

Lean Cell™ Powder Spray System

Customer Product Manual

Part 1601197-02

Issued 6/16

For parts and technical support, call the Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

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Lean Cell Powder Spray System

Safety

Read and follow these safety instructions. Task- and equipment-specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to all persons operating or servicing equipment.

Qualified Personnel

Equipment owners are responsible for making sure that Nordson equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

Intended Use

Use of Nordson equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include

- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson equipment will be voided if instructions for installation, operation, and service are not followed.

All phases of equipment installation must comply with all federal, state, and local codes.

Personal Safety

To prevent injury, follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing any moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- Obtain and read Safety Data Sheets (SDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

Fire Safety

To avoid a fire or explosion, follow these instructions.

- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Provide adequate ventilation to prevent dangerous concentrations of volatile materials or vapors. Refer to local codes or your material SDS for guidance.
- Do not disconnect live electrical circuits while working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson representative for parts information and advice.

Grounding



WARNING: Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.

Grounding inside and around the booth openings must comply with NFPA requirements for Class II Division 1 or 2 Hazardous Locations. Refer to NFPA 33, NFPA 70 (NEC articles 500, 502, and 516), and NFPA 77, latest conditions.

- All electrically conductive objects in the spray areas shall be electrically connected to ground with a resistance of not more than 1 megohm as measured with an instrument that applies at least 500 volts to the circuit being evaluated.
- Equipment to be grounded includes, but is not limited to, the floor of the spray area, operator platforms, hoppers, photoeye supports, and blow-off nozzles. Personnel working in the spray area must be grounded.
- There is a possible ignition potential from the charged human body. Personnel standing on a painted surface, such as an operator platform, or wearing non-conductive shoes, are not grounded. Personnel must wear shoes with conductive soles or use a ground strap to maintain a connection to ground when working with or around electrostatic equipment.
- Operators must maintain skin-to-handle contact between their hand and the gun handle to prevent shocks while operating manual electrostatic spray guns. If gloves must be worn, cut away the palm or fingers, wear electrically conductive gloves, or wear a grounding strap connected to the gun handle or other true earth ground.
- Shut off electrostatic power supplies and ground gun electrodes before making adjustments or cleaning powder spray guns.
- Connect all disconnected equipment, ground cables, and wires after servicing equipment.

Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out electrical power. Close pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the equipment.

Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

Description

See Figures 1 and 2 and refer to Table 1.

The Lean Cell Powder Spray System is a configurable powder collector for spray-to-waste operations. It is installed as part of a powder coating booth. The optional canopy is engineered to customer specifications and bolts to the collector module.

The collector module consists of a three-sided filter enclosure, fan module, primary and final filters, pulse valves, and controls.

The module is available in 7200 and 9600 CFM capacities.

The collector module and booth enclosure are assembled at the customer's plant and bolted to the floor.

