NUAIRE

AIRMOVER
Square Cased Fans

DSM (mixed flow)

Installation and Maintenance

NUAIRE

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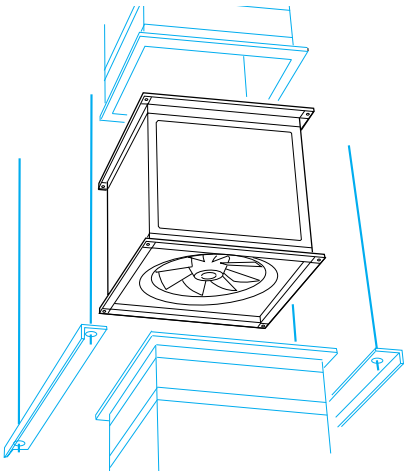

Fig. 1 DSM unit shown in avertical application.

IMPORTANT
The installation must be carried out by qualified personnel in accordance with the appropriate authority and conforming to all statutory and governing regulations.

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WARNING!

1. DO NOT REVERSE IMPELLER DIRECTION FOR OPERATION AS THE PERFORMANCE OF THE UNIT IS DRASTICALLY REDUCED.

2. DO NOT ALTER THE BLADE ANGLE OF THE IMPELLER WITHOUT THE PERMISSION OF NUAIRE.

THE ABOVE MAY INVALIDATE YOUR WARRANTY

Introduction

NuAire Airmover DSM square cased fans incorporate mixed flow impellers.
Casings are manufactured in galvanised steel with propriety flanges fitted to allow connection to ductwork. A full width access panel allows inspection of the motor and impeller whilst still in duct.

A full range of matching ancillaries is available including Silencers, Fan Guards, Resilient Mounting Kits, Speed Controls and Flexible Connectors.

All NuAire DSM units are tested to BS848 in our BSI approved laboratories. This ensures all technical data is accurate, which means that units can be specified with confidence

Description

The units are coded DSM followed by the impeller diameter in mm ie. DSM315
Silencers, flexible connectors, resilient mountings and guards are supplied as optional extras. Short and long versions of the silencer (SIL-S) & (SIL-L) are available for each size. Speed controls are available for most units.

Handling

Equipment must be handled carefully to avoid damage or distortion. Except for the smallest 315 size , units are provided with four lifting eyes. If spreaders are used, they should be positioned as near the end flanges as possible and in such a way that slings or webbing do not bear on the casing. Webbing, rope of any other material must not be passed through units for lifting purposes.

Installation

General

The design and provision of complimentary ductwork supports, etc., is the responsibility of others. Adequate space, however, must be provided around the unit/silencer combination to enable it to be easily removed from the ductwork when required. It is also important that the fan unit is mounted so that it is readily accessible. Provide adequate space around the unit to allow for the removal and the replacement of the impeller and motor via the access panel.

Installation (continued)

Prior to installation, thoroughly clean the fan unit, paying particular attention to its interior. Be particularly thorough if the unit has been lying idle for several weeks on an active building site or in a dust-laden environment. A build up of cement dust, for example, could prove to be very damaging, especially if throughput air were to be damp.

During installation insert a gasket strip between joint faces.

In a rigid mounting
If the unit is to be connected into, or at the end of ductwork, lift into position and bolt flanges together. If necessary, the unit can be lifted with suitable ties attached to the four lifting eyes provided on all sizes other than smallest 315,

If guards have been supplied, fit them to the open ends.

On resilient mountings
Resilient mountings are optional extras and are supplied complete with mounting feet and the necessary fixings, in kits numbered as specified in the table on page 5

Stiff structures must be available to mount the fan. These structures must be so designed that the Airmover will be seated on the resilient mountings, not over hanging from them. For dimensions see pages 6 and 7.

Prior to installation prepare as follows:

(a) If supplied, attach silencers directly to the airmovers using bolts at the corners.

(b) For units being prepared for horizontal mounting, attach the resilient mountings and mounting feet at the corner holes of the flanges as shown on this page and page 4.

(c) For units being prepared for vertical mounting, attach the resilient mountings and mounting feet to the particular unit or unit/silencer combination flanges as shown on pages 3 and 5.

(d) Resilient mounting kits 4 to 7 can be adjusted for height by turning the set screw.

Lift the unit or unit/silencer combination into position and fix to the mounting structures. Resilient mountings must stand vertical and not be unduly deflected in any other plane.

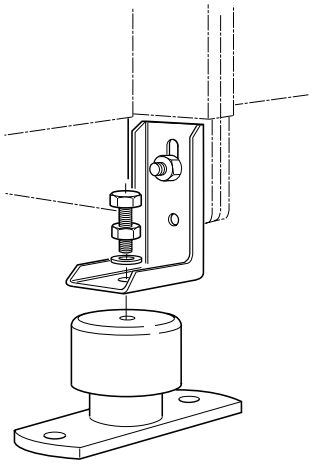


Fig. 2a Spring type resilient mounting

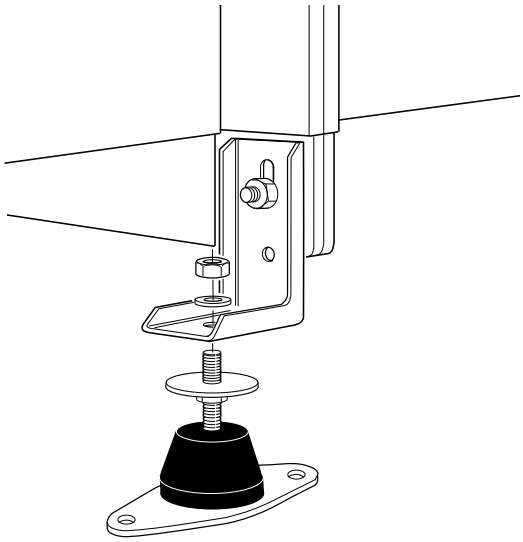


Fig. 2b Rubber type resilient mounting

Speed Controls

Controls can be mounted on any firm surfaces in any attitude, through fixing holes in the bases. Drill and plug the mounting surface as necessary, positioning controls so that cover retaining screws will remain accessible. This is particular important if a battery of controls is being fitted. Fix with No. 8 woodscrews (not supplied) or equivalent.

