

Encore[®] HD Powder Spray System with Prodigy[®] Pump Cabinet

Customer Product Manual

Part 1604979-07

Issued 07/18

**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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Encore® HD Powder Spray System with Prodigy® Pump Cabinet

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 Material Safety Data Sheets (MSDS) 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 MSDS 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

The Encore® HD manual spray system with Prodigy® pump cabinet includes the advanced design of the Encore HD manual spray gun and the Encore HD manual controller with the proven Prodigy pump cabinet.

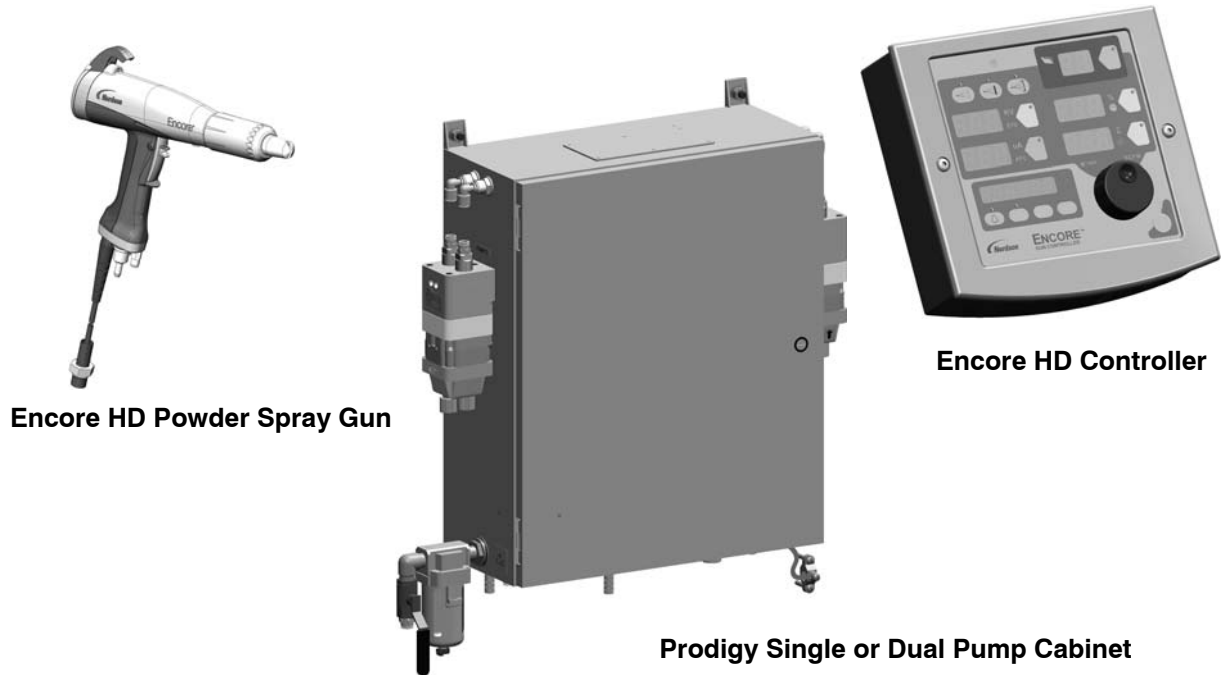


Figure 1 Encore HD Powder Spray System with Prodigy Pump Cabinet Components

System options include:

- Single pump system with stand
- Dual pump system with stand
- Single pump system, wall mount
- Dual pump system, wall mount



Figure 2 Encore HD Powder Spray System with Prodigy Pump Cabinet (Single Pump System with Stand Shown)

In addition to system information, this manual includes the following component manuals:

- 1604870 Encore HD Manual Powder Spray Controller
- 1604869 Encore HD Manual Powder Spray Gun
- 1081195 Prodigy HDLV Pump Generation III, Pump Manifold and Circuit Board
- 1604871 Encore HD Manual Powder Spray System with Prodigy Pump Cabinet Operator Card

