



# Your Partner in Precision Fluid Dispensing

Engineered Fluid Dispensing  
**PRODUCT CATALOG 11**

**Nordson**  
EFD



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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.

## Dispensers

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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     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                         |  |  |  |  |  |
| 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 Components & Precision Dispense Tips" 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



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

## 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 A<br>DC Output: 24 VDC @ 3.75 A |
| 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)<br>UltimusPlus II: 0.02–1.0 bar (0.3–15 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 Components & Precision Dispense Tips" 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



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

## 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%), ~50/60 Hz, 0.5 A<br>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                               |

# 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 Components & Precision Dispense Tips" 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).



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

## 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%), ~50/60 Hz, 0.6 A<br>DC output: 24 VDC @ 1.04 A |
| 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)<br>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)<br>2 year, no-fault (Asia)    |

# 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 Components & Precision Dispense Tips" 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%), ~50/60 Hz, 0.6 A<br>DC output: 24 VDC @ 0.75 A |
| 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)<br>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

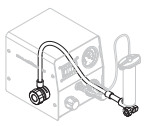
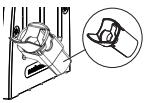
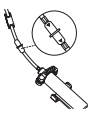
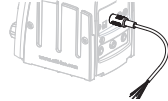
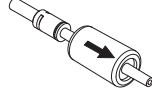
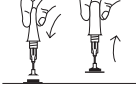
- Steady mode / analog air pressure display
- Fast, controlled application / clean, drip-free cutoff

## 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<br>I-II | 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)                     |                                                                                                        |             | ✓               |   |             |
|    | 7017102 | Barrel holder sleeve (5-pack)                           | Inserts into the barrel holder that is installed on the side of the dispenser                          |             | ✓               | ✓ |             |
|    | 7021053 | Syringe barrel production stand                         | Provides full-barrel swivel, horizontal, and vertical adjustment. Accepts all EFD barrels.             | ✓           | ✓               | ✓ | ✓           |
|   | 7016728 | Syringe / barrel holder                                 | Barrel stand with bottle                                                                               | ✓           | ✓               | ✓ | ✓           |
|                                                                                     | 7016269 | Bottle only (10-pack)                                   |                                                                                                        | ✓           | ✓               | ✓ | ✓           |
|  | 7012063 | Optimum adapter assembly w/filter trap (3cc)            | Prevents fluid from being sucked back into the dispenser when dispensing cyanoacrylates or thin fluids | ✓           | ✓               | ✓ | ✓           |
|                                                                                     | 7012062 | Optimum adapter assembly w/filter trap (5cc)            |                                                                                                        | ✓           | ✓               | ✓ | ✓           |
|                                                                                     | 7012061 | Optimum adapter assembly w/filter trap (10cc)           |                                                                                                        | ✓           | ✓               | ✓ | ✓           |
|                                                                                     | 7012060 | Optimum adapter assembly w/filter trap (30 / 55 / 70cc) |                                                                                                        | ✓           | ✓               | ✓ | ✓           |
|  | 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                                    | ✓           | ✓               | ✓ | ✓           |

Continued next page

***“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



# Dispenser Accessories

From previous page

|                                                                                   | PART #  | ACCESSORY                                          | DESCRIPTION                                                                                                                                                                         | UltimusPlus | Ultimus<br>I-II | V | Performus X |
|-----------------------------------------------------------------------------------|---------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|---|-------------|
|  | 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                                                                                                                                   | ✓           | ✓               | ✓ | ✓           |
|                                                                                   | 7016540 | Filter element replacement kit                     | Removes liquid aerosols from air supply                                                                                                                                             | ✓           | ✓               | ✓ | ✓           |
|  | 7364357 | Barcode scanner                                    | Scans barcode and automatically alternates between programs                                                                                                                         | ✓           |                 |   |             |
|  | 7364775 | Breakout board and cable                           | Simplifies wiring and facilitates testing by breaking out compact, high-density input/output (I/O) connections (e.g., 26-position or DB15) into accessible, labeled screw terminals | ✓           |                 |   |             |

# 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.

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

### Key

- Recommended
- ▲ Satisfactory
- × Do not use

## HPD Hand Plungers DispensGun

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

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

**7023596 HPD10K Hand Plunger**  
10cc 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.

*"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 hand-piece 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

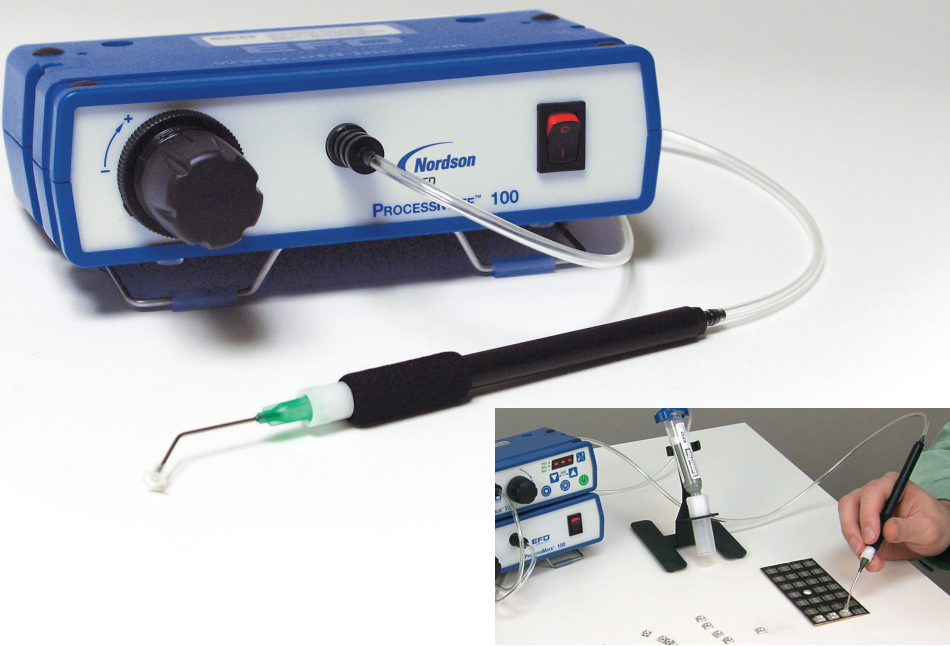
### 7015542 100–240 VAC Centrifuge

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.





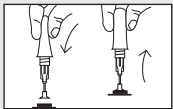
Vacuum Pickup System  
ProcessMate 100

7012329 ProcessMate 100 Vacuum Pickup Pen

Includes assorted anti-static 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") | Cycle initiate:     | Foot pedal, finger switch                          |
| Weight:                        | 1.0 kg (2.2 lb)                                 | Input air pressure: | 7.0 bar (100 psi) maximum                          |
| Input AC (to power supply):    | Universal Multi Voltage, 100/240 VAC, 50/60 Hz  | Air output:         | 0–110 inH <sub>2</sub> O dependent on user setting |
| Output DC (from power supply): | 24 VDC, 1.04 A maximum                          | Vacuum output:      | 0–110 inH <sub>2</sub> O 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

## 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.



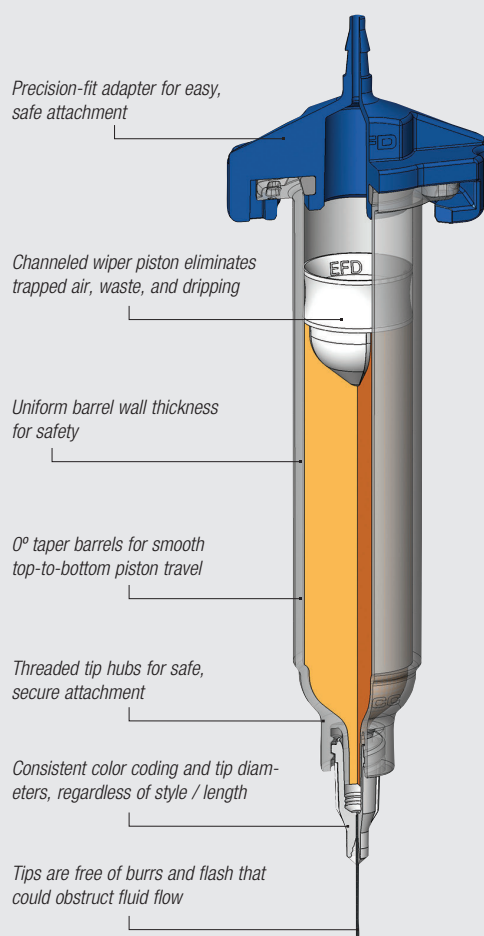
## 1/10 Gallon Caulking Tube

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.

### 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

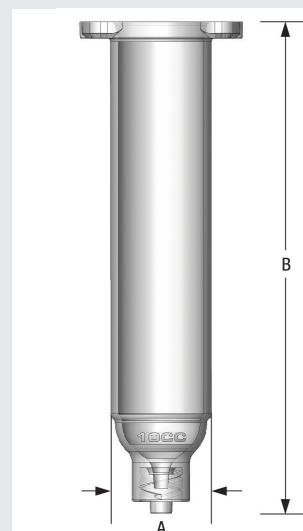
| Size | MOST FLUIDS<br>Clear Barrels | UV / Light Sensitive<br>Amber Barrels | UV / Light Block<br>Black Barrels | QTY  |
|------|------------------------------|---------------------------------------|-----------------------------------|------|
| 3cc  | 7366095                      | 7366092                               | 7366093                           | 100  |
| 3cc  | 7012073                      | 7012084                               | 7012090                           | 1000 |
| 5cc  | 7366101                      | 7366098                               | 7366099                           | 100  |
| 5cc  | 7012095                      | 7012102                               | 7012108                           | 1000 |
| 10cc | 7366089                      | 7366878                               | 7366087                           | 100  |
| 10cc | 7012113                      | 7366879                               | 7012129                           | 1000 |
| 30cc | 7366060                      | 7366842                               | 7366058                           | 50   |
| 30cc | 7012135                      | 7366839                               | 7012148                           | 1000 |
| 55cc | 7366066                      | 7366858                               | 7366064                           | 50   |
| 55cc | 7012154                      | 7366859                               | 7012163                           | 500  |
| 70cc | 7366070                      | 7366862                               | —                                 | 50   |
| 70cc | 7364912                      | 7366863                               | —                                 | 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.



# 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<br>Clear Barrels<br>White Pistons | THIN FLUIDS<br>Clear Barrels<br>Red Pistons | UV / Light<br>Sensitive<br>Amber Barrels<br>White Pistons | UV / Light Block<br>Black Barrels<br>White Pistons | QTY  |
|------|-----------------------------------------------|---------------------------------------------|-----------------------------------------------------------|----------------------------------------------------|------|
| 3cc  | 7366044                                       | 7366043                                     | 7366041                                                   | 7366042                                            | 100  |
| 3cc  | 7012081*                                      | —                                           | 7013603*                                                  | 7013614*                                           | 1000 |
| 5cc  | 7366045                                       | —                                           | —                                                         | —                                                  | 100  |
| 5cc  | 7012097*                                      | —                                           | 7013602*                                                  | 7013615*                                           | 1000 |
| 10cc | 7366040                                       | —                                           | 7366883                                                   | —                                                  | 100  |
| 10cc | 7012115*                                      | 7013989*                                    | 7366882*                                                  | 7012131*                                           | 1000 |
| 30cc | 7366054                                       | 7366053                                     | 7366856                                                   | 7366052                                            | 50   |
| 30cc | 7013227<br>7012137*                           | 7013990*                                    | 7366847*                                                  | 7012150*                                           | 1000 |
| 55cc | 7366056                                       | —                                           | 7366857                                                   | —                                                  | 50   |
| 55cc | 7012156*                                      | —                                           | 7366845*                                                  | 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

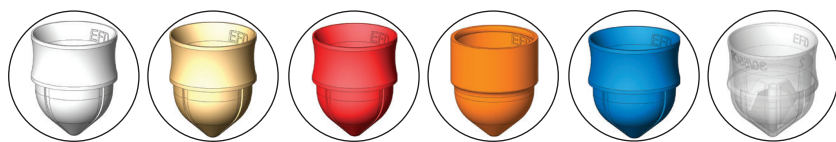
| SYRINGE BARREL, PISTON, & CAP KITS                                                                                                                                                                                                                                                     |                                                                      |                                                       |                                                       |                                                                               |                                                                               |                                                                         |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------|------|
| Each box contains syringes, pistons, end caps, and tip caps in dust-free packaging.                                                                                                                                                                                                    |                                                                      |                                                       |                                                       |                                                                               |                                                                               |                                                                         |      |
| Size                                                                                                                                                                                                                                                                                   | MOST FLUIDS<br>Clear Barrels<br>White Pistons<br>Blue Tip / End Caps | Clear Barrels<br>Beige Pistons<br>Blue Tip / End Caps | Clear Barrels<br>Clear Pistons<br>Blue Tip / End Caps | UV / Light Sensitive<br>Amber Barrels<br>White Pistons<br>Blue Tip / End Caps | UV / Light Sensitive<br>Amber Barrels<br>Clear Pistons<br>Blue Tip / End Caps | UV / Light Block<br>Black Barrels<br>Red Pistons<br>Blue Tip / End Caps | QTY  |
| 3cc                                                                                                                                                                                                                                                                                    | 7012078<br>7364500**                                                 | 7015281<br>7361918*                                   | —                                                     | 7012087                                                                       | 7363405*                                                                      | 7014363*<br>7365735**                                                   | 1000 |
| 5cc                                                                                                                                                                                                                                                                                    | 7012100                                                              | 7015283                                               | 7363663                                               | 7012105                                                                       | —                                                                             | —                                                                       | 1000 |
| 10cc                                                                                                                                                                                                                                                                                   | 7012120                                                              | 7015282                                               | 7360509                                               | 7366880<br>7366881*                                                           | —                                                                             | 7015992<br>7014365*<br>7365736**                                        | 1000 |
| 30cc                                                                                                                                                                                                                                                                                   | 7012141<br>7012142*                                                  | 7015284                                               | 7360582                                               | 7366850                                                                       | 7366829                                                                       | 7015993<br>7014366*<br>7365737**                                        | 1000 |
| 55cc                                                                                                                                                                                                                                                                                   | 7012157<br>7013807**                                                 | 7015285                                               | —                                                     | 7366844<br>7366833*                                                           | 7366827                                                                       | 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.<br>*Includes pre-installed piston<br>**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<br>Amber Barrels | UV / Light Block<br>Black Barrels | QTY  |
| 3cc                                                                                                                                                                                                              | 7361942       | 7361972                               | —                                 | 1000 |
| 5cc                                                                                                                                                                                                              | 7013228       | —                                     | —                                 | 1000 |
| 10cc                                                                                                                                                                                                             | 7012117       | 7366877                               | —                                 | 1000 |
| 30cc                                                                                                                                                                                                             | 7013802       | 7366832                               | 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         | —               | 7366138    | 100  |
| 5cc        | 7012173          | 7012177          | 7012175        | 7012324         | —               | 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 refill 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 | —       | 100  |
| 3cc        | 7012191 | —       | 1000 |
| 5cc        | 7366113 | 7366116 | 100  |
| 5cc        | 7012193 | —       | 1000 |
| 10cc       | 7366104 | 7366107 | 100  |
| 10cc       | 7012195 | —       | 1000 |
| 30/55/70cc | 7366071 | —       | 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 w/Filter Trap | Yellow 0.9 m (3 ft) Hose |
|------------|------------------------|------------------------|--------------------------------------|--------------------------|
| 3cc        | 7012341                | 7012059                | 7012063                              | 7016113                  |
| 5cc        | 7012054                | 7012058                | 7012062                              | —                        |
| 10cc       | 7012339                | 7012057                | 7012061                              | —                        |
| 30/55/70cc | 7012338                | 7012056                | 7012060                              | 7005011                  |

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.

## 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<br>White<br>Extreme HiTemp | Adapter<br>Assembly<br>6 ft Tubing | Qty/ Box |
|                  | HiTemp<br>(125 °C) | Extreme HiTemp<br>(180 °C) |                                    |                                    |          |
| 30cc             | 7360475            | 7360473                    | 7360452                            | 7362347*                           | 20       |
| 30cc             | 7360474            | —                          | —                                  | —                                  | 1000     |
| 30cc             | —                  | 7360472                    | —                                  | —                                  | 500      |

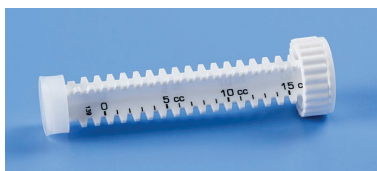
\*Adapter assemblies sold individually.

## Unity HiTemp Components





# Dial-A-Dose Industrial Syringes



Dial-A-Dose plunger



One-piece plunger



Two-piece plunger

## Dial-A-Dose Industrial Syringes

### For use with:

Adhesives

Epoxies & Silver Epoxies

Greases & Lubricants

Sealants

Solder Pastes

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

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 1-1/8" 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 Industrial 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: 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   |

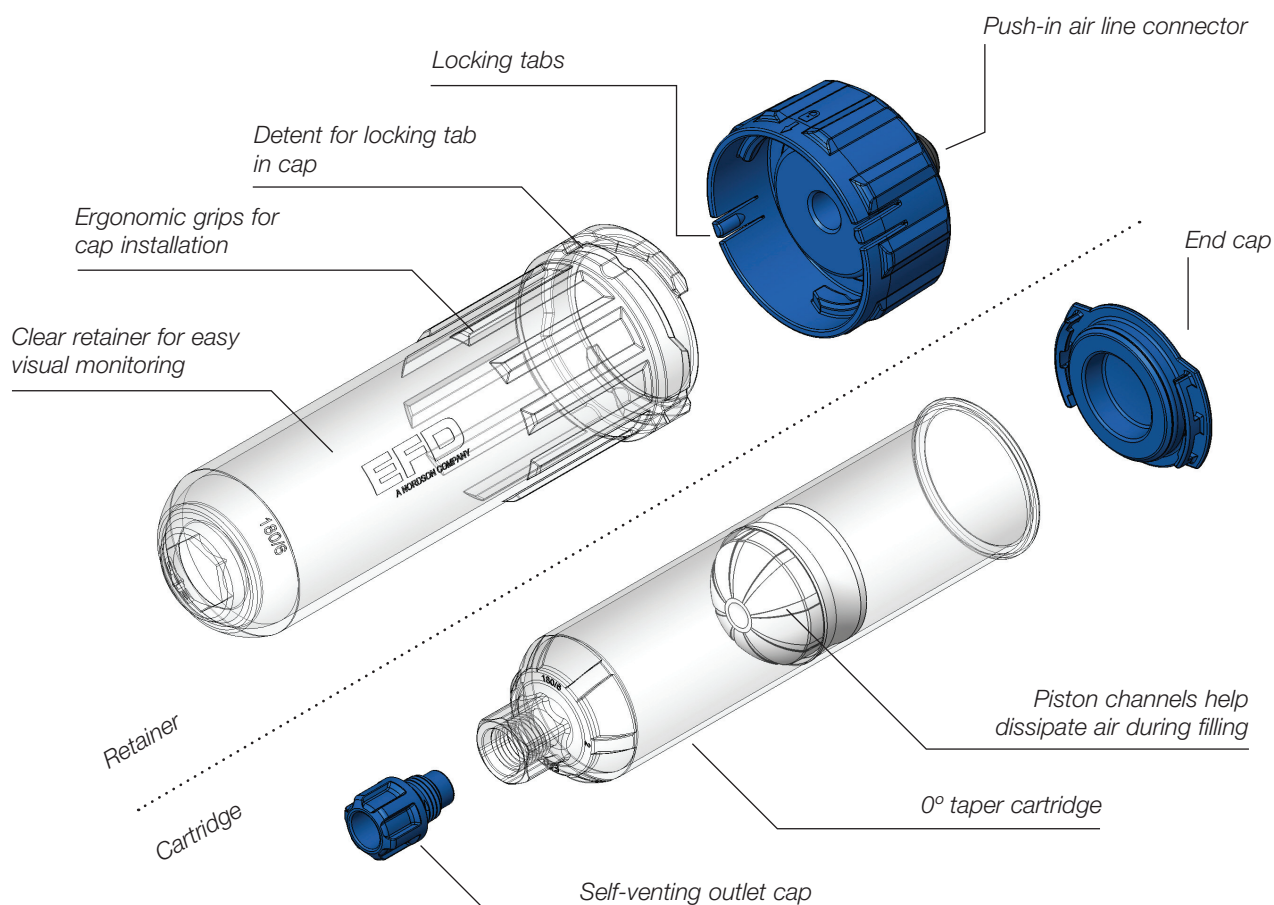
# Optimum Cartridge Systems

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".

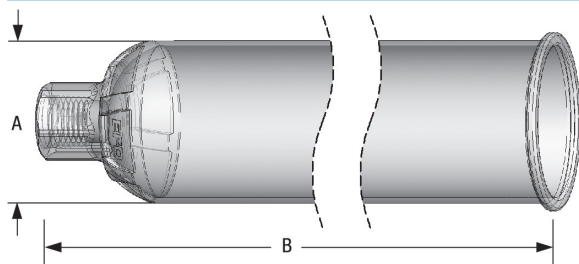
| Fitting                                                                             | Part #  | Material            | Description                                                                |
|-------------------------------------------------------------------------------------|---------|---------------------|----------------------------------------------------------------------------|
|    | 7022420 | Nylon               | Barrel loader fitting 90° 1/4 NPT male<br>Female luer lock to barrel elbow |
|    | 7022415 | Stainless steel     | Barrel loader fitting 1/4 NPT male<br>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,<br>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.

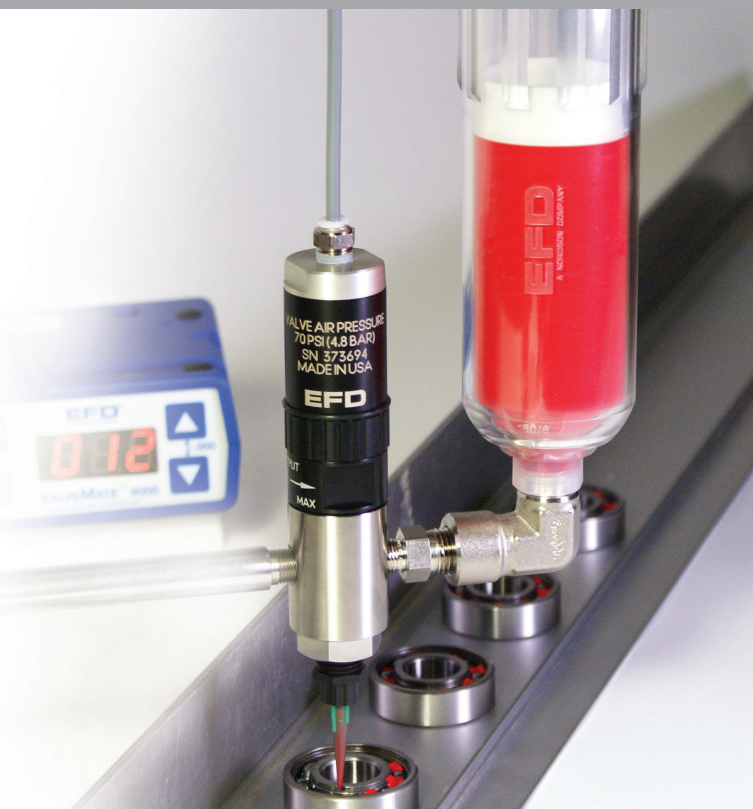
*"EFD is our favorite vendor to deal with – fast, professional, and top notch products."*  
– Contract Packager

| 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) |                   |
| 7026916                           | EPR                                | 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.



# Optimum Cartridge Systems



## 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

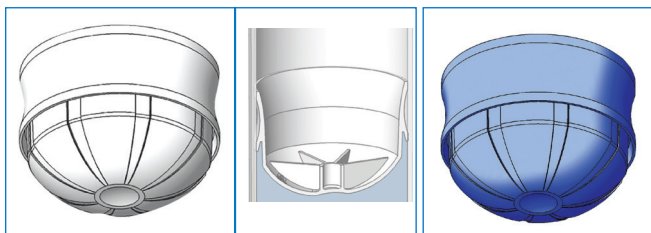
| Part #  | Size              | Description                                  |
|---------|-------------------|----------------------------------------------|
| 7012430 | 2.5 fl oz (75 mL) | Retainer system                              |
| 7012433 | 6 fl oz (180 mL)  | Retainer system                              |
| 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 Cartridge Systems



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<br>(75, 180, 360 mL) | White | 25      |
| 7012420           | 2.5, 6, 12 fl oz<br>(75, 180, 360 mL) | White | 250     |
| 7362087           | 2.5, 6, 12 fl oz<br>(75, 180, 360 mL) | Blue  | 25      |
| 7362086           | 2.5, 6, 12 fl oz<br>(75, 180, 360 mL) | Blue  | 250     |
| 7012421           | 20, 32 fl oz<br>(600, 960 mL)         | White | 10      |
| 7012422           | 20, 32 fl oz<br>(600, 960 mL)         | White | 100     |



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 / Outlet Caps

| CARTRIDGE END CAPS    |                                       |       |         |
|-----------------------|---------------------------------------|-------|---------|
| Part #                | Size                                  | Color | Qty/Box |
| 7012423               | 2.5, 6, 12 fl oz<br>(75, 180, 360 mL) | Blue  | 25      |
| 7012424               | 2.5, 6, 12 fl oz<br>(75, 180, 360 mL) | Blue  | 250     |
| 7012425               | 20, 32 fl oz<br>(600, 960 mL)         | Blue  | 10      |
| 7012426               | 20, 32 fl oz<br>(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.

