

# Your Partner in Precision Fluid Dispensing

Engineered Fluid Dispensing  
**PRODUCT CATALOG 10**



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Since 1963, Nordson EFD dispensing systems have helped thousands of companies make precise deposits of adhesives, lubricants and other assembly fluids.

Our business is to match your specific application needs with our wide range of dispensing tools to maximize your total cost savings.

From benchtop dispensers to high-performance automated dispensing systems, EFD devices are used by manufacturers in hundreds of industries throughout the world.

We invite you to learn more, and look forward to working with you.

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EFD engineered fluid control systems are trusted for applying controlled amounts of adhesives, sealants, lubricants, and other assembly fluids that increase productivity for nearly every industrial manufacturing process.

## 1K and 2K Fluid Packaging

- Adhesives • Bait Gels • Braze Pastes • Epoxies • Greases • Lubricants
- RTV Sealants • Silicones • Solder Pastes • Thermal Compounds

## Aerospace

- Cockpits • Electrical Systems • Flight Recorders • GPS Systems • Instrument Panels
- Landing Gear • Measurement Instruments • Military Munitions • Propellant Parts
- Satellites • Seating • Turbines • Wire Harnesses

## Automotive

- Air Conditioning Systems • Body Panels • Brakes • Control Switches
- Electrical Systems • Engine Components • Frames and Suspensions • Fuel Systems
- Instrument Panels • Lighting, Headlamps • Mirrors • Passenger Restraints
- Sensors, Relays, Regulators • Transmissions • Wheels • Windshields
- Wiring Harness Connectors

## Construction

- Caulking • Chemical Anchors into Concrete, Brick, Stone, and Wood
- Crack Repair • Door and Window Sealing • Hydraulic Pumps • Joint Sealing
- Nail Plate Manufacturing • Roof Installation

## Electronics

- Capacitors • Digital Cameras • Electronic Chips • Electronic Housing Chassis
- Fiber Optics • LEDs • Liquid Crystal Displays • Membrane Switches
- Microwave Components • PC Board Assemblies • SMT Circuit Boards

## Food Manufacturing and Packaging

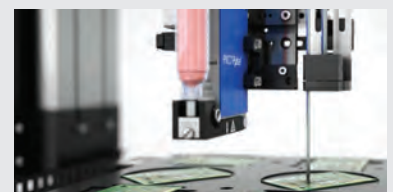
- Coating Food with Scent/Flavoring • Filling Perfume Bottles
- Filling/Topping Off Foil Packets and Other Containers
- Lubricating Can Stock, Can Ends, and Pull Tabs • Lubricating Foil Slitters
- Shrink Wrapping

## Life Sciences

- Catheters • Contact Lenses • Defibrillators • Diagnostic Equipment • Hearing Aids
- Membranes • Pacemakers • Pills and Medicines • Respiration Devices
- Stent Coating • Surgical and Dental Tools • Syringe Lubrication • Vial Filling

## Wireless

- Accessories • Camera Modules • Cover Glass • Displays • Frames • Keypads
- Microspeakers • Miscellaneous Unit Assembly • Protective Treatments
- Touch Panels



# Precision Dispensers

**Benchtop / Portable / Tools / Filling**



EFD's precision dispensing systems make it simple to apply accurate, repeatable amounts of virtually any assembly fluid — including adhesives, epoxies, lubricants, threadlockers, paints, and grease.

By using digital timers and precision air regulators or positive displacement technology to determine the amount of material applied, EFD dispensers eliminate operator guesswork and take the variability out of the dispensing process.

The result is higher productivity, better quality and reliability, a cleaner and safer workplace, and lower production costs.



Products range from high-precision dispensers for critical applications that require a high degree of process control to economical units for general-purpose use.





# Precision Fluid Dispenser Selection Guide

## BENCHTOP DISPENSERS

					
	UltimusPlus I / II	Ultimus V	Ultimus I / II	Performus X100 / X15	Performus I
Type	Air Powered	Air Powered	Air Powered	Air Powered	Air Powered
Recommended Fluids	All fluids / Low-viscosity fluids	All fluids	All fluids / Low-viscosity fluids	All fluids / Low-viscosity fluids	All fluids
Air Pressure Range	0.7–7.0 bar (10–100 psi) / 0–1.0 bar (0.3–15 psi)	0–7.0 bar (0–100 psi)	0–7.0 bar (0–100 psi) / 0–1.0 bar (0–15 psi)	0–7.0 bar (0–100 psi) / 0–1.0 bar (0–15 psi)	0–7.0 bar (0–100 psi)
Time Range	0–999.9999 s	0–9.9999 s	0–999.9999 s	0–99.9 s	—
Warranty	5 years <sup>1</sup>	1 year	5 years <sup>1</sup>	2 years	1 year
Steady Mode	✓	✓	✓	✓	✓
Teach Mode	✓	✓	✓	✓	—
Timed Mode	✓	✓	✓	✓	—
Display	Touchscreen	LCD	LCD	—	—
Digital Pressure / Time	✓	✓	✓	✓	Analog
Digital Vacuum	✓	✓	✓	Analog	Analog
Multilingual	✓	✓	✓	—	—
Lockout	All Parameters	Time & Pressure	Time	—	—
Number of Programs	16 (time, pressure, vacuum, barcode)	400 (time, pressure, vacuum)	16 (time)	—	—
Multiple Cycles	MultiShot <sup>2</sup>	Auto Sequence <sup>3</sup>	—	—	—
Initiate Signal	✓	✓	✓	✓	—
End-of-Cycle Feedback	✓	✓	✓	✓	—
RS-232	—	✓	—	—	—
Ethernet	✓ <sup>4</sup>	—	—	—	—

<sup>1</sup> Two years in Asia.

<sup>2</sup> MultiShot allows multiple shots from a single press of the foot pedal.

<sup>3</sup> Programmable memory that automatically adjusts dispensing parameters for viscosity changes.

<sup>4</sup> UltimusPlus allows remote control from a PLC or computer via NX protocol

✓ Applicable | — Not applicable

# High Precision Dispensers



Experience a new level of ease with Nordson EFD's UltimusPlus™ dispensers. Train operators in seconds with intuitive touchscreen control of dispensing parameters. Designed to simplify setup and operation, the advanced functionality of the UltimusPlus allows operators to focus on making accurate, controlled deposits.

## Features and Benefits

- Electronic pressure regulation with full operator lockout
- Optional barcode scanner allows you to automatically alternate between 16 programs
- Dispense multiple shots from a single press of the foot pedal with MultiShot™
- Enable process verification by downloading Dispense Log data
- Support Smart Factory integration using Ethernet compatibility with NX protocol via TCP/IP
- Improve operational efficiency by programming and monitoring dispensing from a PLC or personal computer

## Order Your Components

Nordson EFD Optimum® components are designed to work with your dispenser as part of a complete, integrated system that produces the most accurate, repeatable deposits possible. See Optimum Dispensing Components for details.

## UltimusPlus Series

### 7364361 UltimusPlus I

Features a 0.7–7.0 bar (10–100 psi) pressure regulator that handles all fluids. Also includes NX protocol via Ethernet. Order power cord separately.

### 7364475 UltimusPlus I – Calibrated

Same as #7364361 but the unit has been calibrated to EFD's specifications using standards traceable to the National Institute of Standards and Technology (NIST). Also includes NX protocol via Ethernet. Order power cord separately.

### 7364362 UltimusPlus II

Has a 0.02–1.0 bar (0.3–15 psi) regulator that provides greater control when dispensing thin fluids. Also includes NX protocol via Ethernet. Order power cord separately.

### 7364476 UltimusPlus II – Calibrated

Same as #7364362 but the unit has been calibrated to EFD's specifications using standards traceable to the National Institute of Standards and Technology (NIST). Also includes NX protocol via Ethernet. Order power cord separately.

### 7014871 American Plug Power Cord Kit

### 7014872 European Plug Power Cord Kit



## Specifications

Cabinet size:	21.2w x 10.8h x 19.2d cm (8.33w x 4.27h x 7.55d")
Weight:	1.8 kg (4.0 lb)
Power adapter:	AC input: 100-240 VAC (+/-10%), ~50/60 Hz, 0.6 Amp DC Output: 24 VDC @ 3.75 Amp
Cycle rate:	Exceeds 600 cycles per minute
Time range:	0.0001–999.9999 s
End-of-cycle feedback circuits:	24 VDC; 100 mA maximum

Cycle initiate:	Foot pedal, finger switch, 24 VDC signal, or mechanical contact closure
Air output:	UltimusPlus I: 0.7–7.0 bar (10–100 psi) UltimusPlus II: 0.02–1.0 bar (0.3–15 psi)
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	<a href="#">See Product Manual</a>

# High Precision Dispensers



The Ultimus™ V High Precision Dispenser provides the highest level of accuracy and process control when applying fluids that change viscosity, including 2-part epoxies and other fluids that thicken over time, as well as UV-cure adhesives and materials that get thinner as ambient temperatures rise.

## Features and Benefits

- Fully electronic control of dispense time, air pressure, and vacuum to ensure exceptionally high accuracy, repeatability, and shot consistency
- Programmable memory that automatically adjusts dispensing parameters for viscosity changes
- Interactive PC software and remote communications with PC/PLC via RS-232 protocol
- Selectable operator lockout and alarm settings

*"Nordson EFD's Ultimus V dispenser is a notable improvement over the previous generation, reducing variation and improving shot-to-shot-consistency."*

— Renishaw

## Order Your Components

Nordson EFD Optimum components are designed to work with your dispenser as part of a complete, integrated system that produces the most accurate, repeatable deposits possible. See Optimum Dispensing Components for details.

## Ultimus V Series

### 7012590 Ultimus V

Features a 0–7.0 bar (0–100 psi) pressure regulator that handles all fluids. Order power cord separately.

### 7012589 Ultimus V – Calibrated

Same as #7012590 but the unit has been calibrated to EFD's specifications using standards traceable to the National Institute of Standards and Technology (NIST). Order power cord separately.

### 7014503 Ultimus V Optimeter 30cc

Specifically designed to work with the Ultimus V, the patented Optimeter™ provides even greater control when dispensing all fluids by automatically increasing airflow as the syringe barrel empties. Specify #7014504 for Optimeter 10cc.

### 7014871 American Plug Power Cord Kit

### 7014872 European Plug Power Cord Kit

## Specifications

Cabinet size:	22.5w x 9.50h x 19.9d cm (8.86w x 3.74h x 7.85d")
Weight:	3.4 kg (7.7 lb)
Internal AC-DC power supply:	AC input: 100–240 VAC (+/-10%), ~50/60Hz, 0.5 A DC output (internal): 24 VDC @ 1.7 A
Cycle rate:	Exceeds 600 cycles per minute
Time range:	0-9.9999 s

End-of-cycle feedback circuits:	5–24 VDC, 100 mA maximum
Cycle initiate:	Foot pedal, finger switch, or 5–24 VDC signal
Air output:	0–7.0 bar (0–100 psi)
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	1 year, limited



[www.nordsonefd.com/Ultimus-V](http://www.nordsonefd.com/Ultimus-V)

# High Precision Dispensers



Featuring simultaneous digital display of all dispenser settings and time adjustment as fine as 0.0001 seconds, Ultimus I-II dispensers bring exceptional process control to medical device, electronics, and other critical dispensing processes.

## Features and Benefits

- All-digital, multi-function display
- 16 memory settings
- 4-decimal time setting
- Multilingual display
- Operator lockout of time setting
- Universal power supply

*"The dispensers make quick, easy deposits.  
Our operators love it. A big winner."*

— Automotive Electronics

## Order Your Components

Nordson EFD Optimum components are designed to work with your dispenser as part of a complete, integrated system that produces the most accurate, repeatable deposits possible. See Optimum Dispensing Components for details.

## Ultimus I-II Series

### 7017041 Ultimus I

Features a 0–7.0 bar (0–100 psi) pressure regulator that handles all fluids.

### 7012584 Ultimus I – Calibrated

Same as #7017041 except the unit has been calibrated to EFD specifications using standards traceable to the National Institute of Standards and Technology (NIST).

### 7002003 Ultimus II

Has a 0–1.0 bar (0–15 psi) regulator that provides greater control when dispensing thin fluids.

### 7012586 Ultimus II – Calibrated

Same as #7002003 except the unit has been calibrated to EFD specifications using standards traceable to the National Institute of Standards and Technology (NIST).

## Specifications

Cabinet size:	14.3w x 18.1h x 17.3d cm (5.63w x 7.12h x 6.82d")
Weight:	2.3 kg (5.0 lb)
Power adapter:	AC input: 100–240 VAC (+/-10%), ~50/60Hz, 0.6 Amp DC output: 24 VDC @ 1.04 Amp
Cycle rate:	Exceeds 600 cycles per minute
Time range:	0.0001–999.9999 s
End-of-cycle feedback circuits:	5–24 VDC, 100 mA maximum

Cycle initiate:	Foot pedal, finger switch, or 5–24 VDC signal
Air output:	Ultimus I: 0–7.0 bar (0–100 psi) Ultimus II: 0–1.0 bar (0–15 psi)
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	5 year, no-fault (Americas and Europe) 2 year, no-fault (Asia)



[www.nordsonefd.com/Ultimus-I](http://www.nordsonefd.com/Ultimus-I)



# General Purpose Dispensers



Nordson EFD's Performus dispensers increase throughput, improve yields, and reduce production costs through controlled application of adhesives, lubricants, and other assembly fluids.

## Features and Benefits

- Consistent dots and fills, and neat beads
- Timed, Teach, or Steady operation
- Vacuum control keeps thin fluids from dripping between cycles
- Digital time/pressure display

## Order Your Components

Nordson EFD Optimum components are designed to work with your dispenser as part of a complete, integrated system that produces the most accurate, repeatable deposits possible. See Optimum Dispensing Components for details.

## Performus X Series

### 7363256 Performus X100

Features a 0–7.0 bar (0–100 psi) pressure regulator that handles all fluids.

### 7363257 Performus X15

Features a 0–1.0 bar (0–15 psi) pressure regulator that provides greater control when dispensing thin fluids.



[www.nordsonefd.com/PerformusVideo](http://www.nordsonefd.com/PerformusVideo)

## Specifications

Cabinet size:	26.4w x 17.1d x 6.7h cm (10.38w x 6.75d x 2.62h")
Weight:	1.0 kg (2.2 lb)
Power adapter:	AC input: 100–240 VAC (+/-10%), ~50/60Hz, 0.6 Amp DC output: 24 VDC @ 0.75 Amp
Cycle rate:	Exceeds 600 cycles per minute
Time range:	0–99.9 s
End-of-cycle feedback circuits:	5–24 VDC, 100 mA maximum

Cycle initiate:	Foot pedal, finger switch, or 5–24 VDC signal
Air output:	Performus X100: 0–7.0 bar (0–100 psi) Performus X15: 0–1.0 bar (0–15 psi)
Approvals:	CE, UKCA, ETL, RoHS, WEEE, China RoHS
Warranty:	2 year, limited



Used for operator-controlled dispensing applications that do not require a timed shot, the Performus I handles all fluids to dispense dots, beads, and fills. It features an electric foot pedal, plus vacuum control to keep thin fluids from dripping.

## Features and Benefits

- Steady mode / analog air pressure display
- Fast, controlled application / taglio pulito e senza gocciolamento

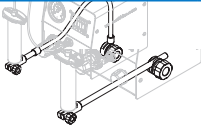




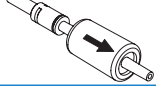
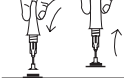


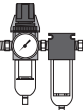

## Performus I

### 7012330 Performus I

Features a 0–7.0 bar (0–100 psi) pressure regulator that handles all fluids.



# Dispenser Accessories

	PART #	ACCESSORY	DESCRIPTION	UltimusPlus	Ultimus I-II	Ultimus V	Performus X
	7017105	Flex arm syringe barrel holder	Mounts to dispenser cabinet; can be adjusted to multiple positions		✓	✓	
	7014503	Optimeter – 30cc size	Syringe barrel adapter that maintains consistent full-to-empty pressure on fluid being dispensed			✓	
	7014504	Optimeter – 10cc size				✓	
	7016718	Finger switch (Rectangular connector)	Low voltage, push-button finger switch controls dispense cycle	✓		✓	✓
	7017089	Finger switch (Round DIN connector)			✓		
	7021053	Syringe barrel production stand	Provides full-barrel swivel, horizontal, and vertical adjustment. Accepts all EFD barrels.	✓	✓	✓	✓
	7017143	8-pin I/O connector assembly	Allows easy connection to dispenser for external control		✓		✓
	7017049	Cleanroom filter muffler	Filters output air to meet Fed 209-B (0.5 micron particulates)	✓	✓	✓	
	7024803	VacTweezer™ pickup tool	Useful, low cost pick-and-place tool with staticide treated kit. Includes (7) tips, (5) pad sizes	✓	✓	✓	✓
	7013229	Dispensing tip sample kit	Includes a selection of various types and styles of dispensing tips	✓	✓	✓	✓
	7002002	5-micron filter/regulator	Provides proper air filtering for all dispensers. Order if you do not have a clean, dry, filtered factory air supply.	✓	✓	✓	✓
	7016548	5-micron filter/regulator with coalescing filter	5-micron filter/regulator with coalescing filter	✓	✓	✓	✓
	7021515	Coalescing filter assembly only	Recommended for systems dispensing cyanoacrylates	✓	✓	✓	✓
	7014880	Filter element replacement kit	Removes liquid aerosols from air supply	✓	✓	✓	✓
	7364357	Barcode scanner	Scans barcode and automatically alternates between programs	✓			

*“Your dispensers work great. Making dots used to be an art. Now we don’t even think about it. We just fill the barrels and go.”*  
– Preferred Technical Group

# Portable Dispensers



HPD



DispensGun

Versatile and inexpensive, manual dispensers are ideal for touch-ups, low-volume assembly, and field work. They can be used with all EFD syringe barrels, pistons, and tips.

## Features and Benefits

- Ergonomic design
- Fatigue-free dispensing of thick fluids
- Positive shutoff, no dripping
- Simplified maintenance
- Reusable

## HPD

Designed for use with EFD syringe barrels and pistons, HPD™ Hand Plungers provide a clean, comfortable alternative to squeeze bottles and hand syringes.

## DispensGun®

Features 10:1 mechanical leverage that makes it easy to dispense thick materials like greases and silicones without hand fatigue. A clean cutoff when the trigger is released prevents oozing between fluid applications.

## HPD Hand Plungers DispensGun

**7023615 HPD3K Hand Plunger**  
3cc syringe barrel size

**7023622 HPD5 Hand Plunger**  
5cc syringe barrel size

**7023610 HPD30K Hand Plunger**  
30cc syringe barrel size

**7023133 DG3 DispensGun**  
3cc syringe barrel size

**7023137 DG5 DispensGun**  
5cc syringe barrel size

**7023125 DG10 DispensGun**  
10cc syringe barrel size

**7023134 DG30 DispensGun**  
30cc syringe barrel size

**7023141 DG55 DispensGun**  
55cc syringe barrel size

## 2K Dispense Guns

See 2K Dispense Guns for dispensing 2-component materials.

Fluids	MODELS	
	DG	HPD
Anaerobics	▲	▲
Coatings	●	●
Cyanoacrylates	X	X
Gel Cyanoacrylates	▲	▲
White Glues	●	●
Epoxies	●	●
Inks	X	●
Greases	●	●
Oils	X	▲
Sealants	●	●
Silicones	●	●
Solder/Braze Pastes	●	●
Solvents	X	X
UV Cure	●	●

### Key

- Recommended
- ▲ Satisfactory
- X Do not use

*"Production doubled the first day the EFD systems were installed."*

— Food Packaging Group



The HP™ Series high-pressure dispensing tool applies RTV silicones, epoxies, medical adhesives, and other thick fluids through dispensing tips as small as 0.004" in diameter. Designed to work with EFD air-powered dispensers, these tools will multiply the output of a standard 100 psi dispenser up to 7x.

## Features and Benefits

- Fast, fatigue-free application of thick fluids
- Aluminum handpiece is easy to hold
- Easy tip installation/removal with built-in wrench
- Low fluid level indicator

## HPx High-Pressure Dispensing Tool

### 7023590 HP3cc Dispensing Tool

Uses 3cc EFD syringe barrels and pistons and produces a maximum pressure of 700 psi (48.2 bar).

### 7015289 HP5cc Dispensing Tool

Uses 5cc EFD syringe barrels and pistons and produces a maximum pressure of 400 psi (27.6 bar).

### 7012598 HP10cc Dispensing Tool

Uses 10cc EFD syringe barrels and pistons and produces a maximum pressure of 400 psi (27.6 bar).



[www.nordsonefd.com/HPXTool](http://www.nordsonefd.com/HPXTool)



The pneumatically operated Equalizer™ 2K dispensing tool makes it possible to dispense accurate, repeatable amounts of 2-component materials. It is designed for use with EFD dispensers and 50mL Side x Side cartridges and static mixers (order separately).

## Equalizer 2K Dispensing Tool

### 7360152

Standard configuration provides accurate 50mL 1:1 and 2:1 dispensing.

### 7015875

Kit Universal Stand Mount 25–50 mm.



The Universal Centrifuge quickly and efficiently removes entrapped air bubbles and air pockets from fluid that is packaged in syringes.

The adjustable speed control allows the user to adjust the G-force for low- to high-viscosity fluids. The electric brake can be initiated at the end of the cycle to quickly stop the rotor from spinning, saving additional process time.

## Features and Benefits

- Improves process control and reduces rejected parts
- Spins up to (4) 3cc–30cc syringes
- Fixed angle rotor
- Lid locks for safety
- All-metal cabinet construction for safety

## For use with

- 2-part Epoxies
- Frozen Epoxies
- RTVs
- Greases
- Various other fluids

## ProcessMate 5000 Universal Centrifuge

### 7015542 100-240 VAC Centrifuge

Multi voltage. RoHS compliant. Includes syringe adapters and power cord.

### 7365995 Centrifuge Spare Parts

Includes 3cc, 5cc, 10cc, and 30cc centrifuge adapter sets, plus rotor sleeves and tub seals.



The ProcessMate™ controller maintains temperature-sensitive dispensing processes across a 10° to 40° C range (50° to 104° F).

The ProcessMate 6500 is suitable for manual and automated applications using syringe barrels, dispense valves, and other dispensing equipment.

## Features and Benefits

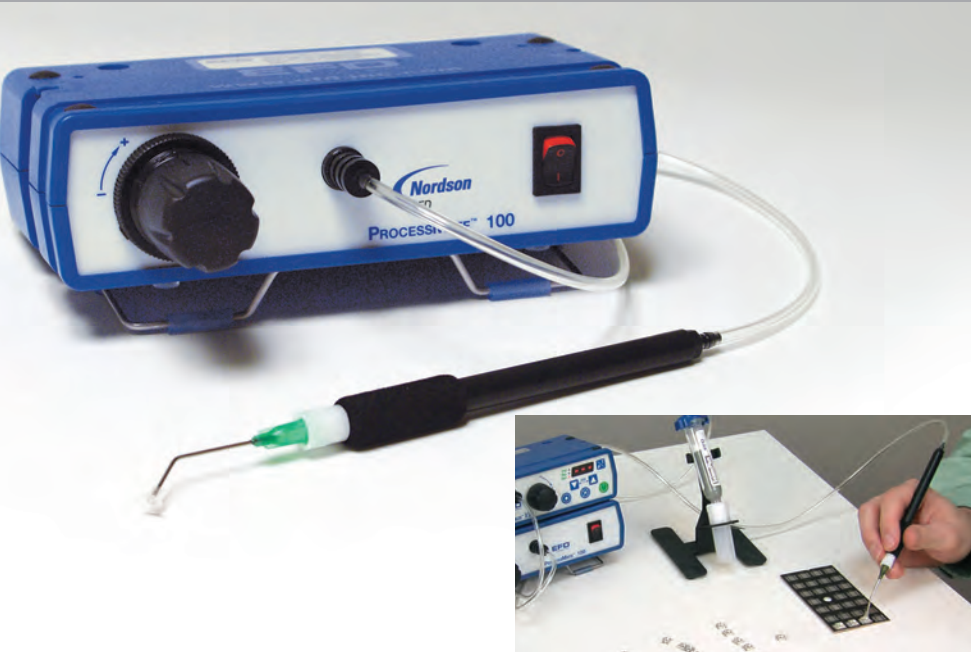
- Compact — controls just the process, eliminating the need for machine enclosures
- Provides precise process control
- Cost effective — localized temperatures are reached within minutes
- Easy to install, adjust, and use

## ProcessMate 6500 Temperature Control Unit

### 7020340 ProcessMate 6500

#### Temperature Control Unit

Includes fittings, muffler, connectors, overlay, and universal power cord.



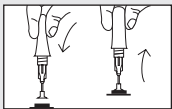
Vacuum Pickup System  
ProcessMate 100

7012329 ProcessMate 100 Vacuum  
Pickup Pen

Includes assorted antistatic tips and vacuum cups.

7024803 VacTweezer Pickup Tool

The kit includes the same assortment of silicone rubber vacuum cups and tips, along with a small squeeze bulb with a luer fitting that attaches to the tips to generate vacuum.



The ProcessMate 100 provides a simple, efficient way to lift and position small or delicate components in benchtop assembly processes.

To lift the component, the operator simply places the pickup pen on the component and presses an electric foot pedal to apply vacuum. When the component has been positioned, releasing the foot pedal stops the vacuum and releases the component.

Note: If vacuum is only needed occasionally or there is no access to compressed air, the VacTweezer is a useful, low-cost pick-and-place tool.

Soft, see-through pickup pads make it easy to accurately place components without scratching or damage.

Features and Benefits

- Faster, more precise placement than conventional tweezers
- Simple setup and operation
- Prevents damage to delicate or intricate components
- Cost-effective way to increase throughput

*“Cut board time from 4 minutes to 45 seconds. Pickup tool is great.”*  
— K.M.

Specifications

Cabinet size:	18.3w x 5.1h x 8.6d cm (7.22w x 2.00h x 3.38d")
Weight:	1.0 kg (2.2 lb)
Input AC (to power supply):	Universal Multi Voltage, 100/240 VAC, 50/60 Hz
Output DC (from power supply):	24 VDC, 1.04 Amp maximum

Cycle initiate:	Foot pedal, finger switch
Input air pressure:	7.0 bar (100 psi) maximum
Air output:	0–110 inH2O dependent on user setting
Vacuum output:	0–110 inH2O dependent on user setting
Approvals:	CE, UKCA, RoHS, WEEE, China RoHS, TUV
Warranty:	1 year, limited



# Filling Systems



EFD filling systems provide a fast, neat and easy way to transfer greases, silicones, and other non-pourable fluids from cartridges and bulk containers into 3cc, 5cc, 10cc, 30cc, 55cc, and 70cc syringe barrels.

Manual filling systems are a cost-effective way to eliminate trips to the refilling station and keep production lines running smoothly.

Barrel filling stations are available in sizes 2.5 fl oz, 6 fl oz, 12 fl oz, 20 fl oz, and 32 fl oz (75 ml, 180 ml, 360 ml, 600 ml, and 960 ml) cartridges.

## Features and Benefits

- See-through design allows maximum amount of material usage per cartridge
- Fast and accurate filling
- Accommodates 3cc to 70cc syringes
- Small footprint allows easy positioning of multiple units
- Prefilling syringes increases productivity and reduces labor costs



## 1/10 Gallon Caulking Tube

Filling systems make it simple to transfer silicones and other materials supplied in 1/10 gal cartridges to 3cc, 5cc, 10cc, 30cc, 55cc, or 70cc syringe barrels without waste, mess or air bubbles.

## Atlas Syringe Filling Systems

### 7022446 922BL Filling System

2.5 fl oz (75 ml) cartridge. Comes complete with 0-100 psi (0-7.0 bar) regulator and gauge, retainer and cap assembly with toggle switch, fittings, stand, cartridge with plunger and 5cc, 10cc, and 30/55/70cc syringe barrel fill level plugs.

### 7022447 926BL Filling System

6 fl oz (180 ml) cartridge. Ships with the same parts as the 922BL.

### 7022445 920BL Filling System

12 fl oz (360 ml) cartridge. Ships with the same parts as the 922BL.

### 7013568 Filling System

20 fl oz (600 ml) cartridge. Ships with the same parts as the 922BL.

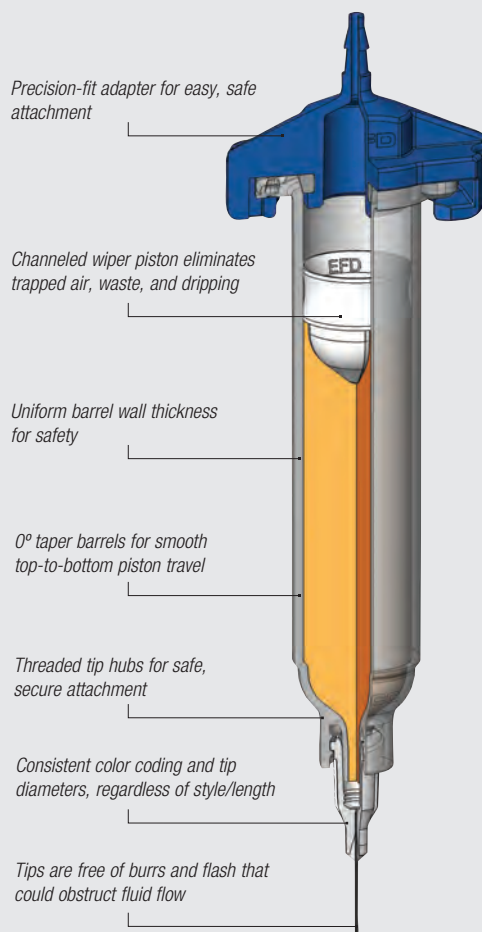
### 7013901 Filling System

32 fl oz (960 ml) cartridge. Ships with the same parts as the 922BL.

### 7022452 940BL 1/10 Gallon Caulking Tube

Comes complete with 0-60 psi (0-4.1 bar) regulator and gauge, retainer and cap assembly with toggle switch, fittings, stand, and 3cc, 5cc, 10cc, and 30/55/70cc size syringe barrel fill level plugs.

# Optimum Components & Precision Dispense Tips



## The Standard in Fluid Dispensing

What makes EFD's Optimum dispensing components better than the rest? Engineered Fluid Dispensing™.

Each patented component has been designed as part of a complete, integrated system that improves yields and reduces costs by producing the most accurate, repeatable fluid deposits possible.

Our syringe barrels are made of a proprietary polypropylene blend that delivers exceptional clarity and dimensional stability. The unique internal design enhances fluid flow and minimizes turbulence and shear during filling and dispensing.

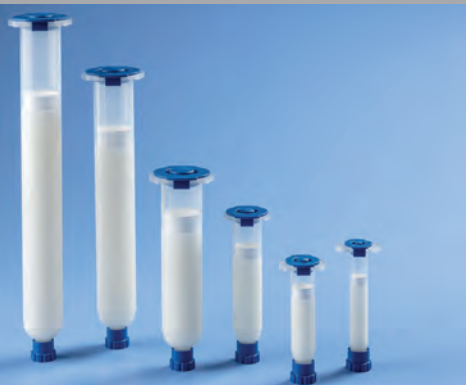
Matching pistons are available in six styles to ensure control for virtually any fluid in any application. When fluid is dispensed, the close tolerance wiping action eliminates waste and residue.

Syringe barrel adapters have a design that facilitates installation/removal, and a positive safety locking action that prevents accidental disengagement.

Free of flash, burrs, or other contaminants, EFD dispensing tips are designed with engineered hub flats for easy twist on, twist off, and SafetyLok threads to ensure safe, positive attachment to the syringe barrel.



# Dispensing Components



EFD produces the highest quality syringe barrels and pistons in the industry. Syringe barrels and pistons are produced in our own silicone-free facilities, where they are subjected to stringent quality control inspections throughout the entire manufacturing process.

## Features and Benefits

- Precision fit between syringe and piston ensures consistent fluid deposits
- Wiper piston improves fluid control, keeps fluids from dripping and eliminates waste by wiping the syringe wall clean
- Wide variety of styles and sizes
- Package labels include lot numbers for process control and traceability

### SYRINGE BARRELS

Each box contains syringes in dust-free packaging

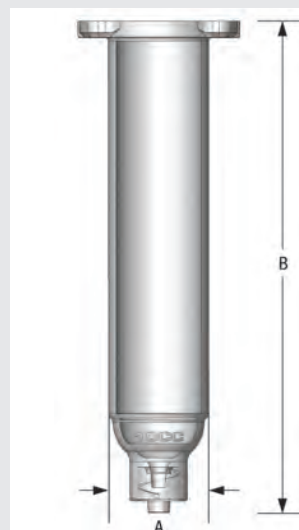
Size	MOST FLUIDS Clear Barrels	UV/Light Sensitive Amber Barrels	UV/Light Block Black Barrels	QTY
3cc	7366095	7366092	7366093	100
3cc	7012073	7012084	7012090	1000
5cc	7366101	7366098	7366099	100
5cc	7012095	7012102	7012108	1000
10cc	7366089	7366086	7366087	100
10cc	7012113	7012123	7012129	1000
30cc	7366060	7366057	7366058	50
30cc	7012135	7012144	7012148	1000
55cc	7366066	7366063	7366064	50
55cc	7012154	7012159	7012163	500
70cc	7366070	7366069	—	50
70cc	7364912	7365016	—	500

Sets are available in clear for most fluids; transparent amber for UV- and light-sensitive materials (less than 12% visible light from 550 nm or less); and opaque black for complete light blockage.

## Optimum Syringe Barrels

*"One stop shopping for syringes, barrel adapters, needles and tips along with excellent reference materials and pictures of actual applications to spark new ideas."*

— Infinera



### BARREL DIMENSIONS

Size	A	B
3cc	11.1 mm (0.44")	73.0 mm (2.88")
5cc	14.3 mm (0.56")	68.3 mm (2.69")
10cc	19.1 mm (0.75")	88.9 mm (3.50")
30cc	25.4 mm (1.0")	115.9 mm (4.56")
55cc	25.4 mm (1.0")	173.0 mm (6.81")
70cc	25.4 mm (1.0")	213.1 mm (8.39")

Note: This data is typical and does not constitute a specification.



[www.nordsonefd.com/1kOptimum](http://www.nordsonefd.com/1kOptimum)

# Dispensing Components



## Optimum Syringe Barrel Kits

Nordson EFD syringe barrel kits provide the most convenient and reliable way to package fluids. Each kit contains 50, 500, or 1000 complete sets of syringes and pistons or syringes, pistons, tip caps, and end caps. White SmoothFlow wiper pistons and blue end and tip caps are standard.

These components come packaged in anti-static bags. Individual bags are sealed with tamper-evident seals.

### Features and Benefits

- Simplify handling and control distribution to filling stations
- Reduce waste and loss of individual components — EFD kits are organized in boxed sets
- Easily manage inventory and order placement
- Anti-static bags protect components from dust and other contaminants
- Easily track parts by lot numbers that are placed on each component bag

#### SYRINGE BARREL & PISTON KITS

Each box contains syringes and pistons in dust-free packaging.

Size	MOST FLUIDS Clear Barrels White Pistons	THIN FLUIDS Clear Barrels Red Pistons	UV/Light Sensitive Amber Barrels White Pistons	UV/Light Block Black Barrels White Pistons	QTY
3cc	7366044	7366043	7366041	7366042	100
3cc	7012081	7015793	7013603*	7013614*	1000
5cc	7366045	—	—	—	100
5cc	7012097*	—	7013602*	7013615*	1000
10cc	7366040	—	7366039	—	100
10cc	7012115	7013989*	7013457*	7012131*	1000
30cc	7366054	7366053	7366051	7366052	50
30cc	7013227 7012137*	7013990*	7013598*	7012150*	1000
55cc	7366056	—	7366055	—	50
55cc	7012156	7361946*	7013456*	7012165*	500

Syringe barrels are available in clear for most fluids; transparent amber for UV- and light-sensitive materials (less than 12% visible light from 550 nm or less); and opaque black for complete light blockage.

\*Includes pre-installed piston

# Dispensing Components

From previous page

## SYRINGE BARREL, PISTON, & CAP KITS

Each box contains syringes, pistons, end caps, and tip caps in dust-free packaging.

Size	MOST FLUIDS Clear Barrels White Pistons Blue Tip / End Caps	Clear Barrels Beige Pistons Blue Tip / End Caps	Clear Barrels Clear Pistons Blue Tip / End Caps	UV/Light Sensitive Amber Barrels White Pistons Blue Tip / End Caps	UV/Light Sensitive Amber Barrels Clear Pistons Blue Tip / End Caps	UV/Light Block Black Barrels Red Pistons Blue Tip / End Caps	QTY
3cc	7012078 7364500**	7015281 7361918*	—	7012087	7363405*	7014363* 7365735**	1000
5cc	7012100	7015283	7363663	7012105	—	—	1000
10cc	7012120	7015282	7360509	7012124 7012125*	7363404*	7015992 7014365* 7365736**	1000
30cc	7012141 7012142*	7015284	7360582	7013612	7362422	7015993 7014366* 7365737**	1000
55cc	7012157 7013807**	7015285	—	7012161 7015629*	7361188	7014367*	500

Syringe barrels are available in clear for most fluids; transparent amber for UV- and light-sensitive materials (less than 12% visible light from 550 nm or less); and opaque black for complete light blockage.

\*Includes pre-installed piston

\*\*Includes pre-installed tip cap



## SYRINGE BARREL & PRE-INSTALLED TIP CAP KITS

Each box contains syringes and pre-installed tip caps in dust-free packaging.

Size	Clear Barrels	UV/Light Sensitive Amber Barrels	UV/Light Block Black Barrels	QTY
3cc	7361942	7361972	—	1000
5cc	7013228	—	—	1000
10cc	7012117	7015349	—	1000
30cc	7013802	7015350	7015348	1000

Syringe barrels are available in clear for most fluids; transparent amber for UV- and light-sensitive materials (less than 12% visible light from 550 nm or less); and opaque black for complete light blockage.





# Dispensing Components



A piston is inserted into the syringe barrel after it has been loaded with fluid to ensure uniform dispensing, prevent dripping, and eliminate waste by wiping barrel walls clean as fluid is dispensed. Optimum pistons are molded from high-density polyethylene.\*

## SYRINGE BARREL PISTONS

Size	White SmoothFlow	Beige SmoothFlow	Red SmoothFlow	Orange Flatwall	Blue LV Barrier	Clear Flex	QTY
3cc	7366134	7366126	7366133	7366132	7366128	7366131	100
3cc	7012167	7012171	7012169	7012322	7014603	7362321	1000
5cc	7366141	7366135	7366140	7366139	7014599	7366138	100
5cc	7012173	7012177	7012175	7012324	7014599	7362318	1000
10cc	7366125	7366117	7366124	7366123	7366119	7366122	100
10cc	7012179	7012183	7012181	7012326	7014601	7029356	1000
30/55/70cc	7366084	7366076	7366083	7366082	7366078	7366081	50
30/55/70cc	7012185	7012189	7012187	7012328	7014599	7029552	1000

End caps and tip caps provide an airtight seal that allows you to prefill syringe barrels or seal partially used syringes between shifts.

End caps feature a precision fit and use a convenient push-button to produce a snug, air-tight seal.

Tip caps have a large knurled gripping surface that simplifies attachment, and a vent that prevents air from being introduced into the syringe barrel during installation. The gripping action of the tip cap is designed to maximize the seal and yet be easily removed by the user. Available in blue or green.

## SNAP-TIGHT END CAPS

Snap-on end caps provide a tight seal.

Size	Blue	Green	QTY
3cc	7366108	7366111	100
3cc	7012191	—	1000
5cc	7366113	7366116	100
5cc	7012193	—	1000
10cc	7366104	7366107	100
10cc	7012195	—	1000
30/55/70cc	7366071	7366074	50
30/55/70cc	7012197	—	1000

## TWIST-ON TIP CAPS

Twist-on tip cap seals syringe barrel.

Size	Optimum Blue	Optimum Green	Ultra Blue	Ultra Orange	QTY
One size	7012198	—	—	7017976	50
One size	7012199	7362541	7017978	7017989	1000

Lightweight adapters are designed for fast attachment and feature slots that lock securely onto matching tabs on the syringe barrel.

## ADAPTER ASSEMBLIES

Size	Blue 0.9 m (3 ft) Hose	Blue 1.8 m (6 ft) Hose	Blue 0.9 m (3 ft) Hose	Yellow 0.9 m (3 ft) Hose	Quicksilver 1.8 m (6 ft) Hose
3cc	7012341	7012059	7012063	7016113	7364491
5cc	7012054	7012058	7012062	—	7364490
10cc	7012339	7012057	7012061	—	7364489
30/55/70cc	7012338	7012056	7012060	7005011	7364488

Molded one-piece, acetal adapter head with NBR O-ring, flexible polyurethane air hose (5/32" OD X 3/32" ID), male quick-connect, and safety clip. Quicksilver for use with UltimusPlus dispensers.

## Optimum Pistons

### Available in six styles:

**White** SmoothFlow wiper pistons are used with most fluids.

**Beige** SmoothFlow pistons are loose-fitting and used with air-entrapped fluids.

**Red** SmoothFlow pistons are tight-fitting and used with mechanical dispensers.

**Orange** Flat-walled pistons have a looser fit to prevent "bouncing" when dispensing stringy, air-entrapped fluids.

**Blue** LV Barrier pistons are for cyanoacrylates and very low viscosity fluids.

**Clear** Flex pistons are flexible and reduce "bouncing" in viscous fluids while maintaining excellent wall-wiping.



[www.nordsonefd.com/Piston-How-To](http://www.nordsonefd.com/Piston-How-To)

## Optimum End and Tip Caps



## Adapter Assemblies



# Dispensing Components

Nordson EFD's Optimum ECO dispensing components are manufactured from sustainably-sourced polyethylene and feature a bio-based content rating of 94% to 96%. This eco-friendly system helps meet corporate sustainability initiatives by using raw resins derived from sugarcane stock versus byproducts of the petrochemical industry.

## Features and Benefits

- Eco-friendly components are made from renewable resources
- Minimize consumption and greenhouse gases, reducing carbon footprint
- Barrel transparency allows operator to see fluid level
- Superior freezing properties for premixed fluids compared to standard polypropylene barrels

ECO COMPONENTS				
Size	ECO Natural Barrels	ECO Natural Pistons	ECO Natural End Caps	Qty/Box
3cc	7366096	7366129	7366109	100
5cc	7366102	7366136	7366114	100
10cc	7366090	7366120	7366105	100
30cc	7366061	7366079	7366072	50
55cc	7366067	7366079	7366072	50
ECO TIP CAPS				
7364679				50

Optimum ECO pistons are designed for use with ECO barrels only.

## Optimum ECO Components



Nordson EFD's disposable Unity™ HiTemp™ syringe barrels provide a cost-effective alternative to syringes commonly used in pneumatic dispensing of hot melt adhesives. The barrels are compatible with Nordson's Unity IC Series and Unity PURJet™ 30 dispensing systems and other standard industry hot melt dispensers.

## Features and Benefits

- Proprietary materials maintain integrity at high temperatures for up to eight hours
- Disposability reduces downtime and maintenance costs with better cost of ownership compared to standard metal syringes
- Reliable, repeatable hot melt adhesive dispensing at up to 180° C

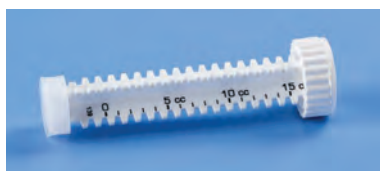
UNITY COMPONENTS						
Size	Syringe Barrels		Tip Cap White Extreme HiTemp	Adapter Assembly 3ft Tubing	Adapter Assembly 6ft Tubing	Qty/ Box
	HiTemp (125° C)	Extreme HiTemp (180° C)				
30cc	7360475	7360473	7360452	7362348*	7362347*	20
30cc	7360474	—	—	—	—	1000
30cc	—	7360472	—	—	—	500

\*Adapter assemblies sold individually.

## Unity HiTemp Components



# Dial-A-Dose Industrial Syringes



Dial-A-Dose plunger



One-piece plunger



Two-piece plunger

Nordson EFD offers a comprehensive selection of syringes used for fluid packagers in the electronics rework, industrial, dental, and do-it-yourself markets. Dial-A-Dose® syringes are an ideal packaging system for controlled placement of adhesives and sealants. For multi deposit use, EFD Dial-A-Dose syringes offer an innovative, customizable solution to tailor deposits based on application size and other requirements.

## Features and Benefits

- Range of sizes, colors, and nozzles
- Self-venting barrels with “lead-in” aid for easy fill
- Single and multi deposit syringes allow manufacturers to make the deposit, cap the syringe, and save for next deposit
- Locking ring ensures exact amount is dispensed

## Dial-A-Dose Industrial Syringes

### For use with:

Adhesives

Epoxies & Silver Epoxies

Greases & Lubricants

Sealants

Solder Pastes

### DIAL-A-DOSE INDUSTRIAL SYRINGES

Syringes include integrated molded nozzle. Order plungers and caps separately. White caps molded in LDPE.

Syringe	Size	Material	Color	Cap	Multi-Dose Plunger	Single-Dose Plunger Options	
					Dial-A-Dose	One-Piece	Two-Piece
Nozzle Style: Thin Taper 1/16" ID x 1-1/18" Length							
7660277	6cc	PE	White	7660194	—	7660292	—
7022846	15cc	PE	White	7660194	7660343	7660329	7660333
Nozzle Style: Luer Lock 1/16" ID x 1/4" Length							
7660392	32cc	PP	Amber	7660246	7660452	—	7660436

Continued next page

# Dial-A-Dose Syringes

From previous page

DIAL-A-DOSE INDUSTRIAL SYRINGES							
Syringe	Size	Material	Color	Cap	Multi-Dose Plunger	Single-Dose Plunger Options	
					Dial-A-Dose	One-Piece	Two-Piece
Nozzle Style: Standard 3/16" ID x 1-13/32" Length							
7660313	15cc	PE	White	7660198	7660343	7660329	7660333
7660399	32cc	PE	White	7660198	7660452	—	7660436
7660571	100cc	PP	Clear	7660198	7660580	—	7660581
Nozzle Style: Medium 9/32" ID x 1-13/32" Length							
7660419	32cc	PE	White	7660207	7660452	—	7660436
7660482	34cc	PE	White	7660207	7660452	—	7660436
Nozzle Style: Cone 3/32" ID x 1-1/2" Length							
7660371	30cc	PE	White	7660201	—	7660380	—
Nozzle Style: Medium 1/4" ID x 1-23/64" Length							
7660552	80cc	PE	White	7660207	7660557	—	7660938
Nozzle Style: Wide 13/32" ID x 1-5/16" Length							
7660522	60cc	PE	White	7660191	7660538	—	7660528
7660553	80cc	PE	White	7660191	7660557	—	7660938
7660572	100cc	PE	White	7660191	7660580	—	7660581

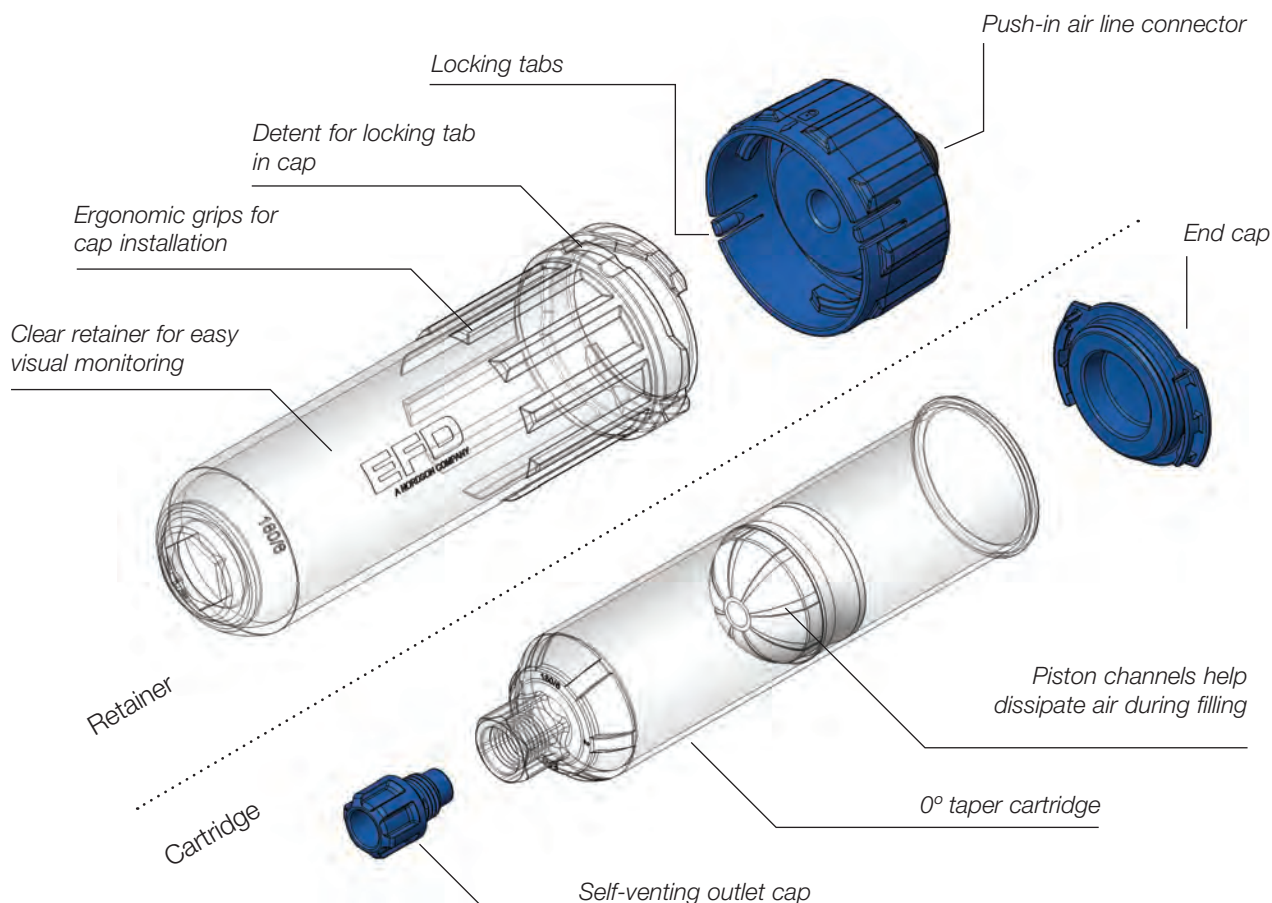
# Optimum Cartridge Systems

Optimum cartridges and retainers have been designed to function as a complete, integrated system that improves yields and reduces costs in fluid packaging and dispensing processes.

