



Flexible Space

Under Floor Air Conditioning

FLOOR GRILLES PRODUCT DESCRIPTION

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Section One - FGS Floor Grille

1.0 General

The FGS grille can be used as:

- An air return grille for application with the Flexible Space air conditioning system
- An air supply grille for application when control is not required

The FGS grille is fitted with a device for height adjustment, which permits simple and quick adjustment with all floor tiles and coverings.



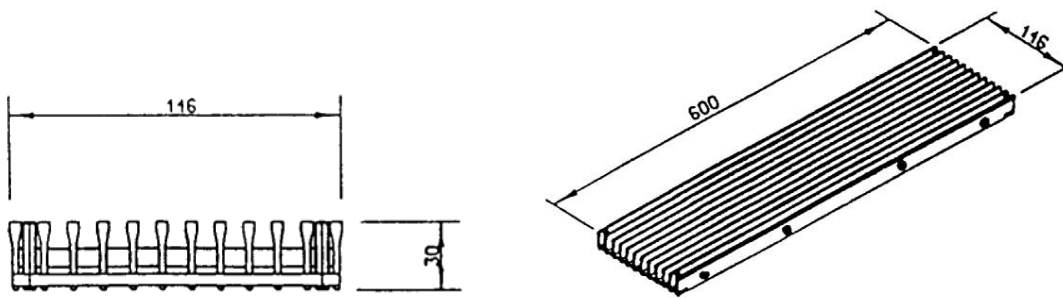
1.1 Description

A walkable grille with light anodised aluminium alloy fins, featuring a straight profile, and four (4) spacers constructed with aluminium alloy.

Height adjustment is achieved by levelling screws located at each end of the grille.

The grille is installed in a stringer-mounted floor, laid on the supporting stringers and aligned with the top surface of the floor. Multiple grilles can be installed adjoining each other on the floor's surface.

A self-adhesive gasket is supplied to ensure tightness between the grille and adjacent floor panels during installation and throughout the life of the floor, creating a tight fit and minimising noise generation.



1.2 Technical Specification

Material	Aluminium alloy and steel
Dimensions	With gasket; 150 x 599 mm
Weight	2.5 kg
Adjustment	From 30 to 52 mm
Configuration	13 straight – profile fins
Accessories	Collecting tray and sound attenuator
Performances	See diagram

1.3 Characteristics

- Easy removal for cleaning
- Compatible with most raised floor tiles & coverings
- For use with stringer-mounted floors
- Level with floor surface - no protruding edges or frames avoiding trip hazard
- Height adjustment
- Breaking point higher than 550 kg
- Low pressure drop
- Collecting tray and sound attenuator easily fitted to grille (optional)

1.4 Mechanical Characteristics

FGS grilles under concentrated load conditions

Values refer to a concentrated load applied on the surface of 50 mm diameter on the three points indicated in the diagram for three different height adjustments.

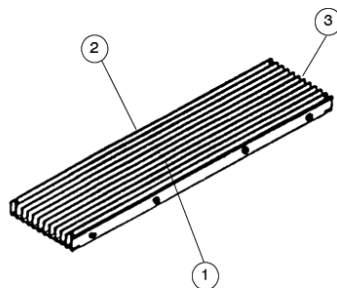
Tests have been carried out with the grille complete with gasket and fitted on rigid supports between two floor tiles (see installation).

Following values in kg are given;

