

# Vantage™ RCM Powder Coating Booth Installation Instructions



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

## Introduction

Use these instructions to assemble the Vantage RCM powder spray booth and its components. Refer to the *Vantage RCM Powder Coating Booth* manual for information on specifications, operation, troubleshooting, repair, and parts.



**WARNING:** Always balance the load when lifting components. Never put stress on flat panels. Do not attempt to lift using covers, doors, cables, or hose connections. Use only lifting equipment with a rated capacity greater than the load. While lifting, make sure all personnel stand clear.

## Delivery

Perform the following tasks when the booth is delivered to the installation site.

- Clear the area of all obstructions.
- Provide a secured, indoor storage area for equipment.
- Clear the area leading from the delivery site to the installation site. Make sure that there is sufficient clearance for all equipment to pass through.
- Take inventory of all equipment. Make sure that you have all of the materials listed on the packing slip.

**NOTE:** Changes to the original purchase order during the installation may result in additional charges to the buyer.

## 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 for installation equipment at the installation site.
- If applicable, make sure that an air conditioning system is installed and operational.
- If applicable, install the conveyor through the spray room. The conveyor and its hangers must be built and tested at the site before the booth is assembled.
- Install electrical and compressed air service drops in locations convenient for connection to the booth.

## Clearances

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

There must be at least 1 m (3 ft) of clearance between the fan section outlet and any wall or other object to allow free air flow.

## Unpacking

The following major components are shipped for your spray booth system.

- assembled base, canopy, and fan section
- vestibule (15 ft booths)
- color module

Remove the packaging and inspect each component for damage. Document any damage that you find and report it to both the carrier and your Nordson representative.

## Base Installation

The Vantage RCM powder coating booth is available in three base lengths, 9 ft, 12 ft, and 15 ft, and can be used with any powder application system.

The booth can be permanently located under the conveyor (fixed base), or mounted on casters and rails (roll-on/roll-off).

**NOTE:** The booth is shipped with the final filters installed in the fan section. Refer to *Repair* in the *Vantage RCM Powder Coating Booth* manual for replacement instructions.

## Fixed Base

See Figure 1.

1. Position the canopy and fixed base assembly with the canopy slot centerline directly under and parallel to the conveyor centerline.

**NOTE:** Continue to check the centerline alignment throughout the installation procedure to make sure the base has not shifted.

2. Lift the booth base with forklifts, remove the four shipping casters and brackets from the base and give them to the delivery driver, or use the pre-addressed carton included with the booth to return them.

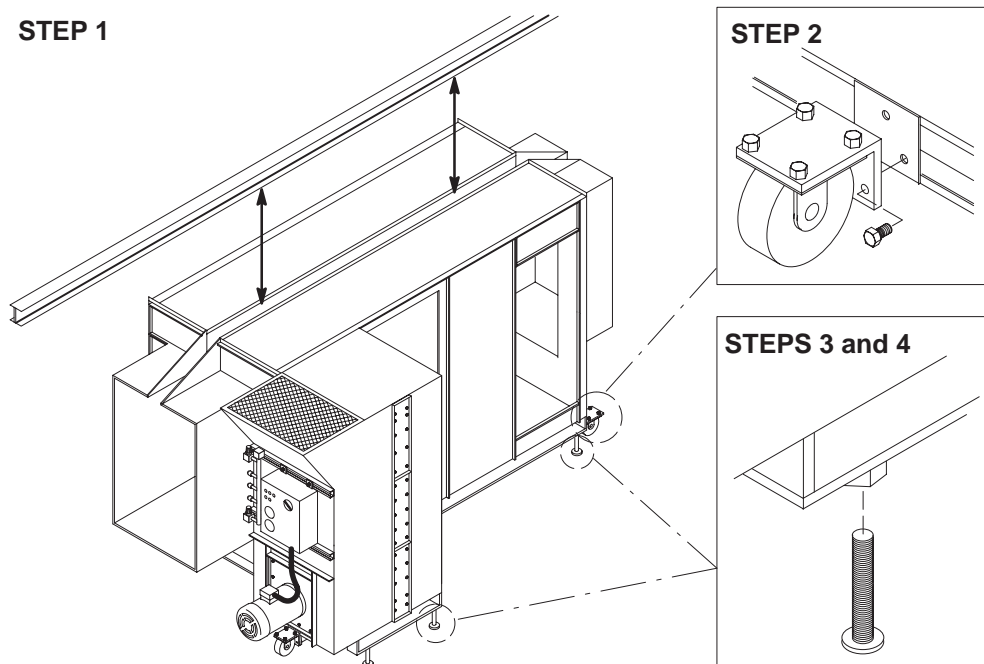
3. Install four 1-in. leveling pads into the threaded holes at each corner of the fixed base.

