



Plate Axial Fan

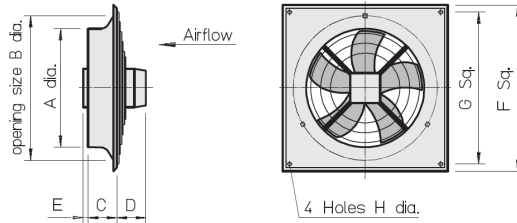
Installation and Operation Guide



- 315mm Fan - 90001127
- 355mm Fan - 90001129
- 400mm Fan - 90001131
- 450mm Fan - 90001133
- 500mm Fan - 90001135



Fan Dimensions



	Fan Part Number				
	90001127	90001129	90001131	90001133	90001135
A	317	358	403	452	504
B	345	386	488	548	538
C	82	86	88	100	150
D	85.5	77	96	96	30.5
E	3.5	20	0	10.5	37
F	430	485	540	575	655
G	380	435	490	535	615
H	9	9	9	11	11

Dimensions in mm

Plate Axial Fan Information

Fan Part No.	90001127	90001129	90001131
Fan size (mm)	315mm	355mm	400mm
Open airflow (m³/h)	2700	3700	4950
Open airflow (l/s)	750	1028	1375
Sound pressure (dB(A) @3 m)	47	50	49
Power (Watts)	0.14	0.22	0.32
Current (Amps)	0.65	0.95	1.40
Voltage	230 V / 1 ph / 50Hz		
IP Rating	IP54		
Weight (Kg.)	5.5	7.0	9.0

Fan Part No.	90001133	90001135
Fan size (mm)	450mm	500mm
Open airflow (m³/h)	5432	3700
Open airflow (l/s)	1509	1028
Sound pressure (dB(A) @3 m)	49	50
Power (Watts)	0.34	0.22
Current (Amps)	1.48	0.95
Voltage	230 V / 1 ph / 50Hz	
IP Rating	IP54	
Weight (Kg.)	10.0	20.0

Transport and Storage

Fans should be stored in the dry and protected from weather in their original packaging. 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 -20°C and +40°C.

Care should be taken when re-packing any fans to ensure the packaging is suitable for the required form of transport. Damage due to improper transportation, storage or installation is not liable for 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 the electrical lead, terminal box or impeller.

Electrical Installation

All electrical installations must be carried out by an approved electrician in accordance with the latest IET BS 7671 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 fans are speed controllable. The use of other manufactures speed controllers can lead to fan and controller failure. Only the correct sized Airflow Developments Ltd speed controller should be used. All fans are equipped with multi-shot thermal contacts, which are connected in series within the motor windings. Fans will automatically cut out when motor windings get too hot and will automatically restart after cooling. Fans should be protected against automatic restart using an appropriate motor protection circuit breaker enabling manual reset. Electrical supply cable to the fan must be fitted through the cable gland supplied and fitted to the plastic connector box. Plastic connector box is not suitable for metal cable glands.

Electrical Installation

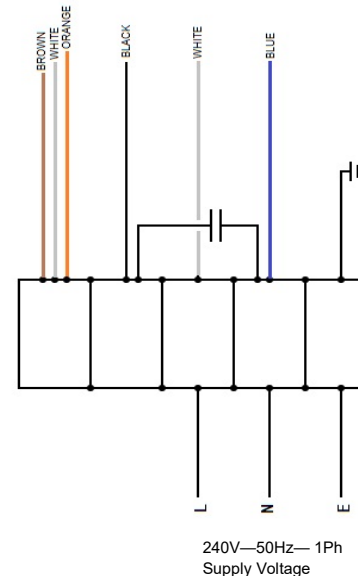
All cables should be suitably retained and enclosed where necessary to prevent damage taking place. A 3 x pole lockable isolation switch with a 3mm contact gap should be used on the mains supply to the unit. Before function testing of the fan ensure the impeller runs freely. Function testing should be 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).

Electronic speed controller selection

Part No.	Fan Part Number				
	90001127	90001129	90001131	90001133	90001135
90001370	☹				
90001371		☹	☹	☹	
90001372					☹

AMP Rating of electronic speed controllers
 90001370 = 1AMP 90001371 = 3AMP 90001372 = 5AMP

Fan Wiring Diagram



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. Suitable fixings should be used. Fans can be mounted at any angle or position. When mounting ensure there is no distortion to the fan case.

The cable gland attached to the connector box should face down. Rubber mounts and vibration dampers in conjunction with the correct sized mounting feet can be used to help elevate mechanical noise transmissions. All fixing / installation points of the fan should be used. All fans are fitted with guards but care should be taken when installing to make sure it is not possible to touch any moving parts.