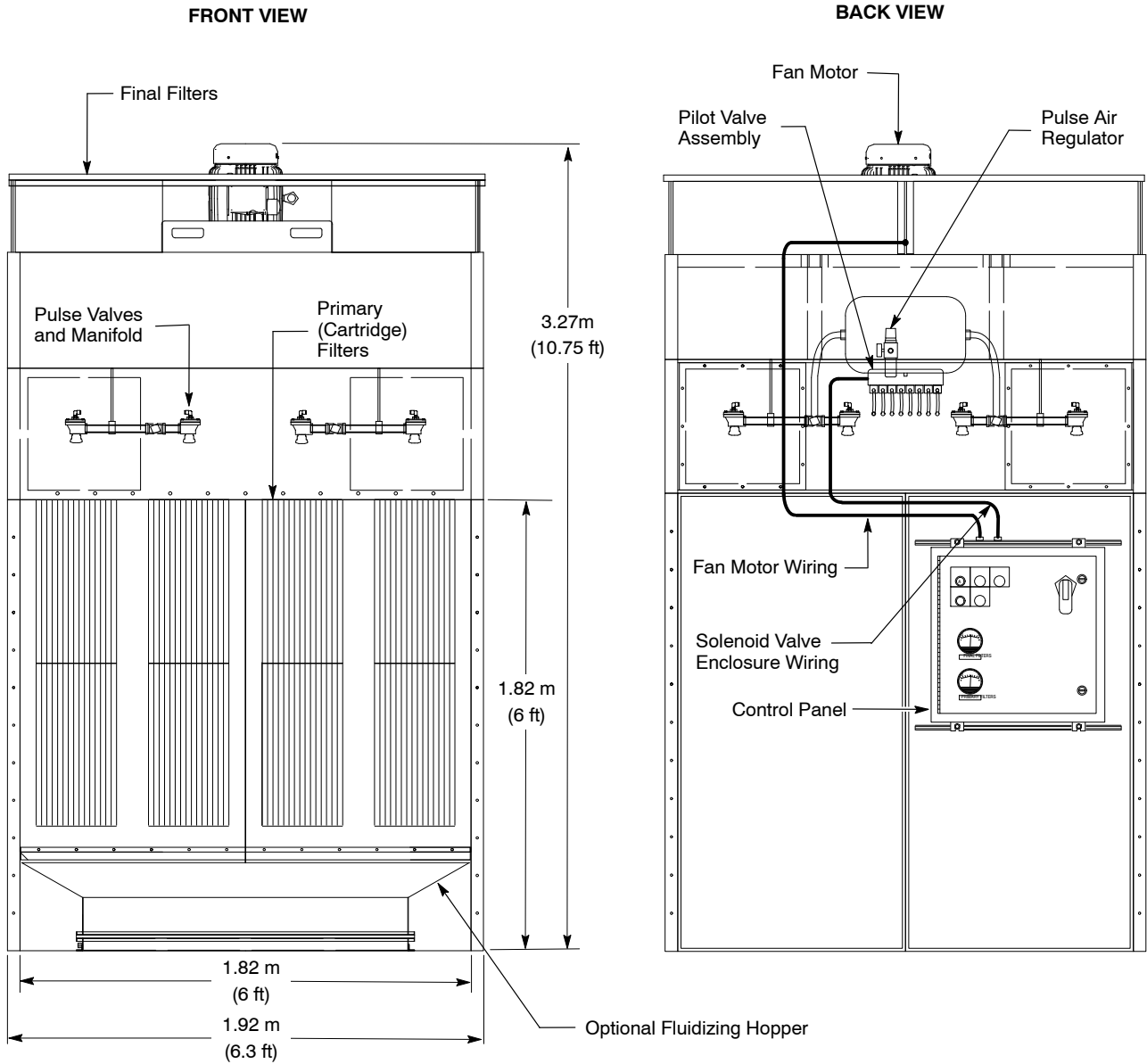


Figure 1 Typical Lean Cell Components

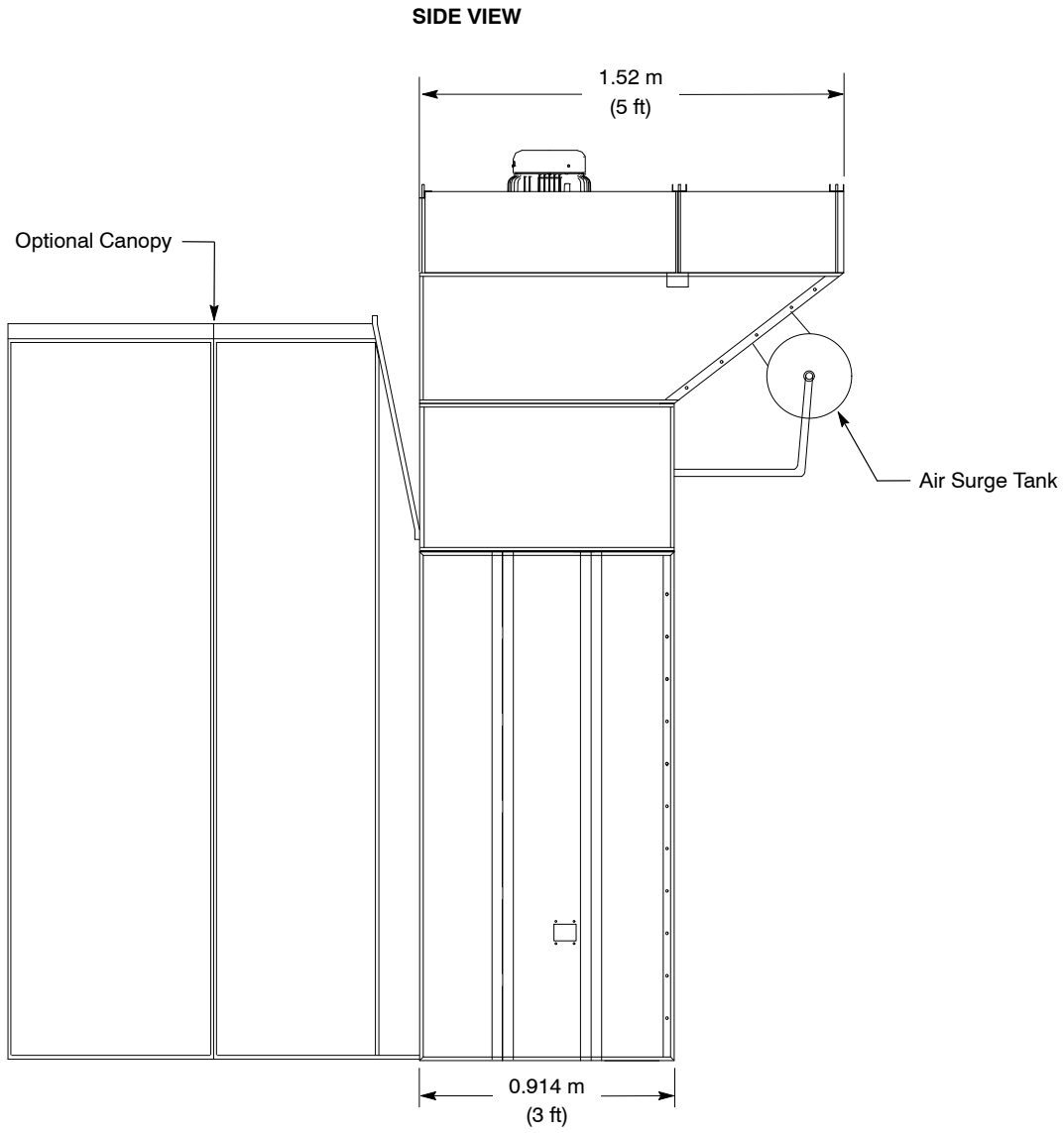


Figure 2 Typical Lean Cell Components (*continued*)

Table 1 Lean Cell Specifications

Specification	Air Flow (CFM)	
	7200	9600
Number of Primary Filters (Double-Stack 26-in. Poly)	16	16
Number of Final Filters	4	4
Air Input Port (NPT)	3/8-in.	3/8-in.
Air Consumption at 100 psi (SCFM)	15	15
Transfer Pump Air Consumption	15	15
Hopper Air Consumption	8	8
Fan Motor Horsepower	10	15
Fan Motor RPM	1750	1750
Controls and Fan Motor Electrical Requirements	Refer to the Engineered System Drawing Package that shipped with the system.	

Collector Installation



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

Delivery

Perform the following tasks when the booth is delivered

- Take inventory of all equipment. Make sure that you have all of the materials listed on the packing slip.
- Inspect each component for damage. Document any damage that you find and report it to both the carrier and your Nordson representative.
- Clear the area of all obstructions.
- Provide a secured, indoor storage area for equipment.
- Clear the route from the delivery site to the installation site. Make sure that there is sufficient clearance for all equipment.

Preparation

Perform the following tasks before installing the booth.

- Obtain any necessary local or state permits.

NOTE: Compliance with local, state, and national codes including NFPA Bulletin 33 and buyer's insurance is the responsibility of the buyer.

- Make sure that the installation area has a level, class-B floor.
- Make any building alterations to meet local, state, and national codes in the powder coating room.
- Install sprinkler heads as required by your insurance carrier or local, state, and national codes.
- Make sure that you have sufficient electrical service and compressed air available for both installation and operation at the installation site.
- Locate the booth in a proper environment. If temperature and humidity in the spray room exceed the following ranges, you should install air conditioning equipment.
Temperature 21–27 °C (70–80 °F)
Humidity 45–55% RH
- If applicable, install the conveyor. The conveyor and its hangers must be built and tested at the site before the booth is assembled.
- Provide trash bins and off-site disposal for refuse, skids, and crating.

Clearances

The installation area should have ample floor space for coating operations and service.

- There must be at least 2-m (6-ft) clearance between the final filters and the roof or any other objects to allow free air flow.
- For double-module installations, refer to the Engineered System Drawing Package that shipped with the system.

Contact a Nordson representative if the installation area does not meet this clearance.

Mechanical Assembly

See Figure 3.

1. Mark out the booth position on the floor.
2. Lay the 2-in. floor channel (6-ft long) along the position of the back wall of the filter enclosure.
3. Assemble the filter enclosure side panels and back panels with 5/16-in. nuts and bolts. Hand-tighten the fasteners.
4. Make sure that the panels are straight, the side panels are square with the back panels, and the enclosure is sitting solidly on the floor in the correct position. Use shims if necessary.
5. Tighten the panel fasteners, then lag the enclosure to the floor to provide a stable base for the fan module.
6. Using an appropriate lifting device, carefully raise the fan module onto the filter enclosure. Use safety straps to secure the housing while lifting and positioning. Attach the module to the enclosure with 5/16-in. nuts and bolts and tighten them securely. Do not remove the lifting device until assembly is complete.
7. Mount the control panel, pilot valve assembly, and regulator onto the desired side of the collector module. Figure 1 shows these components mounted onto the back side.
8. See Figure 4. Install the cartridge filter rods and filters as described in *Cartridge Filter Installation*. Attach the retainers to the bottom of the filters.
9. Attach canopy panels to the collector. See Figure 5 for canopy mounting hole patterns.

