

MONOXIVENT[®]

Source Capture Systems

Operation and Maintenance Manual

Cyclone Unit Dust Collectors



MONOXIVENT - SOURCE CAPTURE SYSTEMS

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1. In order for your cyclone unit to operate at its maximum possible efficiency, its duct system should be designed in accordance with good dust collection practices to ensure proper airflow. The Industrial Ventilation Manual of the American Conference of Governmental Industrial Hygienists, or other recognized reference material, is recommended as a guide to proper duct system design.
2. The dust collector electrical system, including wiring, controllers, overload protection and disconnect means must be installed in accordance with the National Electrical Code, Articles #310 and #430, or as specified by the local code.
3. In order for your cyclone unit to function properly, the fan must rotate in the correct direction. Fan rotation must be checked visually to ensure that it is rotating in the direction shown by the rotation arrows. Rotation arrows are found on the sides of the fan housing on conventional "push through" units, and on the top of the fan housing on "pull through" units. Depending on whether your cyclone unit collector is a conventional "push through" design or the "pull through" design, a check can be easily made by observing the direction of one of the following:
 - a. Motor cooling fan on TEFC motors
 - b. Motor rotor on ODP motors
 - c. Motor shaft between the motor and fan housing
 - d. Fan shaft on belt drive units
 - e. Fan through the inlet before ductwork is connected

Cyclone performance, including air handling capacity (CFM), suction (E.S.P.) and separating efficiency, is seriously reduced by incorrect fan rotation. Consequently, dust may not be properly collected at the various collection points or even build up in the ductwork.

4. It is **EXTREMELY IMPORTANT** that an airtight seal be maintained at all times between the cyclone discharge and dust storage container. On "D1" and "D2" units, this means that an airtight seal between the drum cover(s) and drum(s), and hose connections be maintained. Likewise on "1RC" and "b" units. On attached dust bin models, the bin doors must be tightly sealed. On cyclone units mounted on HS stands and connected to HS hopper slide gate must be tightly closed and the flexible rubber sleeve between the cyclone and hopper be properly installed.
5. On conventional "push through" cyclone units, failure to maintain the airtight seal in any of the above mentioned cases will provide a point for dust leakage, as the dust container in any of the previously mentioned cases is under a positive pressure.
6. On "pull through" cyclone units, failure to maintain the airtight seal in any of the above mentioned cases will provide an air entry in this part of the system that will destroy the ability of the cyclone to separate dust from the exhaust air stream. Consequently, an excessive amount of dust will be blown out the fan discharge. On "pull through" cyclone units this is **EXTREMELY IMPORTANT**.

- 7.** The dust collection drum(s), bin, or hopper should be checked regularly to establish a pattern that will provide for it being emptied when it becomes approximately 2/3 full of collected material. Allowing the dust collect drum(s), bin, or hopper to overfill can result in a plugged cyclone and a reduction in separating efficiency.
- 8.** Under no circumstances should flammable materials be mixed with dust being collected from the ferrous metal grinding operations, due to the potential fire hazard of sparks entering the dust collection system. Examples of such flammable materials may be buffing dust, wood dust, and magnesium or aluminum dusts.
- 9.** Collected dust should be disposed of properly especially in cases where the dust being collected is rated as being either hazardous or toxic. In such cases, established governmental disposal regulations should be strictly obeyed.
- 10.** Employees should be warned not to throw lit cigarettes or any burning or glowing objects into the dust collection hoods.
- 11.** Lubricate the motor in accordance with the motor manufacturers lubrication instructions, shipped from the factory attached to the motor.
- 12.** All motors are warranted by the manufacturer. In the event of a failure within the warranty period, contact us first. The motor must be taken to the nearest authorized repair station with a request, preferably in writing, that the motor is for warranty inspection and giving the source of the motor and the date of its acquisition. If found to be defective, it will either be repaired or replaced.
- 13.** If the cyclone unit is connected to an After-Filter, make sure that the After-Filter is properly maintained in order to assure optimum performance of the cyclone unit, and hence the dust collection system.
- 14.** Make absolutely certain that all electrical power to the cyclone unit is disconnected before servicing or replacing cyclone components, especially when the fan and/or motor are involved.