

'Villacool'
Comfort Cooling - Technical Specification

The Villacool external condensing unit is capable of 4.0Kw (approx) of cooling, operating on refrigerant R407C and is suitable for airflows of between 350 and 700m³hr. The greater the airflow the better the performance.

Dimensions:- 1000 mm L
1000 mm H
300 mm D (+100mm air space behind).

Power Supply

A single phase 20A supply is required to outdoor unit position together with motor rated c type breaker. The outside unit will be complete with integral isolator.

Pipework

The Interconnecting pipework will be suction pipe 19mm internal diameter and is complete with 12mm low temperature insulation.

Liquid pipe 6mm internal diameter. Interconnecting pipework can be up to 30m price based on 10m or less. Interconnecting cable 4 core 1.5mm SY (braided multicore).

Evaporator coil copper aluminium with steel casing painted. Size of evaporator 600mm L x 400mm H x 180mm D. There is transformation ducting onto and off the coil, total length of entire cooling system internal is 1200mm L x 400mm H x 600 D.

There is pipework onto the coil but this can be either hand if notice is given but generally on the left.

Control Strategy

Villavent will provide a control panel to be located next to the indoor coil dependant on access.

The control panel will be approx 200mm x 200mm x 140mm complete with isolator and control relays for interconnecting with thermostats located in the coil to protect against ice build up; air off to protect against condensation in the supply ducting and air on to prevent cooling during winter (or thermostat in room which is favoured or possible).

Capacity

On maximum fan speed a cooling effect of 8-12°C (from ambient), can be achieved off of the coil adjacent to the Heat Recovery unit in the roofspace, in summertime.

'Villacool'
Comfort Cooling - Installation Instructions
First Fix

DIY first fix kit

15m 5/8" copper tube refrigeration quality
15m 1/4" copper tube refrigeration quality
15m 5/8" low temperature pipe insulation
20m 4 core braided cable
1 x 5/8" external bending spring
1 x 1/4" external bending spring
Fixings kit (inc cable ties, tie holders, PVC tape, pipe end caps, screws, rawl plugs)

Supplied in a box ready to send direct to customer.

DIY first fix instructions

The cooling system consists of an outdoor unit, cooling coil, control panel and associated pipework and cable.

The cooling coil and control panel should be installed next to the Villavent ventilation unit.

The outdoor unit in a suitable location as near to the cooling coil as possible. Between the cooling coil and the outdoor unit locations the pipework and control cable will need to be installed.

The pipework consists of 5/8" and 1/4" copper tube, refrigeration quality. The larger of the two pipes 5/8" should be fully insulated using the supplied insulation as this pipe can become very cold and condensate if not properly insulated.

The copper tube should be unrolled on to a flat clean surface to prevent twisting, denting and kinking.

The pipework route should be as straight as possible, however it is possible to bend the pipes to 90° using the springs provided to prevent kinking the pipe.

The control cable should be routed with the pipework and should be 2.5m longer at each end than the copper tube. The copper tube can be cut using pipecutters or a hacksaw.

Care should be taken to prevent any debris or moisture entering the pipework at all times.

Once the pipework and control cable have been routed and fixed the ends of all the pipes should be sealed using the heat shrink provided.

Care should be taken when enclosing the pipework and control cabling not to puncture the pipework, insulation or cable with fixings.

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Comfort Cooling - Installation Instructions
First Fix

Additional notes:

- Internal pipework can run in internal cavities, provided it is insulated.
- Outside condensing unit can be painted to suit surrounding area (additional cost of £75.00 nett)
- Condensing unit can be up to 30m from ventilation unit (15m supplied as standard).
- Acoustic jacket can be supplied for compressor in outside condensing unit if in noise sensitive area (near patio, back garden, neighbour's garden etc).

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Comfort Cooling - Installation Instructions
Second Fix

Additional notes:

This consists of the supply and installation of the cooling coil in the roofspace, thermostat and the outside unit to the refrigeration pipework. This is carried out by a Villavent authorised commissioning engineer.

'Villacool'
Comfort Cooling - User Instructions

The Villacool cooling systems are a direct expansion coil installed in the fresh air ductwork off the Villavent ventilation system.

The cooling system control panel is located next to the evaporator coil and has an isolator for on / off control in the event of failure.

The user has a thermostat with on /off control within a central area. These are usually wall mounted at approx 1.5m on a side wall or centrally on a pillar.

The on /off switch has the indicators O /1 for off and on respectively.

The dial thermostat has a range from 5°C to 30°C however for use as an air conditioning thermostat we have restricted the minimum temperature to 16°C. This is the lowest set point advisable on these systems.

Further controls on the cooling system are air off coil thermostat set to 5°C and an ice protection thermostat on the coil set to - 3°C. These should not be adjusted by the users and are for service engineers only.

For best cooling effect the Villavent ventilation system should be set at maximum ventilation rate and room thermostat set to on and 16°C.

The drain from the cooling coil carries any condensate to the overflow to the exterior of the building.

The outdoor unit houses the compressor and as such prevents mechanical noise emitting from the ventilation unit itself.