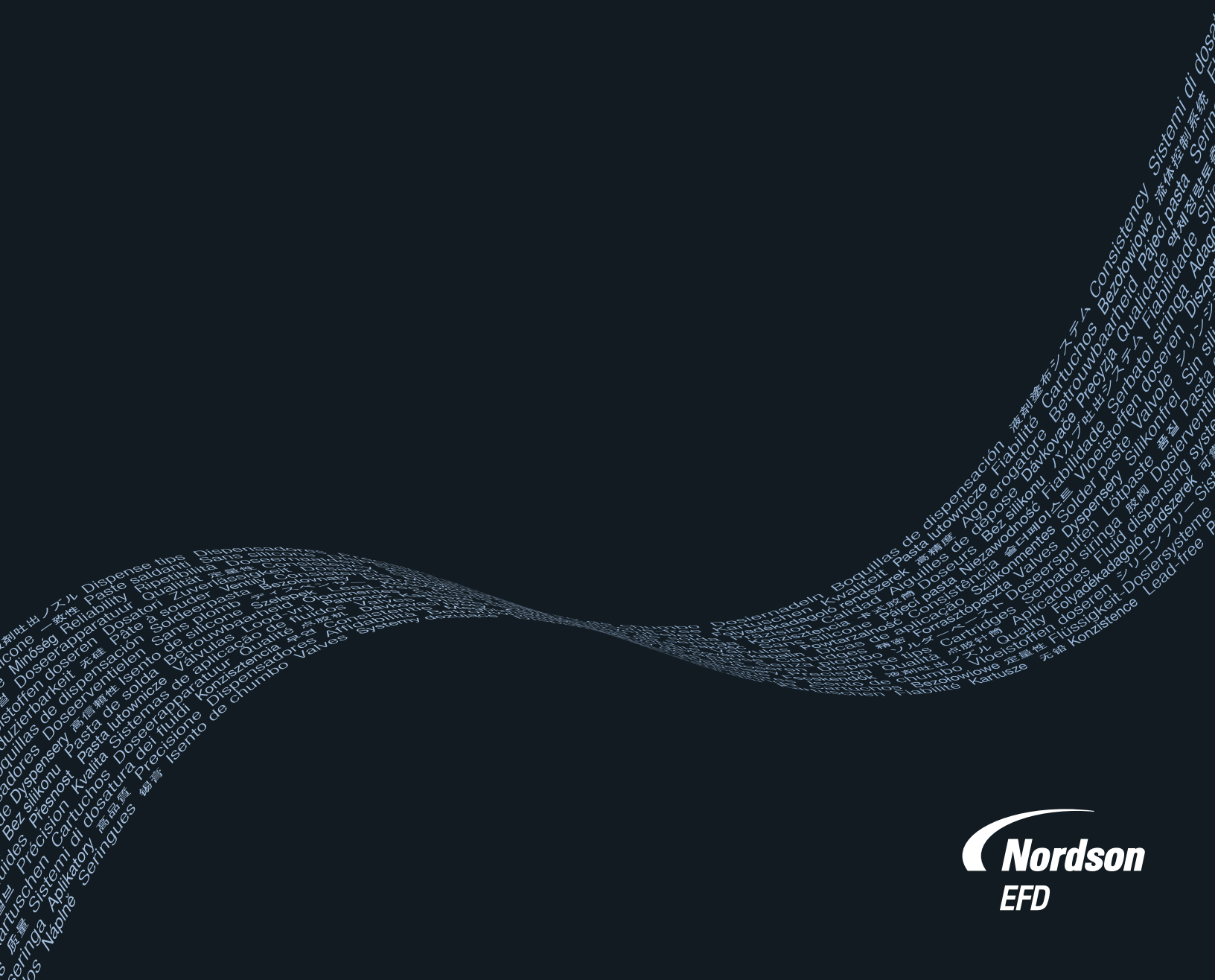
Engineered Fluid Dispensing

PRODUCT CATALOG

Third Edition



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Introduction

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.

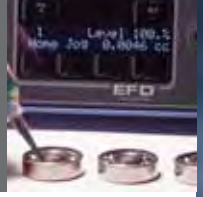
From benchtop dispensers to high-performance automated dispensing systems, EFD devices are used by manufacturers in hundreds of industries throughout the world.

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

Contents

This catalog has been printed on FSC Certified Paper.

Note: Specifications and technical details are subject to engineering changes without prior notification.



