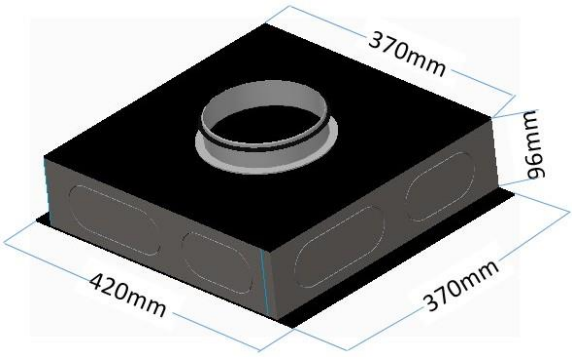
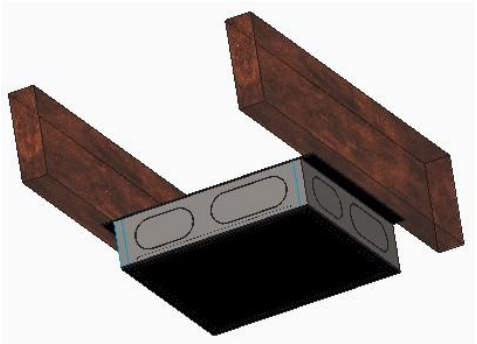
ProAir Distribution Box

The ProAir Distribution (or plenum) box is used to distribute air from an Air Handling Unit (AHU) to the living rooms of a house. It means that individual ducts are run to each room. Consequently the teeing of ducts is not required thereby eliminating the risk of cross talk between rooms. The distribution box is lined internally with acoustic foam which absorbs sound. The result is that air is delivered quietly to the rooms in the house.

Distribution boxes are also be used on the extract duct network to collect stale air from wet rooms – utility, kitchen and bathrooms.

A distribution box has a hard 3mm plastic top and base. The sides are made of special 16mm foam. The four sides, top and base are lined on the inside with acoustic foam. The distribution boxes are 96mm high. The top (which has the smaller plastic surface area) is 370mm x 370mm whilst the base is 370mm x 420mm. The extra 25mm on either side is added on to facilitate screwing the box to ceiling joists, which are normally at 400mm centres.





Installation

In a typical 2 storey 250m2 house 4no distribution boxes are used, 2no for supply air to living rooms and bedrooms and 2no for extract air from bathrooms, kitchen and utility room. Two of these would be typically positioned 1 – 2 meters away from the AHU. The air to and from the unit would go through them.

The air is taken off in oval ducts which are connected to the sides of the box. Where the AHU is located in a utility room it will be necessary to bring ducts to the first floor. A distribution box can be located in the attic/loft area and connected to the distribution box beside the AHU using a relatively large duct. The first floor rooms can then be connected to this distribution box. A similar arrangement can be made for the extract air.

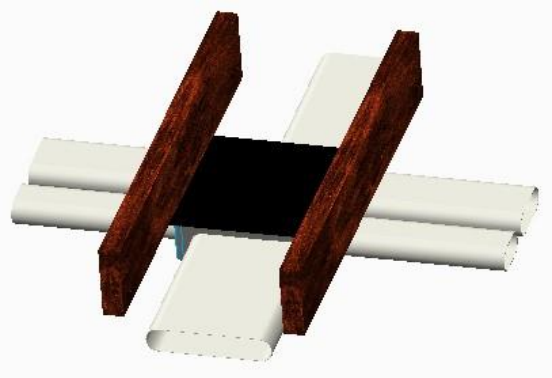
Connection of Ducts
On each side of the distribution box two die cuts have been made in the foam. One will take a 10 D&J duct (115mm x 60mm) and the other will take a 15 D&J duct (150mm x 60mm). These are the two most commonly used duct sizes.

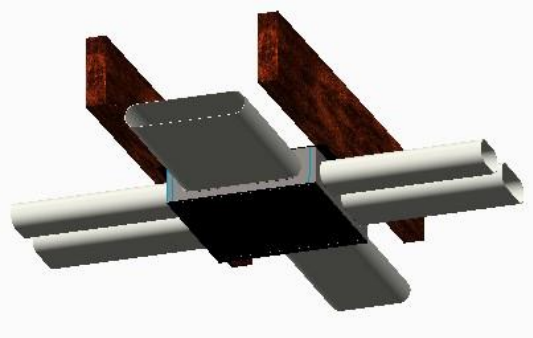
To install duct in to a distribution box:

- First remove the required die cut and carefully cut the acoustic foam inside.
- Mark a line all around the outside of the duct to be installed 10mm from the end.
- Put a bead of duct sealant all along this line.
- Push the duct into the ope ensuring that the duct is flush with the inside of the box.
- This is to ensure that this duct does not obstruct any adjacent duct that maybe installed later.

