SDX EC

In-Line Centrifugal Duct Fans With EC Motors

Installation and Wiring Instructions

Stock Ref. N°

SDX125EC
SDX150EC
SDX200EC
SDX250EC
SDX315EC

220-240V~50Hz

Vent-Axia®

PLEASE READ INSTRUCTIONS IN CONJUNCTION WITH THE ILLUSTRATIONS.
PLEASE SAVE THESE INSTRUCTIONS

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Vent-Axia

Installation and Wiring Instructions for the
SDX EC IN-LINE CENTRIFUGAL DUCT FAN range.
IMPORTANT: READ THESE INSTRUCTIONS BEFORE COMMENCING THE INSTALLATION.

DO NOT install this product in areas where the following may be present or occur:

- Excessive oil or a grease laden atmosphere.
- Unit shall be operated indoors only.
- Corrosive or flammable gases, liquids or vapours.
- Ambient temperatures higher than 40°C or less than –40°C.
- Possible obstructions which would hinder the access or removal of the Fan.
- Sudden ductwork bends or transformations close to the Fan.

SAFETY AND GUIDANCE NOTES

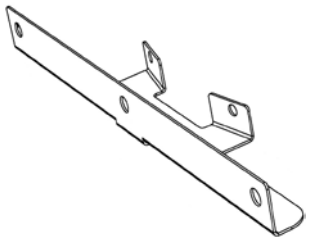
A. All wiring to be in accordance with the current I.E.T. Regulations, or the appropriate standards of your country and **MUST** be installed by a suitably qualified person.
B. The Fan should be provided with a local double pole isolator switch having a contact separation of at least 3mm.
C. Ensure that the mains supply (Voltage, Frequency, and Phase) complies with the rating label.
D. The Fan should only be used in conjunction with the appropriate Vent-Axia products.
E. It is recommended that the connection to the fan connecter terminals is made with flexible cable.
F. When the Fan is used to remove air from a room containing a fuel-burning appliance, precautions must be taken to avoid back-flow of gases into the room from the open flue of gas or other appliance. Ensure that the air replacement is adequate for both the fan and the fuel-burning appliance.
G. The Fan should not be used where it is liable to be subject to direct water spray for prolonged periods of time.
H. Where ducted Fans are used to handle moisture-laden air, a condensation trap should be fitted. Horizontal ducts should be arranged to slope slightly downwards away from the Fan.
I. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
J. Young children should be supervised to ensure that they do not play with the appliance.
K. Note:- This is a class 1 appliance and MUST be earthed.

INSTALLATION.

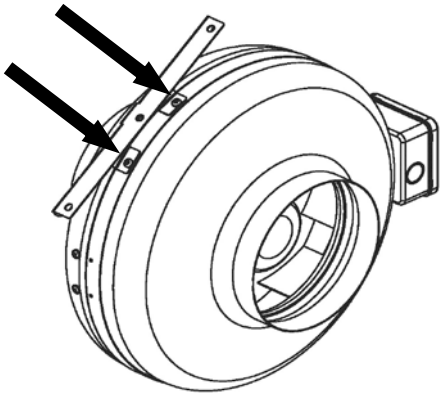
The unit is designed as an internal in-line duct fan to be positioned between lengths of ducting.
Short duct runs terminating close to the fan (i.e. within 1.5m) must incorporate suitable guards unless the fan is mounted higher than 2.1m above the floor.
If flexible ducting is used it should be fully extended to obtain the best results.
Position the fan at the highest point on the system with both ducting runs sloping downwards from this point.
In circumstances where an excessive amount of moisture is present in the air then a condensation trap should be installed.
When siting the appliance ensure that there is sufficient space to allow access for any servicing and maintenance.
When connecting the ducts please observe the air flow direction indicated on the housing of the device.
It is recommended to use air filters that reduce the amount of dirt accumulating on the fan's impeller. The accumulated dirt affects the balance of the impeller which may cause vibration. This may be the reason for the improper operation of the fan motor.

Attaching the mounting foot

Fan mounting foot



Screw foot to fan as shown Using the self drilling / tapping screws provided. (A pilot hole maybe required).



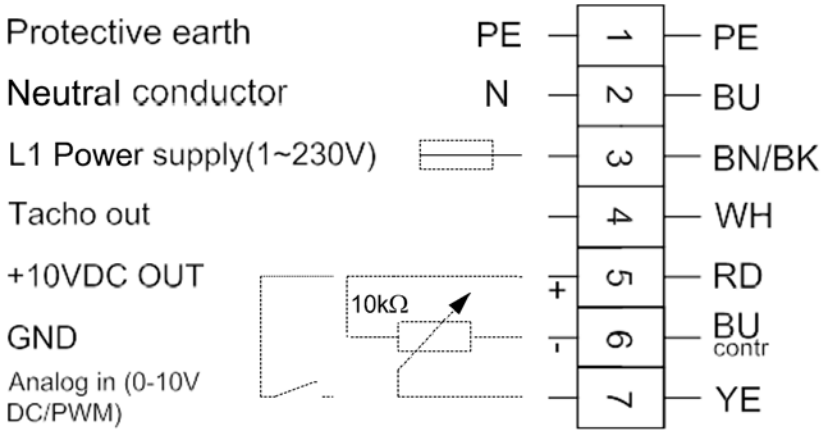
WIRING.

