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Product Information

Fan Powered Terminal Unit

For under floor ventilation system

Type FAT

PI/FAT/M/1

Description

- TROX 3-speed fan terminal units with TROX “FBA/250” Type circular floor diffuser in die cast aluminium complete with wall mounted temperature sensor to each unit.
- The wall sensor allows the building occupants to adjust the room set point temperature, and the fan speed manually or automatically.

Fan Speed	Air Flow rate (l/s)	Velocity (m/s)
Low	34	1.1
Medium	45	1.7
High	60	2.4

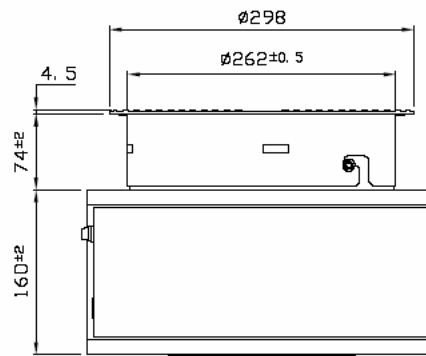
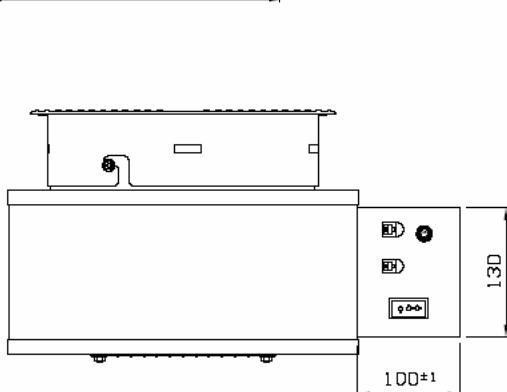
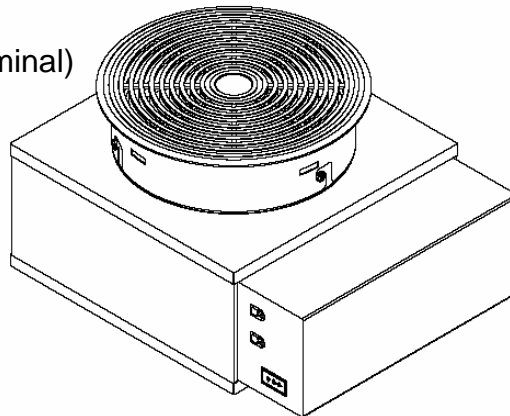
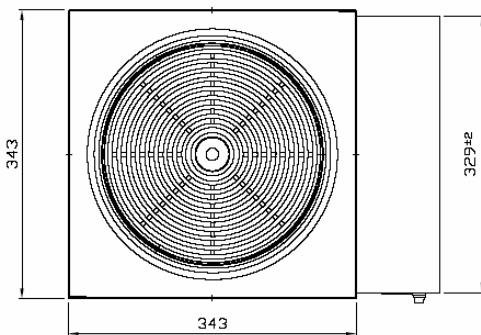


Constructions

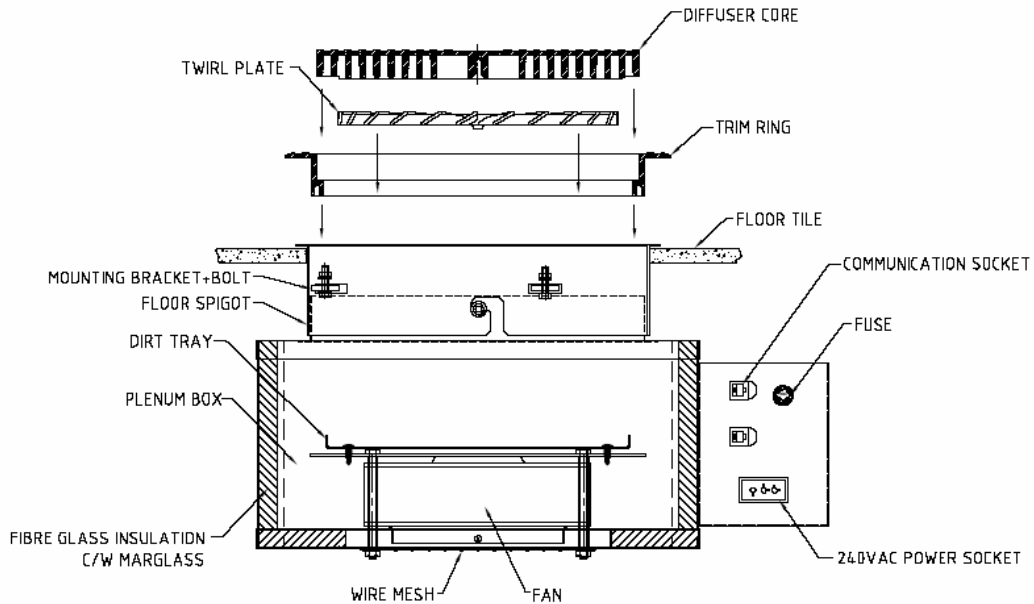
- The fan casing is manufactured from 0.7mm thickness galvanized sheet steel with 25mm thickness internal glass fibre insulation for acoustic purpose. Each unit will come with a 3-core PVC insulated power supply cable complete with a 13 Amp 3-pin plug.

