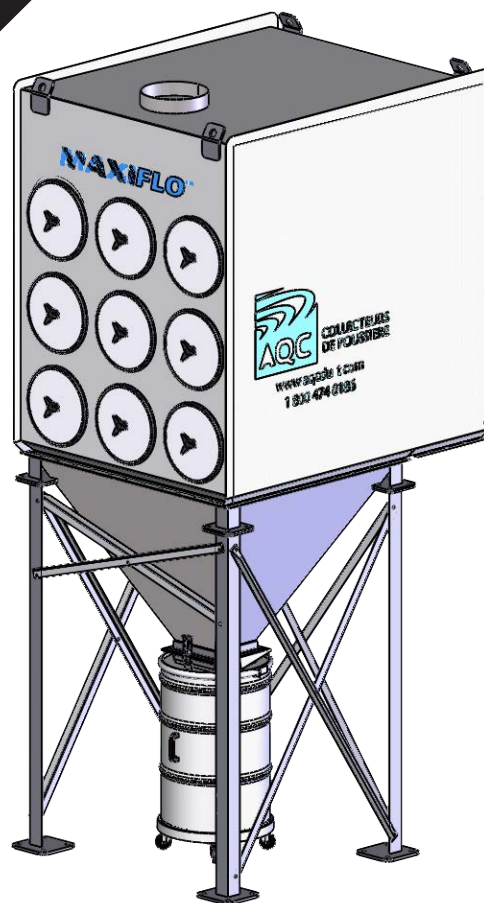




## DUST COLLECTION & SOURCE CAPTURE

Owner's manual for installation,  
use and maintenance



# MAXIFLO™

2MCH2-8, 2MCH3-12, 2MCH4-16, 3MCH2-12, 3MCH3-18, 3MCH4-24, 4MCH2-16, 4MCH3-24,  
4MCH4-36, 5MCH4-40, 6MCH4-48, 7MCH4-56, 8MCH4-64, 9MCH4-72, 10MCH4-80

This manual is property of the owner. Leave with the unit when set-up and start-up are complete.  
AQC Dust Collecting Systems inc. reserves the right to change design and specifications without prior notice.

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## 1 INTRODUCTION

This present manual refers to the MAXIFLO dust collector equipped with an air pulse cleaning system. It includes important information concerning the installation, use and maintenance of your collector. Read this manual thoroughly and apply the directives and procedures. Staff and personnel using the system should be trained on safety measures and maintenance procedures.



### WARNING!

The type of dust to be filtered may require an explosion relief venting system. Dust collectors are not equipped with such a device unless it was requested when ordered. Contact A.Q.C. Inc. if you have any doubt in regard to the use of your collector.

**Not following directives and procedures could cause injuries or property damages.**

## 2 INFORMATION ON THE DUST COLLECTOR

Model: \_\_\_\_\_ Serial number: \_\_\_\_\_

Delivery date: \_\_\_\_\_ Date of installation: \_\_\_\_\_

Name of customer: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Accessories: \_\_\_\_\_

Other: \_\_\_\_\_

### 3 PRESENTATION

The MAXIFLO is a cartridge dust collector with an air pulse cleaning system which cleans the entire surface of filtration. The down flow type dust collector obtains high efficiency filtration while requiring low energy consumption. The cartridges are cleaned by means of a sequenced pulse of compressed air and this, one at a time.

The MAXIFLO dust collector is largely used in areas where dust is a nuisance. Main applications are for welding, buffing, pharmaceutical operations, handling of volatile dusts, etc.

The MAXIFLO may offer multiple configurations for dust capture. Optional equipment may include a hopper with quick clip drum, drawer or with conveyor and rotary valve.

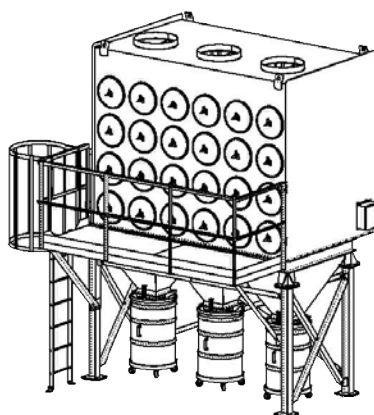
#### 3.1 Each MAXIFLO unit includes:

- Fully welded steel cabinet with reinforcements.
- 4 to 80 filter cartridges with specific media for your application.
- Air deflectors to protect the cartridges from large debris.
- Cartridge cleaning system by air pulsation and electronic sequencer.
- Factory prewired cleaning valves.
- Differential pressure indicator showing the status of cartridges.
- 3 steps paint finish: degreasing, prime coat and polyurethane final coat.

The MAXIFLO unit is shipped assembled or in sections for final field assembly. Electrical connections for the cleaning system will be executed at the job site upon the collector final installation.

### 4 NORMAL USE

The MAXIFLO unit is designed to remove dust from the air resulting from a fabrication process. Each MAXIFLO dust collector is built as per the criteria and information supplied by the customer for a specific application and should not serve any other application without the approval of A.Q.C. Inc.



**WARNING!**

Flammable or explosive dusts and solvents present a fire or explosion hazard within the collector. Under no circumstances, those pollutants should be filtered by the collector unless it has been designed to that effect and equipped with an explosion relief venting system or fire extinguishing device. This is the reason why special attention is required with the handling of dust collecting equipment in contact with flammable or explosive dusts and solvents. Any burning or flammable material such as a spark created by metal grinding, lit cigarettes, spark, etc. should not be introduced within the collector where it could cause a fire or explosion.

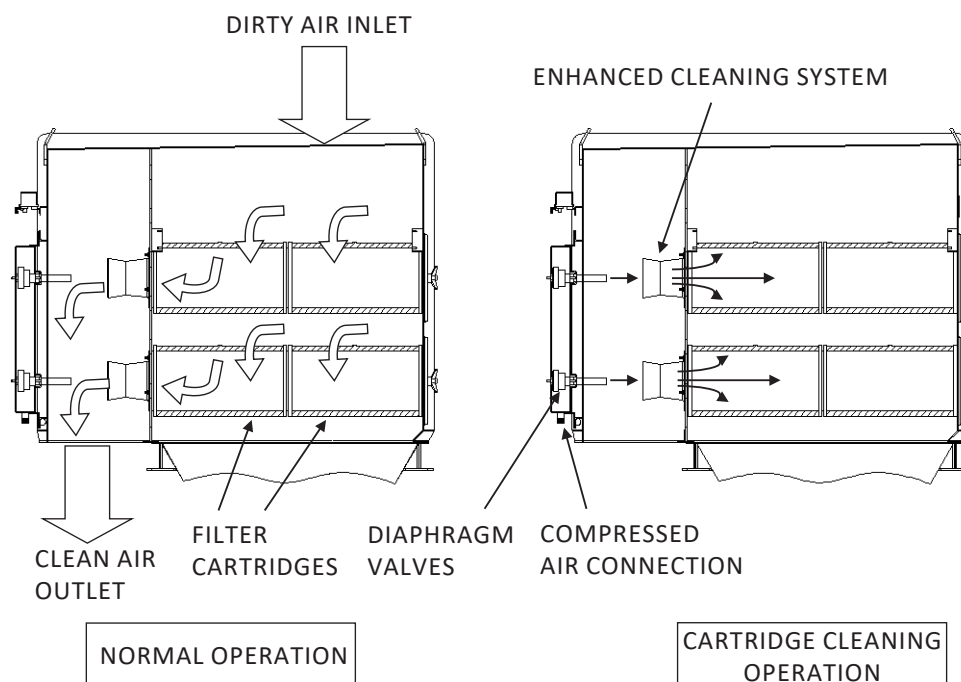
## 5 OPERATION

During normal operation, the MAXIFLO unit vacuums dust laden air into the collector inlet. Smaller particles are vacuumed toward the cartridges and larger particles fall toward the dust storage section. Dust is trapped within the cartridge leaving clean air crossing the filter toward the collector outlet.

