

Nordson Iso-Flo[®] HD Voltage Block System



Advanced voltage-blocking technology for the electrostatic application of waterborne coatings



Nordson Watermark[®] Technology

For many finishing operations, the most cost-effective way to reduce VOC emissions is to convert from solvent-based to waterborne coatings. But due to the higher electrical conductivity of waterborne coatings, it is necessary to isolate the charged paint-supply system from any ground source. These isolated systems are difficult to maintain and potentially dangerous to plant personnel.

The Nordson Iso-Flo HD voltage block offers an easier, safer and far more cost-effective way to spray electrostatically charged waterborne coatings. The system supplies charged coating to the spray devices while preventing the charge from conducting back through the paint-supply system.

Nordson Iso-Flo systems are built for the most demanding finishing requirements with high-capacity, field-repairable pumps that provide long life with minimal maintenance and an innovative arc-suppression feature that allows continuous coating without delay between cycles.

And now, Nordson's Smart Iso-Flo makes color changes fast and easy too.

How the Iso-Flo HD system works

An Iso-Flo HD manual or automatic voltage block is installed near the spray booth, and is connected between the grounded paint-supply system and the spray devices. Coating is pumped from the paint-supply system to paint reservoirs inside the voltage blocks. Electrostatic isolation is maintained with a series of shuttle valves that alternately connect the reservoirs to the grounded paint supply and the spray devices. Standard Iso-Flo HD configurations are available for single-gun manual painting systems and single- and multiple-gun automatic painting systems.

Iso-Flo® HD Voltage Block System

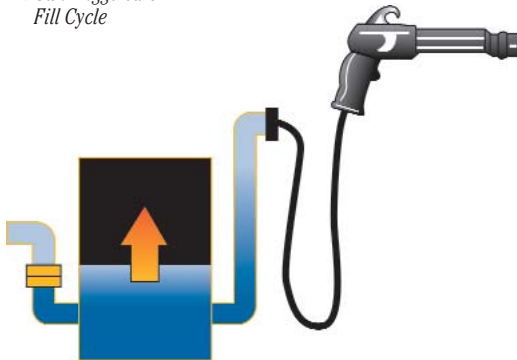
Iso-Flo System For Manual Spraying

For single-gun manual operations, the Iso-Flo HD system includes a single paint reservoir. The reservoir fills from the grounded paint supply when the gun is triggered off between parts. When the gun is triggered on, the reservoir immediately disconnects from the grounded paint supply and connects to the spray gun. The electrostatic charge is applied within the Iso-Flo HD unit, between the paint reservoir and the spray gun.

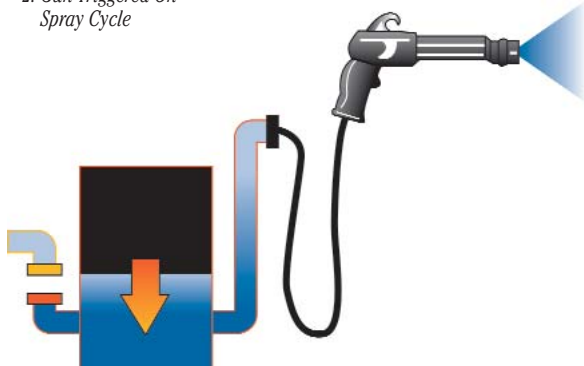


Throughout the filling and spraying cycles, an air gap is maintained within the system to prevent the electrostatic charge from conducting back through the paint-supply system. Due to the speed of the shuttle, the operation of the Iso-Flo unit is virtually invisible to the operator.

1. Gun Triggered Off –
Fill Cycle



2. Gun Triggered On –
Spray Cycle



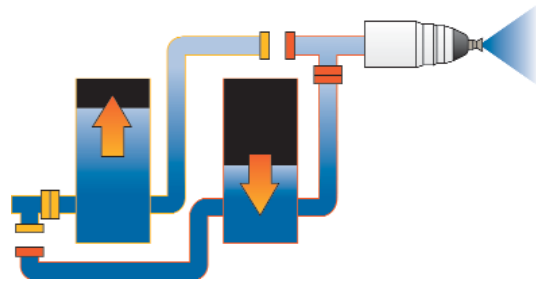
Iso-Flo Manual System Application

Iso-Flo System For Automatic Spraying

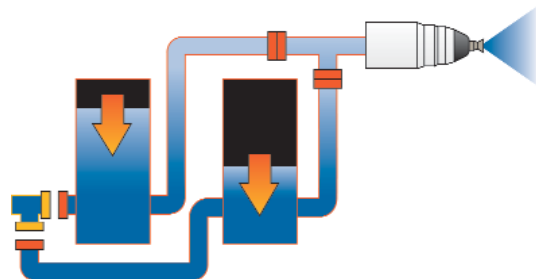
The Iso-Flo unit for automatic spraying contains two paint reservoirs to provide a continuous uninterrupted flow of paint. One reservoir supplies charged coating to the spray devices while the second reservoir refills from the grounded paint supply. Once the second reservoir is filled, it disconnects from the spray devices, connects to the paint supply and refills.

The reservoirs hold enough paint to ensure a continuous supply of charged paint to the spray devices. And since air gaps are maintained between the shuttles, the electrostatic charge will not conduct back through the paint-supply system.