**NOTE:** If you are installing a 12-ft or 15-ft powder spray booth you will also need to install leveling pads on the center of each long side.

4. Install two 1-in. leveling pads into the threaded holes at the two outside corners of the fan section.

5. Use the leveling pads to level the base and fan section.

6. Check the alignment of the canopy slot and conveyor centerlines.



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Figure 1 Fixed Base Installation

## Roll-On/Roll-Off Base

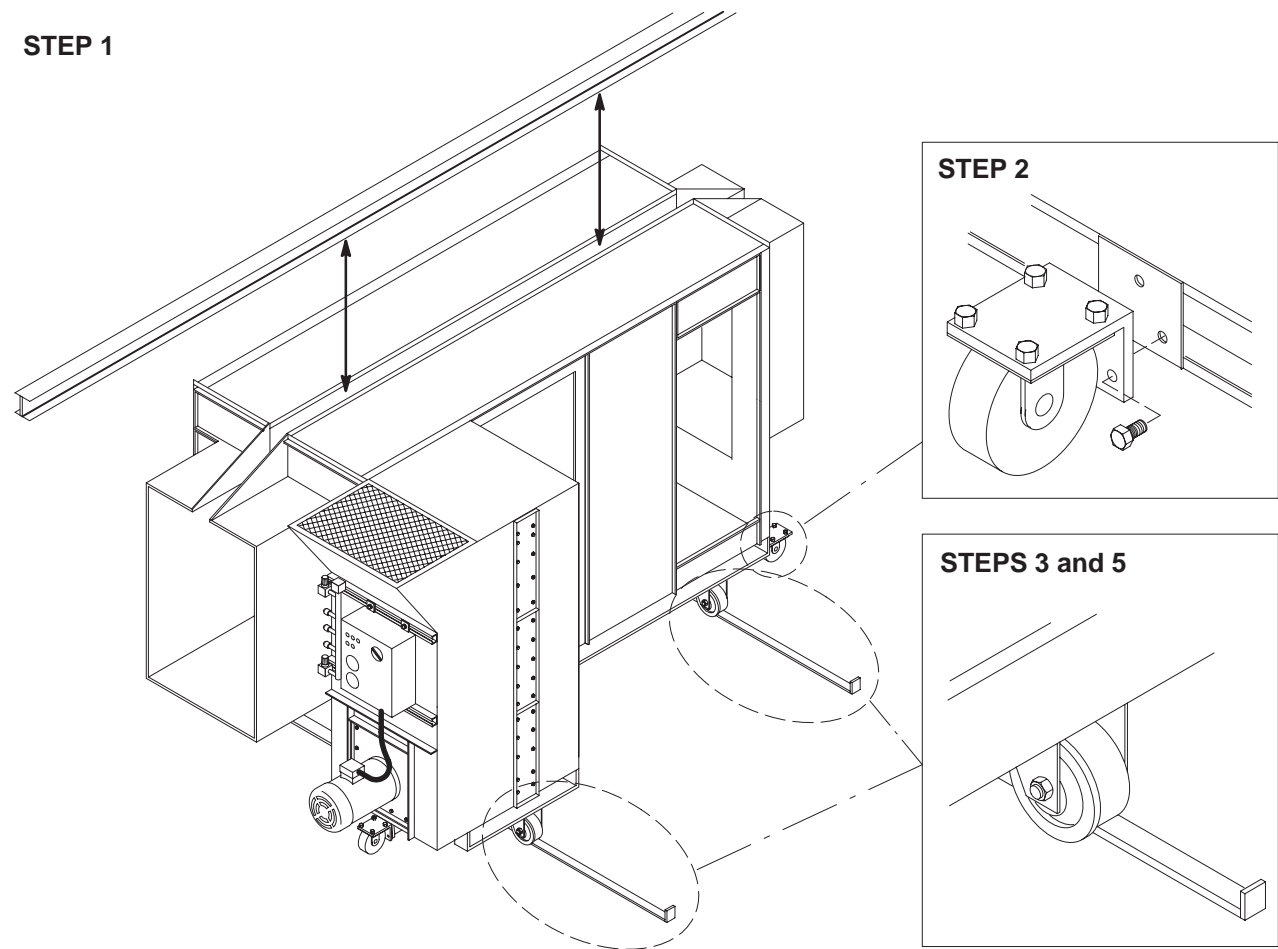
See Figure 2.

