

CARTRIDGE DUST COLLECTOR SYSTEM

OPERATION'S MANUAL



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**REVIEW THIS MANUAL BEFORE OPERATING
THE DUST COLLECTOR SYSTEM**

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SECTION 1:

GENERAL INFORMATION AND INSTALLATION INSTRUCTIONS

1.1 EQUIPMENT VIEW AND IDENTIFICATION

SPECIAL INFORMATION ABOUT THE CARTRIDGE DUST COLLECTOR SYSTEM

Each Dust Collection System is built with standard equipment options, but also can be built with specific customized features. Therefore, some of the information described in this manual may not apply to your particular equipment.

Dust Collector System

MODEL: 20,000 DCS Vertical Mount

SERIAL: DCS-20023

This unit has the following Customized Features:

- ☐ Standard Equipment Options
 - ☐ (2) 40HP Premium Electric IEEE Motor
 - ☐ Motor Outlet Plugs for Purge of Grease
 - ☐ (2) HDBI-220, Direct Drive Fan, 16" WG, 3 Blade Damper
 - ☐ (2) Discharge Silencer, 84DbA @ 3 Feet
 - ☐ 80 HP Rated Motortronics Soft Starter, NEMA 4X
 - ☐ 100 VA Extra Capacity Transformer
 - ☐ Visible Blade Main Disconnect, NEMA 4X
 - ☐ Run Light, START/STOP Push Button, Filter Switch, E-Stop
 - ☐ Camlock Connection with Separate Box, NEMA 4X
 - ☐ Rain Guards on NEMA 4X Enclosures
 - ☐ Explosion Vent, 18" x 35"
 - ☐ (8) Head Internal Filter Sprinkler System
 - ☐ 1 1/2" NPT Water Connection
 - ☐ (4) 8" Dia, Hose Connections with Flanged Inlet Backdraft Dampers on Each Side
 - ☐ Damper Control, Low Mount
 - ☐ UX-NANO MERV 15 Rated Filter Cartridges
 - ☐ (2) 8" HDX Rotary Valves
 - ☐ Certified 4-Point Lift Cage, 6" x 12" Fork Tubes
 - ☐ Height and Weight Decal Stickers
 - ☐ UL Listed and Tested
 - ☐ Stainless Steel ID Plates and PCB Plate
 - ☐ Lift Eyes Magnetic Particle Tested
 - ☐ Lift Eyes Stamped "WLL 8,000 Lbs." and "Test Date"
-

1.1 EQUIPMENT VIEW AND IDENTIFICATION

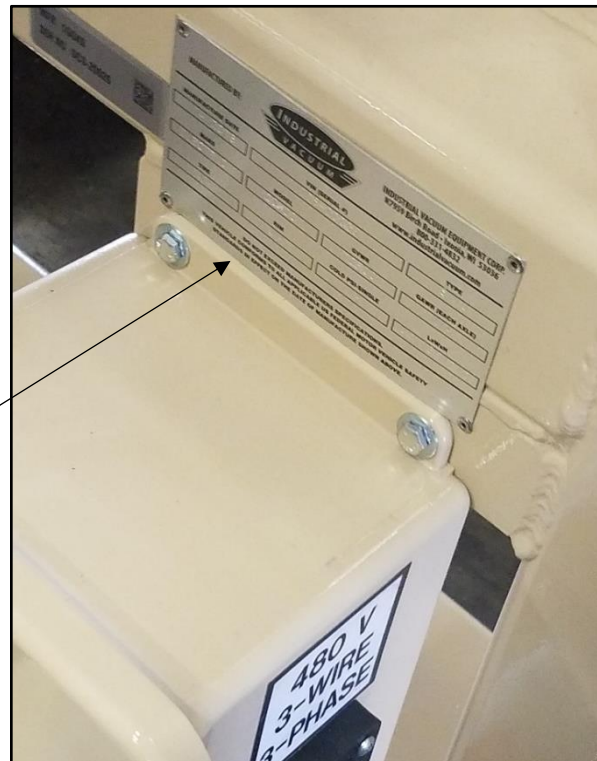
REVIEW THIS MANUAL BEFORE OPERATING THE DUST COLLECTOR SYSTEM

MODEL #:

SERIAL #:

CONTRACT NUMBER:

IDENTIFICATION LABEL LOCATION



WARNING!

This manual contains important materials for the Owner(s) and/or Operator(s) to know and understand. The information in this manual relates to Protective Personal Safety and The Prevention of Potential Equipment Problems. It is the responsibility of the Owner(s)/Operator(s) to inform anyone working in the area of this equipment and these safety guidelines. To help distinguish this information, use the pictures and definitions throughout. Please read this manual paying attention to these sections.

Failure to read this manual and its safety instructions is considered misuse of equipment and could lead to serious injury, death or equipment damage.

**THIS MANUAL SHOULD BE KEPT NEAR THE EQUIPMENT
FOR FUTURE REFERENCE.**

IMPORTANT SAFETY INSTRUCTIONS!!

When using The Dust Collection Equipment, ALWAYS follow basic safety precautions, including but not limited to the following:

WARNING! This equipment weighs 12,500lbs (empty). Caution must be used in lifting and transporting. 10% unexpected growth (13,750lbs)

WARNING! This equipment is 11' 4" in height, while in the stowed (horizontal) position.

This equipment is 17' 6" in height, while in the operations ready (vertical) position.

****** Caution MUST be used for Overhead Clearances during Transportation******

WARNING! It is recommended that ALL Owners/Operators and Personnel working with The Dust Collection System read and understand this manual prior to operating the equipment.

WARNING! This manual should be kept near The Dust Collector System for future referencing.

WARNING! ALWAYS use Proper Protective Equipment (PPE) when Operating or working near Dust Collection Equipment. Protective Footwear, Hearing Protection, and Safety Glasses are all recommended for during Operations.



*****ALWAYS follow OSHA's State and Federal Guidelines.**

WARNING! ALWAYS lift or transport unit in the stowed position, making sure caution is used while loading or unloading onto transportation trailer.

WARNING! ONLY use a fork lift or crane rated and capable of lifting the weight of this equipment. Failure to do so could cause serious injury, death and/or property damage.

WARNING! When lifting this equipment, **USE CAUTION AND GO SLOW!**

WARNING! The Dust Collector System is considered a Crushing Hazard while being lifted and could cause severe personal injury, death, or property damage.

WARNING! Personnel should NEVER walk and/or stand under the equipment while being lifted.



WARNING! Use caution while setting lifted unit down at desired work area. Go slow, keeping hands, feet, personnel, and work area clear from underneath lifted Dust Collector. If dropped or set down quickly while lifted, dust collector system could cause serious injury, death or equipment/property damage.

WARNING! When setting up for operation, make sure the unit is set-up on a solid level surface. If surface conditions are not level or solid, take proper precautions with planks or plywood for a more secure and safe work area.

WARNING! Read and follow all safety and warning labels located on the equipment. Keep in good condition and replace damaged or missing labels accordingly. Replacements are available from the manufacturer.

WARNING! ALWAYS be prepared for Emergencies! Have phone numbers and first aid items readily available and know your Emergency Action Plan.

WARNING! DO NOT operate equipment without proper guards or protective parts in place. Failure to do so could cause serious personal injury, death, or property damage.

WARNING! ALWAYS disconnect and lock out tag out power prior to performing any maintenance on The Dust Collector System.



WARNING! ONLY authorized personnel should open the Electrical Enclosure.

WARNING! ALWAYS disconnect the power source before opening or servicing the Electrical Enclosure. High voltage inside can cause severe personal injury or death.



WARNING! To avoid burns, be alert for hot component parts, hot fluids in lines, tubes and compartments just after the engine has been shut off.

WARNING! Misuse of compressed air is HIGHLY DANGEROUS and may cause permanent injury, death or property damage.

WARNING! NEVER use compressed air on the body or to blow dust/dirt off clothing.



WARNING! Be alert for possible pressure when disconnecting any device from a system that utilizes pressure.

WARNING! The customer supplied water line should ALWAYS be connected to The Dust Collector Equipment prior to and during operations.

WARNING! The water supply line needs to be isolated from the Dust Collector System using a (customer supplied) Shutoff Valve.

WARNING! In the event of a fire; Shut down motor/ fan immediately, turn on or open water supply – flooding the filter housing enclosure.

WARNING! It is recommended to have accessible fire extinguishers in the appropriate nearby areas; this could help prevent how wide spread a fire could potentially become, in the event of a fire.

WARNING: DO NOT stand or climb on ladder or platform until assembly is completely secured to the dust collection system.

WARNING! Use caution when climbing up or down the filter enclosure platform. Hold on using both hands and go up or down one (1) step at a time. NEVER skip ladder steps.

WARNING! NEVER play, swing, climb or jump from; or on, the outside of the filter enclosure platform's safety bars.

WARNING! Whenever up on the filter enclosure platform, make sure ladder gate is closed securely.

WARNING! Never drop any tools, equipment etc. from up on the filter enclosure platform.

WARNING! Fans are designed to work by creating suction and air pressure which can be hazardous, NEVER stand directly in front of the inlet(s) and/or outlet(s) while unit is on and operating.

▫ **Inlet-** Is an opening or entrance for intake. Personnel or solid objects in close proximity to a fan inlet can be overcome by the created intake suction and drawn into the fan.

▫ **Outlet-** Is an opening or exit through which something is let out. Personnel in close proximity to a fan outlet can be subject to debris become dangerous projectiles upon being exhausted out.

WARNING! NEVER operate, service, perform maintenance, or attempt to touch fan with guards removed. Fan blade can cause serious personal injury, death and/or property damage.



WARNING! NEVER operate the fan with a non-ducted inlet and/or outlet. If the blower inlet and/or outlet is non-ducted, it is the user's responsibility to install an inlet and/or outlet guard.

WARNING! Even when the power supply is locked out, fans may cause injury or damage if the impeller is subject to "wind-milling," which is the fan blade and drive components turning due to a draft system. To guard against this hazard, secure fan blade, allowing no rotational movement.

WARNING! DO NOT operate equipment if dust is visible from fan discharge. Shut down unit and contact manufacturer if dust is visible.

WARNING! It is recommended to use caution by wearing an appropriate mask/respirator whenever working with, near, or around Dust.



WARNING! It is recommended to wear a respirator whenever working with The Dust Collector's used filters, or inside a dirty hopper. ****NEVER** open filter enclosure doors while unit is running. Lockout-Tagout prior to adjusting, servicing, cleaning, and or performing maintenance to the Filter Cartridges or inside a dirty hopper. ******

WARNING! Filters may contain harmful material. Take the proper steps to clean, dispose, or change the filter media. Use Proper Protective Safety Equipment (PPE), it is recommended to wear a respirator while working with filters or in the filter housing enclosure.

*****ALWAYS following OSHA's State and Federal Guidelines.**

WARNING! Work in well-ventilated areas and DO NOT use Dust Collector on explosive materials and/or gases.

WARNING! ALWAYS empty the Collection Hopper(s) and take the proper steps to clean and dispose of the waste.

*****ALWAYS following OSHA's State and Federal guidelines.**

WARNING! Under the right circumstances Dust in the atmosphere or Dust contained inside a Dust collector can become flammable and/or cause an explosion. There are five (5) elements needed to ignite a dust explosion (sometimes referred to as the Dust Explosion Pentagon). If one (1) of these elements are missing an explosion CANNOT occur.

- Combustible Dust- acting as the fuel.
- Ignition Source- typically heat or a spark.
- Oxygen in Air- which is the oxidizer.
- Dispersion of dust particles in sufficient quantity and concentration.
- Confinement of the dust cloud.

WARNING! Combustible Dust is defined as a solid material composed of distinct particles or pieces, regardless of size, shape or chemical composition, which presents a fire or deflagration hazard when suspended in air for some other oxidizing medium over a range of concentrations.

WARNING! DO NOT SMOKE while operating, working on or near this equipment. Failure to comply could ignite a dust explosion causing serious injuries, death and equipment damage.

WARNING! Always Empty the collection hopper often. DO NOT let excess material build up inside. Larger concentrations of combustible material will be fuel in the event of a fire or explosion.

WARNING! NEVER lift or transport The Dust Collector System with the collection hopper(s) full. Dust Collector should ONLY be lifted or transported while collection hopper is EMPTY.

WARNING! When lifting heavy objects or equipment, ALWAYS remember to use proper Safe Lifting Techniques.

Safe Lifting Recommendations

- ☐ Bend at your knees, not at the waist.
- ☐ Keep your Back Straight.
- ☐ Keep object close to body and while maintaining a good grip.
- ☐ Don't lift and twist: always turn your feet, never twist you back.
- ☐ Ask for or get help if the load is too large and/or heavy.



SAVE THESE INSTRUCTIONS!!!

1.1 EQUIPMENT VIEW AND IDENTIFICATION

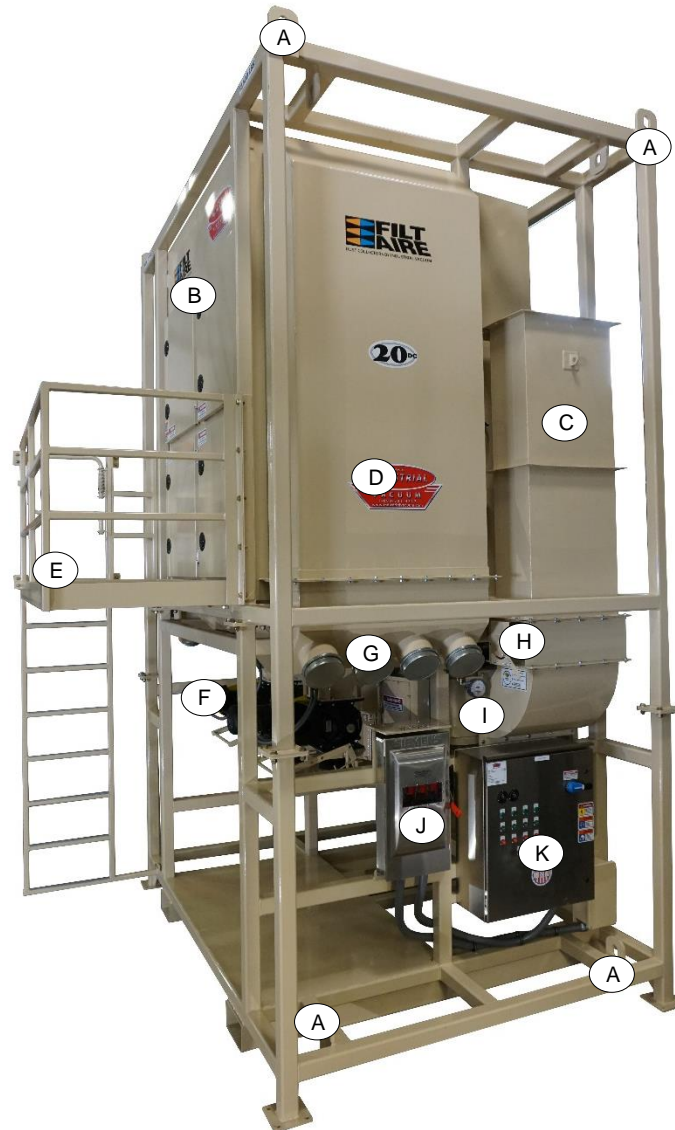
“View #1- Silencer & Filter Enclosure Angle View”



Key	Identification	Remarks
A	Lift Eyes	(8)
B	Filter Enclosure Access Doors	(4) with Lockable Key Entry
C	Silencer	(2)
D	8" Inline Back Draft Damper Transition	(4) Internal on Each Side
E	Filter Enclosure Access Platform	with Spring Loaded Safety Door
F	Low Mount Manual Damper Control	(2) OPEN/CLOSE
G	8" O.D. Inlet Hose Connections with Quick Release Covers	(8) 4-On Each Side
H	Rotary Valve	(2)
I	40 HP Premium Electric IEEE Motor	(2)
J	Filter Enclosure Access Ladder	
K	Fork Lifting Pockets	6" x 12" Fork Tubes

1.1 EQUIPMENT VIEW AND IDENTIFICATION

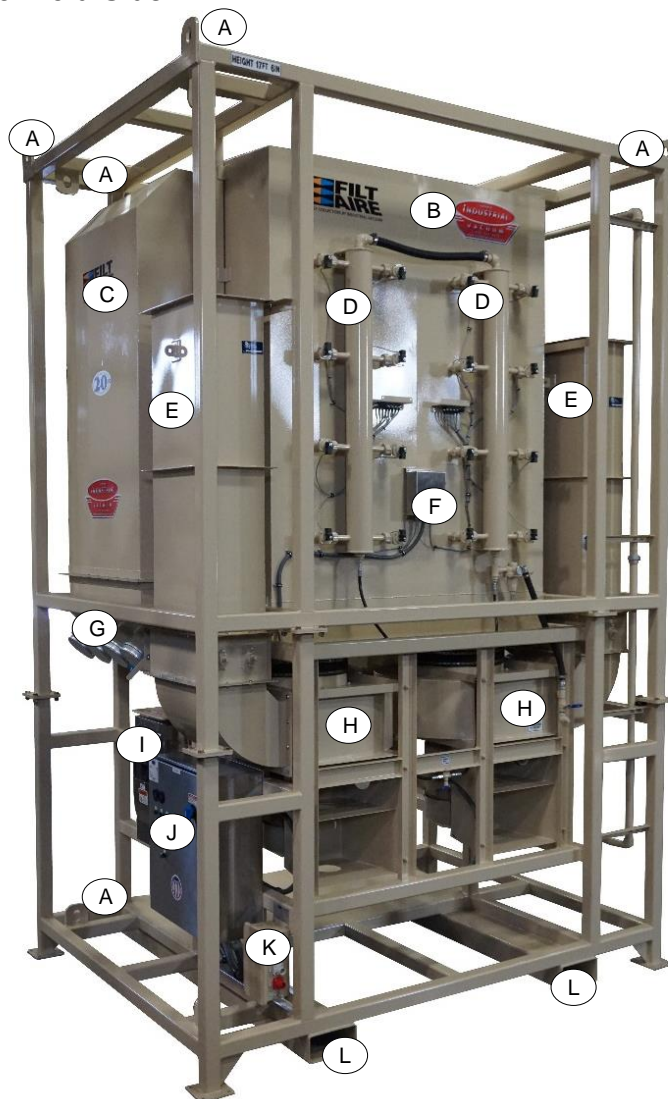
“View #2- Visible Blade Safety Switch & Instrument Panel Side”



