

Precision Dispensing Systems

Nordson 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.



Performus™ X General Purpose Dispenser

Features

- Exceptional process control
- Teach function
- Timed or steady operation
- Digital display
- Consistent dots and fills
- Vacuum control keeps thin fluids from dripping



Ultimus™ I-II Benchtop Dispensers

Features

- All-digital, multi-function display
- 16 memory settings
- 4-decimal time setting
- Operator security lockout
- High-speed solenoid for highly accurate deposits
- Universal power supply



UltimusPlus™ I-II Touchscreen Dispenser

Features

- Industry-leading intuitive touch-screen interface, in multiple languages
- Electronic pressure regulation with full operator lockout
- Boost productivity with optional barcode scanner
- Ethernet control with NX protocol for communication between PLC and dispenser



Ultimus™ V High Precision Dispenser

Features

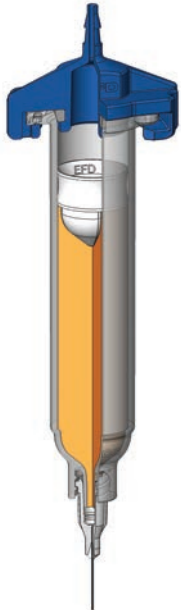
- Fully electronic control of dispense time, air pressure, and vacuum to ensure exceptionally high accuracy, repeatability, and shot consistency
- Programmable memory that automatically adjusts dispensing parameters for viscosity changes
- Interactive PC software and remote communications with PC / PLC via RS232 protocol
- Selectable operator lockout and alarm settings

Optimum Dispensing Components

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.

Syringe Barrels

Nordson 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 subject to stringent quality control inspections throughout the entire manufacturing process.



Features

- Precision fit between syringe and piston ensures consistent fluid deposits
- Double-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

Optimum® syringe barrels are available in general-purpose clear, light-blocking amber, and light-proof black configurations in 3, 5, 10, 30, 55, and 70cc capacities.

Unity™ HiTemp™ syringe barrels feature proprietary materials that maintain integrity for hot melt adhesive dispensing at high temperatures up to 180° C (356° F) for up to eight hours.

Cartridge Systems

EFD cartridge systems are designed for applications that require a reservoir larger than a 70cc syringe barrel. They are available in 2.5, 6, 12, 20 and 32 oz capacities.

Features

- 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

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.

Optimum pistons are precision molded from high density polyethylene. 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.



Optimum Precision Dispensing Tips

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



Features

- 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

Ceramic MicroDot tips compatible with fine particle-filled materials and can produce precise micro-deposits as small as 100 µm.

Precision passivated stainless steel tips handle a wide range of fluids and applications.

Tapered SmoothFlow™ 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.

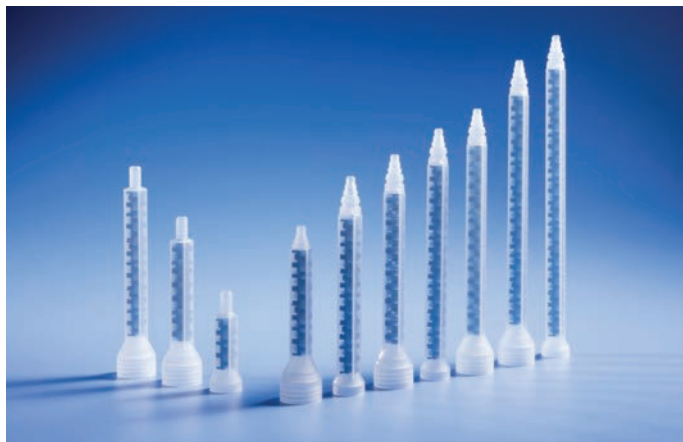
Angled stainless steel tips are available with 45° and 90° bends.

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.

Two-Component (2K) Dispensing Systems

Nordson EFD's 2K dispensing systems accurately mix and dispense two-part adhesives and sealants while eliminating entrapped air and providing superior process control.