System Diagram

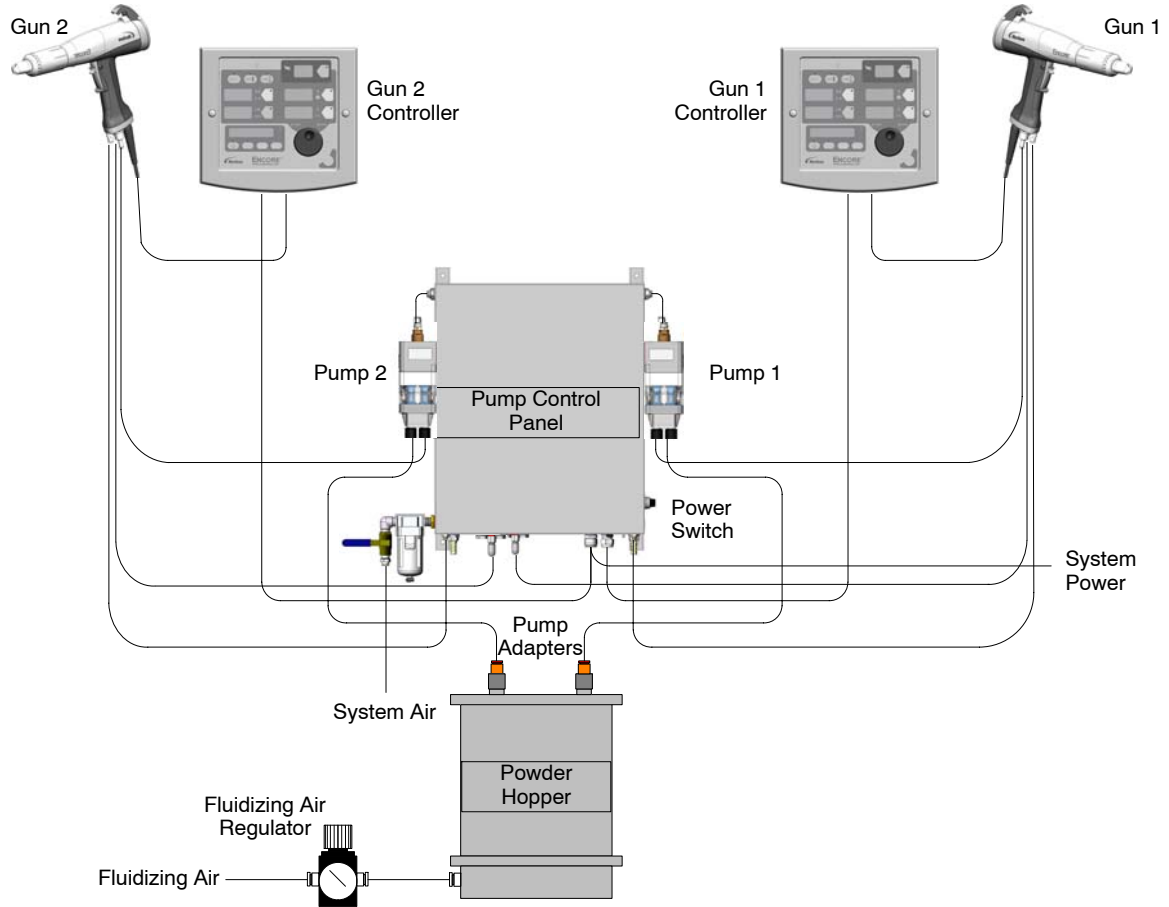


Figure 3 Typical System Diagram (Dual Pump HDLV Manual System Shown)

System Specifications

Input power

- 100 – 240 VAC, 1 Ø
- 275 VA
- 50 – 60 Hz

Input air

- 90 – 110 psi (6.2 – 7.6 bar)
- 3 – 20 cfm (85 – 566 l/m) maximum for dual system with Color Change

HDLV Pump Cabinet

The pump panel is the central electrical and pneumatic enclosure for the system. The pump panel houses the Prodigy HDLV pumps, pump manifolds and pump control board, air filter and pneumatic controls, and DC power supply. The panel is shipped with brackets and fasteners for mounting on a rail, wall, or stand.