For wiring purposes, bases are provided with knock-outs for cable entry, up to 20mm conduit on all models. For dimensions and selection of speed controls see page 11.

Installation (continued)

Electrical Details

WARNING - DANGER

This equipment incorporates rotating and moving parts as well as electrical components and conductors.

It is the responsibility of the installer to ensure that any such items remaining externally accessible once the equipment is installed are adequately guarded. This precaution is necessary to avoid the possibility of accidental injury or death.

Particular attention must be paid to the inlet side of rotating impellers.

Because start and run currents depend upon the duty of an individual unit and associated system the values quoted in the table are nominal.

Start currents are peak instantaneous values and are for DOL starting unless otherwise indicated.

Overloads must be set to the maximum full load current of the equipment they are protecting. the recommended overload setting will be found on the rating plate issued with each unit.

Electrical connections

ISOLATION

Note that the unit must be provided with a means of isolation (by others) for maintenance purposes etc.

A suitable isolator can be supplied by NuAire on request as a separate item.

Basically, the Airmover unit and the speed control, if included, should be connected to the electrical supply and to each other in accordance with the wiring diagrams (page 12 on). Compatible site wiring and provisions of any start contactors, overloads, etc., are the responsibility of others. If a single phase Airmover is to be used with a speed control and the unit is fitted with a permanent capacitor motor, any link fitted between Airmover terminals X and L must be removed.

All connections into the fan are to be made as shown in the wiring diagrams (page 12).

NOTE:

Some units may not have thermal protection fitted as standard. Refer to page 12 Wiring Diagrams for for clarification

Testing after installation

Precautions

Prior to testing, make sure that no loose items have been left in the DuctMaster. Whenever the unit has to be switched on with its access panel removed, first check that all personnel are clear of the open access panel aperture. Make sure that the external control switch or contactor as relevant, is switched off,

Testing

Remove the access panel from the Airmover. Switch on the local isolator (by others).

Run the fan just sufficiently long to ensure that it rotates. Switch off. During run-down by observation through the open access panel aperture, check for correct rotation and for evidence of any malfunctioning as follows:

(a) Check that the impeller is rotating freely and is secure on the shaft

(b) Check rotation. A single phase unit is unlikely to be incorrect, as rotation is carefully checked at the factory. Should a three phase unit be incorrect, reverse any two of the supply connections in the airmover isolation box

If a NuAire speed control is fitted, check that it regulates speed as required (see the remarks in "Operating the Airmover").

Removing & Refitting the unit

Isolation

Before commencing, make sure that the unit is externally isolated from the electrical supply.

Removal

Remove the terminal box cover on the side of the unit and disconnect the electrical supply leads noting the connections.

Support the unit and remove all fixing devices.

If silencers are fitted, the unit should be removed complete with them. Move the unit and the silencers, if fitted, to the working area.

Re-fitting

Re-fitting is the reverse of removal. Sandwich a gasket between joint faces. Make sure that the unit is mechanically and electrically connected exactly as it was prior to removal.

Operating the Ductmaster

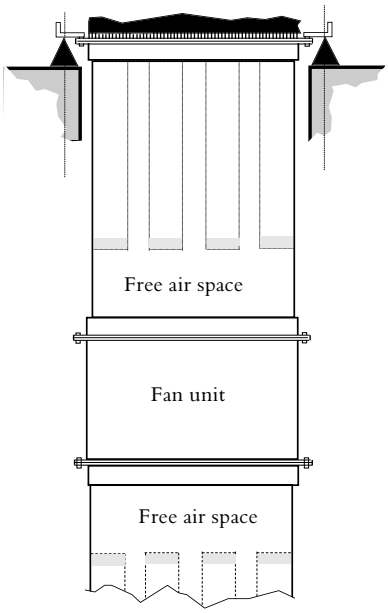
The access panel must be firmly fixed to the side of the unit.

Switch isolation device (by others) to the ON position

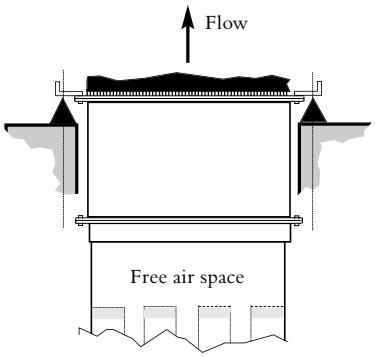
If a NuAire speed control is fitted, this can also be used to switch the airmover OFF and ON. Note that the unit may not always start from cold at the lowest control setting, though there is no danger of overheating. It is therefore recommended that the unit is started at one of the higher settings. Speed can be changed whilst the unit is running.

