

1.0 IMPORTANT SAFETY INFORMATION

- Ducting must be securely fixed with screws to the spigot to prevent access to live parts. Duct runs terminating close to the fan must be adequately protected by suitable guards.

1.1 HAZARD SYMBOLS



REFER TO INSTRUCTION MANUAL

Read and understand the installation and maintenance manual before installing, operating or maintaining this product.

1.2 IMPORTANT INFORMATION

This manual contains important information on the safe and appropriate assembly, transport, commissioning, operation, maintenance, disassembly and simple troubleshooting of the product.

While the product has been manufactured according to the accepted rules of current technology, there is still a danger of personal injury or damage to equipment if the following general safety instructions and the warnings contained in these instructions are not complied with.

- **Read these instructions completely and thoroughly before working with the product.**
- **Keep these instructions in a location where they are accessible to all users at all times.**
- **Always include the operating instructions when you pass the product on to third parties.**

1.3 PERSONAL PROTECTIVE EQUIPMENT

The following minimum Personal Protective Equipment (PPE) is recommended when interacting with Nuaire product:

- **Protective Steel Toed Shoes:** When handling heavy objects.
- **Full Finger Gloves (Marigold PU800 or equivalent):** When handling sheet metal components.
- **Semi Fingerless Gloves (Marigold PU3000 3DO or equivalent):** When conducting light work on the unit requiring tactile dexterity.
- **Safety Glasses:** When conducting any cleaning/cutting operation or exchanging filters.
- **Reusable Half Mask Respirators:** When replacing filters which have been in contact with normal room or environmental air.

Nuaire would always recommend a site specific risk assessment by a competent person to determine if any additional PPE is required.

2.0 INTRODUCTION

2.1 NUAIRE THERMAL DUCTING (NTD)

Nuaire Ductmaster Thermal Ducting (NTD) is a range of ducting and ancillaries intended for installation in domestic properties.

Nuaire Thermal Ducting is supplied in 1 meter lengths. If shorter lengths are required the duct can be cut to the desired length (see Section 3.4).

Nuaire Thermal Ducting is available in three different sizes and profiles, based on the internal dimension: Ø125mm or 204x60mm and 220x90mm rectangular.

Unlike other thermal ducting systems Nuaire's unique ducting design negates the need for solid plastic inner ducting to achieve the required thermal properties and leakage rates stipulated by building regulations.

Nuaire's thermal ducting clamps connect system is designed to use with Nuaire Thermal Ducting and allows quick and easy installation without the need for any tapes or sealants.

Using Nuaire thermal ducting will achieve a level of leakage substantially lower than the maximum allowed for a class 'A' duct as defined in DW/143 (Ductwork leakage testing).

Fig 1: Nuaire Thermal Ducting



2.2 THERMAL DUCTING CLAMPS

Nuaire Thermal Ducting connector clamps are available in 1-piece and 2-piece variants to match Ø125mm circular or 204x60mm or 220x90mm rectangular duct.

Fig 2: NTD-125-CONL - 2-Piece Ø125mm Circular Ducting Clamp



Fig 3: NTD-204-CONL & NTD-220-CONL - 2-Piece 204x60mm & 220x90mm Rectangular Ducting Clamps



Fig 4: NTD-125-OPC - 1-Piece Ø125mm Circular Ducting Clamp



Fig 5: NTD-204-OPC & NTD-220-OPC - 1-Piece 204x60mm & 220x90mm Rectangular Ducting Clamps



3.0 INSTALLATION

Installation must be carried out by competent personnel in accordance with the appropriate authority and conforming to all statutory governing regulations.

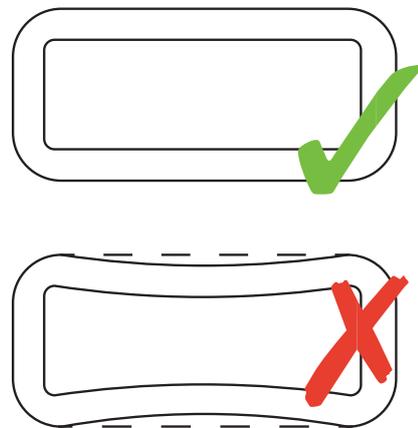
The ducting must be installed indoors, on a suitable vibration free solid surface away from direct sources of frost, heat, and water spray or moisture generation.

Prior to installation a dimensional check of the chosen installation location should be undertaken to ensure suitability.

IMPORTANT

Do not place heavy objects on the ducting as this could cause distortion or breakage. Distorted ducting could result in air flow leakage at the seal joint with the connector.

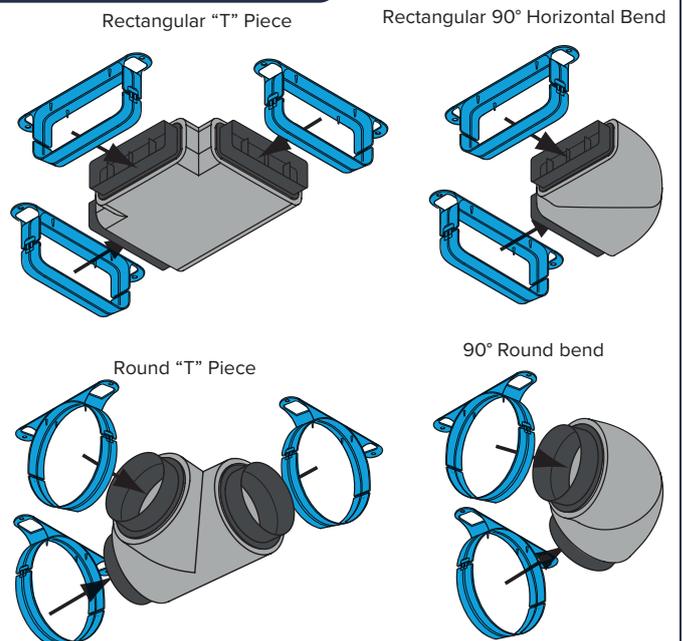
Fig 6: Rectangular Ducting



IMPORTANT

Thermal ducting clamps must be used on the duct bends and T pieces as shown in Fig 7. When using 2 piece connectors, the black ducting inserts must also be used (as also shown in Fig 7). Ducting inserts are not required one using 1-piece (OPC) connectors.

Fig 7: Ducting Clamp Use



3.1 FLEXIBLE DUCT CONNECTIONS WITH THERMAL PLENUMS AND BENDS

Where it is necessary to use semi-rigid acoustic flexible duct (max length 300mm) between the MVHR unit and a plenum or bend please ensure that a rigid 125mm dia. PVC duct connector is installed into the plenum or bend for successful connection.

