ColorMax® Powder Coating Booth Installation Guide

Customer Product Manual
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ColorMax® Powder Coating Booth Installation

This manual provides instructions and guidelines for the installation of a typical ColorMax powder coating booth. All systems are different; refer to your system drawings.

Once the booth, cyclones, afterfilter, and ductwork is erected, your Nordson representatives will help you complete the system installation and make sure all electrical and pneumatic connections are made properly, start up the system, and train you how to operate it properly.

Safety

Qualified Personnel

Equipment owners are responsible for making sure that Nordson equipment is installed 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.

Regulations and Approvals

Before installing any system equipment, make sure it is rated and approved for the environment in which it will be 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. Refer to the National Fire Protection Association publication NFPA 33 for standards on installation and operation of powder spray systems.

Grounding

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.

Equipment to be grounded includes, but is not limited to, the floor of the spray area, booth base, operator platforms, hoppers, feed center, gun positioners, fixed gun stands, and afterfilter. Refer to the grounding instructions in the Nordson equipment manuals for more information.

Unloading and Storage

The ColorMax Powder Spray Booth is shipped partially assembled, wired and plumbed. You will need forklift trucks and other rigging equipment to unload the system from the carrier.

WARNING: Do not attempt to lift equipment using covers, doors, panels, or cable and hose connections. Always balance the load when lifting. Never put stress on flat panel sheets.

Move all equipment to an indoor storage area, close to the installation site.

NOTE: Equipment stored outside and not protected from the elements could be damaged, voiding any warranty.

Unpacking

Locate the system control panel. The control panel contains the shipping documents, listing the skids and boxes and their designations. A separate enclosed Packing Checklist lists the items on each skid and in each box.

When the shipment is unloaded, inventory and inspect each skid and box. If you discover damage or an inventory discrepancy, report it to your Nordson representative immediately. Report any damages or discrepancies to the carrier and keep a copy of the report for your Nordson representative.

Preparation

Tools

Installation of the ColorMax powder coating booth and its components will be easier and faster if the proper tools are available. Have the following tools on hand:

- Rigging equipment, including a forklift
- C-clamps or welder’s clamps
- Chalk line
- Plumb-bob and line
- Multimeter
- Electrician’s tools
- Mechanic’s tools, including pipe wrenches
- Portable power drills and wrenches
- Razor knife
- Levels and squares
- Tubing cutter

Installation Location

No special foundation is required. The floor should be smooth and level. The spray room must be large enough to provide working clearances for both installation and operation. Refer to your system drawings for plan views and layouts.

The conveyor should already be installed, since the booth is located off the conveyor line.

Booth Base Installation-Fixed Booth

See Figure 1.

1. With a chalkline, mark the centerline of the conveyor (1) on the floor.
2. Transfer the system reference points from the layout drawings to the floor.
3. Set the base in place on the conveyor centerline. Make sure the transition duct (2) is in the correct location.
4. Use the threaded pads on the bottom of the base to adjust the base height so that the bottom edge of the transition duct is 2 inches from the floor.
5. Level the booth base from side to side and from end to end within $\pm\ ^{1}/_{16}$ inch by adjusting the threaded pads on the bottom of the base. Make sure to hold the 2-inch transition duct-to-floor distance.
6. Remove the wood shipping braces from the base ends.

Booth Base Installation-Fixed Booth *(contd)*

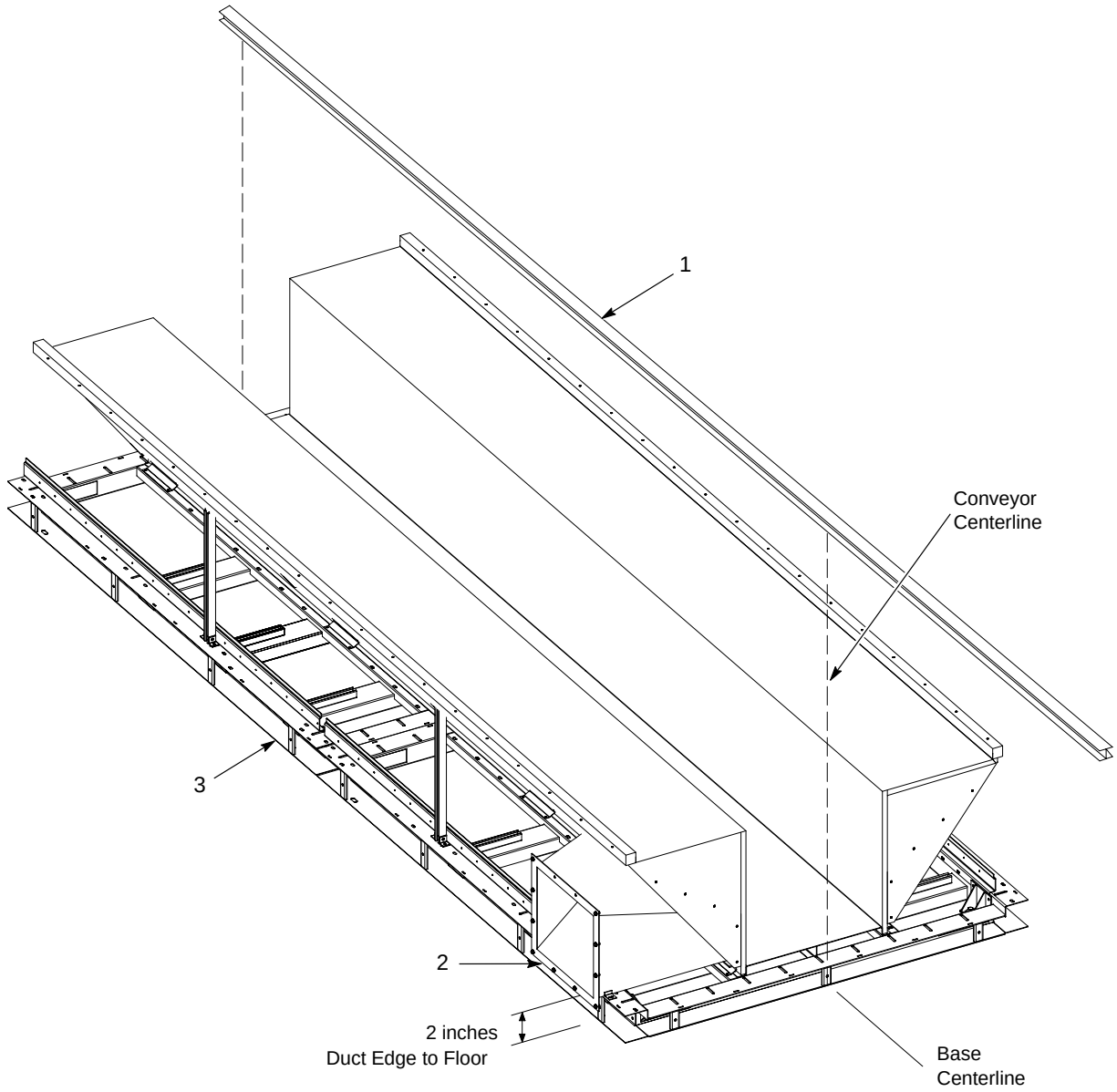


Figure 1 Base Installation-Fixed Base (Typical)

1. Conveyor
2. Transition duct
3. Base

Booth Base Installation-Roll On/Roll Off Booth

See Figure 2 and your system layout drawings.

1. Transfer the centerline of the conveyor to the floor, using a plumb bob and chalkline.
2. Using the reference location of the booth from the layout drawings, snap a perpendicular line off the conveyor line to locate the first track.
3. Measure the distance from the first track to the second track along the conveyor centerline, using the reference distance from the layout drawings. Snap a chalkline parallel to the first line to locate the second track.
4. Determine the highest point in the floor along the track chalk lines.
5. Lay the tracks out alongside the track chalk lines.
6. Locate the tracks starting from the on-line position, using the highest point of elevation as a reference.
7. Anchor the on-line end of one track, using the highest point of elevation as a common point of reference, and set the distance (gauge) between the anchored track and the second track.
8. Anchor the on-line end of the second track while maintaining the gauge.
9. Level and anchor the next hole in the first track, using shims if necessary to level the track.
10. Level and anchor the next hole in the second track, using shims if necessary to level the track.
11. Continue anchoring the tracks, switching back and forth between the tracks, until both tracks are anchored and level.

NOTE: The tracks must not sag between anchor points. You may need to install shims the entire length of the tracks to prevent sagging.

12. Locate the roller base platforms on the tracks. Bolt together the platforms as required. Refer to your system drawings.
13. Install the booth base onto the base platform, making sure that when the base is in the on-line position it is under the centerline of the conveyor.
14. Attach the remaining wheeled platforms and bolt them together and to the base platform. Attach the feed center to the base platform as shown in Figure 21.
15. Remove the drive shaft cover plates if installed.
16. Install the booth mover motor and drive shaft.
17. Remove the dynamic brake from the booth mover motor.
18. Install the kick plates and drive shaft cover plates on the platforms.

Booth Base Installation-Roll On/Roll Off Booth *(contd)*

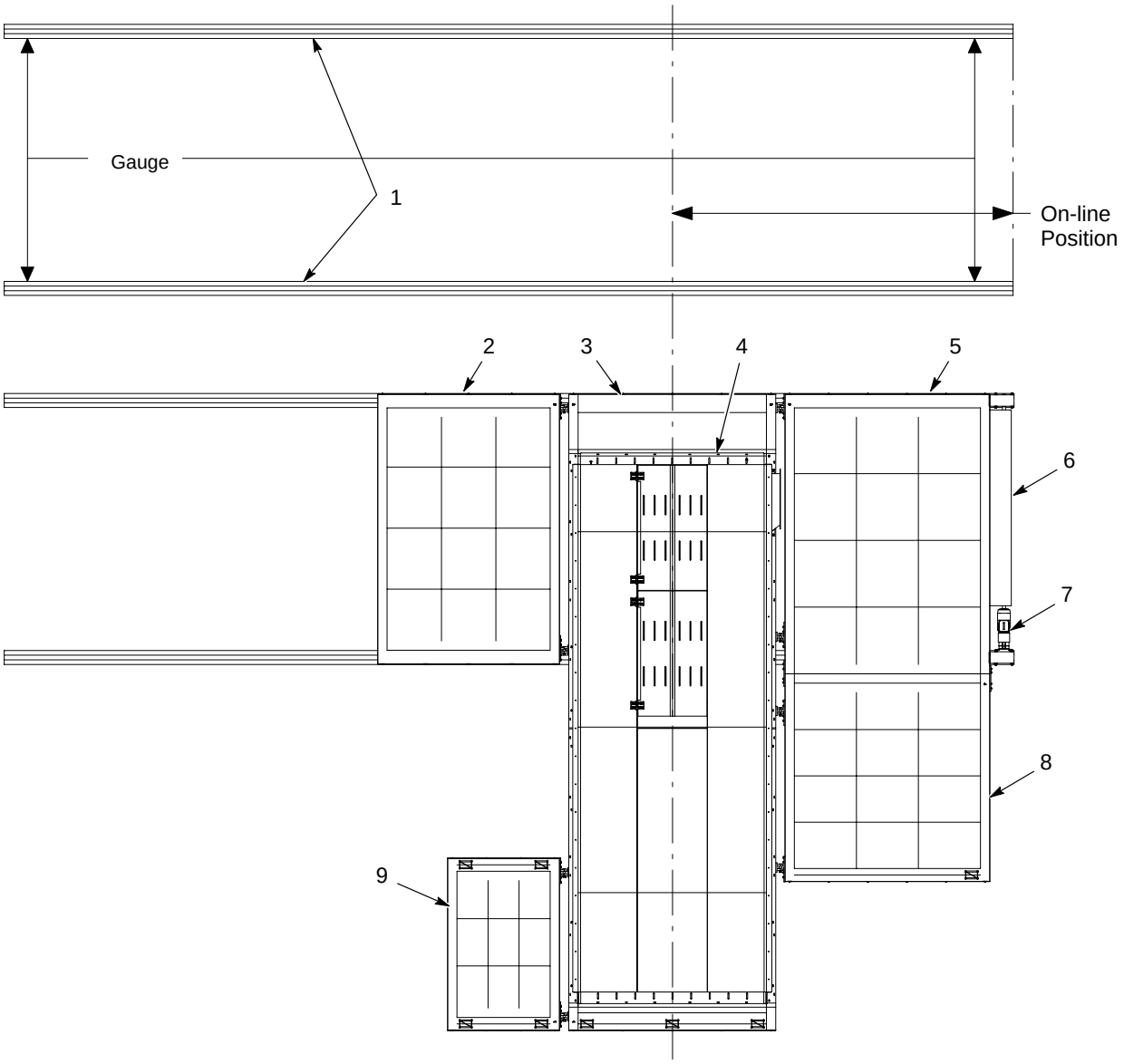


Figure 2 Base Installation-Roll On/Roll Off Booth (Typical)

1. Rails
2. Gun positioner/iControl platform
3. Booth base platform
4. Booth base
5. Cyclone platform
6. Drive covers
7. Drive motor and shaft
8. Gun positioner/operator platform
9. Operator platform

Canopy Installation

Unpack the Apogee® canopy panels. Inspect them for damage before beginning the installation. Take care not to scratch or abrade the surfaces of the panels while erecting the canopy.

