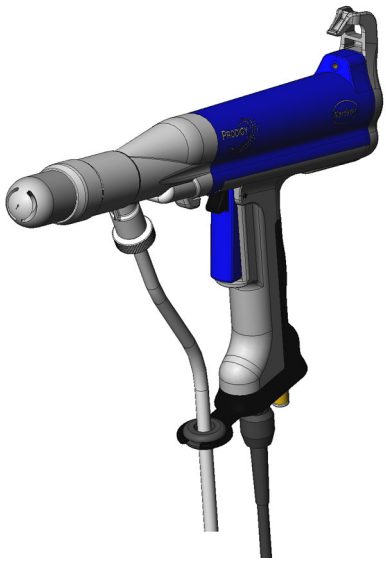
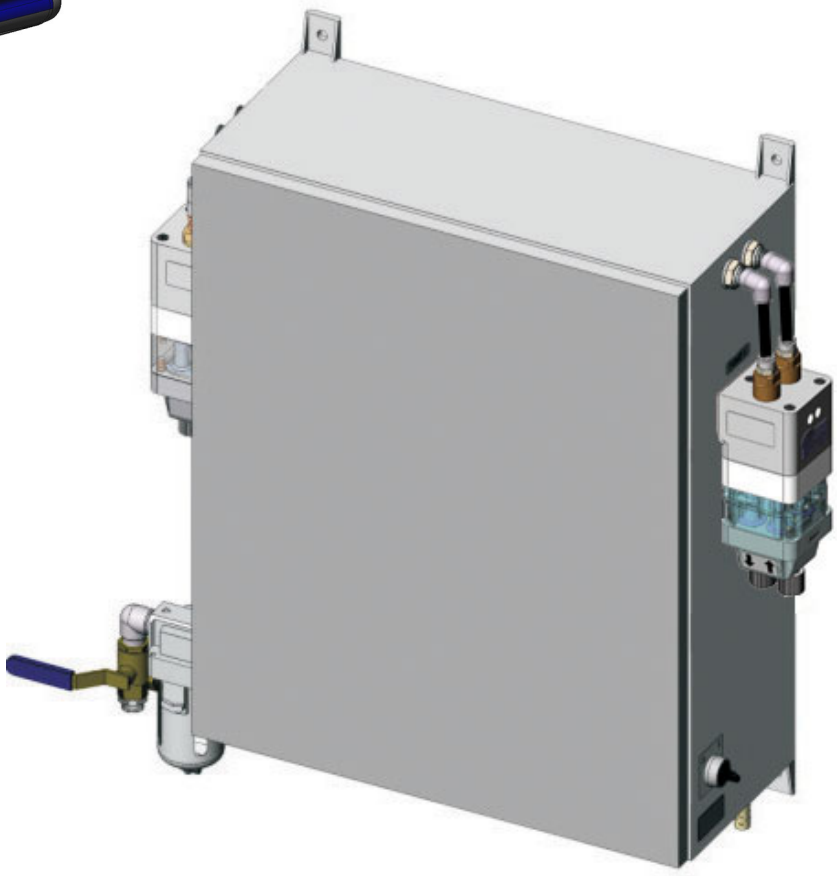
Instruction Sheet
P/N 1081707-02

Prodigy® HDLV® Generation II Manual System Installation Instructions

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





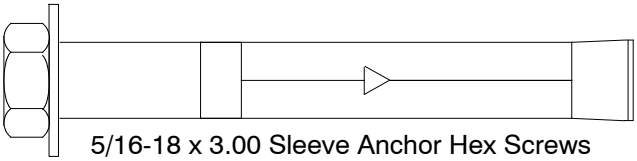
Stand Installation

NOTE: The stand is optional. Disregard this page if you do not have the optional stand.