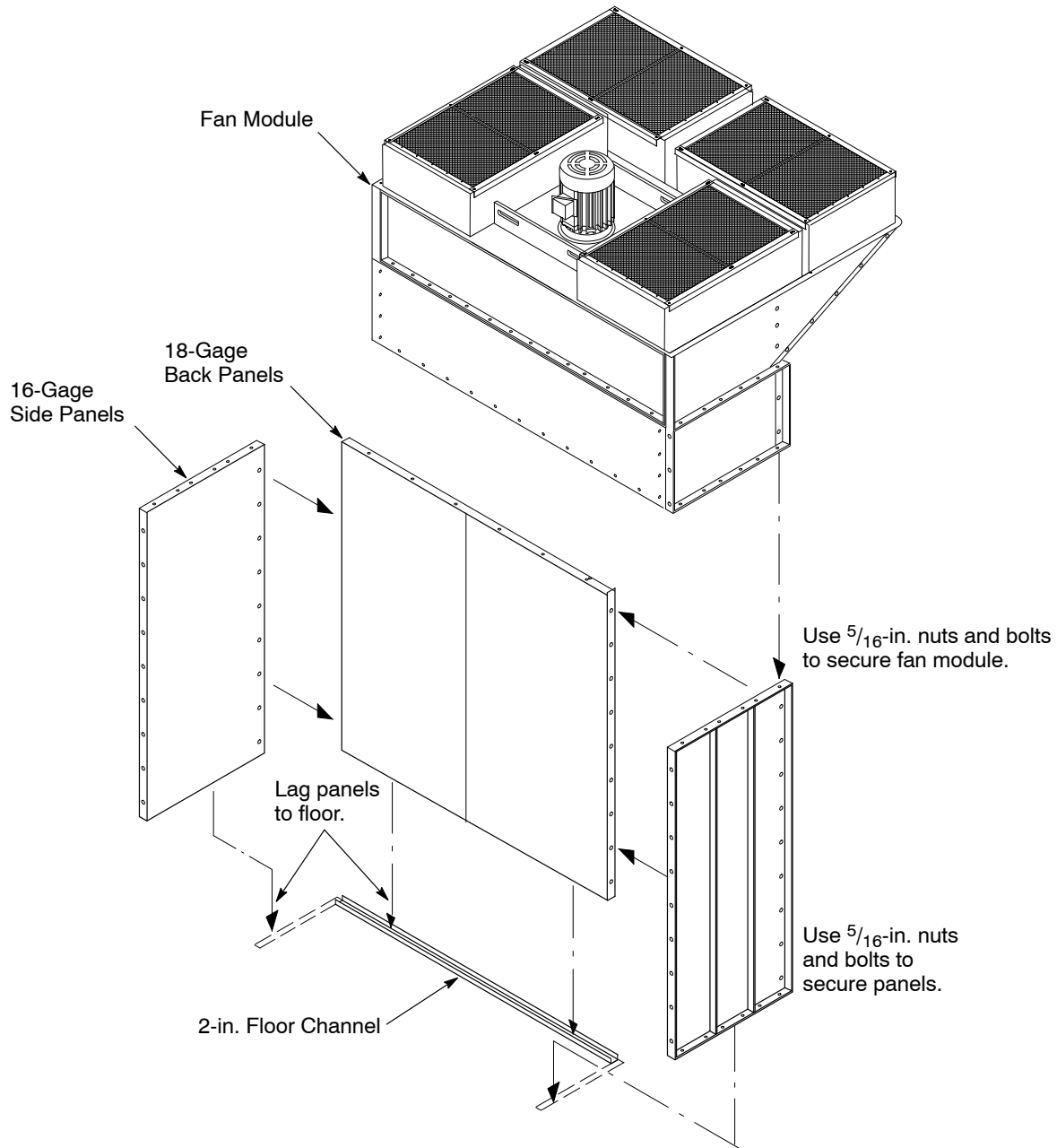


Figure 3 Typical Booth Assembly

Cartridge Filter

See Figure 4.

1. Remove the panels (1) to gain access to the cartridge filters.
2. Support the filter stack while performing the next step.
3. Remove the 3/8–16 jam nut (3), the compression nut (4), the 5/8–16 jam nut (5), and the filter mount (7). Save the removed parts.
4. Remove the filter stack from the color module.
5. Lift the open end filter and threaded tube off the threaded rod.
6. Remove the threaded tube and centering brackets from the open-end filter. Leave the jam nut and bottom centering bracket on the threaded rod.
7. Unscrew the threaded rod from the closed-end filter boss and install it and the centering bracket in the new closed-end filter.
8. Install the threaded tube and bottom centering bracket through the bottom of the open-end filter.
9. Lift the open-end filter assembly and guide the thread rod into the threaded tube, until the two filters are touching and centered.
10. Install the top centering bracket over the threaded rod and tube.
11. Install the filter assembly into the color module, and hold it up against the tube sheet over the opening.



CAUTION: To prevent damage to the cartridge filters, do not overtighten the jam nuts.

12. Install the filter mount over the threaded tube. Install the 5/8–16 jam nut on the threaded rod. Tighten the jam nut until the filter gasket is compressed to a height of 8 mm (5/16 in.).
13. Install the compression nut on the threaded tube and tighten.
14. Install the 3/8–16 jam nut on the threaded rod and tighten to compress the filter gaskets.
15. Install the access panels.

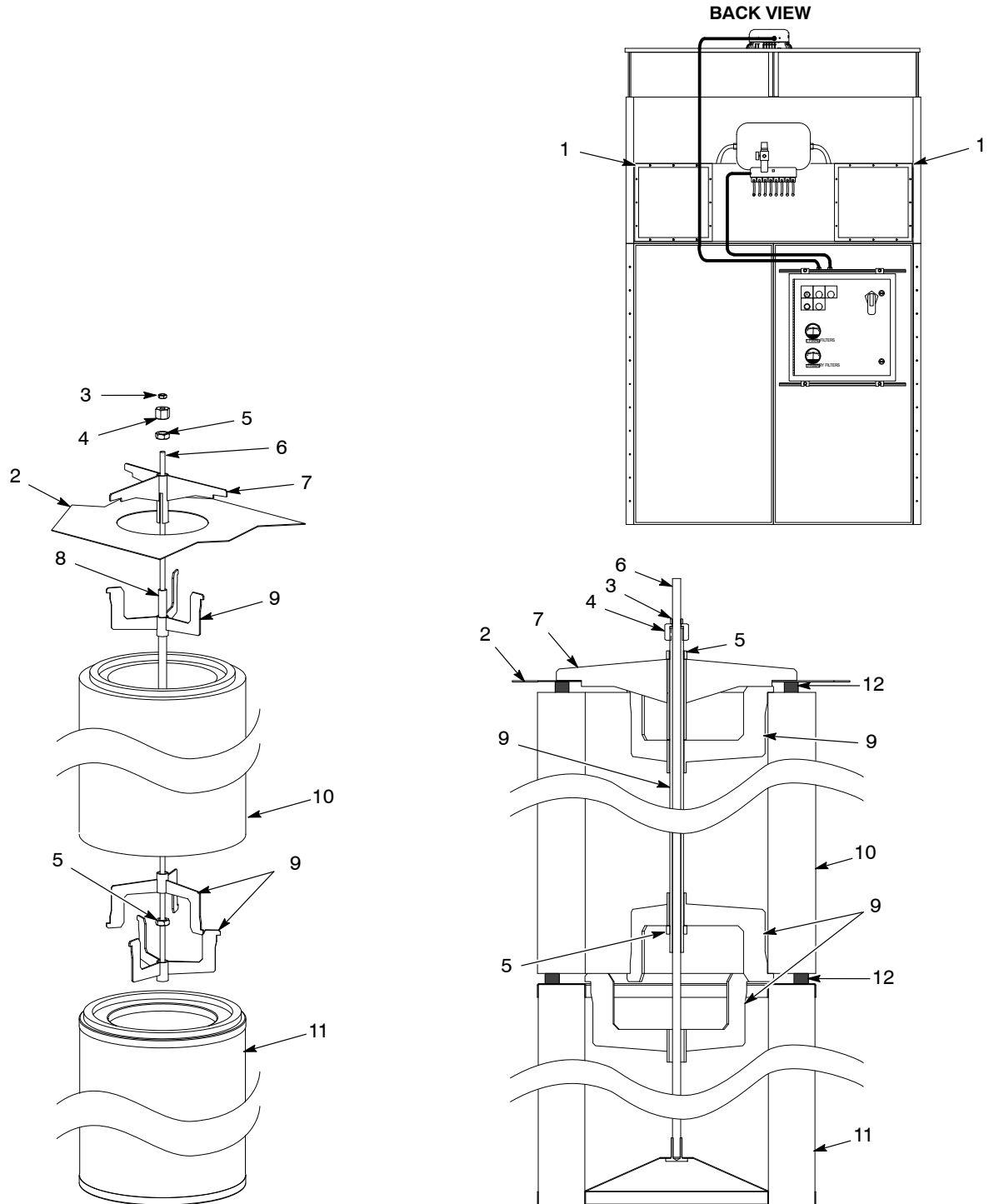


Figure 4 Typical Cartridge Filter Installation (26-in. Double-Stack Cartridge Shown)

- | | | |
|--------------------|--------------------|------------------------------|
| 1. Access panels | 5. 5/8-16 jam nuts | 9. Centering bracket |
| 2. Tube sheet | 6. Threaded rod | 10. Open-end 26 in. filter |
| 3. 3/8-16 jam nut | 7. Filter mount | 11. Closed-end 26 in. filter |
| 4. Compression nut | 8. Threaded tube | 12. Filter gasket |

Module to Canopy Mounting Dimensions

Typical for sides A, B, and C:
 Holes are 3/8-in., 6-in. on center.
 Holes have insert-nuts.
 Use 5/16-18 bolts.