Key	Identification	Remarks
A	Lift Eyes	(8)
B	Filter Enclosure Access Doors	(4) with Lockable Key Entry
C	Silencer	(2)
D	8" Inline Back Draft Damper Transition	(4) Internal on Each Side
E	Filter Enclosure Access Platform & Ladder	with Spring Loaded Safety Door
F	Rotary Valve	(2)
G	8" O.D. Inlet Hose Connections with Quick Release Covers	(8) 4-on Each Side
H	Low Mount Manual Damper Control	(2) OPEN/CLOSE
I	Magnehelic Gauge	
J	Visible Blade Main Disconnect	NEMA 4X
K	Instrument Panel	80HP Rated Motortronics Soft Starter NEMA 4X

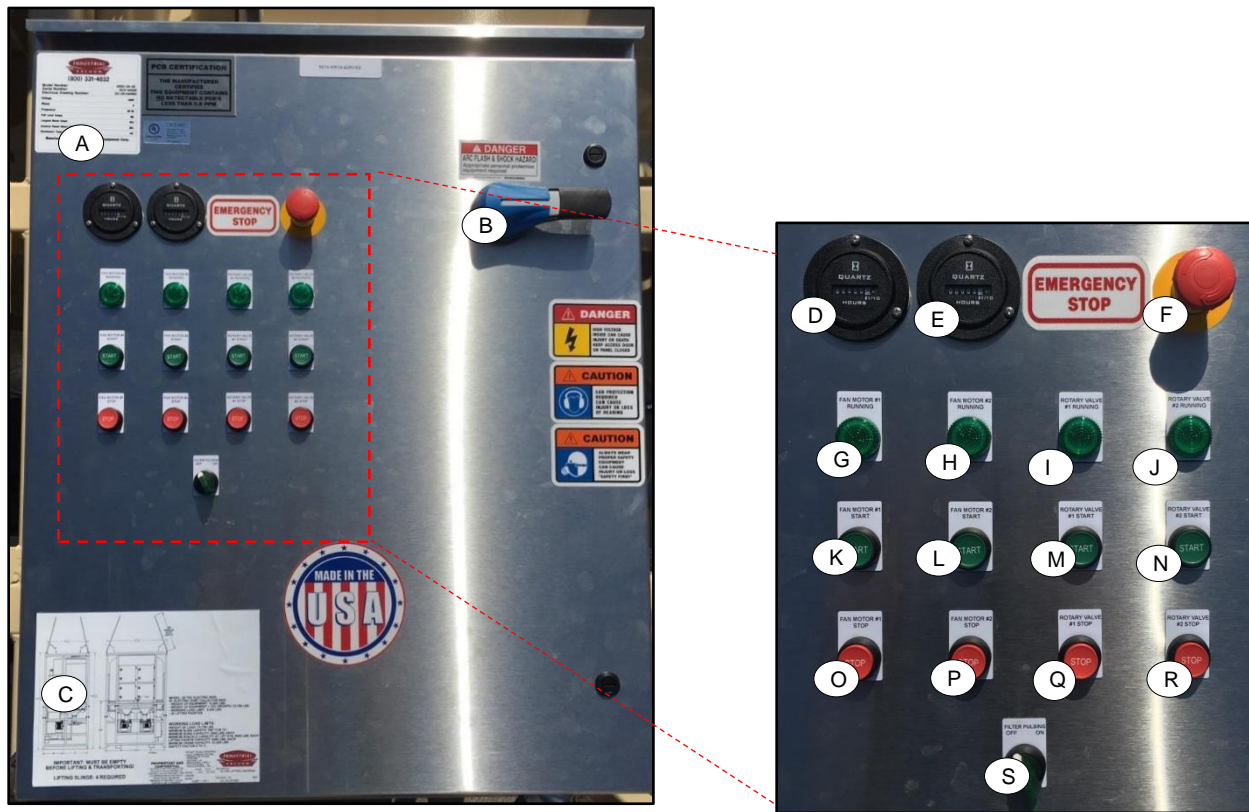
1.1 EQUIPMENT VIEW AND IDENTIFICATION

“View #3- Air Manifold Side”



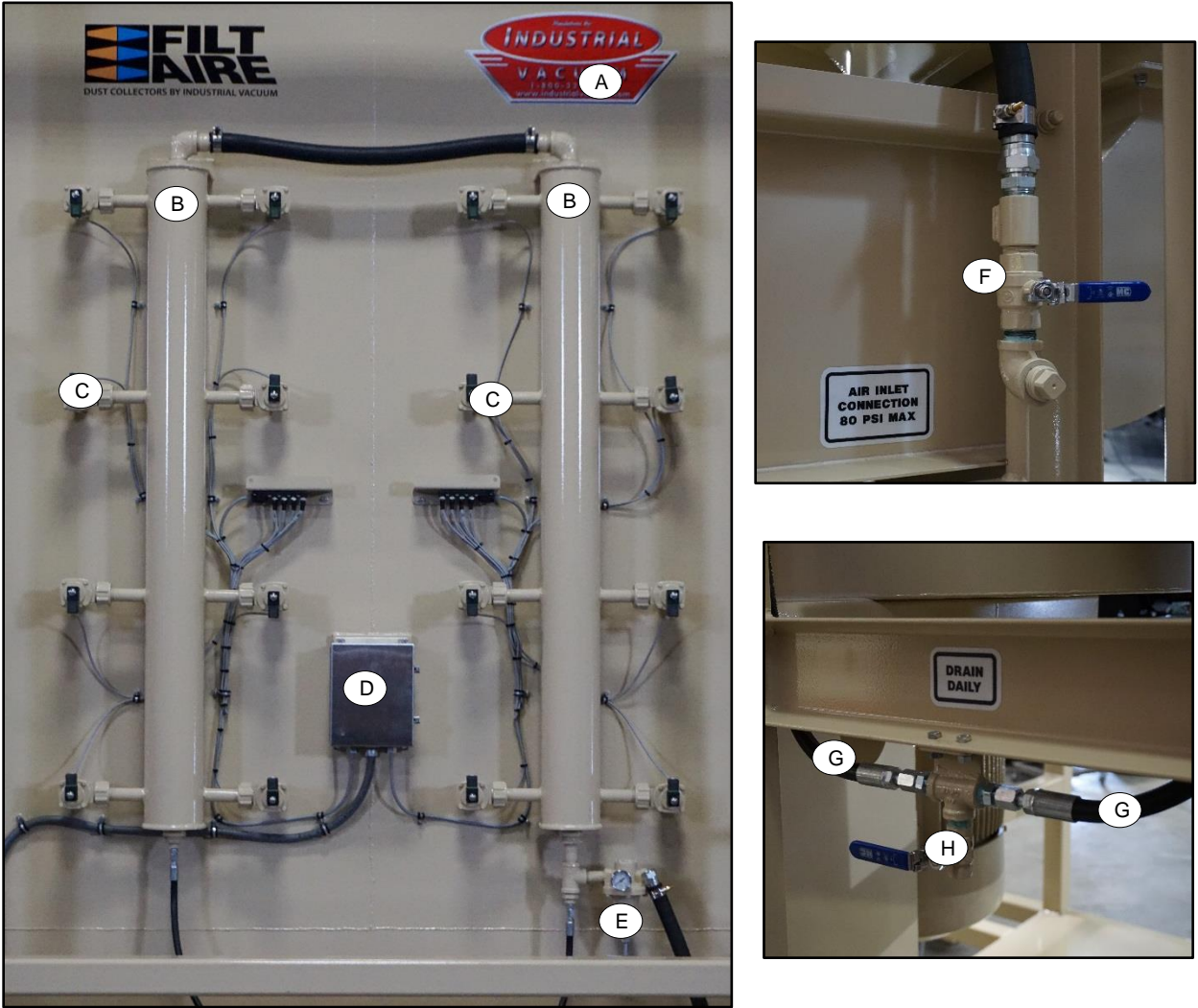
Key	Identification	Remarks
A	Lift Eyes	(8)
B	Filter Enclosure Area	
C	8" Flanged Inlet Backdraft Dampers Transition	(4) Internal on Each Side
D	Air Manifolds	(2)
E	Silencer	
F	Filter Pulsing Enclosure	
G	8" O.D. Inlet Hose Connections with Quick Release Covers	(8) 4-on Each Side
H	HDBI-220 Fan	(2)
I	Visible Blade Main Disconnect	NEMA 4X
J	Instrument Panel	80HP Rated Motortronics Soft Starter NEMA 4X
K	Cam Lock Connection	
L	Fork Lifting Pockets	6" x 12" Fork Tubes

1.1 EQUIPMENT VIEW AND IDENTIFICATION “Instrument Panel”



Key	Identification	Remarks
A	Instrument Panel	80 HP Rated Motortronics Soft Starter NEMA 4X
B	Motor Disconnect Lever	
C	Lifting Diagram Decal	
D	Hour Meter #1	
E	Hour Meter #2	
F	Emergency Stop	PUSH to STOP, PULL to RESET
G	Fan Motor #1 Running Light	Green
H	Fan Motor #2 Running Light	Green
I	Rotary Valve #1 Running Light	Green
J	Rotary Valve #2 Running Light	Green
K	Fan Motor #1 Green START Button	
L	Fan Motor #2 Green START Button	
M	Rotary Valve #1 Green START Button	
N	Rotary Valve #2 Green START Button	
O	Fan Motor #1 Red STOP Button	
P	Fan Motor #2 Red STOP Button	
Q	Rotary Valve #1 Red STOP Button	
R	Rotary Valve #2 Red STOP Button	
S	Filter Pulsing Switch	ON/OFF

1.1 EQUIPMENT VIEW AND IDENTIFICATION
“Air Manifold System”



Key	Identification	Remarks
A	Filter Enclosure Area	
B	Air Manifold	(2)
C	Air Pulsing Compression Diaphragm w/ Integrated Solenoid	(16) 120 Volt AC
D	Filter Pulsing Enclosure	NEMA 4X
E	Regulator w/ Gauge	
F	1” NPT Ball Valve (Air IN Connection)	80 PSI Max.
G	Air Manifold Drain Hose	(2)
H	Air Manifold Drain Valve	Lock - Out

1.1 EQUIPMENT VIEW AND IDENTIFICATION

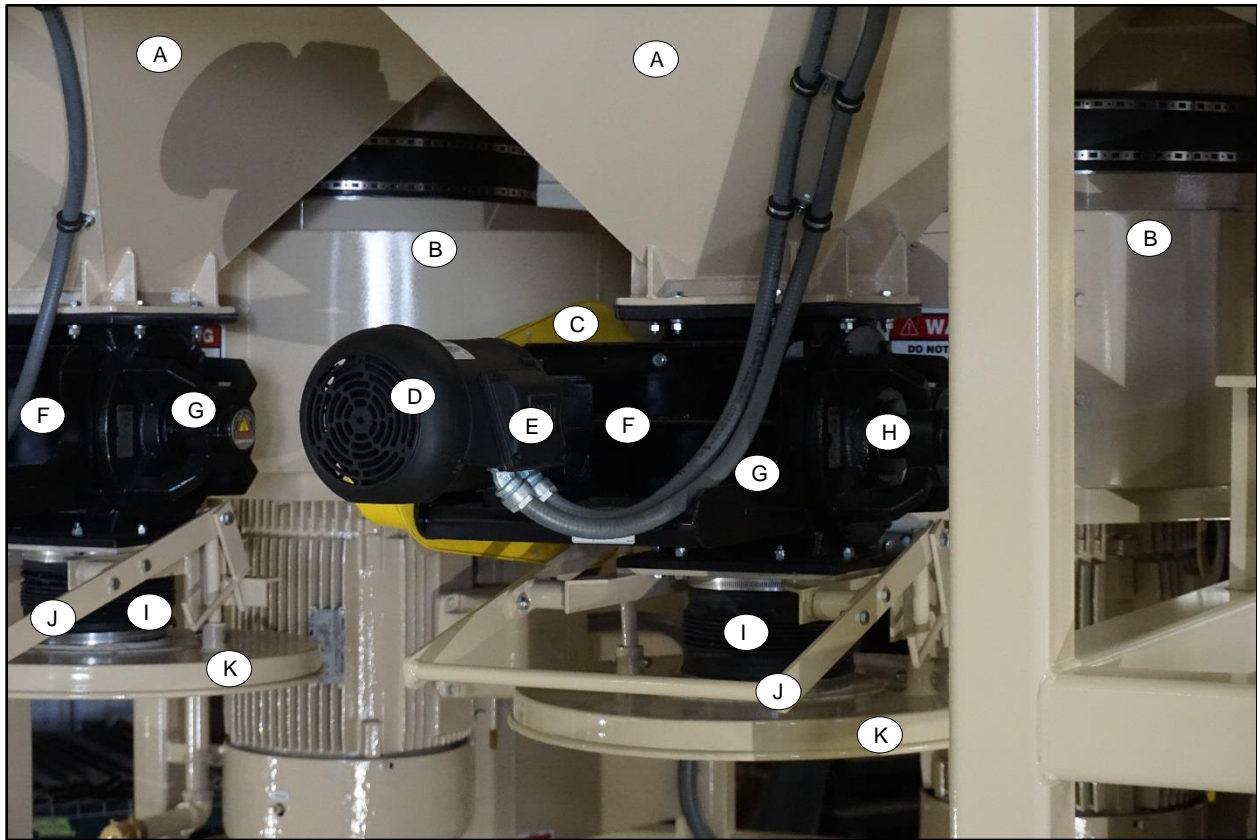
"Fan Damper"



Key	Identification	Remarks
A	8" O.D. Inlet Connections with Quick Release covers	(8)
B	Fan Damper	(2)
C	Fan Damper Manual Lever Indicator	OPEN/CLOSE

1.1 EQUIPMENT VIEW AND IDENTIFICATION

“Rotary Valves & Adjustable Drum Cover View”



Key	Identification	Remarks
A	Collection Cone Area	(3)
B	HDBI-220 Fan	(2) #1 and #2
C	Drive Chain Guard	(2)
D	Gear Reducer Motor	(2)
E	Gear Reducer Motor Junction Box	(2)
F	Gear “Speed” Reducer	(2)
G	Rotary Valve	(2)
H	Rotary Head-Plate	(2)
I	Flexible 10” Discharge Hose	(2)
J	Adjustable Drum Cover Manual Handle	(2)
K	Adjustable Drum Cover	(2)

1.1 EQUIPMENT VIEW AND IDENTIFICATION

“Filter Housing Access Door & Filter Cartridges”



Key	Identification	Remarks
A	Filter Housing Access Door	(4) with Lockable Key Entry Option
B	Filter Cartridges	(16) UX-Nano MERV 15 Rated
C	Tube Sheet	
D	½” Handle Nut	(16)
E	Filter Cartridge Plate w/ Gasket	(16)
F	Cartridge Support Rails	
G	Filter Enclosure Access Platform	with Lockable Safety Door

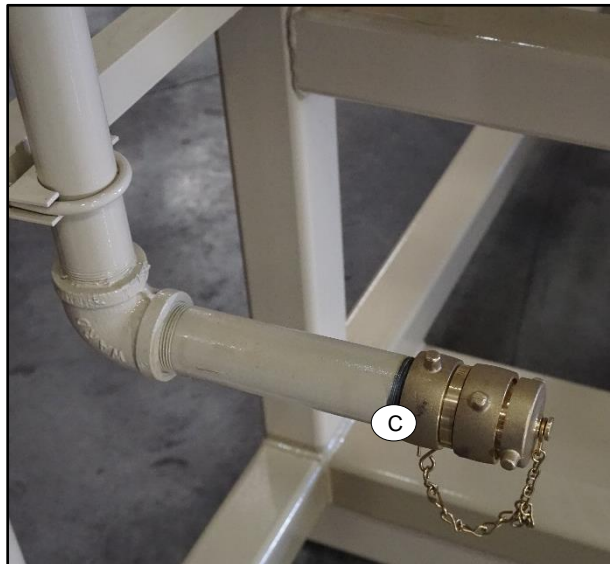
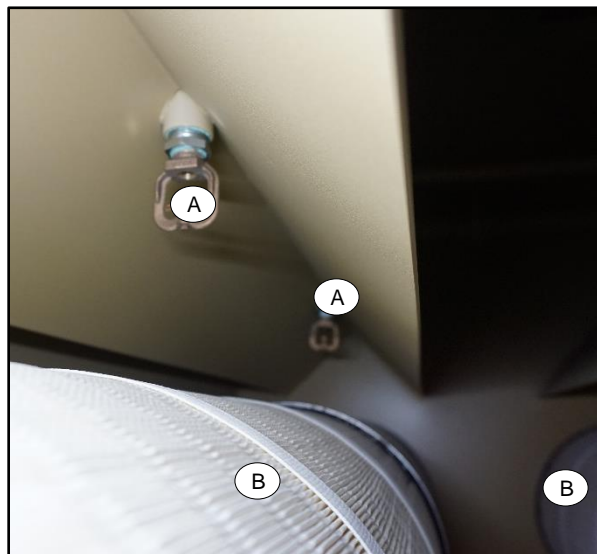
WARNING! Filters may contain harmful material. Take the proper steps to clean, dispose, or change the filter media. Use Proper Protective Safety Equipment (PPE), it is recommended to wear a respirator while working with filters or in the filter housing enclosure.

*****ALWAYS** following OSHA’s State and Federal Guidelines.



1.1 EQUIPMENT VIEW AND IDENTIFICATION

“Open Head Sprinkler & Water Connect”



Key	Identification	Remarks
A	Open Head Sprinkler	(8) Brass
B	Filter Cartridge	(16) UX-Nano MERV 15 Rated
C	1 1/2" NPT Water Connection	Brass w/ Cover and Lanyard

WARNING! The customer supplied water line should ALWAYS be connected to The Dust Collector Equipment prior to and during operations.

