



**WARNING:** Allow only qualified personnel to perform the following tasks. Follow any safety instructions shown in this document and all other document associated with this guide.

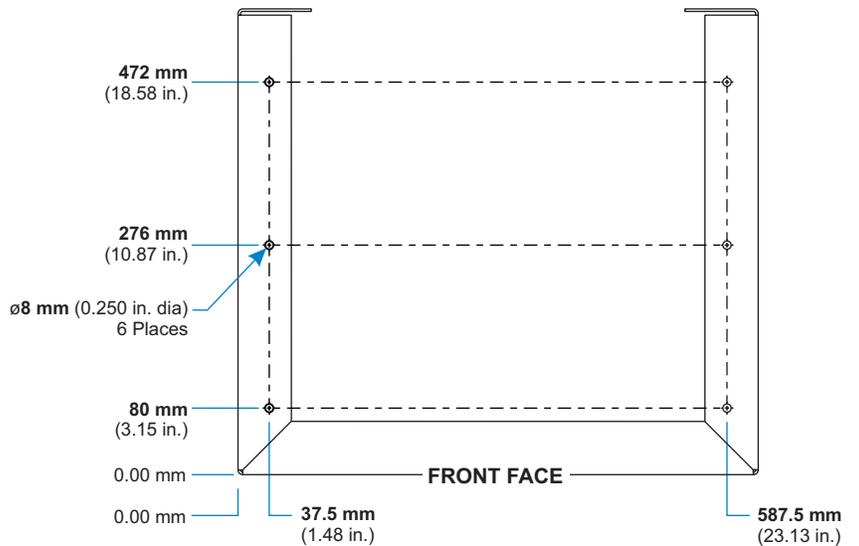
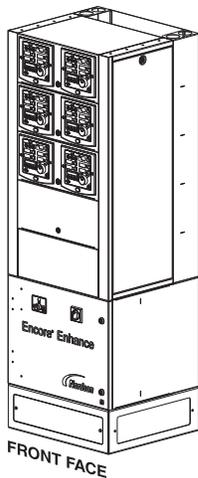


**WARNING:** Before the system installs to the floor, remove any debris, and make sure power or air is not running until the system starts up to prevent injury to the installer.

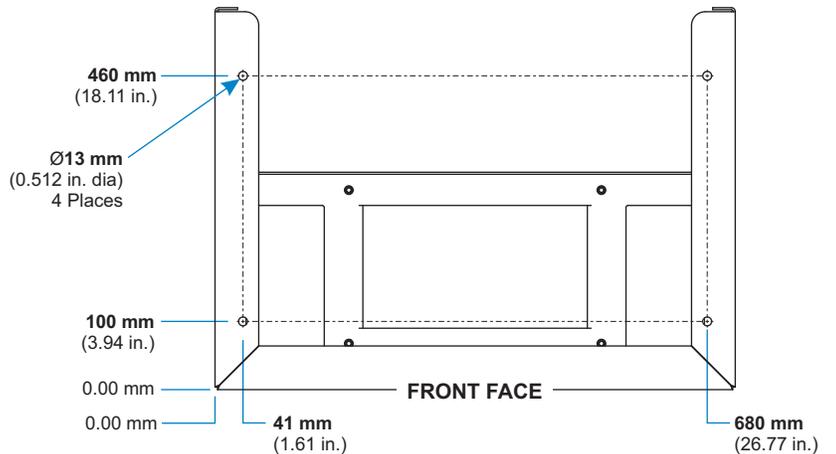
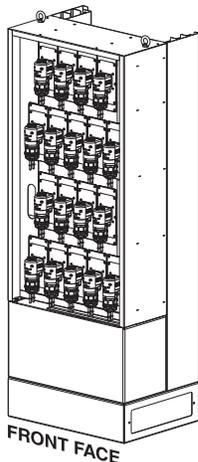
### ANCHORING THE SYSTEMS IN PLACE

The Encore® Enhance spray controller and pump cabinet must be permanently anchored to the area where the systems are going to be installed. See the bolt pattern below and use any hardware necessary to anchor the cabinets to the surface. Refer to all local codes and standards for permanent anchoring.

Spray Gun Controller



HD Pump Cabinet



Follow the safety, operation, and maintenance instructions in the product manual.  
Refer to the Encore Enhance manual 1614575 for additional information.

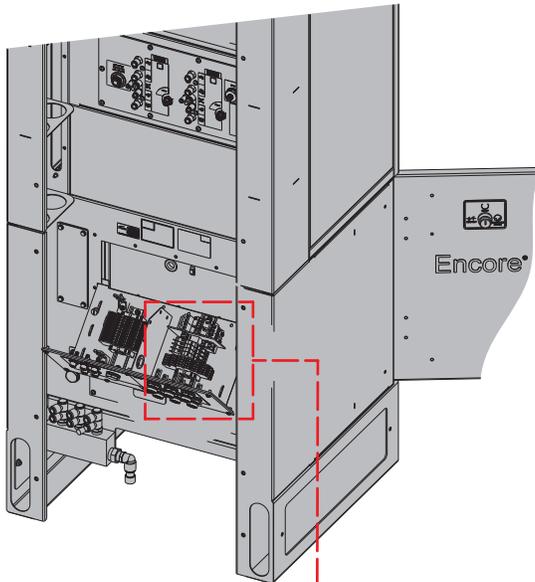


## CHANGING RELAYS FROM 230 VAC TO 115/120 VAC



**WARNING:** Before replacing any part or parts on the power distribution module, make sure it is performed by qualified personnel to prevent electrical shock or personal injuries.

### Relay Terminal Block in Power Distribution Module



#### Relay Terminal Block Location

The power distribution module is where interface relays reside and are pre-installed with 230 Vac relays. If the required voltage is 115/120 Vac, the relay must be replaced with the applicable relay included with the Encore Enhance system.

The replacement kit contains the following:

- **1615099:**  
Relay, plug-in, 115 Vac, replaces one 115 Vac relay.
- **1615159:**  
Relay, modular, 120 Vac, replaces two 120 Vac relays.

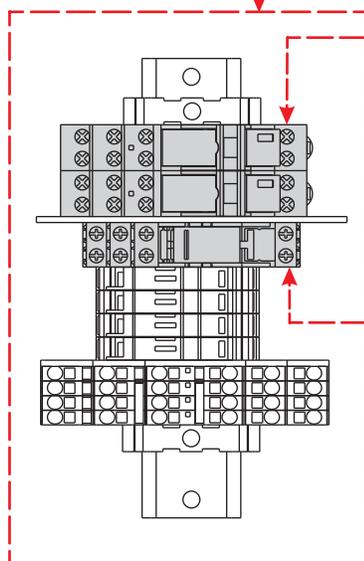
#### Replacing Relays



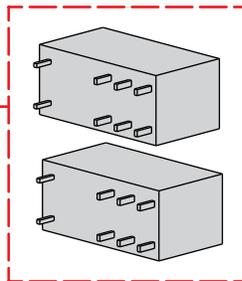
**WARNING:** Allow only qualified personnel to perform the following tasks. Failure to do so may result in electrical shock or personal injuries.