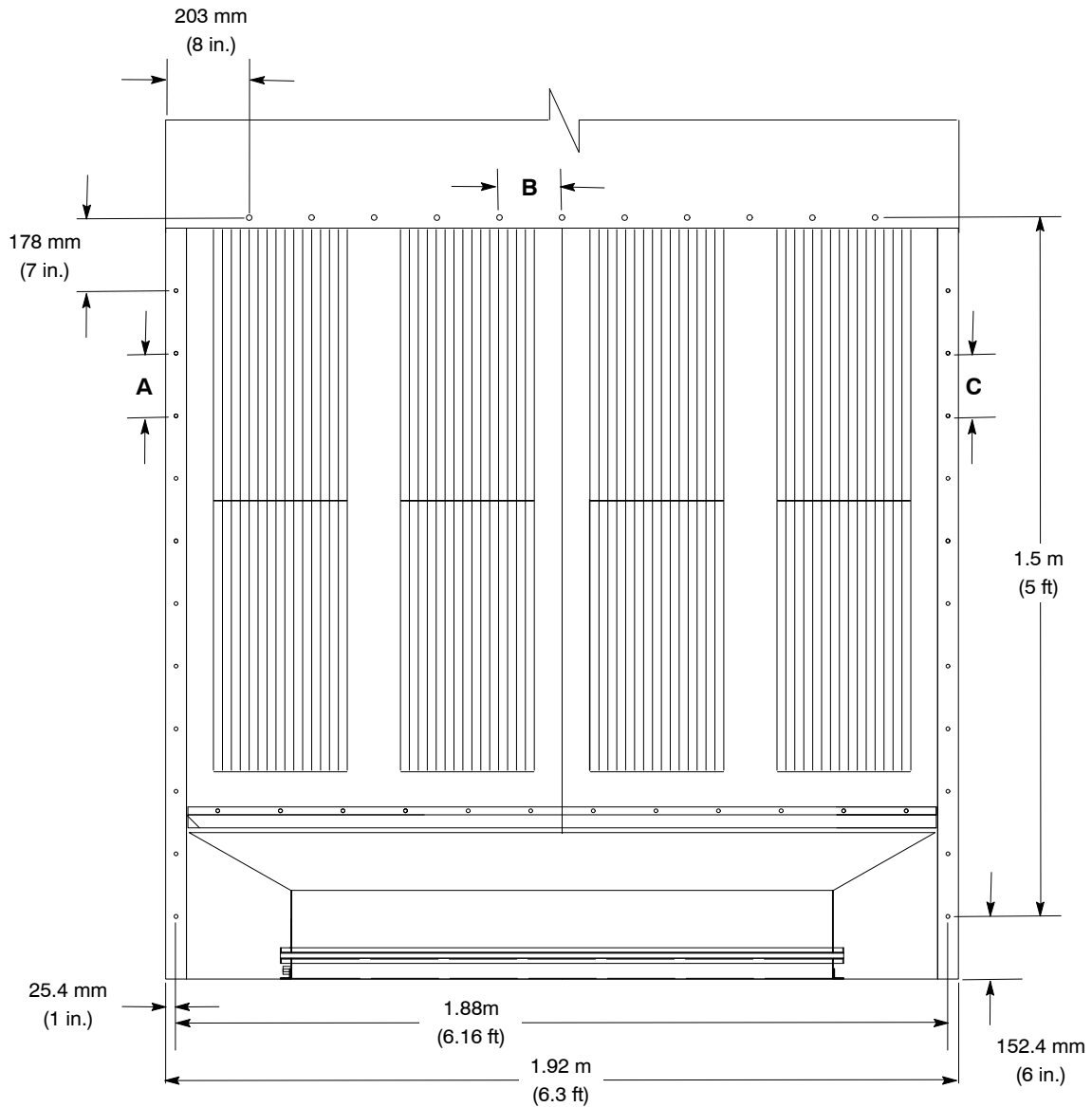
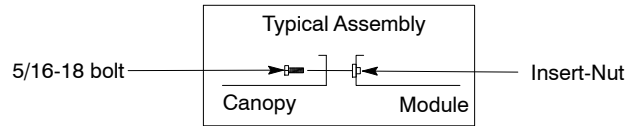


Figure 5 Module-to-Canopy Mounting Dimensions

Utility Installation

Compressed Air Supply

1. Install a shutoff valve and drop leg with drain valve ahead of the filter/regulator.
2. See Figure 1. Connect the compressed air supply to the filter/regulator.

Compressed Air Requirements

Pressure: 4–7 bar (60–100 psi)

Air Quality: Air must be clean and dry. A dedicated, refrigerated or regenerative-desiccant air dryer that can produce a 3 °C (38 °F) or lower dew point at 7 bar (100 psi) is recommended.

Electrical Service



WARNING: All phases of installation must comply with all federal, state, and local codes. All work that is located in Class 2, Divisions 1 and 2 hazardous locations must comply with NFPA code 33, and NFPA code 70 (especially articles 500, 502, and 516, latest editions).

The booth requires both 3-phase power for the fan motor at the voltage specified in the purchase order. The control panel is equipped with a transformer to supply 120 volt single phase power for other booth devices and controls.

Refer to the electrical schematic in the *Technical Data* section of this manual for wiring connections.

- Install a fused, locking disconnect switch, wired in accordance with National Electric Code NFPA-70, in the mains ahead of the control panel. You must be able to disconnect and lock out power to the collector control panel.
- Use dust-tight strain reliefs or conduit connectors to bring power into the the booth control panel.
- As required, connect the pre-wired pilot valve conduit to the control panel and/or pilot valve assembly.
- As required, connect the pre-wired motor conduit to the control panel and/or motor junction box. Connect the conduit wiring to the control panel or motor leads. If necessary, refer to the wiring diagram on the motor junction box.

NOTE: The fan motor must rotate as shown in Figure 6 to draw air through the cartridge filters. To change fan direction, reverse any two motor wires at the motor starter or motor.

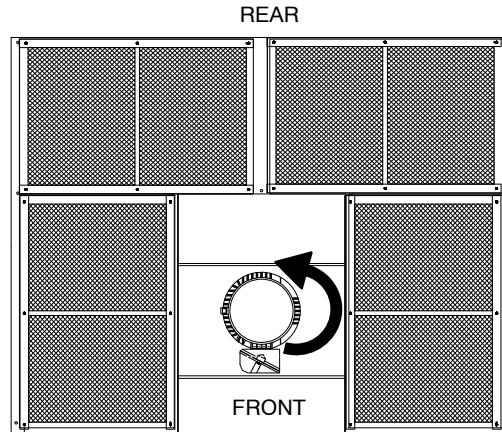


Figure 6 Fan Motor Rotation Direction (Top View Shown)

Options Installation

Hopper and Transfer Pump

See Figure 7.

1. Slide the hopper(s) (1) into the collector module, up against the back and side walls.
2. Clean the walls of the collector module above where the hopper touches them.
3. Remove the backing from the drip edge (2) adhesive tape, then press the drip edge into place slightly above the hopper. If necessary, use #10 or 1/4 in. self-drilling screws to hold the drip edge in place until the adhesive sets up.
4. Drill a 0.81 in. diameter hole in the wall below the pump mounting holes and install the 10-mm bulkhead fitting (7) included with the hopper in the hole for fluidizing air.
5. Remove a cover plate from the side wall and install the pump adapter (5).
6. Install the pickup tube (4) into the pump adapter.
7. Install the transfer pump (6) on the adapter. Connect air tubing and powder transfer tubing to the pump.
8. Connect a short length of 10-mm tubing (3) between the hopper plenum fitting and the bulkhead fitting. Connect 10-mm tubing between the bulkhead fitting and a source of regulated compressed air. Typical fluidizing air pressure is 5–10 psi.

