

**OPERATION AND  
MAINTENANCE  
INSTRUCTIONS**

**FHU™ & BIF™  
FUME HANDLING EQUIPMENT**



**ROOF UNITS LIMITED**

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• **STORAGE / INSTALLATION**

The unit must be stored in clean, dry conditions. DO NOT install these fans in areas where the following may be present:-

- 1) Ambient temperatures higher than 40°C.
- 2) Relative humidity above 95%
- 3) Possible obstructions which will hinder removal.
- 4) Sudden ductwork transformations close to the unit.

If the unit is to be stored for a long period of time the fan impeller must be rotated by hand at monthly intervals to prevent hardening of the lubricant and corrosion or static indentation of the bearings.

It is recommended that before installation the resistance to earth should be measured and if found to be less than 2 MΩ the motor should be dried out before applying mains voltage.

• **IMPORTANT - SAFETY**

All air moving equipment may present electrical, mechanical or noise hazards either during installation or during operation. These instructions are meant to help in the prevention and / or minimisation of these hazards. It is important that due consideration is given to the implementation of these instructions and to due attention being given to applicable statutory requirements.

Potential hazards from rotating parts that can be reached during operation must be eliminated by using appropriate guards meeting statutory requirements.

All electrical installation must be undertaken by a suitably qualified and competent person and must be carried out in accordance with all relevant Statutory Requirements. Please check the details on the unit rating plate to ensure that the correct power supply (Voltage, Frequency, and Phase) is available. Do not use the fans with an incorrect power supply, overheating and failure of the motor will occur.

All fans generate noise during operation. Dependant on the installation sound attenuators or other acoustic treatment may be necessary to achieve acceptable noise levels in the ventilated area or the area surrounding the fan installation. The product catalogues indicate the noise levels generated by the equipment in standard test situations. The installed condition may affect the actual noise levels experienced in operation.

Please note a wide range of accessories for this product are available from Roof Units Limited.

- **MOUNTING**

The fan must not be used to support ductwork.

FHU – Roof Mounting.

The unit should be either fixed with coach screws to a builders curb or bolted to a purlin adaptor box, which is flashed to the roofing (soaker sheets are available for many roof coverings). The fibre washers provided should be fitted under the bolt / screw head with a little mastic sealing. The motor weather cowl should then be fitted.

FHU – Wall Mounting.

The unit should be fixed to a builders curb with coach screws and then flashed to the wall along the top and both sides. The fibre washers provided should be fitted under the bolt / screw heads with a little mastic sealing. The motor weather cowl should then be fitted.

FHU – Plant Room Mounting.

The unit should be fitted onto the optional universal mounting bracket, to give the discharge position required. Anti vibration mounts are available if necessary.

If the unit is mounted in such a way that the scroll forms a drain trap, then the scroll should be drilled at its lowest point and the drain socket supplied should be solvent cemented in position. The socket is screwed  $\frac{3}{4}$ " BSP and can be either capped or connected to a permanent drain.

BIF.

The unit comes complete with a drilled flange at each end to which, either ducting can be directly connected (adequately supported) or, matching flanges with flexible connectors. Mounting feet are optional and can be used to support the unit.

- **GENERAL WIRING**

**Warning:- The Fan And Ancillary Control Equipment Must Be Isolated From The Power Supply During Installation And / Or Maintenance. The Equipment Must Be Earthed.**

Remove the cover from the fan terminal box. Connect the power supply from the local isolator (via any appropriate controls if fitted) to the terminal box via an appropriate cable gland. Refer to the wiring diagrams and select the appropriate connections for the fan, controller or other devices as being installed. Ensure that all earth connections have been made.

After completing and checking the connections to the terminal box replace the terminal box lid ensuring that the gasket is correctly seated in place. Ensure that all cable gland / grommet fixings and terminal box lid fixings are tightened correctly to prevent water ingress.

Single phase motors should have overload protection (if three phase motors are supplied then single phasing protection is also necessary).

Fuses in the circuit should be regarded as only protecting the wiring against short circuits or earth faults; they are not suitable for overload protection. Fuse ratings must be able to carry starting loads, which can be taken as a maximum of six times the running current for 25 seconds.

FHU's are not suitable for speed control.

- **CHECK LIST**

- 1) Are all links and wiring complete (refer to wiring diagrams)?
- 2) Are all fixings secured?
- 3) Are all relevant guards fitted?
- 4) Are all protective circuit devices fitted and wired correctly?
- 5) Are all terminal box covers and gland fittings secure?
- 6) Are all earth connections secured?
- 7) Check that no hazard exists for persons in the locality of the fan. Check that the fan rotation is correct as per the direction arrows on the fan plate / casing. If not isolate power supply and check wiring.
- 8) Check that the current (amps) taken by the fan does not exceed the current shown on the rating plate.
- 9) Ensure rotation of impeller is correct. Incorrect rotation may cause irreversible damage to the motor. Three phase units require a trial connection, to reverse direction interchange any two supply leads.