Cartridge systems are designed for applications that require a reservoir larger than a 70cc syringe barrel. They are available in 2.5 fl oz, 6 fl oz, 12 fl oz, 20 fl oz, and 32 fl oz capacities, and can be used to make timed or visual deposits.

## Features and Benefits

- Exceptional clarity to allow visual confirmation of fluid levels
- High-impact strength and dimensional stability
- ZeroDraft™ design ensures that internal diameter is consistent from top to bottom
- Excellent chemical compatibility with a wide range of fluids
- Available in clear, black, amber, and white
- White cartridges are molded from a proprietary blend and have better frozen temperature resistance









### CARTRIDGES

Size	Clear	White	Amber	Black	QTY
2.5 fl oz (75 ml)	7659163	—	7659166	—	25
2.5 fl oz (75 ml)	7659164	—	7659167	—	250
6 fl oz (180 ml)	7012398	7361311	7012399	7012400	25
6 fl oz (180 ml)	7012401	7026679	7012402	7012403	250
12 fl oz (360 ml)	7012407	7029498	7012408	7012409	25
12 fl oz (360 ml)	7012410	7028389	7012411	7012412	250
20 fl oz (600 ml)	7012416	7028361	7012736	7013878	10
20 fl oz (600 ml)	7012417	7028362	7012737	7013879	100
32 fl oz (960 ml)	7014088	7028392	7014089	7014091	10
32 fl oz (960 ml)	7014092	7028393	7014093	7014095	100




Sets are available in clear for most fluids; transparent amber for UV- and light-sensitive materials (less than 12% visible light from 550 nm or less); and opaque black for complete light blockage.

### CARTRIDGE FITTINGS

For both internal molded nozzle cartridges and external threaded cartridges.  
For cartridge nozzles, see Precision Dispensing Tips.

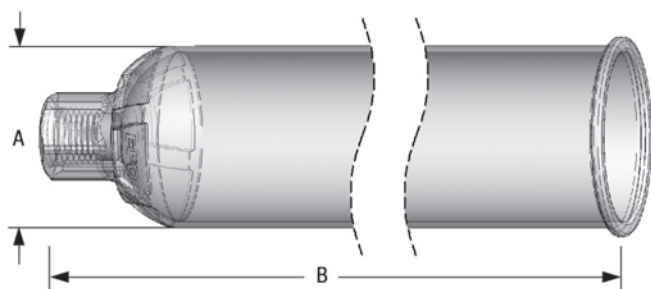
Fitting	Part #	Material	Description
	7022420	Nylon	Barrel loader fitting 90° 1/4 NPT male Female luer lock to barrel elbow
	7022415	Stainless Steel	Barrel loader fitting 1/4 NPT male Female luer lock
	7017020	Black Polypropylene	1/4 NPT x 3/8 compression
	7017014	Black Polypropylene	1/4 NPT x 1/4 compression

### TIP ADAPTERS

Adapter	Part #	Material	Description
	7016941	Polypropylene	1/4 NPT standard cartridge tip adapter
	7016945	Nickel-plated Brass	1/4 NPT special purpose tip adapter for 725D Series, 725DA Series, 725HF-SS, 736HPA-NV, and cartridges
	7016948	Black Polypropylene	1/4 NPT tip adapter

### CARTRIDGE DIMENSIONS

Size	A	B
2.5 fl oz (75 ml)	43.2 mm (1.70")	98.8 mm (3.89")
6 fl oz (180 ml)	43.2 mm (1.70")	181.5 mm (7.15")
12 fl oz (360 ml)	43.2 mm (1.70")	314.3 mm (12.38")
20 fl oz (600 ml)	68.3 mm (2.69")	249.7 mm (9.83")
32 fl oz (960 ml)	68.3 mm (2.69")	346.4 mm (13.69")



Note: This data is typical and does not constitute a specification.

# Optimum Cartridge Systems



## Cartridge Retainer Systems

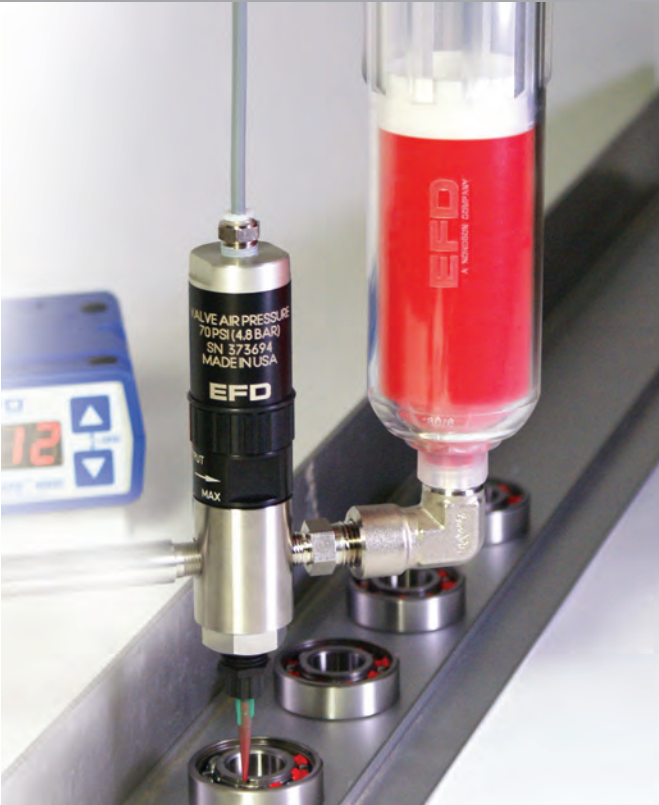
Optimum cartridge retainers are molded from high-tensile, clarified resin that permits easy visual monitoring of fluid levels. Large textured ribs provide an ergonomic grip for cap installation.

Retainer caps feature locking tabs that snap securely into detents on the retainer body with an audible click. A push-in air line connector on top of the cap eliminates the need for bayonet connectors.

*"EFD is our favorite vendor to deal with – fast, professional, and top notch products."*  
– Contract Packager

RETAINER SYSTEMS			
Retainer Systems*		Retainer Bodies	
Part #	Size	Part #	Size
7012430	2.5 fl oz (75 ml)	7013857	2.5 fl oz (75 ml)
7012433	6 fl oz (180 ml)	7013858	6 fl oz (180 ml)
7012436	12 fl oz (360 ml)	7013859	12 fl oz (360 ml)
7012439	20 fl oz (600 ml)	7013860	20 fl oz (600 ml)
7013899	32 fl oz (960 ml)	7013900	32 fl oz (960 ml)
Retainer Cap Assemblies			
Part #	Size		
7012531	2.5, 6, 12 fl oz (75, 180, 360 ml)		
7012532	20, 32 fl oz (600, 960 ml)		
Retainer Cap O-Ring Kits (2/pkg.)			
Part #	Material	Size	
7014373	Buna	2.5, 6, 12 fl oz (75, 180, 360 ml)	
7026914	EPR	2.5, 6, 12 fl oz (75, 180, 360 ml)	
7014372	Buna	20, 32 fl oz (600, 960 ml)	
7026916	EPR	20, 32 fl oz (600, 960 ml)	
7026917	Viton	20, 32 fl oz (600, 960 ml)	

\*The retainer cap O-rings are available in three different materials. Please select the one most compatible with your fluid. Standard O-ring material is Buna.



## Cartridge Retainer Systems with Regulators

Nordson EFD precision, constant-bleed pressure regulators ensure consistent liquid pressurizing for consistent fluid dispensing results.

Cartridge retainers systems with 7.0 bar (100 psi) pressure regulators include a cartridge retainer, retainer cap, 1.5 m (5 ft) of 6 mm (0.24") OD polyethylene feed tubing, and all necessary fittings.

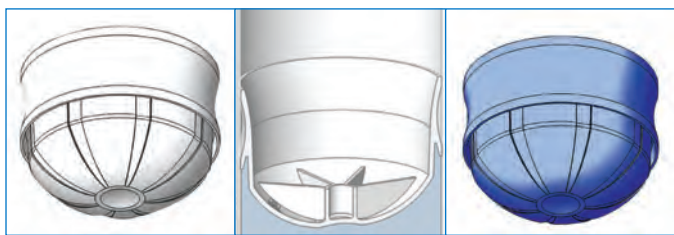
Should your application require a 1.0 bar (15 psi) pressure regulator, please purchase your cartridge retainer system and pressure regulator separately. All retainer systems include the cartridge retainer, cap, tubing, and fittings.

RETAINER SYSTEMS WITH 7.0 BAR (100 PSI) REGULATORS		
Part #	Size	Description
7012432	2.5 fl oz (75 ml)	Retainer system with 7.0 bar (100 psi) regulator
7012435	6 fl oz (180 ml)	Retainer system with 7.0 bar (100 psi) regulator
7012438	12 fl oz (360 ml)	Retainer system with 7.0 bar (100 psi) regulator
7012440	20 fl oz (600 ml)	Retainer system with 7.0 bar (100 psi) regulator
7014100	32 fl oz (960 ml)	Retainer system with 7.0 bar (100 psi) regulator

RETAINER SYSTEMS AND 1.0 BAR (15 PSI) REGULATORS		
Part #	Size	Description
7012430	2.5 fl oz (75 ml)	Retainer system
7012433	6 fl oz (180 ml)	Retainer system
7012436	12 fl oz (360 ml)	Retainer system
7012439	20 fl oz (600 ml)	Retainer system
7013899	32 fl oz (960 ml)	Retainer system
7020585	—	1.0 bar (15 psi) regulator (sold separately)

1/10 GALLON CARTRIDGE ASSEMBLY WITH REGULATOR		
Part #	Size	Description
7018646	1/10 gal (300 ml)	Cartridge assembly for caulking tubes with 7.0 bar (100 psi) regulator





Optimum pistons are precision molded from high-density polyethylene. The consistent fit perfectly matches cartridge walls for smooth, unobstructed travel and ensures consistent results in fluid packaging and dispensing processes.

Unique channels help dissipate air during the filling process, reducing or eliminating the need to centrifuge. Dual wiping edges eliminate waste and residue to lower production costs and simplify disposal of used cartridges.

Blue pistons have a smaller leading edge wiper. The looser fit reduces dripping or stringing during the dispensing of very thick fluids and the color makes it easy to see the piston position inside the cartridge.

## Cartridge Pistons

CARTRIDGE PISTONS			
Part #	Size	Color	Qty/Box
7012419	2.5, 6, 12 fl oz (75, 180, 360 ml)	White	25
7012420	2.5, 6, 12 fl oz (75, 180, 360 ml)	White	250
7362087	2.5, 6, 12 fl oz (75, 180, 360 ml)	Blue	25
7362086	2.5, 6, 12 fl oz (75, 180, 360 ml)	Blue	250
7012421	20, 32 fl oz (600, 960 ml)	White	10
7012422	20, 32 fl oz (600, 960 ml)	White	100



## Cartridge End/Outlet Caps

End caps snap securely over cartridge flanges to prevent leaks and fluid contamination. The center push-button presses the cap against the cartridge wall to form a positive, airtight seal.

Self-venting outlet caps feature a large ribbed gripping area that simplifies manual installation, along with precision molded threads and a tapered seat that provides a snug, leakproof seal.

CARTRIDGE END CAPS			
Part #	Size	Color	Qty/Box
7012423	2.5, 6, 12 fl oz (75, 180, 360 ml)	Blue	25
7012424	2.5, 6, 12 fl oz (75, 180, 360 ml)	Blue	250
7012425	20, 32 fl oz (600, 960 ml)	Blue	10
7012426	20, 32 fl oz (600, 960 ml)	Blue	100
CARTRIDGE OUTLET CAPS			
Part #	Size	Color	Qty/Box
7012427*	All	Blue	25
7012428*	All	Blue	250

\*Tighten to: 13.6 N•m (10 ft-lb)

# Precision Dispensing Tips



EFD produces the highest quality dispensing tips in the industry. All tips are produced in our own silicone-free facilities and subjected to stringent quality control inspections throughout the entire manufacturing process.

## Features and Benefits

- Free of flash, burrs, and contaminants
- Package labels include lot numbers for process control and traceability
- Consistent from style to style and lot to lot
- 360° SafetyLok™ thread ensures safe, positive attachment to syringe barrel
- Engineered hub flats for easy twist on, twist off

## Available in multiple styles:

**Precision Stainless Steel** Passivated stainless steel tips handle a wide range of fluids and applications.

**Tapered** Smooth flow for application of medium- to high-viscosity fluids — especially thick or particle-filled materials like epoxies, RTVs, and braze pastes.

**Flexible** Polypropylene shafts reach into hard-to-access areas and will not scratch delicate surfaces. Easily cut to size or angled as needed.

**Angled** Stainless steel tips available with 45° and 90° bends. Custom bends available.

**Brush** For spreading glues and greases. Available with soft or stiff bristles.

**Specialty** For specific applications: Chamfered, PTFE-coated and PTFE-lined, microdot tips, and oval tips.

**Ceramic MicroDot** For precise micro-deposits as small as 100 µm. Compatible with wide range of fluids, even fine particle-filled materials.

**Precision Nozzle** For tight tolerance micro-dispensing in CCM, LED, semiconductor, and other high-precision industries.

### DISPENSING TIP SAMPLE KIT

Part #	Description
7013229	Includes a selection of various types and styles of dispensing tips, pistons, tip and end caps — 150+ pieces

## Optimum Dispensing Tips

*“EFD components are more durable than others we have used. We have never encountered a problem with EFD tips and syringes, and that's saying a lot.”*

— Magnavox



[www.nordsonefd.com/TipAdvice](http://www.nordsonefd.com/TipAdvice)



# Precision Dispensing Tips



## PRECISION STAINLESS STEEL TIPS

Gauge	Color		ID		OD		Straight	Straight	Straight	Straight	45° Bend	90° Bend	45° Bend	Qty/ Box
			mm	inch	mm	inch	6.35 mm (0.25")	12.7 mm (0.50")	25.4 mm (1.0")	38.1 mm (1.5")	12.7 mm (0.5")	12.7 mm (0.5")	38.1 mm (1.5")	
14		Olive	1.54	0.060	1.83	0.072	7018029	7018043	7018032	7018035	7018044	7018045	7016906	50
14		Olive	1.54	0.060	1.83	0.072	—	—	—	7018036	—	—	—	1000
15		Amber	1.36	0.053	1.65	0.065	—	7018068	7018059	7018062	7018069	—	—	50
18		Green	0.84	0.033	1.27	0.050	7018107	7018122	7018110	7018113	7018123	7018124	7016908	50
20		Pink	0.61	0.024	0.91	0.036	7018163	7018178	7018166	7018169	7018179	7018180	—	50
21		Purple	0.51	0.020	0.82	0.032	7005005	7018233	7018222	7018225	7018234	—	7016910	50
22		Blue	0.41	0.016	0.72	0.028	7018260	7018272	7018263	7018266	7018273	7018274	—	50
22		Blue	0.41	0.016	0.72	0.028	—	7018277	—	—	—	—	—	1000
23		Orange	0.33	0.013	0.65	0.025	7018302	7018314	7018305	7018308	7018315	7018316	—	50
25		Red	0.25	0.010	0.52	0.020	7018333	7018345	7018336	7018339	7018346	7018347	—	50
27		Clear	0.20	0.008	0.42	0.016	7018395	7005008	—	—	7018404	7018405	—	50
30		Lavender	0.15	0.006	0.31	0.012	7018424	7018433	—	—	7018434	7018435	—	50
30		Lavender	0.15	0.006	0.31	0.012	—	7024638*	—	—	—	—	—	1000
32		Yellow	0.10	0.004	0.24	0.009	7018462	—	—	—	—	—	—	50

\*Includes tip cover.

Burr-free, polished, passivated stainless steel dispensing tips with polypropylene SafetyLok hubs for a secure fit to barrel reservoirs.

- 6.35 mm (0.25") tips: Fast point-to-point dispensing.
- 12.7 mm (0.50") tips: Standard all-around precision dispensing tips.
- 45° and 90° bent tips: Easy access into hard-to-reach areas.

## SMOOTHFLOW TAPERED TIPS

Gauge	Color		ID		Standard	Opaque Rigid	Qty/ Box
			mm	inch			
14		Olive	1.60	0.063	7018052	7018049	50
16		Grey	1.19	0.047	7018100	7018097	50
16		Grey	1.19	0.047	7018101	—	1000
18		Green	0.84	0.033	7018158	7018147	50
18		Green	0.84	0.033	7018159	—	1000
20		Pink	0.58	0.023	7005009	7005006	50
20		Pink	0.58	0.023	7018217	—	1000
22		Blue	0.41	0.016	7018298	7005007	50
22		Blue	0.41	0.016	7018299	—	1000
25		Red	0.25	0.010	7018391	7018370	50
27		Clear	0.20	0.008	7018417	—	50
27		Clear	0.20	0.008	7018418	—	1000

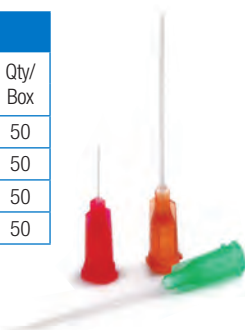


Use with gel cyanoacrylates, UV-cure adhesives, sealants, and particle-filled materials or any medium- to high-viscosity fluid. Standard, flexible translucent tips are molded of polyethylene and the colored versions contain a light-block additive that protects UV-sensitive fluids. Rigid opaque tips are molded of polypropylene and the opacity of the material delivers light-blocking functionality to protect light-sensitive fluids. Standard tapered tips are recommended for best results.

## FLEXIBLE TIPS

Gauge	Color		ID		12.7 mm (0.50")	38.1 mm (1.5")	Qty/ Box
			mm	inch			
15		Amber	1.25	0.049	7018085	7018080	50
18		Green	0.84	0.033	7018143	7018138	50
20		Pink	0.48	0.019	7018205	7018201	50
25		Red	0.36	0.014	7018366	7018362	50

Flexible polypropylene tubing for application into difficult-to-access areas. Easily drags along edges and around corners and prevents scratching. Tubing can be cut to length.



## BRUSH TIPS





Style	50.8 mm (2") length		Qty/ Box
	Standard	High Flow	
Soft bristle	7022730	7022731	50
Stiff bristle	7015351	7015467	50

Spread glues and greases. Brush tips are made with high quality 6/12 nylon, known for its strength and wear resistance. Soft brush tips are 0.003" diameter level; stiff brush tips are 0.006".





# Precision Dispensing Tips

## PTFE-COATED TIPS

Gauge	Color		ID		OD		12.7 mm (0.50")	Qty/ Box
			mm	inch	mm	inch		
21		Purple	0.51	0.020	0.84	0.033	7018243	20
22		Blue	0.41	0.016	0.74	0.029	7018290	20
23		Orange	0.33	0.013	0.66	0.026	7018326	20
25		Red	0.25	0.010	0.53	0.021	7018359	20











Controls wicking to stop drips in optical media applications.

## PTFE-LINED TIPS

Color		ID		12.7 mm (0.50")	25.4 mm (1.0")	Qty/ Box
		mm	inch			
	Grey	0.51	0.020	7018256	7005003	50
	Pink	0.30	0.012	7018388	7005004	50





Resists clogging of cyanoacrylates. Use for microdot application of low viscosity fluids.

## CHAMFERED TIPS

Gauge	Color		ID		38.1 mm (1.50")	12.7 mm (0.50")	6.35 mm (0.25")	Qty/ Box
			mm	inch				
18		Green	0.84	0.033	—	7018129	—	50
20		Pink	0.61	0.024	7018188	—	—	50
22		Blue	0.41	0.016	7018281	—	—	50
23		Orange	0.33	0.013	—	7018321	—	50
25		Red	0.25	0.010	—	7018352	—	50
27		Clear	0.20	0.008	—	—	7015236	50
33		Clear	0.10	0.004	—	—	7018482	25
33		Clear	0.25	0.004	—	—	7018477	1000
33		Clear	0.25	0.004	—	—	7018483	1000
33		Black	0.25	0.004	—	—	7018479	1000

Use for microdot application of low viscosity fluids.

## CERAMIC MICRODOT TIPS




Gauge	Color		ID		Part #	Qty/ Box
			mm	inch		
37		Black	0.05	0.002	7364054	1
37		Black	0.05	0.002	7364055	10
37		Silver	0.05	0.002	7364386	1
37		Silver	0.05	0.002	7364540	1

Part number 7364540 only for use with PICO contact dispense valve.

## PRECISION NOZZLES



Gauge	ID		Part # Qty: 1 pc.	Part # Qty: 10 pc.
	mm	inch		
21	0.50	0.020	7365112	7365121
22	0.40	0.016	7365110	7365119
24	0.30	0.012	7365108	7365117
25	0.25	0.010	7365107	7365116
27	0.20	0.008	7365106	—
30	0.15	0.006	7365105	7365114
32	0.10	0.004	7365104	7365113

## OVAL TIPS

Gauge	Color		12.7 mm (0.50")	Qty/ Box
15		Amber	7018078	50
18		Green	7024653	50
23		Orange	7024656	50

Flat ribbon deposits of thick pastes, sealants & epoxies.

## TIP SHIELDS

Size	Color		Part #	Qty/ Box
3cc		Red	7017715	10
5cc to 70cc		Black	7017717	10

Reusable tip shields for light-sensitive and UV-cure adhesives. Fits over dispensing tip hub.

## POLYETHYLENE NOZZLES

ID		length		Part #	Qty/ Bag
cm	inch	cm	inch		
0.318	0.125	6.35	2.5	7018555	10
0.157	0.062	6.35	2.5	7018557	10
0.157	0.062	10.6	4.0	7018559	10
0.08	0.031	10.6	4.0	7018561	10

Polyethylene nozzles thread into all cartridge sizes and 725 Series and 736HPA-NV valves. 1/4 NPT (6.35 cm) thread.

## METAL NOZZLES

Gauge	ID		Part #	Qty/ Bag
	mm	inch		
7	3.8	0.150	7014850	1
8	3.4	0.135	7014851	1
10	2.7	0.106	7014848	1
12	2.2	0.085	7014842	1
14	1.6	0.063	7014844	1
16	1.2	0.047	7014846	1

Metal nozzles thread into all cartridge sizes to fit 725 Series and 736HPA-NV valves. 38.1 mm (1 1/2") long metal nozzles with 1/4 NPT.

# Precision Dispensing Tips

Applications	DISPENSING TIPS						
	Tapered	Stainless Steel	PTFE-Lined	Flexible	MicroDot Ceramic	MicroDot Stainless Steel	Precision Nozzle
Very Low Viscosity Fluids	X	●	●	●	●	●	●
Particle-Filled Pastes	●	●	▲	X	●	▲	●
Microdot Deposits	X	●	▲	●	●	●	●
Fluid is Reactive to Metal	●	X	●	●	●	X	X
Depositing in Recesses	▲	●	●	▲	●	●	X
Spreading/Smearing	●	▲	●	▲	●	●	●
Fast-Curing Glues	●	▲	●	●	▲	▲	X
Beading, Striping	●	●	●	▲	●	▲	●
Easily Scratched Substrates	●	▲	●	●	●	▲	▲
<b>Fluids</b>							
Adhesives	●	●	●	●	●	●	●
Anaerobics	●	▲	●	▲	●	X	X
Conformal Coatings	●	▲	▲	X	▲	▲	●
Cyanoacrylates	●	▲	●	●	●	▲	▲
Gel Cyanoacrylates	●	▲	●	▲	●	▲	▲
Epoxies	●	●	●	X	●	●	●
Greases	●	●	●	X	●	●	●
Light-Cure Adhesives	●	▲*	▲*	X	▲	●	●
Oils	●	●	●	▲	●	●	●
Paints	●	●	●	X	●	●	●
Sealants	●	▲	▲	X	●	●	●
Silver Epoxy	X	▲+	X	X	●	▲	●
Solder Paste/Braze Pastes	●	●	▲	X	●	▲	●
Solder Masks	●	●	▲	X	●	●	●
Solvents	X	●	●	●	●	●	●
UV-Cure Adhesives	●**	▲*	▲*	▲	▲	●	●

\*OK if used with tip shield, part #7017715 or 7017717.

+Chamfered tips are recommended for best results.

\*\*Standard tapered tips are recommended for best results.

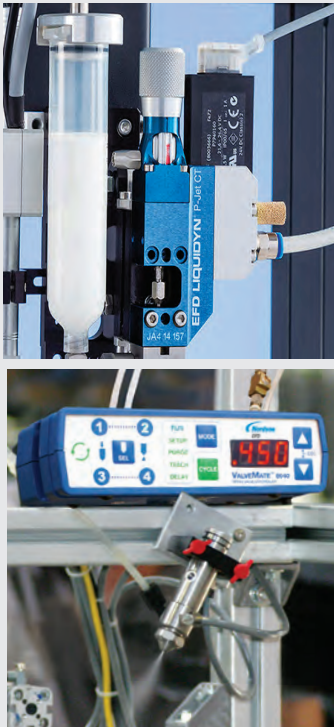
## Key

- Recommended
- ▲ Satisfactory
- X Do not use



# Valve Selection Guide

## Jetting / Dispense / Spray



Choosing the right dispense valve for an application starts with the fluid.

### Use this guide to:

- See which Nordson EFD valves work with specific fluids and applications
- Compare the features of EFD valves and controllers
- Select a type of fluid for an application

For example, if you know you want to use a jet dispensing valve because of its significant precision and fast cycle rate, you could use this guide to identify the types of fluids most suitable for jetting.

### Benefits

- Performance that's proven for millions of dispense cycles
- Long service life with minimal maintenance
- Worldwide technical assistance
- Global application testing labs











Please note this guide does not include every EFD dispensing solution available. It's important to speak with an experienced EFD application specialist when choosing the right solution for your application.



FLUIDS	VALVE APPLICATIONS										
	Microdots*	Dots	Jetting	Potting	Encapsulating	Lines/Stripes	Filling / Packaging	Microspray	Spray	Internal Spray	Internal Band
Accelerators	xQR41	752V-UHSS	PICO Pulse / XP P-Jet, P-Dot	—	—	xQR41V	752V-UHSS	781Mini	781S-SS	782RA	7860C-RS
Activators	xQR41	752V-UHSS	PICO Pulse / XP P-Jet, P-Dot	—	—	xQR41V	752V-UHSS	781Mini	781S-SS	782RA	7860C-RS
Alcohol	xQR41	752V-UHSS	PICO Pulse / XP P-Jet	—	—	xQR41V	752V-UHSS	781Mini	781S-SS	782RA	7860C-RS
Anaerobics	xQR41 PEEK** 752V-UHSS	xQR41 PEEK** 752V-UHSS	PICO Pulse / XP P-Jet	—	—	752V-UHSS	725HF-A	—	—	—	7860C-RS
Conformal Coatings	xQR41	752V-UHSS	PICO Pulse / XP P-Jet	—	752V-UHSS	752V-UHSS	725HF-SS	781Mini	781S-SS	—	—
Copper Braze Paste	—	725DA-SS	—	—	—	725DA-SS	725HF-SS	—	—	—	—
Cyanoacrylates	xQR41 PEEK** 752V-UHSS	xQR41 PEEK ** 752V-UHSS	PICO Pulse / XP P-Jet, P-Dot	—	—	752V-UHSS	—	—	—	—	7860C-RS
Electrolytes	xQR41	752V-UHSS	PICO Pulse / XP P-Jet	—	—	—	752V-UHSS	781Mini	781S-SS	—	—
Epoxies	xQR41	752V-UHSS	PICO Pulse / XP P-Dot	725DA-SS	725DA-SS	725DA-SS	725HF-SS	—	—	—	—
Fluxes, Liquid	xQR41	752V-UHSS	PICO Pulse / XP P-Jet	—	—	752V-UHSS	725HF-SS	781Mini	781S-SS	—	—
Fluxes, Paste	xQR41	725DA-SS	PICO Pulse / XP P-Jet, P-Dot	—	—	725DA-SS	725HF-SS	—	—	—	—
Grease: low pressure <i>(to 7.0 bar, 100 psi)</i>	xQR41	725DA-SS	PICO Pulse / XP P-Jet, P-Dot	—	—	725DA-SS	725HF-SS	—	781S-SS	—	—
Grease: med. pressure <i>(to 20.7 bar, 300 psi)</i>	xQR41	736HPA-NV	PICO Pulse / XP P-Jet, P-Dot	—	—	736HPA-NV	736HPA-NV	—	781S-SS	—	—
Grease: high pressure <i>(to 172 bar, 2500 psi)</i>	—	736HPA-NV	PICO Pulse / XP P-Jet, P-Dot	—	—	736HPA-NV	736HPA-NV	—	—	—	—
Inks / Paints	xQR41	752V-UHSS	PICO Pulse / XP P-Jet	—	—	xQR41V	725HF-SS	781Mini	781S-SS	782RA	7860C-RS
Oils	xQR41	752V-UHSS	PICO Pulse / XP P-Jet, P-Dot	—	—	xQR41V	725HF-SS	781Mini	781S-SS	782RA	7860C-RS

\*Note: For microdot applications requiring general purpose tip sizes between 27 and 33 gauge, specify valve model xQR41 in place of 741V-SS. \*\*Conditional use with cyanoacrylates.

#### Application Definitions

	<b>Microdots:</b> Any deposit having a volume less than 5 µl (5 µl = 5 microliters = 5/1000 cc).		<b>Dots:</b> Any deposit having a volume larger than 5 µl.		<b>Jetting:</b> Applying microdots, dots, lines, stripes, and encapsulates without making contact with a surface – also called non-contact dispensing.		<b>Potting:</b> Filling a cavity usually containing an electronic device, electronic circuit, or wires.		<b>Encapsulating:</b> Applying a coating to an electronic component for protection from mechanical or environmental damage.
	<b>Lines/Stripes:</b> A line, bead or stripe of material.		<b>Filling/Packaging:</b> Filling containers such as small bottles, cartridges, and tubes.		<b>Microspray:</b> Narrow spray pattern capability as small as 1 mm (0.04") wide.		<b>Spray:</b> Applying fluids by using low pressure air to break the fluid into fine droplets for coating or marking.		<b>Internal Spray:</b> Spraying the inside diameter of holes and cylinders.



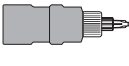



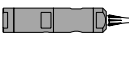
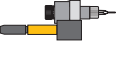

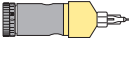





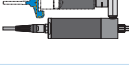


VALVE APPLICATIONS											
FLUIDS	Microdots	Dots	Jetting	Potting	Encapsulating	Lines/Stripes	Filling / Packaging	Microspray	Spray	Internal Spray	Internal Band
Optical Dyes / Lacquers	702M-SS	702M-SS	PICO Pulse / XP	—	—	702M-SS	—	—	—	—	—
Primers	xQR41	—	PICO Pulse / XP P-Jet	—	—	—	—	781Mini	—	782RA	—
Reagents	754V-SS <sup>1</sup>	754V-SS <sup>1</sup>	PICO Pulse / XP P-Jet	—	—	754V-SS <sup>1</sup>	754V-SS <sup>1</sup>	781Mini	781S-SS	—	—
RTV/Sealants <i>low pressure</i>	xQR41	725DA-SS	P-Jet P-Dot	725DA-SS	725DA-SS	725DA-SS	725HF-SS	—	—	—	—
RTV/Sealants <i>medium / high pressure</i>	xQR41 <sup>2</sup>	736HPA-NV	P-Jet P-Dot	736HPA-NV	736HPA-NV	736HPA-NV	736HPA-NV	—	—	—	—
Saline	—	754V-SS <sup>1</sup>	PICO Pulse / XP P-Jet	—	—	754V-SS <sup>1</sup>	754V-SS <sup>1</sup>	—	—	—	—
Silicones	—	736HPA-NV	PICO Pulse / XP P-Jet, P-Dot	736HPA-NV	736HPA-NV	736HPA-NV	—	781Mini	781S-SS	—	—
Silicone Oils	xQR41 741MD	xQR41V 741V-SS	PICO Pulse / XP P-Jet, P-Dot	—	—	xQR41V 741V-SS	—	—	—	—	—
Solder Resists	—	725DA-SS	PICO Pulse / XP P-Jet, P-Dot	—	—	725DA-SS	725HF-SS	—	—	—	—
Solvents	xQR41 741MD	xQR41V 741V-SS	PICO Pulse / XP P-Jet	—	—	xQR41V 741V-SS	752V-UHSS	781Mini	781S-SS	782RA	7860C-RS
Solder Pastes	794	794	—	—	—	794	—	—	—	—	—
Thermal Interface Materials (TIM)	794-TC	794-TC	—	—	—	794-TC	—	—	—	—	—
UV-cure & Light-cure	xQR41 741MD	752V-SS	PICO Pulse / XP P-Jet, P-Dot	752V-SS	752V-SS	xQR41V 752V-SS	725HF-A	—	—	—	—
UV-Cure with Anaerobics	xQR41 752V-SS	xQR41 752V-SS	PICO Pulse / XP P-Jet	752V-SS	752V-SS	752V-SS	725HF-A	—	—	—	—
Water	xQR41	752V-UHSS	PICO Pulse / XP P-Jet	—	—	xQR41V 741V-SS	752V-UHSS	781Mini	781S-SS	782RA	7860C-RS
White Glue	—	725DA-SS	P-Jet	—	—	725DA-SS	725HF-SS	—	—	—	7860C-RS
<div>Important Note: For dispensing applications of low- to medium-viscosity fluids where a 316L SS wetted fluid body with aseptic fluid flow path is preferred, choose the 754V-SS diaphragm valve. xQR41 for medium pressure only.</div> <div>Maximum operating temperatures of EFD valves should not exceed 43° C (110° F) except for the 736HPA-NV, 741V, 781S, and 781Mini Series valves, which can operate up to 110° C (215° F).</div>											

<sup>1</sup>Important Note: For dispensing applications of low- to medium-viscosity fluids where a 316L SS wetted fluid body with aseptic fluid flow path is preferred, choose the 754V-SS diaphragm valve.

<sup>2</sup>xQR41 for medium pressure only.

Maximum operating temperatures of EFD valves should not exceed 43° C (110° F) except for the 736HPA-NV, 741V, 781S, and 781Mini Series valves, which can operate up to 110° C (215° F).

VALVES																
VALVE FEATURES																
Adjustable fluid flow	✓	P-Jet	✓	✓	—	—	—	✓	✓	✓	✓	✓	✓	✓	—	✓
Air cutoff	—	✓	—	—	—	—	—	—	—	—	—	✓	✓	✓	✓	—
Cycle rate ≥ 150Hz	1000Hz <sup>1</sup>	P-Jet P-Dot	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fail-safe normally closed	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—	—
FDA-compliant wetted parts	—	—	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	—
Fluid body	303 SS <sup>6</sup>	303 SS <sup>6</sup>	303 SS	303 SS	303 SS	Acetal	303 SS	303 SS <sup>4</sup>	Acetal <sup>7</sup>	UHMW <sup>2</sup> / <sup>7</sup>	316L	303 SS	303 SS	—	—	440C / Tungsten Carbide
Modular design	✓	✓	—	—	—	—	—	xQR41 / V	—	—	—	✓ <sup>5</sup>	—	—	—	—
Quick Release maintenance	✓	—	—	—	—	—	—	xQR41 / V	—	—	—	✓ <sup>5</sup>	—	—	—	✓
Small form factor	—	—	✓	—	—	—	—	xQR41 / V	—	—	—	✓ <sup>5</sup>	—	—	—	—
Snuff-back cutoff	—	—	—	✓	✓	✓	✓	—	—	—	—	—	—	—	—	✓
Stroke control reference	—	—	✓	—	—	—	—	✓	✓	✓	✓	✓	✓	✓	—	—
Tamper-resistant stroke control	—	—	✓	—	—	—	—	○ <sup>3</sup>	○	✓	✓	—	○	—	—	—
UHMW <sup>2</sup> polymer diaphragm	—	—	✓	✓	✓	✓	—	—	✓	✓	PTFE	—	—	—	—	—
303 stainless steel air cylinder	—	—	✓	—	—	—	✓	xQR41 741V-SS	✓	✓	316L	✓	✓	—	—	—

<sup>1</sup>With approved conditional settings <sup>2</sup>Ultra High Molecular Weight polyethylene <sup>3</sup>741V-SS model only <sup>4</sup>Available with PEEK fluid body for xQR41 model only

<sup>5</sup>781Mini model only <sup>6</sup>Available with PEEK fluid body for PICO Pjulse, P-Dot, and P-Jet <sup>7</sup>Optional stainless steel fluid body

✓ Applicable | ○ Optional | — Not applicable

CONTROLLER FEATURES	VALVE CONTROLLERS							
	PICO Touch / XP	V200	8000	8040	7160RA	7194	7100	7140
	Jet Valve Control	Jet Valve Control	Multi Valve Control	Multi Spray Valve Control	Radial Spinner/ Spray Valve Control	Auger Valve Control	Dispense Valve Control	Spray Valve Control
Recommended valve(s)	PICO Pulse / XP	P-Jet, P-Dot	702, 725, 736, 741, 752, 754, xQR41 / V	781S, 781Mini, 787MS	782RA, 7860C-RS Spinner	794, 794-TC	702, 725, 736, 741, 752, 754, xQR41 / V	781S, 781Mini, 787MS
Air pressure display	Touchscreen	Digital	Analog	Analog	Digital	Digital	Digital	Analog
Auto sequence mode	—	—	—	—	—	—	—	—
Cycle rate	1000Hz <sup>1</sup>	280Hz / 150Hz	>600/minute	>400/minute	>400/minute	>400/minute	>600/minute	>400/minute
Digital time set and display	✓	✓	✓	✓	✓	✓	✓	✓
Dual 24W temperature control	—	—	—	—	—	—	—	—
5-micron filter/regulator	—	—	Included	Included	Included	Included	Included	Included
I/O communication-PLC	✓	✓	—	—	—	—	—	—
I/O interface circuitry	✓	✓	✓	✓	✓	✓	✓	✓
Independent multi-valve control	Single channel	Single channel	4-channel control	2-channel control	Single channel	Single channel	Single channel	Single channel
Low air pressure sensing	✓	—	< 4.1 bar (60 psi)	< 4.1 bar (60 psi)	< 4.1 bar (60 psi)	< 4.1 bar (60 psi)	< 4.1 bar (60 psi)	< 4.1 bar (60 psi)
Nozzle air shutoff delay	—	—	—	Adjustable 0 to 9.99 sec.	Adjustable 0 to 2.5 sec.	—	—	Adjustable 0 to 9.99 sec.
On the fly adjustability	✓	✓	✓	✓	✓	✓	✓	✓
Panel mount/panel cutout size	142 x 133 mm (5.6 x 5.25")	450 x 125 mm (18 x 5")	183.6 x 51.6 mm (7.23 x 2.03")	183.6 x 51.6 mm (7.23 x 2.03")	226.3 x 68.8 mm (8.91 x 2.71")	226.3 x 68.8 mm (8.91 x 2.71")	142.9 x 68.8 mm (5.62 x 2.71")	205.4 x 68.8 mm (8.08 x 2.71")
Pre-dispense time cycle delay	—	—	✓	—	—	—	—	—
Programmable	✓ <sup>2</sup>	✓	✓	✓	✓	✓	✓	✓
Purge control	✓	✓	✓	✓	✓	✓	✓	✓
Spike & hold capability	—	—	—	—	—	—	—	—
Test cycle verification	✓	✓	✓	✓	✓	✓	✓	✓

<sup>1</sup> With approved conditional settings <sup>2</sup> Programmable lockout

✓ Applicable | ○ Optional | — Not applicable

# Precision Dispensing Solutions



## Expert Application Testing

Nordson EFD offers a detailed process evaluation by experienced fluid dispensing experts at multiple EFD dispensing labs around the world.

EFD Global Application Labs are located in the USA, Brasil, the UK, Czech Republic, France, Germany, Russia, Spain, China, Japan, Korea, and other countries for expert help, fast response, and easy convenience.

Application testing is especially helpful to customers in selecting the appropriate PICO or pneumatic jet valve components, to make sure the system meets the requirements of your specific application.

### Features and Benefits

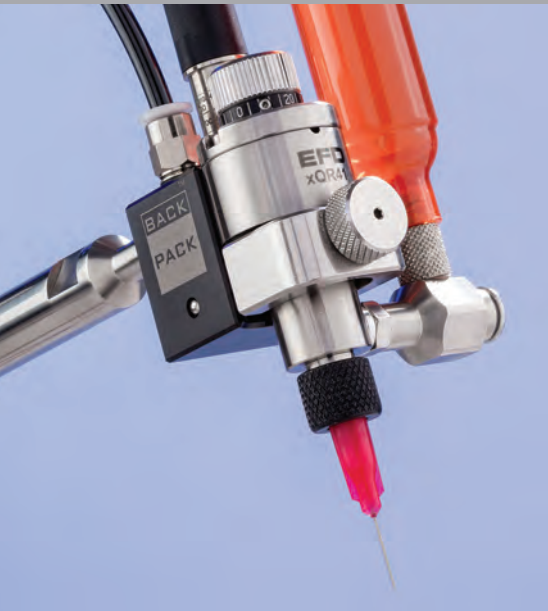
- Testing by knowledgeable, dispensing experts
- Testing in EFD global labs and/or at customer facilities
- Testing with actual customer parts and assembly fluids, or with EFD sample test materials
- Testing with a range of recommended EFD solutions, including PICO and pneumatic jetting valves and EFD automated dispensing robots
- Detailed test reports
- May include videotaped results

For details or to request an appointment, contact EFD at [info@nordsonefd.com](mailto:info@nordsonefd.com) or go to [www.nordsonefd.com/testing](http://www.nordsonefd.com/testing).

*"Your technical assistance is formidable. Your help in solving our problems with the cyanoacrylate application was very important to keep our production line running correctly. Thank you."*

— Kodak

# Valve Accessories



The Backpack™ Valve Actuator maintains constant pressure at the actuating air inlet, for faster response time without the risk of process variations due to a fluctuating plant air supply or different air line lengths.

- High-speed cycle capability. Cycle rates exceed 60–80Hz
- Actuation speed as low as 5–6 milliseconds
- Smaller deposit size capability due to faster valve actuation speed
- Improves process variation for better dot-to-dot consistency

## BackPack Valve Actuator

### For use with:

752V Series Valves

xQR41 Series Valves

741 Series Valves

### 7361396 Backpack

BackPack is available preinstalled on new valves, or can be ordered separately to retrofit existing valves.



[www.nordsonefd.com/BackPackVideo](http://www.nordsonefd.com/BackPackVideo)



The patent-pending Needle Nozzle Cleaning Station is designed to automate the cleaning of needle valve dispensing tips and PICO / Liquidyn jet valve nozzles.

- Easy to operate
- “Plug and play” into your existing automated dispensing process
- Only requires compressed air
- Compatible with most fluids

## Needle Nozzle Cleaning Station

### For use with:

xQR41 Series Valves

741 Series Valves

PICO *Pulse* Contact Valves

Liquidyn Series Valves

### 7825249 Needle Nozzle Cleaning Station








Needle Nozzle Cleaning Station includes adapters for use with PICO / Liquidyn nozzles and Optimum stainless steel dispense tips.



