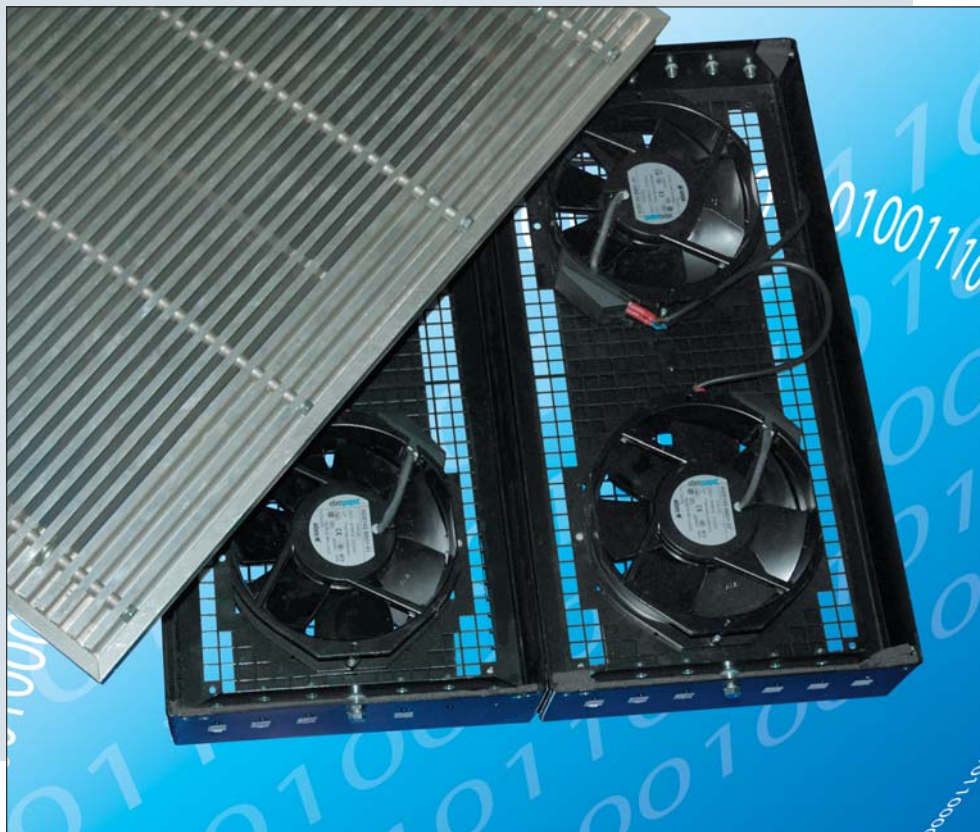
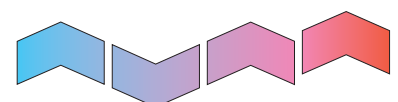


**COLMAN**<sup>®</sup>

**HEAVY DUTY FAN ASSISTED  
FLOOR GRILLES  
MODEL TJF**



**T**  
SERIES



# COLMAN HEAVY DUTY FAN ASSISTED FLOOR GRILLE

## Introduction

As high heat density equipment and computer room requirements grow, the threat of hot spots can become an increasing problem within modern and existing data centres.

Basic factors which create hot spots:

- Restriction of air flow through supply void plenum.
- Poorly sealed openings in the supply void plenum perimeter and raised floor.
- Inadequate quantity of supply floor grilles.

Hot spots occur in two varieties, zone and vertical. Zone hot spots occur when the temperatures at all air intake levels of the racks are hot in a large area of the raised floor due to low or even negative void pressure. Vertical hot spots are more discreet to a single rack where the supply of cold air is fully consumed by the equipment at the lower part of the rack.

Colman's TJF floor grille is an innovative 600 x 600mm lay in fan assisted floor grille for raised access floors. The TJF is specifically designed to eliminate hot spots and is capable of providing an increase of supply air to a particular rack.

## Installation

The Colman TJF should be carefully positioned in front of the rack/racks.

- Rotate the fans towards the rack. This flexible approach allows the volume of cool air to be directed precisely where required.
- Manually switch the fans on/off in banks of two to suit the heat density of each individual rack.

