

Roof Mounted Vertical Upblast Extract High Temperature 400°C for 2 Hours Installation and Maintenance Manual



1.0 IMPORTANT SAFETY INFORMATION

- The provision of the electrical supply and the connection of the unit to the mains must be carried out by a qualified electrician.
- Isolate from power supply before removing any covers. During installation / maintenance ensure all covers are fitted before switching on the mains supply.
- All-pole disconnection from the mains as shown in the wiring diagram must be incorporated within the fixed wiring and shall have a minimum contact separation of 3mm in accordance with latest edition of the wiring regulations.
- This unit must be earthed.
- Ducting must be securely fixed with screws to the spigot to prevent access to live parts. Duct runs terminating close to the fan must be adequately protected by suitable guards.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel-burning appliances.
- This appliance should not be used by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning the safe use of the appliance by a person responsible for their safety. Children shall not play with the appliance. Cleaning and user maintenance shall not be carried out by children.

1.1 HAZARD SYMBOLS



GENERAL WARNING

Signifies a general warning regarding hazard specified by supplementary information.



ELECTRIC SHOCK

This unit must be completely electrically isolated before any panels are removed. Check mains supply and control connections.



ROTATING PARTS

This unit contains fast moving rotational parts which may start automatically. It is the sole responsibility of the installer to adequately guard these components.



REFER TO INSTRUCTION MANUAL

Read and understand the installation and maintenance manual before installing, operating or maintaining this product.

1.2 IMPORTANT INFORMATION

This manual contains important information on the safe and appropriate assembly, transport, commissioning, operation, maintenance, disassembly and simple troubleshooting of the product.

While the product has been manufactured according to the accepted rules of current technology, there is still a danger of personal injury or damage to equipment if the following general safety instructions and the warnings contained in these instructions are not complied with.

- **Read these instructions completely and thoroughly before working with the product.**
- **Keep these instructions in a location where they are accessible to all users at all times.**
- **Always include the operating instructions when you pass the product on to third parties.**

1.3 PERSONAL PROTECTIVE EQUIPMENT

The following minimum Personal Protective Equipment (PPE) is recommended when interacting with Nuaire product:

- **Protective Steel Toe Capped Shoes:** When handling heavy objects.
- **Full Finger Gloves (Marigold PU800 or equivalent):** When handling sheet metal components.
- **Semi Fingerless Gloves (Marigold PU3000 3DO or equivalent):** When conducting light work on the unit requiring tactile dexterity.
- **Safety Glasses:** When conducting any cleaning/cutting operation or exchanging filters.
- **Reusable Half Mask Respirators:** When replacing filters which have been in contact with normal room or environmental air.

Nuaire would always recommend a site specific risk assessment by a competent person to determine if any additional PPE is required.

2.0 INTRODUCTION

NVU units are centrifugal roof fans with backward curved impeller and vertical discharge and are manufactured from weather-resistant aluminium AlMg3. The air outlet is protected by a protection grille against intrusion, birds, dirt and other foreign objects. Baseplate of galvanized steel sheet with deep drawn air inlet and preassembled screws for the possibility of connecting pipe flanges and accessories according to DIN 24154 / EN 12 220. The fan has been conceived for easy mounting on roof socket (by others) without the necessity of removing the housing and features a swing-out fan unit for cleaning and maintenance purposes. The incorporated grease pan and drain avoid roof soiling and ensure a controlled drainage of fat impregnated impurities. 11 sizes with a maximum duty of 3.98 m³/s are available and are suited for use according to VDI 2052.

The efficiency-optimized radial impeller with backward curved blades is fitted on the shaft of an IEC three phase motor with a special shaft seal that prevents the ingress of oil and water. The impeller is provided with a taper lock clamping bush which ensures improved balancing quality and higher operational stability. The impeller is balanced together with the motor according to the quality class G 6.3 of DIN / ISO 1940, on 2 planes. Speed control possible only via frequency converter. The drive motor is placed outside of the air stream. For maintenance-free use, there are ball bearings with lifetime lubrication, sealed on both sides. The motor thermal protection must be installed on site (monitoring of the thermal motor current via a FU or motor protection switch). The electrical connection is to be done via the integrated isolator switch.

EN12101-3 compliant, refer to EC certificate of conformity, 0086-CPR-672476.

2.1 CODE DESCRIPTION

1	2	-	3	4
NVU	630	-	4	F8

1. Range Type: **NVU** = Nuaire Vertical Upblast Fan
2. Impeller Sizes: **225, 250, 280, 315, 355, 400, 450, 500, 560, 630**
3. Motor Poles: **2, 4**
4. High Temperature: **F8** = 400°C for 2 Hours

3.0 DELIVERY & HANDLING

All equipment is inspected prior to despatch and leaves the factory in good condition. Upon receipt of the equipment an inspection should be made and any damage indicated on the delivery note. Particulars of damage and/or incomplete delivery should be endorsed by the driver delivering the goods before offloading by the purchaser.

No responsibility will be accepted for damage sustained during the offloading from the vehicle or on the site thereafter. All claims for damage and/or incomplete delivery must be reported to Nuaire within two days of receipt of the equipment.