## 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)

### DISPENSING TIP SAMPLE KIT

| Part #  | Description                                                         |
|---------|---------------------------------------------------------------------|
| 7013229 | Includes a selection of various types and styles of dispensing tips |

# Precision Dispensing Tips



## PRECISION STAINLESS STEEL TIPS

| Gauge | Color |          | ID   |       | OD   |       | Straight        | Straight        | Straight       | Straight       | 45° Bend       | 90° Bend       | 45° Bend       | Qty/Box |
|-------|-------|----------|------|-------|------|-------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|---------|
|       |       |          | mm   | in.   | mm   | in.   | 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   | in.   |          |              |         |
| 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    |

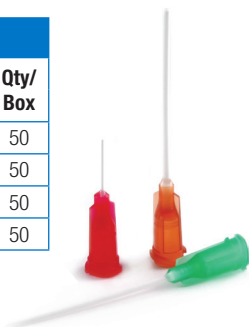
Use with gel cyanoacrylates, UV-cure adhesives, sealants, and particle-filled materials or any medium- to high-viscosity fluid. Standard, flexible translucent tips are molded of polyethylene and the colored versions contain a light-block additive that protects UV-sensitive fluids. Rigid opaque tips are 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   | in.   |                 |                |         |
| 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   | in.   | mm   | in.   |                 |         |
| 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<br>(0.50") | 25.4 mm<br>(1.0") | Qty/<br>Box |
|-----------------------------------------------------------------------------------|------|------|-------|--------------------|-------------------|-------------|
|                                                                                   |      | mm   | in.   |                    |                   |             |
|  | 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   | in.   |                 |                 |                 |         |
| 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  | 0.10 | 0.004 | —               | —               | 7018483         | 1000    |
| 33    |  | Black  | 0.10 | 0.004 | —               | —               | 7018477         | 25      |
| 33    |  | Black  | 0.10 | 0.004 | —               | —               | 7018479         | 1000    |

Use for microdot application of low viscosity fluids.

## CERAMIC MICRODOT TIPS

| Gauge | Color                                                                               |        | ID   |       | Part #  | Qty/Box |
|-------|-------------------------------------------------------------------------------------|--------|------|-------|---------|---------|
|       |                                                                                     |        | mm   | in.   |         |         |
| 37    |  | Silver | 0.05 | 0.002 | 7364386 | 1       |

## PRECISION NOZZLES

| Gauge | ID   |       | Part # Qty: 1 pc. | Part # Qty: 10 pc. |
|-------|------|-------|-------------------|--------------------|
|       | mm   | in.   |                   |                    |
| 21    | 0.50 | 0.020 | 7365112           | 7365121            |
| 24    | 0.30 | 0.012 | 7365108           | 7365117            |
| 27    | 0.20 | 0.008 | 7365106           | —                  |
| 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    | in.   | cm     | in. |         |         |
| 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  | in.   |         |         |
| 7     | 3.8 | 0.150 | 7014850 | 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   | ×               | ●               | ●          | ●        | ●                | ●                        | ●                |
| Particle-Filled Pastes      | ●               | ●               | ▲          | ×        | ●                | ▲                        | ●                |
| Microdot Deposits           | ×               | ●               | ▲          | ●        | ●                | ●                        | ●                |
| Fluid is Reactive to Metal  | ●               | ×               | ●          | ●        | ●                | ×                        | ×                |
| Depositing in Recesses      | ▲               | ●               | ●          | ▲        | ●                | ●                        | ×                |
| Spreading / Smearing        | ●               | ▲               | ●          | ▲        | ●                | ●                        | ●                |
| Fast-Curing Glues           | ●               | ▲               | ●          | ●        | ▲                | ▲                        | ×                |
| Beading, Striping           | ●               | ●               | ●          | ▲        | ●                | ▲                        | ●                |
| Easily Scratched Substrates | ●               | ▲               | ●          | ●        | ●                | ▲                        | ▲                |
| <b>Fluids</b>               |                 |                 |            |          |                  |                          |                  |
| Adhesives                   | ●               | ●               | ●          | ●        | ●                | ●                        | ●                |
| Anaerobics                  | ●               | ▲               | ●          | ▲        | ●                | ×                        | ×                |
| Conformal Coatings          | ●               | ▲               | ▲          | ×        | ▲                | ▲                        | ●                |
| Cyanoacrylates              | ●               | ▲               | ●          | ●        | ●                | ▲                        | ▲                |
| Gel Cyanoacrylates          | ●               | ▲               | ●          | ▲        | ●                | ▲                        | ▲                |
| Epoxies                     | ●               | ●               | ●          | ×        | ●                | ●                        | ●                |
| Greases                     | ●               | ●               | ●          | ×        | ●                | ●                        | ●                |
| Light-Cure Adhesives        | ●               | ▲*              | ▲*         | ×        | ▲                | ●                        | ●                |
| Oils                        | ●               | ●               | ●          | ▲        | ●                | ●                        | ●                |
| Paints                      | ●               | ●               | ●          | ×        | ●                | ●                        | ●                |
| Sealants                    | ●               | ▲               | ▲          | ×        | ●                | ●                        | ●                |
| Silver Epoxy                | ×               | ▲+              | ×          | ×        | ●                | ▲                        | ●                |
| Solder Paste / Braze Pastes | ●               | ●               | ▲          | ×        | ●                | ▲                        | ●                |
| Solder Masks                | ●               | ●               | ▲          | ×        | ●                | ●                        | ●                |
| Solvents                    | ×               | ●               | ●          | ●        | ●                | ●                        | ●                |
| UV-Cure Adhesives           | ●**             | ▲*              | ▲*         | ▲        | ▲                | ●                        | ●                |

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

+Chamfered tips are recommended for best results.

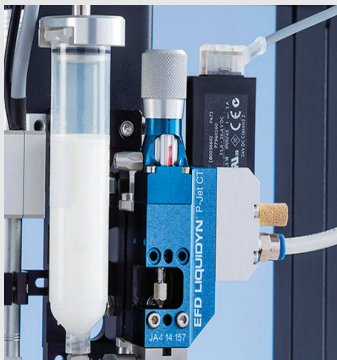
\*\*Standard tapered tips are recommended for best results.

## Key

- Recommended
- ▲ Satisfactory
- ×

# 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.

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

**Microdots:** Any deposit having a volume less than 5 µl (5 µl = 5 microliters = 5/1000 cc).

**Dots:** Any deposit having a volume larger than 5 µl.

**Jetting:** Applying microdots, dots, lines, stripes, and encapsulates without making contact with a surface — also called non-contact dispensing.

**Potting:** Filling a cavity usually containing an electronic device, electronic circuit, or wires.

**Encapsulating:** Applying a coating to an electronic component for protection from mechanical or environmental damage.

**Lines / Stripes:** A line, bead or stripe of material.

**Filling / Packaging:** Filling containers such as small bottles, cartridges, and tubes.

**Microspray:** Narrow spray pattern capability as small as 1 mm (0.04") wide.

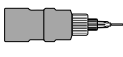
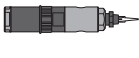
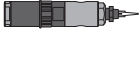
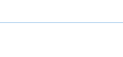
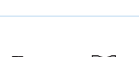
**Spray:** Applying fluids by using low pressure air to break the fluid into fine droplets for coating or marking.

**Internal Spray:** Spraying the inside diameter of holes and cylinders.

| FLUIDS                                          | VALVE APPLICATIONS |                   |                                        |           |               |                   |                     |            |         |                |               |
|-------------------------------------------------|--------------------|-------------------|----------------------------------------|-----------|---------------|-------------------|---------------------|------------|---------|----------------|---------------|
|                                                 | Microdots          | Dots              | Jetting                                | Potting   | Encapsulating | Lines / Stripes   | Filling / Packaging | Microspray | Spray   | Internal Spray | Internal Band |
| Optical Dyes / Lacquers                         | 702M-SS            | 702M-SS           | PICO <i>Pulse</i> / XP                 | —         | —             | 702M-SS           | —                   | —          | —       | —              | —             |
| Primers                                         | xQR41              | —                 | PICO <i>Pulse</i> / XP<br>P-Jet        | —         | —             | —                 | —                   | 781Mini    | —       | 782PA          | —             |
| Reagents                                        | 754V-SS1           | 754V-SS1          | PICO <i>Pulse</i> / XP<br>P-Jet        | —         | —             | 754V-SS1          | 754V-SS1            | 781Mini    | 781S-SS | —              | —             |
| RTV / Sealants<br><i>low pressure</i>           | xQR41              | 725DA-SS          | P-Jet<br>P-Dot                         | 725DA-SS  | 725DA-SS      | 725DA-SS          | 725HF-SS            | —          | —       | —              | —             |
| RTV / Sealants<br><i>medium / high pressure</i> | xQR412             | 736HPA-NV         | P-Jet<br>P-Dot                         | 736HPA-NV | 736HPA-NV     | 736HPA-NV         | 736HPA-NV           | —          | —       | —              | —             |
| Saline                                          | —                  | 754V-SS1          | PICO <i>Pulse</i> / XP<br>P-Jet        | —         | —             | 754V-SS1          | 754V-SS1            | —          | —       | —              | —             |
| Silicones                                       | —                  | 736HPA-NV         | PICO <i>Pulse</i> / XP<br>P-Jet, P-Dot | 736HPA-NV | 736HPA-NV     | 736HPA-NV         | —                   | 781Mini    | 781S-SS | —              | —             |
| Silicone Oils                                   | xQR41<br>741MD     | xQR41V<br>741V-SS | PICO <i>Pulse</i> / XP<br>P-Jet, P-Dot | —         | —             | xQR41V<br>741V-SS | —                   | —          | —       | —              | —             |
| Solder Resistis                                 | —                  | 725DA-SS          | PICO <i>Pulse</i> / XP<br>P-Jet, P-Dot | —         | —             | 725DA-SS          | 725HF-SS            | —          | —       | —              | —             |
| Solvents                                        | xQR41<br>741MD     | xQR41V<br>741V-SS | PICO <i>Pulse</i> / XP<br>P-Jet        | —         | —             | xQR41V<br>741V-SS | 752V-UHSS           | 781Mini    | 781S-SS | 782PA          | 7860C-RS      |
| Solder Pastes                                   | 794                | 794               | —                                      | —         | —             | 794               | —                   | —          | —       | —              | —             |
| Thermal Interface<br>Materials (TIM)            | 794-TC             | 794-TC            | —                                      | —         | —             | 794-TC            | —                   | —          | —       | —              | —             |
| UV-cure & Light-cure                            | xQR41<br>741MD     | 752V-SS           | PICO <i>Pulse</i> / XP<br>P-Jet, P-Dot | 752V-SS   | 752V-SS       | xQR41V<br>752V-SS | 725HF-A             | —          | —       | —              | —             |
| UV-Cure with<br>Anaerobics                      | xQR41<br>752V-SS   | xQR41<br>752V-SS  | PICO <i>Pulse</i> / XP<br>P-Jet        | 752V-SS   | 752V-SS       | 752V-SS           | 725HF-A             | —          | —       | —              | —             |
| Water                                           | xQR41              | 752V-UHSS         | PICO <i>Pulse</i> / XP<br>P-Jet        | —         | —             | xQR41V<br>741V-SS | 752V-UHSS           | 781Mini    | 781S-SS | 782PA          | 7860C-RS      |
| White Glue                                      | —                  | 725DA-SS          | P-Jet                                  | —         | —             | 725DA-SS          | 725HF-SS            | —          | —       | —              | 7860C-RS      |

<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<br>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 SS4                                                                             | Acetal <sup>7</sup>                                                                | UHMW <sup>2/7</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> polyethylene diaphragm | —                                                                                   | —                                                                                   | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   | —                                                                                   | —                                                                                   | ✓                                                                                  | ✓                                                                                 | PTFE                                                                              | —                                                                                 | —                                                                                 | —                                                                                 | —                                                                                 | —                                                                                 |
| 303 stainless steel air cylinder         | —                                                                                   | —                                                                                   | ✓                                                                                   | —                                                                                   | —                                                                                   | —                                                                                   | ✓                                                                                   | xQR41 741V-SS                                                                       | ✓                                                                                  | ✓                                                                                 | 316L                                                                              | ✓                                                                                 | ✓                                                                                 | —                                                                                 | —                                                                                 | —                                                                                 |

✓ Applicable | ○ Optional | — Not applicable

- <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 Pylse, P-Dot, and P-Jet  
<sup>7</sup>Optional stainless steel fluid body



| Valve Controllers               |                                                       |                            |                        |                                         |                                |                                        |                                |                                         |                                |
|---------------------------------|-------------------------------------------------------|----------------------------|------------------------|-----------------------------------------|--------------------------------|----------------------------------------|--------------------------------|-----------------------------------------|--------------------------------|
|                                 | PICO Nexys                                            | PICO Touch / XP            | V200                   | 8000                                    | 8040                           | 7160RA                                 | 7194                           | 7100                                    | 7140                           |
|                                 | Jet Valve Control                                     | Jet Valve Control          | Jet Valve Control      | Multi Valve Control                     | Multi Spray Valve Control      | Radial Spinner/<br>Spray Valve Control | Auger Valve Control            | Dispense Valve Control                  | Spray Valve Control            |
| Recommended valve(s)            | PICO Pulse XP                                         | 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            | —                                                     | —                          | Digital                | Analog                                  | Analog                         | Digital                                | Digital                        | Digital                                 | Analog                         |
| Cycle rate                      | 1000Hz <sup>1</sup>                                   | 1000Hz <sup>1</sup>        | 280Hz / 150Hz          | >600/min.                               | >400/min.                      | >400/min.                              | >400/min.                      | >600/min.                               | >400/min.                      |
| Digital time set and display    | ✓                                                     | ✓                          | ✓                      | ✓                                       | ✓                              | ✓                                      | ✓                              | ✓                                       | ✓                              |
| 5-micron filter / regulator     | —                                                     | —                          | —                      | Included                                | Included                       | Included                               | Included                       | Included                                | Included                       |
| Communication                   | Standard Ethernet, RS-232, EtherNet I/P, and PROFINET | Touchscreen, RS-232        | —                      | —                                       | —                              | —                                      | —                              | —                                       | —                              |
| I/O communication-PLC           | ✓                                                     | ✓                          | ✓                      | —                                       | —                              | —                                      | —                              | —                                       | —                              |
| I/O interface circuitry         | ✓                                                     | ✓                          | ✓                      | ✓                                       | ✓                              | ✓                                      | ✓                              | ✓                                       | ✓                              |
| Independent multi-valve control | Single channel                                        | 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 | Standard DIN-rail mount                               | 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>                                        | ✓ <sup>2</sup>             | ✓                      | ✓                                       | ✓                              | ✓                                      | ✓                              | ✓                                       | ✓                              |
| Purge control                   | ✓                                                     | ✓                          | ✓                      | ✓                                       | ✓                              | ✓                                      | ✓                              | ✓                                       | ✓                              |
| 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, France, Germany, 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.

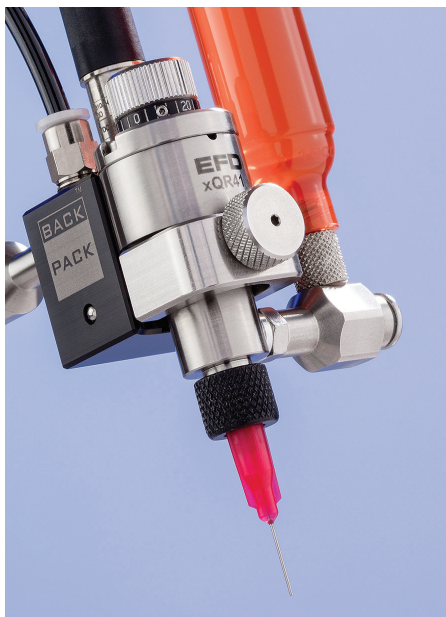
### Features and Benefits

- 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/ApplicationTest](http://www.nordsonefd.com/ApplicationTest).

*"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



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 60–80 Hz
- 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<br>            | 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<br> | 7021266 | 741 / 781 Series                                                                    | Tamper-resist upgrade kit                                                                                                                                                                                                      |
|                                  | 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, stainless steel | 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                         |

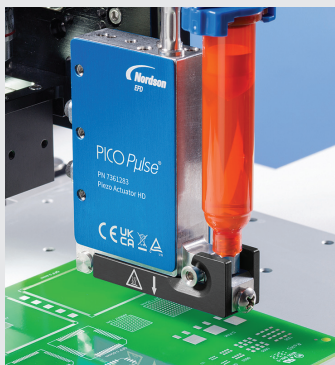
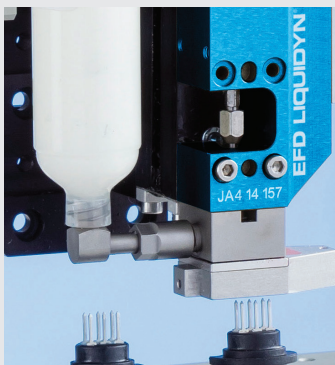
# Valve Fittings / Tip Adapters

| 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.

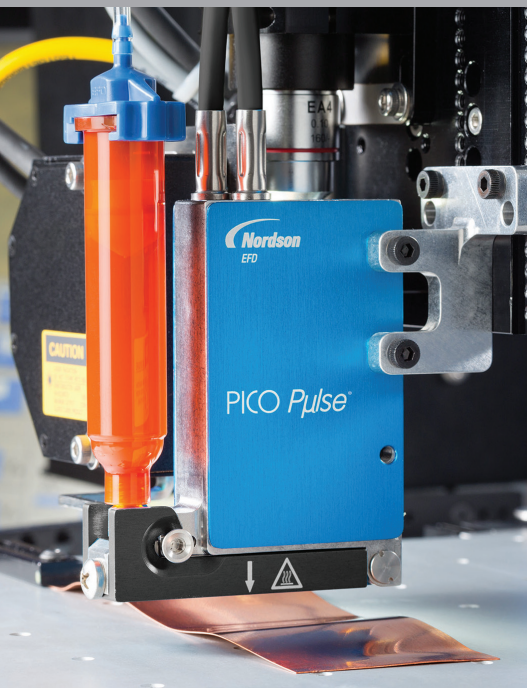
When the valve is closed, the ball is seated in the valve nozzle plate to prevent fluid flow between cycles. The unique precision engineering and machining of these critical components create an exceptional dispensing valve with the ability to apply precise, accurate micro-deposits of assembly fluid.

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

\*With approved conditional settings.

### For use with

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

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

– Grimes Aerospace



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

## Specifications

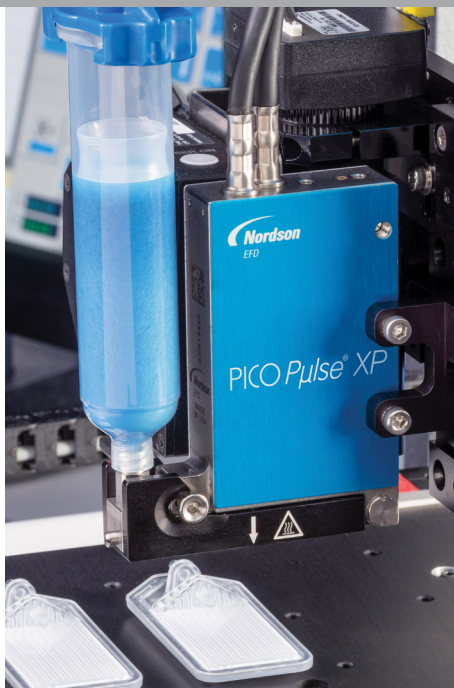
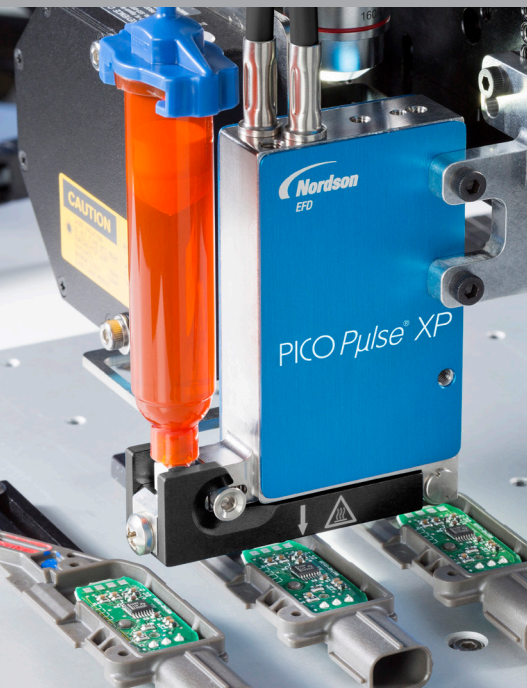
|                         |                                                                   |
|-------------------------|-------------------------------------------------------------------|
| Size:                   | 22.0w x 120.0h x 75.0L mm (0.87w x 4.72h x 2.92L")                |
| Weight:                 | With cable: 524.0 g (18.5 oz)<br>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

### 7366525 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)<br>Without cable: 362.0 g (12.8 oz) |
| Maximum fluid pressure: | 35.0 bar (500 psi)                                                |
| Fluid inlet:            | M5                                                                |
| Mounting:               | M4 x 0.7                                                          |

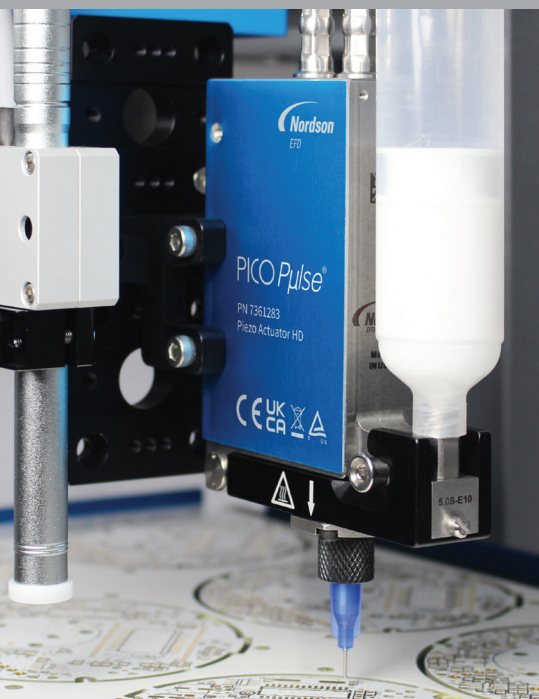
|                |                              |
|----------------|------------------------------|
| Fluid body:    | 303 stainless steel or PEEK* |
| Ball-and-seat: | Ceramic                      |
| Heater body:   | Aluminum                     |
| Approvals:     | CE, UKCA, WEEE, TUV          |
|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

All stainless steel parts are passivated.

\*Polyetheretherketone



# PICO Jetting Systems



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

\*With approved conditional settings.

## For use with

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

## PICO *Pulse* Contact Valve

### 7362059 PICO *Pulse* Contact Dispense Valve

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

### 7366526 PICO *Pulse* XP Contact Dispense Valve

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

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)<br>With tip adapter / without cable: 376.0 g (13.3 oz)<br>Without tip adapter / with cable: 524.0 g (18.5 oz)<br>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 #* | P7 Extended Cone Nozzle Part #* | P30 Extended Cone Nozzle Part #* | Orifice | Geometry | Ball Size |
|-----------------------------------------------------------------------------------------------------------------|--------------------|-------------------------|----------------------------|-----------------------------|---------------------------------|----------------------------------|---------|----------|-----------|
| <br>Flat Nozzle                | 7362574            | 7363321                 | 7362703                    | —                           | —                               | —                                | 50 µm   | E        | 3.0S      |
|                                                                                                                 | 7362725            | —                       | —                          | —                           | 7366300                         | —                                | 50 µm   | E        | 3.0S      |
|                                                                                                                 | —                  | —                       | —                          | —                           | 7366301                         | —                                | 70 µm   | E        | 3.0S      |
| <br>PEEK Flat Nozzle           | 7362575            | 7363322                 | 7362704                    | —                           | —                               | —                                | 100 µm  | D        | 3.0S      |
|                                                                                                                 | 7362576            | —                       | 7362705                    | —                           | —                               | —                                | 200 µm  | D        | 3.0S      |
|                                                                                                                 | 7362577            | 7363324                 | 7362706                    | 7363238                     | 7366302                         | —                                | 50 µm   | E        | 5.0S      |
| <br>P7 Extended Nozzle         | —                  | —                       | —                          | —                           | 7366303                         | 7366306                          | 70 µm   | E        | 5.0S      |
|                                                                                                                 | 7362578            | 7363325                 | 7362707                    | 7363239                     | 7366304                         | 7366307                          | 100 µm  | E        | 5.0S      |
|                                                                                                                 | 7362579            | 7363326                 | 7362708                    | 7363240                     | 7366305                         | 7366308                          | 150 µm  | E        | 5.0S      |
| <br>P30 Extended Nozzle        | 7362580            | 7363327                 | 7362709                    | 7363241                     | —                               | —                                | 300 µm  | E        | 5.0S      |
|                                                                                                                 | 7362581            | 7363328                 | 7362710                    | 7363242                     | —                               | —                                | 100 µm  | D        | 5.0S      |
|                                                                                                                 | 7362582            | 7363329                 | 7362711                    | 7363243                     | —                               | —                                | 150 µm  | D        | 5.0S      |
| <br>P7 Extended Cone Nozzle   | 7362583            | —                       | 7362712                    | 7363244                     | —                               | —                                | 200 µm  | D        | 5.0S      |
|                                                                                                                 | 7362584            | 7363331                 | 7362713                    | 7363245                     | —                               | —                                | 300 µm  | D        | 5.0S      |
|                                                                                                                 | 7362585            | 7363332                 | 7362714                    | 7363246                     | —                               | —                                | 400 µm  | D        | 5.0S      |
| <br>P30 Extended Cone Nozzle | 7362586            | 7363333                 | 7362715                    | 7363247                     | —                               | —                                | 600 µm  | D        | 5.0S      |

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

\*P7 nozzles extend 7 mm from the standard flat nozzle length.

\*P30 nozzles extend 30 mm from the standard flat nozzle length.

## 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)<br>7361303: O-rings: 5 x 1 mm, Viton, 10 pc<br>7361681: O-rings: 5 x 1 mm, FFKM, 3 pc |
|                                                  | 7363340 | Fitting: M5 x female luer lock, straight, PEEK (includes FFKM O-ring)<br>7361303: O-rings: 5 x 1 mm, Viton, 10 pc<br>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                             |
|-----------------------------------------------------------------------------------|---------|-----------------------------------------|
|  | 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 *Touch* XP controller or the PICO *Nexus* controller. Includes one each for power and communication.

| Cable                                                                             | Part #  | Description                                                               |
|-----------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------|
|  | 7366521 | 2 m (6.6 ft) valve extension cable set, <i>Touch</i> XP or <i>Nexus</i>   |
|                                                                                   | 7366522 | 6 m (19.7 ft) valve extension cable set, <i>Touch</i> XP or <i>Nexus</i>  |
|                                                                                   | 7366523 | 9 m (29.5 ft) valve extension cable set, <i>Touch</i> XP or <i>Nexus</i>  |
|                                                                                   | 7366524 | 12 m (39.4 ft) valve extension cable set, <i>Touch</i> XP or <i>Nexus</i> |

## 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 |
|  | 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



The PICO *Nexus* controller provides behind-the-scenes control of the PICO *Pulse* XP jetting valves using Industrial Ethernet protocols to improve programming convenience and efficiency.