Fig 8: Using the PVC duct connector (PVC593WH)

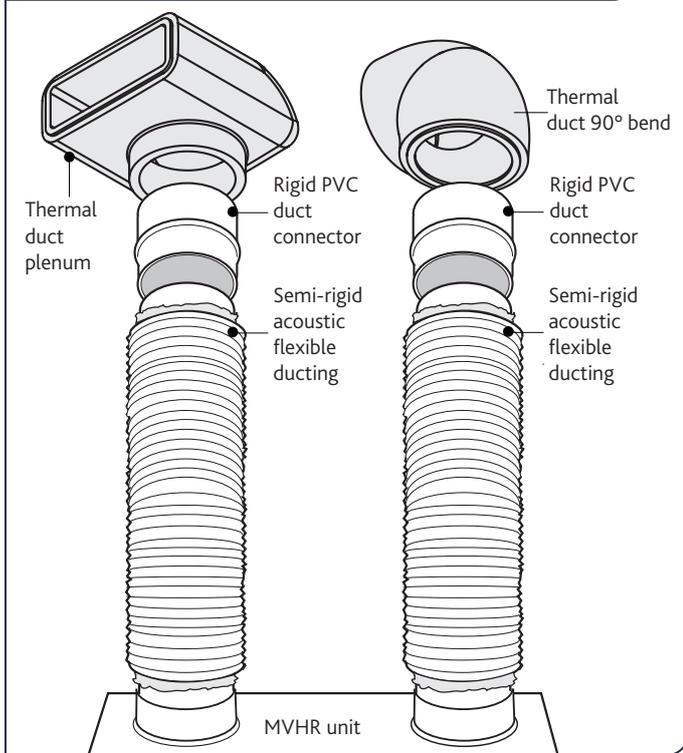
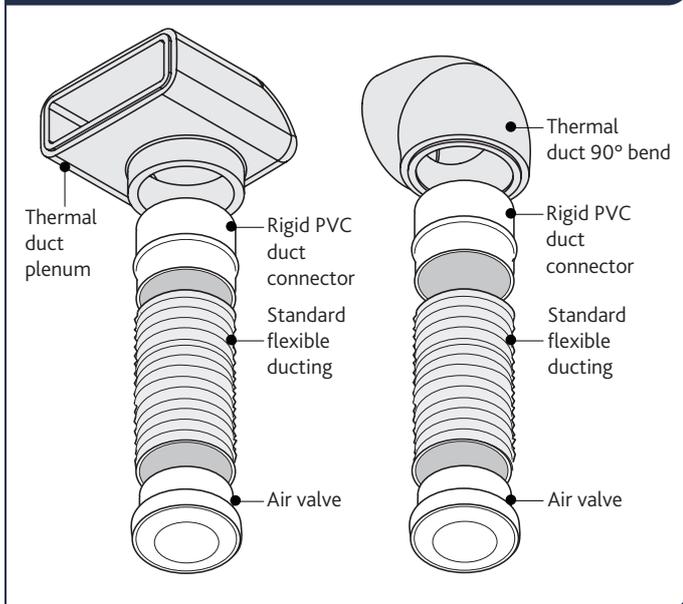
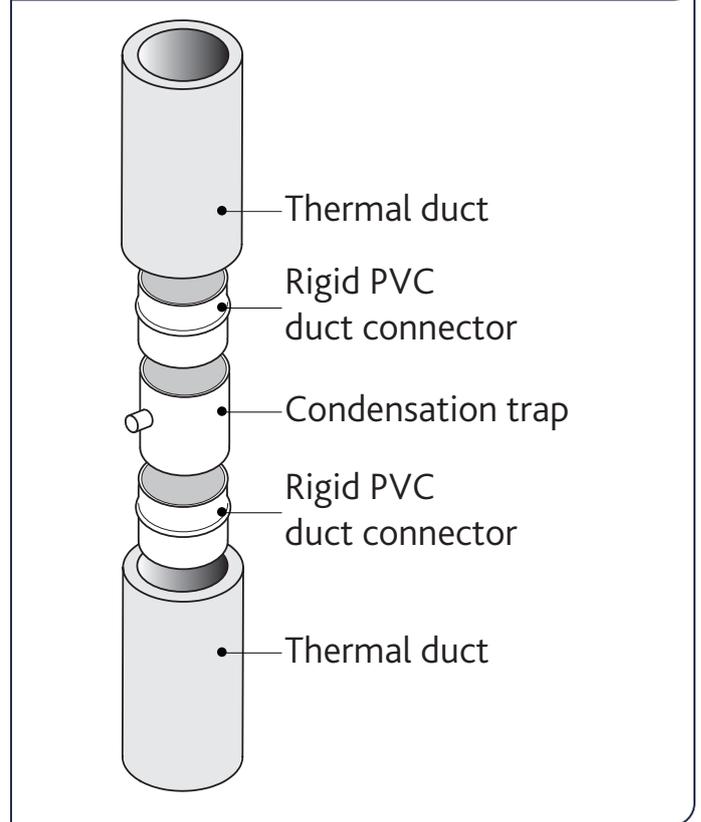


Fig 9: Use of Standard Flexible Ducting (Max Length 300mm) Between an Air Valve (Part no. VS125) and Plenum or Bend



3.2 CONDENSATE TRAP

Fig 10: Use of Condensate Trap (Code Contrap125) with Rigid PVC Duct Connectors (Code PVC593WH)



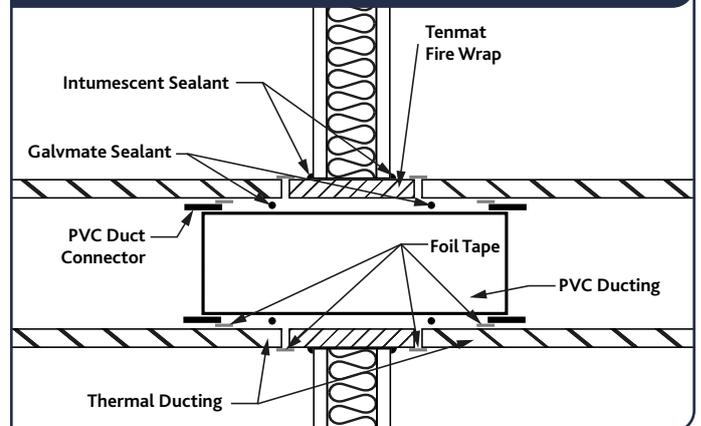
3.2.1 FIRE WRAP TO THERMAL DUCTING USING PVC DUCT CONNECTIONS

Cut PVC ducting approximately 150mm longer than the fire wrap and fit ducting through fire wrap.