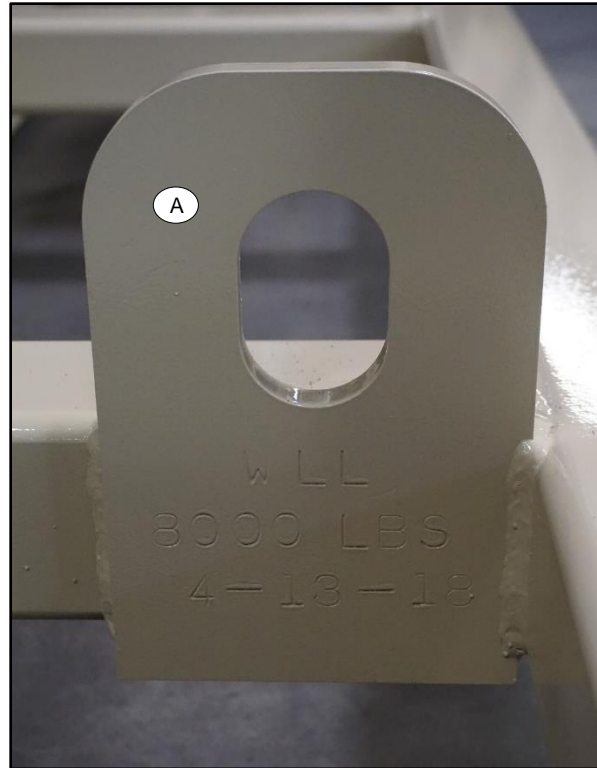
WARNING! The water supply line needs to be isolated from the Dust Collector System using a (customer supplied) Shutoff Valve.

WARNING! In the event of a fire; Shut down motor/ fan immediately, turn on or open water supply – flooding the filter housing enclosure.

WARNING! It is recommended to have accessible fire extinguishers in the appropriate nearby areas; this could help prevent how wide spread a fire could potentially become, in the event of a fire.

1.1 EQUIPMENT VIEW AND IDENTIFICATION

"Stamped Lift Eye"



Key	Identification	Remarks
A	Lift Eyes Stamped	"WLL 8000LBS. 4-13-18"

MINIMUM FORKLIFT OR CRANE CAPACITY IS 27,500LBS.

WARNING! ONLY use a fork lift or crane rated and capable of lifting the weight of this equipment. Failure to do so could cause serious injury, death and/or property damage.

WARNING! When lifting this equipment, **USE CAUTION AND GO SLOW!**

WARNING! The Dust Collector System is considered a Crushing Hazard while being lifted and could cause severe personal injury, death, or property damage.

WARNING! Personnel should NEVER walk and/or stand under the equipment while being lifted.



WARNING! Use caution while setting lifted unit down at desired work area. Go slow, keeping hands, feet, personnel, and work area clear from underneath lifted Dust Collector. If dropped or set down quickly while lifted, dust collector system could cause serious injury, death or equipment/property damage.

WARNING! Make sure ALL legs evenly bear weight before allowing the fork lift or crane to disconnect.

1.1 EQUIPMENT VIEW AND IDENTIFICATION

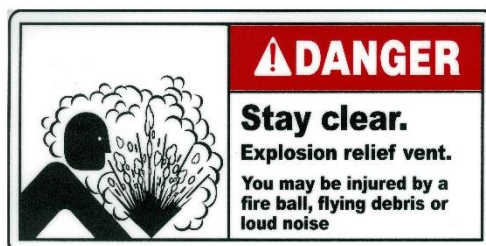
"Explosion Vent"



Key	Identification	Remarks
A	Explosion Proof Vent	Top Mount Bracket

WARNING! Personnel should NEVER be above of or stand on the Explosion Relief Vent. In the event that there is a fire or explosion standing above or on the Explosion Relief Vent would cause serious injury or death.

WARNING! When setting up for operation, **DO NOT** set this Dust Collector System up **UNDER** areas where personnel may be (such as walk ways, bridges, etc....) In the event of a fire or explosion the pressure will rapidly exit the equipment through The Explosion Relief Vent.



1.2 INSPECTION OF EQUIPMENT

Please inspect the equipment for proper parts, orientation, size, and condition prior to accepting shipment

Notify the manufacturer immediately if there are any concerns in the equipment that you are receiving

1.3 UNLOADING THE DUST COLLECTION SYSTEM

These instructions are intended as a guideline only! Receiving department is responsible for removing the equipment from transport trailer and setting up equipment using the safest methods possible.

This equipment will be transported horizontally, on the equipment's side frame. Reference Lifting Diagram DC-20-031861 Sheet #2.

Using the appropriate fork lift or crane, rated and capable of lifting the weight of The Dust Collector System personnel will be required to safely remove the equipment from the transport trailer and upend the equipment from the horizontal position to the operational vertical position. Reference Lifting Diagram DC-20-031861 Sheet #1.

MINIMUM FORKLIFT OR CRANE CAPACITY IS 27,500LBS.

WARNING! ONLY use a fork lift or crane rated and capable of lifting the weight of this equipment. Failure to do so could cause serious injury, death and/or property damage.

WARNING! When lifting this equipment, **USE CAUTION AND GO SLOW!**

WARNING! The Dust Collector System is considered a Crushing Hazard while being lifted and could cause severe personal injury, death, or property damage.

WARNING! Personnel should NEVER walk and/or stand under the equipment while being lifted.



WARNING! Use caution while setting lifted unit down at desired work area. Go slow, keeping hands, feet, personnel, and work area clear from underneath lifted Dust Collector. If dropped or set down quickly while lifted, dust collector system could cause serious injury, death or equipment/property damage.

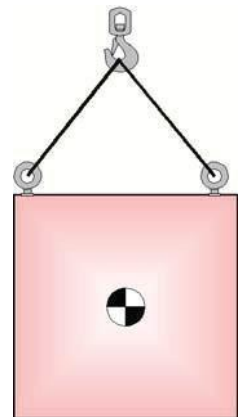
WARNING! When setting up for operations, make sure the unit is set-up on a solid level surface. If surface conditions are not level or solid, take proper precautions with planks or plywood for a more secure and safe work area.

Prior to lifting, the appropriate rigging equipment, including slings, shackles, turnbuckles, and the crane itself, must be selected, inspected and connected correctly.

- | | |
|---|---|
| <input type="checkbox"/> Weight of lift | <input type="checkbox"/> Sharp corners and angles on load |
| <input type="checkbox"/> Center of Gravity | <input type="checkbox"/> Sling angles |
| <input type="checkbox"/> Lift points | <input type="checkbox"/> Load angle factor |
| <input type="checkbox"/> Crane capacity | <input type="checkbox"/> Travel route clearance |
| <input type="checkbox"/> Speed, height, width, and length of lift | <input type="checkbox"/> Floor loading capacity |
| <input type="checkbox"/> Wind, temperature, and visibility | |

Handling Symmetrical Loads:

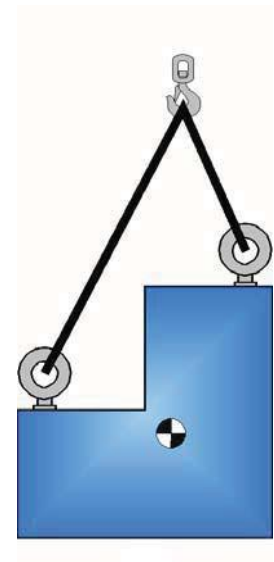
- ☐ Check that all crane systems are up-to-date and in proper working condition prior to crane operation.
- ☐ Check the travel route to ensure there is sufficient clearance for the load.
- ☐ Check the destination area for adequate clearance as well as for adequate floor strength to support the load safely once it is placed down.
- ☐ Attach slings/chains/wire ropes to the loads above the center of gravity as specified on the Lift Diagram.
 - If the only available attachment points are below the center of gravity, stabilize the load using taglines.
- ☐ Equalize loading on multiple leg slings and maintain a balanced load.
- ☐ Protect rigging equipment and the load from sharp surfaces and damage.
- ☐ Slowly lift the load until it just begins to rise off the ground. Stop to see if load will rise evenly or if it will tilt.



- ☐ If the load tilts, lower immediately and reposition rigging components to prevent the load from listing.
- ☐ Repeat the test lift. If problem recurs, stop the lift and reexamine the lift plan's recommendations for rigging equipment as well as the location of the load's center of gravity.
- ☐ After the load is balanced correctly, warn everyone in the area of the impending lift by using the facility's notification system (sounding an alarm, etc.).
- ☐ Proceed by lifting the load slowly and moving the load slowly to its destination.
 - ☐ Keep load as low to ground as possible.
 - ☐ Use attendants to walk with the load if needed to keep it from impacting surrounding objects.
- ☐ Lower the load slowly, making sure that it lines up correctly with any blocks, timbers, or other support devices that might be needed.
- ☐ Detach the rigging and secure the equipment.

Handling Asymmetrical Loads:

- ☐ Check that all crane systems are up-to-date and in proper working condition prior to crane operation.
- ☐ Check the travel route to ensure there is sufficient clearance for the load.
- ☐ Check the destination area for adequate clearance as well as for adequate floor strength to support the load safely once it is placed down.
- ☐ Determine and identify the location of the load's center of gravity.
- ☐ Attach slings/chains/wire ropes to the load above the center of gravity as specified on the Lift Diagram.
 - If the only available attachment points are below the center of gravity, stabilize the load using taglines.

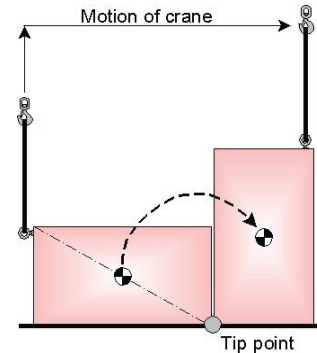


- ☐ Equalize loading on multiple leg slings and maintain a balanced load.
- ☐ Protect rigging equipment and the load from sharp surfaces and damage.
- ☐ Slowly lift the load until it just begins to rise off the ground. Stop to see if load will rise evenly or if it will tilt.

Upending, Inverting, and Rolling Loads:

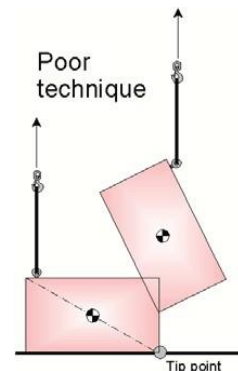
Upending a load refers to the process of rotating an object so that it rests on its side or end. Overhead cranes and hoists can be used to upend and invert loads, but before such an operation can be attempted, it is absolutely essential to know the load's weight, center of gravity, and tip point. A load's tip point is the corner on which it will pivot when upended. Only with these three facts known can rigging be selected and placed correctly to invert a load safely without shock loading.

When upending a load, the optimum lift/hitch point is just below a line extending through the tip point and the load's center of gravity, as shown at the right. After attaching at the lift/hitch point, a load can be tilted on its side by raising the hoist and providing a slight amount of travel.

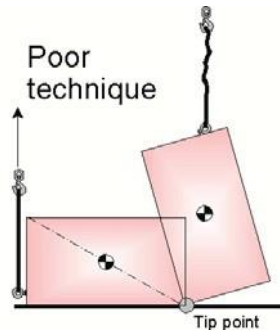


When tipping a load, be sure to move the hoist both vertically and horizontally. If the hoist is moved vertically only, the tip point will drag across the floor, possibly damaging the load or floor as it slides. When loads must be upended without hoist travel, the tip point must be protected by placing the load on a skid or a dolly. This way, the skid or dolly slides on the floor until the load is fully raised. The skid or dolly can then be removed and the load set down.

The tip point and lift point must be located precisely to prevent the load from raising and flipping uncontrollably. If the lift point is above the line extending from the tip point through the center of gravity, the load will flip and rise off the floor, causing it to swing uncontrollably, as shown at right.



At the same time, if the lift point is too low, the wire rope will not be held in tension, and so cannot restrain the load as it tips. When this happens, the wire rope will go slack, allowing the load to tip over suddenly and crash onto the floor. A load upended in this fashion may be damaged as it falls over and may cause collateral damage to property and/or personnel in the area.



*** * MINIMUM FORKLIFT OR CRANE CAPACITY IS 27,500LBS. * ***

Unloading with a Crane:

Reference Lifting Diagram DC-20-031861 Sheet #2 to see which lift eyes to utilize while in the horizontal position.

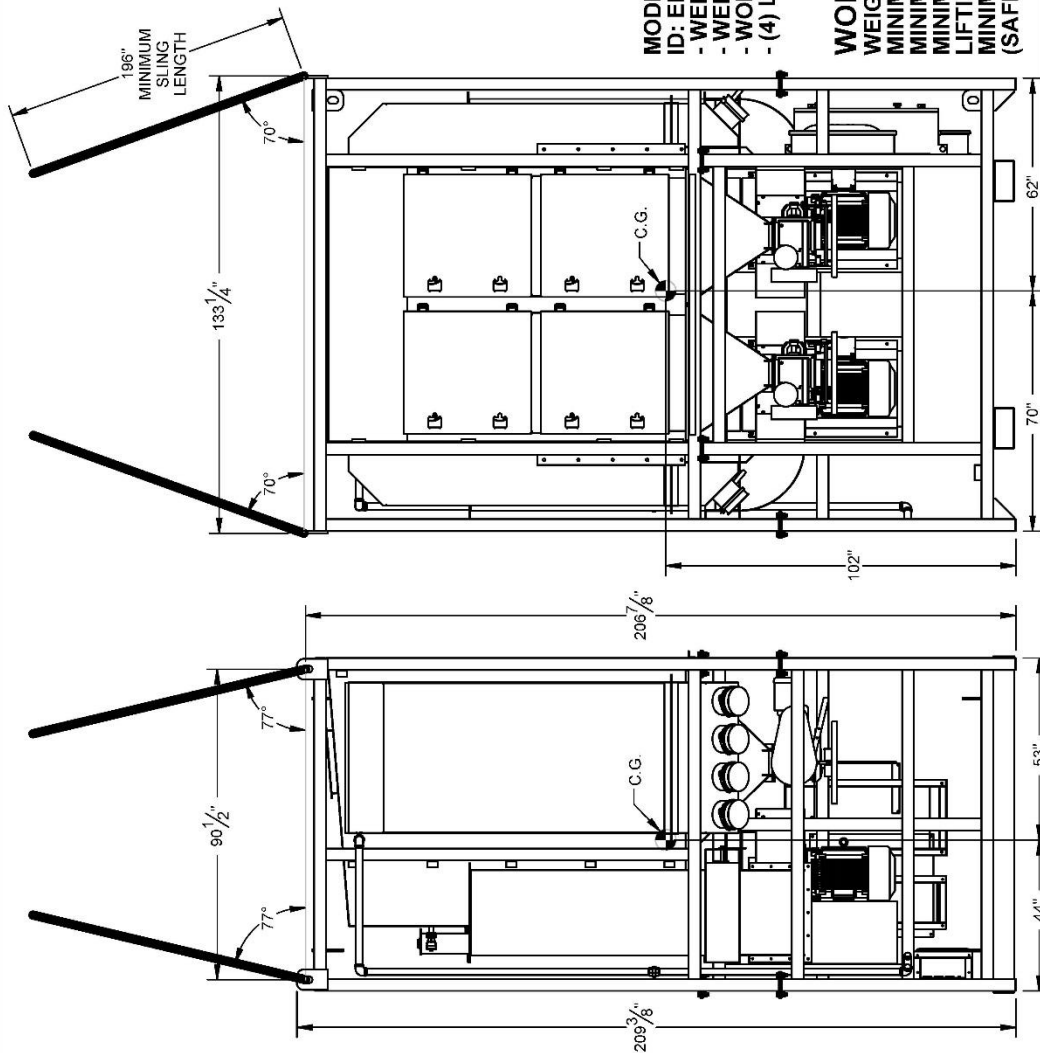
After the equipment has been slowly lifted from the transport trailer, crane operator can either immediately take the horizontally positioned equipment to the designated work area to be upended to the vertical position. Use the appropriate lift eyes (reference Lifting Diagram DC-20-031861 Sheet #1) to upend the equipment.

When ready to raise equipment to the vertical position, personnel can rig the equipment using the lifting eyes. The operator can determine what the safest plan to upend the equipment.

Maneuvering with a Crain or Forklift:

Once equipment is standing in the vertical position, move to the designated work area location. It can be safely maneuvered with a forklift or crane capable of handling the weight. Fork lift pockets are located at the bottom of skid. Take note of center of gravity. Crane lift eyes are located at the top of skid, reference Lifting Diagram DC-20-031861 Sheet #1.