WARNING: Allow only qualified personnel to service this panel. Shut off power at an external disconnect before performing any electrical repairs. Shut off the air supply at the ball valve and relieve system air pressure before disconnecting pneumatic tubing or components.

Pump Cabinet Components

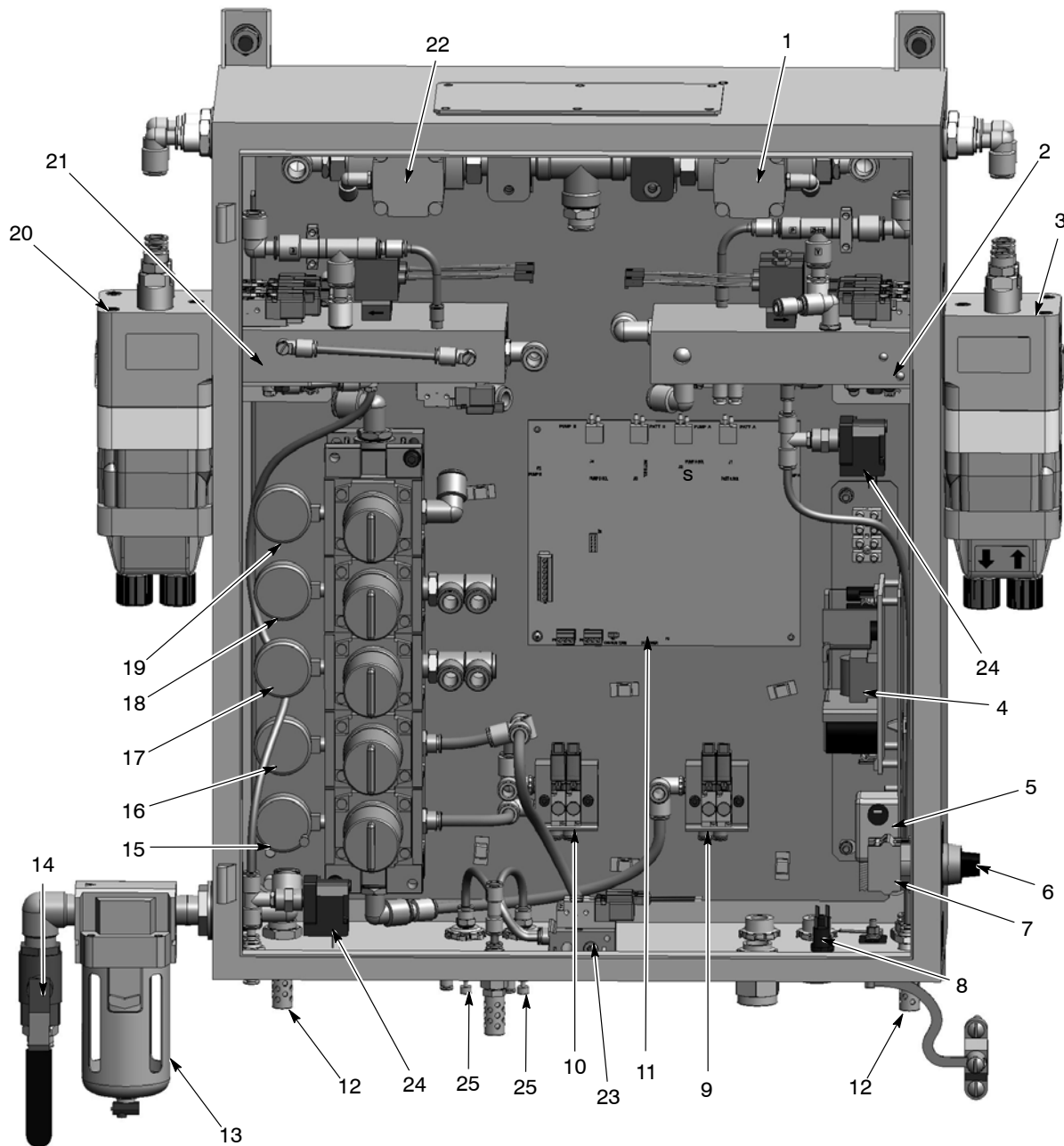


Figure 4 Pump Cabinet Components (Dual Pump System Shown)