When clamping the canopy panels together, do not clamp directly to the white panel surfaces. To avoid crushing the panels or scratching the smooth surfaces of the panels, place the clamp jaws on the gray L-brackets or pad the clamp jaws with flat pieces of plastic or wood.

Do not tighten the end panel or side panel fasteners until you are sure that the panels are level, plumb, and flush. Adjustment and shimming may be required after the panels are installed.

End Panel Installation

See Figure 3.

1. Locate the exit (1) and entrance end panels (2, 3) and set them on the base (12).
2. Shim the end panels as required to make sure they are flush up against the stainless steel floor, level and plumb, and that the holes in the face line up with the holes in the sloped floor brackets.
3. Make sure that exit panels are spaced so the service door (4) fits properly and fits with the door latch assembly. Do not install the door at this time.
4. Clamp the end panel bottom L-brackets to the base.
5. Drill holes in the end panel bottom L-brackets (6) to match the slots in the base with a $^3/_8$-in. drill bit.
6. Attach the L-brackets to the base with steel $^3/_8$-in. x 1 in. flanged bolts and nuts (5), finger-tight, using shims as required.
7. Attach the end panels to the slope brackets with nylon $^3/_8$-in. flanged bolts and nuts (7), finger-tight.
8. Remove the unistrut supports (10) and keep for future use. They will be fitted and installed after the side panels are installed.
9. Tighten the bolts in the slope panel brackets (11), making sure that the panels are flush with the S/S floor.

End Panel Installation *(contd)*

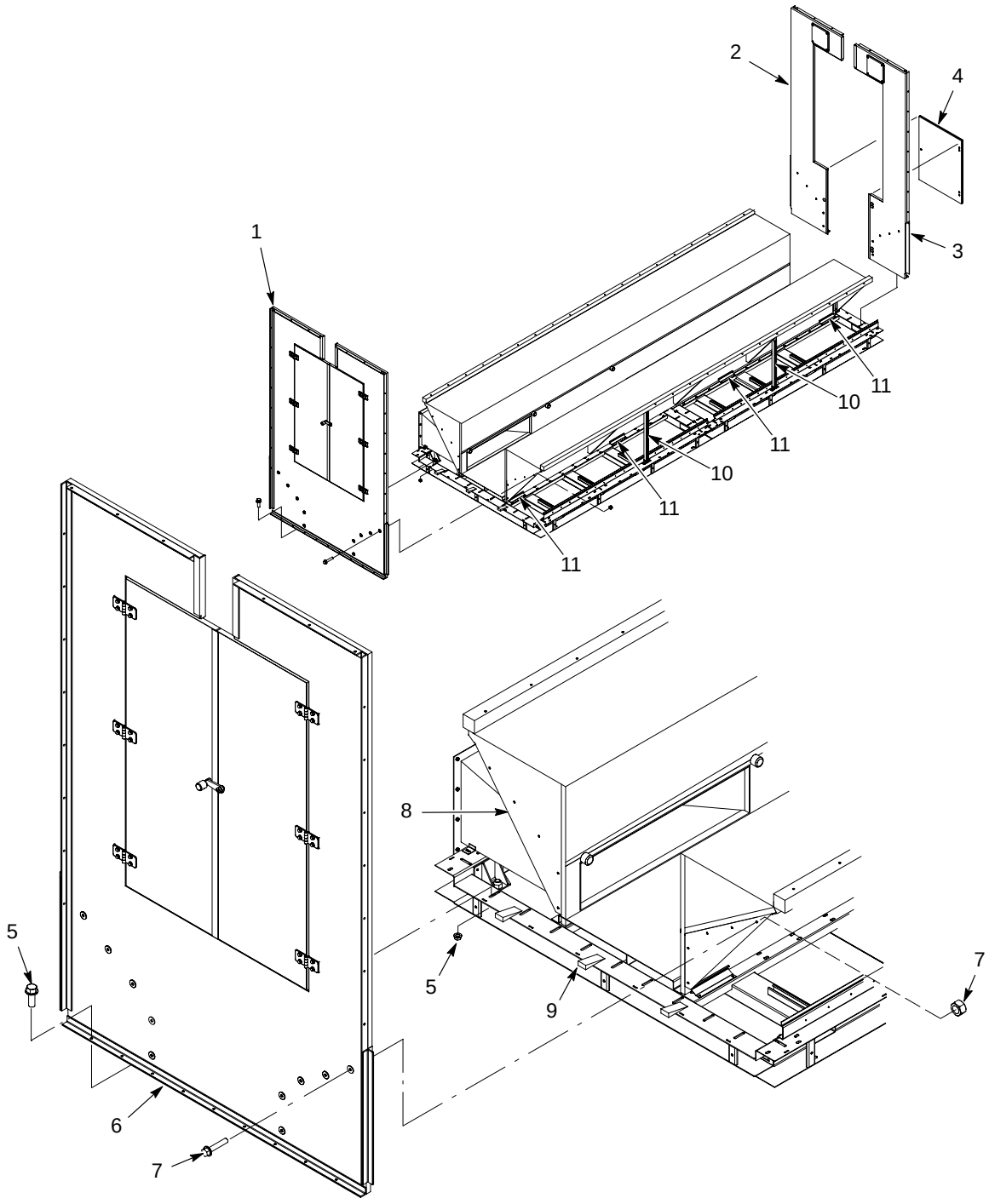


Figure 3 End Panel Installation (Typical)

1. Exit panel
2. Right entrance panel
3. Left entrance panel
4. Service door
5. Steel 3/8 in. bolts and nuts
6. End bottom L-brackets
7. Nylon 3/8 in. bolts and nuts
8. Sloped floor brackets
9. Shims
10. Unistrut supports
11. Floor brackets

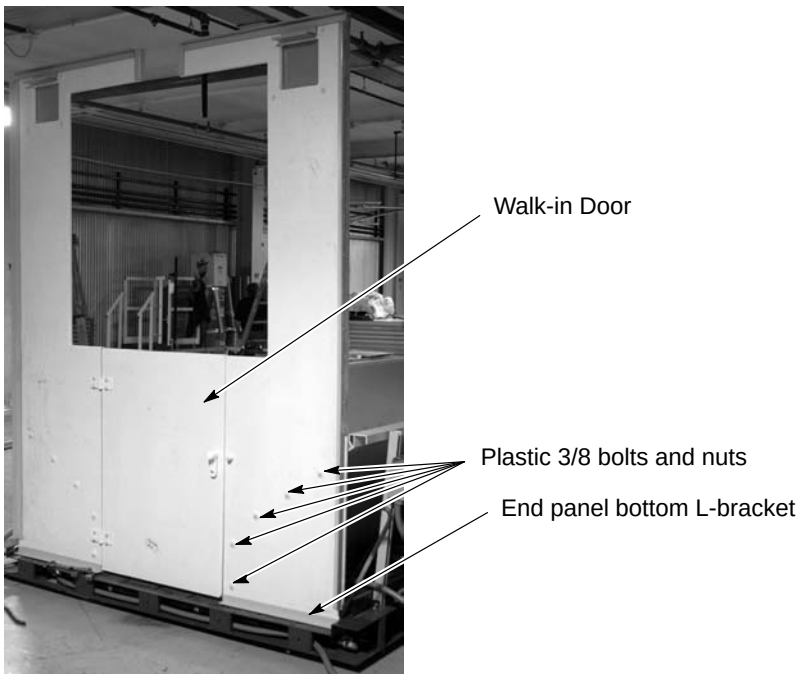


Figure 4 End Panel Installation

Side Panel Installation

See Figures 5, 6, and 7.

1. Locate the side panels (1). The side panel with the duct opening (2) must be installed with the opening above the transition duct (11) in the base.
2. Position the side wall panels on the base L-brackets (5) and clamp the panels in place as shown in Figure 6. On the inside, make sure the panels are flush with the base panels.
3. Clamp the side wall panels to the end panel side L-brackets (4). Make sure the tops of the side panels and end panels are flush with each other and plumb.
4. With a $^3/_8$ in. bit, drill through the end panel side L-brackets, using the shoulder bushings in the side panels as guides. Fasten the side panels to the end panels with nylon $^3/_8$-16 x 2.00 in. flanged bolts and nuts (7).
5. With a $^3/_8$ in. bit, drill through the side panel bottom L-brackets and base L-brackets. Fasten the side panels to the base with nylon $^3/_8$-16 x 0.75 in. flanged bolts and nuts (6).
6. Square the sides of the keyhole slots (8) with each other and clamp in place using a length of plastic L-bracket (9) as a cross brace. Do not clamp directly to the panels; pad the clamp jaws with a section of L-bracket or flat piece of wood.
7. Tighten all bolts installed so far and remove all clamps except the keyhole clamps.
8. Measure, cut, and install the unistrut supports (10) removed previously to support the wall sections.

Side Panel Installation *(contd)*

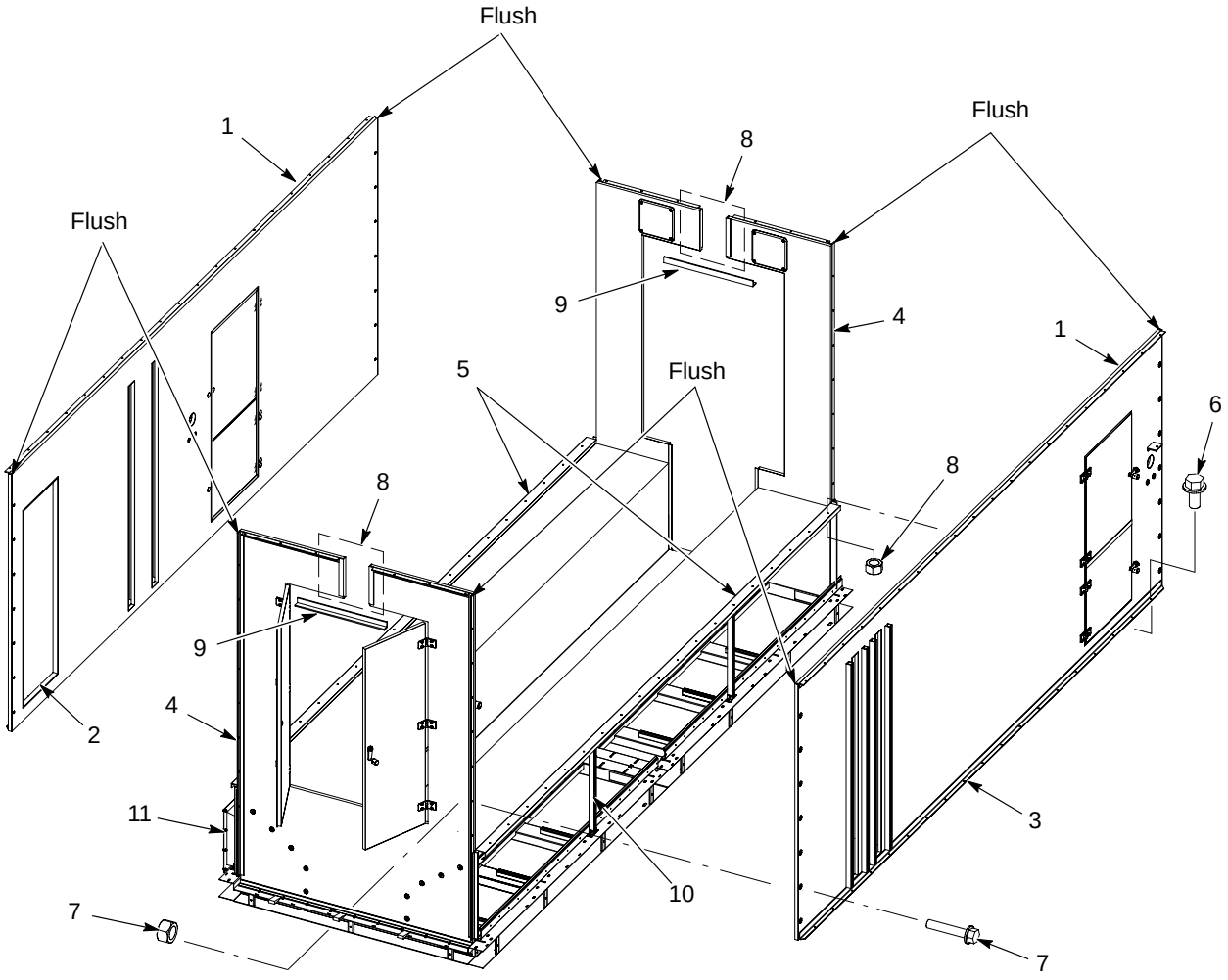


Figure 5 Side Panel Installation (Typical)