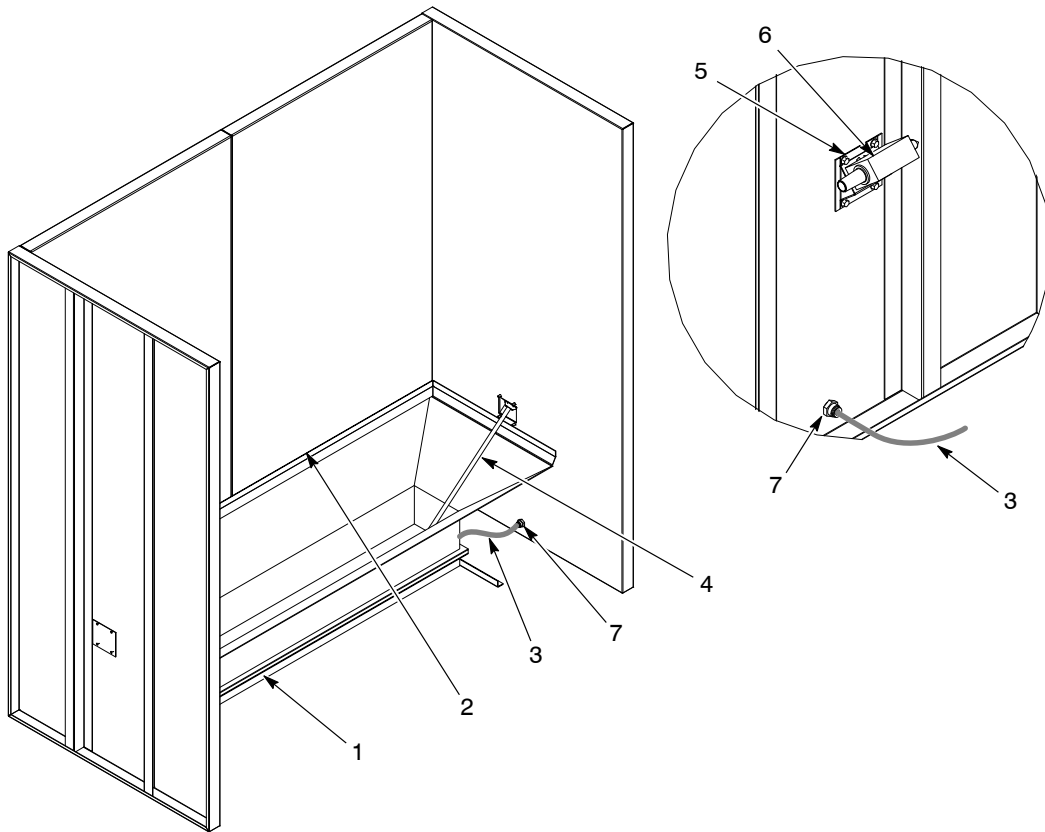


Figure 7 Typical Hopper and Transfer Pump Installation

- | | | |
|-----------------|-----------------|---------------------|
| 1. Hopper | 4. Pickup tube | 6. Transfer pump |
| 2. Drip edge | 5. Pump adapter | 7. Bulkhead fitting |
| 3. 10-mm tubing | | |

Ramp

See Figure 8. Install the ramp so that the lip hangs over the forward edge of the hopper.

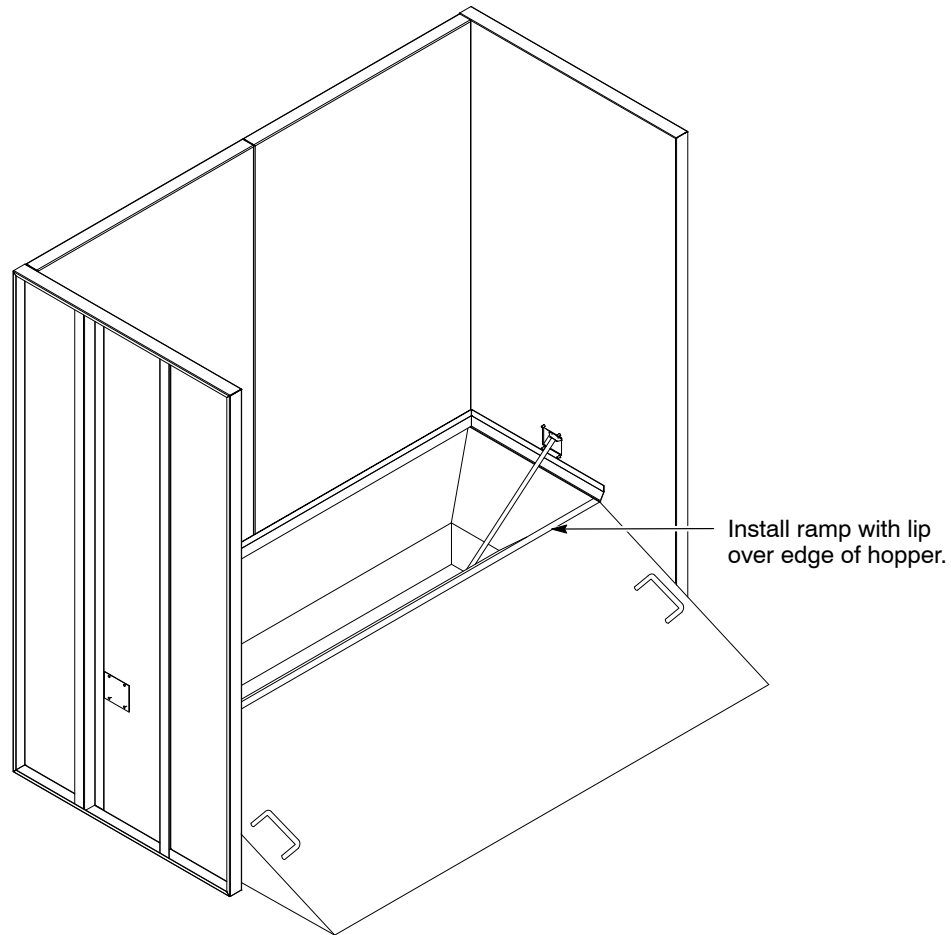


Figure 8 Typical Ramp Installation

Baffle

NOTE: For double-stack or engineered systems, refer to the Engineered System Drawing Package that shipped with the system.

See Figure 9.

1. Install the baffle hanger to the collector module as shown using the 5/16–18 x 0.75 serrated hex screws.
2. Position the swing bar mounting brackets 0.75 in. (19 mm) in from the front edge of the collector module and 21 in. (533 mm) up from the booth floor. Drill holes and secure the bar to the inside of collector module using ¼–20 hardware.
3. Hang the baffles by sliding the baffle notches over the baffle hanger and the baffle stop. Center baffles on the center line of the filters.