Fit duct connectors both ends of PVC ducting and seal with foil tape. Apply Galva Mate generously between outer surface of duct connector and thermal ducting.

Using foil tape, seal joint between fire wrap and thermal ducting and seal joints between fire wrap and wall with intumescent sealant.

Fig 11: Typical Fire Wrap Installation Using PVC Duct Connection



3.2.2 FIRE WRAP TO THERMAL DUCTING USING DUCT INSERTS ONLY

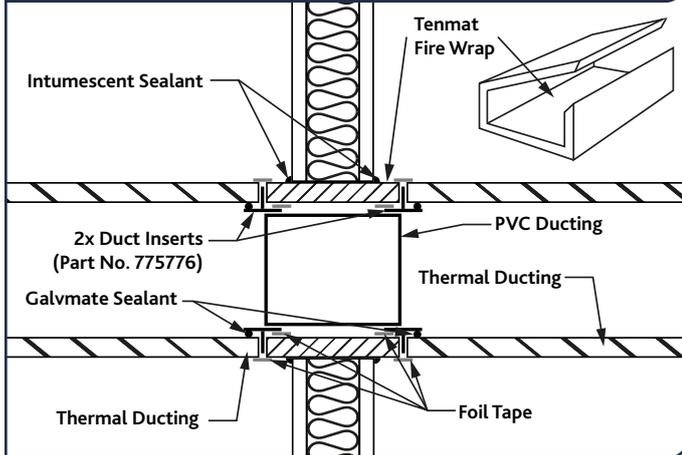
Cut PVC ducting to same length as fire wrap, fit duct insert in place and seal with foil tape.

Cut fire wrap along length as shown, wrap fire wrap around PVC ducting and seal using tape supplied.

Fit assembly into wall structure and fit thermal ducting to duct insert, seal using galvmate.

Using foil tape, seal joint between fire wrap and thermal ducting and seal joints between fire wrap and wall with intumescent sealant.

Fig 12: Typical Fire Wrap Installation Using Duct Inserts



3.3 ATTENUATOR INSTALLATION

Fig 13: Installation of a Spigoted Attenuator in Thermal Ducting

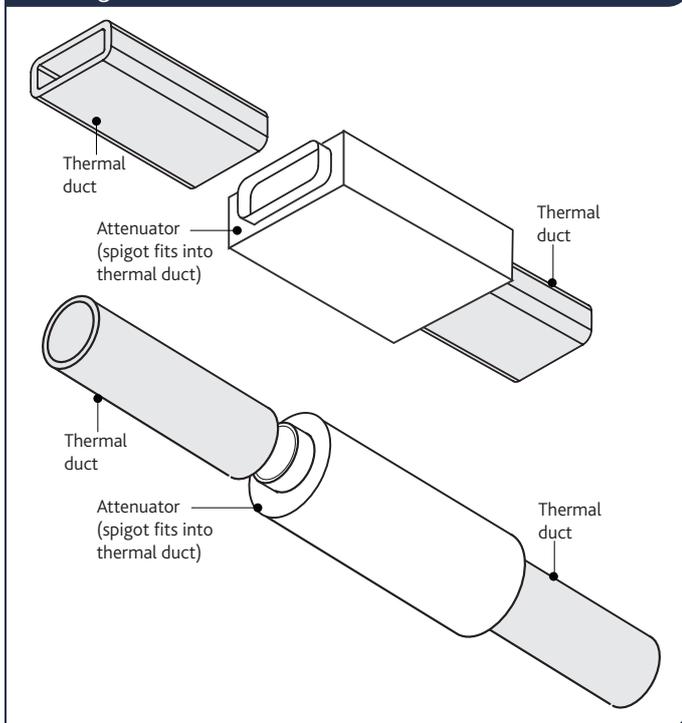
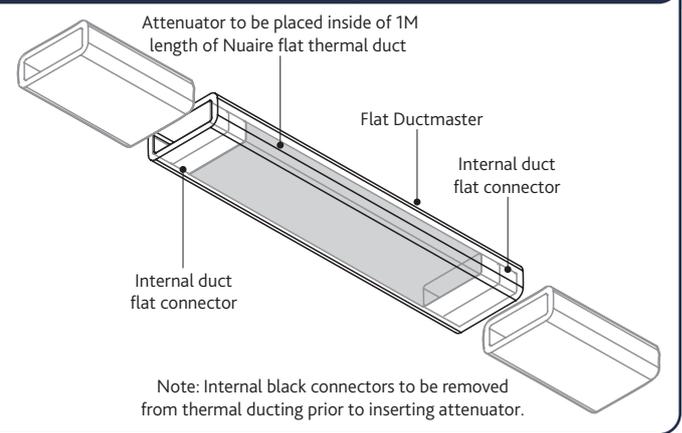


Fig 14: Installation of a Nuaire's PVC-SIL Rectangular Attenuator in Thermal Ducting



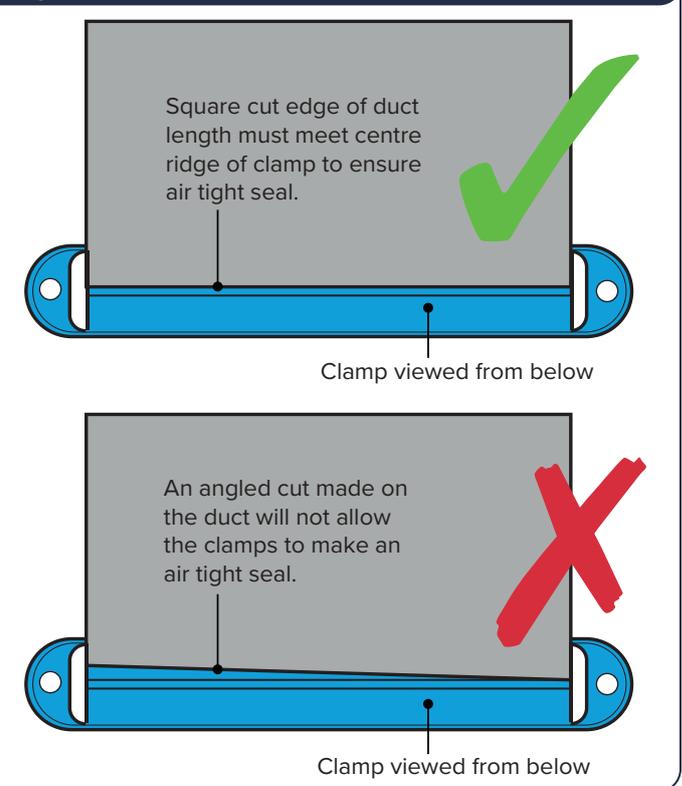
3.4 CUTTING DUCTING LENGTHS

A flush, square 90° cut is required to ensure that an air tight seal is made with centre ridge in the clamp. If an angled cut is made, this will not allow the duct clamps to create a seal on the duct. We advise that the duct is cut with a very sharp blade or fine toothed saw (we recommend a minimum of 14 teeth per inch). The cutting blade length should be at least the same length as the wall thickness of the ducting.