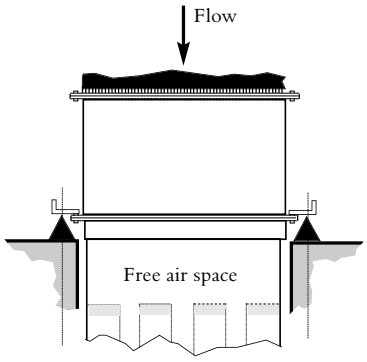
Installation

Vertical Mounting

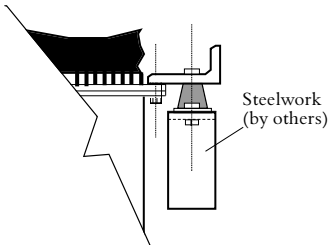


Vertical mounting of an Airmover or an Airmover / silencer combination where a silencer is positioned above the Airmover. Applies whether flow is upwards or downwards.
Like horizontally mounted combinations, silencers must always be fitted with free air space nearest the fan.



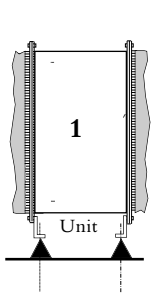


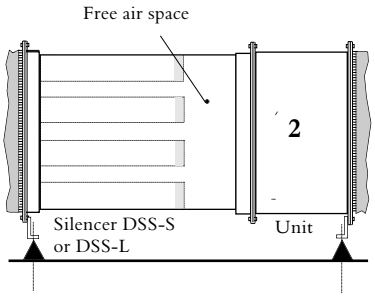
Vertical mounting of a fan or fan /silencer combination where a silencer is **NOT** positioned above the fan. Left-hand view shows arrangement when flow is upwards as shown, right hand view arrangement when flow is downwards.

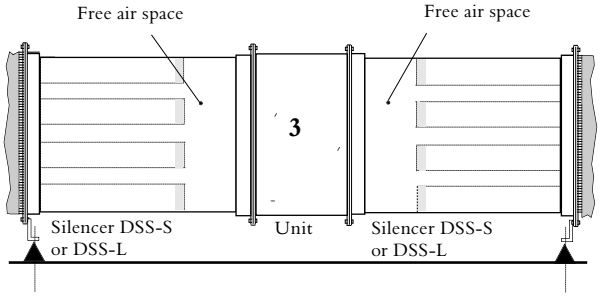


Detail of resilient mounting onto steelwork

Horizontal Mounting







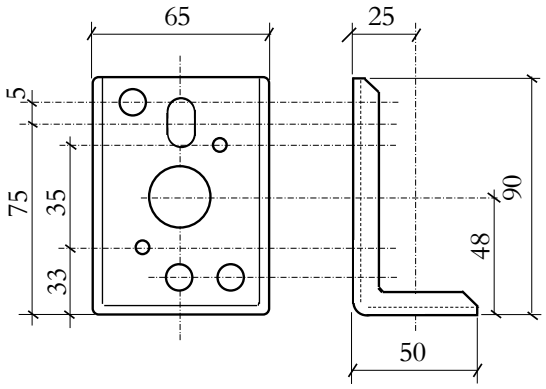
1. Unit only.

2. Unit with silencer fitted one side only. Could be either side.

3. Unit with silencer fitted on both sides. Could be two off SIL-S silencers, two off SIL-L, or one of each.

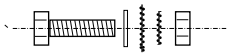
It is essential that silencers are always fitted with the free air space near the unit, as performance may otherwise be impaired.

Mounting Foot details



Note
Four mounting feet are supplied with each unit or silencer, see main dimension drawings.
M8 fixing screws are included.