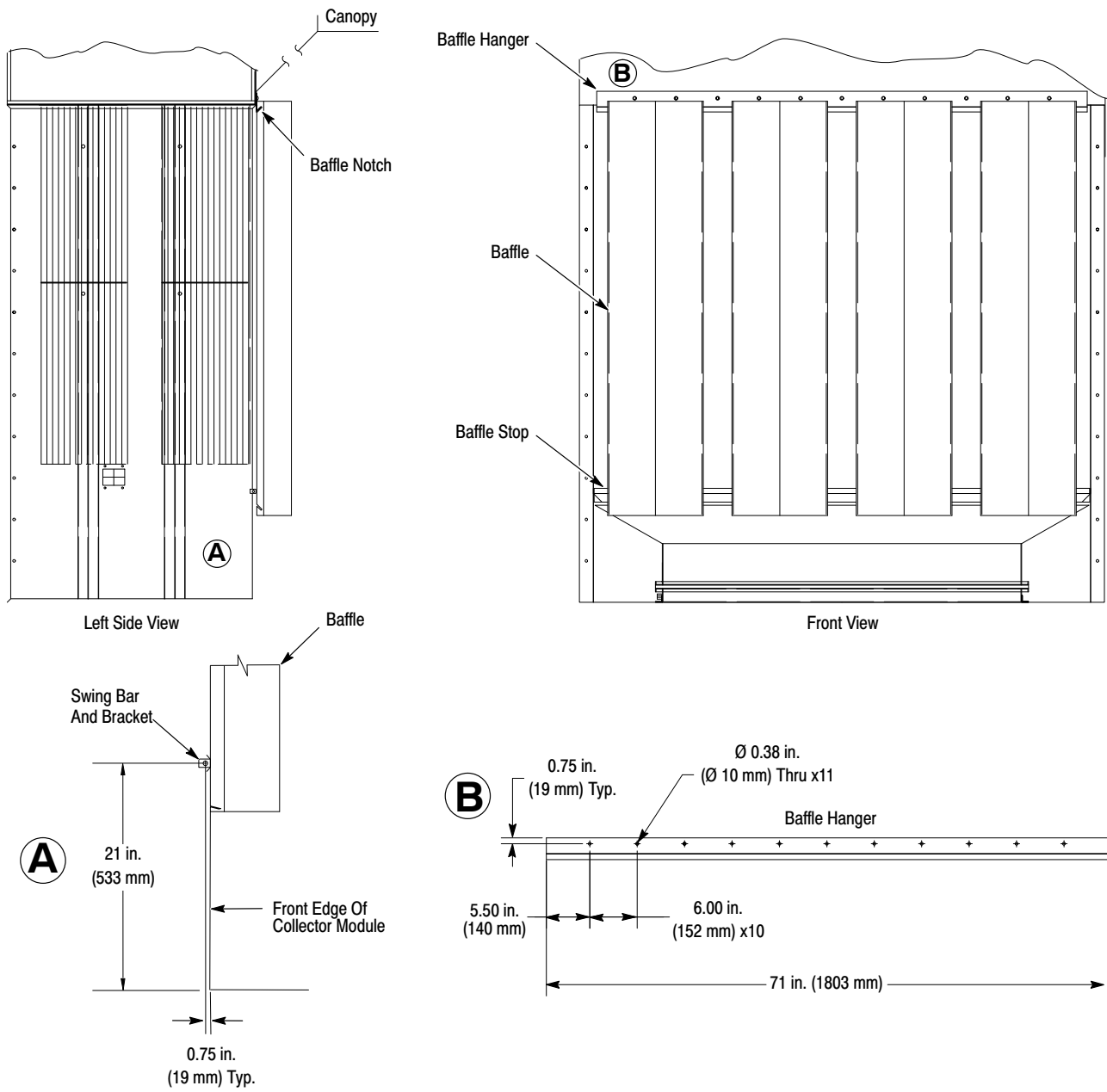


Figure 9 Typical Baffle Installation

Operation



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

Safety

1. Turn on the compressed air supply. Adjust the system air pressure to 5.5 bar (80 psi).
2. Turn on the control panel disconnect switch.
3. Turn on the exhaust fan by pressing the FAN START button.
4. Make sure that the pulse-valve air pressure is set to 1.7 bar (25 psi). Adjust as required to efficiently clean the cartridge filters.
5. Check the cartridge filter differential pressure gauge on the control panel. The pressure should be less than 4.0-in. w.c. If it is higher, increase the filter pulsing frequency or air pressure.

NOTE: The final filter pressure switch will shut down the exhaust fan if the final filter differential pressure reaches 3.0 in. w.c. If this happens, the final filters are clogging. Refer to Troubleshooting to correct this problem.

6. Check the level of the powder in the feed hopper. Fill feed hoppers no more than $\frac{2}{3}$ full to leave room for expansion when fluidizing air is turned on.
7. Turn on the feed hopper fluidizing air.
8. Check all equipment ground connections.
9. During production, make sure the sprayed powder is not escaping from the booth. If this happens, check the cartridge filter differential pressure. Increase pulsing frequency or pressure.

Pulse Valve Timer Settings

See Figure 10.

Locate the sequential timer board on the inside door of the electrical panel.

PULSE DURATION (ON TIME): Time pulse valves are open; factory set to 0.1 second. Normally, this setting does not have to be changed.

PULSE FREQUENCY (OFF TIME): Time between pulses; set as desired. This setting is dependent on the volume of powder being sprayed and the static pressure reading on the cartridge filters. A lower setting results in more frequent pulsing and higher air consumption.

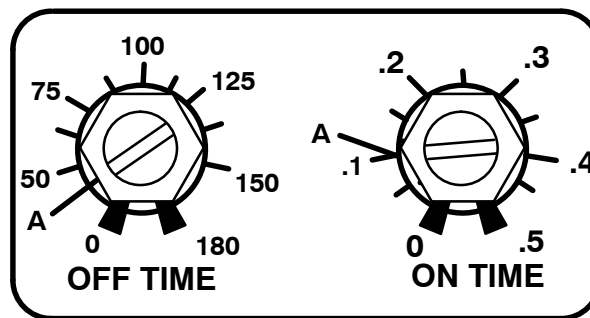


Figure 10 Pulse Valve Timer Settings

Shutdown

1. Blow the powder off the canopy walls.
2. Vacuum the waste powder off the floor.
3. Clean the powder application equipment.
4. Shut off the exhaust fan.
5. Turn off the control panel disconnect switch.

Troubleshooting



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

These troubleshooting procedures cover only the most common problems. If you cannot solve a problem with the information given here, contact your local Nordson representative for help.

Problem	Possible Cause	Corrective Action
1. Powder escaping from booth openings	Cartridge filters clogged because	
	<ul style="list-style-type: none"> Inadequate pulse pressure 	Increase the pulse air pressure.
	<ul style="list-style-type: none"> Pulse off timing too long 	Decrease the pulse off time.
	<ul style="list-style-type: none"> Powder too fine or contaminated 	If using reclaimed powder, reduce the ratio of reclaimed-to-virgin powder. Check powder particle size, if necessary.
	<ul style="list-style-type: none"> Powder contaminated 	Replace the contaminated powder.
	<ul style="list-style-type: none"> Pulse valve or solenoid valve malfunction 	Isolate the problem component and repair as follows: <ul style="list-style-type: none"> The pulse valve diaphragm is ruptured. If you hear a hissing sound inside the fan housing, check for constant air flow from the valve. Rebuild or replace the damaged valve. The pulse valve spring is broken, or the solenoid valve is not triggering the pulse valve. If a cartridge filter is not being pulsed, check the valve pilot air tubing and solenoid wiring; correct if disconnected or failed. Check the continuity across the solenoid terminal (with power off and locked out). If it is shorted open, replace the solenoid. If the solenoid valve is good, replace the pulse valve.
	Cross drafts	Check for cross drafts across the booth openings and correct as necessary.
Parts entering booth are too hot	Cool the parts to 48 °C (120 °F) or below before bringing them into the booth.	

Continued...

Problem	Possible Cause	Corrective Action
1. Powder escaping from booth openings <i>(contd)</i>	Powder flow exceeds ability of exhaust fans to contain	Reduce the powder flow or the number of guns.
	Booth openings exceed design criteria	Close off or decrease the size of the opening.
	Parts too large, interrupting flow of air through booth	Contact your Nordson representative.
	Exhaust fan rotation reversed	Reverse the rotation of the motor by switching the wiring.
2. Exhaust fan shuts down, will not restart	Final filters are clogged	Check final filter differential pressure gauge. If over 3-in. w.c., check cartridge filter media and gaskets for damage. Replace damaged filters.
	Fuse(s) blown	Check for the reason the fuse(s) blew and correct it. Replace the blown fuse(s).
	Fan motor overload shutdown	Correct one of the following possible motor, contactor, fuse or operational problems as needed: <ul style="list-style-type: none"> • Check the exhaust fan for proper rotation direction. • Check for mechanical binding of the motor/fan assembly. • Check for contact corrosion at the motor starter in the control panel. • Check the overload protector in the control panel.
	Automatic Systems Only: Fire detection interlocks are open	Reset interlocks.
3. Cartridge pulsing will not start	No air supply to pulse manifolds	Check the air supply.
	Solenoid shorted; blows timer board fuse	Call an electrician.
	Timer board malfunction or other electrical problem	Call an electrician.

Parts

To order parts, call the Nordson Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

Using the Illustrated Parts List

Numbers in the Item column correspond to numbers that identify parts in illustrations following each parts list. The code NS (not shown) indicates that a listed part is not illustrated. A dash (—) is used when the part number applies to all parts in the illustration.

The number in the Part column is the Nordson Corporation part number. A series of dashes in this column (-----) means the part cannot be ordered separately.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Indentions show the relationships between assemblies, subassemblies, and parts.

- If you order the assembly, items 1 and 2 will be included.
- If you order item 1, item 2 will be included.
- If you order item 2, you will receive item 2 only.