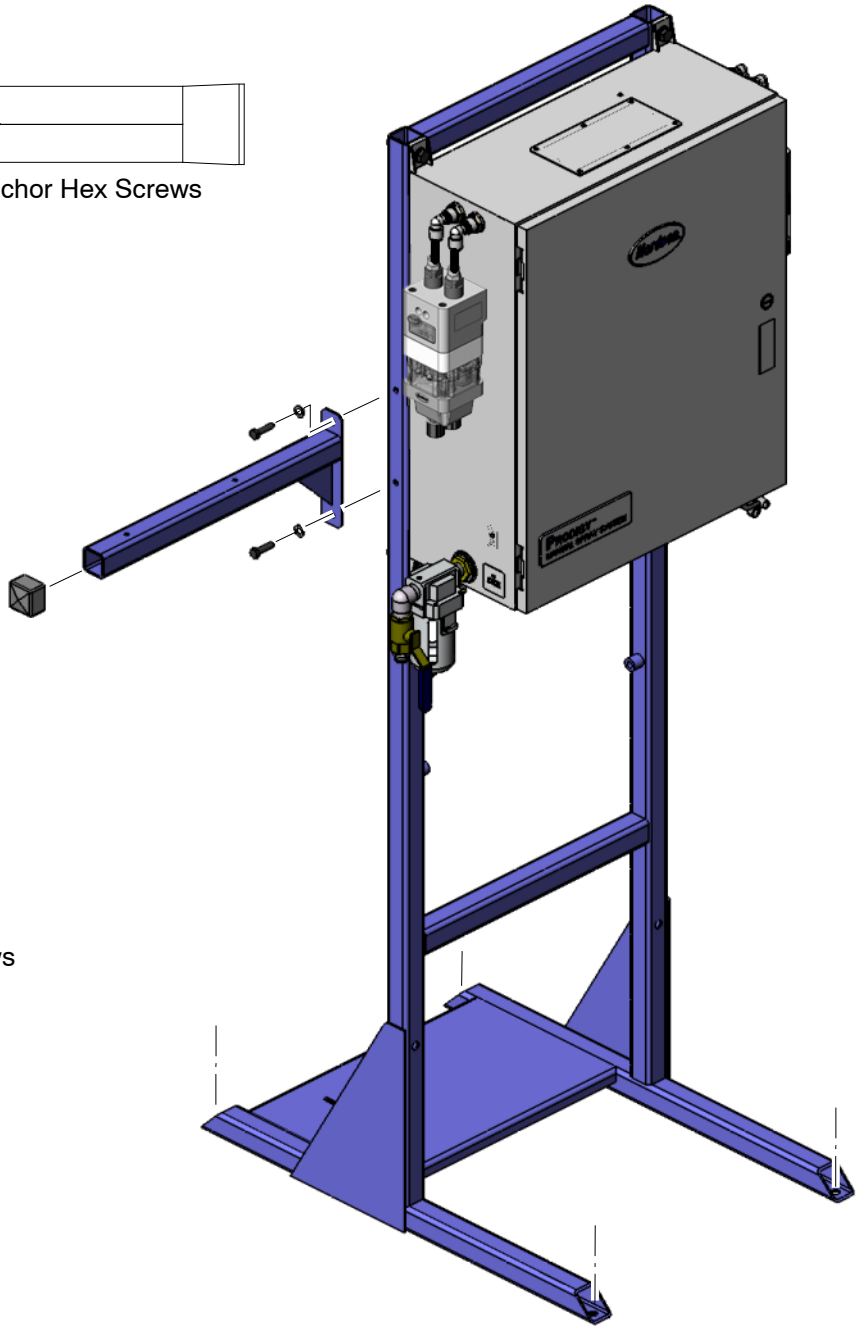
WARNING: Bolt the stand to the floor before you install the controller mounting arm. The stand will tip over if it is not bolted to the floor.

Hardware Required (Included with Stand)

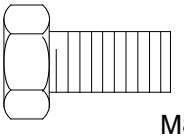
Secure the stand to the floor using the supplied anchors



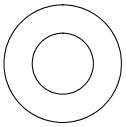
5/16-18 x 3.00 Sleeve Anchor Hex Screws
Quantity: 4



Mount the arm to the stand with the supplied fasteners:



M8 x 16 Hex Screws
Quantity: 2



M8 Flat Washers
Quantity: 2

Install the cap on the arm, if not already installed.

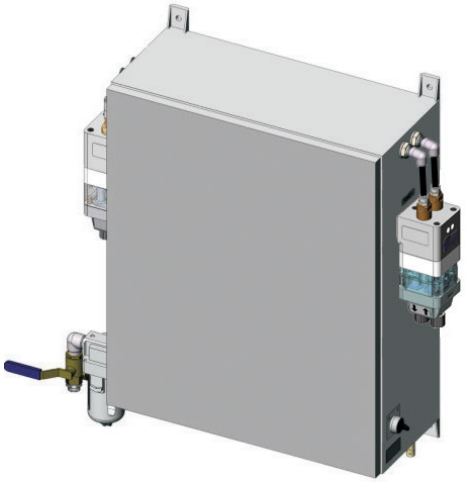
Pump Panel Mounting Options

WARNING: Heavy equipment. Get assistance when you lift the pump panel.

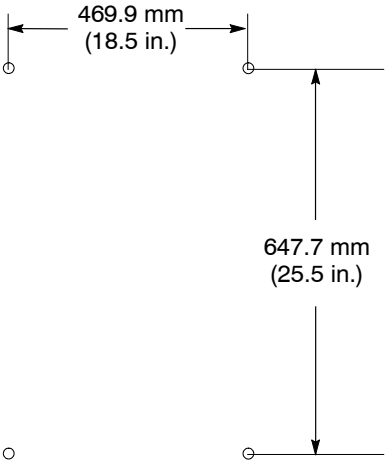
Wall Mounting

Hardware Required (Customer Supplied)

Use suitable M10 (3/8-in.) mounting hardware.