**NOTE:** Be sure to replace both types of relays.

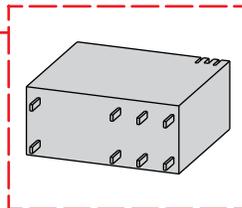
**Terminal  
Block  
with Relays**



**1615159**



**1615099**

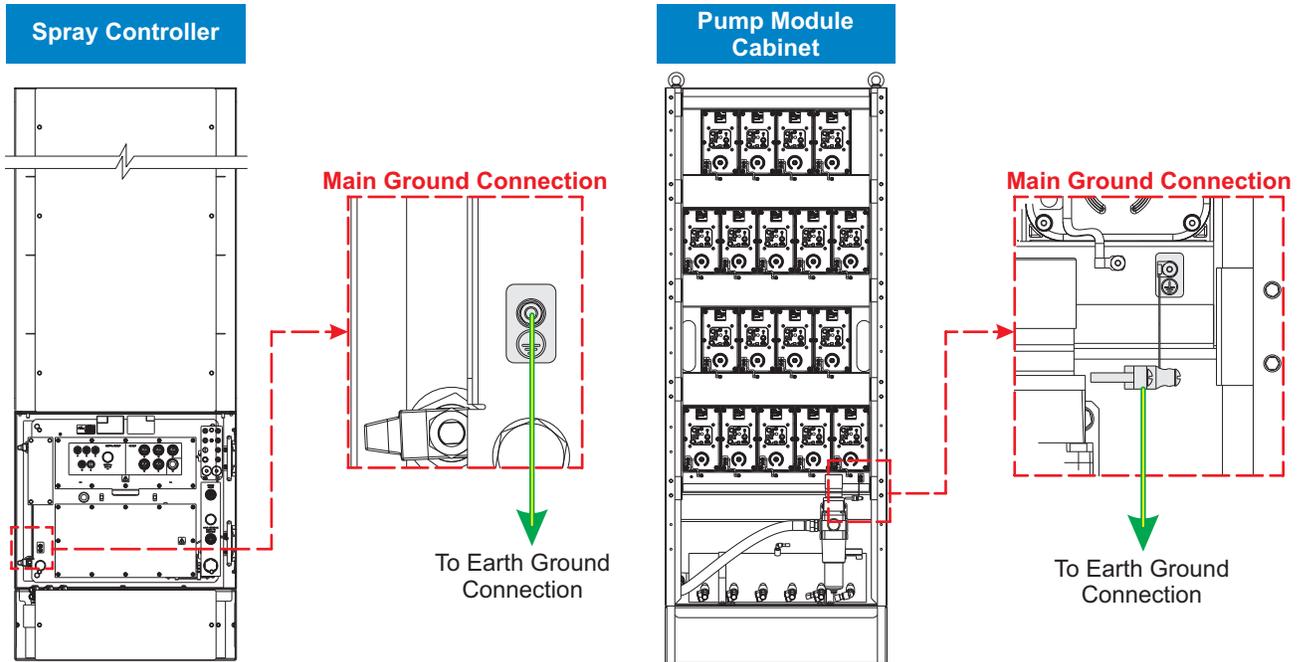


1. Turn the circuit power OFF.
2. Press the relay tab to remove the installed relay.
3. Replace with the appropriate relay.

# INITIAL CONNECTIONS

## 1 Grounding the Spray Controller and Pump Cabinet

- The Spray Controller and Pump Cabinet must be earth grounded before connected to any electrical connection.

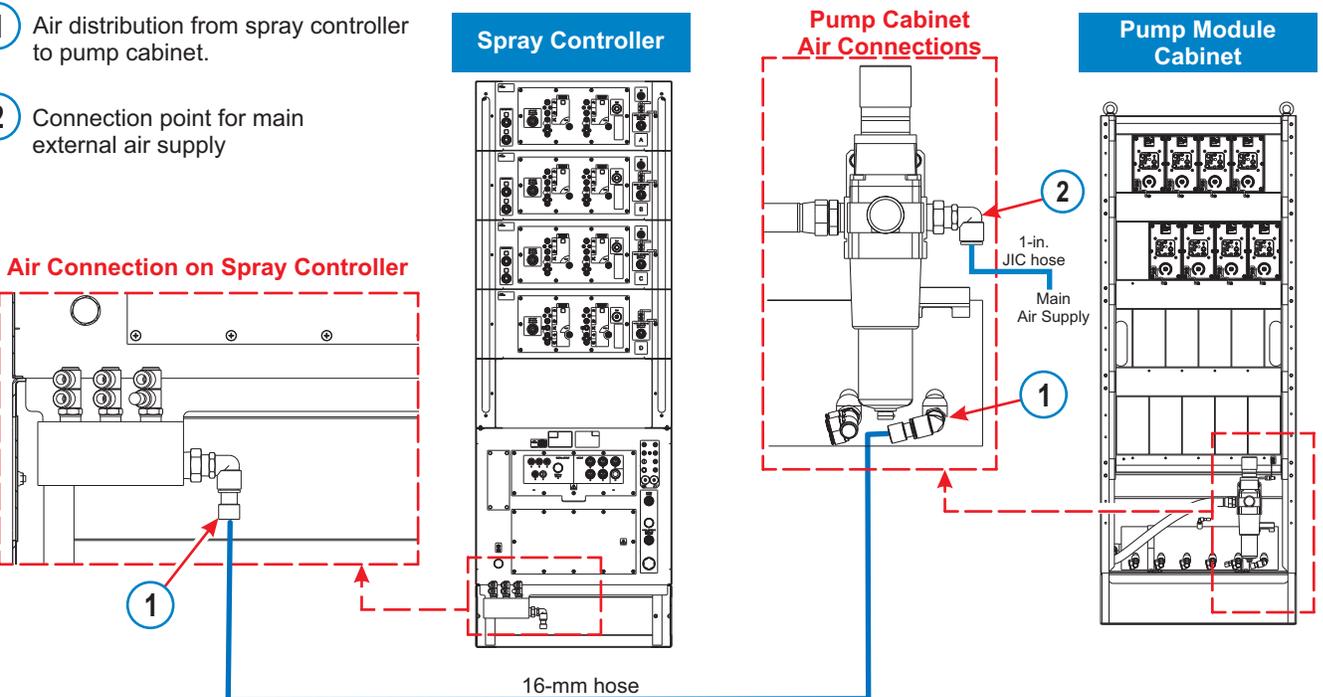


## 2 Connect Air Line on Spray Controller to Pump Cabinet

NOTE: Colors for connections are for illustrative purposes only, and do not represent colors in the field.

