Dustcheck

Part of Absolent Air Care Group



| Midac Series|

Original Operating Instructions

Table of Contents

1. **Welcome** 3
    1.1. **How to use this manual** 3
    1.2. **Safety** 3
    1.3. **Rotary Valves (Where Fitted)** 4
    1.4. **Regulatory Information** 4
2. **Installation** 9
    2.1. **Delivery** 9
    2.2. **Handling** 10
    2.3. **Assembly** 10
3. **Operation** 12
    3.1. **Start Up and Stopping** 12
    3.2. **Operating Instructions for Fans Fitted to Dust Collectors** 12
    3.3. **MIDAC Maintenance** 14
    3.4. **Flameless Vent Devices** 15
4. **Eliminator Removal & Cleaning** 16
    4.1. **Wet Collectors (Midac & NonFlam Series)** 16
5. **Electrical Information** 17
6. **Commissioning** 18
7. **Maintenance & Troubleshooting** 19
    7.1. **Inspections** 19
    7.2. **Cleaning Explosion Relief Valve (Where Fitted)** 20
    7.3. **Troubleshooting** 21
    7.4. **Spare and Replacement Parts** 21
8. **Declaration of Conformity** 22

1. Welcome

Welcome to the user manual for your Dustcheck product! Thank you for choosing us. Original instructions are in English, all other languages are translations of this.

1.1. How to use this manual

This manual has been designed to be comprehensive, covering the Dustcheck branded **MIDAC** Series.

The following introduction provides essential information concerning safety and regulatory requirements - **please ensure that these are read and understood prior to use.** The closing pages of the manual contain customer support details and compliance documents to aid understanding.

Where applicable, a collection of bespoke documents (e.g., drawings, specification(s), data sheet(s), commissioning report(s)), may be provided alongside this manual - if so, please ensure that the manual is read in conjunction with them.

If in any doubt, please contact Filtermist Limited by calling (+44) (0)1952 290500 or emailing sales@filtermist.com. Please read this manual carefully before using the product and it keep it on file for future reference.

1.2. Safety

Ensure that, at all times, competent people are involved with the installation, operation and maintenance of your product - **NEVER** allow untrained or unauthorised personnel to handle equipment.

Prior to putting the product into service, ensure that a thorough **risk assessment** is carried out. All aspects of the equipment and its usage - including routine operation, emptying, cleaning, maintenance, access, control function and activation - must be assessed for health and safety risks. Furthermore, protective measures, visible warnings and user training must have been implemented before operation is allowed, to reduce these risks to a safe level. The unit should only be put into service if the assessment confirms it is safe to do so.

Your product is specifically designed for the handling of dry dusts in air and must not be used for any other purpose - this is particularly true for combustible dusts. Any changes to the process and/or dust being handled should be assessed to ensure that no additional hazard is introduced and that control over the contaminant is not compromised. If sufficient information concerning application has not been imparted to us, there will be no statement of product or application and thus the installer/user **MUST** ensure that the equipment is suitable for purpose before putting into use.



DANGER! certain dusts are dangerous to handle (e.g., explosive, carcinogenic, toxic or statically charged in nature). The mixing of different dusts within the same extraction filter unit should only be done with the express consent of the filter unit supplier as the mixing of apparently innocuous dusts can in certain cases cause a potentially serious hazard.

Where **product discharge points** are fitted with rotary valves, screw conveyors or other powered moving parts, it may not be possible to fit guards which fulfill health and safety requirements due to restriction of product flow, specified physical parameters and the extent of our scope of supply. Wherever possible, it is recommended that guards with interlocks be introduced into the control systems so that personnel cannot gain access to a danger zone without the sources of power to the moving parts automatically being isolated.



IMPORTANT! Removable covers, bins, containers (or similar) which are removable without the aid of a tool, and which give access to a Danger Zone, must have safeguards providing adequate protection for the user/operator.

1.3. Rotary Valves (Where Fitted)

Where rotary valves are fitted, please consult the safety information provided below. Take notice of the following:

IMPORTANT! Always disconnect power when working on the valve.

DANGER! NEVER install with the inlet or outlet exposed - if they need to be open, guards must be fitted.

DANGER! NEVER operate the valve with the chain or drive guard removed, or touch the valve internals with hands or unblocking rods.

1.4. Regulatory Information

Your product must be used in compliance with the following regulations. COSHH and Pressure Equipment regulations apply to all products; LEV and ATEX/DSEAR regulations only apply in certain cases - see below for detail.

1.4.1 COSHH Regulations

All products must be used in accordance with **COSHH (Control of Substances Hazardous to Health)** regulations. In particular, please refer to the current **Health and Safety Executive (HSE)** guidance notes **EH40/2005 Workplace exposure limits (ISBN 9780717667031) and EH44 Dust in the workplace: General principles of protection**. These documents are available at **www.hse.gov.uk.**

As a minimum requirement under COSHH, **dust collectors must be inspected and tested at least once every 14 months** or in accordance with the specified schedules. Suitable records of examination, tests and subsequent repairs must be maintained and be kept available for inspection for a minimum period of fiv years.

1.4.2 LEV Regulations & Legionella

Where your product forms part of a Local Exhaust Ventilation (LEV) system, you have additional duties to ensure that the LEV provides control over the contaminant. The LEV should be subject to a **Thorough Examination and Test (TExT)** at intervals not exceeding 14 months, though some LEVs have shorter intervals.

Under the Approved Code of Practice for L8 and the supporting HSE guidance HSG274 part 3, the operators of wet scrubbers have a duty to carry out a Legionella risk assessment. These documents can be downloaded free of charge from the HSE website www.HSE.gov.uk.

If the wet collector is extracting air at ambient temperatures, the likelihood of the water exceeding 20°C is remote; this being the lower temperature where the proliferation of Legionella bacteria is prevalent. The risk assessment should confirm that the risk of legionella being released from a wet collector is unlikely if it is well maintained and with a robust cleaning regime in place with water temperature below 20°C. In addition to this, the high efficiency eliminators selected for use in wet collectors to prevent the release of droplets, are designed to meet the more stringent design of cooling towers to satisfy the requirements of L8 to prevent aerosol drift from being released from cooling towers.