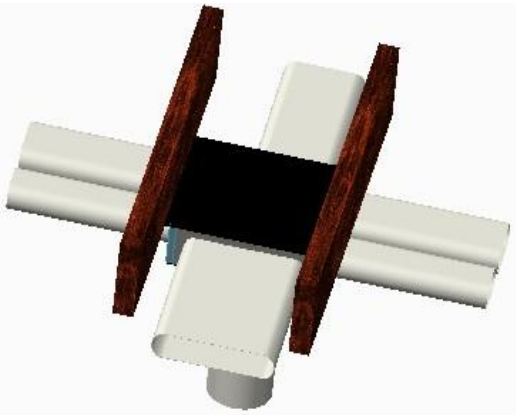
If a larger duct say 20 D&J duct (200x60) or 30 D&J duct (330x60) has to be connected the sides can be cut as required. The required ope should be made carefully and be slightly smaller than the duct size. This will ensure a tight fit.

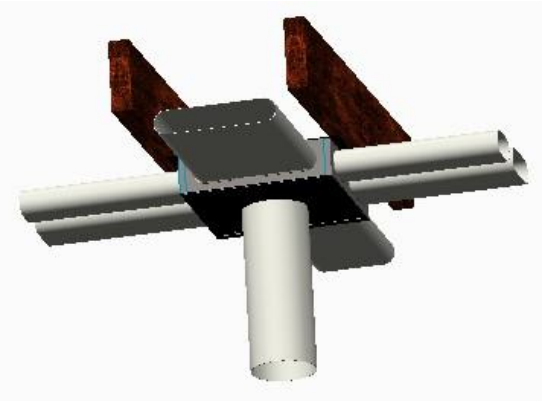
There are two types of distribution box, (i) one with a flat top and (ii) one with a 150mm round spigot on top to connect to the AHU. They can mounted on a ceiling or in an attic.



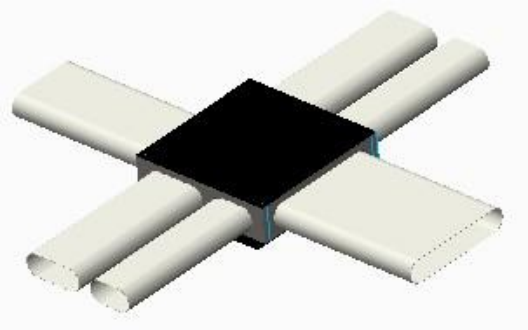


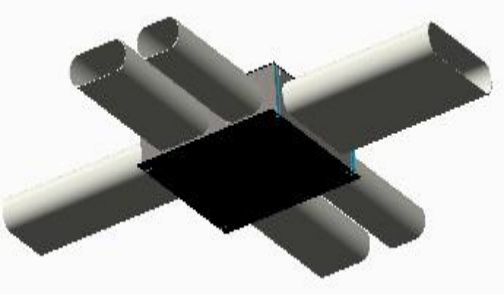
Ceiling Mounted Main DJ 3000 duct feeds the box. 5no rooms are being served.



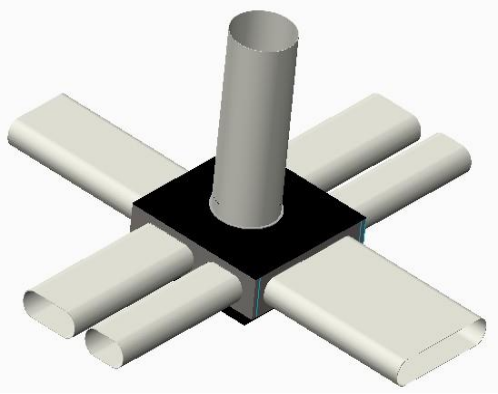


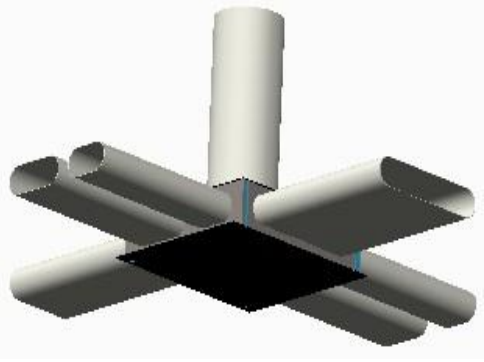
Ceiling Mounted 150mm (ID) duct feeds the box. 5no rooms are being served.





Attic Mounted Main DJ 3000 duct feeds the box. 5no rooms are being served





Attic Mounted 150mm (ID) duct feeds the box. 6no rooms are being served