Aerospace

As the aerospace industry continues to grow with its surge in commercial aircraft markets driven by the civil aircraft, engines and related parts and components sector, EFD is a vendor of choice by leading manufacturers.

The civil aircraft market accounts for 40% of Aerospace and Defense Industry spending. Replacement of U.S. military aircraft and a resurgence in demand for rotary-wing aircraft have also created rich opportunities for EFD within the aerospace industry.

EFD dispensing equipment is currently used in the following aerospace manufacturing categories:

- Aircraft and aircraft parts manufacturing
- Guided missile and space manufacturing
- Search, detection and navigation manufacturing

Fluids dispensed:

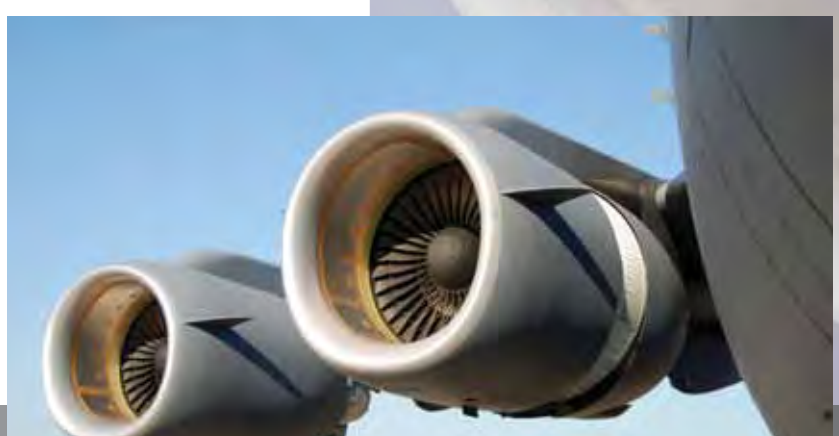
Lubricants
Solvents
Sealants
Adhesives
Epoxies
Anaerobics
Braze Pastes
Solder Pastes

Dispensing Applications:

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

"We are saving 2 to 4 hours on ever y 100 parts."

Grimes Aerospace



Automotive

Automotive suppliers and manufacturers worldwide specify EFD precision dispensing systems to consistently apply adhesives, sealants, grease, inks and other fluids during their assembly processes.

Many of the high-performance fluids needed to bond materials and seal exposed parts are expensive, making waste reduction an important issue. In many applications, the elimination of over-deposits can reduce material waste by 50% or more. EFD systems are designed to empty material reservoirs as completely as possible, minimizing waste. The closed-system design also reduces waste by minimizing premature curing of the materials.

When fluids are dispensed consistently, regardless of the operator or machine assembling parts, manufacturers are able to achieve better control and streamline production, reducing labor time and rework.

Cleaner application with EFD systems means less time and cost for cleanup. Many EFD customers are able to double their output while maintaining—and even increasing—the quality of their products.

Applications include:

- **Bonding** rubber to rubber, weather stripping, mirror assemblies and shock absorbers.
- **Marking** for pass/fail status, color-coding similar assemblies and indicating whether a specific test or process has been completed.
- **Greasing and lubricating** springs, tracks, hinges and hardware, as well as lubricating caliper plungers in brake assemblies.
- **Potting and sealing** electronics and components from moisture and other environmental damage.
- **Lubricating** stock, dies and rolls in fin forming applications.

"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

"Machine downtime was reduced to almost zero, and braze paste usage reduced by 40%." S&H Fabricating

Fluids dispensed:

RTV Sealants
Anaerobics
Greases
Cyanoacrylates
UV-cure Adhesives
Epoxies
Solder Pastes

Dispensing Applications:

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

Construction

Two-component adhesives, sealants, foams and coatings are often used in construction operations, such as securing chemical anchors, filling cracks and sealing joints.

EFD can supply a variety of products to simplify the application of these and other 2-component materials packaged in side-by-side and in-line cartridges.

Products include manual and pneumatic dispensers, along with a variety of static mixers that ensure thorough product mixing for optimum performance with minimal waste.

Accessories include tube extensions for placing material deep inside recesses, snap-on tips and low pressure, air-assisted mixers for 2-part coatings.

Fluids dispensed:

Epoxies
Urethanes
Silicones
Polyesters
Lubricants
Temporary Cements
Methacrylates
Greases

Dispensing Applications:

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

Electronics

EFD precision dispensing systems deliver consistent and reliable deposits that improve yields and reduce costs in electronics and electro-mechanical assembly processes.