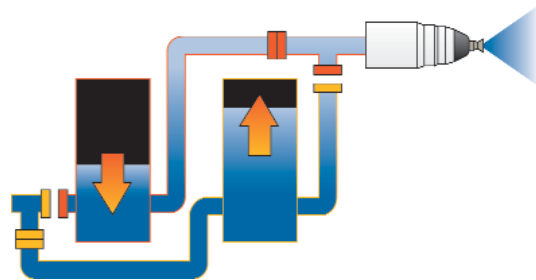
1. Spray/Fill Cycle



2. Spray/Transfer Cycle



3. Spray/Fill Cycle



Iso-Flo Automatic System Application

Iso-Flo® HD Voltage Block System

Smart Iso-Flo System for Automatic Spraying

The PLC-controlled Smart Iso-Flo system is designed for ease of use and quick color changes. The Smart Iso-Flo system uses a flow meter to precisely monitor fluid output from the reservoirs. The system's advanced controls also calculate the amount of paint needed to coat parts before a color change so the reservoir only fills to the necessary paint level. When the last part is coated, minimal paint is left in the reservoir to flush out, which cuts color change time from 15 minutes to 2 minutes and reduces paint waste from ½ gallon to just 8 ounces.

Connected to a computer, the system is operator friendly and easy to troubleshoot to reduce maintenance time.

The benefits of the Smart Iso-Flo voltage block system make it an efficient, cost-effective, and safe way to electrostatically spray waterborne coatings and still change colors to meet your production line requirements.



Features and Benefits

■ No need for isolation fluids.

The air gap maintained in the Iso-Flo HD system provides complete isolation between the charged paint and the grounded paint supply without extra valves, seals, pumps, and isolation lubricants.

■ High-capacity, field-repairable pumps.

Pumps deliver excellent performance and optimal flow rates with virtually all paints. Features such as self-adjusting pistons provide a smooth flow rate and long service life.

■ Immediate arc suppression for safe, productive operation.

The arc suppression method of the Iso-Flo HD voltage block systems immediately discharges the electrostatic charge between fill cycles and when the cabinet door is opened for enhanced operator safety.



■ Paint reservoirs sized for productivity and paint savings.

Iso-Flo reservoirs are large enough to ensure a continuous paint supply, but small enough to minimize paint waste during color changes and routine maintenance and cleaning. A feature that allows you to easily save paint from the reservoir during color changes is available.

■ Simple, low-maintenance design.

The Iso-Flo system requires less maintenance and has only one-half the replacement parts of some other systems.

■ Fast, efficient color changes.

The ability to perform color changes quickly with minimal paint waste sets the Iso-Flo system apart from other voltage blocks on the market. Standard Iso-Flo systems provide easy color changes and fast color-change configurations are available to accommodate the most demanding requirements.

■ Durable, easy-access steel enclosure.

The steel cabinet, lined with non-conductive plastic, is built for years of service in even the harshest of manufacturing environments.

■ Documented quality and safety.

All Nordson Iso-Flo HD voltage blocks are Factory Mutual and CE approved. Plus, the Nordson Liquid Systems Group is ISO-9001 certified, which is your assurance of documented quality.

Download our white paper

**"No Nonsense Advice on Improving
Your Waterborne Spray Application"**

on www.nordson.com/WBreport

Iso-Flo® HD Voltage Block System

Specifications

	Manual Iso-Flo HD Voltage Block System	Automatic and Smart Iso-Flo HD Voltage Block Systems
Dimensions:		
Height	36 in. (91.4 cm)	42 in. (106.7 cm)
Width	24 in. (60.9 cm)	36 in. (91.4 cm)
Depth	9 in. (21.9 cm)	9.25 in. (23.5 cm)
Air input pressure	80-120 psi (5.5-8.3 bar)	80-120 psi (5.5-8.3 bar)
Fluid input pressure	80-150 psi (5.5-10.3 bar)	80-150 psi (5.5-10.3 bar)
Output flow	Up to 20 ounces (0.59 liters) per minute at 60 psi (4 bar), 20 sec at Zahn 2, ambient temperature	Up to 60 ounces (1.77 liters) per minute at 60 psi (4 bar), 20 sec at Zahn 2, ambient temperature
Electrostatic Voltage	60 kV maximum	60 kV



Nordson reserves the right to make design changes to products to improve their function. These changes may occur between printings.

For more information, talk with your Nordson representative or contact your Nordson regional headquarters office.

United States

Amherst, Ohio
Nordson Corporation
Telephone: 800.433.9319
440.988.9400
Facsimile: 888.229.4580
E-mail: liquidmarketing@nordson.com
www.nordson.com

Canada

Markham, Ontario
Nordson Canada, Limited
Telephone: 800.463.3200
905.475.6730
Facsimile: 905.475.8821
www.nordson.ca

Europe

Erkrath, Germany
Nordson Deutschland GmbH
Telephone: 49.211.9205.0
Facsimile: 49.211.254658
E-mail: info@de.nordson.com

Japan

Tokyo, Japan
Nordson K.K.
Telephone: 81.3.5762.2700
Facsimile: 81.3.5762.2701
E-mail: ppa.dm@nordson.co.jp
www.nordson.co.jp

Asia/Australia/Latin America

Nordson Corporation
Amherst, Ohio
Telephone: 440.985.4000
24-hour message service: 440.985.4797
E-mail: intcustomerservice@nordson.com