- | | | |
|-----------------------------|-------------------------------------|--|
| 1. Pump 2 purge valve | 9. Purge pilot manifold/solenoids | 18. Vacuum regulator/gauge |
| 2. Pump 1 control manifold | 10. Pinch select manifold/solenoids | 19. Purge regulator/gauge |
| 3. Pump 1 | 11. Pump control board | 20. Pump 2 |
| 4. 24 VDC power supply | 12. Vacuum generator mufflers | 21. Pump 2 control manifold |
| 5. Line filter | 13. Air filter | 22. Pump 1 purge valve |
| 6. Power switch | 14. Air supply ball valve | 23. Electrode air wash manifold assembly |
| 7. Contact block | 15. Pinch low regulator/gauge | 24. Pressure switch |
| 8. Fuse, time delay, 3.15 A | 16. Pinch high regulator/gauge | 25. Flow control valve |
| | 17. Flow control regulator/gauge | |

Installation

Pump Panel Pneumatic Diagram

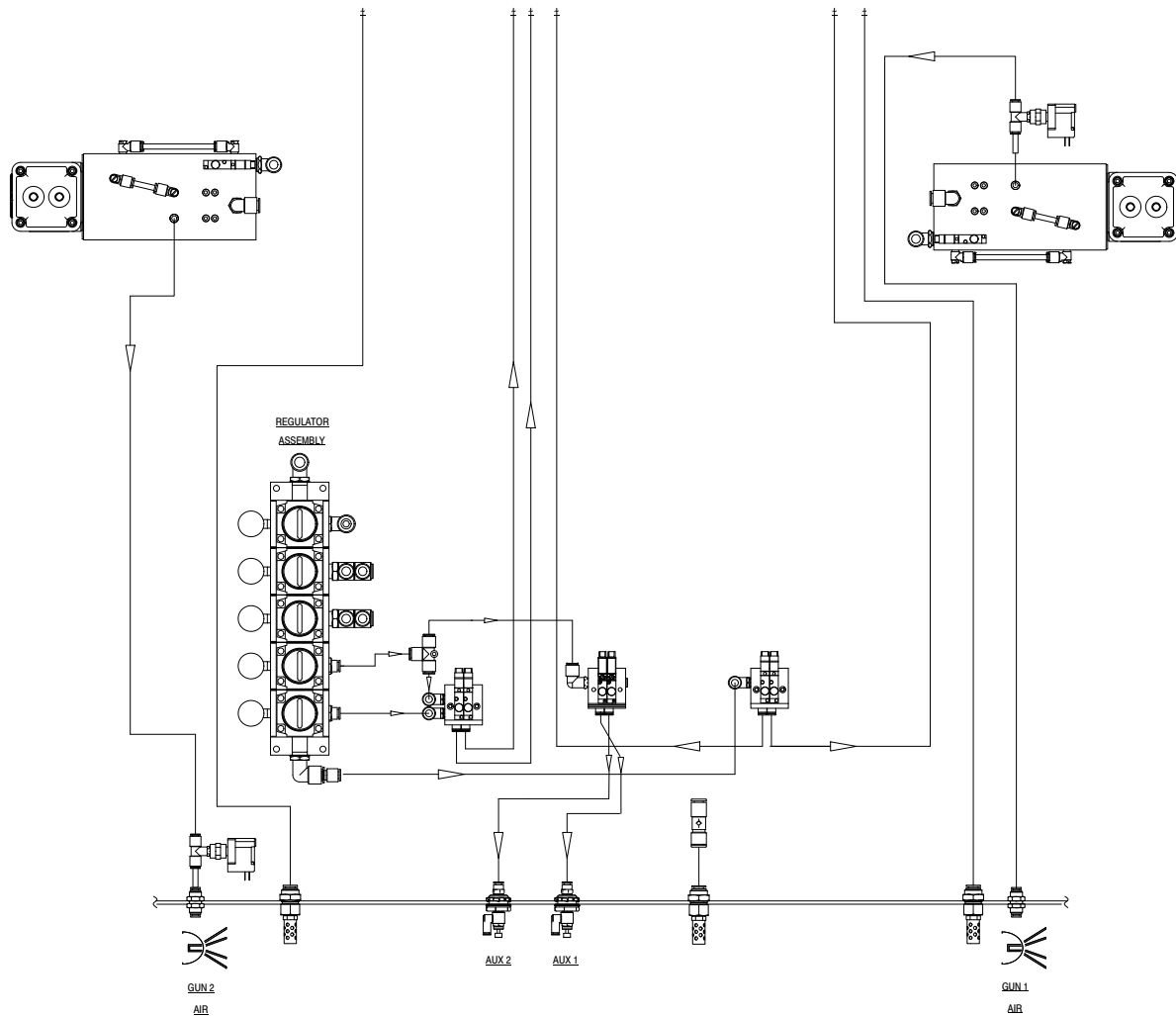


Figure 5 Pneumatic Schematic (Dual-Pump System Shown)