### 5.1 Cartridge cleaning

The cleaning of the filter cartridges is performed using a reverse air pulse technology (see figure 1). A solenoid and diaphragm valve system is aligned toward the cartridges and the shock wave created by releasing air at high velocity cleans the cartridges. The cleaning cycle starts from the upper cartridges and ends at the lower cartridges.

Figure 1



## 6 INSTALLATION

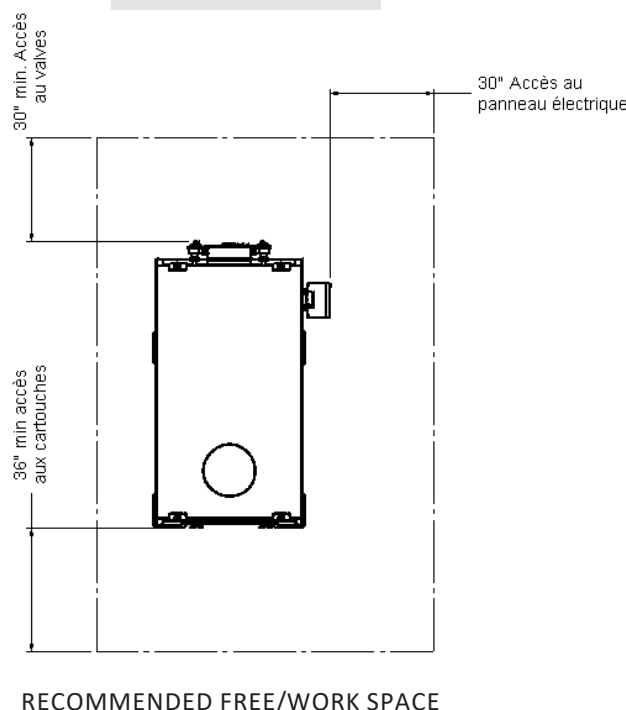
### 6.1 Inspection of goods

The MAXIFLO unit is shipped assembled or in sections. Proceed with a visual inspection upon receiving the material and check for any apparent damage that may have occurred on freight. Generally, shipment includes the filter cabinet and the dust storage section with support structure. Other optional components such as flame front exhaust duct or back draft damper may be delivered on separate skids.

### 6.2 Location

1. The area where the dust collector will be installed should be able to sustain the weight of such along with the accessories, ducting, blower and matter that will be stored. The construction of a flat and solid surface such as a concrete slab or platform may be required.
2. Wind factor and seismic zones should be considered before selecting the location of the dust collector.
3. Position the dust collector in a way to have access to the control panel, cleaning valves, pneumatic conduits, access door to filters and dust storage systems as suggested in figure 2.
4. If the dust collector is equipped with an explosion relief venting system, follow guidelines for its location.
5. Fume arm may also be duct mounted. If so, ducting must be able to support weight of arm combined with push and pull effects of moving the arm for source capture position.
6. The MAXAIR fume arm may also be used with optional AQC equipment such as extension swing booms, sliding rail with trolley, portable filtration units, etc. Refer to appropriate manual for installation.

Figure 2



## 7 ASSEMBLY

### 7.1 Required tools

The following tools and equipment are required for the assembly of the dust collector:

- Crane or lift truck
- Spreader
- Chains
- Slings
- Shackles
- Eye bolts
- Spikes
- Wrench
- Sockets
- Power drill
- Concrete drill bit
- Concrete anchors
- Bolts
- Self tapping screws.
- Caulking

## 8 ASSEMBLY

1. Prepare the area where the collector will be installed making sure it is clear and free of any obstacle.
2. Using eye bolts, slings and shackles, lift the dust storage section above the selected area and set slowly.
3. Once this section is firmly set to the ground, make sure it is level. Use anchor bolts to keep it in place.
4. Install a ground wire to the unit.



#### **WARNING!**

Apply two strips of butyl adhesive on the dust storage section upper outline. One strip should be applied inward of the bolt holes and one strip outward of the bolts holes (figure 3).

5. Lift the filter cabinet using the lift lugs. Using spikes, position the cabinet above the dust storage section making sure to align the cabinet bolt holes with the dust storage section bolt holes.



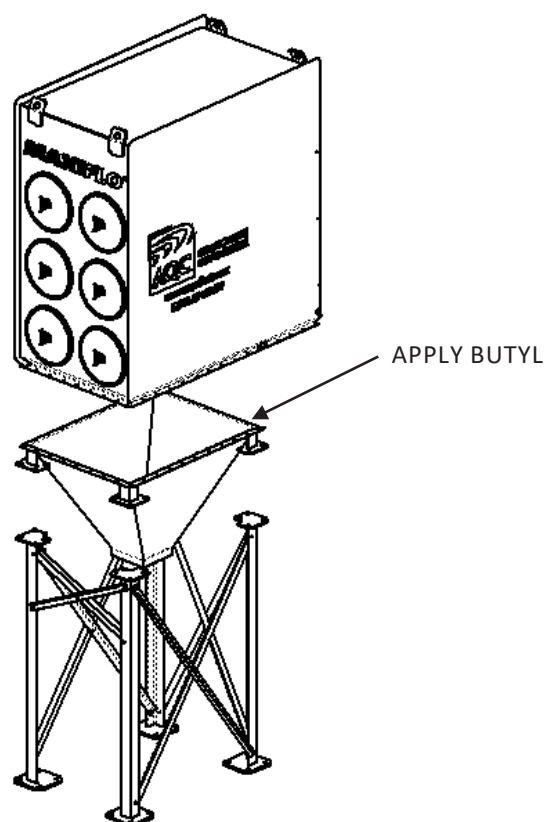
#### **WARNING!**

The use of a spreader is recommended to avoid damages to the filter cabinet.

6. Lower the filter cabinet onto the dust storage section and align both sections bolt holes.
7. Attach the filter cabinet to the dust storage section using the supplied nuts, washers and bolts. Tighten bolts for an adequate seal.
8. Use caulking to eliminate possible leaks.