1. Position the canopy and base assembly with the canopy slot centerline directly under and parallel to the conveyor centerline.  
  
**NOTE:** Continue to check the centerline alignment throughout the installation procedure to make sure the base has not shifted.
2. Lift the booth base with forklifts, remove the four shipping casters and brackets from the base and give them to the delivery driver, or use the pre-addressed carton included with the booth to return them.

3. Install the four flange casters on the mounting pads provided on the underside of the base.
4. Check the alignment of the canopy slot and conveyor centerline.
5. With the booth in the on-line position, place the tracks under the flange casters. Make sure the flange casters are square to the conveyor's centerline.

**NOTE:** The track that goes under the fan section is longer. Position the tracks so the casters are up against the stops in both the on-line and off-line positions.

6. Anchor the tracks to the floor, then lower the booth onto the tracks.



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Figure 2 Roll-On/Roll-Off System Base Installation

## Final Canopy Assembly

See Figure 3.

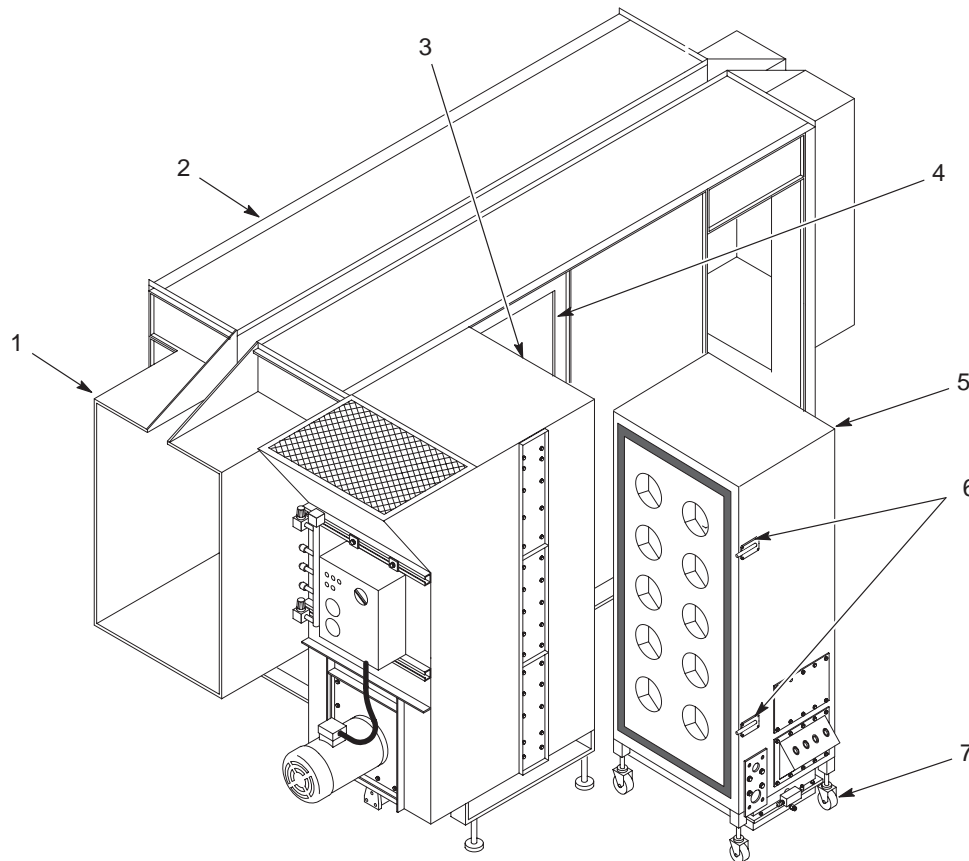
1. Some booths (15 ft) may be shipped with one of the vestibules (1) removed. If necessary install the vestibule with the fasteners provided. Caulk the seams around the vestibule.
2. Check the seams around the entire canopy (2) to make sure enough caulk is applied for a complete seal, especially the seam where the inlet frame (4) and canopy meet. Apply more caulk if necessary.