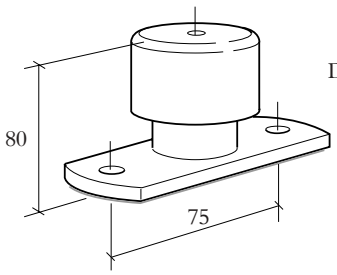
M8 unit fixings supplied



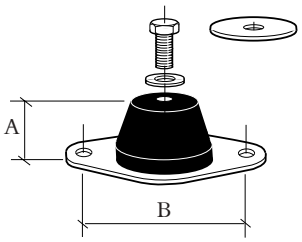
Resilient mountings details

Dimensions *(mm)*

Code	A	B
DAV 1	30	50
DAV 2	40	75
DAV 3	40	75
DAV 4	40	75
DAV 5	40	75
DAV 6	40	75



DAV 34 & DAV 35



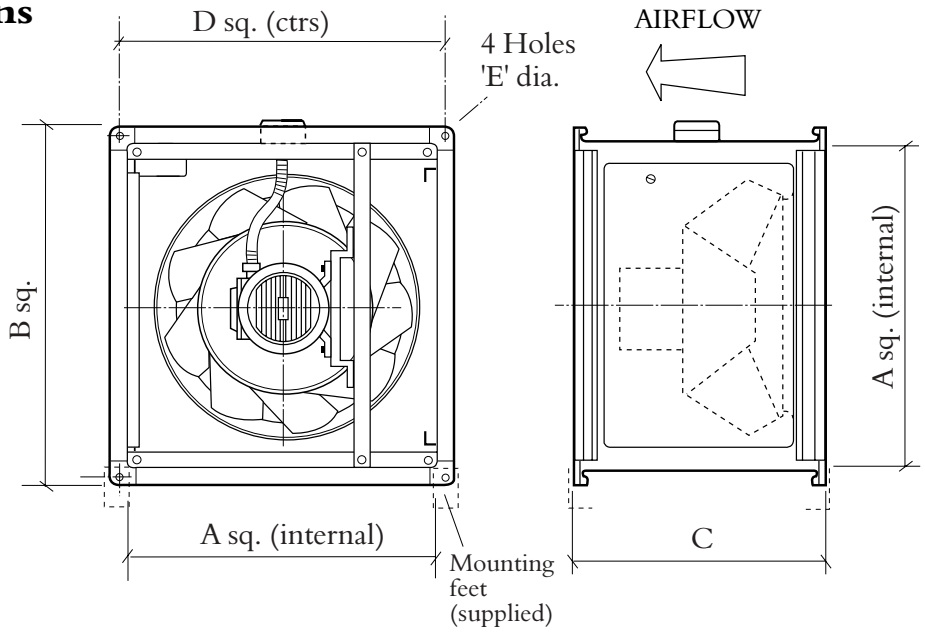
Safety washer (used in suspended installations with mount inverted)

DAV 1 to DAV 6

Resilient mounting kit selection (DSM)

Ductmaster Square Mixed Flow Code	DSM only Kit	DSS*S+ DSM Kit	DSS*S + DSM + DSS*S Kit	DSS*L + DSM Kit	DSS*L + DSM +DSS*L Kit	DSS*L+ DSM +DSS*S Kit
DSM315,1,2,3	DAV1	DAV1	DAV2	DAV1	DAV2	DAV2
DSM315,4,5	DAV1	DAV1	DAV2	DAV2	DAV2	DAV2
DSM400,1,2	DAV1	DAV2	DAV2	DAV2	DAV2	DAV5
DSM500,3,4,5	DAV1	DAV2	DAV5	DAV5	DAV3	DAV5
DSM500,6,7,8	DAV1	DAV2	DAV5	DAV5	DAV3	DAV5
DSM630,1,2,3	DAV2	DAV5	DAV3	DAV5	DAV4	DAV3
DSM800,4,5	DAV5	DAV3	DAV6	DAV4	DAV6	DAV6
DSM1000,1	DAV3	DAV6	DAV34	DAV34	DAV34	DAV34
DSM1000,2,3,4	DAV4	DAV6	DAV34	DAV34	DAV34	DAV34
DSM1250,5,6	DAV34	DAV34	DAV34	DAV34	DAV35	DAV34

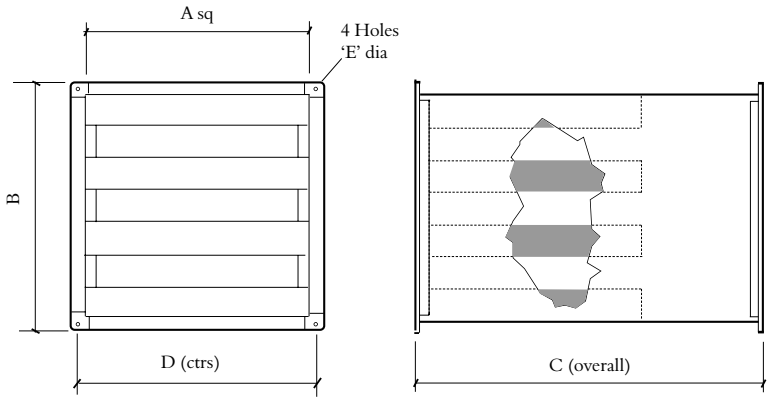
Dimensions



DSM Mixed flow unit

Fan Size	Dimensions (mm)					Weight (kg)
	A	B	C	D	E dia.	
DSM 315	315	373	389	347	11	13
DSM 400	400	458	413	432	11	20.5
DSM 500	580	638	438	612	11	28
DSM 630	650	708	512	682	11	42
DSM 800	812	870	576	844	11	71
DSM 1000	1000	1080	838	1042	12.5	142
DSM 1250	1238	1318	1248	1280	12.5	300

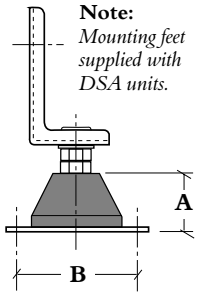
Ancillaries



Silencer

Silencer Code	DSM Code	Dimensions (mm)						Weight kg	
		A	B	C Short	C Long	D	E	Short	Long
DSS1S or 1L	DSM315	315	373	598	1048	347	11	11	15
DSS2S or 2L	DSM400	400	458	695	1148	432	11	15	22
DSS3S or 3L	DSA500	580	638	698	11500	612	11	24	38
DSS4S or 4L	DSM630	650	708	746	1196	682	11	29	43
DSS5S or 5L	DSM800	812	870	820	1253	844	11	42	60
DSS6S or 6L	DSM1000	1000	1080	904	1354	1042	12.5	61	91
DSS7S or 7L	DSM1250	1238	1318	1056	1307	1280	12.5	81	116

Dimensions (continued)



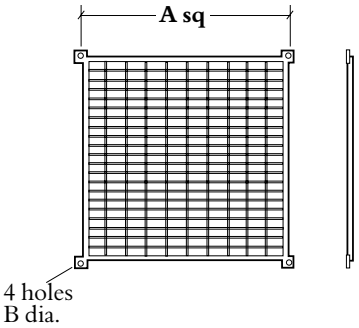
Resilient Mountings
(typical) see page 5 for further information

Dimensions *(mm)*

Code	A	B
DAV 1	30	50
DAV 2	40	75
DAV 3	40	75
DAV 4	40	75
DAV 5	40	75
DAV 6	40	75

Wire Guard

Mild steel mesh guard. Polyethelene plastic coated c/w 4 corner fixing holes matching fan unit.