- Connect the air distribution hose from the spray controller to the pump cabinet.
- Connect main air hose supply line to pump cabinet. Air requirement for external air supply is 6.2-7.6 bar (90-110 psi).

- 1 Air distribution from spray controller to pump cabinet.
- 2 Connection point for main external air supply



# CONNECTION DIAGRAMS - HD PUMPS

## 3 Connect HDLV® Cable on Spray Controller to Pump Cabinet

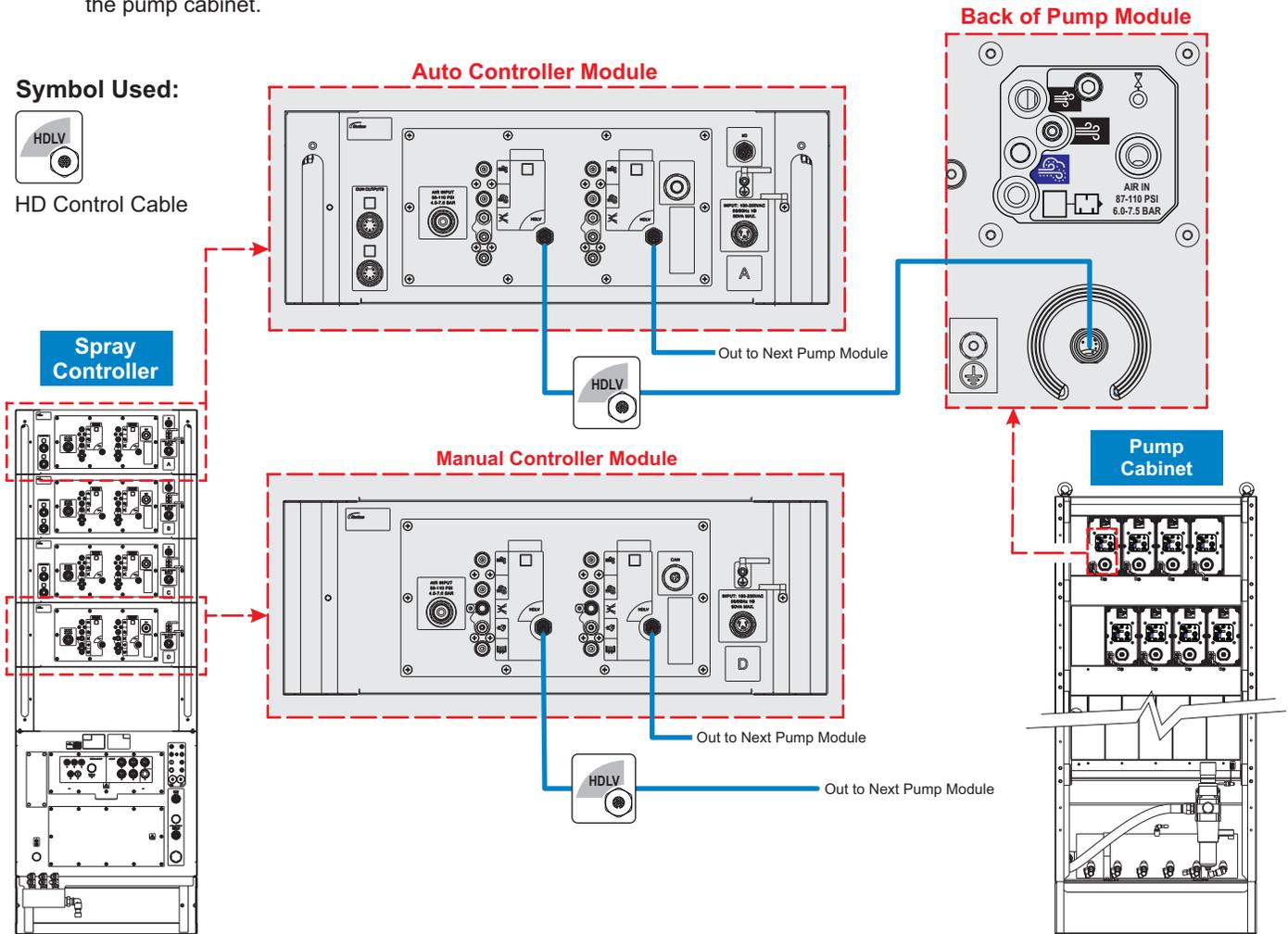
NOTE: As the following connections are made, use the Tube and Cable Routing instructions for proper routing. Colors for connections are for illustrative purposes only, and do not represent colors in the field.

- Connect HDLV control cable from each HDLV port on the spray controller to the HDLV port on each pump module in the pump cabinet.

**Symbol Used:**

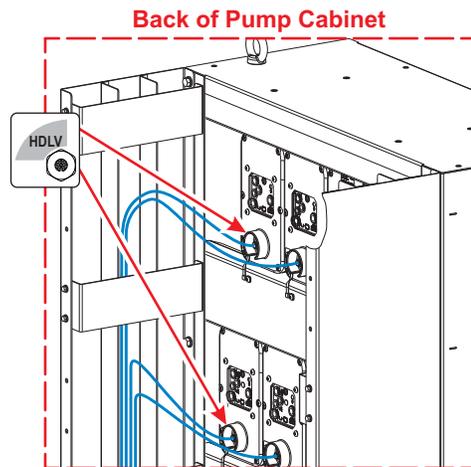
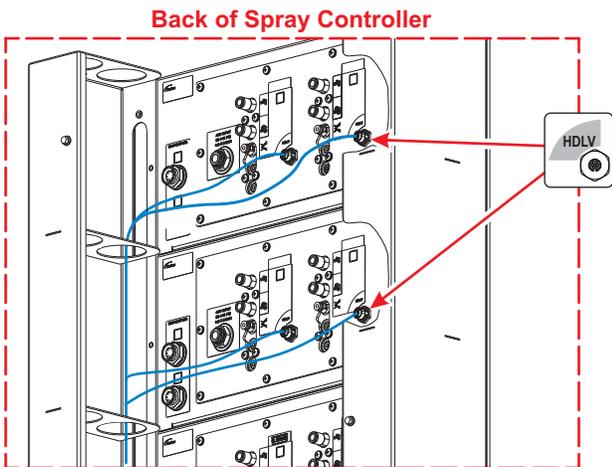


HD Control Cable



**Tube and Cable Routing**

After the connections are made, thread the loose cables down the side channel and through openings in brackets.



# CONNECTION DIAGRAMS - HD PUMPS

## 4 Connect Flow and Atomizing Tubing from Spray Controller to Pump Cabinet

NOTE: As the following connections are made, use the Tube and Cable Routing instructions for proper routing. Colors for connections are for illustrative purposes only, and do not represent colors in the field.

- Connect the air tubing for flow and atomizing air on each spray controller to the flow and atomizing connection on each of the pump modules shown below. Connections can be made for one or multiple controllers.