## Design Characteristics

- In certain conditions the unique design allows half of the floor grille to be supplied as fan assisted while the other half can be supplied as a passive floor grille with a volume control damper.
- The TJF can deliver airflow to those areas with low or zero floor void pressure.
- The TJF can be resited to suit changes in room layout.
- Available as a standard plug-in 230V AC supply.

Floor grille can be installed with two or four fans with optional key operated galvanised steel volume control dampers or cog operated aluminium volume control dampers (black).

## Finishes

The TJF grille is supplied in a standard natural finish, alternative finishes in nylon coatings, polyester powder in matt or gloss are also available. Shadow Line finish is available as a special option.

Please note that polyester powder finishes are only suitable in locations where predicted foot traffic is light.

## Models

In addition to the TJF fan assisted floor grille, Colman also manufactures medium and heavy / extra heavy grade floor grilles complete with volume control dampers (TJH, TJM and TJHV).



# TECHNICAL SPECIFICATION

## Construction

The floor grille is constructed from high grade aluminium extrusion to EN 755-9:2001.

The thick outer framework is mitred and specially welded to form a robust and rigid frame.

The core comprises of 6mm aluminium bars set straight on a 12.5mm pitch, with the blades fully supported on the sides and across the grille centre. The corner sections accommodate

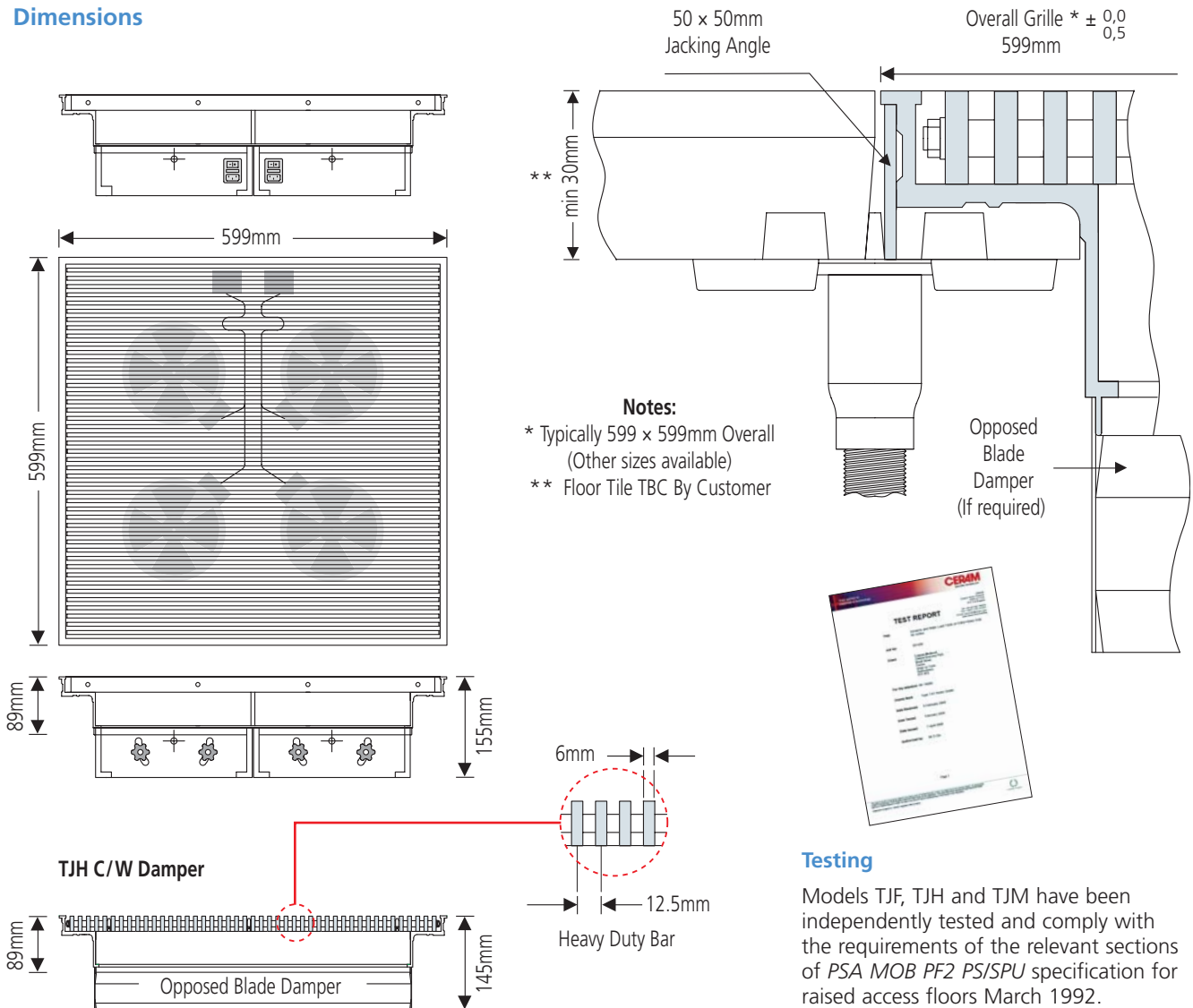
most floor pedestal systems and tile thicknesses from 30mm to 90mm including the final covering finish.

