



NALRF

Horizontal Discharge Roof Fans Installation and Maintenance

Introduction

The NALRF horizontal discharge roof extract unit is manufactured with a UV stabilised GRP cowl and base finished in Goosewing grey (B500-A-05).

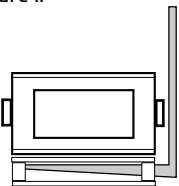
The unit is supplied with a plate fan, single component spun mounting plate manufactured from hot dipped galvanised steel, black polyester powder coated.

Fan incorporates inlet side finger guard to BS 848 Part 5. Motor incorporates class F insulation and "Heatseeker" thermal protection.

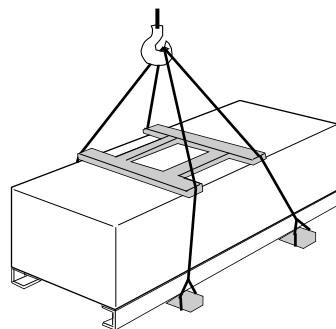
1.0 Handling

Always handle the units carefully to avoid damage and distortion, if mechanical aids are used to lift the unit employ spreaders and slings. Always check unit weight on rating label before lifting.

Figure 1.



Above: Palletised.



Right: Slings via spreaders fitted to unit with base frame.

2.0 Installation

IMPORTANT

Isolation - Before removing panels make sure that the unit is electrically isolated from the mains supply.

Installation must be completed by competent personnel in accordance with good industry practice, the appropriate authority and in conformance with all statutory and governing regulations i.e. CIBSE, HVCA, ATEX, BSI & EN standards etc.

Ensure that the unit is electrically isolated, before carrying out any work. The fans may be mounted on flat or inclined roofs. However, note that too steep an angle may affect the cowls weathersealing ability.

All exposed fixings must be weathersealed by the installer.

Select the mounting position and structure that can support the fan.

The fans are supplied in two main parts. The terminal assembly and the axial plate fan assembly. Proceed as follows:

1. It is suggested that the plate fan is first placed into the internal recess of the upturned terminal assembly and the existing plate holes used as a template for drilling the terminal base.

2. The plate can be placed centrally above the support box or curb and again used as a drilling template.

3. If using optional support box, place into the roof and fix to trimmers/purlins.

4. Place the soaker sheet over the box/curb and weather into the roof structure. If required, trim the top of the soaker to ensure that it finishes below the height of the box/curb.

5. Locate the fan plate centrally onto the support box/curb and place the terminal assembly on top.

6. Align the drilled holes and bolt together using suitable fixings (not supplied). The basic installation is now completed.

3.0 Electrical connection

Ensure that the unit is electrically isolated, before carrying out any work.

Check that the fan details on the rating plate correspond with the supply voltage and frequency. The mains supply is connected directly to the motor mounted terminal box using flexible conduit and glands. (see wiring diagrams overleaf).

Motors are designed for Direct On Line starting.

Motor overloads should be set to the full load current on the fan rating label. Supply fuses should be H.R.C. type.

Note: Control wiring is included with the control.

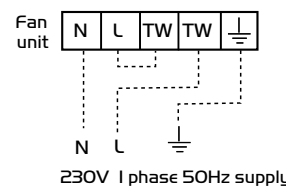
Start up Procedure: Note single phase rotational direction is set at works and should NOT be altered. Equipment should be run for approximately 30 minutes to ensure correct operation. If a fault occurs, switch off.

Do not restart until fault has been rectified. If a speed control is fitted, check the speed variation is obtained.

Wiring

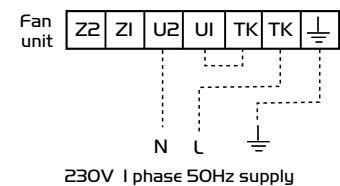
Figure 2.

Single phase fans Sizes 314 - 450 inclusive



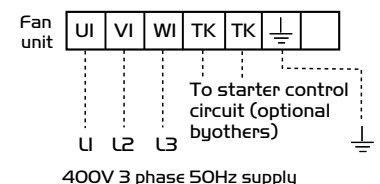
Note: Failure to connect Thermal Protection TW or TK as shown will invalidate the warranty.