1. Side panels
2. Extraction duct opening
3. Side panel bottom L-brackets
4. End panel side L-brackets
5. Base L-brackets
6. Nylon $^{3}/_{8}$ in. x 0.75 bolts and nuts
7. Nylon $^{3}/_{8}$ in. x 2 bolts and nuts
8. Keyholes
9. L-bracket sections
10. Unistrut supports
11. Transition duct

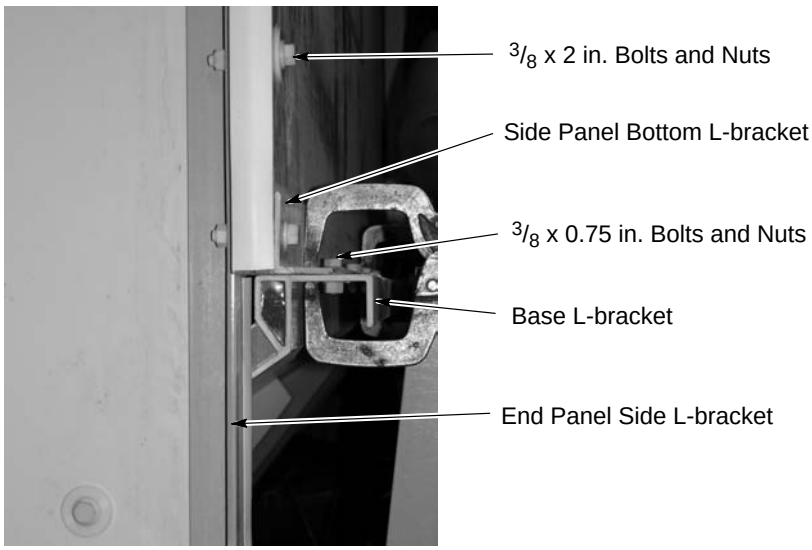


Figure 6 Side Panel Clamping and Bolting

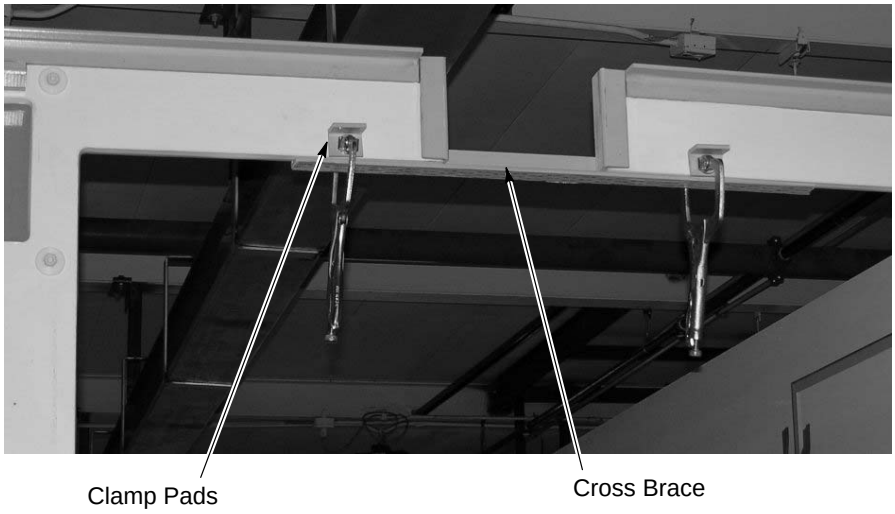


Figure 7 Keyhole Squaring and Clamping

Roof Panel Installation

See Figure 8.

1. Locate the roof panels (1).
2. Position the roof panels on top of the end and side panels, evenly spaced and flush with the keyhole slots. If necessary, use 2 x 4 posts (6) to support the inside centers of the roof panels until you can position them correctly and clamp them to the side and end panels.
3. Clamp the roof panels to the side and end panel L-brackets (2, 3). Do not clamp directly to the panels; pad the clamp jaws with a section of L-bracket or flat piece of wood.
4. With a $^{3}/_{8}$ in. bit, drill through the end and side panel L-brackets, using the shoulder bushings in the roof panels as guides. Fasten the roof panels to the end and side panels with nylon $^{3}/_{8}$-16 x 2.00 in. flanged bolts and nuts (4).
5. Tighten all bolts and nuts, then remove the clamps and L-bracket sections (5) from the keyholes.

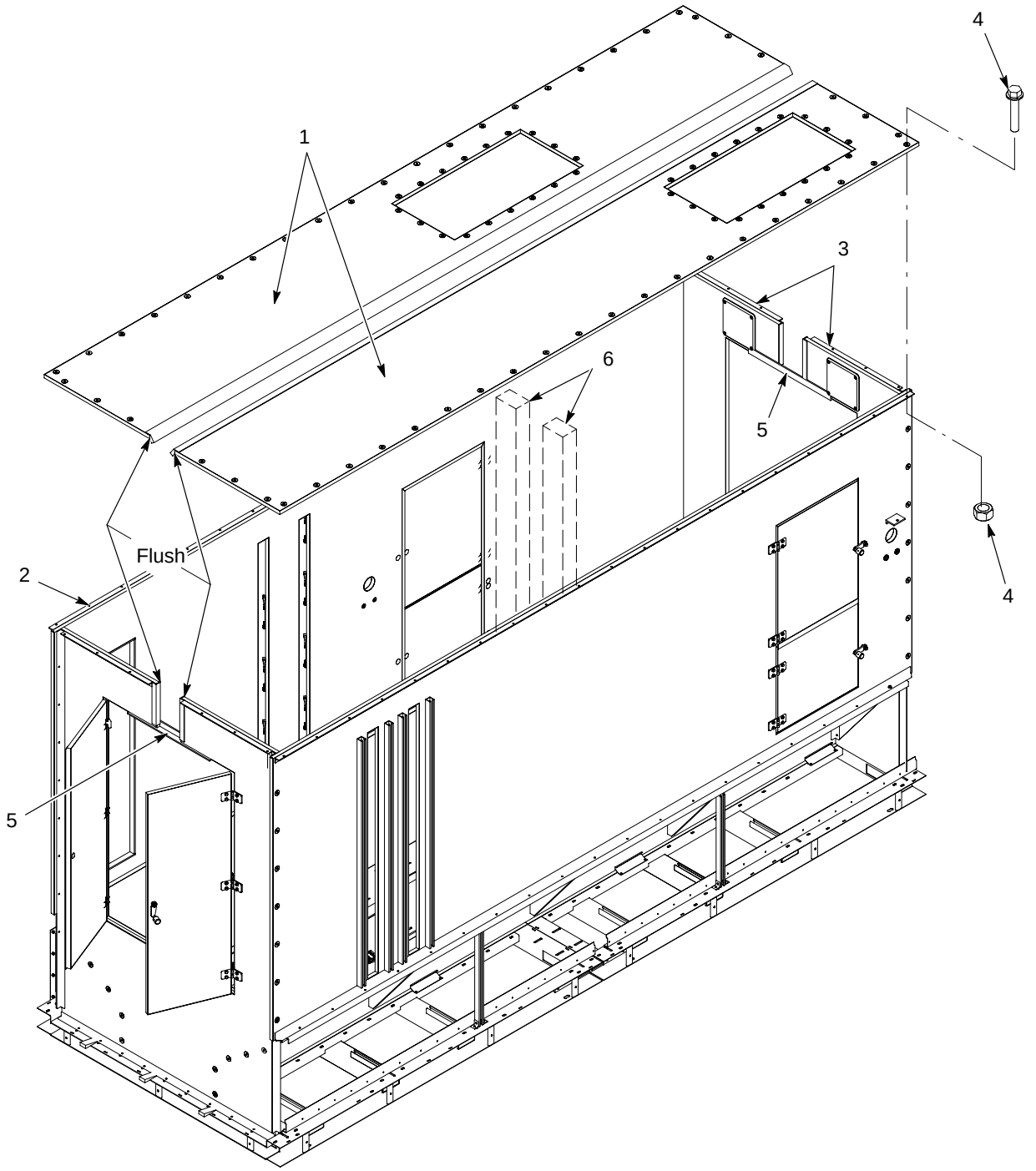


Figure 8 Roof Panel Installation (Typical)

1. Roof panels
2. Side panel L-brackets
3. End panel L-brackets
4. Plastic $^{3}/_{8}$ in. x 2 bolts and nuts
5. Keyhole L-bracket sections
6. 2 x 4 supports (if needed)

Service Door Installation

See Figure 9.

1. Locate the door, hinges, spacers, and latch assembly.
2. Attach the latch assembly to the door with a nylon $^3/_8$-16 x 2.00 in. flanged bolt.
3. Attach the hinges to the door with nylon $^3/_8$-16 x 0.75 flanged bolts.
4. Attach the door to the end panel with spacers and nylon $^3/_8$-16 x 0.75 flanged bolts.

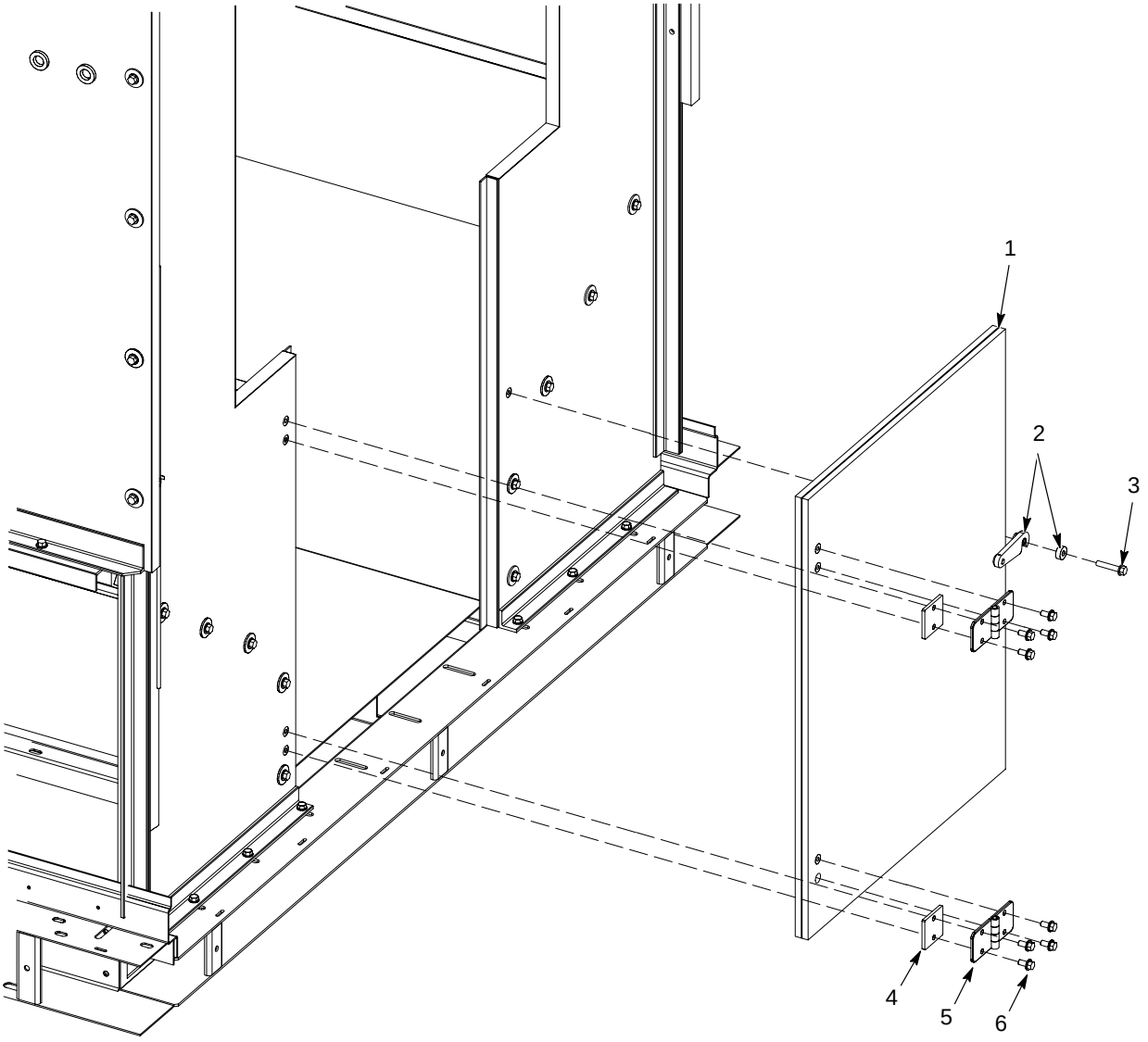


Figure 9 Service Door Installation (Typical)

1. Service door
2. Latch assembly
3. Nylon $^3/_8$ x 2 in. bolt
4. Spacers
5. Hinges
6. Nylon $^3/_8$ x 0.75 bolts

Extraction Duct Installation

See Figure 10.