Legionnaires disease is contracted by inhaling airborne aerosols containing the Legionella bacteria. It is important that these eliminators are kept clean. Dirty, partially blocked eliminators may potentially increase the velocity through the eliminator re-entraining and discharging collected water droplets. If the wet collector is cleaned on a regular basis, the eliminators are kept clean and are replaced as they deteriorate, and the water temperatures do not exceed 20°C, the likelihood of releasing aerosols containing Legionella bacteria is remote. However, it is still prudent to treat the water in a wet scrubber with a suitable biocide and dispersant to eliminate other bacteria, yeast and fungi's that may also be detrimental to health, to prevent them from being released into the exhaust air stream.

Installers, duty holders and operators of all water systems **must fully understand and comply with the requirements of L8 and the HSG274 guidance** and should seek professional advice from an LCA approved water treatment consultant, specific to the 'as-installed system'. It is also recommended that the system is regularly tested for legionella.

1.4.3 Pressure System Regulations

Where units are connected to a compressed air supply exceeding 0.5bar, the compressed air manifold has been designed and manufactured to comply with the requirements of the **Pressure Equipment (Safety) Regulations 2016** of the United Kingdom and the **Pressure Equipment Directive (2014/68/EU)** of the European Union. Please maintain pressure equipment, including the compressed air lines which connect to the compressed air header tank, in accordance with this legislation.

Compressed gas manifold(s) are supplied in accordance with the above legislation. Relevant information for safe operation is included on the nameplate attached to the manifold - please ensure that these limits are not exceeded. The presence of **N/A** in any box indicates that this specific information either need not, or must not, be given in order for manifolds in the stated category to comply with regulations. Where a test pressure is given, this may be on the basis of a sample testing routine and does not indicate that each individual manifold has been tested.

When connected to a pressure system, a reverse air dust collector is regarded as a part of that system and should be maintained and inspected as required by current legislation. A pressure relief valve will be required if the maximum operating pressure can be exceeded with the supply.

1.4.4 ATEX/DSEAR Regulations and Explosion Management

Explosion prevention and management is covered by European Union **ATEX Directive 2014/34/EU** and by United Kingdom **Dangerous Substances and Explosive Atmospheres Regulations (DSEAR).**

If your product is ATEX rated and/or presents a significant explosion risk, please read this information carefully - if it is not, you may proceed to the Installation section (below).

The ATEX Directives relate to all equipment intended for use in potentially explosive atmospheres. An explosive atmosphere is defined as a mixture of dangerous substances with air, under atmospheric conditions, in the form of gases, vapours, mist or dust in which, after ignition has occurred, combustion spreads to the entire unburned mixture. With regards to dust extraction, this definition generally applies to all equipment handling potentially combustible dust, gas or hybrid mixtures, or equipment located in areas where the equipment is operating within a potentially explosive atmosphere

Regulatory Compliance - what has to be done?

The following actions should be taken to comply with ATEX and DSEAR regulations:

- All sites should be assessed for potentially explosive atmospheres and be classified into zones, which should be clearly marked.
- All equipment intended to be used within a potentially explosive atmosphere should meet all the Essential Health and Safety Requirements of the Directive before being put into service.
- The user should operate the equipment in accordance with the user instructions supplied for the equipment. In the case of our products, the quotation outlines the scope of supply and forms part of the user instruction.
- As previously mentioned, the user should carry out a risk assessment for the system to ensure that no new risks are introduced if components and assemblies are combined. Any additional items of equipment supplied by the user

(out of the scope of our supply) should be risk assessed and confirmed suitable prior to putting into service. This is particularly important when considering if the items have or can generate ignition sources, or when the unit forms part of a system.



WARNING! With potentially explosive dusts it is vital that all areas, and in particular areas around any explosion vents, are dust free to minimise the risk of secondary explosion in the event of primary explosion within the equipment.

Ignition Sources

The assessment of effective ignition sources will be based upon atmospheric characteristics such as **Minimum Ignition Energy (MIE)** and layer and cloud ignition temperature. The values used for the assessment will be contained within the quotation.



IMPORTANT! Ensure that these values are in line with the actual atmosphere present.

Do not introduce novel effective ignition sources during the installation of your product or during the combining of other equipment to form an assembly. No consideration has been made for ignition sources other than those pertaining directly to your equipment.

Where flammable gas/vapours exist alongside dust that has a high electrical resistivity cone, discharges can occur in bulk material (e.g., in the collection bin or hopper). In most such cases, the equipment is provided with some form of explosion protection and the filter unit is supplied with a product discharge option (e.g., bin or rotary valve). Where a rotary valve or screw conveyor is used on the discharge, ensure no metal pieces can enter the collector and get trapped leading to heat spots.

If a unit does not include any product discharge we generally do not supply explosion protection - in these instances a risk assessment should be carried out to determine if explosion protection is required and if so ensure that this is fitted. Certain potential ignition sources (e.g., stray electrical currents, ultrasonics, lightning) are site specific and should be risk assessed prior to installation. Always ensure that any electrical wiring used is suitable for the product classification.



IMPORTANT! Some materials can exhibit exothermic reactions including self-ignition of dusts. If the materials handled exhibit these characteristics, frequently remove collected material from the bin to avoid this becoming an effective ignition source.

Temperature Range

The operating temperature of the equipment can have a bearing on the specification. As such, it is important that the equipment is not operated in applications where the operating temperature is outside the range for which the equipment is specified.

Explosion Protection

Please consider the following particulars regarding physical explosion protection measures

General

In accordance with legislation, any dust collector or collection system handling potentially explosive product(s) should be fitted with explosion relief and/or suppression or be capable of explosion containment.

Units fitted with explosion relief must always be adequately secured / bolted down to prevent overturning during an explosion. National Building Specification (NBS) regulation BS EN 14491:2012 Dust Explosion Venting Protec- tive Systems provides guidance on the forces generated during an explosion to aid this securing. Equipment that is in compliance with the relevant ATEX directive will have clear markings indicating the category classification of the equipment. Only operate the equipment in areas it is suitable for.