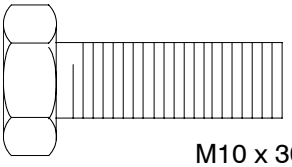


Mounting Hole Pattern

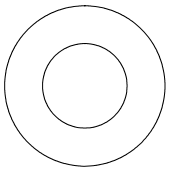


Operator Platform Mounting

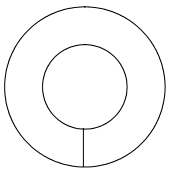
Hardware Required (Included with Rail-Mount Kit)



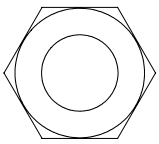
M10 x 30 Hex Screws
Quantity: 4



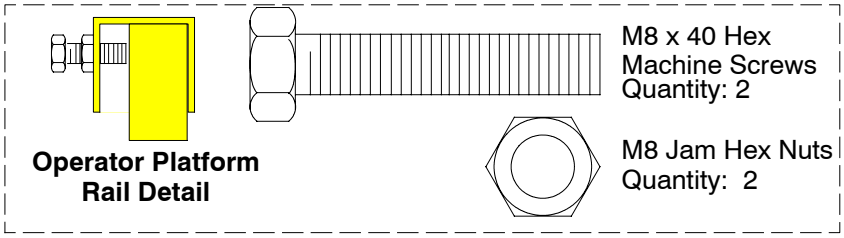
M10 Flat Washers
Quantity: 4

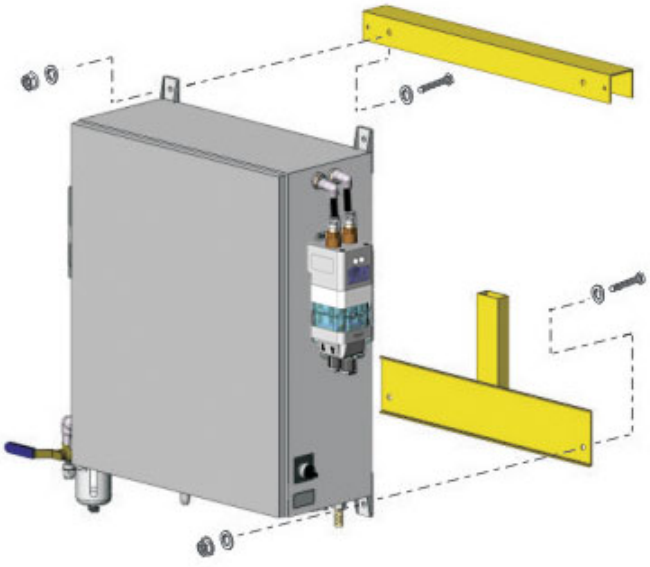


M10 Split Lock Washers
Quantity: 4



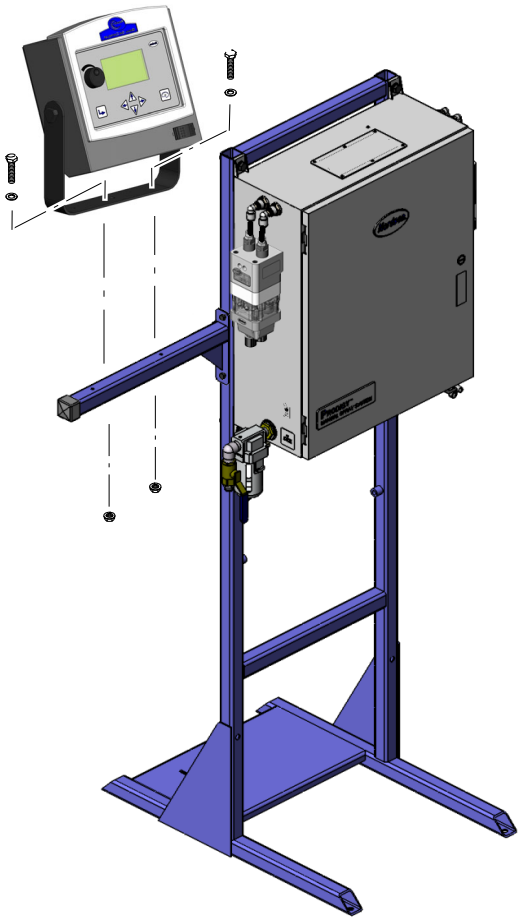
M10 Hex Nuts
Quantity: 4





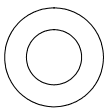
Manual Gun Controller Mounting

Stand Mounting

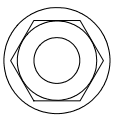


Hardware Required (Included with Stand)

M6 x 60 Hex Screws
Quantity: 2



M6 Flat Washers
Quantity: 2

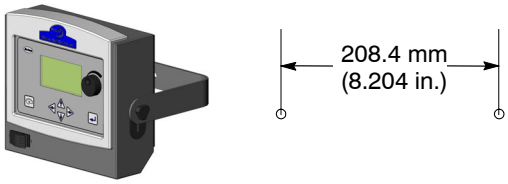


M6 x 1.0 Serrated, Flanged Hex Nuts
Quantity: 2

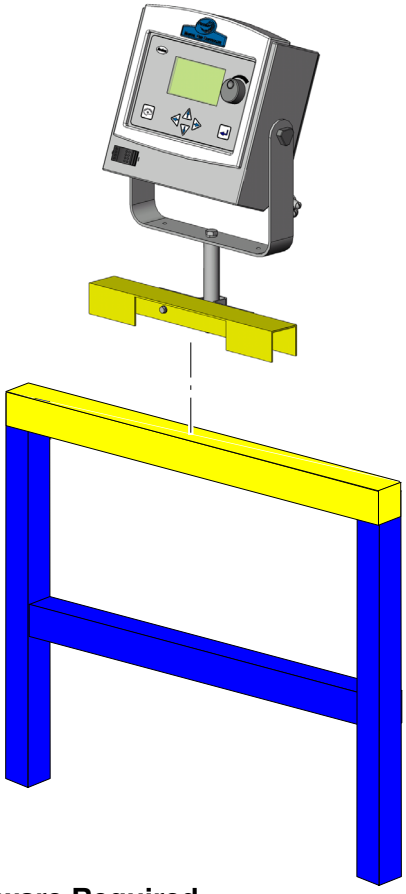
Wall Mounting

Hardware Required (Customer Supplied)

Use suitable M6 (1/4-in.) mounting hardware.