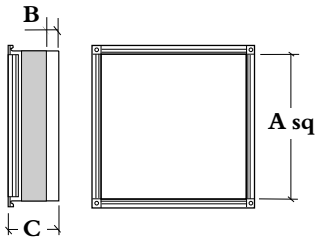


Dimensions *(mm)*

Unit Code	DSM	A	B
DSGD1	315	347	11
DSGD2	400	432	11
DSGD3	500	612	11
DSGD4	630	682	11
DSGD5	800	844	11
DSGD6	1000	1042	12.5
DSGD7	1250	1280	12.5

Flexible Connector *(Single Flange)*

Square with a single proprietary quickfit flange. Flexible duct material is flameproof. The open end is a light gauge galvanised steel spigot.
Heat resistance is 132°C with excellent resistance to chemicals, ozone, oil and grease. The connector is airtight, waterproof and tested to BS476 Part 7.

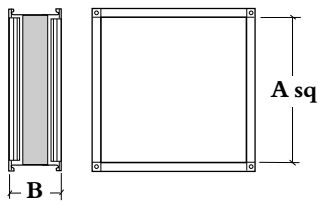


Dimensions *(mm)*

Unit Code	DSM	A	B	C
DSFX1	315	315	50	168
DSFX2	400	400	50	168
DSFX3	500	580	50	168
DSFX4	630	650	50	168
DSFX5	800	812	50	168
DSFX6	1000	1000	50	168
DSFX7	1250	1238	50	168

Flexible Connector *(Double Flange)*

Square with a pair of proprietary quickfit flanges. Flexible duct material is flameproof. The open end is a light gauge galvanised steel spigot.
Heat resistance is 132°C with excellent resistance to chemicals, ozone, oil and grease. The connector is airtight, waterproof and tested to BS476 Part 7.



Dimensions *(mm)*

Unit Code	DSM	A	B
DSDF1	315	315	171
DSDF2	400	400	171
DSDF3	500	580	171
DSDF4	630	650	171
DSDF5	800	812	171
DSDF6	1000	1000	171
DSDF7	1250	1238	171

Motor Information

ELECTRICAL
General **Electrical**
1 Phase *(230V)*
3 Phase *(400V)*

Unit Code	Speed rpm	Power kw	flc (amps)	sc (amps)
DSM315-11	1300	0.010	0.37	0.48
DSM315-21	1398	0.015	0.33	0.39
DSM315-31	1440	0.049	0.47	0.78
DSM315-41	2580	0.065	0.86	1.9
DSM315-51	2580	0.2	1.4	4.2
DSM400-11	1350	0.18	1.3	2.70
DSM400-13	1350	0.18	0.8	2.4
DSM400-21	1350	0.18	1.3	2.70
DSM400-23	1350	0.18	0.8	2.4
DSM500-33	930	0.18	0.95	2.4
DSM500-41	900	0.18	1.7	3.0
DSM500-53	930	0.18	0.87	2.4
DSM500-61	1380	0.37	2.9	7.25
DSM500-63	1380	0.37	1.3	4.6
DSM500-71	1362	0.50	3.4	9.25
DSM500-83	1410	0.55	1.7	6.8
DSM630-13	678	0.23	1.0	2.5
DSM630-23	900	0.55	1.8	6.3
DSM630-33	1428	1.5	3.5	18.0
DSM800-43	708	0.75	2.8	10.0
DSM800-53	960	1.5	4.4	16.5
DSM1000-13	462	0.8	4.0	8.4
DSM1000-23	580	1.1	3.1	10.5
DSM1000-33	702	2.2	7.5	34
DSM1000-43	930	4.0	9.7	26
DSM1250-53	480	1.9	7.7	23
DSM1250-63	728	7.5	16.5	48

Routine Maintenance

Isolation
Before commencing, make sure that the DuctMaster and speed control, if fitted, are externally isolated from the electrical supply.

Maintenance periods
The first maintenance should be carried out three months after the commissioning and thereafter at twelve monthly intervals. These intervals may have to be shortened, however, if the unit is operating in adverse environmental conditions or handling heavily polluted air.

General cleaning and inspection
Clean the exterior of the unit, silencers, flexible connectors, resilient mountings, etc., as fitted. Inspect for security and condition. Check tightness of fixing devices. Remove the unit access panel. Inspect internal components for security and condition. Check that the impeller rotates freely. Clean components as necessary (for cleaning the impeller see below).

Cleaning the Impeller
A build-up of dust may be removed by carefully brushing with a stiff brush. Take care not to damage or distort impeller blades nor to disturb balance weights. If the impeller is too badly fouled to allow adequate cleaning in situ, it should be removed via the access panel. (See p.6). Alternatively, remove the complete unit/silencer combination from the installation. When removed, clean the impeller as follows:

(a) If a silencer is fitted to the impeller side of the unit, remove it. Alternatively remove the impeller from the unit as described on page 10.

b) Sponge the impeller with warm soapy water and leave to soak. Do not use caustic fluids under any circumstances. When applying water, take care to prevent it getting onto or into the electrical parts.

c) After soaking, rinse with fresh water and thoroughly dry.

