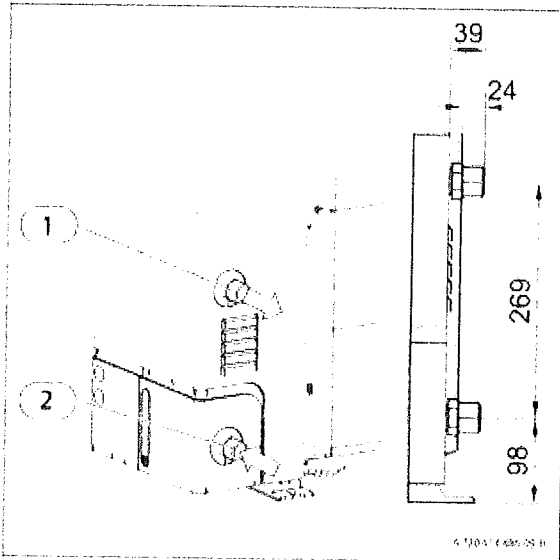


Fig. 7 Heat pump connections

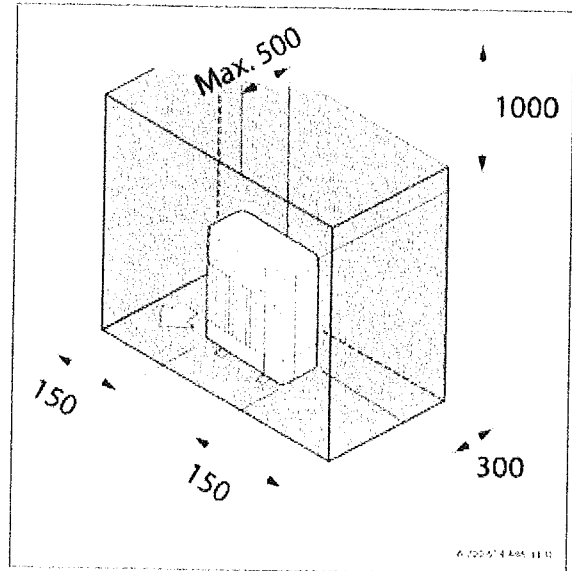


Fig. 8 Dimensions in mm

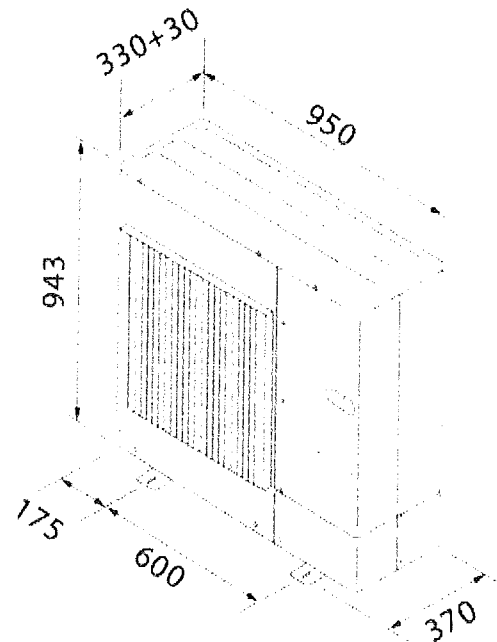
- 1 Heat transfer fluid out (to AW module) R25
- 2 Heat transfer fluid in (from AW module) R25

Required installation space for the heat pump

Minimum distance from the heat pump to the wall is 300 mm.

Minimum distance in front of the heat pump must be 500 mm and 150 mm at the sides.