The number in the Quantity column is the quantity required per unit, assembly, or subassembly. The code AR (As Required) is used if the part number is a bulk item ordered in quantities or if the quantity per assembly depends on the product version or model.

Letters in the Note column refer to notes at the end of each parts list. Notes contain important information about usage and ordering. Special attention should be given to notes.

Item	Part	Description	Quantity	Note
—	0000000	Assembly	1	
1	000000	• Subassembly	2	A
2	000000	• • Part	1	

Model-Specific Parts**7200 CFM Lean Cell**

Part	Description	Note
1601221	FAN, wheel, PLR22 CCW, LC	
1601220	CONE, inlet, PLR22, LC	
1014957	MOTOR, extended shaft, 10 HP, 208/230/460V	A
1014958	MOTOR, extended shaft, 10 HP, 575V	A
NOTE A: Check existing motor ID plate for voltage and order correct motor for the system.		

9600 CFM Lean Cell

Part	Description	Note
1601219	FAN, wheel, PLR24 CCW, LC	
1601218	CONE, inlet, PLR24, LC	
1106575	MOTOR, 15 HP, 230/460V	A
1106576	MOTOR, 15 HP, 575V	A
NOTE A: Check existing motor ID plate for voltage and order correct motor for the system.		

Parts Common to All Models

Part	Description	Note
1014960	VALVE, reverse pulse	
1042594	VALVE, solenoid enclosure, 8 port	
1600036	KIT, filter stack	
1066540	FILTER, final, 35.5 x 23.5 x 11.5 in.	
146418	FILTER, 26, powder grid plus, flo-thru	
158661	FILTER, 26 powder grid plus, center mount	

Optional Parts

Part	Description	Note
1106566	HOPPER, 6000 CFM module	
1106567	HOPPER, 8000 CFM module	
1106610	RAMP, powder, 6000 CFM module	
1106611	RAMP, powder, 8000 CFM module	
1609798	PLATE, fluid, 1361 x 254 x 13	
1609799	PLATE, fluid, 2286 x 254 x 13	
1106867	MOUNT, pump, Vantage external	
163556	TUBE, pickup, 80 lb.	
165633	PUMP, transfer, 10 mm inlet, 19 mm outlet	
900593	TUBING, polyethylene, 10 mm x 8 mm, blue	A
900551	TUBING, powder, transfer, 19 mm ID, black	B
900651	TUBING, powder, transfer, 19 mm ID, blue	C
1601255	BAFFLE, support, FCM, Lean Cell 9600	
1601256	BAFFLE, 60-in., Lean Cell	
336282	SCREW, hex serrated, 5/16-18 x 0.75 in.	D
<p>NOTE A: Minimum order quantity is 100 ft. B: For organic powders. Minimum order quantity is 25 ft. C: For metallic powders and most organic powders. Minimum order quantity is 25 ft. D: Eleven required to secure baffle support 1601255.</p>		

Standard Single Module Control Panel Parts

See Figure 11 and the following parts list.

NOTE: Refer to the Engineered System Drawing Package that shipped with the system for Multiple-Module Control Panel parts.

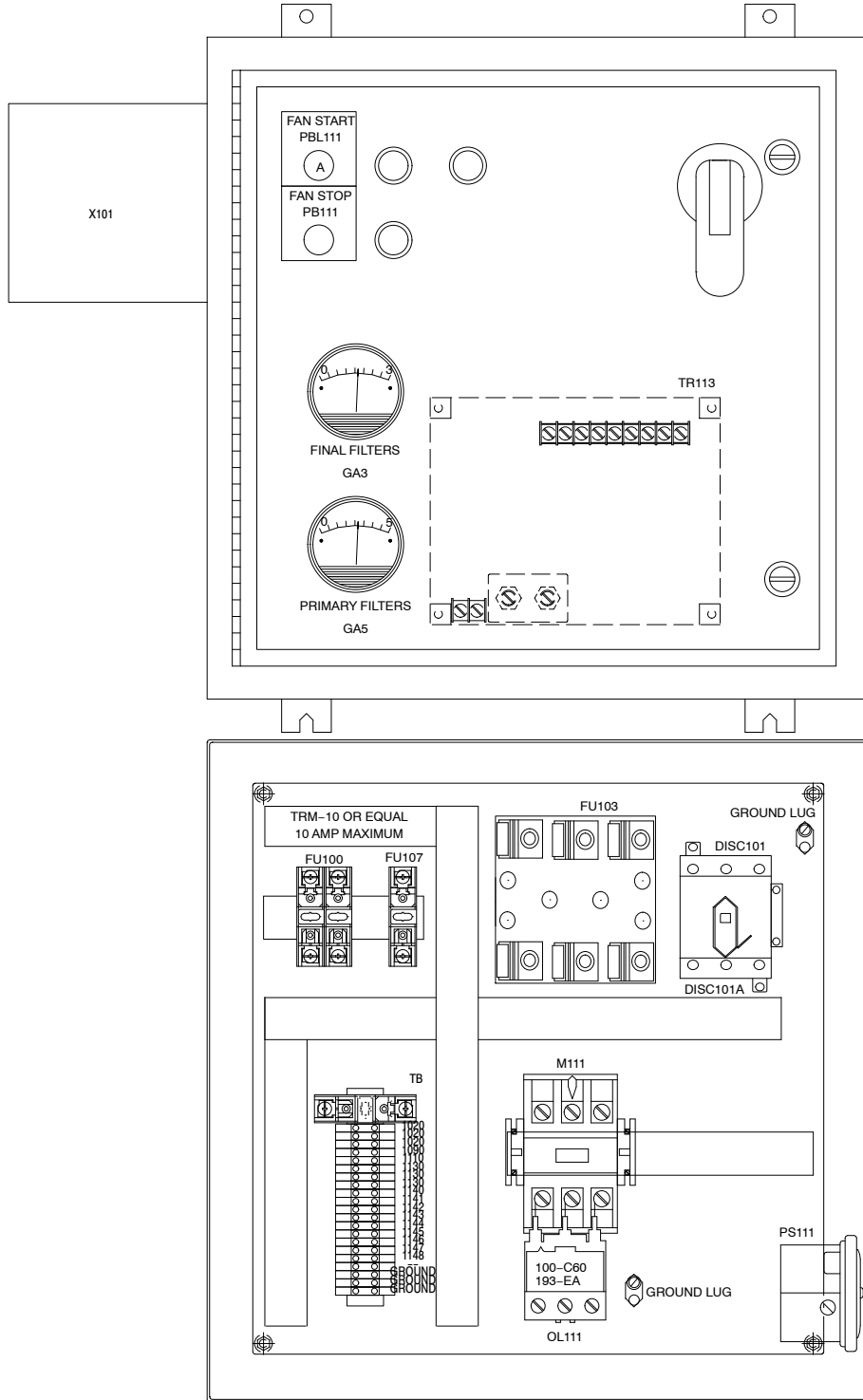


Figure 11 Control Panel Parts

NOTE: The following parts lists only applies to a standard single module control panel. To order parts for other versions, refer to the Engineered System Drawing Package that shipped with the system.