REVISIONS		
REV.	DESCRIPTION	DATE
A	ADDED SHEET 2. LIFTING FROM HORIZONTAL POSITION	4/11/2018



MODEL: 20 TDC ELECTRIC SKID
ID: ELECTRIC DUST COLLECTOR SKID
 - WEIGHT OF EQUIPMENT: 12,500 LBS.
 - WEIGHT OF EQUIPMENT + 10% GROWTH: 13,750 LBS.
 - WORKING LOAD LIMIT: 8,000 LBS.
 - (4) LIFTING PADEYES

WORKING LOAD LIMITS:
 WEIGHT OF LOAD: 13,750 LBS.
 MINIMUM SLING LENGTH: 196" FOR 70°
 MINIMUM SLING CAPACITY: 8000 LBS. EACH
 MINIMUM SHACKLE CAPACITY AT LIFT EYE: 8000 LBS. EACH
 LIFTING PADEYE CAPACITY: 8000 LBS. EACH
 MINIMUM CRANE CAPACITY: 27,500 LBS.
 (SAFETY FACTOR 2 TO 1)

MATERIAL:

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES

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DESCRIPTION:
20 TDC LIFTING DIAGRAM

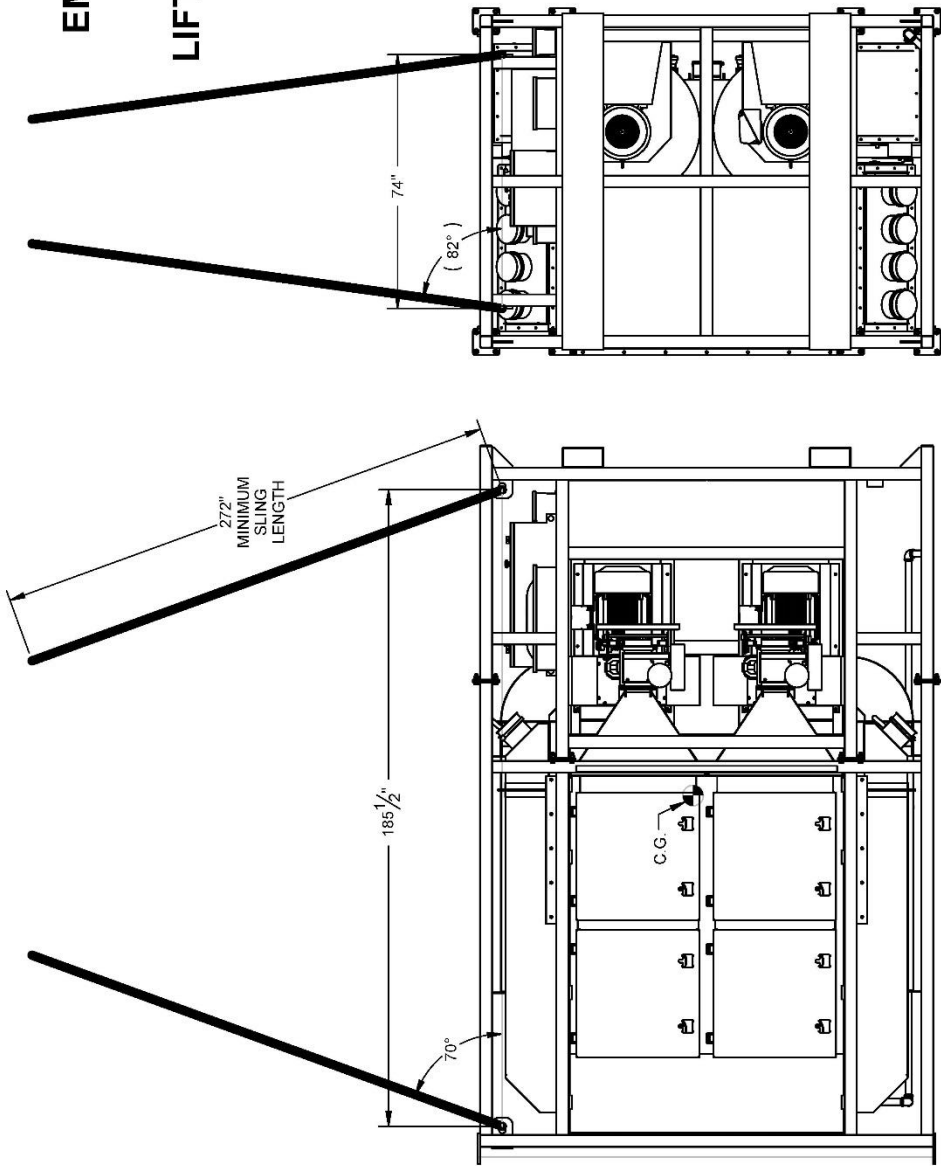
DRAWING. NO.	REV
DC-20-031861	A

**IMPORTANT: MUST BE EMPTY
BEFORE LIFTING & TRANSPORTING!**

LIFTING SLINGS: 4 REQUIRED

**IMPORTANT: MUST BE
EMPTY BEFORE LIFTING &
TRANSPORTING!**

LIFTING SLINGS: 4 REQUIRED



MODEL: 20 TDC ELECTRIC SKID
ID: ELECTRIC DUST COLLECTOR SKID
- WEIGHT OF EQUIPMENT: 12,500 LBS.
- WEIGHT OF EQUIPMENT + 10% GROWTH: 13,750 LBS.
- WORKING LOAD LIMIT: 8,000 LBS.
-(4) LIFTING PADEYES

WORKING LOAD LIMITS:
WEIGHT OF LOAD: 13,750 LBS.
MINIMUM SLING LENGTH: 272" FOR 70°
MINIMUM SHACKLE CAPACITY: 8000 LBS. EACH
MINIMUM SHACKLE CAPACITY AT LIFT EYE: 8000 LBS. EACH
LIFTING PADEYE CAPACITY: 8000 LBS. EACH
MINIMUM CRANE CAPACITY: 27,500 LBS.
(SAFETY FACTOR 2 TO 1)

MATERIAL:	DO NOT SCALE DRAWING UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONS 1/16 ANGULAR: MACH ± .5 BEND ± 1 TWO PLACE DECIMAL ± .06 THREE PLACE DECIMAL ± .030			
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		CHECKED	TMM	03.13.18
		REVISED		
SHEET 2 OF 2		DESCRIPTION: 20 TDC LIFTING DIAGRAM		
		DRAWING. NO. DC-20-031861		REV A

1.4 SETTING UP THE DUST COLLECTION SYSTEM

The Dust Collection System should be set up in an area where the ground is solid and level. If necessary, make accommodations so the work area will be safe and secure. Planks and Plywood can help with creating a more level and sturdy work area.

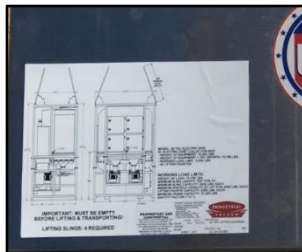
This equipment will come shipped in three (3) separate parts. The Dust Collector itself and the filter Access platform and ladder that will require to be reassembled together after the Dust Collection System has been safely unloaded from the transport trailer, been maneuvered to the vertical operations and is secured in the designated work area (**refer to SECTION 1.3 UNLOADING THE DUST COLLECTION SYSTEM**).

WARNING! DO NOT attempt to unload this equipment without reading through **SECTION 1.3 UNLOADING THE DUST COLLECTION SYSTEM** first.

WARNING! When lifting this equipment **ONLY** use a crane and/or fork lift that is rated and capable of lifting the weight of this equipment. Failure to do so could result in serious injury, death and/or property damage.

*** MINIMUM CRANE OR FORKLIFT CAPACITY IS 27,500LBS. ***

*** NOTE:** Lifting Diagrams are displayed on the equipment (as seen in picture below) and in **Section 4.2 of The Operation's Manual**.



WARNING! When lifting this equipment, **USE CAUTION AND GO SLOW!**

WARNING! The Dust Collector System is considered a Crushing Hazard while being lifted and could cause severe personal injury, death, or property damage.

WARNING! Personnel should **NEVER** walk and/or stand under the equipment while being lifted.



WARNING! Use caution while setting lifted unit down at desired work area. Go slow, keeping hands, feet, personnel, and work area clear from underneath lifted Dust Collector. If dropped or set down quickly while lifted, dust collector system could cause serious injury, death or equipment/property damage.

WARNING! When setting up for operations, make sure the unit is set-up on a solid level surface. If surface conditions are not level or solid, take proper precautions with planks or plywood for a more secure and safe work area.

Attaching the Filter Access Platform and Ladder:

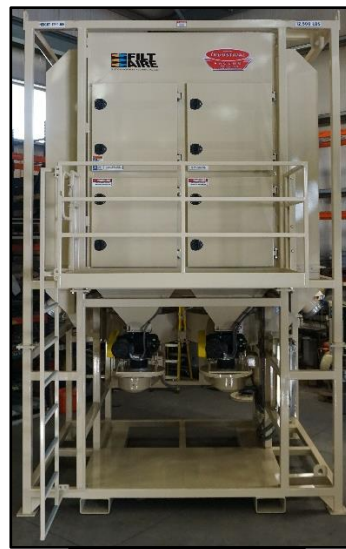
Assembly Kit Includes

- 17 – 5/8-11" Bolts
- 17 – 5/8-11" Nuts
- 17 – 5/8" Lock Washers
- 17 – 5/8" Flat Washers
- 10 – 1/2-13" Bolts
- 10 – 1/2-13 Nuts
- 10 – 1/2" Lock Washers
- 10 – 1/2" Flat Washers

It is recommended to use padded forks for capable and rated forklift to assist in lifting the platform assembly to line up Boltable holes.

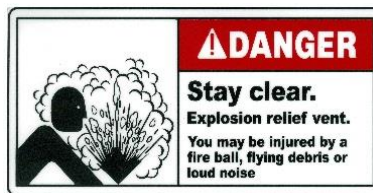


Shown without Platform
& Ladder Assembly



Shown without Platform
& Ladder Assembly

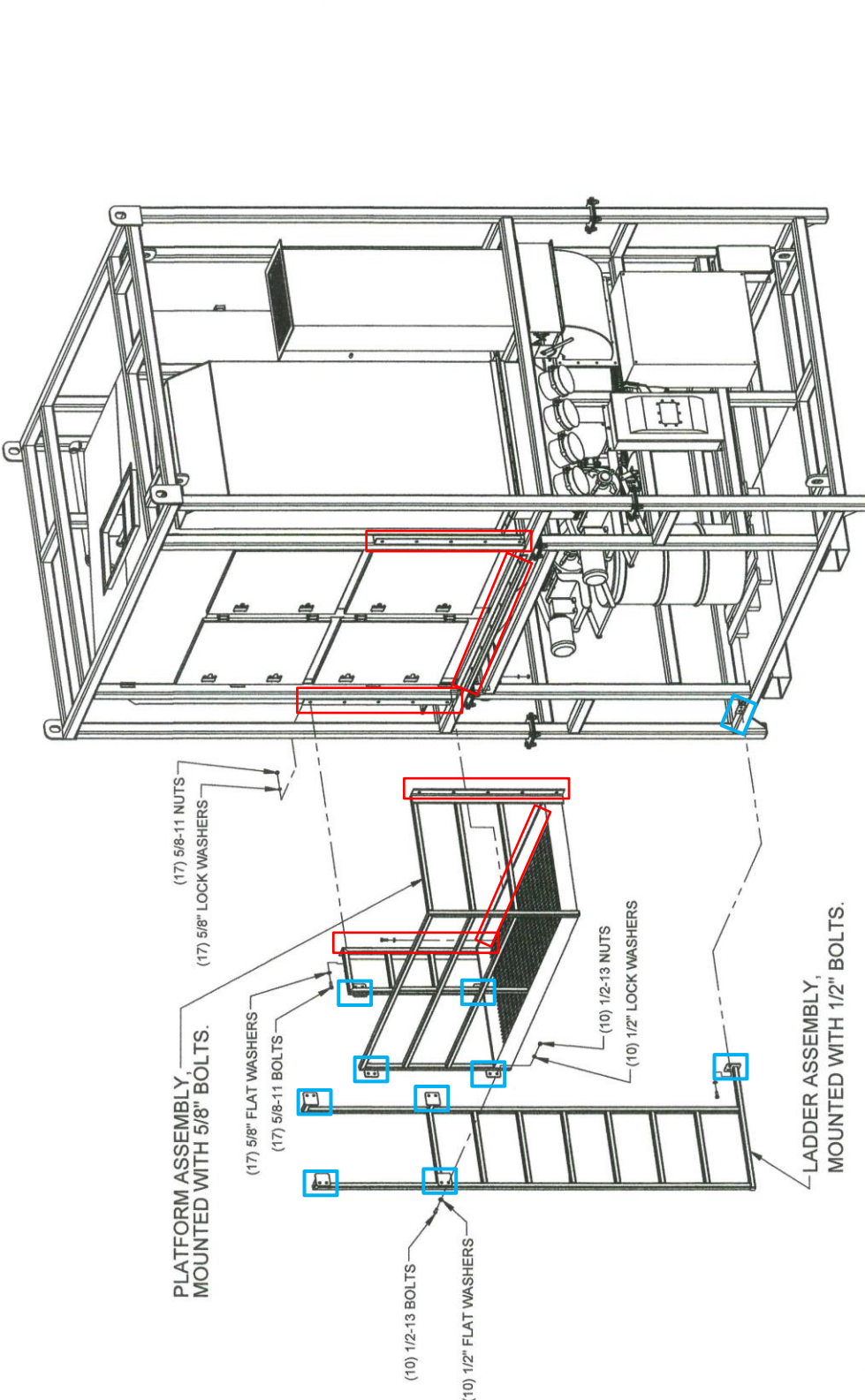
*** NOTE:** This Dust Collector System has an 18"x 35" TOP MOUNTED EXPLOSION RELIEF VENT as a safety precaution in the event of a fire or explosion.



DO NOT set-up this Dust Collector System UNDER areas where personnel may be (such as walk ways, bridges, etc....) In the event of a fire or explosion the pressure will rapidly exit the equipment through the vent.

WARNING! Personnel should NEVER be above of or stand on the Explosion Relief Vent. In the event that there is a fire or explosion standing above or on the Explosion Relief Vent would cause serious injury or death.

Filter Enclosure Platform and Ladder Assembly Diagram: #DC-20-051815



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DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± 1/16
ANGULAR MACH ± 5 BEND ± 1
TWO PLACE DECIMAL ± 0.06
THREE PLACE DECIMAL ± 0.006

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DESCRIPTION: 20 TDC PLATFORM BOLT LAYOUT

DATE: 05.08.18

DRAWN: TMM

CHECKED: REVISED

SHEET 1 OF 1

DRAWING NO. DC-20-051815

REV 1

MATERIAL:

3

4

5

Attaching the Filter Access Platform with Ladder:

Use the Diagram above: #DC-20-051815. First, mount the platform, using padded forks on a capable and rated forklift and or crane to assist in lifting the platform assembly. Line the Filter Access Platform boltable holes to the adjacent Boltable holes on the dust collection system, as seen above in the red boxes. Once lined up; insert the seventeen (17) 5/8-11" Bolts then secure with the seventeen (17) flat washers, seventeen (17) lock washers and seventeen (17) 5/8-11" nuts. Personnel should NOT stand on platform until the assembly is completely secure.

Once Access Platform has been secured to the dust collection system the Platform access ladder will need to be attached. Using the diagram above: #DC-20-051815. Lift the access ladder so its boltable holes (shown in blue on diagram) are adjacent to the boltable holes on the access platform and appropriate dust collector ones. When holes are lined up; insert the ten (10) 1/2-13" Bolts and secure to assembly using the ten (10) 1/2" flat washers, lock washers and the ten (10) 1/2-13" nuts. Personnel should not be on ladder until completely secure to both the access platform and dust collection system.

WARNING: DO NOT stand or climb on ladder or platform until assembly is completely secured to the dust collection system.

- 1 Attach the appropriate size duct hose(s) to the inlet connections.
- 2 Install 55-gallon drum under The Collection Hopper(s).
***** Use caution when switching 55-gallon drums out**
- 3 Apply pressure down on the drum cover handle and pull out the latching mechanism/safety catch so the lid can lower down on the drum opening.

*****Always use proper protective equipment when operating equipment. Hearing protection, safety glasses, gloves, and respirator are recommended. Follow OSHA, State and Federal guidelines.***



1.4 CONNECTING COMPRESSED AIR SUPPLY

The compressed air supply line should be a minimum of 3/4" Dia. or a recommended 1" Dia. rated for the PSI that is being supplied from the compressor source. The airline must be free of dirt, oil, and water. Purging the airline prior to installation is recommended.

A clean, dry and oil-free air supply is required for proper operation. The air will need to be regulated at 80-PSI max (factory set). If excessive moisture is present in the air system, and after cooler desiccant dryer and in line air filter are strongly recommended. For cold climate outdoor installations this will be mandatory to insure proper operations.

- 2 Close Air Manifold Drain Valve
- 3 Purge and Attach Air Supply Line
- 4 Open Supply Shut-off Valve
- 5 Regulate to a maximum of 80-PSI
- 6 Make certain there are no air leaks and tighten fittings where required



1.5 CONNECTING ELECTRICAL SUPPLY

Consult a Certified Electrician for installation hook-up. Always follow the proper electrical codes and laws that apply.

- ☐ The Dust Collector System will need the appropriate power supplied to the main instrument panel (480-Volt, 3 Phase Wiring)

- ☐ Optional cam lock connections can be supplied for electrical hook-up to NEMA enclosure.

**See Picture to Identify an example of Optional Cam Lock Connection Feature.*



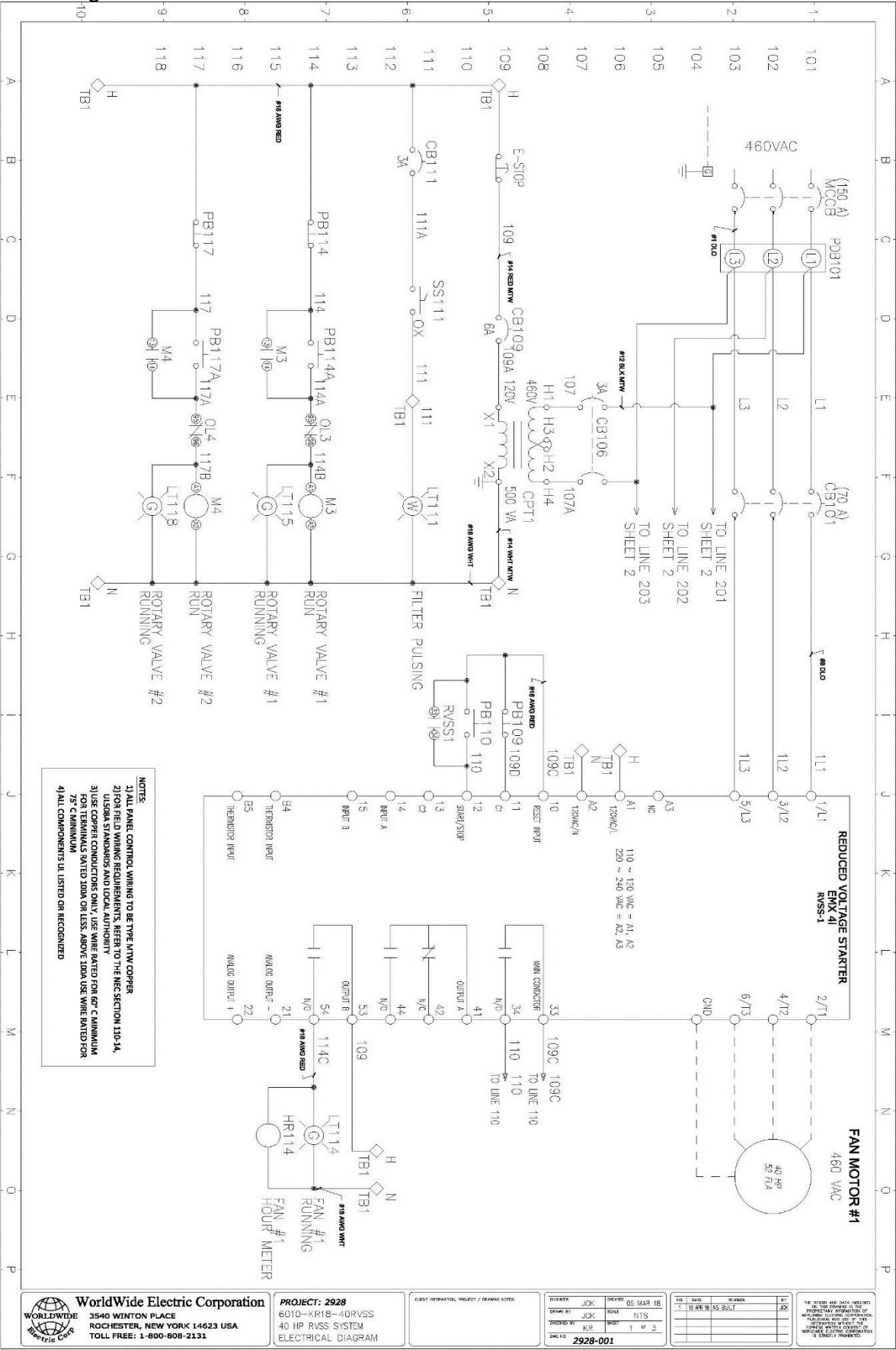
- ☐ The Dust Collector System will need the appropriate power supplied to the Main Instrument Panel (480 volts, 3 phase wiring).
- ☐ The Dust Collector System can run in hand or auto mode. When “Hand Mode” is selected The Dust Collector, can operate from the Main Instrument Panel only. When “Auto Mode” is selected The Dust Collector, can operate from a Remote Panel only. Electrical Schematics are supplied with the equipment and in the manual for proper connections.
- ☐ This unit is supplied with a “visible type” safety switch for supplying power to the unit.
- ☐ For installation, reference wiring diagram. Drawing # 2928-001, 2928-002 & # 2928-003 as seen on next three (3) pages.