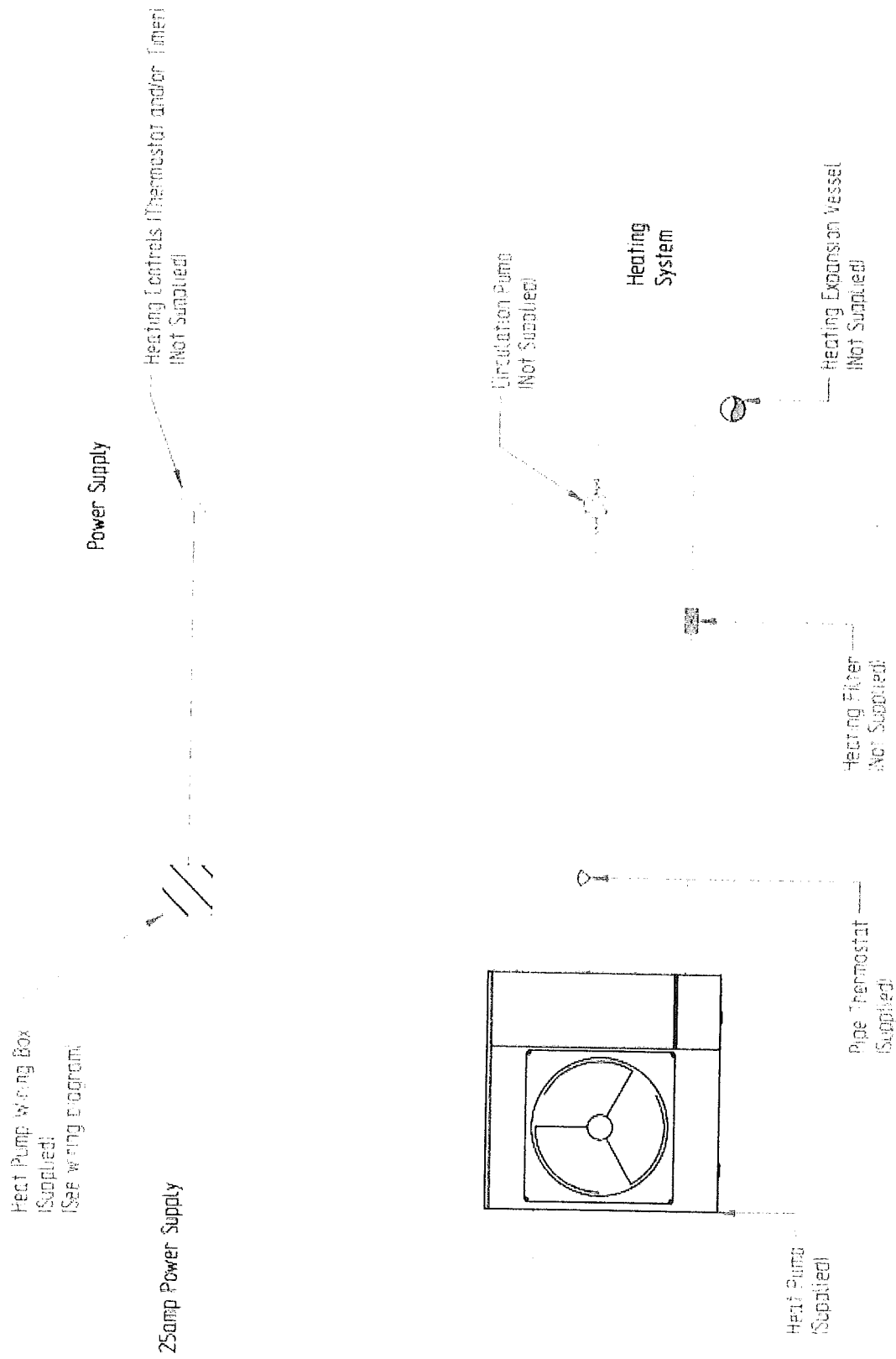
Any protective roofs must be installed at least 1 m above the heat pump, to prevent the recirculation of cold air.



Plumbing Installation Notes

- Isolation Valves should be used where possible.
- Pipework must be a minimum of 22mm. For long runs this may need to be increased to 28mm.
- A circulation pump must be installed.
- Flow rate of the heating system MUST be between 15 and 30 litres per minute at all times. If the flow rate is incorrect then you will get fault code U1. (See fault finding section for more info)
- The heating system must have all relevant safety valves and expansion vessels.
- Drain Cocks at low points and air vents at high points.
- Anti-Freeze (Sentinel R600) may be required in the heating system to prevent freezing.
- The maximum flow temperature of the heat pump is between 60°C/55°C. As such, your heating distribution system (radiators/UFH) must be designed to run at this temperature. Your plumber/installer will be able to advise on this.
- The heating distribution system must have at least 2 open zones. This could be either 2 radiators without TRV's or 2 UFH loops without control.
- This heat pump has been sold for space heating only. The unit could heat a hot water cylinder, however the design and control is the responsibility of the installer/end user.