**WARNING!**

The use of improper lifting device may result in injuries or damages. Adequate lifting devices are required and necessary precautions must be taken when handling the equipment.

**Figure 3**

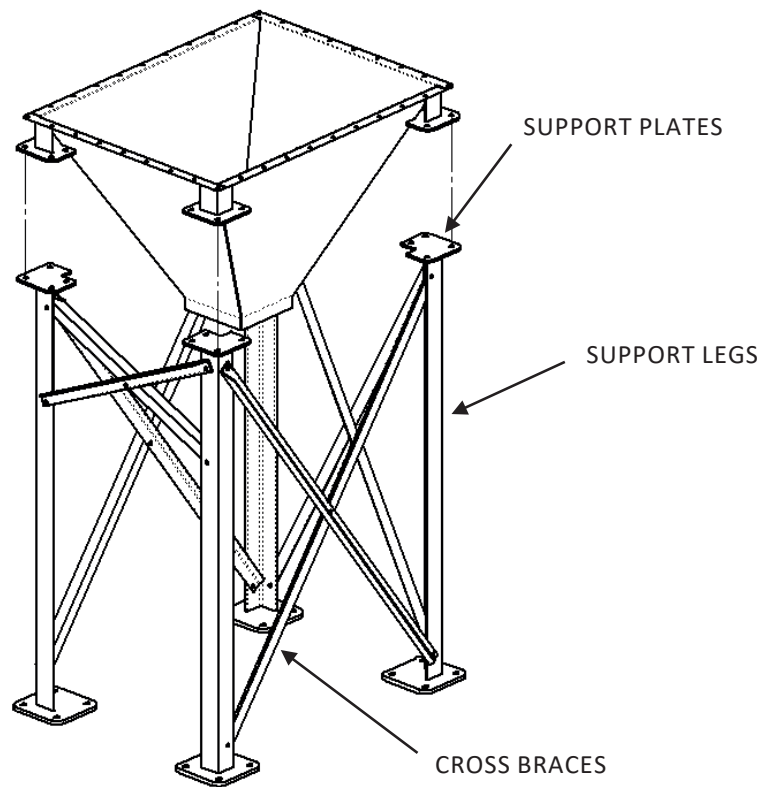
## 9 STRUCTURE ASSEMBLY

Generally, the support structure is factory assembled but because of shipping purposes, some field assembly may be required. The next steps must be followed to assemble the dust collector structure.



1. Vertically install the outer support legs.
2. Install the cross braces with the hardware supplied as shown in figure 3. One is installed inside of the legs and the other outside of the legs. Do not tighten the screws at this moment.
3. With the use of a crane (or lifting device), slowly set the hopper onto the support plates. Attach the support legs to the hopper using the supplied hardware.

Figure 4



4. Level all components prior to tighten the cross braces using bolts, nuts and washers at meeting point # 2. Anchor the hopper section into the ground using anchor bolts (not supplied).
5. Withdraw the crane only when all components are firmly in place.

## 10 ELECTRICAL CONNECTION



### WARNING!

The electrical connections must be executed by a qualified electrician and with respect to codes and regulations. For safety measures, shut off power supply to the collector prior to perform the installation. Lock off any power supply prior to servicing or maintenance.

The dust collector control panel regulates the cartridge cleaning system.

The dust collector control panel may be installed on the MAXIFLO unit, inside or outside the building or remote of the unit.

1. Using the electrical diagram supplied with the panel, connect the power supply from the main breaker (supplied by the customer) to the control panel.
2. Refer to the descriptive identification plate to select proper voltage and amperage.
3. If the unit is supplied with a customized control panel, refer to the descriptive schematics to perform connection to the power supply.
4. Verify for proper motor rotation.

### 10.1 Electrical connection for DCT-500 sequencer

The MAXIFLO unit is equipped with 115 VAC solenoids which activate the cleaning valves. Those solenoids are integrated in a NEMA 4/12 box behind the filter cabinet and above the air tanks. Connections for those solenoids are factory wired. The DCT-500 sequencer activates the solenoids in a cascading sequence operating the cleaning valves.

Figure 5 shows a typical connection for a DCT-500 sequencer with starter. The electronic board is activated upon fan start up using an auxiliary contact. The electronic board is fitted in a NEMA 4/12 box.

To activate the pulse cleaning system when the fan is OFF, install a selector or timer with constant feed on the inlet connector of the electronic board. Refer to page 22 of this document to program the sequencer.

#### 10.12 DCT-500 board specifications

**Number of connectors:** 4, 6, & 10

**Power:** 102-132 VAC 50-60 Hz. Consumption : 2.5 W.

**Power to solenoids:** 3A max. per connector Fuses: Type 3 AG, 3 A @ 250 VAC.

**Temperature range:** -40 to 140°F (-40 to 60°C) Shutter time : 50 msec to 500 msec.

**Shutter time accuracy:** ±10 msec.

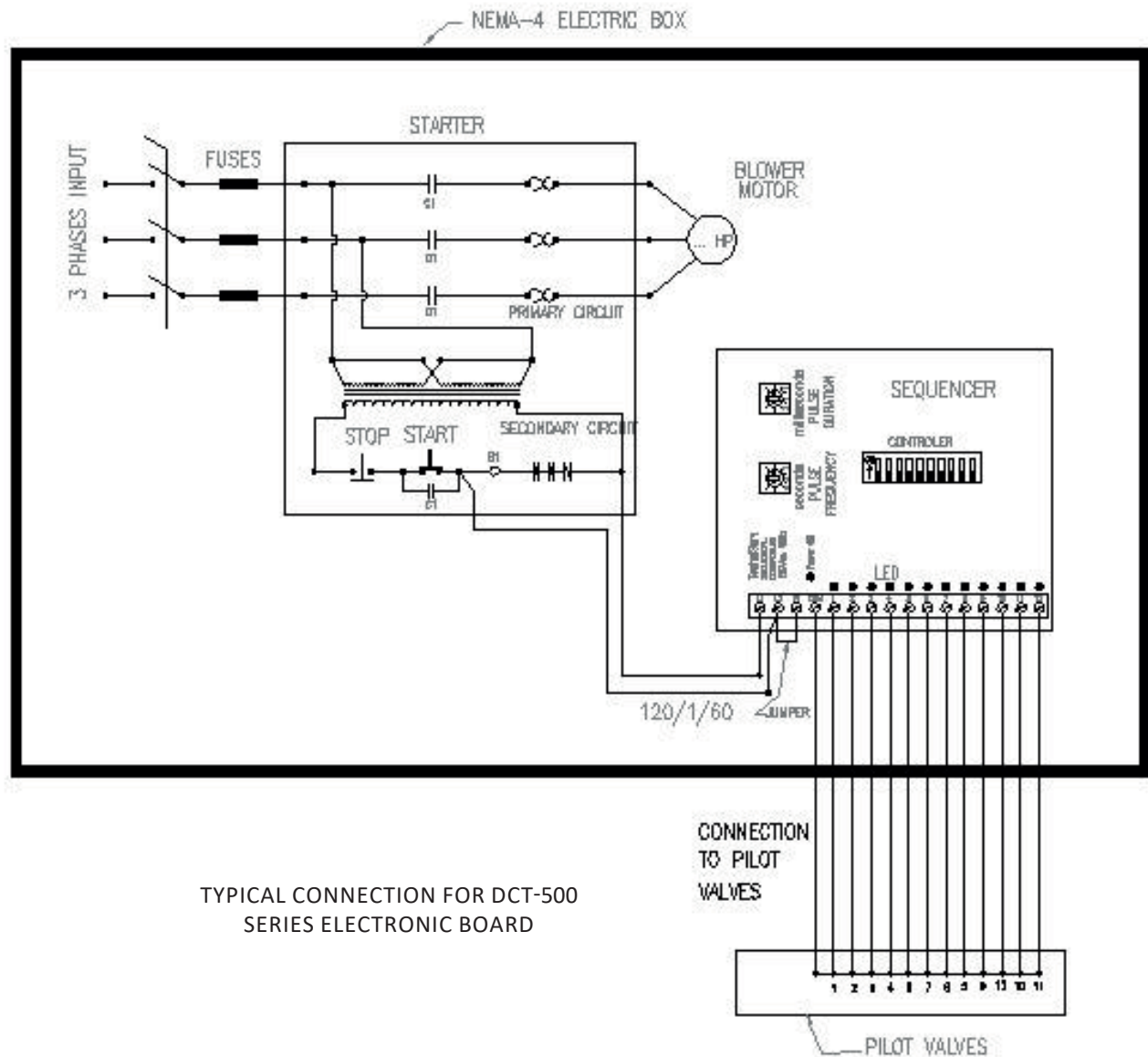
**Shutter time stability:** ±1 msec.