Where explosion protection is incorporated into the equipment or vessel the filter unit is coupled to, you should ensure that the explosion pressure generated does not exceed the strength of the equipment. Explosion venting panels, where fitted, have been sized according to the latest guidance accounting for atmospheric characteristics. It is essential that these characteristics are correct for the product being handled (these are detailed in the quotation).

Where the filter unit does not have a product discharge fitted such as in the case of a silo vent filter, explosion protection is generally not supplied. This is because the volume of the vessel that the filter unit is connected to usually far out weighs the 'dirty air' volume of the filter unit. In these instances, to protect the assembly, adequate explosion protection should be provided to the vessel that the filter unit is mounted to, and not to the filter unit.

Explosion Relief Ducts

Explosion ducts can have the effect of increasing pressures generated during an explosion - please take this possible effect into account when identifying explosion protection measures. If these effects have been accounted for prior to shipment, confirmation of such shall be contained within the quotation.

Anti-Static Features

All metal components must be connected to a suitable and reliable earth. Where there is risk of static build up on filter media - which could lead to an electrostatic discharge capable of igniting the atmosphere - anti-static media will be selected and fitted. A suitable earth path will be present to the supplied earth boss – continued safety is only ensured by using the correct media.



TIP! It is recommended that checks for suitable earth are carried out at regular intervals.



IMPORTANT! When installing explosion prevention equipment, due consideration should be given to ensure adequate earth bonding to prevent static build up, which could create sparks that might result in the ignition of explosive mixtures of the dust and air.

The Connection of Ductwork

Explosion protection is generally not required in the ductwork. However, if an explosion occurs in the connected filter unit, flame and pressure can propagate into the ducting and travel for long distances. It is important that this effect is considered and if deemed unacceptable, a device should be installed in the ductwork to reduce or eliminate it. Ducting should be suitable for the application and selected to avoid the possibility of introducing ignition sources into the filter. Special consideration should be given to avoiding propagating discharges where painted (insulating) ducting is used - this also includes the use of flexible non-metallic hose. If metal ducting is selected it should also be connected to a suitable reliable earth.



TIP! Regular checks should be made to ensure that explosive dust is not allowed to build up in the ductwork and create concentrations within explosible limits. Where dampers are fitted, they should be adjusted slowly to avoid sparks.

Safe Area for Explosion Venting

Explosion vents must be sited so that they discharge to a safe area **(see BS EN 1127-1:2019).** The definition and marking of safe areas is your responsibility as the end user - you **MUST** ensure that adequate markings, warnings and barriers are in place prior to operation of the plant. Safe areas must never contain combustible products.

A safe area must also be of appropriate size to allow an explosion to vent adequately and not create back pressures into the equipment; do not vent close to walls or into a confined space. If explosions are to be directed towards a wall or similar it must be capable of withstanding the forces of the explosion.

Flame lengths as a result of an explosion can be large. The following equations can be used to estimate the length of the flame: Flame length (L) = 10 x (vessel volume) 1/3 for horizontal discharge; Flame length (L) = 8 x (vessel volume) 1/3 for vertical discharge.

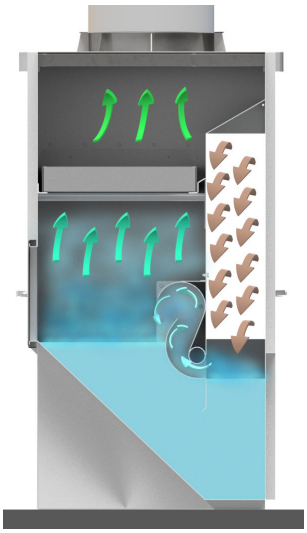
Inspection and Maintenance

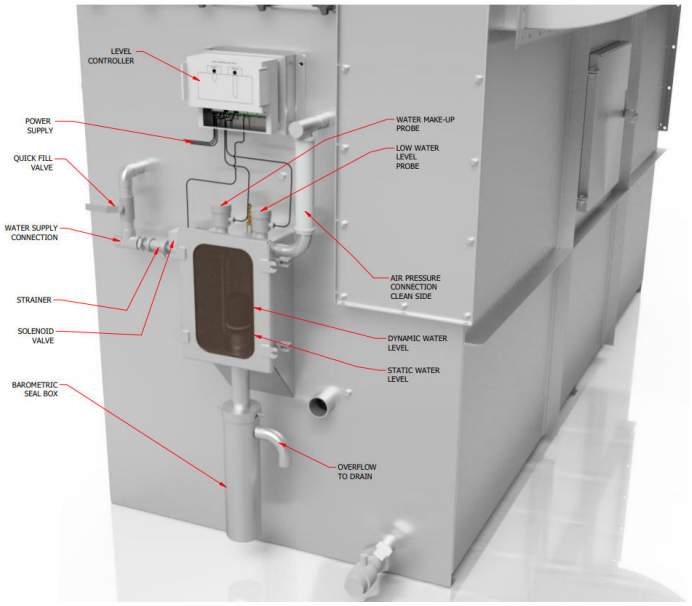
Equipment should be maintained in good condition and all safety features regularly inspected. Fixings and retaining devices, in particular those pertaining to items such as access doors and covers which could become dislodged in the event of an explosion, must be kept in good condition and must always be correctly replaced or refitted if removed. See the **Maintenance** section in this manual for further guidance.

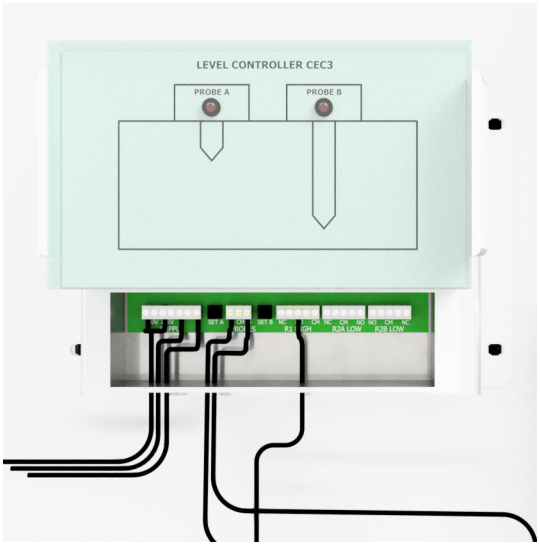
2. Installation

This chapter provides information regarding the delivery, handling and installation of your product.