2K Mixers

EFD's innovative square OptiMixer™ static mixers provide superior mixing.

Features

- Patented design delivers thorough mixing
- Improved mixing in shorter length
- 30% less retained volume
- Superior adhesive bond strength
- Spiral™ and Turbo® static mixers also available



2K Cartridges

u-TAH® Universal and Side x Side cartridges are easy to fill and provide durable, on-ratio dispensing. Available in multiple ratio sizes from 50mL to 1500mL.

Features

- Eliminates mess and waste
- Reduces exposure to hazardous resins
- Ensures accurate proportioning and mixing
- Choice of open-end or closed-end outlets

Two-Component (2K) Dispensing Systems

Nordson EFD's 2K dispensing systems accurately mix and dispense two-part adhesives and sealants while eliminating entrapped air and providing superior process control.



2K Dispense Guns

EFD cordless, pneumatic, and manual 2K dispense guns make applications faster and easier. Use with all 2K cartridges.

Features

- Manual: Portable dispensing with a 26:1 thrust ratio
- Pneumatic: Uses air pressure up to 120 psi (8.2 bar)



Meter Mix Valves

Designed to bring reactive adhesives into static spiral mixers. Available models: pneumatic and manual.

Features

- Eliminate solvent flushing
- Less adhesive waste
- Cleans up easily for increased productivity

Nordson EFD Solder Solutions

Solder is ISO 9001:2015 certified and offers a comprehensive line of quality printing and dispensing solder pastes.



SolderPlus

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.

- Available in no clean, RMA, RA, and water-soluble formulations
- Clog-free, top-to-bottom dispensing of the entire barrel

SolderPlus 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.

Thermal Compound

Our synthetic-based, silicone-free thermal interface materials resist degradation caused by thermal cycling, which makes them suitable for use in a wide range of electronic and electromechanical applications.

ALLOY CHART

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

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	250	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)
II	45-75 µ	0.65 / 0.025	0.65 / 0.025	0.80 / 0.030
III	25-45 µ	0.50 / 0.020	0.50 / 0.020	0.50 / 0.020
IV	20-38 µ	0.30 / 0.012	0.30 / 0.012	0.30 / 0.012
V	15-25 µ	0.20 / 0.008	0.15 / 0.006	0.25 / 0.010
VI	5-15 µ	0.10 / 0.004	0.05 / 0.002	0.15 / 0.006

Dispense Valves

Piston Valve

Consistently dispense a wide range of medium to thick fluids, including greases and silicones.



725D Series

Features

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

High Flow Valve

Dispenses fluids at rates up to 450 ml/sec. Fill bottles, vials, and foil packs. Also for dispensing braze pastes.



725HF Series

Features

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

High Pressure Valve

Applies uniform amounts of thick materials like greases and silicones at pressures up to 172 bar.



736HPA-NV Series

Features

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

Diaphragm Valve

General-purpose valve; ideal for dispensing controlled amounts of most low- to medium-viscosity fluids.



752V Series

Features

- Compact size and weight
- Adjustable fluid flow control
- Positive shutoff, no seals
- Low-maintenance design
- Aseptic 754 / Mini 702 available

Dispense Valves

Spray Valve

Apply consistent coatings of low- to medium-viscosity fluids exactly where needed.



781S Series

Features

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

Mini Spray Valve

Exceptionally consistent, uniform spray patterns as narrow as 1 mm wide.



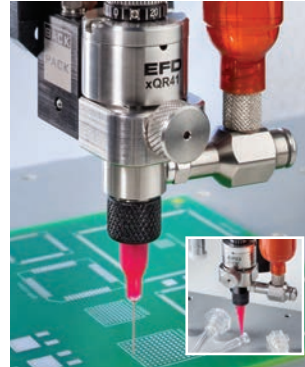
781Mini™ Series

Features

- 60% smaller form factor
- Precision spray control
- No overspray or mist
- Adjustable nozzle air
- Quick Release clasp reduces downtime

Mini Needle Valve

Applies consistent micro-deposits as small as 150 μm (0.15 mm) in diameter.



xQR41 Series

Features

- 60% smaller form factor
- Exchangeable, modular design
- Zero dead fluid volume
- PEEK wetted parts

Backpack™ Valve Actuator

Maintains constant pressure at the actuating air inlet, for faster response time without the risk of process variations.



