

Model: DFC-ZD-1.2K

Operating and Maintenance Instructions
for Welding Fume Dust Collectors



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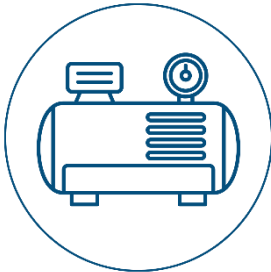
1. IMPORTANT SAFETY INFORMATION

Before any work is to be carried out on this equipment a full assessment of the hazards should be undertaken.

At the time of supply the following hazards were identified. **Other hazards may come about due to installation or modifications carried out since the equipment was supplied, therefore it is important to carry out a job safety analysis every time before commencing work of any kind.**

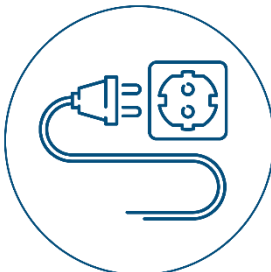
Any work must only be carried out by qualified and authorized personnel.

1.1. Compressed Air



Compressed air must be isolated and completely discharged before any work is carried out on the pulse cleaning system or before the access lids are opened for filter services. Pressure should not be applied until equipment is fully assembled.

1.2. Electrical Equipment



Power must be isolated and locked out before any work is carried out on the dust collector. Power should not be applied until all equipment is fully assembled.

1.3. Falling Objects



Access doors must be locked in the open position to avoid falling closed before working inside the plenum to remove or install filter elements. Care should also be taken to stack parts and equipment where there is no danger of falling.

1.4. Dust



Appropriate PPE must be worn whenever removing dirty filter elements or whenever dust may be present. This may include but not limited to, dust masks, safety glasses, overalls and gloves.

1.5. Noise



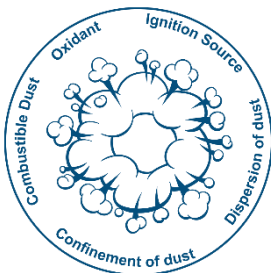
This equipment will be installed alongside other equipment that may be generating noise, therefore hearing protection is recommended.

1.6. Working at height



Work should always be carried out within the confines of access ways provided. Safety harnesses must be used and safe practices must be adhered to if working outside barriers provided.

1.7. Dust explosion



Any maintenance work, other than routine checking of waste collection, should only be carried out under a JSA following a full assessment of the hazards and control measures that need to be put in place.

2. OPERATION

The fan and the pulse cleaning system must be running whenever the facility is in operation.

Power supply requirement: 3 phase 415V/50Hz

Quick Start Guide

Ensure the emergency stop button is in the out position by turning the E-STOP button on the front panel clockwise.

Press the START button on the front panel to start the unit

Press the STOP button on the front panel to stop the unit
After STOP has been initiated the pulse cleaning system will carry out a clean-up cycle (default=1 cycle)

In case of emergency press the E-STOP button on the front panel to quickly shutdown the unit.

The dust extraction system is provided with a sequential timer that continuously cleans the filters whilst in operation. This is called the pulse cleaning system. The controller is factory set, therefore there is no requirement to make adjustment. However, if the user is competent and has a good understanding of how the equipment functions, adjustments can be made by following the procedures below.

Controller Adjustment Procedure:

1. Press SET until the desired parameter is selected (see parameter channels pg.4)
2. Press ENTER
3. Press UP or DOWN to adjust parameter setting
4. Press SET to confirm parameter setting

Parameter Channels

1. Pulse Delay – adjusts delay time for first pulse cleaning cycle after starting fan
2. Pulse Width, or pulse duration (normally set at 200mSec)
3. Pulse Interval (not used)
4. Cycle Time - adjusts interval between pulses (default 60 sec)
5. Manual Pulse – set to 1 then press ENTER to pulse manually
6. Channels - # of diaphragm valves (leave on default)
7. Cycle Count – adjusts # of cleaning cycles after stopping the unit

Parameter Defaults		
Channel	Setting	Default
1.	Pulse Delay	10
2.	Pulse Width	20
3.	Pulse Interval (not used)	60
4.	Cycle Time	60
5.	Manual Pulse	0
6.	Channels	1
7.	Cycle Count	2



CONTROL PANEL

2.1. Restrictions of use

Should any of the following conditions arise, please contact Dustex Ltd for advice.