Ensure duct is placed into Duct Clamp connector prior to installation to check the squareness of the cut ducting.

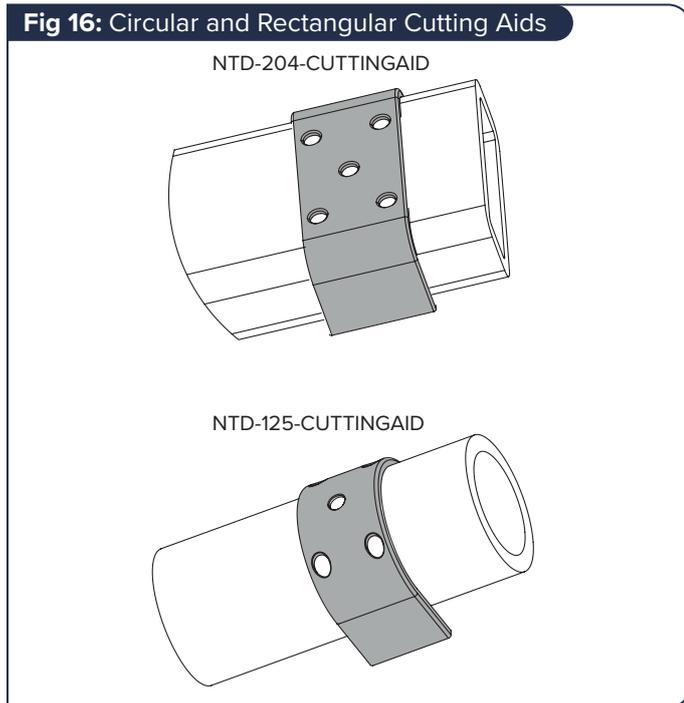
Ensure duct is placed into the duct clamp connector prior to installation to check the squareness of the cut ducting (Fig 15).

Fig 15: Square 90° Cut Is Required to Ensure an Air Tight Seal



3.4.1 CUTTING AIDS

Cutting aids are available upon request to help with cutting the Ø125mm and 204x60mm ducting whilst, maintaining a square end (Fig 16).



3.5 FITTING DUCTING CLAMPS

3.5.1 ONE-PIECE CONNECTOR CLAMPS

For installation into the duct clamp, push the 2 pre-cut lengths of ducting firmly into the clamp at opposite ends.

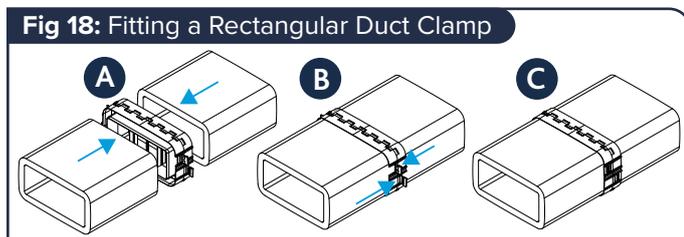
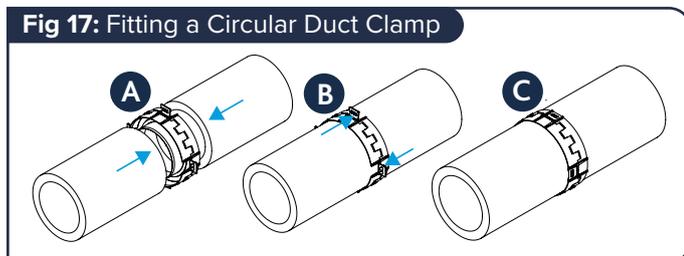
Double check the squareness of the cut ducting. Failing to do so may cause air leakage.

The centre joint of the duct lengths should be located on the centre flange of the clamp.

Ensure the ducting is fully pressed into the clamp to create an air tight seal. Failing to do so may cause air leakage.

Press the fixings tabs down until they lock in place.

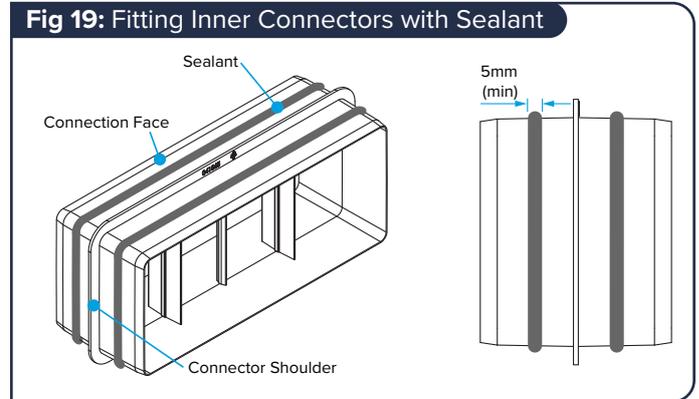
The connector pieces are designed for single fix use. The ducting system or ducting section should be assembled and fixed in place prior to closing the fixing tabs on the connector pieces. If the connector pieces need to be removed, care should be taken to release the fixing tabs without excessive force as this can damage the fixing tabs and/or ducting.



3.5.2 BLACK INNER CONNECTORS WITH SEALANT

For connection of thermal ducting with inner duct connectors we recommend the use of Galva Mate, solvent free low odour sealant. Sealant should be applied in the middle of the connection face with a minimum bead width of 5mm.

Fit ducting over connector ensuring end face butts up to connector shoulder. Allow minimum of 1 hour curing time at room temperature.