Single phase fans Sizes 500 and above

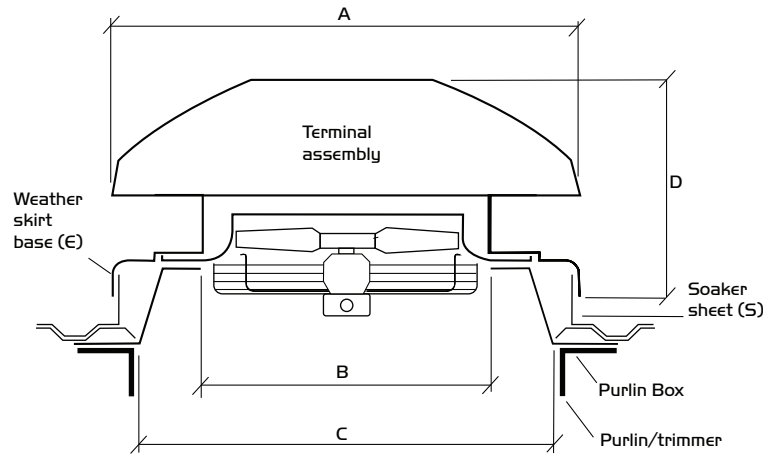


Three phase fans Note: If starter control fitted, failure to connect Thermal Protection TW or TK as shown will invalidate the warranty.

(Interchange any two fan supply phases to reverse rotation)



4.0 Dimensions



Unit Code	A Weather Cowl sq.	B Purlin Box Aperture	C Purlin Box Base/Roof Aperture	D Unit Height	E Weather Skirt Base sq inner outer	S Soaker Sheet Kerb sq.	Wight kg**
NALRF315	555	350	515	340	520 555	510	11
NALRF350	675	400	680	380	660 695	640	15
NALRF400	765	510	780	460	775 795	750	20
NALRF450	765	510	780	460	775 795	750	20
NALRF500	995	620	910	550	920 960	890	38
NALRF560	995	620	910	550	920 960	890	41
NALRF630	1115	780	950	650	1010 1055	1000	50

**Owing to the hand layout process all weights are indicative and subject to variation.
*All dimensions indicated are nominal and subject to design change.

5.0 Maintenance

IMPORTANT

Isolation - Before removing panels make sure that the unit is electrically isolated from the mains supply.

Usage and conditions of use will dictate frequency of maintenance. We would recommend a through inspection and cleaning three months after commissioning and, dependent in the condition in which the fan is found, at least annually thereafter.

Clean and inspect the exterior of the fan unit and associated controls etc.

Remove the cowl. Clean the fan and motor assembly and the the interior of the cowl. If the unit is heavily soiled it may be more convenient to remove the complete unit to facilitate cleaning.

Fans and systems should be maintained in accordance with the HVCA Standard Maintenance Recommendations for Mechanical Services in Buildings' Volume II Ventilation and Air conditioning.

6.0 Replacement of Parts

Nuair keep extensive stocks of spares for quick delivery, when ordering be sure to quote unit model code, serial number, ARC number etc. all available from the fan side rating plate.

7.0 Warranty

The one-year warranty starts from day of delivery and includes parts and labour.

This warranty is void if the equipment is modified without authorisation, is incorrectly applied, misused, disassembled, or not installed, commissioned and maintained in accordance with the details contained in this manual and general good practice.

The product warranty applies to the UK mainland and in accordance with Clause 14 of our Conditions of Sale. Customers purchasing from outside of the UK should contact Nuair International Sales office for further details.

8.0 After Sales Enquiries

For technical assistance or further product information, please contact the After Sales Department.

Telephone 02920 858 400

DECLARATION OF INCORPORATION AND INFORMATION FOR SAFE INSTALLATION, OPERATION AND MAINTENANCE

We declare that the machinery named below is intended to be assembled with other components to constitute a system of machinery. All parts except for moving parts requiring the correct installation of safety guards comply with the essential requirements of the Machinery Directive. The machinery shall not be put into service until the system has been declared to be in conformity with the provisions of the EC Machinery Directive.

Designation of machinery: NALRF
Machinery Types: Horizontal discharge roof fan
Relevant EC Council Directives: 2006/42/EC (Machinery Directive)
Applied Harmonised Standards: BS EN ISO 12100-1, BS EN ISO 12100-2, EN60204-1, BS EN ISO 9001, BS EN ISO 13857
Applied National Standards: BS848 Parts 1, 2.2 and 5

Note: All standards used were current and valid at the date of signature.

Signature of manufacture representatives:

Name:	Position:	Date:
1) C. Biggs 	Technical Director	11. 05. 11
2) A. Jones 	Manufacturing Director	11. 05. 11

CE DECLARATION OF CONFORMITY

We declare that the machine named below conforms to the requirements of EC Council Directives relating to Electromagnetic Compatibility and Safety of Electrical Equipment.