[www.nordsonefd.com/NNCS](http://www.nordsonefd.com/NNCS)








# Valve Accessories

VALVE ACCESSORIES			
Part	Part #	Valve	Description
	7020507	All valves	Universal valve mount
	7002002	All valves	Filter/Regulator provides dry, filtered air to controllers and reservoirs. Traps moisture and particles over five microns. 7.0 bar (100 psi) regulator and gauge.
	7016548		Filter/Regulator with coalescer removes remaining liquid aerosols from air supply. Traps moisture and particles over five microns. 7.0 bar (100 psi) regulator and gauge. Recommended for systems dispensing cyanoacrylates.
	7028718	All valves except 702V, 750V / 751V horizontal mount versions and 794 Series Valves	Electric DispensGun valve handle that is designed for use with an EFD ValveMate controller. The electric configuration can produce either timed, repeatable deposits or operator-controlled deposits.
Stroke control knob 	7021282	750 Series (stainless steel)	Calibration ring on the stroke control knob provides 25 graduations per turn for exact stroke reference.
Removable stroke control knob 	7021266	741 / 781 Series	Tamper-resist upgrade kit
	7021524	Liquid manifolds can supply liquid from one reservoir to as many as (4) valves	Liquid manifold, 3 outlets, 6.4 mm (1/4") OD tubing
	7021526	Manifold and hose compression fittings are black polypropylene	Liquid manifold, 4 outlets, 6.4 mm (1/4") OD tubing













Order Valve Replacement Parts:  
[www.nordsonefd.com/ValveKits](http://www.nordsonefd.com/ValveKits)

# Valve Fittings






VALVE FITTINGS				
Fitting	Part #	Description	Color	Recommended Use
	7014840	1/4 hose to barrel adapter, polypropylene	White	Dispensing wand inlet from barrel, 1/8" ID hose
	7365853	1/4 pass-thru bulkhead, nylon	Black	1.0 liter tank outlet to 1/4" OD tubing
	7014708	1/4 NPT x 1/4 NPT stainless steel street elbow	Silver	19 liter top-ported tank outlet
	7365855	3/8 pass-thru bulkhead, nylon	Black	5 liter top-ported tank outlet to 3/8" OD tubing, pass-thru style
	7014845	Barrel adapter 3/32 barb, polypropylene	White	Dispensing wand inlet from barrel 3/32" ID hose
	7021308	Barrel to 750V input nickel-plated brass	Silver	750V inlet to barrel
	7021464	Elbow fitting: 1/8 NPT x 1/8 barb, polypropylene	Clear	752V and 741V Series inlet to 1/8" ID tubing
	7020898	Fitting: 1/8 NPT x 3/8 compression elbow, nylon	Black	1/8 NPT elbow to 3/8" OD tubing
	7021491	Fitting, fluid: 4 mm barb – 754V	Silver	754V inlet to 6 mm OD x 4 mm ID tubing
	7021309	Fitting: 1/4-28 to barrel black, polypropylene	Black	750V inlet to barrel
	7021300	Fitting: 1/4-28 x 1/8 barb, black, polypropylene	Black	750V inlet to 1/8" ID tubing
	7021036	Fitting: 1/4 NPT x 3/8 compression elbow, stainless steel	Silver	725HF-SS inlet fitting
	7014733	Fitting: 1/8 NPT x 1/4 compression elbow, stainless steel	Silver	725D-SS, 725DA-SS, 741V-SS, 781S-SS inlet to 1/4" OD tubing









Order Valve Replacement Parts:  
[www.nordsonefd.com/ValveKits](http://www.nordsonefd.com/ValveKits)

# Valve Fittings

VALVE FITTINGS				
Fitting	Part #	Description	Color	Recommended Use
	7014732	Fitting: 1/8 NPT x 3/8 compression elbow, stainless steel	Silver	725D-SS, 725DA-SS, 741V-SS, and 781S-SS Series inlet to 3/8" OD tubing
	7021532	Fitting: 1/8 NPT x 1/4 compression, black, polypropylene	Black	725D, 741V, 752V, and 781S Series inlet to 1/4" OD tubing
	7007038	Fitting: 1/8 NPT x 3/8 compression, black, polypropylene	Black	725D, 741V, 752V, and 781S Series inlet to 3/8" OD tubing
	7020894	Fitting: Cartridge to 1/8 NPT elbow, stainless steel	Silver	725D-SS, 725DA-SS, 741V-SS, and 781S-SS Series inlet from cartridge
	7020673	Fitting: M5 x 1/8" ID barb stainless steel, elbow	Silver	702 Series inlet to 1/8" ID x 1/4" OD tubing
	7361411	Fitting: 90° luer inlet	White	xQR41, 781Mini for direct syringe barrel feed connection
	7020905	Fitting: RTV cartridge to 1/8 NPT brass	Brass	725D, 725DA to threaded caulking cartridge
	7017014	Fitting: 1/4 NPT x 1/4 compression, black, polypropylene	Black	Cartridge and 19 liter tank outlet to 1/4" OD tubing
	7017020	Fitting: 1/4 NPT x 3/8 compression, black, polypropylene	Black	Cartridge and 19 liter tank outlet to 3/8" OD tubing
	7021038	Fitting: 1/4 NPT x 3/8 compression elbow, polypropylene	White	Standard 725HF-SS and 725HF-A inlet fitting
	7021499	Fitting: 1/8 NPT x 1/4 compression elbow, black, polypropylene	Black	725D, 741V, 752V, and 781S Series inlet to 1/4" OD tubing
	7020903	Fitting: Barrel to 1/8 NPT elbow, black, polypropylene	Black	725D, 741V, 752V, 781S Series inlet to barrel
	7020671	Fitting: M5 x 1/8" ID barb, stainless steel	Silver	702 Series inlet to 1/8" ID x 1/4" OD tubing
	7020669	Fitting: M5 x 3/32" ID barb, stainless steel	Silver	702 Series inlet to 3/32" ID x 5/32" OD tubing

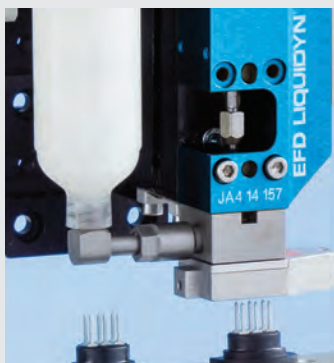
# Valve Fittings / Tip Adapters

VALVE FITTINGS		
Fitting	Part #	Description
	7021867	Inlet fitting assembly, ELB, 303SS
	7007017	Polypropylene Y-fitting for 1/8" ID tubing
	7021537	Black nylon Y barb fitting for 3.2 mm (1/8") ID tube
	7021539	Polypropylene Y-fitting for 3/32" ID tubing
	7021545	Black plastic push-in fitting for 4.0 mm (5/32") OD tube

VALVE TIP ADAPTERS				
Adapter	Part #	Valve	Material	Description
	7016948	725 Series	Polypropylene	Tip adapter 1/4 NPT, black
	7016945	725 Series	Nickel-plated brass	Tip adapter 1/4 NPT
	7007026	741MD-SS, 741V Series	Stainless steel	Tip adapter 741V, 0.046"
	7007027	741MD-SS, 741V Series	Polypropylene	SafetyLok collar for 741MD-SS, 741V Series
	7021227	741MD-SS	Stainless steel	Tip adapter with retaining nut
	7021312	750V-SS	Acetal	Tip adapter
	7021317	751V	Nylon	Tip adapter
	7014835	752V-UHSS	Polypropylene	Tip adapter, natural

# Precision Jetting Valve Systems

## PICO / Liquidyn



Nordson EFD jet valve systems offer unparalleled speed and accuracy in non-contact dispensing, even for your most challenging applications.

Jetting, or non-contact dispensing, allows manufacturers to dispense small amounts of fluids at faster speeds without sacrificing accuracy. The results include reduced waste, rework, and rejects, and higher throughput yields.

### About Piezo Technology

PICO® jet valves incorporate a piezoelectric actuator composed of stacked ceramic coins that expand and contract in response to changes in voltage supplied by the PICO controller. The piezo actuator connects to a vertical rod that mates with a tappet stem within a spring-energized “jetting” cartridge. The tappet stem has a wear-resistant ceramic sealing ball at its lower end.

When the valve is closed, the ball is seated in the valve nozzle plate to prevent fluid flow between cycles. The unique precision engineering and machining of these critical components create an exceptional dispensing valve with the ability to apply precise, accurate micro-deposits of assembly fluid.

When voltage is applied to the actuator, the rod and cartridge sealing ball are raised so that the pressurized fluid can flow to the nozzle. When the voltage is changed, the rod and tappet stem sealing ball descend rapidly to “jet” the fluid out of the nozzle and onto the substrate.

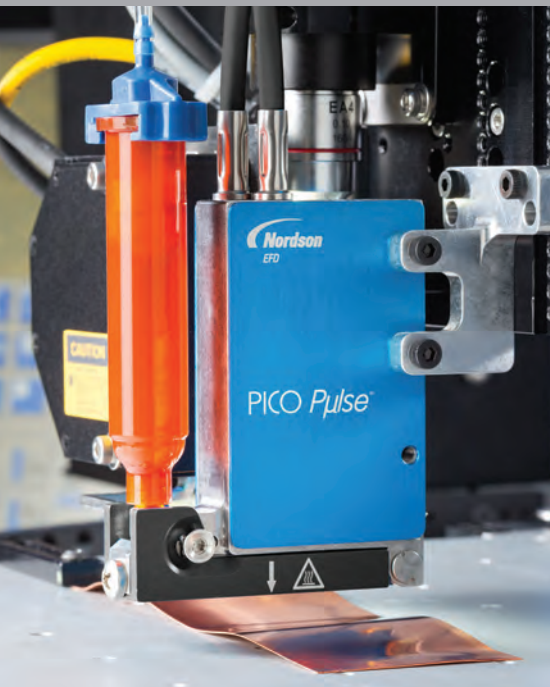
### Pneumatic Jetting

Liquidyn® pneumatic jet valves deliver precise, consistent noncontact dispensing of low- to high-viscosity fluids and feature easily exchangeable dispensing nozzles to meet a wide range of application requirements. Rigorously tested to withstand highly-industrial environments, Liquidyn pneumatic jet valves also feature a low cost of ownership.





# PICO Jetting Systems



## PICO *Pulse* Jet Valve

### 7361283 PICO *Pulse* Jet Valve HD

For heavy duty applications with cycle rates greater than 250Hz.

PICO *Pulse*® modular jetting technology removes the barrier between speed and accuracy. Even at max speed of 1000Hz continuous\*, the PICO *Pulse* non-contact dispense valve provides industry-leading accuracy in deposit consistency and placement for your most challenging applications.

Non-contact jet valve systems make it possible to apply fluid in hard-to-access areas or onto uneven or delicate substrates where a dispensing needle cannot be used.

### Features and Benefits

- Exchangeable, modular design for greater configurability
- Tool-free latch allows fast, easy serviceability and reduces downtime
- Capability to jet low- to high-viscosity fluids creates flexibility to meet changing needs
- Dispenses at up to 1000Hz continuous, with up to 1500Hz maximum bursts\*
- Variable stroke for precise dispensing control
- Optional PEEK wetted parts resist curing from reactive adhesives

### For use with

- Adhesives & UV-cure Adhesives
- Conductive Epoxies
- Greases & Oils
- Hydrous Solutions
- Liquid Polymers
- Organic Solvents
- Underfills

\*With approved conditional settings.

*"We are saving 2 to 4 hours on every 100 parts."*

— Grimes Aerospace



[www.nordsonefd.com/Pulse](http://www.nordsonefd.com/Pulse)

## Specifications

Size: 22.0w x 120.0h x 75.0l mm (0.87w x 4.72h x 2.92l")

Weight: With cable: 524.0 g (18.5 oz)  
Without cable: 362.0 g (12.8 oz)

Maximum fluid pressure: 35.0 bar (500 psi)

Fluid inlet: M5

Mounting: M4 x 0.7

Fluid body: 303 stainless steel or PEEK\*

Ball-and-seat: Ceramic

Heater body: Aluminum

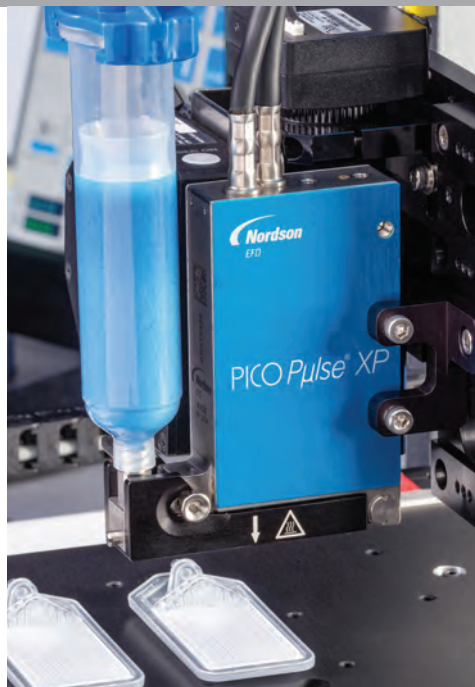
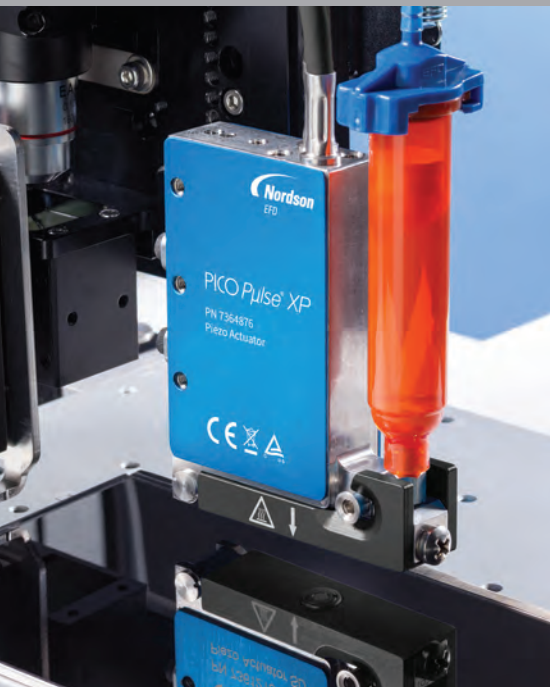
Approvals: CE, UKCA, WEEE, TUV

Warranty: 1 year, limited

All stainless steel parts are passivated.

\*Polyetheretherketone

# PICO Jetting Systems



## PICO *Pulse* XP Jet Valve

### 7364876 PICO *Pulse* XP Jet Valve HD

For greater dispensing repeatability and ability to fine tune jetting performance.

PICO *Pulse* XP provides the same capabilities as the standard PICO *Pulse* jet valve. In addition, it controls for the slightest variation in fluid body tolerances to maintain optimal jetting results, even after maintenance.

Sustained stroke target seeking allows the system to produce a stable deposit weight, even when environmental conditions change.

### Features and Benefits

- XP self-regulating calibration
- Improve valve-to-valve dispensing repeatability and repeatability after maintenance
- Maintain dispensing repeatability regardless of environmental conditions
- System self-adjusts to minimize production downtime needed to recalibrate the jetting system

### For use with

- Adhesives & UV-cure Adhesives
- Conductive Epoxies
- Greases & Oils
- Hydrous Solutions
- Liquid Polymers
- Organic Solvents
- Underfills



[www.nordsonefd.com/PulseXP](http://www.nordsonefd.com/PulseXP)

## Specifications

Size:	22.0w x 120.0h x 75.0L mm (0.87w x 4.72h x 2.92L")
Weight:	With cable: 524.0 g (18.5 oz) Without cable: 362.0 g (12.8 oz)
Maximum fluid pressure:	35.0 bar (500 psi)
Fluid inlet:	M5
Mounting:	M4 x 0.7

Fluid body:	303 stainless steel or PEEK*
Ball-and-seat:	Ceramic
Heater body:	Aluminum
Approvals:	CE, UKCA, WEEE, TUV
Warranty:	1 year, limited

All stainless steel parts are passivated.

\*Polyetheretherketone

# PICO Contact Dispense Systems



## PICO *Pulse* Contact Valve

### 7362059 PICO *Pulse* Contact Dispense Valve

For contact dispensing applications with cycle rates up to 1000Hz.

### 7366299 PICO *Pulse* XP Contact Dispense Valve

For greater contact dispensing repeatability and ability to fine tune jetting performance.

Apply precise micro-deposits and control surge when dispensing lines and stripes with the PICO *Pulse* contact dispense valve. Unique tip adapter assemblies allow use of a variety of dispensing tip types such as Optimum general purpose and specialty tips and DL Technology precision tips.

## Features and Benefits

- Highly precise, repeatable, and faster contact dispensing
- Capability for high speed actuation up to 1000Hz\* continuous
- Ideal for critical line dispensing and repeatable deposits as small as 0.5 nL
- Apply extremely small dots and well-defined lines with precise control of the beginning and end points
- Optional PEEK wetted parts resist curing from reactive adhesives

## For use with

- Adhesives
- Conductive Epoxies
- Food Colors
- Greases
- Underfills
- UV-cure Adhesives

\* With approved conditional settings.

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

Size:	22.0w x 120.0H x 75.0L mm (0.87w x 4.72H x 2.92L")
Weight:	With tip adapter / with cable: 538.0 g (19.0 oz)
	With tip adapter / without cable: 376.0 g (13.3 oz)
	Without tip adapter / with cable: 524.0 g (18.5 oz)
	Without tip adapter / without cable: 362.0 g (12.8 oz)
Maximum fluid pressure:	35.0 bar (500 psi)
Fluid inlet:	M5
Mounting:	M4 x 0.7

Fluid body:	303 stainless steel or PEEK*
Ball-and-seat:	Ceramic
Heater body:	Aluminum
Tip adapter kits:	303 stainless steel
Approvals:	CE, UKCA, WEEE, TUV
Warranty:	1 year, limited

All stainless steel parts are passivated.  
\*Polyetheretherketone





## PICO PULSE FLUID BODY ASSEMBLIES

Nordson EFD offers a wide range of fluid bodies and cartridges that come together as matched sets to deliver the precise performance and repeatability needed to meet specific application requirements.

Fluid body assemblies are available with flat or extended nozzles in seat orifice sizes ranging from 50–600 microns with a choice of Type D and Type E geometries.




- Type “D” seat: Standard version is suitable for most fluids and can result in less splashing of the deposit for low- to medium-viscosity fluids.
- Type “E” seat: Recommended for highly viscous/stringing type fluids, it generates more kinetic energy during jetting for better release off nozzle plate and less “tailing.”

Consult EFD’s Technical Service team for the best recommendation on Fluid Body Assembly/Seat Geometry for your application.

Fluid Body	Flat Nozzle Part #	PEEK Flat Nozzle Part #	P7 Extended Nozzle Part #*	P30 Extended Nozzle Part #*	Description	Orifice	Geometry	Ball Size
 Flat Nozzle	7362574	7363321	7362703	n/a	Fluid body assembly	50 µm	E	3.0S
	7362575	7363322	7362704	n/a	Fluid body assembly	100 µm	D	3.0S
	7362576	—	7362705	n/a	Fluid body assembly	200 µm	D	3.0S
 PEEK Flat Nozzle	7362577	7363324	7362706	7363238	Fluid body assembly	50 µm	E	5.0S
	7362578	7363325	7362707	7363239	Fluid body assembly	100 µm	E	5.0S
	7362579	7363326	7362708	7363240	Fluid body assembly	150 µm	E	5.0S
 P7 Extended Nozzle	7362580	7363327	7362709	7363241	Fluid body assembly	300 µm	E	5.0S
	7362581	7363328	7362710	7363242	Fluid body assembly	100 µm	D	5.0S
	7362582	7363329	7362711	7363243	Fluid body assembly	150 µm	D	5.0S
 P30 Extended Nozzle	7362583	—	7362712	7363244	Fluid body assembly	200 µm	D	5.0S
	7362584	7363331	7362713	7363245	Fluid body assembly	300 µm	D	5.0S
	7362585	7363332	7362714	7363246	Fluid body assembly	400 µm	D	5.0S
	7362586	7363333	7362715	7363247	Fluid body assembly	600 µm	D	5.0S







\*Extended nozzles for use with *Pulse* non-contact jet valves only

## PICO PULSE CONTACT VALVE TIP ADAPTER KITS\*

Part	Part #	Description
	7362028	Luer lock tip adapter kit for EFD General Purpose dispense tips
	7362030	DL Technology tip adapter kit
	7361969	Specialty plate adapter kit for legacy accessories

\*Tip adapter kits for use with *Pulse* contact jet valves only


## PICO PULSE FLUID INLET FITTINGS

Part	Part #	Description
	7362606	Fitting: M5 x female Luer lock, straight, stainless steel (includes Viton O-ring) 7361303: O-rings: 5 x 1 mm, Viton, 10 pc 7361681: O-rings: 5 x 1 mm, FFKM, 3 pc
	7363340	Fitting: M5 x female luer lock, straight, PEEK (includes FFKM O-ring) 7361303: O-rings: 5 x 1 mm, Viton, 10 pc 7361681: O-rings: 5 x 1 mm, FFKM, 3 pc
	7020669	Fitting: M5 x 3/32" ID barb, stainless steel
	7020671	Fitting: M5 x 1/8" ID barb, stainless steel
	7020673	Fitting: M5 x 1/8" ID barb, stainless steel, elbow
	7361498	Fitting: M5 x 35 mm male-female extension, stainless steel




## PICO PULSE EXTENSION CABLES

Extension cable sets include a power cable and a communication cable for connection to the PICO *Touch* Controller. Includes one each for power and communication.






Cable	Part #	Description
	7362085	0.6 m (2.0 ft) valve extension cable set
	7361298	2 m (6.6 ft) valve extension cable set
	7361299	6 m (19.7 ft) valve extension cable set
	7361300	9 m (29.5 ft) valve extension cable set

## PICO PULSE XP EXTENSION CABLES

Extension cable sets include a power cable and a communication cable for connection to the PICO XP Controller. Includes one each for power and communication.

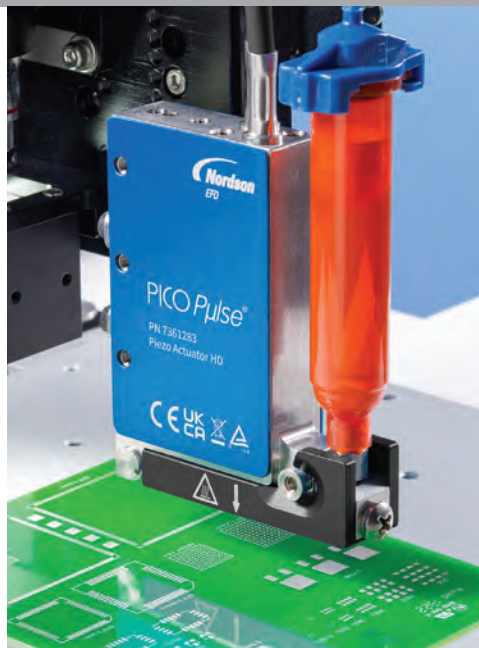
Cable	Part #	Description
	7365311	2 m (6.6 ft) valve extension cable set, XP
	7365312	6 m (19.7 ft) valve extension cable set, XP
	7365313	9 m (29.5 ft) valve extension cable set, XP
	7365314	12 m (39.4 ft) valve extension cable set, XP

## ACCESSORIES

Part	Part #	Description
	Varies	HP High-Pressure Dispensing Tool. Used to jet very thick assembly fluids such as RTV silicones, epoxies, and medical-grade adhesives
	7361770	HP3cc Adapter Kit for use with PICO <i>Pulse</i>
	7361771	HP5cc Adapter Kit for use with PICO <i>Pulse</i>
	7361772	HP10cc Adapter Kit for use with PICO <i>Pulse</i>
	7362459	HP Adapter Kit for use with PICO <i>Pulse</i> , straight fitting
	7362543	HP Adapter Kit for use with PICO <i>Pulse</i> , 90° elbow
	7361630	Latch release tool. Opens the piezo actuator heater body; useful for installations with limited access to the valve
	7361295	PICO <i>Pulse</i> Valve Cleaning Kit. Includes brushes, swabs, mini-reamers, and magnifying loupe



# PICO Jetting Systems



## PICO *Touch* Controller

## 7361217 PICO Touch Controller

For use with a PICO Pulse valve only, the controller system includes a USB cable, back shell, and connector. Order power cord separately.

**7014871 American Plug Power Cord Kit**

**7014872 European Plug Power Cord Kit**

The *Touch* controller uses a touchscreen and visual interface to greatly simplify setup and operation, while allowing precise adjustment of parameters such as open and close times. Easily integrate unprecedented control, precision, and performance into any dispensing application.

## Features and Benefits

- Intuitive, easy-to-use touchscreen interface for precise control of PICO *Pulse* valve
- 480 x 272 resolution for sharper screen visibility
- More exact adjustment of valve parameters and performance
- Fine-tune dispensing performance by setting ramp open and close parameters and stroke control from the unique Wave Profile screen
- Flexibility to control the dispense of a wide range of fluids and viscosities
- Programmable lockout to prevent unintended changes to settings

*"Nordson EFD's wide variety of products, and the numerous applications they can be used for, is impressive. It makes it easy to select the right products for the applications we're working on."*

— *Nye Lubricants*

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

Cabinet size:	14.2W x 13.3H x 16.8D cm (28 Hp x 3U) (5.59W x 5.25H x 6.61D")
Weight:	2.6 kg (5.5 lb)
Time range:	100 $\mu$ s to 9.9999 s
Input AC (to power supply):	100–240 VAC $\pm$ 10%, 50/60 Hz, 2 A
Output DC (from power supply):	24 VDC, 6.25 A

Heater output voltage:	24 VDC, 30 W maximum
Feedback circuit:	0–24 VDC
Cycle initiate:	15–24 VDC
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	1 year, limited

# PICO Jetting Systems



## PICO *Touch* XP Controller

### 7364877 PICO *Touch* XP Controller

For use with a PICO Pulse XP valve only, the controller system includes a USB cable, back shell, and connector. Order power cord separately.

### 7014871 American Plug Power Cord Kit

### 7014872 European Plug Power Cord Kit

The PICO *Touch* XP controller provides the same capabilities as the standard PICO *Touch* controller with a few important differences.

It allows users to program stroke in microns for the finest parameter adjustments possible.

Program the most exact, repeatable fluid deposits, regardless of external factors that can affect deposit definition and repeatability.

## Features and Benefits

- Intuitive, easy-to-use touchscreen interface for precise control of PICO *Pulse* XP jet valve
- Micron ( $\mu\text{m}$ ) level stroke adjustment
- Fine-tune jetting performance for a wide range of applications



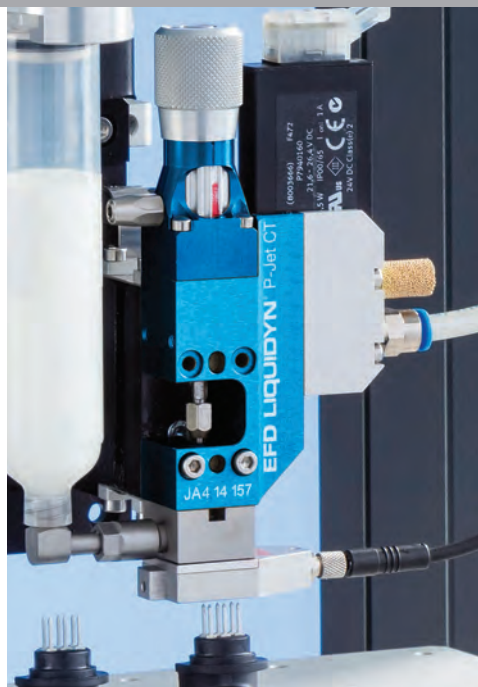
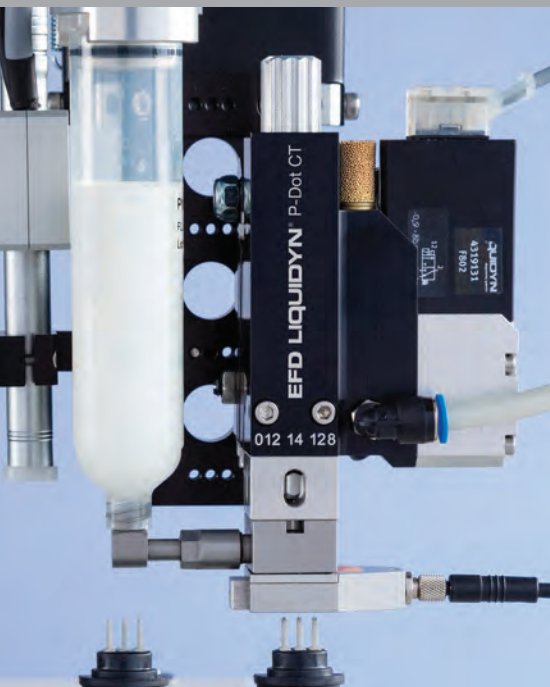
[www.nordsonefd.com/PulseXP](http://www.nordsonefd.com/PulseXP)

## Specifications

Cabinet size:	14.2w x 13.3h x 16.8d cm (28 Hp x 3U) (5.59w x 5.25h x 6.61d")
Weight:	2.6 kg (5.5 lb)
Time range:	100 $\mu\text{s}$ to 9.9999 s
Input AC (to power supply):	100–240 VAC $\pm 10\%$ , 50/60 Hz, 2 A
Output DC (from power supply):	24 VDC, 6.25 A

Heater output voltage:	24 VDC, 30 W maximum
Feedback circuit:	0–24 VDC
Cycle initiate:	15–24 VDC
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	1 year, limited

# Liquidyn Jetting Systems



## Liquidyn P-Jet Series and P-Dot Series

### 7825004 Liquidyn P-Jet Actuator

Suitable for low- to medium-viscosity fluids with cycle rates of up to 280Hz.

### 7825002 Liquidyn P-Dot Actuator

Suitable for medium- to high-viscosity fluids with cycle rates of up to 150Hz.

### 7825932 Liquidyn P-Jet AN Valve

Complete valve preconfigured with metal-free wetted parts; suitable for anaerobics with cycle rates of up to 280Hz.

The Liquidyn® P-Jet and P-Dot pneumatic jet valves deliver precise, consistent non-contact dispensing of low- to high-viscosity fluids with micro-deposits starting at 3 nL. Both feature easily exchangeable dispensing nozzles, tappets, and fluid inlet fittings to meet a wide range of application requirements. Rigorously tested to withstand highly-industrial environments, the Liquidyn P-Jet and P-Dot also feature a low cost of ownership.

### Features and Benefits

- Highly repeatable and accurate non-contact jet dispensing
- Micro-deposit dispensing at frequencies up to 280Hz (P-Jet)
- Separate wetted parts allow for simplified service and maintenance
- Modular design makes it easy to customize for different applications

### For use with

- Anaerobics
- Epoxies
- Fluxes
- Glues
- Greases
- Silicones
- Sealing Lacquers
- UV-cure Adhesives



[www.nordsonefd.com/PJetCT](http://www.nordsonefd.com/PJetCT)

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

Size:	P-Dot: 38.6w x 126.7h x 61.0L mm (1.52w x 4.99h x 2.40L") P-Jet: 20.0w x 138.5h x 78.5L mm (0.79w x 5.4h x 3.09L")
Weight:	270.0 g (9.5 oz)
Maximum fluid pressure:	100 bar (1450 psi)
Fluid inlet:	M8 x 1, flat sealing
Mounting:	M3 x 25
Maximum operating frequency:	P-Dot: 150Hz P-Jet: 280Hz

Pulse time:	Starting at 2 ms (P-Jet); 2 ms (P-Dot)
Input air pressure:	3.0–8.0 bar (44–116 psi)
Fluid body:	303 stainless steel or PEEK (P-Jet only)
Heater body:	Aluminum
Approvals:	CE*, UKCA, TÜV
Warranty:	1 year, limited











All stainless steel parts are passivated.

\*This valve meets the EN 61326-1:2013, FCC Part 15 Subpart B, and ICES-003 Issue 6 product family standard for immunity and emissions when connected to a Nordson EFD Liquidyn controller. Usage with any other controller does not guarantee electromagnetic compatibility (EMC) performance.

# Liquidyn Jetting Systems








## LIQUIDYN JET VALVE COMPONENTS

The pneumatic jet valves can be uniquely configured to achieve the best dispensing result for your material and application. A Nordson EFD application specialist will help select the best valve system components for optimal jetting performance.





Part	Part #	Description	P-Dot	P-Jet
	7825024	Tappet, P-Jet, 40L x 2.00 mm, steel	—	✓
	7825028	Tappet, P-Jet, 40L x 2.00 mm, ceramic	—	✓
	7825033	Tappet, P-Dot, 27L x 2.00 mm, steel	✓	—
	7825034	Tappet nut, P-Dot	✓	—
	7825189	NBR O-ring (gasket)	✓	✓
	7825188	EPDM O-ring (gasket)	✓	✓
	7825190	Viton O-ring (gasket)	✓	✓
	7825037	Steel fluid body	✓	✓
	7825038	Plastic fluid body	—	✓
	7825008	Drainage block	✓	—
	7825182	2.5 m (8.2 ft) M8 valve cable	✓	✓
	7825011	Safety plate	✓	—

## LIQUIDYN JET VALVE NOZZLES

Other selections are available. Please consult EFD's Technical Service team for available components.

Part	Part #	Description	P-Dot	P-Jet
	7825063	Steel flat nozzle, 150 µm	✓	✓
	7825075	Steel needle nozzle, 150 µm	✓	✓
	7825919	Steel needle nozzle, 250 µm	—	✓
	7825094	Plastic needle nozzle with steel tip, 150 µm	—	✓
	7825100	Plastic needle nozzle with PTFE tip, 200 µm	—	✓
	7825042	Hexagon retaining nut	✓	✓
	7825044	Knurled retaining nut for plastic nozzles with tip	—	✓

## LIQUIDYN JET VALVE FLUID FITTINGS

Fitting	Part #	Description	P-Dot	P-Jet
	7825149	Kit, standard nozzle heater	✓	✓
	7825120	Steel luer lock adapter for syringe barrels	✓	✓
	7825121	Plastic luer lock adapter for syringe barrels	—	✓
	7825136	Plastic tube connector for 3.2 mm OD tubing	—	✓

Key: ✓ Applicable — Not applicable





## Liquidyn V200 Controller

**7825168 Liquidyn V200 Controller**  
The Liquidyn V200 controller allows operators to quickly find the best settings for optimal dispensing results. Order power cord separately.

**7014871 American Plug Power Cord Kit**

**7014872 European Plug Power Cord Kit**

The Liquidyn V200 controller provides safe, easy operation of the Liquidyn P-Jet and P-Dot jet valves and greater control over dispensing outcomes. By providing control of dispensing parameters, the Liquidyn V200 makes it possible to optimize valve performance. Two precision pressure regulators and a digital display make it easy to adjust parameters to get the perfect deposit.

### Features and Benefits

- Programmable dispensing parameters — up to four programs
- Continuous shot operation up to 150Hz (P-Dot) and 280Hz (P-Jet)
- Continuous display of actual pressure and temperature readings
- Setpoint Counter sets the number of shots and shows the actual number of shots deposited

*“The benefits of working with EFD include product support, product reliability, and a wide range of products to handle almost anything we encounter.”*

— Micro Instrument Corp.

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

### Specifications

Cabinet size:	45.0w x 12.5h x 25.0d cm (17.72w x 4.92h x 9.84d")
Weight:	5.5 kg (12.1 lb)
Cycle rate:	Up to 280Hz
Time range:	2–9,999 ms
Electrical power input:	24 VDC, 2.5 Amp minimum
Electrical input connector:	Lumberg KJV70

External power adapter:	AC/DC power supply and power cord: 100–240 VAC, 50/60Hz, 1.4 Amp input; 24 VDC, 2.5 Amp, 60 W maximum output
Feedback circuit:	0 VDC (logical low), 24 VDC (logical high)
Input air pressure:	6.2–10.3 bar (90–150 psi)
Temperature control:	0–90° C (32–194° F)
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	1 year, limited





The Laser Light Barrier installs easily on Liquidyn P-Jet and P-Dot jet valves to provide precise and reliable process monitoring, essential for error-free production.

- Precise detection of even the smallest deposit volumes
- Standardized output signal
- Only requires compressed air
- Robust operation regardless of environmental conditions

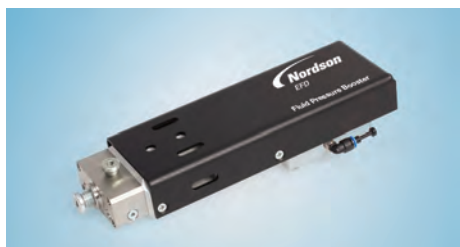
## Laser Light Barrier

### For use with:

Liquidyn Series Valves

### 7825237 Laser Light Barrier

Laser Light Barrier kit includes the signal amplifier, light barrier, spacer, and M2 screw. A mounting bracket is sold separately.



The Nordson EFD Fluid Pressure Booster is designed to help move thick materials from a tank or cartridge to an EFD precision valve by boosting dispense pressure up to 100 bar (1450 psi).

The Fluid Pressure Booster increases the pressure applied to dispensed materials, facilitating the supply of high-

viscosity greases, adhesives, and silicones. Its modular design allows quick and easy cleaning of all fluid-carrying components, making it particularly suitable for the supply of adhesives and reactive materials.

Designed for micro-dispensing of thick materials, Fluid Pressure Boosters work with EFD's PICO *Pulse* and Liquidyn jet valve systems.

### Features and Benefits

- Modular design
- Transmission ratio of 1:3 allows you to achieve a material pressure of up to 1450 psi (100 bar)
- Only a 24V power supply is required for operation of this standalone device.

## Fluid Pressure Booster

### 7825243 Fluid Pressure Booster

Designed for micro-dispensing of thick materials.

# Precision Dispense Valve Systems

## Dispense Valves / Controllers



Engineered for the most demanding mechanical and environmental applications, EFD valve systems provide reliable dispensing solutions for benchtop applications machine builders, and cost-effective drop-in retrofit alternatives for automatic production lines.

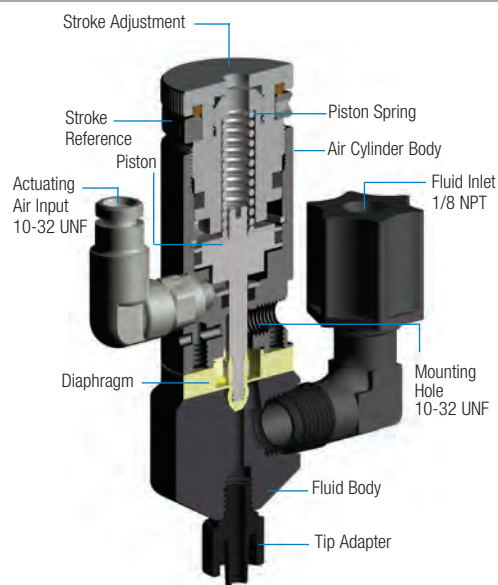
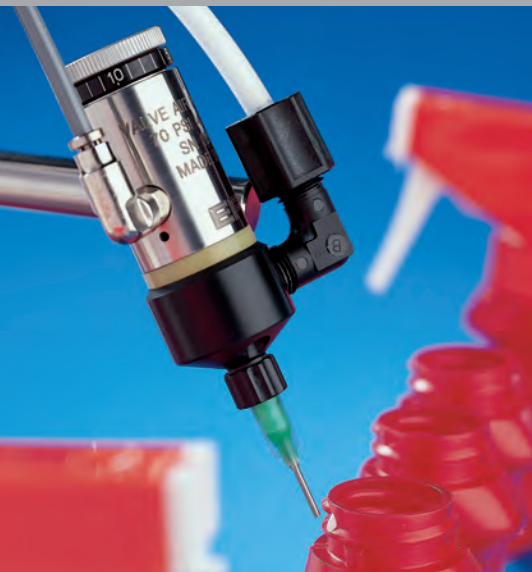
EFD offers a wide range of valves for dispensing almost any fluid, from thin solvents to thick sealants and braze pastes — in accurate, repeatable amounts.

Our unique valve designs are exceptionally reliable and will provide tens of millions of trouble-free dispensing cycles before maintenance is required.

### Features and Benefits

- Reliable, low maintenance
- Fast cycle rates allow production lines to run at optimal speed
- Engineered for the most demanding production environments
- Clean, drip-free cutoffs reduce waste, mess, and cleanup
- Interactive microprocessor-based controllers simplify PLC settings and provide consistent operation
- Cost-effective replacement for older technology valves

# Diaphragm Valves



General-purpose valve is ideal for dispensing controlled amounts of most low-to-medium viscosity fluids. Wetted components are machined from inert UHMW (Ultra High Molecular Weight) polyethylene, making the 752 Series ideal for use with cyanoacrylates, anaerobic threadlockers, and other reactive fluids.

## Features and Benefits

- Compact size and weight
- Adjustable fluid flow control
- Positive shutoff, no seals
- Low-maintenance design

## For use with

- Activators
- Anaerobics
- Cyanoacrylates
- Fluxes
- Solvents
- UV-cure & Light-cure Adhesives

*"Your 752V-UH valves are just great for cyanoacrylates. We replaced pinch-tube valves with yours, and our problems are gone!"*

— Copreci

## 752V Series Diaphragm Valve

### 7021428 752V-UHSS Valve

Air cylinder body assembly is passivated 303 stainless steel. UHMW fluid body and diaphragm. Includes fluid inlet fittings #7021499 and #7007038.

### 7021422 752V-UHMW Valve

Air cylinder body assembly is hard-coated anodized aluminum. Tamper-resist stroke adjustment. UHMW diaphragm and 303 stainless steel fluid body with integral tip adapter. Includes inlet fitting #7021499.

### 7021419 752V-SS Valve

Air cylinder body assembly is passivated 303 stainless steel. Acetal copolymer fluid body and UHMW diaphragm. Includes fluid inlet fittings #7021499 and #7007038.

### 7015583 752V-UHSS-BP Valve

Air cylinder body assembly is 303 stainless steel. UHMW fluid body and diaphragm. Includes fluid fittings and Backpack valve actuator.

### 7015582 752V-SS-BP Valve

Air cylinder body assembly is 303 stainless steel. Acetal copolymer fluid body and UHMW diaphragm. Includes fluid fittings and Backpack valve actuator.

### 7021411 752V-DVD Valve

Air cylinder body assembly is hard-coat anodized aluminum. Tamper-resist stroke adjustment. UHMW diaphragm and 303 stainless steel fluid body with integral tip adapter. Includes inlet fitting #7021499.

See Valve Controllers for system setup



[www.nordsonefd.com/752VSeries](http://www.nordsonefd.com/752VSeries)

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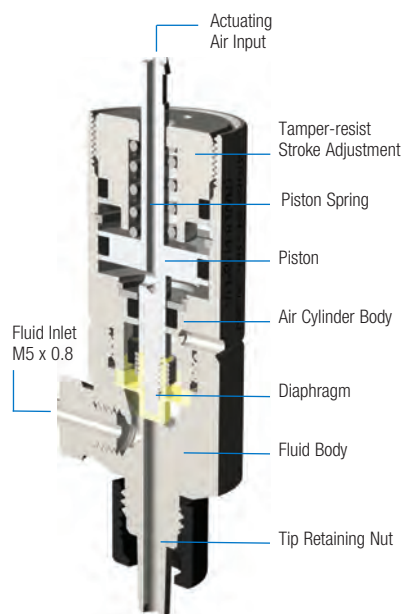
## Specifications

Size:	752V-UHSS / 752V-SS: 80.7L x 26.9DIA mm (3.18L x 1.06DIA") 752V-DVD: 76.3L x 26.9DIA mm (3.00L x 1.06DIA")
Weight:	752V-UHSS: 173.6 g (6.1 oz) 752V-SS: 181.4 g (6.4 oz) 752V-DVD: 172.9 g (6.1 oz) 752V-UHMW: 99.5 g (3.5 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	4.8 bar (70 psi)
Fluid inlet:	1/8 NPT female
Fluid outlet:	1/4-28 UNF
Mounting:	(1) 10-32 UNF tapped hole
Cycle rate:	Exceeds 500 per minute

Air cylinder body:	303 stainless steel 752V-DVD, 752V-UHMW: Hard-coated anodized aluminum
Fluid body:	752V-UHSS: UHMW* polyethylene, FDA approved Options: Acetal, 303 stainless steel, PTFE
Piston:	303 stainless steel
Diaphragm:	FDA approved UHMW polyethylene or PTFE
Tip adapter:	Polypropylene
Tip retaining nut:	752V-DVD: Aluminum
Maximum operating temperature:	43° C (110° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.  
\*Ultra High Molecular Weight polyethylene

# Diaphragm Valves



60% smaller and 70% lighter than typical dispense valves, the 702 Series is ideal for applications where space is tight or installation on movable arms where size and weight must be considered.

The 702M-SS applies consistent, precise deposits of dye, UV-cure lacquers, and UV-cure adhesives in the optical media industry.

The 702V is designed for drip-free coating and consistent shot-to-shot bonding of UV-cure adhesives and other low- to medium-viscosity fluids.

## Features and Benefits

- Unique design eliminates trapped air and bubbles
- Tamper-resist stroke adjustments
- Quick, clean cutoff eliminates drips
- Faster throughput

## For use with

- Dyes
- Resins
- Solvents
- UV-cure Adhesives
- UV-cure Coatings
- UV-cure Lacquers

## 702 Series Mini-diaphragm Valve

### 7020683 702V-SS Valve

For general industry applications. Air cylinder body and fluid body are made of passivated 303 stainless steel. UHMW diaphragm. Includes 1.5 m (5 ft) input air hose with male quick-connect and fluid inlet fitting, #7020671.

### 7020679 702M-SS Valve

For optical media applications. Air cylinder body and fluid body are made of passivated 303 stainless steel. UHMW diaphragm. Includes sample tip kit of PTFE-coated tips, (4) each of 21 and 23 gauge.

### 7020680 702V-A Valve

For dispensing UV cure, anaerobics, and certain cyanoacrylates. Fluid body is acetal copolymer with a 303 stainless steel air cylinder body. UHMW diaphragm. Acetal copolymer wetted parts are preferred when dispensing UV-cure adhesives, anaerobics, cyanoacrylates, and other fluids that might otherwise react when in contact with stainless steel. Includes 1.5 m (5 ft) input air hose with male quick-connect and fluid inlet fitting, #7020677.

See Valve Controllers for system setup



[www.nordsonefd.com/702Series](http://www.nordsonefd.com/702Series)

Order Valve Replacement Parts:  
[www.nordsonefd.com/ValveKits](http://www.nordsonefd.com/ValveKits)

## Specifications

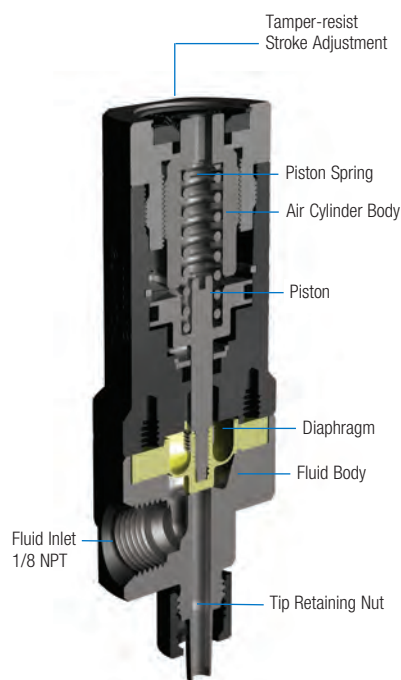
Size:	63.5L x 19.1DIA mm (2.50L x 0.75DIA")
Weight (less fittings):	49.3 g (1.7 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	4.8 bar (70 psi)
Fluid inlet:	M5 x 0.8
Mounting:	Adjustable mounting block (#7020507)
Cycle rate:	Exceeds 500 per minute
Air cylinder body:	303 stainless steel

Fluid body:	303 stainless steel
Piston:	303 stainless steel
Diaphragm:	FDA approved UHMW* polyethylene or PTFE
Tip retaining nut:	Aluminum
Maximum operating temperature:	43° C (110° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.  
\*Ultra High Molecular Weight polyethylene



# Diaphragm Valves



## 752HF Series High Flow Diaphragm Valve

### 7014315 752HF-SS Valve

Same as 752HF-A except fluid body is passivated 303 stainless steel.

### 7014139 752HF-A Valve

Air cylinder body assembly and tamper-resist stroke reference knob are hard-coated anodized aluminum. Acetal copolymer fluid body and UHMW diaphragm. Includes fluid inlet fittings #7021499 and #7007038.

See Valve Controllers for system setup

The 752HF valve system is specifically designed for precise dispensing of UV-cure resins and similar fluids used in media manufacturing of Blu-Ray DVDs, DVDs, and CDs. Unrestricted material flow reduces turbulence and the formation of micro bubbles.

### Features and Benefits

- High-flow capability for thicker UV-cure coatings
- Valve open time as short as 15 milliseconds
- Positive shutoff, no seals
- Compact and lightweight

### For use with

- Resins
- UV-cure Adhesives
- UV-cure Coatings

*"We never expected these valves would work this great and be this reliable! Over 50 million cycles without maintenance!"*

— Capitol Records



[www.nordsonefd.com/752HFSeries](http://www.nordsonefd.com/752HFSeries)

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[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

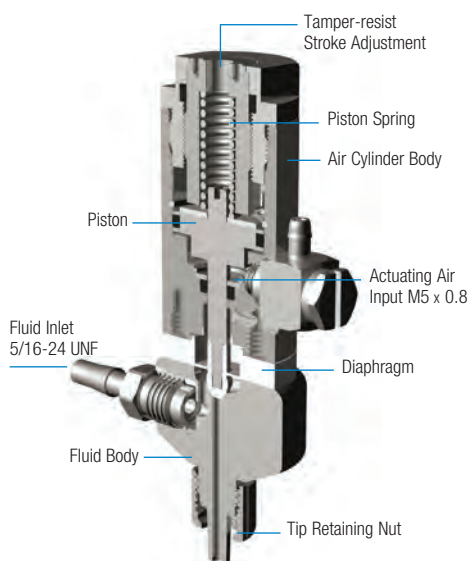
Size:	77.3L x 28.6DIA mm (3.04L x 1.13DIA")
Weight (less fittings):	752HF-A: 81.0 g (2.8 oz) 752HF-SS: 123.0 g (4.3 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	4.8 bar (70 psi)
Fluid inlet:	1/8-27 NPT
Mounting:	(1) M5 x 0.8
Cycle rate:	Exceeds 500 per minute
Air cylinder body:	Hard-coated anodized aluminum

Fluid body:	752HF-A: Acetal copolymer 752HF-SS: 303 stainless steel
Piston:	303 stainless steel
Diaphragm:	FDA approved UHMW* polyethylene
Tip retaining nut:	Aluminum
Maximum operating temperature:	43° C (110° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.  
\*Ultra High Molecular Weight polyethylene



# Diaphragm Valves



## 754V Series Aseptic Valve

### 7021514 754V-SS Valve

Wetted components are made of 316L stainless steel and PTFE, to conform to biopharmaceutical regulations. Internal threads have been removed to provide a smooth, easily cleaned fluid flow path, free of entrapped areas. Fluid body is electro-polished to increase corrosion resistance.

754V valve includes 1.5 m (5 ft) input air hose with male quick-connect, barbed fluid inlet fitting, polypropylene tip adapter, and dispensing tip kit.

See Valve Controllers for system setup

For Aseptic Spray Valves, see Spray Valves section.

The 754V aseptic valve features a smooth fluid flow path that is free of any entrapment areas. FDA-compliant wetted parts are made of 316L stainless steel and PTFE, making the valve suitable for CIP (Clean-In-Place) and SIP (Sterilize-In-Place) processes.