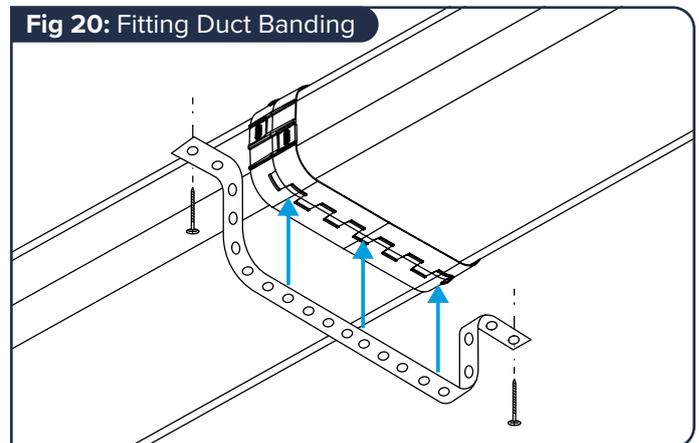


3.6 THERMAL DUCTING BANDING

For installation onto a solid surface, suitable duct banding must be used to support both the rectangular and circular ducting and should be fitted every 1m. When fitting the bands at the fixing clamps the raised tabs provided will act as an installation guide.

Nuaire recommend the use of PVC coated galvanised banding available under item code PVCBAND. As an alternative, uncoated galvanised banding may also be used.

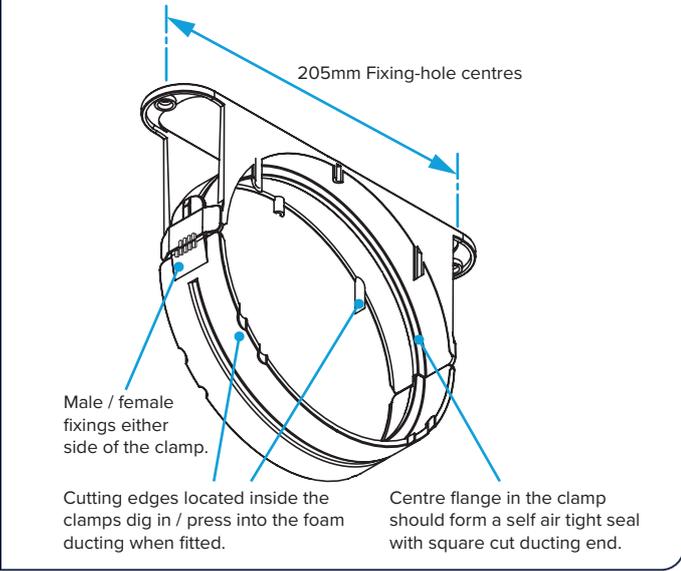
In both cases, if banding is used on the duct itself and not at the fixing clamp then care should be taken to ensure the banding does not cut into the surface as this may cause damage and ultimately lead to leakage.



3.6.1 TWO-PIECE CONNECTORS

1. Establish the installation position for the ducting and clamps with lugs and drill 2 holes to suit the clamp position.

Fig 21: Features of Circular Clamp with Lugs (NTD-125-CONL)



2. Having drilled 2 fixing holes to suit the clamp position, remove the top half of the clamp from the bottom half. Using appropriate fixings fix the top half of the clamp to the solid surface (fixings supplied by others).

Fig 24: Fixing Top-Half of Circular Clamp

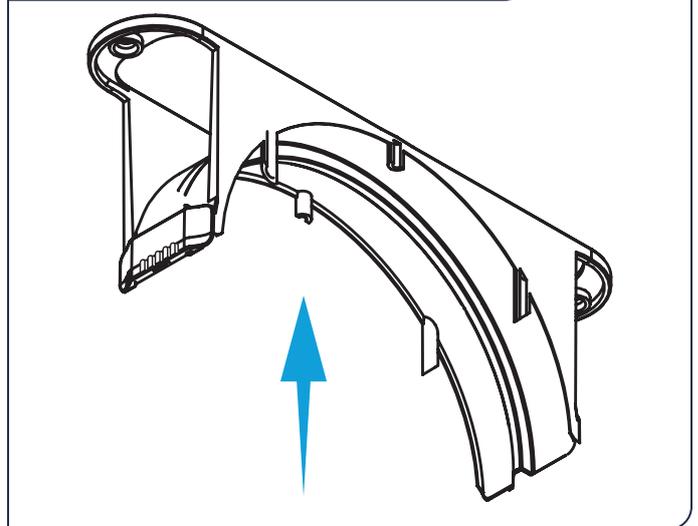


Fig 22: Features of 204 x 60mm Clamp with Lugs (NTD-204-CONL)

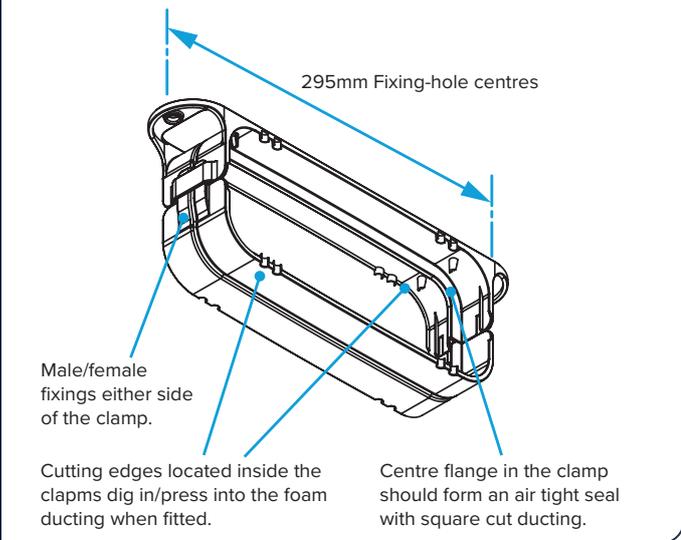


Fig 25: Fixing Top-Half of Rectangular Clamp

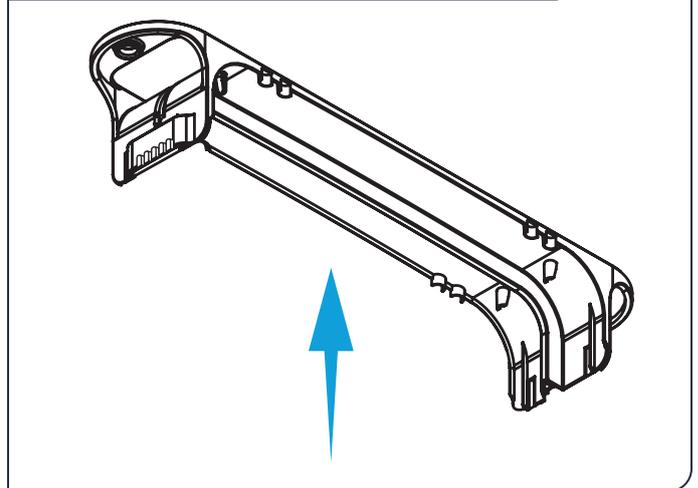


Fig 23: Features of 220 x 90mm Clamp with Lugs (NTD-220-CONL)