**Lapse sequence:** 1 second to 180 seconds.

**Lapse sequence precision:** ±5% settings.

**Weight:** 9 oz (255 g). Approval agency: CE (pending).

Figure 5



## 10.2 Electrical connection for DCT-1000 sequencer

The MAXIFLO dust collector is equipped with 115V solenoids which activate the cleaning valves. These solenoids are grouped in a NEMA 4 ½ panel installed behind the cabinet, above the air tanks. A differential control panel (DCP) may also be included on the electronic panel. Wiring for these solenoids is factory assembled. The optional DCT-1000 activates the solenoids in sequence to operate the cleaning valves. Drawing # 6 represents a typical connection with a starter to a DCT-1000 sequencer card. The electronic panel is activated in simultaneously with the fan start-up. This operation will regulates the pulses required as per the status of the filters.

### 10.2.1 DCT-1000 board specifications

#### DCT-1000 controller:

**Number of connectors:** 6, 10 & 22

Extendable to 255 connections by using extension card DCT-1122 & DCT-1110

**Power:** 85-270 VAC, 50-60 Hz.

**Consumption:** 5 W.

**Power to solenoids:** 3A max per connection.

**Fuses:** 3 A @ 250 VAC.

**Temperature range:** -40 to 140°F (-40 to 60°C).

**Shutter time:** 10 msec to 600 msec.

**Shutter time accuracy:** ±10 msec.

**Down time:** 1 second to 255 seconds

**Down time accuracy:** ±1% of setting

**Weight:** 1 lb, 3.0 oz (538.6 g).

**Approval agency:** UL, cUL.

#### DCP pressure module:

**Pressure range:** 10" w.c. ou 20" w.c.

**Temperature range:** -40 to 140°F (-40 to 60°C)

**High pressure:** 10 psig (68.95 kPa).

**High pressure (differential):** 10 psig (68.95 kPa)

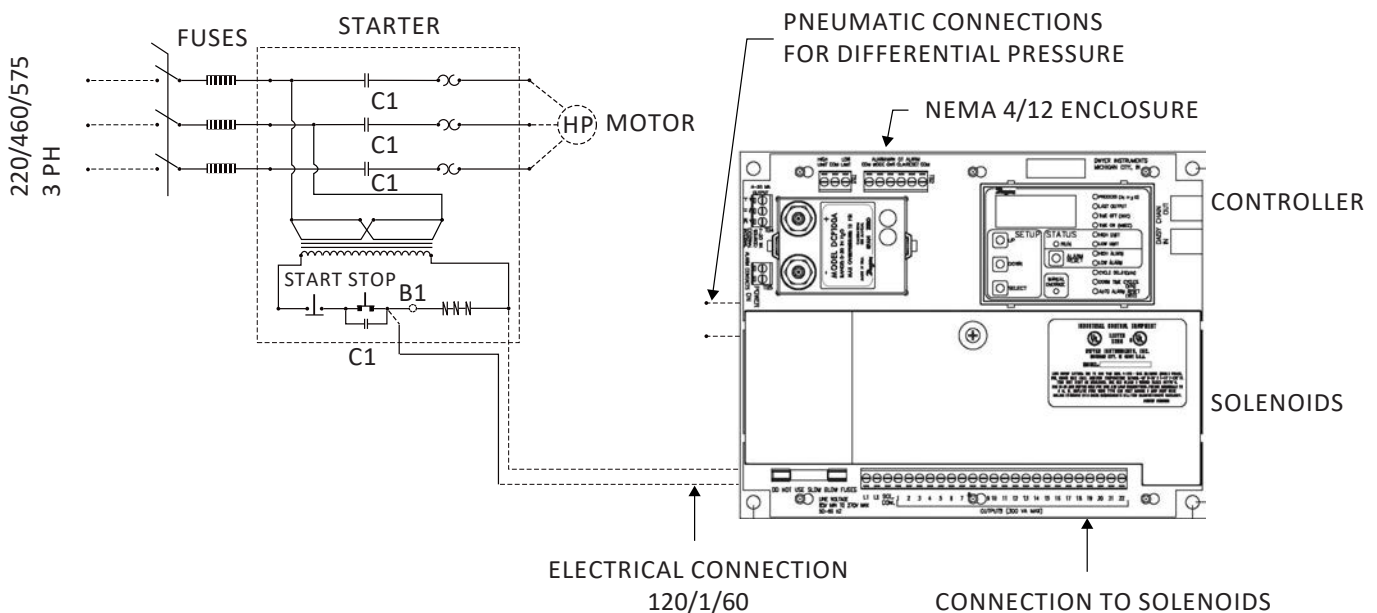
**Accuracy:** ±1.5% F.S. @ 73°F (22.8°C).

**Outlet signal:** 4-20 mA.

**Weight:** 5.5 oz (155.9 g).



DCP PRESSURE MODULE



TYPICAL CONNECTION FOR DCT-1000 SEQUENCER

## 10.3 Compressed air connection



### WARNING!

Compressed air must be free of oil and humidity. Contamination of compressed air may result in a poor cartridge filtration, decreased cleaning and reduced life time. Purge the compressed air line to remove any debris prior to connecting air line to the dust collector air tank. Shut off the compressed air system and purge all air lines prior to servicing or maintaining the collector. Locate the pneumatic air tank(s) behind the MAXIFLO dust collector. Connect air line to the tank(s) using pipe seal. Check for possible leak(s).