Pump Panel Wiring Diagram

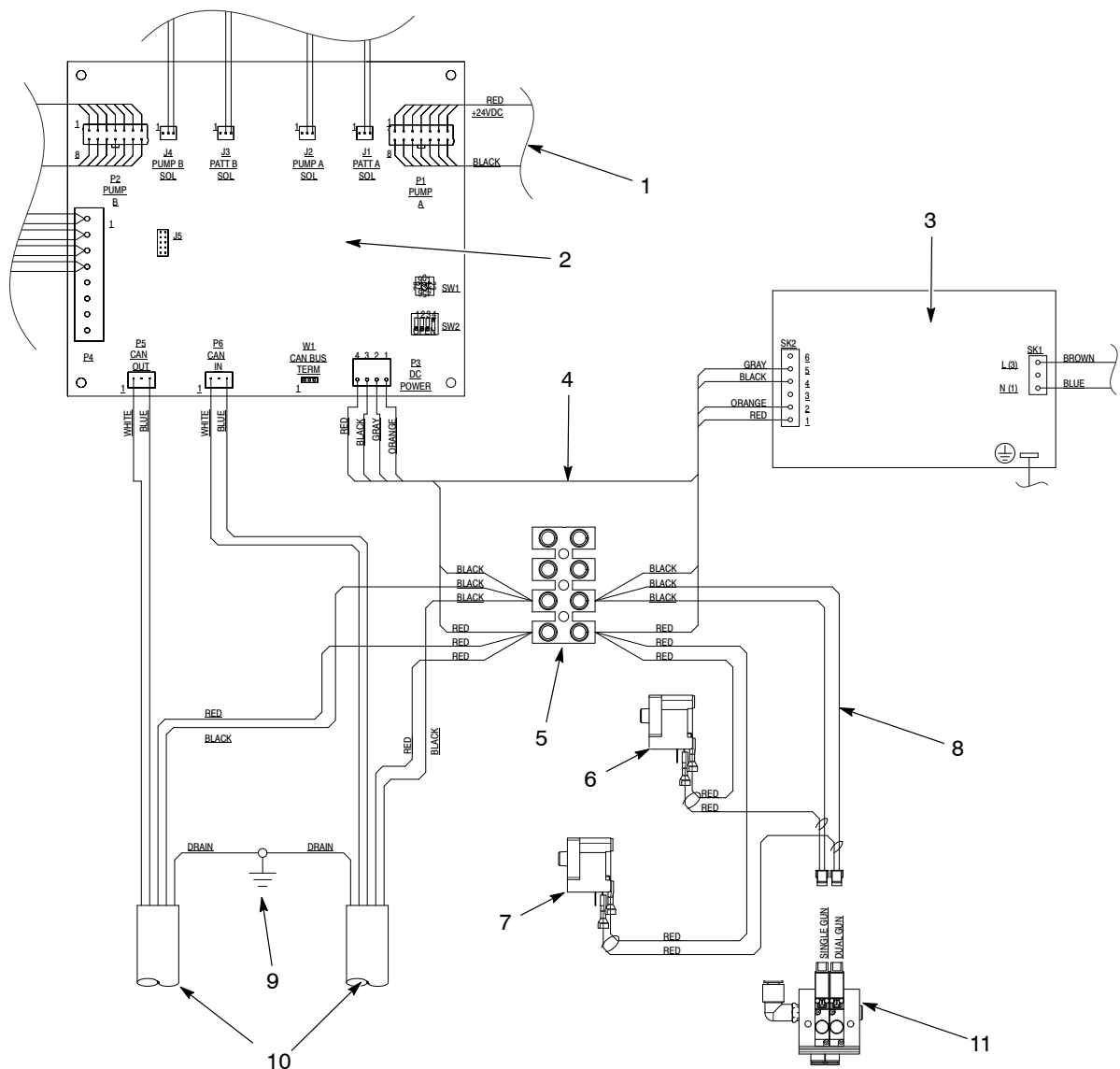


Figure 6 Wiring Diagram (Dual Pump System Shown)

- | | | |
|--|---------------------------------------|--|
| 1. Pump manifold control harness (356mm) | 5. Terminal block | 9. Ground (inside enclosure bottom) |
| 2. Dual pump controller | 6. Pressure switch (single gun units) | 10. Network and power cables |
| 3. 60W power supply | 7. Pressure switch (dual gun units) | 11. Electrode air wash manifold assembly |
| 4. Power supply harness | 8. Wiring harness | |

Operation

See *Operation* sections in accompanying component manuals.

Maintenance

See *Maintenance* sections in accompanying component manuals.

Troubleshooting

See *Troubleshooting* sections in accompanying component manuals.

Repair

See *Repair* sections in accompanying component manuals.

Parts

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

Reference Documentation

For additional information related to other components in the system, reference the following documentation:

Document Title	Document Part Number
Encore HD and XT Manual Powder Spray System Controller	1604870
Encore HD Manual Powder Spray Gun	1604869
Prodigy Gen III HDLV Pump, Pump Manifold, and Circuit Board	1081195
Encore HD Powder Spray System with Prodigy Pump Cabinet Operator Card	1604871

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	