Fan Application / Use

Airflow plate axial fans are suitable for use in clean or slightly dusty (particulate size <10µm) air with a maximum humidity of 95% and an atmospheric density of up to 1.2 kg/m³ in a moderate climate. Minimum ambient temperature of -20°C. Fans are designed to be a component of a stationary ventilation system in a building. Fans should only be operated once they have been correctly installed for their intended use and all relevant safety devices have been fitted. The system manufacturer or the machine builder is responsible for the inherent installation, and must ensure safety procedures are harmonised with current local standards and guidelines. Use in explosive atmospheres is **not** permitted.

Fan Service and Maintenance

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

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Fan Service and Maintenance

Excessive build up of dirt, grease and dust etc. on the fans impeller, casing, motor and guard should be removed. In particular on the impeller as this can lead to an imbalance and shortened bearing life. Care should be taken to not dislodge impeller balance weights. Overheating of the unit can be caused by a build up on the motor and / or inside of the fan case. If a fan is left not running for long periods, maintenance should be done before continued use. Regular usage based / planned maintenance should be carried out. Cleaning of fan parts should be carried out with a damp cloth or soft brush. The use of aggressive cleaning agents or high pressure cleaning equipment is not permitted, and can cause permanent damage and loss of fan performance.

Things to check when carrying out maintenance are:

- Any mechanical damage. Should any be found the fan should be de-commissioned and parts replaced or a new fan fitted.
- Is the fan, and its parts secured properly? If not replace broken parts and ensure all

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Fan Service and Maintenance

are sufficiently tightened. Special care should be taken with the impeller mountings to ensure these screws are not loose.

- Check surfaces for rust and paint defects. Repairs should be carried out.
- Impeller should rotate freely with minimum bearing noise. Designed bearing life is 20,000 hours and are maintenance free under specified conditions. Should the fan not run freely or the bearings are noisy it is recommended a replacement motor be fitted.
- Fans power consumption. If found to be high it is recommended a new motor be fitted.
- A full function test on all safety components. If any single part should fail it should be replaced.

Only Airflow Development Ltd replacement parts should be used.

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Fan and Packaging Disposal

These fans mainly consist of: steel and 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. The same applies to auxiliary materials used, such as oils, greases etc. and items used for cleaning purposes. Intended or unintended further use of worn parts, e.g. impellers and bearings etc. can result in danger to persons, the environment and machine systems.

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 advice should be sort from a qualified waste management company.



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Accessories

Part No.	Description	Product Image	Fan Size (mm)					
			315	355	400	450	500	
90001370	Electronic Speed controllers 1 AMP		⊗					
90001371	3 AMP		⊗					
90001372	5 AMP							⊗
Airstream operated polymer louver								
90001158	340 x 340 x 28 mm		⊗					
90001159	300 x 300 x 28 mm			⊗				
90001160	440 x 440 x 28 mm				⊗			
90001161	480 x 480 x 30 mm					⊗		
90001162	540 x 540 x 30 mm						⊗	
Square Shifter Transition To Round								
90001374	340 x 340 x 324.0 mm		⊗					
90001375	380 x 380 x 364.0 mm			⊗				
90001376	440 x 440 x 404.0 mm				⊗			
90001377	480 x 480 x 440.0 mm					⊗		
90001378	540 x 540 x 510.0 mm						⊗	
Elevable Slaves + Clamps								
90001291	320.0 x 145 mm Long		⊗					
90001292	360.0 x 145 mm Long			⊗				
90001293	412.0 x 145 mm Long				⊗			
90001294	481.0 x 145 mm Long					⊗		
90001295	515.0 x 145 mm Long						⊗	

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Accessories

Part No.	Description	Product Image	Fan Size (mm)				
			315	355	400	450	500
Mounting Flange							
90001286	356.0 Flange x 326.0 mm Duct		⊗				
90001287	395.0 Flange x 365.0 mm Duct			⊗			
90001288	435.0 Flange x 408.0 mm Duct				⊗		
90001289	487.0 Flange x 453.0 mm Duct					⊗	
90001290	541.0 Flange x 411.0 mm Duct						⊗
Mounting Foot (set of two)							
90001291	Mounting Foot 315 & 355 mm		⊗				
90001292	Mounting Foot 400 & 450 mm			⊗			
90001293	Mounting Foot 500 & 560 mm				⊗		
Rubber Mount (set of four)							
90001294	Rubber Mounts M6 Threaded		⊗				
Vibration Damper (set of four)							
90001363	Vibration Dampers M6 Threaded		⊗				
Switch - On / Off With Lockable Isolator							
90000647	Switch - On / Off With Lockable Isolator. (3mm switch gap)		⊗				

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Warranty

Airflow guarantees the plate axial fans designated in these instructions for 1 year from date of purchase against faulty material or workmanship. Applicable to units installed and used in the UNITED KINGDOM.

Warranty covers the fan, not the reinstallation of this 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.

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AIRFLOW

Airflow Developments Ltd shall not be liable for any loss, injury or other consequential damage, in the event of a failure of the equipment or 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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