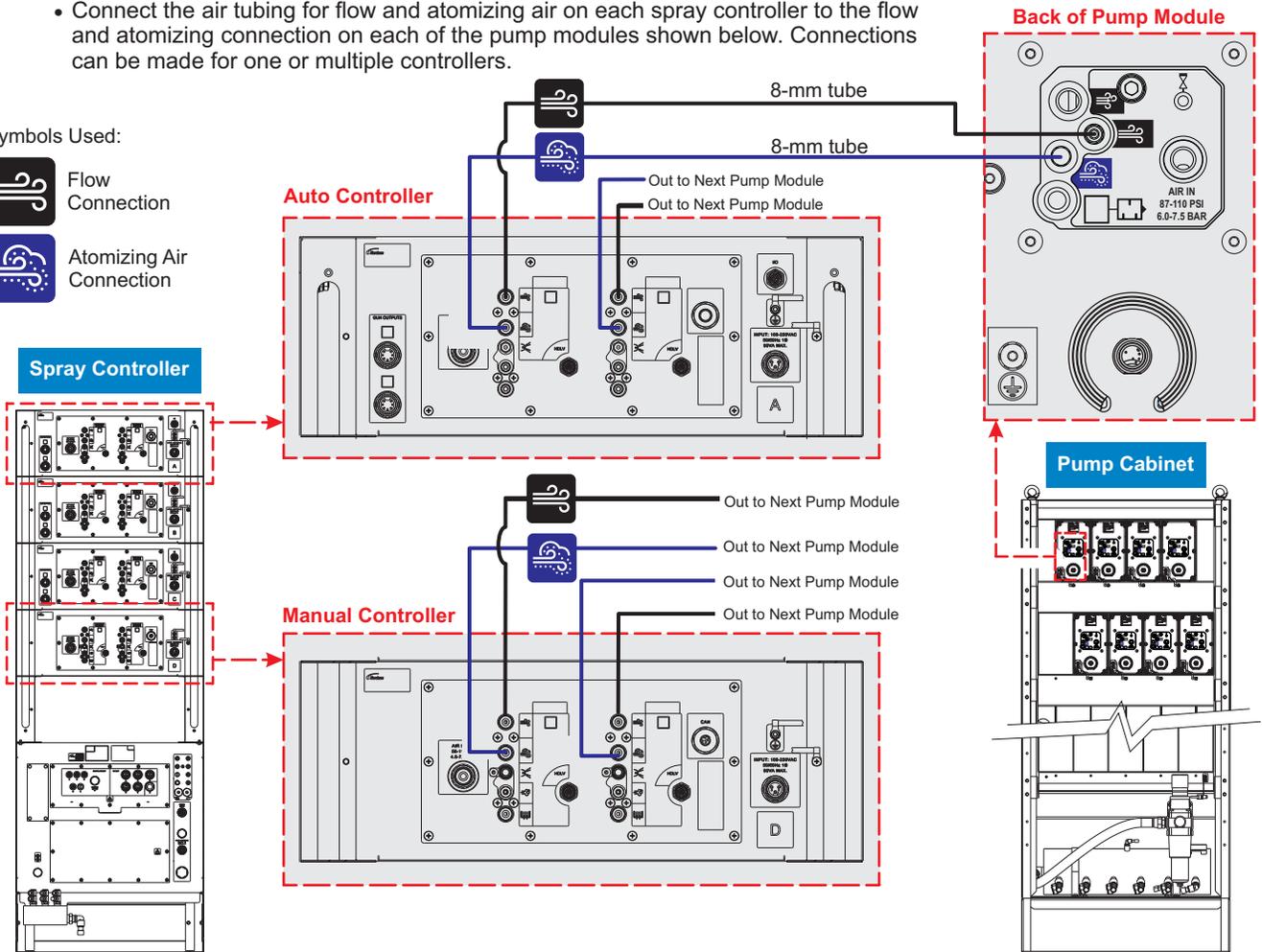
Symbols Used:



Flow Connection

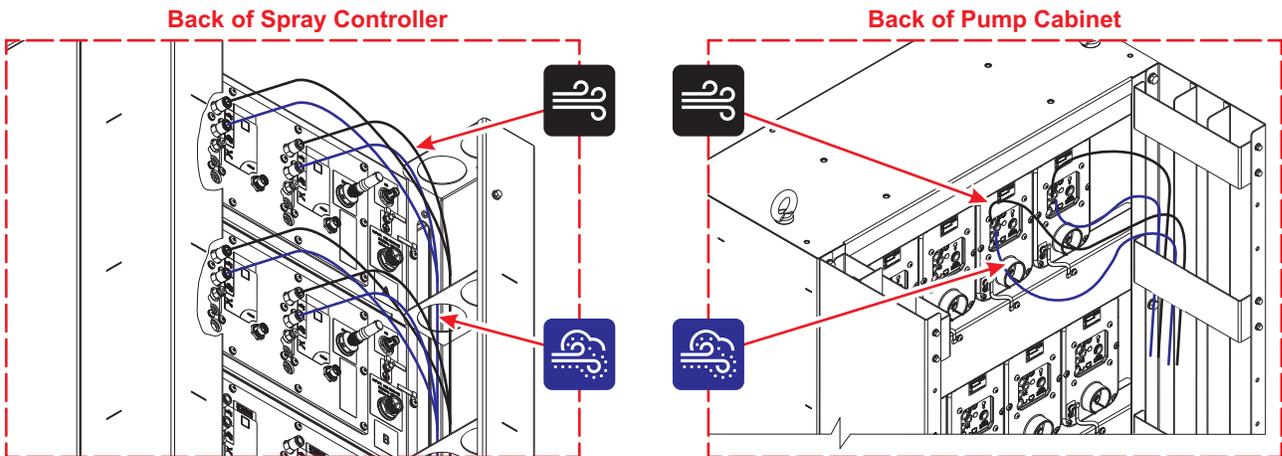


Atomizing Air Connection



### Tube and Cable Routing

- Route tubing through brackets and side channels and bundle to group lines together.



# CONNECTION DIAGRAMS - HD PUMP

## 5 Connect Encore HD Spray Guns to Spray Controller and Pump Cabinet

NOTE: As the following connections are made, use the Tube and Cable Routing instructions for proper routing. Colors for connections are for illustrative purposes only, and do not represent colors in the field.

- Connect spray gun purge tubing to the pump module.
- Connect the spray gun electrode wash tubing to the spray controller.
- Connect the gun cable from the spray gun to the spray controller.