**Note :** The use of an air dryer is strongly recommended to avoid any problems related to humidity in the compressed air system. Install a shut off valve, pressure regulator and filter on the compressed air line. Those components are not supplied by A.Q.C. unless required by the customer. All components must meet a maximum 90 psig pressure. NEVER ALLOW MORE THAN 100 PSIG. Damages to components may occur.

## 10.4 Ventilation ducting

1. The dust collector should be installed as close as possible to the source of dust in order to minimize the length of ventilation ducting.
2. Do not install short radius elbows.
3. Install taps with 30 degrees inlet or less.
4. Do not install straight T taps.
5. Join ducting using tapping screws and caulking for a proper seal.

## 11 START UP

### 11.1 Check list

Prior to starting the collector for the first time, the check list must be followed to ensure a proper continuous operation.

1. Remove all objects in and around the inlet and outlet.
2. Check if all accessories and optional equipment are installed correctly.
3. Ensure the compressed air gauge indicates 90 psig. Check for air leaks.

## 12 ELECTRICAL CONNECTIONS

### 12.1 Check list

Prior to starting the collector for the first time, the check list must be followed to ensure a proper continuous operation.

1. Remove all objects in and around the inlet and outlet.
2. Check if all accessories and optional equipment are installed correctly.
3. Ensure the compressed air gauge indicates 90 psig. Check for air leaks.

### 12.2 Electrical connections



#### WARNING!

The electrical connection must be executed by a qualified electrician and with respect to codes and regulations. For safety measures, shut off power supply to the collector prior to perform the installation.

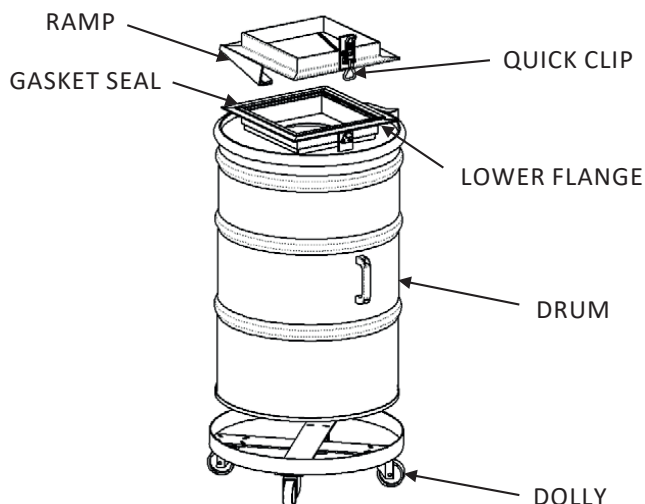
1. Ensure all electrical connections sealed and power is available.
2. Check remote control connections (if any) and that all breakers are OFF.
3. Switch ON power to the unit.
4. Start the fan and shut off immediately. Check fan rotation. The rotation is indicated on the label of the fan.
5. Adjust the adequate air volume using the air damper (if any) at the fan outlet.

**Note :** An excessive air volume may shorten the life expectancy of the cartridges or cause an electrical power surge on the fan and the system.

### 12.3 Optional equipment

#### Quick clip drum, ramp and buggy

This option eases the removal of dust filled 55 gallon drums. The quick clip flange allows fast changes of drums without the help of tools. The buggy permits easy displacement of full drums.



**Follow these steps to remove the drum from the collector:**

1. Hold up the drum
2. Unlock the quick clip system
3. Lower drum onto the ramp slides
4. Slide drum slowly toward you

**WARNING!**

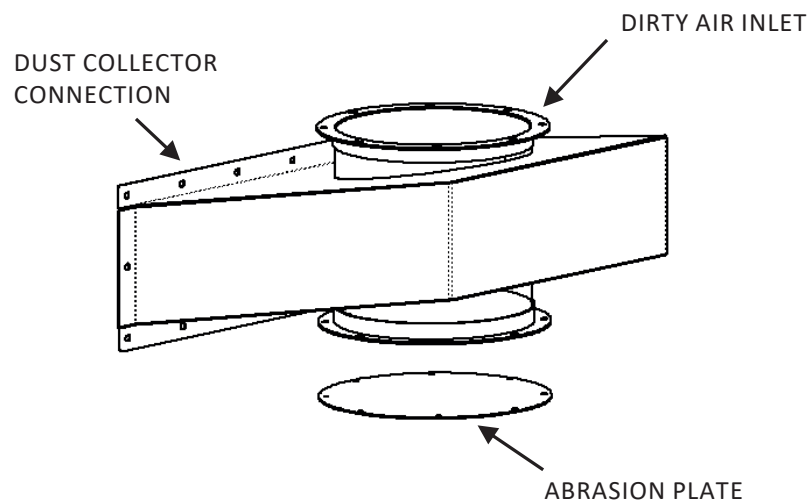
Do not let drum fall free while unlocking the quick clip system. **Be careful when releasing clip.**

**Follow these steps to install the drum back into position:**

1. Ensure the flange gasket seal is in place and intact. Replace if damaged.
2. Slide the drum into the ramp slides.
3. Check to make sure the drum flange is pushed at the end of the slide.
4. Lift drum up.
5. Attach the drum to the quick clip system
6. Check the seal assembly. Adjust quick clip system if there is a leak.

## 12.4 Anti-abrasive inlet

This option is recommended for the filtration of abrasive particles which may damage the filter elements. A highly resistant steel plate slows down the particles and make them less abrasive on the filters.

**To change the abrasion plate, follow these steps :**

1. Remove the old plate and the gasket seal.
2. Apply the new gasket seal on the abrasion plate.
3. Install the new abrasion plate on the inlet using 3/8-16 nuts and bolts.

## 12.5 Platform and ladder

Platforms and ladders are available for 8 to 80 cartridges MAXIFLO units. They may be stationary or attached to the dust collector structure. Contact an A.Q.C Inc. Representative to know which platform design is best suited to your needs. Instructions for platform and ladder assembly are included on delivery.



### WARNING!

Ensure platform and ladder are correctly installed before climbing on the platform.

## 12.4 Explosion relief vent

**Note on explosion venting panels :** a minimum clearance of 25' (8 meters) free of obstacles, pedestrian walkway, building walls, trees or bushes is required to allow dispersion of possible blast. Contact factory for details.

A.Q.C. Inc. will not be held liable nor responsible for any injury or damage caused by fire or explosion as per the agreement issued upon construction of the dust collector.

