AIRFLOW®

AIROVENT

Installation / Operation and Service Guide

MEV WH4B & MEV WH6B

Part No`s: 90001495 & 90001496

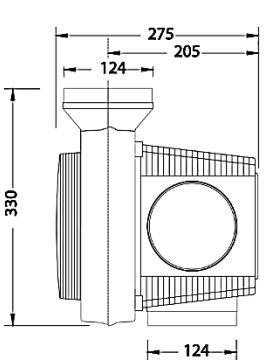
Central Mechanical Extract Ventilation Units

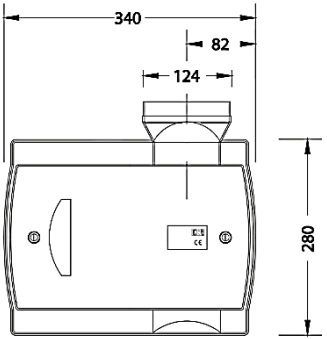
90001495

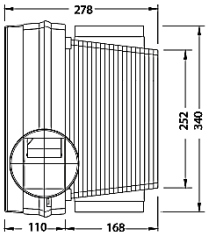
90001496

Contents

Overall Unit Dimensions







Unit Specifications

Voltage Required: 230V – 50 / 60Hz – 1Ph

Three Fan Speed Bands Available:

Band 1(Low) = Two speeds – 87 and 123m³/h
Watts= 5 & 8

Band 2 (Medium) = Eight speeds – 97 to 234 m³/h
Watts = 6 To 27

Band 3 (High) = Eight speeds – 158 to 335 m³/h
Watts = 12 to 71

Weight: 3.5Kg

MEV WH4 = 3 x 125Ø ports from rooms & 1 x 125Ø to outside

MEV WH4B = 6 x 75Ø ports from rooms & 1 x 125Ø to outside

Transport and Storage

Units should be stored in their original packaging in a dry environment protected from the weather. If palletised quantities are stored or transported, it is recommended they are covered to protect against particulate damage and contamination.

Suitable storage temperatures are between –10ºC and +40ºC.

Care should be taken when re-packing any unit to ensure the packaging is suitable for the required form of transport. Damage due to improper transportation, storage or installation is not covered under warranty. Care should be taken when lifting. Correct lifting techniques / apparatus should be used when necessary. Dropping or sharp blows to the fan can cause damage. Any damage to the fan or packaging should be inspected by a suitably qualified person or returned to Airflow Developments Ltd for inspection before use.

Fans should not be lifted or carried by an electrical lead, if fitted.

Electrical Installation

All electrical installations must be carried out by an approved electrician in accordance with the latest IET BS7671 Requirements for Electrical Installation, Low Voltage Directive 2014/35/EU, Machinery Directive 89/392/CE or the appropriate regulations in the country of installation. All fans require a 240V 50/60 Hz single phase supply. Electric circuit to be used should be isolated before any work is carried out.

All electrical connections and controls can be found under the unit's top protective cover held on with two large screws. See fig.D page 10. The units electrical supply cable must be fitted through the cable retaining path moulded into the unit's electrical connection tray. As below.

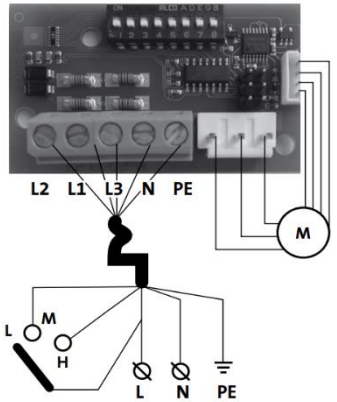
Electrical Installation contd.

All cables should be suitably retained and enclosed where necessary to prevent damage taking place. A 3 x pole lockable isolation switch with a 3mm contact gap should be used on the mains supply to the unit.

The unit should be protected by using a 3amp inline fuse.

Before function testing the fan, ensure the impeller runs freely. Function testing should be carried out by switching the fan on for a short time. When the fan is running, checks should be carried out for: impeller rotation direction, undue noise or vibration and power consumption. Immediately switch off the fan should any problems be found, and contact Airflow Developments Ltd. Fan motors used are suitable for continuous running and have a rated duty type S1 (motor is suitable to this duty type and rating at which the fan may be operated for an unlimited period).