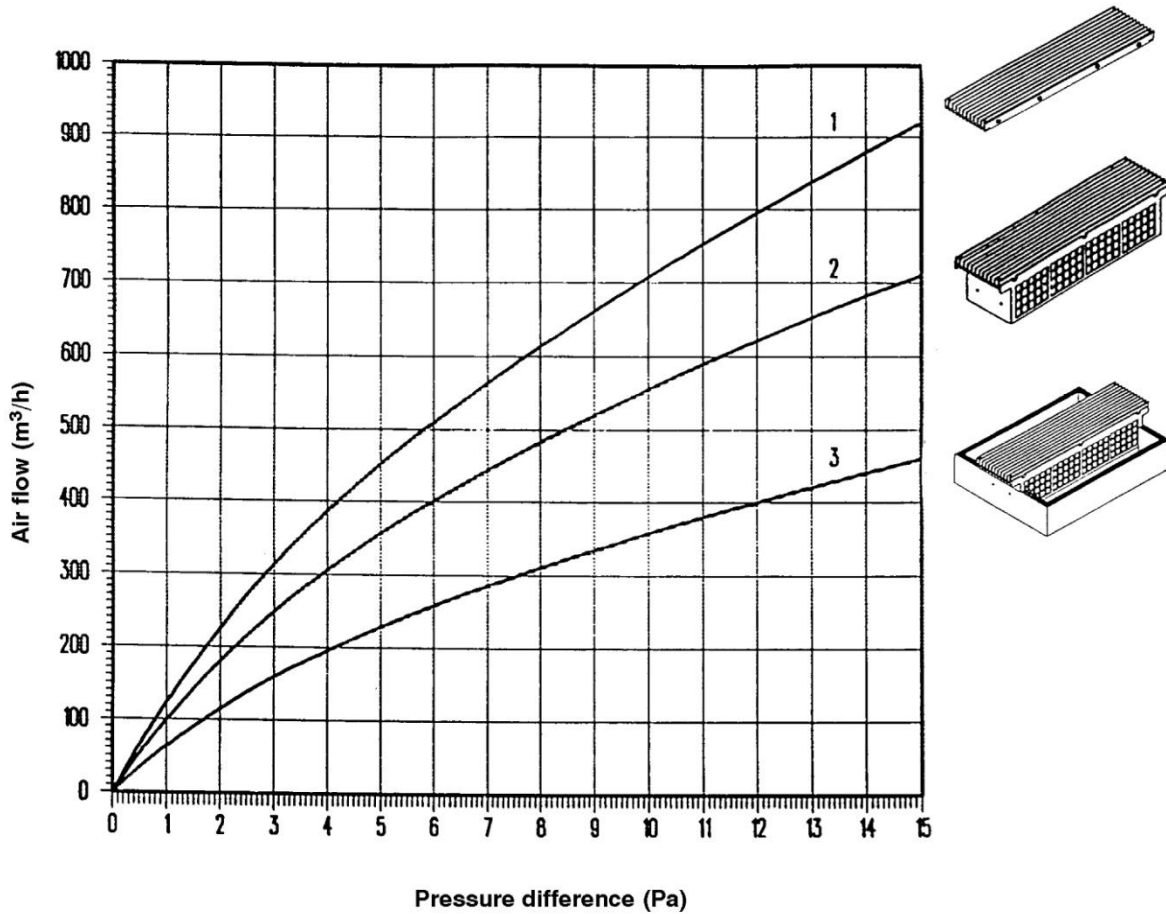
- Static load with deflection of 2.5 mm
- Static load with residual deflection of 0.1 mm
- Breaking load

	1	2	3
	Center of grille	Center of long side wall	Center of end side wall
Height adjustment H = 30 mm			
Static load with deflection of 2.5 mm	210	140	–
Static load with residual deflection of 0.1 mm	250	155	–
Breaking load	750	–	–
Height adjustment H = 40 mm			
Static load with deflection of 2.5 mm	180	120	220
Static load with residual deflection of 0.1 mm	220	140	180
Breaking load	650	–	–
Height adjustment H = 52 mm			
Static load with deflection of 2.5 mm	160	120	220
Static load with residual deflection of 0.1 mm	200	140	180
Breaking load	550	–	–

Values in kg



1.5 FGS Grille Air Flow



1. FGS 30/52 grille
2. FGS 30/52 grille with collecting tray
3. FGS 30/52 grille with collecting tray and sound attenuator

Section Two - FGC Floor Grille

2.0 General

The FGC grille fitted with a control damper may be used as follows:

- Modulation of return air flow for flexible space with underfloor air conditioning systems
- Modulation of supply air flow in when air flow adjustment is required without temperature control.

The FGC grille, like the FGS grille, is equipped with a patented device for height adjustment, which allows easy and quick levelling to surfaces with most raised floor tiles or coverings.