EFD operator-controlled, microprocessor-based dispensers improve productivity in benchtop assembly processes, while valve systems increase yields in automated and semi-automated operations. The Ultimus IV Positive Displacement System is ideal for dispensing 2-part epoxies and other fluids with changing viscosities.

EFD dispensing robots combine precision dispensing and accurate positioning functions into one fully integrated, compact tabletop unit to produce the right deposit in the right place—every time. These systems offer reliable operation with excellent repeatability for dispensing adhesives, sealants, solder pastes and other assembly fluids.

EFD's solder paste formulations meet the most stringent application requirements in the electronics industry for reliable process control, resulting in increased throughput and first-pass yields.

A recent report estimated the size of the global LED market at USD $7.4 billion in 2009, expected to grow to $14.3 billion by 2013.* EFD's precision dispensing systems can help LED manufacturers increase productivity and efficiency and reduce waste through controlled application of the silicones, conductive adhesives, flux and solder paste used in LED assembly processes.

Many components used in fiber optic systems require microdeposits of 2-part epoxies, UV-cure adhesives, RTV silicones and other assembly fluids. Leading fiber optics and photonics manufacturers rely on EFD precision dispensing systems to apply accurate, precise amounts of these materials in applications like bonding fibers to ferrules, sealing couplers and securing components.

* *iSuppli*

"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

Fluids dispensed:

Solder Pastes
Epoxies
Silicones
RTV Sealants
Cyanoacrylates

Dispensing Applications:

- Fiber Optics
- Electronic Chips
- Liquid Crystal Displays
- Microwave Components
- PC Board Assemblies
- Capacitors
- Electronic Housing Chassis
- Membrane Switches
- SMT Circuit Boards
- Computers
- Cable TV Converters
- LEDs
- Cell Phones
- Digital Cameras

Fluid Packaging

Global manufacturers are demanding greater performance from the fluids used in their processes and the components in which they are packaged.

EFD's Optimum cartridges and syringes provide a complete, integrated system that brings precision fluid packaging and dispensing operations to a higher level of reliability to meet the demands of today's cutting edge manufacturing processes.

For fluid packagers, this means faster, more consistent fills. For fluid users, it means more accurate, reliable dispensing results with virtually no fluid waste.

For 2-component materials, EFD provides a wide range of high-quality, 2-component side-by-side syringes and cartridge systems, along with disposable static mixers and dispensers.

Also offered is the u-TAH™ Universal Cartridge—an in-line, 2-component cartridge system designed for use with standard industrial-grade 1/10 gallon or 310mL caulking guns. The patented design maintains accurate ratio control in a compact, universal package that encourages market acceptance by eliminating the need for end users to purchase expensive special-purpose dispensing guns.

Fluids commonly packaged:

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

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

Consumer Packaging and Food Processing

EFD valve systems dispense controlled, consistent amounts of cosmetics, pharmaceuticals, and food and beverage products, as well as cyanoacrylates, solvents and UV-cure adhesives used in packaging and production operations.

Applications include:

- **Filling** bottles and pouches with condiments, sport drinks and creams with the 725HF high-flow valve system.
- **Applying microdots** or **precise, thin beads of solvents** with the 741V needle valve for tamper-proof shrink wrapping.
- **Dispensing repeatable dots** of cyanoacrylates and UV adhesives on clamshells with the compact, lightweight 752V diaphragm valve.
- **Spraying** fine, consistent food coatings or release agents with the 781S-SS spray valve system. Also perfect for spraying ink for pass/fail marking or part identification.
- **Lubricating** metal stock used in canning and tab stamping processes with the MicroCoat System.

Fluids dispensed:

Lubricants
Beverages
Cosmetics
Scents/Flavors
Food Coatings
Creams
Greases
Adhesives
Cyanoacrylates
Sealants
Marking Inks
Release Agents

Dispensing Applications:

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

"Production doubled the first day the EFD systems were installed." Food Packaging Group

Life Sciences

The Life Sciences industry continues to be a growing market segment for EFD.

Medical device manufacturers must meet stringent FDA and other agency regulations for quality and product consistency, making process control a critical issue.

EFD offers quality unmatched by any other dispensing equipment manufacturer. All materials and manufacturing processes are documented for complete traceability and process validation, and all molding, machining, assembly and packaging are performed in our certified silicone-free facilities.

EFD's advanced fluid dispensing systems apply accurate, consistent amounts of UV-cure adhesives, cyanoacrylates, silicones, and other fluids used in medical device assembly processes.