Wiring Diagram



230V – 50 / 60Hz – 1Ph

L1 = High Speed

L2 = Medium Speed

L3 = Permanent Live

Airflow Developments fan speed switch, Part number 90000541 should be used.

Mechanical Installation

Mechanical installation should only be carried out by a competent person. Fans are supplied ready for installation. Care should be taken when removing the fan from its packaging. Correct lifting techniques / apparatus should be used where necessary. Fans should be inspected for any damage. If the fan is found to be damaged it should be returned to the supplier immediately. Fans should be installed to a sufficiently solid structure giving adequate support. Fixings supplied with the unit should be used. Alternatively, Airflow Developments Rubber mount part number 90001294 (set of four) can be used to help protect against mechanical noise transmission into the mounting surface.

Units are mounted by using the 6mm clearance holes provided in the extract duct connection box. See fig A – B – C & D page 10.

Units can be mounted at any angle or position. When mounting ensure there is no distortion to the fan case.

Mechanical Installation contd.

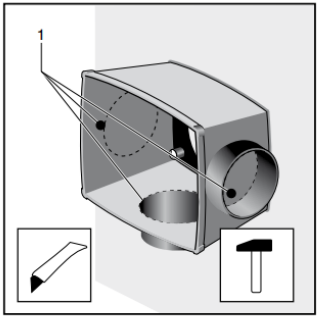


fig. A

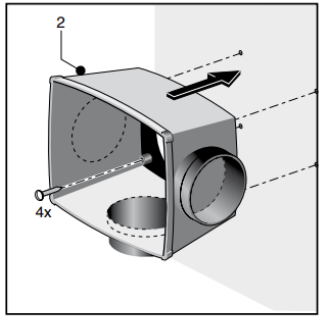


fig. B

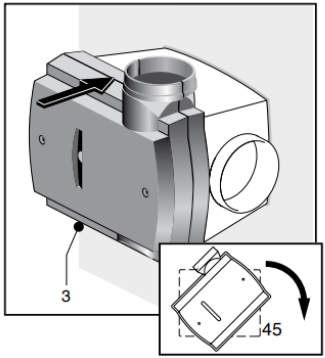


fig. C

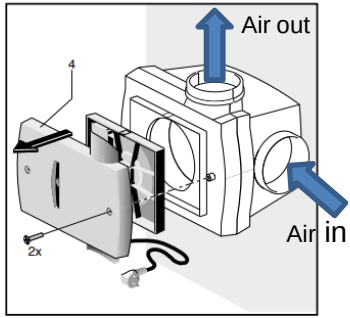


fig. D

Duct Connection

MEV WH4 (90001495)

This unit has three 125mm diameter ports moulded on the extract duct connection box. These ports are sealed off with a blanking membrane. This membrane is put in place when the duct connection box is moulded. Care should be taken when removing the blanking membrane to ensure the correct port / ports are opened and no excess force is used which could cause irreputable damage. See fig A page 10. Failure to remove the whole membrane could cause excess system pressure and noise.

Air is expelled to outside from the unit by the 125mm diameter open port in the fan mounting case. See fig.D page 10. If the ducting from this port is installed vertically a condensation trap should be fitted (Airflow part number: 90001242).

125mm diameter ridged ducting, or a ridged duct with at least 90% free surface area of 125mm diameter duct should be used. This is to keep system pressures to a minimum.

Duct Connection contd.

MEV WH4 (90001495) cont.

Final connections can be made with a short length of flexible ducting (Airflow part number: 52641009) and the correct sealing clamps (Airflow part number: 51849403). The use of excessive amounts of flexible ducting will result in high system pressures and a noisy system. Ridged duct connections should be sealed with a non-hardening sealant (Airflow part number: 90000356).

MEV WH6B (90001496)

This unit has six ports moulded on the extract duct box which are designed for Airflow Developments, AirflexPro Round duct system. This is a highly efficient, easily fitted, and quiet ducting system. Any of the six ports that are not being used should be blanked off by using the red caps, (4 off supplied with the unit). See fig.E page 14.

Duct Connection contd.