NOTE! When a reference is made here to "units", this can include sections of units as well as complete and fully assembled units.







2.1. Delivery

The majority of units are delivered to enable unloading by forklift. Units are loaded on pallets or skids to ease loading and unloading only - the presence of a pallet does **NOT** imply that the load will be inherently stable and suitable for forklift transportation. Indeed, great care should be taken when handling all units delivered on pallets, especially where their size/shape indicate that the centre of gravity may be high or offset from the centre line of the pallet. The unit should be lifted off the delivery vehicle and immediately lowered to the ground. If the unit is to be transported by forklift on the pallet the forks must be spread to the maximum possible width. The route taken must be over smooth, level ground and a low speed should be maintained. Lifting points for cranage may not have been included.

IMPORTANT! If a warning label regarding stability is attached to the unit this MUST NOT be ignored and should not be removed until the unit is removed from its pallet or stabilised in some other manner

Units are delivered on blocks specifically to ease loading and unloading by forklift. When using a forklift to unload be aware that the unit may have no base and/or that easily damaged items may be located within the unprotected base. Where appropriate, extra long forks or fork extensions must be used to ensure that the base area of the unit is spanned.

2.2. Handling

All handling activities should be carried out by a competent person, in accordance with statutory regulations and any site or company-specific requirements. Do not attempt to lift a unit by other means than those recommended here.

Some of our products can be handled manually. When doing so, ensure that the correct techniques are used and if suitable hand holds are not available that handles, straps or slings are attached. The majority of units can be lifted from above, but if the unit is not fitted with lifting points you should contact us to confirm that your proposed lifting method is acceptable.

When lifting, always be aware that the cleaning valves and controller are very susceptible to damage; even a light impact which does no visible damage can cause slight deformation of a solenoid operator, which may result in non-operation. Lifting equipment can be attached directly to the bolt holes in the flanges, should they be present on your model - it maybe necessary to remove individual bolts to allow attachment.

WARNING! Do not remove more bolts than necessary and do not lift with bolts missing as this may weaken the structure.

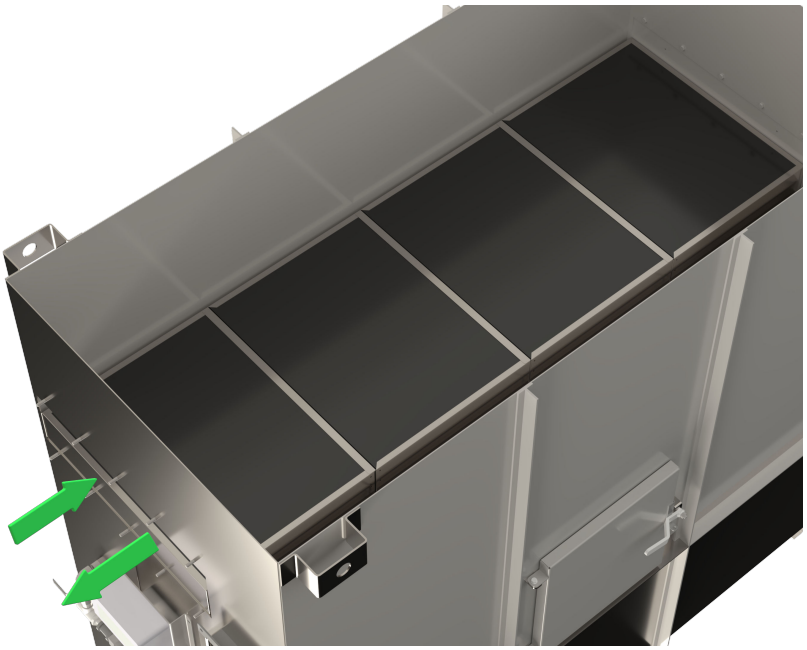
IMPORTANT! Great care should be taken to ensure that slings cannot slip and that the manifold with cleaning valves or jet tubes are not used as a sling point.

Where a unit is to be assembled to other equipment, or where a unit is delivered in sections, ensure that the unit is positioned directly over the mating flange of the item onto which it is to be mounted and that locating rods or bars are inserted into corresponding holes in the mating flanges, down which the unit can slide as it is lowered. This ensures that a true alignment is achieved and that, if the last few centimeters are a drop rather than a controlled lowering, the stability and location of the unit is guaranteed.

2.3. Assembly

The majority of products do not have specific instructions for assembly. However, please be advised that when assembling split units or mating collectors to another plant, an appropriate sealant must be used on all joints to ensure an airtight seal adequate for the operating pressures. Two beads of sealant should be used on either side of the bolt hole (Figure 1). When assembling or disassembling split unit sections, care should be taken to ensure that the unit is re-assembled, sealed and clamped as it was originally supplied in order to maintain earthing continuity.

Where a collector is floor mounted, it is necessary to ensure that the floor is level - otherwise the function of the bin mechanism could be adversely affected.



3. Operation

This chapter provides operational information for your product. It covers **Start Up and Stopping procedures**, **Air Volumes, Collection Bins, Operating Instructions for Fans, Adjustment of the Cleaning Cycle** and operation of the **Flameless Vent Valve.**

3.1. Start Up and Stopping

Ensure air and power supplies are as specified. On initial start up, the air should be gradually increased to full duty over a period of hours and the system checked to ensure that the design duty is not exceeded - this causes increased filtration velocity which can give premature deterioration of the media.

Starting sequence:

1. Switch on fan sets (where fitted)
2. Start system requiring dust filtration

Stopping Sequence:

1. Stop system requiring dust filtration
2. Stop fan sets (where fitted)

IMPORTANT! The operator should take care when operating this machine and mitigate or eliminate any risks in accordance with clause 7.11 of EN60335-2-69

WARNING! The operator should wear appropriate hearing protection when operating this unit. The exact decibels can be found on the rating plate for the fan.

3.2. Operating Instructions for Fans Fitted to Dust Collectors

3.2.1 Delivery and Storage

When a shipment is received, carefully inspect it **prior to signing the delivery note** and report to the carrier within seven days any shortages or damage that may have occurred en route. When a crane or hoist is used to unload the unit from the vehicle, **it should be lifted only by the lifting lugs provided** - not by the fan shaft or motor eye bolt.