Benchtop dispensers make fluid application simple, fast and accurate, and can make deposits ranging from uniform dots as small as 0.004 inches in diameter to neat, controlled beads.

Pneumatically operated dispense valves combine accuracy, low maintenance and outstanding reliability. Applications include bonding medical parts, filling small containers with solutions, applying markings on catheters, dispensing lens monomers, lubricating syringes, coating stents and dispensing solutions on test strips.

Tabletop robots combine precise placement with accurate fluid deposits, and are a cost-effective way to automate bonding, sealing, filling and coating applications.

Fluids dispensed:

UV-cure Adhesives
Silver Epoxies
Cyanoacrylates
Silicones
Saline Solutions
Monomers
RTVs
Solder Pastes
Lubricants
Hydrophilic Coatings
Antibiotics
Protein Solutions
Reagents

Dispensing Applications:

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

"Our product is critical. That's why our choice is EFD equipment."

Ethicon Endo Surgery

Photovoltaics

Interest in photovoltaics continues to grow, due to increased awareness of global warming and the shortage in energy worldwide. A recent report estimated the size of the global photovoltaic market as 7 GW in 2009.*

EFD offers a variety of dispensing systems for applying controlled amounts of solder paste, flux, coatings, silicones and other fluids used in photovoltaic manufacturing processes.

Products include high-speed jet dispensing systems, precision coating systems, pneumatic benchtop dispensers, precision dispense valves for automated production lines, dispensing robots and high-quality solder pastes. Benefits include higher yields, less rework, fewer rejects, and improved cell efficiency and reliability.

Applications include:

- Applying solder in tabbing and stringing processes
- Spraying flux on pre-tinned surfaces
- Applying printable inks
- Attaching junction boxes to modules
- Sealing module frames with silicone
- Wafer etching

** European Photovoltaic Industry Association*

Fluids dispensed:

Ethanol/Phosphorous
Solder Pastes
Flux Pastes
Printable Inks
Silicones
Conductive Adhesives

Dispensing Applications:

- Doping
- Spraying Inks on Thin-film Modules
- Tabbing
- Stringing
- Sealing Module Frames
- Gasketing
- Etching
- Coatings

Fluid Dispensing Systems

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.

Ultimus V

The Ultimus V High Precision Dispenser provides a new 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 RS232 protocol
- Selectable operator lockout and alarm settings

See page 16 for a complete list of dispensing accessories.

Specifically designed to work with the Ultimus V, the patent-pending Optimeter™ provides even greater control when dispensing all fluids by automatically increasing airflow as the syringe barrel empties.

7012590 Ultimus V

Features a 0-100 psi (0-7 bar) pressure regulator that handles all fluids.

7012589 Ultimus V

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).

Specifications

Cabinet size: 22.5W x 9.50H x 19.9D cm (8.86"W x 3.74"H x 7.85"D)

Weight: 3.4 kg (7.7 lb)

Cycle rate: Exceeds 600 cycles per minute

Time range: 0.0001 to 9.9999 seconds

Input AC (to power supply):
100-240 VAC ± 10%, 0.5 Amp, 50/60Hz

Output DC (from power supply):
24 VDC, 1.66 Amp maximum

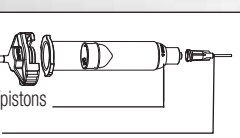
End-of-cycle feedback circuits:
5 to 24 VDC, 100 mA maximum

Initiate circuits: Foot pedal, finger switch or 5 to 24 VDC signal

Approvals: CE, RoHS, WEEE & China RoHS Compliant

Warranty: 1 year, limited

Each dispenser kit includes:
(1) adapter assembly
(2) boxes of syringe barrels/pistons
(2) boxes of dispensing tips
(1) box of tip caps
omnidirectional foot pedal
cabinet-mounted barrel holder