WARNING: THE FAN AND ANCILLARY CONTROL EQUIPMENT MUST BE ISOLATED FROM THE POWER SUPPLY DURING THE INSTALLATION / OR MAINTENANCE.

THE SDX EC FANS ARE CLASS 1 AND MUST BE EARTHED.

The devices are equipped with rotating parts and are connected to the electric power supply. This may cause risk for human health and life. Therefore, when performing the installation, it is necessary to follow the safety requirements. If you have doubts regarding the safe installation and operation of the device, please contact the manufacturer or its authorized representative.
Installation should be performed only by experienced and qualified personnel.
Make sure that the characteristics of the power supply correspond to the information provided on the product label on the housing of the device. The selected power cable should be in accordance with the capacity of the device.
The device should be connected in accordance with the specially determined power connection scheme that is included into this document and indicated under the cover of the power connection case (see below). Remove terminal box cover & put to one side. Check all connections have been made correctly and ensure all terminal connections and cable clamps/glands are securely fastened. The cable entry must be made using the knockouts provided. Replace terminal box cover.
Ensure the impeller rotates and is free from obstructions.
It is necessary to connect the external protective component (automatic connector or fuse) with the operating current that is 1.5 times greater than the maximum current of the device (indicated on the label of the device).
The unit must be adequately grounded.
If the external motor speed controller is used, it is necessary to make sure that it can guarantee the safe operation of the motor. It is necessary to ensure the minimum speed of the motor that triggers the opening of the backward extract valves (if installed). Frequency convertors are not used for the speed control of these devices.

PE = Green/Yellow
BK = Black
BU = Blue
YE = Yellow
WH = White
RD = Red
BN = Brown



SERVICING AND MAINTENANCE.

WARNING: THE FAN AND ANCILLARY CONTROL EQUIPMENT <u>MUST</u> BE ISOLATED FROM THE POWER SUPPLY DURING MAINTENANCE.

Maintenance should be performed only by the trained and qualified personnel.
Fan bearings do not require any maintenance.
If the fan is not equipped with the air filter the only requirement for the maintenance of the fan is to clean the impeller. It is recommended that the impeller should be cleaned at least once every six months.
Before cleaning it is necessary to disconnect the supply voltage and block the switch in order to prevent the accidental start-up.
It is necessary to wait until any mechanical movements will stop, the motor will cool down and the connected capacitors will discharge. Please make sure that the fan and its parts and accessories are mounted firmly and tightly.
The impeller should be cleaned with caution in order not to disturb the balance of the impeller.
When cleaning the impeller it is strictly forbidden to use any mechanical cleaners, chemical agents, detergents, compressed air flow and any liquids.
It is forbidden to wash the fan with any liquids.
After the maintenance procedure the device should be installed into the duct system performing the steps indicated in the installation and start-up sections and observing the requirements listed in this document.

The SDX EC fans have sealed for life bearings, which do not require lubrication.

IMPROPER OPERATION AND REPAIR

Repair works should be performed only by the trained and qualified personnel.

- After turning off the device the following steps should be performed:
- Check if the supply voltage and current correspond to the requirements provided on the product label.
- Check if the electric current is supplied to the device.
- After solving problems related with the supply of the electric current, restart the device.

If the power supply is not interrupted, but the device does not start the following steps should be performed:

- Wait for 10-20 minutes until the motor cools down.
- If the motor starts automatically within 10-20 minutes without disconnecting the power supply, it means that the automatic thermal protection has
  been turned on. It is necessary to determine the cause of the motor overheating and to eliminate the problem.

If the motor does not start within 10-20 minutes, the following steps should be performed:

- Disconnect the supply voltage
- Wait until any mechanical movements will stop, the motor will cool down and the connected capacitors will discharge.
- Ensure that the impeller is not blocked.
- Check the capacitor (for single-phase fans – according to the connection scheme). If the problem persists, replace the capacitor.

If this does not help, it is necessary to contact the supplier.

