

Xcel Ductwork Fabrication/Installation Instructions



Fabrication Instructions

Cut lengths of profile to suit the duct dimensions less the tolerance below, (Fig. 1).

Note: external dimensions of the duct are to be used.

XL20C	= Duct width less 30-32mm
XL30C	= Duct width less 38-40mm
S40/12U	= Duct width less 38-40mm

The profile should be cut in the direction shown to prevent the metal cuttings contaminating the sealant. For best results use a circular cut off saw with pneumatic vice. The use of an abrasive blade or wheel should not be used, the heat can melt the sealant and affect the airtightness of the completed joint. If any burring has occurred during the cutting of the flange, this must be removed before assembly. (Fig. 2).

Fully insert four corners into the pre-cut profiles up to the swage as shown, to form a frame. The corners are fitted with the swage away from the duct, when correctly fitted they are flush with the frame face, (Fig. 3). Corners can be secured into profile by dimpling if preferred (machine reference DS145-147).

For certain high pressure applications it may be appropriate to spot weld the corners to the flange to give the optimum strength (refer to sales office for details).

Push the completed frame onto the duct starting at the corner. When all sides are entered, firmly tap the frame home ensuring that the duct passes into the sealant pocket formed within the profile. Check on corners that the duct has passed under the corner and entered the sealant pocket. Check larger ducts with a straight edge that frame is level, (Fig. 4).

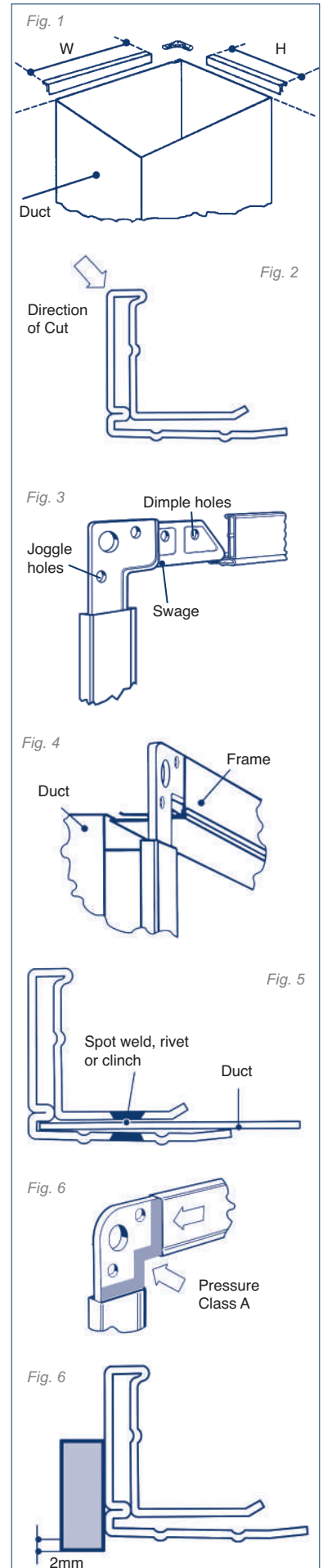
The frame can be attached to the duct by various methods, spot welding, rivet or clinch. Spacing for fastenings to be as DW144 Table 5. A fixing at a maximum of 50mm from each corner is recommended, this will give additional strength during the installation, (Fig. 5).

Any burrs caused during the drilling for fixings should be removed from all surfaces before finally fixing the frame to the duct. Sealant should be applied if any method of fixing pierces the duct.

Applying suitable sealant in areas shown completes frame fitting procedure as pressure class A. Additional sealant should be applied to the ends of the frame on the inside of the duct for pressure classes B and C, (Fig. 6). When using the XL20C & XL30C corners ensure a generous bead of sealant is applied into the sealant retaining lip.

Gasket should be applied to one of the frames to be connected, with an overhang on the inside of the duct as shown. The gasket should be in four pieces, making sure the overlaps cross one another at the exposed duct corners. Do not apply the gasket in one piece without overlaps, (Fig. 7).