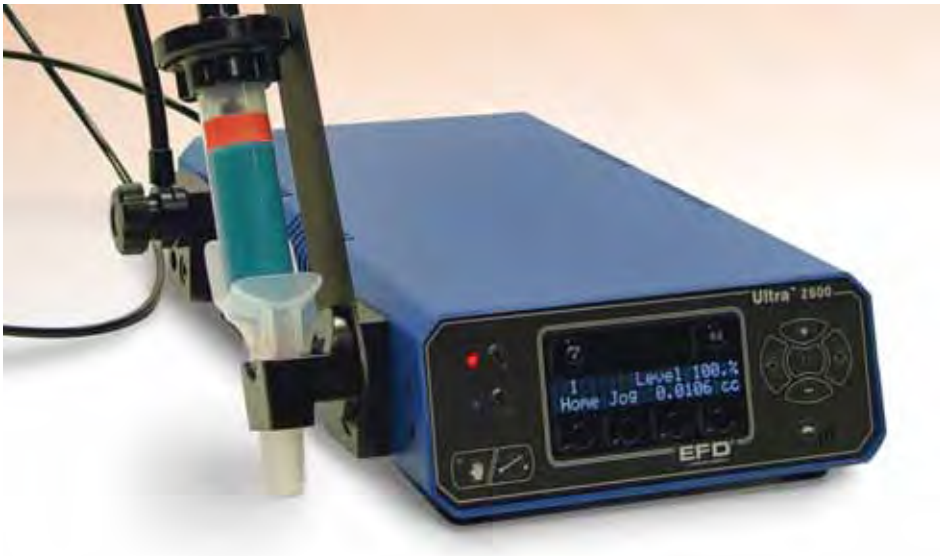


Dispensers

Ultimus IV Series

Positive displacement dispensers are ideal for applying uniform amounts of 2-part epoxies and other fluids that change viscosity over time.

Compressed air is not required—instead, these electrically operated units use stepper motors and patented technology to advance and retract a piston inside the syringe barrel. They will produce accurate, repeatable deposits, regardless of changes in fluid viscosity or temperature.



Features and Benefits

- Highly repeatable, precise fluid control
- Non-pneumatic, shop air not required
- All-electric, multi-function display
- Programmable pullback stops drooling
- 100 user-defined memory cells

7017178 (2800-3)
For 3cc syringe barrels

7017181 (2800-5)
For 5cc syringe barrels

7017177 (2800-10)
For 10cc syringe barrels

7017179 (2800-30)
For 30cc syringe barrels

Specifications

Cabinet size: 18.4W x 8.1H x 32.3D cm (7.25"W x 3.18"H x 12.73"D)

Weight: 3.7 kg (8.2 lb)

Cable assembly: 1.8 m (6 ft)

Input AC (to power supply): Universal Multi Voltage 100-240 VAC, 50/60Hz

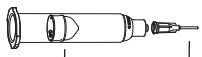
AC input frequency: 50/60Hz

Initiate circuits: Foot pedal, cycle start button or 5 to 24 VDC signal

Approvals: CE, RoHS, WEEE & China RoHS Compliant

Warranty: 2 years, no fault

Each dispenser kit includes:
(2) boxes of syringe barrels/ red pistons
(2) boxes of dispensing tips
(2) boxes of tip caps
foot pedal
cabinet-mounted barrel holder



ULTIMUS MODELS AND FEATURES

Features	Dispense Time Display	Air Pressure Display	Adjustability			Modes of Operation				Time Range		Air Pressure Range			Input/ Output	Universal Voltage
Models	Digital	Digital	Time	Air	Vac	Steady	Timed	Volumetric	Teach	0-999.9 sec.	0-9.9999 sec.	0-100 psi (0-7 bar)	0-15 psi (0-1 bar)	0-5 psi (0-0.35 bar)	5-24 VDC Signal	100-240 VAC 50/60Hz
Ultimus I	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓			✓	✓
Ultimus II	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓		✓	✓
Ultimus III	✓	✓	✓	✓	✓	✓	✓		✓	✓				✓	✓	✓
Ultimus IV						✓		✓							✓	✓
Ultimus V	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓			✓	✓

See page 16 for a complete list of dispensing accessories.

Ultimus™ I, II and III

Featuring simultaneous digital display of all dispenser settings and time adjustment as fine as .0001 seconds, Ultimus 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 security lockout
- High-speed solenoid for highly accurate deposits
- Universal power supply

Specifications

Cabinet size: 14.3W x 18.1H x 17.3D cm (5.63"W x 7.12"H x 6.82"D)

Weight: 2.3 kg (5.0 lb)

Cycle rate: Exceeds 600 cycles per minute

Time range: 0.0001 to 999.9999 seconds

Input AC (to power supply): Universal Multi Voltage 100-240 VAC, 50/60Hz

Output DC (from power supply): 24 VDC, 1.04 Amp maximum

End-of-cycle feedback circuits: 5 to 24 VDC, 100 mA maximum

Initiate circuits: Foot pedal, finger switch or 5 to 24 VDC signal

Approvals: CE, CSA, RoHS, WEEE & China RoHS Compliant

Warranty: 10 year, no-fault

7017041 Ultimus I (2400)

Features a 0-100 psi (0-7 bar) pressure regulator that handles all fluids.