Always handle the units carefully to avoid damage and distortion.

3.1 TRANSPORT

It should be transported with suitable lifting equipment in the original packaging or on the transport equipment indicated.

If transported with a forklift, it should be ensured that the product is resting with the basic profile or base frame completely on the forks or on a pallet and the product's centre of gravity is between the forks. The driver must be authorized to drive a forklift.

3.2 STORAGE

The product must be stored in a dry area and protected from the weather in the original packaging. Open pallets should be covered with tarpaulins. Even weatherproof modules should be covered because their weather resistance is only guaranteed after complete installation. If moisture has penetrated into the original packaging, remove it immediately.

Storage temperature must be between +5 °C and +40 °C . Avoid severe temperature fluctuations.

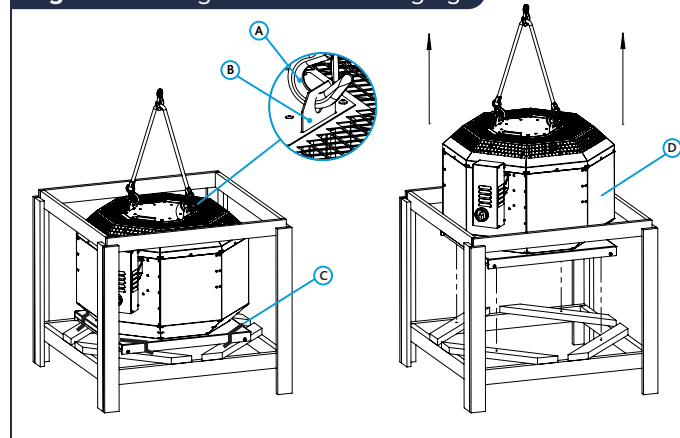
If the product has been in storage for more than a year, check the smooth running of impellers and valves by hand.

4.0 MECHANICAL INSTALLATION

4.1 REMOVING UNIT PACKAGING

- Insert crane hook (A) into the two eyehooks (B) on the roof fan (Fig 1).
- Release transport locks (C) 4x.
- Lift the roof fan (D) out of the packaging.

Fig 1: Removing Unit From Packaging



4.2 ASSEMBLY

Assembly work may only be performed by specialist personnel in accordance with the installation and operating manual and the regulations and standards in force.

The following points should be noted and followed:

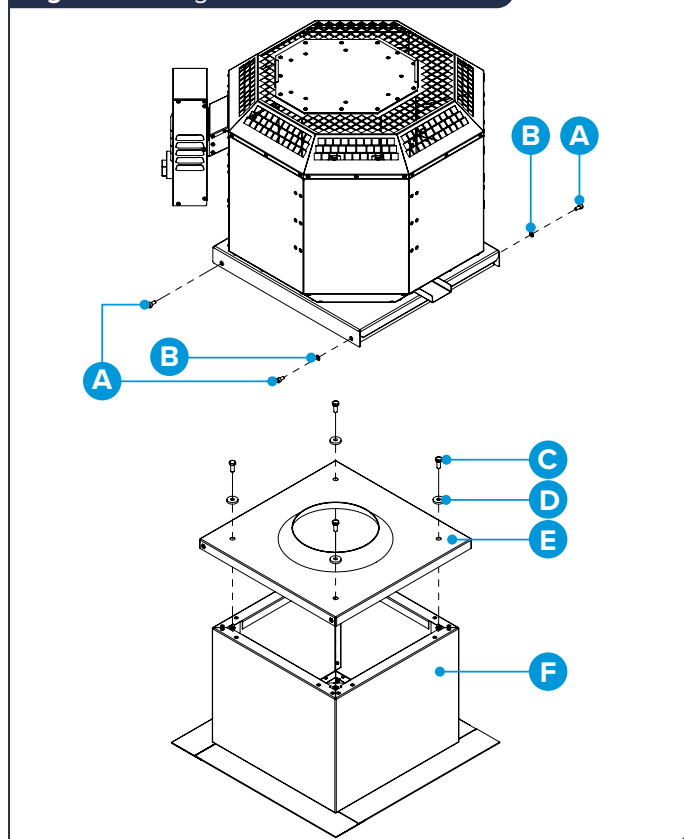
- The foundation must be even and levelled. It must not exhibit unevenness or a slope in any direction.
- Set up and align the machine with the aid of a water level. A perfect function of the device can be guaranteed only if levelled mounted.
- Only suitable installation aids, in accordance with regulations, should be used.
- The device must be installed in such a way that it is easily accessible for maintenance and cleaning purposes.
- The unit should only be installed with suitable fastening materials (by others) at all fastening points.
- Do not distort the unit when installing.
- Use the indicated mounting and fixing places. No holes should be made in the housing or any screws screwed into it.
- The duct system must not be supported on the housing.
- For structure-borne sound decoupling, a flexible connection is recommended when connected on a duct system.

4.3 MOUNTING UNIT ON ROOF SOCKET

- Release screws and washers (A) and (B) on both sides (Fig 2).
- Remove the nozzle plate (E).
- Mount the nozzle plate (E) with hexagonal screws (C) and sealing washers (D) on DSF flat roof socket (F).