### Features and Benefits

- Accurate, consistent shot size
- Clean cutoff eliminates drips
- Diaphragm life exceeds  $1 \times 10^8$
- Positive shutoff, no seals

### For use with

- Food Processing
- Optical Monomers
- Pill Coating
- Saline Solutions
- Solvents
- Vial Filling



[www.nordsonefd.com/754VSeries](http://www.nordsonefd.com/754VSeries)

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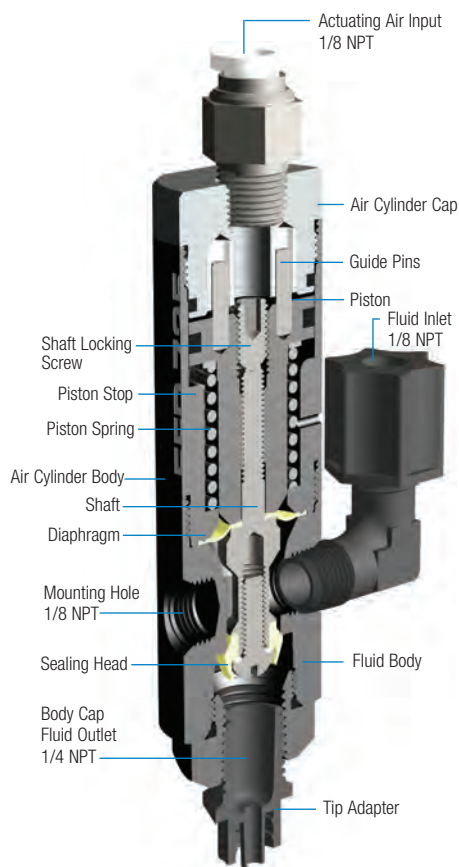
## Specifications

Size:	77.5L x 26.9DIA mm (3.05L x 1.06DIA")
Weight:	193.3 g (6.8 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	4.8 bar (70 psi)
Fluid inlet:	5/16-24 UNF
Fluid outlet:	Male luer lock
Mounting:	None
Cycle rate:	Exceeds 500 per minute

Air cylinder body:	316L stainless steel
Fluid body:	316L stainless steel
Piston:	316L stainless steel
Diaphragm:	PTFE
Tip retaining nut:	316L stainless steel
Maximum operating temperature:	43° C (110° F) Autoclaving: 260° C (500° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.

# Piston Valves



## 725D Series Piston Valve

### 7021014 725DA-SS Valve

Adjustable piston stroke provides fine-tuning of fluid flow rate and pullback volume. UHMW diaphragm and sealing head. Fluid body and body cap are passivated 303 stainless steel. Includes fluid inlet fittings #7021499 and #7007038.

### 7021010 725DA-AL Valve

Adjustable piston stroke provides fine-tuning of fluid flow rate and pullback volume. UHMW diaphragm and sealing head. Fluid body and body cap are aluminum. Includes fluid inlet fittings #7021499 and #7007038.

### 7021009 725D-SS Valve

Fixed stroke travel. Fluid body and body cap are passivated 303 stainless steel. UHMW diaphragm and sealing head. Includes fluid inlet fittings #7021499 and #7007038.

See Valve Controllers for system setup

The 725D Series valve systems consistently dispense a wide range of medium to thick fluids, including greases and silicones.

The 725DA-SS provides stroke adjustment for both fluid flow and snuff-back control. The 725D-SS version is non-adjustable and provides fixed stroke travel.

## Features and Benefits

- Positive shutoff
- Excellent chemical resistance
- End-of-cycle snuff-back
- Diaphragm life exceeds 50 million cycles

## For use with

- Braze Pastes
- Epoxies
- Greases
- Paste Fluxes
- RTV / Sealants
- Solder Resists

*"Watching EFD valves is boring. And that's great. They just keep working and working."*

— Peavey Electronics



[www.nordsonefd.com/725DSeries](http://www.nordsonefd.com/725DSeries)

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

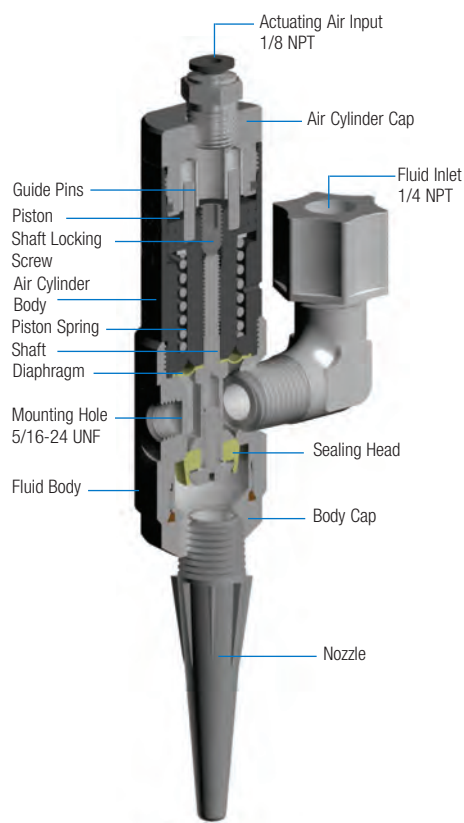
## Specifications

Size:	725DA-SS: 152.4L x 29.5DIA mm (6.00L x 1.16DIA") 725D-SS: 127.0L x 28.4DIA mm (5.00L x 1.12DIA")
Weight:	725DA-SS: 326.0 g (11.5 oz) 725D-SS: 279.0 g (9.85 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	7.0 bar (100 psi)
Fluid inlet:	1/8 NPT female
Fluid outlet:	1/4 NPT female
Mounting:	(1) 1/8 NPT female blind hole or adjustable mounting block

Air cylinder body:	Hard-coated anodized aluminum
Fluid body:	725DA-SS / 725D-SS: 303 stainless steel 725DA-AL: Aluminum
Piston:	Hard-coated anodized aluminum
Diaphragm:	UHMW* polymer, FDA-approved
Maximum operating temperature:	43° C (110° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.  
\*Ultra High Molecular Weight polyethylene

# Piston Valves



## 725HF Series High Flow Piston Valve

### 7021020 725HF-SS Valve

Hard-coat anodized aluminum air cylinder body assembly with passivated 303 stainless steel fluid body and shaft. UHMW diaphragm and sealing head. Includes 1.5 m (5 ft) input air hose with male quick-connect, fluid inlet fitting #7021038, tip adapter, and two #7018554 disposable polyethylene nozzles.

See Valve Controllers for system setup

Dispenses a wide variety of fluids at rates up to 450 ml/second. Use to fill small bottles, vials, and foil packs with lotions, perfumes, and adhesives. Also used for dispensing braze pastes and potting electrical connectors.

### Features and Benefits

- FDA-compliant wetted parts
- Fully adjustable flow rates
- $\pm 1^\circ$  repeat fill tolerance
- Low-maintenance design

### For use with

- Adhesives
- Cosmetics
- Creams
- Greases
- Lubricants
- Inks
- Sealants



[www.nordsonefd.com/725HFSeries](http://www.nordsonefd.com/725HFSeries)

Order Valve Replacement Parts:  
[www.nordsonefd.com/ValveKits](http://www.nordsonefd.com/ValveKits)

## Specifications

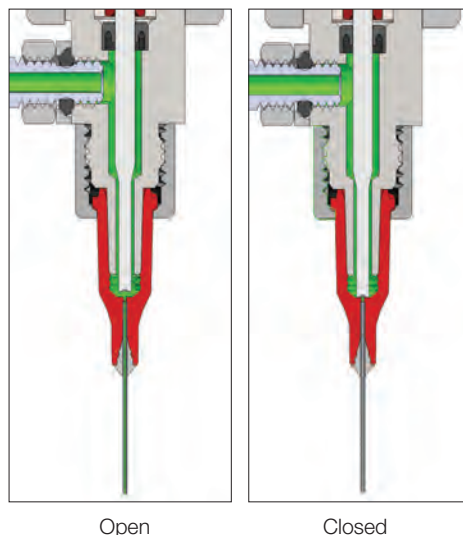
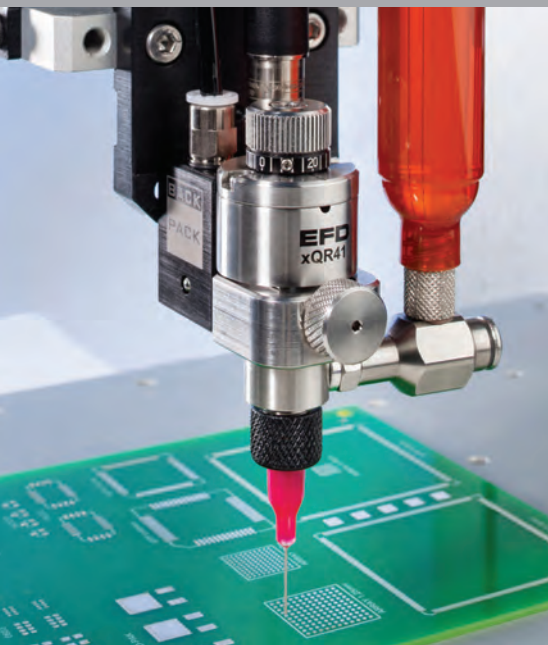
Size:	725HF-SS: 108.7L x 31.2DIA mm (4.28L x 1.23DIA")
Weight:	725HF-SS: 309.0 g (10.9 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	7.0 bar (100 psi)
Fluid inlet:	1/4 NPT
Fluid outlet:	1/4 NPT
Mounting:	(1) 5/16 UNF or adjustable mounting block
Cycle rate:	Exceeds 400 per minute

Air cylinder body:	Hard-coated anodized aluminum
Fluid body:	303 stainless steel or acetal copolymer
Piston:	Hard-coated anodized aluminum
Diaphragm:	UHMW* polymer, FDA-approved
Maximum operating temperature:	43° C (110° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.

\*Ultra High Molecular Weight polyethylene

# Needle Valves



The xQR41 Series MicroDot™ valve is a pneumatically operated, adjustable, modular valve designed to apply precise micro-deposits of low- to high-viscosity fluids.

Ideal for automated assembly processes that require small dispensing tips, the xQR41 valve provides exceptional control as well as the absolute minimum dead fluid volume. Its modular design makes it adaptable to a variety of specific applications.

## Features and Benefits

- 60% smaller form factor
- QR (Quick Release) clasp for fast, easy serviceability
- Exchangeable, modular design
- Consistent microdots as small as 150 µm (0.15 mm) (0.006") diameter
- Optional PEEK wetted parts resist curing from reactive adhesives

## For use with

- Anaerobics\*
- Cyanoacrylates\*
- Epoxies
- Fluxes
- Lubricants
- Primers
- Silicone Oils
- Solvents
- UV-cure & Light-cure Adhesives

\*Conditional use with PEEK wetted parts

## xQR41 Series MicroDot Valve

### xQR41 with Backpack

Includes fluid inlet fittings #7020671 and #7361411.

#### 7360817

Includes adjustable stroke control.

#### 7361761

Includes adjustable stroke control and PEEK wetted parts.

#### 7360821

Includes adjustable stroke control and bullet-end needle.

#### 7360819

Includes non-adjustable cap and cup-end needle.

### xQR41 with Mounting Block

Includes fluid inlet fittings #7020671 and #7361411.

#### 7360824

Includes adjustable stroke control.

#### 7361763

Includes adjustable stroke control and PEEK wetted parts.

See Valve Controllers for system setup



[www.nordsonefd.com/xQR41Series](http://www.nordsonefd.com/xQR41Series)

## Specifications

Size:	66.0L x 23.7DIA mm (2.60L x 0.93DIA")
Weight:	141.4 g (5.0 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	7.0 bar (100 psi)
Fluid inlet:	M5
Fluid outlet:	Luer taper with retaining nut
Mounting:	M4 (BackPack actuator or Mounting Block)
Cycle rate:	Exceeds 400 per minute
Air cylinder body:	303 stainless steel

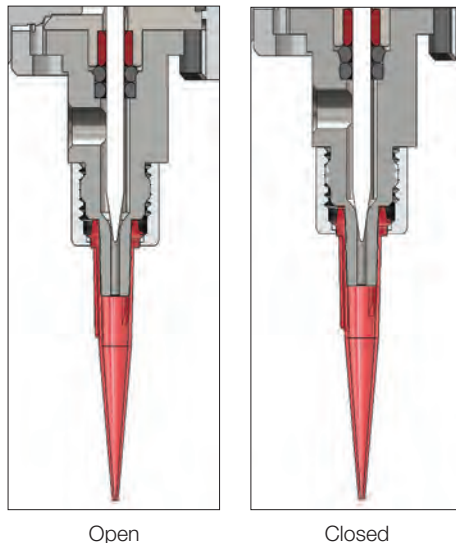
Fluid body:	303 stainless steel or PEEK*
Piston:	303 stainless steel
Needle and nozzle:	303 stainless steel or PEEK
Tip retaining nut:	Hard-coated aluminum
SafetyLok collar:	Hard-coated anodized aluminum
Maximum operating temperature:	80° C (176° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.

\*Polyetheretherketone



# Needle Valves



## xQR41V Series Needle Valve

### xQR41V with Backpack

Includes fluid inlet fittings #7020671 and #7361411.

### 7362489

Includes adjustable stroke control.

### xQR41V with Mounting Block

Includes fluid inlet fittings #7020671 and #7361411.

### 7362488

Includes adjustable stroke control.

See Valve Controllers for system setup

The xQR41V Series needle valve is a pneumatically operated, adjustable, modular valve designed to apply precise amounts of low- to high-viscosity fluids.

The valve's 60% smaller form factor and modular design allow for greater customization to meet specific application requirements. Its compatibility with all Nordson EFD dispensing tips make it adaptable to a wide variety of fluid applications.

### Features and Benefits

- 60% smaller form factor
- QR (Quick Release) clasp for fast, easy serviceability
- Exchangeable, modular design
- Use with full range of Nordson EFD dispensing tips

### For use with

- Accelerators
- Marking Inks
- Silicone Oils
- Solvents
- UV-cure & Light-cure Adhesives

Order Valve Replacement Parts:  
[www.nordsonefd.com/ValveKits](http://www.nordsonefd.com/ValveKits)

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

Size: 64.0L x 23.7DIA mm (2.50L x 0.93DIA")

Weight: 115.0 g (4.1 oz)

Actuating air pressure required: 4.8–6.2 bar (70–90 psi)

Maximum fluid pressure: 7.0 bar (100 psi)

Fluid inlet: M5

Fluid outlet: Luer taper with retaining nut

Mounting: M4 (BackPack actuator or Mounting Block)

Cycle rate: Exceeds 400 per minute

Air cylinder body: 303 stainless steel

Fluid body: PEEK\*

Piston: 303 stainless steel

Needle and nozzle: 303 stainless steel

Tip retaining nut: Hard-coated aluminum

SafetyLok collar: Hard-coated anodized aluminum

Maximum operating temperature: 80° C (176° F)

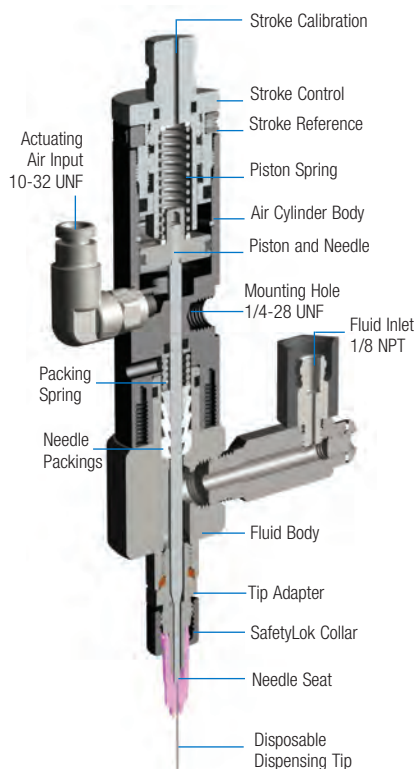
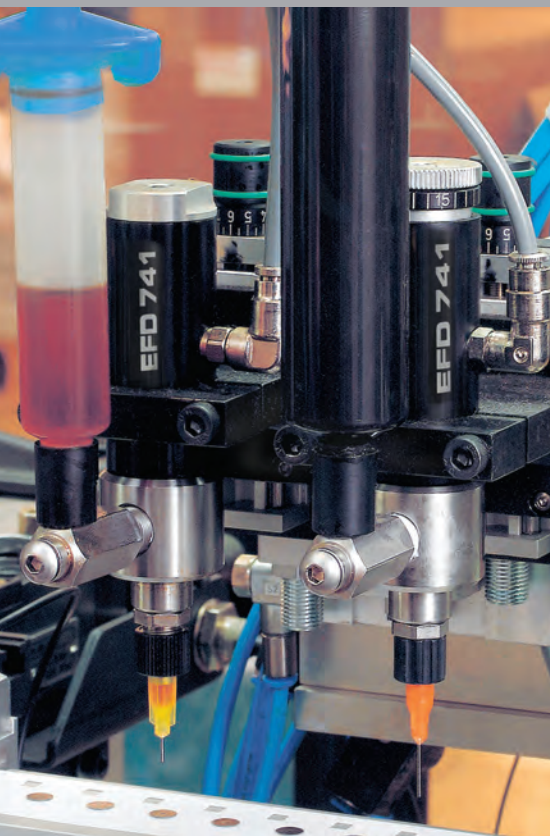
Warranty: 1 year, limited

All stainless steel parts are passivated.

\*Polyetheretherketone



# Needle Valves



## 741MD-SS Series MicroDot Valve

### 7021233 741MD-SS Valve

Fluid body is passivated 303 stainless steel. Air cylinder body is hard-coated anodized aluminum. Includes fluid inlet fitting #7021499.

### 7015585 741MD-SS-BP Valve

Fluid body is passivated 303 stainless steel. Air cylinder body is hard-coated anodized aluminum. Includes fluid inlet fitting #7021499 and Backpack valve actuator.

See Valve Controllers for system setup

The 741MD-SS MicroDot valve is a pneumatically operated adjustable needle valve designed to apply very precise deposits down to fractions of a microliter.

Ideal for automated assembly processes, the 741MD-SS valve has an adjustable needle stroke with a unique calibration feature that allows the user to maintain exact deposit size.

### Features and Benefits

- Zero dead fluid volume
- Easy calibration; short setup time
- Consistent microdots as small as 0.18 mm (0.007") diameter
- Unaffected by entrapped air in fluids

### For use with

- Epoxies
- Lubricants
- Marking Inks
- Solvents
- UV-cure & Light-cure Adhesives



[www.nordsonefd.com/741MDSeries](http://www.nordsonefd.com/741MDSeries)

Order Valve Replacement Parts:  
[www.nordsonefd.com/ValveKits](http://www.nordsonefd.com/ValveKits)

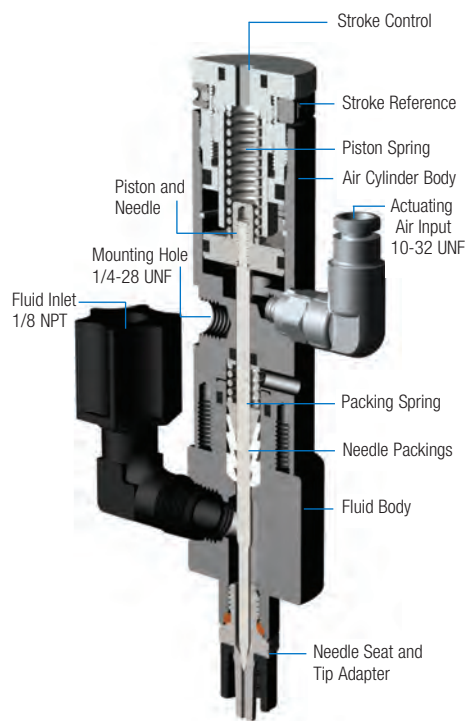
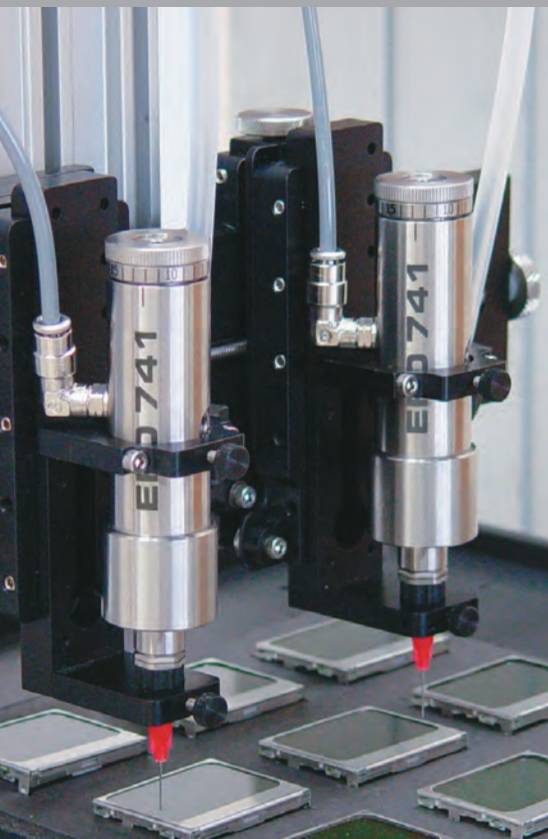
## Specifications

Size:	127.5L x 26.9DIA mm (5.02L x 1.06DIA")
Weight:	251.0 g (9.0 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	7.0 bar (100 psi)
Fluid inlet:	1/8 NPT female
Fluid outlet:	Luer taper with retaining nut
Mounting:	1/4-28 UNF tapped hole
Cycle rate:	Exceeds 400 per minute
Air cylinder body:	Hard-coated anodized aluminum

Fluid body:	303 stainless steel
Piston:	303 stainless steel
Needle and nozzle:	303 stainless steel
Tip adapter:	303 stainless steel
SafetyLok collar:	Hard-coated anodized aluminum
Maximum operating temperature:	43° C (110° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.

# Needle Valves



## 741V Series Needle Valve

### 7007029 741V-SS Valve

Air cylinder body and fluid body are passivated 303 stainless steel. Includes fluid inlet fittings #7021499 and #7007038.

### 7021235 741V-AL Valve

Air cylinder body and fluid body are hard-coated anodized aluminum. Includes fluid inlet fittings #7021499 and #7007038.

### 7015584 741V-SS-BP Valve

Air cylinder body and fluid body are passivated 303 stainless steel. Includes fluid inlet fittings #7021499 and #7007038 and Backpack valve actuator.

See Valve Controllers for system setup

The 741V precision needle valve applies low viscosity fluids in accurate, repeatable amounts. Because the stainless steel needle seats in the tip adapter, there is virtually no dead fluid volume between shots.

### Features and Benefits

- Low-maintenance design
- Zero dead fluid volume
- Positive shutoff

### For use with

- Accelerators
- Marking Inks
- Silicone Oils
- Solvents
- UV-cure Adhesives

*"After we installed your valve system on our automatic assembly machines, the dripping – and the complaints – ended."*

– A.T. Cross Company



[www.nordsonefd.com/741VSeries](http://www.nordsonefd.com/741VSeries)

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

Size: 114.6L X 26.9DIA mm (4.51L X 1.06DIA")

Weight: 317.5 g (11.2 oz)

Actuating air pressure required: 4.8–6.2 bar (70–90 psi)

Maximum fluid pressure: 20.7 bar (300 psi)

Fluid inlet: 1/8 NPT female

Fluid outlet: Male luer lock

Mounting: 1/4-28 UNF tapped hole

Cycle rate: Exceeds 400 per minute

Air cylinder body: 741V-SS / 741V-SS-BP: 303 stainless steel  
741V-AL: Hard-coated anodized aluminum

Fluid body: 741V-SS / 741V-SS-BP: 303 stainless steel  
741V-AL: Hard-coated anodized aluminum

Piston: 303 stainless steel

Needle and nozzle: 303 stainless steel

Tip adapter: 303 stainless steel

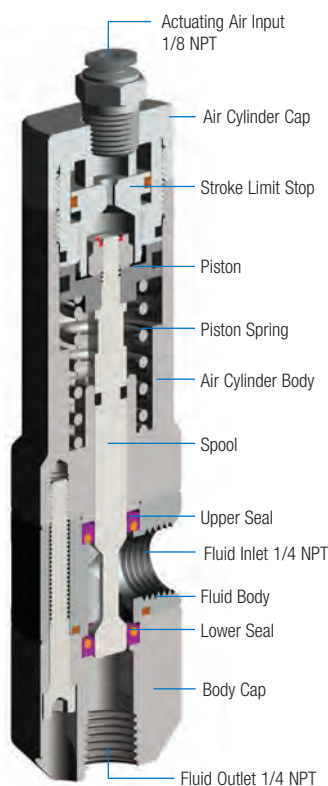
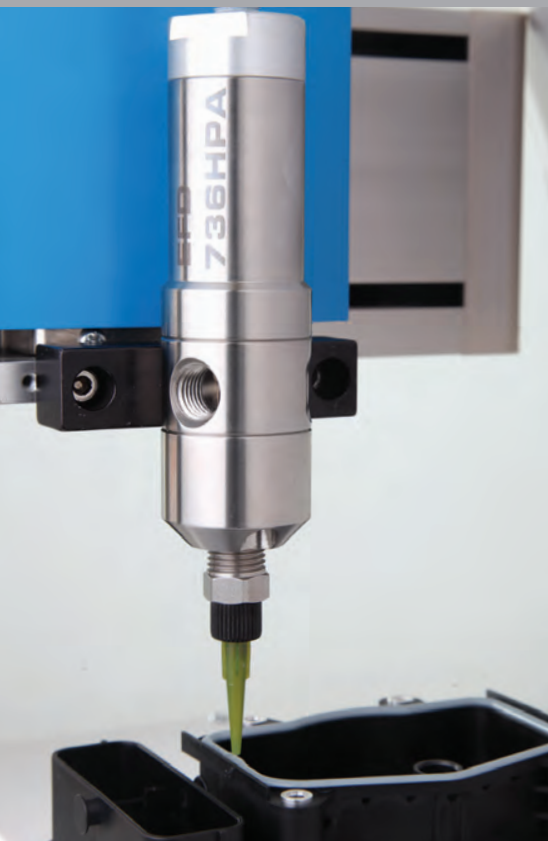
SafetyLok collar: Nylon

Maximum operating temperature: 43° C (110° F)

Warranty: 1 year, limited

All stainless steel parts are passivated.

# High Pressure Valves



## 736HPA-NV Series High Pressure Valve

### 7013449 736HPA-NV Valve Chromium-plated spool

Fluid body and air cylinder body are passivated 303 stainless steel with a chromium-plated spool. The fluid inlet and outlet threads are 1/4 NPT female.

### 7028951 736HPA-NV Valve Titanium nitride-coated spool

Fluid body and air cylinder body are passivated 303 stainless steel with a titanium nitride-coated spool. The fluid inlet and outlet threads are 1/4 NPT female.

High pressure fluid inlet fittings are not supplied by EFD. They are available from the pump supplier. Specify inlet size 1/4 NPT.

See Valve Controllers for system setup

The 736HPA stainless steel balanced spool valve applies uniform amounts of thick materials like greases and silicones at pressures up to 172 bar (2500 psi).

To keep dots and lines consistent and prevent drooling between shots, the 736HPA-NV valve uses an adjustable stroke control to regulate opening surge and closing snuff-back.

### Features and Benefits

- Opening surge control
- Adjustable snuff-back cutoff
- Auxiliary air inlet air-assist closure
- Cycle rate exceeds 400/minute

### For use with

- Adhesives
- Greases
- Sealants
- Silicones



[www.nordsonefd.com/736Series](http://www.nordsonefd.com/736Series)

Order Valve Replacement Parts:  
[www.nordsonefd.com/ValveKits](http://www.nordsonefd.com/ValveKits)

## Specifications

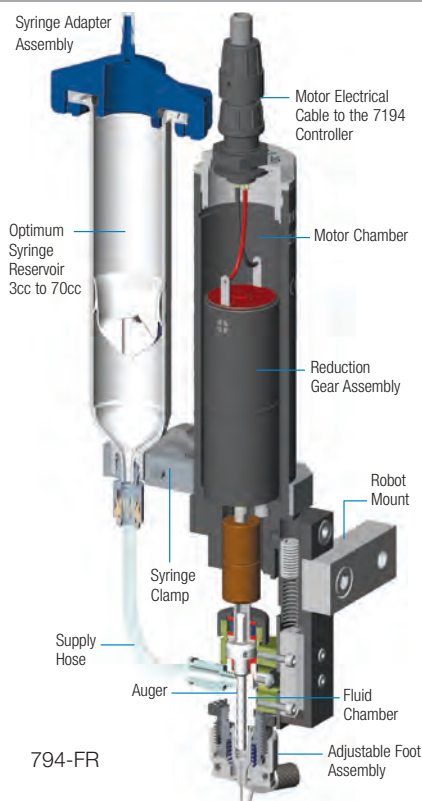
Size:	134.4L x 35.1DIA mm (5.29L x 1.38DIA")
Weight:	544.0 g (19.2 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	172 bar (2500 psi)
Fluid inlet:	1/4 NPT female
Fluid outlet:	1/4 NPT female
Mounting:	(1) 5/16-24 UNF tapped hole or adjustable mounting block

Cycle rate:	Exceeds 400 per minute
Air cylinder body:	303 stainless steel
Fluid body:	303 stainless steel
Piston:	Hard-coated anodized aluminum
Spool:	Hard-chrome coated stainless
Spool seals:	Polyester elastomer
Warranty:	1 year, limited

All stainless steel parts are passivated.



# Auger Valves



794-FR

## 794 Series Auger Valve

**7029745 794-FR Valve**  
8 pitch, brush motor, fixed head.

**7029746 794-FR-16 Valve**  
16 pitch, brush motor, fixed head.

**7363512 794-TC Valve 0.10 mm**  
High flow (double pitch), brush motor, 0.10 mm (0.004") gap, tungsten carbide – recommended for fluids with large particles < 40 µm.

See 7194 Valve Controller for system setup

Learn more about EFD custom-made solder pastes. See Solder Products for details.

Learn more about EFD thermal interface materials. See Thermal Compound for details.

Auger valves use screw-feed technology with precision time and pressure controls to dispense accurate, repeatable amounts of particle-filled materials, thermal interface materials (TIM), or other highly abrasive pastes. The auger assembly can be easily replaced to change the gap size as needed.

The robust tungsten carbide (TC) auger screw and fluid body liner on the 794-TC valve resists wear from highly abrasive pastes to ensure long valve life.

### Features and Benefits

- Adjustable auger speed
- Adjustable flow rate
- Fast, tool-free release of wetted parts
- Wear-resistant tungsten carbide wetted parts for higher production output (794-TC only)

### For use with

- Thermal Interface Materials
- Particle-filled Materials
- Solder Pastes
- Thermal Greases

*"We've gone from 30 minutes to 4 minutes to solder an assembly. I look like a hero for introducing this."*

— Automotive Assembly



[www.nordsonefd.com/794Series](http://www.nordsonefd.com/794Series)



[www.nordsonefd.com/794-TCSeries](http://www.nordsonefd.com/794-TCSeries)

## Specifications

Size:	794: 237.5L x 31.8DIA mm (9.35L x 1.25DIA") 794-TC: 61.0L x 32.0DIA mm (2.4L x 1.25 DIA")
Weight:	794: 544.0 g (19.2 oz) / 794-TC: 470.0 g (16.6 oz)
Auger speed (dry):	794: 250–500 RPM based on voltage input 794-TC: 170–400 RPM based on voltage input
Auger pitch:	794: 8, 16 / 794-TC: High flow (double pitch)
Input voltage:	12–24 VDC (<10% ripple)
Maximum acceleration:	2.0 g (0.07 oz)
Maximum continuous current:	794: 240 mA / 794-TC: 240 mA (time delay fuse recommended)
Maximum fluid pressure:	2.0 bar (30 psi)
Fluid inlet:	794: 304 stainless steel, 10-32 UNF x 5/32" 794-TC: 1/8" ID tubing supplied for connection Optional push-in fitting: Polypropylene

Mounting:	10-32, low profile
Luer lock tip adapter assembly (794-TC only):	303 stainless steel
Fluid body (794 only):	440C hardened stainless steel
Fluid inlet tube (794-TC only):	303 stainless steel
Fluid cartridge liner (794-TC only):	Tungsten carbide
Auger:	794: 440C hardened stainless steel 794-TC: Tungsten carbide
Approvals:	China RoHS
Warranty:	1 year, limited

All stainless steel parts are passivated.

# Radial Spinner Systems



The Radial Spinner System applies consistent amounts of adhesives, lubricants, and other production fluids inside cylindrical parts between 10.2 mm (0.4") and 127.0 mm (5.0") in diameter.

The system combines a compact air-driven motor with a low maintenance EFD dispense valve and ValveMate controller. The valve dispenses a precisely metered amount of fluid onto a spinning disk attached to the motor. As fluid reaches the edge of the disk, it spins off, forming a neat band inside the part.

## Features and Benefits

- Applies correct amount on every part
- Applies material in correct location
- Eliminates waste, mess, and rework
- Operates in vertical or horizontal position

## For use with

- Anaerobics
- Cyanoacrylates
- Lubricants
- Silicone Gels
- Solvents

### RADIAL SPINNER / DISC ASSEMBLIES

Shaft length is 70 mm (2.75") x 3.18 mm (0.125") diameter

Part #	Description
7021842	7880-9MM: 9 mm (0.354") radial spinner/disc
7021836	7880-12MM: 12 mm (0.473") radial spinner/disc
7021838	7880-15MM: 15 mm (0.590") radial spinner/disc
7021840	7880-19MM: 19 mm (0.745") radial spinner/disc

### DISPENSING TIPS

Part #	Description
7021846	18 gauge needle – 30 degree bend 20/box
7021844	Tip kit: Includes (2) each of 18, 21, and 23 gauge bent tips
7021448	Tip adapter: Rotating luer lock tip for 752V valve

## Radial Spinner System

### 7021798 7860C-RS

#### Air Motor Bracket Assembly

Radial spinner motor/bracket assembly. Includes all hoses, #7021844 tip kit, and #7021448 rotating luer lock tip adapter.

### 7021795 7860C

Radial spinner air motor only.

See Spray Valve Controllers for system setup

Note: Valves purchased separately. We recommend 752V Series Diaphragm Valves for use with the Radial Spinner System.

*"In manufacturing, reliability is everything. That's what we get from EFD valves. If all our equipment worked as well...our jobs would be easier."*

— Ford Motor Company



[www.nordsonefd.com/RadialSpinner](http://www.nordsonefd.com/RadialSpinner)



# ValveMate Controllers



Automated dispensing stations run at maximum speed and efficiency when EFD dispense valves are operated by ValveMate controllers. The ValveMate 8000 Multi-Valve Controller provides the primary control for deposit size. The controller is designed to bring fluid dispensing control close to the dispense valve and provide numerous user-friendly features that simplify valve setup and operation.

Capable of operating up to (4) dispense valves independently or simultaneously, the ValveMate 8000 controller and control air solenoids offer state-of-the-art features and capability, maximizing automated assembly machine efficiency and convenience.

### Features and Benefits

- 4 independent programmable actuation channels
- Maximum process control
- “On the fly” deposit adjustment
- Easily interfaced with a PLC
- Fast-response pneumatic solenoids

## ValveMate 8000 Multi-Valve Controller

**7022004 8000 Multi-Valve Controller**  
Includes controller, stand, panel mount bezel and spring clips, filter regulator, and air manifold assembly with pre-wired pressure sensor.

**Order single or dual valve solenoid assemblies separately.**  
For each ValveMate 8000 ordered, select the appropriate solenoid assembly for the number of valves used. Each solenoid kit includes the pre-wired 6 pin connector and housing, 3.6 m (12 ft) cable cordset, input air hose, and push-in fittings.

**7022246 Single**  
Single in-line solenoid for one valve operation.

**7022247 Dual**  
Dual-solenoid block for two valve operation.

**7022249 Quad**  
Quad-solenoid block for four valve operation.

Order power cord separately.

**7014871 American Plug Power Cord Kit**

**7014872 European Plug Power Cord Kit**

See next page for compatible valves

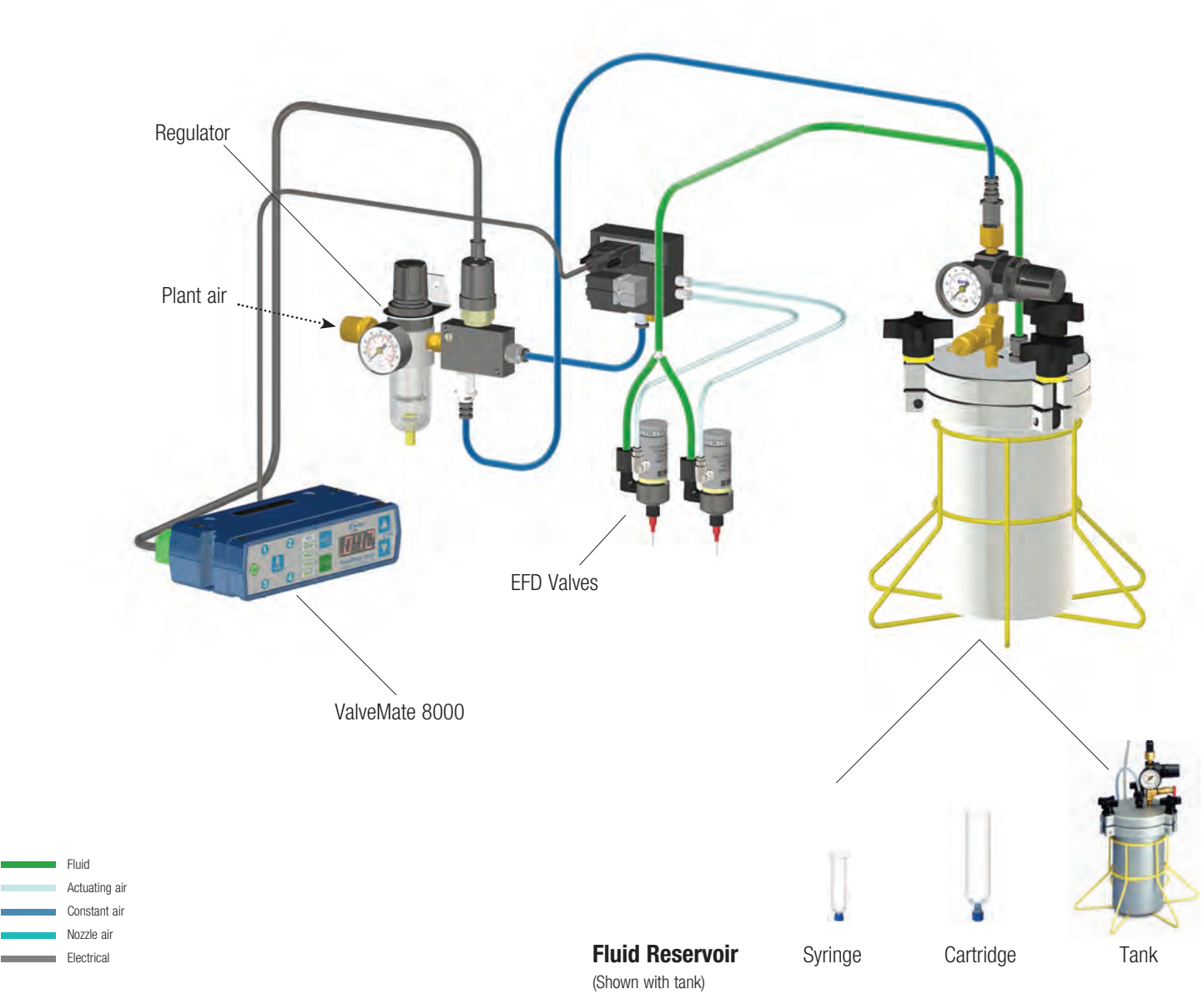
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

### Specifications

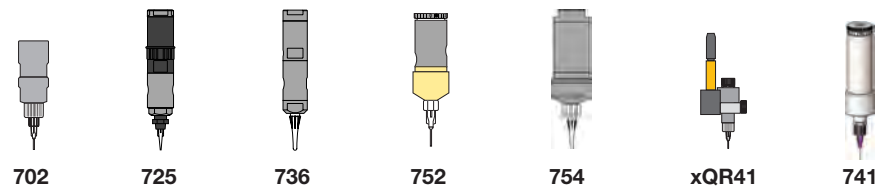
Cabinet size:	18.3w x 5.1h x 8.6d cm (7.20w x 2.00h x 3.38d")
Weight:	0.3 kg (0.6 lb)
Cycle rate:	Exceeds 600 per minute
Time range:	0.001–99.9 s
Input AC (to power supply):	100–240 VAC, 50/60Hz

Output DC (from power supply):	24 VDC, 1.25 Amp maximum
Feedback circuits:	5–24 VDC NC solid-state switch, 100 mA maximum
Cycle initiate:	5–24 VDC signal
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	1 year, limited

# ValveMate 8000 Valve Controller – System Setup



## For use with



## Accessories



# ValveMate Controllers



## ValveMate 7100 Single Valve Controller

### 7015340 7100 Single Valve Controller

Includes controller, stand, panel mount bezel and spring clips, filter regulator, and air manifold assembly with pre-wired pressure sensor. Order power cord separately.

### 7014871 American Plug Power Cord Kit

### 7014872 European Plug Power Cord Kit

See next page for compatible valves

The ValveMate 7100 Single Valve Controller puts push-button adjustment of valve open time in increments as small as 0.001 seconds, right at the dispensing station. The result is exceptional process control without time-consuming programming or mechanical adjustments that require the production line to be shut down.

The controller is designed for semi-automated or fully automated dispensing applications and features an internal control air solenoid.

## Features and Benefits

- Maximum process control
- Intuitive, easy operator interface
- Cost-effective
- Simple to set up and operate
- Easily interfaced with a PLC

*"We had a skilled technician spending 8 to 10 hours a week adjusting equipment. By putting a controller at each dispense valve station, we've reduced that time to almost zero."*

— A.T. Cross Company

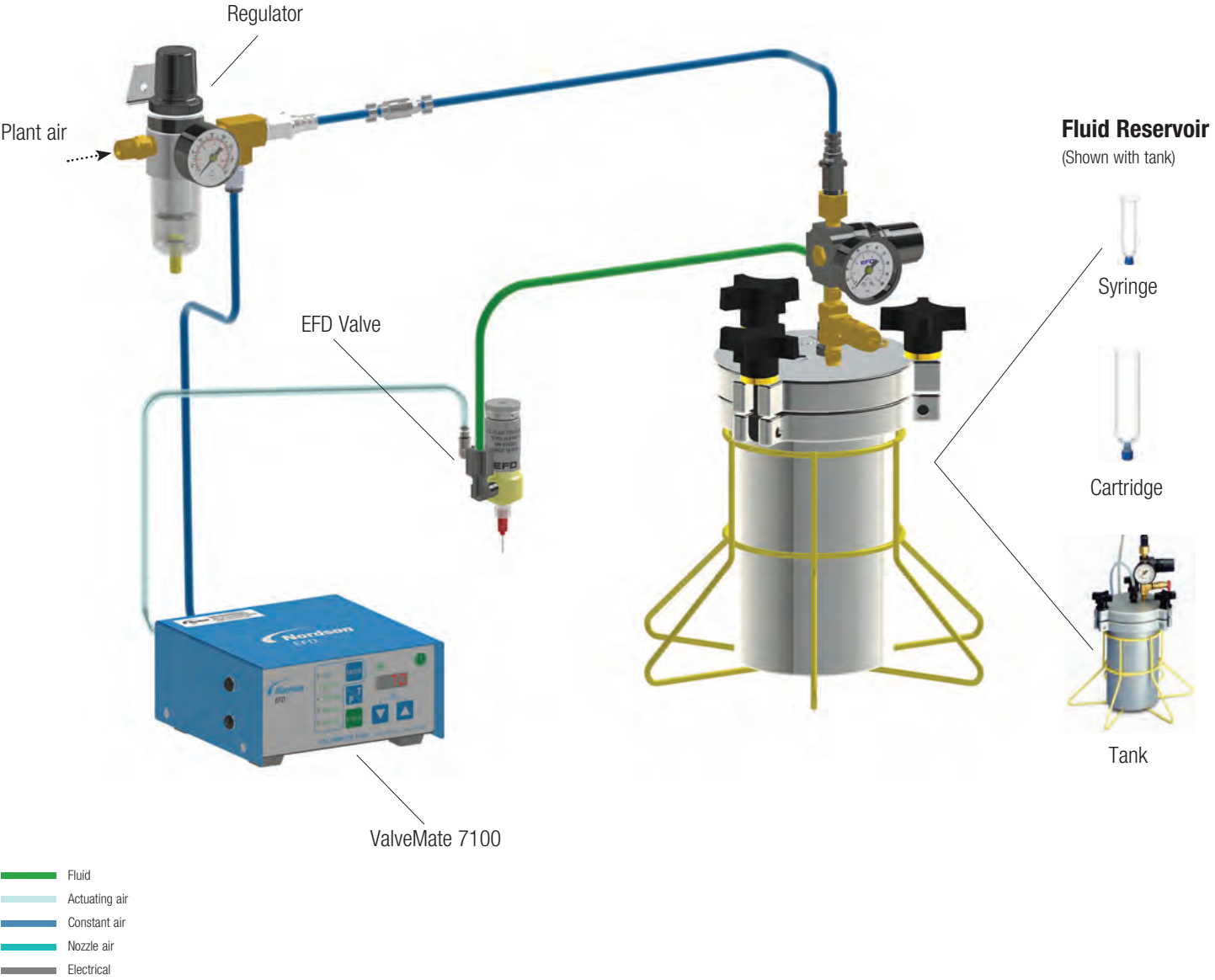
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

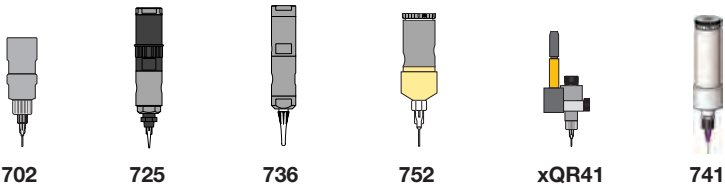
Cabinet size:	14.0w x 6.8h x 14.2d cm (5.51w x 2.68h x 5.59d")
Weight:	1.2 kg (2.9 lb)
Cycle rate:	Exceeds 600 per minute
Time range:	0.001–99.9 s
Electrical power input:	24 VDC (+/-5%), 0.63 Amp maximum
External power adapter:	100–240 VAC (+/-10%), ~50/60Hz input, 24 VDC (+/-5%), 0.63 Amp output, Switchcraft S761K locking DC plug or equivalent, wall mount, changeable AC plugs

Feedback circuits:	5–24 VDC NC solid-state switch, 100 mA maximum
Cycle initiate:	5–24 VDC signal, foot pedal, or contact closure initiate
Input air pressure:	4.8–6.9 bar (70–100 psi)
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	1 year, limited

# ValveMate 7100 Valve Controller – System Setup



## For use with



## Accessories







ValveMate 7194  
Auger Valve Controller

**7362374 7194 Auger Valve Controller**  
0–7.0 bar (0–100 psi). Includes controller, input air hose and fittings, and 5-micron filter/regulator with air lubricator. Order power cord separately.

**7360201 7194 Auger Valve Controller**  
0–2.0 bar (0–30 psi). Includes controller, input air hose and fittings, and 5-micron filter/regulator with air lubricator. Order power cord separately.

**7014871 American Plug Power Cord Kit**

**7014872 European Plug Power Cord Kit**

See next page for compatible valves

The ValveMate 7194 Controller provides a fast, convenient way to adjust valve open time in increments as small as 0.001 seconds. This provides exceptional process control and eliminates the need to reprogram a PLC.

A precision air pressure regulator provides precise pressure control to the barrel reservoir and can be operated in continuous or pulse mode. The controller is available in a 0–2.0 bar (0–30 psi) version for solder pastes, silver conductive epoxies, and other filled fluids, and a 0–7.0 bar (0–100 psi) version for dispensing thicker filled materials, such as thermal compounds. Each 794 / 794-TC Series Auger Valve requires a ValveMate 7194 Controller for optimal valve performance.

Features and Benefits

- “On the fly” deposit adjustments
- Reverse capability mode provides clean cutoff for highly sticky materials
- Motor voltage range of 10–24 VDC
- Continuous or pulse pressure mode to reservoir
- Nonvolatile, power-off memory

Specifications

Cabinet size:	20.0w x 6.8h x 14.2d cm (7.87w x 2.68h x 5.59d")
Weight:	1.8 kg (3.9 lb)
Cycle rate:	Exceeds 400 per minute
Time range:	0.001–99.9 s
Electrical power input:	30 VDC (+/-2%), 1.33 Amp maximum
External power adapter:	100–240 VAC (+/-10%), ~50/60Hz input, 30 VDC (+/-2%), 1.33 Amp output, Switchcraft S761K locking DC plug or equivalent, desktop type, AC input: IEC 320 inlet

Feedback circuits:	EOC Out and Alarm Out: Electronic switch, 24 VDC, 100 mA maximum
Cycle initiate:	5–24 VDC signal, foot pedal, or contact closure initiate
Input air pressure:	4.5–7.0 bar (65–100 psi)
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	1 year, limited



# ValveMate 7194 Valve Controller – System Setup

**Fluid Reservoir**  
(Shown with syringe)



Cartridge

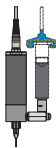
EFD Valve

- Fluid
- Actuating air
- Constant air
- Nozzle air
- Electrical

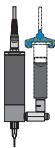
Regulator

Plant air

ValveMate 7194



794



794-TC

**For use with**

# Precision Spray Valve Systems

## Spray Valves / Controllers



Engineered for the most demanding mechanical and environmental applications, EFD spray valve systems provide reliable dispensing solutions for benchtop applications, machine builders, and cost-effective drop-in retrofit alternatives for automatic production lines.