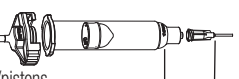
7002003 Ultimus II (2415)

Has a 0-15 psi (0-1 bar) regulator that provides greater control when dispensing thin fluids.

7017068 Ultimus III (2405)

Uses a 0-5 psi (0-0.35 bar) regulator for dispensing micro-deposits of solvents and other very thin fluids.

Each dispenser kit includes:
(1) adapter assembly
(2) boxes of syringe barrels/pistons
(2) boxes of dispensing tips
(1) box of tip caps
omnidirectional foot pedal
cabinet-mounted barrel holder



See page 16 for a complete list of dispensing accessories.

Dispensers

Performus™ I

For operator-controlled dispensing applications requiring only a manual deposit.

Features and Benefits

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

Performus VII

For applications that require a high degree of process control.

Features vacuum control, a convenient Teach function that makes it simple to set initial shot size and an I/O connection. The Performus VII also includes a digital vacuum display that adds an extra degree of process control.

Features and Benefits

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

Performus Models

7012330
(Performus I) 0-100 psi (0-7 bar)

Vacuum

7012331
(Performus II) 0-100 psi (0-7 bar)

LED Display, Timer

7012332
(Performus III) 0-100 psi (0-7 bar)

7012333
(Performus IV) 0-15 psi (0-1 bar)

LED Display, Timer, Vacuum

7012334
(Performus V) 0-100 psi (0-7 bar)

7012335
(Performus VI) 0-15 psi (0-1 bar)

I/O

Teach, LED Display, Timer, Vacuum, Input/Output

7012336
(Performus VII) 0-100 psi (0-7 bar)

7012337
(Performus VIII) 0-15 psi (0-1 bar)

I/O

Teach, LED Display, Timer, Vacuum, Vacuum Display, Input/Output

PERFORMUS MODELS AND FEATURES

Features	Dispense Time Display	Air Pressure Display		Vacuum Display	Adjustability			Modes of Operation			Time Range	Air Pressure Range		Input/ Output	Universal Voltage
Models	Digital	Analog	Digital	Digital	Time	Air	Vac	Steady	Timed	Teach	0-99.9 sec.	0-100 psi (0-7 bar)	0-15 psi (0-1 bar)	5-24 VDC Signal	100-240 VAC 50/60Hz
Performus I		✓				✓	✓	✓				✓			✓
Performus II	✓		✓		✓	✓		✓	✓		✓	✓			✓
Performus III	✓		✓		✓	✓	✓	✓	✓		✓	✓			✓
Performus IV	✓		✓		✓	✓	✓	✓	✓		✓		✓		✓
Performus V	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Performus VI	✓		✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Performus VII	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Performus VIII	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓

Specifications

Cabinet size: 18.3W x 5.1H x 8.6D cm
(7.22"W x 2"H x 3.38"D)

Weight: 1 kg (2.2 lb)

Cycle rate: Exceeds 600 cycles per minute

Input AC (to power supply):
Universal Multi Voltage
100-240 VAC, 50/60Hz

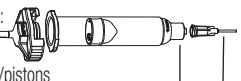
Output DC (from power supply):
24 VDC, 1.04 Amp maximum

Initiate circuits: Foot pedal, finger switch

Approvals: CE, CSA, RoHS, WEEE & China RoHS Compliant

Warranty:
Performus I-II: 1 year, limited
Performus III-VIII: 2 year, limited

Each dispenser kit includes:
(1) adapter assembly
(2) boxes of syringe barrels/pistons
(2) boxes of dispensing tips
(1) box of tip caps
foot pedal
cabinet-mounted barrel holder



See page 16 for a complete list of dispensing accessories.