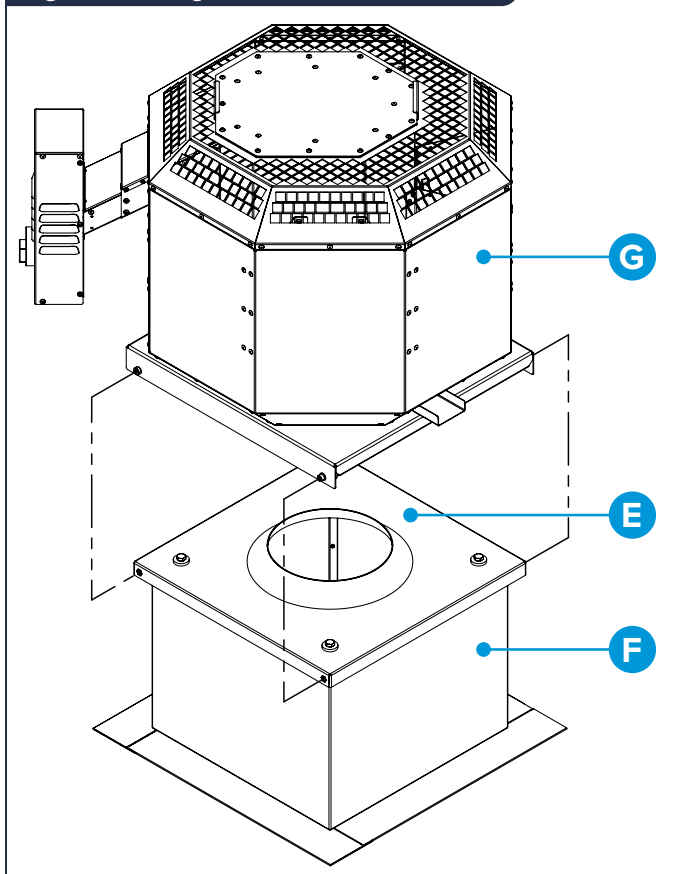
DSF Roof Socket (F) Code	NVU Size Suitability
DSF450-10	450 and 500
DSF560-10	560 and 630

Fig 2: Mounting Unit on Roof Socket Pt.1



- Set the roof fan (G) on the nozzle plate (E) (Fig 3).
- Secure the roof fan with screws and washers (A) and (B).

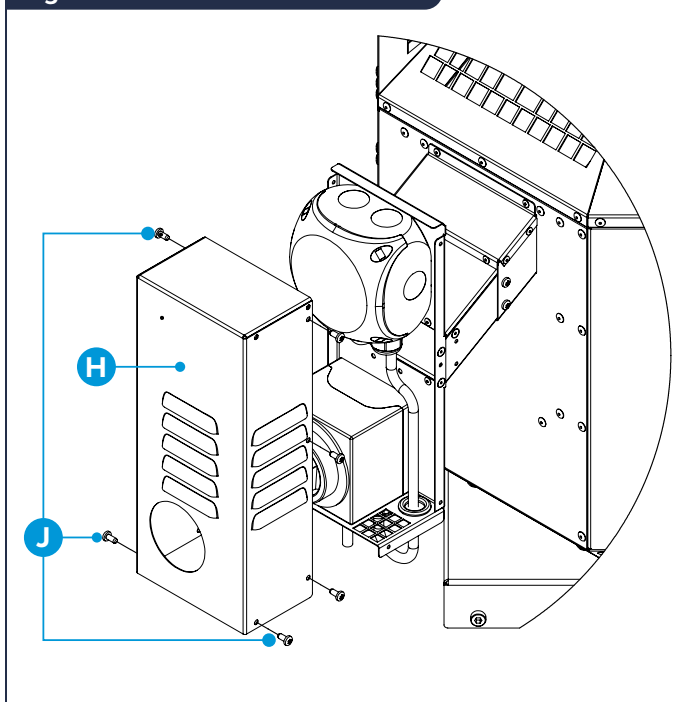
Fig 3: Mounting Unit on Roof Socket Pt.2



4.4 ELECTRICAL CONNECTION COVER

- Unscrew the sheet metal screws (J) (Fig 4)
- Remove cover (H)
- Perform the wiring according to the wiring diagram.

Fig 4: Electrical Connection Cover



5.0 ELECTRICAL INSTALLATION

Isolation - Before commencing work make sure that the unit and Nuaire control are electrically isolated from the mains supply.

5.1 ELECTRICAL CONNECTION

The electrical installation may only be carried out by qualified electricians in compliance with the installation, operating and maintenance instructions and the applicable national regulations, standards and guidelines:

- ISO, DIN, EN and VDE specifications, including all safety requirements.
- Technical connection conditions.
- Safety at work and accident prevention requirements.

This list does not claim to be complete. Requirements should be applied under one's own personal responsibility.