Prior to shipment, fan impellers are dynamically balanced and the fan assembly is check tested. For indirect driven fans, all pulleys supplied will be balanced. Upon delivery, ensure that no foreign items have found their way into the fan casing. Remove tension from 'vee' belt drives (where applicable) and ensure that all moving parts are free to rotate with no fouling.

If the fan is not to be used immediately, proper storage methods should be provided. In particular, bearings should be well protected against ingress of moisture and foreign material and exposed metal protected against rusting. Periodic rotation of bearings at least once a week will help maintain a protective coating on the bearing raceway and prevent brinelling.

3.2.2 Installation

Fans should be located such that their bearings will not be exposed to ambient temperatures above 45 degrees C - if high ambient temperature(s) cannot be avoided, consult us for recommendations on proper siting. When connecting the fan duct, the fan must not support the ductwork; fans mounted on anti-vibration mounts must have a flexible connection between the duct and the fan. In applying any insulation to drive side, care must be taken to allow air

space around the fan cooling disc and motor end cowl. Ensure the motor is connected in accordance with their instructions and that the starter overloads are correctly adjusted.

When installing indirect driven fans, fans or plug units should be rigidly mounted to ensure no distortion of the casing. Units mounted on elevated steel structures should be fastened to a mass at least six times the weight of the rotating elements; the structure must be cross braced for live load support. Slip connections or expansion joints are necessary for units operating at 350 degrees C or higher. Always provide access to the inlet assembly for inspection and cleaning. After installation, ensure that the clearance between the impeller and suction cone is equal (i.e., that no movement has occurred during transit or installation) - adjust if necessary.

Impeller design in direct driven fans is suited only for clean air (unless otherwise specified) and the impeller should therefore be inspected periodically for possible contamination - if this has occurred it must be cleaned.

3.2.3 Start Up

During start up, ensure that the impeller is rotating in the correct direction (see direction arrow on casing). Make sure there is no drive slip (for indirect driven fans) or excessive vibration. Starting the fan against closed dampers will reduce the initial power requirements; this should be carried out on hot air fans if the motor kW has been sized for high temperature.

Prior to starting an indirect driven fan, bearings should be checked for lubrication. Rotate the assembly by hand to inspect for binding or rubbing; check that foundation bolts are tight and inspect retention belts after 30 minutes' operation (reinspect these after one week's operation). To avoid soaking heat damage to the impeller shaft and bearings, the fan unit should not be shut down with an internal air temperature above 140 degrees C. Hot air standby fan units should be isolated from any heat source.

When starting axial flow fans, if a control damper is used in conjunction with an axial fan the unit must not be started up with the damper in the closed position (unless the unit has been designed to meet this condition), in order to prevent stall overloading of the motor.

3.2.4 Operation

Severe vibration will stress the fan and cause premature bearing failure - the fan should be shut down if vibration becomes excessive. On fans acting as standby, it is good practice to use them in rotation or to give the impeller(s) a few turns at regular intervals. For indirect driven fans, if it is found necessary to throttle the air flow severely, special construction of impeller or fan casing may be necessary. If possible, it may be better to lower speed by pulling change.

The fan unit should not be operated above its maximum design temperature. The average rate of temperature change of the air entering the fan impeller should not exceed 15 degrees C/min. Air entering the fan inlet of an indirect driven fan should be thoroughly mixed so that the maximum difference in temperature between any two points does not exceed 10 degrees C. A thermocouple located in the inlet duct is recommended to provide monitoring of fan air temperature.



WARNING! Under no circumstances should the fan be operated with the ductwork system, collection bin or access door removed. This will dramatically reduce the extraction at the exhaust points, but more importantly, will probably create a fan motor overload situation, which in a relatively short time could burn out the motor.

3.2.5 Maintenance

At regular intervals in accordance with your risk assessment, the fan impeller, inlet cone and casing should be inspected for wear or corrosion that may reduce the structural length and lead to failure and service damage. Impeller build-up should be removed to prevent excessive vibration. Vibration levels should be checked at regular intervals to detect imbalance and avoid future bearing failure; consult the values below as a guide to optimum vibration readings.

Table 1. Vibration Guide

Motor Size	Velocity (mm/sec) Root Mean Square (RMS)			
Up to 15 kW	0.7	0.7-1.8	1.8-4.5	Above 4.5
>15 kW	1.8	1.8-4.5	4.5-7.1	Above 7.1
	Very Good	**Good**	**Fair**	**Poor (Urgent Attention Required)**

Direct driven fans do not normally require lubrication. However, **indirect driven fans should have their bearings periodically re-lubricated** - the frequency of such should be increased in cases of abnormal moisture/dirt (see Table 2, below, for recommended lubrication cycles). Ensure that the bearings are greased, regreased and re-packed as appropriate; specification(s) of fan bearings can vary, thus the procedure for lubricating the bearings may vary. The amount of grease applied has a direct effect on its performance: excessive grease and relatively high speeds can cause churning and working of the grease, including high temperatures in the unit.

Should there be evidence of grease melting and leaking from the bearings the cause must be investigated: this may arise from over-greasing, electrical overheating or a bearing failure.

Table 2. Recommended Maximum Period Lubrication Cycles (Months) for Fans

Shaft Size (mm)	Speeds (Revolutions / Minute)							
	500	1000	1500	2000	2500	3000	3500	4000
25-40	6	6	6	4	4	2	2	1
40-50	6	6	4	4	2	1	1	-
50-75	6	4	4	2	2	1	-	-
75-100	4	4	2	2	1	-	-	-
100-125	4	4	2	1	-	-	-	-

These figures are for process air temperatures up to 370 degrees C. Decrease periods by 1/3 for temperatures up to 550 degrees C, by 1/2 for temperatures up to 670 degrees C and by 2/3 for temperatures up to 800 degrees C.

For indirect driven fans, the belt tension on drives should be inspected monthly - adjust if necessary.