Dispensers

DISPENSER ACCESSORIES

			ULTIMUS			PERFORMUS
PART #	ACCESSORY	DESCRIPTION	I-III	IV	V	I-VIII
7017105	Flex arm syringe barrel holder	Mounts to dispenser cabinet; can be adjusted to multiple positions	✓		✓	
7017113	Stiff arm syringe barrel holder	Mounts to dispenser cabinet and holds barrel in fixed position	✓		✓	
7014503	Optimeter - 30cc size	Syringe barrel adapter that maintains consistent full-to-empty pressure on fluid being dispensed			✓	
7014504	Optimeter - 10cc size				✓	
7017133	Barrel hand grip	Hand grip only without finger switch				✓
7017131	Finger switch	Ergonomic hand grip with built-in touch sensor and high beam penlight	✓			
7016718	Finger switch	Low voltage, push button finger switch controls dispense cycle				✓
7017089	Finger switch		✓		✓	
7017288	Syringe barrel production stand	Provides full-barrel swivel, horizontal and vertical adjustment. Accepts all EFD barrels.		✓		
7021053	Syringe barrel production stand		✓		✓	✓
7017122	Workstation lamp	Mounts on flex arm and provides targeted lighting on work area	✓			
7017119	Safety shield	Provides splash protection	✓	✓	✓	
		Accessory mount (1 required for use with Ultimus IV - #7017185)		✓		
7017138	Production extension shelf	Provides flat work surface for other tools or dispenser stacking	✓			
7017135	Magnifying lens	1.7x magnification mounts on flex arm	✓		✓	
		Accessory mount (1 required for use with Ultimus IV - #7017185)		✓		
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)	✓		✓	
7017167	Vacuum pickup pen system	Vacuum generator and pen system for picking and placing small parts	✓			✓

PART #	ACCESSORY	DESCRIPTION
7013229	Dispensing tip sampler kit	Includes a selection of various types and styles of dispensing tips, pistons, tip and end caps—158 pieces
7022455	VacTweezer™ pickup tool	Useful, low cost pick-and-place tool with staticide treated kit. Includes (7) tips, (5) pad sizes
7002002	Five micron filter regulator	Provide proper air filtering for all dispensers. Order if you do not have a clean, dry, filtered factory air supply.
7016548	Five micron filter regulator with coalescing filter	Five 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

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Tube Coating Systems

Relius tube coating systems are a fast, foolproof way to apply accurate, repeatable amounts of solvents and UV-cure adhesives on tubing, fittings and other cylindrical components.

Instead of dipping components into dishes of solvent or applying UV-cure adhesive by hand, the operator simply inserts the end of the tubing or fitting into the applicator port on the side of the Relius System. The correct amount of fluid is automatically applied every time, regardless of who performs the operation.

Features and Benefits

- Coats ID, OD or both surfaces simultaneously
- Makes coating process less operator-dependent
- Eliminates fluid contamination and waste
- Ideal for semi-automated and fully automated processes
- Closed tank reduces vapors
- Greater process control
- Can also be used for silicone oils

UV Adhesive Tube Coating Dispenser

Solvent Tube Coating Dispenser

7012502
(Solvent Tube Coating System)

7012501
(UV Adhesive Tube Coating System)

Specifications

Size: 26.0H x 19.7D cm
(10.3"H x 7.8"D)

Weight: 3.7 kg (8.2 lb)

Maximum fluid capacity: 1.0 liter

Air requirements: 60-90 psi (4.2-6.3 kgf/cm^2)
regulated clean, dry, filtered air supply

Operating temperature range: 10°C to 46°C (50°F to 115°F)

Maximum recommended speed: 7-10 strokes per minute (in high range)

Minimum recommended speed: 2-6 strokes per minute (in low range)

Warranty: 1 year

UV Adhesive Tube Coating System
Construction: Anodized aluminum, stainless steel, PTFE, acetal, UHMW polyethylene

Solvent Tube Coating System
Construction: Anodized aluminum, stainless steel, PTFE, acetal, UHMW polyethylene, nickel-plated brass

REPLACEMENT PARTS

Part #	Description
Custom	Adapter for solvent dispenser
Custom	Adapter for UV adhesive dispenser
Custom	Wick adapter
7012500	Adapter O-ring kit, (10/pkg)
7012499	Disposable tank liner

Dispensers

725-HL

740V-HL

752V-HL

Handheld Dispense Valves

Relius handheld dispense valves are a good choice for manual assembly applications where a timed shot is not required and a relatively large amount of fluid is being applied.

Handheld dispense valve systems are shipped complete with all hardware necessary for production. Systems include a lever-actuated dispense valve, 1.0 liter or 5.0 liter tank reservoir with pressure regulator (1 to 60 psi), all fittings, 10-ft fluid feed tube, disposable plastic tank liner, valve stand and (30) different dispensing tips.

725-HL Handheld piston valve provides high-flow application of medium- to high-viscosity non-reactive fluids.