The unique fan casing design is constructed from sheet steel and lined with a closed cell gasket seal to prevent recirculation of cool air. The manually rotating trays allow the fans to tilt towards the rack and can be locked in position by the ergonomically designed knobs.

The TJF is supplied with a standard mains I.E.C. inlet plug with an integral fuse holder and a DPST rocker switch with a "Y" splitter fused mains power lead (3-pin, BS1363, U.K. plug to 2 x I.E.C. connectors).

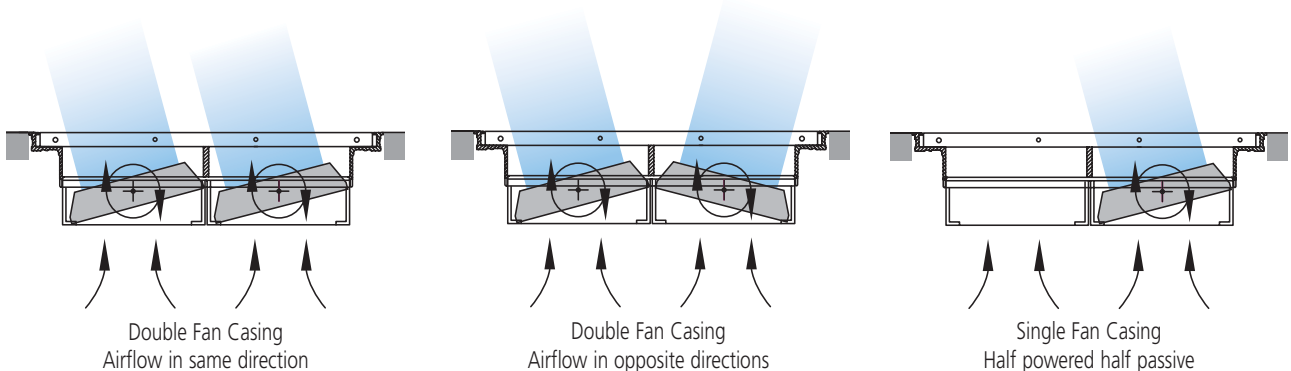
Models TJH & TJM are also constructed from high grade aluminium extrusion. Both models are available with galvanised or aluminium opposed blade volume control dampers.

## Dimensions



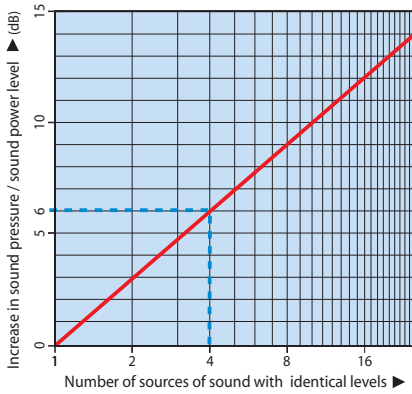
## Testing

Models TJF, TJH and TJM have been independently tested and comply with the requirements of the relevant sections of PSA MOB PF2 PS/SPU specification for raised access floors March 1992.