## Color Module Installation

**NOTE:** The color module is shipped with the cartridge filters installed. Refer to *Repair* in the *Vantage RCM Powder Coating Booth* manual for cartridge filter replacement instructions.

See Figure 3.

1. Position the new color module (5) against the fan section (3) and the inlet frame (4). The module gaskets should seal against the fan section and the inlet frame.
2. Level the color module and adjust its height, if necessary, by adjusting the threaded stems of the casters (7) under the color module.
3. Adjust the latching clamps (6) so that there is an even amount of pressure on all sides of both color module gaskets.



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Figure 3 Final Canopy Assembly and Color Module Installation

- |                |                 |                    |
|----------------|-----------------|--------------------|
| 1. Vestibule   | 4. Inlet frame  | 6. Latching clamps |
| 2. Canopy      | 5. Color module | 7. Casters         |
| 3. Fan section |                 |                    |

# Pneumatic Connections



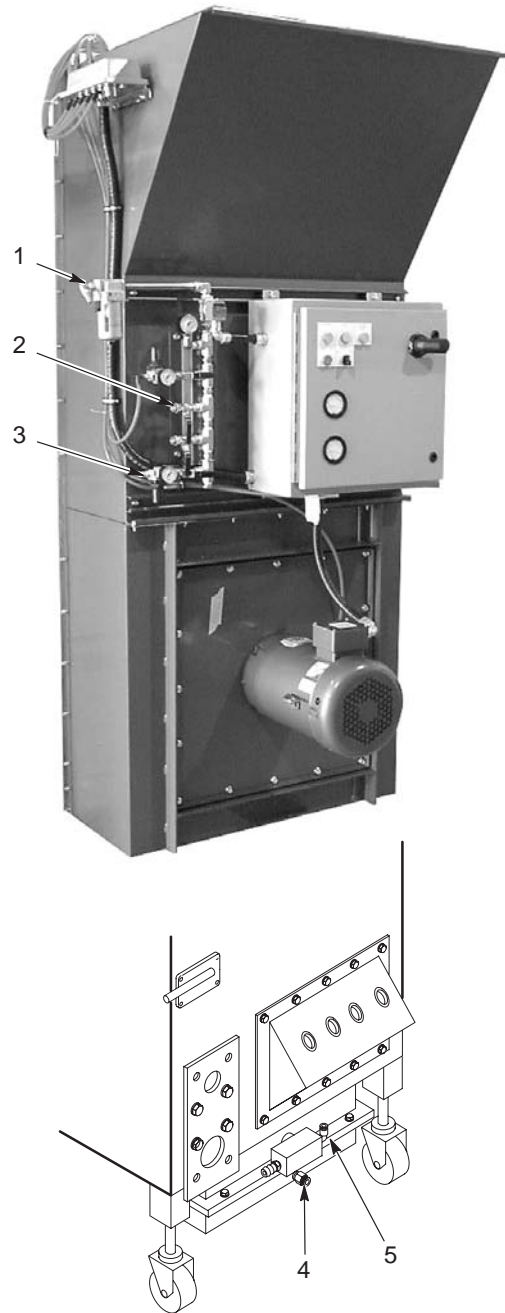
**WARNING:** Do not operate equipment at a pressure greater than the maximum rated working pressure of any component in the system.