2.1 Description

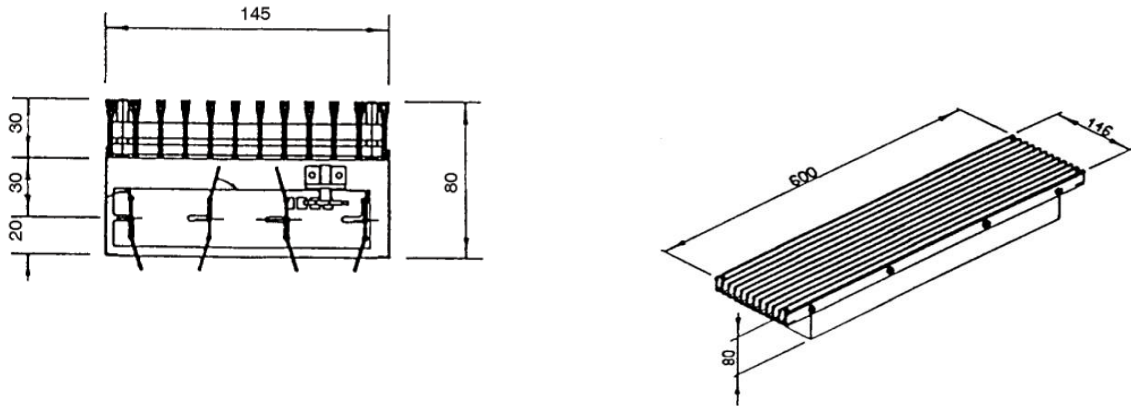
The FGC grille with light anodised aluminium alloy fins, features a straight profile and four (4) spacers constructed with aluminium alloy.

Height adjustment is obtained by raising or lowering small steel bars by means of turning galvanized steel screws.

The air flow modulating damper has opposed blade fins in a light anodised aluminium alloy contained in a galvanized steel sheet box. The opening and closing mechanism is operated by turning a screw adjustment.

The grille is installed in a stringer-mounted floor, laid on the supporting stringers and aligned with the top surface of the floor. Multiple grilles can be installed adjoining each other on the floor's walking surface.

A self-adhesive gasket is supplied to ensure tightness between the grille and adjacent floor panels during installation and throughout the life of the floor.