(d) If applicable, refit the silencer to the unit, with a gasket sandwiched between the joint faces. Refit the unit or unit/silencer combination back into the installation, again sandwiching a gasket between joint faces.

(e) If the impeller has been removed it should be refitted as described on page 10.

Lubrication
Most motors have sealed-for-life bearings and therefore need no lubrication.

Testing
Refit the unit access panel. Test run the unit. Check that the speed control, if fitted, regulates speed as required.

Replacement of Parts

Isolation
Before commencing, make sure that the DuctMaster is externally isolated from the electrical supply
Parts
For the ordering of spare and replacement parts see the SCHEDULE OF PARTS on page 8. Before fitting, remove any protective coating from replacement parts.

Isolator or Capacitor
Replacement is self evident after the removal of the unit access panel. When disconnecting leads make a note of connections. Make sure the new component is wired in the same way.

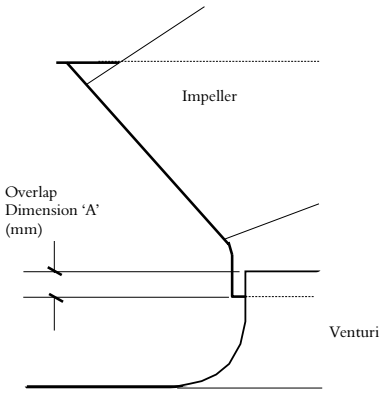
Motor or Impeller
The access panel allows inspection of the motor and impeller in the duct. If any components are to be replaced or serviced the unit unit must be removed from the installation using suitable hoists for the larger sizes.

To remove the motor proceed as follows:
Disconnect the unit electrically and remove it from the duct before commencing work.
(a) Remove the access panel and locate the terminal box fitted to the motor, remove its cover and disconnect the leads. Disconnect the flexible conduit at the motor end and move leads and conduit clear. Note: To facilitate replacement note the position of all leads tag if necessary
(b) Size 315. Remove the access panel. Release the transverse motor mounting plate by unscrewing from the case side. Move back until the impeller clears the venturi. Release the impeller from the motor shaft (see next section) and remove
(c) All other units. Remove the access panel, release the motor/impeller assembly from the motor support. Move the whole assembly back (away from the venturi) to allow access to the front of the impeller.
To assist replacement, measure and note the amount by which the end of the motor shaft either protrudes from or is recessed into the bore of the impeller. Remove the impeller as detailed in the next section.

Replacement of Parts (continued)

Mixed Flow Impeller (removal).

Size 315. Slacken two grub screws in the boss and withdraw the impeller from the motor shaft.
Size 400-1250. Impellers are retained by a taper lock fitting, for removal details on this page.



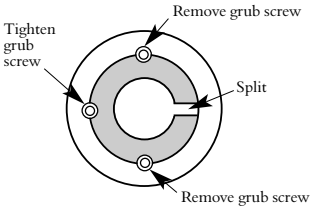
Impeller / Venturi overlap

Unit Size	Dim.'A'
315	4
350	5
400	6
450	6
500	8
560	10
630	10
800	12
1000	15
1250	20

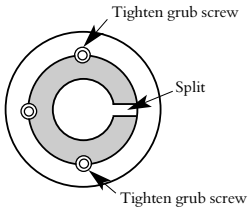
Removing a taperlocked impeller from a motor.

From the locking holes of the taperlock (see illustration) remove one grub screw. Lightly oil the thread and point and insert it into the jacking hole. Slacken the other grub screws.
Tighten the screw until the bush is loosened in the hub and the assembly of impeller and bush can be drawn from the shaft. Remove the screw and separate the impeller and bush.

Releasing Taperlock



Locking Taperlock



Fitting a taperlock impeller to a motor

Making sure that tapered mating surfaces are thoroughly clean, insert the taperlock bush into the impeller hub. Line up holes. Lightly oil threads and points of grub screws and assemble loosely into the locking holes (see illustration above).
Clean the motor shaft and fit the impeller and bush as one unit to the shaft in the position noted during removal.

If relevant, makes sure that a key is fitted into the slot in the shaft. Tighten screws gradually and alternately until pulled up tight, noting that the bush will nip the shaft first and then the hub will be slightly drawn onto the shaft. Fill empty holes with grease to exclude dirt.

Spare Parts

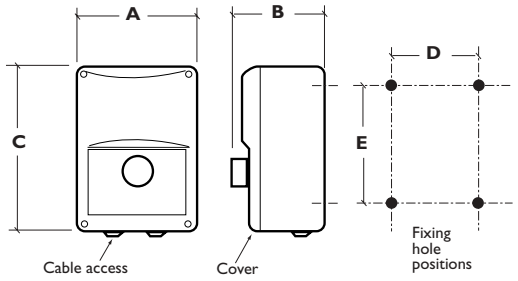
When ordering spare parts please quote the serial number of the unit, together with the part number, if quoted below. If not quoted, please fully describe the part. The serial number will be found on the identification plate fixed to the unit.

Speed Controls (single phase) Electronic

ESC1-3A / 6A

Single phase speed controls are fixed through holes in the base which are accessible on removal of the cover. Bases are provided with 20mm & 25mm knockouts for cable entry.

When delivered, fan units fitted with a permanent capacitor motor will have links fitted.
When used with a speed control, one link must be removed and the motor wired as shown in the appropriate wiring diagram.