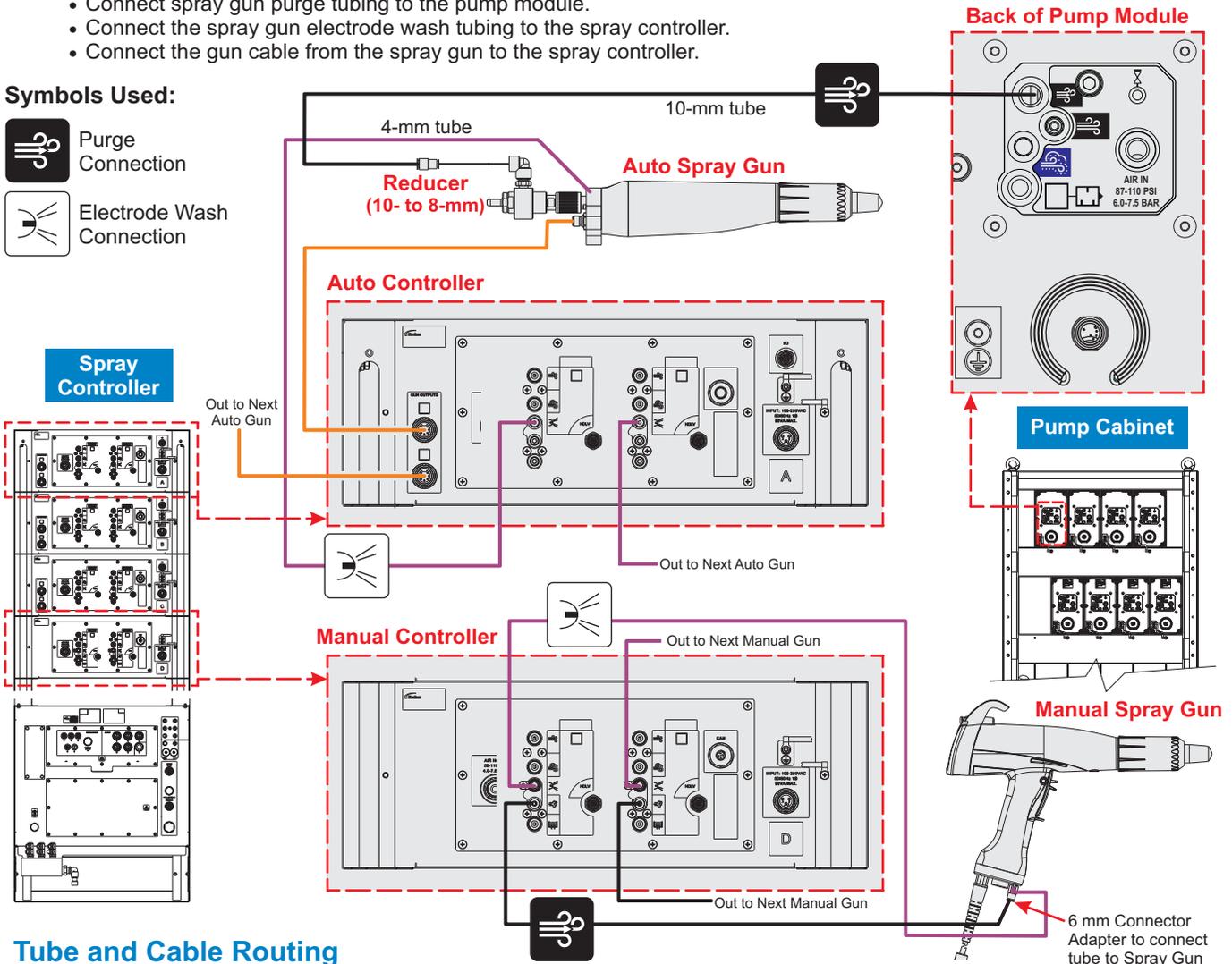
### Symbols Used:



Purge Connection



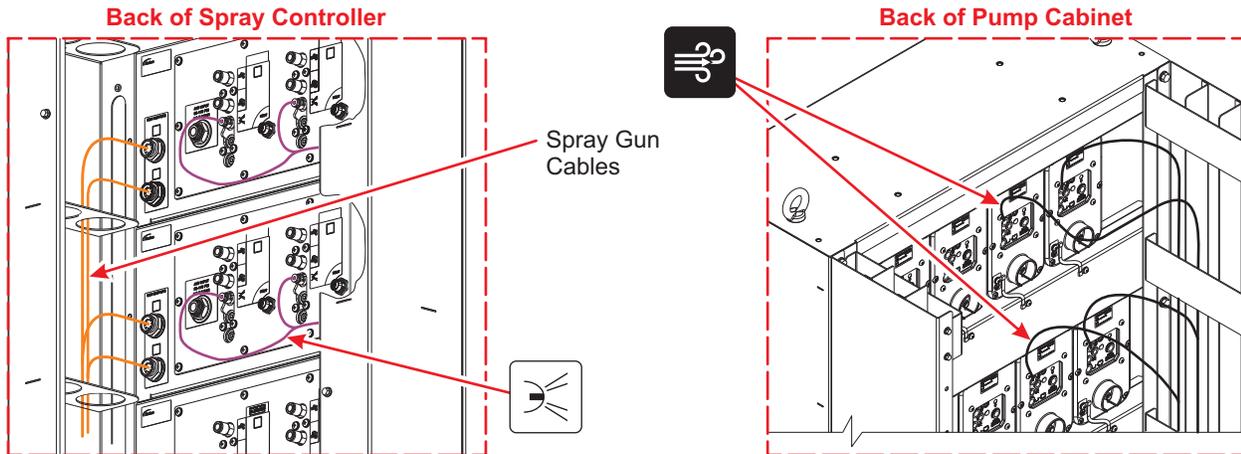
Electrode Wash Connection



### Tube and Cable Routing

NOTE: Dedicate a single channel for just the spray gun cables.

