



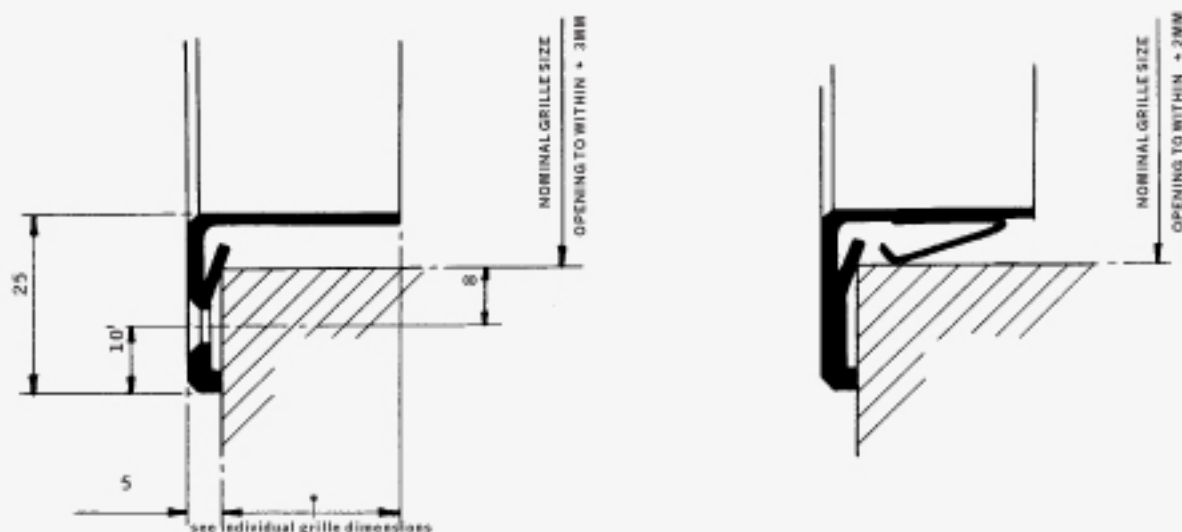
## **Sub-frames, Filter Frames And Volume Control Dampers**

**New Street Skelmanthorpe Huddersfield HD8 9BL Telephone 01484 861233 Fax 01484 864928**

**All products are manufactured in the UK at the above address**

### STANDARD FIXING All Flange Mounted Grilles

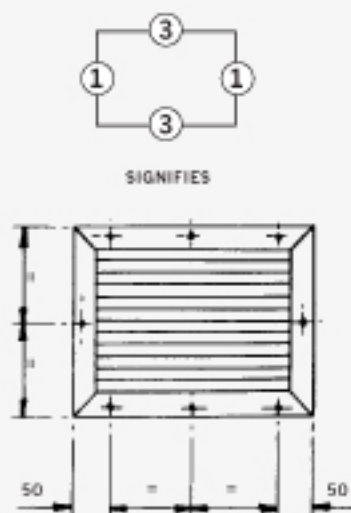
Two types of fixing are available, screw or spring. Screw fixing being taken as the standard and would always be supplied if not specifically stated to the contrary. Quick release fixing in conjunction with sub-frames are also available.



**SCREW FIXING** Countersunk holes are provided within the flange to the dimensions given above to suit No. 8 raised head countersunk screws in the quantity and position indicated in the table below. The correct number of 8 x 20mm zinc plated, countersunk raised head self tapping screws the heads of which are colour coated to match the grille flange, are supplied with each grille.

**SPRING FIXING** Dimensions of grilles with spring fixing remain exactly as those with screw fixing and the only exception of the grille flange being undrilled. Springs, as shown are provided on all four sides of the grille in sufficient quantities to hold the grille symmetrically in the duct opening. The installer must ensure that a suitable frame is provided within the limits given above.

Spring fixing directly into timber frames is not to be recommended, for such circumstances purpose made sub-frames are available. Spring fixing is not recommended for grilles installed in ceilings.