The small, 24V, DIN-rail mounted construction allows multiple controllers to easily fit into an existing machine cabinet, saving valuable production space.

## Features and Benefits

- Communications include PROFINET® (Process Field Network), EtherNet/IP™, and NX protocol via TCP/IP
- Intuitive web interface for easy setup, programming, and monitoring of your jet valve
- Control multiple jetting systems through an HMI at the point of dispense
- Supports plug-and-play Smart Factory integration with robust network connectivity, control, digitization, and augmentation

## PICO *Nexus* Controller

### 7366000 PICO *Nexus* Controller

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

### 7366525 PICO *Pulse* XP Jet Valve

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

### 7366526 PICO *Pulse* XP Contact Valve

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

### 7014871 American Plug Power Cord Kit

### 7014872 European Plug Power Cord Kit

## Specifications

|                         |                                                                                   |
|-------------------------|-----------------------------------------------------------------------------------|
| Cabinet size:           | 5.33w x 12.7h x 14.6d cm (2.1w x 5.00h x 5.75d")                                  |
| Weight:                 | 985 g (2.2 lb)                                                                    |
| Time range:             | 100 $\mu$ s to 9.9999 s (depending on the Open Time of the selected wave profile) |
| Electrical power input: | 24 VDC ( $\pm$ 2%), 6.25 A maximum                                                |
| Feedback circuits:      | Electronic switch, 24 VDC, 100 mA maximum                                         |

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| Cycle initiate:                  | 24 VDC signal                              |
| Valve cable minimum bend radius: | 44.45 mm (1.75")                           |
| Communication:                   | NX protocol, EtherNet/IP, PROFINET, RS-232 |
| Approvals:                       | CE, UKCA, ETL, RoHS, China RoHS, WEEE      |
| Warranty:                        | 1 year, limited                            |



# PICO Jetting Systems



## PICO *Topch* Controller

### 7361217 PICO *Topch* 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 *Topch* 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

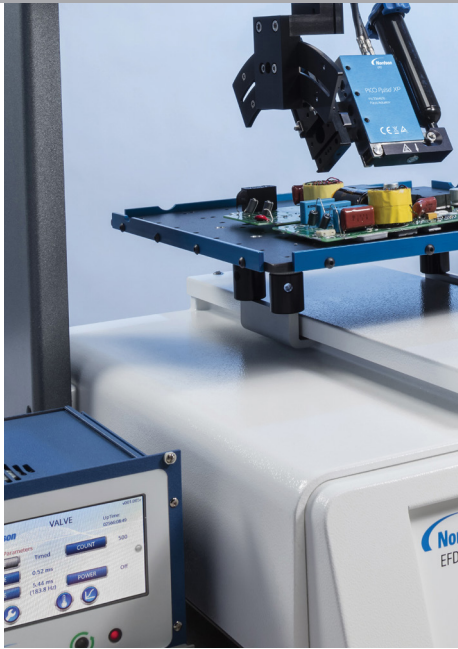
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

|                                |                                                                   |                        |                                       |
|--------------------------------|-------------------------------------------------------------------|------------------------|---------------------------------------|
| Cabinet size:                  | 14.2w x 13.3h x 16.8d cm (28 Hp x 3U)<br>(5.59w x 5.25h x 6.61d") | Heater output voltage: | 24 VDC, 30 W maximum                  |
| Weight:                        | 2.6 kg (5.5 lb)                                                   | Feedback circuit:      | 0–24 VDC                              |
| Time range:                    | 100 $\mu$ s to 9.9999 s                                           | Cycle initiate:        | 15–24 VDC                             |
| Input AC (to power supply):    | 100–240 VAC ( $\pm$ 10%), 50/60 Hz, 2 A                           | Approvals:             | CE, UKCA, TUV, RoHS, WEEE, China RoHS |
| Output DC (from power supply): | 24 VDC, 6.25 A                                                    | 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 the PICO *Pulse* XP jet valve
- Micron (µm) level stroke adjustment
- Fine-tune jetting performance for a wide range of applications

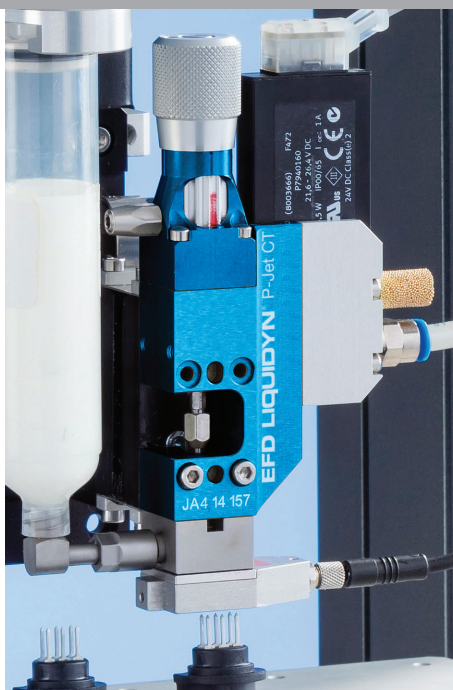
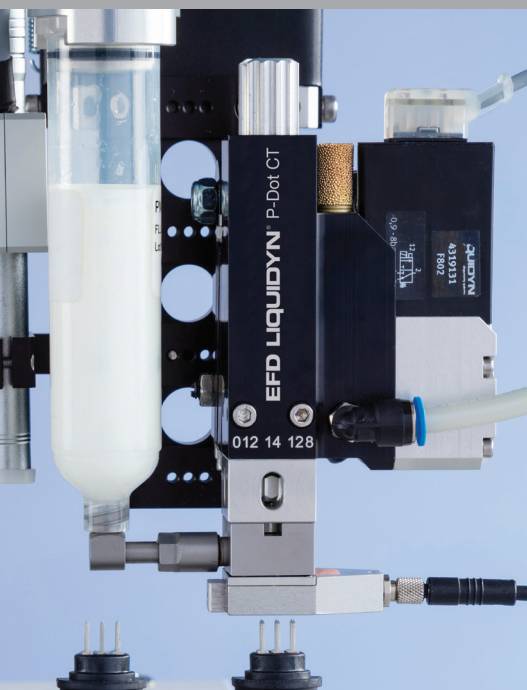


### Specifications

|                                |                                                                   |
|--------------------------------|-------------------------------------------------------------------|
| Cabinet size:                  | 14.2w x 13.3h x 16.8d cm (28 Hp x 3U)<br>(5.59w x 5.25h x 6.61d") |
| Weight:                        | 2.6 kg (5.5 lb)                                                   |
| Time range:                    | 100 µs to 9.9999 s                                                |
| Input AC (to power supply):    | 100–240 VAC (±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")<br>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<br>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 2.0D mm, steel   | ✓     | ✓     |
|   | 7825028 | Tappet, P-Jet, 40L x 2.0D mm, ceramic | —     | ✓     |
|   | 7825033 | Tappet, P-Dot, 27L x 2.0D 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         | ✓     | ✓     |

## 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:

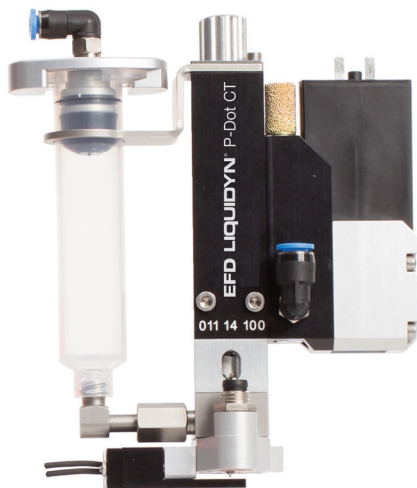
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

### 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 A minimum                              |
| Electrical input connector: | Lumberg KJV70                                      |

|                         |                                                                                                          |
|-------------------------|----------------------------------------------------------------------------------------------------------|
| External power adapter: | AC/DC power supply and power cord, 100–240 VAC, 50/60Hz, 1.4 A input; 24 VDC, 2.5 A, 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.

### **7825242 Mounting Bracket**

Mounting bracket for laser light barrier.



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

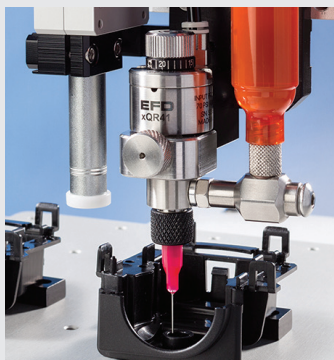
## Dispense Valves / Controllers



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.

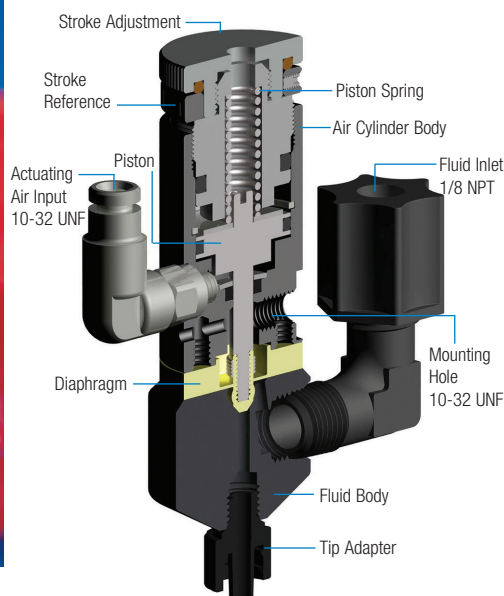
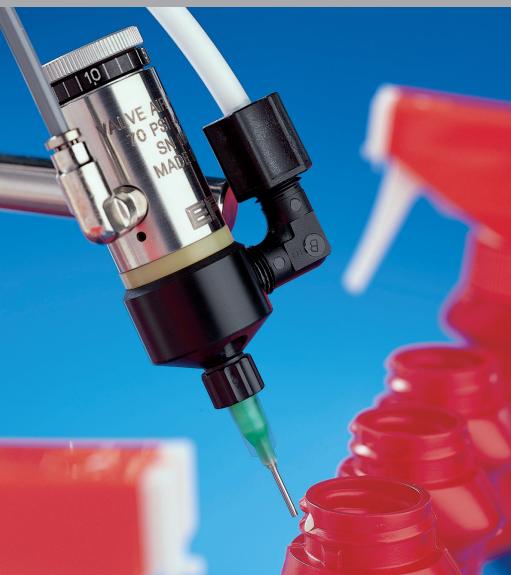
Our unique valve designs are exceptionally reliable and will provide tens of millions of trouble-free dispensing cycles before maintenance is required.



### 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 valves are 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 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-coated anodized aluminum. Tamper-resist stroke adjustment. UHMW diaphragm and 303 stainless steel fluid body with integral tip adapter. Includes inlet fitting #7021499.

See "ValveMate Controllers" for system setup.



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

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

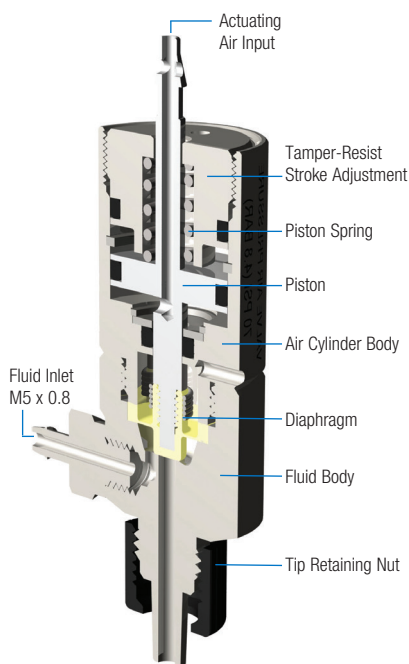
## Specifications

|                                  |                                                                                                                      |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Size:                            | 752V-UHSS / 752V-SS: 80.7L x 26.9DIA mm (3.18L x 1.06DIA")<br>752V-DVD: 76.3L x 26.9DIA mm (3.00L x 1.06DIA")        |
| Weight:                          | 752V-UHSS: 173.6 g (6.1 oz)<br>752V-SS: 181.4 g (6.4 oz)<br>752V-DVD: 172.9 g (6.1 oz)<br>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<br>752V-DVD, 752V-UHMW: Hard-coated anodized aluminum                                               |
| Fluid body:                    | 752V-UHSS, 752V-UHMW, 752V-UHSS-BP: UHMW* polyethylene<br>752V-SS-BP: Acetal copolymer<br>752V-DVD: 303 stainless steel |
| Piston:                        | 303 stainless steel                                                                                                     |
| Diaphragm:                     | 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 "ValveMate Controllers" for system setup.



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

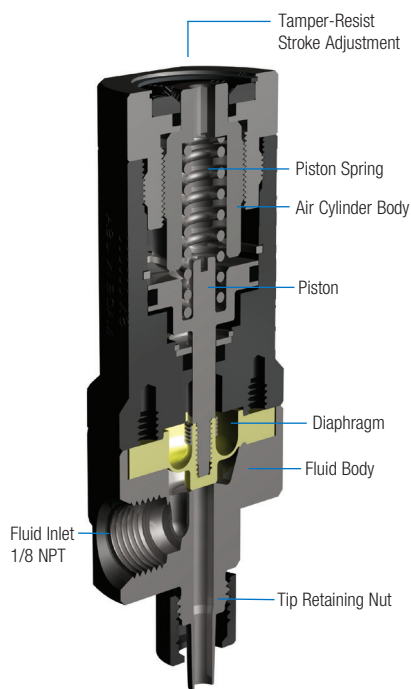
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## 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:                                                                            | 702V-SS, 702M-SS: 303 stainless steel<br>702V-A: Acetal copolymer |
| Piston:                                                                                | 303 stainless steel                                               |
| Diaphragm:                                                                             | 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.<br>*Ultra High Molecular Weight polyethylene |                                                                   |

# Diaphragm Valves



## 752HF Series High Flow Diaphragm Valve

### 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.

### 7014315 752HF-SS Valve

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

See "ValveMate 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)

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

## Specifications

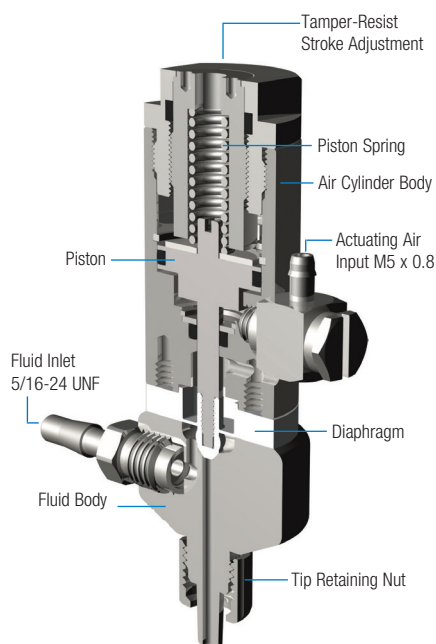
|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Size:                            | 77.3L x 28.6DIA mm (3.04L x 1.13DIA")                  |
| Weight (less fittings):          | 752HF-A: 81.0 g (2.8 oz)<br>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<br>752HF-SS: 303 stainless steel |
| Piston:                        | 303 stainless steel                                        |
| Diaphragm:                     | 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 "ValveMate Controllers" for system setup.

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 1x10<sup>8</sup>
- 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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[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

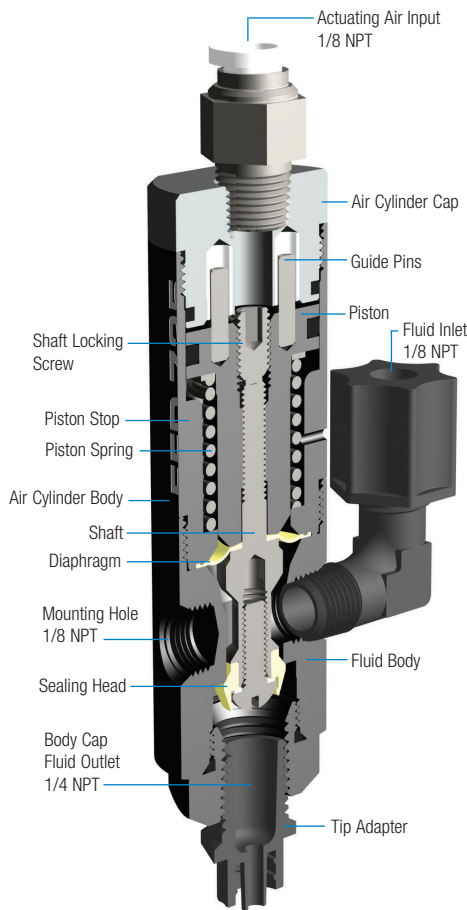
|                                  |                                       |
|----------------------------------|---------------------------------------|
| Size:                            | 77.5L x 26.9DIA mm (3.05L x 1.06DIA") |
| Weight:                          | 193.3 g (6.8 oz)                      |
| 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)<br>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 "ValveMate 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



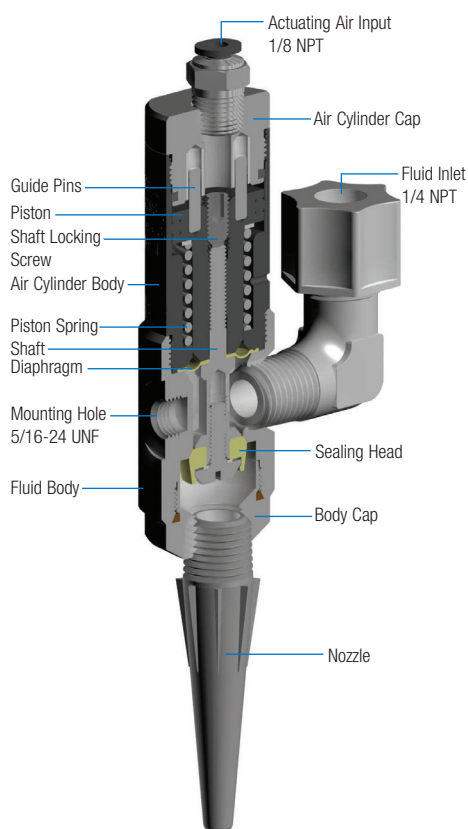
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[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

|                                  |                                                                                                     |
|----------------------------------|-----------------------------------------------------------------------------------------------------|
| Size:                            | 725DA-SS: 152.4L x 29.5DIA mm (6.00L x 1.16DIA")<br>725D-SS: 127.0L x 28.4DIA mm (5.00L x 1.12DIA") |
| Weight:                          | 725DA-SS: 326.0 g (11.5 oz)<br>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<br>725DA-AL: Aluminum |
| Piston:                                                                                | Hard-coated anodized aluminum                                 |
| Diaphragm:                                                                             | UHMW* polyethylene                                            |
| Maximum operating temperature:                                                         | 43 °C (110 °F)                                                |
| Warranty:                                                                              | 1 year, limited                                               |
| All stainless steel parts are passivated.<br>*Ultra High Molecular Weight polyethylene |                                                               |

# Piston Valves



## 725HF Series High Flow Piston Valve

### 7021020 725HF-SS Valve

Hard-coated 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 "ValveMate 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)

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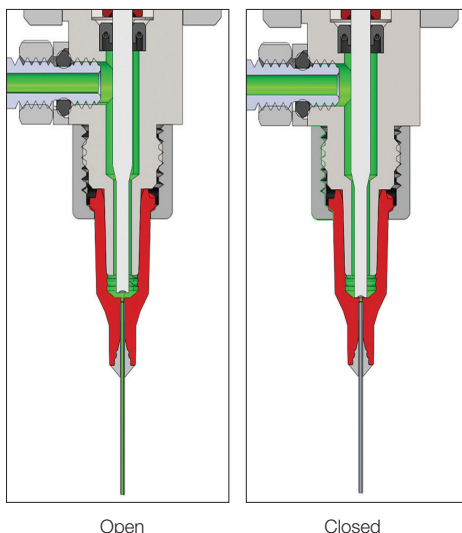
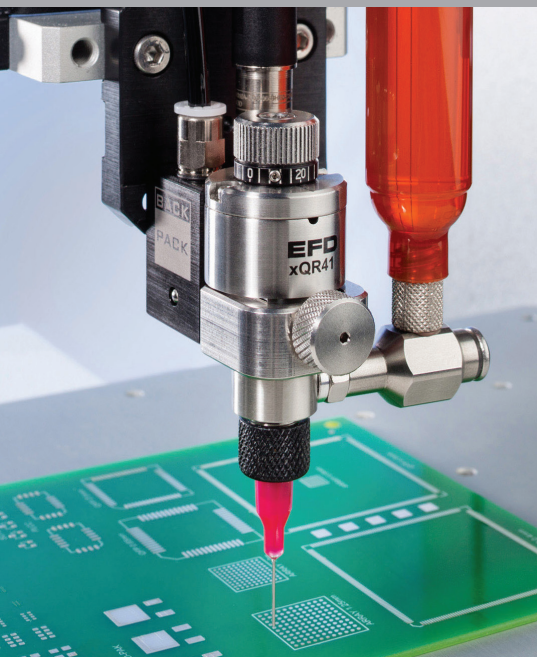
## Specifications

|                                  |                                           |
|----------------------------------|-------------------------------------------|
| Size:                            | 108.7L x 31.2DIA mm (4.28L x 1.23DIA")    |
| Weight:                          | 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* polyethylene                      |
| 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.

### 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.

### 7360823

Includes adjustable stroke control and bullet-end needle.

See "ValveMate Controllers" for system setup.



## 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                      |

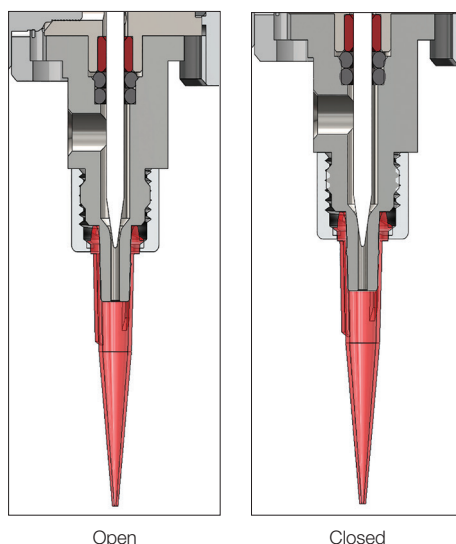
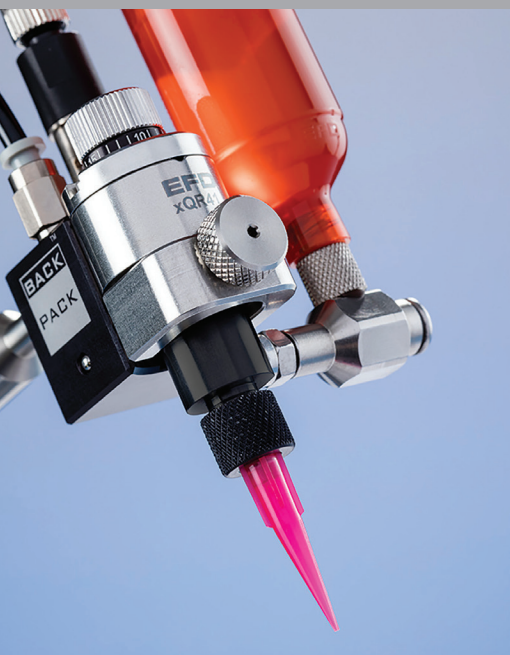
|                                |                               |
|--------------------------------|-------------------------------|
| Fluid body:                    | 303 stainless steel or PEEK*  |
| Piston:                        | 303 stainless steel           |
| Needle and nozzle:             | 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 "ValveMate 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)

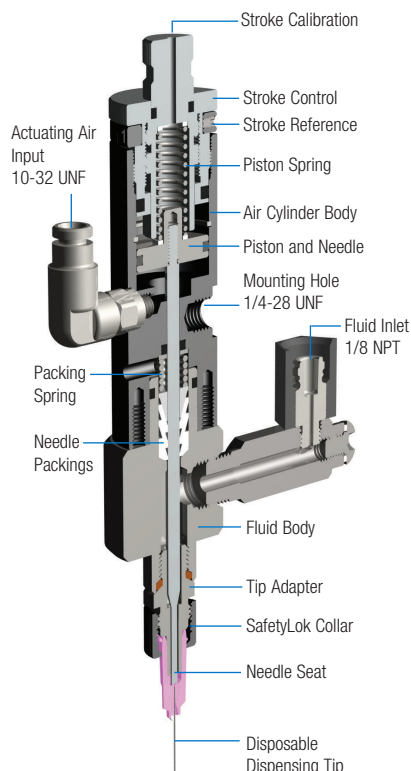
## Specifications

|                                  |                                          |
|----------------------------------|------------------------------------------|
| 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 "ValveMate 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