- The electrical connections must be made as shown in the corresponding wiring diagrams and terminal diagrams.
- The type of cable, size of cable and method of laying should be determined by an authorized electrician.
- Low and extra-low voltage cables should be laid separately.
- If no repair switch is integrated in the device, an all-pole mains disconnecting switch with min. 3 mm contact opening must be provided in the supply line.
- Use a separate cable inlet for each cable.
- Any cable inlets that are not used must be sealed so that it is airtight.
- All cable inlets must have strain relief.
- Create equipotential bonding between the unit and the duct system.
- Check all protective measures after the electrical connection work (earthing resistance, etc.)
- The specified maximum fan speed must never be exceeded, otherwise the motor and fan will be destroyed by this overload and dissolved or flying parts can destroy other components.

5.2 SUPPLY CABLE

Connect the mains supply cable as shown in the wiring diagram. For the dimensioning of the line, observe the unit's rating plate and the relevant guidelines. Appropriate protection with correctly dimensioned automatic safety breakers (circuit protection breaker) must be provided.

5.3 WIRING

The device must be connected according to the wiring diagrams in section 5.4. For fans which are controlled by external control devices, the corresponding operating instructions of the manufacturer must be observed.

5.4 3-PHASE WIRING DIAGRAMS

Fig 5: 143654 Wiring Diagram

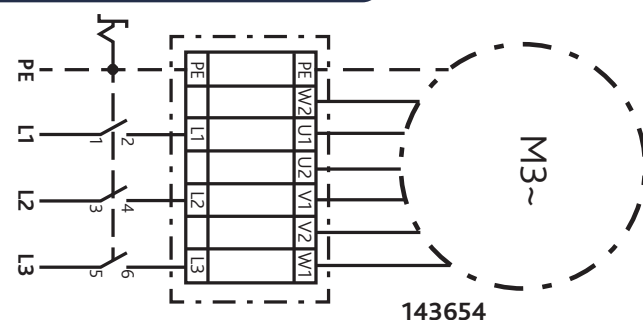
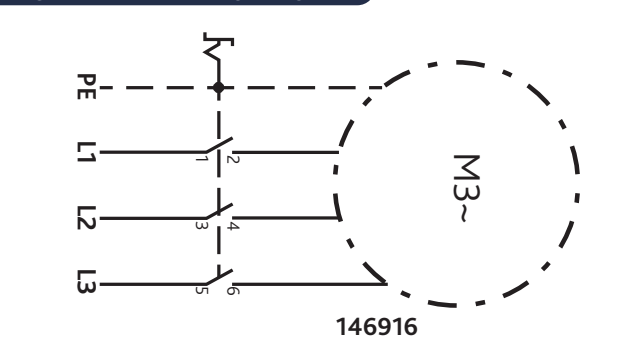


Fig 6: 146916 Wiring Diagram



5.5 STAR / DELTA CIRCUIT

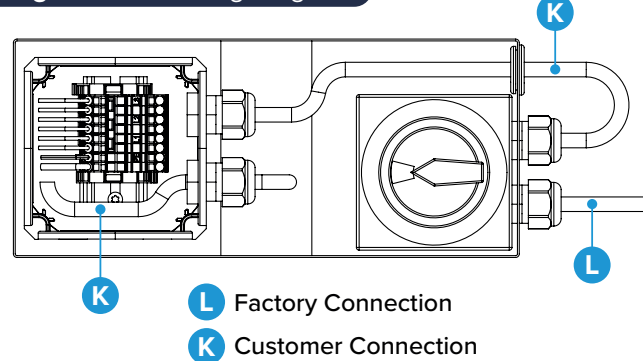
The following connections are only possible for sizes 225 to 560.

If, in spite of the correct connection to the mains or to the frequency converter, the devices turn contrary to the given direction of rotation, this must be corrected. For this purpose, two phases can be interchanged at the terminal block (e.g. L1 with L2 or L2 with L3). Afterwards the direction of rotation is to be checked again.

For the electrical connection, for the setting of the motor protection switch or for the parametrisation of a frequency inverter, only the technical data on the nameplate of the fan are relevant. These may differ from the technical data of the motor.

Never connect both jumpers at the same time.

Fig 7: 146916 Wiring Diagram

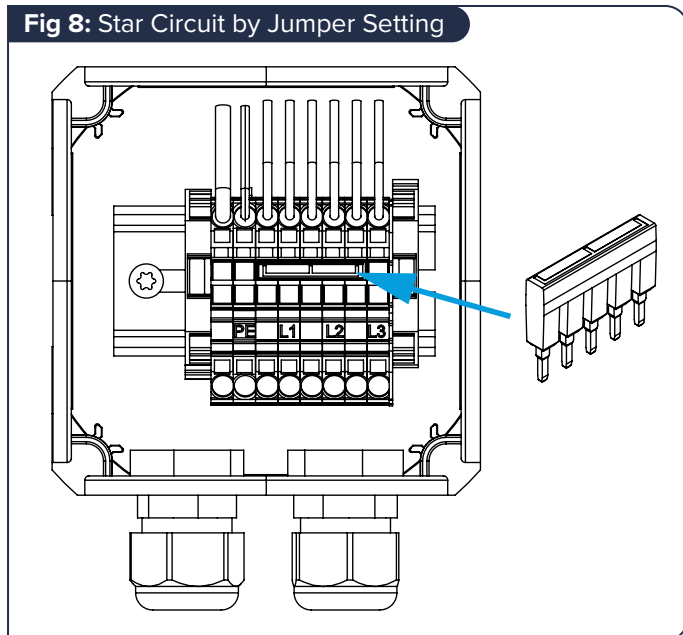


5.6 STAR CIRCUIT

For the star circuit, the terminals U2, V2 and W2 are connected through the shorting blades (Fig 8).