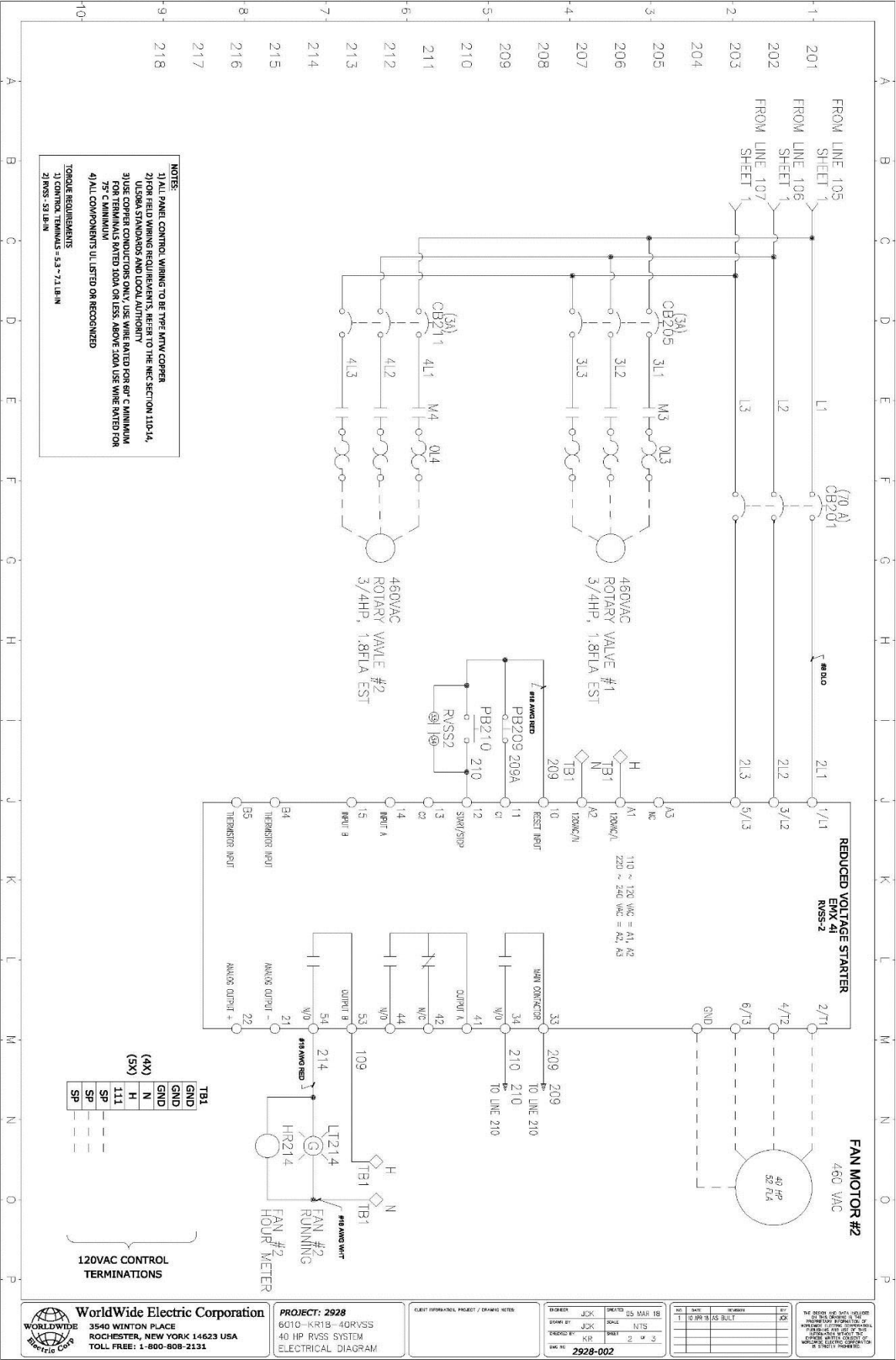
WARNING! ONLY authorized personnel should open the Electrical Enclosure.

WARNING! ALWAYS disconnect the power source before opening or servicing the Electrical Enclosure. High voltage inside can cause severe personal injury or death.

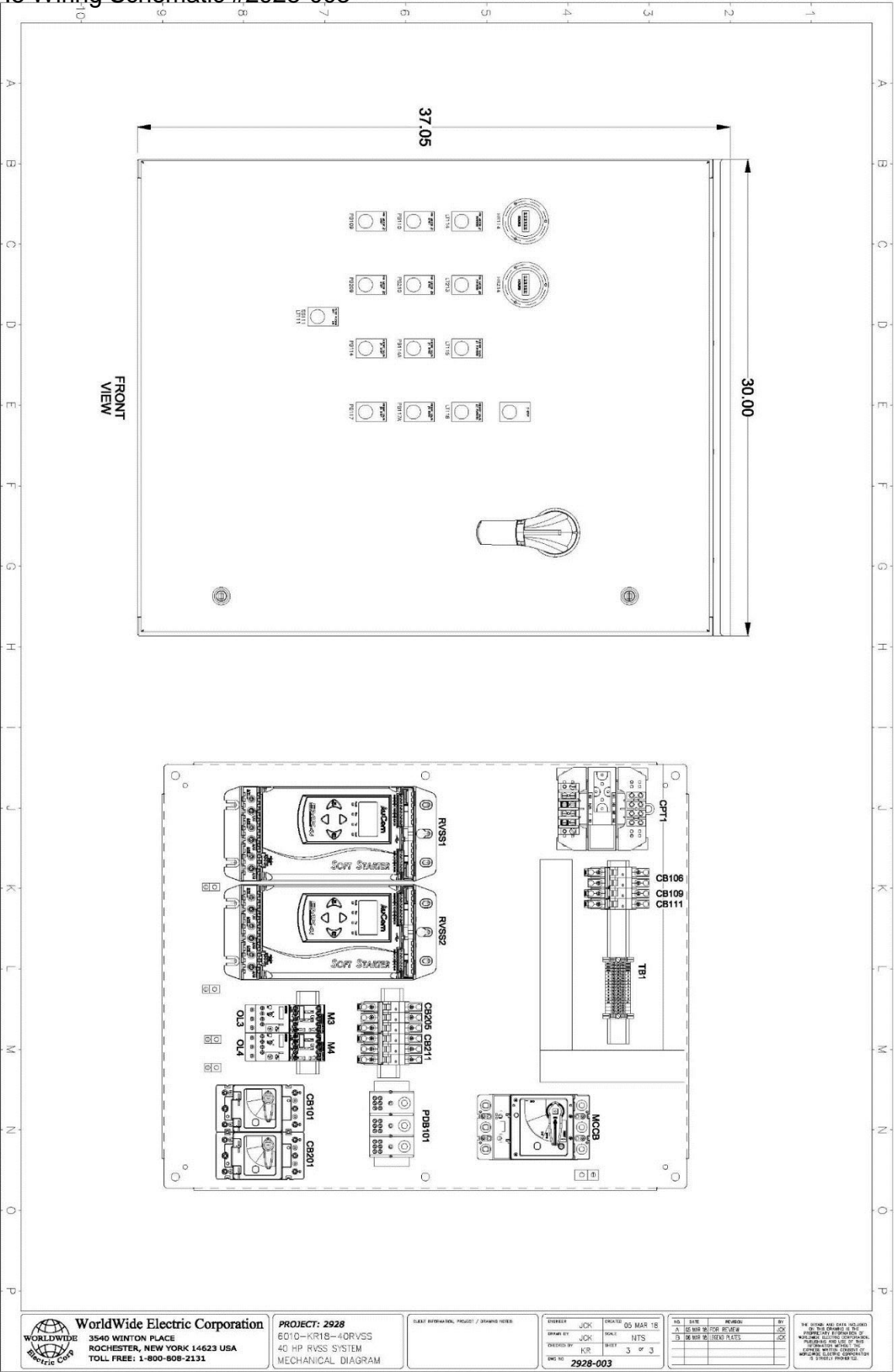
1.5 Wiring Schematic #2928-001



1.5 Wiring Schematic #2928-002



1.5 Wiring Schematic #2928-003



1.6 CONNECTING FILTER SPRINKLER SYSTEM

The Dust Collector Equipment has an Open Head Sprinkler System inside the filter housing enclosure. This System consists of the following:

- ☐ (8) Open Head Sprinkler Valves, located above the filter Cartridges
- ☐ Galvanized Schedule 40 Pipe Network
- ☐ Brass 1-1/2" Swivel Female Connection (water inlet)
- ☐ Brass 1-1/2" Male Plug with lanyard for sealing when not in use.

* * * CUSTOMER SUPPLIES WATER LINE * * *

The customer supplied water line should be connected to The Dust Collector Equipment, when in operation. The water supply line needs to be isolated from The Dust Collector with a (customer supplied) Shutoff Valve. The Shutoff Valve should be upstream of The Dust Collector, so in case of a fire, the Shutoff Valve can be safely opened to let water through the Sprinkler Valves and flood the inside compartment of the filter housing.



Open Head Sprinkler System



1-1/2" Water Connection

In case of fire

- 2 **Shut "OFF" Motor/Fan.** This will isolate the fire and smoke to The Dust Collector. If the motor/fan are not shut down the system will continue to supply air into The Dust Collector, which in turn will add oxygen to the fire resulting in potential growth or contaminating other areas
- 3 **Turn "ON" or "OPEN" Water Supply.** Switching the Shutoff Valve to the "OPEN" position will allow the water supply into The Dust Collection System. With the Valve in the "OPEN" position, The Sprinkler System will spray water and flood The Filter Housing.
- 4 **Know and follow your designated Emergency Action Plan.** Not having proper understanding in what to do or where to go during an Emergency is a serious hazard and could result in serious personal injury or death.
- 5 **Have Fire Extinguishers Readily Available.** Having fire extinguishers accessible in appropriate areas is critical to how wide spread a fire could become and the amount of damage it has the potential of.

1.6 CONNECTING FILTER SPRINKLER SYSTEM *****CONTINUED*****

Clean Up Procedures

- 6 Drain filter enclosure by opening The Hopper Discharge Valve and either drain out at the bottom or collecting water into 55-gallon drums.
- 7 Inspect for further damage to The Dust Collector System
- 8 Allow filter housing enclosure to dry out, moisture could cause problems during future operations.
- 9 Install new filter cartridges prior to starting back up with operations. Upon activating The Sprinkler System, water dispersal inside the filter housing enclosure will contaminate the filter cartridges which will need to be removed and disposed of accordingly.

For proper Removal and Installation Procedures of the filter cartridges, it is recommended to refer to these Sections:

- Section **3.2 CARTRIDGE REMOVAL AND INSTALLATION**
- Section **3.3 CARTRIDGE REMOVAL/INSTALLATION VIEW AND IDENTIFICATION**

WARNING! Filters may contain harmful material. Take the proper steps to clean, dispose, or change the filter media. Use Proper Protective Safety Equipment (PPE), it is recommended to wear a respirator while working with filters or in the filter housing enclosure.

*****Always use proper protective equipment when operating equipment. Hearing protection, safety glasses, gloves, and respirator are recommended. Follow OSHA, State and Federal guidelines.***



SECTION 2: OPERATION AND SHUTDOWN INSTRUCTIONS

2.1 INITIAL START-UP PROCEDURES

The following procedures need to be followed prior to operating The Dust Collector System. Refer to these Sections:

- ☐ Section 1.3 **SETTING UP THE DUST COLLECTOR SYSTEM**
- ☐ Section 1.4 **CONNECTING COMPRESSED AIR SUPPLY**
- ☐ Section 1.5 **CONNECTING ELECTRICAL SUPPLY**
- ☐ Section 1.6 **CONNECTING FILTER SPRINKLER SYSTEM**
- ☐ Section 3.3 **ROTARY VALVE DISCHARGE SYSTEM**

***** BE SURE THE EXPLOSION RELIEF VENT HAS NO OBSTRUCTIONS *****

DO NOT set-up this Dust Collector System UNDER areas where personnel may be (such as walk ways, bridges, etc....) In the event of a fire or explosion the pressure will rapidly exit the equipment through the vent.

WARNING! Personnel should NEVER be above of or stand on the Explosion Relief Vent. In the event that there is a fire or explosion standing above or on the Explosion Relief Vent would cause serious injury or death.

The customer supplied water line should be connected to The Dust Collector Equipment, when in operation.

The Rotary Valve Discharge System will need to be started up. **REFER TO THE NEXT PAGE FOR ROTARY VALVE DISCHARGE SYSTEM START-UP PROCEDURES.**

The Rotary Valve Discharge System consists of:

- ☐ (2) 8" HDX Rotary Valves
- ☐ (2) Chain Drive Assemblies with Safety Guards
- ☐ (2) Rotary Head-plates
- ☐ (2) Gear Reducers with Motors



***** Make sure shipping supports are removed from rotary valve(s) prior to starting.***

WARNING! NEVER operate this equipment with unguarded inlet or outlet.

*** Rotary Valve Discharge System Start-Up:**

Refer to ROTARY AIRLOCK FEEDERS MANUAL FOR START- UP PROCEDURES

1. Prior to actual operation, the operator must be familiar with the method of starting and stopping the Rotary Airlock Feeder.
2. The general appearance of the Rotary Airlock Feeder and surrounding area should be visually inspected to determine that the valve can be operated safely and without causing any type of damage.
3. The speed reducer has been filled to the correct oil level with the appropriate lubricant by the manufacturer.
4. "Bump" the unit with the motor starter to check for correct rotation. Change the phase sequence to the motor if rotation is wrong. Always assure the unit is properly grounded in accordance with OSHA, the NEC and local codes.
5. Start the unit again, noting any unusual noise or vibration. If noise is evident it is recommended that the equipment be shut down and contact the factory immediately.
6. All chain and flange guards must be in place and closed securely whenever the Rotary Airlock Feeder is in service.
7. After the initial operating period, we recommend that your plant engineering and maintenance personnel continue to monitor the operation of the unit on a regular schedule. Particular attention should be paid to the following items:

a. Speed Reducer

Monitor gearbox during startup for excessive heat, vibration or unusual noise which may indicate a problem with the speed reducer.

b. Bearings

The condition of Rotary Airlock Feeder bearings should be checked routinely. Excessive heat, vibration, or unusual noise indicates a potential problem.

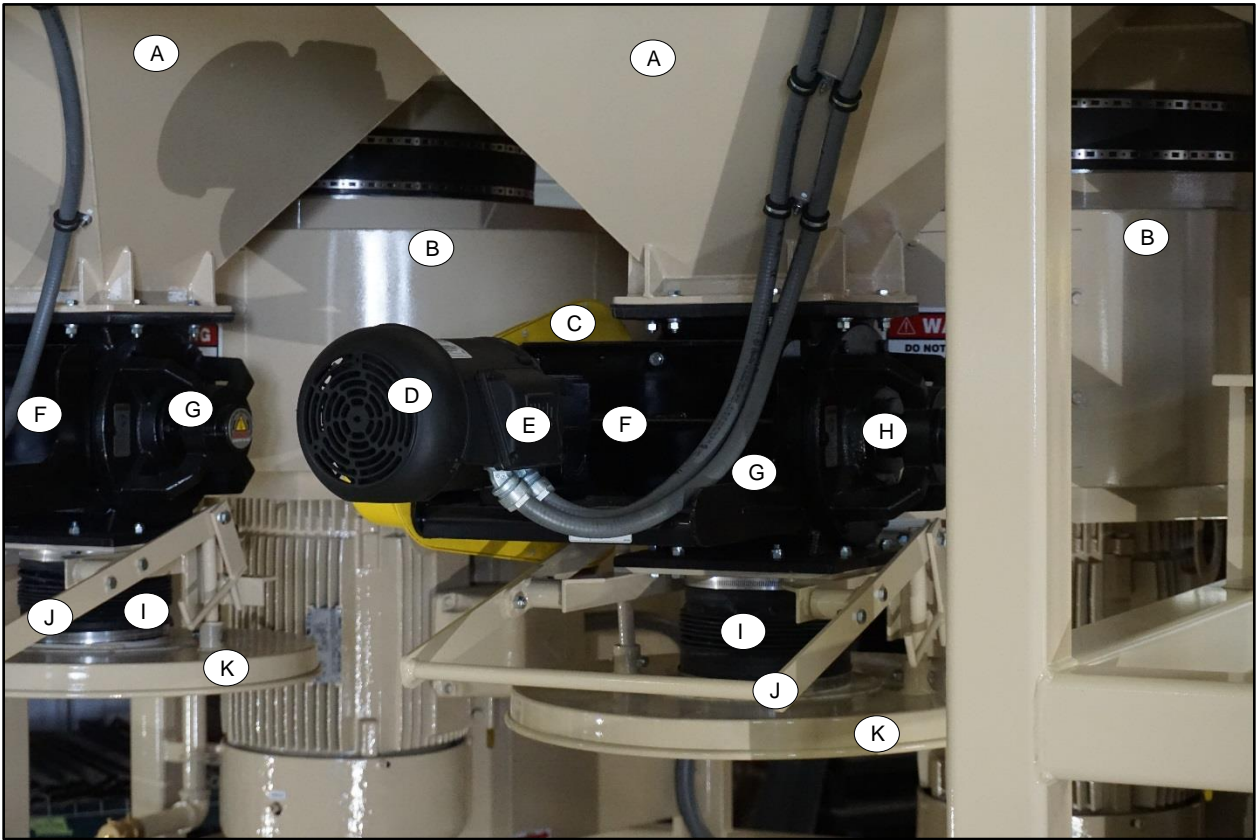
c. Seals

The type of seal depends on the model and options of your Meyer Rotary Airlock Feeder. Maintenance is limited to replacement of the packing when the wear and leakage becomes excessive.

d. Drive

The drive should run smoothly with minimal vibration. If a problem exists consult Meyer for an application review.