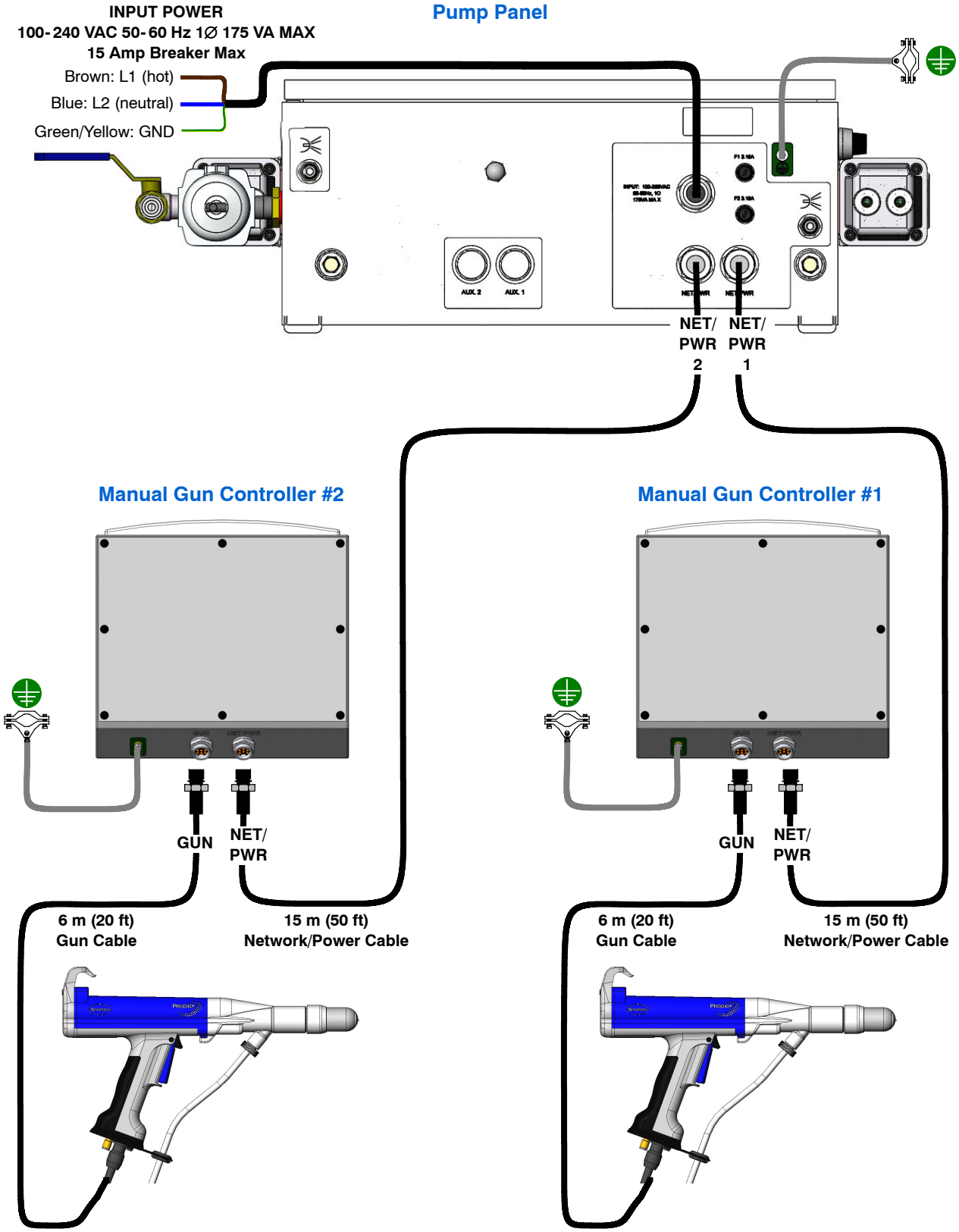
Operator Platform Mounting



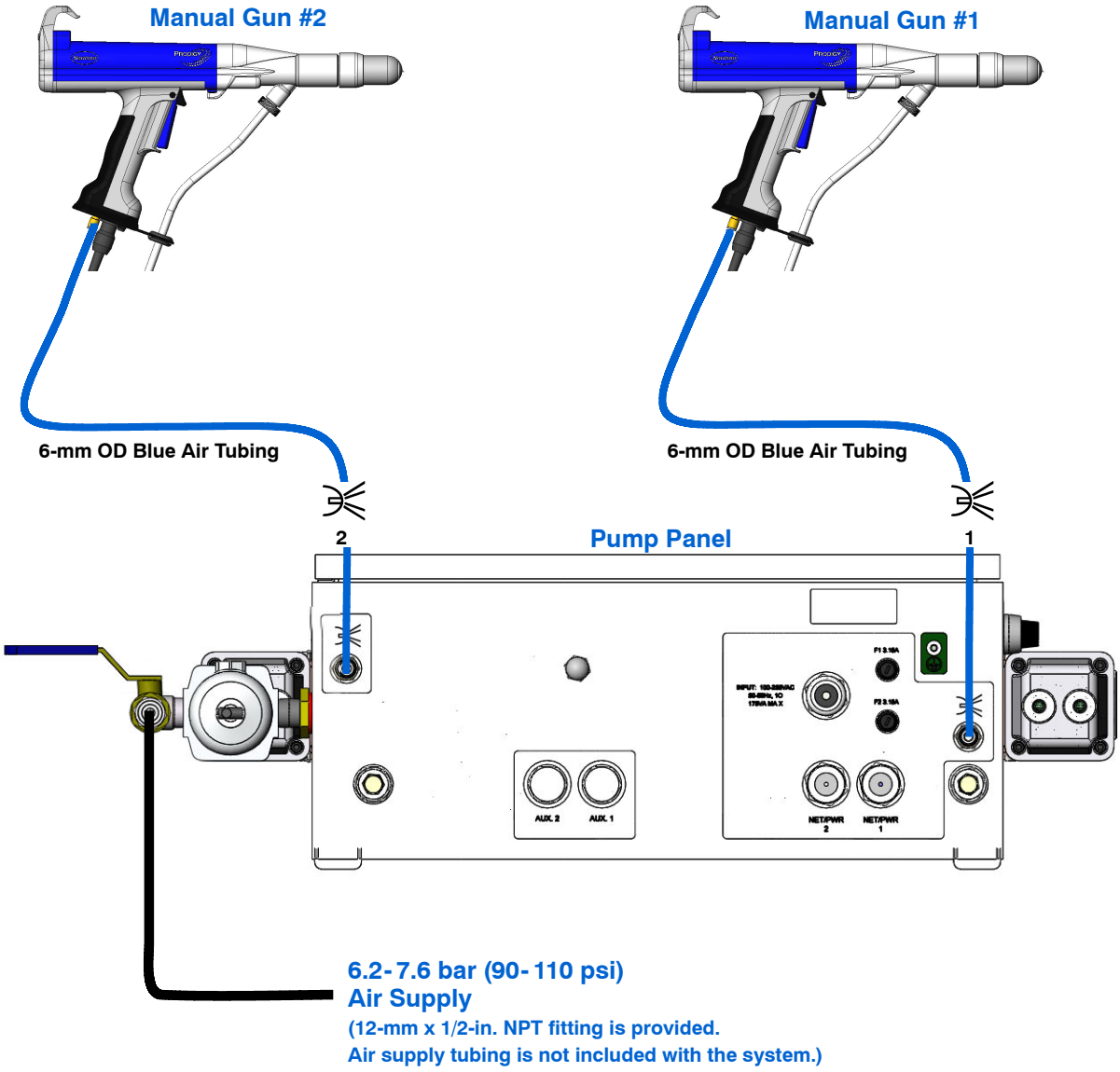
Hardware Required

All hardware required is included with the manual gun controller. Refer to the *Parts* section of the *Prodigy Manual Gun Controller* manual for bracket assembly instructions.