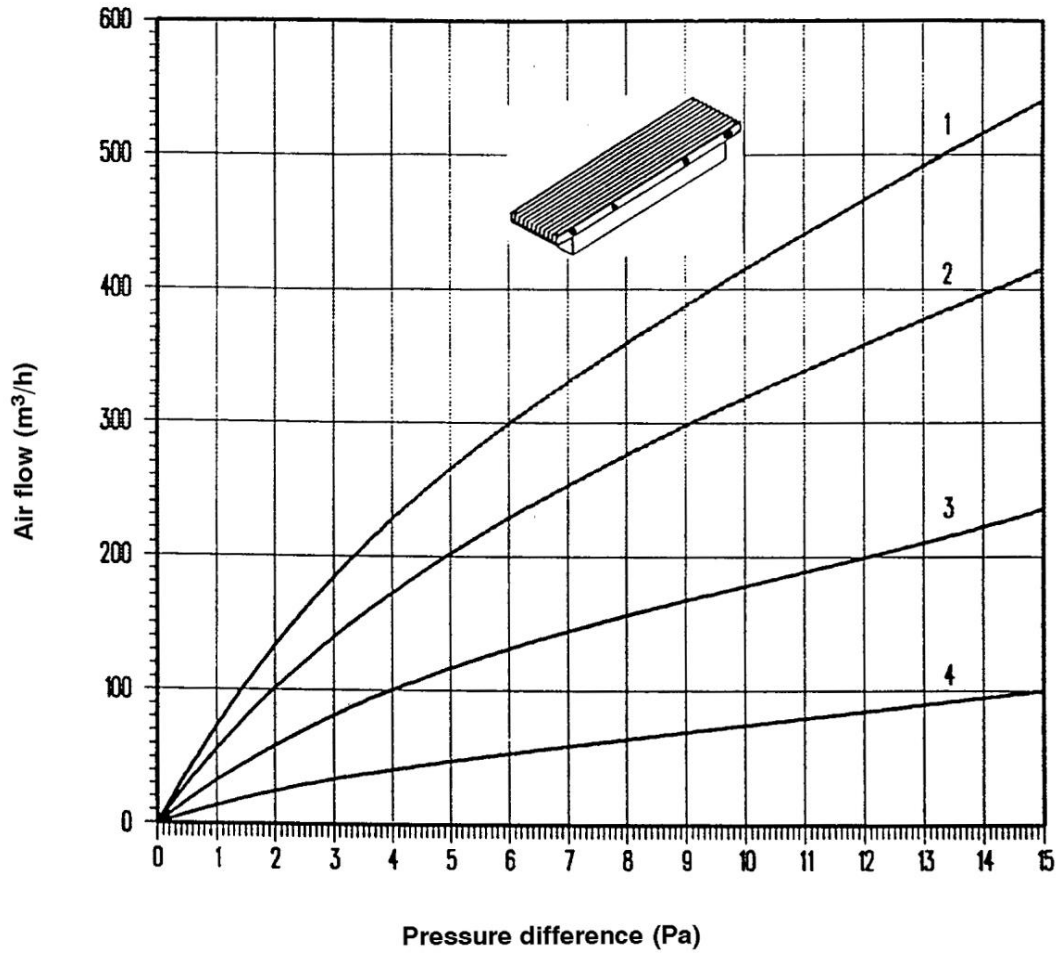
2.2 Technical Specification

Material	Aluminium alloy and steel
Dimensions	With gasket; 150 x 599 mm
Weight	3.0 kg
Adjustment	From 30 to 52 mm
Configuration	13 straight – profile fins
Accessories	Collecting tray and sound attenuator
Performances	See diagram

2.3 Characteristics

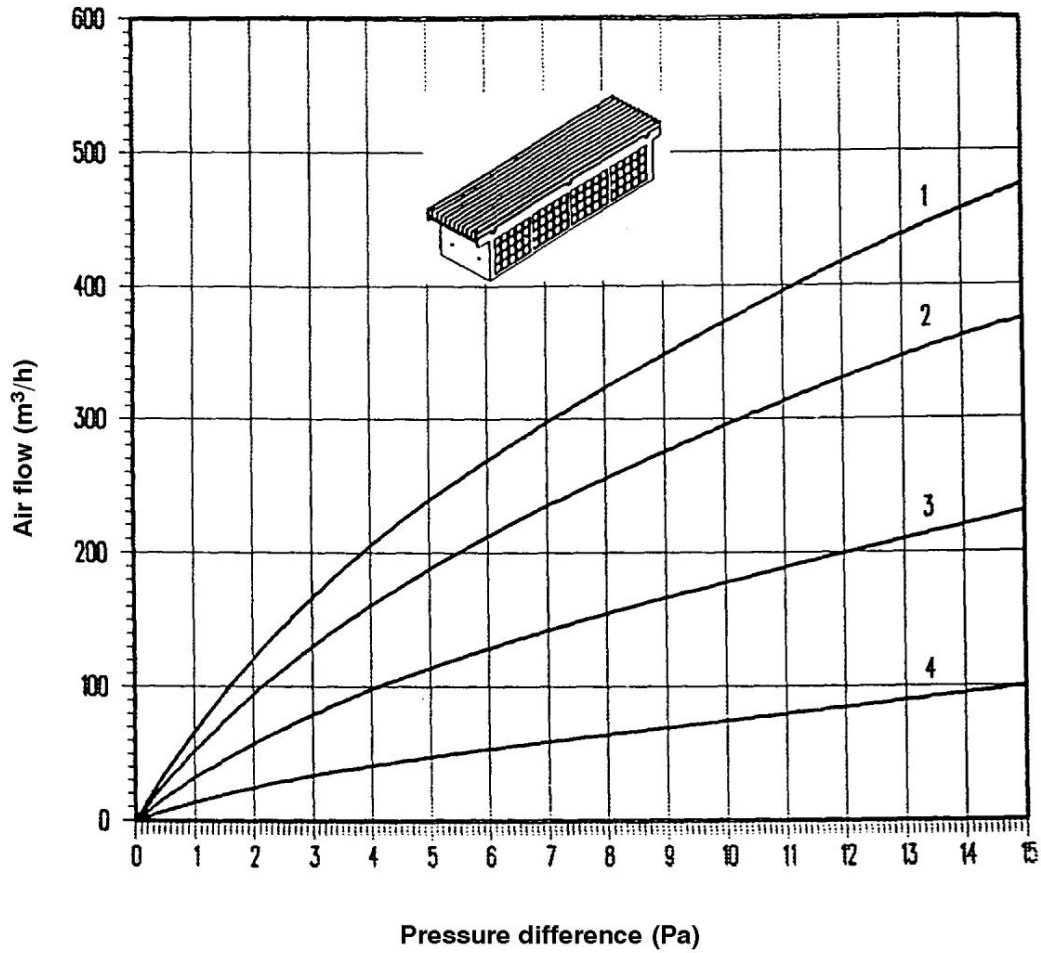
- Easy removal for cleaning
- Compatible with all raised floor tiles & coverings
- For use with stringer-mounted floors
- Level with floor surface - no protruding edges or frames
- Height adjustment. No possibility of trip hazard
- Breaking point higher than 550 kg
- Low pressure drop
- Collecting tray and sound attenuator easily fitted to grille