Designation of machinery: NALRF
I & M Serial No.: 671520
Machinery Types: Horizontal discharge roof fan
Relevant EC Council Directives: 2014/30/EU (EMC), 2014/35/EU (Low Voltage Directive)
Applied Harmonised Standards: EN55014-1, EN55014-2, EN61000-3-2, EN61000-3-3, EN60335-2-80
Basis of Self Attestation: Quality Assurance to BS EN ISO 9001 BSI Registered Firm Certificate No. FM 149

Signature of manufacture representatives:

Name:	Position:	Date:
1) C. Biggs 	Technical Director	11. 05. 11
2) A. Jones 	Manufacturing Director	11. 05. 11

Nuaire Ltd,
 Western Industrial Estate,
 Caerphilly CF83 1NA.

Note: All standards used were current and valid at the date of signature.

INFORMATION FOR SAFE INSTALLATION, OPERATION AND MAINTENANCE OF NUAIRE VENTILATION EQUIPMENT

To comply with EC Council Directives 2006/42/EC Machinery Directive and 2014/30/EU (EMC).

To be read in conjunction with the relevant Product Documentation (see 2.1)

1.0 GENERAL

1.1 The equipment referred to in this Declaration of Incorporation is supplied by Nuaire to be assembled into a ventilation system which may or may not include additional components.
 The entire system must be considered for safety purposes and it is the responsibility of the installer to ensure that all of the equipment is installed in compliance with the manufacturers recommendations and with due regard to current legislation and codes of practice.

2.0 INFORMATION SUPPLIED WITH THE EQUIPMENT

2.1 Each item of equipment is supplied with a set of documentation which provides the information required for the safe installation and maintenance of the equipment. This may be in the form of a Data sheet and/or Installation and Maintenance instruction.
 2.2 Each unit has a rating plate attached to its outer casing. The rating plate provides essential data relating to the equipment such as serial number, unit code and electrical data. Any further data that may be required will be found in the documentation. If any item is unclear or more information is required, contact Nuaire.
 2.3 Where warning labels or notices are attached to the unit the instructions given must be adhered to.

3.0 TRANSPORTATION, HANDLING AND STORAGE

3.1 Care must be taken at all times to prevent damage to the equipment. Note that shock to the unit may result in the balance of the impeller being affected.
 3.2 When handling the equipment, care should be taken with corners and edges and that the weight distribution within the unit is considered. Lifting gear such as slings or ropes must be arranged so as not to bear on the casing.
 3.3 Equipment stored on site prior to installation should be protected from the weather and steps taken to prevent ingress of contaminants.

4.0 OPERATIONAL LIMITS

4.1 It is important that the specified operational limits for the equipment are adhered to e.g. operational air temperature, air borne contaminants and unit orientation.
 4.2 Where installation accessories are supplied with the specified equipment eg. wall mounting brackets. They are to be used to support the equipment only. Other system components must have separate provision for support.
 4.3 Flanges and connection spigots are provided for the purpose of joining to ductwork systems. They must not be used to support the ductwork.

5.0 INSTALLATION REQUIREMENTS

In addition to the particular requirements given for the individual product, the following general requirements should be noted.

5.1 Where access to any part of equipment which moves, or can become electrically live are not prevented by the equipment panels or by fixed installation detail (eg ducting), then guarding to the appropriate standard must be fitted.
 5.2 The electrical installation of the equipment must comply with the requirements of the relevant local electrical safety regulations.
 5.3 For EMC all control and sensor cables should not be placed within 50mm or on the same metal cable tray as 230V switched live, lighting or power cables and any cables not intended for use with this product.

6.0 COMMISSIONING REQUIREMENTS

6.1 General pre-commissioning checks relevant to safe operation consist of the following:
 Ensure that no foreign bodies are present within the fan or casing.
 Check electrical safety. e.g. Insulation and earthing.
 Check guarding of system.
 Check operation of Isolators/Controls.
 Check fastenings for security.
 6.2 Other commissioning requirements are given in the relevant product documentation.

7.0 OPERATIONAL REQUIREMENTS

7.1 Equipment access panels must be in place at all times during operation of the unit, and must be secured with the original fastenings.
 7.2 If failure of the equipment occurs or is suspected then it should be taken out of service until a competent person can effect repair or examination. (Note that certain ranges of equipment are designed to detect and compensate for fan failure).

8.0 MAINTENANCE REQUIREMENTS

8.1 Specific maintenance requirements are given in the relevant product documentation.
 8.2 It is important that the correct tools are used for the various tasks required.
 8.3 If the access panels are to be removed for any reason the electrical supply to the unit must be isolated.
 8.4 A minimum period of two minutes should be allowed after electrical disconnection before access panels are removed. This will allow the impeller to come to rest.
NB: Care should still be taken however since airflow generated at some other point in the system can cause the impeller to "windmill" even when power is not present.
 8.5 Care should be taken when removing and storing access panels in windy conditions.

Technical or commercial considerations may, from time to time, make it necessary to alter the design, performance and dimensions of equipment and the right is reserved to make such changes without prior notice.