

## Air Control Industries (ACI)

- Location  
Ambient temperature conditions can range from -10 to +45 degrees centigrade when adequate ventilation is provided for the motor. In factory locations subject to high-pressure water or caustic wash-down cycles, protect or relocate the blower to prevent damage.
- Blower Connections  
both the inlet and discharge can be fitted with wire mesh guards, filters and/or spigots to aid connection to different ducting depending on your requirements.  
Flexible hose can introduce a high pressure drop and lengths and excessive bends should be kept to a minimum.
- Drive Motor  
Units are typically driven by induction type electric motors. If alternative motors are supplied, reference to the motor rating plate is required for all electrical details. The fan is designed to be continuously run at its designated speed, any inverter drive program giving speed control and/or speed changes must be approved by ACI.
- Shaft Rotation  
Check that the rotation of the blower is in accordance with the arrow on the unit. Note: If the fan rotates backwards, it will still operate but with a reduced performance of around 60% max.
- Filters  
The standard inlet filters have a filtration rate of 5-7 microns. ACI recommend that the filters are inspected at least once a month and replaced every 6 months depending on the working environment. Different grade filters can be purchased through ACI.

### INSTALLATION:

- Installation, electrical connection and commissioning are only to be performed by trained service personnel. Adhere to all machinery-related requirements and specifications supplied by the system manufacturer or machine builder. Failure to comply will invalidate the guarantee on our fans and accessories. The following applies for all ACI fans:
  - Do not install without adequate support
  - Flange and mounting brackets must be fixed flat on a level surface.
  - Do not apply force
  - Secure all connection points with a suitable fastener.
  - Secure bolted connections with a locking compound.
  - Do not use metal compression-gland fittings with plastic terminal boxes.
  - For control equipment, refer to the safety instructions supplied with the equipment.

### MAINTENANCE & SERVICE:

The following points must be observed when performing any maintenance or service operation:

- Fan impeller has come to a stand still.
- Power supply interrupted and secured against restoration.
- Observe personal safety regulations
- Keep fan inlet and discharge free of obstruction.
- Regular cleaning helps prevent impeller imbalance.
- Never use high pressure cleaners to clean.
- Avoid bending or damaging blades on all impellers.
- If a filter is fitted, it is recommended that these are inspected at least once a month and replaced every 6 months depending on the working environment.

### TROUBLESHOOTING:

- Blower is underperforming - check the fan rotation.
- Blower will not start
  - Capacitor failure (Single phase)
  - Phase burn out (Three phase).
  - Check wiring is correct.
- Fan is noisy and/or vibrating, contact ACI.
- If any other problems arise, contact ACI

### TRANSPORT, STORAGE:

- ACI fans are packaged at the factory to comply with requirements for the agreed mode of transport.
- Transport of the fan(s) either in the original packaging or using the transport fixtures provided. Use suitable lifting equipment.
- Do not lift the fan by the connecting cable or fan impeller. When transporting manually, please refer to the EC guidelines for recommended maximum weight.
- Avoid excessive vibration and shock loads.
- Check for any damage to the packaging or the fan.
- Store the fan in the original packaging in a dry area protected from the weather or protect it from dirt or weather until final installation.
- Avoid exposure to extreme heat and cold.
- Avoid excessive storage periods (we recommend one year max.) and inspect the motor bearings for proper operation prior to installation.

### EC DECLARATION OF INCORPORATION:

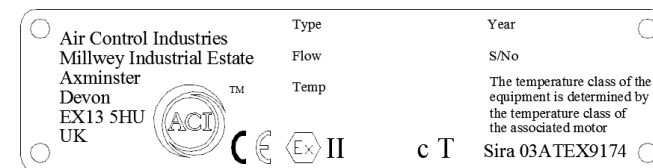
We hereby declare that the supplied fan unit can be incorporated into other machinery and must not be put into service until that machinery has been declared in conformity with the essential Health and Safety requirements of the Machinery Directive 2006/42/CE (amended 98/37/EEC), the Electromagnetic Compatibility Directive 2004/108/EEC, the Low Voltage Directive 2006/95/EC and current amendments. Full EC Declarations of Incorporation are available by contacting ACI.

### ACCESSORIES:

ACI can provide a comprehensive range of accessories such as hose, clamps, pedestals, spigots, and inverters. For a complete overview please visit:- [www.aircontrolindustries.com](http://www.aircontrolindustries.com)

### ATEX VARIATIONS:

Manufactured to EN 13463-1:2009 and EN 14986:2007



The above label will be fitted in a prominent place on the fan case and be engraved to show the specific ATEX operating conditions the fan is rated to run in. These should be observed at all times.

ACI's ATEX range has been designed to limit the amount of potential leakage from/into the fan case. As leakage rates are unknown and will vary depending on the operating point of the fan, ACI have designed

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their fans to have no more than one category difference between the inside and the outside (as required by EN 14986:2007). Where the fan has an open inlet/discharge (or guarded), the inside/ outside of the fan shall have the same category.