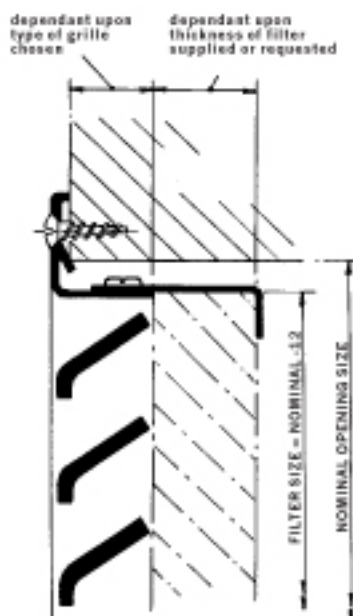
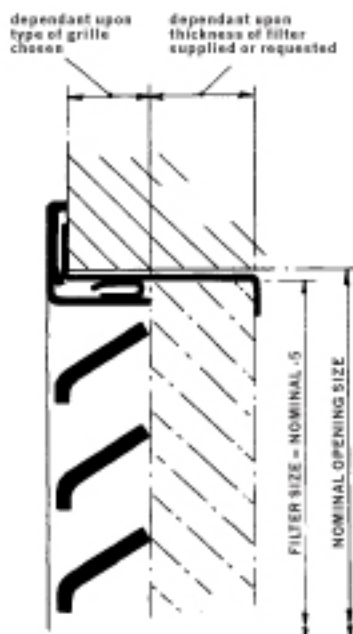
	NOMINAL GRILLE LENGTH			
	100-250 INC)	300-450 INC)	500-750 INC)	800-1200 INC)
NOMINAL GRILLE HEIGHT	100-250 INC)	(1) (1) (2) (2)	(3) (3) (3) (3)	(4) (4) (4) (4)
	300-450 INC)	(1) (1) (1) (1) (2) (2)	(3) (3) (3) (3) (3) (3)	(4) (4) (4) (4) (4) (4)
500-600 INC)	(1) (1) (2) (2) (1) (1)	(2) (2) (2) (2) (2) (2)	(3) (3) (2) (2) (3) (3)	(4) (4) (2) (2) (4) (4)

### IMPORTANT

Since all the grilles manufactured by F N W (Engineering Developments) Ltd utilize plastic extruded facings, they should not be installed in any situation where they could EVER be subjected to a temperature of over 50oC (120oF).

Should the temperature limitation be a problem, supply grilles can be manufactured using a high temperature plastic extrusion raising the safe limit from 50o C (120o F) to 70oC (160oF) but available in black only

### Provision of Filters



### TYPE FF SUB-FRAME/FILTER ASSEMBLY

the purpose of the TYPE FF sub-frame is to offer the facility of incorporating a filter behind any supply or return air grille

The filter being pushed in to the rear of the sub-frame, the grille supplied with spring clips as on the TYPE SCF sub-frame, is pushed into the front of the frame thereby trapping the filter between the grille and rear of sub-frame.

The grille being easily removable for cleaning or changing filter at later date.

Should any reason the above sub-frame assembly be unsuitable, filters may also be attached directly to any grille, both supply and return, by extending the grille spigot as shown.

The top plate being removable to facilitate filter cleaning or changing

Due to the various thicknesses of filters available, the thickness of filter to be used must be stated, or filters supplied free issue.

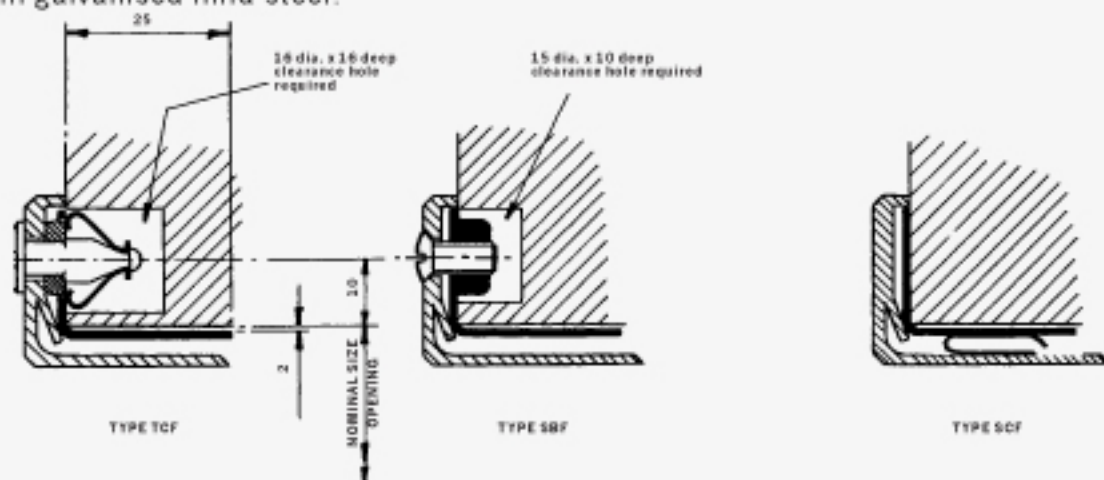
Alternatively, we can supply complete grille/filter assemblies given details of filter specification required.