1. Square the inside edges of the transition duct (5) to the side panel extraction duct opening and the stainless steel floor. Bolt the transition duct into place on the base.
2. Remove the door (2) from the extraction duct (1).
3. Attach the extraction duct to the transition duct, using the two studs on the transition duct.
4. Position the door hinge brackets on the transition duct flush inside the panel opening. Make sure to keep the alignment of the extraction duct and panel opening uniform and the edges flush to avoid any buildup of powder.
5. Bolt the extraction duct to the transition duct at the four corners of the transition duct.
6. Transpose the hole pattern in the extraction duct flange to the gray fiberglass angles (4) around the panel opening.
7. Remove the extraction duct.
8. Drill 5/16 in. holes in the gray fiberglass angles. DO NOT drill through the inside wall of the panel.
9. Thread the holes with a $^{3}/_{8}$-16 tap.
10. Apply a bead of RTV sealant around the transition duct flange.
11. Re-install the extraction duct and secure it to the transition duct with steel $^{3}/_{8}$-16 x 0.75 in. bolts and nuts (6).
12. Re-install the extraction duct door on the inside of the booth.

Extraction Duct Installation (contd)

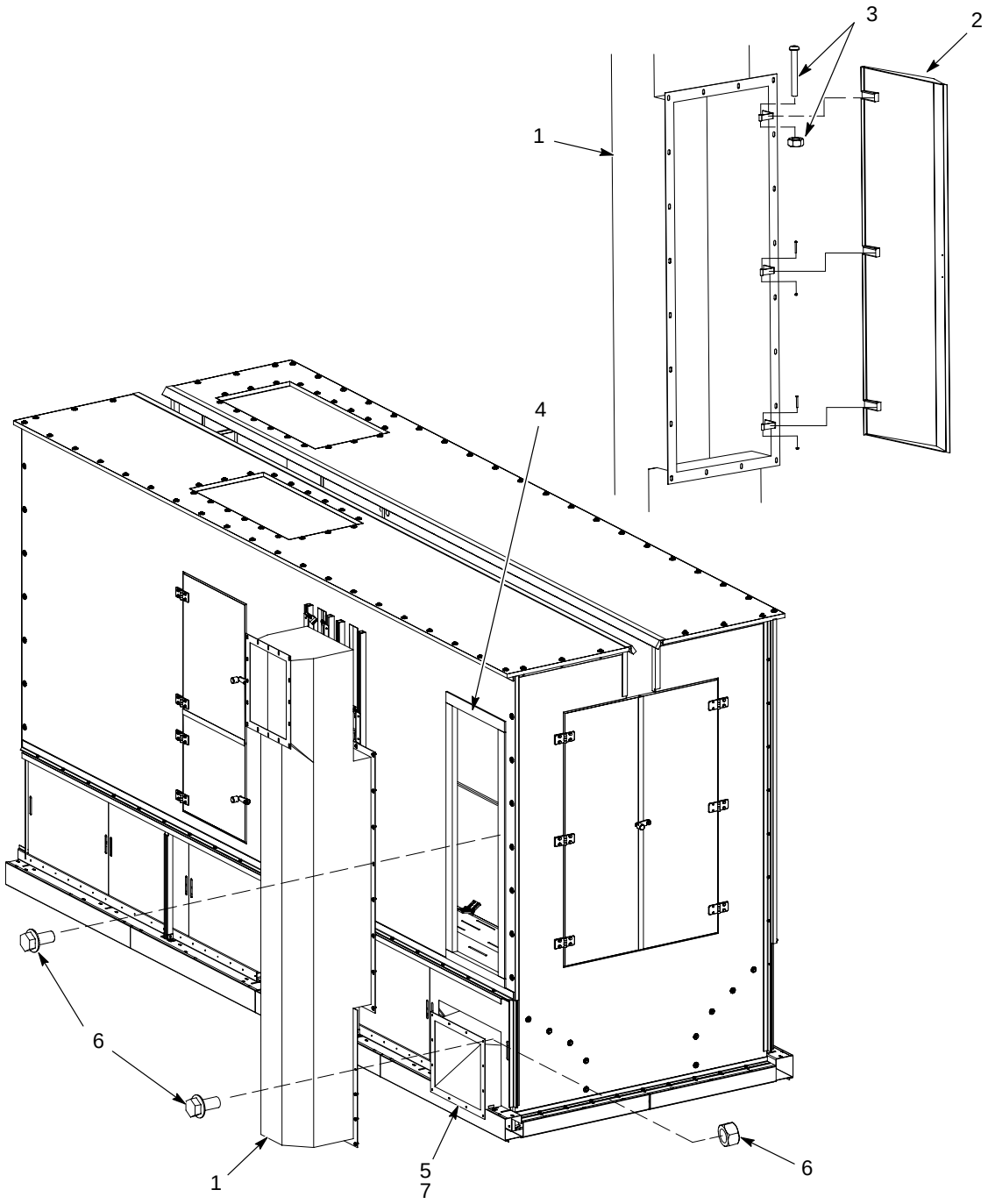


Figure 10 Extraction Duct Installation (Typical)

1. Extraction duct
2. Duct door
3. Duct door fasteners
4. Fiberglass angles
5. Transition duct
6. $^{3}/_{8}$ x 0.75 bolts and nuts
7. RTV sealant

Cyclone Installation

1. See Figure 11. Position the rear legs of the cyclone stand (1) approximately 2 feet in front of the extraction duct (2).
2. Apply a bead of RTV sealant (5) around the top flange of the upper half of the cyclone (6).
3. Install the banjo (4) on the upper half of the cyclone and secure it with $^3/_8$-16 x 1 in. bolts and nuts. Tighten the bolts securely.

NOTE: Banjo shape and outlet flange position vary depending on the application.

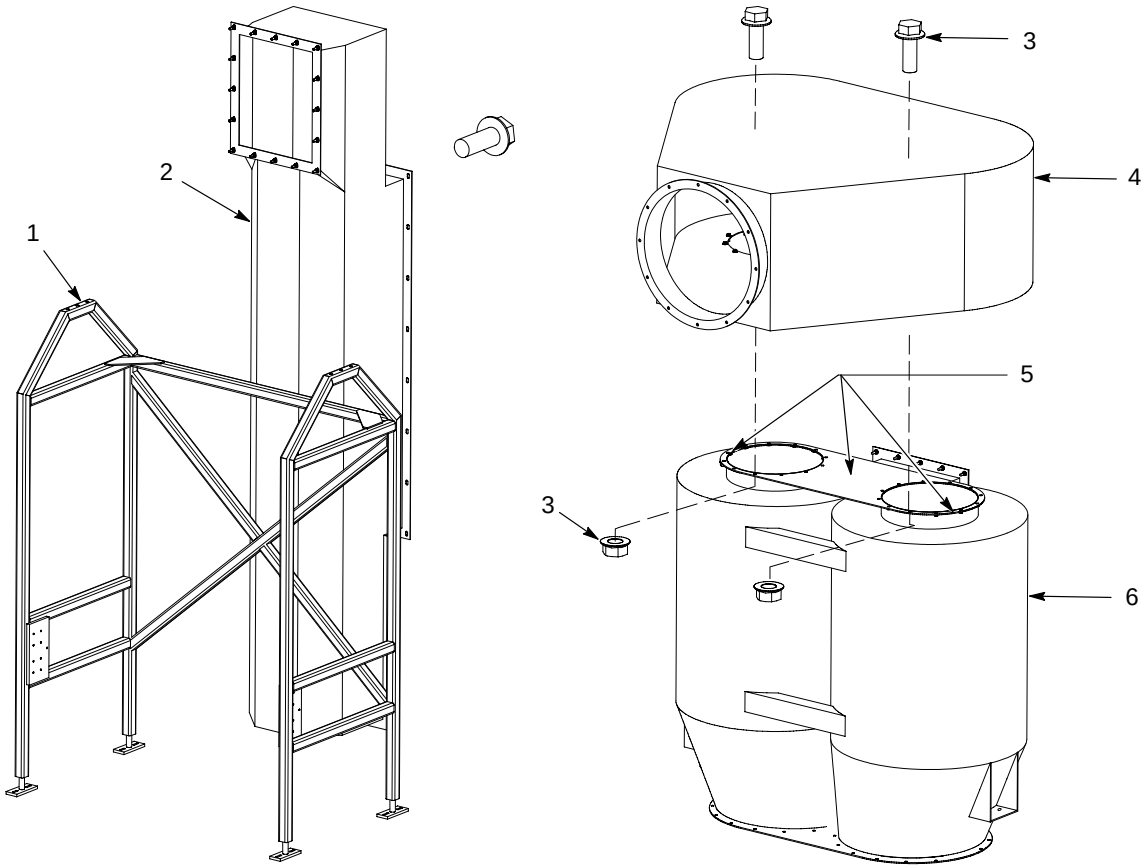


Figure 11 Cyclone Stand Positioning and Cyclone/Banjo Assembly (Typical)

1. Cyclone stand
2. Extraction duct
3. $^3/_8$ x 1 in. bolts and nuts
4. Banjo
5. RTV sealant
6. Upper half of cyclone

4. See Figure 12. Install the cyclone/banjo assembly on the stand.
5. Attach the cyclone to the stand with $^1/_2$ x 1 in. steel bolts and nuts (1). Tighten the bolts securely.
6. Apply a bead of RTV sealant (3) to the flange on the lower half of the cyclone.
7. Install the lower cyclone on the upper cyclone and secure it with $^3/_8$ x 1.5 in. steel bolts and nuts. Tighten the bolts securely.

Cyclone Installation (contd)

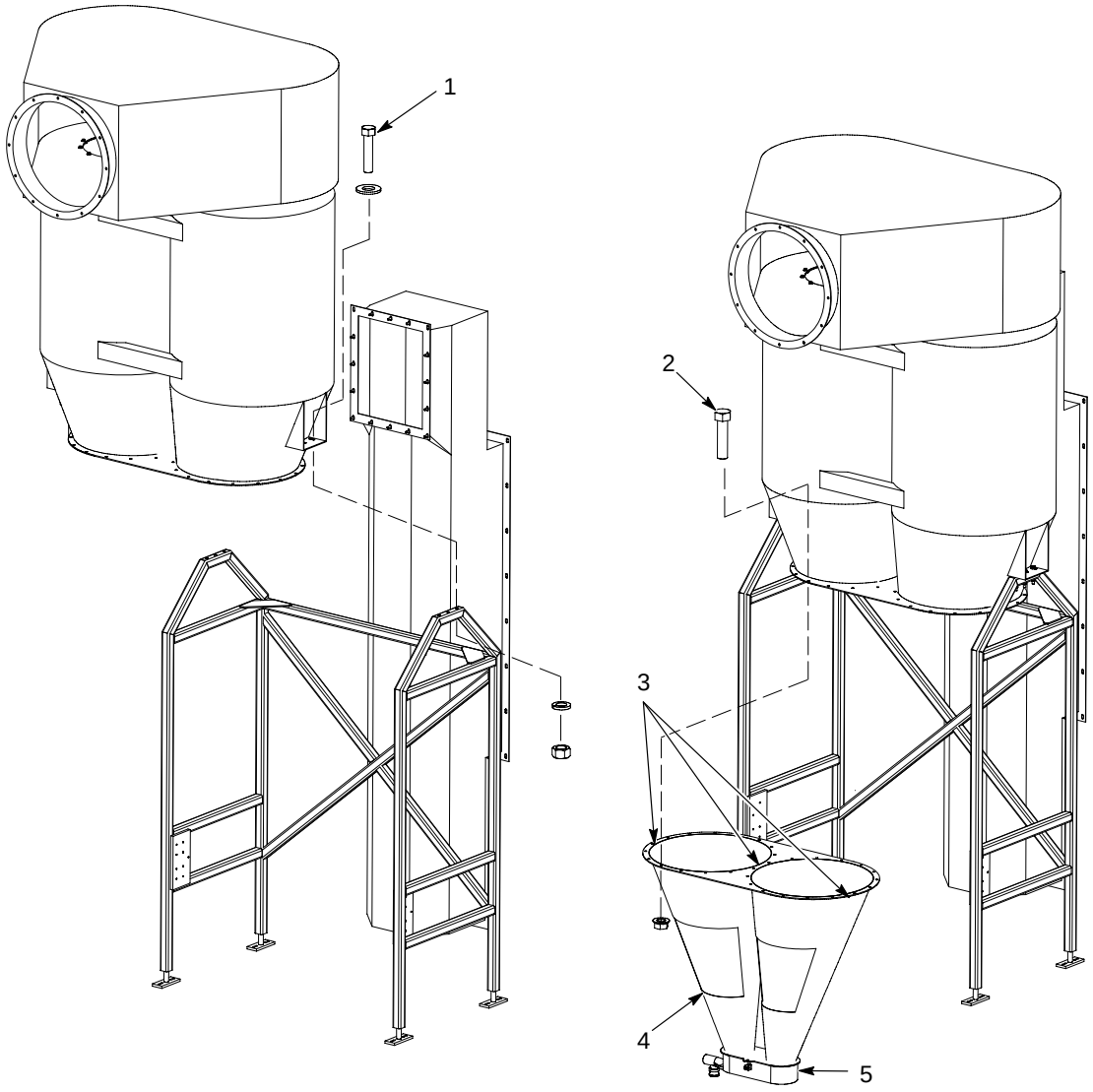


Figure 12 Installing Cyclone on Stand and Completing Assembly

1. $^1/_2$ in. bolts and nuts
2. $^3/_8$ in. bolts and nuts
3. RTV sealant
4. Lower half of cyclone
5. Transfer pan

8. See Figure 13. Apply a bead of RTV sealant to the extraction duct outlet flange.
9. Mate the cyclone inlet flange with the extraction duct outlet flange. Use the adjustable leveling pads on the cyclone stand to adjust the height of the cyclone flange.
10. Connect the cyclone and extraction duct flanges together with $^3/_8$-16 x 1 in. bolts and nuts. Tighten the bolts securely.
11. Bolt the cyclone stand to the floor or roll on/off platform.
12. Install the afterfilter and ductwork as described in this manual.