Gasket Ref. No	Xcel Profile
DS120 (15mm)	XL20
DS130 (20mm)	XL30
DS140 (25mm)	XL40



Xcel Ductwork Jointing System

Site Installation

Assemble the ductwork by the use of nuts and set screws fitted into the corner holes. If necessary align the corner holes by use of the joggle holes. The nuts and set screws should be finger tight at this point.

Use M8 x 20mm set screw for XL20

Use M10 x 20mm set screw for XL30

Use M10 x 20mm set screw for XL40

Fit cleats or clamps at the appropriate centres as below to complete the installation.

Xcel Profile	EP13S	DS033	UCLAMP
XL20	✓	✓	•
XL30	✓	✓	•
XL40			✓

• For inaccessible areas

To fit the EP13S drive clip to two sides of the duct, remove one corner set screw and slide the drive clip across the nose of the profile. Compress the nose of the profile together by using molegrips or similar. Repeat this operation for the other two sides. Finally tighten the corner nuts and set screws.

To fit the DS033 snap clip, apply molegrips or similar to compress the nose of the profile together. Fit the DS033 snap clip, use a suitable tool to knock the snap clip into position. Finally tighten the corner nuts and set screws.

To fit the UCLAMP, hook the clamp over the nose of the profile and tighten the set screw with a spanner. Finally tighten the corner nuts and set screws, (Fig. 9).

As an option the ductwork can be supported from the corner by use of the Duct Support Bracket using a DS020 for XL20 and DS021 for XL30.

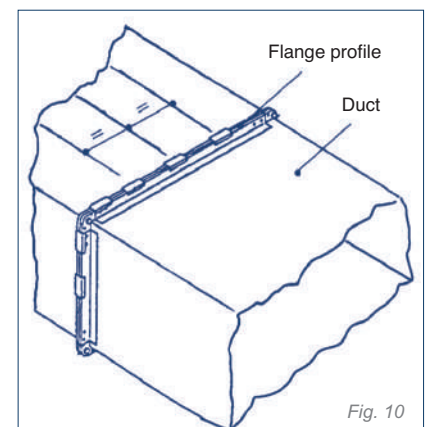
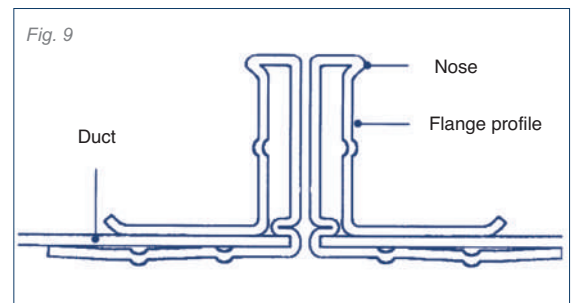
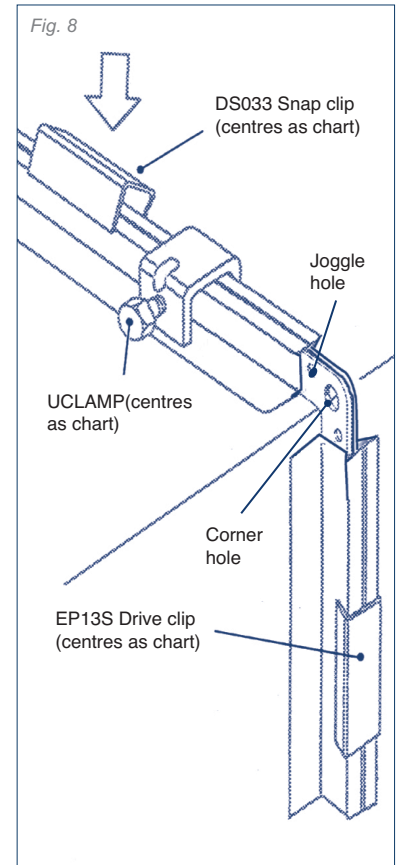
Fitting Centres for Cleats and Clamps (Fig. 10)

Pressure Class	Centres
A	200 - 300 max
B and C	150 - 250 max

For pressure classes B and C, a cleat or clamp should also be fitted within 50mm of the corner.

Safety

Please make sure you are wearing adequate PPE clothing when handling any exposed metal edges as these can sometimes be sharp.



Site Installation



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