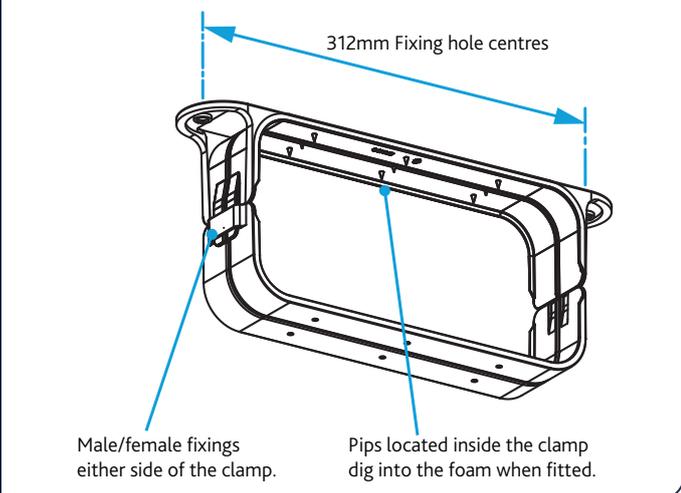


Fig 26: Joining 2 Lengths of Circular Ducting

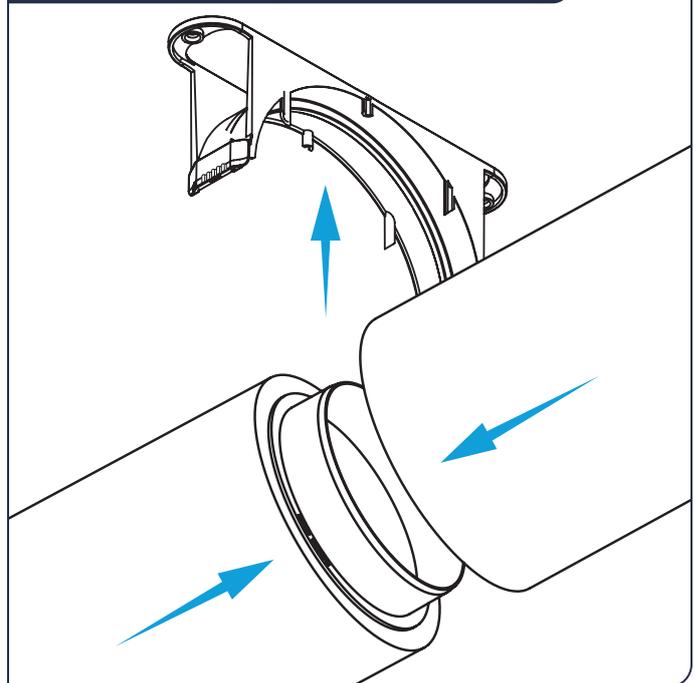
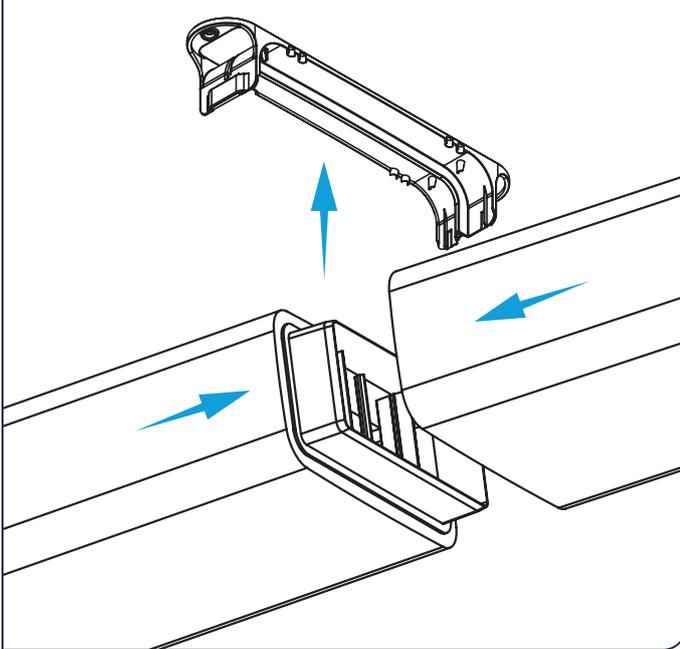


Fig 27: Joining 2 Lengths of Circular Ducting



3. For final installation into the clamp, push the duct up into the duct clamp fixed to the solid surface. The centre joint of the 2 duct lengths should be located on the centre ridge of the clamp.
4. Take the bottom half of the clamp and push up so that the fixing tabs on each side fit into the slots on the female half, then press together.

Ensure the ducting is fully pressed into the clamp to create an air tight seal. Failing to do so may cause air leakage.