Great care should be taken during **fan removal**. Prior to releasing any fixing screws or bolts an assessment must be made of the lifting requirement, especially if the fan is side mounted. Prior to lifting the fan, it may be necessary to remove part or all of any acoustic housing, discharge silencer or ducting which may inhibit access

The exact lifting equipment used (usually a forklift truck, crane or block and tackle) will depend on site conditions and access; lifting may be undertaken either by forks under the casing or by using the lifting eyes on the fan. The use of slings around the motor or casing is not normally recommended as the fan can become unstable and slip due to uneven weight distribution. If the motor or motor and impeller are to be removed, this is often possible without removing the remainder of the fan by unbolting the top plate onto which the motor is bolted. This allows motor and impeller to be lifted out together, and the impeller can then be removed from the motor shaft.

3.3. MIDAC Maintenance

The cleaning system can be allowed to remain activated for a period after fan shut down, to allow optimum cleaning under "no air flow" conditions. The normal cleaning requirement for an element in good condition is three to six pulses during regular operation.

The cleaning cycle has two modes of adjustment: **Duration** and **Interval**. The duration of the cleaning cycle is adjusted to suit the type and binding characteristics of the dust being handled, generalised as "specific gravity (light/heavy)" and "stickiness". In most cases, heavy, free flowing dust should have a short duration cycle, while light, sticky

dust should have a long duration cycle. By contrast, interval is normally related to dust load. As a general indication, a heavy dust load requires a short interval, while light dust load requires a long interval.

It is essential that the cleaning cycle is monitored, especially during the first weeks of operation, and that adjustment is made to ensure that the cleaning cycle continues to suit the operating conditions. Optimum monitoring of the cleaning cycle may be affected by the installation of a Differential Pressure Monitor - contact us for further information.

3.3.1 Pressure Differential

The filter cleaning system should be adjusted to give an approximate average pressure differential across the media of **100mm w.g.** , the cleaning cycle should not be activated before a filter cake has developed (i.e., not before a differential pressure across the media of 100mm w.g. has been reached).

3.3.2 Model Specific Cleaning Duration and Interval

The cleaning controls are not pre-set and work to suit any specific application, although under inspection these will normally be left set at the model-specific values in the table below. The filtering process must be monitored and the controls adjusted to suit the particular application. Access doors should not be allowed to have clamps left unfastened.

Product	Duration	Interval
MIDAC Series	Constant Cleaning Function	Constant Cleaning Function

Care should be taken with any unit supplied without a cleaning controller which allows duration of the pulse of compressed air to be adjustable. Without duration control, the only way of adjusting the intensity of the reverse jet blast is by altering the manifold pressure. It is recommended therefore that under such circumstances a 30% lower manifold pressure is set, and the cleaning cycle monitored for efficiency before increasing pressure. Excessive quantities of air at high pressure could cause media damage.



NOTE! Unless otherwise specified, units fitted with explosion doors or panels are not designed for positive pressure situations - consequently the reverse jet cleaning should only be in operation when air is being extracted. If the cleaning controls are operated without extraction there is a risk of dust leakage from around the door seals.

3.4. Flameless Vent Devices

Your product may be supplied with a flameless vent device, if so, you will be provided with separate documentation pertaining to the operation of these devices produced by their manufacturer. Dustcheck is not responsible for any errors or omissions that may be present in these materials.

4. Eliminator Removal & Cleaning

This chapter provides product-specific procedures for the removal of eliminators and cleaning of the Wet Collector unit - **ensure that you consult the correct procedure for your model**. Always wear appropriate PPE when replacing cartridges.

IMPORTANT! In line with clause 7.11 of EN50335-2-69, please follow these installation instructions to ensure safe installation of the machine.

4.1. Wet Collectors (Midac & NonFlam Series)

It is important that these eliminators are kept clean. Dirty, partially blocked eliminators may potentially increase the velocity through the eliminator re-entraining and discharging collected water droplets. Eliminators should be considered a consumable item and replaced upon damage or when effective cleaning is no longer possible.

Frequency of clean down will be determined to a large extent by the dust loading and characteristics of the dust and in line with your internal risk assessment.

1. Remove the High Efficiency PVC eliminators via the access door on the side of the unit.
2. Hose down the internal walls, baffle system, and spray eliminators.
3. Wash out the water control box periodically.
4. In line with this task; wipe clean the electronic probe(s).
5. Although it is recommended as a daily task, when carrying out this process, also rake out the accumulated sludge in the bottom of the waste collection bin.
6. Re-attach the High Efficiency PVC eliminators that were previously removed.

WARNING! - ALWAYS isolate the unit prior to carrying out any of the above processes either in silo or together.

Dustcheck Wet Collectors operate under arduous conditions. Abrasive dust particulate enters the unit at high velocity which wears the paint coating and sludge is scraped out using metal rakes which can also damage the paint coating. On mild steel painted units, the paint needs repairing where bare metal substrate has exposed (a stainless-steel option is available). Exposed metal surfaces will rapidly corrode, this is further exacerbated by the addition of oxidising water treatment chemicals.

5. Electrical Information

To ensure the safety of personnel and the integrity of the equipment, it is mandatory to refer to the manufacturer's wiring diagrams and operating instructions for each electrical component prior to and during the installation process. All work must be executed in strict accordance with local electrical guidelines and laws to maintain regulatory compliance and operational warranty. Failure to follow the specific schematics and safety protocols provided by the manufacturer may result in hazardous malfunctions or system failure.



WARNING! ALL ELECTRICAL INSTALLATION AND MAINTENANCE WORK MUST BE CARRIED OUT BY A COMPETENT ELECTRICAL PROFESSIONAL.

6. Commissioning

The following commissioning instructions are in line with clause 7.11 of EN60335-2-69. To commission your product, first check that all packaging and protection materials - such as remote controls taped inside the unit, etc. - are removed prior to start up.

Once these checks have been completed, ensure that the following steps are completed to commission your unit:

- Check that all connections have been correctly made and that the appropriate power sources are available.



WARNING! DO NOT plug, or make connections to, the solenoid valve vent ports as this may inhibit the operation of the valves.



NOTE! Unless otherwise specified, the cleaning control and manifold have been tested to be fully functional on despatch from our works. With the exception of power supply to the controller and fan (if fitted) along with a compressed air supply to the manifold, no other connections are required.