2.4 FGC Grille Air Flow



1. FGC 30/52 grille with modulating damper completely open
2. FGC 30/52 grille with modulating damper 66% open
3. FGC 30/52 grille with modulating damper 33% open
4. FGC 30/52 grille with modulating damper completely closed

2.5 FGC Grille Air Flow with Collecting Tray



1. FGC 30/52 grille + collecting tray with modulating damper completely open
2. FGC 30/52 grille + collecting tray with modulating damper 66% open
3. FGC 30/52 grille + collecting tray with modulating damper 33% open
4. FGC 30/52 grille + collecting tray with modulating damper completely closed

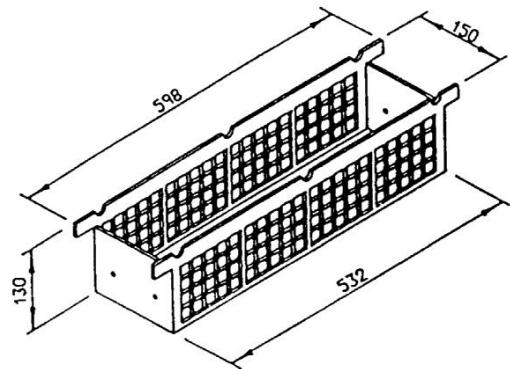
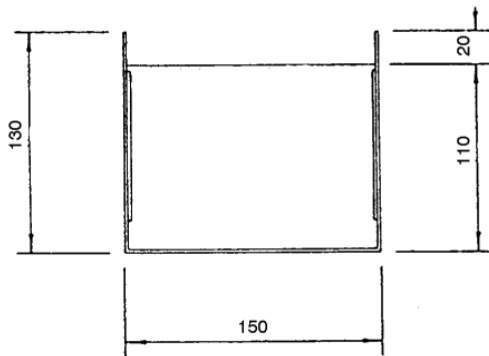
Section Three - Collecting Tray for Floor Grilles

3.0 General

The collecting tray can be used with both FGS and FGC grilles. The tray's design prevents objects that may have fallen into grilles from entering the floor void. Ease of access permits simple removal for cleaning.

3.1 Description

Galvanized steel collecting tray to be used with floors with stringers coupled with FGS and FGC grilles.



3.

Material	Galvanised steel sheet
Dimensions	598 x 150 mm – 130 mm height
Weight	1.5 kg
Performance	See diagram

3.3 Characteristics

- Easy positioned
- Low pressure drop
- Occupies minimal space
- Employed with FGS or FGC grilles

Section Four - Sound Attenuation for Floor Grilles

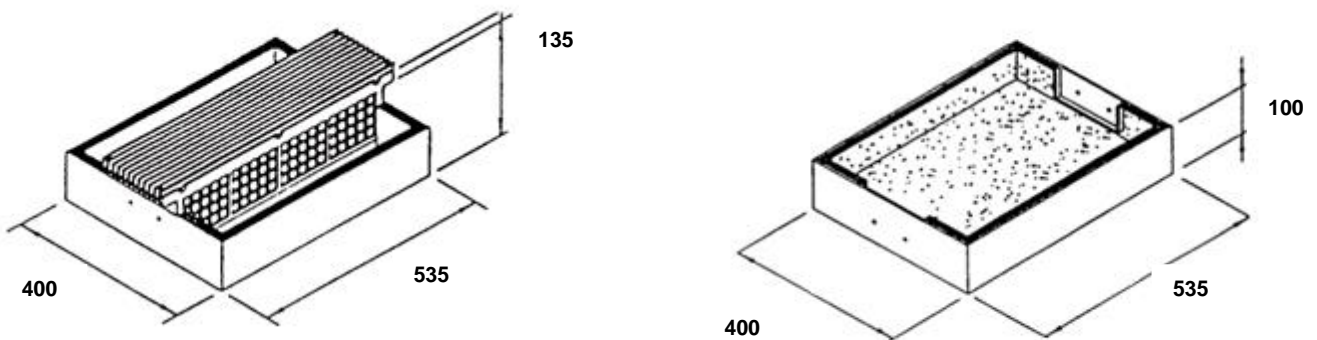
4.0 General

Sound attenuation is employed where added privacy is a fundamental requirement. This accessory attenuates noise transmission between adjoining rooms, eliminating or muffling all sound transmission.