- The dust collection equipment should never be operated above normal ambient continuous operating temperature Typically less than 40 °C.
- The fan motor should not be started more than 6 times within a 1-hour period.
- The fan should not be operated above 50 Hz.
- The filter elements should not be operated above 150 mm wg (1.5kPa).

3. SPECIFICATIONS

3.1. SPECIFICATIONS

Dust collector:		
Model:	DFC-ZD-1.2K	
Design airflow:	1200 m ³ /hr	
Design filter velocity:	45 mm/s	
Construction:	Mild Steel Painted	
Control system:	Timer controlled	
Filter type:	Pleated Element	A-PET-2360 F4FR
Quantity of filter element:	1 off	
Filter bag length:	600mm	
Filter area per bag:	7.3m ²	
Motor	3 Phase 1.5 kW	

4. MAINTENANCE

4.1. FUME COLLECTOR MAINTENANCE SCHEDULE (WEEKLY)

- 4.1.1. Fan
 - a. Check for vibration or any deterioration since equipment was installed.
 - b. Check motor bolts for tightness and general cleanliness.
- 4.1.2. Diaphragm Valves
 - a. Inspect diaphragm and pilot operation.
 - b. Check for air leaks.
 - c. Check general condition.
- 4.1.3. Pulse Control Timer
 - a. Check firing sequence and timer settings.
- 4.1.4. Differential pressure gauge (if fitted)
 - a. Check hose connections for blockages.
 - b. Check reading with alternative gauge or digital monometer.
- 4.1.5. Filter elements
 - a. Check cell plate for evidence of broken bags.
 - b. If differential pressure is continuously operating high remove and inspect filter elements.
- 4.1.6. Compressed air tank
 - a. Clean and drain air tank
- 4.1.7. Dust Tray
 - a. Empty dust tray inside the cabinet.
- 4.1.8. Filter Regulator (if fitted)
 - a. Check set point.
 - b. Check for leaks.
 - c. Check operation of automatic drain.
 - d. Check general condition.

5. ELECTRICAL & COMPRESSED AIR CONNECTIONS

5.1. Compressed Air

Compressed air is to be connected to the push fit connector on the back of the unit using an 8mm diameter PU air hose. See photo below.

SAFETY NOTE: Any work carried out on the reservoir it is important to drain the compressed air.

It must be verified on the gauge that pressure is at 0kPa before proceeding with any work or maintenance. It is recommended that the dump valve is locked-out.

5.2. Differential Pressure Monitoring

Differential pressure is monitored by the pulse controller and a Magnehelic gauge for visual indication (if fitted).



VIEW OF BACK PANEL

6. FILTER CHANGE PROCEDURE

The following Steps are required to carry out a filter change.

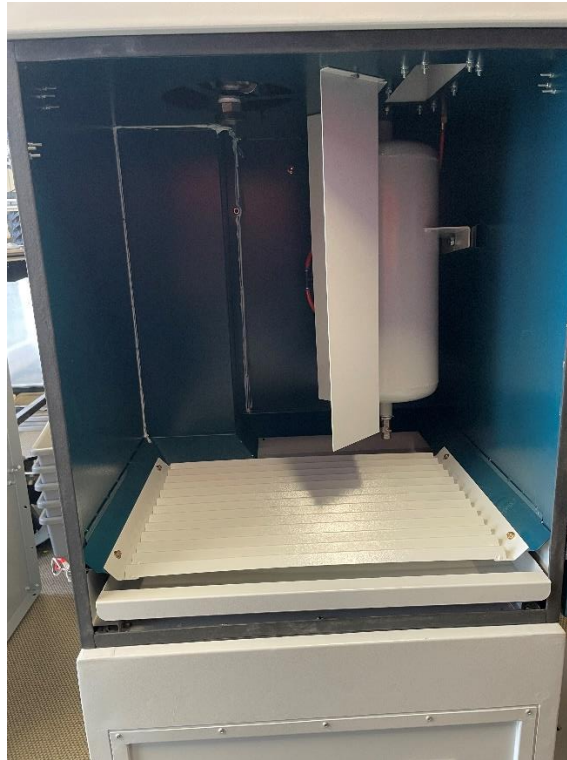
Removal procedure

- 8.1. Isolate/disconnect power supply.
- 8.2. Isolate and dump compressed air supply. Check that pressure is zero.
- 8.3. Loosen the nut at the base filter to allow the filter to drop free.
- 8.4. Disconnect the Mac union at the top of the Rotary Blowing Arm to allow the filter and rotary arm to be withdrawn from the cabinet.