Cable Connections

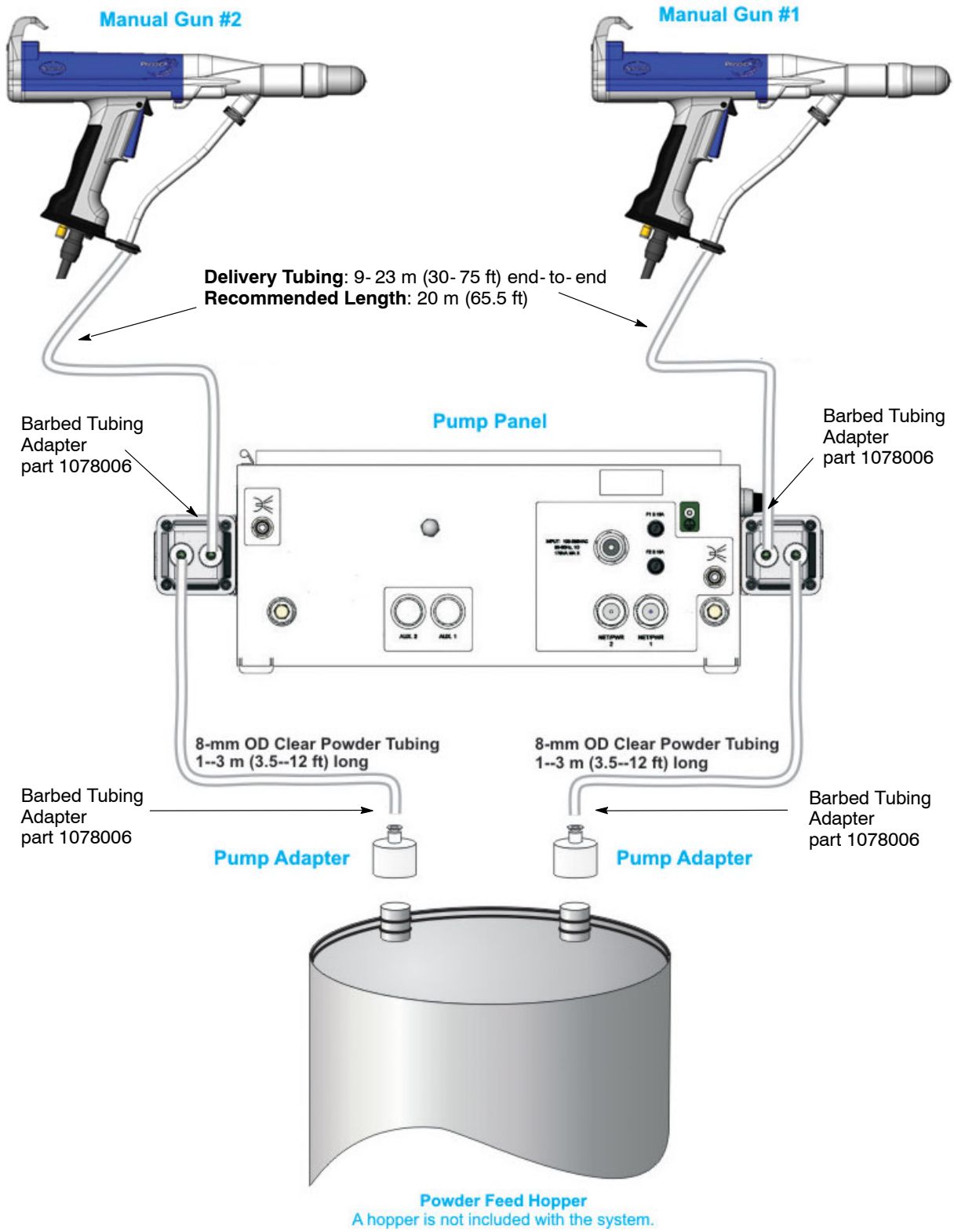


Air Tubing Connections



Powder Tubing Connections

NOTE: Refer to the *Powder Tubing Guidelines* on page 8 for detailed instructions for routing, cutting, and bundling the powder tubing.



Powder Tubing Guidelines

Choosing Powder Tubing

The clear powder tubing shipped with the Prodigy system is manufactured to close tolerances We recommend ordering any replacement tubing directly from Nordson.

Part	Description
1613849	TUBING, powder, 8-mm OD x 6-mm ID, 40 m
1613850	TUBING, powder, 8-mm OD x 6-mm ID, 160 m

- Using other materials could lead to problems with cross contamination and impact fusion.
- The size must be 8-mm OD x 6-mm ID. Using Nordson-supplied tubing maintains a consistent 6-mm ID throughout the entire powder path.

NOTE: The tubing has been tested for impact fusion.

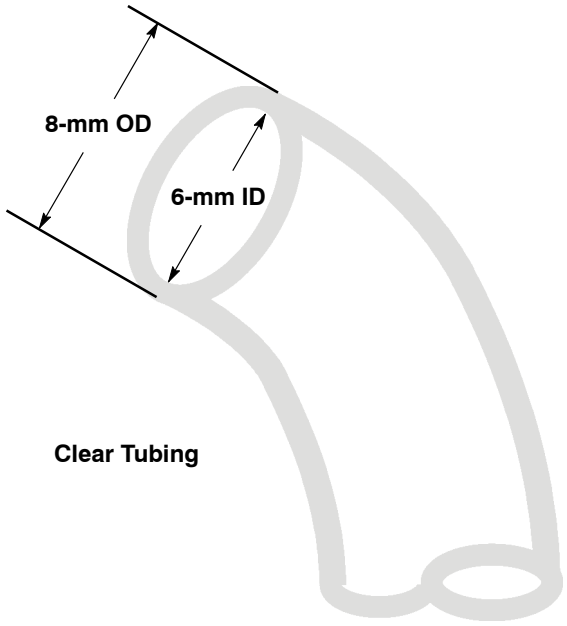


Figure 1 Choosing Powder Tubing

Using Fittings with the Powder Tubing

Not all 8-mm fittings will work with the 8-mm OD powder tubing. We recommend that you use fittings sparingly because they increase chances for cross contamination.

- The fittings must maintain the 6-mm ID of the powder path. Most 8-mm fittings do not have a smooth, unobstructed 6-mm ID.
- Do not use fittings to splice two pieces of powder tubing together.
- Do not use fittings as quick disconnects or multi-port manifolds.

Cutting the Powder Tubing

Cut powder tubing ends square to avoid cross contamination. A tubing cutter is included with each Prodigy system.

Part	Description
1062178	TUBING CUTTER, 12 mm or less

Determining Powder Tubing Length

To achieve maximum powder flow, the end-to-end length of the suction and delivery tubing must be within the ranges shown.