- **RESPONSIBILITY**

Roof Units Limited, as suppliers of the equipment cannot be responsible for the final installation and electrical connection of the product on site. We have made reasonable effort to offer guidance and assistance but the installer and electrical contractor on site have a responsibility for ensuring the equipment is safely and securely installed and electrically / mechanically safe in accordance with statutory requirements.

The fans are supplied as a component to be incorporated into a ventilation system. The final complete system installation that includes the fans MUST meet all relevant directives.

- **INSPECTION**

These pieces of equipment require maintenance, cleaning and inspection, therefore allow reasonable access for these operations to be carried out by a suitably qualified person safely.

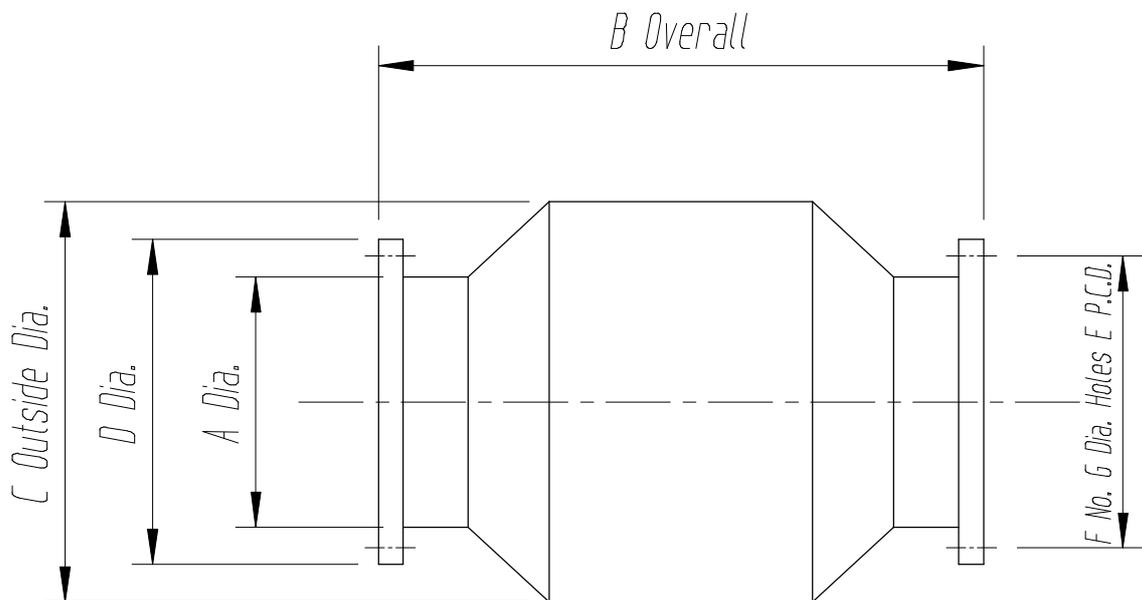
**ISOLATE FROM POWER SUPPLY AND ENSURE POWER CANNOT BE RE-CONNECTED BEFORE ANY WORK IS CARRIED OUT.**

It is recommended that the fan be inspected after three months or sooner if conditions dictate. If a build up of dirt / deposits is evident then this should be carefully cleaned off. Please take care not to damage the fan or affect the balance of the impeller motor assembly (balance weights may be fitted to the impeller).

Further inspections should be carried out periodically as necessary dependant on experience and site conditions. It is recommended that a minimum of two inspections per year be carried out.

The motor and impeller (FHU) can be removed by taking the 8 off screws around the circular PVC motor flange and lifting the assembly out together.

The fan motors are fitted with "sealed for life" bearings and, under normal circumstances, should not require maintenance.



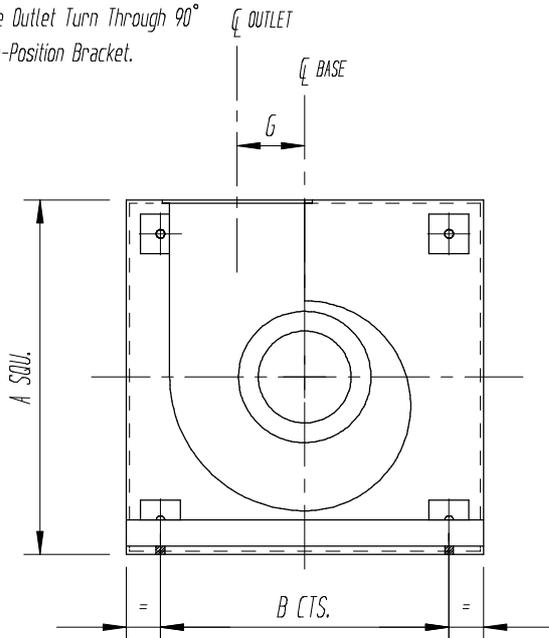
Fan Size	A	B	C	D	E	F	G	Wt (kg)
250	250	600	400	325	290	8	8	8
315	315	650	480	400	360	16	9	10
400	400	800	620	500	455	16	9	15

