



# NALSC

## Slim Cased Axial Flow Fan

### Installation and Maintenance

### Introduction

The NALSC range of short cased axial fans are manufactured from galvanised steel and incorporates inlet and outlet flanges with pre-drilled bolt holes.

All motors are totally enclosed and protected to IP54, class F insulated with sealed for life bearings.

Impeller blades are manufactured from die cast aluminium, and sizes 315-500 use advanced sickle design. All other sizes use high efficiency aerofoil sections.

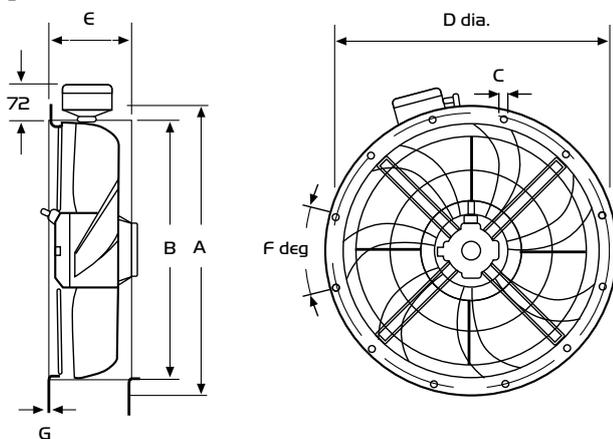
The fan is designed to form part of a ducted system. If fitted within 1.5mm of the end of a duct run, a suitable guard or louvre should be fitted. Anti-Vibration mountings and flexible connectors are available as accessories and are recommended to minimise noise and vibration. Note that the mountings MUST be used in compression only.

### I.O Handling

Always handle the fans carefully to avoid damage and distortion. Care should be taken to ensure that any slings used for lifting purposes do not damage or pass through the impeller. Always check the unit weight on rating label before lifting.

### 2.0 Dimensions (mm) & Weights (kg)

Fig. 1.



Fan Code	A dia.	B dia.	C dia.	D dia.	E	F deg	G	Weight Kg
NALSC315-4I	382	317	9.5	356	135	8x45	6	6.5
NALSC350-4I	421	356	9.5	395	135	8x45	6	7.5
NALSC400-4I	466	400	9.5	438	155	12x30	6	10.3
NALSC450-4I	515	451	9.5	487	160	12x30	6	15.8
NALSC500-4I	567	503	9.5	541	165	12x30	6	16.6
NALSC560-4I	635	559	11.5	605	210	16x22	8	17.4
NALSC560-43	635	559	11.5	605	210	16x22	8	18.5
NALSC630-43	707	634	11.5	674	220	16x22	8	29
NALSC710-63	785	711	11.5	751	260	16x22	10	34
NALSC800-63	875	797	11.5	837	280	24x15	10	39
NALSC1000-83	1080	1001	11.5	1043	330	24x15	5	66

### 3.0 Installation

#### IMPORTANT

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

Installation must be carried out by a competent person in accordance with the appropriate authority and conforming to all statutory and governing regulations i.e. IEE, CIBSE, COSHE etc.

All duct connections must be airtight to prevent any loss of performance.

#### Connection Details

Wiring should only be carried out by a qualified electrician and in accordance with all relevant statutory and governing regulations.

Check the fan details on the rating plate correspond with the supply voltage and frequency.

The fan unit incorporates a terminal box on the casing exterior. Units for external use require weatherproof conduit and glands. DO NOT use metal terminal box glands.

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.

All fans are suitable for speed control.

#### Start Up Procedure

Note: single phase rotational direction is set at works and should NOT be altered. Motor winding thermal protection connection must be made.

Equipment should be run for approximately 30 seconds to ensure correct operation. If a fault occurs, switch off.

Do not restart until fault has been rectified.

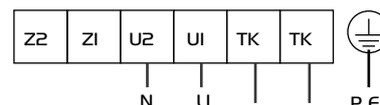
#### Testing after Installation

If a speed control is fitted, check the speed variation is obtained.

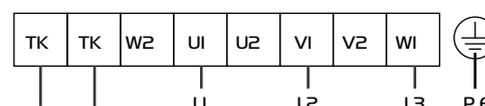
### 4.0 Electrical Wiring

Fig. 2.

Single Phase motor with capacitor and thermal contacts.



Three Phase motor with single speed and thermal contacts.



## IMPORTANT

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

## 5.0 Inspection and Maintenance

Before maintenance, service or repair make sure that:

The unit and speed control, if fitted, are electrically isolated from the mains supply.

The fan is rated for SI continuous operation. Controls must not allow extreme switching operation.

### Maintenance Intervals

The first maintenance should be carried out three months after commissioning and thereafter at twelve monthly intervals.

These intervals may need to be shortened if the unit is operating in adverse environmental conditions, or in heavily polluted air.

### General Cleaning and Inspection

Clean and inspect the exterior of the fan unit and associated controls etc. Clean the fan and motor assemblies and the interior of the case. Clean and inspect the impeller and motor assembly as follows, taking care not to damage, distort or disturb the balance of the impeller.

Motors are fitted with sealed for life bearing and therefore do not require any further lubrication.

- a) Lightly brush away dirt and dust, paying particular attention to any build up at the motor ventilating slots. If necessary, carefully remove with a blade or scraper.
- b) Stubborn dirt at the impeller maybe carefully removed with a stiff nylon brush.
- c) Check all parts for security and general condition.  
Check that the impeller rotates freely.

Refit the assemblies to the unit if speed controls are fitted, remove the covers and carefully clean out the interiors as necessary.

Check for damage. Check security of components.

Refit the covers.

## 6.0 Replacement of Parts

The only item of the fan unit likely to require replacement is the motor/impeller assembly due to a failed motor or damaged impeller. Note: Before commencing work electrically isolate the fan unit and/or the associated speed control, if fitted from the mains supply.

Disconnect the incoming wiring from the connection box (located on the fan case) support the weight of the impeller/motor assembly and remove the mounting screws and washers. Lift the assembly out of the case.

After replacing the faulty item, refit the fan/motor assembly and re-connect the incoming wiring to the fan mounted connection box.

When 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.

Approx life expectancy of bearings 30-40,000 hours dependent on conditions and maintenance.

## 9.0 Warranty

The unit has a one year warranty. The warranty starts from the date of delivery and covers faulty materials or workmanship 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.

## 10.0 After Sales Enquiries

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

**Telephone 02920 858 400**

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.