However, the explosion relief vent is designed to meet NFPA-68 criteria, related to explosion venting systems. The entire venting surface is calculated using such criteria. The explosion venting panel is domed and is certified ATEX. Pstat is 0.1 bar (1.45 psi) + ou - 15% @ 71.6 °F, KST max is 500 bar m/s. Pmax < 1.8 bar (26 psi). Max vacuum - 80 WG and made from 304L stainless steel.



### WARNING!

The explosion vent must point in a direction away from workers area, offices, pedestrian walkways or any other area usually accessible, vegetation or any matter that would sustain damages caused by an explosion. A deflector shield could be considered.



## 13 MAGNEHELIC GAUGE

The Magnehelic is a differential pressure gauge used to measure the difference between the clean and dirty air. This allows a visual reference on the filters status and indicates when it is time to replace.

This gauge is generally factory installed unless under specific request to A.Q.C.. If the Magnehelic gauge is not part of the collector, connect the **(HIGH-PRESSURE)** tube on the **"dirty"** side of the collector. Connect the other **(LOW-PRESSURE)** tube on the **"clean"** side of the collector.

This gauge is not available when the collector is supplied with a DCT-1000 electronic board and a DCP pressure module since it is this one that will read the pressure differential.

## 14 START/STOP PROCEDURE

### 14.1 Start up with new filters

Shut 50% off all inlet and outlet dampers (if any) before starting the unit. This procedure is mostly helpful when the dust to be filtered sticks to the filter surface. Do not operate the filtration system until the pressure differential has increased by at least 1" w.g. from the starting point. This operation allows "caking" onto the cartridges for a better filtration efficiency.

### 14.2 Regular start up

Ensure all optional equipment (i.e. screw conveyor, rotary valves, etc.) except the blower are operational. Open the compressed air valve and activate the sequencer. Start the blower and allow dirty air into the filtration unit. It is imperative that you follow the sequence of this operation.

### 14.3 Shut down

To shut down the system, follow these steps. Cut power to the fan. Shut off compressed air to unit and sequencer. If there is a delayed pulse operation. Close inlet and outlet dampers in order not to have dirty air back into the collector and avoid risks of explosion. If optional equipments are installed, shut down such equipment in reverse order.

## 15 SAFETY

### 15.1 Staff-Workers

All tasks on the dust collector must be performed by a minimum of 2 people and this, at all times. Once all duties have been completed, remove all tools from inside the collector.



#### **WARNING!**

Never work alone inside the dust collector. All staff must be accounted for prior to closing the collector access doors and starting the collector.

Workers must wear protective clothing and apparatus such as safety goggles, gloves, respiratory equipment, etc. when working inside the collector.

Instructions in this booklet must be read and understood prior to performing tasks on the collector.

## **15.2 Electrical components**

All electrical components must be shut down and main breaker locked to avoid any possible risk of electrocution when handling or working on such components.

## **15.3 Explosive dusts**

If the dust to be collected is naturally explosive or inflammable once inside the collector, an explosion relief venting system and/or a fire extinguishing device will be required. If you have any doubt as to the nature of the dust to be collected, call your A.Q.C. representative.

## **15.4 Anchors**

All sections of the dust collector including the optional equipment must be bolted to the slab in order for the unit to be stable and secured should an explosion occur or in case of high winds.

## **15.5 Interior installation**

When a dust collector equipped with an explosion relief venting system is installed inside the premises, the unit must be installed within 3 meters (10 feet) of an exterior wall and the explosion vents has to be connected to an exhaust duct leading outside. This duct must be designed to sustain the same pressure as the one within the dust collector.

If clean air is returned back into the premises, dispositions must be taken to exhaust the air back outside should a filter be defective or any other possible failure. A safety after-filter should be installed to protect the staff against accidental breathing of unfiltered dusts.

The air flow coming out of the collector should be headed away from the staff, offices, pedestrian walkways and any other area accessible to people.

## **15.6 Spark producing activities**

When the dust or particles to be collected are stocked within the collector or adjacent equipment, there should be no welding process or any other spark or flame producing activities around the collector until the system has been shut down and cleaned. If such operations have to be performed, the filter elements have to be removed from the collector and stored in a dry area.

## 16 MAINTENANCE



### WARNING!

Refer to the Safety section prior to proceeding with any maintenance or inspection on the dust collector.

A preventive maintenance program should dismiss most emergency shut downs and extend the expected life time of the system. The charts contained in this chapter explain the maintenance operations and procedures in case of problems with the system.

The schedules and delays in between operations may be modified with conclusive experiments or with a specific usage of the collector.

If you have any questions, do not hesitate to call an A.Q.C. Inc. representative.

### 16.1 Replacement of cartridges

The filtering cartridges life expectancy is only limited to it's resistance to the dust to be filtered which in most cases does not require periodic changes.

However, if a cartridge should tear or be punctured, replacement of such should be performed as soon as possible.

### 16.2 Replacement of cartridges

Prior to changing the cartridges, shut down the blower(s), screw conveyor(s), rotary valve(s), control panel(s) and any other adjacent equipment. Lock all related breakers in the electrical panels. Shut down and bleed the compressed air line feeding the collector.

Maintenance staff must wear protective goggles and an adequate respiratory apparatus. Purge the system of all gases and vapours other than air. Ensure the air flow is shut off and that the interior temperature is at a safe level.

**Follow these steps to remove the cartridges.**



### WARNING!

The use of safety equipment and adequate protection is needed for the changing of cartridges. The dirty cartridges may be heavier than expected. Use caution when removing the cartridges to avoid injury. Do not drop the cartridges.

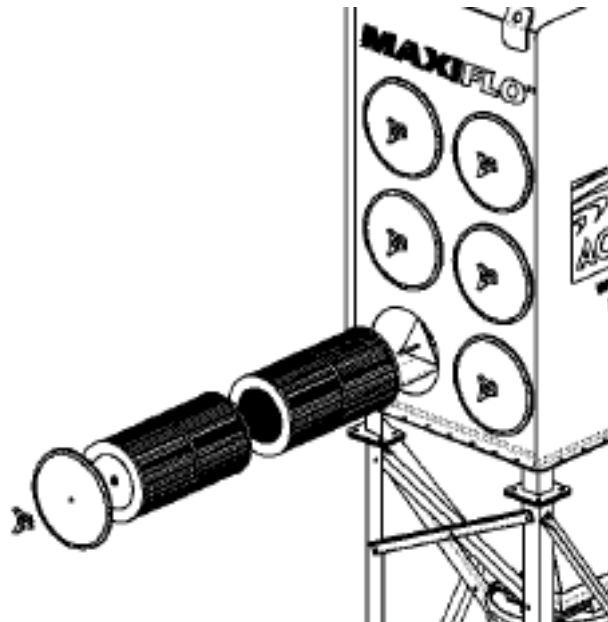
1. Remove the cartridge round access door by unscrewing the knob. Ensure that you do not damage the rubber gasket seal around the access door. Start this procedure from the top row of cartridges.
2. Remove the nut and washer from the yoke's threaded rod. Set them aside.
3. Slowly twist the cartridge half a turn to remove the deposit of dust that could be on top of the cartridge.
4. Gently slide out the cartridge along the yoke. Repeat steps 3 and 4 if it is a model with two (2) cartridges deep.
5. Disposal of dirty cartridges must be done according to environmental regulations.
6. Check for any excessive dust accumulation in the hopper and clean if necessary.