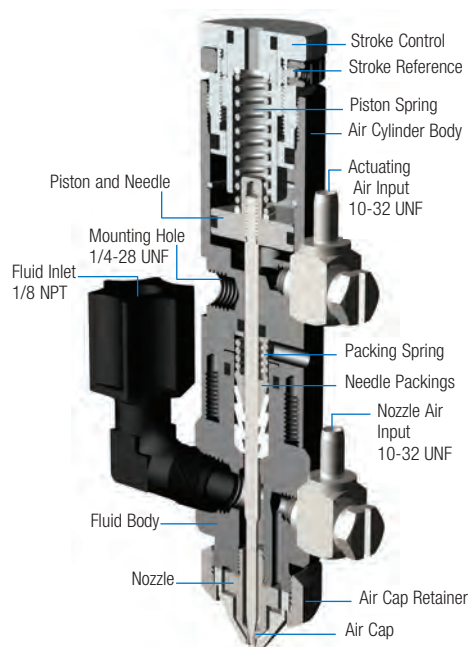
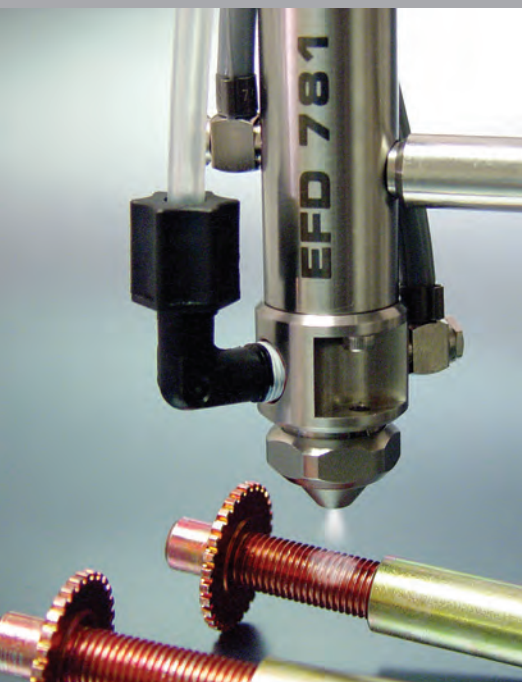
EFD offers a wide range of valves for spraying almost any fluid, from activators, coatings, inks, oils, and solvents—in accurate, repeatable amounts.

Our unique spray valve designs are exceptionally reliable and will provide tens of millions of trouble-free dispensing cycles before maintenance is required.

### Features and Benefits

- Reliable, low maintenance
- Fast cycle rates allow production lines to run at optimal speed
- Engineered for the most demanding production environments
- Clean, drip-free cutoffs reduce waste, mess, and cleanup
- Interactive microprocessor-based controllers simplify PLC settings and provide consistent operation
- Cost-effective replacement for older technology valves

# Spray Valves



The 781S Series Low Volume Low Pressure (LVLP) spray systems apply consistent coatings of low- to medium-viscosity fluids exactly where needed.

Microliter to milliliter amounts can be reliably dispensed in round patterns with diameters ranging from 4.3 to 50.8 mm (0.17 to 2.0") and in fan patterns with widths up to 165.1 mm (6.5").

## Features and Benefits

- Consistent area of coverage
- No clogging, dripping, or drying out
- No overspray, no mist, no bounce
- Adjustable nozzle air

## For use with

- Activators
- Coatings
- Greases
- Inks
- Liquid Fluxes
- Oils
- Silicones
- Solvents

### SPRAY PATTERNS



## 781S Series General Purpose Spray Valve

### 7007031 781S-SS Spray Valve

Nozzle size is 1.17 mm (0.046") diameter. Round pattern, narrow angle. All metal parts are passivated 303 stainless steel.

### 7021600 781S-AL Spray Valve

Nozzle size is 1.17 mm (0.046") diameter. Round pattern, narrow angle. Fluid body and air cylinder body are aluminum.

### 7021615 781S-SS-46F

Nozzle size is 1.17 mm (0.046") diameter, fan shape. All metal parts are passivated 303 stainless steel.

### 7021611 781S-SS-14

Nozzle size is 0.36 mm (0.014") diameter. Round pattern, narrow angle. All metal parts are passivated 303 stainless steel.

### 7021613 781S-SS-28

Nozzle size is 0.71 mm (0.028") diameter. Round pattern, narrow angle. All metal parts are passivated 303 stainless steel.

### 7021618 781S-SS-WF

Same as 781S-SS-46F except wide fan pattern is 2x the width.

See Spray Valve Controllers for system setup

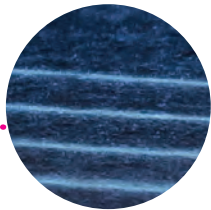
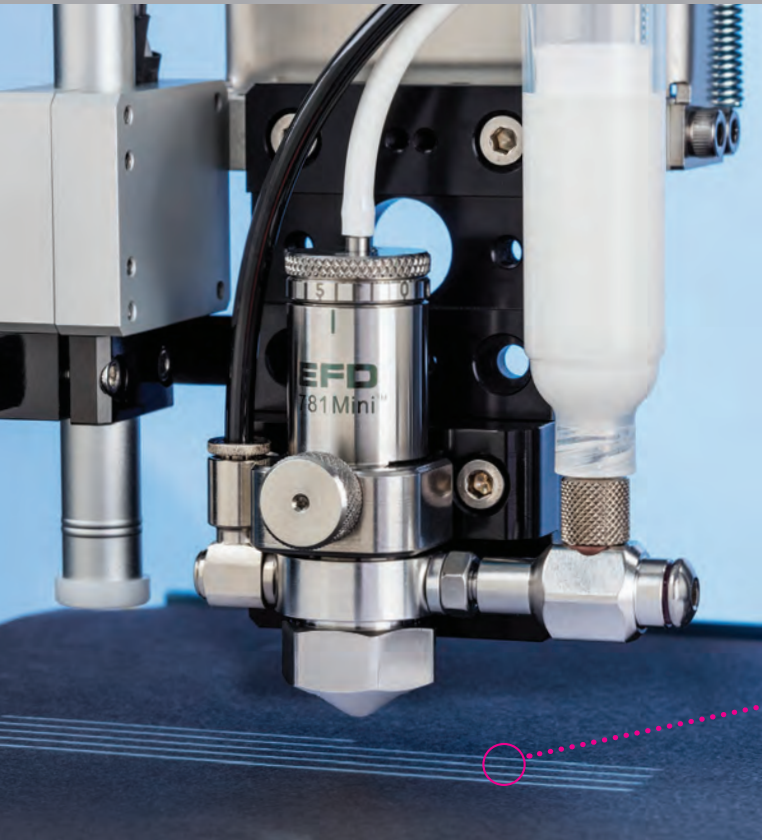
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

Size:	104.6L x 26.9DIA mm (4.12L x 1.06DIA")
Weight:	781S-SS: 405.3 g (14.2 oz) 781S: 235.3 g (8.2 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	20.7 bar (300 psi)
Fluid inlet:	1/8 NPT female
Mounting:	(1) 1/4-28 UNF tapped hole
Cycle rate:	Exceeds 400 per minute

Air cylinder body /	781S-SS: 303 stainless steel
Fluid body:	781S-AL: Aluminum
Air cap:	303 stainless steel
Piston:	303 stainless steel
Needle and nozzle:	303 stainless steel
Maximum operating temperature:	102° C (215° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.



Narrow spray patterns  
as small as 1 mm wide

781Mini Series  
Spray Valve

**7364002 781Mini-0.01" Valve**  
Features a 0.254 mm (0.01") nozzle orifice.  
Round pattern, narrow angle.

**7362301 781Mini-0.03" Valve**  
Features a 0.76 mm (0.03") nozzle orifice.  
Round pattern.

See Spray Valve Controllers for system setup

The 781Mini™ precision Low Volume Low Pressure (LVLP) spray valve’s innovative design produces an exceptionally more uniform, narrower spray pattern than previously possible.

Its 60% smaller form factor allows it to dispense in tighter, more complex spaces, and to mount more valves per fixture plate for increased throughput.

Features and Benefits

- Improved uniformity for better accuracy and finer edge definition
- Narrower spray patterns as small as 1 mm (0.04") wide
- QR (Quick Release) clasp for tool-free serviceability in seconds
- High transfer efficiency with no overspray

For use with

- Activators
- Coatings
- Inks
- Light Greases & Oils
- Liquid Fluxes
- Silicone Oils
- Solvents



Order Valve Replacement Parts:  
[www.nordsonefd.com/ValveKits](http://www.nordsonefd.com/ValveKits)

Specifications

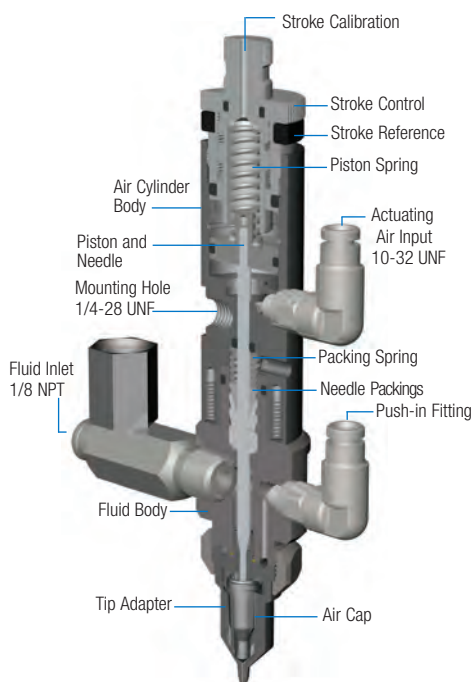
Size:	71.4L x 22.4DIA mm (2.88L x 0.88DIA")
Weight:	141.0 g (5.0 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	7.0 bar (100 psi)
Fluid inlet:	M5
Mounting:	M4
Cycle rate:	Exceeds 400 per minute

Air cylinder body:	303 stainless steel
Fluid body:	303 stainless steel
Air cap:	303 stainless steel
Piston:	303 stainless steel
Needle and nozzle:	303 stainless steel
Maximum operating temperature:	102° C (215° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.



# Spray Valves



## 787MS-SS Series MicroSpray Valve

### 7029409 787MS-SS Valve with Centering Air Cap

Accommodates Tip Centering Guide. Includes spray tip kit, air hoses, fluid inlet fitting, barrel reservoirs, and adapter assembly for reservoir pressure.

### 7012549 787MS-SS Valve

Does not accept Tip Centering Guide.

See Spray Valve Controllers for system setup

The 787MS-SS precision spray valve uses Low Volume Low Pressure (LVLP) technology to produce uniform spray patterns between 3.3 mm (0.130") and 19.1 mm (0.75") in diameter.

Innovative design uses a small gauge 0.3–0.1 mm (0.013–0.004") ID disposable dispensing tip in place of a standard spray nozzle. This concentrates the LVLP air used to atomize the coating into uniform spray patterns as small as 3.3 mm (0.130") in diameter — over 30% smaller than EFD's standard spray valve configuration.

### Features and Benefits

- High transfer efficiency
- No overspray or mist
- Consistent spray pattern
- Faster throughput

### For use with

- Activators
- Coatings
- Inks
- Liquid Fluxes
- Oils
- Silicones
- Solvents

### TIP CENTERING GUIDE

The Tip Centering Guide ensures proper alignment of the dispensing needle in critical spray applications. Order components separately.

Part #	Description
7027984	Replacement air cap
7027985	Centering Guide, 27/33 ga
7029405	Centering Guide, 23 ga
7029406	Centering Guide, 25 ga
7029407	Centering Guide, 30 ga
7029408	Centering Guide, 32 ga



[www.nordsonefd.com/787MS-Series](http://www.nordsonefd.com/787MS-Series)

## Specifications

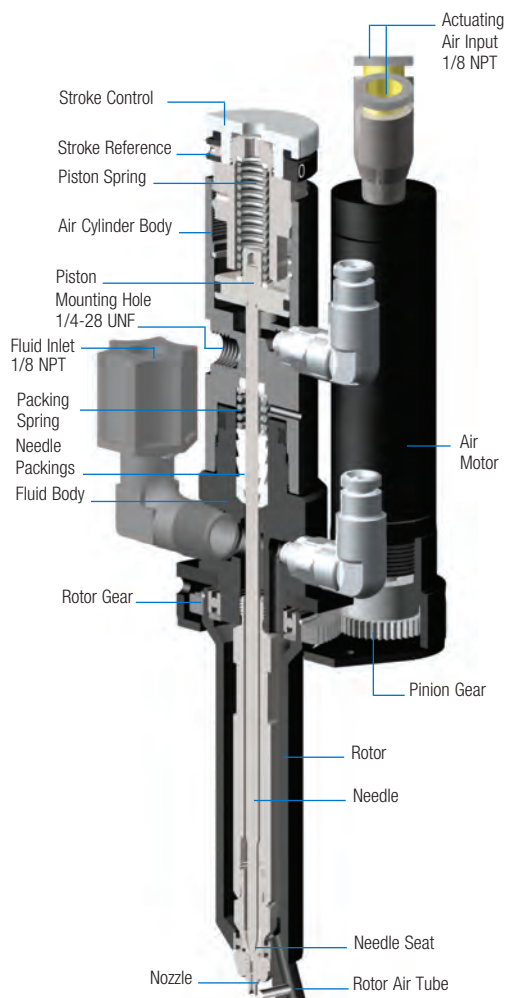
Size:	131.6L x 26.9DIA mm (5.18L x 1.06DIA")
Weight:	336.0 g (11.8 oz)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	7.0 bar (100 psi)
Fluid inlet:	1/8 NPT female
Mounting:	1/4-28 UNF tapped hole
Cycle rate:	Exceeds 400 per minute

Air cylinder body:	303 stainless steel
Fluid body:	303 stainless steel
Air cap:	303 stainless steel
Piston:	303 stainless steel
Needle and nozzle:	303 stainless steel
Maximum operating temperature:	102° C (215° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.



# Radial Spray Valves



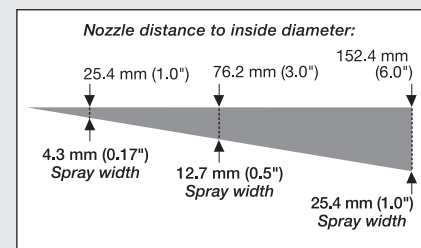
## 782RA Series Radial Spray Valve

### 7021649 782RA Radial Spray Valve

Rotor length is 5.59 cm (2.2") and reaches into cylinders with a minimum inner diameter of 2.54 cm (1.0"). Includes fluid inlet fittings #7021499 and #7007038.

Fluid body and rotor are hard-coat anodized aluminum. Each valve can be calibrated with the stroke reference knob for process control. Radial valves include fluid inlet fittings and two 1.5 m (5 ft) control air hoses with fittings to connect the valve to the ValveMate 7160RA controller.

See 7160RA Valve Controller for system setup



Spray coverage shown 1/3 actual size.

Unique design uses a precision air motor and Low Volume Low Pressure technology to apply a uniform coating of lubricants, primers and other low- to medium-viscosity fluids inside cylinders 25.4 mm to 304.8 mm (1" to 12") in diameter.

### Features and Benefits

- Adjustable nozzle air
- High transfer efficiency
- Self-adjusting PTFE packings
- No mist or overspray

### For use with

- Accelerators
- Activators
- Lubricants
- Primers
- Solvents

*"Your valve did such a good job there's no reason to look elsewhere. I know it works."*

— DLS Automation

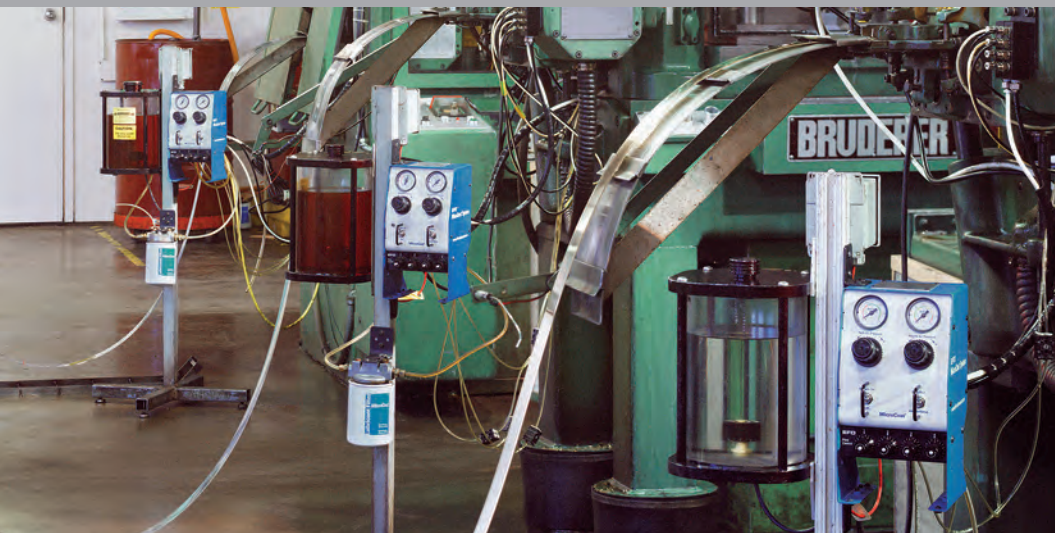
## Specifications

Size:	174.5L x 53.8DIA mm (6.87L x 2.12DIA")
Weight:	480.8 g (16.9 oz)
Motor air consumption:	< 0.3 SCFM at 5.4 bar (80 psi)
Nozzle air consumption:	1.5 SCFM at 2.1 bar (30 psi)
Actuating air pressure required:	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure:	20.7 bar (300 psi)
Fluid inlet:	1/8 NPT female
Mounting:	1/4-28 UNF tapped hole

Cycle rate:	Exceeds 300 per minute
Air cylinder body:	Hard-coated anodized aluminum
Fluid body:	Hard-coated anodized aluminum
Piston:	303 stainless steel
Needle and nozzle:	Stainless steel
Rotor:	Hard-coated anodized aluminum
Warranty:	1 year, limited

All stainless steel parts are passivated.  
US Patent No. D376,376

# Microcoat Lubrication System



The MC800 MicroCoat® System is a patented, different type of stock lubrication system that lets metal stampers apply the perfect amount of oil for each job.

The MC800 Controller operates up to eight valves. Precision flow controls permit the amount of lubricant applied by each valve to be adjusted independently. Valves can be mounted above or below the stock. When the system is initiated, steady air pressure supplied to the reservoir forces lubricant through the filter and flow controls, and out to the valves.

Whether you are looking for steady or pulsed lubrication, these unique lubrication systems provide uniform coverage without overspray or mist, using much less oil.

## Features and Benefits

- Even, uniform coverage
- Expandable, modular system
- On the fly adjustment of oil coating
- No overspray or mist
- Easy “plug and play” setup

## For use with

- Blank Stock Coating
- Can End Pull Tabs
- Coil Stock Slitting
- Cooling Fin Forming
- Fine Blanking
- Foil Rolling
- Rust Prevention
- Tube Forming
- Valve/Wire Coating

## MC800 MicroCoat Lubrication System

Configure a system in 4 steps:

### 1. Choose the Base System

Includes MC800 controller, tank, fluid manifold, flow control components, air manifold, and filter / regulator.

# of Valves	Part #	Tank Size
1-2	7012656	3.8 L (1.0 gal)
3-4	7365970	7.5 L (2.0 gal)

### 2. Choose the Valves

Includes valve mounting clamp.

Valve	Part #	Spray Pattern
MC785M	7008020	Standard (up to 76 mm / 3" of coverage)
MC785M-WF	7008013	Wide (up to 152 mm / 6" of coverage)

### 3. Choose the Solenoid

Only one required. Includes cordset and bracket.

Input Power	Part #
24 VDC	7008014
120 VAC	7022160
220 VAC	7022161

### 4. Add Optional Accessories

The most commonly selected accessories are shown.

Accessories	Part #
Controller stand	7008017
Lubricant filter	7022156
Filter elements, 4 per box	7017347



[www.nordsonefd.com/MicrocoatVideo](http://www.nordsonefd.com/MicrocoatVideo)

## Specifications

### MC785M and MC785M-WF Valves

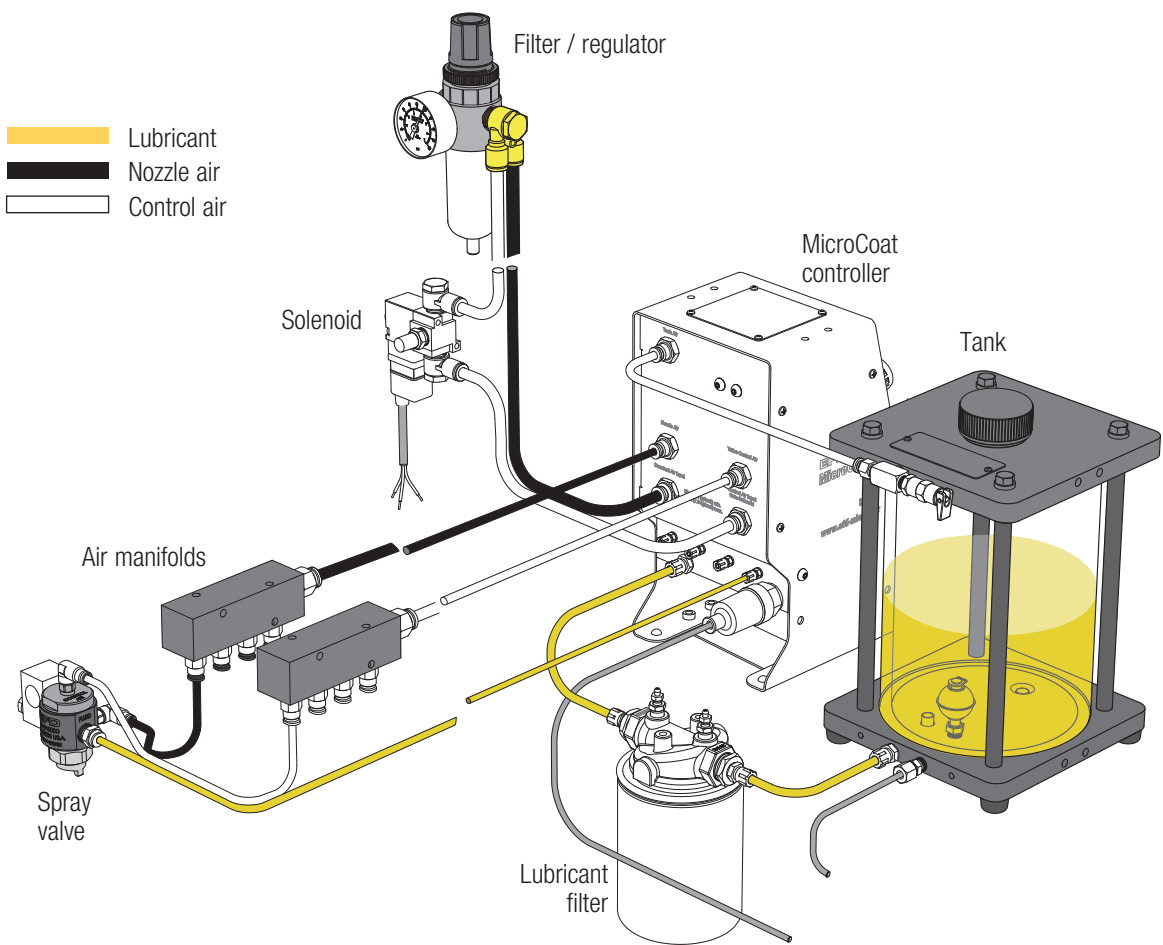
Size (with fittings):	66.3L x 49.3DIA mm (2.61L x 1.94DIA")
Weight:	206.4 g (7.3 oz)
Lubricant inlet hole:	1/8 NPT
Mounting:	6 mm tapped hole
Cycle rate:	Up to 60 per minute
Lubricant chamber:	Hard-coated anodized aluminum
Air cap:	303 stainless steel
Diaphragm:	Viton® with PTFE coating
Needle and nozzle:	303 stainless steel
Nozzle diameter:	1.17 mm (0.046")

### MC800 Controller

Cabinet size:	14.6W x 19.1D x 27.6H cm (5.75W x 7.50D x 10.88H")
Weight:	4.8 kg (10.6 lb)
Cycle rate:	Up to 60 per minute
Pressure switch rating:	20VA, 240V
Air input required:	4.1 bar (60 psi) minimum
Tank air pressure regulator:	2.0 bar (30 psi) maximum
Nozzle air regulator:	2.0 bar (30 psi) maximum
Approvals:	CE, UKCA
Warranty:	1 year, limited

All stainless steel parts are passivated.  
US Patent No. D398,705

# MicroCoat Lubrication System – System Setup



Typical MicroCoat system

Base Systems			
Part #	Description		
7012656	MicroCoat system with 3.8 L (1.0 gal) tank, pre-configured for up to 2 valves		
7365970	MicroCoat system with 7.5 L (2.0 gal) tank, pre-configured for up to 4 valves		
Assemblies Included in Base Systems			
Part #	Description	7012656	7365970
7008008	MicroCoat controller, 0–7 bar (0–100 psi)	1	1
7023843	MicroCoat tank, 3.8 L (1.0 gal)	1	0
7023846	MicroCoat tank, 7.5 L (2.0 gal)	0	1
7008010	Fluid manifold with sensor	1	1
7008004	Flow control for MicroCoat lubricant	2	4
7008005	Flow control block-off plug	2	0
7022157	Air manifold, 4 port	1	1
7022158	Filter / regulator	1	1



# ValveMate Spray Controllers



The ValveMate 8040 Spray Valve Controller provides precise control of nozzle air flow and spray time.

Features include an adjustable external actuating air and nozzle air manifold block, (2) independent programmable actuation channels, programmable shut-off delay of nozzle air to provide a post-cycle nozzle cleaning, digital time readout and push-button time change with separate test cycle button.

### Features and Benefits

- 2 independent programmable actuation channels
- Low Volume Low Pressure (LVLP) for high transfer efficiency
- Cutoff air delay (0 to 2.5 seconds)
- Nonvolatile, power-off memory
- Fast-response pneumatic solenoids

## ValveMate 8040 Spray Valve Controller

**7022120 8040 Spray Valve Controller**  
Includes controller, stand, panel mount bezel and spring clips, filter regulator, and air manifold assembly with pre-wired pressure sensor.

**Order single or dual valve solenoid assemblies separately.**  
For each ValveMate 8040 ordered, select the appropriate solenoid assembly for the number of spray valves used. Each solenoid kit includes the pre-wired 6 pin connector and housing, 3.6 m (12 ft) cable cordset, input air hose, and push-in fittings.

**7022250 Single**  
Solenoid valve kit, two in-line solenoids for nozzle/actuating air.

**7022251 Dual**  
Solenoid valve kit, two dual blocks for nozzle/actuating air.

Order power cord separately.

**7014871 American Plug Power Cord Kit**

**7014872 European Plug Power Cord Kit**

See next page for compatible valves

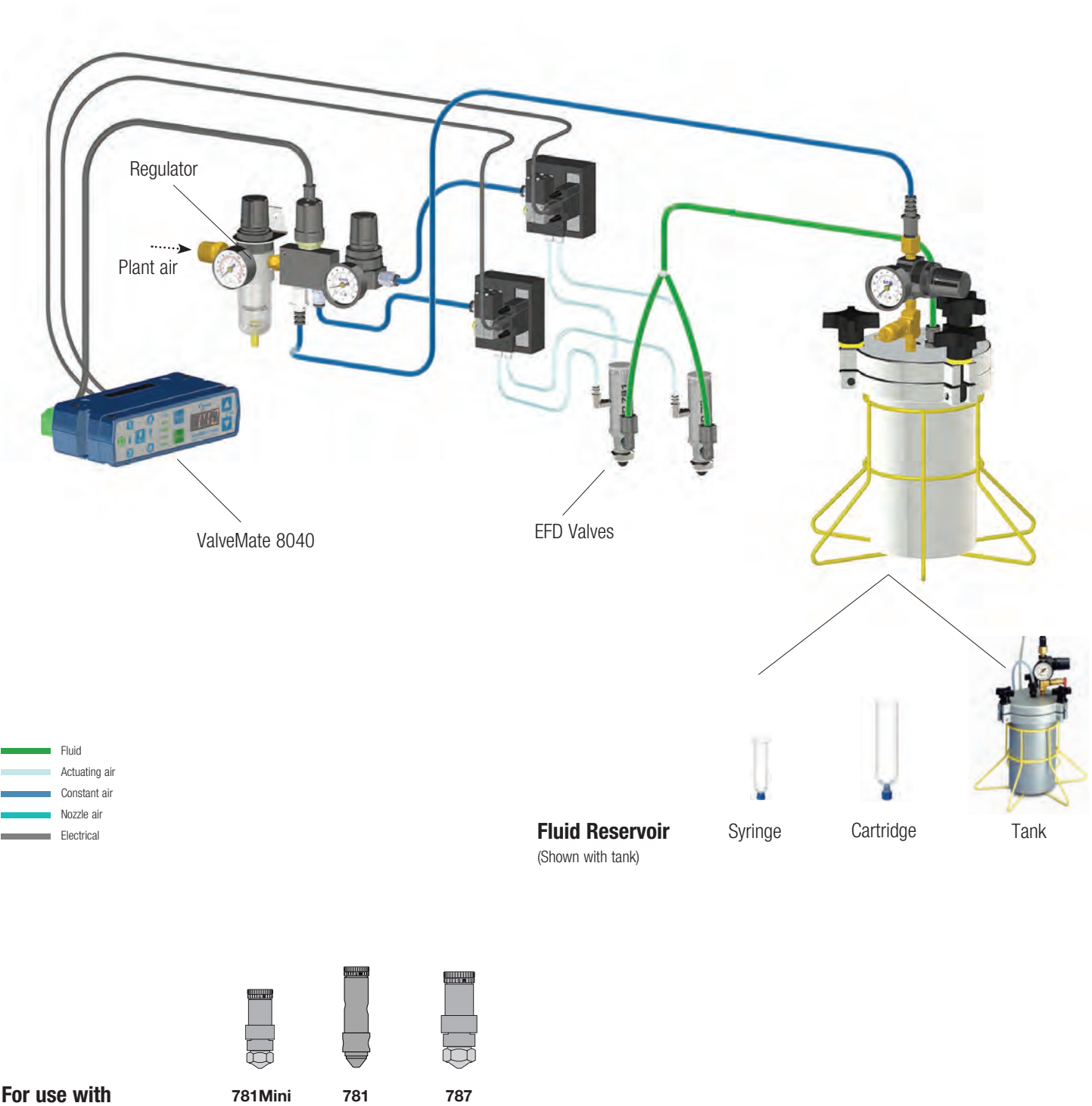
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

### Specifications

Cabinet size:	18.3w x 5.1h x 8.6d cm (7.20w x 2.00h x 3.38d")
Weight:	0.3 kg (0.6 lb)
Cycle rate:	Exceeds 400 per minute
Time range:	0.001–99.9 s
Input AC (to power supply):	100–240 VAC, 50/60Hz

Output DC (from power supply):	24 VDC, 1.25 Amp maximum
Feedback circuits:	5–24 VDC NC solid-state switch, 100 mA maximum
Cycle initiate:	5–24 VDC signal
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	1 year, limited

# ValveMate 8040 Valve Controller – System Setup





# ValveMate Spray Controllers



## ValveMate 7140 Single Spray Valve Controller

### 7015341 7140 Spray Valve Controller

Features 0–2.0 bar (0–30 psi) nozzle air pressure control. Includes controller, stand, panel mount bezel and spring clips, filter regulator, and air manifold assembly with pre-wired pressure sensor. Order power cord separately.

### 7015429 7140 Spray Valve Controller

Features 0–7.0 bar (0–100 psi) nozzle air pressure control for spraying thicker materials. Includes controller, stand, panel mount bezel and spring clips, filter regulator, and air manifold assembly with pre-wired pressure sensor. Order power cord separately.

### 7014871 American Plug Power Cord Kit

### 7014872 European Plug Power Cord Kit

See next page for compatible valves

The ValveMate 7140 Spray Valve Controller is designed for single spray valve applications and features internal solenoids. It is a fast, convenient way to adjust spray valve open time in increments as small as 0.001 seconds.

Adjustable nozzle air pressure regulator provides Low Volume Low Pressure (LVLP) air to the nozzle for high transfer efficiency without overspray. The result is exceptional spray pattern definition without time-consuming programming or mechanical adjustments that require the production line to be shut down.

The controller is designed for semi-automated or fully automated dispensing applications and features an internal control air solenoid.

### Features and Benefits

- Timed or continuous spray
- Clean, clog-free cutoff
- Fast-response pneumatic solenoids
- Digital air output display (psi/bar)
- “On the fly” adjustment

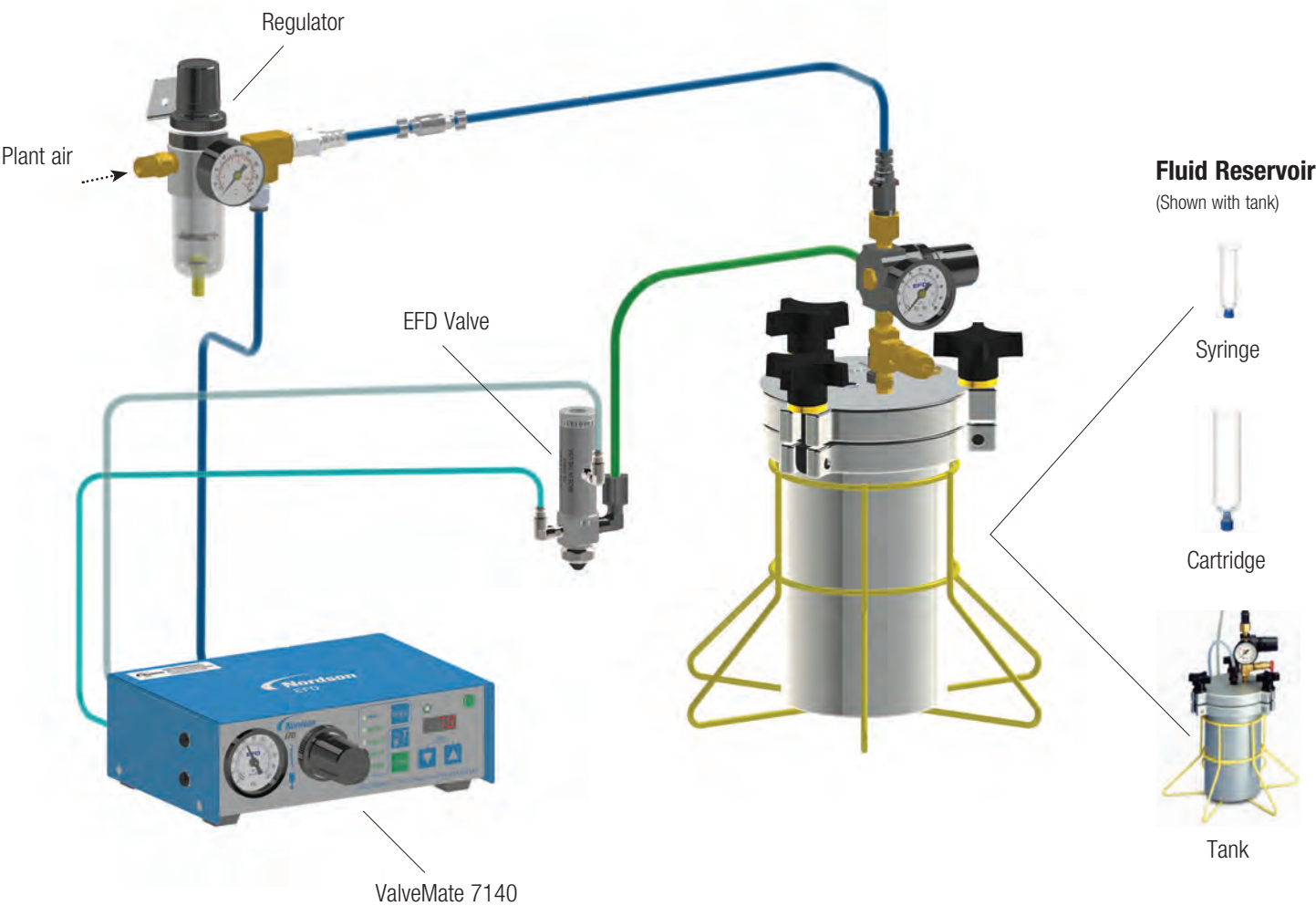
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

Cabinet size:	20.0w x 6.8h x 14.2d cm (7.87w x 2.68h x 5.59d")
Weight:	1.8 kg (3.9 lb)
Cycle rate:	Exceeds 400 per minute
Time range:	0.001–99.9 s
Electrical power input:	24 VDC (± 5%), 0.63 Amp maximum
External power adapter:	100–240 VAC (± 10%), ~50/60Hz input, 24 VDC (± 5%), 0.63 Amp output, Switchcraft S761K locking DC plug or equivalent, wall mount, changeable AC plugs

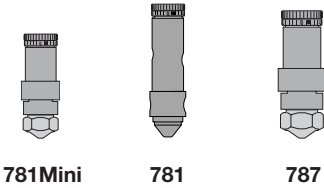
Feedback circuits:	5–24 VDC NC solid-state switch, 100 mA maximum
Cycle initiate:	5–24 VDC signal, foot pedal, or contact closure initiate
Input air pressure:	5.5–7.0 bar (80–100 psi)
Air consumption:	3 CFM at maximum 400 cycles per minute
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	1 year, limited

# ValveMate 7140 Valve Controller – System Setup



- Fluid
- Actuating air
- Constant air
- Nozzle air
- Electrical

For use with



# ValveMate Spray Controllers



## ValveMate 7160RA Radial System Controller

### 7029739 7160RA Radial Spray Valve Controller

Accessories included with each ValveMate 7160RA controller: Input air hose and fittings, 5-micron filter/regulator with air lubricator, universal mounting bracket, and power cord.

See next page for compatible valves

The ValveMate 7160RA Controller provides the proper controls required for consistent radial valve operation.

Unique microprocessor circuitry provides precise control of nozzle air, valve open time, and drive motor control solenoid.

Features include digital readout of spray on-time and nozzle air pressure. The 7160RA also includes a programmable shutoff delay and a test cycle button to initiate spray cycles during setup.

### Features and Benefits

- Timed or continuous spray/air motor rotation
- Fast-response pneumatic solenoids
- Easily interfaced with a PLC
- Push-button time setting or one touch time programming



Radial Spray System



Radial Spinner System

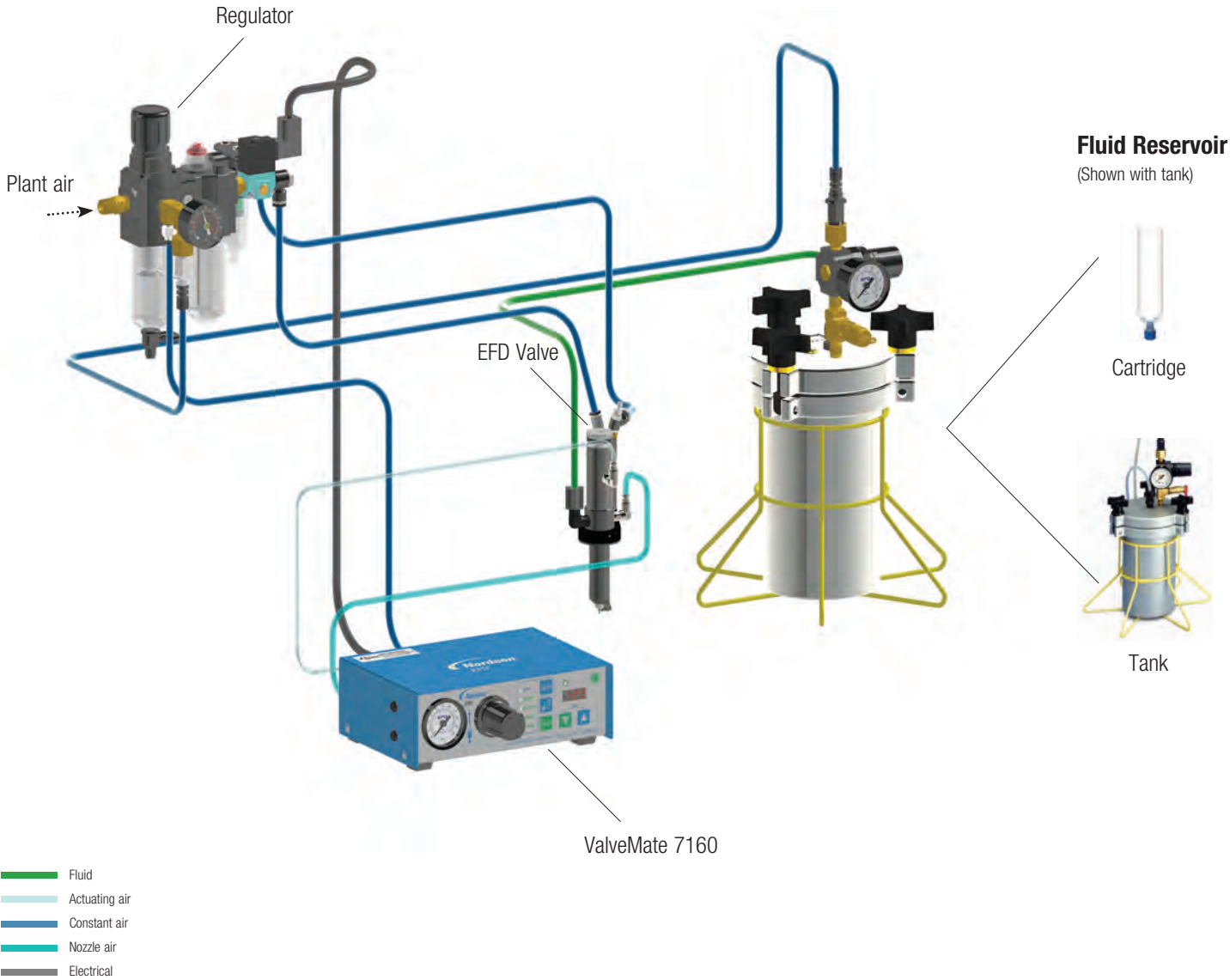
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

### Specifications


Cabinet size:	20.0w x 6.8h x 14.2d cm (7.87w x 2.68h x 5.59d")
Weight:	1.8 kg (3.9 lb)
Cycle rate:	Exceeds 400 per minute
Time range:	0.001–99.9 s
Electrical power input:	24 VDC (± 5%), 0.63 A maximum
External power adapter:	100–240 VAC (± 10%), ~ 50/60 Hz input, 24 VDC (± 5%), 0.63 A output, Switchcraft S761K locking DC plug or equivalent, wall mount, changeable AC plugs

Feedback circuits:	EOC Out & Alarm Out: Electronic switch, 24 VDC, 100 mA maximum
Cycle initiate:	5–24 VDC signal, foot pedal, or contact closure initiate
Input air pressure:	5.5–7.0 bar (80–100 psi)
Air consumption:	3 CFM at maximum 400 cycles per minute
Approvals:	CE, UKCA, TUV, RoHS, WEEE, China RoHS
Warranty:	1 year, limited


# ValveMate 7160 Valve Controller – System Setup



**For use with**



**782RA**



**7860C-RS**

# Precision Volumetric Dispensing Systems

## Progressive Cavity Pumps (PCP) / Controllers



For applications that require volumetric dispensing independent of fluid viscosity or changes in viscosity over time, Nordson EFD offers the 797PCP Series progressive cavity pumps and 7197PCP controllers.

Designed with core components — a rotor and stator — that form a perfectly sealed metering chamber, the 797PCP pump prevents shear, pulsation, and squeezing of assembly fluids. This makes it ideal for dispensing highly viscous, filled, or abrasive pastes and shear-sensitive fluids.

The self-sealing chamber dispenses exact, repeatable volumes of fluid as small as 0.01 mL per revolution for exceptional process control. EFD also offers a 797PCP-2K pump for highly accurate metering and dispensing of two-part assembly fluids. Compatibility with EFD static mixers allows us to deliver a total system solution.

Our 7197PCP Series controllers include ValveMate benchtop and DIN rail versions. Each offers intuitive programming of the 797PCP and 797PCP-2K pumps to deliver deposit volume accuracy and repeatability of  $\pm 1\%$ . The controllers provide multiple programming modes — Line, Volume, Weight, or Timed — to meet the unique needs of your application.





# Progressive Cavity Pump Systems



The 797PCP progressive cavity pump dispenses exact, repeatable volumes of fluid as small as 0.01 mL per revolution for applications that require extremely reliable process control. Designed with a perfectly sealed metering chamber, the pump provides continuous volumetric dispensing of a wide range of fluids independent of fluid viscosity or changes in viscosity over time. A stainless-steel pump is available for medical device dispensing applications.

Its continuous seal prevents shear, pulsation, and squeezing of the fluid, making the 797PCP ideal for dispensing abrasive, filled materials, and UV-cure adhesives.

## Features and Benefits

- Highly precise fluid volume accuracy and repeatability of  $\pm 1\%$
- Deposit volume assurance improves process control
- Continuous volumetric dispensing independent of viscosity variation
- Suck-back feature provides clean cut-off to eliminate drip and drool
- Modular design for versatile use. Easy disassembly reduces downtime for maintenance

## For use with

- Adhesives & UV-cure Adhesives
- Epoxies
- Greases & Oils
- Silicones
- Solder Pastes\*
- Thermal Greases\*, RTVs & Sealants

\*Conditional depending on filler percentage, type, size, and characteristics. Contact EFD for recommendation.

## 797PCP Series Pump

### 7364197 797PCP-0.01 Pump

Features 0.01 mL dispensing volume per revolution and flow rate of 0.13 to 1.95 mL per minute. Anodized aluminum construction.

### 7364198 797PCP-0.05 Pump

Features 0.05 mL dispensing volume per revolution and flow rate of 0.59 to 8.85 mL per minute. Anodized aluminum construction.

### 7364199 797PCP-0.15 Pump

Features 0.15 mL dispensing volume per revolution and flow rate of 1.63 to 24.5 mL per minute. Anodized aluminum construction.

### 7366147 SS-797PCP-0.15 Pump

Features 0.15 mL dispensing volume per revolution and flow rate of 1.63 to 24.50 mL per minute. Stainless-steel construction.

### 7366004 797PCP-0.30 pump

Features 0.30 mL dispensing volume per revolution and flow rate of 0.30 to 45.0 mL per minute. Anodized aluminum construction.

See PCP Controllers for system setup



[www.nordsonefd.com/797PCPSeries](http://www.nordsonefd.com/797PCPSeries)

## Specifications

Size:	797PCP-0.01 / 0.05: 261.4L x 36.0DIA mm (10.29L x 1.42DIA") 797PCP-0.15 / 0.30: 297.9L x 36.0DIA mm (11.73L x 1.42DIA") SS-797PCP-0.15: 298.8L x 36.0DIA mm (11.76L x 1.42DIA")
Weight:	797PCP-0.01 / 0.05: 550.0 g (1.2 lb) 797PCP-0.15 / 0.30: 620.0 g (1.4 lb) SS-797PCP-0.15: 1.25 kg (2.75 lb)
Rotor speed:	10–150 RPM (depending on maximum motor speed)
Flow rate:	797PCP-0.01: 0.13–1.95 mL/min 797PCP-0.05: 0.59–8.85 mL/min 797PCP-0.15: 1.63–24.50 mL/min 797PCP-0.30: 0.30–45.0 mL/min
Dispensing volume per revolution:	797PCP-0.01: 0.009 mL 797PCP-0.05: 0.047 mL 797PCP-0.15: 0.139 mL 797PCP-0.30: 0.304 mL

Repeatability:	$\pm 1\%$
Fluid inlet:	1/8 NPT
Fluid outlet:	Luer fitting
Mounting:	M4
Fluid chamber:	Standard: Anodized aluminum Stainless steel: 303 stainless steel
Rotor:	316Ti stainless steel
Stator:	FFKM (perfluoroelastomer)
Operating temperature:	10–40° C (50–104° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.