System Parts

Single Pump System without Stand

With nLighten™ Option	Standard System	Description	Quantity
1613897	1605274	SYSTEM, single pump, Prodigy/Encore HD, without stand	
1605270	1605270	• CONTROLLER, single pump, Prodigy/Encore HD	1
1604125	1604125	• CONTROL UNIT, interface, Encore XT	1
1603160	1603160	• SPRAY GUN ASSY, Encore HD	1
1605276	1605276	• KIT, ship-with, int. Controller, Encore HD	1
1611977	-----	• KIT, nLighten, LED, Encore	1

Dual Pump System without Stand

With nLighten Option	Standard System	Description	Quantity
1613898	1605275	SYSTEM, dual pump, Prodigy/Encore HD, without stand	
1605271	1605271	• CONTROLLER, dual pump, Prodigy/Encore HD	2
1604125	1604125	• CONTROL UNIT, interface, Encore XT	2
1603160	1603160	• SPRAY GUN ASSY, Encore HD	2
1605276	1605276	• KIT, ship-with, int controller, Encore HD	2
1611977	-----	• KIT, nLighten, LED, Encore	2

Single Pump System with Stand

With nLighten Option	Standard System	Description	Quantity
1613895	1605272	SYSTEM, single pump, Prodigy/Encore, with stand	
1605270	1605270	• CONTROLLER, single pump, Prodigy/Encore HD	1
1604125	1604125	• CONTROL UNIT, interface, Encore XT	2
1603160	1603160	• SPRAY GUN ASSY, Encore HD	2
1605276	1605276	• KIT, ship-with, int controller, Encore HD	2
1611977	-----	• KIT, nLighten, LED, Encore	2
1064433	1064433	• STAND, Prodigy color stand	1

Continued...