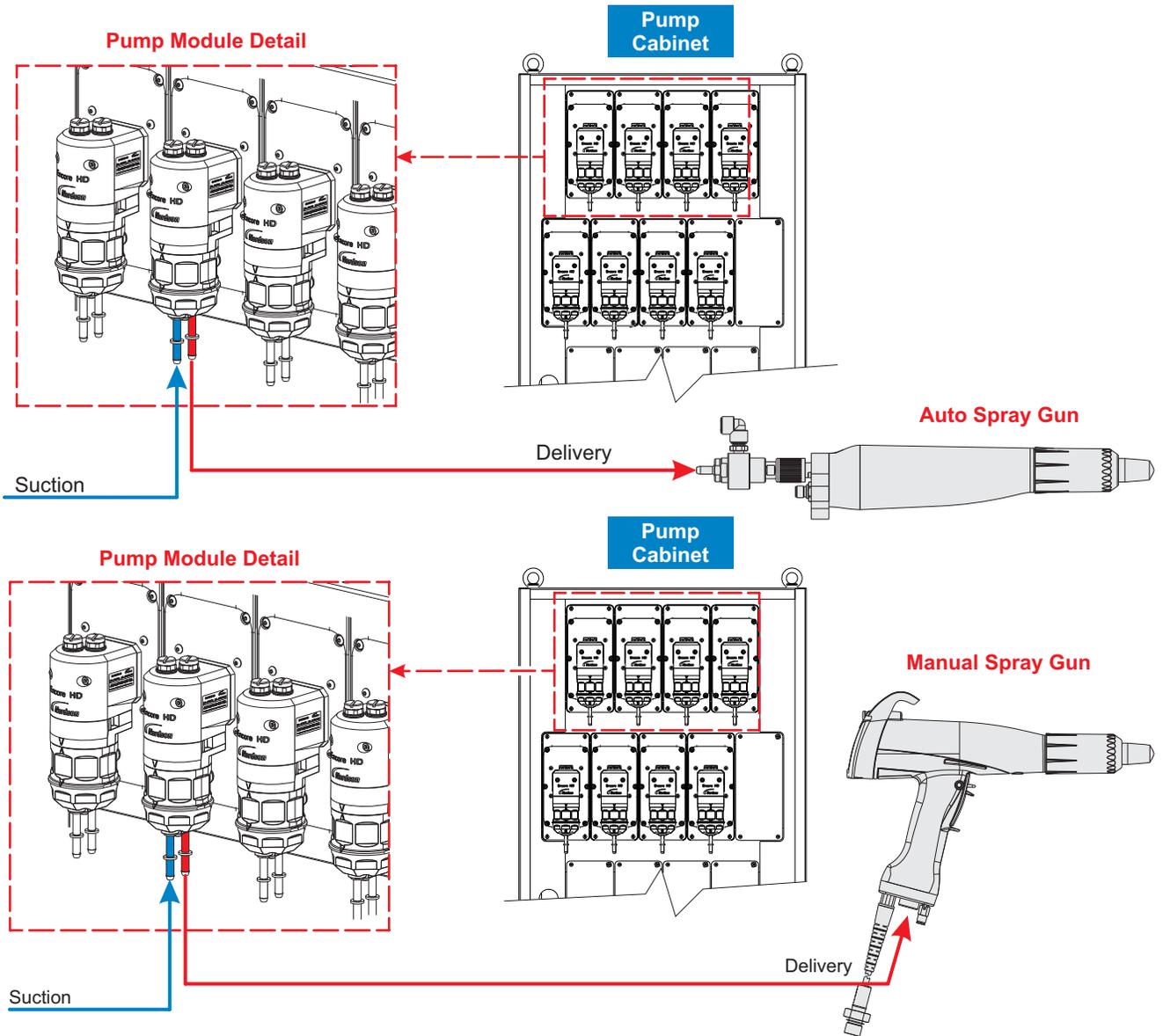
- Route cables and tubes through brackets and side channels and bundle group lines together.



# CONNECTION DIAGRAMS - HD PUMP

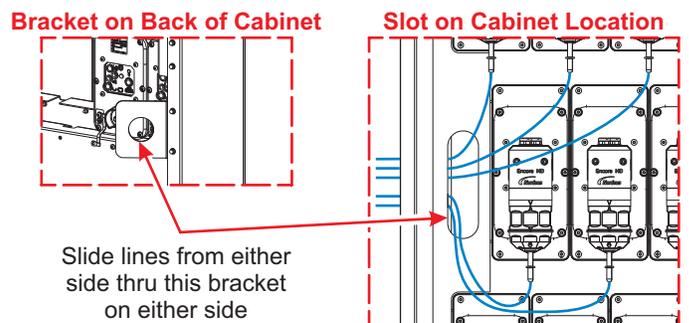
## 6 Connect Pumps to Encore HD Spray Guns

- Connect the HD pumps on the front of the pump module cabinet to the automatic and manual spray guns as shown.
- Once the delivery tubing is connected, route it to spray controller using side channels as shown in previous steps. See tube and cable routing illustration below to thread tubing from front to back.



### Tube and Cable Routing

- Take the tubing and thread them through the slot shown to the back of the cabinet and out to optional bracket on the back of the cabinet.
- Bundle tubing together using Nordson Velcro® straps or cable ties (order separately).