# Progressive Cavity Pump Systems



The modular 797PCP-2K progressive cavity pumps precisely meter accurate ratios of part A and part B materials through EFD static mixers for highly repeatable dispensing of two-component assembly fluids. Compatibility with square and spiral bayonet mixers of various sizes and styles makes the 797PCP-2K versatile for use in many types of dispensing applications. A programmable suck-back feature prevents drooling at the end of each dispense cycle.

## Features and Benefits

- Highly precise, repeatable volumetric dispensing of 2K fluids
- Modular design allows for multiple mix ratio combinations for a wide range of applications
- Easy disassembly and cleaning reduces downtime for maintenance
- Total system solution — pump, controller, and EFD static mixers — provides industry-leading performance and simplifies installation

## For use with 2K fluids

- Acrylics
- Epoxies
- RTVs & Sealants
- Silicones
- Urethanes

## Recommended Mixers

- Bayonet static mixers
- Bell static mixers

[www.nordsonefd.com/2KMixers](http://www.nordsonefd.com/2KMixers)

## 797PCP-2K Series Pump

### 7364203 797PCP-2K-0.01 Pump

Features 0.01 mL dispensing volume per revolution and flow rate of 0.13 to 1.95 mL per minute.

### 7364204 797PCP-2K-0.05 Pump

Features 0.05 mL dispensing volume per revolution and flow rate of 0.59 to 8.85 mL per minute.

### 7364205 797PCP-2K-0.15 Pump

Features 0.15 mL dispensing volume per revolution and flow rate of 1.63 to 24.5 mL per minute.

### 7366005 797PCP-2K-0.30 Pump

Features 0.30 mL dispensing volume per revolution and flow rate of 0.30–45.0 mL per minute.

### 7364206 797PCP-2K Manifold

Includes one 2K manifold that is required for configuring a 797PCP-2K system. Accommodates two 797PCP-2K pumps and EFD bayonet static mixers for 2K dispensing applications.

Purchase two pumps of the same size for 1:1 ratio dispensing. For other mix ratios, consult EFD for an expert recommendation based on application testing. Manifold must be purchased separately.

See PCP Controllers for system setup



[www.nordsonefd.com/797PCPSeries-2K](http://www.nordsonefd.com/797PCPSeries-2K)

## Specifications

Size:	797PCP-0.01 / 0.05: 261.4L x 36.0DIA mm (10.29L x 1.42DIA") 797PCP-0.15 / 0.30: 297.9L x 36.0DIA mm (11.71 x 1.42DIA")
Weight:	797PCP-0.01 / 0.05: 550.0 g (1.2 lb) per pump 797PCP-0.15 / 0.30: 620.0 g (1.4 lb) per pump
Rotor speed:	10–150 RPM (depending on maximum motor speed)
Flow rate:	797PCP-0.01: 0.13–1.95 mL/min per pump 797PCP-0.05: 0.59–8.85 mL/min per pump 797PCP-0.15: 1.63–24.50 mL/min per pump 797PCP-0.30: 0.30–45.0 mL/min per pump
Dispensing volume per revolution:	797PCP-0.01: 0.009 mL per pump 797PCP-0.05: 0.047 mL per pump 797PCP-0.15: 0.139 mL per pump 797PCP-0.30: 0.304 mL per pump

Repeatability:	±1%
Fluid inlet:	1/8 NPT
Fluid outlet:	Static mixer adapter
Mounting:	M4
Fluid chamber:	Anodized aluminum
Rotor:	316Ti stainless steel
Stator:	FFKM (perfluoroelastomer)
Operating temperature:	10–40° C (50–104° F)
Warranty:	1 year, limited

All stainless steel parts are passivated.

# Progressive Cavity Pump Systems



## 7197PCP-DIN-NX Controller

### 7365704 7197PCP-DIN-NX Controller

Includes breakout board and DB-15 cable. Motor cable sold separately. Also features NX protocol via Ethernet. For 2K applications, two DIN controllers are required.

The network capable 7197PCP-DIN-NX controller provides precise control of volumetric dispensing parameters for 797PCP and 797PCP-2K Series progressive cavity pumps.

It allows direct communication with a Programmable Logic Controller (PLC) or other manufacturing plant controllers using the NX protocol (network connectivity) via Ethernet.

This technology enhancement allows operators to control all dispensing parameters directly from a PLC or computer, giving the operator complete remote control of our 797PCP volumetric dispensing pumps.

### Features and Benefits

- Ethernet control with NX protocol
- Communication between PLC and DIN controller
- Line, Volume, Weight, and Timed dispense modes for a wide range of dispensing applications
- Nordson NX Client Application included, Windows-based graphical user interface (GUI)
- Improve operational efficiency by programming 797PCP pumps directly from a central PLC
- Support Smart Factory integration using Ethernet compatibility with NX protocol
- Save time by updating multiple controllers simultaneously from a centralized location
- Verify rotor movement with encoder count feedback

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)



[www.nordsonefd.com/7197PCP-DIN-NX](http://www.nordsonefd.com/7197PCP-DIN-NX)

### Specifications

Cabinet size:	3.2w x 9.4h x 14.6d cm (1.27w x 3.70h x 5.75d")
Weight:	0.7 kg (1.5 lb)
Rotor speed:	10–150 RPM
Time range:	0.001–600,000 ms (1 s to 10 min)
Electrical power input:	24 VDC (±2%), 3.75 Amp maximum

Feedback circuits:	Electronic switch, 24 VDC, 100 mA maximum
Cycle initiate:	24 VDC signal
Approvals:	CE, TUV, RoHS, China RoHS, WEEE
Warranty:	1 year, limited



The ValveMate 7197PCP Controller puts precise adjustment of volumetric dispensing parameters at your fingertips with a high-resolution touchscreen interface. This provides intuitive control of 797PCP Series progressive cavity pumps at factory workstations.

Advanced features, such as the ability to change the rotor speed when dispensing a line around corners, deliver a high level of process control. Calibration functionality makes dispensing results more accurate and repeatable after initial setup and setup adjustments.

Features and Benefits

- Intuitive touchscreen interface streamlines pump setup and programming at the workstation
- Exact adjustment of dispensing parameters improves process control

ValveMate 7197PCP Controller

- 7364076 ValveMate 7197PCP Controller**  
Includes foot pedal. Order power cord separately. Use with 797PCP Series pumps.
- 7364177 ValveMate 7197PCP-2K Controller**  
Includes foot pedal. Order power cord separately. Use with 797PCP-2K Series pumps.
- 7014871 American Plug Power Cord Kit**
- 7014872 European Plug Power Cord Kit**

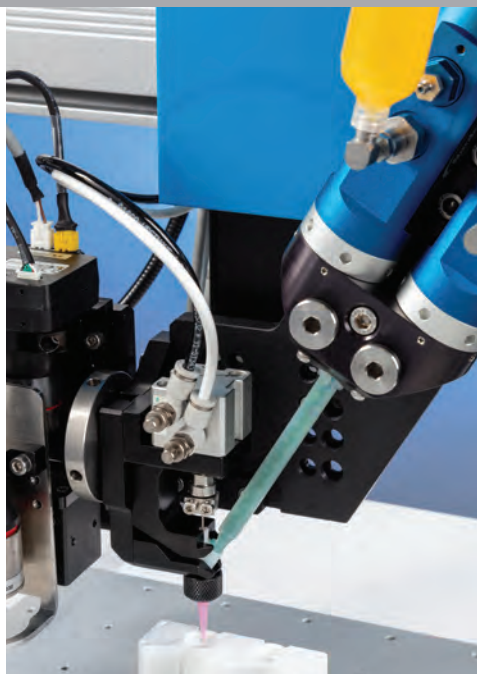
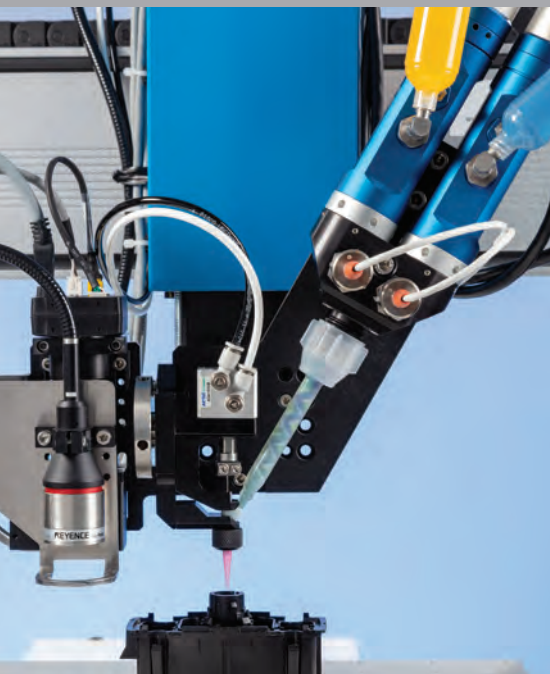
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

Specifications

Cabinet size:	21.2w x 10.8h x 17.3d cm (8.33w x 4.27h x 6.82d")	Feedback circuits:	Electronic switch, 24 VDC, 100 mA maximum
Weight:	1.8 kg (4.0 lb)	Cycle initiate:	Foot pedal
Rotor speed:	10–150 RPM	Approvals:	CE, UKCA, TUV, RoHS, China RoHS, WEEE
Time range:	0.001–600,000 ms (1 s to 10 min)	Warranty:	1 year, limited
Electrical power input:	24 VDC (±2%), 3.75 Amp maximum		



# Progressive Cavity Pump Accessories



797PCP-2K modular manifolds are engineered to provide mixing options for a broad range of two-part fluids and viscosities. The modular design allows use with or without pressure sensors and is compatible with EFD bayonet and standard bell style mixers.

In addition, different flow path sizes allow optimization of fluid flow for mix ratio dispensing:

- For a 1:1 mix ratio, use the 2 x 2 mm bayonet manifold or 5 x 5 mm bell manifold.
- For a 4:1 or 10:1 mix ratio, use the 2 x 4 mm bayonet manifold or 2 x 5 mm bell manifold.



With pressure sensors, manufacturers can safeguard that two-component fluids are mixed properly. This ensures that two-part fluids cure correctly, saving valuable production time and reducing rework and rejects.

Pressure sensors monitor the pressure of fluid moving through Side A and Side B of the 797PCP-2K modular manifolds, allowing users to quickly identify an increase or decrease in fluid pressure that could impact the mix ratio.

## 797PCP-2K Modular Manifolds

### For use with:

1:1 Mix Ratio

Pressure Sensors (optional)

### **7365963 797PCP-2K Manifold 2 x 2**

Modular manifold with 2 mm x 2 mm flow paths. Includes mixer retainer and screws for attaching bayonet static mixers, plus two sensor port plugs with O-rings if not using the pressure sensors.

### **7365985 797PCP-2K Manifold 5 x 5**

Modular manifold with 5 mm x 5 mm flow paths. Includes mixer retainer and screws for attaching standard bell static mixers, plus two sensor port plugs with O-rings if not using the pressure sensors. Requires retaining nut #7702595 sold separately.

### For use with:

4:1 or 10:1 Mix Ratios

Pressure Sensors (optional)

### **7365965 797PCP-2K Manifold 2 x 4**

Modular manifold with 2 mm x 4 mm flow paths. Includes mixer retainer and screws for attaching bayonet static mixers, plus two sensor port plugs with O-rings if not using the pressure sensors.

### **7365983 797PCP-2K Manifold 2 x 5**

Modular manifold with 2 mm x 5 mm flow paths. Includes mixer retainer and screws for attaching standard bell static mixers, plus two sensor port plugs with O-rings if not using the pressure sensors. Requires retaining nut #7702595 sold separately.

## Pressure Sensors

### For use with:

797PCP-2K Modular Manifolds

### **7365999 Pressure Sensor Kit**

Includes one pressure sensor with pressure sensor cable that is 1.5 m (59") long and one signal conditioner. Order two to monitor fluid pressure of Part A and Part B fluids moving through the 797PCP-2K modular manifold.



# Progressive Cavity Pump Accessories



## 797PCP-2K Shutoff Bracket Assembly

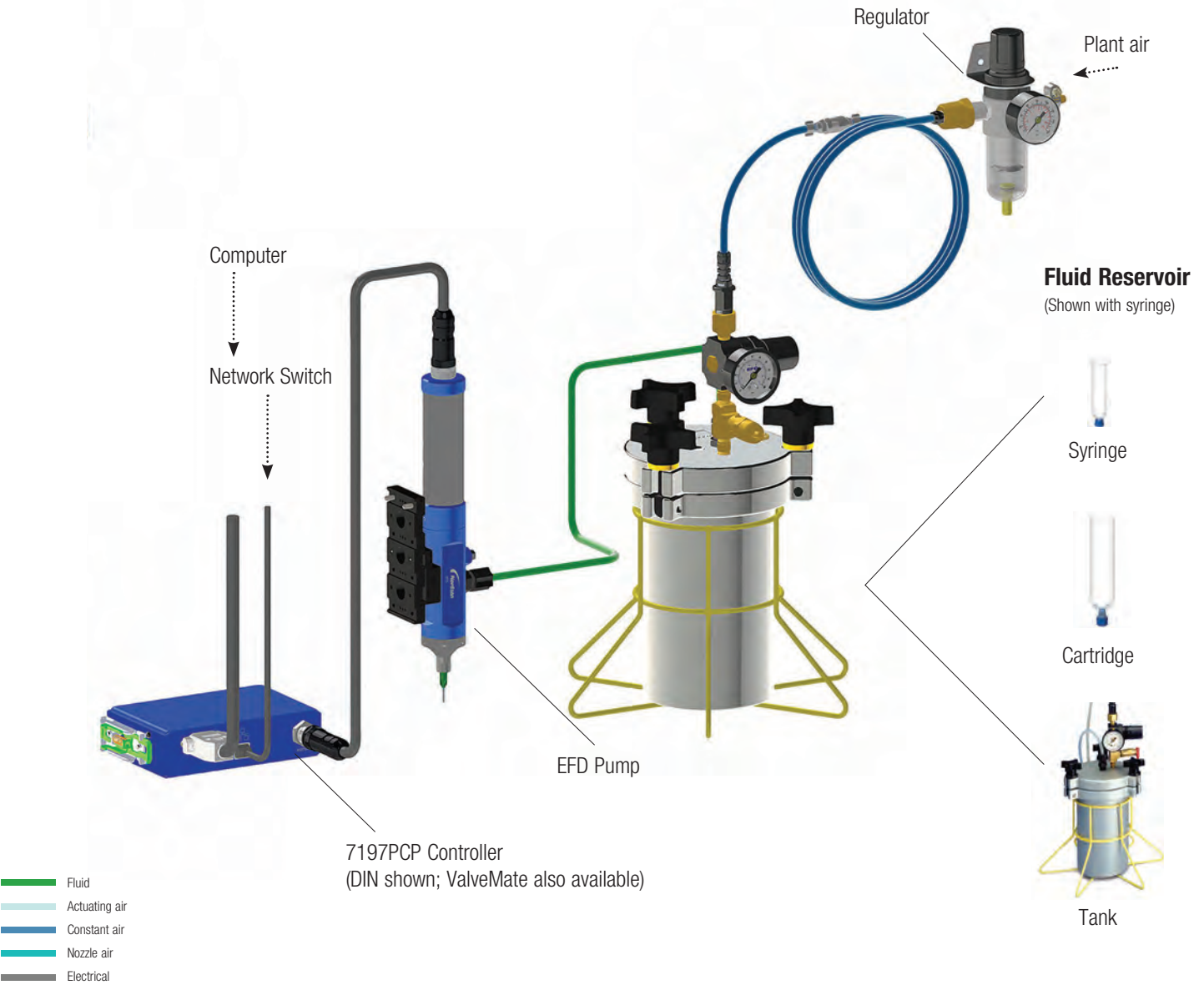
### 7365000 Shutoff Bracket Kit

The kit includes a robot bracket assembly, control box, Y-valves, cables, 5-micron filter / regulator, urethane tubing, fittings, and screws. An optional T-bracket can be used to mount a CCD camera to Nordson EFD robots.

Nordson EFD's 797PCP-2K shutoff bracket assembly eliminates leaking, drooling, and dripping at the outlet of the progressive cavity pump. Manufacturers can reduce 2K production waste, lower manufacturing costs, decrease production time, and improve quality — putting an end to long set times or stringing challenges.

The shutoff bracket offers seamless compatibility with Nordson EFD automated fluid dispensing solutions. The system operates with the E Series (E3–E5 only), EV Series (E3V–E6V only), and all PROPlus / PRO Series and GV Series robots.

# ValveMate 7197PCP Controller – System Setup



For use with

797PCP

797PCP-2K

# Tanks and Reservoirs



Nordson EFD reservoirs maintain steady fluid pressure to produce the most accurate, repeatable deposits possible.

Choose from a variety of options to meet your application needs. To learn more about the EFD systems used with these reservoirs and tanks, take a look at our valves and automated dispensing systems.



# Tanks and Reservoirs Selection Guide

TANKS AND RESERVOIRS				
Type	 Syringe Barrels, in Clear, Amber, or Black	 Cartridge Retainer Systems with Regulators	 1/10 Gallon Retainer System with Regulator	 1L & 5L Analog Gauge Tanks
Volume	3cc–70cc (3–70 ml)	2.5 oz–32 oz (75–960 ml)	1/10 gal (300 ml)	1 liter & 5 liter (0.26 gal & 1.32 gal)
Recommended Fluid Viscosity	All Fluids	All Fluids	Medium-to-High Viscosities	Low-to-Medium Viscosities (pourable / self-leveling)
Air Pressure	—	0–1.0 bar (0–15 psi) 0–7.0 bar (0–100 psi)	0–7.0 bar (0–100 psi)	0–1.0 bar (0–15 psi) 0–7.0 bar (0–100 psi)
Float Switch	—	—	—	Optional
Features & Benefits	<ul style="list-style-type: none"> <li>• Limits fluid waste</li> <li>• Reduces maintenance and cleanup</li> <li>• Assembly fluids often come packaged in EFD syringe barrels</li> <li>• Use for fluids with short shelf life</li> </ul>	<ul style="list-style-type: none"> <li>• Ideal for low-to-medium pressure dispensing from cartridges</li> <li>• Clear retainer allows visual monitoring of fluid level</li> <li>• Accepts cartridges</li> </ul>	<ul style="list-style-type: none"> <li>• Designed for use with pre-filled caulking tubes</li> </ul>	<ul style="list-style-type: none"> <li>• Maintains steady fluid pressure</li> <li>• Accepts pre-filled 1-pound and 1-liter bottles or pourable fluids</li> </ul>
Production Capacity	Low Volume	Low-to-Medium Volume	Low-to-Medium Volume	Medium-to-High Volume

# Tanks and Reservoirs



EFD fluid tanks maintain steady fluid pressure, prevent fluid contamination and evaporation, and contain fumes. Tanks are available with 0-15 psi (0-1.0 bar) or 0-100 psi (0-7.0 bar) constant-bleed air regulators to handle different fluid viscosities.

The air regulator is selected based on fluid viscosity. Watery fluids require the 0-15 psi (0-1.0 bar) regulator, while thicker fluids need the 0-100 psi (0-7.0 bar) regulator. Since tanks are charged by plant air, we recommend the 5-micron filter/regulator (#7002002) to filter contaminants.

Each fluid tank is shipped complete with constant-bleed precision air regulator and gauge, air hose with shutoff valve, liner, and fluid feed tubing.



**615 Series  
1.0 Liter Tanks**  
Accommodates one  
pound/one liter bottles.  
Recommended for  
pourable fluids only.



**626 Series  
5.0 Liter Tanks**  
Fluid can be poured  
into the liner or the fluid  
container may be put into  
the reservoir for direct  
dispensing.

## Analog Gauge Tanks

**7010004 615DTH Tank**  
1.0 liter tank with 7.0 bar (100 psi) regulator.

**7020121 615DTL Tank**  
1.0 liter tank with 1.0 bar (15 psi) regulator.

**7020186 626DTH Tank**  
5.0 liter tank with 7.0 bar (100 psi) regulator.

### Float Switches

**7020109 Float Switch for 1L Tanks**  
Float switch can be used to indicate low fluid levels  
in 615DT tanks.

**7020180 Float Switch for 5L Tanks**  
Float switch can be used to indicate low fluid levels  
in 626DT tanks.

## Specifications

### 615DTH / 615DTL Tanks

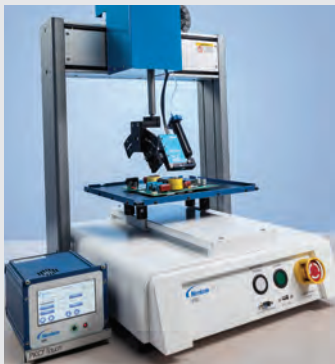
Tank body:	Cast aluminum
Replaceable liner:	Polyethylene (0.95 liter capacity)
Inside diameter:	9.7 cm (3.82")
Inside depth:	17.4 cm (6.87")
Overall width:	17.3 cm (6.81")
Overall height:	35.6 cm (14.01")
Regulator & gauge:	615DTH: 7.0 bar (100 psi) 615DTL: 1.0 bar (15 psi)
Maximum operating pressure:	7.0 bar (100 psi)

### 626DTH Tanks

Tank body:	Cast aluminum
Replaceable liner:	Polyethylene (3.8 liter capacity)
Inside diameter:	17.3 cm (6.81")
Inside depth:	24.8 cm (9.75")
Overall width:	28.3 cm (11.14")
Overall height:	40.6 cm (15.98")
Regulator & gauge:	626DTH: 7.0 bar (100 psi)
Maximum operating pressure:	7.0 bar (100 psi)



# Automated Dispensing Systems



Nordson EFD's automated dispensing systems are specifically designed and configured for precise fluid dispensing using all EFD dispensing equipment, including syringe barrel, valve, jetting, and progressive cavity pump systems.

Specialized DispenseMotion™ software and fully integrated vision and laser height sensing capabilities make EFD automated systems quick to set up and easy to program. True three-dimensional motion control allows easy programming of dots, lines, circles, arcs, compound arcs, and complex patterns on different planes.

Closed-loop encoding, along with the smart vision CCD camera and laser height sensing, allows the systems to automatically adjust a dispensing program to compensate for both surface height changes and variations in product orientation.

The systems set up quickly and are easy to run, providing more time for other projects while increasing product yield.

In addition, EFD's OptiSure automated optical inspection (AOI) software and laser provide post-dispense verification, giving operators instant quality feedback in applications where precision is critical to success.

## Features and Benefits

- Produces more parts and reduces process time
- Improves product quality from more precise, accurate dispensing
- Quicker learning curve for operators — programming is easier, more visual
- Faster startup to introduce automation, with less production downtime
- Fully integrated positioning and dispensing functions



# Automated Dispensing System Selection Guide

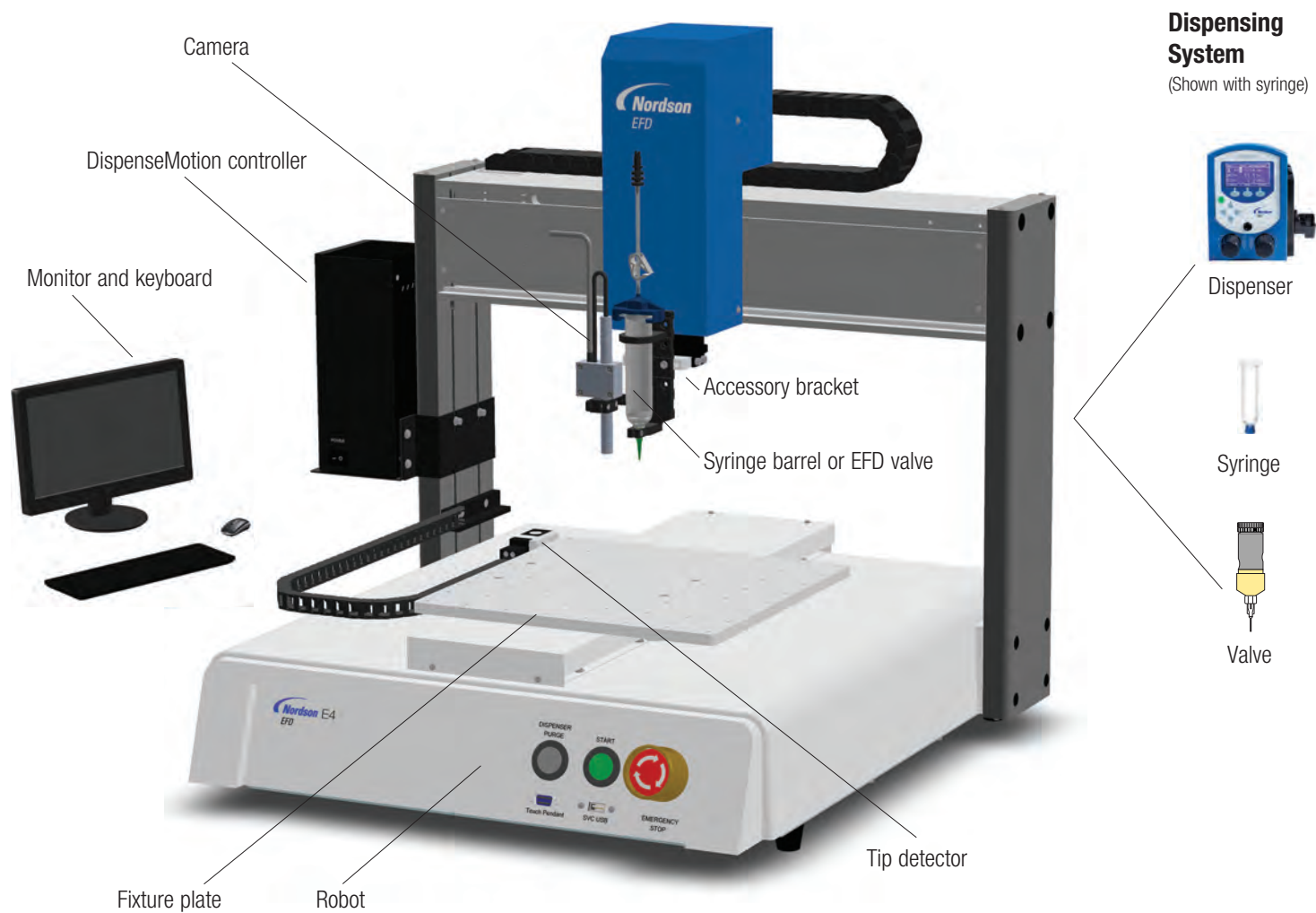
## AUTOMATED DISPENSING SYSTEMS

System						
	PROPlus / PRO	EV	E	RV	R	GV
# of axes	3 axes	3 axes	3 axes	4 axes	4 axes	3 axes
Programming method	DispenseMotion software	DispenseMotion software	Teach Pendant TeachMotion software	DispenseMotion software	Teach Pendant TeachMotion software	DispenseMotion software
Vision	CCD smart camera with light box	Pencil camera	—	CCD smart camera (fixed or rotating mount)	—	G8V CCD smart camera G4V Pencil camera
OptiSure™ Automated Optical Inspection (AOI)	AOI software (optional) Confocal Laser (optional)	AOI software (optional)	N/A	AOI software (optional)	N/A	AOI software (optional)
Height detection	Laser (optional)	Mechanical (optional)	Mechanical (optional)	—	—	Mechanical (optional)
Tip detection	Tip detector (included)	Tip detector (optional)	Tip aligner (optional)	Tip detector or Tip aligner (optional)	Tip aligner (optional)	Tip detector (optional)
Closed loop encoding	Included	—	—	—	—	G4V (N/A) G8V (Included)
Maximum working area (X / Y / Z)	<b>PRO3 / PRO3Plus</b> 250 / 250 / 100 mm (10 / 10 / 4") <b>PRO4 / PRO4Plus</b> 350 / 350 / 100 mm (14 / 14 / 4")	<b>E2V</b> 150 / 200 / 50 mm (6 / 8 / 2") <b>E3V</b> 250 / 300 / 100 mm (10 / 12 / 4") <b>E4V</b> 350 / 400 / 100 mm (14 / 16 / 4") <b>E5V</b> 450 / 500 / 150 mm (18 / 20 / 6") <b>E6V</b> 570 / 500 / 150 mm (22 / 20 / 6")	<b>E2</b> 200 / 200 / 50 mm (8 / 8 / 2") <b>E3</b> 300 / 300 / 100 mm (12 / 12 / 4") <b>E5</b> 500 / 500 / 150 mm (20 / 20 / 6")	<b>R3V</b> 300 / 300 / 150 mm (12 / 12 / 6") <b>R4V</b> 400 / 400 / 150 mm (16 / 16 / 6") <b>R6V</b> 620 / 500 / 150 mm (24 / 20 / 6") All: ±999°	<b>R3</b> 300 / 300 / 150 mm (11.8 / 11.8 / 5.9") <b>R4</b> 400 / 400 / 150 mm (15.7 / 15.7 / 5.9") <b>R6</b> 620 / 500 / 150 mm (24 / 19.7 / 5.9") All: ±999°	<b>G4V</b> 400 / 400 / 100 mm (16 / 16 / 4") <b>G8V</b> 800 / 800 / 100 mm (31 / 31 / 4")



[www.nordsonefd.com/Robot](http://www.nordsonefd.com/Robot)

# Automated Dispensing System – System Setup



## Accessories



Tip detector



Tip aligner



Mechanical height sensor



Laser B



OptiSure™ AOl software



Laser C (confocal)

# Automated Dispensing Systems

The PROPlus / PRO Series is EFD's most advanced automated dispensing system. Along with specialized DispenseMotion software and fully integrated vision and laser height sensing capabilities, the system includes closed-loop encoding to deliver best-in-class dispensing performance and exceptional process control.

Verify fluid deposit placement and accuracy with the OptiSure automated optical inspection (AOI) software add-on. When paired with the OptiSure confocal laser, the AOI system measures the height of fluid deposits in addition to width and diameter, providing 3D dispense verification.

## Features and Benefits

- Dual linear guide, advanced servomotor, and ball screw actuation (PROPlus only)
- Best-in-class repeatability and speed (PROPlus  $\pm 0.003$  mm; PRO  $\pm 0.004$  mm)
- Simplified setup and programming with EFD's advanced vision-guided DispenseMotion software
- On-screen preview of the dispensing path facilitates programming
- Constant closed-loop feedback with encoding, smart vision camera, and precision laser non-contact sensing
- Improved product quality; more precise, accurate dispensing
- Quicker learning curve for operators; programming is easier, more visual
- Produces more parts and reduces process time

## PROPlus / PRO Series Automated Dispensing System



Integrated vision and laser make the PROPlus / PRO Series a complete automated solution.

Items/Models	SPECIFICATIONS			
	PRO3	PRO4	PROPlus3	PROPlus4
Part #	7362911	7360860	7363536	7363539
Part # Europe*	7363829	7361353	7363650	7363653
Laser B (Optional)	← 7361240 (optical height sensing of most surfaces) →			
Laser C (Optional)	← 7364992 (optical detection of deposit measurement regardless of fluid transparency or reflective substrate) →			
Number of Axes	← 3 →			
Maximum Working Area (X / Y / Z)	250 / 250 / 100 mm (10 / 10 / 4") / 250 / 220 / 100 mm (10 / 9 / 4")	350 / 350 / 100 mm (14 / 14 / 4") / 350 / 320 / 100 mm (14 / 13 / 4")	250 / 250 / 100 mm (10 / 10 / 4") / 250 / 220 / 100 mm (10 / 9 / 4")	350 / 350 / 100 mm (14 / 14 / 4") / 350 / 320 / 100 mm (14 / 13 / 4")
Workpiece Payload	10.0 kg (22.0 lb)	10.0 kg (22.0 lb)	25.0 kg (55.1 lb)	25.0 kg (55.1 lb)
Tool Payload	3.5 kg (7.7 lb) / 1.5 kg (3.3 lb)	3.5 kg (7.7 lb) / 1.5 kg (3.3 lb)	6.0 kg (13.2 lb)	6.0 kg (13.2 lb)
Weight	45.0 kg (99.2 lb) / 46.5 kg (102.5 lb)	57.5 kg (126.8 lb) / 59 kg (130.1 lb)	50.5 kg (111.3 lb) / 52 kg (114.6 lb)	63.5 kg (140.0 lb) / 65 kg (143.3 lb)
Dimensions	720w x 690h x 590d mm (28w x 27h x 22d")	820w x 690h x 690d mm (32w x 27h x 27d")	720w x 690h x 590d mm (28w x 27h x 22d")	820w x 690h x 690d mm (32w x 27h x 27d")
Maximum Speed (X / Y / Z)	500 / 250 mm/s (20 / 10"/s)	500 / 250 mm/s (20 / 10"/s)	800 / 250 mm/s (31 / 10"/s)	800 / 250 mm/s (31 / 10"/s)
Drive System	5-phase micro stepping motor	5-phase micro stepping motor	Servomotor	Servomotor
Memory Capacity	← PC storage →			
General Purpose I/O	← 8 inputs / 8 outputs (16 / 16 optional) →			
Input AC (to power supply)	← 100–240 VAC, $\pm 10\%$ , 50/60Hz, 20 Amp maximum, 380 W →			
Repeatability**	$\pm 0.004$ mm / axis	$\pm 0.004$ mm / axis	$\pm 0.003$ mm / axis	$\pm 0.003$ mm / axis
Tip Detection System	← Included →			
Vision	← CCD smart camera →			
DispenseMotion Software	← Included →			
Laser Height Detection	← Optional →			
Approvals / Warranty	CE, UKCA, RoHS, WEEE, China RoHS / 1 year, limited			

\*Complies with European safety regulations. \*\*Repeatability results may vary depending on method of measurement.

For Replacement Parts: [www.nordsonefd.com/RP](http://www.nordsonefd.com/RP)



[www.nordsonefd.com/PROVideo](http://www.nordsonefd.com/PROVideo)

# Automated Dispensing Systems

The EV Series offers simple vision for precise fluid application in an automated solution. Along with specialized DispenseMotion software and a pencil camera, the system is quick to set up and easy to program. Platforms range from 150 x 200 mm to 570 x 500 mm, making them an ideal solution for batching or critical dispensing applications.

Verify fluid deposit placement and accuracy with the OptiSure automated optical inspection (AOI) software add-on.

## Features and Benefits

- Simple camera and dispensing software make setup and programming easy
- On screen preview of the dispensing path facilitates programming
- Streamlined file import and conversion
- True three-dimensional motion control
- Wide range of work envelopes
- Faster cycle and batch times
- Easy integration into any manufacturing operation

## EV Series Automated Dispensing Systems



EV Series pencil camera vision makes programming patterns easier.

Item/Model	SPECIFICATIONS				
	E2V	E3V	E4V	E5V	E6V
Part #	7360856	7360857	7360858	7360859	7362103
Part # Europe*	7361349	7361350	7361351	7361352	7362104
Number of Axes	3				
Maximum Working Area (X / Y / Z)	150 / 200 / 50 mm (6 / 8 / 2")	250 / 300 / 100 mm (10 / 12 / 4")	350 / 400 / 100 mm (14 / 16 / 4")	450 / 500 / 150 mm (18 / 20 / 6")	570 / 500 / 150 mm (22 / 20 / 6")
Workpiece Payload	10.0 kg (22.0 lb)	10.0 kg (22.0 lb)	10.0 kg (22.0 lb)	10.0 kg (22.0 lb)	10.0 kg (22.0 lb)
Tool Payload	1.5 kg (3.3 lb)	3.0 kg (6.6 lb)	3.0 kg (6.6 lb)	3.0 kg (6.6 lb)	3.0 kg (6.6 lb)
Weight	25.5 kg (56.2 lb)	47.5 kg (104.7 lb)	52.5 kg (115.7 lb)	55.0 kg (121.3 lb)	58.0 kg (127.9 lb)
Dimensions	495w x 556.5h x 410d mm (19w x 22h x 16d")	596w x 644h x 543d mm (23w x 25h x 21d")	696w x 644h x 638d mm (27w x 25h x 25d")	796w x 814h x 718d mm (31w x 32h x 28d")	913w x 812h x 718d mm (36w x 32h x 28d")
Maximum Speed	500 / 250 mm/s (20 / 10"/s)	800 / 320 mm/s (31 / 13"/s)	800 / 320 mm/s (31 / 13"/s)	800 / 320 mm/s (31 / 13"/s)	800 / 320 mm/s (31 / 13"/s)
Drive System	3-phase micro stepping motor				
Memory Capacity	PC storage				
General Purpose I/O	8 inputs / 8 outputs (16 / 16 optional)				
Input AC (to power supply)	100–240 VAC, ±10%, 50/60Hz, 20 Amp maximum, 350 W	100–240 VAC, ±10%, 50/60Hz, 20 Amp maximum, 350 W	100–240 VAC, ±10%, 50/60Hz, 20 Amp maximum, 350 W	100–240 VAC, ±10%, 50/60Hz, 20 Amp maximum, 350 W	100–240 VAC, ±10%, 50/60Hz, 20 Amp maximum, 350 W
Repeatability**	±0.008 mm / axis				
Vision	Pencil camera				
DispenseMotion Software	Included				
Tip Detection	Tip detector (optional)				
Height Detection	Mechanical (optional)				
Approvals / Warranty	CE, UKCA, RoHS, WEEE, China RoHS / 1 year, limited				

\*Complies with European safety regulations. \*\*Repeatability results may vary depending on method of measurement.

For Replacement Parts: [www.nordsonefd.com/RP](http://www.nordsonefd.com/RP)



[www.nordsonefd.com/EVSeriesVideo](http://www.nordsonefd.com/EVSeriesVideo)



# Automated Dispensing Systems

The E Series offers precise fluid application in an automated solution. Along with specialized TeachMotion™ software, the E Series relies on an easy-to-use Teach Pendant for programming. Platforms range from 200 x 200 mm to 620 x 500 mm, making them ideal for batching or critical dispensing.

## Features and Benefits

- Simplified setup and programming via Teach Pendant or file importation
- True, three-dimensional motion control
- Rugged, reliable construction and small footprint
- Wide range of work envelopes
- Faster cycle and batch times
- Easy integration into any manufacturing operation

## E Series Automated Dispensing Systems



E Series makes automation easy with precise performance and fast programming.

Item/Model	SPECIFICATIONS		
	E2	E3	E5
Part #	7360852	7360853	7360855
Part # Europe*	7361345	7361346	7361348
Number of Axes	3		
Maximum Working Area (X / Y / Z)	200 / 200 / 50 mm (8 / 8 / 2")	300 / 300 / 100 mm (12 / 12 / 4")	500 / 500 / 150 mm (20 / 20 / 6")
Workpiece Payload	10.0 kg (22.0 lb)	10.0 kg (22.0 lb)	10.0 kg (22.0 lb)
Tool Payload	3.0 kg (6.6 lb)	5.0 kg (11.0 lb)	5.0 kg (11.0 lb)
Weight	22.0 kg (48.5 lb)	39.5 kg (87.1 lb)	47.0 kg (103.6 lb)
Dimensions	380w x 556.5h x 410d mm (15w x 22h x 16d")	490w x 644h x 519d mm (19w x 25h x 20d")	690w x 814h x 718d mm (27w x 32h x 28d")
Maximum Speed	500 / 250 mm/s (20 / 10"/s)	800 / 320 mm/s (31 / 13"/s)	500 / 320 mm/s (20 / 13"/s)
Drive System	3-phase micro stepping motor		
Memory Capacity	1–99 programs, 1–9,999 points per program		
General Purpose I/O	8 inputs / 8 outputs		
Input AC (to power supply)	100–240 VAC, ±10%, 50/60Hz, 20 Amp maximum, 320 W	100–240 VAC, ±10%, 50/60Hz, 20 Amp maximum, 320 W	100–240 VAC, ±10%, 50/60Hz, 20 Amp maximum, 320 W
Repeatability**	±0.008 mm / axis		
Teach Pendant	Included		
Tip Detection	Tip detector (optional)		
Height Detection	Mechanical (optional)		
Approvals / Warranty	CE, UKCA, RoHS, WEEE, China RoHS / 1 year, limited		

\*Complies with European safety regulations. \*\*Repeatability results may vary depending on method of measurement.

For Replacement Parts: [www.nordsonefd.com/RP](http://www.nordsonefd.com/RP)

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)



[www.nordsonefd.com/ESeriesVideo](http://www.nordsonefd.com/ESeriesVideo)

# Automated Dispensing Systems

The 4-axis RV Series offers easy setup and programming with specialized vision-guided DispenseMotion software and an integrated CCD smart vision camera to deliver market-leading repeatability and accuracy in fluid placement. Simultaneous X and Y movement during R rotation provides true point of programming for dispensing at any angle along the 360° rotation plane.

In addition to its standard fixed-mount CCD camera, the RV Series has an optional rotating-mount camera that mounts onto the R-axis of the robot. This allows multiple substrate viewing orientations at 0° or 90° angles. It also allows multi-focus on multiple substrate heights.

Verify fluid deposit placement and accuracy with the OptiSure automated optical inspection (AOI) software add-on.

## Features and Benefits

- Simplified setup and programming with EFD's advanced vision-guided DispenseMotion Software
- On-screen preview of the dispensing path facilitates programming
- Market-leading dimensional positioning accuracy and deposit placement repeatability with powerful CCD camera
- Faster cycle and batch times with best-in-class  $\pm 8 \mu\text{m}$  repeatability
- 360° rotation for ID and OD dispensing

## RV Series Automated Dispensing Systems



RV Series CCD smart vision camera verifies workpiece presence and orientation.

Item/Model	SPECIFICATIONS		
	R3V	R4V	R6V
Part # (w/ fixed-mount camera)	7363556	7363557	7363558
Part # Europe* (w/ fixed-mount camera)	7363572	7363573	7363574
Number of Axes	4		
Maximum Working Area (X / Y / Z / R°)	300 / 300 / 150 mm / $\pm 999^\circ$ (11.8 / 11.8 / 5.9" / $\pm 999^\circ$ )	400 / 400 / 150 mm / $\pm 999^\circ$ (15.7 / 15.7 / 5.9" / $\pm 999^\circ$ )	620 x 500 x 150 mm / $\pm 999^\circ$ (24 / 19.7 / 5.9" / $\pm 999^\circ$ )
Workpiece Payload	10.0 kg (22.0 lb)		
Tool Payload	3.0 kg (6.6 lb)		
Weight	50.0 kg (110 lb)	55.0 kg (121 lb)	61.0 kg (135 lb)
Dimensions	645w x 914h x 552d mm (25w x 36h x 22d")	745w x 914h x 652d mm (29w x 36h x 26d")	965w x 914h x 752d mm (38w x 36h x 30d")
Maximum Speed (XY / Z)	800 / 320 mm/s (31 / 13"/s)		
Maximum Speed (R)	720 deg/s		
Drive System	3-phase micro stepping motor		
Memory Capacity	PC storage		
General Purpose I/O	8 inputs / 8 outputs (16 / 16 optional)		
Input AC (to power supply)	100–240 VAC, $\pm 10\%$ , 50/60Hz, 20 Amp maximum, 320W		
Repeatability**	$\pm 0.008 \text{ mm}$ / axis (XY / Z) / $\pm 0.005 \text{ (R}^\circ\text{)}$		
Vision	CCD smart camera (fixed or rotating mount)		
Tip Detection	Optional		
DispenseMotion Software	Included		
Approvals / Warranty	CE, UKCA, RoHS, WEEE, China RoHS / 1 year, limited		

\*Complies with European safety regulations. \*\*Repeatability results may vary depending on method of measurement.

For Replacement Parts: [www.nordsonefd.com/RP](http://www.nordsonefd.com/RP)



[www.nordsonefd.com/RVSeriesVideo](http://www.nordsonefd.com/RVSeriesVideo)

# Automated Dispensing Systems

The 4-axis R Series offers easy setup and programming with specialized TeachMotion Teach Pendant software designed to deliver market-leading repeatability and accuracy in fluid placement. Simultaneous X and Y movement during R rotation provides true point programming for dispensing at any angle along the 360° rotation plane.

## Features and Benefits

- Built-in tip recalibration for easy tip change alignment
- Easy USB file upload and download
- 360° rotation for ID and OD dispensing
- Quicker setup and programming
- Faster cycle and batch times with best-in-class  $\pm 8 \mu\text{m}$  repeatability
- New manufacturing opportunities

## R Series Automated Dispensing Systems



R Series makes 4-axis dispensing automation easy.

Item/Model	SPECIFICATIONS		
	R3	R4	R6
Part #	7363673 (base robot)	7363675 (base robot)	7363677 (base robot)
Part # Europe*	7363674 (base robot)	7363676 (base robot)	7363678 (base robot)
Teach Pendant	7361253 (sold separately)		
Number of Axes	4		
Maximum Working Area (X / Y / Z / R°)	300 / 300 / 150 mm / $\pm 999^\circ$ (12 / 12 / 6" / $\pm 999^\circ$ )	400 / 400 / 150 mm / $\pm 999^\circ$ (16 / 16 / 6" / $\pm 999^\circ$ )	620 x 500 x 150 mm / $\pm 999^\circ$ (24 / 20 / 6" / $\pm 999^\circ$ )
Workpiece Payload	10.0 kg (22.0 lb)		
Tool Payload	3.0 kg (6.6 lb)		
Weight	41.0 kg (90.4 lb)	46.0 kg (101.4 lb)	52.0 kg (114.7 lb)
Dimensions	490w x 901h x 519d mm (19w x 35h x 20d")	590w x 901h x 619d mm (23w x 35h x 24d")	810w x 901h x 616d mm (32w x 35h x 24d")
Maximum Speed (XY / Z)	800 / 320 mm/s (31 / 13"/s)		
Maximum Speed (R°)	720 deg/s		
Drive System	3-phase micro stepping motor		
Memory Capacity	1–99 programs, 1–9,999 points per program		
General Purpose I/O	8 inputs / 8 outputs		
Input AC (to power supply)	100–240 VAC, $\pm 10\%$ , 50/60Hz, 20 Amp maximum, 320 W		
Repeatability**	$\pm 0.008 \text{ mm}$ / axis (XY / Z) / $\pm 0.005 \text{ (R}^\circ\text{)}$		
Tip Detection	Tip aligner (optional)		
Approvals / Warranty	CE, UKCA, RoHS, WEEE, China RoHS / 1 year, limited		

\*Complies with European safety regulations. \*\*Repeatability results may vary depending on method of measurement.

For Replacement Parts: [www.nordsonefd.com/RP](http://www.nordsonefd.com/RP)

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)



[www.nordsonefd.com/RSeriesVideo](http://www.nordsonefd.com/RSeriesVideo)

# Automated Dispensing Systems

Nordson EFD's vision-guided GV Series automated dispensing gantry systems deliver easy automation for precise fluid applications. Working envelopes range from 400 mm to 800 mm, making them an ideal solution for precise fluid dispensing onto substrates requiring large work envelopes while not sacrificing repeatability. The GV Series can work as a standalone system or as a key part of an automated solution and is easily integrated into rotary tables and conveyor-fed assembly lines.

Verify fluid deposit placement and accuracy with the OptiSure automated optical inspection (AOI) software add-on.

## Features and Benefits

- Work envelopes as large as 800 mm
- Simplified setup and programming with EFD's advanced vision-guided DispenseMotion software
- Unlimited workpiece payload provides full range of dispensing application opportunities
- Ideal for conveyor-fed automation
- Seamless integration into any manufacturing operation

## GV Series Automated Dispensing System



The GV Series automated dispensing system has an unlimited workpiece payload.

Items/Models	SPECIFICATIONS	
	G4V	G8V
Part # (100 mm post)	7363644	7363647
Part # (150 mm post)	7363645	7363648
Part # (250 mm post)	7363646	n/a
Number of Axes	← 3 →	
Maximum Working Area (X / Y / Z)	400 / 400 / 100 mm (16 / 16 / 4")	800 / 800 / 100 mm (31 / 31 / 4")
Tool Payload	3.0 kg (6.6 lb)	8.0 kg (17.6 lb)
Weight	63.5 kg (140.0 lb)	181.5 kg (400.1 lb)
Dimensions	833 <sub>W</sub> x 382 <sub>H</sub> x 730 <sub>D</sub> mm (33 <sub>W</sub> x 15 <sub>H</sub> x 29 <sub>D</sub> " )	1,489 <sub>W</sub> x 534 <sub>H</sub> x 1,160 <sub>D</sub> mm (59 <sub>W</sub> x 21 <sub>H</sub> x 46 <sub>D</sub> " )
Maximum Speed (XY / Z)	500 / 320 mm/s (20 / 13"/s)	800 / 320 mm/s (31 / 13"/s)
Drive System	5-phase micro-stepping motor	XY axis: Servo motor Z axis: 5-phase micro-stepping motor
Memory Capacity	← PC storage →	
General Purpose I/O	← 8 inputs / 8 outputs (16 / 16 optional) →	
Input AC (to power supply)	100–240 VAC, ±10%, 50/60Hz, 20 Amp maximum, 420 W	220 VAC, ±10%, 50/60 Hz, 10 Amp maximum, 420 W
Repeatability*	±0.02 mm / axis	±0.1 mm / axis
Vision	Pencil camera	CCD smart camera
DispenseMotion Software	← Included →	
Tip Detection	← Tip detector (optional) →	
Height Detection	← Mechanical (optional) →	
Approvals / Warranty	CE, UKCA, RoHS, WEEE, China RoHS / 1 year, limited	

\*Repeatability results may vary depending on method of measurement.

Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)



[www.nordsonefd.com/GVSeriesVideo](http://www.nordsonefd.com/GVSeriesVideo)

# Automated Dispensing Systems

Nordson EFD guarded safety enclosures integrate seamlessly with our complete line of automated dispensing systems. Featuring external dispensing controls, a safety light curtain, and an internal electrical control box and wireways for faster, safer setup, these CE-compliant enclosures also fully comply with EU Machinery Directive 2006/42/EC.

## Features and Benefits

- Light curtain meets safety requirements while providing easy access to the dispensing system when necessary
- Complete control of the system from the outside of the enclosure, including Start, Emergency Stop, and Run/Teach
- Solid construction resists bumps and jolts to maintain dispensing accuracy
- High-quality enclosure protects operators from operational hazards
- Protects the dispensing system from environmental conditions
- Compliant with EU Machinery Directive 2006/42/EC, essential for all production requirements

## Complete Guarded System

### 7362738 Small Safety Enclosure

Compatible robot models E2, E2V, E3, E3V, PR03, PROPlus3.

### 7362766 Small Safety Enclosure, Europe

Compatible robot models E2, E2V, E3, E3V, PR03, PROPlus3.

### 7362739 Large Safety Enclosure

Compatible robot models E4V, E5, E5V, E6V, R3, R3V, R4, R4V, G4V, PR04, PROPlus4.

### 7362767 Large Safety Enclosure, Europe

Compatible robot models E4V, E5, E5V, E6V, R3, R3V, R4, R4V, G4V, PR04, PROPlus4.

*"Automated tabletop dispensing has significantly increased productivity by removing the variability from our process. It has also reduced our rejects by up to 90%."*

*— Electroynamics Inc.*





# Automated Dispensing Accessories




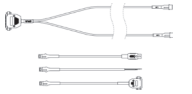


MOUNTING BRACKETS								
Bracket	Part #	Recommended Use	PROPlus / PRO	EV	E	RV	R	GV
	7360610	EFD syringe barrels, all sizes	✓	✓	✓	✓	✓	✓
	7361815	PICO <i>Pulse</i> ® valves	✓	✓	✓	✓	✓	✓
	7362177	Liquidyn® P-Jet and P-Dot Series valves	✓	✓	✓	✓	✓	✓
	7364423*	797PCP pump for one-component fluid applications	✓	✓	✓	—	—	✓
	7365000	Shutoff valve for 797PCP-2K pumps (pumps not included)	✓	E3V–E6V	E3–E5	—	—	✓
	7365933	Shutoff valve for Equalizer™	✓	✓	✓	—	—	✓
	7360613	Universal for valves with mounting holes (752, 725, 741, 736, 781, 787, and 782 Series)	✓	✓	✓	✓	✓	✓
	7361758	Universal for valves without mounting holes (702, 754, 794 Series)	✓	✓	✓	✓	✓	✓
	7361114	xQR41 Series valves	✓	✓	✓	✓	✓	✓
	7360609	EV Series pencil camera	—	✓	—	—	—	—
	7364040	Air and cable management bracket (replaces bracket P/N 7361670)	✓	✓	✓	✓	✓	✓

\*To use this bracket on any PROPlus / PRO robot or a G8V robot, also order P/N 7364856.










\*\*To mount a 797PCP on any PROPlus / PRO robot or on a G8V robot, use this bracket in tandem with the 797PCP / 797PCP-2K pump mounting bracket. This bracket is attached to the robot camera.

# Automated Dispensing Accessories

## CABLES

Cable	Part #	Description	PROPlus / PRO	EV	E	RV	R	GV
	7360551	Standard cable to connect dispenser and robot	✓	✓	✓	✓	✓	✓
	7363719	Cable kit for safety enclosures (includes monitor power cord, VGA monitor cable, and Y cable for robot I/O port)	✓	✓	✓	✓	✓	✓
	7360761	Single voltage initiate cable for one dispenser or controller	✓	✓	✓	✓	✓	✓
	7360554	Dual voltage initiate cable for up to two dispensers / controllers	✓	✓	✓	✓	✓	✓
	7360558	Dual-connector cable for one or two PICO Touch™ Controllers	✓	✓	✓	✓	✓	✓
	7362373	Single-connector cable for one Liquidyn V200 Controller	✓	✓	✓	✓	✓	✓



## VISION KITS

Vision Kit	Part #	Description	PROPlus / PRO	EV	E	RV	R	GV
	7360864	Vision kit for CCD camera with light box (includes camera, PC, monitor, keyboard, and mouse)	Included	✓	✓	—	—	G8V included G4V optional
	7361527	Vision kit for CCD camera with light box, Europe (includes camera, PC, and monitor) Note: Order keyboard and mouse separately.	Included	—	✓	—	—	G8V included G4V optional
	7360863	Vision kit for pencil camera (includes camera, PC, monitor, keyboard, and mouse)	—	Included	✓	—	—	G4V included
	7361528	Vision kit for pencil camera, Europe (includes camera, PC, and monitor) Note: Order keyboard and mouse separately.	—	Included	✓	—	—	G4V included
	7363461	Vision kit for fixed-mount camera (includes camera, PC, monitor, keyboard, and mouse)	—	—	—	Included	✓	—
	7363672	Vision kit for fixed-mount camera, Europe (includes camera, PC, and monitor) Note: Order keyboard and mouse separately.	—	—	—	Included	✓	—
	7364066	Vision kit for rotating-mount camera (includes camera, PC, monitor, keyboard, and mouse)	—	—	—	Included	✓	—
	7364067	Vision kit for rotating-mount camera, Europe (includes camera, PC, and monitor) Note: Order keyboard and mouse separately.	—	—	—	Included	✓	—
	7360867	Lens accessory kit for high-precision CCD cameras (allows different focal lengths and depths of field; compatible with CCD upgrade kits 7360864 and 7361527)	✓	—	—	—	—	G8V optional

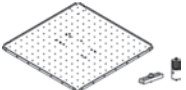
✓ = Compatible

# Automated Dispensing Accessories

## DISPENSE VERIFICATION

Kit	Part #	Description	PROPlus / PRO	EV	E	RV	R	GV
	7365229	OptiSure™ Automated Optical Inspection (AOI) software add-on	✓	✓	—	✓	—	✓
	7364992	OptiSure confocal laser kit	✓	—	—	—	—	—




## FIXTURE PLATES

Fixture Plate	Part #	Description	PROPlus / PRO*	EV	E	RV	R	GV
	7028276	200 mm fixture plate	—	✓	✓	—	—	—
	7028277	300 mm fixture plate	—	✓	✓	—	—	—
	7028278	400 mm fixture plate	PROPlus4 / PRO4 optional	✓	✓	—	—	—
	7028279	500 mm fixture plate	—	✓	✓	—	—	—
	7362547	300 mm fixture plate	—	—	—	✓	✓	—
	7362548	400 mm fixture plate	—	—	—	✓	✓	—
	7362549	600 mm fixture plate	—	—	—	✓	✓	—

All plates include four edge levelers and four leveling mounts.




\*Fixture plates shipped pre-installed on PROPlus/PRO Series models; replacement not required.

## HEIGHT DETECTION KITS



Kit	Part #	Description	PROPlus / PRO	EV	E	RV	R	GV
	7361240	Laser B for optical height sensing of most surfaces	✓	—	—	—	—	—
	7364992	Confocal Laser C accessory kit for optical detection of deposit measurements regardless of the transparency of the fluid or the reflectivity of the deposit substrate	✓	—	—	—	—	—
	7361667	Touch-type mechanical height sensor	—	✓	✓	—	—	✓

# Automated Dispensing Accessories

## TIP DETECTION / ALIGNMENT KITS

Kit	Part #	Description	PROPlus / PRO	EV	E	RV	R	GV
	7361535	Tip detector for touch sensing of the tip-to-workpiece gap (tip must contact the sensor)	✓	—	—	—	—	—
	7360893	Tip detector for touch sensing of the tip-to-workpiece gap (tip must contact the sensor)	—	✓	—	✓	—	—
	7363925	Tip detector for touch sensing of the tip-to-workpiece gap (tip must contact the sensor)	—	—	—	—	—	G4V only
	7363976	Tip detector for touch sensing of the tip-to-workpiece gap (tip must contact the sensor)	—	—	—	—	—	G8V only
	7360892	Tip aligner for optical sensing of the tip-to-workpiece gap (no tip contact required)	—	—	✓	—	—	—
	7362353	Tip aligner for optical sensing of the tip-to-workpiece gap (no tip contact required)	—	—	—	✓	✓	—
	7363940	Allows the tip detector / aligner to be mounted in the center of the robot fixture plate	—	E3V–E6V	E3–E5	✓	✓	—

## OTHER ACCESSORIES

Accessory	Part #	Description	PROPlus / PRO	EV	E	RV	R	GV
	7363285	Start / stop accessory box and I/O checker, standard	✓	✓	✓	✓	✓	—
	7360865	Start / stop accessory box, European and all GV	✓	✓	✓	✓	✓	✓
	7360866	Input / output expansion, 8 inputs / 8 outputs	✓	✓	✓	✓	✓	✓

# Solder Solutions

## Paste / Flux / Thermal Compound



Nordson EFD offers proven, reliable solder paste solutions, including:

- Clog-free solder pastes for dispensing applications
- Solder pastes for SMT print applications
- Flux pastes for repair and rework processes

Nordson EFD solder products are manufactured and packaged in our ISO 9001:2015 certified facilities. For optimal use, Nordson EFD's solder pastes and flux are packaged in our high-quality Optimum® syringe barrels and cartridges. These packaging systems ensure consistent solder deposits and seamless integration with most major fluid dispensing systems.

Please review the Solder Selection Guide ([www.nordsonefd.com/SolderSelectionGuide](http://www.nordsonefd.com/SolderSelectionGuide)) and contact our solder specialists to source the best solution for your soldering process.

### Flux Type

R = Rosin  
RMA = Rosin Mildly Activated  
RA = Rosin Activated  
NC = No Clean  
WS = Water Soluble

### Application Method

D = Dispense  
P = Print  
J = Jetting  
T = Pin Transfer/ or Dipping

### Alloy Abbreviation

### Metal Content % Mass

### Quantity in Package

### V = Vacuum Degassed

**RMA 99D99 Bi57.4 T5 85% 12ozC 1000g WH V**

### Base Flux Formula (Two digits)

### Formula Version (Two digits)

### Alloy Particle Size (T)

### Package Type and Size

##CC (Syringe)  
##ozC (Cartridge)  
##ozJ (Jar)  
FLXS (Small Flexpack)  
FLXL (Large Flexpack)

### Piston Color

WH = White  
BE = Beige  
BP = Clear  
OR = Orange  
RD = Red  
HP = Hand Plunger





## SolderPlus Solder Paste

SolderPlus® dispense pastes are used where solder joints are needed but printing is not possible, and solder wire is neither practical nor efficient.

SolderPlus dispensing paste formulations are engineered to meet your specific alloy, flux, and special project needs. This is how Nordson EFD delivers consistent solder paste performance.

- Available in no clean, RMA, RA, and water-soluble formulations
- Clog-free, top-to-bottom dispensing of the entire barrel
- Consistent deposit size
- Packaged in EFD's syringe barrels for best dispensing performance
- No missed deposits
- Reliable batch-to-batch consistency

SolderPlus's printable solder pastes are formulated for application on printed circuit boards through stencils. The dependable performance and wide process windows helps reduce manufacturing costs by increasing first-pass yields and reducing defects, rework, and rejects. Printable solder pastes are available in a wide range of lead-free and leaded alloys and particle sizes, as well as many flux formulations, including no clean, RMA, and water soluble with halogen- and halide-free options.

- Long stencil life
- Consistent part quality with good print definition
- Reliable batch-to-batch consistency

### TOP SOLDERPLUS SOLUTIONS

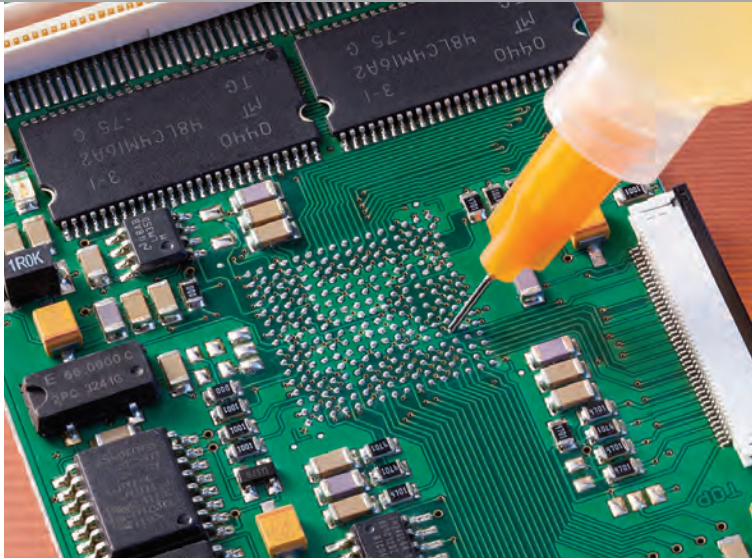
Product Name	Product Description
NC 21	NC 21 is optimized for dispensing applications. It is available in dispensing solder paste and printing solder paste options with all advertised alloy options. It is also available as paste flux.
NC 23	NC 23 is optimized for printing with 24-hour print life. It is available with all advertised alloy options.
RA 41	RA 41 is a general-purpose RA formulation. It is available in dispensing solder paste and printing solder paste options with all advertised alloy options. It is also available as paste flux.
RMA 03	RMA 03 is optimized for printing with 24-hour print life. It is available with all advertised alloy options.
RMA 04	RMA 04 is optimized for dispensing applications. It is available in dispensing solder paste and printing solder paste options, with all advertised alloy options. It is also available as paste flux.
WS 67	WS 67 is a general purpose WS formulation. It is available in dispensing solder paste and printing solder paste options with all advertised alloy options. It is also available as paste flux.
WS 70	WS 70 is optimized for printing with 24-hour print life. It is available with all advertised alloy options.
WS 71	WS 71 is optimized for dispensing applications. It is formulated for high activity for soldering to stainless steel and many industrial applications.

## Solder Products



[www.nordsonefd.com/SolderVideo](http://www.nordsonefd.com/SolderVideo)

# Solder Formulations



There are many possible options when formulating a solder paste. Nordson EFD's general purpose solder pastes will meet most application requirements. For special requirements, EFD offers a range of specialized formulations. Please contact your Nordson EFD solder sales specialist for a free consultation.

## LEADED ALLOYS

Alloy:	Solidus (°C)	Liquidus (°C)
Sn43 Pb43 Bi14	144	163
Sn62 Pb36 Ag2	179	189
Sn63 Pb37	183E*	
Sn60 Pb40	183	191
Sn10 Pb88 Ag2	268	290
Sn10 Pb90	275	302
Sn5 Pb92.5 Ag2.5	287	296
Sn5 Pb95	308	312

\*Eutectic - Solidus and Liquidus are equal

\*\*MP - Melting point

## LEAD-FREE ALLOYS

Alloy:	Solidus (°C)	Liquidus (°C)
Sn42 Bi57 Ag1.0	137	139
Sn42 Bi58	138E*	
Sn96.5 Ag3.0 Cu0.5	217	219
Sn96.3 Ag3.7	221E*	
Sn95 Ag5	221	245
Sn100	232MP**	
Sn99.3 Cu0.7	227E*	
Sn95 Sb5	232	240
Sn89 Sb10.5 Cu0.5	242	262
Sn90 Sb10	243	257

\*Eutectic - Solidus and Liquidus are equal

\*\*MP - Melting point

## POWDER SIZE

Powder Type	Powder Size (micron)	Gullwing Lead Pitch (mm / in)	Square / Circle Aperture (mm / in)	Dispense Dot Dia. (mm / in)	General Purpose Tip Gauge	Tapered Tip Gauge
II	45–75 µ	0.65 / 0.025	0.65 / 0.025	0.80 / 0.030	21	22
III	25–45 µ	0.50 / 0.020	0.50 / 0.020	0.50 / 0.020	22	25
IV	20–38 µ	0.30 / 0.012	0.30 / 0.012	0.30 / 0.012	25	27
V	15–25 µ	0.20 / 0.008	0.15 / 0.006	0.25 / 0.010	27	—
VI	5–15 µ	0.10 / 0.004	0.05 / 0.002	0.15 / 0.006	32	—

# Solder Formulations

## Paste Features

### Halide-Free

We offer a range of halide-free solder pastes that meet environmental trends and regulations.

### Rapid Reflow

Our rapid reflow solder pastes will not spatter when heated and melted by solder, iron, induction, laser, hot bar, and other rapid reflow devices.

### Pin Transfer and Dipping

Solder pastes that are applied by dipping a component or pin into the paste.

### Low Residue

The quantity of flux residue left after reflow is less than with typical solder pastes.

### Difficult-to-Solder Surfaces

Solder paste for difficult-to-wet metals such as Alloy42 lead finishes and highly oxidized surfaces of aged components and boards.

### Gap Filling and/or Vertical Surfaces

The flux is designed to hold the alloy in place until liquidus is reached. These formulas are suited to bridging gaps, filling holes, and soldering joints on vertical surfaces.

# Solder Formulations

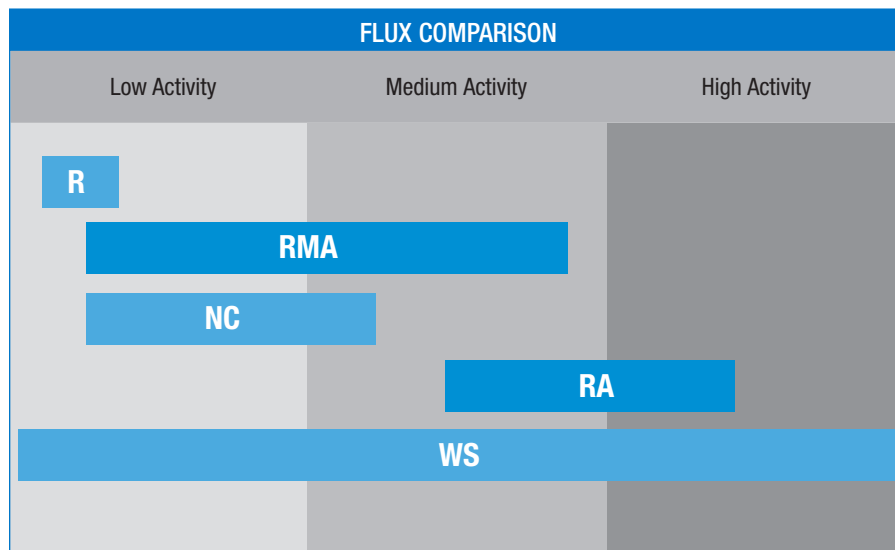
**No Clean (NC)** NC flux consists of rosin, solvent, and a small amount of activator. NC flux typically has low-to-moderate activity and is suited to easily solderable surfaces. IPC classification is usually ROL0 or ROL1. NC residue is clear, hard, non-corrosive, non-conductive, and designed to be left on many types of assemblies. Residue may be removed with an appropriate solvent. Some, but not all, NC fluxes are more difficult to remove than RMA fluxes.

**Rosin (R)** R flux consists of rosin and solvent. Rosin flux has very low activity and is suitable only for easy-to-solder surfaces. IPC classification is ROL0. R residue is hard, non-corrosive, non-conductive, and may be left on. Residue may be removed with an appropriate solvent.

**Rosin Mildly Activated (RMA)** RMA flux consists of rosin, solvent, and a small amount of activator. Most RMA flux is fairly low in activity and best suited to easily solderable surfaces. IPC classification is usually ROL0, ROL1, ROM0, or ROM1. RMA flux residue is clear and soft. Most are non-corrosive and non-conductive. Many RMA fluxes pass SIR testing as a NC flux. Residue may be removed with an appropriate solvent.

**Rosin Activated (RA)** RA flux consists of rosin, solvent, and aggressive activators. RA flux has similar and higher activity than RMA for moderately and highly oxidized surfaces. IPC classification is usually ROM0, ROM1, ROH0, or ROH1. In the absence of testing to prove otherwise, RA flux residue is assumed to be corrosive. Assemblies sensitive to corrosion or the possibility of electrical conduction through the residue should be cleaned as soon as possible after assembly. Residue may be removed with an appropriate solvent.

**Water Soluble (WS)** WS flux consists of activators, thixotrope, and solvent. WS flux comes in a wide range of activity levels, from no activity to extremely high activity for soldering to even the most difficult surfaces, such as stainless steel. IPC classification normally starts with OR for organic. They come in L, M, H activity levels and halide content of 0 or 1. By definition, residue may be removed with water.



Flux Comparison chart shows relative activity ranges of each flux category. Note overlap of activity levels between flux groups.



Non-silicone thermal compounds are used in a wide range of electronic and electromechanical applications because they are resistant to thermal cycling degradation. Thermal compounds are formulated to provide excellent heat transfer. They are non-hazardous, and are RoHS and REACH compliant (lead-free). Their long shelf-life stability ensures that they will not dry, harden, or melt in normal use.

For challenging applications, thermal compounds are available with specialty features.

Choosing the best thermal compound requires some understanding of the mechanics of heat transfer and how the thickness of the thermal compound layer, the bond line thickness, influences product choice.



[www.nordsonefd.com/TIM](http://www.nordsonefd.com/TIM)

	SPECIFICATIONS						
Formula	52022	52054	53054	52055*	52050	52160	53053
Specific Gravity at 25° C	2.7	3.0	3.0	2.8	2.6	2.6	2.8
Bleed: 24 Hrs., % Weight	0.1	0.0	0.01	0.0	0.01	0.3	0.3
Evaporation: 150C, 24 Hrs., %Weight	0.15	<2.0	<2.0	1.0	0.6	0.5	0.5
Thermal Conductivity: W/m-K	0.92	1.3	1.6	1.3	3.8	2	3.5
Dielectric Strength: V/mil	305	265	265	265	351	n/a	318
Dielectric Constant: 25° C, 1000Hz	4.5	5.02	5.02	5.02	4.92	n/a	5
Dissipation Factor: 25° C, 1000Hz	0.0029	0.0022	0.0022	0.0022	0.0032	n/a	0.0027
Volume Resistivity: Ohm-cm	1.65x10 <sup>14</sup>	2.0x10 <sup>15</sup>	2.0x10 <sup>15</sup>	2.0x10 <sup>15</sup>	1.0x10 <sup>13</sup>	over current	2.15x10 <sup>15</sup>
Operating Temperature: ° C	-40 to 200	-40 to 180	-40 to 180	0 to 180	-40 to 200	-40 to 200	-40 to 200
Flow Rate: g/min	4 to 7	8 to 9	5 to 6	4.5 to 6.5	1 to 3	3 to 8	7 to 9
Minimum Bond Line: mm	0.0381	0.0127	0.0127	0.0127	0.0508	0.0254	0.1270
Viscosity: 25° C kCps	460	470	510	620	350	230	1000
Viscosity: 50° C kCps	400	410	470	550	60	170	400
Appearance	Smooth, off-white paste	Smooth white paste	Smooth white paste	Smooth white paste	Dark gray paste	Smooth, gray paste	Off white paste
Shelf Life	1 year	1 year	1 year	1 year	1 year	1 year	1 year

\*Water cleanable for easy clean up

# Two-Component Dispensing Systems

## Cartridges / 2K Dispensers / Mixers / Meter Mix Valves



### Leading the Way in 2K

Nordson EFD's 2K product line provides static mixers, cartridge systems, and meter mix valves for reactive two-component (2K) adhesives & sealants such as epoxies, urethanes, silicones, and acrylics.

### Mixing Solutions

- Two mixer geometries: Spiral and Square
- Complete line of plastic and metal mixers for low- and high-pressure applications
- Two-component cartridge systems from 1.0 to 1500mL capacities
- Designed and manufactured in the USA and ISO 9001:2015 certified
- Competitive pricing, high quality, fast delivery, and superior customer service





# 2K Cartridges



Open End Outlet



Closed End Outlet

Nordson EFD offers a comprehensive selection of high-quality, competitively-priced Side x Side cartridges for packaging and dispensing two-component materials used in automotive, construction, industrial, medical, and dental applications.

## Features and Benefits

- Eliminates mess and waste
- Reduces exposure to hazardous resins
- Ensures accurate proportioning and mixing

## Cartridge System Outlet Options

Select from two types of Side x Side cartridge outlets:

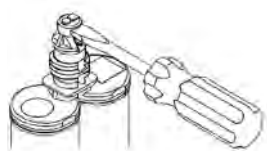
### Open End Outlet

- Pre-assembled with traditional nose plugs and retaining nuts
- Many can be molded in polypropylene (PP) or nylon
- See specific cartridge descriptions or contact EFD for material options

### Hermetically-sealed Closed End Outlet

- Features a patented “pry-off” closure
- Molded in one operation
- Cost-effective alternative to open end cartridges

#### PRY-OFF CAP INSTRUCTIONS



- Insert flat head of screwdriver into slot and pry upward
- Cap can be re-inserted to seal a partially used cartridge. To avoid cross contamination, match up the circles and squares on the cap and top of cartridge body
- For 50mL cartridges, the cap can be easily snapped off with your thumb and forefinger in the same upward motion

*Continued next page*

## Side x Side Cartridge Systems

*“Innovation truly drives the success of the adhesives and sealants industry, and we created the ASI Readers’ Choice Awards to celebrate all of the industry’s hard work and ingenuity. I am thrilled to announce that Nordson EFD received the most votes in the Equipment category.”*

– ASI Magazine

# 2K Cartridges

From previous page

50mL SIDE X SIDE CARTRIDGE SYSTEMS							
Part # (PP)	Part # (Nylon)	Usable Volume	Description	1:1	2:1	4:1	10:1
7015724	7702891	50mL	Open-End Cartridge w/Protective Cap	✓			
7702619	7702621	50mL	Closed-End Cartridge w/Protective Cap	✓			
7704061 (PE/PBT)	—	—	AF Air Free Piston	✓			
7702687	—	—	EPDM <sup>+</sup> O-Ring Piston (Short)	✓			
7702692	—	—	EPDM O-Ring Piston (Tall)	✓			
7702702	7702704	—	Multi-seal Piston w/Pre-staged Center Bleed Plug	✓			
7702892	7702895	50mL	Open-End Cartridge w/Retainer & Plug		✓		
7702627	—	50mL	Closed-End Cartridge w/Protective Cap		✓		
7702705	—	—	EPDM O-Ring Piston (Large side)		✓	✓	✓
7702714	—	—	EPDM O-Ring Piston (Small side)		✓		
7702896	—	42mL	Open-End Cartridge w/Retainer & Plug			✓	
7702721	—	—	EPDM O-Ring Piston (Small side)			✓	
7702900	7702902	37mL	Open-End Cartridge w/Retainer & Plug				✓
7702728	7702732	—	EPDM O-Ring Piston (Small side)				✓
160mL and 200mL SIDE X SIDE CARTRIDGE SYSTEMS							
7702939	—	160mL	Closed-End Cartridge w/Protective Cap	✓			
7703001	—	215mL	Open-End Cartridge w/Installed Nose Plug & 3/8" Nut	✓			
7703004	—	215mL	Open-End Cartridge w/Installed Nose Plug & 1/2" Nut	✓			
7702942	7702947	215mL	Closed-End Cartridge w/Protective Cap	✓			
7704307 (PE/PBT)	—	—	AF Air Free Piston	✓			
7702744	7702745	—	Multi-seal Piston w/Pre-staged Bleed Plug	✓			
7702950	—	222mL	Closed-End Cartridge w/Protective Cap		✓		
7702752	—	—	Multi-seal Piston w/Pre-staged Bleed Plug (Small side)		✓		
7702754	—	—	Multi-seal Piston w/Pre-staged Bleed Plug (Large side)		✓		
300mL SIDE X SIDE CARTRIDGE SYSTEMS							
7702956	—	323mL	Closed-End Cartridge w/Protective Cap	✓			
7704307 (PE/PBT)	—	—	AF Air Free Piston	✓			
7702744	—	—	Multi-seal Piston w/Pre-staged Bleed Plug	✓			
400mL SIDE X SIDE CARTRIDGE SYSTEMS							
7703011	—	406mL	Open-End Cartridge w/Installed Nose Plug & 3/8" Nut	✓			
7703013	—	406mL**	Open-End Cartridge w/Installed Nose Plug & 1/2" Nut	✓			
7702965	7702968	406mL	Closed-End Cartridge w/Protective Cap	✓			
7702677	—	—	Solid Multi-seal Piston	✓			
7702757	7702759	—	Multi-seal Piston w/Pre-staged Bleed Plug	✓			
600mL SIDE X SIDE CARTRIDGE SYSTEMS							
7702971	—	630mL	Closed-End Cartridge w/Protective Cap	✓			
7702765	—	—	Multi-seal Piston w/Pre-staged Bleed Plug	✓			
1500mL SIDE X SIDE CARTRIDGE SYSTEMS							
7703811	—	1500mL	Closed-End Cartridge w/Protective Cap	✓			
7704044 (PE)	—	—	Solid Multi-seal Piston	✓			

\*\*Max volume on 400mL Open-End Nylon is 400mL

<sup>+</sup>Ethylene Propylene Diene Monomer

## Recommended 50mL

### Mixers:

Series 295 and 190

### Recommended Dispensers:

50mL Manual Dispenser

50mL Caulking Gun  
Conversion Kit

2K Equalizer (50mL)

## Recommended 160–1500mL

### Mixers:

Series 480, 280, 160, 160AA,  
161N, and 260

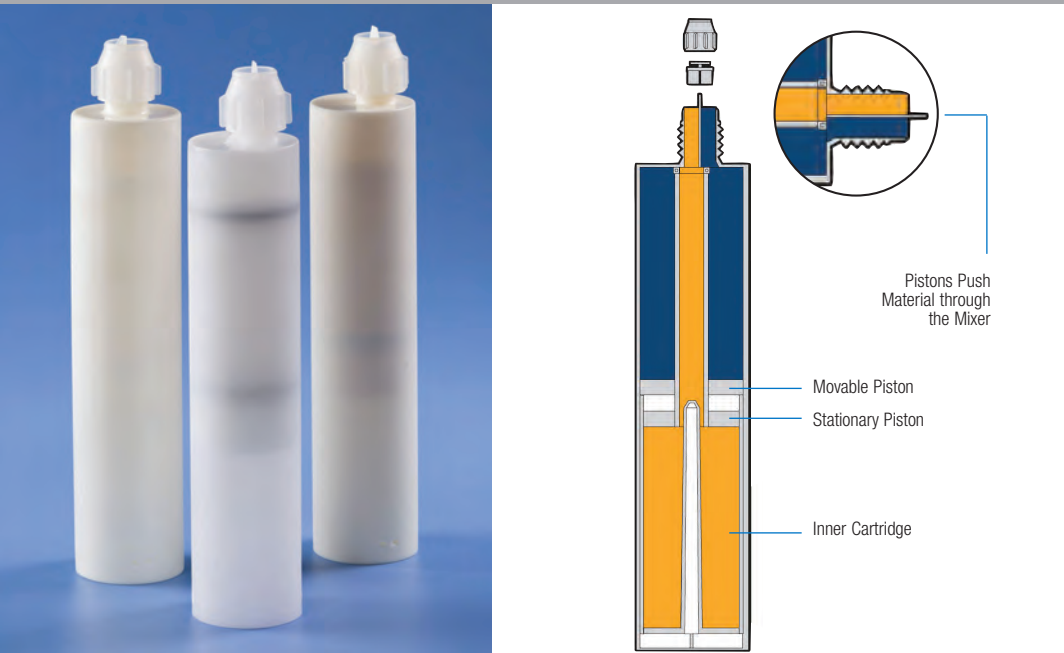
### Recommended Dispensers:

Manual Dispense Gun  
(160–1500mL)

Pneumatic Dispense Gun  
(400–1500mL)

See 2K Accessories for Flow Restrictors

# 2K Cartridges



Our u-TAH® Universal Cartridge System is a breakthrough in two-component cartridge design.

The u-TAH Cartridge looks identical to standard caulking cartridges — in fact, you might not realize it is two-component until you begin to dispense your product. It is the only cartridge system that maintains accurate ratio control and fits into your existing 1/10th gallon or 310mL caulking gun. This system also fits into pneumatic (rod-driven) and battery-powered caulking tools.

The standard u-TAH cartridge contains bleed vents to allow air to escape during filling. When using low viscosity materials (less than 1000 cps), a “non-vented” version is available. Contact us for more information.

u-TAH UNIVERSAL CARTRIDGE SYSTEMS				
Ratio	Part #	Description	Maximum Volume	Material
1:1	7703997	1:1 u-TAH Cartridge System	250mL	PP
2:1	7702991	2:1 u-TAH Cartridge System	180mL	PP

## u-TAH Universal Cartridge Systems

- Recommended Mixers:**
- Series 480, 280, 160, 160AA, 161N, and 260
- Recommended Pistons:**
- u-TAH cartridges come with pre-installed solid multi-seal pistons
- Recommended Dispensers:**
- Standard professional caulking gun

See 2K Accessories for Flow Restrictors

### QUALITY TESTED FOR ROBUSTNESS

- The u-TAH cartridge body is molded of a rigid plastic that won't burst during the most demanding applications.
- The interior components are fully assembled, and each cartridge is air tested.
- This 100% factory inspected process guarantees that, after filling, the cartridge will maintain a superior shelf life and provide trouble-free applications in the field.



# 2K Cartridges



Coaxial design (staked)



Large bores for greater flow

## 380mL Coaxial Cartridge Systems

**Recommended Mixers:**

Series 480, 280, 160, 160AA, 161N, and 260

**Recommended Pistons:**

Coaxial cartridges come with pre-installed solid multi-seal pistons. Option to purchase without pistons pre-installed.

**Recommended Dispensers:**

Manual Dispense Gun (380mL)

The 380mL coaxial cartridge has a center tube that contains one material and an outer “doughnut” that contains a second material in a 10:1 ratio.

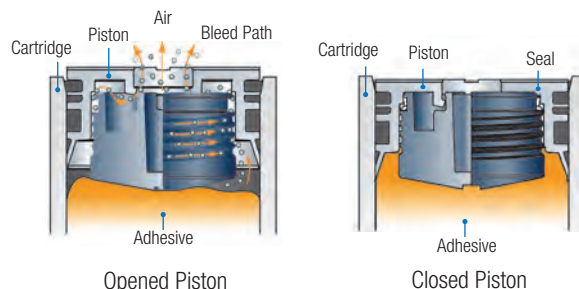
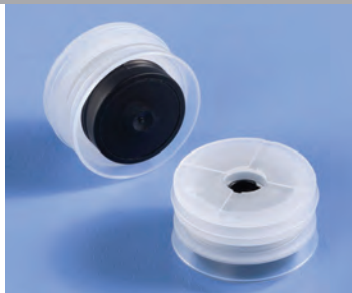
### Features and Benefits

- Robust neck outlet prevents cracking
- Rotating valve opens and closes outlet
- Large valve bores for greater flow
- Molded valve seals ensure long, leak-free shelf life
- Partially used cartridges are easily re-sealed by closing valve
- Pre-inserted pistons for ease of filling through the nose
- Cartridges are staked to retain pre-installed piston after filling

380mL COAXIAL CARTRIDGE SYSTEMS			
Ratio	Part #	Description	Material
10:1	7026776	380mL coaxial cartridge assembly	Nylon
10:1	7015924	380mL coaxial cartridge assembly without retaining nut	Nylon
10:1	7702589	Valve wrench*	—

\*Sold separately

## 2K Pistons



The AF™ Air Free Piston does a superior job of venting all of the air between the material and the piston. Its unique design does not require a shim to bleed the air, nor does it require a second step to insert a center bleed plug. This piston bleeds air around the circumference of the black plug and uses the force of hitting the material to close itself in a single step.

The AF piston provides a more visible indication when the piston is completely closed, i.e., the black center plug is flush with the top of the piston. Further, since the material of construction of the AF piston is a PE/PBT combo, it is compatible with most materials, simplifying inventory.

### Features and Benefits

- Eliminates trapped air
- No need for shims or secondary plugging operations
- Ensures on-ratio dispensing
- Fast, foolproof operation
- Prevents material separation

### Other 2K Pistons



- Solid Multi-seal
- Solid with O-ring
- Multi-seal with a Pre-staged Center Bleed Plug
- For use with Side x Side cartridges; see previous pages for part numbers
- Both u-TAH and Coaxial cartridges come pre-installed with solid multi-seal pistons

## AF Air Free Pistons

### AF AIR FREE PISTONS

Part #	Ratio	Cartridge Type
7704061	1:1	50mL Side x Side
7704307	1:1	200–300mL Side x Side

For other pistons, see cartridge P/N tables.



[www.nordsonefd.com/AFpistons](http://www.nordsonefd.com/AFpistons)



Atlas™ 2K Piston Inserters are a fast, convenient, and cost-effective way to install AF pistons in 50mL, 200mL, and 300mL Side x Side cartridges.

### Features and Benefits

- Simple to set up and operate
- Pistons seat correctly every time
- Compact, space-saving footprint
- Rugged, lightweight units are easily transported for different jobs
- The 300mL unit can handle 200mL cartridges
- Designed for use with AF Air Free pistons that virtually eliminate trapped air

## Atlas 2K Piston Inserter

### 2K PISTON INSERTERS

Part #	Description
7015502	50mL Piston Inserter
7015503	200mL Piston Inserter



# 2K Do-It-Yourself (DIY) Dual Syringes

## Do-It-Yourself (DIY) Dual Syringes



The DIY disposable dual syringe line is an ideal delivery system for the controlled mixing and placement of two-component adhesives and sealants.

Along with being used for DIY adhesives, sealants, and paints in home repair and automotive aftermarket products, dual syringes can be used in many other applications, including dental, health and beauty, and animal health treatments.

### Features and Benefits

- Self-venting barrels with “lead-in” aid for easy fill
- Resealable, no-leak, position-oriented cap
- Anti-crossover material ports reduce A/B contamination
- Mixers and thin-wall syringes designed for reduced dispensing force

#### DIY SYRINGE OUTLET OPTIONS



E-Z SNIP DIY syringe



Break-off DIY syringe



Open-ended DIY syringe

*Continued next page*

# 2K Do-It-Yourself (DIY) Dual Syringes

From previous page

14mL DIY SYRINGES						
Sold individually. Order the DIY dual syringe, plunger, cap, and mixer separately for the complete system.						
Part #	Usable Volume	Description	1:1	2:1	Material	Color
7660301*	14mL	14B23. 7ml x 7ml dual syringe with break-off tip for simplified filling and lowest cost. Available with one-piece plunger.	✓	—	PP	Natural
7660305	—	14P23. 14ml Plunger with integrally molded cap	✓	—	HDPE	Black
26mL DIY SYRINGES						
7661364	26mL	26B33. 13ml x 13ml dual syringe with cut-off tip	✓	—	PE	Silver
7660383	—	30P33. 26ml Plunger with integrally molded cap	✓	—	HDPE	Black
28mL DIY SYRINGES						
7661073	28mL	28B23. 14ml x 14ml dual syringe with break-off tip that eliminates need for cutting. Plunger includes integrally molded cap for resealing nozzle.	✓	—	PP	Natural
7660869	—	30P23. 28ml Plunger with integrally molded cap	✓	—	HDPE	Black
7660382	—	30P23. 28ml Plunger with integrally molded cap	✓	—	HDPE	Red
30mL DIY SYRINGES						
7660377	30mL	30B33. 15ml x 15ml dual syringe with cut-off tip. Cut-off tip features two orifice openings (large or small).	✓	—	PP	Natural
—	—	Note: P/N 7660377 (30B33) uses 30P33 plungers as 26ml listed on previous page	—	—	—	—
7661093*	30mL	30B43. 15ml x 15ml dual syringe with break-off tip	✓	—	PP	Natural
7661322*	30mL	30B44. 20ml x 10ml dual syringe with break-off tip	—	✓	PP	Natural
7661337	—	30P44. 30ml Plunger 2:1	—	✓	HDPE	White

\*Mixer compatible

DIY MIXERS					
Part #	# Mixing Elements	Element Diameter (in/mm)	Housing Outlet	Compatible with (mL)	Element / Housing
7660255	8	0.12 / 3.0	Blunt	4, 6, 14 ml	PP / MDPE
7660499	16	0.18 / 24.6	Slip Luer	14 ml	PP / PP

Sold individually.

# 2K Dispensers



Our manual dispenser features a versatile, compact, durable, and well-balanced design providing trouble-free, point-of-use dispensing. Custom colors and distinctive labeling are available upon request. Lightweight design accepts all ratios.

## Features and Benefits

- Better Ergonomics: Lighter and more compact
- Lower cost and better delivery
- More Versatile: Accepts all ratios
- Durable: Designed to eliminate cartridge cracking

# 50mL Manual Cartridge Dispensers

50mL MANUAL CARTRIDGE DISPENSERS				
Ratio	Part #	Description	Part #	Description
1:1	7703145	Dispenser & Plunger	7703040	Plunger only
2:1	7703160	Dispenser & Plunger	7703043	Plunger only
4:1	7703161	Dispenser & Plunger	7703045	Plunger only
10:1	7703162	Dispenser & Plunger	7703046	Plunger only
—	7703139	Dispenser only	—	—



The pneumatically operated Equalizer 2K dispensing tool makes it possible to dispense accurate, repeatable amounts of 2-component materials. It is designed for use with EFD dispensers and 50mL Side x Side cartridges and static mixers (order separately).

# Equalizer 2K Dispensing Tool

**7360152**  
Standard configuration provides accurate 50mL 1:1 and 2:1 dispensing.

**7015875**  
Kit Universal Stand Mount 25–50 mm.

# 2K Dispensers

Nordson EFD 2K dispense guns offer user-friendly features and the same legendary quality and state-of-the-art engineering that has become synonymous with the Nordson EFD name. Lightweight and durable, these tools make applying two-component adhesives quicker and easier. Select from 2 convenient options:

- **Manual:** Provides portable dispensing of 2K materials with a 26:1 thrust ratio.
- **Pneumatic:** Uses air pressure up to 120 psi (8.2 bar) to easily dispense thick 2K materials. Also an excellent tool for crack injection applications.

2K DISPENSE GUNS				
Part #	Ratio	Description	Cartridge	Weight (lb/kg)
Manual Guns				
7360831	1:1	Manual Dispenser Top Load	160mL	3.1 / 1.4
7029675	1:1 / 2:1	Manual Dispenser Side Load	200mL	2.6 / 1.2
7029680	1:1	Manual Dispenser Top Load	300mL	3.3 / 1.5
7029676	1:1 / 2:1	Manual Dispenser Side Load	400mL	2.9 / 1.3
7029677	1:1 / 2:1	Manual Dispenser Top Load	600mL	4.0 / 1.8
7029681	1:1	Manual Dispenser Top Load	1500mL	6.8 / 3.1
7661018	1:1–4:1	Manual Dispenser Top Load	225–600mL	4.2 / 1.9
7661494	1:1	Manual Dispenser with Built-In Retainer, 26:1	600mL	5.7 / 2.6
7661495	1:1	Manual Dispenser with Built-In Retainer, 34:1	600mL	5.7 / 2.6
Pneumatic Guns				
7029678	1:1 / 2:1	Pneumatic Dispenser	400mL	7.6 / 3.4
7029679	1:1 / 2:1	Pneumatic Dispenser	600mL	8.5 / 3.9
7360275	1:1	Pneumatic Dispenser	1500mL	11.4 / 5.2
7661025	1:1–3.3:1	Multi-Ratio Pneumatic Dispenser	225–600mL	6.1 / 2.7
7661026	1:1–4:1	Multi-Ratio Pneumatic Dispenser	225–600mL	8.1 / 3.7

## 2K Dispense Guns



Manual



Pneumatic

### 1K Dispense Guns

See 1K Dispense Guns for dispensing single-component materials.

# 2K High Solid Spray (HSS) System



## High Solid Spray (HSS) System

### For use with:

50–1500mL Side x Side Cartridges

The HSS Spray System is an innovative dispensing system using EFD Side x Side cartridges for mixing and spraying two-component materials. Its multi-ratio design allows it to easily dispense a range of low- to high-viscosity fluids. The system can be used for a variety of industrial spraying applications, including truck bedliners, pipe coating, manhole restoration, marine repair, and roofing projects.

### Features and Benefits

- Patented spray manifold/static mixer assembly
- Reliable control of air flow, volume, and pressure
- Easy to adjust spray pattern for all jobs, with quick clean-up
- Complete material mixing and atomization
- Flexibility to dispense different pigments: For example, mate color of side A cartridge with different colors of side B

#### LOW PRESSURE GUN – 2.5" CYLINDER

Part #	Ratio	Description	Cartridge Size
7661025	1:1–4:1	HSS Multi-Ratio Low Pressure Dispenser	150 x 150–300 x 75

#### HIGH PRESSURE GUN – 4.0" CYLINDER

7661027	1:1	HSS High Pressure Dispenser	750 x 750
7661224	2:1	HSS High Pressure Dispenser	600 x 300
7661026	1:1–4:1	HSS Multi-Ratio High Pressure Dispenser	150 x 150–300 x 75

#### HSS SPRAY NOZZLES WITH MIXERS

Part #	Description	Orifice Size (in / mm)	# of Elements	Element Diameter ID (in / mm)	Retaining Nut
7660861	Straight Conical	0.085 / 2.16	24	0.25 / 6.35	7/8 – 14
7660855	Straight Conical	0.130 / 3.30	24	0.37 / 9.52	7/8 – 14
7660833	Right Angle	0.085 / 2.16	24	0.37 / 9.52	7/8 – 9

#### HSS AIR REGULATOR KITS

All pneumatic guns require a regulator kit for spraying.

Part #	Description
7660025	Air Regulator Kit – 2 feet long
7660026	Air Regulator Kit – 3 feet long



[www.nordsonefd.com/2K-HSS](http://www.nordsonefd.com/2K-HSS)



# Disposable Mixers

Nordson EFD offers a wide variety of static mixers, including square OptiMixers™ and Turbo™ Mixers or round Spiral™ Mixers. It's important to note, you should always use an OptiMixer or Turbo unless your application requires elements with a small diameter or long reach.

## Mixer Selection

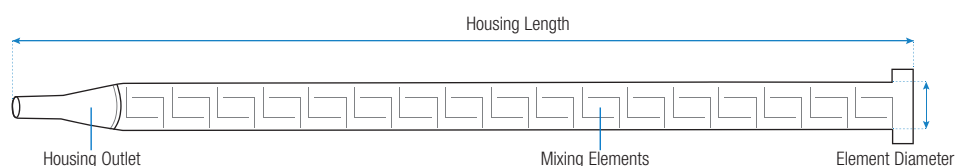
Choose the higher number of elements if one of two things occurs. Ask an EFD application specialist for recommendations.

1. Material A and B are of very different viscosities.
2. Material A and B are very wide in mix ratio (i.e. 4:1 or greater for certain types of fluids).

