

Installation, Operation & Maintenance Manual for: Eco-Airvent eTF-D & eTF-R Series Twin Fan Units.

- 1 -

INDEX

Page No.

INTRODUCTION	//
1. HEALTH AND SAFETY AND CAUTIONARY NOTES.	2
2. DELIVERY.	2
3. OFF-LOADING AND HANDLING.	3
4. ERECTION OF UNIT.	3
5. INSTALLATION.	3
6. STORAGE OF UNIT.	4
7. COMMISSIONING OF UNIT.	5
7.01 Access to motor and change-over mechanism.	5
7.03 Rotation of fans and Backdraught shutter movement. ...	5
7.04 Electrical connections to the unit.	5
7.05 Earthing.	5
7.06 Test running.	5
7.07 Auto change-over operation.	5
8. SERVICE AND MAINTENANCE.	6
8.01 Electric motors.	6
8.02 Backdraught shutters.	6
8.03 Shutter seals.	6
8.04 Access panels.	7
9. 5-YEAR INSPECTION.	7
9.01 Screws and Fixings.	7
9.02 Electrical terminations.	7
9.03 Wire / Cable insulation.	7
9.04 Wiring looms.	7
9.05 Casing external surfaces.	7
ROUTINE MAINTENANCE SCHEDULE.	7
Notes on: Static pressure / Sound power levels.	8
Invalidation of Guarantee.	8

- 2 -

1) - HEALTH AND SAFETY

Working Conditions and Pre-Installation check.

This section “working conditions”, deals with the hazards that could be encountered when any work is carried out on the equipment for which this manual is written.

Therefore the following points should be observed to avoid injury or health hazards.

The unit shall be checked that:

- a) It is suitable for the electrical supply available.
- b) It is suitable for the atmosphere and environment in which it is to operate.
- c) It is suitable for the working media, temperature, and pressure for which it is to be used.
- d) It is manually isolated from the mains power supply before any work is carried out. Do not open the unit whilst the fans are still running.
- e) Electrical equipment is earthed to comply with I.E.E. regulations and local by-laws and checked for full earth continuity.

CAUTIONARY NOTES:

NO PART OF THE UNIT SHALL BE DISMANTLED UNTIL A CAREFUL STUDY HAS BEEN MADE OF THIS MANUAL.

THIS MANUAL DEALS IN DETAIL WITH THE ERECTION, COMMISSIONING AND SERVICING, AND SHALL BE STRICTLY ADHERED TO.

WHENEVER ANY MAINTENANCE WORK IS DONE WITHIN THE UNIT, THE INTERIOR SHALL BE LEFT CLEAN AND ACCESS PANELS SHALL BE CORRECTLY FASTENED.

2) – DELIVERY

Receipt of Equipment.

Upon receipt of equipment a visual inspection shall be made and any damage noted on the delivery form.

Particulars of any damage or short delivery should be endorsed by the driver delivering the equipment.

No responsibility can be held for damage sustained during the unloading from the delivery vehicle or on the site thereafter.

All claims for damage or short delivery should be made to Eco-Airvent Ltd. within three days, and confirmed in writing within seven days of receipt of the equipment.

- 3 -

3) – OFF LOADING AND HANDLING

3.01 All eTF-D duct mounted twin fan units should only be lifted by the slotted mounting flanges; built into the casework on either side of the chassis.

3.02 Lifting and positioning for ceiling mounted options should be undertaken using a suitably sized Genie lift, ensuring the unit is supported evenly across the access panel.

3.03 All eTF-R roof mounted twin fan units fitted with a weathering skirt shall be suitably braced and supported so as not to cause damage when being lifted into position.

4) – ERECTION OF THE UNIT

Access to unit

4.01 Before mounting the unit in position it is advisable that consideration is given to access to the unit, particularly reference to the following:

That provision is made in the plant room or wherever the unit is installed for access to remove:

Fans, Fan plate assembly.

Electrical enclosure covers.

4.02 On larger models with components that cannot easily be manhandled consideration should be given for hoists or craneage and provision should be made for their use.

5) – INSTALLATION

5.01 All units must be installed in accordance with good engineering practices and standards, correctly orientated, true and level.

5.02 Flexible connectors are not essential for connecting ductwork to the units; however the use of this may help to overcome any site ductwork misalignment.

5.03 Unit modules being delivered in sections for assembly on site should be carefully checked against the general arrangement drawing to ensure erection in the correct sequence and handing.

6) – UNITS HELD IN STORAGE CONDITION

Unit Interior and Exterior Surfaces

6.01 Interior

If ducting is not connected it is essential that all inlet and discharge openings are completely sealed.

Whenever any access panels are removed for inspection purposes they are to be replaced and made secure, care to be taken not to damage the seals.

6.02 Exterior

The exterior shall be kept free from any falling building materials, dampness or extreme cold or heat.

It is advisable to encapsulate the unit in shrink-wrap where possible.