The star circuit must be used if the motor is to be operated directly on the 3-phase supply network with a line voltage of 400V.

The star circuit is also to be used when controlling via a frequency inverter with 400V output voltage (usually a frequency converter with 3-phase 400V mains connection).

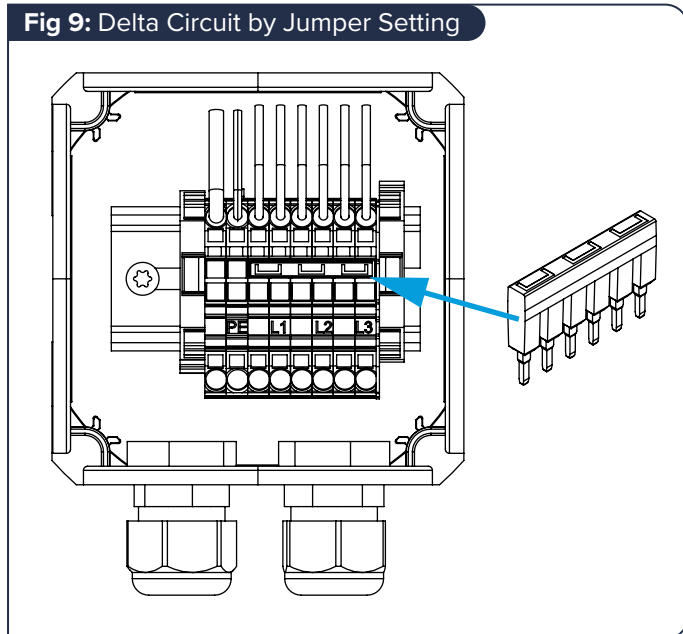
Fig 8: Star Circuit by Jumper Setting

5.6.1 DELTA CIRCUIT

For the delta circuit, the shorting blades are connecting U1 with W2, V1 with U2 and W1 with V2 (Fig 9).

The delta circuit must be used if the motor is to be operated directly on the 3-phase supply network with a line voltage of 230V.

The delta circuit is also to be used when controlling via a frequency inverter with 230V output voltage (in general frequency converter with 1-phase 230V mains connection).

Fig 9: Delta Circuit by Jumper Setting

5.7 MOTOR THERMAL PROTECTION

During operation, electric motors heat up. Under certain circumstances (excessively high ambient or fluid temperatures, heavy contamination, etc.), the motor temperature may exceed the safety limit of the electrically isolated parts.

In order to avoid engine damage, various types of temperature monitoring are possible, of which at least one must be installed on site:

- Monitoring of the thermal motor current via a frequency inverter.
- Motor protection switch.

5.8 FREQUENCY INVERTER

Under fire conditions the electrical supply must not run through the inverter, the inverter MUST be bypassed.

If the fans are placed on the EU market or operated within the EU, they must have a speed control. This is only possible by means of frequency converters. Using other speed controls, such as voltage control, will directly damage the motor.

If third-party products are used, the following parameters must be set correctly.

Even when the device is switched off, voltage is applied to terminals and connections. Do not touch the device for 5 minutes after all-pole disconnection from the mains.

Unit Code	Frequency fn (Hz)	Frequency fmax (Hz)	Max. motor current Imax 3~400V Y (A)	Max. motor current Imax 3~230V D (A)
NVU225-2F8	50	60	1.0	1.7
NVU250-2F8	50	60	1.3	2.3
NVU280-2F8	50	50	1.3	2.3
NVU315-2F8	50	50	2.5	4.3
NVU315-4F8	50	80	1.2	2.1
NVU355-4F8	50	70	1.6	2.8
NVU400-4F8	50	50	1.2	2.1
NVU450-4F8	50	55	2.5	4.3
NVU500-4F8	50	50	2.9	5
NVU560-4F8	50	50	4.9	8.5
NVU630-4F8	50	50	8.7	12.3

5.9 FAULT CURRENT PROTECTION SWITCH

The use of a fault current protection switch is not mandatory. If a fault current protection switch is used, only AC/DC sensitive RCD protective devices (type B or B+) are permitted.

6.0 COMMISSIONING

Commissioning by trained technical personnel may only be performed after any risk has been ruled out. The following checks should be performed in accordance with the installation and operating manual and the regulations in force:

- Correctly sealed installation of the unit and duct system.
- Check the duct system, unit and medium lines, if present, remove any foreign bodies if necessary.
- The intake opening and inflow into the unit must be clear.
- Check all mechanical and electrical protection measures (e.g. earthing).
- Voltage, frequency and type of current must correspond with the rating plate.

