

Precision Fluid Dispensing Solutions



For technical and sales assistance in North America, call 800-556-3484 or email info@nordsonefd.com
 Please check which type of fluid dispensing you are interested in.

High yields
Zero fluid waste
Low cost

- Manual dispensers
- Dispensing components
- Solder paste
- Valve dispensing systems
- PICO® jetting systems
- MicroCoat® lubrication systems
- Automated dispensing systems

We would like to take part in the program for free testing of Nordson EFD equipment for precise fluid dispensing.

Please contact us:

Day: _____ Time: _____



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Complimentary Offer

Nordson EFD's convenient Optimum component poster will help you in choosing the perfect dispensing tips and components for your specific system.

Properly selected components allow you to make the most accurate deposit without wasting any fluid.

Make sure that you have made the right choice for your application with this practical guide.

Complete the below form and send it to the address provided on the left, and we will send you our components poster reference guide free of charge and with no obligations.



Name _____

Position _____

Company _____

Address _____

City/Region _____

Phone _____

Email _____

Fluids used in your manufacturing process: _____

Ultimus™ I, II & III

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

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

Performus™ I

Manual Dispenser



Features

- Neat beads, dots, and fills
- Vacuum control keeps thin fluids from dripping
- Foot pedal initiation
- Compact design

Performus™ VII

General Purpose Dispenser



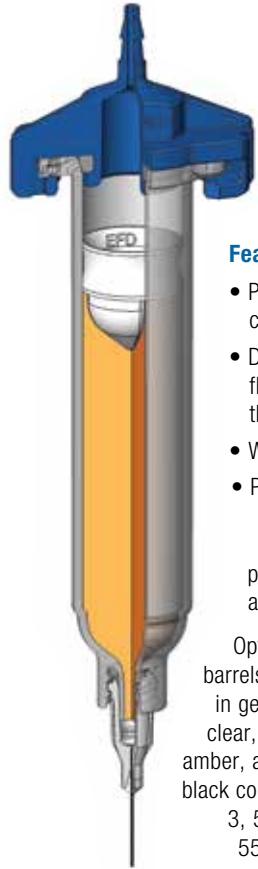
Features

- Exceptional process control
- Teach function
- Timed or steady operation
- Digital vacuum display
- Consistent dots and fills

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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 subjected to stringent quality control inspections throughout the entire manufacturing process.

Features and Benefits

- 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, and 55cc capacities.



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

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, ESD-safe, PTFE-coated and PTFE-lined, microdot tips, and oval tips.



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 55cc syringe barrel. They are available in 2.5 oz, 6 oz, 12 oz, 20 oz, and 32 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 green

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.

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.



Nordson EFD Solder Solutions

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



SolderPlus®

EFD's premium dispensing solder paste formulations support a wide array of solder applications. Specially formulated for consistent top-to-bottom exact, repeatable dispensing. Ideal for point-to-point assembly with no waste, clogs, or misses.

PrintPlus®

The principal choice for Surface Mount Technology applications. EFD printing paste glides smoothly over stencils, fills apertures without voids, and leaves little to no slump. No-clean, water soluble, and RMA solder pastes meet the rigorous demands of today's surface mount assembly, while offering lot-to-lot consistency.

FluxPlus™

Flux characteristics are the most important feature when dispensing and reflowing solder paste, and EFD tacky flux outperforms messy liquid fluxes, increasing soldering speed and reducing costs. We supply fluxes formulated to work with any alloy and heating process, perfect for rework and BGA applications.

High performance
Zero defect
No wasted material
Reduced costs

ALLOY CHART			
Alloy:	Solidus (°C)	Liquidus (°C)	Tensile Strength (psi)
Sn43 Pb43 Bi14	144	163	6120
Sn62 Pb36 Ag2	179	189	6700
Sn63 Pb37		183	6700
Sn60 Pb40	183	191	6200
Sn10 Pb88 Ag2	268	290	4900
Sn10 Pb90	275	302	4600
Sn5 Pb92.5 Ag2.5	287	296	4210
Sn5 Pb95	308	312	4190

LEAD-FREE ALLOY CHART			
Alloy:	Solidus (°C)	Liquidus (°C)	Tensile Strength (psi)
Sn42 Bi57 Ag1.0	137	139	4641
Sn42 Bi58		138	8000
Sn96.5 Ag3.0 Cu0.5	217	219	8900
Sn96.3 Ag3.7		221	8900
Sn95 Ag5	221	245	10100
Sn100	MP	232	1800
Sn99.3 Cu0.7		227	n/a
Sn95 Sb5	232	240	5900
Sn89 Sb10.5 Cu0.5	242	262	12000
Sn90 Sb10	250	257	n/a

POWDER SIZE CHART				
Powder Type	Powder Size (micron)	Gullwing Lead Pitch (mm)	Square/Circle Aperture (mm)/(in)	Dispense Dot Dia. (mm)/(in)
II	45-75μ	0.65 / 0.025	0.65 / 0.025	0.80 / 0.030
III	25-45μ	0.50 / 0.020	0.50 / 0.020	0.50 / 0.020
IV	20-38μ	0.30 / 0.012	0.30 / 0.012	0.30 / 0.012
V	15-25μ	0.20 / 0.008	0.15 / 0.006	0.25 / 0.010
VI	5-15μ	0.10 / 0.004	0.05 / 0.002	0.10 / 0.004

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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 Piston Valve

Dispenses fluids at rates up to 450 ml/sec. Fill bottles, vials and foil packs with lotions, perfumes, and adhesives. 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

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



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
- Aseptic 784 also available



MicroSpray™ Valve

Apply uniform spray patterns between 3.3 mm and 19.1 mm in diameter.