# PERFORMANCE DATA & ORDERING INFORMATION

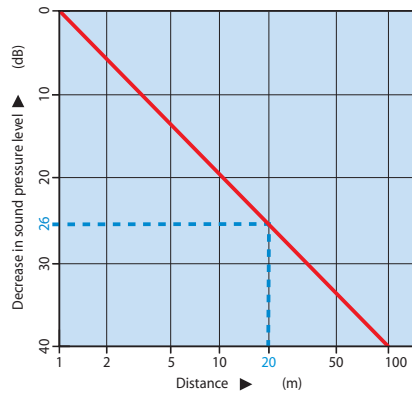
## General Guide



### Adding multiple noise sources with the same level

Adding two TJFs with same noise source will result in a level increase of 3dB. The above graph gives a general guide to determine the noise characteristics of multiple TJFs, placed in close proximity to each other.

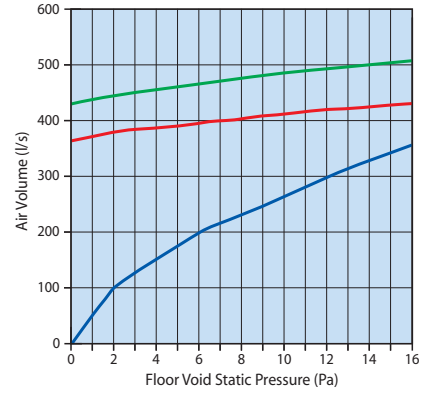
*Accurate assessment should be made by an Acoustic Engineer.*



### Inverse square laws

The sound pressure level decreases as distance from the TJF increases, each time the distance doubles from the noise source, the sound pressure level decreases by 6dB. The above graph gives a general guide to the levels of decrease in open air for distances between the source point (measured at a distance of 1m) and the receiver point.

## Potential Cooling



- TJF — 4 fans 60Hz
- TJF — 4 fans 50Hz
- TJHV — (Damper fully open)

The TJF should be located in front of the rack floor void, static pressure must be considered in the selection process.

## Structural Class

### Models TJM (Medium Duty)

**Applications:** General office accommodation where it is expected that heavy equipment will be used.

**Load:** 3.0kN over 25mm x 25mm area.  
Safety factor Load of 9kN.

### Models TJF and TJH (Heavy / Extra Heavy Duty)

**Applications:** Computer rooms with heavy equipment and other special applications.

**Load:** 4.5kN over 25mm x 25mm area.  
Safety factor Load of 13.5kN.

## Acoustic Data

67db(A)

4 fans Operational

In areas with several grilles the sound power levels will increase due to multiple sources. (Refer to **General Guide**.)

## Fan Data

Motor Watts	Total Watts	Motor Amps	Total Amps	Motor 230V AC
26	104	0.12	0.48	50/60Hz

## Options and Order Codes

1. MODEL	2. FRAME	3. APPLICATION	4. ACCESSORIES	5. ARRANGEMENT	6. FIXING	7. FINISH
<b>T</b>	<b>J</b>	<b>F</b> Fan Assisted Heavy Duty <b>H</b> Heavy / Extra Heavy <b>M</b> Medium <b>1</b> Special	<b>0</b> None <b>V</b> Volume control damper <b>X</b> Volume control damper painted matt black <b>1</b> Special	<b>0</b> None <b>D</b> 230V Double fan casing <b>S</b> 230V Single fan casing <b>K</b> 230V Single fan casing, Painted Black <b>R</b> 230V Double fan casing, Painted Black <b>1</b> Special	<b>0</b> None	<b>0</b> Natural <b>P</b> Powder coated <b>N</b> Nylon <b>S</b> Shadow Line <b>1</b> Special

**T J F 0 D 0 0**

**TJF0D00**

Heavy duty floor grille with 230V double fan casing. Finish: Natural.

**Notes:** Standard Nominal Grille Size — 600 x 600mm. Please specify tile depth when ordering (minimum 30mm). Items shown in red print above and in the code example are the standard options for this product.



### Colman Air Distribution

Oldfields Business Park  
Birrell Street, Fenton  
Stoke-on-Trent ST4 3ES  
Telephone: +44 (0)1782 599995  
Facsimile: +44 (0)1782 332092  
www.eaton-williams.com

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