Standard frequency inverters have a modified sine-wave at the output. This may cause noises, depending on the combination of motor - frequency inverter. Depending on the fan design and the radiating surface, these are perceptible. At very high noise requirements, this can be disturbing. For industrial applications, the noises are generally acceptable.

Remedial measures may be a change in the clock frequency or the use of a sine-wave filter or a frequency converter with integrated sine-wave filter.

7.0 MAINTENANCE

When maintaining a high temperature fan, particular attention should be given to the Smoke Control Association & Fan Manufacturers' Association Guide to smoke extract fan maintenance available at smokecontrol.org.uk.

Servicing, troubleshooting and cleaning may only be performed by specialised personnel in accordance with this installation and operating manual and the regulations in force.

Make sure that no connections or components are loosened unless the device is disconnected from the mains. Make sure that the equipment cannot be switched back on again.

Individual components must not be interchanged. For example, the components intended for one product may not be used for other products.

The regular maintenance and care of our devices is designed to ensure proper function, value retention and avoidance of damage. Keep a maintenance log.

Perform the specified maintenance on the unit at the specified intervals. This device requires little maintenance when operated properly.

7.1 MAINTENANCE SCHEDULE

The following work should be performed at regular intervals, in accordance with health and safety regulations.

Before putting the unit back into operation after maintenance and servicing work, carry out a visual inspection.

7.1.1 ROUTINE MAINTENANCE (MONTHLY)

- Clean any dirt from all areas of unit and treat any areas of corrosion.
- Check triggering device.

7.1.2 BI-ANNUALLY (EVERY 6 MONTHS)

- Check fan for function and operational readiness (test run at least 15 minutes).
- Check internally and externally for dirt, damage, corrosion and fastening.
- Fan function-preserving cleaning.

7.1.3 ANNUALLY (EVERY 12 MONTHS)

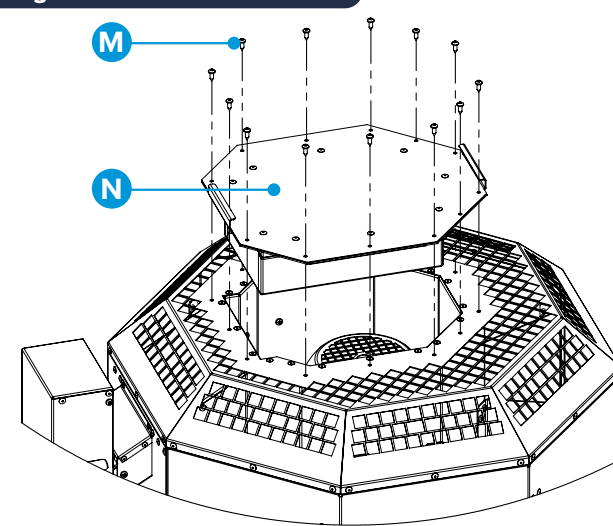
- Check fan for function and operational readiness (test run at least 1 hour).
- Check impeller rotation direction.
- Check flexible connections for leak.
- Check impeller for imbalance.
- Check protective device for function.
- Motor function-preserving cleaning.
- Check motor bearing for noise.
- Check motor terminals for tight fit.
- Measure the motor voltage.

7.2 MAINTENANCE ACCESS

For maintenance works (Fig 10):

- Unscrew the sheet metal screws (M)
- Remove cover (N)

Fig 10: Maintenance Access



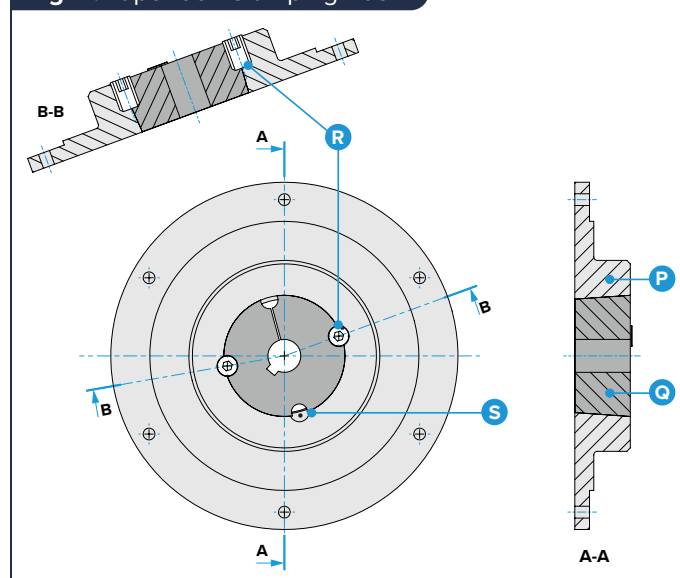
7.3 IMPELLER INSTALLATION WITH TAPERLOCK CLAMPING BUSH

The impeller is connected by means of the clamping bush to the shaft end of the drive motor.