**Follow these steps to install the new cartridges.**

**Note :** older type MAXIFLO dust collectors are equipped with open/open and open/closed type cartridges. More recent type MAXIFLO dust collectors are equipped with open/open and open/open type cartridges. Ensure you order the proper type of cartridges for replacement.

Ensure that you have the same cartridges as originally installed in the collector.

1. Slide the cartridges onto the yokes starting the open/open type. Check for the integrity of the cartridge seal.
2. Install the washer and nut that you set aside earlier. Screw in the assembly for a proper seal.
3. Install the access door back onto the cabinet making sure the rubber gasket seal is well attached. Screw the knob in and assess all components are sealed.
4. Switch power and compressed air system back on before starting the unit.



## 17 COMPRESSED AIR SYSTEM



### WARNING!

Shut off the compressed air valve and bleed the line feeding the collector prior to performing maintenance on the unit.

1. Periodically check the compressed air components such as the air dryer and regulator. Replace in line air filters feeding compressed air to the unit.
2. Remove any humidity that may be present in the compressed air lines using the recommendations of the manufacturer.
3. With the compressed air system switched on, check the cleaning valves, the activating solenoids, pneumatic hoses and possible leaks. Correct any problem and replace defective parts.

### 17.1 Explosion vent

If the system requires an explosion vent, the following components must be checked.

1. Explosion vent must be free of any obstruction.
2. Check for corrosion or rust.
3. Check for any physical or mechanical damages.
4. Ensure the sign is still applied to the door.
5. Ensure the explosion vent is protected from ice and snow.
6. Check for cracks or metal fatigue.
7. Ensure there are no missing parts.
8. Swing door open and ensure mechanical parts are well lubricated.
9. Ensure the door is well sealed against the dust collector.

### 17.2 Control panel

The sequencer is designed to control the air pulse cleaning valves (jet pulse). It allows the programming of a cleaning sequence which will be repeated permanently acting on the solenoid valves. The pilot indicating lights (diodes) show which solenoid is powered. For units equipped with auxiliary accessories (rotary valves, screw conveyors), refer to the documents included with the control panel.

## 18 PROGRAMMING INSTRUCTIONS

### 18.1 DCT-500 sequencer

The card programming was factory adjusted. The valves opening time is set at 100 msec and the delay between each opening is set at 10 seconds.

Should those delays be modified for any reason, adjust the potentiometers located at the top of the electronic board. **"PULSE ON"** represents the opening time and the **"PULSE OFF"** represents the delay in between each cleaning sequence.

Refer to the manufacturer's owner's manual for any questions concerning the DCT-500 sequencer.

**Note:** Do not readjust the valves opening time **"PULSE ON"** or the delay between each cleaning until appropriate tests have been made. A too short or too long delay could reduce the life expectancy of the filters. Contact your A.Q.C. representative for questions.

### 18.2 DCT-1000 sequencer

The card programming was set at the factory. The valves opening time was set at 100 msec and the delay set at 10 seconds. Furthermore, if the electronic card was supplied with a pressure module, other parameters may be programmed such as low and high pressures, pulse connectors, etc.

Should those delays be modified for any reason, adjust them as per the following instructions:

Press the **"select"** button to scroll the different programming options. Press **"UP"** and **"DOWN"** buttons to modify the value.

1. **"LAST OUTPUT"** sets the amount of valves the system uses.
2. **"TIME OFF"** sets the delay in between each pulse.
3. **"TIME ON"** sets the valve opening time.
4. **"HIGH LIMIT"** sets the highest limit at which the sequencer will start pulsing (available only with the DCP pressure module).
5. **"LOW LIMIT"** sets the lowest limit at which the sequencer will stop pulsing (available only with the DCP pressure module).
6. **"HIGH ALARM"** and **"LOW ALARM"** are adjustments for an alarm signal to be activated if either of the two (2) settings is passed.
7. **"CYCLE DELAY"** allows a waiting period between each cleaning cycle.
8. **"DOWN TIME CYCLE"** allows one or more cleaning cycles after the shutdown of the system.
9. **"AUTO ALARM RESET"** allows the original automatic alarm settings.

Refer to the manufacturer's owner's manual for any questions concerning the DCT-1000 sequencer.

**Note:** Do not readjust the valves opening time **"PULSE ON"** or the delay between each cleaning until appropriate tests have been made. A too short or too long delay could reduce the life expectancy of the filters. Contact your A.Q.C. representative for questions.

## 19 MAINTENANCE AND INSPECTION

The chart indicated below shows different inspections and the frequency at which they should be performed.

Frequency of inspections	Components	Procedures
Daily	Dust collector	Check the clean air outlet for possible presence of dust or smoke traces.
		Check the level of dust in the storage bins or drums. Empty if needed.
		Check the proper operation of the diaphragm valves.
	Magnehelic gauge	Check and log data. If the values indicated are above the fixed limits, refer to the troubleshooting section.
Weekly	Filters	Check for possible leaks. Repair if necessary.
		Ensure the cartridges are well sealed.
		Look for accumulation of dust or debris above and inside the filters. Clean if necessary.
Yearly	Dust collector	Perform a complete inspection of the collector and its components.
		Check the status of the cartridges and the filtration efficiency. Replace if necessary.
		Check for missing or chipped paint and rust. Remove rust and apply paint touch ups.
		Check status on explosion venting systems as per the manufacturer's recommendations. (Refer to the explosion vent section on page 2).

## 20 TROUBLESHOOTING

Problem	Probable cause	Solution
Dust or smoke at the clean air outlet	Cartridges are not installed correctly.	Check installation of cartridges and repair if necessary. Seal the whole assembly (Refer to the replacement cartridge section on page 2).
	Cartridges are not adjusted	Screw in tight in order to have the gaskets squeezed against the frame.
	Cartridges are damaged	Replace defective filters (Refer to the replacement cartridge section on page 2).
	Gaskets are damaged	Check the gaskets on the access doors, honeycomb plate, and on the filters.
Insufficient suction of smoke, vapor or dust	Fan rotates the wrong way	Check rotation of fan.
	Access doors are not properly sealed	Check all access doors and gaskets. Also check hopper for leaks.
	Fan has obstructions	Check for obstructions at the fan outlet. Remove any debris. Adjust the air damper.
	Cartridges need to be replaced	Remove and replace the used cartridges with the same type of cartridges. (Refer to cartridges replacement section on page 2).
	No pressure in air system	Ensure there is a minimal 90 psig in the system. (Refer to electrical connection on page 2).
	Air pulse cleaning is insufficient.	Check if voltage output to the sequencer is sufficient. Check and change fuse(s) if required. (Refer to electrical connection on page 2).
	Leaks in the compressed air system	Lock all electrical breakers hooked up to the dust collector and bleed the pneumatic lines. Check for debris, wear and tear or a break in the diaphragm valve by removing the cover. Check for possible leaks at solenoids near the pneumatic hoses. Replace if necessary.