Fig 28: Final Installation of the Circular Clamp

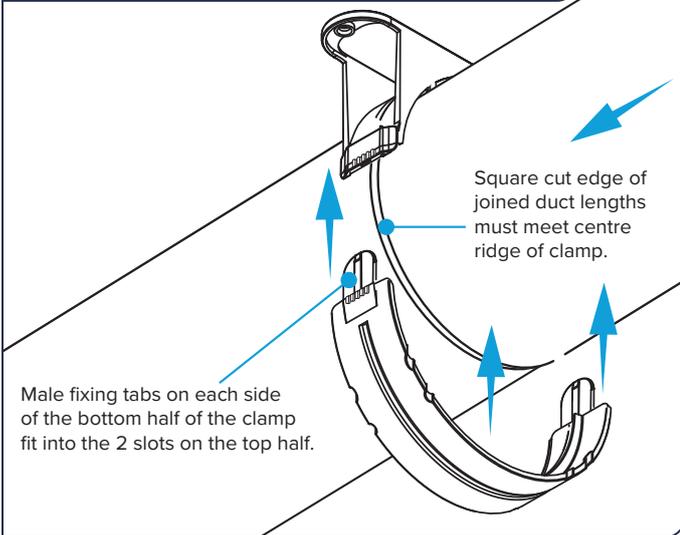


Fig 29: Final Installation of the Rectangular Clamp

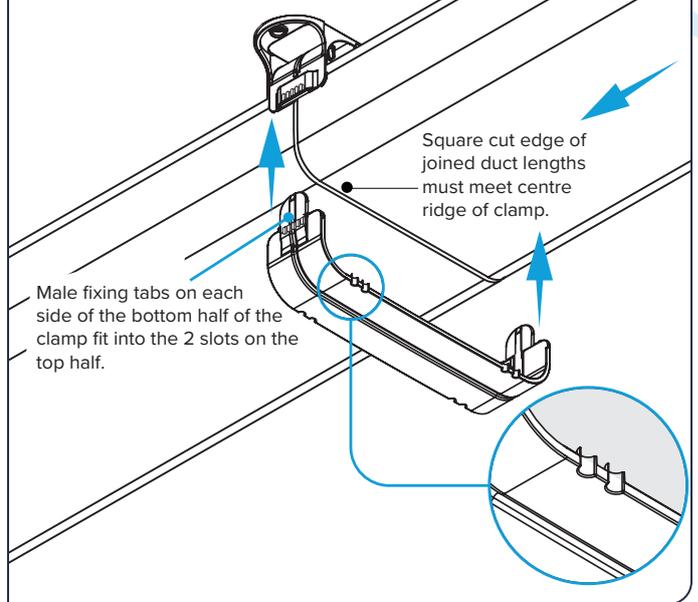


Fig 30: Installed Circular Clamp

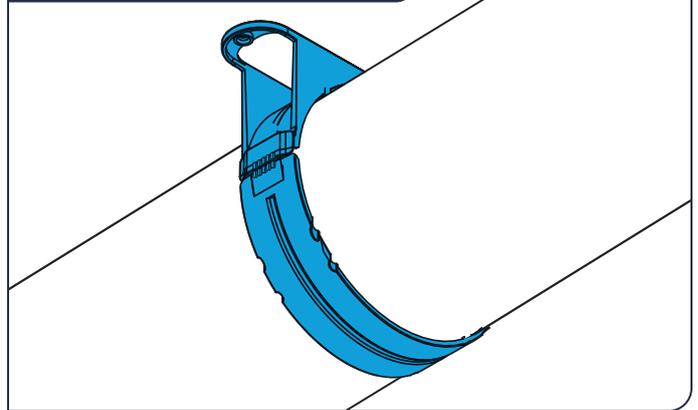
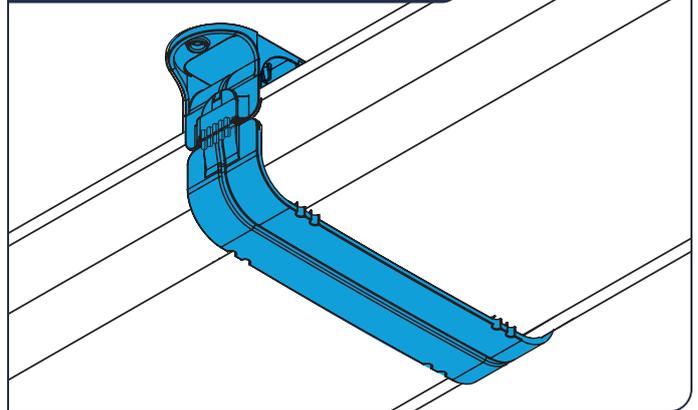
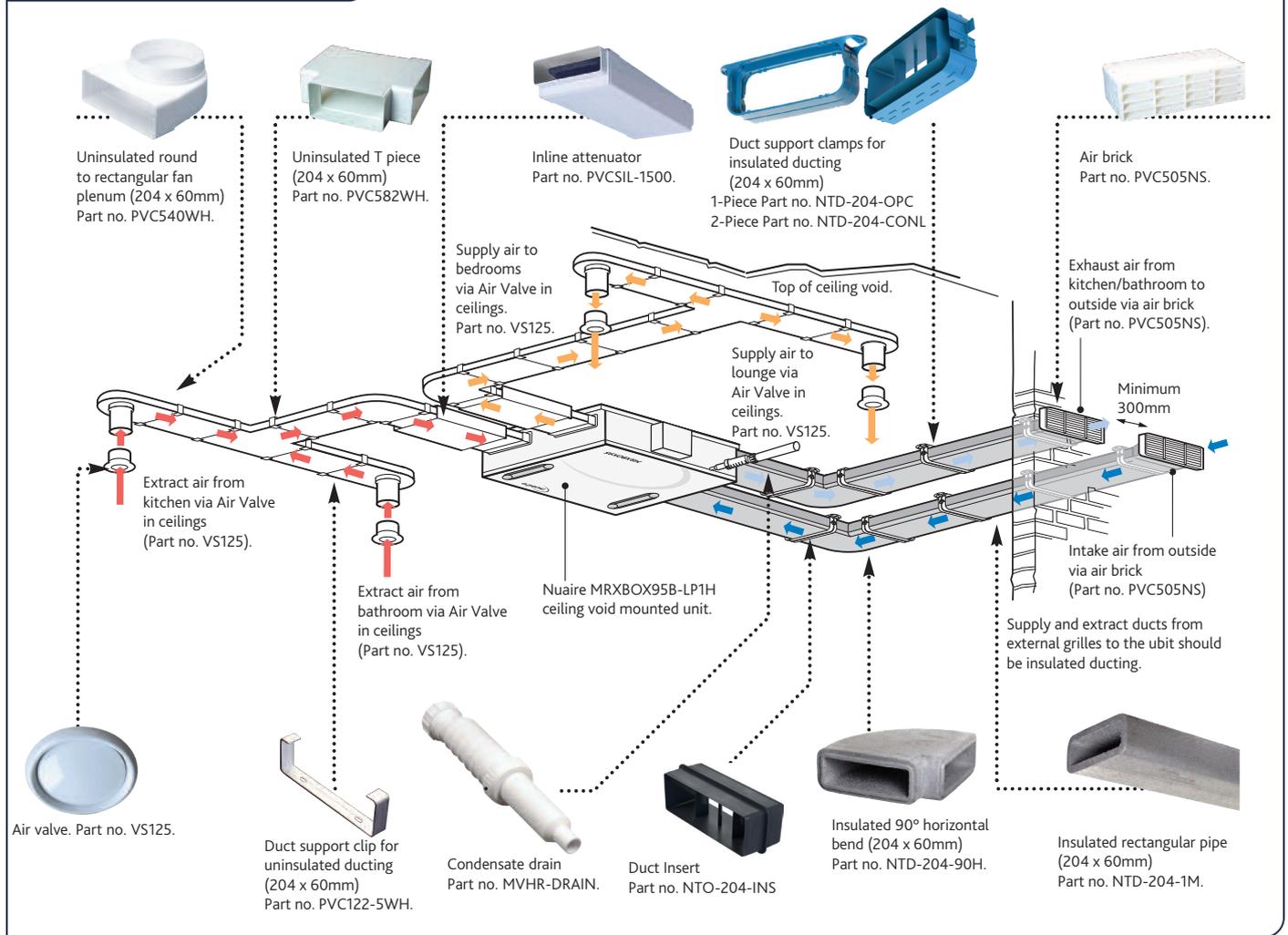