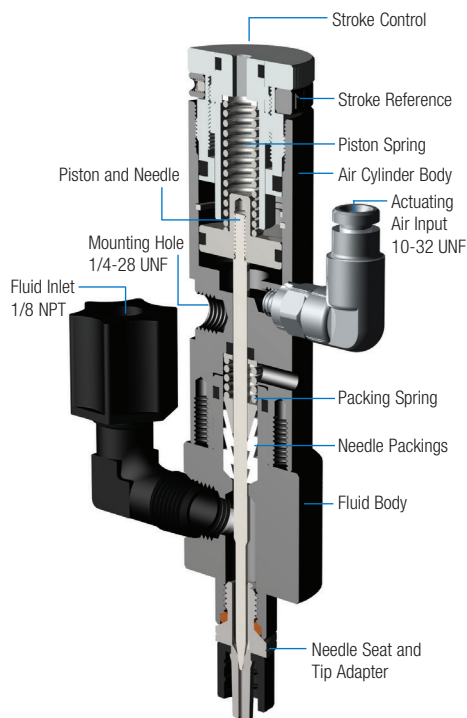
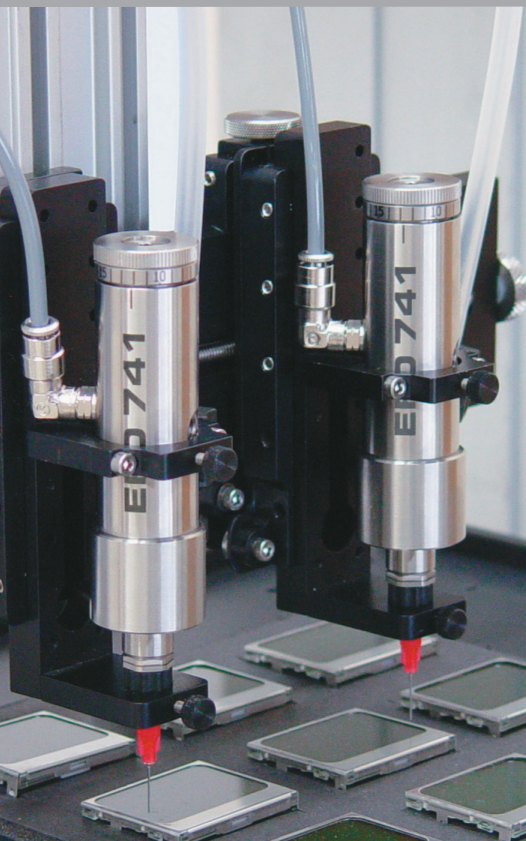
|                                  |                                        |
|----------------------------------|----------------------------------------|
| Size:                            | 127.5L x 26.9DIA mm (5.02L x 1.06DIA") |
| Weight:                          | 251.0 g (9.0 oz)                       |
| 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 "ValveMate 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)

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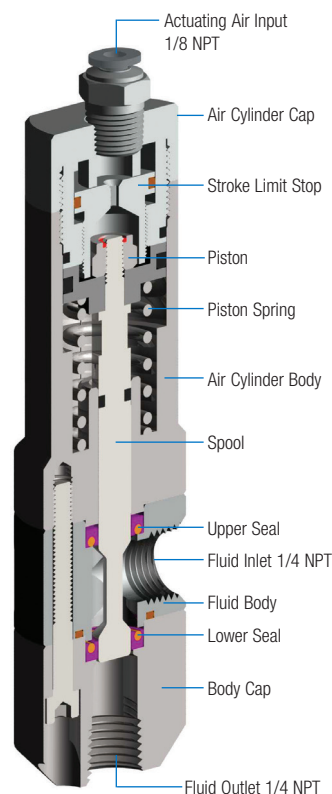
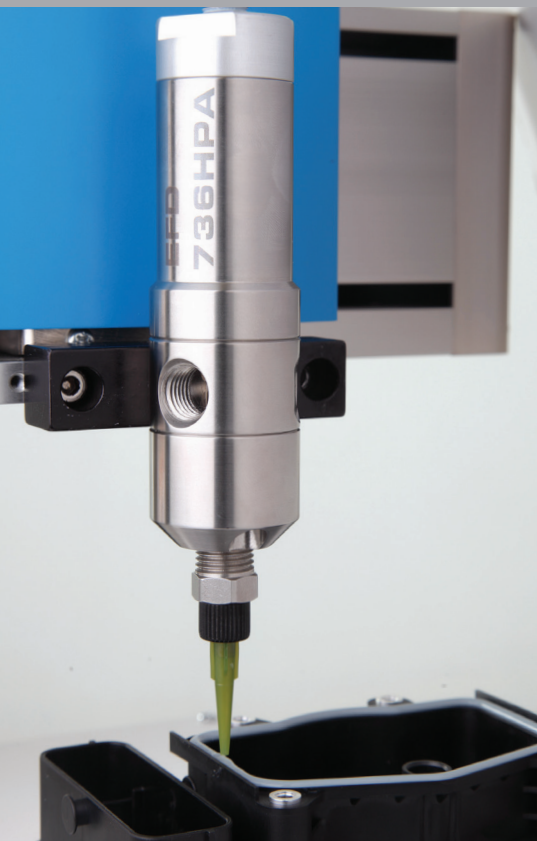
## Specifications

|                                  |                                                                                     |
|----------------------------------|-------------------------------------------------------------------------------------|
| 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<br>741V-AL: Hard-coated anodized aluminum |

|                                |                                                                                     |
|--------------------------------|-------------------------------------------------------------------------------------|
| Fluid body:                    | 741V-SS / 741V-SS-BP: 303 stainless steel<br>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 "ValveMate 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)

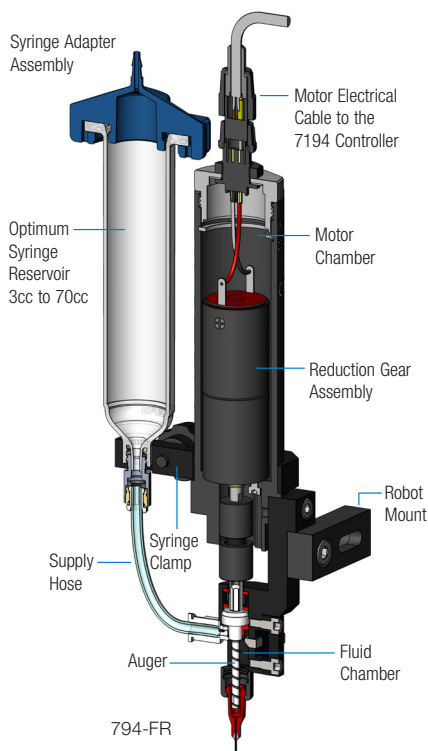
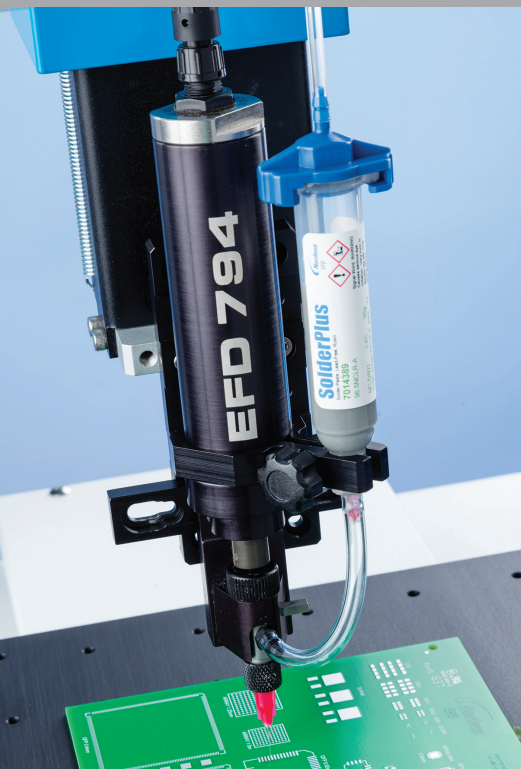
Order Valve Replacement Parts:  
[www.nordsonefd.com/ValveKits](http://www.nordsonefd.com/ValveKits)

## 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



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

## 794 Series Auger Valve

### 7029742 794-FB Valve

8 pitch, brushless motor, fixed head.

### 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 "ValveMate Controllers" 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 Compounds" for details.

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

– Automotive Assembly



## Specifications

|                             |                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Size:                       | 794: 237.5L x 31.8DIA mm (9.35L x 1.25DIA")<br>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<br>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"<br>794-TC: 1/8" ID tubing supplied for connection<br>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<br>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 "ValveMate Controllers" for system setup.

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



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

*"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

# 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 solenoid

## 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)

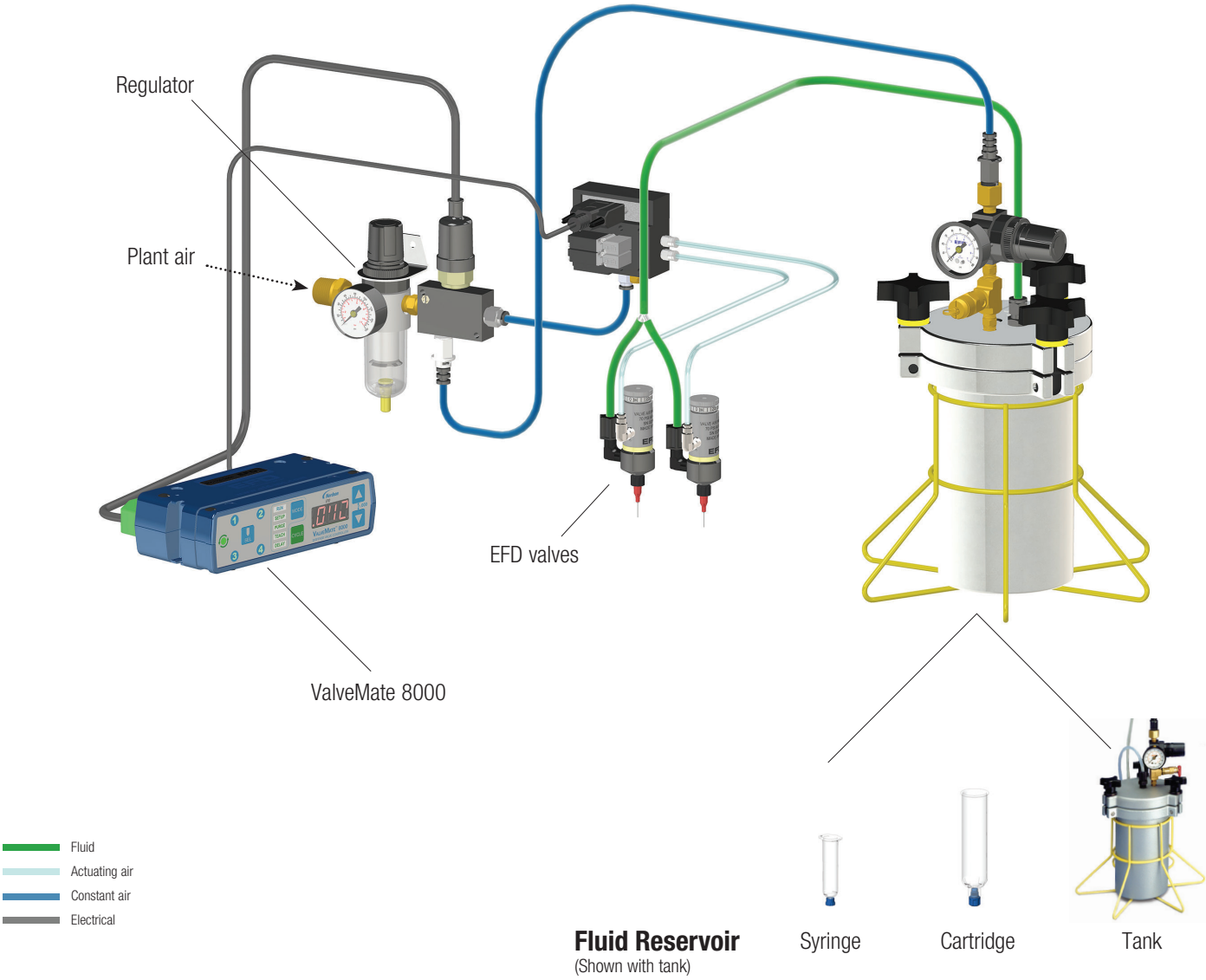
## Specifications

|                             |                                                 |
|-----------------------------|-------------------------------------------------|
| 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, 50/60 Hz                           |

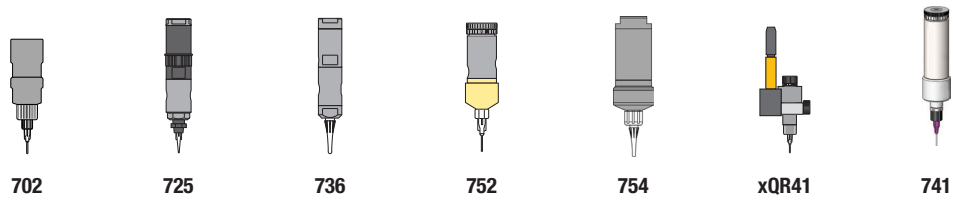
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|--------------------------------|------------------------------------------------|
| Output DC (from power supply): | 24 VDC, 1.25 A maximum                         |
| Feedback circuits:             | 5–24 VDC NC solid-state switch, 100 mA maximum |
| 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 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

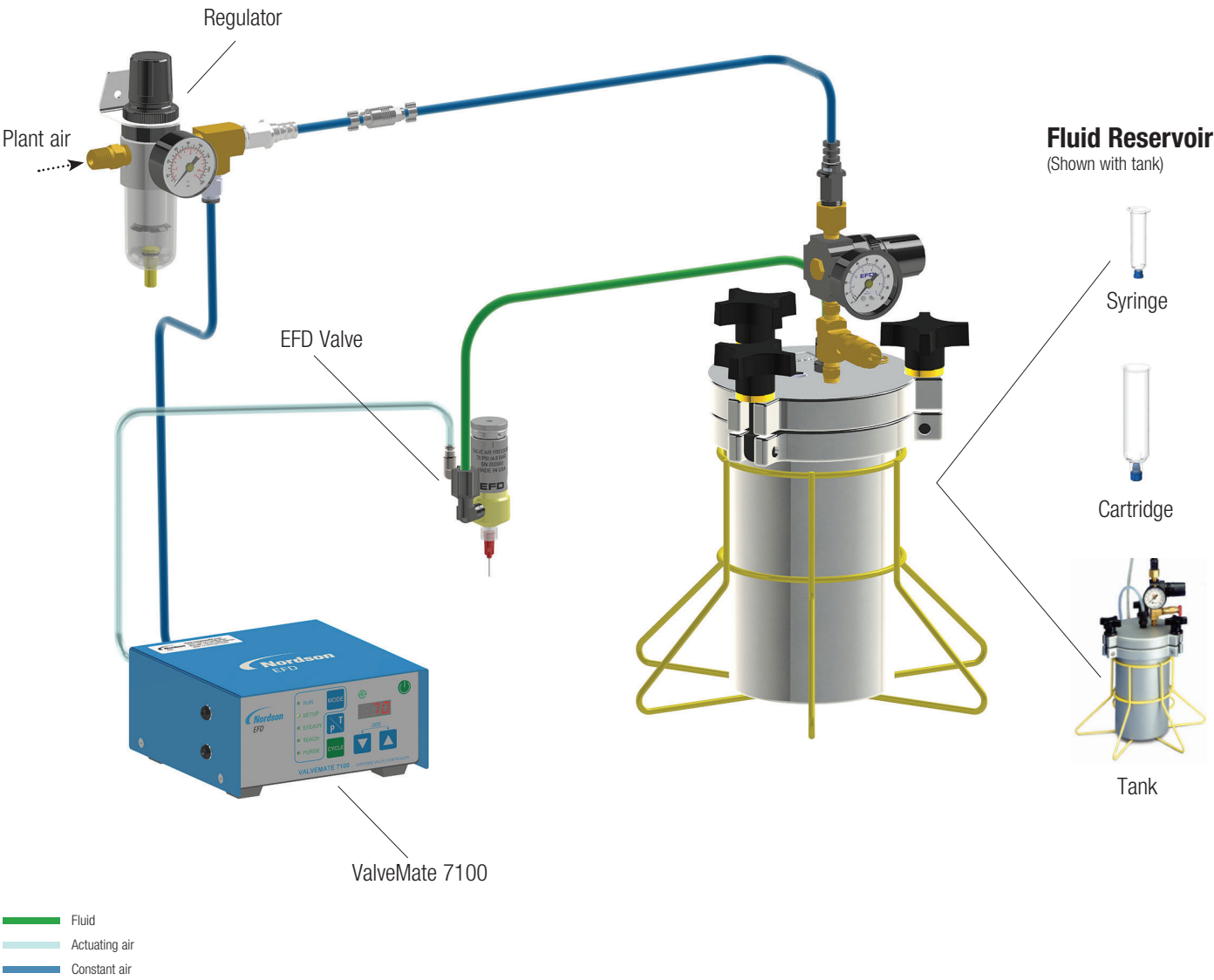
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### Specifications

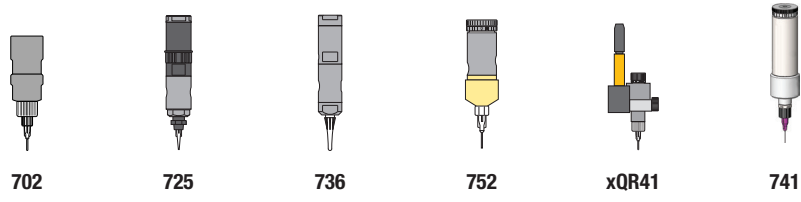
|                         |                                                                                                                                                    |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 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:  | 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 Controllers



## 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")                                                                                                         | Feedback circuits:  | EOC Out and Alarm Out: Electronic switch, 24 VDC, 100 mA maximum |
| Weight:                 | 1.8 kg (3.9 lb)                                                                                                                                          | Cycle initiate:     | 5–24 VDC signal, foot pedal, or contact closure initiate         |
| Cycle rate:             | Exceeds 400 per minute                                                                                                                                   | Input air pressure: | 4.5–7.0 bar (65–100 psi)                                         |
| Time range:             | 0.001–99.9 s                                                                                                                                             | Approvals:          | CE, UKCA, TUV, RoHS, WEEE, China RoHS                            |
| Electrical power input: | 30 VDC (±2%), 1.33 A maximum                                                                                                                             | Warranty:           | 1 year, limited                                                  |
| External power adapter: | 100–240 VAC (±10%), ~50/60 Hz input, 30 VDC (±2%), 1.33 A output, Switchcraft S761K locking DC plug or equivalent, desktop type, AC input: IEC 320 inlet |                     |                                                                  |



# ValveMate 7194 Valve Controller — System Setup

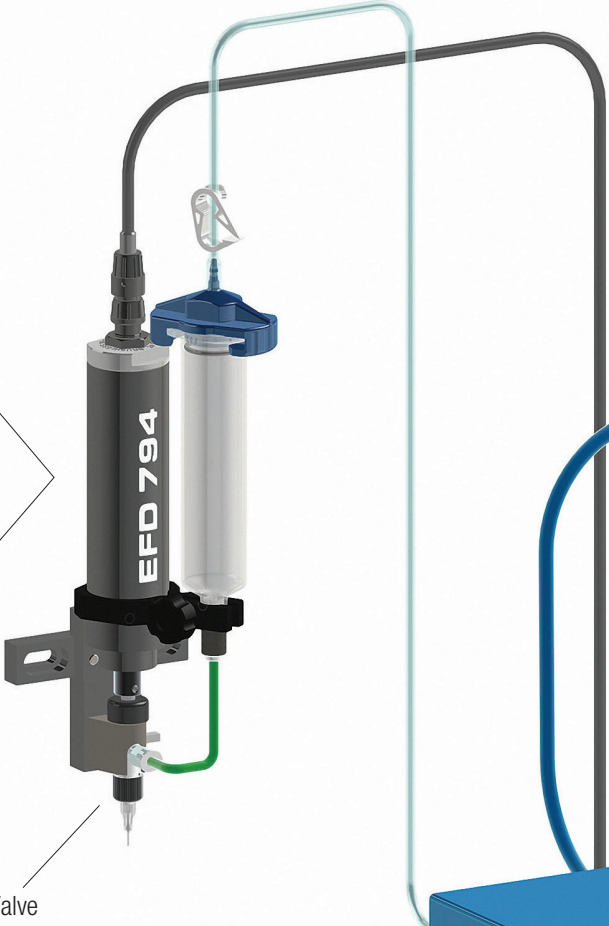
## Fluid Reservoir (Shown with syringe)



Syringe



Cartridge

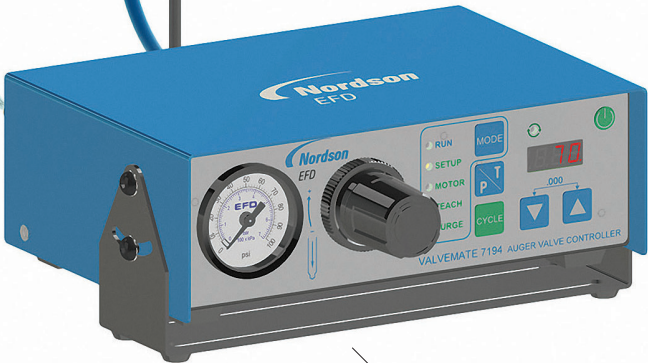


Regulator

Plant air

EFD Valve

- Fluid
- Actuating air
- Constant air
- Electrical



ValveMate 7194

## For use with



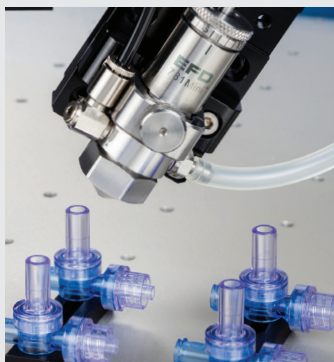
794



794-TC

# Precision Spray Valve Systems

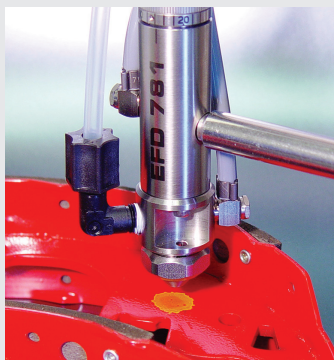
## Spray Valves / Controllers



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.

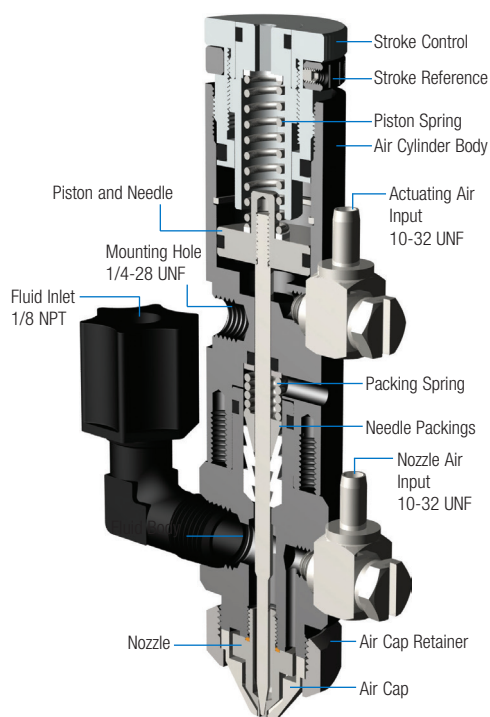
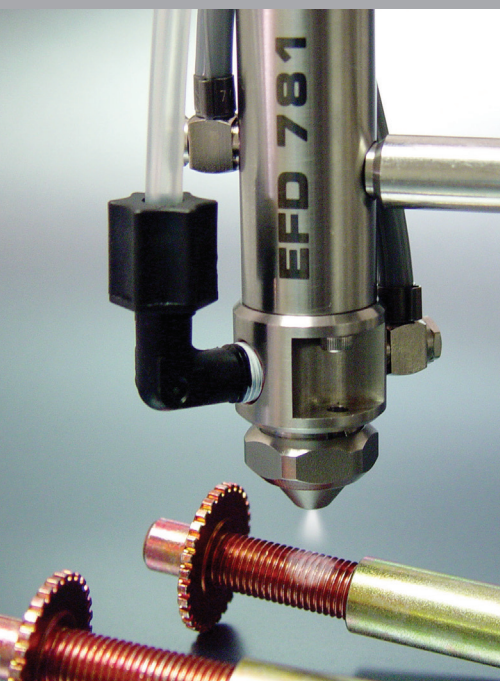
Our unique spray valve designs are exceptionally reliable and will provide tens of millions of trouble-free dispensing cycles before maintenance is required.



### 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").

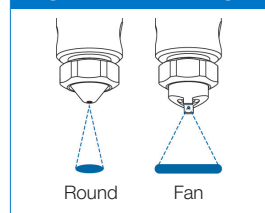
## Features and Benefits

- 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.

### 7021612 781S-SS-14F

Nozzle size is 0.36 mm (0.014") diameter, fan shape. All metal parts are passivated 303 stainless steel.

### 7021617 781S-SS-WA

Same as 781S-SS except round pattern is 2x as large.

### 7021614 781S-SS-28F

Nozzle size is 0.71 mm (0.028") diameter, fan shape. All metal parts are passivated 303 stainless steel.

See "ValveMate Spray Controllers" for system setup.

