

OPERATION AND MAINTENANCE INSTRUCTIONS

LDF™, ARH™ SINGLE & TDF™ TWIN IN-LINE DUCT FANS



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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) Excessive oil or grease laden atmosphere.
- 2) Corrosive or flammable gases, fluids or vapours.
- 3) Ambient temperatures higher than 40°C and below -25°C.
- 4) Relative humidity above 95%
- 5) Possible obstructions which will hinder removal.
- 6) 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.

Accessories.

Please ensure the following is adhered to;

- Silencers:- Ensure recessed section of silencer is fitted towards the fan.
- Flexible Connections:- Ensure connections are almost fully extended.
- Mounting Feet:- Clamp securely to the matching Ductmate flanges.
- Acoustic Jacket:- Clamp securely around fan casing with fastenings provided.
- Anti Vibration Mounts:- Must be fitted to all mounting feet.

• **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 have HOT SPOT protection. LDF & TDF 220 / 250 are self re-setting.

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 Vent Axia Incorporating Roof Units Limited.

- **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.

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

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.

- **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 via the removal of the rubber plug fitted in the sight port (situated on the same side as the terminal box). Incorrect rotation may cause irreversible damage to the motor. Three phase units require a trial connection, to reverse direction interchange any two supply leads.

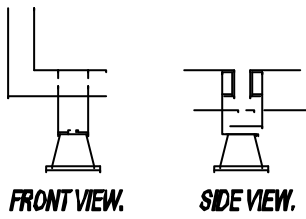
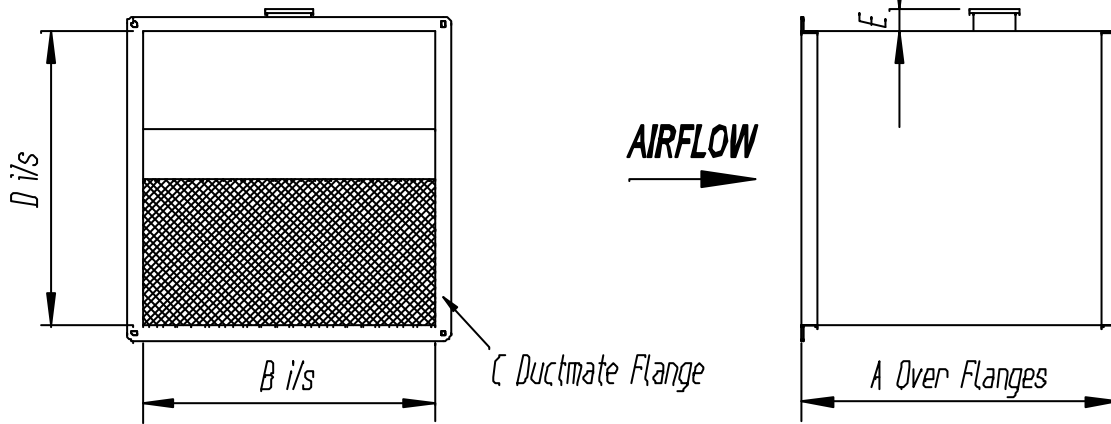
- **RESPONSIBILITY**

Vent Axia Incorporating 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.

**PLEASE NOTE:- (1) TDF 600 & 700 INCLUDE GRAVITY OPERATED BACKDRAUGHT SHUTTERS.
THE SHUTTERS MUST REMAIN IN A HORIZONTAL PLANE
(2) FOR MOTOR REMOVAL ALLOW 7' MINIMUM CLEARANCE FOR EACH MOTOR PLATE.**

LDF, ARH AND TDF ARRANGEMENT.



MOUNTING FEET AND ANTI-VIBRATION MOUNT.

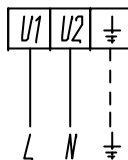
4 OFF PER UNIT REQUIRED.

Model	A	B	C	D	E	F	Wt (kg)
LDF220	450	375	25	215	40	155	12.5
LDF250	450	375	25	215	40	155	13.5
LDF280	560	425	25	350	40	230	22
LDF320	625	500	25	425	50	280	35
LDF380, ARH355	700	550	35	485	50	310	40
LDF420, ARH400	775	625	35	535	50	345	55
LDF480, ARH450	850	700	35	600	65	390	62
LDF520, ARH500	925	775	35	700	50	405	80
LDF600, ARH630	1000	850	35	800	55	455	97
LDF700, ARH710	1100	950	35	850	55	485	112

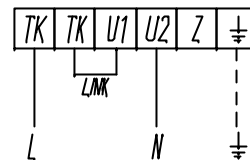
Model	A	B	C	D	E	F	Wt (kg)
TDF220	570	375	25	330	40	155	24
TDF250	570	375	25	330	40	155	26
TDF280	780	425	25	540	40	230	40
TDF320	900	500	25	655	50	280	65
TDF380	1015	550	35	745	50	310	75
TDF420	1130	625	35	830	50	345	103
TDF480	1250	700	35	925	65	390	112
TDF520	1385	775	35	1055	50	405	145
TDF600	1530	850	35	1200	55	455	180
TDF700	1675	950	35	1280	55	485	203

LDF AND TDF WIRING.

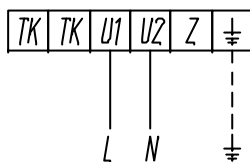
LDF & TDF 220 / 250. 230V, 1PH, 50Hz.



LDF & ARH 280 - 480. 230V, 1PH, 50Hz.



TDF 280 - 480. 230V, 1PH, 50Hz.



LDF, ARH & TDF. 400V, 3PH, 50Hz.



Links supplied by others.

These products must be installed by a suitably qualified and competent person in accordance with current applicable regulations.

- **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 / site conditions. A minimum of two inspections per year is recommended.

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

Vent Axia Incorporating Roof Units Limited Guarantee

Applicable only to products installed and used in the United Kingdom. For details of guarantee outside the United Kingdom, contact your local supplier.

Vent Axia Incorporating Roof Units Limited guarantees its products for two years from the date of purchase against faulty material or workmanship. In the event of any part being found to be defective, the product will be repaired, or at the Company's option replaced, without charge, provided that the product:

1. Has been installed and used in accordance with the instructions given with each unit.
2. Has not been connected to an unsuitable electricity supply. (The correct electricity supply voltage is shown on the product rating label attached to the unit.)
3. Has not been subjected to misuse, neglect or damage.
4. Has not been modified or repaired by any persons not authorised by the company.

If Claiming Under Terms Of Guarantee.

Please return the complete product, carriage paid to your original supplier or nearest Vent Axia Incorporating Roof Units Limited Centre, by post or personal visit. Please ensure that it is adequately packed and accompanied by a letter clearly marked 'Guarantee Claim' stating the nature of the fault and providing evidence of date and source of purchase.

As part of the policy of continuous product improvement Vent Axia Incorporating Roof Units Limited reserves the right to alter specifications without notice



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