- Keep the suction tubing as short as possible within the limits shown.
- Keep the delivery tubing as close to 20 m (65.5 ft) as possible. Using shorter lengths increases the possibility of surging.
- Route the powder tubing on the floor, especially if the delivery tubing must be longer than 20 m (65.55 ft). The pump will still deliver powder through longer lengths of tubing, but at a reduced flow rate.

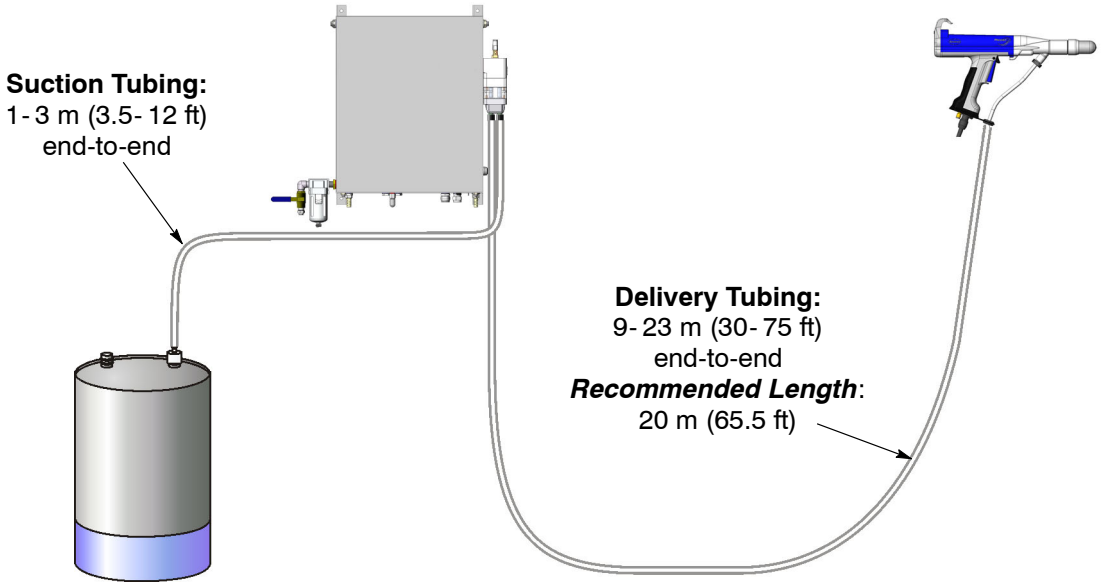


Figure 2 Determining Powder Tubing Length

Coiling the Powder Tubing

Your Prodigy system will deliver consistent powder flow if the powder tubing is coiled using these guidelines:

- Keep the loops in the coil at least 1 m (3.25 ft) in diameter.
- Have as few loops as possible in the coil.
- Lay the coil flat on the floor. Do not hang the coil vertically or powder will settle at the bottom of the coil when the gun is triggered off and surge when the gun is triggered on again.

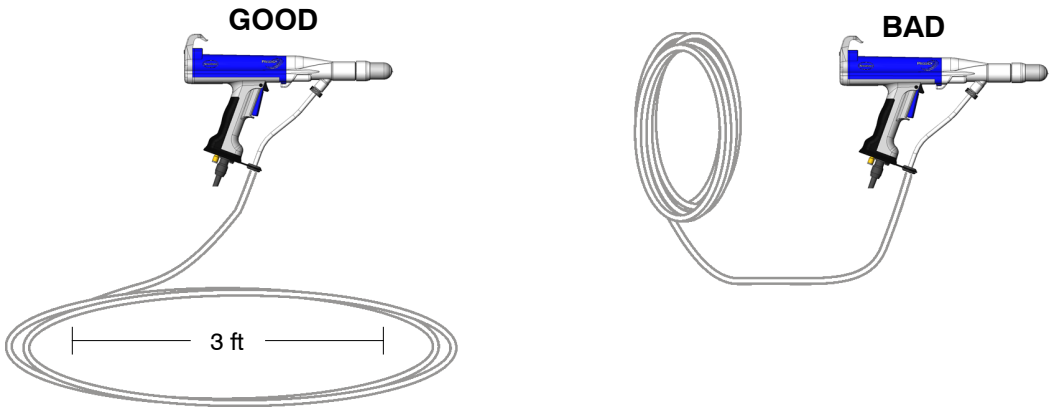


Figure 3 Coiling the Powder Tubing

Routing the Powder Tubing

If the powder tubing in your Prodigy system is routed incorrectly, you will get surging and inconsistent powder flow. Follow these guidelines for proper hose routing:

NOTE: The single-slot, flat-spray nozzle (P/N 1066164) may also help reduce spitting.

- Route the tubing as low and flat as possible. Keep vertical lifts to a minimum.
- For best results, route the hose on the floor with the gun being the highest point.
- Keep bends as large as possible. Avoid sharp bends in the tubing.
- Runs greater than 20-m (65.5-ft) long may cause spitting when used with some powders. Start with the tubing as long as possible, then cut it down in increments to determine if a shorter run would help.