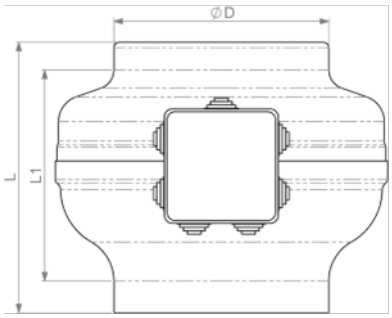
Technical Data

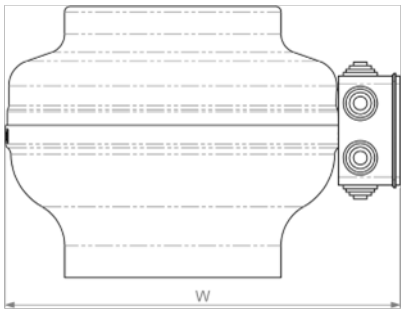
SDX EC		125	150	200	250	315
- phase/voltage	[50 Hz/VAC]	~1 / 230	~1 / 230	~1 / 230	~1 / 230	~1 / 230
- power	[kW]	0,08	0,09	0,17	0,17	0,17
- current	[A]	0,75	0,7	1,4	1,4	1,4
- speed	[min^{-1}]	3200	2550	3230	3230	2510
- control input	[VDC]	0-10V	0-10V	0-10V	0-10V	0-10V
- max. extracted air temp.	[C°]	-40 / 60	-40 / 60	-40 / 60	-40 / 60	-40 / 60
- motor protection class		IP54	IP54	IP54	IP54	IP54

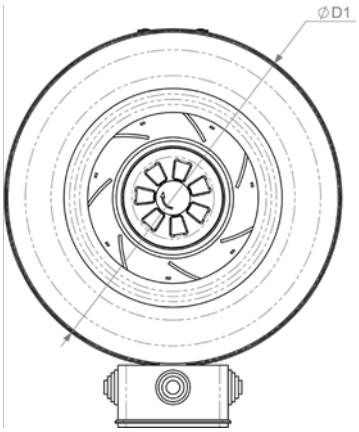
ECO Design Data Table

SDX EC		125	150	200	250	315
Declared typology		Unidirec-tional	Unidirec-tional	Unidirec-tional	Unidirec-tional	Unidirec-tional
Type of drive		Variable	Variable	Variable	Variable	Variable
Nominal NRVU flow rate	[m^3/s]	0,06	0,08	0,14	0,17	0,19
Effective electric power input	[kW]	0,07	0,07	0,17	0,16	0,16
Face velocity	[m/s]	1,2	1,6	1,5	1,8	1,5
Normal external pressure	[Pa]	294	291	441	400	392
Static efficiency of fans used in accordancewith Regulation (EU) No 327/2011	[%]	24,4	31,4	38,1	40,3	44,9
Declared maximum external leakage rates (CAL(R) @ +400 Pa)	[%]	3	3	3	3	3
Declared maximum external leakage rates (CAL(R) @ -400 Pa)	[%]	3	3	3	3	3
Casing sound power level (Lwa)	[dB(A)]	60	56	54	53	60
ErP Compliance		2018	2018	2018	2018	2018
Internet address for disassembly instructions		www.vent-axia.com				

Dimensions and Weight







SDX EC	L	L1	øD	øD1	W	weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
125	207	175	125	245	290	2,1
150	222	172	150	344	386	3,1
200	240	190	200	345	390	3,7
250	245	185	250	345	390	3,6
315	250	180	315	400	445	4,6

The Vent-Axia Guarantee

Applicable only to products installed and used in the United Kingdom. For details of guarantee outside the United Kingdom contact your local supplier.

Vent-Axia guarantees its products for two years from date of purchase against faulty material or workmanship. In the event of any part being found to be defective, the product will be repaired, or at the Company's option replaced, without charge, provided that the product:-

- Has been installed and used in accordance with the instructions given with each unit.
- Has not been connected to an unsuitable electricity supply. (The correct electricity supply voltage is shown on the product rating label attached to the unit).
- Has not been subjected to misuse, neglect or damage.
- Has not been modified or repaired by any person not authorised by the company.

IF CLAIMING UNDER TERMS OF GUARANTEE

Please return the complete product, carriage paid to your original supplier or nearest Vent-Axia Centre, by post or personal visit. Please ensure that it is adequately packed and accompanied by a letter clearly marked "Guarantee Claim" stating the nature of the fault and providing evidence of date and source of purchase.

The guarantee is offered to you as an extra benefit, and does not effect your legal rights

Vent-Axia

Head Office: Fleming Way, Crawley, West Sussex, RH10 9YX.

UK NATIONAL CALL CENTRE, Newton Road, Crawley, West Sussex, RH10 9JA
SALES ENQUIRIES: Tel: 0344 8560590 Fax: 01293 565169
TECHNICAL SUPPORT: Tel: 0344 8560594 Fax: 01293 539209
For details of the warranty and returns procedure please refer to www.vent-axia.com or write to Vent-Axia, Fleming Way, Crawley, RH10 9YX

EU Authorised Representative: Vent-Axia Sigarenmaker 5 - 5521DJ Eersel Nederland authorisedrep@vent-axia.nl

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