For xQR41, 741 & 752 Series

Features

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

ValveMate Controllers

Automated dispensing stations run at maximum speed and efficiency when Nordson EFD dispense valves are operated with ValveMate™ valve controllers. Our controllers provide a fast, convenient way to adjust valve open time in increments as small as 0.001 seconds.



ValveMate 8000

For up to 4 valves Series 702, 725, 736, 741, 752, 754, and xQR41 / xQR41V



ValveMate 8040

For up to 2 valves Series 781S, 787MS, and 781Mini



ValveMate 7194

For auger valve Series 794



ValveMate 7100

For single valve Series 702, 725, 736, 741, 752, 754, and xQR41 / xQR41V

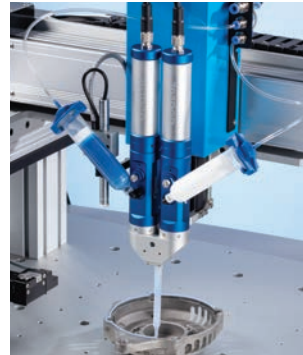


ValveMate 7140

For single valve Series 781S, 787MS, and 781Mini

Volumetric Systems

Get the right volume of fluid, every time, for industry-leading process control with progressive cavity pumps from Nordson EFD.



797PCP Series Progressive Cavity Pump

EFD's 797PCP Series pump dispenses an exact, repeatable volume of fluid as small as 0.01 mL per revolution. Its continuous seal prevents shear, pulsation, and squeezing of fluid. This makes it ideal for dispensing abrasive pastes, filled materials, and UV-cure adhesives.

Features

- Highly precise fluid volume accuracy and repeatability at $\pm 1\%$
- Continuous volumetric dispensing independent of viscosity variation
- Modular design with easy disassembly
- ValveMate 7197PCP controllers allow for precise adjustments of volumetric dispensing parameters
- Improve operational efficiency by programming 797PCP pumps directly from a central PLC via the 7197PCP-DIN-NX controller

797PCP-2K Series Progressive Cavity Pump

Our 797PCP-2K Series pumps provide highly accurate meter mix dispensing of two-part assembly fluids for extremely reliable process control. Precisely metering accurate ratios of part A and part B materials through EFD static mixers improves mix quality and bond strength.

Features

- Perfectly sealed metering chambers provide market-leading volumetric dispensing
- Compatibility with a wide range of EFD static mixers simplifies implementation
- Modular design for multiple mix ratios
- ValveMate 7197PCP-2K controllers provide intuitive adjustment of meter mix dispensing parameters
- Improve operational efficiency by programming 797PCP-2K pumps directly from a central PLC via the 7197PCP-DIN-NX controller

Jet Dispensing Systems

Non-contact jet dispensing systems combine high production speed with exceptional deposit accuracy and process control.



PICO Pulse® Jet Valves

Exchangeable, modular piezoelectric jet valve technology dispenses with industry-leading accuracy and speed to apply very precise, repeatable micro-deposits at up to 1000Hz continuous.

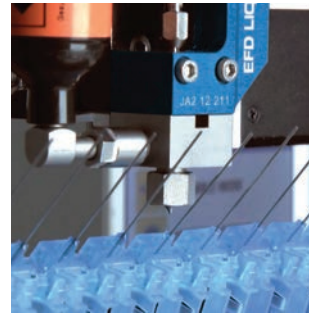
Features

- Consistent shots as small as 0.5 nL
- Ideal for dispensing into tight, hard-to-access, or uneven substrates
- Eliminate Z-axis movement for significantly faster production speeds
- PICO® Touch™ controller allows precise adjustment of dispensing parameters

PICO Pulse® XP Jet Valves

Features

- Self-adjusts and maintains its micron-level stroke setting for long periods of time
- Improves valve-to-valve dispensing repeatability and repeatability after maintenance
- Maintains dispensing repeatability regardless of environmental conditions



Liquidyn Jet Valves

EFD's Liquidyn® pneumatic jet valves deliver precise, consistent non-contact dispensing of low- to high-viscosity fluids with micro-deposits starting at 3 nL.