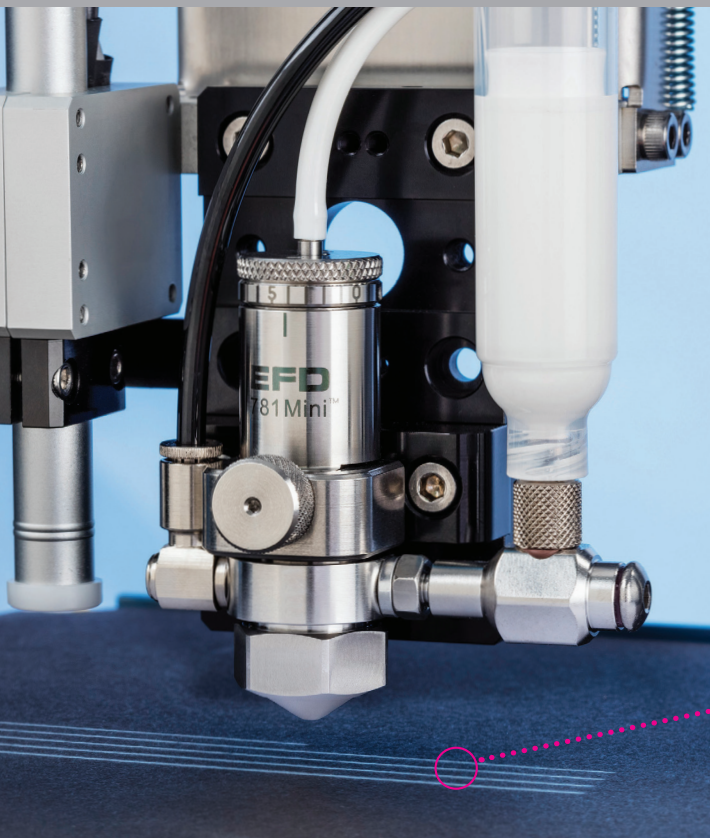
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

|                                  |                                                      |
|----------------------------------|------------------------------------------------------|
| Size:                            | 104.6L x 26.9DIA mm (4.12L x 1.06DIA")               |
| Weight:                          | 781S-SS: 405.3 g (14.2 oz)<br>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 / fluid body:           | 781S-SS: 303 stainless steel<br>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. |                                                   |

# Spray Valves



## 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 "ValveMate Spray Controllers" for system setup.

Narrow spray patterns as  
small as 1 mm wide

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



[www.nordsonefd.com/781MiniSpray](http://www.nordsonefd.com/781MiniSpray)

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

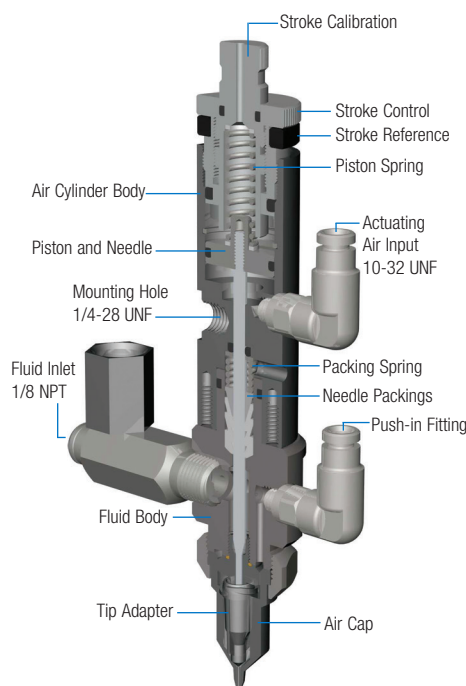
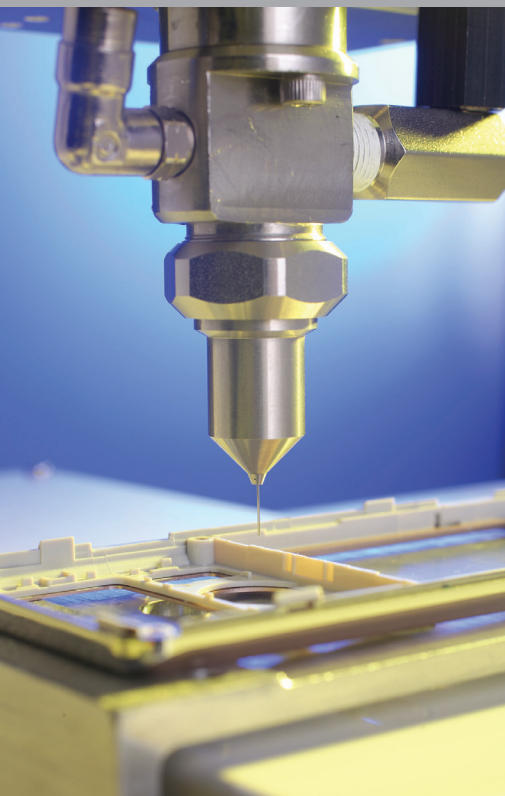
## Specifications

|                                  |                                       |
|----------------------------------|---------------------------------------|
| 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 "ValveMate Spray 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    |



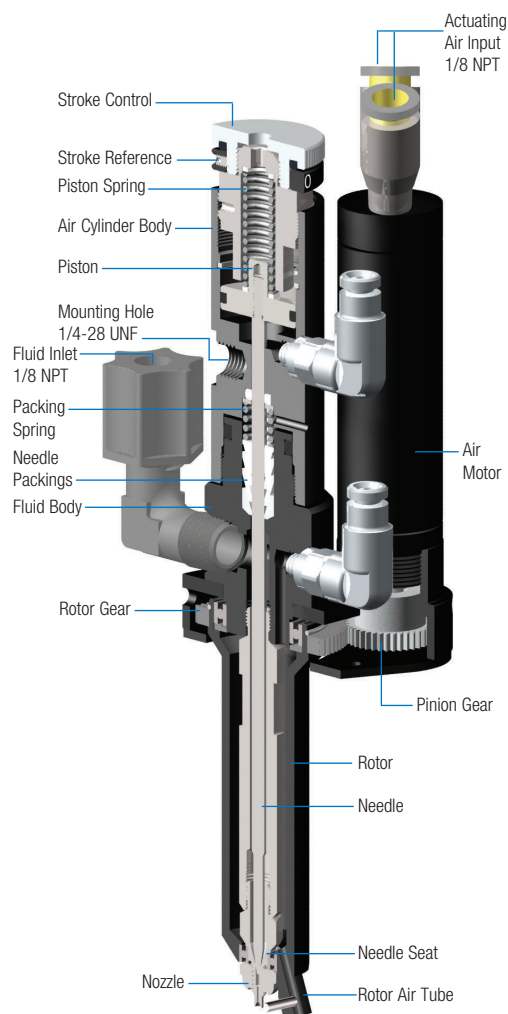
[www.nordsonefd.com/787MS-Series](http://www.nordsonefd.com/787MS-Series)

## 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

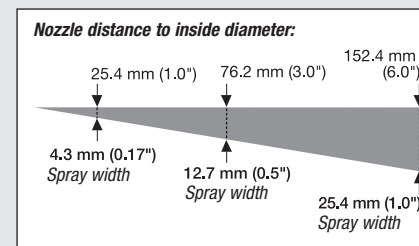


## 782RA Series Radial Spray Valve

**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-coated 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 "ValveMate 7160 Valve Controller — System Setup" for 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

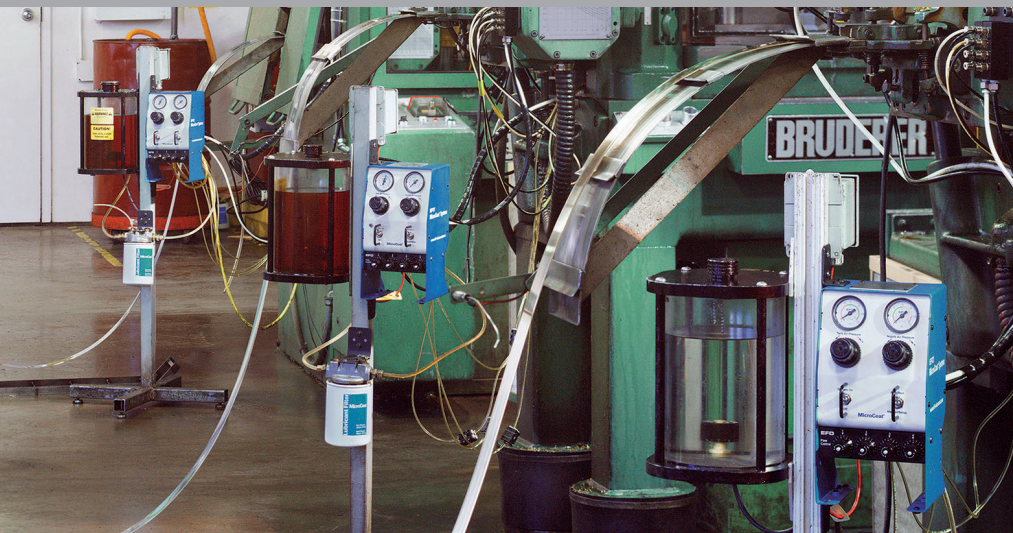
## Specifications

|                                  |                                        |
|----------------------------------|----------------------------------------|
| 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       | 7008020Standard (up to 76 mm / 3" of coverage) |
| MC785M-WF    | 7008013Wide (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")                      |

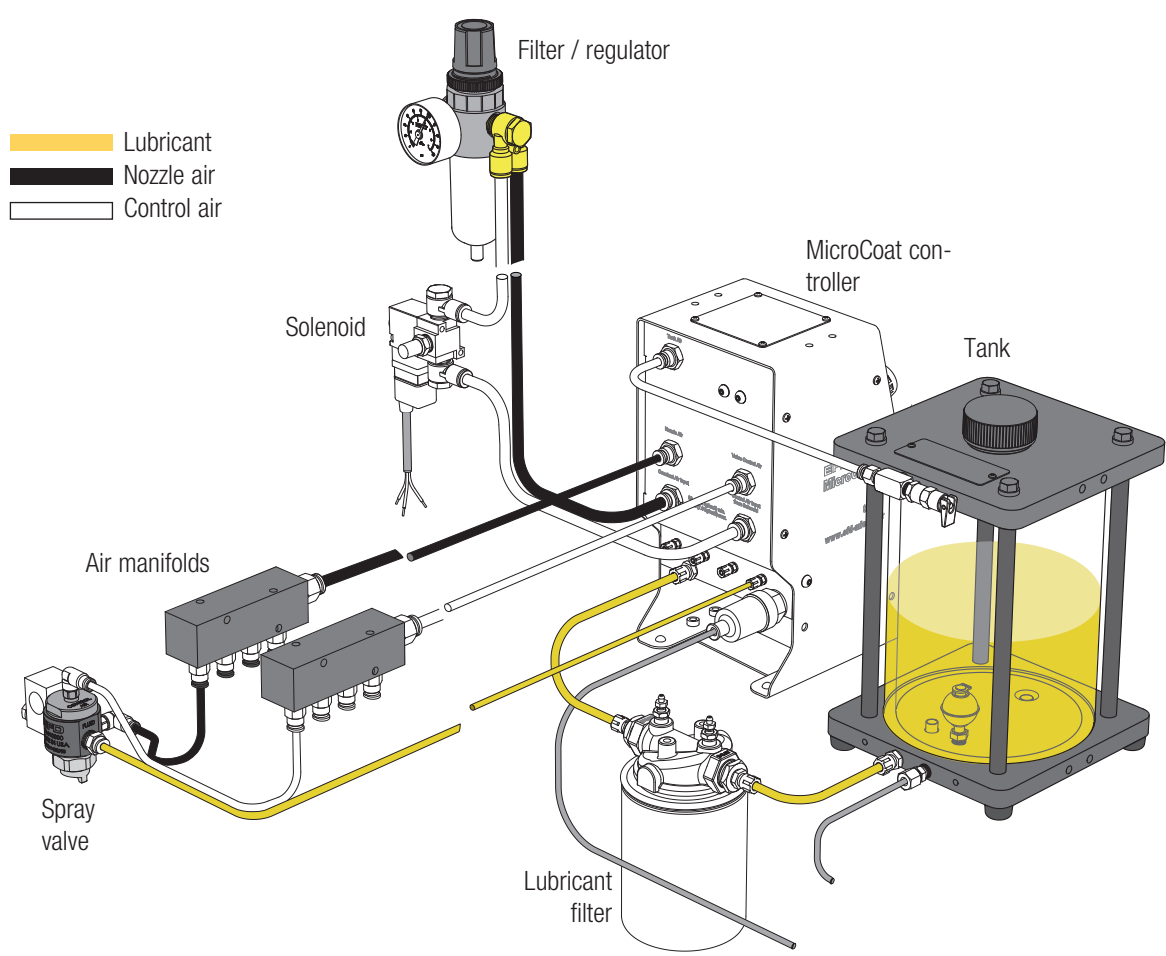
### MC800 Controller

|                              |                                                    |
|------------------------------|----------------------------------------------------|
| 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

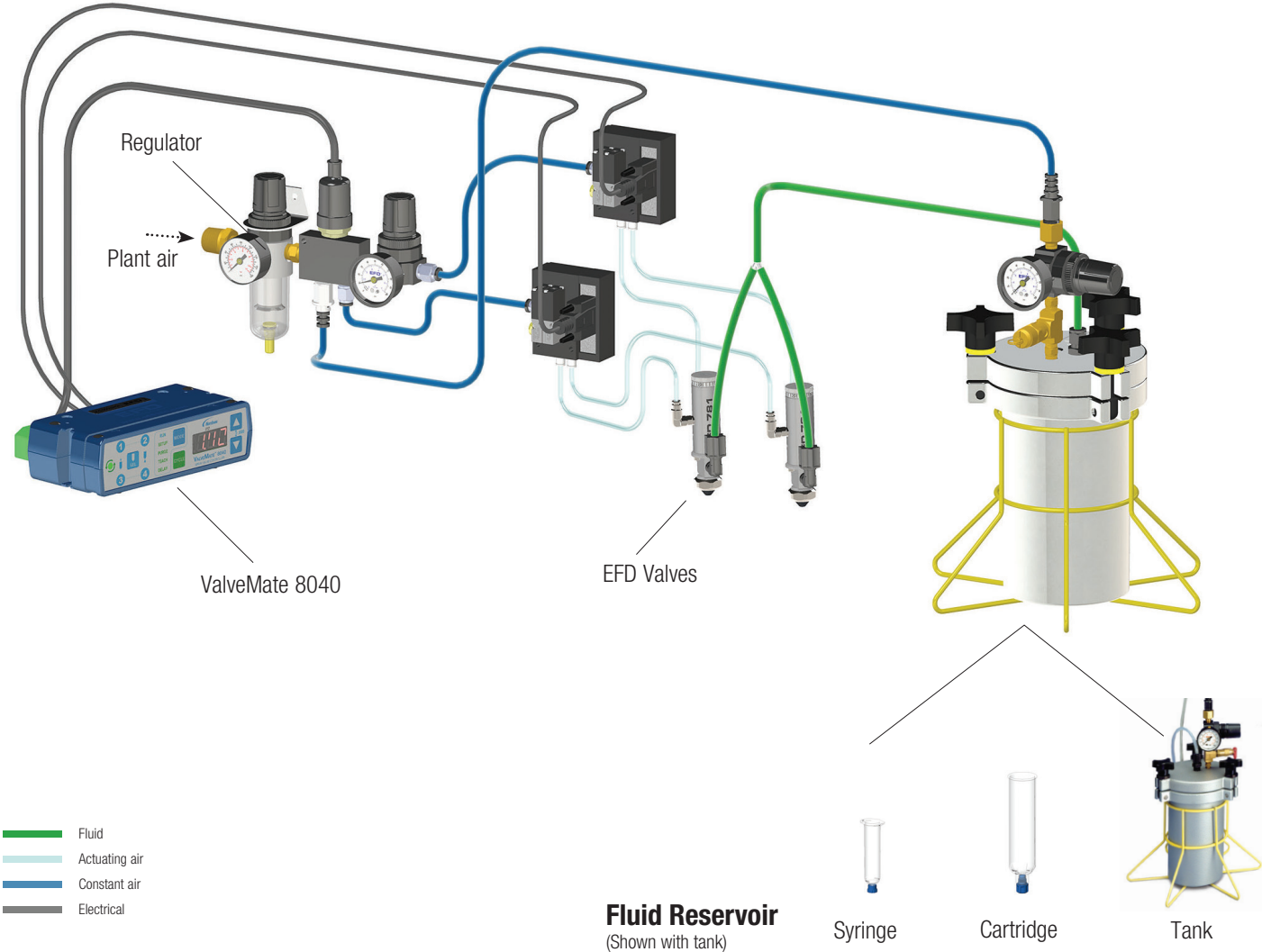
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

### Specifications

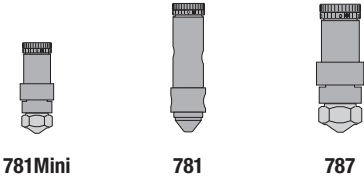
|                             |                                                 |
|-----------------------------|-------------------------------------------------|
| Cabinet size:               | 18.3w x 5.1h x 8.6d cm (7.20w x 2.00h x 3.38d") |
| Weight:                     | 0.3 kg (0.6 lb)       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

|                                |                                                |
|--------------------------------|------------------------------------------------|
| Output DC (from power supply): | 24 VDC, 1.25 A 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



For use with



# 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

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

See next page for compatible valves

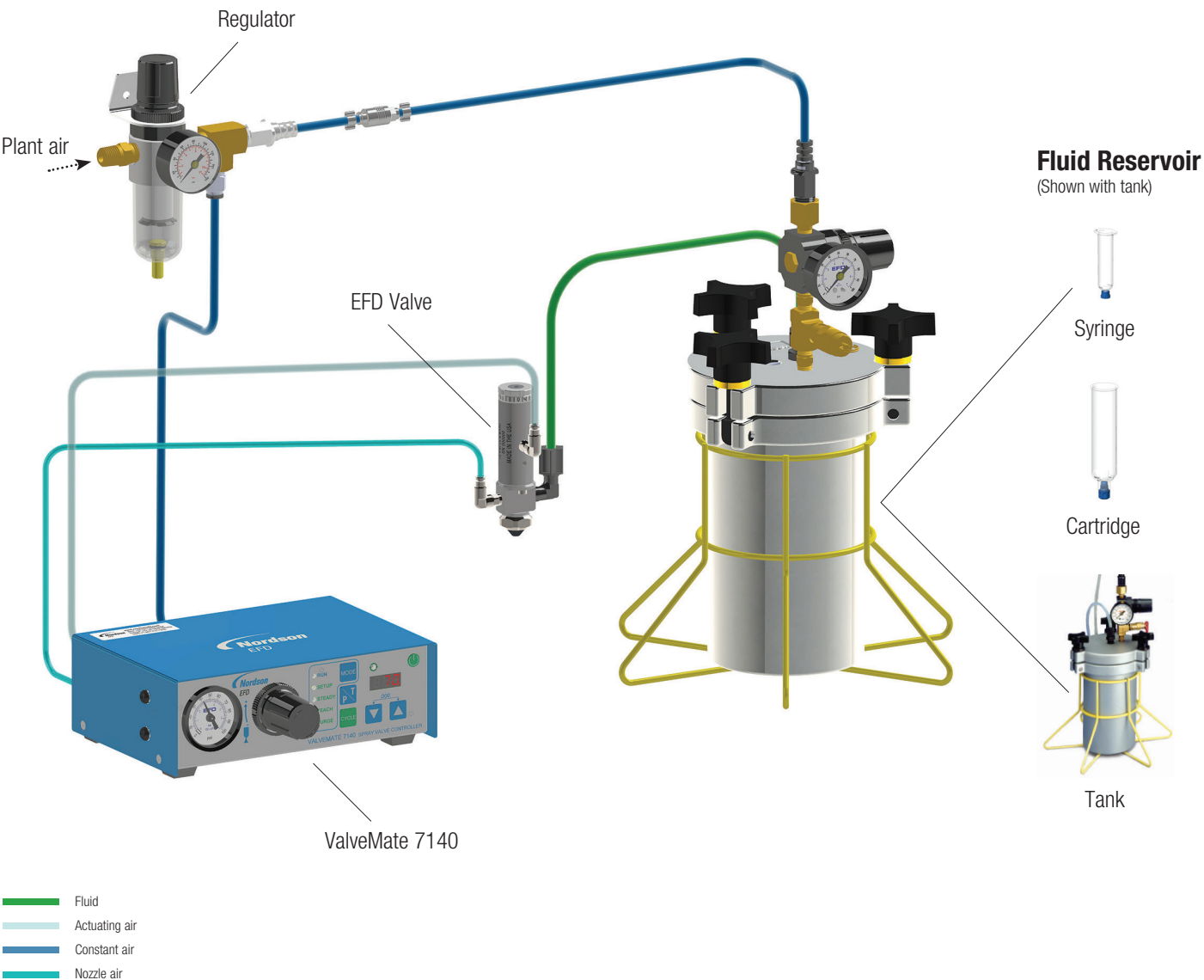
Download CAD Models:  
[www.nordsonefd.com/CAD](http://www.nordsonefd.com/CAD)

## Specifications

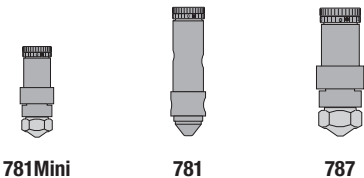
|                         |                                                                                                                                                    |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 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:  | 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



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 aeration.

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

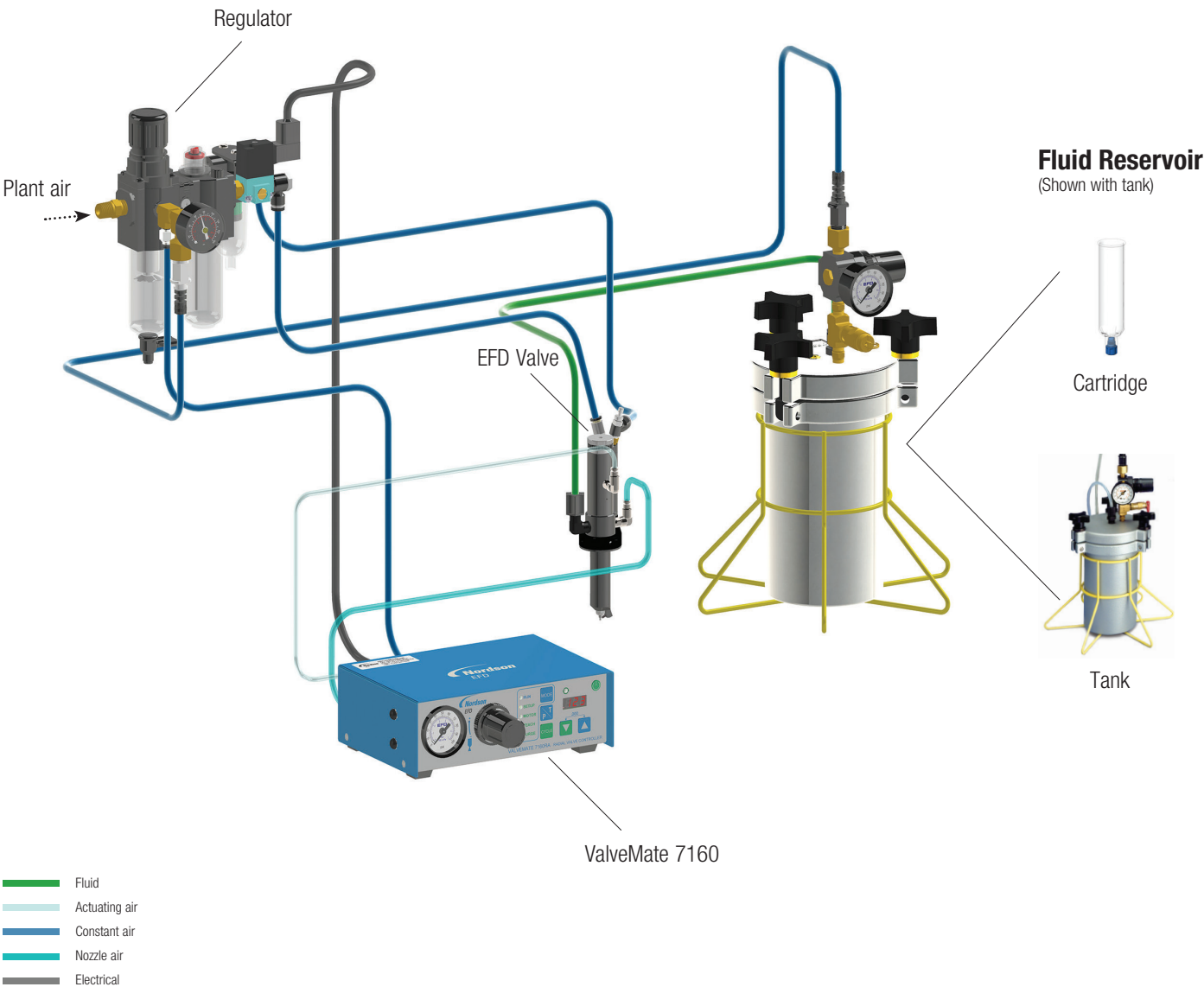
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### Specifications

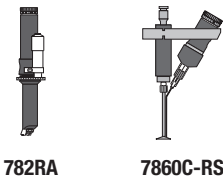
|                         |                                                                                                                                                    |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.

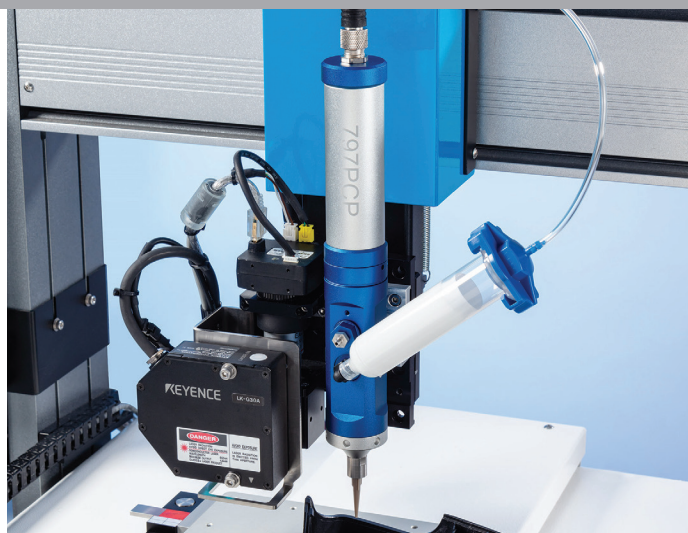
Designed with core components — a rotor and stator — that form a perfectly sealed metering chamber, the 797PCP pump prevents shear, pulsation, and squeezing of assembly fluids. This makes it ideal for dispensing highly viscous, filled, or abrasive pastes and shear-sensitive fluids.

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.

### 7366472 \*PEEK-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 with PEEK fluid carrying parts. Designed for UV-cure anaerobic and other reactive adhesives.

### 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 3.0 to 45.0 mL per minute. Anodized aluminum construction.

### 7364280 Pump Motor Cable

Pump motor cable, 5 m (16.4 ft). Order one per pump.

\*Polyetheretherketone

Specify ceramic rotors for better resistance to abrasive materials.