Impeller and heat spinner clearances have been set during manufacture and should not be altered. This should never need adjusting during the serviceable life of the blower. If the fan inlet or discharge is to be fitted with additional inlet/outlet ducts, consideration to ingress of foreign particles should be given. It is the end users responsibility to ensure that the fan is protected to IP20 minimum (ISO 12499).

ATEX fans that are fitted with a brass heat spinner can process gases up to 148°C.

### Routine Inspections, Service and Cleaning:

Some Atex fans come with an inspection hatch (when requested). This can be used for clearing dust deposits from the impeller and inside of the fancase to prevent build up which can lead to an ignition risk. Where there is no inspection hatch fitted, the inlet spinning (where fitted) can be removed to obtain access to the fans internals. Compressed air can be used to blow off the deposits, or a soft bristled brush (nylon) can be used for tougher deposits. Using a wire brush may remove protective coating, so is not advised. This work should be carried out when required (cleaning intervals will vary depending on the environment the unit is operating in). If left, uneven build up could cause vibration and eventually failure which could result in an ignition.

During inspection, shaft seals (if fitted) should be checked and replaced if any damage is present. This work should be carried out by ACI to ensure the correct clearances are maintained during reassembly. Any monitoring devices (temperature, vibration, etc.) should be checked regularly to ensure correct operation. If a maintenance schedule exists, details of all of the mentioned work should be added to this.

### WARRANTY AND MAINTENANCE:

Air Control Industries Limited (ACI) warrants all products manufactured by ACI to be free of defects in material and workmanship for twelve (12) months from the date of shipment. Not covered under the warranty is normal wear and tear, neglect or misuse of the equipment, operation in an application not approved by ACI, and alterations not performed by ACI.

All items supplied by ACI that are manufactured by others shall be warranted under the respective manufacturer's policy. ACI will provide any support required ensuring that warranty service by others in handled in a prompt and professional manner.

The ACI warranty is limited to the repair or replacement of items shipped by ACI. At no time will ACI be liable for any of the costs to the buyer for labour, transportation or down-time resulting from defective equipment furnished by ACI, or our suppliers.

To comply with the Warranty the complete fan unit must be returned to ACI. Disassembly of the fan will invalidate the warranty.

### Manufacturer Service Address:

Our products are manufactured in compliance with applicable international standards and regulations. If you have any queries regarding the use of our products, please visit: [www.aircontrolindustries.com](http://www.aircontrolindustries.com)



Air Control Industries

## ACF: 171.

## ACI Fan Installation, Operation & Maintenance Instructions

### IMPORTANT :

Please read the following installation, operation and maintenance instructions carefully. Always ensure that the power is isolated before commencing any maintenance on the fan unit. This following manual is also available from the download section of ACI's website: [www.aircontrolindustries.com](http://www.aircontrolindustries.com)

### EQUIPMENT ARRIVAL / INSPECTION:

Check the equipment against the delivery note, and that the details on the motor rating plate are in accordance with the electrical supply to which the unit is to be connected.

If you have any shortages, discrepancies or damage, please contact your ACI Distributor or alternatively:

ACI Ltd: 0845 5000 501 / ACI Inc: 207-445-2518

### SAFETY INFORMATION:

- Installation, commissioning and electrical installation are only to be performed by trained service personnel and in accordance with the latest IEE regulations.
- Designer, manufacturers or operators are responsible for proper and safe installation as well as for safe operation.
- Safety features e.g. inlet and discharge guards, are not to be dismantled, circumvented or made inoperative.

### OPERATING CONDITIONS:

- Do not operate the fan unit in an explosive atmosphere except for ATEX certified fans. ATEX fans should be installed in accordance with ATEX regulations.
- Each unit has a wiring diagram fitted as close to the connection area as possible. For example if the component machine is fitted with a terminal box, the diagram will be inside the box. If flying leads are fitted the diagram will be on the lead or on the motor itself. Protective circuitry is the customer's responsibility. More information is available from ACI's website.
- All our motors are continuously rated; therefore frequent stop starts should be avoided. Start and stop control is dependant on customer installation. If the unit has been fitted with a speed controller please refer to the appropriate instructions that will be included.
- If the fan is supplied with an inverter please read the appropriate instructions that will be included.
- The fan should not be operated until it is connected to the system it will be operating in. Some motors will draw over the maximum current rating when in "free air".
- All fan units are tested to the correct supply voltage prior to them being despatched.

### OPERATION:

Before starting the fan check that there are no foreign bodies inside it otherwise these could be ejected at high speed with considerable force.

- Mounting  
The inlet must be placed in a clean and dry area well away from possible sources of liquid contamination. If the fan is to be placed in an enclosure adequate ventilation should be provided for the motor. If the fan is to be mounted on / within machinery that transmits vibration, anti vibration mounts should be used.