*Please Note:- Airflow Is Over The Impeller First.*

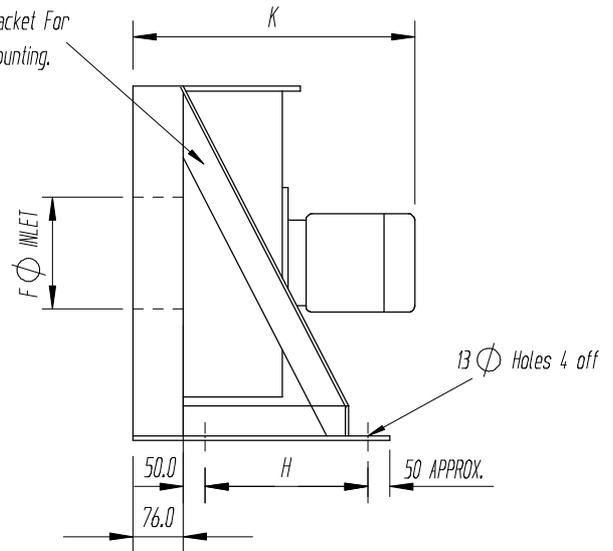
***Please refer to the wiring details on the individual motor supplied. These products must be installed by a qualified and competent person, in accordance with current applicable regulation.***

# FHU ARRANGEMENT.

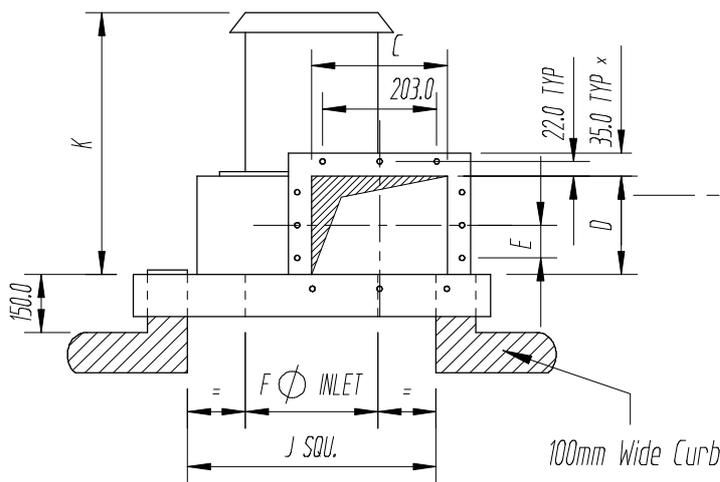
For Side Outlet Turn Through 90°  
And Re-Position Bracket.



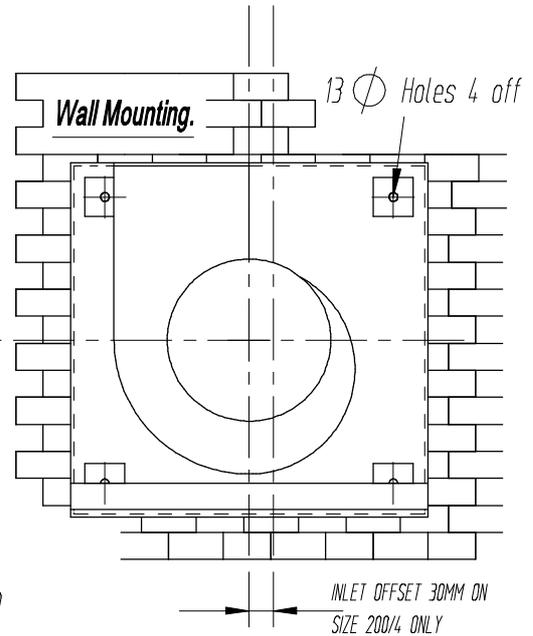
Universal Bracket For  
Plantroom Mounting.



**Roof Mounting.**



**Wall Mounting.**



9 off 8 Ø Holes And 3 off 6 Ø Holes On Bottom Flange.

Dimensions marked x are approximate.

Fan Code	A	B	C	D	E	F	G	H	J	K	Wt (kg)
FHU 200	540	436	205	150	50	201	102	200	280	475	20
FHU 250	635	534	230	165	50.5	251	115	250	380	492	23
FHU 315	724	622	286	206	76	314	143	300	470	578	32

**Please refer to the wiring details on the individual motor supplied. These products must be installed by a qualified and competent person, in accordance with current applicable regulation.**

### **Roof Units Limited Guarantee**

Roof Units Limited will, free of charge, within a period of 1 year from the date of dispatch from their works repair or at its option replace any fan which are proved to their reasonable satisfaction to be defective in material or workmanship unless:-

- 1) The goods have been altered in any way
- 2) The goods have been improperly installed or connected or
- 3) The buyer has failed to notify Roof Units Limited of any defect or suspected defect within 14 days of the same coming to the knowledge of the buyer.
- 4) Any goods replaced will belong to Roof Units Limited. Any repaired or replacement goods will be guaranteed on these terms for the unexpired portion of the 1 year period.
- 5) Otherwise subject to our standard terms and conditions.

The goods returned to Roof Units Limited works, carriage paid to enable examination, repair or replacement.

Roof Units Limited reserves the right to alter specification without notice.



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