Sound waves are trapped and attenuated by box surfaces which are lined with sound-absorbing materials. In this way it is possible to obtain minimal sound transmission levels.

4.1 Description

The galvanized steel-constructed box is internally lined with sound-absorbing materials in expanded polyurethane. The sound attenuator must be used with the dust collecting tray, to which it has to be fitted.



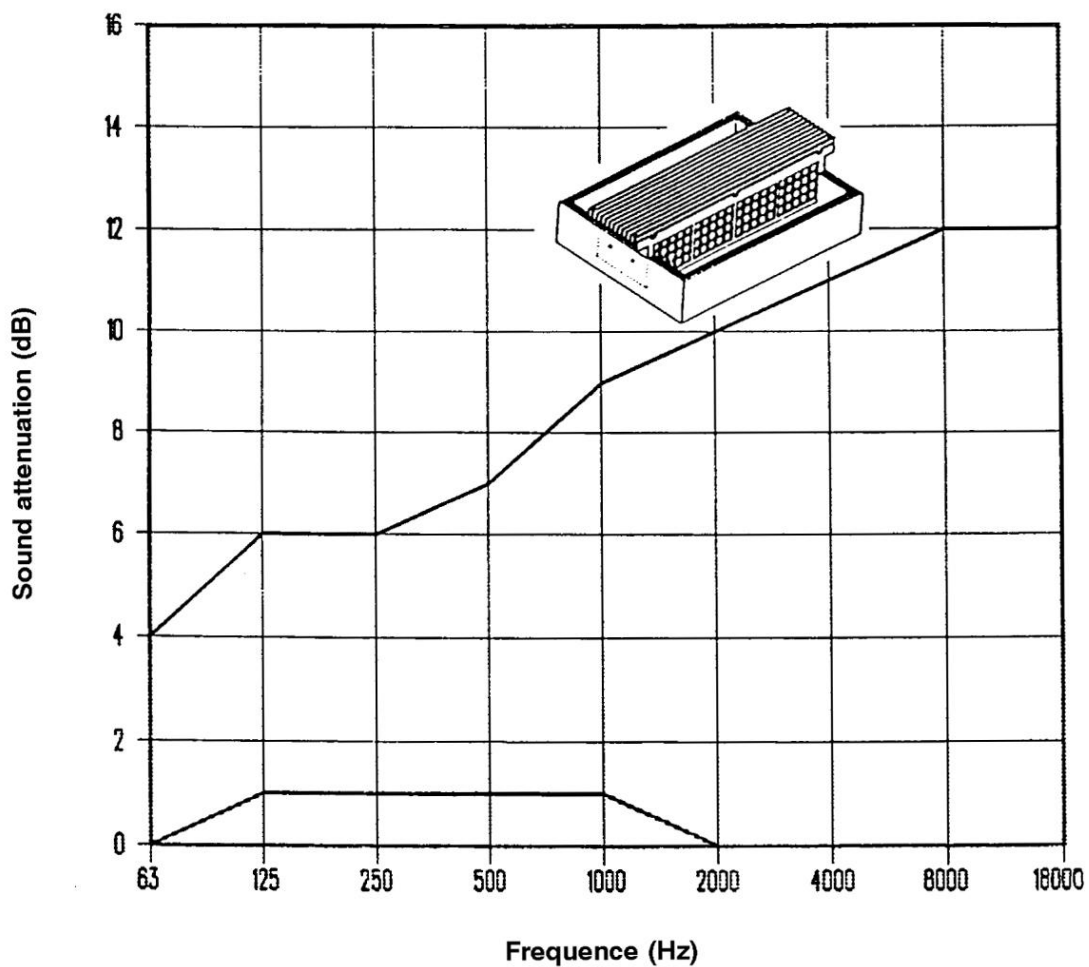
4.2 Technical Specification

Material	Galvanized steel sheet lined with expanded polyurethane
Dimensions	535 x 400 x 155 mm (with collecting tray)
Weight	Attenuator only: 3.4 kg with collecting tray: 4.6 kg
Performances	See diagram

4.3 Characteristics

- Utilised with FGS and FGC grilles
- Sound attenuation greater than 8 dB at 1,000 Hz
- Occupies minimal space
- Must be used in conjunction with the collecting tray