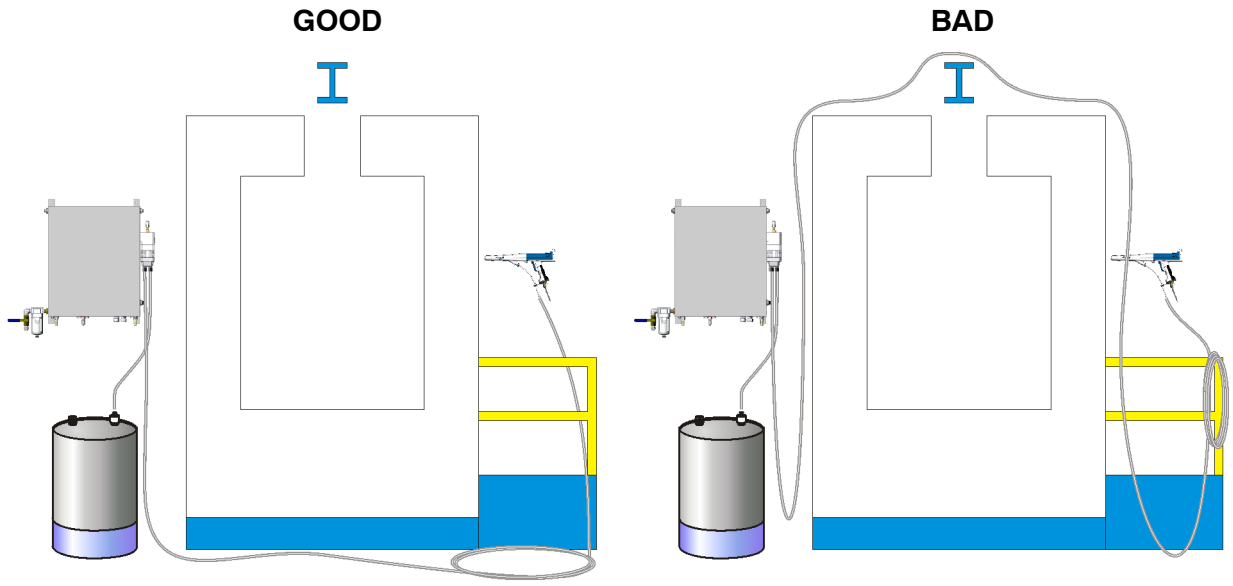


Figure 4 Routing the Powder Tubing

Securing the Powder Tubing

The Prodigy system's clear, 8-mm powder tubing cannot be secured in the same way as traditional, blue powder feed hose.

- Do not tightly secure the powder tubing to any fixed object. This may cause the tubing to kink.
- If using spiral wrap, start it at least 0.6 m (2 ft) from the gun handle to reduce stiffness. Use 51-mm (3-in.) long sections of spiral wrap spaced 0.6 m (2 ft) apart.

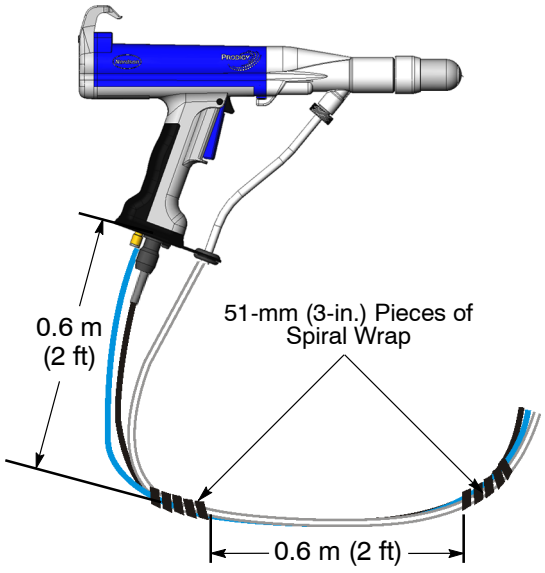


Figure 5 Securing the Powder Tubing

Powder Fluidization Guidelines

Traditional, venturi-style pumps maintain consistent powder flow by injecting large quantities of air into the powder stream.

The Prodigy HDLV pump is designed to deliver high density powder using a low volume of air. This requires a well-fluidized powder supply for the system to operate at peak efficiency.

Refer to the following guidelines to ensure your powder supply is properly fluidized.

NOTE: Prodigy HDLV systems typically should use lower fluidizing air pressures than traditional systems that use venturi-style pumps. The fluidizing air pressure required depends on powder type and hopper style. You must determine your system's fluidizing air pressure by trial and error.

Proper Powder Fluidization
Appearance The powder acts like a gently simmering liquid. It gently rises to the surface, then moves horizontally across the surface. Small bubbles will occasionally appear.
Flow A steady, consistent stream of powder flows from the nozzle.


Fluidizing Air Too Low	Fluidizing Air Too High
Appearance The powder is packed down and the surface shows very little movement. Granular holes resembling ant hills form and small geysers occasionally erupt from the surface. A cavity may form around the pickup tube.	**Appearance** The powder boils violently, forming a dense cloud in the hopper and sending air bubbles through the powder tubing. Powder erupts out of the hopper and falls to the floor.
Flow A heavy, inconsistent flow surges from the nozzle. The nozzle may become clogged.	**Flow** A light, uneven steam with frequent air bubbles surges from the nozzle.
	

Issued 6/19