*** Rotary Valve Discharge System View and Identification
Refer to SECTION 3.4 Rotary Valve Discharge System



Key	Identification	Remarks
A	Collection Cone Area	(3)
B	HDBI-220 Fan	(2) # 1 and #2
C	Drive Chain Guard	(2)
D	Gear Reducer Motor	(2)
E	Gear Reducer Motor Junction Box	(2)
F	Gear “Speed” Reducer	(2)
G	Rotary Valve	(2)
H	Rotary Head-Plate	(2)
I	Flexible 10” Discharge Hose	(2)
J	Adjustable Drum Cover Manual Handle	(2)
K	Adjustable Drum Cover	(2)

2.2 OPERATING THE DUST COLLECTION SYSTEM

Filter Pulsing Timer Set-up

- 1 The filter pulsing timer board is located inside a hinged NEMA enclosure between the air manifolds.
- 1 Make sure the electrical power supply to The Dust Collector System is “OFF” before changing the timer settings.

These are the factory settings and should not be altered.

- 1 Verify the time “OFF-TIME” approximately 20 seconds.
- 2 Verify the timer “ON-TIME” to 125 milliseconds.
- 3 Make sure the air pressure is regulated and not set above 80-PSI on unit (Air Pressure Gauge located on Regulator.)
- 4 With air compressor, turn the filter pulsing switch to the “ON” position, verify that all the pulsing solenoids and diaphragm valves are operating in their timed sequence and repeating. After verification turn the filter pulsing switch to the “OFF” position.



Initial Set-Up:

The electrical system needs to be checked. Make sure the electrical supply that will run The Dust Collector System is turned “ON”. On the electrical enclosure, the service disconnect handle needs to be put to the “ON” position. The following steps will need to be verified:

- Check to see if the manual damper valve is in the “CLOSED” position.
- Push either (or both) the Fan/ Motor #1 or Fan/ Motor #2 green “START” Button. This will turn the equipment on.
- Make sure the regulated air pressure is set to 80 PSI.
- Turn the filter pulsing switch to the “ON” position. Verify that all the pulsing solenoids and diaphragm valves are operating in their timed sequence and repeating. After verification turn the filter pulsing switch to the “OFF” position.
- Make sure shipping supports are removed from rotary valve(s) prior to starting.
- Press the Rotary Valve #1 or Rotary Valve #2 (or both) button to “START”. Verify the rotary valves are turning. After turning is verified, press the Rotary Valve STOP button to turn “OFF.”
- The Dust Collector System is now set-up and ready for operation.

Operation with New Cartridges:

- ☐ When the cartridges are new, The Dust Collector System will need to be operated with the manual fan damper partially opened (about 30% open).
 - This will help prevent cartridge damage and overloading the fan motor at start-up.
- ☐ When ready to filter dust, start the fan motor. Push the green “START” button. The green “MOTOR RUN” light will illuminate.
- ☐ Maintain the partial air volume flow rate until the differential pressure across the cartridges reaches 3.5” WG, as indicated on the magnehelic gauge.
 - Cartridges will perform more efficiently when there is a thin layer of dust on the filter media. Running the Dust Collector System with the baghouse filter pulsing switch in the “OFF” position will expedite the differential pressure range.
- ☐ Slowly move the manual fan damper handle to the fully open position (100% open) and start the baghouse “FILTER PULSING” sequence (turn the baghouse switch to the “ON” position).

Operation with Older Cartridges:

- ☐ Slowly move the manual fan damper handle to the fully open position (100% open).
- ☐ When ready to filter dust, start the fan motor. Push the green “START” button.
- ☐ Start the baghouse filter pulsing sequence (turn the baghouse switch to the “ON” position)

WARNING! Filters may contain harmful material. Take the proper steps to clean, dispose, or change the filter media. Use Proper Protective Safety Equipment (PPE), it is recommended to wear a respirator while working with filters or in the filter housing enclosure.

*** Always use proper protective equipment when operating equipment. Hearing protection, safety glasses, gloves, and respirator are recommended. Follow OSHA, State and Federal guidelines.*



Operation of Collection Hopper(s):

- Unit has been supplied with Rotary Valves on each collection hopper discharge. When the rotary valve is “ON”, material will continually discharge from collection hopper and rotary light will illuminate green. Press the red “STOP” button to turn to the “OFF” position when you need the flow of material to stop.
 - ☐ Remove, cover, and dispose of drum or collection bag.
 - ☐ Install new drum or collection bag under collection hopper.
 - ☐ Repeat when needed.

WARNING! DO NOT operate equipment without proper guards or protective parts in place. Failure to do so could cause serious personal injury, death, or property damage.



2.3 EFFECTIVE OPERATIONS & CONSIDERATIONS

The Dust Collection System is designed to operate the most efficient by maintaining 4" WG pressure drop across the cartridges. The magnehelic gauge on the side of the unit monitors the differential pressure. Depending on the characteristics of the dust/particles being collected the pressure drop range may need to lean towards the 6" WG pressure drop to operate effectively.

When the proper conditions apply such as a constant dust load, moisture, and temperature, etc..., the differential pressure will drop as the unit's air volume is decreased. (Manual outlet damper)

The following may or may not drop or decrease The Differential Pressure:

- ☐ The filter pulsing timer "TIME-ON" is increased.
- ☐ The filter pulsing timer "TIME-OFF" is decreased.
- ☐ The air manifold pressure is increased.

MAGNEHELIC DIFFERENTIAL PRESSURE GAUGE MOBILE OR SKID MOUNTED DUST COLLECTOR

This magnehelic gauge indicator ranges between 0" to 10" on the water column. The magnehelic gauge will monitor The Dust Collectors filters and show the differential pressure between the clean side and the dirty side of the filter. A lower reading on the water column indicates a cleaner filter and a higher reading indicates dirty or plugged filters.

With new (or clean) filters, the gauge should read between 0.1" – 1.9" on the water column. Figure A shows The Dust Collector with new (or clean) filters.

The normal operating range should be between 2.0"- 8.9" on the water column. Figure B shows the normal operating range.

As the filters become increasingly dirty, the indicator will move higher on the water column. When the gauge reaches 9" or more on the water column, the filters in The Dust Collector need to be inspected and/or replaced, as shown in Figure C.

Things to Consider:

A low-pressure drop can be obtained but will shorten the cartridge life and use more than the normal amount of compressed air. Higher maintenance costs could be the result with the amount and time of air being increased to the filter pulsing.

A high-pressure drop can be obtained but will make the fan work harder and use more horsepower, which creates a higher amp draw on the electric motor. Higher electric costs could be the result and also reduced air volume through The Dust Collector System.

2.3 EFFECTIVE OPERATIONS & CONSIDERATIONS

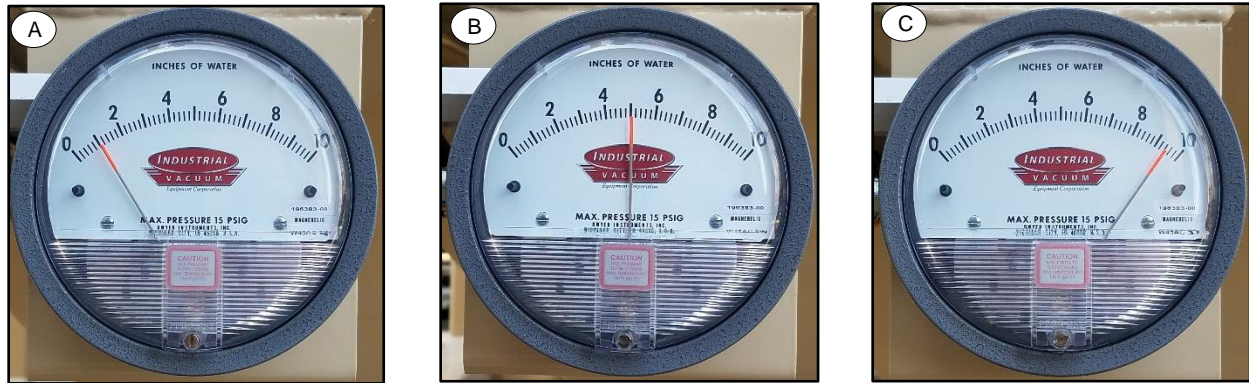
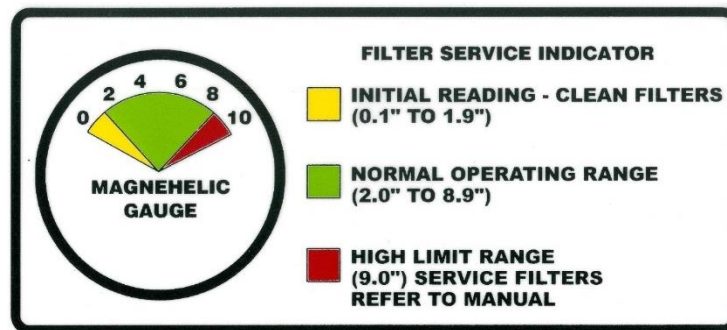


Figure	Identification	Remarks
A	Shows the magnehelic gauge indicating “CLEAN” or “NEW” filter conditions	
B	Shows the magnehelic gauge indicating “NORMAL” operating range	
C	Shows the magnehelic gauge indicating “DIRTY” conditions requiring inspection/maintenance	



DO NOT exceed 80-PSI pressure on the air manifolds. Failure to comply with these recommendations will result in cartridge or diaphragm failure.

Increasing the filter pulsing timer “TIME ON” will also increase the amount of compressed air used and for most applications this will not change the efficiency.

For optimum performance, from The Dust Collector System, it is key to keep a constant range of 4”-6” WG pressure drop across the cartridges. This will insure a coating of dust on the cartridges to work properly and have a longer life expectancy. If the cartridges **DO NOT** have a coating or layer of dust covering the filter media there is a chance of dust emissions to pull thru, usually on initial start-up of new cartridges.

2.4 SHUTDOWN PROCEDURE

- ☐ Push the red “STOP” button on each device, both Motor #1 and Motor #2. This will shut-off power to the fan motor.
- ☐ Allow the filter pulsing timer to cycle two (2) or three (3) times before turning the baghouse “FILTER PULSING” switch to the “OFF” position. This will allow the cartridges to have some additional cleaning time.
- Doing this each time for shutdown will help cartridge life. Cleaning the cartridges while the fan is in the “OFF” position will also help take care of hygroscopic or sticky dusts that tend to cling on the pleats.
- ☐ Allow material to discharge and empty collection hopper. Once collection hopper is empty, press the red Rotary Valve button to turn to “OFF” position on each device, both rotary valve #1 and rotary valve #2.
- ☐ Move the main disconnect lever, located on the panel, to the “OFF” position. Also move the safety switch disconnect lever to the “OFF” position.
- ☐ Remove and dispose of drum(s).
- ☐ Disconnect electrical, air, water supply and duct hose connections before moving or transporting
- ☐ Once these procedures are done, The Dust Collector System will be ready for moving or transporting.

2.5 EMERGENCY SHUT DOWN PROCEDURE

To engage The Dust Collectors Emergency Stop; PUSH the Red button, encircled in yellow, labeled EMERGENCY. Once E-Stop has been activated the dust collector system will completely shut down.

To disengage The Dust Collectors Emergency Stop; PULL the Red button, encircled in yellow, labeled EMERGENCY. This will RESET the system and operations can continue by pressing the Motor/ Fan green “START” button, **Refer to SECTION 2.2 OPERATING THE DUST COLLECTION SYSTEM – INITIAL START-UP.**

SECTION 3: MAINTENANCE AND TROUBLESHOOTING INSTRUCTIONS

3.1 ROUTINE MAINTENANCE

DAILY

- ☐ Drain moisture from Air Manifold(s)
- ☐ Check for air leakage on Components and fix if needed.
- ☐ Make sure there is no obstructions around Inlet and Outlet Connections.
- ☐ Monitor and empty Collection Hopper.

NOTE: It is IMPORTANT to remember to continuously check that the Collection Hopper is never more than 50% full.

WARNING! ALWAYS empty the Collection Hopper(s) and take the proper steps to clean and dispose of the waste.

***** ALWAYS following OSHA's State and Federal guidelines.**

- ☐ Visually inspect the Fan Outlet Damper for dust emissions. If dust is visible check condition of cartridges for holes or loose fit.
- ☐ Monitor differential pressure range and keep between 4"-7" WG. Never Exceed 9" WG. **(Refer to 3.5 TROUBLESHOOTING SECTION)**

WEEKLY OR PERIODICALLY

- ☐ Inspect Fan Housing for foreign material. Drain or remove if needed. **(Refer to FAN MAINTENANCE AND TROUBLESHOOTING MANUAL)**
- ☐ Inspect bearings and handle control on damper. **(Refer to FAN MAINTENANCE AND TROUBLESHOOTING MANUAL)**
- ☐ Make sure moisture is kept out of the Air System and Cartridge Area.
- ☐ Grease Motor. **(Refer to the WVEC MAINTENANCE AND TROUBLESHOOTING MANUAL)**
- ☐ Check Access Door and Collector Area for possible leaks, gasket condition, and corrosion or build-up.
- ☐ Check lubrication on The Rotary Valve Discharge System's components; Gear 'Speed' Reducer, Bearings, Seals/Packing Glands, Chain Drive **(refer to ROTARY AIRLOCK FEEDERS MANUAL.)**
- ☐ Check Gear 'Speed' Reducer (component on The Rotary Valve Discharge System) Oil. Taking periodic examination of oil samples, to help establish appropriate oil change interval **(refer to SE ENCORE WINDSMITH SPEED REDUCERS MANUAL)**

MAKING SURE ROUTINE MAINTENANCE IS DONE TO THE DUST COLLECTOR SYSTEM, WILL ENSURE MANY YEARS OF TROUBLE FREE OPERATIONS!

3.1 Maintenance Schedule

20 DCS Maintenance Schedule:		Frequency						
Service		Daily	Weekly	Monthly	3 Months or 250 Hours	6 Months or 500 Hours	1 Year or 1000 Hours	2 Year or 2000 Hours
Symbols Used: (*)=Initial Break-In 100 Hours, A=Adjustment, C=Check, R=Replace/Renew								
Skid	Rotary Valve Discharge Closed, Empty Collection Cone, Manual Damper Closed, Inlet Hose Connections, Electrical Power Hook up	Start-Up or Shutdown Inspection						
Electric Motor	Grease Zerks					C		
	Fan, Cooling	C			C			
	Mounting Hardware			C				
	Grease Relief- Purge				C			
Manual Damper	Grease -Zerk Points				R			
	Linkage and Levers					C		
Centrifugal Fan	Fan Housing Drain	C						
	Exhaust No Obstructions			C				
	Spring Vibration Mounts		C					
	Mounting Hardware			C				
	Fan Wheel						C	
	Shaft Seal						C	
	Rubber Fan Connection						C	
Pneumatic System	Diaphragms/Solenoids	C						
	Pulsing Timer Function	C						
	Drain Air Tanks (2)	C						
	Regulator 85 PSI Max.				C			
Filtering System	Fan Discharge -Dust	C						
	Magnehelic Gauge	C						
	Dust Collector Cartridges			C				
	Magnehelic Gauge Filter	C						
	Empty Collection Cones	C						
Electrical System	Instrumentation	C						
	Solenoid Cables	C						
	Incoming Power	C						
Collection Cone	Discharge Opening	C						
	Collection Cone Empty	C						
	Rotary Valve Lubrication	C						

3.2 CARTRIDGE REMOVAL AND INSTALLATION

The Dust Collector System should be in the stowed position to easily access the Cartridge Area. Also, use the appropriate Personal Protective Equipment (PPE) when removing used cartridges. ALWAYS following OSHA's State and Federal Guidelines.



WARNING! Filters may contain harmful material. Take the proper steps to clean, dispose, or change the filter media. Use Proper Protective Safety Equipment (PPE), it is recommended to wear a respirator while working with filters or in the filter housing enclosure.

*****ALWAYS** following OSHA's State and Federal Guidelines.

- ☐ Open filter access door by pulling out handle and rotating 90-degrees.
NOTE: Doors maybe locked... Key access needed.
- ☐ Start with removing the ½" Handle Nuts and Cartridge retaining Plates with Gasket.
- ☐ Cartridges should be removed from Top to Bottom. Carefully slide the used Cartridges of the support rails. Dispose of the used Filter Cartridges Following OSHA's State and Federal Guidelines.
- ☐ At this time, Check the collection hopper for maintenance or cleaning.
- ☐ Install the new cartridges by using the same process above.

NOTE: The gasket side of the cartridge should face the vertical tube sheet of the Collector Area. (Opposite of the Access Door)

- ☐ Place the cartridge retaining plate with gasket facing towards the cartridge and tighten the ½" handle nut.
- ☐ The Cartridges are properly tightened when they can no longer spin or move on their axis.

*** **Make sure to double check that ALL cartridges are tight!** ***

- ☐ Inspect Gaskets on Access Door.
- ☐ Close door(s), install washers and tighten ½" Stainless Steel Nuts.
- ☐ Make sure the filter access doors are shut and sealed. Lock if necessary.
- ☐ Refer to **SECTION 2.1 INITIAL START-UP PROCEDURES**, for new cartridges.

WARNING! ALWAYS use Proper Protective Equipment (PPE) when Operating or working near Dust Collection Equipment. Protective Footwear, Hearing Protection, and Safety Glasses are all recommended for during Operations.

*****ALWAYS** following OSHA's State and Federal Guidelines.

3.3 CARTRIDGE REMOVAL/INSTALLATION VIEW AND IDENTIFICATION



Key	Identification	Remarks
A	Filter Housing Access Door	(4) Shown in OPEN Position
B	Filter Cartridges	(16) UX-Nano MERV 15 Rated
C	Tube Sheet	
D	Filter Access Door Lockable Latch	Key Entry Option / Lock-Out
E	½" Handle Nut	(16)
F	Filter Cartridge Plate w/ Gasket	(16)
G	Cartridge Support Rails	

WARNING! Filters may contain harmful material. Take the proper steps to clean, dispose, or change the filter media. Use Proper Protective Safety Equipment (PPE), it is recommended to wear a respirator while working with filters or in the filter housing enclosure.