Electrical Installation



Main Power Supply

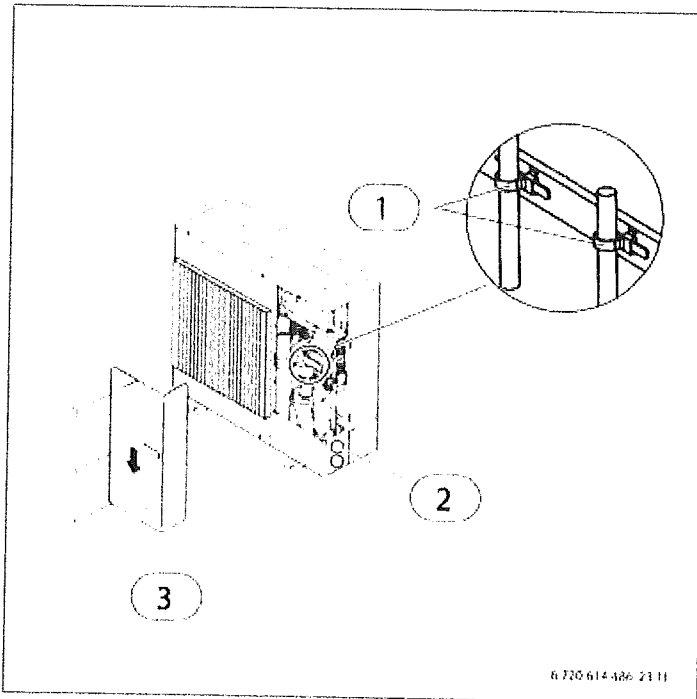


Fig. 21 Heat pump connection

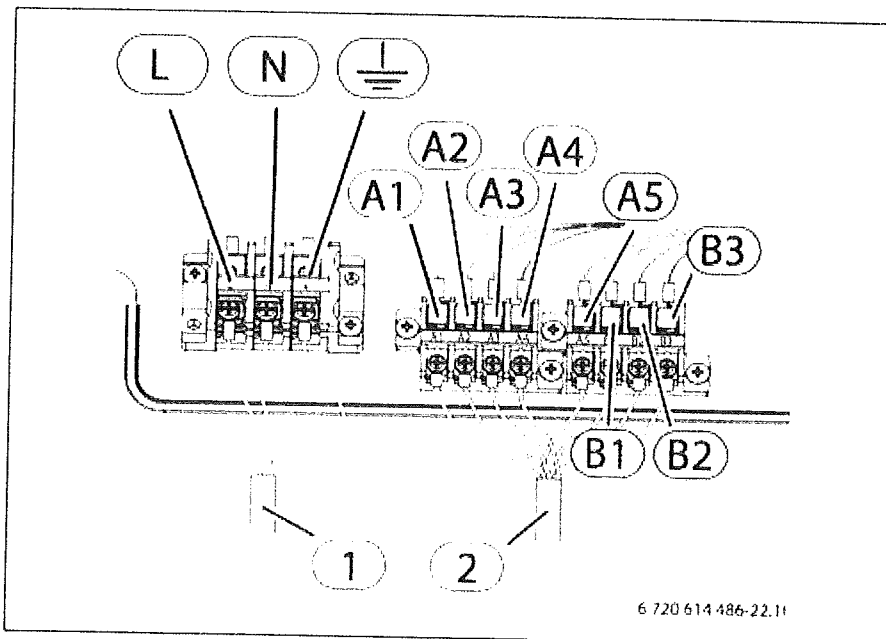


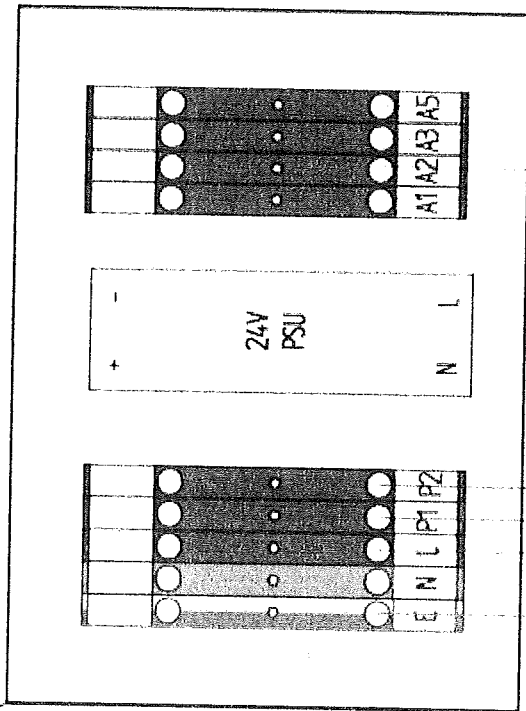
Fig. 22 Connection designations, heat pump