Dimension & Weight

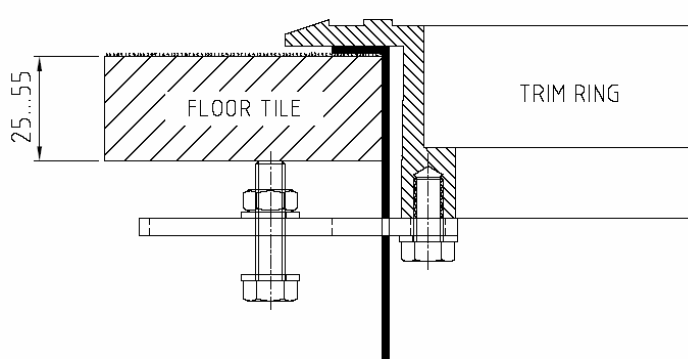
- L 444 mm x W 343mm x H 238mm
- Weight: 9 ~ 10kg (including wall terminal)



Blow up view



Fixing Method



Clamping bolt (at four location)

Features

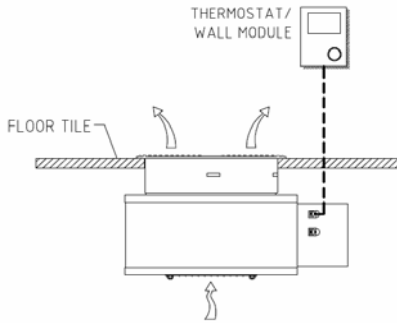
- Plug and play
- Can be Stand alone or Master – slave configuration
- Master – Slave up to 8 boxes
- Total length for communication cable – Max. 250m
- Contains standard low, medium and high speed fan.
- Easy installation and maintenance

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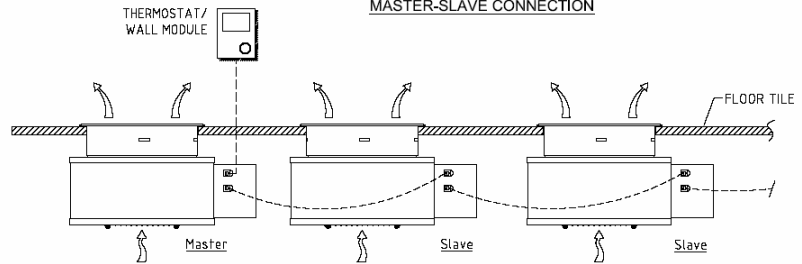
Product Information Fan Powered Terminal Unit For under floor ventilation system Type FAT PI/FAT/M/1

Connection Diagram

SINGLE CONNECTION



MASTER-SLAVE CONNECTION



... Total boxes, max. 8 boxes
 * 1 - Master, 7 - Slave (max.)

* Total length for communication cable max. 250m

Specification

- Power supply: 240Vac 50/60 Hz
- Controller
- Control Wall Terminal
- RJ11 socket for master – slave connection
- 10A Fuse

Order Code

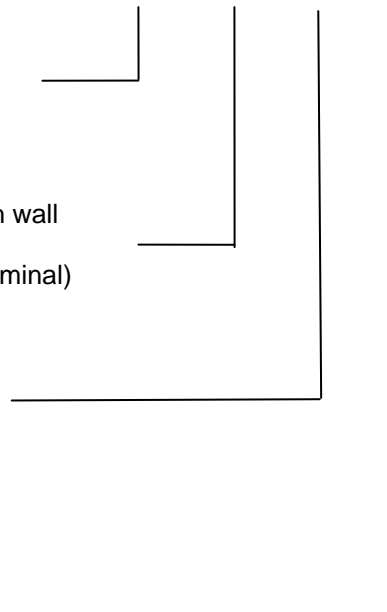
FAT / M / 2 / 5

Type :
 FAT 250

Configuration :
 M – Master (complete with wall terminal)
 S – Slave (without wall terminal)

Power Cord Length
 2 – 2 meters
 3 – 3 meters
 5 – 5 meters
 Z – custom length

Communication Cable Length
 3 – 3 meters
 5 – 5 meters
 10 – 10 meters
 Z – custom length



Proposed control strategy for ‘Stand Alone’ application and installation guide for TROX Type “FAT” Fan Assisted Terminal Unit

Each FAT unit will be supplied with a wall mounted temperature sensor complete with fan speed controller and LCD display. The fan speed controller provides the option of controlling the fan speed manually or automatically, with 3 speed settings (i.e., low, medium and high), on/off control and room temperature set point adjustment. Standard FAT units are designed for stand-alone application.

Under automatic control mode the fan speed will be adjusted automatically when the measured room temperature rises above or falls below the room set point temperature by 2°C.

To change from auto mode to manual, the building occupants have the set that manually on the wall mounted sensor and controller.