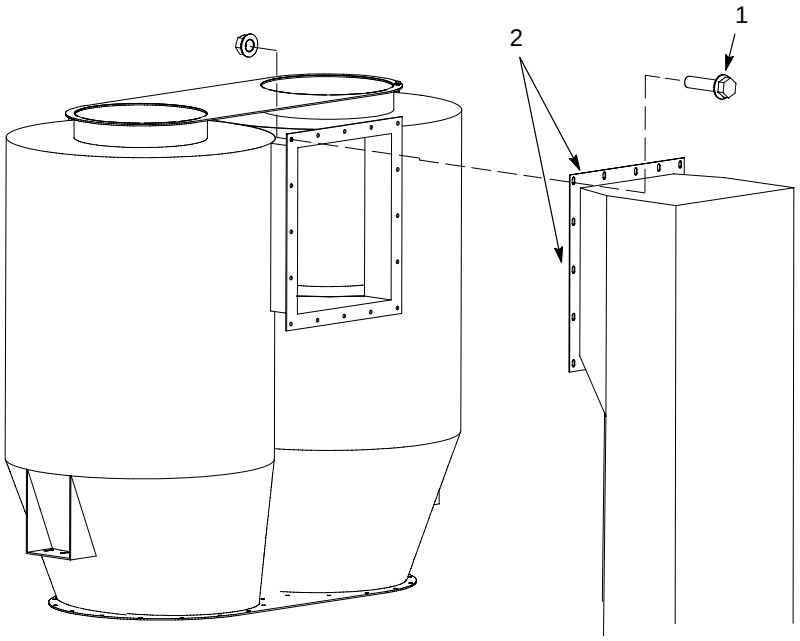


Figure 13 Connecting Cyclone to Extraction Duct

1. $^{3}/_{8}$ in. bolts and nuts
2. RTV Sealant

Cover Panel and Skirt Installation

See Figure 14.

1. Cut the wire ties from the conduit and pneumatic tubing stored in the base and route them through the utility channels as required to the desired locations.
2. Locate the base side and end skirts, and the cover panels including duct cover panel.
3. Snap the base side and end skirts in place on the base.

NOTE: If routing the conduits and pneumatic tubing for auxiliary equipment such as gun positioners behind the skirts, cut slots in the skirts as needed for the conduit to exit the base at the proper locations.

4. Install the cover panels on the base.

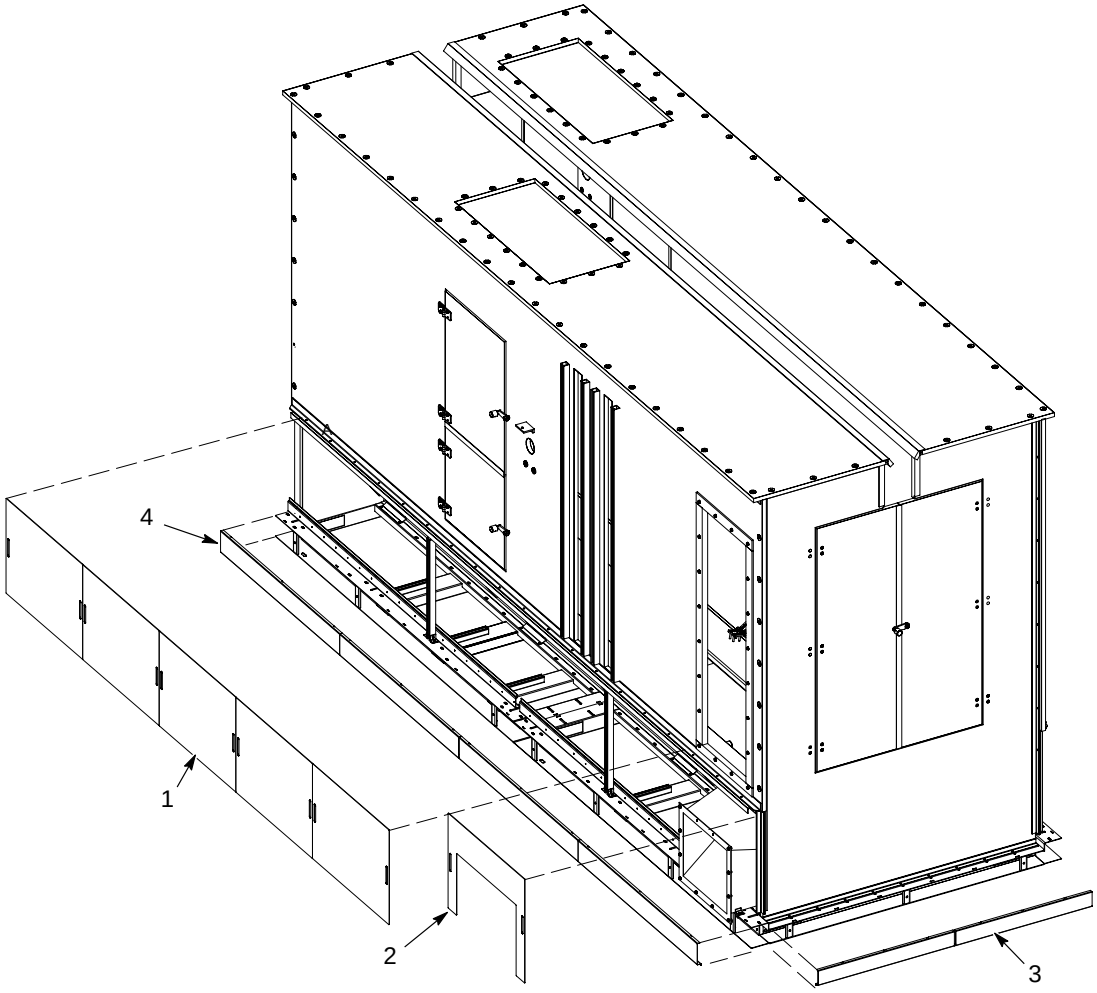


Figure 14 Cover Panel and Skirt Installation

1. Cover panels
2. Duct cover panel
3. End skirts
4. Side skirts

Booth Seam Sealing

NOTE: This procedure should only be done under the direction of a Nordson representative.

1. Clean and vacuum the inside corners and seams of the Apogee panels and stainless steel floor. Leave the plastic film on the stainless steel to protect it while sealing the seams.
2. Apply blue tape to both sides of all vertical, horizontal, and floor seams, maintaining a 1/8 inch gap on either side of the seam.
3. Apply two-component Pro-Set sealer to all seams, making sure none of the sealer gets on the Apogee panel or stainless steel surfaces.
4. Remove excess sealer from the seams before it sets up.
5. Remove the blue tape from the seams after the sealer sets up.
6. Let the sealer stand for 24 hours before preparing the booth for production.

AeroDeck™ Installation

1. Install the bumper stops, if not already installed, into the pre-drilled holes in the base panels and secure them with $^{3}/_{8}$-16 x 0.75 nylon screws and washers.
2. Place temporary stands, the same height as the stops, on the floor opposite the pin supports.
3. Locate the forward AeroDeck panel $^{1}/_{2}$ inch from the end panel and an equal distance from side to side. Make sure the air fittings on the underside of the AeroDeck panel are away from the end panel.
4. Fold open the hinges and mark the hinge hole patterns on the AeroDeck panels.
5. Drill holes in the AeroDeck panels with a 5/16 in. drill bit, and thread with a 3/8-16 tap.
6. Secure the hinges to the AeroDeck panels with $^{3}/_{8}$-16 x 2 in. flat-head plastic screws and jam nuts. Cut off any excess threads flush with the jam nuts.
7. Make sure the AeroDeck panels pivot smoothly on the hinges and are plumb with the floors.

Afterfilter Installation

See Figure 15.

1. Locate the upper and lower afterfilter sections (1, 4).
2. Consult your layout drawings to determine the location of the afterfilter. Mark location on floor.
3. Move the lower section into place.
4. Lift the upper section onto the lower section. Line up the bolt holes and fasten the two sections together with $^{3}/_{8}$-16 x 1 in. bolts and nuts (2).
5. Attach the hanger bracket (3) to the afterfilter with two of the bolts and nuts used to secure the upper and lower sections.
6. Attach the inlet duct (6) to the lower section with $^{3}/_{8}$-16 x 1 in. bolts and nuts.
7. Install the explosion suppression containers (5) and system controls (customer supplied) according to the layout drawings and manufacturer's instructions.

Afterfilter Installation (contd)

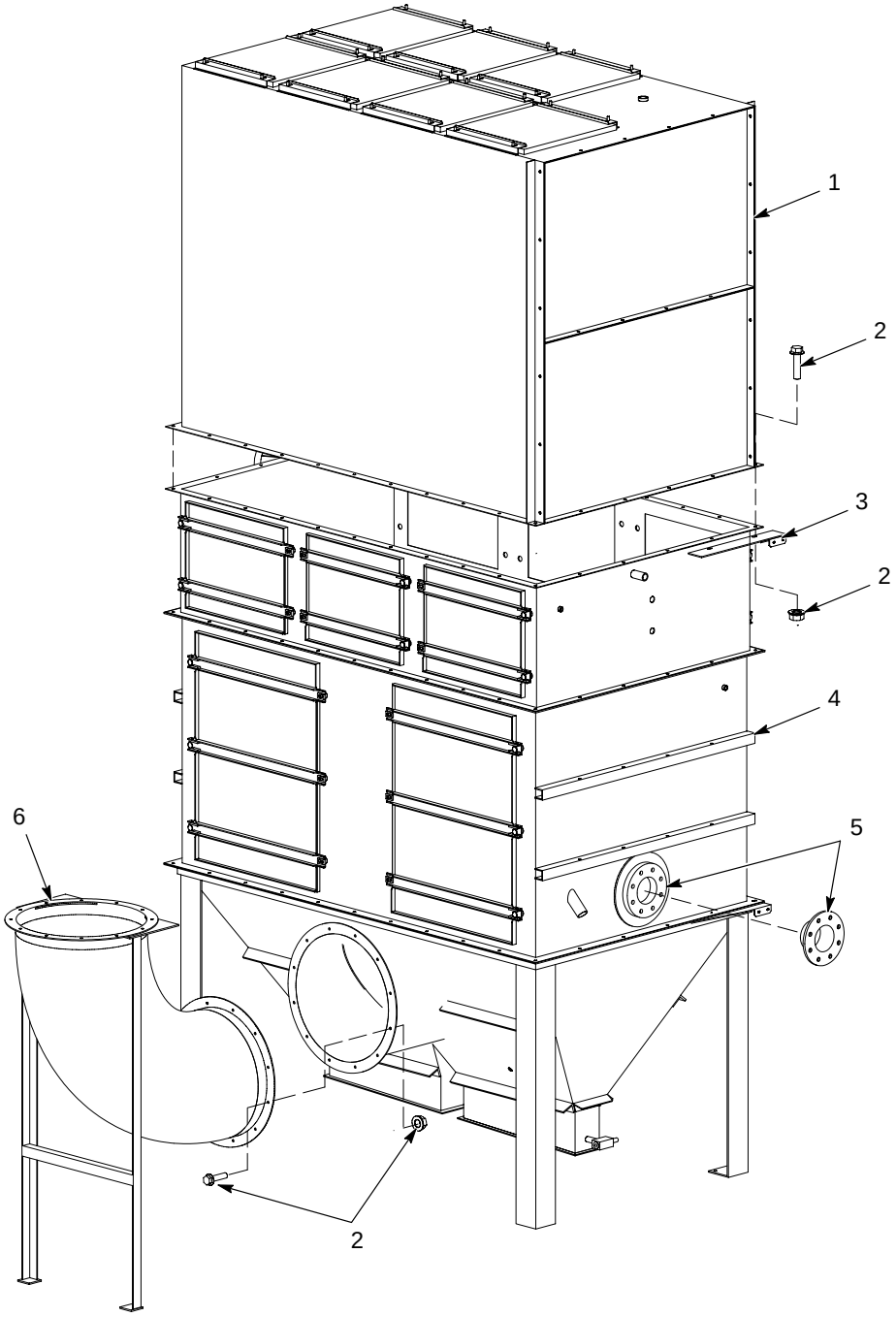


Figure 15 Afterfilter Installation

1. Upper section
2. $^{3}/_{8}$ in. bolts and nuts
3. Hanger bracket
4. Lower section
5. Explosion suppression flange
6. Inlet duct

Duct Installation

Slip Duct Assembly Instructions

See Figure 16. Slip duct sections are assembled as follows:

NOTE: Install the slip duct sections so that the air flow is from inner duct to outer duct.