[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")<br>797PCP-0.15 / 0.30: 297.9L x 36.0DIA mm (11.73L x 1.42DIA")<br>SS-797PCP-0.15: 298.8L x 36.0DIA mm (11.76L x 1.42DIA")<br>PEEK-797PCP-0.15: 297.9L x 36.0DIA mm (11.73L x 1.42DIA") |
| Weight:                           | 797PCP-0.01 / 0.05: 0.55 kg (1.2 lb)<br>797PCP-0.15 / 0.30: 0.62 kg (1.4 lb)<br>SS-797PCP-0.15: 1.25 kg (2.8 lb)<br>PEEK-797PCP-0.15: 0.60 kg (1.3 lb)                                                                                             |
| Rotor speed:                      | 10–150 RPM (depending on maximum motor speed)                                                                                                                                                                                                      |
| Flow rate:                        | 797PCP-0.01: 0.13–1.95 mL/min<br>797PCP-0.05: 0.59–8.85 mL/min<br>797PCP-0.15: 1.63–24.50 mL/min<br>797PCP-0.30: 3.0–45.0 mL/min                                                                                                                   |
| Dispensing volume per revolution: | 797PCP-0.01: 0.009 mL<br>797PCP-0.05: 0.047 mL<br>797PCP-0.15: 0.139 mL<br>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<br>Stainless steel: 303 stainless steel<br>PEEK-797PCP-0.15: PEEK |
| Rotor:                 | Standard: 316Ti stainless steel<br>PEEK-797PCP-0.15: Ceramic                                  |
| 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 and bell 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 3.0–45.0 mL per minute.

### 7364280 Pump Motor Cable

Pump motor cable, 5 m (16.4 ft). Order one per pump.

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 “Progressive Cavity Pump Accessories”.

Specify ceramic rotors for better resistance to abrasive materials.



[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")<br>797PCP-0.15 / 0.30: 297.9L x 36.0DIA mm (11.7L x 1.42DIA")                                            |
| Weight:                           | 797PCP-0.01 / 0.05: 550.0 g (1.2 lb) per pump<br>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<br>797PCP-0.05: 0.59–8.85 mL/min per pump<br>797PCP-0.15: 1.63–24.50 mL/min per pump<br>797PCP-0.30: 3.0–45.0 mL/min per pump |
| Dispensing volume per revolution: | 797PCP-0.01: 0.009 mL per pump<br>797PCP-0.05: 0.047 mL per pump<br>797PCP-0.15: 0.139 mL per pump<br>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)

### 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 ( $\pm 2\%$ ), 3.75 A maximum            |

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

# Progressive Cavity Pump Systems



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.

## 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)

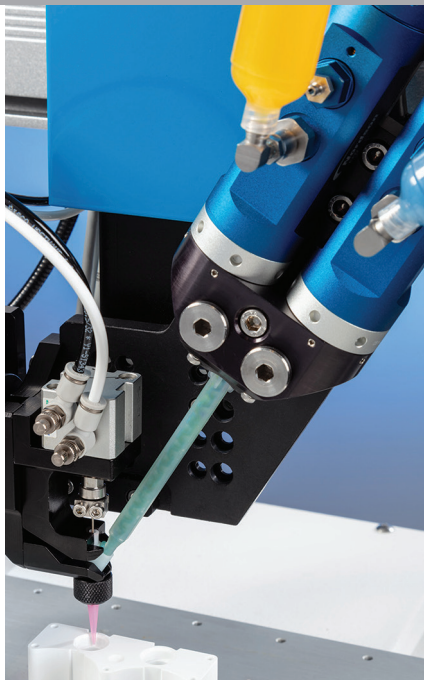
## Specifications

|                         |                                                   |
|-------------------------|---------------------------------------------------|
| Cabinet size:           | 21.2w x 10.8h x 17.3d cm (8.33w x 4.27h x 6.82d") |
| Weight:                 | 1.8 kg (4.0 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 A maximum                      |

|                    |                                           |
|--------------------|-------------------------------------------|
| Feedback circuits: | Electronic switch, 24 VDC, 100 mA maximum |
| Cycle initiate:    | Foot pedal                                |
| Approvals:         | CE, UKCA, TUV, RoHS, China RoHS, WEEE     |
| Warranty:          | 1 year, limited                           |



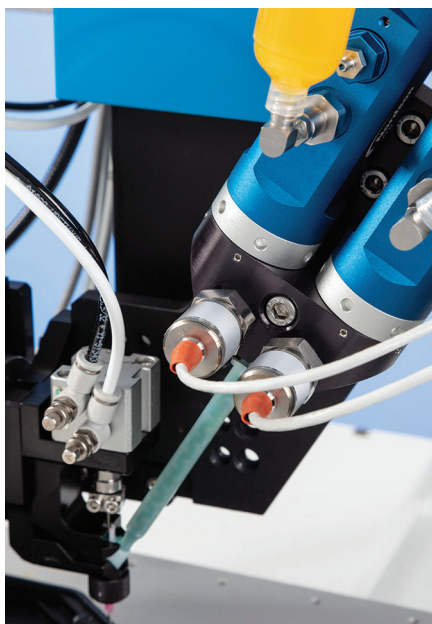
# Progressive Cavity Pump Accessories



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

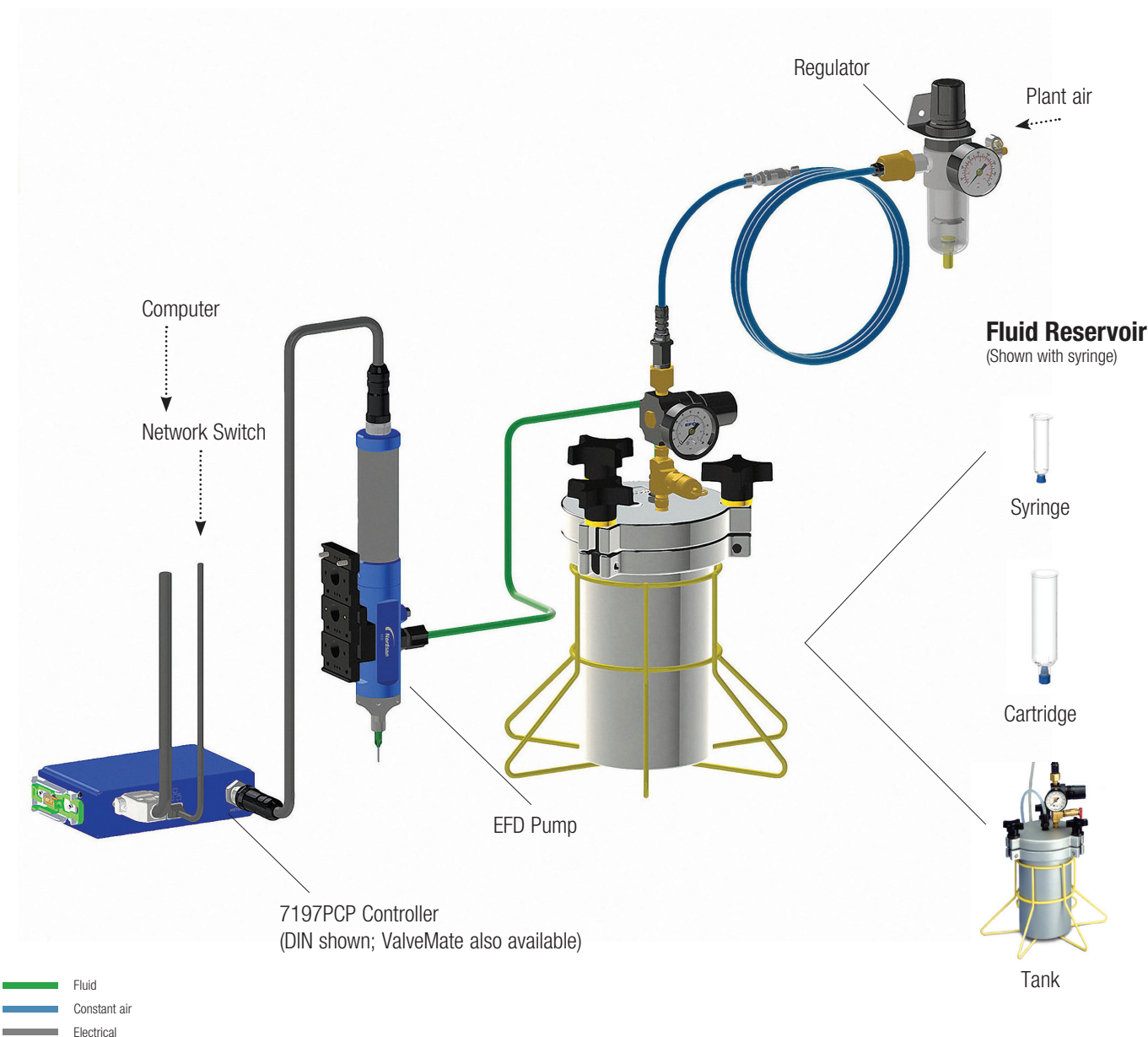
### 7365000 Shutoff Bracket Kit

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.

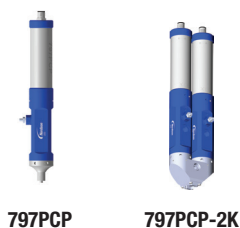
Nordson EFD's 797PCP-2K shutoff bracket assembly eliminates leaking, drooling, and dripping at the outlet of the progressive cavity pump. Manufacturers can reduce 2K production waste, lower manufacturing costs, decrease production time, and improve quality — putting an end to long set times or stringing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

# ValveMate 7197PCP Controller — System Setup



For use with



# 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.

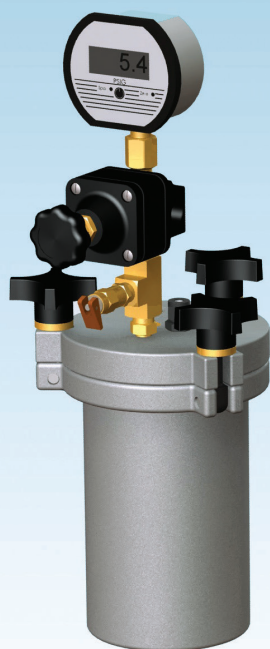


# Tanks and Reservoirs Selection Guide

| TANKS AND RESERVOIRS        |                                                                                                                                                                                                                                 |                                                                                                                                                                                                           |                                                                                                                                 |                                                                                                                                                                                                                                                 |                                                                                                                                                              |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                        | <br>Syringe Barrels, in Clear, Amber, or Black                                                                                                 | <br>Cartridge Retainer Systems with Regulators                                                                           | <br>1/10 Gallon Retainer System with Regulator | <br>1L & 5L Precision Digital Gauge Tanks                                                                                                                    | <br>1L & 5L Analog Gauge Tanks                                            |
| Volume                      | 3cc–70cc<br>(3–70 mL)                                                                                                                                                                                                           | 2.5 oz–32 oz<br>(75–960 mL)                                                                                                                                                                               | 1/10 gal<br>(300 mL)                                                                                                            | 1 liter & 5 liter<br>(0.26 gal & 1.32 gal)                                                                                                                                                                                                      | 1 liter & 5 liter<br>(0.26 gal & 1.32 gal)                                                                                                                   |
| Recommended Fluid Viscosity | All Fluids                                                                                                                                                                                                                      | All Fluids                                                                                                                                                                                                | Medium-to-High Viscosities                                                                                                      | Low-to-Medium Viscosities<br>(pourable / self-leveling)                                                                                                                                                                                         |                                                                                                                                                              |
| Air Pressure                | —                                                                                                                                                                                                                               | 0–1.0 bar (0–15 psi)<br>0–7.0 bar (0–100 psi)                                                                                                                                                             | 0–7.0 bar<br>(0–100 psi)                                                                                                        | 0–0.7 bar (0–10 psi)<br>0–7.0 bar (0–100 psi)                                                                                                                                                                                                   | 0–1.0 bar (0–15 psi)<br>0–7.0 bar (0–100 psi)                                                                                                                |
| Float Switch                | —                                                                                                                                                                                                                               | —                                                                                                                                                                                                         | —                                                                                                                               | Optional                                                                                                                                                                                                                                        | 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>Digital gauge delivers exceptional full-to-empty fluid pressure control, regardless of input pressure fluctuations</li> <li>Accepts pre-filled 1-pound and 1-liter bottles or pourable fluids</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                                                                                                                                                                                                                           | Medium-to-High Volume                                                                                                                                        |



# Tanks and Reservoirs



**1.0 L Tank**



**5.0 L Tank**

Precision fluid tank pressure control is essential to ensure consistent, accurate deposits from the dispense valve. EFD's precision regulator / digital gauge tanks offer exceptional full-to-empty fluid pressure control, regardless of input pressure fluctuations.

Available in 0–0.7 bar (0–10 psi) for low viscosity fluids and 0–7.0 bar (0–100 psi) for medium- to high-viscosity fluids.

## Features and Benefits

- Precision fluid pressure regulation/digital readout for exact fluid pressure control
- Repeatability — from one shift to the next, precision regulator/digital gauge can be reset to exact pressure setting
- Tighter setting tolerances — pressures can be set to tenths of psi
- Fast response, robust pressure regulator

## Precision Regulator / Digital Gauge Fluid Reservoirs

### **7013460 Tank**

1.0 liter Tank with 0–0.7 bar (0–10 psi) regulator.

### **7013489 Tank**

1.0 liter Tank with 0–7.0 bar (0–100 psi) regulator.

### **7013430 Tank**

5.0 liter Tank with 0–0.7 bar (0–10 psi) regulator.

### **7013490 Tank**

5.0 liter Tank with 0–7.0 bar (0–100 psi) regulator.

All necessary fittings and feed tubing are included with each Fluid Tank.

*"I wanted to let you know how much your company has helped me. You have excellent products and a great support group."*

— Puritan Bennet

## Specifications

### **1.0 L Tank**

|                                |                   |
|--------------------------------|-------------------|
| Tank body:                     | Cast aluminum     |
| Capacity:                      | 1.0 L             |
| Weight:                        | 3.0 kg (6.60 lb)  |
| Height:                        | 350 mm (13.75")   |
| Diameter (cover maximum):      | 172 mm (6.75")    |
| Maximum operating pressure:    | 7.0 bar (100 psi) |
| Maximum operating temperature: | 50° C (122° F)    |

### **5.0 L Tank**

|                                |                   |
|--------------------------------|-------------------|
| Tank body:                     | Cast aluminum     |
| Capacity:                      | 5.0 L             |
| Weight:                        | 9.1 kg (20.1 lb)  |
| Height:                        | 413 mm (16.25")   |
| Diameter (cover maximum):      | 251 mm (9.85")    |
| Maximum operating pressure:    | 7.0 bar (100 psi) |
| Maximum operating temperature: | 50° C (122° F)    |

# Tanks and Reservoirs



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

The air regulator is selected based on fluid viscosity. Watery fluids require the 0–1.0 bar (0–15 psi) regulator, while thicker fluids need the 0–7.0 bar (0–100 psi) 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.

## 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.

### 7020189 626DTL Tank

5.0 liter tank with 1.0 bar (15 psi) regulator.

### 7362776 5L Tank

5.0 liter tank with 7.0 bar (100 psi) regulator and capacitive level sensor.

## 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.

### 7020115 Replaceable Liner for 615 Series

Set of four replaceable liners for 1.0 liter tanks.

### 7020182 Replaceable Liner for 626 Series

Set of four replaceable liners for 5.0 liter tanks.



**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.

## Specifications

### 615DTH / 615DTL Tanks

|                             |                                                       |
|-----------------------------|-------------------------------------------------------|
| Tank body:                  | Cast aluminum                                         |
| Replaceable liner:          | Polyethylene (0.95 L 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)<br>615DTL: 1.0 bar (15 psi) |
| Maximum operating pressure: | 7.0 bar (100 psi)                                     |

### 626DTH / 626DTL Tanks

|                             |                                                       |
|-----------------------------|-------------------------------------------------------|
| Tank body:                  | Cast aluminum                                         |
| Replaceable liner:          | Polyethylene (3.8 L 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)<br>626DTL: 1.0 bar (15 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.

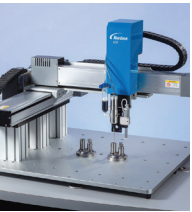
The systems set up quickly and are easy to run, providing more time for other projects while increasing product yield.

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

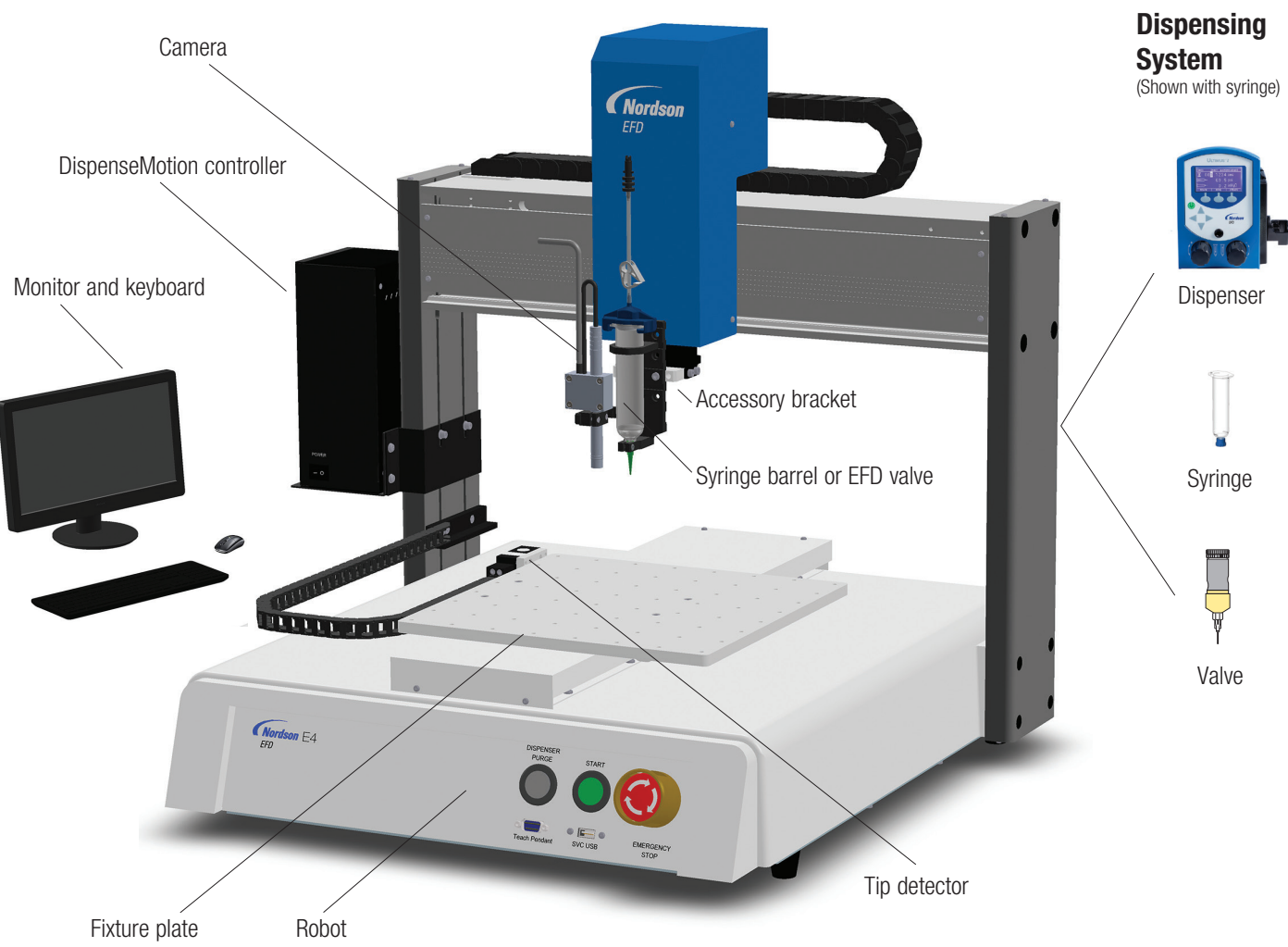
| AUTOMATED DISPENSING SYSTEMS                 |                                                                                                              |                                                                                                     |                                                                                                                                                                                                                                                      |                                                                                                                                             |                                                                                                                                                                     |                                                                                                    |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| System                                       | <br>PROX / PROPlus / PRO    | <br>PROPlus 4-Axis | <br>EV                                                                                                                                                              | <br>E                                                     | <br>RV                                                                           | <br>GVPlus / GV |
| # of axes                                    | 3 axes                                                                                                       | 4 axes                                                                                              | 3 axes                                                                                                                                                                                                                                               | 3 axes                                                                                                                                      | 4 axes                                                                                                                                                              | 3 axes                                                                                             |
| Programming method                           | DispenseMotion software                                                                                      | DispenseMotion software                                                                             | DispenseMotion software                                                                                                                                                                                                                              | Teach Pendant<br>TeachMotion software                                                                                                       | DispenseMotion software                                                                                                                                             | DispenseMotion software                                                                            |
| Vision                                       | CCD smart camera with light box                                                                              | CCD smart camera with light box                                                                     | Pencil camera                                                                                                                                                                                                                                        | —                                                                                                                                           | CCD smart camera                                                                                                                                                    | CCD smart camera with light box                                                                    |
| OptiSure™ Automated Optical Inspection (AOI) | AOI software (optional)<br>Confocal Laser (optional)                                                         | AOI software (optional)<br>Confocal Laser (optional)                                                | AOI software (optional)                                                                                                                                                                                                                              | N/A                                                                                                                                         | AOI software (optional)                                                                                                                                             | AOI software (optional)<br>Confocal Laser (optional)                                               |
| Height detection                             | Laser (optional)                                                                                             | Laser (optional)                                                                                    | Mechanical (optional)                                                                                                                                                                                                                                | Mechanical (optional)                                                                                                                       | —                                                                                                                                                                   | Laser (optional,<br>G4VPlus only)<br>Mechanical (optional)                                         |
| Tip detection                                | Tip detector (included)                                                                                      | Tip detector (included)                                                                             | Tip detector (optional)                                                                                                                                                                                                                              | Tip aligner (optional)                                                                                                                      | Tip detector or Tip aligner (optional)                                                                                                                              | Tip detector (optional)                                                                            |
| Closed loop encoding                         | Included                                                                                                     | Included                                                                                            | —                                                                                                                                                                                                                                                    | —                                                                                                                                           | —                                                                                                                                                                   | —                                                                                                  |
| Maximum working area (X / Y / Z)             | PRO4 / PRO4Plus<br>350 / 350 / 100 mm<br>(14 / 14 / 4")<br><br>PROX5<br>450 / 500 / 100 mm<br>(18 / 20 / 4") | PROPlus 4-Axis<br>350 / 400 / 100 mm<br>(14 / 16 / 4")<br>±1080°                                    | E2V<br>150 / 200 / 50 mm<br>(6 / 8 / 2")<br><br>E3V<br>250 / 300 / 100 mm<br>(10 / 12 / 4")<br><br>E4V<br>350 / 400 / 100 mm<br>(14 / 16 / 4")<br><br>E5V<br>450 / 500 / 150 mm<br>(18 / 20 / 6")<br><br>E6V<br>570 / 500 / 150 mm<br>(22 / 20 / 6") | E2<br>200 / 200 / 50 mm<br>(8 / 8 / 2")<br><br>E3<br>300 / 300 / 100 mm<br>(12 / 12 / 4")<br><br>E5<br>500 / 500 / 150 mm<br>(20 / 20 / 6") | R3V<br>300 / 300 / 150 mm<br>(12 / 12 / 6")<br><br>R4V<br>400 / 400 / 150 mm<br>(16 / 16 / 6")<br><br>R6V<br>620 / 500 / 150 mm<br>(24 / 20 / 6")<br><br>All: ±999° | G4VPlus<br>400 / 400 / 100 mm<br>(16 / 16 / 4")<br><br>G8V<br>800 / 800 / 100 mm<br>(31 / 31 / 4") |



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



# Automated Dispensing System — System Setup



## Accessories



# 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

The PROX Series automated dispensing system fuses the best attributes of the PRO and PROPlus robots with new features that offer improved durability and better economy.

The PROX Series uses a contactless linear motor. The benefit to the linear motor is improved actuation speed, fewer moving parts, and reduced maintenance needs due to significantly lower wear and tear. This robot is ideal for applications in electronics, life science, and clean room environments.

In addition, the PROX Series features specialized DispenseMotion™ software, integrated vision and laser height detection, and best-in-class X, Y, and Z-axis repeatability of  $\pm 0.003$  mm / 3  $\mu$ m.

## Features and Benefits

- Contactless linear motor for improved actuation speed, reduced maintenance, and improved durability
- Larger working area of 450 mm x 500 mm
- Easy integration into existing manufacturing operations
- Faster speed for higher product output
- Optional laser for automatic dispensing gap adjustment and post dispensing verification using AOI

*Continued next page*

## PROPlus / PRO Series Automated Dispensing System



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

## PROX Series Automated Dispensing Systems



The PROX Series is powered by a contactless linear motor that improves actuation speed and reduces maintenance needs.