- Check all control functions.
- Ensure all cartridges are correctly fitted.
- Ensure all access doors are sealed.
- Where fans are fitted; adjust the system airflow to the design duty and take static pressure readings, as a basis point for reference and future Thorough Examination and Tests (TExTs). If applicable, reduce the airflow as described in Air Volumes.



WARNING! It is IMPERATIVE that the unit is installed and adjusted to ensure that the stated airflow is not exceeded - excessive air volumes can seriously affect filtration efficiency and element life.

7. Maintenance & Troubleshooting

This chapter provides information about the maintenance of your product, including inspection and trouble- shooting steps.

Maintenance should be carried out by adequately trained personnel, wearing appropriate PPE. Prior to commencing work, the system to which the filter is attached should be non-operational; all sources of energy must be isolated and locked off; and any compressed air retained in the cleaning system must be drained.

Filtermist Limited offer Service and Maintenance Agreements which ensure that the statutory requirements of inspection and testing are met, with appropriate records. Please contact our team for further information if this may interest you: by telephone on **(0)1952 290500** or by email at **sales@filtermist.com.**

WARNING! DO NOT under any circumstances attempt to work in conditions where appropriate working platforms and access have not been erected, or where personal safety equipment appropriate to the task in hand is not available.

IMPORTANT! When accessing the top of the machine for maintenance and/or planned inspections, due consideration should be given to for working at height, in line with your risk assessment

IMPORTANT! If power tools are required to remove solidified sludge, suitable hearing protection must be worn

IMPORTANT! The operator should take care when carrying out maintenance on this machine and mitigate or eliminate any risks in accordance with clause 7.11 of EN60335-2-69

DANGER! Manifolds MUST NEVER be tested with cleaning valves and other equipment fitted. The manifold must be stripped and blanking plates fitted prior to testing.

7.1. Inspections

7.1.1 Routine Inspection

The following routine inspections should be performed no later than every six months from the date of first operation / in line with your internal risk assessment, whichever is shorter. Specific industries and applications may require more frequent inspection. Inspect the clean air compartment.

- Inspect the clean air compartment
- Measure and record (a) system airflow volume, (b) pressure differential and (c) static pressure. Record controller settings
- Check fans and motors (where fitted)
- Check doors, cover, and collection bin seals and clamping (where fitted)
- Inspect explosion panels and weather covers (where fitted). The inspection is now complete - tighten the access door securing nuts

IMPORTANT! Do not overtighten access door securing nuts, max torque 22Nm.

7.1.3 Inspection of Silencer Housings and Acoustic Covers for Fans (Where Fitted)

Unless otherwise specified, silencer housings and acoustic covers have no maintenance requirements - however, it is considered prudent to examine the housing when any inspection of the fan is carried out. The following check points, where applicable, should be followed:

- Ensure that all insulation is well retained and has not come loose from any fixings. If it has, re-attach it.
- Ensure that the housing/cover or any component parts do not impede cooling air supply to the fan motor. Make corrections where necessary.
- Ensure that, if the enclosure is fitted with a separate air circulation or cooling fan, this fan is operating whenever the main fan is running or (if thermostatically controlled) that the controls function correctly.
- Ensure that no mechanical damage has occurred which may affect the performance of the housing.

7.2. Cleaning Explosion Relief Valve (Where Fitted)

Certain products are fitted with an explosion relief valve. If activated, this valve will automatically re-set. However, powder will almost certainly get into the chamber behind the valve plate and on to the main seal - if it gets trapped on the seal then the valve is likely to leak. To clean the valve:

1. Remove the valve assembly from the vessel. Do not dismantle parts of the valve - it must come down as a whole
2. Using compressed air, blow between the fins until all traces of powder have been removed.
3. The valve plate must now be opened. To do this, you must first remove the switch actuating pin in the centre of the valve (if one is fitted).
4. In the centre hole you will see a nut welded to the backside of the valve plate (M8 to M16, dependant on the valve size). Take a length of threaded rod matching the nut, which is long enough to protrude beyond the case of the valve by 100mm. Insert the rod until it bottoms.
5. Use a length of flat plate approximately 200mm long, or an oversized washer with a clearance hole to suit the threaded rod that will straddle the centre hole in the valve.
6. Slip the plate or washer over the rod and screw on a nut until it bottoms out.
7. Turn the nut and the valve plate will start to open.
8. Keep turning until there is an approximately 25mm clearance between the valve plate and its seat.
9. You will now be able to gain access to the main "O" ring seal located in the valve seat.
10. Clean the "O" ring using soapy water; do not use chemicals or solvents.
11. Release the nut and the valve plate will close. Remove the plate or washer and threaded rod.
12. Replace the switch actuator pin and return the valve to the vessel. Cleaning is complete.

7.3. Troubleshooting

If issues with your product occur, consider the following causes prior to calling for a service.

Table 3. Troubleshooting

Fault	Potential Cause
Filter Elements Not Cleaning	Check that the compressed air supply is turned on and that the pressure is as specified. Ensure that filter elements are contaminant free.
	Check that the controller is operating correctly.
	Check the solenoid valve operation.
	Check that the solenoid valve vent ports have not been obstructed or plugged - if they are, clean them out.
	Check diaphragm valve operation.
Dust Deposits On Clean Side	Check filter media for damage - replace damaged media if so.
	Check all seals for damage - repair or replace seals as necessary.
	Check filter element location - correct, if required.
High Differential Pressure	Check cleaning cycle - adjust, if necessary.
	Check that design air volume is not being exceeded - if so, reduce the air volume.
Low Differential Pressure	Check filter media for damage - replace damaged media if so.
	Check your cleaning cycle routine - frequent cleaning cycles may cause low differential pressure. If so, reduce the number of cycles you place the unit through.
	Check for correct fan rotation - alter, if necessary.

7.4. Spare and Replacement Parts

If you require spare or replacement parts for your product, please contact us: sales@filtermist.com or (0)1952 290500.

When ordering replacement or spare parts, or requesting information regarding performance of application, please specify the serial number(s) of the dust collector(s).