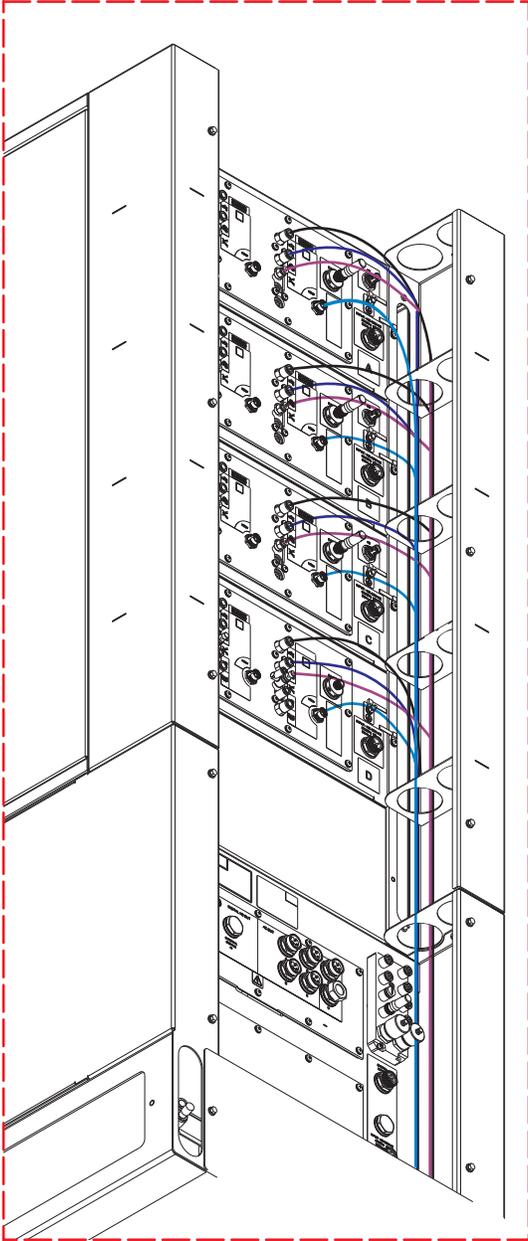
## FULL CONNECTION ROUTING

### 8 Full Connection Routing - Spray Controller

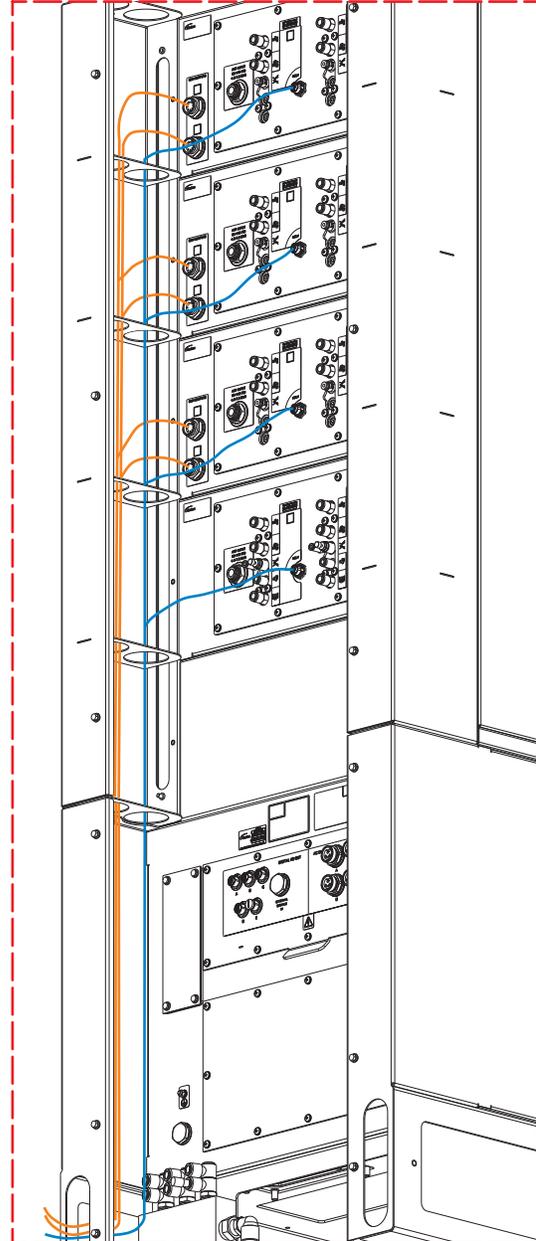
- Use the illustrations below as a reference for all the connections and routings made by the user in previous steps.
- The colors shown below are for illustrative purposes only and do not represent the colors in the field.

NOTE: Dedicate a single channel for just the spray gun cables.

**Spray Controller Left Channel**



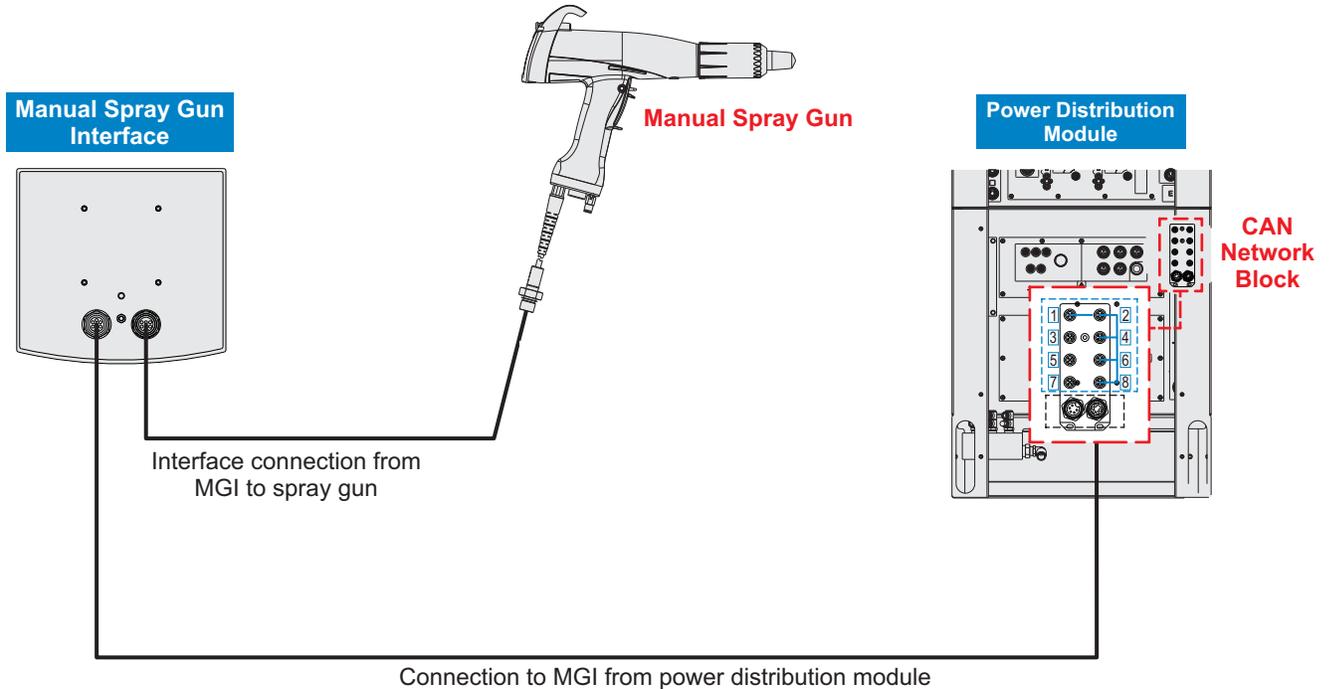
**Spray Controller Right Channel**



# CONNECTION DIAGRAMS - HD PUMP

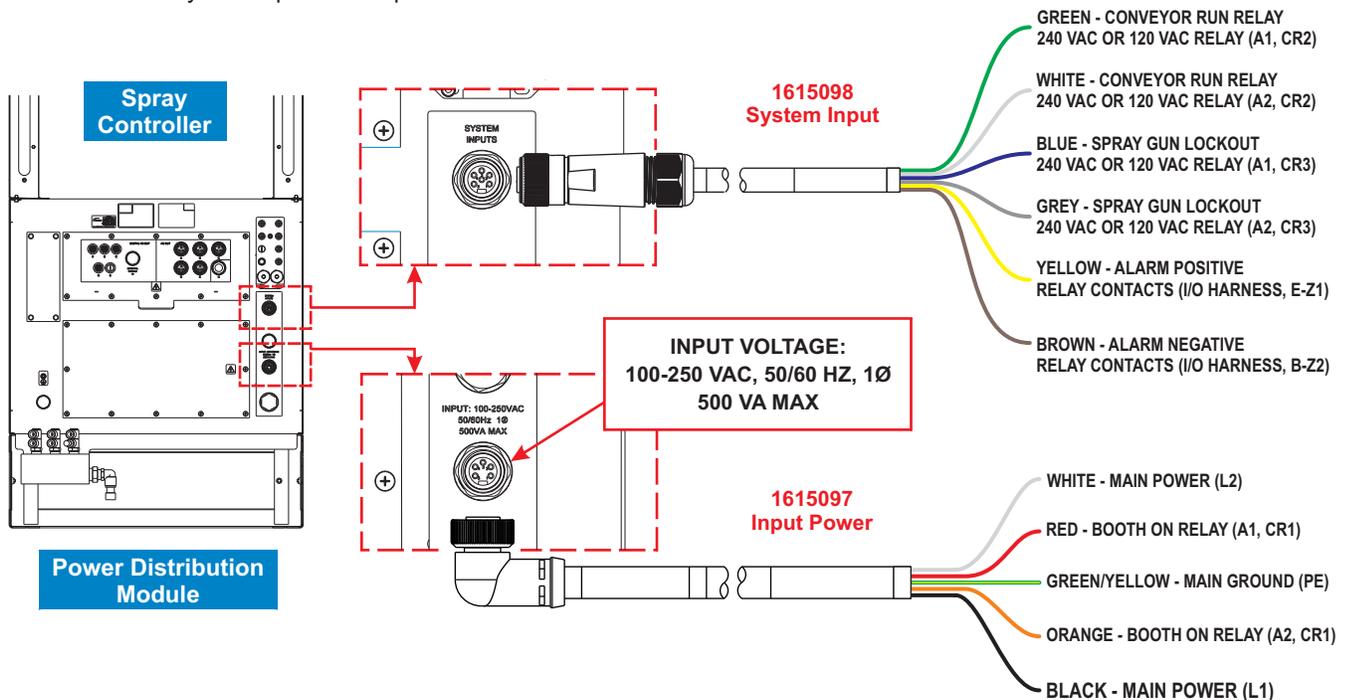
## 9 Connect Manual Spray Gun Interface to Spray Guns and Power Distribution Module