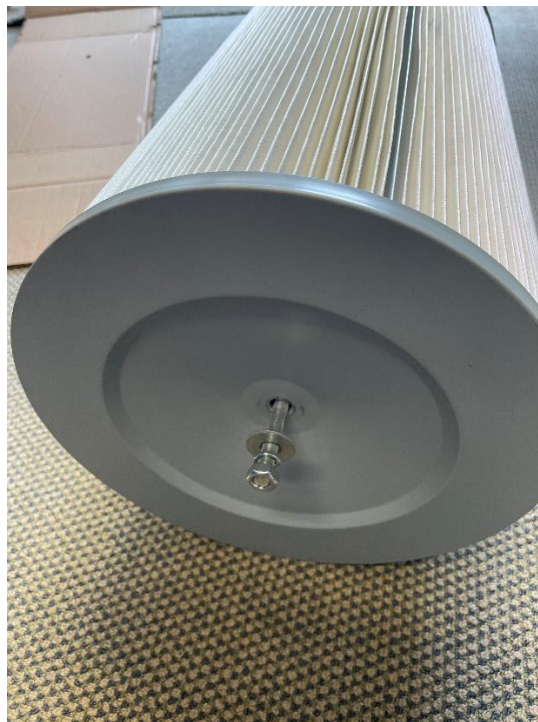
Installation Procedure

- 8.5. Insert the rotary arm inside the filter, fit the washers and screw the nut on just a few turns to provide freedom for the next step.
- 8.6. Place the filter and rotary arm inside the cabinet and lift to re-connect the Mac Union at the top of the assembly. Taking care to ensure the seal is kept in place and the filter is correctly aligned before tightening the nut at the base of the filter.
- 8.7. Check that the soft rubber seal is compressed and sealing against the bottom of the cell plate.

See Photos below to illustrate procedure.



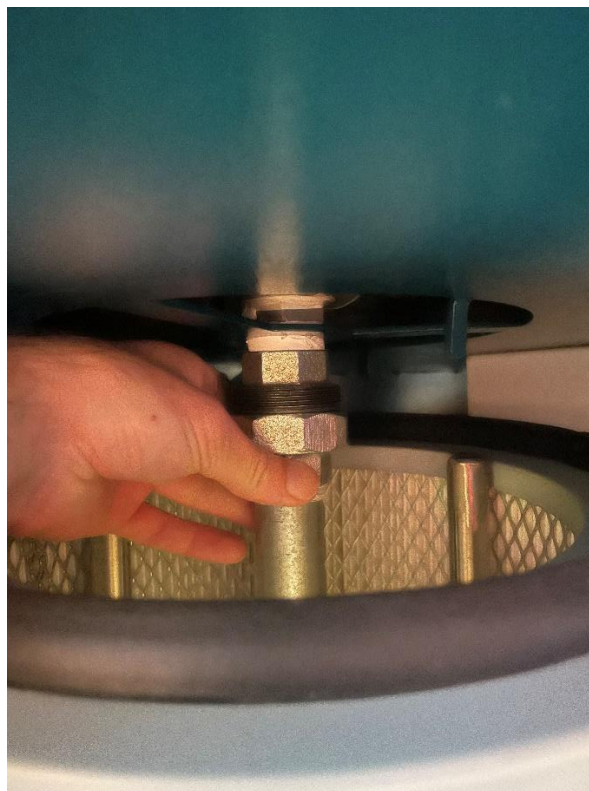
FILTER CABINET WITH FILTER ASSEMBLY REMOVED



RETAINING NUT AT BASE OF FILTER



ROTARY BLOWING ARM ASSEMBLY



MAC UNION CONNECTION



FILTER ELEMENT INSTALLED