1. Slide the inner ducts (3) and outer ducts (6) through duct supports (2), then install slip flanges (1) over both ducts.
2. Slide the inner duct into the outer duct. Mate up the slip flanges so that the O-ring (5) is squeezed between them and the bolt holes in the flanges are aligned.
3. Secure the slip flanges together with with 3/8-16 x 1.0 in. bolts and nuts (4).

When all the duct sections are assembled and adjusted as required, tack weld the ducts to the slip flanges in four equally spaced locations around the circumference of the flanges.

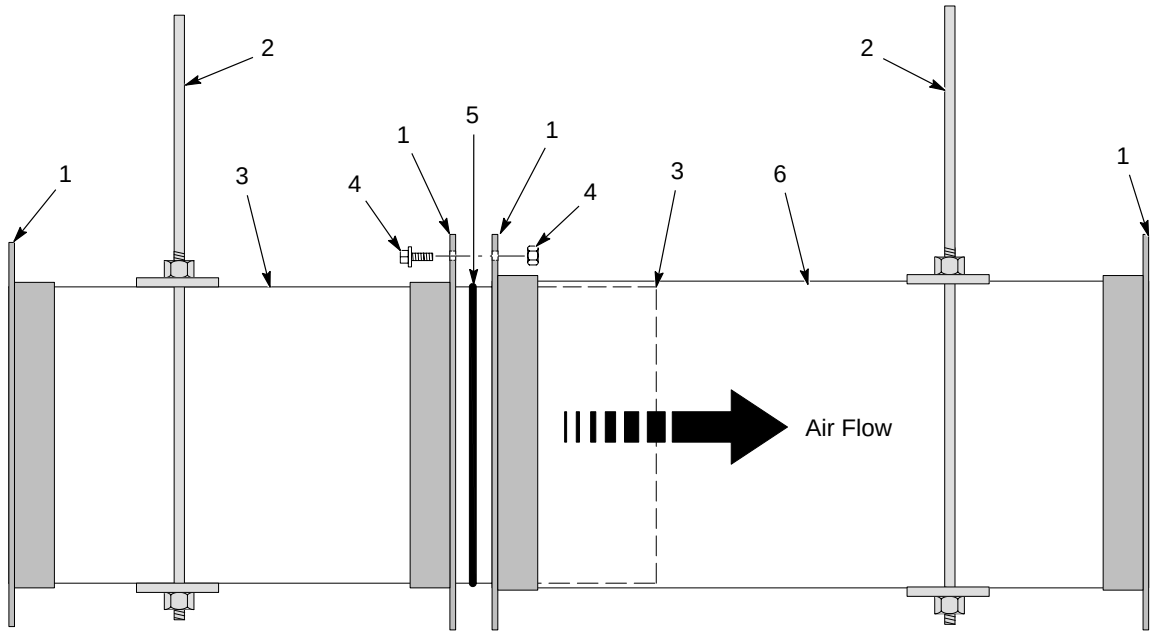


Figure 16 Slip Duct Assembly

1. Slip flanges
2. Duct hangers
3. Inner ducts
4. $^{3}/_{8}$ x 1 bolts and nuts
5. O-rings
6. Outer ducts

Typical Ductwork Installation

See Figure 17. Note that all systems are different. Refer to your system drawings.

Assemble the ductwork as shown in your layout drawings, installing duct hangers as required to support the ducts. Tack-weld all slip flanges to the ducts after making adjustments.

Some ducts may have the flanges tack-welded to them at the factory. If it is necessary to rotate the flanges to line up the bolt holes then break the tack welds and re-weld them after completing the installation.

The ductwork for roll on/roll off systems includes two disconnect systems, one for the booth on-line position and one for the off-line position.

Install the explosion suppression system as described in the manufacturer's manuals. The powder coating system must be interlocked with the suppression system.

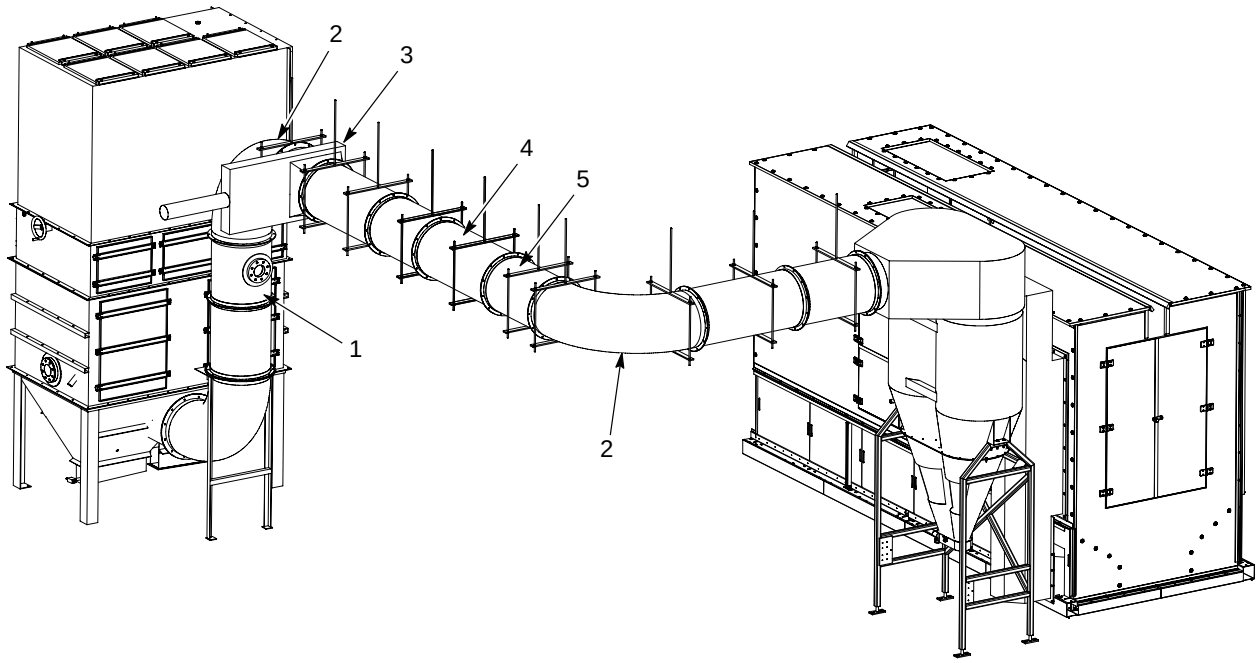


Figure 17 Fixed Booth Duct Assembly (Typical)

1. Deflamation duct
2. 90 degree elbow duct
3. Slide gate
4. Outer duct
5. Inner Duct

Fire Detector Installation

See Figure 18.

1. Install the narrow brackets onto the detector heads.
2. Install the wide brackets onto the angles above the windows in the canopy end panels.
3. Install the narrow brackets onto the wide brackets. Position the detector heads to look into the booth, then tighten the screws.

Install the fire detection system control panel and make electrical connections as shown in your system drawings. The booth electrical panel and spray guns controls must be interlocked with the fire detection system.

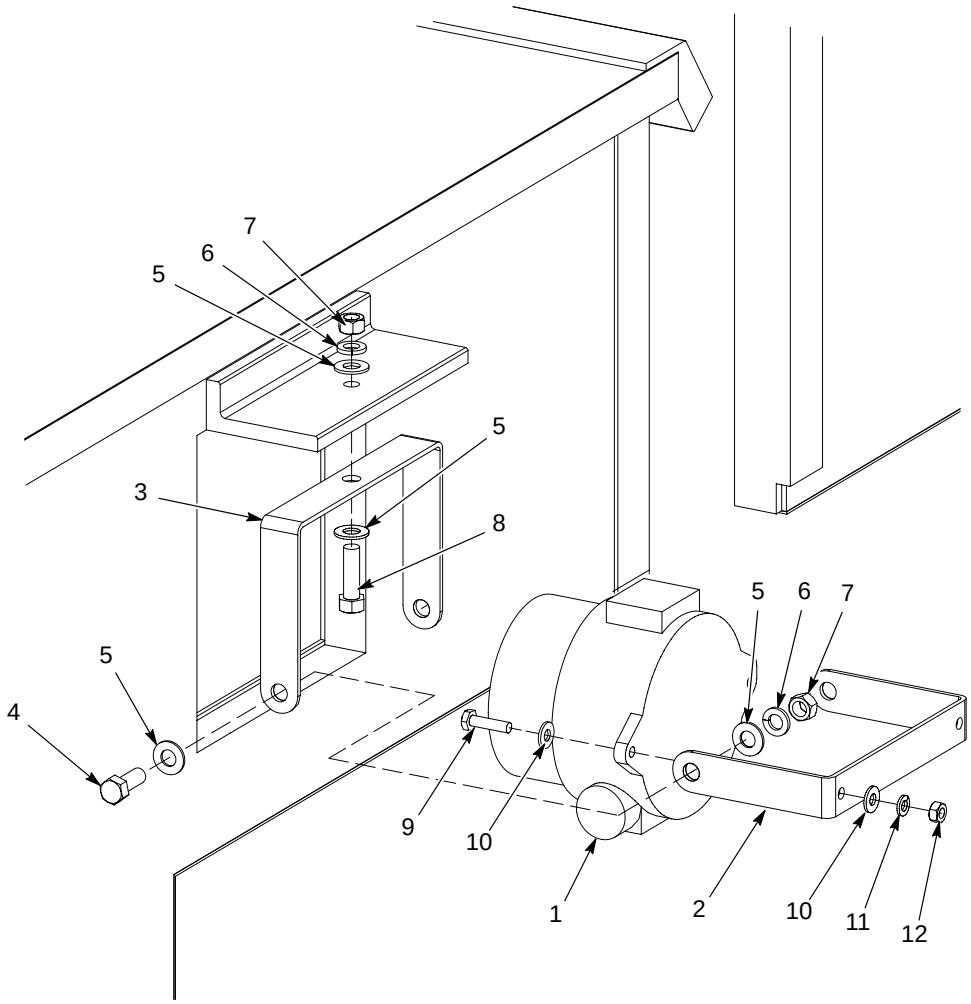


Figure 18 Fire Detector Installation

1. Detector head
2. Narrow bracket
3. Wide bracket
4. $^3/_8$-16 x 1 bolts
5. $^3/_8$ flat washers
6. $^3/_8$ lock washers
7. $^3/_8$-16 nuts
8. $^3/_8$-16 x 1.25 bolt
9. $^1/_4$-20 x 1 bolts
10. $^1/_4$ flat washers
11. $^1/_4$ lock washers
12. $^1/_4$-20 nuts

Booth Conditioning

Required: Acetone or 80% Isopropyl Alcohol, water, 5 gallon bucket, detergent, pre-washed 100% cotton rags.

NOTE: If the booth surfaces are not conditioned, residues from manufacturing and installation may interfere with booth blowoff and cleaning and cause powder contamination.

1. Wipe down the entire canopy with acetone or 80% isopropyl alcohol and specified rags.
2. Wash all surfaces with soapy water and specified rags. A continuous wet surface is not necessary; it does not matter if surfaces air-dry before the next step.
3. Rinse all surfaces TWICE with clean water and specified rags. Allow to air-dry.

NOTE: From this point on, do not touch the interior surfaces with bare hands. Operators should wear cotton gloves. If you have difficulty blowing powder off booth surfaces, reconditioning may be required. To recondition the booth, perform steps 2 and 3.