- Connect the manual spray gun interface to the spray gun controller stack power distribution module.
- Connect manual spray gun interface to the manual spray gun.



## 10 Connect Power Distribution Module, External Power and System Components

- Connect the external power to the power distribution module.
- Connect system inputs to the power distribution module.



# CONTROLLER STARTUP

## Startup

When power is applied to the spray controller the function display will scroll through function settings.

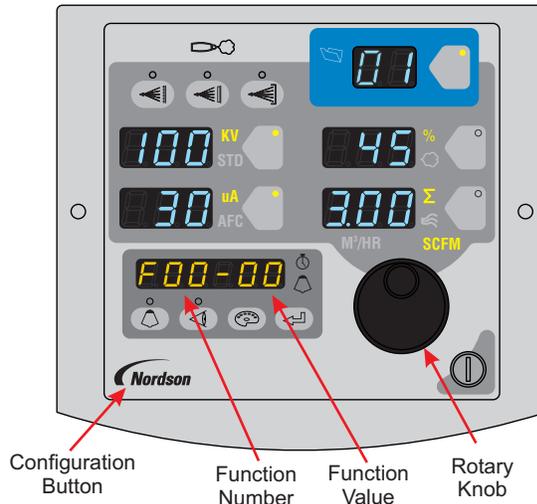
- All displays and LED lights will light for less than one second.
- All function displays below will cycle through for a few seconds.

## Controller Startup Display

Display Screen	Function Codes	Description
EncoreE	Encore	Controller Type
EnhnceE	Enhance	Controller Type
Auto	Automatic	System in Automatic Mode
OR		
hAnd	Manual	System in Manual Mode
OR		
nLightEn	Manual	System in Manual Mode with nLighten™
HdLU	HDLV or	System Type
P2P	Peer to Peer	Peer to Peer Functionality
Gun-05	Gun Number	Guns 1 to 4 Guns 1 to 32 (Auto)
PAirng	Pairing	Controller Setting Pairing Function
PAirEd	Paired	Controllers Paired
GC-E51	GC - X.XX	Gun Controller Software Version
Gd-0.00	Gd - X.XX	Gun Display Software Version (Manual Only)
FL-0.21	FL - X.XX	Flow Module Software Version

## Startup (cont)

When the display runs through the initial cycle it should look as follows:



The following controller functions must be set up before operation:

## Function Values

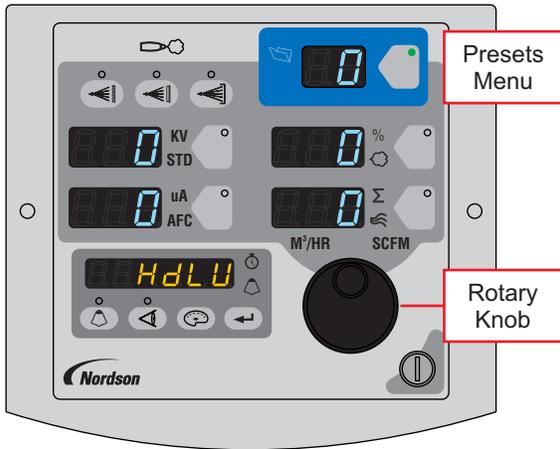
Function Number	Function Name	Function Values	Default Function
F00	Gun Type	00 = Manual 01 = Auto 02 = Robot 03 = Manual with nLighten	00
F01	Fluidizing	00 = Hopper 01 = Box 02 = Disable	02
F18	Pump Type	00=Venturi 01=HDLV	00
F19	Control Type	00 = Local 02 = Peer to Peer	00
F20	Gun Number	1 to 32 (Auto) 1 to 4 (Manual)	Auto - Factory Set Manual - User to Set
Function Number	Function Name	Function Values	
F39	Auxiliary Inputs Lockout Disable Conveyor Disable Continuous Color Change Aux Inputs Disable	00 = Enable 01 = Disable 02 = Disable 03 = Continuous 04 = Color change 05 = Inputs disabled	

## Additional Setting

For additional configuration and settings options such as Peer to Peer, refer to the Encore Enhance Spray Controller manual.

# CONFIGURE THE CONTROLLER

## For HD Operation



**Presets**

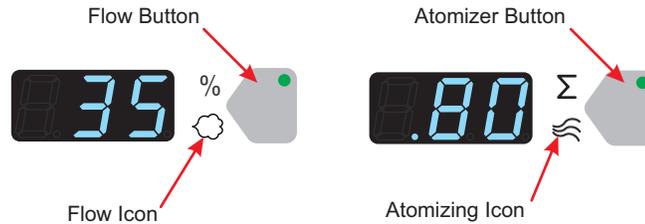
Preset	Electrostatic, Powder Flow	kV	μA	%	Σ
1	Max kV, 150 g/min (20 lb/hr)	100	30	35	0.7
2	Max kV, 300 g/min (40 lb/hr)	100	30	80	1.0
3	Select Charge 3 (deep recess), 150 g/min (20 lb/hr)	100*	60*	35	0.7

\*Select Charge Mode settings are factory set and cannot be changed. Refer to manual *Operation* section to set and change values.

### HD Powder Flow Settings:

#### To set flow or pattern air:

- Press the Flow or Pattern button. The green LED on the selected button lights up.



- Turn the rotary knob to increase or decrease the setpoints. The setpoint is automatically saved if it does not change for three (3) seconds or when any button is pressed.

#### Flow or Pattern Setpoint Display:

- When the spray gun is not triggered the setpoints are displayed.
- When the spray gun is triggered the actual flows are displayed.
- NOTE: Increasing pattern air will not increase powder flow output.



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