### Quick Release Sub Frames

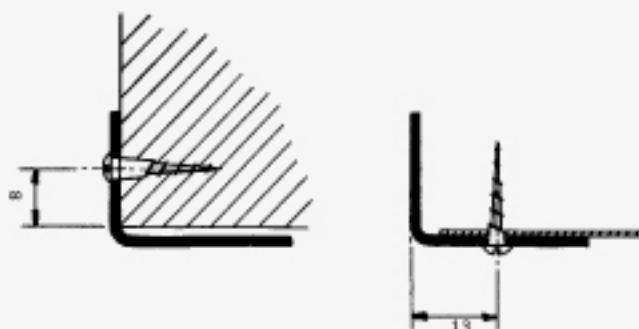
The three types of Quick Release Sub Frames listed below may be used in conjunction with all types of F N W Supply & Return Air Grilles which permit quick removal of the grille. The sub-frames are available to suit all sizes of grilles and are manufactured from galvanised mild steel.



**TYPE TCF** Quick release sub frames utilise quarter turn release fasteners, which consist of spring catches attached to the frame and pins with dome heads attached to the grille. Coin slots are provided within the head and by turning these through 90°. the fitting is released.

**TYPE SBF** consist of screwed bushes attached to the frame into which screws, after passing through the grille flange, locate. Although this method may be not as quick, it provides an exceptionally secure and reliable fixing, enabling the grille to be removed and replaced repeatedly without any deterioration of the secure fixing.

**TYPE SCF** quick release sub frames utilize spring clips attached to the grille, which provide a friction fixing between grille and sub frame. This method has the advantage of leaving the grille flange free for fixing screws etc. and provides an extremely fast method of removal and replacement of the grille. Being a friction fixing, it is not recommended for ceiling mounted grilles



### FIXING

All three types of quick release sub-frames are supplied with fixing holes in both flange and spigot so that they may be fitted in either arrangement as shown.

The relative fixing hole and release pin positions are easily marked off from the sub frame on site, but should it be required to pre drill these, full details of the positions can be supplied upon request

### *Equaflow Volume Control Damper*

FIG 1



FIG 2



FIG 3



FIG 4



The F N W Equaflow volume control unit principle is to provide an even distribution of air over the whole surface area of the grille to which the unit is fitted. The open-close mechanism is so designed as to provide at least two operating points with one at each end of the damper case.

Assuming that both operating points are at their closed position the damper would be closed completely along its entire length - see fig. 1

Conversely, if both points are at their open positions the damper would be completely open - as shown by fig. 2. But by turning one of the operating points to its closed position and the other to its open position, the damper would uniformly open along its length from being fully closed at one end to fully open at the opposite end, so giving the arrangement as depicted in fig. 3

Since both operating points are controlled by the turning of a screw any intermediate position may be selected at either point so enabling an even air discharge velocity to be achieved over the entire surface of the grille

On damper sizes over and including 650mm in length three operating points are provided, one at each end of the unit as above, but an additional operator is also provided in the centre, by utilizing all the three points virtually any desired air pattern may be selected such as that shown by fig. 4, where the centre is closed yet leaving the ends of the unit open.

On sizes over and including 450mm in height, a centre mullion is provided which divides the unit into two separate dampers each with its own operating points. Since both halves can be adjusted independently, in addition to being able to control discharge horizontally, it is also possible to control discharge vertically or even diagonally.

The unit operating points consist of small screws which are screwdriver operated through the face of the grille, turning clockwise to close, and taking five revolutions from being fully open to fully closed.

When supplied in conjunction with a grille, the unit forms an integral part of the grille and is therefore inseparable. For the dimensional details of grilles fitted with EQUAFLOW volume control units, please refer to the individual grille data sheet