Completing the Installation

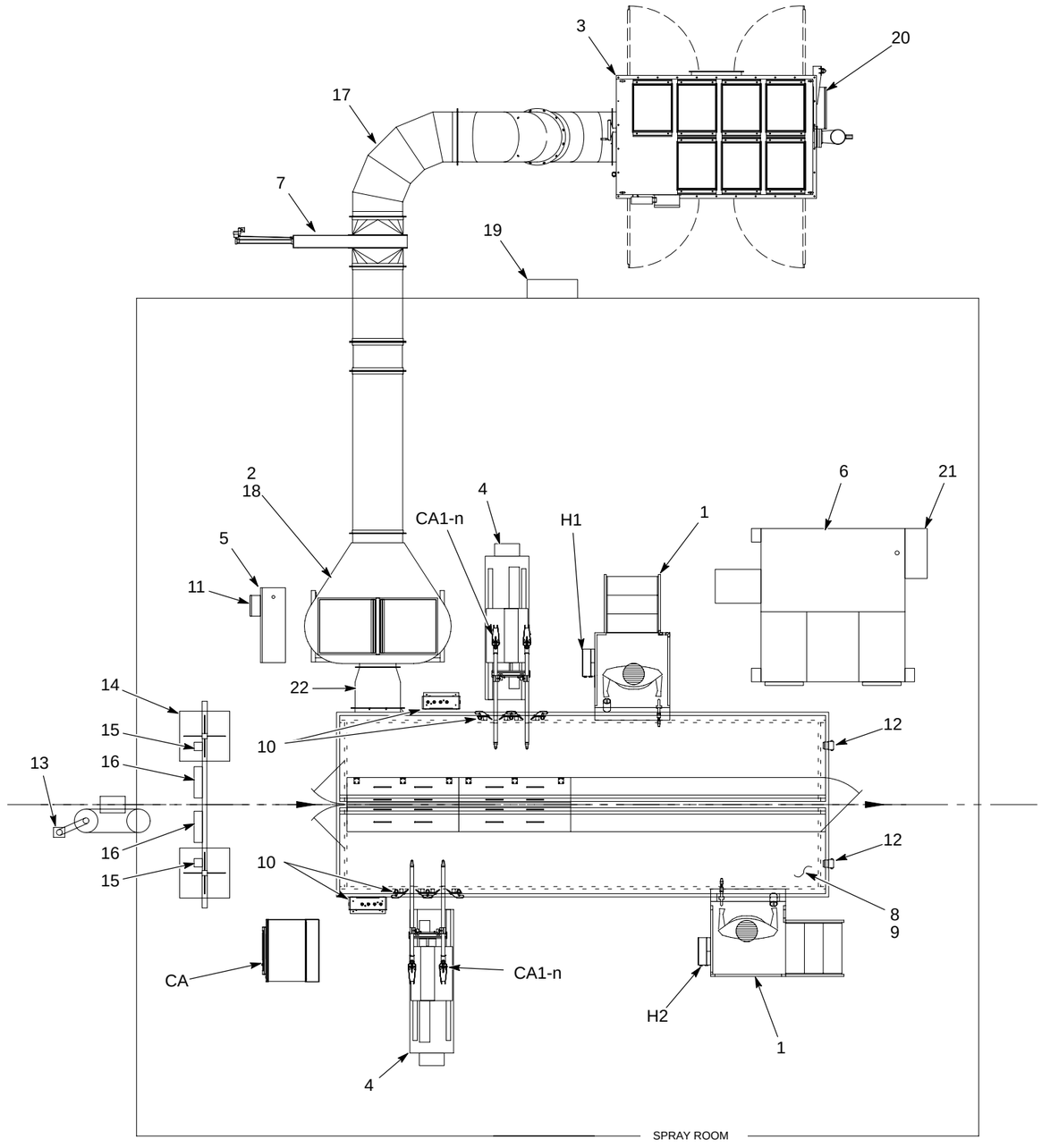
Position the feed center, manual operator platforms, photoeye/scanner stand, fixed gun stands or gun positioners as shown on your system layout drawings. Do not bolt the fixed gun stands and gun positioners to the floor until the automatic spray guns are mounted and aligned with the gun slots.

Install pneumatic and electrical drops as shown on your system drawings.

Install the electrical panels, control panels, and junction boxes as shown on the drawings.

Make the pneumatic and electrical connections shown on the drawings. All wiring must be done by a qualified electrician according to code.

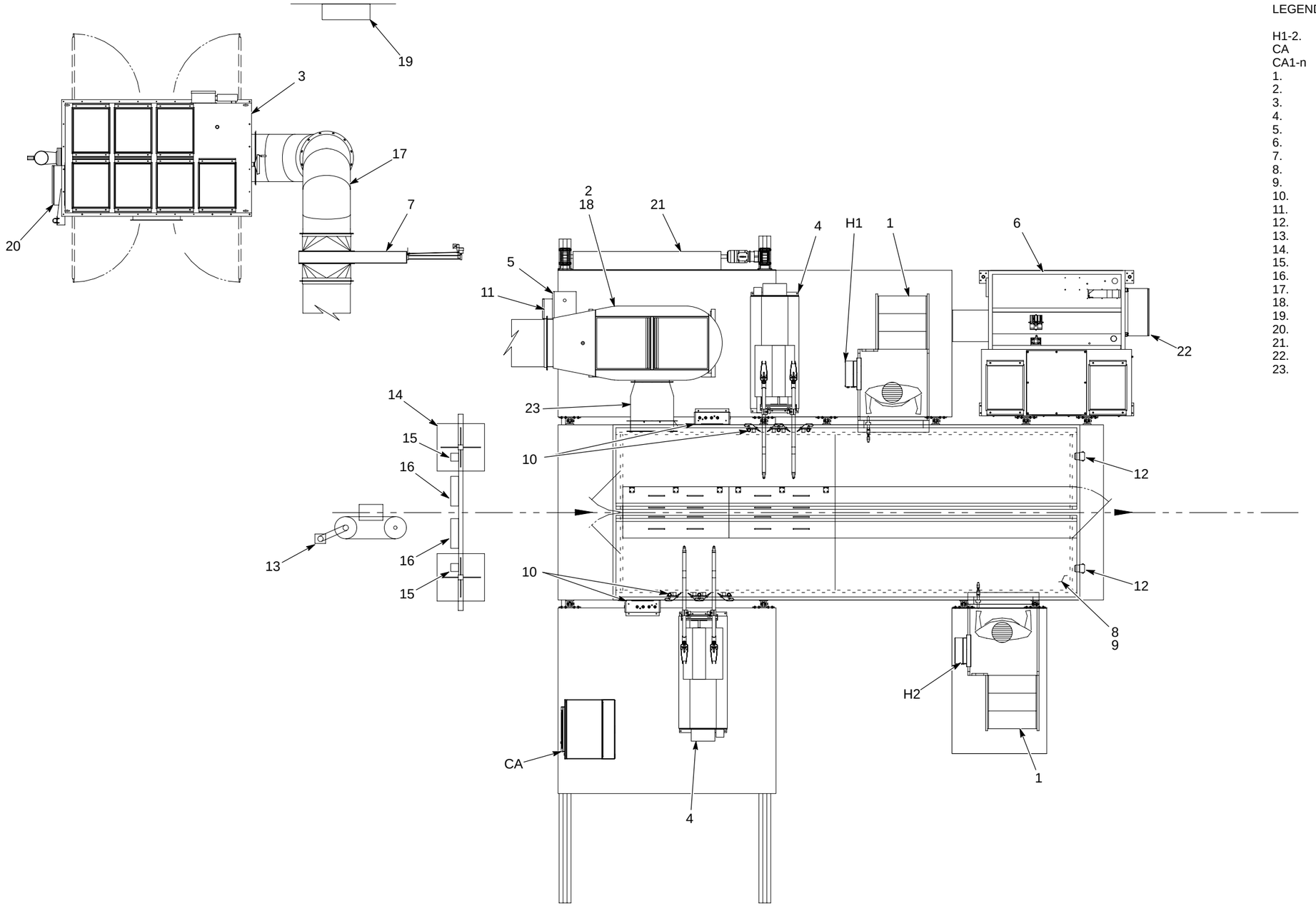
Your Nordson installer and field engineers will help you complete the rest of the system installation and startup the system.



LEGEND

H1-2.	Manual Gun and Control Unit
CA	iControl Master Console
CA1-n	Automatic Spray Guns
1.	Operator Platform
2.	Dual Cyclone
3.	Afterfilter
4.	Gun Positioner/Vertical Oscillator
5.	System Electrical Panel
6.	Feed Center
7.	Slide Gate
8.	Canopy
9.	Booth Base
10.	Gun Blowoff Assemblies
11.	Fire Detection Control Panel
12.	Fire Detector Heads
13.	Encoder
14.	Part ID Stand
15.	Scanner, Zone
16.	Scanner, Gun Positioner
17.	Ductwork
18.	Banjo
19.	Exhaust Fan Panel
20.	Afterfilter Panel
21.	Feed Center Panel
22.	Extraction Duct

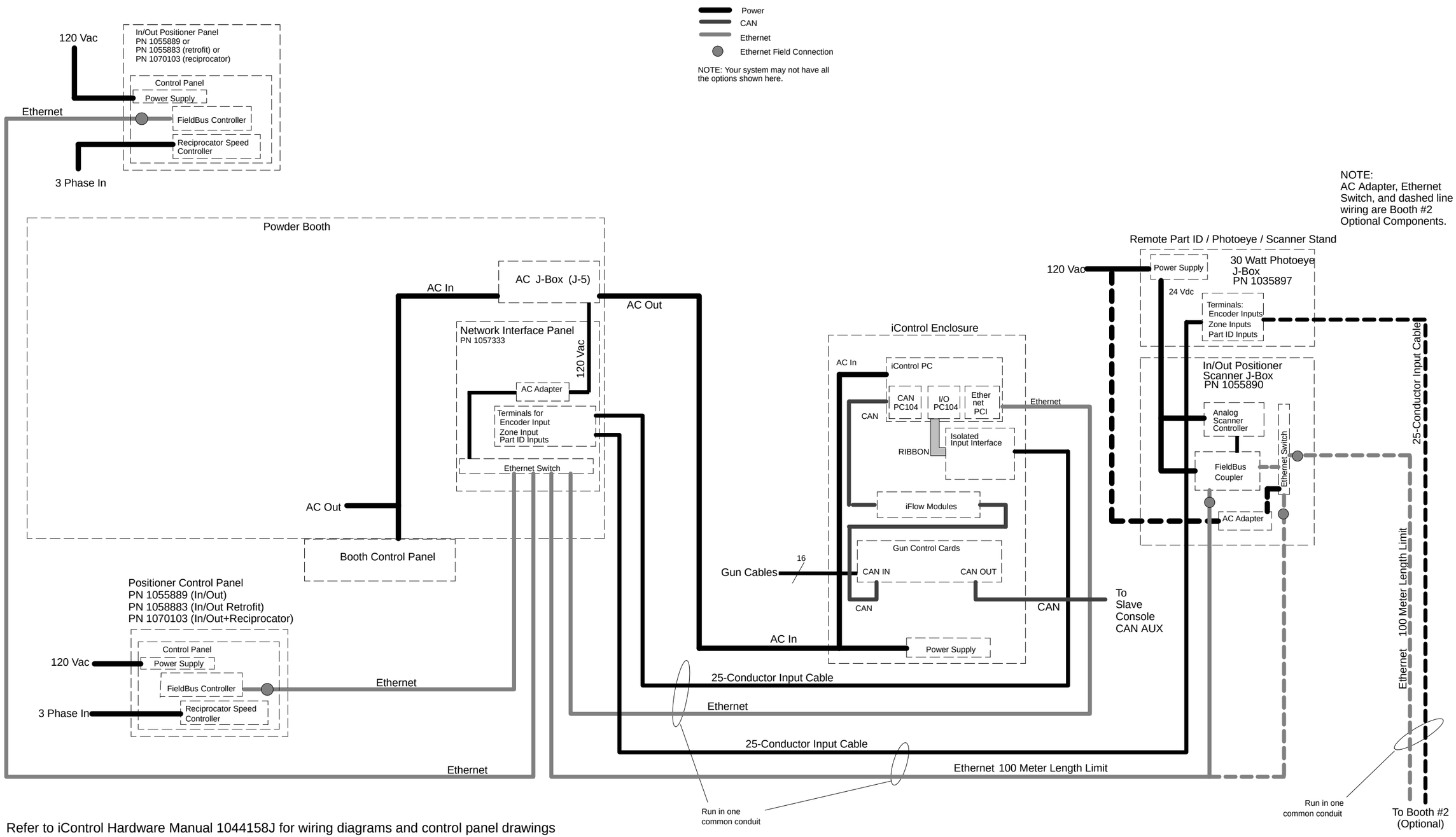
Figure 19 Typical Fixed System Layout



LEGEND

H1-2.	Sure Coat Manual Gun and Control Unit
CA	iControl Master Console
CA1-n	Sure Coat Automatic Spray Guns
1.	Operator Platform
2.	Dual Cyclone
3.	Afterfilter
4.	Vertical Oscillator
5.	System Electrical Panel
6.	Feed Center
7.	Slide Gate
8.	Canopy
9.	Booth Base
10.	Gun Blowoff Assemblies
11.	Fire Detection Control Panel
12.	Fire Detector Heads
13.	Encoder
14.	Part ID Stand
15.	Scanner, Zone
16.	Scanner, Gun Positioner
17.	Ductwork
18.	Banjo
19.	Exhaust Fan Panel
20.	Afterfilter Panel
21.	Rollerbase, Booth
22.	Feed Center Panel
23.	Extraction Duct