787MS-SS

Features

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



Needle Valve

Applies low-viscosity fluids in accurate, repeatable amounts.



xQR41/741V Series

Features

- Unaffected by entrapped air in fluid
- Low-maintenance design
- Zero dead fluid volume
- Positive shutoff



Backpack™ Valve Actuator

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



Available for 741 and 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

ValveMate 9000 – For up to 2 valves Series 702, 725, 736, 741, 752, and 754

ValveMate 8000 – For up to 4 valves Series 702, 725, 736, 741, and 750

ValveMate 7100 – For single valve Series 702, 725, 736, 741, and 750

ValveMate 7160RA – For radial spray systems Series 782RA and 7860C-RS

ValveMate 8040 – For up to 2 valves Series 781S, 787MS-SS, and 784S-SS

ValveMate 7140 – For single valve Series 781S, 787MS-SS, and 784S-SS

ValveMate 7094 – For Auger Valve Series 794



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 .001 seconds.



Features

- Maximum manageability
- Dosage adjustment in the process
- User-friendly interface for PLC
- High-speed pneumatic solenoid

PICO® *Pulse*™ Jet Dispensing System

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



The PICO exchangeable modular technology allows for a high level of customization with a wide array of individually maintained, serviceable parts.

Features

- Eliminates Z-axis movement and the need for precise height positioning
- Reduces downtime and scrap by eliminating risk of nozzle-substrate collision
- Outstanding process control for highest dot-to-dot consistency

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.



Features and Benefits:

- 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 & 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.

Options

- PRO Series: Includes specialized DispenseMotion™ software, closed-loop encoding, and fully integrated CCD camera and height sensing laser to deliver best-in-class dispensing performance.
- 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.
- 3 & 4-Axis DR Series: Available in ranges from 200x200 to 510x620 mm
- SCARA In-Line Dispensing Arms: Ideal for larger applications



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

Features & Benefits

- Produce more parts and reduce process time
- Improve product quality from more precise, accurate dispensing control
- Compatible with all Nordson EFD syringes and dispense valves
- Suitable for many fluid dispensing applications, from inline to batching

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SPECIFICATIONS - COMPARISON GRID

Item	PRO4L Series	PRO4 Series	EV Series (E2V - E5V)	E Series (E2 - E5)	DR Series (2200 - 2600)	Scara (4403N/4404N)
Number of axes (Interpolation)	3 axes (3D space)	3 axes (3D space)	3 axes (3D space)	3 axes (3D space)	3 and 4 axes	3 and 4 axes
Moving range X/Y/Z (mm)	350/400/100	350/400/100	200/200/50 - 500/500/150	200/200/50 - 500/500/150	200/200/50 - 510/620/150 R 360°	J1(90°)+J2(150°) @ 440 Z=100, R=360°
Workpiece payload	7 kg	7 kg	5 - 10 kg	5 - 10 kg	7 - 11kg	N/A
Tool payload	1,5 kg	2 kg	3 - 5 kg	3 - 5 kg	3,5 - 6 kg	5 kg
Maximum speed (mm/s)	500/250	500/250	500/250 - 800/320	500/250 - 800/320	500 - 800	1300 @ max. load
Unit weight	59 kg	57,5 kg	29 - 55 kg	21 - 47 kg	18 - 42 kg	41 kg
Dimensions (WxHxD) (mm)	811x647x660	811x647x660	375x414x510 - 690x717x815	375x414x510 - 690x717x815	320x536x377 - 788x890x731	880x840x773 - 880x840x858
Drive system	5-phase micro stepping motor		3-phase micro stepping motor		5-phase micro stepping motor	5-phase stepping motor w. encoder
Memory capacity	PC storage	PC storage	PC storage	100 programs, 500-50.000 points/program	255 programs, max. 30.000 points	
General purpose I/O	8 In / 8 Out (16 / 16 optional)		8 In / 8 Out (16 / 16 optional)		16 In/16 Out	25 In/25 Out
Dispensing controller	External	External	External	External	External	External
Repeatability	+/- 0.01 mm	+/- 0.01 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.01 mm	+/- 0.01 mm
Working temperature	10-40°C	10-40°C	10-40°C	10-40°C	0-40°C	0-40°C
Programming method	Dispense Vision™ software		Dispense Vision	Teach Pendant	Teach Pendant or PC software	
Vision	CCD smart camera		Simple camera		Optional	Optional
Laser height sensing	Included	Optional	N/A	N/A	Optional	Optional
Tip detector	Included	Included	N/A	N/A	Optional	N/A
Joystick	Optional	Optional	Optional	N/A	N/A	N/A
Closed-loop encoding	Included	Included	N/A	N/A	Optional	N/A



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