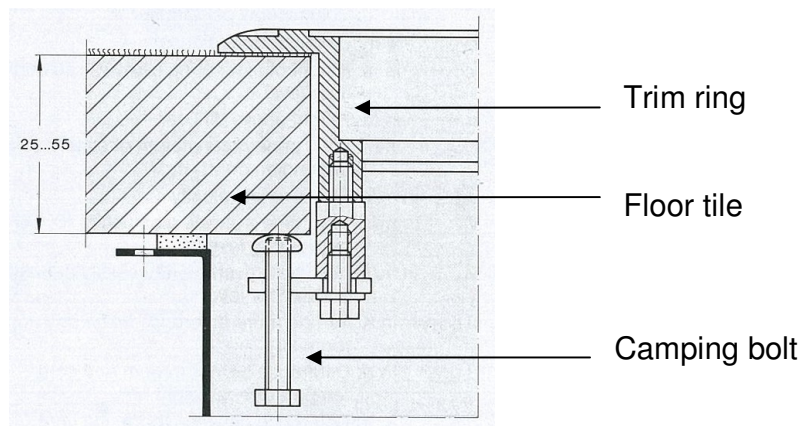
The FAT unit is generally powered up when the AHU starts operation. A 24 V a.c. signal can be supplied via a relay to energise the FAT units that are linked to a particular AHU when it is activated according to their zone.

However, if the FAT units are required to be connected to the Building Management System (BMS), this can be done provided that the Design Consultant provide TROX with their controls performance specification at initial design stage so that TROX may prepare a proposal that would best suit the design performance requirements before TROX can provide a quotation. Such request will be dealt with based on project by project basis, which depend largely on each specific project requirement.

Installation Guide:

The FAT unit is located in the floor void and supported by TROX 'FBA/250' floor diffuser that is installed to the floor tile. The floor tile should have a ready-made hole of 268 mm Ø (i.e., internal diameter ± 2 mm) to allow the 'FBA/250' Floor Diffuser to be fitted on it. Two installation methods are available with this 'FBA/250' floor diffuser;

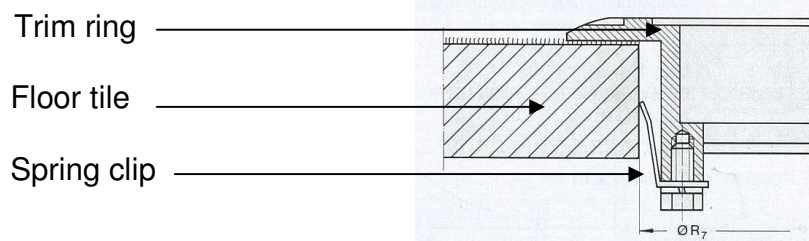
Method One: With clamping bolts



Method Two: With spring clip



Rear view of the trim ring with spring clip fitted. This method is simple to install the floor diffuser to the floor tile. However, the minimum thickness of the floor tile must be at least 20 mm.



Controls Strategy:

As shown in the schematic diagrams below, there are two basic methods to control the FAT terminal units.

1. One to one control arrangement:

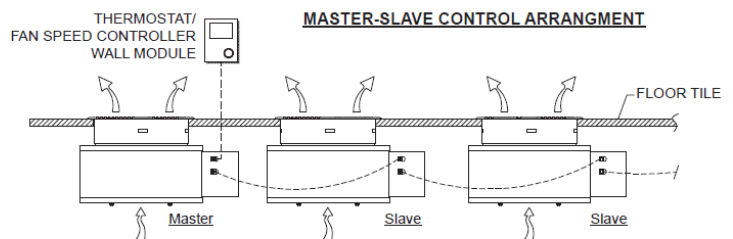
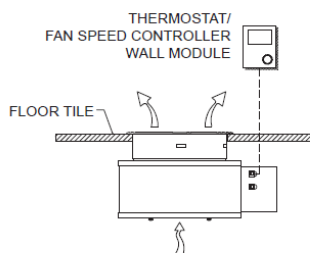
For private offices, one may need this to control the FAT units for personalised thermal control environment. The user may choose to set the set point temperature and fan speed adjustment according to his or her desire.

2. Group control arrangement:

With this arrangement, one wall mounted temperature sensor and fan speed controller may be connected up to 8 nos. FAT units (i.e., one master can only be connect up to seven slave units). However on electric power supply, one socket outlet should only provide electric power for a maximum four FAT units.

The disadvantage with such an arrangement is if the master unit is faulty this will affect all the slave units that are linked to that master unit.

SINGLE CONTROL ARRANGMENT



... **Total max. units: 8 boxes.**
*1 -master, 7 - Slave (max.) for controls connection only.
power supply is only limited to four units.

* Total length for communication cable max. 200m

FAT – AIR FLOW WHEN FAN IS SWITCHED OFF

Fan speed	Flow Rate (l/s) vs Floor Void Static Pressure					
	0 Pa	5 Pa	10 Pa	15 Pa	20 Pa	25 Pa
OFF	0	17	27	34	40	45