*****ALWAYS** following OSHA's State and Federal Guidelines.



3.3 CARTRIDGE REMOVAL/INSTALLATION VIEW AND IDENTIFICATION

Filter Enclosure Safety Recommendations and Reminders

WARNING! Filters may contain harmful material. Take the proper steps to clean, dispose, or change the filter media. Use Proper Protective Safety Equipment (PPE), it is recommended to wear a respirator while working with filters or in the filter housing enclosure.

*****Always use proper protective equipment when operating equipment. Hearing protection, safety glasses, gloves, and respirator are recommended. Follow OSHA, State and Federal guidelines.***



WARNING! NEVER open Filter Access Doors while Dust Collection System is running.

WARNING! NEVER start any kind of maintenance on Dust Collection System unless **ALL** power to the driven equipment has been shut down. Disconnect and lock out power before entering or servicing the equipment.

WARNING! NEVER go into the Filter Enclosure without implementing proper lock out tag out procedures.

WARNING! DO NOT operate equipment if dust is visible from fan discharge. Shut down unit and contact manufacturer if dust is visible.

WARNING! Work in well-ventilated areas and **DO NOT** use Dust Collector on explosive materials and/or gases.

WARNING! ALWAYS empty the Collection Hopper(s) and take the proper steps to clean and dispose of the waste.

*****ALWAYS following OSHA's State and Federal guidelines.**

WARNING! NEVER lift or transport The Dust Collector System with the collection hopper full. Dust Collector should **ONLY** be lifted or transported while collection hopper is **EMPTY**.

Filter Cartridge Removal & Installation

Removal

1) Turn ½" Handle Nut Counterclockwise (CCW) to loosen and remove.



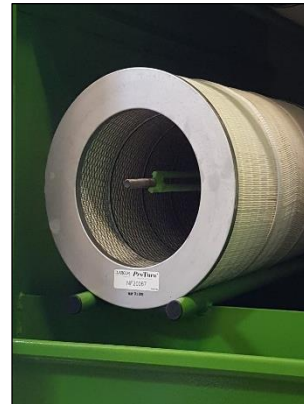
2) Filter Plate shown without ½" Handle Nut.



3) Once ½" Handle Nut has been removed, carefully "Pull" Filter Plate towards you to take off.



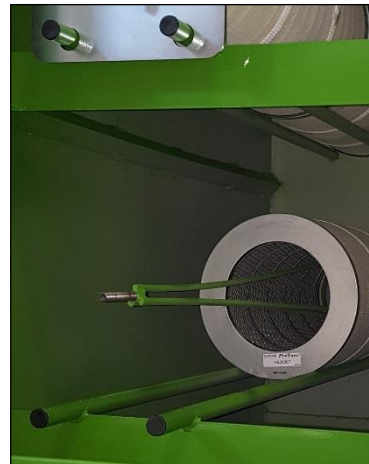
4) Filter Cartridge shown after Filter Plate has been fully removed.



5) There are two (2) rows of Filter Cartridges. Once Filter Plate is removed, slowly remove first row of filter Cartridges by "Pulling" towards you.



6). Second Row of Filter Cartridge shown after removal of First Row.



Filter Cartridge Removal & Installation

Removal

7) To get to Second Filter Cartridge reach into Filter Enclosure, repeating Step 5.



8) Showing the bare Cartridge Support Rails. Once both rows of Filters are removed.



Continue Following Steps 1-8 until desired or until all 32 Filter Cartridges have been removed.

1 There are eight (8) Filter Cartridges behind each of the Filter Access doors; two (2) rows of two (2). The Dust Collector System has thirty-two (32) Filter Cartridges in total.

WARNING! Filters may contain harmful material. Take the proper steps to clean, dispose, or change the filter media. Use Proper Protective Safety Equipment (PPE), it is recommended to wear a respirator while working with filters or in the filter housing enclosure.

****Always use proper protective equipment when operating equipment. Hearing protection, safety glasses, gloves, and respirator are recommended. Follow OSHA, State and Federal guidelines.**



WARNING! NEVER start any kind of maintenance on Dust Collection System unless **ALL** power to the driven equipment has been shut down. Disconnect and lock out power before entering or servicing the equipment.

Filter Cartridge Removal & Installation

Installation

To Install the Filter Cartridges. Follow the "Removal" Instructions backwards, starting with Step 8 and finishing with Step 1.

Showing bare Filter Enclosure, Prior to Installation of Filter Cartridges.



1) Each Filter Cartridge has a Black Seal on one (1) end. This end should be facing away from you upon installation.



2) Carefully lift and set Filter Cartridge (with Black Seal facing away) onto Cartridge Support Rails, "Pushing" the Filter Cartridge in and away from you.



3) There are two (2) Filter Cartridges per each row. Showing first installed Filter Cartridge



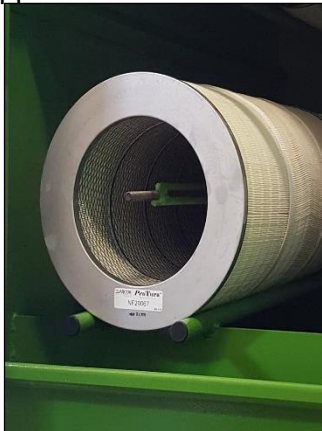
4) Repeat Step #2 with second Filter Cartridge.



Filter Cartridge Removal & Installation

Installation

5) Filter Cartridges shown after both installed on to Cartridge Support Rails.



6) Once Filters are resting on Cartridge Support rails; you are ready to install Filter Plate. Filter Plate has a Black Seal that should be facing towards the Filter Cartridges when installed.



7) With the Filter Plate's Black Seal facing towards Filter Cartridges, align the holes with rails, slowly "Pushing" Into place.



8) Filter Plate shown aligned with Cartridge Support Rails.



9) Take ½" Handle Nut, turn clockwise (CW) to tighten.



Continue to repeat this process, Installation Steps 1-9, until finished with Filter Cartridges Installation.



3.4 ROTARY VALVE DISCHARGE SYSTEM

General Information

The Rotary Valve Discharge System consists of:

- ☐ (2) 8" Rotary Valves
- ☐ (2) Chain Drive Assemblies with Safety Guards
- ☐ (2) Rotary Head-plates
- ☐ (2) Gear Reducers with Motors

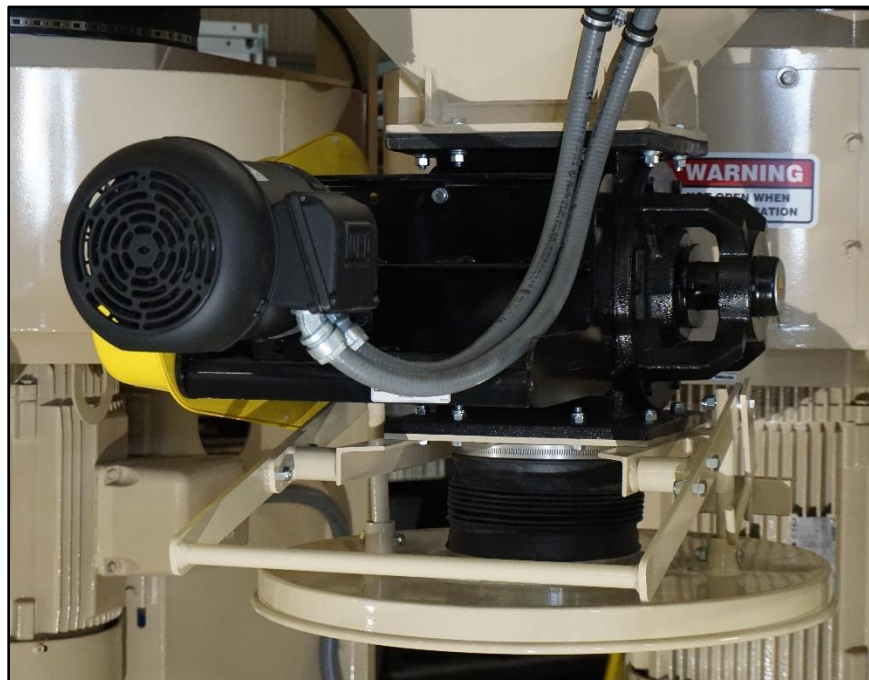


WARNING! PRIOR to operations, REMOVE shipping supports. NEVER operate this equipment with unguarded inlet or outlet.

WARNING! DO NOT operate equipment without proper guards or protective parts in place. Failure to do so could cause serious personal injury, death, or property damage.

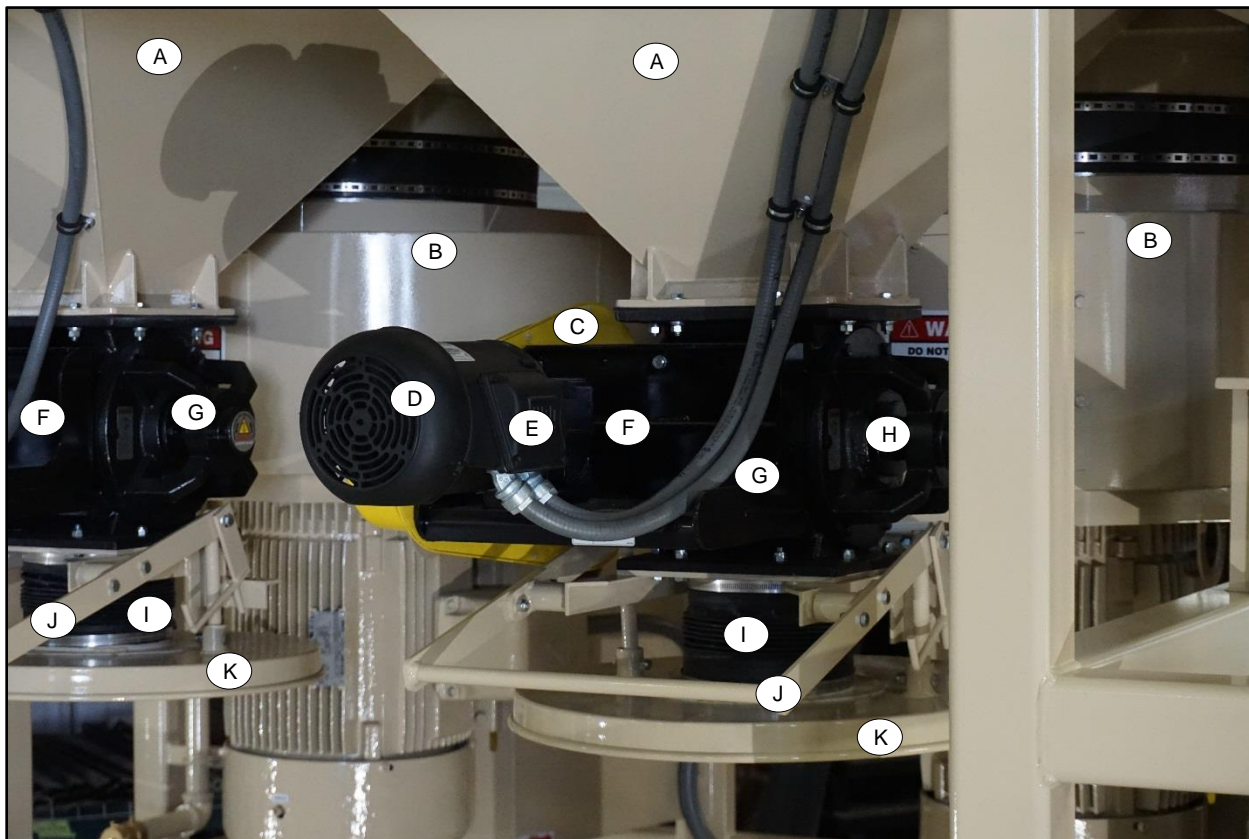


WARNING! ALWAYS disconnect power when working on The Rotary Discharge Valve. Follow Lockout-Tagout procedures.



3.4. ROTARY VALVE DISCHARGE SYSTEM

System Overview and Identification



Key	Identification	Remarks
A	Collection Cone Area	(3)
B	HDBI-220 Fan	(2) #1 and #2
C	Drive Chain Guard	(2)
D	Gear Reducer Motor	(2)
E	Gear Reducer Motor Junction Box	(2)
F	Gear "Speed" Reducer	(2)
G	Rotary Valve	(2)
H	Rotary Head-Plate	(2)
I	Flexible 10" Discharge Hose	(2)
J	Adjustable Drum Cover Manual Handle	(2)
K	Adjustable Drum Cover	(2)

3.4 ROTARY VALVE DISCHARGE SYSTEM

Start-up Procedures

1. Prior to actual operation, the operator must be familiar with the method of starting and stopping the Rotary Airlock Feeder.
2. The general appearance of the Rotary Airlock Feeder and surrounding area should be visually inspected to determine that the valve can be operated safely and without causing any type of damage.
3. The speed reducer has been filled to the correct oil level with the appropriate lubricant by the manufacturer.
4. "Bump" the unit with the motor starter to check for correct rotation. Change the phase sequence to the motor if rotation is wrong. Always assure the unit is properly grounded in accordance with OSHA, the NEC and local codes.
5. Start the unit again, noting any unusual noise or vibration. If noise is evident it is recommended that the equipment be shut down and contact the factory immediately.
6. All chain and flange guards must be in place and closed securely whenever the Rotary Airlock Feeder is in service.
7. After the initial operating period, we recommend that your plant engineering and maintenance personnel continue to monitor the operation of the unit on a regular schedule. Particular attention should be paid to the following items:

a. Speed Reducer

Monitor gearbox during startup for excessive heat, vibration or unusual noise which may indicate a problem with the speed reducer.

b. Bearings

The condition of Rotary Airlock Feeder bearings should be checked routinely. Excessive heat, vibration, or unusual noise indicates a potential problem.

c. Seals

The type of seal depends on the model and options of your Meyer Rotary Airlock Feeder. Maintenance is limited to replacement of the packing when the wear and leakage becomes excessive.

d. Drive

The drive should run smoothly with minimal vibration. If a problem exists consult Meyer for an application review.

Rotary Valve Discharge System Inspection:

WARNING! NEVER attempt to touch, adjust, change, fix, service, repair equipment/components on equipment **IF** performing a **VISUAL INSPECTION** while equipment's operating. **WAIT UNTIL POWERED OFF!!!**

WARNING! Before beginning any work on The Rotary Valve Discharge System, make sure that the power to the gearbox/motor is **DISCONNECTED** and **LOCKED OUT**. Failure to do so could result in damage, severe injury or even death.



General Inspection:

Look over Rotary Valve Discharge System prior to start-up, watching for anything that may indicate equipment issues. It is recommended, however; to carefully continue observing the equipment during operations and if an issue arises to discontinue operations immediately (**refer to ROTARY AIRLOCK FEEDERS MANUAL.**)

- Prior to actual operation, operators must be familiar with starting and stopping the Rotary Valve Discharge System.
 - Visually inspect the general appearance of the system and surrounding areas. Watch for oil leaks on or around equipment and determine the equipment can safely operate without causing damage.
 - Pay attention to equipment, watching for any unusual vibrations, noise or any operating temperatures exceeding the maximum specs for your equipment.
 - Check the flange and purge connections, and nuts/cap screws for tightness
 - Inspect inlet and outlet fittings, flanges and ducts for leaks.
-

Periodic Inspection:

In addition to the General Inspection, it is recommended to do Weekly and/or inspection of The Rotary Valve Discharge System, this is needed to ensure proper performance. **(refer to ROTARY AIRLOCK FEEDERS and SE ENCORE WINDSMITH SPEED REDUCERS MANUALS.)**

☐ **Gear 'Speed' Reducer-**

- Check Oil and adjust accordingly- **(refer to SE ENCORE WINDSMITH SPEED REDUCERS MANUAL)**
 - Only Mobil Glycoyle 460 or compatible lubricant.
 - Periodic examination of oil samples taken, will help establish the appropriate oil change interval. Application Conditions will ultimately determine how often to change oil.
- Grease Fittings **(refer to SE ENCORE WINDSMITH SPEED REDUCERS MANUAL)**
 - Mobilith SHC 220 or equivalent (NLGI#2) lubricant.
 - Recommended Greasing interval is about every 3-6 months depending on the operating conditions
- Oil Seals and Wear Components such as Oil, Seals, Bearings and Gears. **(refer to SE ENCORE WINDSMITH SPEED REDUCERS MANUAL)**
 - Depending on application, environmental and other operating factors, these "normal" wear components should be replaced at the first signs of indicated wear. Some may need to be replaced more frequently than others.

☐ **Chain Drive**

The drive should run smoothly with minimal vibration. Watch for any unusual vibrations, noise.

- Remove Chain Drive Guard(s) **(refer to ROTARY AIRLOCK FEEDERS MANUAL.)**
 - Inspect hardware. Weekly inspection of chain drive is needed to ensure the engagement of the chain around the sprockets are tight. Stretching of the chain can occur with a continuous load. Also visual inspection of the alignment of the sprockets should be verified. Failure to keep chain tight and sprocket alignment may cause premature wear or damage to the Chain Drive.
- The chain should be oiled periodically, with a brush or spout can **(refer to ROTARY AIRLOCK FEEDERS MANUAL.)**
 - Oil recommendation is about every 50 hours.
 - Use a good grade, non-detergent petroleum base oil.
- After chain drive, has been inspected and/or maintained Reinstall the Chain Drive Guards. **NEVER OPERATE WITH THE DRIVE CHAIN GUARD REMOVED!!**



3.5 TROUBLESHOOTING

Very High Differential Pressure

- ☐ Check Compressed Air Pressure (80-PSI Max.) Regulate if needed.
- ☐ Check Filter Pulsing System for proper operations. Make sure all diaphragms and solenoids are working.
- ☐ If none of the Valves are pulsing. Check timer operation and compressed air supply.
- ☐ If some of the valves are not pulsing, check for solenoid loose wiring or solenoid valve blockage or damage.
- ☐ Assuming all valves are operating properly, decrease the filter pulsing timer "TIME-OFF" and evaluate improvement.
- ☐ Operate the filter Pulsing System with the fan turned to the "OFF" Position for approximately 20 minutes. If the differential pressure is about the same after turning the fan "ON" again, the cartridges may be plugged, which will require a cartridge change.
- ☐ Check for moisture or oil in the air supply. If the cartridges are damp they will have high dust build up. **(Refer to SECTION 1.5 CONNECTING COMPRESSED AIR SUPPLY)**
- ☐ Check for dew point of Dust-Laden Air. Severe moisture conditions may require insulating and heat treating the collector.
- ☐ Check the main air flow volume with an air measuring device to insure the dust collector system is working properly for its designed conditions.
- ☐ Check the dust particle size, air temperature and moisture against its designed conditions.
- ☐ Check collection hopper to make sure it is empty. If material starts sticking or bridging inside the hopper it will need to be removed. Open sure seal valve and empty collection hopper into 55-gallon storage container more often. Make sure discharge hose is not plugged.