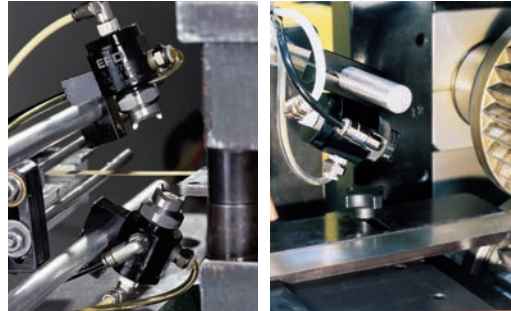
Features

- Micro-deposit dispensing at frequencies up to 280Hz
- Separate wetted parts allow for simplified service and maintenance
- Modular design makes it easy to customize for different applications
- V200 controller provides greater control over dispensing outcomes



MicroCoat® Lubrication System

This unique lubrication system uses Low Volume Low Pressure (LVLP) technology to apply oil as a fine, consistent film that provides complete coverage without overspray or mist.



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.

Features

- Even, uniform coverage-top and bottom
- On-the-fly adjustment of oil coating
- Expandable, modular system for wide stock
- Flexible oil feed from tanks, pumps, or central system
- Single or multiple oil use
- Simple, reliable, and low-maintenance operation
- Easy “plug and play” setup



Automated Dispensing Systems

Nordson EFD's automated dispensing systems offer reliable operation and excellent repeatability for the precise application of the adhesives, lubricants, and other fluids used in many manufacturing processes.

PRO / PROPlus Series

Includes specialized DispenseMotion™ software, closed-loop encoding, and fully integrated CCD camera and height sensing laser to deliver best-in-class dispensing performance. PROPlus provides best-in-class repeatability at ± 0.003 mm.

EV Series

With DispenseMotion software, the EV Series is easy to set up and program, thanks to its simple vision pencil camera that provides a helpful on-screen preview of the dispensing path.

E Series

With a simplified interface controlled through a Teach Pendant, the E Series is an easy way to introduce automation to your production line.

RV Series

Includes DispenseMotion software and fully integrated CCD camera for best-in-class dispensing at any angle on the 360° rotational plane.

R Series

Fourth axis allows 360° rotation for repeatable ID and OD dispensing with specialized Teach Pendant software.

GV Series

Complete gantry system with vision provides unlimited workpiece payload for full range of dispensing applications.



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

OptiSure

Automated optical inspection (AOI) software verifies fluid deposit placement and accuracy. 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. Available on all vision-guided robots.



Verify deposit height measurements with ease with the OptiSure confocal laser.

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



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



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

Request Lab Test: www.nordsonefd.com/ApplicationTest

Follow our Blog: www.nordsonefd.com/Blog



Easy Part Number Search

It's easy to search our digital catalog to find products by part number or keywords. Plus, get links to product specs, videos, and more.

With our app, you can even access the catalog from your smartphone.

Find Part Numbers: 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

Download CAD models: www.nordsonefd.com/CAD



For Nordson EFD sales and service in over 40 countries,
contact Nordson EFD or go to www.nordsonefd.com.

Global

800-556-3484; +1-401-431-7000

info@nordsonefd.com

Europe

00800 7001 7001

infoefd.europe@nordsonefd.com

Asia

China: +86 (21) 3866 9006; china@nordsonefd.com

India: +91 80 4021 3600; india@nordsonefd.com

Japan: +81 03 5762 2760; japan@nordsonefd.com

Korea: +82-31-736-8321; korea@nordsonefd.com

SEAsia: +65 6796 9522; sin-mal@nordsonefd.com

©2023 Nordson Corporation v092023