Fig 31: Installed Rectangular Clamp



3.7 TYPICAL MVHR DUCT ARRANGEMENT FOR 204x60mm DUCTING

Fig 32: Double Column Image



4.0 END-OF-LIFE AND RECYCLING

Where possible Nuair use components which can be largely recycled when the product reaches its end-of-life:

- Fans, motors, controls, actuators, cabling and other electrical components can be segregated into WEEE recycling streams.
- Sheet metal parts, aluminium extrusion, heating/cooling coils and other metallic items can be segregated and fully recycled.
- EPP, plastic ducting, nylon corner pieces, plastic heat exchangers, packaging material and other plastic components can be segregated into mixed plastic and widely recycled.
- Cardboard packaging, wood, used filters and other paper components can be largely recycled or fully processed in energy from waste centres.
- Remaining Items can be further segregated and processed in accordance with the zero waste hierarchy. Please call After Sales Support for further information on items not listed above.

IMPORTANT

Ensure that Nuair product is made safe from any electrical / water / refrigerant supplies before dismantling commences. This work should only be undertaken by a qualified person in accordance with local authority regulations and guidelines, taking into account all site based risks.

5.0 AFTER SALES AND REPLACEMENT PARTS

For technical assistance or further product information, including spare parts and replacement components, please contact the After Sales Department.

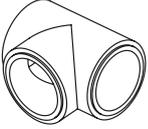
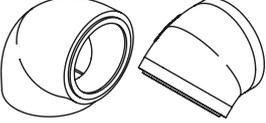
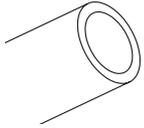
If ordering spares please quote the serial number of the unit together with the part number, if the part number is not known please give a full description of the part required. The serial number will be found on the identification plate attached to the unit casing.

Telephone 02920 858 400
aftersales@nuair.co.uk

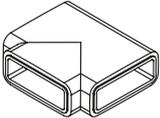
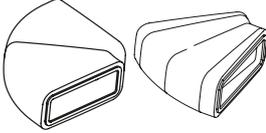
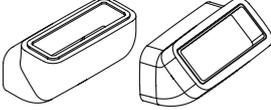
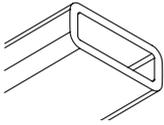
Technical or commercial considerations may, from time to time, make it necessary to alter the design, performance and dimensions of equipment and the right is reserved to make such changes without prior notice.

6.0 RANGE DETAILS

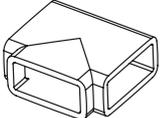
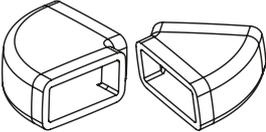
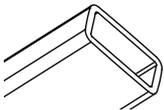
6.1 Ø125mm CIRCULAR DUCTING

	Code	Description
	NTD-125-TP	Insulated "T" Piece.
	NTD-125-90H NTD-125-45H	Insulated 90° bend. Insulated 45° bend.
	NTD-125-1M	Insulated duct - 1m length.

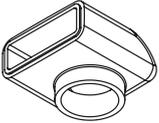
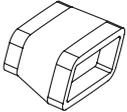
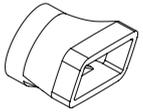
6.2 204x60mm RECTANGULAR DUCTING

	Code	Description
	NTD-204-TP	Insulated "T" Piece.
	NTD-204-90H NTD-204-45H	Insulated 90° horizontal bend. Insulated 45° horizontal bend.
	NTD-204-90V NTD-204-45V	Insulated 90° vertical bend. Insulated 45° vertical bend.
	NTD-204-1M	Insulated Duct 1m length.

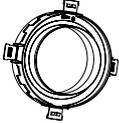
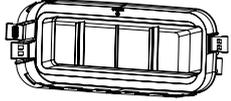
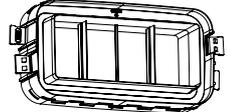
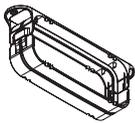
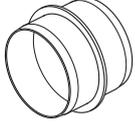
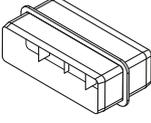
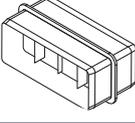
6.3 220x90mm RECTANGULAR DUCTING

	Code	Description
	NTD-220-TP	Insulated "T" Piece.
	NTD-220-90H NTD-220-45H	Insulated 90° horizontal bend. Insulated 45° horizontal bend.
	NTD-220-90V NTD-220-45V	Insulated 90° vertical bend. Insulated 45° vertical bend.
	NTD-220-1M	Insulated Duct 1m length.

6.4 PLENUMS, REDUCERS AND ADAPTORS

	Code	Description
	NTD-204-PL	Insulated 204x60mm to Ø125mm plenum.
	NTD-220-PL	Insulated 220x90mm to Ø125mm plenum.
	NTD-220-PL150	Insulated 220x90mm to Ø150mm plenum.
	NTD-220-RED204	Insulated 220x90mm to 204x60mm rectangular reducer.
	NTD-220-STR125	Insulated 220x90mm to Ø125mm - Rectangular to round adaptor.
	NTD-220-4STR150	Insulated 220x90mm to Ø150mm - Rectangular to round adaptor.

6.5 DUCTING CONNECTOR CLAMPS AND INSERTS

	Code	Description
	NTD-125-OPC	Ø125mm 1-Piece Duct clamp with fixing lugs.
	NTD-204-OPC	204x60mm 1-Piece Duct clamp with fixing lugs.
	NTD-220-OPC	220x90mm 1-Piece Duct clamp with fixing lugs.
	NTD-125-CONL	Ø125mm 2-Piece Duct clamp with fixing lugs.
	NTD-204-CONL	204x60mm 2-Piece Duct clamp with fixing lugs.
	NTD-220-CONL	220x90mm 2-Piece Duct clamp with fixing lugs.
	NTD-125-INS	Ø125mm Insert for insulated ducting joints.
	NTD-204-INS	204x60mm Insert for insulated ducting joints.
	NTD-220-INS	220x90mm Insert for insulated ducting joints.