NOTE: Preventative maintenance should be done or options can be installed to help keep The Collection Hopper clean.

- ☐ Excessive build-up of material in the Collection Hopper contributes to a High Differential Pressure Drop and premature wear of the Filter Cartridges.



NEVER start any kind of maintenance on DUST COLLECTOR SYSTEM unless **ALL** power-driven equipment has been shut down. Disconnect and lock out power before entering hopper or servicing the equipment.

Very Low Differential Pressure

- ☐ Inspect Magnehelic Gauge and Connection Hoses.
- ☐ Measure air volume (ACFM) that is going through The Dust Collection System.
- ☐ Reduce filter pulsing frequency by increasing the timer's "TIME-OFF" Setting.

Dust Emission

- ☐ Check for improper Filter Cartridge Installation.
- ☐ Check Filter Cartridges for holes or wear. Replace the worn out Cartridges.
- ☐ Reduce the filter pulsing frequency by increasing the timer's "TIME-OFF" Setting.
- ☐ After installation of new cartridges and before performing emission tests, allow The Dust Collector System to filter Dust-Laden Air for about 48 hours. The Cartridges need to have time to get a coating of dust on the filter media to achieve optimal performance.

Poor Cartridge Life

- ☐ Measure actual Air Volume (ACFM) and compare against its design specs. Excessive Dust-Laden Air, along with Abrasive Dust will shorten filter Cartridge life.
- ☐ If cartridges show signs of wearing in certain areas of The Collector, a modified baffle may be required inside The Collector. Contact Manufacturer for assistance.
- ☐ Check operating Temperature. It should be within the Manufacturer's specs of the filter media being used. Also check characteristics of the dust and make sure the appropriate filter media is being used.
- ☐ Check for moisture problems in the Collector Area. High moisture will cause cartridges to have excessive dust build-up. This will make the performance of The Dust Collector System to operate at elevated pressure drops and lower air volume.
- ☐ If experiencing other problems, please contact the Manufacturer for further assistance.

WARNING! Filters may contain harmful material. Take the proper steps to clean, dispose, or change the filter media. Use Proper Protective Safety Equipment (PPE), it is recommended to wear a respirator while working with filters or in the filter housing enclosure.

*****ALWAYS** following OSHA's State and Federal Guidelines.

3.6 TECHNICAL SUPPORT AND CONTACT INFORMATION



INDUSTRIAL VACUUM EQUIPMENT CORP.
N7959 BIRCH ROAD
IXONIA, WI 53036
1-800-331-4832
www.industrialvacuum.com

SECTION 4: SPECIFICATIONS AND OPTIONAL EQUIPMENT

4.1 EQUIPMENT DATA

The DC 20000 ES Model Dust Collector System **HAS** the following Standard Equipment:

- ☐ Standard Equipment Options
 - ☐ (2) 40HP Premium Electric IEEE Motor
 - ☐ Motor Outlet Plugs for Purge of Grease
 - ☐ (2) HDBI-220, Direct Drive Fan, 16" WG, 3 Blade Damper
 - ☐ (2) Discharge Silencer, 84DbA @ 3 Feet
 - ☐ 80 HP Rated Motortronics Soft Starter, NEMA 4X
 - ☐ 100 VA Extra Capacity Transformer
 - ☐ Visible Blade Main Disconnect, NEMA 4X
 - ☐ Run Light, START/STOP Push Button, Filter Switch, E-Stop
 - ☐ Camlock Connection with Separate Box, NEMA 4X
 - ☐ Rain Guards on NEMA 4X Enclosures
 - ☐ Explosion Vent, 18" x 35"
 - ☐ (8) Head Internal Filter Sprinkler System
 - ☐ 1 1/2" NPT Water Connection
 - ☐ (4) 8" Dia, Hose Connections with Flanged Inlet Backdraft Dampers on Each Side
 - ☐ Damper Control, Low Mount
 - ☐ UX-NANO MERV 15 Rated Filter Cartridges
 - ☐ (2) 8" HDX Rotary Valves
 - ☐ Certified 4-Point Lift Cage, 6" x 12" Fork Tubes
 - ☐ Height and Weight Decal Stickers
 - ☐ UL Listed and Tested
 - ☐ Stainless Steel ID Plates and PCB Plate
 - ☐ Lift Eyes Magnetic Particle Tested
 - ☐ Lift Eyes Stamped "WLL 8,000 Lbs." and "Test Date"
-

4.1 EQUIPMENT DATA

The DC 20000 ES Model Dust Collector System **HAS** the following Operating, Design, and Construction Data:

- ☐ 20,000 ACFM (Air Volume)
 - ☐ 16" WG (Operating Pressure)
 - ☐ Very fine Iron Oxide & Paint Fines less than (<) 1 GR./CU. FT. (Dust Info.)
 - ☐ Ambient (Operating Temperature)
 - ☐ Outdoor Mobile Equipment
 - ☐ Weight of Unit 12,500lbs. (Empty) 10% unexpected Growth (13,750lbs)
 - ☐ 25" WG (Design Pressure)
 - ☐ 24 SCFM @ 80-PSI (Required Air Compressor)
 - ☐ 7,232 SQ. FT. Filter Area
 - ☐ 2.77/1 (Air to Filter Area Ratio)
 - ☐ 12 and 10 Gauge Carbon Steel Construction
 - ☐ Cartridges (12.75" Dia. x 26" Long) 226 SQ. FT. of Filter- UX Cellulose/Poly Blend, MERV 15 Rating
-

4.4 OPTIONAL EQUIPMENT

The DC 20000 ES Model Dust Collector System **CAN HAVE** the following Optional Equipment:

- ☐ Electric and Diesel Dual Package
 - ☐ Diesel Power Package
 - ☐ DOT Approved Tandem Axle Trailer (Pintle or Gooseneck Style)
 - ☐ Air Compressor Package
 - ☐ Sound Package for Quiet Operations
 - ☐ Hydraulic Telescoping Lift
 - ☐ Removable Feet- Casters, V-Groove, Vibration Pads
 - ☐ Discharge Height Leg Extensions
 - ☐ Emergency Shut-Down
 - ☐ Fire Trace, Fire Suppression System with or without Alarm
 - ☐ UX-NANO Fire Retardant Media
 - ☐ Explosion Proof Vent, Fan and or Motor
 - ☐ On Board Fire Extinguisher
 - ☐ Camlock Connectors (Electric Panel Connections)
 - ☐ Custom Outlet and Inlet Transitions
 - ☐ Collection Vibrators
 - ☐ Walkways and Railings
 - ☐ Ladder Kit
 - ☐ Hose and Connection Supplies
 - ☐ LED Work Lights
-

SECTION 5:

MAJOR COMPONENTS AND REFERENCE INFORMATION

5.1 MOTOR AND STARTER

DESCRIPTION: (2) 40H P Premium Electric IEEE Motor
MANUFACTURER: Hyundai

DESCRIPTION: 80 HP Rated Motortronics Soft Starter NEMA 4X
MANUFACTURER: Siemens

5.2 FAN

DESCRIPTION: (2) HDBI-220 Fan, Direct Drive, 3 Blade Damper
MANUFACTURER: Cincinnati Fan

DESCRIPTION: (2) Discharge Silencer, 84 Dba @ 3FT.
MANUFACTURER: DB Noise Reduction

5.3 ELECTRICAL COMPONENTS

DESCRIPTION: 120-Volt 16 Station Pulsing Timer
MANUFACTURER: Dwyer

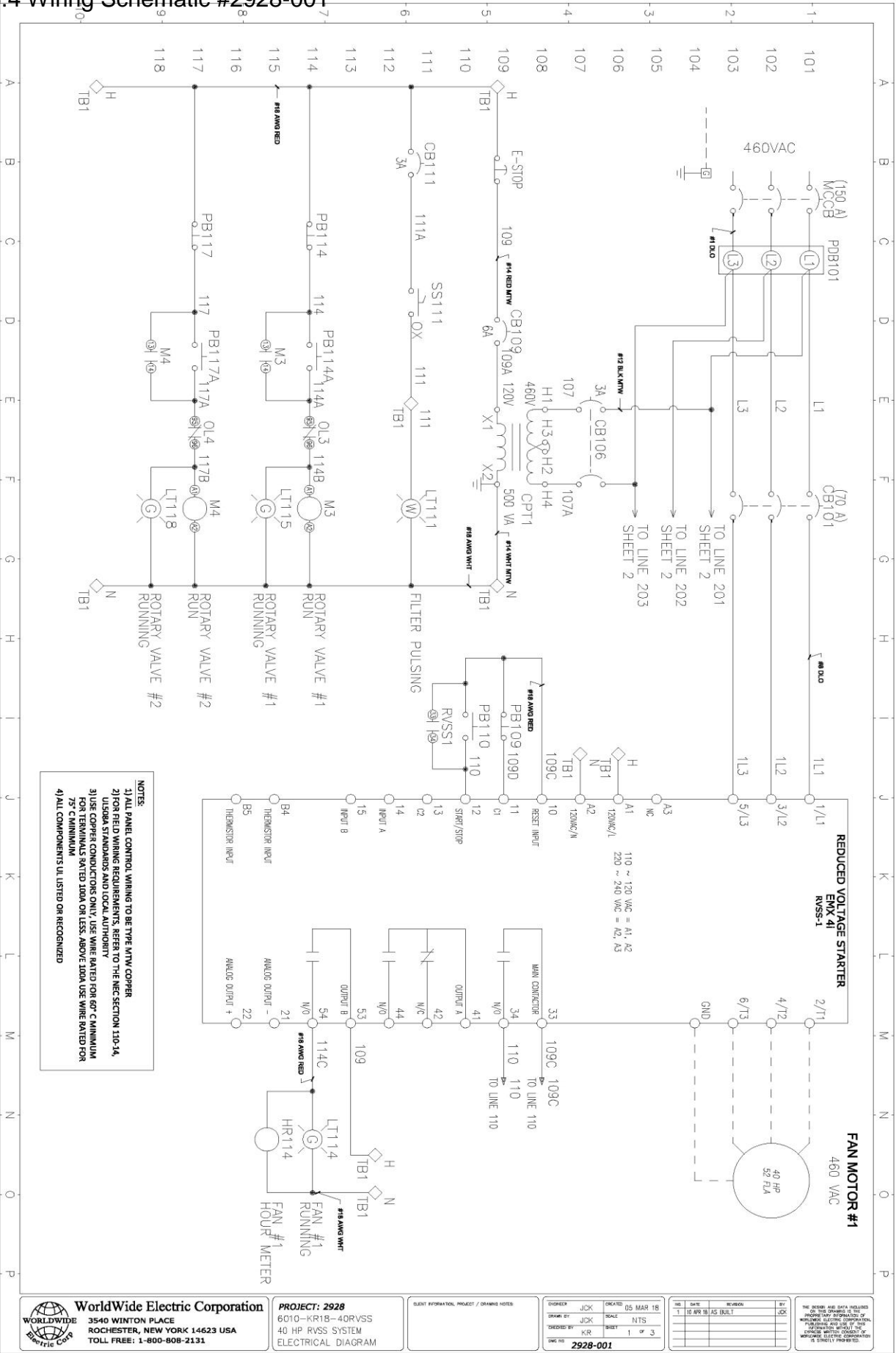
DESCRIPTION: 120-Volt Filter Solenoid (16)
MANUFACTURER: Turbo

DESCRIPTION: (2) 120-Volt M12 Junction Block- 8 Station
MANUFACTURER: MURR

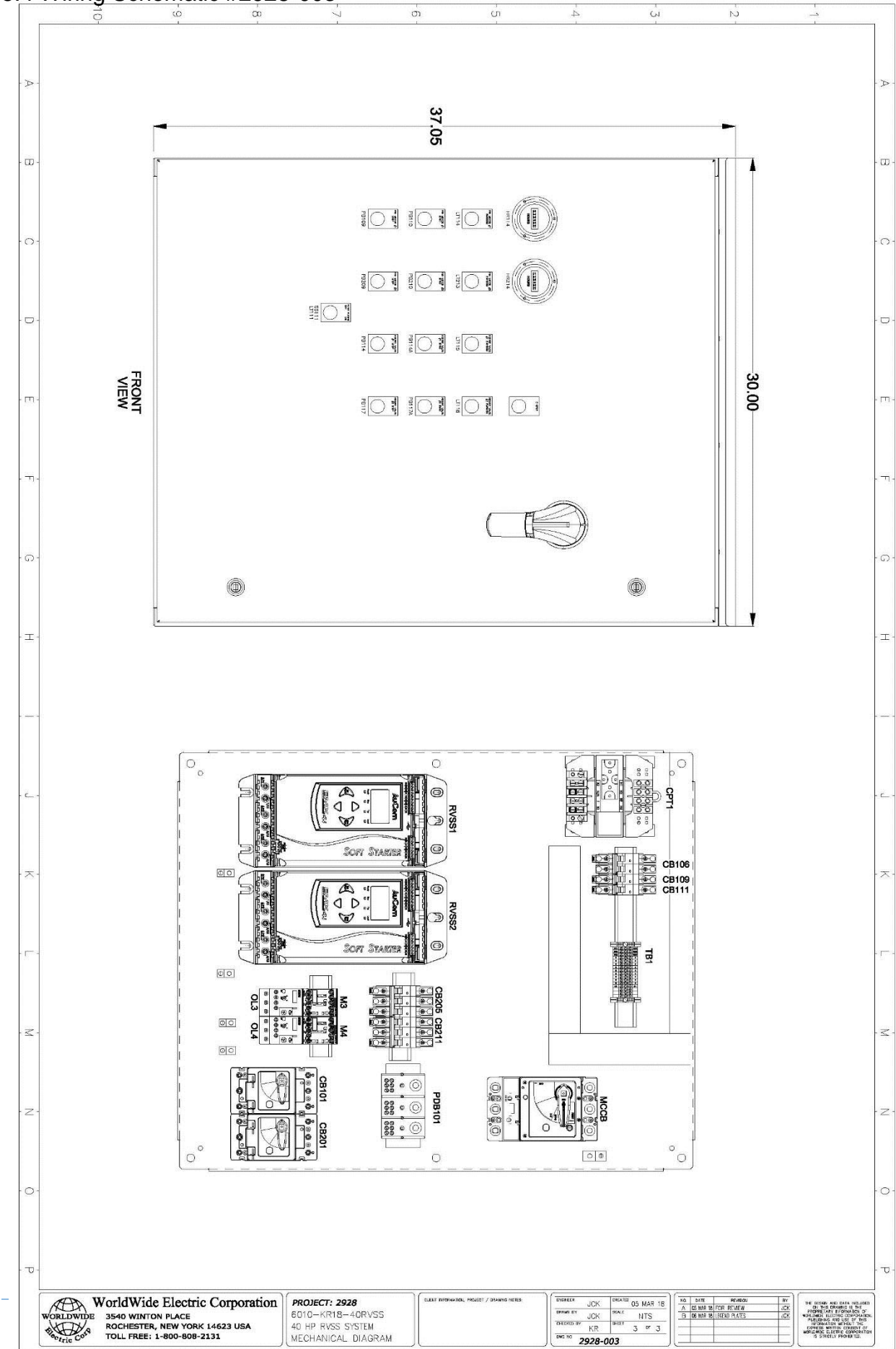
DESCRIPTION: (16) 120-Volt Solenoid Cable- M12 x 18 MM DINN
MANUFACTURER: MURR

5.4 WIRING SCHEMATICS

5.4 Wiring Schematic #2928-001



5.4 Wiring Schematic #2928-003



SECTION 6: WARRANTY AND SERVICE NOTES

INDUSTRIAL VACUUM EQUIPMENT CORP. LIMITED WARRANTY

Seller warrants each new product to be free from defects in material and workmanship under normal use and maintenance as herein described. This warranty does not apply to commercial items manufactured by others (Cincinnati fans, Worldwide Electric Motors, etc.), which are covered by existing warranties of the representative manufacturers thereof. Seller's sole obligation under this warranty shall be limited to repairing, replacing or allowing credit for, at Seller's option, any part which under normal and proper use and maintenance proves defective in material or workmanship within twelve (12) months after delivery to Buyer. In the event of defects developing within that period, the Seller will furnish, F.O.B. its plant, without charge, parts required to replace material found defective. Beyond this, the Seller assumes no responsibility.

This warranty is in lieu of all other warranties (except of title), expressed or implied, and there is not an implied warranty of merchantability or fitness for a particular purpose. In no event shall Seller be liable for consequential or special damages.

Used products are sold on an "as is" basis and there is no implied warranty of merchantability or of fitness for a particular purpose, unless otherwise expressly stated on the face of this form.

SERVICE NOTES

SECTION 7: SPARE PARTS LIST



Qty	Item #	Description
32	FN3777-N	20,000 CFM Electric Skid Mounted Dust Collector Filter- UX- Nano MERV 15 Rated, NF20067 BHA
1	EC2001-22	22 Station 120 Volt Baghouse Timer
16	AR4016-2	1" Diaphragm Filter Pulsing Assembly w/ Integrated Solenoid
1	AR4017-2	1" Diaphragm Rebuild Kit for 20,000 ES Dust Collector
2	DCP95150	MURR-EL Exact Molded Cable, 88412-3621000 MURR Elektronik
16	DCP95151	MURR-EL MSUD Valve Plug,40891-2260100 MURR Elektronik
16	AR4015-1	120- Volt Solenoid for Dust Collector w/ Murr Wiring
1	AR4018	20,000 CFM Electric Skid Dust Collector 120 Volt Solenoid Rebuild Kit
16	FN3779	½" Handle Nut
8	DCP1003	Door Latch Assembly
1	FP91200	OSECO Explosion Relief Vent
8	DCP-3282-0800	8" QF Hose Adapters
8	DCP-3260-0800	8" QF Clamps

TOLL FREE: 800-331-4832

N7959 BIRCH ROAD

FAX: 920-261-1136

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