Dual Pump System with Stand

With nLighten Option	Standard System	Description	Quantity
1613896	1605273	SYSTEM, dual pump, Prodigy/Encore HD, with stand	
1605271	1605271	• CONTROLLER, dual pump, Prodigy/Encore HD	1
1604125	1604125	• CONTROL UNIT, interface, Encore XT	2
1603160	1603160	• SPRAY GUN ASSY, Encore HD	2
1605276	1605276	• KIT, ship-with, int controller, Encore HD	2
1611977	-----	• KIT, nLighten, LED, Encore	2
1064433	1064433	• STAND, prodigy color change	1

Pump Panel Replacement Parts

See Figure 7.

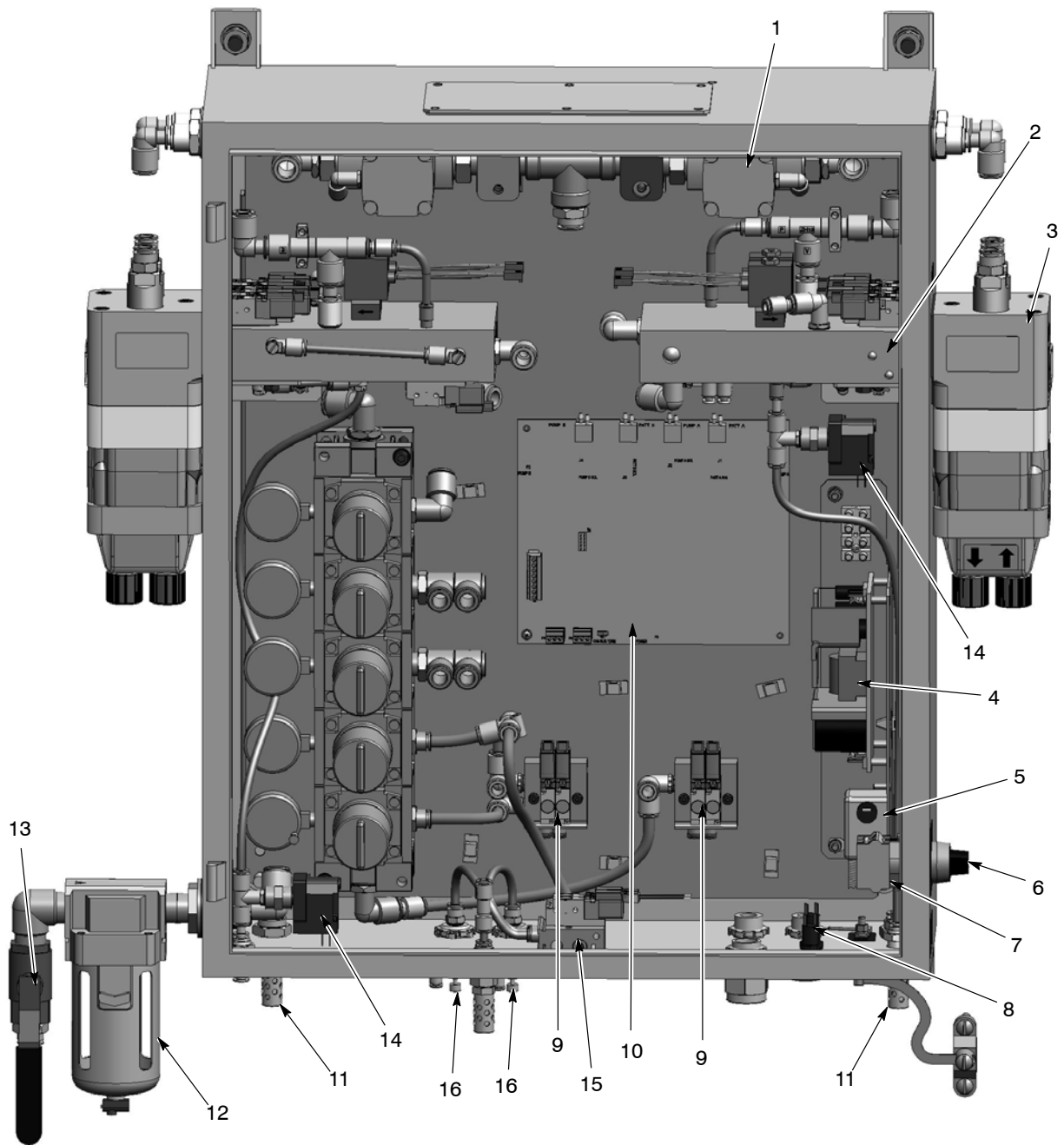


Figure 7 Pump Panel Replacement Parts (Dual Pump System Shown)

Item	Part	Description	Quantity	Note
1	303132	VALVE, $\frac{3}{4}$ in. I/O, air operated	AR	A
2	-----	MANIFOLD ASSEMBLY, HDLV pump control	AR	A, B, D
3	1081194	PUMP ASSEMBLY, HDLV	AR	A
4	1043906	POWER SUPPLY, 24, 5, 12 VDC, 60 W	1	F
5	334805	FILTER, line, RFI, power, 10A	1	
6	334806	SWITCH, round, 2 position, 90 degree	1	
7	288806	CONTACT BLOCK, 2 N.O. contacts	1	
8	1009090	FUSE, time delay, 215 series, 3.15 A, 5 x 20 mm	2	
9	1099534	VALVE, solenoid, 3 port, 24 V, with adapter	AR	A, E
10	1101498	KIT, PCA replacement, Prodigy pump control, Generation III	1	B
11	1034396	MUFFLER, exhaust, $\frac{1}{4}$ in. NPT male	AR	C
12	1062366	FILTER, air, $\frac{1}{2}$ in. NPT	1	
NS	1064136	• FILTER ELEMENT, air, 5 micron, AF40	1	
13	901151	VALVE, ball, $\frac{1}{2}$ in. NPT	1	
14	1064964	SWITCH, pressure	AR	
15	1604833	HARNESS SET, dual air wash	AR	
16	1082612	VALVE, flow control, 4mm x 1/8 UNI	AR	
NS	1604832	HARNESS SET, single air wash	AR	