When connecting AirflexPro duct to the unit it should be sealed into the extract duct box port using one of the soft “O” Ring type seals (6off supplied with the unit). See fig F. page 14. Each AirflexPro duct being connected to the unit it should be cut square on its end and to a length so that it is not under tension when fitted and able to enter straight into the port by 20 to 30mm. AirflexPro round ducting should be held in place using the correct clips (Airflow part number: 90000352). A soft “O” Ring should then be positioned in the first full groove of the duct. See fig G page 14. When this is done, use gentle pressure to push the duct, with seal attached, into the relevant port. See fig H page 14. This is a floating fit; therefore, the seal may move around when carrying out this process. This type of sealing will tolerate a slight angle of the duct to the port and still maintain the seal. See fig I page 14.

Air is expelled to outside from the unit by the 125mm diameter open port in the fan mounting case. See fig.D page 10. If the ducting from this port is installed vertically a condensation trap should be fitted

Duct Connection contd.

(Number: 90001242). Ridged duct should be used wherever possible, as previously stated for the MEV WH4 unit.

Fig.E

Fig.F

Fig. G

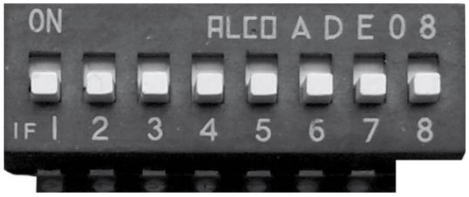
Fig. H

Fig. I

Fan Performance Settings

The airflow requirements of a dwelling should be calculated and conform to Building Regulations Part F, Volume 1.

The performance of the unit is broken down into three bands, low, medium, and high. Each band has a number of fan speeds, which can be set by adjusting the dip-switch settings. The dip-switch can be found under the unit's top protective cover held on with two large screws. See fig D page 10. Choice of appropriate band speed the fan runs at is by using a three-position switch (Airflow part number: 90000541). See page 8 – Wiring Diagram.



Picture of dip-switch

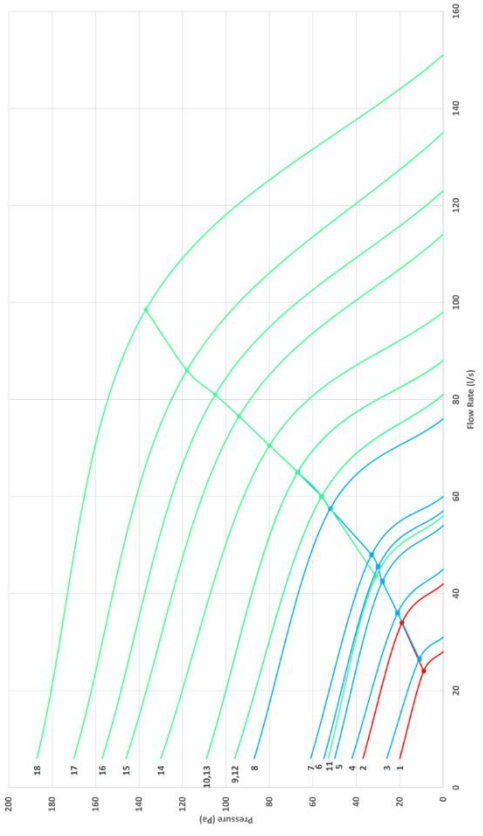
Fan Performance Settings contd.

Dip Switch Settings Table

Fan Speed Band	Fan Speed Setting	Dip Switch Setting								Minimum Airflow at stated Pressure	Minimum Pressure at stated Airflow
	Switch Number →	1	2	3	4	5	6	7	8	l/sec (m3/h)	Pa
Low	1	OFF							ON	24.0 (87)	9
Low	2	ON							ON	34.0 (123)	19
Medium	3		OFF	OFF	OFF				ON	26.5 (97)	11
Medium	4		ON	OFF	OFF				ON	36.0 (131)	21
Medium	5		OFF	ON	OFF				ON	42.5 (153)	28
Medium	6		ON	ON	OFF				ON	45.5 (164)	30
Medium	7		OFF	OFF	ON				ON	48.0 (173)	33
Medium	8		ON	OFF	ON				ON	57.5 (207)	52
Medium	9		OFF	ON	ON				ON	60.0 (216)	56
Medium	10		ON	ON	ON				ON	65.0 (234)	67
High	11					OFF	OFF	OFF	ON	43.5 (158)	31
High	12					ON	OFF	OFF	ON	60.0 (216)	56
High	13					OFF	ON	OFF	ON	65.0 (234)	67
High	14					ON	ON	OFF	ON	70.5 (255)	80
High	15					OFF	OFF	ON	ON	76.5 (276)	94
High	16					ON	OFF	ON	ON	81.0 (293)	105
High	17					OFF	ON	ON	ON	86.0 (310)	118
High	18					ON	ON	ON	ON	98.5 (355)	137

Flow / Pressure Graph

Service and Maintenance



Safety first: Always isolate the fan unit from the power supply before carrying out any work on the fan. All electrical and mechanical installation guidelines stated in these instructions should be followed. Only competent qualified persons should embark on service and maintenance of these fan units.