8. Declaration of Conformity

<table>
<tr><td colspan="3">EC DECLARATION OF CONFORMITY</td><td colspan="2">FILTERMIST</td></tr>
<tr><td>Manufacturer's name:</td><td>Filtermist Limited</td><td colspan="3">Machinery covered by this declaration:</td></tr>
<tr><td rowspan="3">Full address:</td><td rowspan="3">Telford 54 Business Park,
Nedge Hill,
Telford
Shropshire
TF3 3AL</td><td>Description:</td><td colspan="2">Dust Collector Unit</td></tr>
<tr><td>Function:</td><td colspan="2">The extraction, separation, and filtration of airborne dust, particulates, or fumes from an industrial process stream to ensure clean air discharge</td></tr>
<tr><td>Type:</td><td colspan="2">MIDAC Series</td></tr>
<tr><td></td><td></td><td>Model:</td><td colspan="2">MIDAC EHS & EHA Series</td></tr>
<tr><td></td><td></td><td>Serial No.:</td><td colspan="2">All Dustcheck products with 5-digit serial numbers starting from 00001, as per the data plate</td></tr>
<tr><td colspan="5">The machinery conforms to all the requirements of the Machinery Directive 2006/42/EC.</td></tr>
<tr><td colspan="2">The following standards have been used:</td><td colspan="3">EN12100:2010, EN 60204-1:2018, EN ISO 14120:2015, EN ISO 13857:2019</td></tr>
<tr><td colspan="5">The technical file is compiled in accordance with part A of Annex VII of the Machinery Directive 2006/42/EC.</td></tr>
<tr><td colspan="2" rowspan="2">Person authorised to compile the technical file (based in the European Community):</td><td>Name:</td><td colspan="2">Absolent AB</td></tr>
<tr><td>Address:</td><td colspan="2">Staplaregatan 1SE-531 40 LidköpingSweden</td></tr>
<tr><td colspan="5">The relevant authorised person undertakes to transmit, in response to a reasoned request by the national authorities, relevant information on the machinery. This information will be transmitted by: (email, post)</td></tr>
<tr><td colspan="2" rowspan="5">Person authorised to make this declaration:</td><td>Name:</td><td colspan="2">Mark Newman</td></tr>
<tr><td>Position in company:</td><td colspan="2">Operations Director</td></tr>
<tr><td>Signature:</td><td colspan="2"></td></tr>
<tr><td>Place of Declaration:</td><td colspan="2">Filtermist Limited, Telford 54 Business Park, Nedge Hill, Telford, Shropshire, TF3 3AL</td></tr>
<tr><td>Date of Declaration:</td><td colspan="2">1st June 2026</td></tr>
</table>

V2

Only valid if your unit was specified and supplied as an ATEX rated unit

EU Declaration of Conformity (DOC)

We

Company name: Filtermist Limited
Postal address: Telford 54 Business Park, Nedge Hill
City Telford
Postcode: TF3 3AL
Telephone number: 01952 290500
E-Mail address: sales@filtermist.com

Declare that this DOC is issued under the sole responsibility of the manufacturer.

Product: Dust Collector Unit
Type: MIDAC EHS & EHA Series
Batch: N/A
Serial number: All Dustcheck products with 5-digit serial numbers starting from 00001, as per the data plate
Brand Name: Dustcheck (a subsidiary of Filtermist)

Object of the declaration

To fit to machinery to extract industrial dust & filter to air	

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

EMC Directive 2014/30/EC

RoHS Directive 2015/863/EU

ATEX 2014/34/EU -

Internal II 2/3D Ex h IIIB T125°C Db/Dc
External II 3D Ex h IIIB T125°C Dc

Atex Certificate No. CML 20ATEXT308

The following harmonised standards and technical specifications have been applied:

Title, Date of standard/specification:

EN IEC 60079-0, EN ISO 80079-36:2016, EN ISO 80079-37:2016, EN 1127-1:2019, EN 14491:2012, EN 61000-6-2:2019, EN 61000-6-4:2019, EN IEC 63000:2018

Additional information:

The relevant authorised person undertakes to transmit, in response to a reasoned request by the national authorities, relevant information on the machinery. This information will be transmitted by: (email, post).
Person authorised to compile the technical file, based in the European Community is: Absolent AB
Address: Staplaregatan 1, SE-531 40 Lidköping, Sweden

Signed for and on behalf of:

Place of issue	yyyy-mm-dd	Name, function, signature
Filtermist Limited, Telford 54 Business Park, Nedge Hill, Telford, Shropshire, TF3 3AL, England	2026-06-01	Mark Newman Operations Director



Only valid if your unit was specified and supplied as a Non-ATEX rated unit

EU Declaration of Conformity (DOC)

We

Company name: Filtermist Limited
Postal address: Telford 54 Business Park, Nedge Hill
City Telford
Postcode: TF3 3AL
Telephone number: 01952 290500
E-Mail address: sales@filtermist.com

Declare that this DOC is issued under the sole responsibility of the manufacturer.

Product: Dust Collector Unit
Type: MIDAC EHS & EHA Series
Batch: N/A
Serial number: All Dustcheck products with 5-digit serial numbers starting from 00001, as per the data plate
Brand Name: Dustcheck (a subsidiary of Filtermist)

Object of the declaration

To fit to machinery to extract industrial dust & filter to air	

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

EMC Directive 2014/30/EC

RoHS Directive 2015/863/EU

The following harmonised standards and technical specifications have been applied:

Title, Date of standard/specification:

EN 60204-1:2018, EN ISO 14120:2015, EN ISO 13857:2020EN 61000-6-2:2019, EN 61000-6-4:2019, EN IEC 63000:2018

Additional information:

The relevant authorised person undertakes to transmit, in response to a reasoned request by the national authorities, relevant information on the machinery. This information will be transmitted by: (email, post).
Person authorised to compile the technical file, based in the European Community is: Absolent AB
Address: Staplaregatan 1, SE-531 40 Lidköping, Sweden

Signed for and on behalf of:

Place of issue	**yyyy-mm-dd**	**Name, function, signature**
Filtermist Limited, Telford 54 Business Park, Nedge Hill, Telford, Shropshire, TF3 3AL, England	2026-06-01	Mark Newman Operations Director



This page is intentionally left blank.

This page is intentionally left blank.

This page is intentionally left blank.

Supplied by:



Certificate Number 1122
ISO 9001
ISO 14001