Item	Qty	Description	Part	Mfg.
	1	ENCLOSURE C/W SUB PANEL	N12-202008	RALSTON
DISC101	1	DISCONNECT, NON-FUSED	SEE CHART	ALLEN BRADLEY
DISC101	1	DISCONNECT, HANDLE	194R-HS1E	ALLEN BRADLEY
DISC101	1	DISCONNECT, EXTENDED SHAFT	194R-R1	ALLEN BRADLEY
	1	.35 KVA TRANSFORMER	SEE CHART	HAMMOND
	3	HOLE COVER	800F-N8	ALLEN BRADLEY
M111	1	CONTRACTOR, MOTOR	SEE CHART	ALLEN BRADLEY
OL111	1	OVERLOAD, MOTOR	SEE CHART	ALLEN BRADLEY
M111	1	CONTACT, AUXILIARY	100-SA10	ALLEN BRADLEY
FU103	3	FUSE, J TYPE, TIME DELAY	SEE CHART	MERSEN
FU103	1	FUSEBLOCK	SEE CHART	ALLEN BRADLEY
FU107	1	FUSE, CONTROL	TRM-4	MERSEN
FU107	1	FUSEBLOCK	1492-FB1M30-L	ALLEN BRADLEY
PBL111	1	PUSHBUTTON HEAD, ILLUM., AMBER, LED	800FM-LF5	ALLEN BRADLEY
PBL111	1	PUSHBUTTON, BASE	800F-ALM	ALLEN BRADLEY
PBL111	1	LIGHT MODULE, LED, AMBER, 120V	800F-N5Y	ALLEN BRADLEY
PBL111	1	CONTACT BLOCK, NO	800F-X10	ALLEN BRADLEY
PB111	1	PUSHBUTTON, HEAD, RED	800FM-FX	ALLEN BRADLEY
PB111	1	PUSHBUTTON, BASE	800F-ALM	ALLEN BRADLEY
PB111	1	CONTACT BLOCK, NC	800F-X01	ALLEN BRADLEY
FU100	3	COVER, HOLE	800F-N8	ALLEN BRADLEY
FU100	2	FUSE, CLASS CC, TIME DELAY	SEE CHART	MERSEN
	1	FUSEBLOCK, DIN RAIL	1492-FB2C30	ALLEN BRADLEY
TB, FU 107, OPTIONS	AR	DIN RAIL	199DR1	ALLEN BRADLEY
TB	20	TERMINALS	1492-J4-B	ALLEN BRADLEY
TB	3	GROUND TERMINALS	1492-JG4	ALLEN BRADLEY
TR113	1	TIME BOARD	SEE CHART	DWYER
GA5	1	MINIHELIC GAGE 0-5 IN. W.C.	2-5005	DWYER
GA3	1	MINIHELIC GAGE 0-3 IN. W.C.	2-5003	DWYER
PS111	1	PRESSURE SWITCH	1910-5	DWYER
PS111, GA5, GA10	2	BULKHEAD UNION, 6 MM	KQ2E06-00	SMC
PS111	1	MALE CONNECTOR, 6 MM X 1/8 NPT	KQ2H06-01S	SMC
ATM1	1	BREATHING VENT	AN203-KMB	SMC
PS111, GA5	1	PLUG-IN "Y", 6 MM	KQ2U06-99	SMC
PS111, GA5, GA10	AR	TUBING, 6 MM	KQ2U06-99	SMC

Exhauster Parts Reference Chart

Size	Item	208V	230V	460V	575V
10 HP (LC)	FLA	32.2 PART NO.	28 PART NO.	14 PART NO.	11 PART NO.
	FU103	AJT50	ATJ50	ATJ25	ATJ20
	FU103	1492-FB3J60L	1492-FB3J60L	1492-FB3J30L	1492-FB3J30L
	M111	100-C37D10	100-C30D10	100-C16D10	100-C12D10
	OL111	193-EEFD	193-EEFD	193-ED1DB	193-ED1DB
15 HP (LC)	FLA	-----	36.2 PART NO.	18.1 PART NO.	14.5 PART NO.
	FU103		ATJ60	AJT30	AJT25
	FU103		1492-FB3J60L	1492-FB3J30L	1492-FB3J30L
	M111		100-C43D10	100-C23D10	100-C23D10
	OL111		193-EEFD	193-ED1EB	193-ED1DB

Transformer Parts Reference Chart

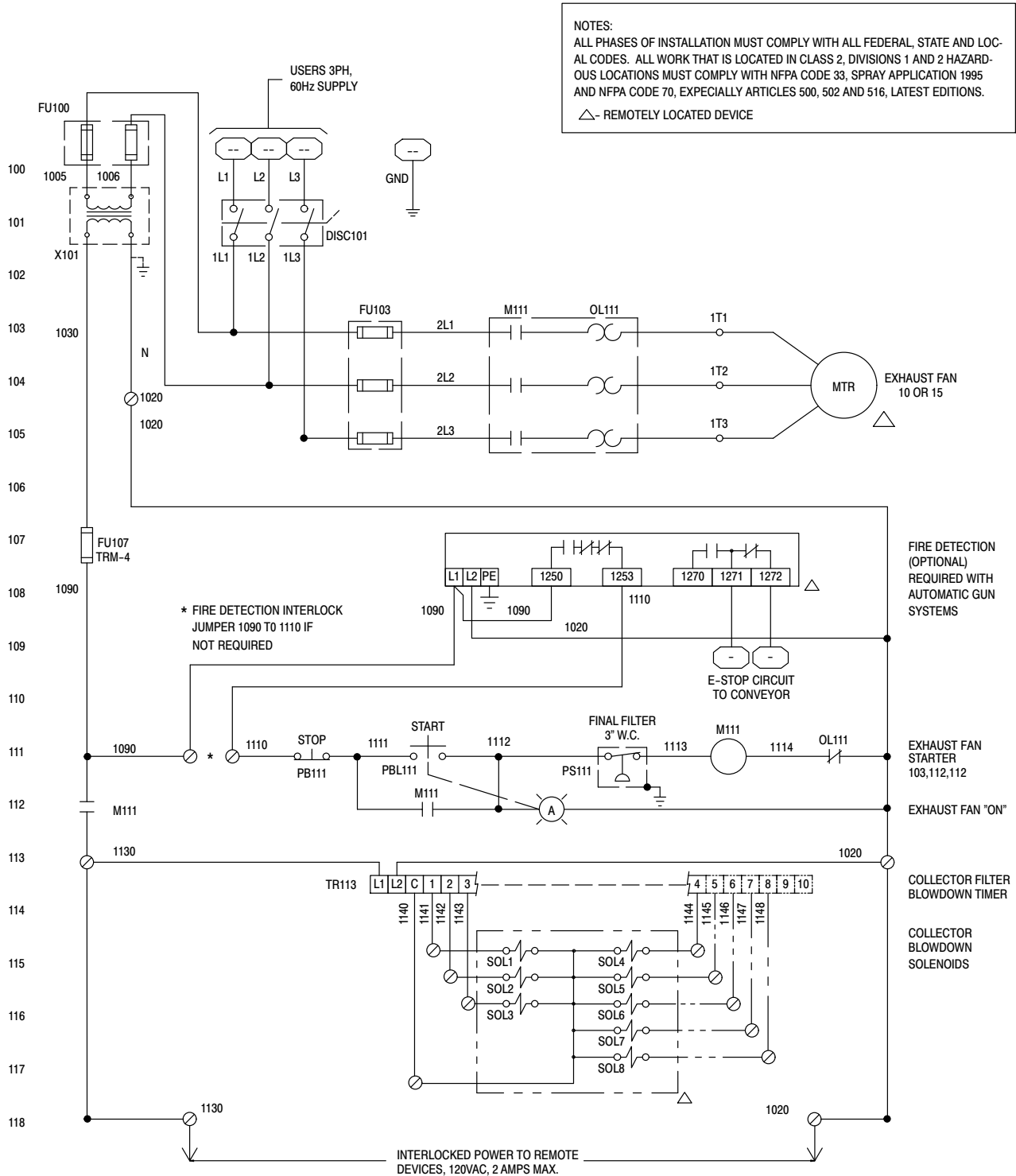
Item	Description	Part No.
X101	TRANSFORMER - 350VA 600V-120V	C1FC35PE
X101	TRANSFORMER - 350VA 480V-120V	C1FC35LE
X101	TRANSFORMER - 350VA 230V-120V	C1FC35LE
X101	TRANSFORMER - 350VA 208V-120V	C1FC35GE
FU100	FUSE XFMR - 350VA 575V-120V	ATQR-8/10
FU100	FUSE XFMR - 350VA 480V-120V	ATQR-1
FU100	FUSE XFMR - 350VA 230V-120V	ATQR-2
FU100	FUSE XFMR - 350VA 208V-120V	ATQR-2-1/4

Disconnect Parts Reference Chart

Total System Current	Disconnect Part No.
0.0A-34.0A	194R-N30-1753
34.1A-51.0A	194E-N60-1753
51.1A-86.9A	-----

Technical Data

Electrical Schematic



Pneumatic Schematic