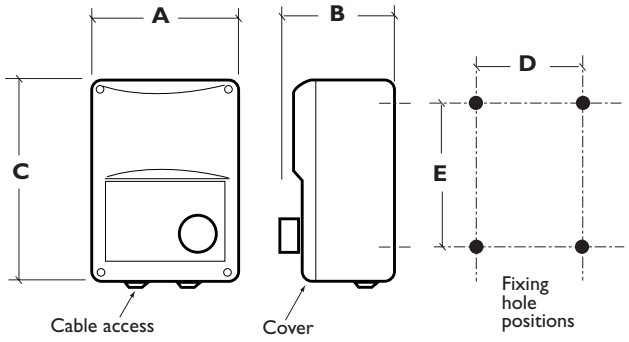
Dimensions

Control	A	B	C	D	E
ESC1-3A	83	88	180	71	108
ESC1-6A	115	95	195	98	140
ESC1-10A	115	95	195	98	140

Speed Controls (single phase) Auto transformer

SP CON-1.5/3.5/7.5/10

Single phase speed controls are fixed through holes in the base which are accessible on removal of the cover. Bases are provided with 20mm & 25mm knockouts for cable entry.
When delivered, fan units fitted with a permanent capaci- tor motor will have links fitted.
When used with a speed control, one link must be removed and the motor wired as shown in the appropriate wiring diagram.



Weights

Control	Weight kg
SPCON1.5	1.7
SPCON3.5	3.6
SPCON7.5	6.0
SPCON10	9.5

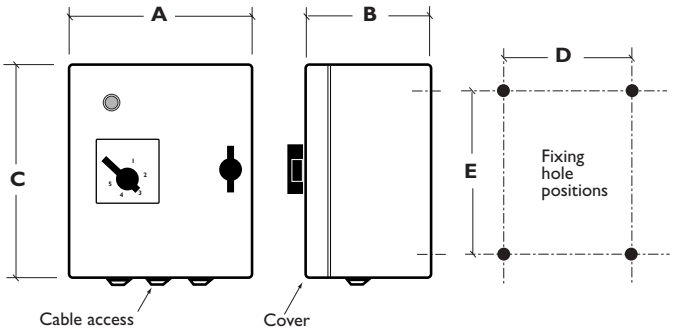
Dimensions

Control	A	B	C	D	E
SPCON1.5	115	85	180	98	182
SPCON3.5	200	140	280	139	233
SPCON7.5	200	140	280	139	233
SPCON10	300	300	170	250	250

Speed Controls (three phase) Auto transformer

3SPCON-1.5/2.5/4.0/8.0

Three phase speed controls are fixed through holes in the base which are accessible on removal of the cover. Bases are provided with 20mm & 25mm knockouts for cable entry.



Weights

Control	Weight kg
3SPCON1.5	7
3SPCON2.5	9
3SPCON4.0	14
3SPCON8.0	27.7

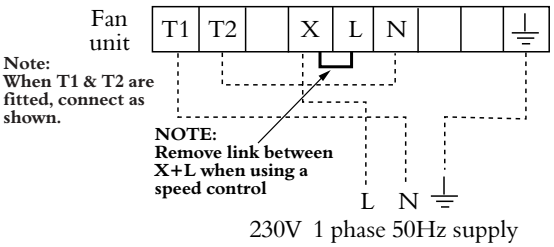
Dimensions

Control	A	B C	D	E	
3SPCON1.5	300	150	300	98	182
3SPCON2.5	300	150	300	139	233
3SPCON4.0	250	200	300	139	233
3SPCON8.0	300	200	400	260	360

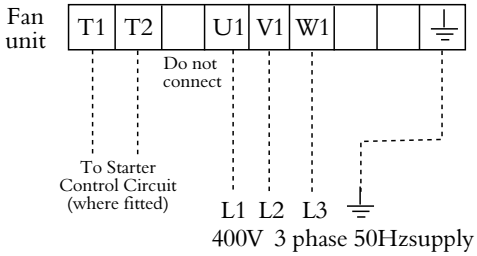
Wiring Diagrams DSM Units

Note: For general guidance only. Specific motor wiring information is included with individual fan units.