7.3.1 ASSEMBLY

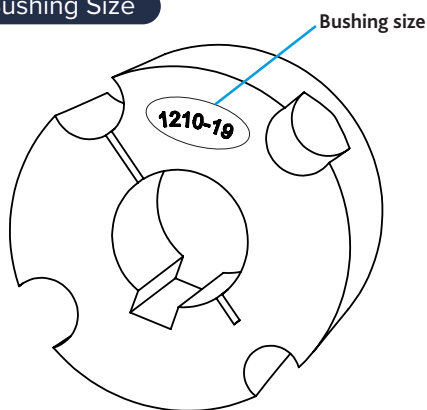
- Clean all bare surfaces (mating surfaces of the clamping bushings and motor shaft).
- Insert the clamping bush (P) into the hub (Q) and bring the holes into alignment.
- Loosely lubricate the threaded pins (R) and screw in - do not tighten yet.
- Push the impeller onto the shaft with the clamping sleeve, align it in the axial position and tighten the threaded pins evenly on both sides. Observe the tightening torque according to the table in section 7.3.3.

Fig 11: Taperlock Clamping Bush



7.3.2 DISASSEMBLY

- Loosen all the threaded studs (R) and screw them out completely. Lubricate a threaded pin and screw it into the disassembly hole (S).
- Tighten the threaded pin until the clamping bush (P) is released from the hub (Q).
- The impeller can be removed.

Fig 12: Bushing Size

7.3.3 TIGHTENING TORQUE VALUES

Bushing Size	Screw Tightening Torque with Feather (Nm)	Screw Tightening Torque without Feather (Nm)	Number of Screws
1210	17	20	2
2012	26	31	
2517	41	48	

7.3.4 COMMISSIONING (AFTER REPLACEMENT)

- Remove any remaining installation material and foreign objects from the impeller and suction area.
- Check direction of rotation (direction of rotation arrow on the impeller base disc).
- During initial commissioning, the entire unit must be checked for mechanical vibrations. If necessary, re-balancing must be carried out.
- Pay attention to a quiet operation, without vibrations.

8.0 WARRANTY

NVU units have a 2 year warranty for peace of mind. The warranty starts from the day of delivery and includes parts and labour for the first year. The remaining period covers replacement parts only.

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 above product warranty applies to the UK mainland and in accordance with Clause 14 of our Conditions of Sale.

For customers purchasing from outside of the UK, a 1 year warranty starts from the day of delivery and includes parts only.

Failure to maintain the unit as recommended will invalidate the warranty.

9.0 LIFETIME & DISPOSAL

9.1 PRODUCT LIFE

The motors are equipped with maintenance-free, permanently lubricated ball bearings. Under normal operating conditions, the expected lifetime is about 30,000 operating hours.

The information given here depends strongly on the respective field of application as well as the environmental conditions.

We recommend replacing these fans after reaching about 30,000 operating hours or 5 years.

9.2 END-OF-LIFE AND RECYCLING

Ensure that Nuaire product is made safe from any electrical / water / refrigerant supplies before dismantling commences. This work should only be undertaken by a qualified person in accordance with local authority regulations and guidelines, taking into account all site based risks.

Parts and components of the device that have reached their lifetime, e.g. due to wear, corrosion, mechanical stress, fatigue and/or all other, not directly recognizable effects, must be disposed of professionally and properly after disassembly in accordance with national and international laws and regulations. The same applies to excipients in use such as oils and fats or other substances. The conscious or unconscious reuse of used components such as e.g. impellers, rolling bearings, motors etc. can lead to a risk to persons, the environment as well as machinery and equipment. The applicable local operating regulations must be observed and applied.

Where possible Nuaire use components which can be largely recycled when the product reaches its end-of-life:

- Fans, motors, controls, actuators, cabling and other electrical components can be segregated into WEEE recycling streams.
- Sheet metal parts, aluminium extrusion, heating/cooling coils and other metallic items can be segregated and fully recycled.
- EPP, plastic ducting, nylon corner pieces, plastic heat exchangers, packaging material and other plastic components can be segregated into mixed plastic and widely recycled.
- Cardboard packaging, wood, used filters and other paper components can be largely recycled or fully processed in energy from waste centres.
- Remaining items can be further segregated for energy from waste centres or, as a last resort, sent to landfill. Please call After Sales Support for further information on items not listed above.

9.3 REPLACEMENT PARTS

Only original spare parts may be used. The repair may only be carried out by personnel trained and authorized.

If ordering spares please quote the serial number of the unit together with the part number, if the part number is not known please give a full description of the part required. The serial number will be found on the identification plate attached to the unit casing.