<p>NOTE A: Quantities for AR items vary depending on number of guns in system.</p> <p>B: When replacing manifold, perform calibration procedure as described in Manual Gun Controller manual.</p> <p>C: When replacing board, refer to instruction sheet shipped with kit for switch settings. Also perform calibration procedure as described in Manual Gun Controller manual.</p> <p>D: For manifold assembly part numbers refer to manual 1081195.</p> <p>E: If using an old harness with 3 positions, use the supplied adapter. If using a new a harness with 2 positions, then the supplied adapter can be discarded.</p> <p>F: Power supply cover kit (1611787) available.</p> <p>AR: As Required</p> <p>NS: Not Shown</p>				

EU DECLARATION of Conformity

Product: Prodigy HDLV High Density Powder Pump

Models: Prodigy HDLV Pump

Description: This is a low density air / high density powder pump used for supplying of powder coating material to the applicator. The pump is labeled for use in a Zone 22 area.

Applicable Directives:

2006/42/EC - Machinery Directive

2014/34/EU - ATEX Directive

Standards Used for Compliance:

EN1127-1 EN/ISO12100 EN/ISO80079-36 EN/ISO80079-37

Principles:

This product has been designed & manufactured according to the directives & standards / norms described above.

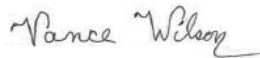
Markings and Certs:

Flammable Atmosphere Marking: Ex h IIC T40°C Dc

Tech File: Notified Body #0518, Sira, UK

DNV ISO9001

ATEX Quality Notification – Baseefa (2001) Ltd (UK)



Date: 12Feb2018

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