Figure 20 Typical Roll On/Roll Off System Layout



Refer to iControl Hardware Manual 1044158J for wiring diagrams and control panel drawings

Figure 21 iControl System Diagram (Standard System with Venturi Pumps)

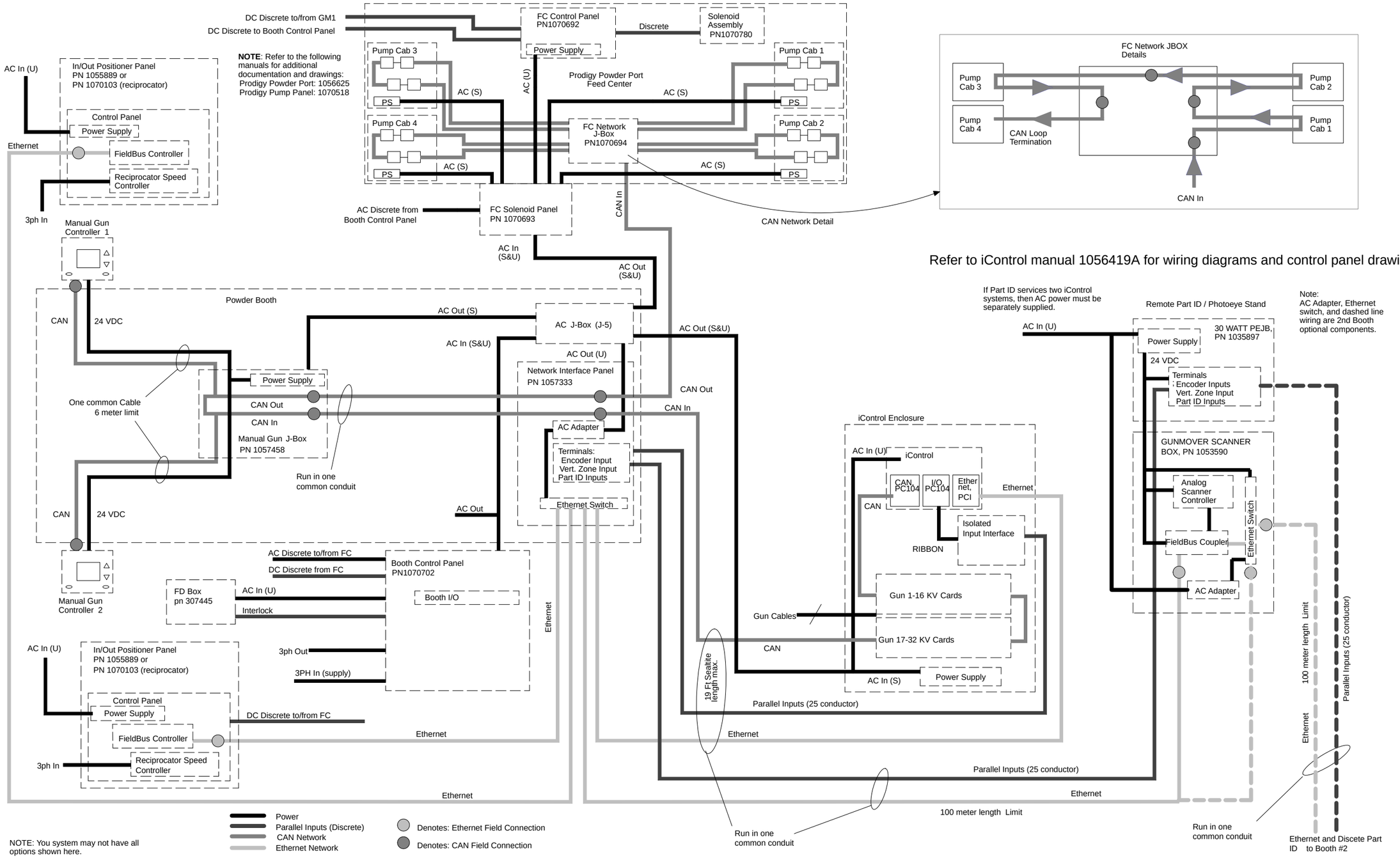


Figure 22 iControl System Diagram (Prodigy System with HDLV Pumps)

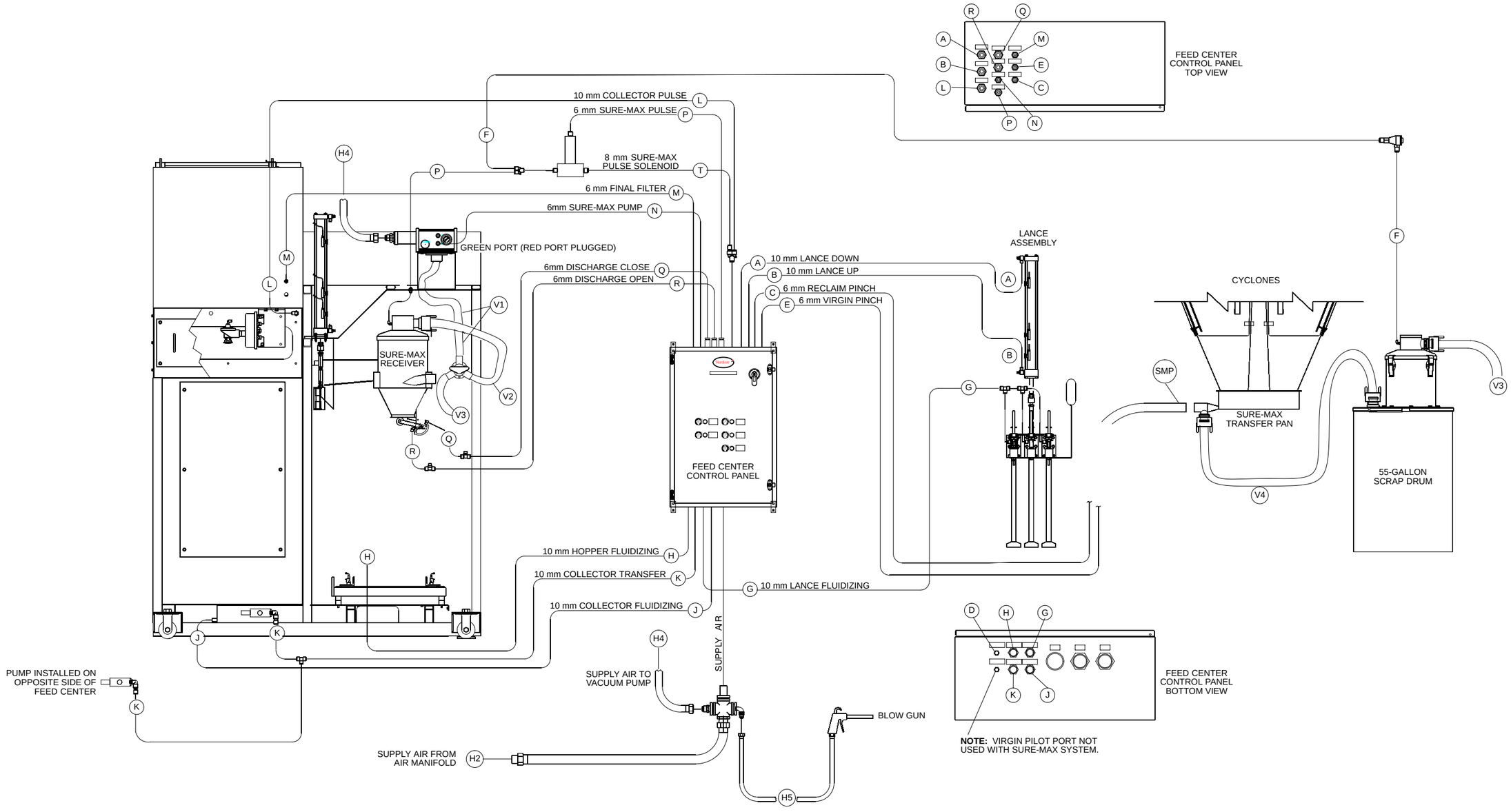
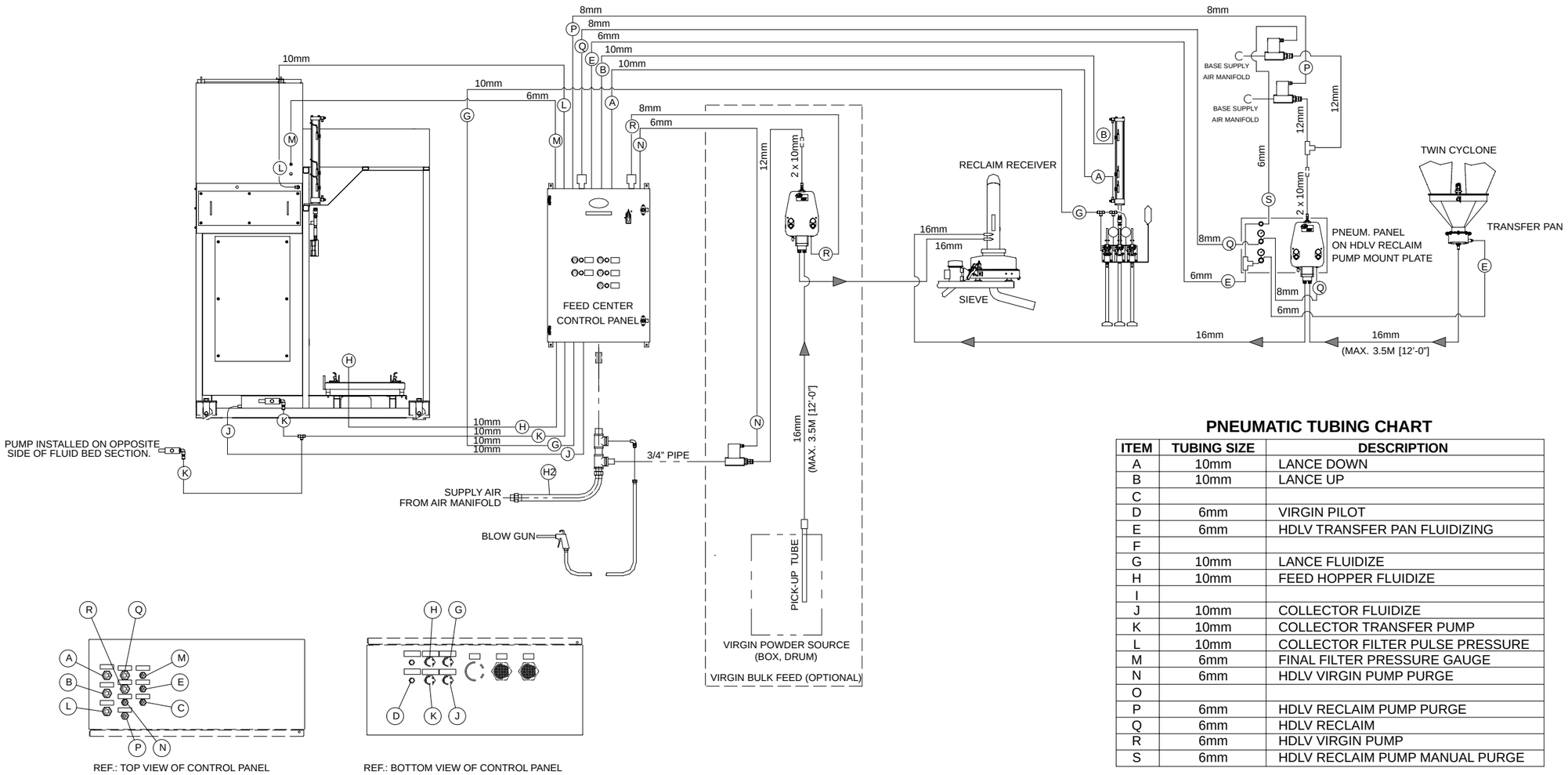


Figure 23 Typical Sure-Max Transfer System Diagram - Spectrum Feed Center



PNEUMATIC TUBING CHART

ITEM	TUBING SIZE	DESCRIPTION
A	10mm	LANCE DOWN
B	10mm	LANCE UP
C		
D	6mm	VIRGIN PILOT
E	6mm	HDLV TRANSFER PAN FLUIDIZING
F		
G	10mm	LANCE FLUIDIZE
H	10mm	FEED HOPPER FLUIDIZE
I		
J	10mm	COLLECTOR FLUIDIZE
K	10mm	COLLECTOR TRANSFER PUMP
L	10mm	COLLECTOR FILTER PULSE PRESSURE
M	6mm	FINAL FILTER PRESSURE GAUGE
N	6mm	HDLV VIRGIN PUMP PURGE
O		
P	6mm	HDLV RECLAIM PUMP PURGE
Q	6mm	HDLV RECLAIM
R	6mm	HDLV VIRGIN PUMP
S	6mm	HDLV RECLAIM PUMP MANUAL PURGE

For systems equipped with Prodigy Powder Port Feed Centers, refer to your feed center manual.

Figure 24 Typical HDLV Transfer System Diagram - Spectrum Feed Center