Fault	Possible Cause	Remedy Methods
Fan does not start.	No power supply.	Check mains supply / connections.
	Impeller does not rotate freely.	Find out the causes and, if possible, remove the fault. If not possible, contact the supplier.
Motor overheated / temperature protection is triggered.	Fault of the ball bearings.	Contact the supplier.
	Too high operating temperature.	Observe the data on the nameplate.
	Air flow is too low, motor cannot cool down.	See fault "Low air flow".
Device too noisy / casing vibrations.	Dirt deposits on the impeller.	See Section 7.0
	Imbalance of the impeller.	Contact supplier.
	Connection with intake or exhaust pipe / duct causes vibrations / oscillations	Install fan with vibration dampers / mounts.
	Fixing screws released.	Tighten screws.
	Fault of the ball bearings.	Contact supplier.
	Loose impeller blade.	Contact supplier.
Low airflow.	Impeller runs in wrong direction (wrong airflow direction).	Note the marking on the device / nameplate. Check electrical connections.
	High pressure losses in the system.	Improve piping configuration or select a more powerful fan.
	Return flaps closed or partially open.	Check drive system / installation position of the return flap.
	Duct system clogged.	Remove blockage / clean protective grille.
	Speed control incorrectly set / connected	Check settings / switching unit and possibly adjust / connect.

10.0 AFTER SALES AND REPLACEMENT PARTS

For technical assistance or further product information, including spare parts and replacement components, please contact the After Sales Department.

If ordering spares please quote the serial number of the unit together with the part number, if the part number is not known please give a full description of the part required. The serial number will be found on the identification plate attached to the unit casing.

Telephone 02920 858 400
aftersales@nuaire.co.uk

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.



11.0 NOTES

UK CA UK DECLARATION OF INCORPORATION

All parts except for moving parts requiring the correct installation of safety guards or incorporation into ducts or building fabrications acting as guards comply with the essential requirements of the Machinery (Safety) Regulations. The machinery shall not be put into service until the system has been declared to be in conformity with the provisions of the Supply of Machinery Regulations 2008 clauses 1.3.7 to 1.3.8.2 relating to guards/moving parts.

Product: High Temperature Vertical Upblast Extract
Type: NVU
Installation Manual Serial no.: 671941
Relevant UK Regulations: 2008 No. 1597, The Supply of Machinery (Safety) Regulations 2008
Applied UK Harmonised Standards: BS EN 60204-1
BS EN12101-3
BS EN ISO 12100
BS EN ISO 13857
BS EN ISO 9001.
Relevant Regulations specified in UKCA Declaration of Conformity: No. 1091, EMC Regulations 2016
No. 3032, RoHS regulation 2012;
No. 2617, ErP Regulation 2010;
No. 1359, CP Regulation 2020.

Signature of manufacture representatives:

Engineering Director



A. Thomas
30-10-20

Manufacturing Director



C. Sargent
30-10-20

Basis of Self Attestation: BS EN ISO 9001
BSI Cert No. FM 665203

Nuaire: A Trading Division of Polypipe,
Western Industrial Estate, Caerphilly,
CF83 1NA.

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

EU DECLARATION OF INCORPORATION

All parts except for moving parts requiring the correct installation of safety guards or incorporation into ducts or building fabrications acting as 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 1.3.7 to 1.3.8.2 relating to guards/moving parts.

Product: High Temperature Vertical Upblast Extract
Type: NVU
Installation Manual Serial no.: 671941
Relevant EU Council Directives: 2006/42/EC (MACHINERY DIRECTIVE);
Applied EU Harmonised Standards: EN 60204-1
EN12101-3
EN ISO 12100
EN ISO 13857
EN ISO 9001.
Relevant Directives specified in EU Declaration of Conformity: 2014/30/EU (EMC)
2011/65/EU (RoHS) incl. (EU) 2015/863
2009/125/EC (ErP) Reg (EU) no. 327/2011
CP Regulation (EU) No. 305/2011.

Signature of manufacture representatives:

Engineering Director



A. Thomas
30-10-20

Manufacturing Director



C. Sargent
30-10-20

Basis of Self Attestation: BS EN ISO 9001
BSI Cert No. FM 665203

Nuaire: A Trading Division of Polypipe,
Western Industrial Estate, Caerphilly,
CF83 1NA.

EU Authorised Representative: Eurolink Europe Compliance
Limited, 25 Herbert Place, Dublin
D02 AY86, Republic of Ireland.

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 2014/30/EU (EMC), 2006/42/EC (Machinery Directive). 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 Nuairé 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 Nuairé.
- 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 e.g. 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 duct work systems. They must not be used to support the ductwork.
- 4.4 Local Environment - Humidity. Ambient humidity (the humidity at the unit's installed location) shall be within the range: 10 to 95% (for controls, non-condensing).
Air humidity (the humidity of the air passing through the unit) shall be within the range: 10 to 95% (for controls, non-condensing).

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 (e.g. 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 good EMC engineering practice all control and sensor cables should not be placed within 50mm of 230V cables.
- 5.4 For fans with electronic speed control, protection against surges L/N-E is recommended on the supply.
- 5.5 Fans with electronic speed/inverter control should be connected to an Industrial not Public Low Voltage supply.

6.0 COMMISSIONING REQUIREMENTS

- 6.1 General pre-commissioning checks relevant to safe operation consist of the following:
 - 6.1.1 Ensure that no foreign bodies are present within the fan or casing.
 - 6.1.2 Check electrical safety e.g. Insulation and earthing.
 - 6.1.3 Check guarding of system.
 - 6.1.4 Check operation of Isolators/Controls.
 - 6.1.5 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.