All central extract systems should be serviced on a planned / regular basis to stop excess build-up of dirt, grease, and dust etc. The system should be inspected initially by a competent person on a six-monthly basis. After several inspections the competent person will be able to adjust the frequency of the service to suite. The frequency of service will be dependent on a number of things, lifestyle and where the property is positioned etc. Failure to do so causes excess system pressure which will reduce the systems airflow, make the system noisier and ultimately lead to fan unit failure. Cleaning the fan unit can be achieved by firstly disconnecting the duct from the fan mounting case.

Service and Maintenance Contd.

When complete - turn the fan mounting case anti-clockwise 45º (leaving the extract duct connection box in its fixed position). See fig C. Cleaning of fan units' parts should be carried out with a damp cloth or soft brush.

The use of aggressive cleaning agents or high-pressure cleaning techniques / equipment is not recommended and can cause permanent damage and loss of fan performance.

Things to check when the unit is split in two: Is the extract duct connection box securely fixed. Does the fan impeller rotate freely and quietly? Is there any visible damage? When the service is complete, refit the fan mounting case to the extract duct connection box and the duct to the fan mounting case carrying the exhaust air. After re-connecting the electrical supply, the unit should be switched on. If there is any undue noise switch the unit off immediately and rectify the fault. If the fault cannot be found contact Airflow Developments Ltd for advice at info@airflow.com. Tele:+44(0)1494525252.

Fan and Packaging Disposal

These fan units consist mainly of steel, iron, aluminium, copper, electrical insulation materials, cables, wires, and plastic.

Complete fans and parts that are at end of life due to wear and tear, corrosion, fatigue and or other effects that can not be discerned must be disposed of in the correct manner conforming to local and / or international guidelines and regulations. Intended or unintended further use of worn parts, e.g., impellers and bearings etc. can result in danger to persons, the environment and fan unit.

Packaging materials should be disposed of in the correct manner conforming to local and / or international guidelines and regulations. Some packaging can be re-cycled. In this case seek advice from a qualified waste management company.

Assorted Accessories

Part Number	Description	Product Image
9041130	AirflexPro Ducting Round	
9041546	125mm Ø x 2m Round Ridged Ducting	
52641008	125mm Ø x 1m Airflex Round PVC Hose	
51849403	Metal Worm Drive Clamp for 125mm Ø Connections	
90000356	Grey Acrylic Duct Sealant Non-Hardening (380ml)	
9041223	125mm Ø Connection Terracotta Fixed Grill (Plastic)	
90000350	Roof Terminal (Seipia)	
90000541	Three Position Switch for Low, Medium and High Fan Settings	

Warranty

Airflow guarantees the Central Extract Fan Units: MEV WH4 and MEV WH4B designated in these instructions for 2 years from date of purchase against faulty material or workmanship. Applicable to units installed and used in the UNITED KINGDOM.

Warranty covers the fan and not the reinstallation if required. In the event of any defective parts being found, Airflow Developments Ltd reserves the right to repair, or at our discretion replace without charge, provided the unit **has been installed in accordance with the fitting and wiring instructions supplied with each unit.**

Has not been connected to an unsuitable electrical supply.

Has not been subjected to misuse, neglect, or damage.

Has not been modified or repaired by any person not authorised by Airflow Developments Ltd.

Has been installed by a person who is recognised as a competent person.

Has only been used with Airflow Developments approved accessories.

Airflow Developments Ltd shall not be liable for any loss, injury or other consequential damage, in the event of a failure of the equipment, arising from, or in connection with, the equipment excepting only that nothing in this condition shall be construed as to exclude or restrict liability for negligence. Full details at airflow.com/terms.

This warranty does not in any way affect any statutory or other consumer rights.

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Installation / Service Date	Notes