Fluid	# OF MIXER ELEMENTS
Acrylic	8 – 10
Epoxy	15 – 24
Polysulfide	24 – 32
PU Foam	10 – 24
Silicone	20 – 30
Urethane	24 – 36

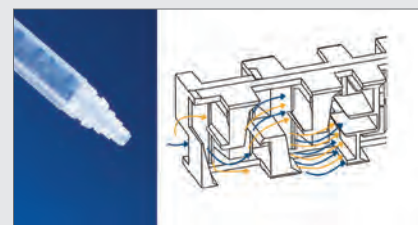
MATERIAL VISCOSITY	
Viscosity	Mixer Element Diameter
Thin < 5,000 cps (Thinner than syrup)	0.093–0.25" (2.4–6.4 mm)
Medium 5,000–50,000 cps (Thicker than honey, less than ketchup)	0.212–0.314" (5.4–8.0 mm)
Thick > 50,000 cps (Thicker than ketchup)	> 0.366" (9.3 mm)

## Mixer Dimension Guide

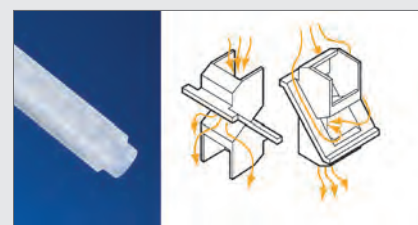


## Disposable Static Mixers

### How Mixers Work — Element Geometry



OptiMixer (Square)



Turbo Mixer (Square)



Spiral Mixer

## Disposable Static Mixers Quick Reference

DISPOSABLE STATIC MIXERS QUICK REFERENCE			
Page	Mixer	Cartridge Volume & Type	Element / Housing
129	Square OptiMixer 480	u-TAH (all), Coax 380mL, Side x Side 200–1500mL	Acetal / PP
129	Turbo 295	Side x Side 50mL	PP / PP
129	Turbo 280	u-TAH (all), Coax 380mL, Side x Side 200–1500mL	PP / PP
131	Spiral 160	u-TAH (all), Coax 380mL, Side x Side 200–1500mL	Acetal / PP
132	Spiral 160AA	u-TAH (all), Coax 380mL, Side x Side 200–1500mL	Acetal / PP
133	Spiral 161N	u-TAH (all), Coax 380mL, Side x Side 200–1500mL	Acetal / PP
133	Spiral 260	u-TAH (all), Coax 380mL, Side x Side 200–1500mL	PP / PP
130	Spiral 190	Side x Side 50–160mL	Acetal / PP

# Disposable Mixers

## SERIES 480 OPTIMIXERS (SQUARE)

Using proprietary flow simulation technology to improve the material flow path design and element wedges, the OptiMixer Series 480 delivers better mix quality in a 20% shorter length, without impacting other performance factors. It allows users to dispense in closer proximity to applications, providing greater control and higher job quality with 30% less retained volume. Integral nut mixers have a 7/8-9 thread.

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet*	Housing Outlet	Retained Volume (ml)	Element / Housing
Element Width 0.344 / 8.7 (in/mm)						
7363817	9	2.4 / 6.1	Bell	Barbed	1.6	Acetal / PP
7361689	17	4.0 / 10.2	Integral Nut	Stepped	4.7	Acetal / PP
7361695	25	5.1 / 13.0	Bell*	Stepped	6.5	Acetal / PP
7361697	25	5.6 / 14.2	Integral Nut	Stepped	6.5	Acetal / PP
7361703	33	6.3 / 16.0	Bell*	Stepped	7.5	Acetal / PP
7361705	33	6.8 / 17.3	Integral Nut	Stepped	7.5	Acetal / PP
7361707	41	8.1 / 20.6	Integral Nut	Stepped	10.0	Acetal / PP

\*Needs retaining nut #7702598.

## SERIES 280 TURBO MIXERS (SQUARE)

The Series 280 Turbo Mixer square geometry can provide superior mixing, allowing the operator to be closer to the application, and reducing the retained waste within the mixer. All mixers have 7/8 - 9 Integral Nut.

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet	Housing Outlet	Retained Volume (ml)	Element / Housing
Element Width 0.442 / 11.2 (in/mm)						
7701816	20	7.52 / 19.1	Integral Nut	Short Barb	15.1	PP / PP
7701818	26	9.00 / 22.9	Integral Nut	Short Barb	17.0	PP / PP
Element Width 0.344 / 8.7 (in/mm)						
7701370	18	5.6 / 14.2	Integral Nut	ProTip	6.5	Acetal / PP
7701385	24	6.8 / 17.3	Integral Nut	ProTip	7.5	Acetal / PP

## HANGING BRACKET

The optional "hanging bracket" attaches the Series 280 Mixer to Nordson EFD's u-TAH Cartridge Systems. The double-looped form snaps onto the 11.2 mm nozzle's unique ribs and over the neck of a cartridge creating a durable attachment.

Part #	Description
7703203	Hanging Bracket

## SERIES 295 BAYONET TURBO MIXERS (SQUARE)

The patented Series 295 Turbo Mixer ensures superior mixing performance and allows the operator to be closer to the workpiece. Designed for 50mL two-component cartridges, the Turbo geometry consists of a series of alternating left- and right-hand elements with intermittent flow inverters. The flow inverters effectively channel the fluids from the walls into the center of the mixer and from the center to the walls.

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet	Housing Outlet	Retained Volume (ml)	Element / Housing
Element Width 0.203 / 5.15 (in/mm)						
7701830	20	4.05 / 10.2	Bayonet	Slip Luer	1.4	PP / PP
7701836	20	4.05 / 10.2	Bayonet	Luer Lok	1.4	PP / PP

### For use with:

u-TAH Universal Cartridges

380mL Coaxial Cartridges

200–1500mL Side x Side Cartridges



### For use with:

u-TAH Universal Cartridges

380mL Coaxial Cartridges

200–1500mL Side x Side Cartridges



### For use with:

50mL Side x Side Cartridges



[www.nordsonefd.com/2kOptiMixer](http://www.nordsonefd.com/2kOptiMixer)

# Disposable Mixers

## SERIES 190 BAYONET MIXERS (SPIRAL)

Featuring a standard Bayonet connection, the Series 190 Mixer is designed for use with 50mL and 160mL two-component cartridges. The Series 190 has five diameters available with four outlet styles: Slip Luer, Full Bore, H-Tapered, and Stepped. The Slip Luer is our standard offering. The Full Bore ensures maximum flow with minimal back pressure.

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet	Housing Outlet	Retained Volume (ml)	Element / Housing
Element Diameter 0.093 / 2.36 (in/mm)						
7701408	12	1.5 / 3.8	Bayonet	Slip Luer	0.10	Acetal / PP
Element Diameter 0.125 / 3.18 (in/mm)						
7701411	12	2.1 / 5.3	Bayonet	H-Tapered*	0.20	Acetal / PP
7701416	24	3.4 / 8.6	Bayonet	H-Tapered*	0.40	Acetal / PP
Element Diameter 0.187 / 4.75 (in/mm)						
7701424	16	3.4 / 8.6	Bayonet	Slip Luer	0.90	Acetal / PP
7701436	16	3.4 / 8.6	Bayonet	H-Tapered*	0.90	Acetal / PP
Element Diameter 0.213 / 5.40 (in/mm)						
7701449	17	4.4 / 11.2	Bayonet	Stepped	1.90	Acetal / PP
7701453	21	5.3 / 13.5	Bayonet	Stepped	2.40	Acetal / PP
Element Diameter 0.250 / 6.35 (in/mm)						
7701458	12	3.9 / 9.9	Bayonet	Slip Luer	1.90	Acetal / PP
7701487	20	5.9 / 15.0	Bayonet	Slip Luer	3.00	Acetal / PP
7701488	20	5.9 / 15.0	Bayonet	Stepped	3.00	Acetal / PP
7701510	20	5.9 / 15.0	Bayonet	H-Tapered*	3.00	Acetal / PP
7701507	20	5.3 / 13.5	Bayonet	Full Bore	2.80	Acetal / PP
7701521**	20	5.3 / 13.5	Bayonet	Slip Luer	2.75	Acetal / PP

\*The H-Tapered outlet is offered where precise placement of the adhesive is required. In order to connect Luer needles or extensions, it is molded with an interlocking connection. This requires the attachment of a Luer Lok Adapter #7700943 (bag of 50), ordered separately.

\*\*For use with 160mL Side x Side cartridge.

### For use with:

50mL–160mL Side x Side Cartridges



### MIXER HOUSING OUTLET TYPES



# Disposable Mixers

## SERIES 160 BELL INLET MIXERS (SPIRAL)

The mixing nozzle of the Series 160 has a bell inlet which fits Nordson EFD valve manifolds and large volume cartridges that separately port the A and B materials directly into the mixer. Cleanup simply involves removing the mixer and wiping the manifold face clean. In the case of the cartridges, because of the divider fin, simply remove the mixer.

Our one-piece Metal Jacket is recommended if working pressure inside the nozzle exceeds 150 psi (10 bar) (only used with meter mix valves or manifolds). See 2K Accessories. The Series 160 includes 160, 161, 161A, 160AN, and 161AN. Mixer series which end in "A" are designed to work with the EFD ProTip Mixer Accessory. See next page.

Important: For any bell housing inlet mixer, order plastic retaining nut: #7702595 for 0.189-0366" ID; or #7702598 for 0.5" ID. For Meter Mix Valves, order metal retaining nuts. See Autovalve Accessories for details.

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet	Housing Outlet	Outlet Tip Orifice (in/mm)	Element / Housing
Element Diameter 0.189 / 4.80 (in/mm)						
7700810	8	2.62 / 6.65	Bell	Slip Luer	0.07 / 1.78	Acetal / PP
7026047	8	2.62 / 6.65	Bell	Luer Lok	0.07 / 1.78	Acetal / PP
7700811	16	3.90 / 9.91	Bell	Slip Luer	0.07 / 1.78	Acetal / PP
7700819	24	5.18 / 13.16	Bell	Slip Luer	0.07 / 1.78	Acetal / PP
7700817	24	5.18 / 13.16	Bell	Luer Lok	0.07 / 1.78	Acetal / PP
7700824	32	6.48 / 16.46	Bell	Slip Luer	0.07 / 1.78	Acetal / PP
7700822	32	6.48 / 16.46	Bell	Luer Lok	0.07 / 1.78	Acetal / PP
7700825	48	9.04 / 22.96	Bell	Slip Luer	0.07 / 1.78	Acetal / PP
7700826	48	9.04 / 22.96	Bell	Luer Lok	0.07 / 1.78	Acetal / PP
Element Diameter 0.248 / 6.30 (in/mm)						
7700828	48	9.04 / 22.96	Bell	H-Tapered	0.07 / 1.78	Acetal / PP
7700830	8	3.56 / 9.04	Bell	Slip Luer	0.09 / 2.29	Acetal / PP
7700831	16	5.46 / 13.87	Bell	Slip Luer	0.09 / 2.29	Acetal / PP
7700834	16	5.46 / 13.87	Bell	Luer Lok	0.09 / 2.29	Acetal / PP
7700837	24	7.46 / 18.95	Bell	Slip Luer	0.09 / 2.29	Acetal / PP
7700850	24	7.46 / 18.95	Bell	Luer Lok	0.09 / 2.29	Acetal / PP
7700853	24	7.46 / 18.95	Bell	Luer Lok	0.09 / 2.29	Acetal / PP
7700856	32	9.49 / 24.10	Bell	Slip Luer	0.09 / 2.29	Acetal / PP
7700862	32	9.49 / 24.10	Bell	Luer Lok	0.09 / 2.29	Acetal / PP
7700864	32	9.49 / 24.10	Bell	Luer Lok	0.09 / 2.29	Acetal / PP
7700866	48	13.14 / 33.38	Bell	Slip Luer	0.09 / 2.29	Acetal / PP
7700872	48	13.14 / 33.38	Bell	Luer Lok	0.09 / 2.29	Acetal / PP
Element Diameter 0.314 / 8.00 (in/mm)						
7700875	18	6.96 / 17.68	Bell	Luer Lok	0.10 / 2.54	Acetal / PP
7700876	24	8.84 / 22.45	Bell	Stepped	0.10 / 2.54	Acetal / PP
7700879	32	11.44 / 29.06	Bell	Stepped	0.10 / 2.54	Acetal / PP
7700939	40	14.14 / 35.92	Bell	Luer Lok	0.12 / 3.05	Acetal / PP
Element Diameter 0.366 / 9.30 (in/mm)						
7700885	12	5.48 / 13.92	Bell	Stepped	0.12 / 3.05	Acetal / PP
7700892	12	5.48 / 13.92	Bell	Luer Lok	0.12 / 3.05	Acetal / PP
7013510	18	7.28 / 18.49	Bell	Stepped	0.12 / 3.05	Acetal / PP
7700902	18	7.28 / 18.49	Bell	Luer Lok	0.12 / 3.05	Acetal / PP
7700904	24	9.15 / 23.24	Bell	Stepped	0.12 / 3.05	Acetal / PP
7700924	24	9.15 / 23.24	Bell	Luer Lok	0.12 / 3.05	Acetal / PP
7700927	30	11.24 / 28.55	Bell	Stepped	0.12 / 3.05	Acetal / PP
7700931	30	11.24 / 28.55	Bell	Luer Lok	0.12 / 3.05	Acetal / PP
7700932	40	14.14 / 35.92	Bell	Stepped	0.12 / 3.05	Acetal / PP

Continued next page

### For use with:

u-TAH Universal Cartridges

380mL Coaxial Cartridges

200–1500mL Side x Side Cartridges

Meter Mix Valves



# Disposable Mixers

From previous page

## SERIES 160 BELL INLET MIXERS (SPIRAL)

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet	Housing Outlet	Outlet Tip Orifice (in/mm)	Element / Housing
Element Diameter 0.497 / 12.65 (in/mm)						
7700990	12	6.71 / 17.04	Bell	Stepped	0.18 / 4.57	Acetal / PP
7701001	18	9.08 / 23.06	Bell	Stepped	0.18 / 4.57	Acetal / PP
7701007	18	9.08 / 23.06	Bell	Luer Lok	0.18 / 4.57	Acetal / PP
7701010	24	11.60 / 29.46	Bell	Stepped	0.18 / 4.57	Acetal / PP
7701014*	24	11.60 / 29.46	Bell	Stepped	0.18 / 4.57	Acetal / PP
7701025	24	11.60 / 29.46	Bell	Luer Lok	0.18 / 4.57	Acetal / PP
7701028	30	14.09 / 35.79	Bell	Stepped	0.18 / 4.57	Acetal / PP
7701035	30	14.09 / 35.79	Bell	Luer Lok	0.18 / 4.57	Acetal / PP
7701038	36	16.63 / 42.24	Bell	Stepped	0.18 / 4.57	Acetal / PP
7701042	36	16.63 / 42.24	Bell	Luer Lok	0.18 / 4.57	Acetal / PP

\*Includes washer for element support needed in meter mix applications.

## SERIES 160A MIXERS (SPIRAL)

Identical to Series 160 Bell Inlet Mixers, above, except housing outlet is designed to work with the EFD ProTip Mixer Accessory. The ProTip allows you to easily apply a ribbon of material.

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet	Housing Outlet	Outlet Tip Orifice (in/mm)	Element / Housing
Element Diameter 0.366 / 9.30 (in/mm)						
7700960	18	7.28 / 18.49	Bell	ProTip	0.12 / 3.05	Acetal / PP
7700969	24	9.15 / 23.24	Bell	ProTip	0.12 / 3.05	Acetal / PP
Element Diameter 0.497 / 12.65 (in/mm)						
7701046	18	9.08 / 23.06	Bell	ProTip	0.18 / 4.57	Acetal / PP

## SERIES 163A PROTIP MIXER ACCESSORIES

The Series 163A ProTip™ Mixer Accessory is designed to provide higher speed, increased control, and an easy and cost-efficient way to apply ribbons when applying two-component materials. The polyethylene ProTip easily snaps onto 2K's "A" Series disposable bell housing mixers including 160A and 162A.

Part #	Description	Width	Material	Qty/Bag
7026531	ProTip Mixer Accessory	0.5"	Polyethylene	6
7026533	ProTip Mixer Accessory	1.0"	Polyethylene	6

## SERIES 160AA QUICK SPRAY SYSTEMS

Nordson EFD's Series 160AA Quick Spray is a low-pressure air-assisted spray system for two-component coatings. This disposable static mixer is designed for use with conventional meter/mix equipment or with Nordson EFD's two-component cartridge system. The reactive coating is mixed within the disposable static mixer. At the mixer outlet, air is introduced which atomizes the liquid stream. The degree of atomization can be adjusted by regulating the airflow rate. Since the reactive coating is contained completely within the mixer, cleanup is minimal.

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet	Housing Outlet	Element / Housing
Element Diameter 0.25 / 6.32 (in/mm)					
7700846	24	7.51 / 19.08	Bell*	Tapered	Acetal / PP
Element Diameter 0.37 / 9.32 (in/mm)					
7700920	24	9.89 / 25.12	Bell*	Tapered	Acetal / PP

\*Important: For any bell housing inlet mixer, order retaining nut: #7702595 for 0.189-0.366" ID; or #7702598 for 0.5" ID

Note: The Series 160AA Quick Spray System also requires these parts:

- Air Cap Assembly (#7701282)

### ROUND SPRAY PATTERN

The round air cap of the Series 160AA produces a full cone pattern, which is completely filled with spray drops. It is used on irregular surfaces, such as truck bed liners.



### For use with:

u-TAH Universal Cartridges

380mL Coaxial Cartridges

200–1500mL Side x Side Cartridges

Meter Mix Valves





# Disposable Mixers

## SERIES 161N HIGH-FLOW INTEGRAL NUT MIXER (SPIRAL)

This mixer is similar to the Series 260, but is constructed of a different material (element is acetal and housing is PP).

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet	Housing Outlet	Integral Nut	Element / Housing
Element Diameter 0.630 / 16.00 (in/mm)						
7703903	20	17.26 / 43.84	Integral Nut	Full Bore	7/8-9	Acetal / PP
7703927	20	17.26 / 43.84	Integral Nut	Full Bore	7/8-14	Acetal / PP

## SERIES 162A HIGH-FLOW BELL MIXERS (SPIRAL)

Intended for high-flow rate meter mix applications, this series contains our largest disposable bell mixers: 0.784" in diameter with either 16, 23, 32, 39, 48, or 64 elements. The rugged nylon housing has an oversized bell inlet. The downstream outlet is designed with a 1/2" NPS male thread to attach extensions or other types of accessories.

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet	Housing Outlet	Element / Housing
Element Diameter 0.784 / 19.9 (in/mm)					
7701057	16	12.5 / 31.7	Large Bell	ProTip	Acetal / Nylon
7701059	23	17.0 / 43.2	Large Bell	ProTip	Acetal / Nylon
7701063	32	24.5 / 62.2	Large Bell	ProTip	Acetal / Nylon
7701066	39	30.3 / 77.0	Large Bell	ProTip	Acetal / Nylon
7701067	48	36.4 / 92.5	Large Bell	ProTip	Acetal / Nylon

## SERIES 260 MIXERS (SPIRAL)

Series 260 Spiral Mixers are available in Standard Bell and Integral Nut inlet connections. Integral Nut eliminates the need for a separate retaining nut. Options are the Series 260 Spiral Bell Mixer, Series 260 Spiral Barbed Extension Mixer, and Series 260N Spiral Integral Nut Mixer (7/8 - 9).

Part #	# Mixing Elements	Housing Length (in/cm)	Housing Inlet	Housing Outlet	Retained Volume (ml)	Element / Housing
Element Diameter 0.502 / 12.8 (in/mm)						
7701749	12	6.7 / 17.02	Bell	Stepped	15	PP / PP
7701770	24	11.7 / 29.72	Bell	Stepped	25	PP / PP
7701759	18	14.1 / 35.8	Bell	Barb Ext	24	PP / PP
Element Diameter 0.502 / 12.8 (in/mm)						
7701782	18	9.6 / 24.4	Integral Nut	Stepped	19	Acetal / PP
Element Diameter 0.789 / 20.0 (in/mm)						
7701804	16	12.9 / 32.7	Bell	Full Bore	71	Acetal / PP

### For use with:

u-TAH Universal Cartridges

380mL Coaxial Cartridges

200–1500mL Side x Side Cartridges



# Inline Mixers

Nordson EFD offers a wide range of reusable mixers with either metal or plastic elements. Inline mixers typically feature pipe threads on both ends to simplify connection to material lines.

## SERIES 140 & 145 PLASTIC MIXERS

This all-plastic assembly is ideal for short pot life adhesives. Its low cost allows disposal of the mixer instead of purging or baking. The housing is translucent, so the operator can inspect the condition of the mixer. With the interior mixing elements molded of acetal, it has the toughness and chemical resistance to be inert to common solvents. Maximum service temperature is 250° F (121° C).

Part #	# Mixing Elements	Housing Ends (mnpt)	Housing Length (in/cm)	Pressure Limit <sup>+</sup>	Element / Housing
Element Diameter 0.125 / 3.18 (in/mm)					
7700634	30	Plain	3.50 / 8.89	580 / 40	Acetal* / Nylon
Element Diameter 0.370 / 9.40 (in/mm)					
7700713	24	1/4"	11.50 / 29.21	460 / 32	Acetal* / Nylon**
7700715	30	1/4"	13.50 / 34.29	460 / 32	Acetal* / Nylon**
Element Diameter 0.497 / 12.62 (in/mm)					
7700738	18	3/8"	11.10 / 28.19	350 / 24	Acetal* / Nylon**
7700741	30	3/8"	16.00 / 40.64	350 / 24	Acetal* / Nylon**
Element Diameter 0.630 / 16.00 (in/mm)					
7700755	20	1/2"	14.40 / 36.58	300 / 21	Acetal* / Nylon**
7700757	30	1/2"	19.70 / 50.04	300 / 21	Acetal* / Nylon**
Element Diameter 0.784 / 19.91 (in/mm)					
7700770	16	3/4"	15.10 / 38.35	240 / 17	Acetal* / Nylon**
7700773	24	3/4"	20.40 / 51.82	240 / 17	Acetal* / Nylon**
7700776	32	3/4"	25.60 / 65.02	240 / 17	Acetal* / Nylon**

<sup>+</sup>Pressure limit based on psi @300° F / bar @150° C

\*Elements are non-removable

\*\*Housing also available in nylon with brass threaded ends



## SERIES 120 PLASTIC SPIRAL MIXER ELEMENTS

The Series 120 plastic spiral elements have an "apple core" cross section. Elements are injection-molded in one operation ensuring excellent quality control and low unit cost. Benefits include long life and great flow rate, plus element flushes clean with less solvent.

Part #	# Mixing Elements	Element Diameter (in/mm)	Element Length (in/cm)	Element
7700465	12	0.093 / 2.36	1.16 / 2.95	Acetal
7700166	7	0.212 / 5.38	1.48 / 3.76	Acetal
7700478	21	0.212 / 5.38	4.45 / 11.30	Acetal
7700481	16	0.251 / 6.38	3.96 / 10.06	Acetal
7700489	24	0.248 / 6.30	5.94 / 15.09	Acetal
7700500	12	0.370 / 9.40	3.90 / 9.91	Acetal
7700509	24	0.370 / 9.40	7.83 / 19.89	Acetal
7700515	12	0.497 / 12.62	5.00 / 12.70	Acetal
7700523	10	0.630 / 16.00	5.42 / 13.77	Acetal
7700526	8	0.790 / 20.07	5.42 / 13.77	Acetal
7700528	4	1.025 / 26.04	5.90 / 14.99	Acetal



# Inline Mixers

## SERIES 100 INLINE MIXERS

Rugged and reliable, the Series 100 Mixers are all stainless steel and feature a modular design so you can remove the elements for easy cleaning. Two or more mixers can be coupled together using a pipe connector. Streamlined contour of the elements ensures the mixer flushes clean with less solvent. Heavy-walled tubing resists warpage during furnace cleaning (maximum furnace temperature should not exceed 1250° F / 676° C) and increases the life of the mixer.

Part #	# Mixing Elements	Housing Ends (mnpt)	Housing Length (in/cm)	Pressure Limit*	Element / Housing
Element Diameter 0.267 / 6.78 (in/mm)					
7700364	12	1/8"	5.38 / 13.67	8750 / 600	316 stainless steel* / 304 stainless steel
Element Diameter 0.363 / 9.22 (in/mm)					
7700366	6	1/4"	3.75 / 9.53	8500 / 585	316 stainless steel* / 304 stainless steel
7700367	12	1/4"	7.00 / 17.78	8500 / 585	316 stainless steel* / 304 stainless steel
Element Diameter 0.494 / 12.55 (in/mm)					
7700370	12	3/8"	9.50 / 24.13	7250 / 500	316 stainless steel* / 304 stainless steel
Element Diameter 0.623 / 15.83 (in/mm)					
7700373	12	1/2"	11.00 / 27.94	7250 / 500	316 stainless steel* / 304 stainless steel
Element Diameter 0.779 / 19.79 (in/mm)					
7700377	12	3/4"	14.75 / 37.47	6000 / 415	316 stainless steel* / 304 stainless steel
Element Diameter 1.032 / 26.21 (in/mm)					
7700384	12	1"	18.50 / 46.99	4500 / 310	316 stainless steel* / 304 stainless steel
Element Diameter 1.580 / 40.13 (in/mm)					
7700391	6	1-1/2"	14.00 / 35.56	3000 / 207	316 stainless steel* / 304 stainless steel
Element Diameter 2.035 / 51.69 (in/mm)					
7700395	6	2"	17.50 / 44.45	2500 / 170	316 stainless steel* / 304 stainless steel

\*Pressure limit based on psi @300° F / bar @150° C

\*Elements are removable.

Contact EFD for replacement part recommendations.



### For use with:

Meter Mix Valves



## PU FOAM (FFR) MIXERS

Foam Froth Remover (FFR) mixers are intended for urethane foam applications. The extended tube serves two purposes: (1) for reach, and (2) to reduce the spiraling of material after the elements to allow for a more accurate dispense.

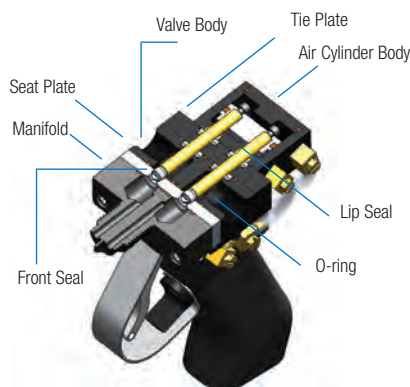
Part #	# Mixing Elements	Flow Rate (PPM)	Housing Length (in/cm)	Element / Housing
Element Diameter 0.50 / 12.70 (in/mm)				
7701023	24	15	13.2 / 33.53	Acetal / PP
Element Diameter 0.64 / 16.23 (in/mm)				
7700679	10	30	40.0 / 101.60	Acetal / Nylon
7700682	20	30	24.0 / 60.96	Acetal / Nylon
7701712	10	30	15.0 / 38.10	PP / Nylon
Element Diameter 0.79 / 20.07 (in/mm)				
7700688	12	60	25.0 / 63.50	Acetal / Nylon
7700690	16	60	28.0 / 71.12	Acetal / Nylon
7700692	16	60	40.0 / 101.60	Acetal / Nylon

# Meter Mix Valves

Nordson EFD provides a complete line of modular metal valves that can be easily disassembled and cleaned after mixing. Maintaining valves that handle reactive resins can be time-consuming and expensive — a plugged valve translates to lost production, and even a partially plugged mixer results in poor quality.

## Features and Benefits

- Eliminate solvent flushing
- Less adhesive waste
- Cleans up easily for increased productivity



With meter mix and dispense systems, the pneumatic Series 400 Autovalve is a durable and reliable valve. The A and B shut-off pistons have PTFE seals allowing high flow with minimal maintenance as these seals can be adjusted without disassembly of the valve body. The 9/16-18 fluid inlet ports of the Series 400 Autovalve allows flow rates of 3-4 gallons per minute, depending on pump capability and material viscosity.

### MANIFOLDS FOR SERIES 400 AUTOVALVES

Ratio	Part # (Manifold)	Part # (Manifold with solvent port)	Material	Flow
1:1	7701933	7701935	Aluminum	Low Flow
1:1	7701942	—	Aluminum	High Flow
Wide	7701946	—	Aluminum	High Flow

## ORDERING GUIDE

- Valve, manifold, and handle are ordered individually
- For high back pressure conditions (i.e. over 1000 psi/69 bar) order a double air cylinder
- Seal Designations: T=PTFE, P=Polyurethane, V=Viton, G=Polytuff

## Series 400 Autovalve

### 7701895 400 Autovalve

Aluminum Valve, Single Air Cylinder, TPV Seals

Order handle separately; see Autovalve Accessories for details.

### Recommended Mixer:

Series 160 Mixer

### Options:

O-ring options: Viton, PTFE, Ethylene-Propylene (E-P)

Lip seal options: Viton, Polyurethane (PU), PTFE, Polytuff, Ethylene-Propylene (E-P)

Repair kits containing a complete set of lip seals and O-rings are available.

## Specifications (Models 400 / 450)

### Valve

Size:	83.8L x 63.5w x 58.4H mm (3.3L x 2.5w x 2.3H")
Body:	6061-T6 aluminum or 303 stainless steel

### Manifold

Size:	48.3L x 63.5w x 38.1H mm (1.9L x 2.5w x 1.5H")
Material:	6061-T6 aluminum or 303 stainless steel
Outlet thread	7/8"-14 (for standard bell mixers)
size options:	1 5/16"-12 (for oversized bell mixers)

### Valve System

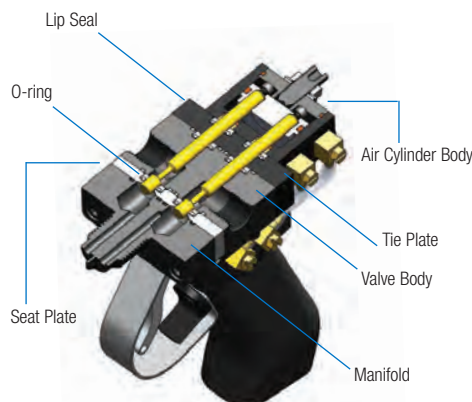
Weight:	Aluminum valve and manifold: 1.6 lb (0.7 kg) Stainless steel valve and manifold: 2.5 lb (1.1 kg)
Operating parameters:	Min. operating pressure: 5.5 bar (80 psi) Max. fluid pressure: 240 bar (3500 psi)
Electric handle mount switch:	24V

# Meter Mix Valves

The 400HF Valve provides flow rates that are 15-30% greater than the standard 400 Valve configuration, without compromising accuracy or consistency. The large 3/4" material inlet ports permit flow rates of 4-5 gallons per minute, depending on pump capability and material viscosity.

## MANIFOLDS FOR SERIES 400HF AUTOVALVES

Ratio	Part # (Manifold)	Part # (Manifold with solvent port)	Material	Flow
1:1	—	7704021	Stainless Steel	Ultra High



The pneumatic Series 450 Autovalve is similar to the Series 400 Autovalve, except for the shut-off pistons which ensure good control of dot or shot volume. After each shot, the dual pistons retract and “snuff back” material from the end of the mixing nozzle. This feature helps eliminate “after drool.” This valve includes hard-coated and lubricated pistons. It can be used either as a stationary head or hand-held unit. In addition, seals can be adjusted without disassembly of the valve body.

## MANIFOLDS FOR SERIES 450 / 450RC / 450XT AUTOVALVES

Ratio	Part # (Manifold)	Part # (Manifold with solvent port)	Material	Flow
1:1	7702221	7702222	Aluminum	Low Flow
1:1	7702541	7702452	Stainless Steel	Low Flow
Wide	7702453	—	Stainless Steel	Low Flow

## Series 400HF Autovalve

### 7704105 400HF Autovalve

Aluminum Valve, Single Air Cylinder, TGT Seals

### 7701924 400HF Autovalve

Aluminum Valve, Single Air Cylinder, TPV Seals

Order handle separately; see Autovalve Accessories for details.

### Recommended Mixer:

Series 162A Mixer

### Specifications

See Series 400, previous page

## Series 450 Autovalve

### 7702201 450 Autovalve

Aluminum Valve, Single Air Cylinder w/Snuff Back, GT Seals

### 7702209 450 Autovalve

Aluminum Valve, Single Air Cylinder w/Snuff Back, PV Seals

### 7702443 450 Autovalve

Stainless Steel Valve, Single Air Cylinder w/Snuff Back, GT Seals

Order handle separately; see Autovalve Accessories for details.

### Recommended Mixer:

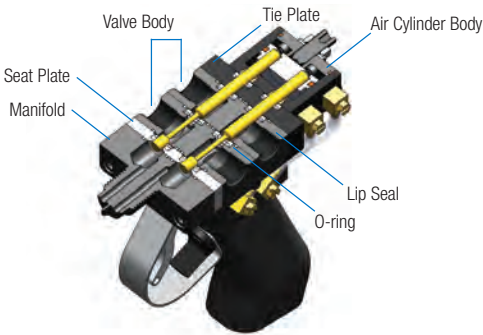
Series 160 Mixer

### Specifications

See Series 400, previous page



# Meter Mix Valves



The 450RC Autovalve allows continuous flow of material while still being able to control shut-off at the mixer. Typical uses are for heated materials or materials with fillers that need to remain suspended. Recirculation occurring at the valve instead of the pump eliminates pressure buildup in the lines, preventing off-ratio dispensing.

Manifolds: See Series 450 Manifold Table, previous page

## Series 450RC Recirculating Autovalve

**7702217 450RC Autovalve**  
Aluminum Valve, Single Air Cylinder w/ Snuff Back, GT Seals

Order handle separately; see Autovalve Accessories for details.

**Recommended Mixer:**

Series 160 Mixer

**Options:**

O-ring options: Viton, PTFE, Ethylene-Propylene (E-P)

Lip seal options: Viton, Polyurethane (PU), PTFE, Polytuff, Ethylene-Propylene (E-P)

Repair kits containing a complete set of lip seals and O-rings are available.

### Specifications

Valve	
Size:	132L x 63.5w x 58.4H mm (3.3L x 2.5w x 2.3H")
Body:	6061-T6 aluminum or 303 stainless steel
Manifold	
Size:	48.3L x 63.5w x 38.1H mm (1.9L x 2.5w x 1.5H")
Material:	6061-T6 aluminum or 303 stainless steel
Outlet thread	7/8"-14 (for standard bell mixers)

Valve System	
Weight:	Aluminum valve and manifold: 2.0 lb (0.9 kg) Stainless steel valve and manifold: 3.4 lb (1.5 kg)
Operating parameters:	Min. operating pressure: 5.5 bar (80 psi) Max. fluid pressure: 240 bar (3500 psi)
Electric handle mount switch:	24V



This innovative dispense valve is designed specifically for two-component urethanes and eliminates exposure of wetted shafts to air. Since 2K urethanes are moisture sensitive, any contact with air can cure the material, locking up the dispense valve.

Manifolds: See Series 450 Manifold Table, previous page

## Series 450XT Snuff Back Valve

**7702216 450XT Autovalve**  
Aluminum Valve, Extended Air Cylinder with Snuff Back and GT Seals

Order handle separately; see Autovalve Accessories for details.

**Recommended Mixer:**

Series 160 Mixer


### Specifications

Weight:	Aluminum valve and manifold: 1.6 lb (0.7 kg) Stainless steel valve and manifold: 2.5 lb (1.1 kg)
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Pressure Rating:	240 bar (3500 psi)
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# 400 / 450 Autovalves Accessories

## CARBON STEEL PIPE ADAPTERS

Part	Part #	Description
	7702420	90° Elbow w/3/8" FNPS
	7702425	Straight Adapter w/3/8" FNPS
	7702429	2K V-Parts CS H-Adpt Elbow 1/2" FNPT

## SWIVEL CHECK VALVE ADAPTERS


Part	Part #	Description
	7702408	SS w/Alum. Collar, 1/4" FNPT
	7702409	All SS, 1/4" FNPT

## TRIGGER HANDLES

If using an electric handle, a solenoid from an outside vendor is required. Elbow adapters are available to connect material lines to the valve.

Part	Part #	Description
	7701971	Pistol Grip Handle w/Electric Momentary Switch (24V)
	7701977	Pistol Grip Handle w/Pneumatic Switch

## RATIO CHECK CAP AND NIGHT CAP


Part	Part #	Description
	7701181	PTFE Night Cap & Nut
	7701184	PTFE Ratio Check Cap & Nut

## REPAIR KITS

Part	Part #	Description
	7704093	2K Kit 4X0 Repair TGT
	7704095	2K Kit 4X0 Repair TPV
	7704096	2K Kit 4X0 Repair TTT

## VALVE SEALS

EFD offers a wide variety of seal configurations for Series 400/450 autovalves. Select both the O-ring and U-cup seals based on chemical compatibility.

Part	Part #	Material	Color	Description
O-rings				
	7702275	PTFE	Orange	Recommended with all chemicals
	7702810	EP	Black	MEK, ketones, and acetones
U-cups				
	7702280	PTFE	Aqua	With PTFE O-ring / Recommended with all chemicals
	7702277	UHPME	Clear	With SS spring / Epoxies (amine catalyst), polyesters, and acrylics
	7702281	PU	Orange	With Viton O-ring / Epoxies (general), polyurethanes, and polysulfides

## BLOCK MANIFOLDS FOR MIXERS

Nordson EFD's two-component manifolds separately port the resin and hardener into the mixing nozzle. Cleanup simply involves wiping the manifold face after the nozzle has been removed. To prevent back flow or cross contamination of reactive material, inline check valves are available. Designed for when you're dispensing without a meter mix valve, but directly through the mixer. For use with Series 160 and 162A.

Part	Part #	Material	Inlet	Outlet	Solvent Ports	Mixer
	7701323	Aluminum	(2) 1/8" FNPT	7/8 - 14	1/4" FNPT	Series 160
	7701325	Aluminum	(2) 1/4" FNPT	7/8 - 14	1/4" FNPT	Series 160
	7701329	Aluminum	(2) 1/2" FNPT	1-5/16 - 12 UN	1/4" FNPT	Series 162A

## ADAPTERS FOR MIXERS

Mixers can be connected to some pre-existing manifolds or valves using adapters. Contact Nordson EFD for details. For use with Series 85, 100, 160, and 162A.

Part	Part #	Material	Inlet
	7701252	Carbon Steel	11/16" Female NPT (for Venus Gun)
	7701315	Carbon Steel	1" Male NPT

## DISPENSING TIPS FOR MIXERS



Luer Lok adapters (locking hubs) are used for attaching Optimum dispensing tips to Series 190 and 160 mixers. If you want to use a metal jacket with the 3.16" ID or 1/4" ID bell mixers, order the mixer and the Luer Lok fitting as two separate items unassembled: square hub outlet and #7700943 Luer Lok fitting (bag of 50). See Optimum Dispensing Tips for details.

## FLOW RESTRICTORS

Nordson EFD recommends the use of our Flow Restrictor when dispensing cartridges filled with low viscosity fluids. Thin adhesives are often too free flowing and can cause cross-contamination, lead/lag problems, and plugging. Our low-cost, plastic Flow Restrictor eliminates these issues by slowing the thinner component's flow. Use the smallest orifice possible, based on material viscosity.

Part #	Type	Orifice Size (in/mm)	Material	Color	u-TAH
7660764	Flat	1.6 x 1.6 mm (0.063 x 0.063")	LDPE	Black	—
7660766	Flat	Dual Slit	LDPE	Black	—
7661231	Tabbed	2.4 x 2.4 mm (0.094 x 0.094")	LDPE	White	—
7702861	Conical	1.6 x 1.6 mm (0.063 x 0.063")	PP	Translucent	✓



Flow restrictor



Remove plug




Insert restrictor



Attach mixer

## RETAINING NUTS FOR MIXERS & METER MIX VALVES

Available to hold mixing nozzles onto adapters, block manifolds, and meter mix valves. Also used when a metal jacket is not required.

Part	Part #	Material	Thread	Mixer
	7701110	Aluminum	2K Standard 7/8 - 14	Series 160 with ID 0.189-0.248"
	7701113	Aluminum	2K Standard 7/8 - 14	Series 160 with ID 0.314-0.497"
	7701114	Aluminum	Alternative 7/8 - 9	Series 160 with ID 0.314-0.497"
	7701115	Aluminum	2K Standard 7/8 - 14	Series 141 & Series 161 (all)
	7701116	Aluminum	Alternative 7/8 - 9	Series 161 (all)
	7701108	Aluminum	1-1/16 - 12	Series 141 (all)
	7026515	Carbon Steel	1-5/16 - 12 UNF	Series 162A (all)
	7701132	Aluminum	1-1/4 - 12 NS	Series 141 (all)
	7701118	Aluminum	2K Standard 7/8 - 14	Series 141 (all)

## ONE-PIECE METAL JACKETS FOR MIXERS ON METER MIX VALVES

For medium- and high-pressure systems where pressure inside the mixer is greater than 150 psi (10 bar), we recommend that a metal jacket be used over the mixing nozzle. Select Robotic version where repeat positioning is required.

Part	Part #	Material	Thread	Mixer Part #	Mixer
	7701124	Aluminum, Robotic	2K Standard 7/8 - 14	7700837	Series 160
	7701140	Aluminum	2K Standard 7/8 - 14	7700819	Series 160
	7701143	Aluminum	2K Standard 7/8 - 14	7700856	Series 160
	7701163	Aluminum	Alternative 7/8 - 9	7013510	Series 160
	7701167	Aluminum	2K Standard 7/8 - 14	7700904	Series 160
	7701165	Aluminum, Robotic	2K Standard 7/8 - 14	7700904	Series 160
	7701171	Aluminum	2K Standard 7/8 - 14	7700927	Series 160
	7701170	Aluminum, Robotic	2K Standard 7/8 - 14	7700927	Series 160
	7701174	Aluminum	2K Standard 7/8 - 14	7700932	Series 160
	7701203	ACS Nut / SS Jacket	2K Standard 7/8 - 14	7701010, 7701049	Series 160
	7701208	Aluminum, Robotic	2K Standard 7/8 - 14	7701010, 7701049	Series 160
	7701210	CS Nut / SS Jacket	2K Standard 7/8 - 14	7701028	Series 160
	7701396	Aluminum, Robotic	2K Standard 7/8 - 14	7361695	Series 480
	7701226	CS Nut/SS Jacket	1-5/16 - 12	7701059	Series 162A

# Useful Resources

Choosing and implementing the best possible fluid dispensing equipment starts with access to the best possible resources. Here are some to get you started:



## Application Videos

Visit our Video Gallery to access 150+ application, how-to, and product videos. See EFD dispensing solutions in action.

**Watch Videos:** [www.nordsonefd.com/VideoGallery](http://www.nordsonefd.com/VideoGallery)



## What Our Customers Say

Find out how Nordson EFD helps manufacturers improve their fluid dispensing processes every day — see what our customers have to say.

**Our Customers Know Best:** [www.nordsonefd.com/Testimonials](http://www.nordsonefd.com/Testimonials)



## Expert Recommendations

Knowledgeable Nordson EFD fluid application specialists have, on average, more than 10 years of experience helping customers find the right dispensing solutions.

**Request Expert Advice:** [www.nordsonefd.com/Advice](http://www.nordsonefd.com/Advice)

**Request Lab Test:** [www.nordsonefd.com/ApplicationTest](http://www.nordsonefd.com/ApplicationTest)

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## Machine Builder Guide & CAD Models

When you partner with Nordson EFD, you benefit from a wide range of reliable, best-in-class precision fluid dispensing solutions.

**Learn more:** [www.nordsonefd.com/MachineBuilderGuide](http://www.nordsonefd.com/MachineBuilderGuide)

**Download CAD models:** [www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)





## Dot Volumes







$$\text{Volume} = D^3 \times 0.5236 \div 2^*$$

(\*1/2 the volume of a sphere)

Volume of Dots				Volume of Dots			
dot	mm	inches	V cc	dot	mm	inches	V cc
•	0.5	0.02	0.00003		7.6	0.30	0.116
•	0.8	0.03	0.0001		8.9	0.35	0.184
•	1.0	0.04	0.0003		10.2	0.40	0.275
•	1.3	0.05	0.0005		11.4	0.45	0.391
•	1.8	0.07	0.001		12.7	0.50	0.536
•	2.3	0.09	0.003		19.1	0.75	1.810
•	2.8	0.11	0.006				
•	3.3	0.13	0.009				
•	3.8	0.15	0.014				
•	4.3	0.17	0.021				
•	4.8	0.19	0.029				
•	5.6	0.22	0.046				
•	6.1	0.24	0.059				
•	6.6	0.26	0.075				

## Bead Volumes

Volume of Beads				
	Bead diameter		Volume per linear inch	
	mm	inches	cubic inch	cc's
	1.6	0.06	0.0031	0.050
	2.4	0.09	0.0069	0.113
	3.2	0.12	0.0123	0.201
	4.8	0.19	0.0276	0.453

## Volumes and Conversions

### Volume

1 fluid ounce	= 29.57 cubic centimeters
1 gallon	= 3785 cubic centimeters
1 gallon	= 3.785 liters
1 gallon	= 128 fluid ounces
1 gallon	= 4 quarts
1 gallon	= 8 pints
1 gallon	= 16 cups
1 gallon	= 231 cubic inches
1 gallon	= 0.134 cubic feet
1 liter	= 0.264 gallons
1 liter	= 1.06 quarts
1 liter	= 1000 milliliters
1 cubic foot	= 1728 cubic inches
1 cubic foot	= 7.48 gallons
1 cubic inch	= 16.387 cubic centimeters
1 cubic centimeter	= 1 milliliter
1 microliter	= 0.001 cc's
1 microliter	= 1000 nanoliters
1 nanoliter	= 0.000001 cc's
1 nanoliter	= 1000 picoliters

### Weight

1 kilogram	= 1000 grams
1 kilogram	= 2.2 pounds
1 pound	= 16 ounces
1 pound	= 453.6 grams
1 pound	= 7000 grains
1 ounce	= 28.35 grams

### Length

1 micron	= .0000394 inches
1 micron	= 0.001 millimeters
1 centimeter	= 10 millimeters
1 centimeter	= 10,000 microns
1 inch	= 2.54 centimeters
1 inch	= 25.4 millimeters
1 inch	= 25,400 microns
1 foot	= 30.48 centimeters
1 yard	= 91.44 centimeters
1 mile	= 5280 feet
1 mile	= 1.6 kilometers

### Pressure

1 psi	= 0.069 bar
1 psi	= 0.070 kgf/cm²
1 psi	= 6894.8 Pa
1 psi	= 27.680 in H <sub>2</sub> O@4° C

## Fluid Viscosities

Dispensing conditions are driven by many factors. When selecting the correct system for your application, the material's properties, including viscosity and deposit size, are important considerations.

Viscosity is the measurement of a fluid's internal resistance to flow. This is usually designated in units of centipoise or poise, but can be expressed in other measurements as well. Refer to the chart below.

APPROXIMATE VISCOSITIES OF COMMON MATERIALS (at room temperature — 21° C (70° F))	
Material	Viscosity in Centipoise
Water	1 — 5
Kerosene	10
Anti-freeze or Ethylene Glycol	15
Motor Oil SAE10	50 — 100
Motor Oil SAE30 or Maple Syrup	150 — 200
Motor Oil SAE40 or Castor Oil	250 — 500
Motor Oil SAE60 or Glycerin	1,000 — 2,000
Corn Syrup or Honey	2,000 — 3,000
Molasses	5,000 — 10,000
Chocolate Syrup	10,000 — 25,000
Ketchup or Mustard	50,000 — 70,000
Tomato Paste or Peanut Butter	150,000 — 250,000
Shortening or Lard	1,000,000 — 2,000,000
Caulking Compound	5,000,000 — 10,000,000
Window Putty	100,000,000

## Typical Assembly Materials Dispensed with EFD Systems

- Activators
- Anaerobics
- Coatings
- Cyanoacrylates
- Electrolytes
- Epoxies
- Fluxes
- Gels
- Greases
- Lubricants
- Oils
- Marking Inks
- RTV/Sealants
- Solder Pastes
- Solvents
- UV-Cure & Light-Cure
- White Glues

## Conversion Factors

100 Centipoise	= 1 Poise
1 Centipoise	= 1 mPa-s (Millipascal Second)
1 Poise	= 0.1 Pa-s (Pascal Second)
Centipoise	= Centistoke x Density

*"We ordered supplies yesterday and 17 hours later, they arrived! 2 years and never a problem of any kind. Thanks."*  
— Progressive Mfg. Co.

## EFD Mission

Provide best-in-class fluid management solutions, built on EFD's continued investment in applications knowledge, innovative products, operational excellence, superior customer service, and a lasting commitment to quality.

## and Vision

Be the global leader in providing our customers premium fluid management solutions for low-volume precision dispensing markets.

## World Leader in Precision Fluid Dispensing

Nordson EFD's worldwide network of experienced product application specialists are available to discuss your dispensing project and recommend a system that meets your technical requirements and budget.

Here are just a few things our customers have to say about working with us:

*"We're producing better-looking parts in half the time."*

– ECM Motor Co.

*"Our product is critical. That's why our choice is EFD equipment."*

– Ethicon Endo Surgery

*"Your system has several benefits compared to what we used before. We're talking about 75% less consumption [of oil]."*

– Gestamp Aveiro

*"The quality of their product, as well as their knowledge and support, have been nothing short of excellent."*

– Lorik Tool & Automation Inc.

*"Better control means over \$50,000 in fluid savings annually."*

– Mitsubishi

*"It's not complicated. You set it up and it works."*

– Texas Instruments

*"Applications support from Nordson EFD has been exceptional. They are quick to respond & give us the information needed."*

– Preh Ima Automation

*"The quality of the packages that we put our products in matters. That's why we use EFD syringes and cartridges."*

– Dymax



For Nordson EFD sales and service in over 40 countries, contact Nordson EFD or go to [www.nordsonefd.com](http://www.nordsonefd.com).

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