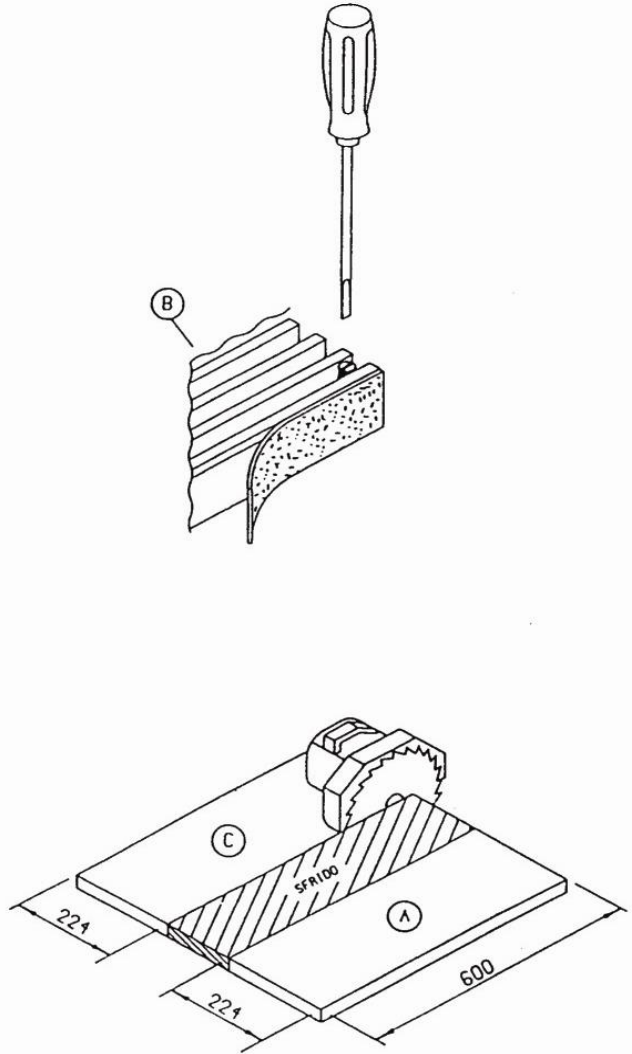
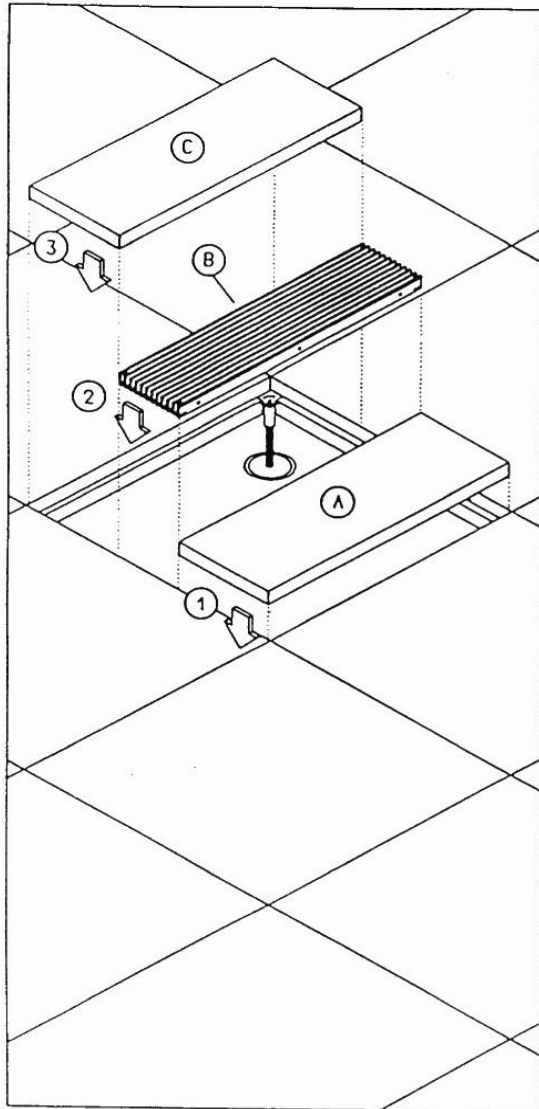
4.4 Noise Attenuator Values



According to ISO TC 43, (Acoustic measurement procedures for ducted silencers)

Section Five - Installation

5.0 General



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