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

# PROX / PROPlus / PRO Series Specifications

| Item / Model                     | SPECIFICATIONS                                                                                                     |                                                                                                                    |                                                                                                                          |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|                                  | PRO4                                                                                                               | PROPlus4                                                                                                           | PROX5                                                                                                                    |
| Part #                           | 7360860                                                                                                            | 7363539                                                                                                            | 7366455                                                                                                                  |
| Part # Europe*                   | 7361353                                                                                                            | 7363653                                                                                                            | 7366456                                                                                                                  |
| 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                                                                                                                  | 3                                                                                                                  | 3                                                                                                                        |
| Maximum Working Area (X / Y / Z) | 350 / 350 / 100 mm (14 / 14 / 4") / 350 / 320 / 100 mm (14 / 13 / 4")                                              | 350 / 350 / 100 mm (14 / 14 / 4") / 350 / 320 / 100 mm (14 / 13 / 4")                                              | 450 / 500 / 100 mm (18 / 20 / 4")                                                                                        |
| Workpiece Payload                | 10.0 kg (22.0 lb)                                                                                                  | 25.0 kg (55.1 lb)                                                                                                  | 15.0 kg (33.6 lb)                                                                                                        |
| Tool Payload                     | 3.5 kg (7.7 lb) / 1.5 kg (3.3 lb)                                                                                  | 6.0 kg (13.2 lb)                                                                                                   | 3.5 kg (7.7 lb)                                                                                                          |
| Weight                           | 57.5 kg (126.8 lb) / 59 kg (130.1 lb)                                                                              | 63.5 kg (140.0 lb) / 65 kg (143.3 lb)                                                                              | 76 kg (167.6 lb)                                                                                                         |
| Dimensions                       | 820 <sub>W</sub> x 690 <sub>H</sub> x 690 <sub>D</sub> mm (32 <sub>W</sub> x 27 <sub>H</sub> x 27 <sub>D</sub> " ) | 820 <sub>W</sub> x 690 <sub>H</sub> x 690 <sub>D</sub> mm (32 <sub>W</sub> x 27 <sub>H</sub> x 27 <sub>D</sub> " ) | 920.0 <sub>W</sub> x 737.0 <sub>H</sub> x 790.0 <sub>D</sub> mm (36 <sub>W</sub> x 29 <sub>H</sub> x 31 <sub>D</sub> " ) |
| Maximum Speed** (X / Y / Z)      | 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                                                                                       | Servomotor                                                                                                         | X / Y axes: Contactless linear motor<br>Z axis: 5-phase micro-stepping motor                                             |
| Memory Capacity                  | PC storage                                                                                                         | PC storage                                                                                                         | PC storage                                                                                                               |
| General Purpose I/O              | 8 inputs / 8 outputs (16 / 16 optional)                                                                            | 8 inputs / 8 outputs (16 / 16 optional)                                                                            | 8 inputs / 8 outputs (16 / 16 optional)                                                                                  |
| Input AC (to power supply)       | 100–240 VAC (±10%), 50/60 Hz, 20 A maximum, 380 W                                                                  | 100–240 VAC (±10%), 50/60 Hz, 20 A maximum, 380 W                                                                  | 100–240 VAC (±10%), 50/60 Hz, 20 A maximum, 450 W                                                                        |
| Repeatability***                 | ±0.004 mm/axis                                                                                                     | ±0.003 mm/axis                                                                                                     | ±0.003 mm/axis                                                                                                           |
| Tip Detection System             | Included                                                                                                           | Included                                                                                                           | Included                                                                                                                 |
| Vision                           | CCD smart camera                                                                                                   | CCD smart camera                                                                                                   | CCD smart camera                                                                                                         |
| DispenseMotion Software          | Included                                                                                                           | Included                                                                                                           | Included                                                                                                                 |
| Laser Height Detection           | Optional                                                                                                           | Optional                                                                                                           | Optional                                                                                                                 |
| Approvals / Warranty             | CE, UKCA, RoHS, WEEE, China RoHS / 1 year, limited                                                                 |                                                                                                                    |                                                                                                                          |

\*Complies with European safety regulations

\*\*Actual travel speed depends on the dispensing path and workpiece / tool payloads.

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

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

# Automated Dispensing Systems

The PROPlus 4-Axis includes the same great features of the PROPlus Series with the addition of a rotating table that reduces vibration, improves repeatability, and creates less wear and tear on the robot than standard 4-axis robots that use a rotating head. The PROPlus 4-Axis also allows users to mount taller, heavier dispensing devices on the robot head for added versatility.

The modular design allows for both 4-axis and 3-axis configurations for added flexibility with a wide range of fluid dispensing applications. It can accommodate dispensing tips as small as 33 ga, ideal for small, intricate medical device and electronic parts.

## Features and Benefits

- Best-in-class X-, Y-, and Z-axis repeatability and speed at  $\pm 0.003$  mm and R-axis repeatability of  $0.005^\circ$
- Modular design for 3- and 4-axis applications
- Rotating table creates less vibration that reduces wear and tear and improves longevity of the robot
- Dual linear guide, advanced servomotor, and ball screw actuation
- Easy integration into existing manufacturing operations

| Item / Model                                   | SPECIFICATIONS                                                                                                                 |  |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--|
|                                                | PROPlus 4-Axis                                                                                                                 |  |
| Part #                                         | 7364961                                                                                                                        |  |
| Part # Europe*                                 | 7366457                                                                                                                        |  |
| Laser B (Optional)                             | 7361240                                                                                                                        |  |
| Laser C (Optional)                             | 7364992                                                                                                                        |  |
| Number of Axes                                 | 4                                                                                                                              |  |
| Maximum Working Area (X / Y / Z)               | 350 / 400 / 100 mm / $\pm 1080^\circ$ (14 / 16 / 4" / $\pm 1080^\circ$ )                                                       |  |
| Workpiece Payload                              | 2.0 kg (4.4 lb)                                                                                                                |  |
| Tool Payload                                   | 6.0 kg (13.2 lb)                                                                                                               |  |
| Weight                                         | 75 kg (165.3 lb)                                                                                                               |  |
| Dimensions                                     | 824.0 <sub>w</sub> x 674.5 <sub>d</sub> x 737.5 <sub>H</sub> mm (32.4 <sub>w</sub> x 26.5 <sub>d</sub> x 29.0 <sub>H</sub> " ) |  |
| Maximum Speed** (XY / Z)                       | 800 / 250 mm/s (31 / 10"/s)                                                                                                    |  |
| Maximum speed** (R***)                         | 1080°/s                                                                                                                        |  |
| Drive System                                   | Closed-loop stepper motor and driver package with absolute sensor                                                              |  |
| Drive system (R***)                            | 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 ( $\pm 10\%$ ), 50/60 Hz, 20 A maximum, 380 W                                                                      |  |
| Input air pressure vacuum (for rotating table) | 0–1 mPa (0–145 psi)                                                                                                            |  |
| Repeatability****                              | $\pm 0.003$ mm/axis                                                                                                            |  |
| Repeatability**** (R***)                       | $\pm 0.005^\circ$                                                                                                              |  |
| 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. \*\*Actual travel speed depends on the dispensing path and workpiece / tool payloads.

\*\*\*R = Rotating table. \*\*\*\*Repeatability results may vary depending on method of measurement.

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

## PROPlus 4-Axis Automated Dispensing Systems



A rotating table reduces wear and tear because it allows the dispensing head to be fixed.



[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<br>(6 / 8 / 2")                  | 250 / 300 / 100 mm<br>(10 / 12 / 4")        | 350 / 400 / 100 mm<br>(14 / 16 / 4")        | 450 / 500 / 150 mm<br>(18 / 20 / 6")        | 570 / 500 / 150 mm<br>(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<br>(19w x 22h x 16d")      | 596w x 644h x 543d mm<br>(23w x 25h x 21d") | 696w x 644h x 638d mm<br>(27w x 25h x 25d") | 796w x 814h x 718d mm<br>(31w x 32h x 28d") | 913w x 812h x 718d mm<br>(36w x 32h x 28d") |
| Maximum Speed**                  | 500 / 250 mm/s<br>(20 / 10"/s)                     | 800 / 320 mm/s<br>(31 / 13"/s)              | 800 / 320 mm/s<br>(31 / 13"/s)              | 800 / 320 mm/s<br>(31 / 13"/s)              | 800 / 320 mm/s<br>(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%), 50/60 Hz, 20 A max., 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. \*\*Actual travel speed depends on the dispensing path and workpiece / tool payloads.

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

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



# 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<br>(8 / 8 / 2")                                                                                       | 300 / 300 / 100 mm<br>(12 / 12 / 4")                                                                                  | 500 / 500 / 150 mm<br>(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                       | 380 <sub>W</sub> x 556.5 <sub>H</sub> x 410 <sub>D</sub> mm<br>(15 <sub>W</sub> x 22 <sub>H</sub> x 16 <sub>D</sub> " ) | 490 <sub>W</sub> x 644 <sub>H</sub> x 519 <sub>D</sub> mm<br>(19 <sub>W</sub> x 25 <sub>H</sub> x 20 <sub>D</sub> " ) | 690 <sub>W</sub> x 814 <sub>H</sub> x 718 <sub>D</sub> mm<br>(27 <sub>W</sub> x 32 <sub>H</sub> x 28 <sub>D</sub> " ) |
| Maximum Speed**                  | 500 / 250 mm/s<br>(20 / 10"/s)                                                                                          | 800 / 320 mm/s<br>(31 / 13"/s)                                                                                        | 500 / 320 mm/s<br>(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%),<br>50/60 Hz, 20 A maximum, 320 W                                                                    | 100–240 VAC (±10%),<br>50/60 Hz, 20 A maximum, 320 W                                                                  | 100–240 VAC (±10%),<br>50/60 Hz, 20 A 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. \*\*Actual travel speed depends on the dispensing path and workpiece / tool payloads.

\*\*\*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)



# 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 / $\pm 999^\circ$<br>(11.8 / 11.8 / 5.9" / $\pm 999^\circ$ )                                       | 400 / 400 / 150 mm / $\pm 999^\circ$<br>(15.7 / 15.7 / 5.9" / $\pm 999^\circ$ )                                       | 620 x 500 x 150 mm / $\pm 999^\circ$<br>(24 / 19.7 / 5.9" / $\pm 999^\circ$ )                                         |
| 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)                                                                                                       | 3.0 kg (6.6 lb)                                                                                                       | 3.0 kg (6.6 lb)                                                                                                       |
| Weight                                | 50.0 kg (110 lb)                                                                                                      | 55.0 kg (121 lb)                                                                                                      | 61.0 kg (135 lb)                                                                                                      |
| Dimensions                            | 645 <sub>w</sub> x 914 <sub>H</sub> x 552 <sub>D</sub> mm<br>(25 <sub>w</sub> x 36 <sub>H</sub> x 22 <sub>D</sub> " ) | 745 <sub>w</sub> x 914 <sub>H</sub> x 652 <sub>D</sub> mm<br>(29 <sub>w</sub> x 36 <sub>H</sub> x 26 <sub>D</sub> " ) | 965 <sub>w</sub> x 914 <sub>H</sub> x 752 <sub>D</sub> mm<br>(38 <sub>w</sub> x 35 <sub>H</sub> x 30 <sub>D</sub> " ) |
| Maximum Speed** (XY / Z)              | 500 / 320 mm/s (20 / 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 ( $\pm 10\%$ ), 50/60 Hz, 20 A maximum, 320 W                                                             |                                                                                                                       |                                                                                                                       |
| 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. \*\*Actual travel speed depends on the dispensing path and workpiece / tool payloads.

\*\*\*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

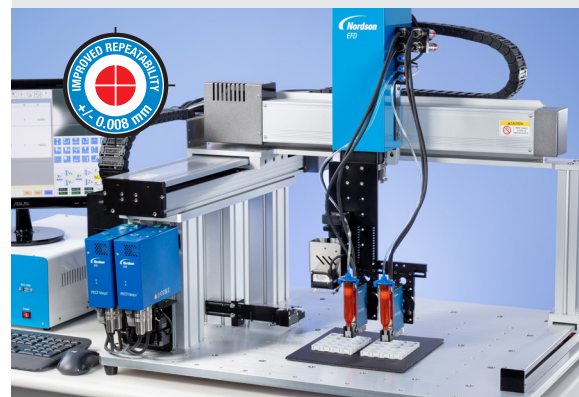
Nordson EFD's vision-guided GV and GVPlus Series automated dispensing gantry systems deliver easy automation for precise fluid applications. Working envelopes range from 400 mm to 800 mm, making them an ideal solution for precise fluid dispensing onto substrates requiring large work envelopes while not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

The GVPlus supports heavier arm tooling and improved positional repeatability at  $\pm 0.008$  mm vs.  $\pm 0.02$  for the GV Series. This allows manufacturers to use heavier tooling and reduce vibration during production — improving quality and throughput.

## Features and Benefits

- Work envelopes as large as 800 mm
- Dimensional positioning accuracy and deposit placement repeatability at  $\pm 0.008$  / 8  $\mu$ m (GVPlus only)
- Heavier tooling capability reduces vibration, improves durability, and simplifies tooling setup (GVPlus only)
- 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

## GVPlus / GV Automated Dispensing Systems



The GVPlus automated dispensing system offers accuracy and deposit placement repeatability of  $\pm 0.008$  mm / 8  $\mu$ m.

| Item / Model                     | SPECIFICATIONS                                                                                                              |                                                                                                                          |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|                                  | G4VPlus                                                                                                                     | G8V                                                                                                                      |
| Part #                           | 7366458                                                                                                                     | 7363648                                                                                                                  |
| Post Height                      | 250 mm (9.8")                                                                                                               | 150 mm (5.9")                                                                                                            |
| Laser B (Optional)               | 7361240                                                                                                                     | —                                                                                                                        |
| Laser C (Optional)               | 7364992                                                                                                                     | —                                                                                                                        |
| Number of Axes                   | ← 3 →                                                                                                                       |                                                                                                                          |
| Maximum Working Area (X / Y / Z) | 400 / 400 / 100 mm<br>(16 / 16 / 4")                                                                                        | 800 / 800 / 100 mm<br>(31 / 31 / 4")                                                                                     |
| Tool Payload                     | 3.0 kg (6.6 lb)                                                                                                             | 8.0 kg (17.6 lb)                                                                                                         |
| Weight                           | 73 kg (160.9 lb.)                                                                                                           | 181.5 kg (400.1 lb)                                                                                                      |
| Dimensions                       | 1007.5 <sub>w</sub> x 760.0 <sub>H</sub> x 710.5 <sub>D</sub> mm<br>(40 <sub>w</sub> x 30 <sub>H</sub> x 28 <sub>D</sub> )" | 1,489 <sub>w</sub> x 534 <sub>H</sub> x 1,160 <sub>D</sub> mm<br>(59 <sub>w</sub> x 21 <sub>H</sub> x 46 <sub>D</sub> )" |
| Maximum Speed* (X / Y / Z)       | 500 / 320 mm/s<br>(20 / 13"/s)                                                                                              | 800 / 320 mm/s<br>(31 / 13"/s)                                                                                           |
| Drive System                     | 5-phase micro-stepping motor                                                                                                | XY axis: Servo motor<br>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 ( $\pm 10\%$ ), 50/60 Hz,<br>20 A maximum, 380 W                                                                | 220 VAC ( $\pm 10\%$ ), 50/60 Hz,<br>10 A maximum, 420 W                                                                 |
| Repeatability**                  | $\pm 0.008$ mm/axis                                                                                                         | $\pm 0.1$ mm/axis                                                                                                        |
| Vision                           | CCD smart camera                                                                                                            | CCD smart camera                                                                                                         |
| DispenseMotion Software          | ← Included →                                                                                                                |                                                                                                                          |
| Tip Detection                    | ← Optional →                                                                                                                |                                                                                                                          |
| Height Detection                 | ← Optional →                                                                                                                |                                                                                                                          |
| Approvals / Warranty             | CE, UKCA, RoHS, WEEE, China RoHS / 1 year, limited                                                                          |                                                                                                                          |

\*Actual travel speed depends on the dispensing path and workpiece / tool payloads.

\*\*Repeatability results may vary depending on the 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.

**7362766 Small Safety Enclosure, Europe**  
Compatible robot models E2, E2V, E3, E3V.

**7362739 Large Safety Enclosure**  
Compatible robot models E4V, E5, E5V, E6V, R3V, R4V, G4VPlus, PRO4, PROPlus4, PROX5, PROPlus 4-Axis.

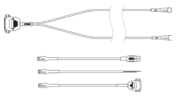
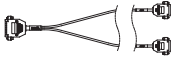
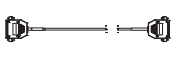
**7362767 Large Safety Enclosure, Europe**  
Compatible robot models E4V, E5, E5V, E6V, R3V, R4V, G4VPlus, PRO4, PROPlus4, PROX5, PROPlus 4-Axis.

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

*— ElectroDynamics Inc.*

# Automated Dispensing System Accessories

| MOUNTING BRACKETS                                                                   |         |                                                                                                                                                                                                |                                       |         |       |    |             |
|-------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------|-------|----|-------------|
| Bracket                                                                             | Part #  | Recommended Use                                                                                                                                                                                | PROX / PROPlus / PRO / PROPlus 4-Axis | EV      | E     | RV | GVPlus / GV |
|    | 7362177 | Liquidyn® P-Jet and P-Dot Series valves                                                                                                                                                        | ✓                                     | ✓       | ✓     | ✓  | ✓           |
|    | 7365000 | Shutoff valve for 797PCP-2K pumps (pumps not included)                                                                                                                                         | ✓                                     | E3V–E6V | E3–E5 | —  | ✓           |
|    | 7365933 | Shutoff valve for Equalizer™                                                                                                                                                                   | ✓                                     | ✓       | ✓     | —  | ✓           |
|    | 7360609 | EV Series pencil camera                                                                                                                                                                        | —                                     | ✓       | —     | —  | —           |
|    | 7364040 | Air and cable management bracket (replaces bracket P/N 7361670)                                                                                                                                | ✓                                     | ✓       | ✓     | ✓  | ✓           |
|   | 7366501 | Backplate bracket (shown) and additional brackets (not shown) for PICO <i>Pulse</i> valves, syringe barrels, 752, 725, 741, 736, 781, 787, and 782 valves                                      | ✓                                     | ✓       | ✓     | ✓  | ✓           |
|  | 7366502 | Backplate bracket (shown) and additional brackets (not shown) for xQR41 / xQR41V valves, 797PCP / 797PCP-2K pumps, 794 / 794-TC valves, 754 valves, and the HPx™ High-Pressure Dispensing Tool | ✓                                     | ✓       | ✓     | ✓  | ✓           |

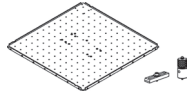
| CABLES                                                                              |         |                                                                                                                  |                                       |    |   |    |             |
|-------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------|---------------------------------------|----|---|----|-------------|
| Cable                                                                               | Part #  | Description                                                                                                      | PROX / PROPlus / PRO / PROPlus 4-Axis | EV | E | RV | GVPlus / 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) | ✓                                     | ✓  | ✓ | ✓  | ✓           |
|  | 7360554 | Dual voltage initiate cable for up to two dispensers / controllers                                               | ✓                                     | ✓  | ✓ | ✓  | ✓           |
|  | 7360558 | Dual-connector cable for one or two PICO <i>Touch</i> ® controllers                                              | ✓                                     | ✓  | ✓ | ✓  | ✓           |
|  | 7366530 | Dual-connector cable for one or two PICO® <i>Nexys</i> ™ controllers                                             | ✓                                     | ✓  | ✓ | ✓  | ✓           |
|  | 7362373 | Single-connector cable for one Liquidyn V200 controller                                                          | ✓                                     | ✓  | ✓ | ✓  | ✓           |

✓ = Compatible

# Automated Dispensing System Accessories

| VISION KITS                                                                       |         |                                                                                                                                                 |                                       |          |   |          |             |
|-----------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|----------|---|----------|-------------|
| Vision Kit                                                                        | Part #  | Description                                                                                                                                     | PROX / PROPlus / PRO / PROPlus 4-Axis | EV       | E | RV       | GVPlus / GV |
|  | 7366296 | Vision kit for CCD camera with lightbox and mounting accessories. Compatible with all EV Series robots.                                         | Included                              | ✓        | — | —        | Included    |
|  | 7360863 | Vision kit for pencil camera (includes camera, PC, monitor, keyboard, mouse, and DispenseMotion software)                                       | —                                     | Included | ✓ | —        | —           |
|  | 7361528 | Vision kit for pencil camera, Europe (includes camera, PC, monitor, and DispenseMotion software) Note: Order keyboard and mouse separately.     | —                                     | 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 | —           |
|  | 7360867 | Lens accessory kit for high-precision CCD cameras (allows different focal lengths and depths of field; compatible with CCD upgrade kit 7366296) | ✓                                     | ✓        | — | —        | ✓           |

| DISPENSE VERIFICATION                                                               |         |                                                              |                                       |    |   |    |             |
|-------------------------------------------------------------------------------------|---------|--------------------------------------------------------------|---------------------------------------|----|---|----|-------------|
| Kit                                                                                 | Part #  | Description                                                  | PROX / PROPlus / PRO / PROPlus 4-Axis | EV | E | RV | GVPlus / GV |
|  | 7365229 | OptiSure™ Automated Optical Inspection (AOI) software add-on | ✓                                     | ✓  | — | ✓  | ✓           |
|  | 7364992 | OptiSure confocal laser kit                                  | ✓                                     | —  | — | —  | ✓           |

| FIXTURE PLATES                                                                      |         |                      |                                       |    |   |    |             |
|-------------------------------------------------------------------------------------|---------|----------------------|---------------------------------------|----|---|----|-------------|
| Fixture Plate                                                                       | Part #  | Description          | PROX / PROPlus / PRO / PROPlus 4-Axis | EV | E | RV | GVPlus / GV |
|  | 7028276 | 200 mm fixture plate | —                                     | ✓  | ✓ | —  | —           |
|                                                                                     | 7028277 | 300 mm fixture plate | —                                     | ✓  | ✓ | —  | —           |
|                                                                                     | 7028278 | 400 mm fixture plate | PROPlus4 / PRO4 optional              | ✓  | ✓ | —  | —           |
|                                                                                     | 7028279 | 500 mm fixture plate | —                                     | ✓  | ✓ | —  | —           |

All plates include four edge levelers and four leveling mounts.

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

✓ = Compatible

# Automated Dispensing System Accessories

| HEIGHT DETECTION KITS                                                             |         |                                                                                                                                                                       |                                       |    |   |    |             |
|-----------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|----|---|----|-------------|
| Kit                                                                               | Part #  | Description                                                                                                                                                           | PROX / PROPlus / PRO / PROPlus 4-Axis | EV | E | RV | GVPlus / 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                                                                                                                                   | —                                     | ✓  | ✓ | —  | ✓           |

| TIP DETECTION / ALIGNMENT KITS                                                      |          |                                                                                                   |                                       |    |   |    |             |
|-------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------|---------------------------------------|----|---|----|-------------|
| Kit                                                                                 | Part #   | Description                                                                                       | PROX / PROPlus / PRO / PROPlus 4-Axis | EV | E | RV | GVPlus / GV |
|    | 7366467  | Advanced 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)          | —                                     | —  | — | —  | G4VPlus     |
|                                                                                     | 7363976  | Tip detector for touch sensing of the tip-to-workpiece gap (tip must contact the sensor)          | —                                     | —  | — | —  | G8V         |
|  | 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          | —                                     | ✓  | ✓ | ✓  | —           |

\*7363940 is only compatible with E3V–E6V, E3, E5, and RV.

| OTHER ACCESSORIES                                                                   |         |                                                      |                                       |    |   |    |             |
|-------------------------------------------------------------------------------------|---------|------------------------------------------------------|---------------------------------------|----|---|----|-------------|
| Accessory                                                                           | Part #  | Description                                          | PROX / PROPlus / PRO / PROPlus 4-Axis | EV | E | RV | GVPlus / 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       | ✓                                     | ✓  | ✓ | ✓  | ✓           |

✓ = Compatible



# Solder Solutions

## Paste / Flux / Thermal Compound

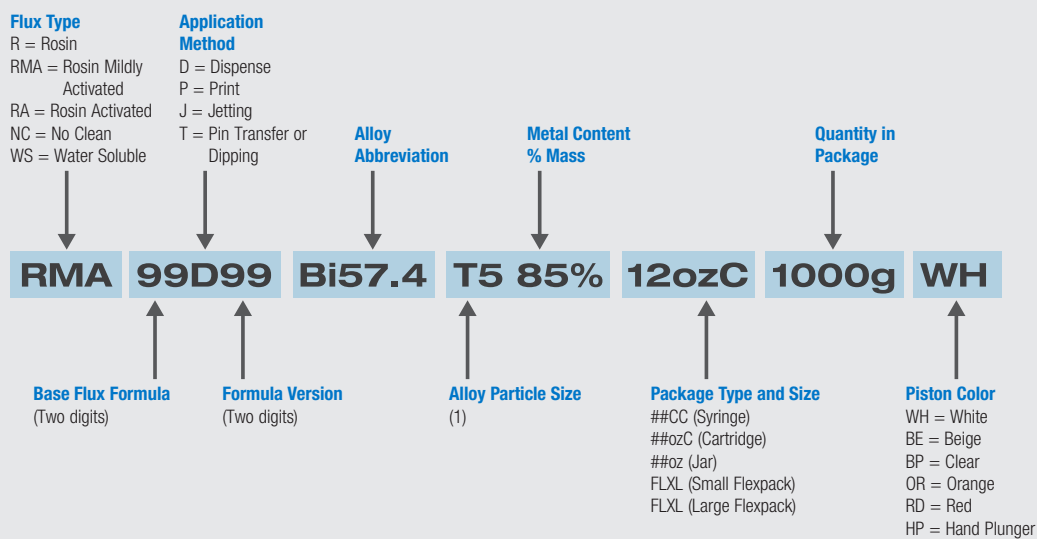


Nordson EFD offers proven, reliable solder paste solutions, including:

- 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.