Exterior surfaces should be checked on a monthly basis and any signs of corrosion or scratches should be treated immediately.

6.03 Static indentation

Machines fitted with ball bearings may be damaged if left stationary for long periods. The balls and races may suffer damage by fretting corrosion (false brinelling, stationary vibration or static vibration marking). Consequently, no motor should be permitted to stand on a vibrating floor while in storage, manually rotating the motors during the monthly inspection will reduce the risk of these effects occurring.

6.04 For all accessory module storage instructions please refer to appropriate section within the specific manual.

The foregoing instructions are intended to preserve the life of all static and moving parts of the equipment during the period of storage. It is advisable that regular attention to the equipment is maintained.

When the equipment is put into commission this manual is to be strictly adhered to. The procedures detailed above are particularly brought to your attention and do not exclude other necessary procedures commensurate with good engineering practice.

- 5 -

7) – COMMISSIONING OF THE UNIT

Motor

Note: It is essential that the unit be completely assembled prior to being run, all ductwork is securely fixed and access cannot be made to the rotating parts of the unit.

7.01 Access to the fans and backdraught shutters is made by removal of the access panel.

7.02 Access panels are retained by screw fixings and should only be opened by a competent or qualified person once they have familiarised themselves with this manual.

7.03 With the unit completely isolated from the power supply; remove the access panel and check all fans for free rotation, and all flaps for free movement.

7.04 The unit shall be connected to the Auto-changeover panel in accordance to I.E.E. and local by-laws and wired to the appropriate wiring detail issued with the unit.

7.05 **Earthing.**

All units are connected internally to the earth wiring; however it is recommended that a separate earth is made to the casework of the unit and associated modules.

7.06 Test run both the run and standby fan motors to ensure correct operation; monitor the “run” and “fail” lights on the Auto-changeover panel indicating fan operational status.

7.07 Auto-changeover panel “run” and “fail” light sequence.

Refer to specific control manual.

8) – SERVICE AND MAINTENANCE

General

This section of the manual deals with the requirements for service and maintenance of the equipment.

It is essential that the following instructions are carried out to obtain long life from the unit.

WARNING: It is essential that before any work or maintenance is carried out, the unit must be isolated from the electrical supply.

8.01 Electric motors

All direct driven fan motors are fitted with sealed for life, maintenance-free bearings requiring no servicing.

8.02 Access Panels

During the routine servicing of the unit; ensure that when an access panel is removed the gasket seals are not damaged.

Seals should remain dry and crack free and should not adhere to the access panel and case at the same time.

Seals should remain in position when the access is removed and form a complete frame around the opening aperture to give positive seal on closure. Ensure all retaining screws or locks are fitted and correctly tightened / adjusted to retain the access panel securely.

9) 5 – YEAR INSPECTION

9.01 Screws and fixings to be checked for tightness.

9.02 Electrical terminations checked for tightness.

9.03 Check of all wiring to ensure no damage has occurred to insulation.

9.04 Check wiring looms are correctly retained and not stretched between terminations.

9.05 Casing to be checked for any signs of corrosion, any affected areas to be suitably cleaned and treated.

9.06 Check anti-backdraught shutters for freedom of movement and apply spray lubricant where necessary. Check shutter seals for adhesion and replace if necessary.

ROUTINE MAINTENANCE SCHEDULE

ITEM	NONE
-------------	-------------

DUTY CYCLE CHANGEOVER FROM RUN TO STANDBY FAN/S

Auto change-over controls alternate between Fan-1 and Fan-2 automatically.

Numbers quoted in the time period column relate to the section in this manual that deals with the item.

- 8 -

NOTE

Any queries concerning the airside performance should be accompanied by details of the measured air volume, together with the static pressure at the intake and discharge side of the unit, together with details of supply voltage at the fans.

It is possible that faults attributed to an air movement product may be traced back to the system connected to it, such as dirty filters, blocked ducts or incorrectly set dampers.

Please check these before proceeding any further.

Sound power level data is provided for each unit, this should be utilised in all investigations related to noise attenuation for the system.

INVALIDATION OF GUARANTEE

The following misuses or maltreatment of Eco-Airvent Ltd. equipment will render all guarantees, as set out in Conditions of Sale, void.

1. Failure to install set up or put to work any part of the equipment as specified in the Eco-Airvent Ltd. Installation, Operating and Maintenance Instructions.

2. Attempting to operate motors and other equipment with an electrical supply other than that designed on the equipment data label, or failing to connect and protect such equipment in accordance with I.E.E. regulations and local By-laws.
3. Failure to notify Eco-Airvent Ltd. of equipment damaged on receipt and confirming in writing within seven days of receipt of equipment.
4. Modification to designed arrangement or performance without prior written approval of Eco-Airvent Ltd.
5. Damage caused to equipment on site through lack of adequate protection from the elements or misuse by other trades.
6. Failure to observe all normally accepted engineering practices during installation, commissioning and subsequent operation of equipment.