Problem	Probable cause	Solution
Insufficient suction of dust.	The sequencer card does not respond	Check if voltage output to the sequencer is sufficient. Check and replace the fuse if required. If voltage and fuse are working and card still does not respond, change the card. (refer to card connection on page 2).
Filtration has minimal effect.	Air pulse cleaning is insufficient.	Check if voltage output to the card is sufficient. Check and replace fuse if required (refer to card connection diagram on page 2).
	Shortage of compressed air	Ensure there is a minimal 90 psig in the system. (Refer to electrical connection on page 2).
	Valves do not work properly	Lock all electrical breakers hooked up to the dust collector and bleed the pneumatic lines. Check for debris, wear and tear or a break in the diaphragm valve by removing the cover. Check for leaks at the solenoids and on the pneumatic hoses. Replace and repair all damages. If the valves are frozen, check the air dryer or install a heating element around the valves.
	Wrong adjustment in pulsation sequence	Check for cleaning delay and duration are adequate. (Refer to sequencer card adjustment on page 2).
	High level of humidity loads the filters	Check for relative humidity in the collector. Check for leaks. Take necessary measures to lower the humidity level.
	Wrong filter material	Replace the filters as per the recommendations of A.Q.C. Inc.
	Temperature of gas filtered is higher than anticipated	Check for temperature of gas. Improve the situation to obtain appropriate temperature.
	Presence of static electricity in collector	Ground collector and components.

Problem	Probable cause	Solution
Cleaning cycle light is ON but nothing happens.	Solenoids are not wired properly	Check wiring between sequencer card and solenoids.
	Defective solenoids	Check if solenoids work properly.
Cleaning cycle light is ON but nothing happens.	Defective sequencer card	Check if sequencer card is defective by following the manufacturer's recommendations.
The alarm light is ON (DCT-1000)	Alarmvalue is too low	Adjust to a higher value.
	Too much pressure loss	Check and clean compressed air system. Replace cartridges if normal pressure does not resume to normal.
	The pneumatic data hose is unplugged, broken or clogged.	Check the pneumatic hoses connected to the DCP pressure module for any leak or tear. Replace if necessary.

## 21 WARRANTY

- 21.1 **Coverage:** Aireau Quality Control Inc. or its designated affiliate (the "Seller") selling the product (the "Product"), warrants that the Product sold by Seller will be free from defects in material and workmanship for a period of 12 months from the date of its installation or 14 months from the date of shipment by Seller, whichever date is earlier (the "Warranty Period").
- 21.2 **Exceptions:** This warranty does not apply to any Product or portion thereof that: (i) has been used in a manner not in compliance with Seller's or manufacturer's documentation and instructions, (ii) has had changes, alterations or repairs made by a person other than a person authorized by Seller, (iii) has been improperly installed or used or has been installed or used contrary to applicable codes, standards, laws and regulations, (iv) has been subjected to improper storage, accident, neglect, misuse or abuse, (v) has been damaged during shipping, (vi) has been subject to damages resulting from normal wear and tear, (vii) has not been used with appropriate fire protection systems or explosion venting when required or (viii) has not been installed by a licensed contractor with experience in fire and explosion hazards and applicable codes, laws and regulations. For greater certainty, this warranty does not apply to filters sold as part of, or for use with, the Product. Unless specifically accepted otherwise in writing by Seller, Seller does not warrant that electrical equipment will comply with any laws or regulations of the customer's jurisdiction.
- 21.3 **Claims:** To benefit from this warranty, customer must notify Seller in writing of the Product defect, which notice shall include a reasonable description of the defect, within 10 days from the date such defect is discovered or ought to have been discovered.
- 21.4 **Remedy:** During the Warranty Period and subject to the terms herein, Seller will, at its option, either: (i) repair or replace the Product or any defective parts or components (except for filters) with Product, parts or components (except filters) free from defect or (ii) credit or refund the purchase price of the Product. If Seller so requests, customer must return the defective Product to Seller's place of business determined by Seller. Shipping, installation, removal and re-installation costs will be solely borne by the customer. **The foregoing shall be customer's sole and exclusive remedy for any defect in the product, its parts and components and for any breach of the warranty herein.**
- 21.5 **Disclaimer:** Except as set forth in this section 1, each of seller, its affiliates and their directors, officers, subcontractors and representatives (the "seller parties") disclaims all representations and warranties, whether written, oral, express, implied, statutory, or otherwise, including all implied warranties of merchantability, quality, fitness for a particular purpose, non-infringement, and warranties arising from a course of dealing, course of performance, usage, or trade practice and customer hereby expressly waives any right related thereto. Without limitation to the foregoing and except as expressly set out herein, the seller parties do not represent or warrant that: (a) the use of the product will be timely, uninterrupted or operate in combination with any other hardware, software, system or data or (b) the product will meet customer's intended use, requirements or expectations.

## 22 LIMITATION OF LIABILITY

- 22.1 **Limitation of Liability:** Notwithstanding anything to the contrary, in no event will the seller parties' liability arising out of, or related to, the product or its parts and components, whether pursuant to contractual or extracontractual liability, tort or under any other theory of liability, exceed the price paid to seller for the product giving rise to such liability.
- 22.2 **Exclusion of Consequential and Similar Damages:** Notwithstanding anything to the contrary, in no event will the seller parties be liable for any indirect, punitive, special, exemplary, incidental, consequential or other similar damages of any type or kind (including loss of revenue, profits, use or other economic advantage, damages due to product failure, work stoppage or delays in delivery) arising out of, or in any way connected to, the product or its use, breach of contract, tort (including negligence), strict liability, product liability, or otherwise, regardless of cause, even if the seller parties had previously been advised of the possibility of such damages or could have reasonably foreseen them.
- 22.3 **Fire and Explosion and Acceptance of Risk:** Customer acknowledges that improper installation or use of the Product may result in fire or explosion. To minimize such risks, proper installation, operation, and maintenance of the Product in accordance with all applicable codes, standards, laws and regulations is critical. Prior to installation and use, customer shall ensure that the Product meets the applicable codes, laws and regulations, including those related to the addition of appropriate fire protection systems or explosion venting. Installation shall be performed by a licensed contractor with experience in fire and explosion and applicable codes, laws and regulations.

## 23 APPLICABILITY

- 23.1 The terms herein constitute the only warranty given by Seller with respect to the Product. No other terms and conditions, whether included on a purchase order or in any other document, shall apply or bind the Seller with respect to the Product warranty and all such terms and conditions and documents are expressly disclaimed.

## 24 GOVERNING LAW

- 24.1 These warranty terms will be governed by and construed under the laws in force in the Province of Ontario, Canada, excluding its conflict of law rules.