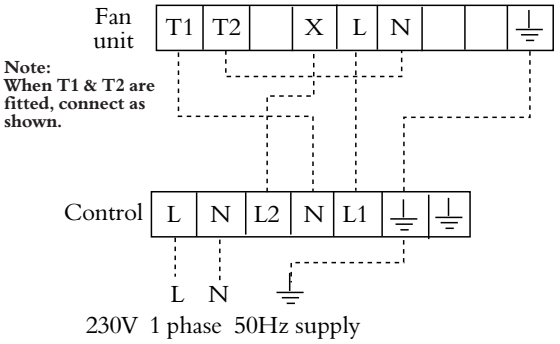
Single Speed 1 phase



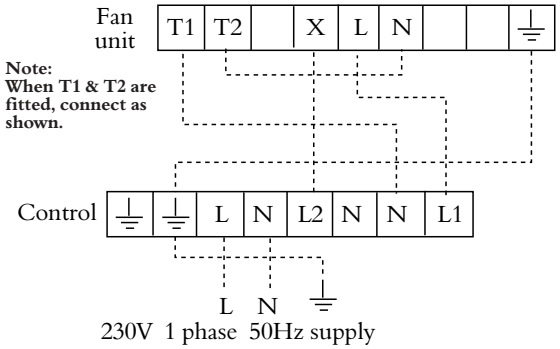
Single Speed 3 phase



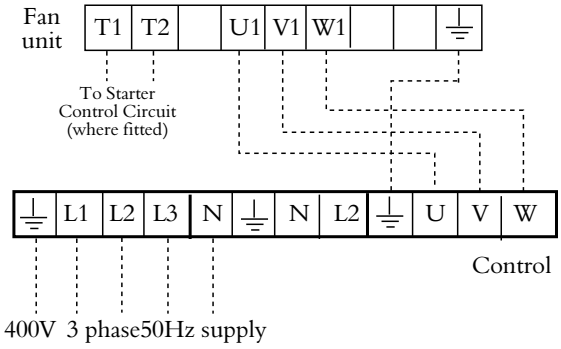
Speed Control, ELECTRONIC 1 phase



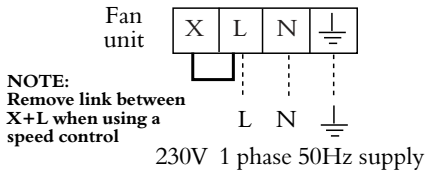
Speed Control, TRANSFORMER 1 phase



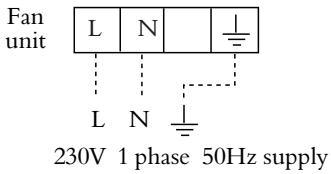
Speed Control, TRANSFORMER 3 phase



All DSM 315 units except DSM 315-11 1 phase Single Speed

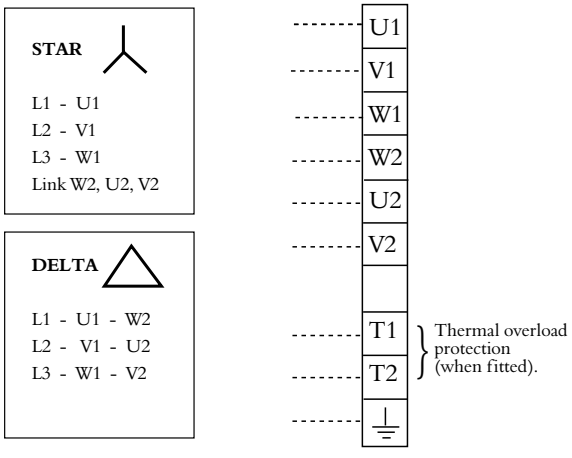


DSM 315-11 1 phase Single Speed



3 phase for STAR /DELTA STARTING

Note:
For all D.O.L. (Direct On Line) operation or Inverter type Speed Control wire in DELTA △



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OCTOBER 1998

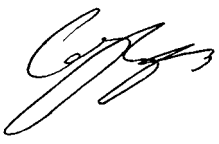
DECLARATION OF INCORPORATION & INFORMATION FOR SAFE INSTALLATION, OPERATION & MAINTENANCE

We declare that the machinery named below is intended to be assembled with other components to constitute a system of machinery.

The machinery shall not be put into service until the system has been declared to be in conformity with the provisions of the EC Council Machinery Directive.

Designation of machinery :-	DUCTMASTER SQUARE CASED FANS
Machinery Types :-	DSA & DSM
Relevant EC Council Directives :-	98/37/EC (Machinery Directive) 93/44/EEC (Amendment to the Machinery Directive)
Applied Harmonised Standards :-	EN292-1, EN292-2, EN294, EN29001
Applied National Standards :-	BS848 Parts One, Two and Five

Signature of manufacture representatives :-

		Name:	**Position:**	**Date:**
1)		C. Biggs	Technical Director	3.1.00
2)		W. Glover	Manufacturing Director	3.1.00

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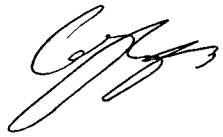
OCTOBER 1998

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 :-	DUCTMASTER SQUARE CASED FANS
Machinery Types :-	DSA & DSM
Relevant EC Council Directives :-	89/336/EEC, 92/31/EEC (EMC) 73/23/EEC, 93/68/EEC (Low Voltage Directive)
Applied Harmonised Standards :-	E50081-1, EN50082-1, EN60204-1 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	2. 4. 00
2)		W. Glover	Manufacturing Director	2. 4. 00

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

To comply with EC Council Directives 89/392/EEC Machinery Directive & 93/44/EEC Amendment to the 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 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, please 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 in particular 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.

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 minium 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.

3 YEAR WARRANTY

The three year warranty starts from the date of delivery and includes parts and labour for the first year.

The labour element is subject to full, free and safe access to the equipment as recommended by the CDM regulations.

The remaining two years covers replacement parts only.

NOTE:
Installation & Maintenance of the equipment must be as directed in the instructions provided with the unit.

Service

As a manufacturer NuAire provides you with factory trained Service Engineers.
Our Engineers are supported by a comprehensive range of spare parts 'off the shelf'.
If you are an industrial or commercial user, you may be interested in details of NuAire's regular maintenance Service Contracts. This is a worthwhile service that helps you get the most from our products.
Our Service Department will be happy to give you more information.

Please telephone: 029 2085 8254

Controls Application Service (CAS)

A team of Engineers and technicians is available to provide pre and post order support.

We are on hand to provide help and advice from the most basic use of any NuAire equipment to the more complex applications, maximising on the versatility of our SMART and NetLink control products.

Telephone: 029 2085 8585

Facsimile: 029 2085 8586

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.

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NB
If you have any comments or queries on any of our products or services please write to the Marketing Services Manager at the main address opposite