## 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

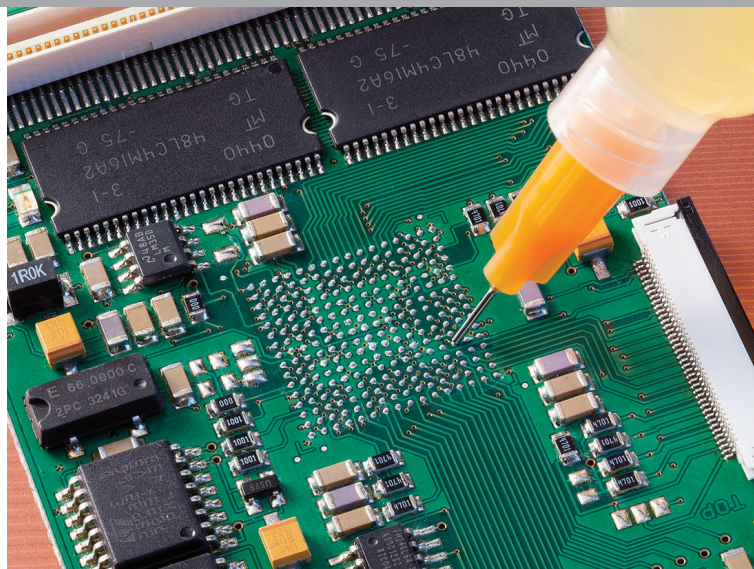
### TOP SOLDERPLUS SOLUTIONS

| 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



# 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 $\mu$          | 0.65 / 0.025                | 0.65 / 0.025                     | 0.80 / 0.030              | 21                        | 22                |
| III         | 25–45 $\mu$          | 0.50 / 0.020                | 0.50 / 0.020                     | 0.50 / 0.020              | 22                        | 25                |
| IV          | 20–38 $\mu$          | 0.30 / 0.012                | 0.30 / 0.012                     | 0.30 / 0.012              | 25                        | 27                |
| V           | 15–25 $\mu$          | 0.20 / 0.008                | 0.15 / 0.006                     | 0.25 / 0.010              | 27                        | —                 |
| VI          | 5–15 $\mu$           | 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

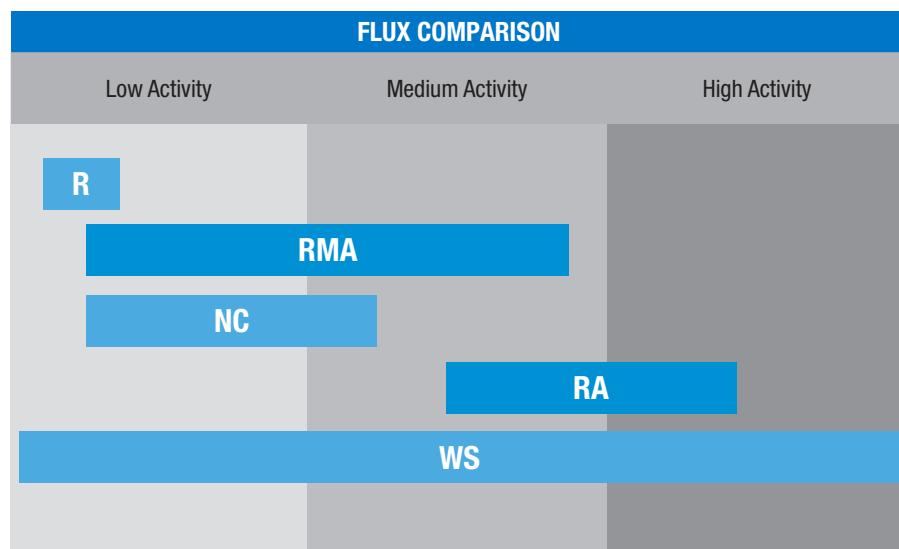
**No Clean (NC)** — NC flux consists of rosin, solvent, and a small amount of activator. NC flux typically has low-to-moderate activity and is suited to easily solderable surfaces. IPC classification is usually ROL0 or ROL1. NC residue is clear, hard, non-corrosive, non-conductive, and designed to be 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, and 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)

| Formula                             | SPECIFICATIONS          |                      |                      |                      |                    |                       |
|-------------------------------------|-------------------------|----------------------|----------------------|----------------------|--------------------|-----------------------|
|                                     | 52022                   | 52054                | 52055*               | 52050                | 52160              | 53053                 |
| Specific Gravity at 25 °C           | 2.7                     | 3.0                  | 2.8                  | 2.6                  | 2.6                | 2.8                   |
| Bleed: 24 Hrs., % Weight            | 0.1                     | 0.0                  | 0.0                  | 0.01                 | 0.3                | 0.3                   |
| Evaporation: 150C, 24 Hrs., %Weight | 0.15                    | <2.0                 | 1.0                  | 0.6                  | 0.5                | 0.5                   |
| Thermal Conductivity: W/m-K         | 0.92                    | 1.3                  | 1.3                  | 3.8                  | 2                  | 3.5                   |
| Dielectric Strength: V/mil          | 305                     | 265                  | 265                  | 351                  | n/a                | 318                   |
| Dielectric Constant: 25 °C, 1000 Hz | 4.5                     | 5.02                 | 5.02                 | 4.92                 | n/a                | 5                     |
| Dissipation Factor: 25 °C, 1000 Hz  | 0.0029                  | 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> | 1.0x10 <sup>13</sup> | over current       | 2.15x10 <sup>15</sup> |
| Operating Temperature: °C           | -40 to 200              | -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               | 4.5 to 6.5           | 1 to 3               | 3 to 8             | 7 to 9                |
| Minimum Bond Line: mm               | 0.0381                  | 0.0127               | 0.0127               | 0.0508               | 0.0254             | 0.1270                |
| Viscosity: 25 °C kCps               | 460                     | 470                  | 620                  | 350                  | 230                | 1000                  |
| Viscosity: 50 °C kCps               | 400                     | 410                  | 550                  | 60                   | 170                | 400                   |
| Appearance                          | Smooth, off-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                |

\*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

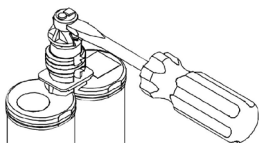
- Features a patented “pry-off” closure
- Molded in one operation
- Cost-effective alternative to open end cartridges

## 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

### 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

# 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+ 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                                       | —              | —             | 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          |                |               |                                                        |     |     |     |      |
| 7704044 (PE)                                  | —              | —             | Solid Multi-seal Piston                                | ✓   |     |     |      |

\*\*Max volume on 400mL Open-End Nylon is 400mL  
+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

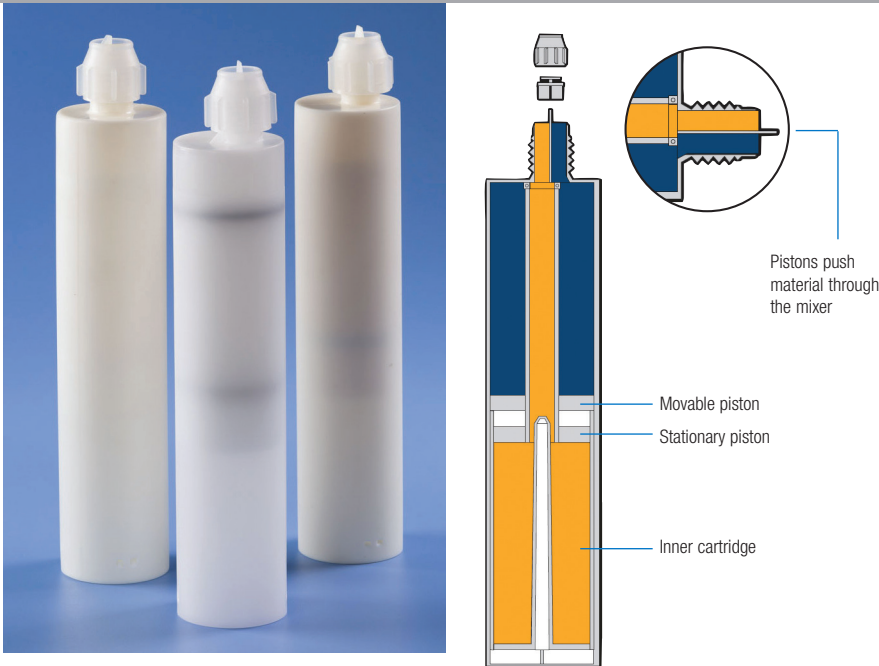
## Recommended Dispensers:

Manual Dispense Gun (160–1500mL)

Pneumatic Dispense Gun (400–1500mL)



# 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 next generation, u-TAH Gen3, reduces the back pressure needed to fill and dispense, making your work easier. Its precisely fitting internal components ensure a tighter seal, delivering a more reliable, consistent bead of structural adhesives, sealants, and more. Plus, a visual indicator confirms the internal piston is fully engaged — giving you confidence with every use.

| u-TAH UNIVERSAL CARTRIDGE SYSTEMS |         |                                 |                |          |
|-----------------------------------|---------|---------------------------------|----------------|----------|
| Ratio                             | Part #  | Description                     | Maximum Volume | Material |
| 1:1                               | 7703997 | 1:1 u-TAH Cartridge System      | 250mL          | PP       |
| 1:1                               | 7363881 | 1:1 u-TAH Gen3 Cartridge System | 250mL          | PP       |
| 2:1                               | 7702991 | 2:1 u-TAH Cartridge System      | 180mL          | PP       |
| 2:1                               | 7365126 | 2:1 u-TAH Gen3 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

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

## 380mL Coaxial Cartridge Systems

### Recommended Mixers:

Series 480, 280, 160, 160AA, 161N, and 260

### Recommended Pistons:

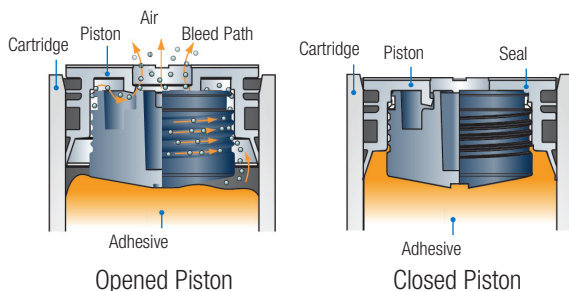
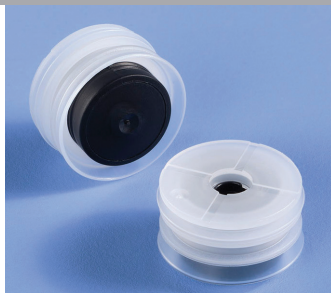
Coaxial cartridges come with pre-installed solid multi-seal pistons. Option to purchase without pistons pre-installed.

### Recommended Dispensers:

Manual Dispense Gun (380mL)

See “2K Accessories” for flow restrictors.

## 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)

# 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   |
| 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 |
| 7661247                                                                                                    | —             | 30P43. 30mL Plunger 1:1                                                                                                                           | ✓   | —   | HDPE     | Black   |
| 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 |         |                     |         |              |
|----------------------------------|---------|---------------------|---------|--------------|
| 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).

## 50mL Manual Cartridge Dispensers

## 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) |
| <b>Manual Guns</b>    |           |                                               |           |                |
| 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      |
| <b>Pneumatic Guns</b> |           |                                               |           |                |
| 7029678               | 1:1 / 2:1 | Pneumatic Dispenser                           | 400mL     | 7.6 / 3.4      |
| 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

# 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 mixer unless your application requires elements with a small diameter or long reach.

## Mixer Selection

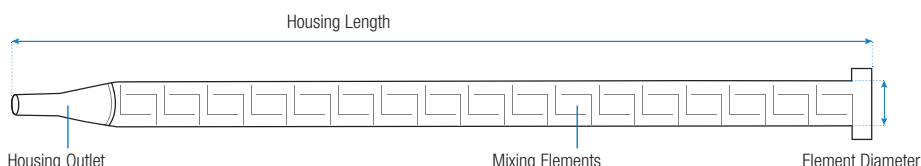
Choose the higher number of elements if one of two things occurs. Ask an EFD application specialist for recommendations.

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               |

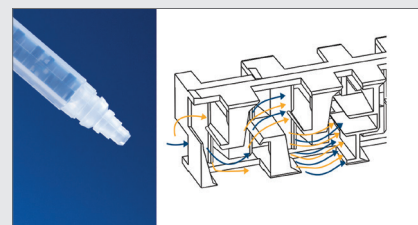
| MATERIAL VISCOSITY                                                 |                           |
|--------------------------------------------------------------------|---------------------------|
| Viscosity                                                          | Mixer Element Diameter    |
| Thin < 5,000 cps (Thinner than syrup)                              | 0.093–0.25" (2.4–6.4 mm)  |
| Medium 5,000–50,000 cps<br>(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

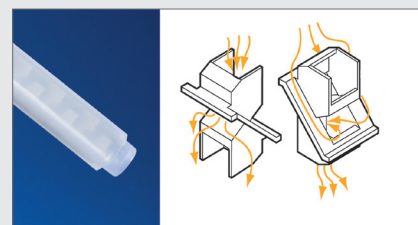


## Disposable Static Mixers

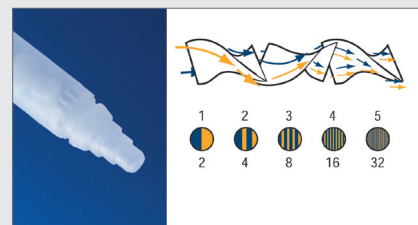
### How Mixers Work — Element Geometry



OptiMixer (Square)



Turbo Mixer (Square)



Spiral Mixer

## Disposable Static Mixers Quick Reference

| DISPOSABLE STATIC MIXERS QUICK REFERENCE |                      |                                                 |                   |
|------------------------------------------|----------------------|-------------------------------------------------|-------------------|
| Page                                     | Mixer                | Cartridge Volume & Type                         | Element / Housing |
| 132                                      | Square OptiMixer 480 | u-TAH (all), Coax 380mL, Side x Side 200–1500mL | Acetal / PP       |
| 132                                      | Turbo 295            | Side x Side 50mL                                | PP / PP           |
| 132                                      | Turbo 280            | u-TAH (all), Coax 380mL, Side x Side 200–1500mL | PP / PP           |
| 135                                      | Spiral 160           | u-TAH (all), Coax 380mL, Side x Side 200–1500mL | Acetal / PP       |
| 135                                      | Spiral 160AA         | u-TAH (all), Coax 380mL, Side x Side 200–1500mL | Acetal / PP       |
| 136                                      | Spiral 161N          | u-TAH (all), Coax 380mL, Side x Side 200–1500mL | Acetal / PP       |
| 136                                      | Spiral 260           | u-TAH (all), Coax 380mL, Side x Side 200–1500mL | PP / PP           |
| 133                                      | 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 a 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 |
|----------------------------------------------|-------------------|------------------------|---------------|----------------|----------------------|-------------------|
| <b>Element Diameter 0.093 / 2.36 (in/mm)</b> |                   |                        |               |                |                      |                   |
| 7701408                                      | 12                | 1.5 / 3.8              | Bayonet       | Slip Luer      | 0.10                 | Acetal / PP       |
| <b>Element Diameter 0.125 / 3.18 (in/mm)</b> |                   |                        |               |                |                      |                   |
| 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       |
| <b>Element Diameter 0.187 / 4.75 (in/mm)</b> |                   |                        |               |                |                      |                   |
| 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       |
| <b>Element Diameter 0.213 / 5.40 (in/mm)</b> |                   |                        |               |                |                      |                   |
| 7701449                                      | 17                | 4.4 / 11.2             | Bayonet       | Stepped        | 1.90                 | Acetal / PP       |
| 7701453                                      | 21                | 5.3 / 13.5             | Bayonet       | Stepped        | 2.40                 | Acetal / PP       |
| <b>Element Diameter 0.250 / 6.35 (in/mm)</b> |                   |                        |               |                |                      |                   |
| 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



Full Bore   Stepped   Luer Lok   Slip Luer   H-Tapered   Luer Lok Adapter

# 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 "400 / 450 Autovalue Accessories" for details.

| Part #                                       | # Mixing Elements | Housing Length (in/cm) | Housing Inlet | Housing Outlet | Outlet Tip Orifice (in/mm) | Element / Housing |
|----------------------------------------------|-------------------|------------------------|---------------|----------------|----------------------------|-------------------|
| <b>Element Diameter 0.189 / 4.80 (in/mm)</b> |                   |                        |               |                |                            |                   |
| 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       |
| <b>Element Diameter 0.248 / 6.30 (in/mm)</b> |                   |                        |               |                |                            |                   |
| 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       |
| 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       |
| 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       |
| <b>Element Diameter 0.314 / 8.00 (in/mm)</b> |                   |                        |               |                |                            |                   |
| 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       |
| <b>Element Diameter 0.366 / 9.30 (in/mm)</b> |                   |                        |               |                |                            |                   |
| 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       |
| 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       |

\*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       |

## SERIES 163A PRO TIP 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

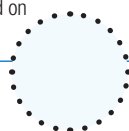
Nordson EFD's Series 160AA Quick Spray is a low-pressure air-assisted spray system for two-component coatings. This disposable static mixer is designed for use with conventional meter / mix equipment or with Nordson EFD's two-component cartridge system. The reactive coating is mixed within the disposable 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 0.189-0366" ID; or #7702598 for 0.5" ID

## 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).

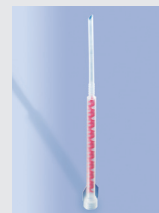
| Part #                                | # Mixing Elements | Housing Length (in/cm) | Housing Inlet | Housing Outlet | Retained Volume (mL) | Element / Housing |
|---------------------------------------|-------------------|------------------------|---------------|----------------|----------------------|-------------------|
| 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           |
| Element Diameter 0.502 / 12.8 (in/mm) |                   |                        |               |                |                      |                   |
| 7701782                               | 18                | 9.6 / 24.4             | Integral Nut  | Stepped        | 19                   | 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+ | Element / Housing |
|-----------------------------------------------|-------------------|---------------------|------------------------|-----------------|-------------------|
| <b>Element Diameter 0.370 / 9.40 (in/mm)</b>  |                   |                     |                        |                 |                   |
| 7700715                                       | 30                | 1/4"                | 13.50 / 34.29          | 460 / 32        | Acetal* / Nylon** |
| <b>Element Diameter 0.497 / 12.62 (in/mm)</b> |                   |                     |                        |                 |                   |
| 7700738                                       | 18                | 3/8"                | 11.10 / 28.19          | 350 / 24        | Acetal* / Nylon** |
| <b>Element Diameter 0.784 / 19.91 (in/mm)</b> |                   |                     |                        |                 |                   |
| 7700773                                       | 24                | 3/4"                | 20.40 / 51.82          | 240 / 17        | Acetal* / Nylon** |
| 7700776                                       | 32                | 3/4"                | 25.60 / 65.02          | 240 / 17        | Acetal* / Nylon** |

+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 |
|---------|-------------------|--------------------------|------------------------|---------|
| 7700166 | 7                 | 0.212 / 5.38             | 1.48 / 3.76            | 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                          |
|-----------------------------------------------|-------------------|---------------------|------------------------|-----------------|--------------------------------------------|
| <b>Element Diameter 0.267 / 6.78 (in/mm)</b>  |                   |                     |                        |                 |                                            |
| 7700364                                       | 12                | 1/8"                | 5.38 / 13.67           | 8750 / 600      | 316 stainless steel* / 304 stainless steel |
| <b>Element Diameter 0.363 / 9.22 (in/mm)</b>  |                   |                     |                        |                 |                                            |
| 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 |
| <b>Element Diameter 0.494 / 12.55 (in/mm)</b> |                   |                     |                        |                 |                                            |
| 7700370                                       | 12                | 3/8"                | 9.50 / 24.13           | 7250 / 500      | 316 stainless steel* / 304 stainless steel |
| <b>Element Diameter 0.623 / 15.83 (in/mm)</b> |                   |                     |                        |                 |                                            |
| 7700373                                       | 12                | 1/2"                | 11.00 / 27.94          | 7250 / 500      | 316 stainless steel* / 304 stainless steel |
| <b>Element Diameter 0.779 / 19.79 (in/mm)</b> |                   |                     |                        |                 |                                            |
| 7700377                                       | 12                | 3/4"                | 14.75 / 37.47          | 6000 / 415      | 316 stainless steel* / 304 stainless steel |
| <b>Element Diameter 1.032 / 26.21 (in/mm)</b> |                   |                     |                        |                 |                                            |
| 7700384                                       | 12                | 1"                  | 18.50 / 46.99          | 4500 / 310      | 316 stainless steel* / 304 stainless steel |
| <b>Element Diameter 1.580 / 40.13 (in/mm)</b> |                   |                     |                        |                 |                                            |
| 7700391                                       | 6                 | 1-1/2"              | 14.00 / 35.56          | 3000 / 207      | 316 stainless steel* / 304 stainless steel |
| <b>Element Diameter 2.035 / 51.69 (in/mm)</b> |                   |                     |                        |                 |                                            |
| 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.

## 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 |
|----------------------------------------------|-------------------|-----------------|------------------------|-------------------|
| <b>Element Diameter 0.50 / 12.70 (in/mm)</b> |                   |                 |                        |                   |
| 7701023                                      | 24                | 15              | 13.2 / 33.53           | Acetal / PP       |
| <b>Element Diameter 0.64 / 16.23 (in/mm)</b> |                   |                 |                        |                   |
| 7700679                                      | 10                | 30              | 40.0 / 101.60          | Acetal / Nylon    |
| <b>Element Diameter 0.79 / 20.07 (in/mm)</b> |                   |                 |                        |                   |
| 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    |



## For use with:

Meter Mix Valves



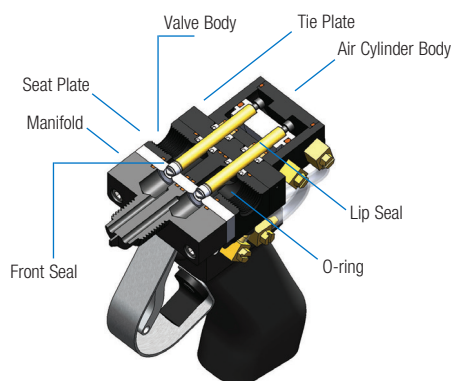


# Meter Mix Valves

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 “400 / 450 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        |

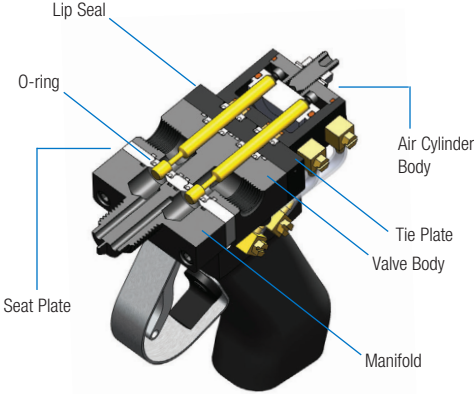
### Manifold

|                             |                                                                              |
|-----------------------------|------------------------------------------------------------------------------|
| 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 size options: | 7/8"-14 (for standard bell mixers)<br>1 5/16"-12 (for oversized bell mixers) |

### Valve System

|                               |                                                                                                     |
|-------------------------------|-----------------------------------------------------------------------------------------------------|
| Weight:                       | Aluminum valve and manifold: 0.7 kg (1.6 lb)<br>Stainless steel valve and manifold: 1.1 kg (2.5 lb) |
| Operating parameters:         | Min. operating pressure: 5.5 bar (80 psi)<br>Max. fluid pressure: 240 bar (3500 psi)                |
| Electric handle mount switch: | 24V                                                                                                 |

# Meter Mix Valves



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 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 “400 / 450 Autovalve Accessories” for details.

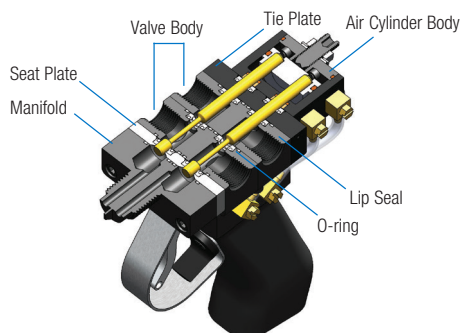
### Recommended Mixer:

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 "400 / 450 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: 0.9 kg (2.0 lb)<br>Stainless steel valve and manifold: 1.5 kg (3.4 lb) |
| Operating parameters:         | Min. operating pressure: 5.5 bar (80 psi)<br>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 "400 / 450 Autovalve Accessories" for details.

#### Recommended Mixer:

Series 160 Mixer

## Specifications

|         |                                                                                                     |
|---------|-----------------------------------------------------------------------------------------------------|
| Weight: | Aluminum valve and manifold: 1.6 lb (0.7 kg)<br>Stainless steel valve and manifold: 2.5 lb (1.1 kg) |
|---------|-----------------------------------------------------------------------------------------------------|

|                  |                    |
|------------------|--------------------|
| Pressure Rating: | 240 bar (3500 psi) |
|------------------|--------------------|

# 400 / 450 Autovalve Accessories

## CARBON STEEL PIPE ADAPTERS

| Part                                                                              | Part #  | Description                              |
|-----------------------------------------------------------------------------------|---------|------------------------------------------|
|  | 7702420 | 90° Elbow w/3/8" FNPS                    |
|                                                                                   | 7702425 | Straight Adapter w/3/8" FNPS (not shown) |

## SWIVEL CHECK VALVE ADAPTERS

| Part                                                                              | Part #  | Description       |
|-----------------------------------------------------------------------------------|---------|-------------------|
|  | 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 |

## 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                                                            |
|-----------------------------------------------------------------------------------|---------|----------|--------|------------------------------------------------------------------------|
| <b>O-rings</b>                                                                    |         |          |        |                                                                        |
|  | 7702275 | PTFE     | Orange | Recommended with all chemicals                                         |
|                                                                                   | 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       |
|-----------------------------------------------------------------------------------|---------|--------------|-------------|
|  | 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" |
|                                                                                   | 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)               |
|                                                                                   | 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 10 bar (150 psi), 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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## Easy Part Number Search

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**Find Part Numbers:** [www.nordsonefd.com/Digital-Catalog](http://www.nordsonefd.com/Digital-Catalog)



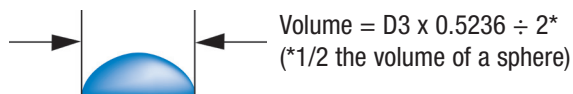
## Machine Builder Guide & CAD Models

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



**Volume of Dots**

| dot | mm  | inches | V cc    |
|-----|-----|--------|---------|
| .   | 0.5 | 0.02   | 0.00003 |
| .   | 0.8 | 0.03   | 0.0001  |
| .   | 1.0 | 0.04   | 0.0003  |
| .   | 1.3 | 0.05   | 0.0005  |
| .   | 1.8 | 0.07   | 0.001   |
| .   | 2.3 | 0.09   | 0.003   |
| .   | 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   |

**Volume of Dots**

| dot                                                                                | mm   | inches | V cc  |
|------------------------------------------------------------------------------------|------|--------|-------|
|   | 7.6  | 0.30   | 0.116 |
|   | 8.9  | 0.35   | 0.184 |
|   | 10.2 | 0.40   | 0.275 |
|   | 11.4 | 0.45   | 0.391 |
|   | 12.7 | 0.50   | 0.536 |
|  | 19.1 | 0.75   | 1.810 |

## Bead Volumes

**Volume of Beads**

|                                                                                     | Bead diameter |        | Volume per linear inch |       |
|-------------------------------------------------------------------------------------|---------------|--------|------------------------|-------|
|                                                                                     | mm            | inches | cubic inch             | cc    |
|  | 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 cubic centimeters

1 microliter = 1000 nanoliters

1 nanoliter = 0.000001 cubic centimeters

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 grams

1 ounce = 28.35 grams

### Length

1 micron = 0.0000394 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/cm<sup>2</sup>

1 psi = 6894.8 Pa

1 psi = 27.680 inH<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<br>(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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