Make sure that the following equipment is installed before connecting air to the booth.

- desiccant-type air dryers
- compressed air drop within 6 m (20 ft) of each booth
- pressure-relieving two-way valve on the main air header drop

See Figure 4.

1. Connect the compressed air supply to the air supply shutoff valve (1).
2. Route the air tubing connected to the color module fluidizing air regulator (3) to the fluidizing air fitting (4) on the color module hopper.
3. If you ordered the transfer pump option, route the air tubing from the regulator installed on one of spare shutoff valves (2) to the transfer pump fitting (5).



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Figure 4 Pneumatic Connections

- |                             |  |
|-----------------------------|--|
| 1. Air supply shutoff valve | 3. Color module fluidizing air regulator |
| 2. Spare shutoff valves     | 4. Fluidizing air fitting                |
|                             | 5. Transfer pump fitting                 |

## Electrical Connections



**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, spray application 1995, and NFPA code 70 (especially articles 500, 502, and 516, latest editions).



**WARNING:** Risk of electrical shock. Make sure that all conduit and conduit fittings are liquid tight.

### Power Supply

The booth requires both 3 phase power for the fan motor (and sieve motor, if you ordered the sieve option) at the voltage specified in the purchase order, and 120 volt single phase power for the other booth devices and controls.

Use Figure 5 to make your electrical connections. A full set of schematics is provided in the *Troubleshooting* section of the *Vantage RCM Powder Coating Booth* manual.

1. Install a fused, locking disconnect switch in the main electrical line before the control panel. You must be able to disconnect and lock out power to the booth electrical panel.
2. Install two dust-tight strain reliefs in two of the knockouts in the electrical panel.
3. Route your power supply cables through the strain reliefs and connect the cable leads to the disconnect switch as shown.

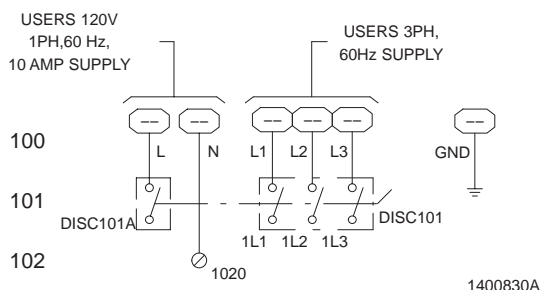


Figure 5 Power Connections to Disconnect Switch

### Optional Connections

Make all other connections as required, depending on the options you ordered. Use the schematics provided in the *Troubleshooting* section of the *Vantage RCM Powder Coating Booth* manual. Contact your Nordson representative if you require help.

### Timer Settings

Refer to *Operation* in the *Vantage RCM Powder Coating Booth* manual for more information on timer settings.

1. Locate the timer board on the inside door of the electrical panel. Set the timers to the following settings:
  - PULSE FREQUENCY (OFF): 15 seconds
  - PULSE DURATION (ON): 110 milliseconds
2. If you ordered the transfer option, locate the transfer pump delay-on timer inside the electrical panel, in the upper left corner, and make sure it is set to 60 seconds.

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