- 1 Electrical connections
- 2 Signal cable

Connections A4, B1, B2 and B3 are not required

Controller Wiring

Heat Pump Wiring Box



Start Signal
L/N/E

Pipe Thermostat
P1/P2

Control Cables
To Heat Pump
Min 0.5mm²

| | | |
|-------|------|------|
| DRAWN | NAME | DATE |
| | | |

Electrical Installation Notes

- Heat pump must have a permanent power supply with a 25amp type C circuit breaker.
- A Pipe Thermostat is supplied to limit the FLOW temperature of the heat pump. This must be set to a maximum of 60°C, ideally 55°C or lower.
- The pipe thermostat requires a 2 core and earth cable (230v)
- The Heat Pump wiring box requires a start signal from the heating controls (by others). This is a Live, Neutral and Earth (230v)
- The control cable from the wiring box to the heat pump is a 4 Core minimum 0.5mm.sq cable.
- A circulation pump is required and must achieve a flow rate between 15 and 30 litres per minute.

Specification Sheet

| | |
|------------------------------|--------------------------------|
| Heating Output at A7/W35* | 9.0kW |
| Electrical Input at A7/W35* | 2.3kW |
| COP at A7/W35* | 3.9 |
| Heating Output at A-7/W35* | 7.5kW |
| Electrical Input at A-7/W35* | 2.9kW |
| COP at A-7/W35* | 2.6 |
| Heating Connection Size | 1" BSP |
| Heating Flow Rate | 0.43 L/S |
| Compressor | Inverter Driven |
| Refrigerant | R410A |
| Defrost System | Automatic |
| Electrical Supply | 230v Single Phase |
| Fuse Size Required | 25Amp |
| Start Current | Under 3 amps |
| Sound Level @ 1m distance | 49 dBa |
| Maximum Flow Temperature | 60°C |
| Dimensions | 950mm(W) x 360mm(D) x 943mm(H) |
| Weight | 79kg |

*Outputs and COP according to EN14511

Heat Pump Components

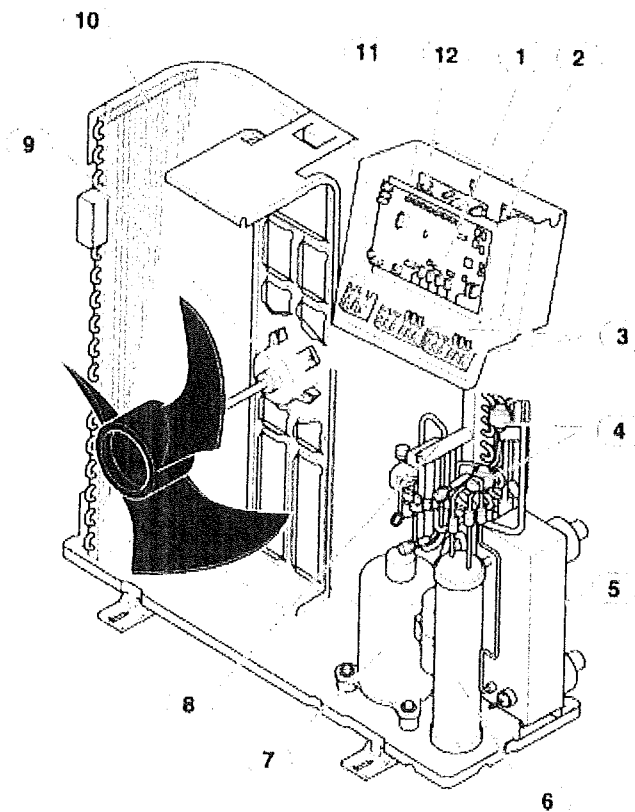


Fig. 11 Heat pump

- 1** Control board (Controller, C.B.)
- 2** interference filter board (N.F.)
- 3** Terminal signal cable (TB2, TB3)
- 4** Expansion valve
- 5** Condensor
- 6** Liquid separator
- 7** Compressor
- 8** Four-way valve
- 9** Fan motor
- 10** Evaporator
- 11** Terminal power supply (TB1, 230V)
- 12** Power board (P.B.)