740V-HL Handheld needle valve dispenses precise beads and dots of low-to-medium viscosity fluids like UV-cure adhesives, paints and inks, activators and lubricants.

752V-HL Handheld diaphragm valve is ideal for gasket bonding and applying anaerobics or cyanoacrylates.

Features and Benefits

- Ergonomic design
- Positive shutoff, no dripping
- Easy to use
- Simplified maintenance

Key
- ● Recommended
- X Do not use

Fluids	MODELS		
	752V-HL	740V-HL	725-HL
Anaerobics	●	X	X
Oils	●	●	●
Cyanoacrylates	●	X	X
White Glues	X	●	●
Greases	X	●	●
Braze Pastes	X	●	●
Paste Fluxes	X	●	●
Solvents	●	●	X
Vinyl Adhesives	X	●	●

7020888 (725-HL) High-flow Piston Valve with Hand Lever

Wetted valve parts are UHMW polyethylene and hard-coat anodized aluminum. Includes #7021499 fluid inlet fitting, (2) #7018554 nozzles, #7016948 tip adapter and (6) #7018051 tapered tips. Order tank and tubing separately.

7021209 (740V-HL) Needle Valve with Hand Lever

7021205 (740SYS-1 system)

Wetted valve parts are PTFE, stainless steel and hard-coat anodized aluminum with 1 liter tank.

7021206 (740SYS-4 system)

Identical to the 740SYS-1 except supplied with a 5.0 liter pressure tank.

7021415 (752V-HL) Diaphragm Valve with Hand Lever

7021408 (752SYS-1 system)

Wetted valve parts are UHMW polyethylene. Accepts one pound bottles of cyanoacrylates, anaerobics and other low viscosity fluids. Supplied with a 1.0 liter tank.

7021409 (752SYS-4 system)

Identical to the 752SYS-1 except supplied with a 5.0 liter pressure tank.

DISPENSING COMPONENTS

Disposable polyethylene nozzles with 1/4 NPT to fit 725-HL valves. May be cut as required. (10) per package.

Part #	Description
7018555	63.5 mm x 3.1 mm opening (2 1/2" long x 1/8")
7018557	63.5 mm x 1.6 mm opening (2 1/2" long x 1/16")

Metal nozzles 38 mm (1 1/2") long with 1/4 NPT to fit 725-HL valves

Part #	Gauge	ID
7017630	7	3.8 mm (.150")
7017633	8	3.4 mm (.135")
7017638	10	2.7 mm (.106")
7017643	12	2.2 mm (.085")
7017651	14	1.6 mm (.063")
7017660	16	1.2 mm (.047")

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HPD™

DispensGun®

Portable Dispensers

Versatile and inexpensive, Relius 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.

HPD Designed for use with EFD syringe barrels and pistons, Relius 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.

Features and Benefits

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

Key
- ● Recommended
- ▲ Satisfactory
- X Do not use

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

7023615 (HPD3K)
3cc syringe barrel size

7023622 (HPD5)
5cc syringe barrel size

7023596 (HPD10K)
10cc syringe barrel size

7023610 (HPD30K)
30cc syringe barrel size

7023133 (DG3)
3cc syringe barrel size

7023137 (DG5)
5cc syringe barrel size

7023125 (DG10)
10cc syringe barrel size

7023134 (DG30)
30cc syringe barrel size

7023141 (DG55)
55cc syringe barrel size

Dispensers

Handheld, High-Pressure Dispensing Tool

The HP™ Series high-pressure dispensing tool applies RTV silicones, epoxies, medical adhesives and other thick fluids through dispensing tips as small as 0.004" in diameter.

Designed to work with EFD air-powered dispensers, these tools will multiply the output of a standard 100 psi dispenser up to 7x.

Features and Benefits

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

7023590
(HP3cc)
Uses 3cc EFD syringe barrels and pistons and produces a maximum pressure of 700 psi (48.2 bar).

7015289
(HP5cc)
Uses 5cc EFD syringe barrels and pistons and produces a maximum pressure of 400 psi (27.6 bar).

7012598
(HP10cc)
Uses 10cc EFD syringe barrels and pistons and produces a maximum pressure of 400 psi (27.6 bar).

Mikros™ Dispensing Pen

Minimizes waste and improves fluid control in critical applications. Working with EFD air-powered dispensers, it applies 2-part epoxies, UV-cure adhesives and other medium viscosity fluids in consistent microdot amounts.

Features a disposable 0.25cc fluid reservoir tip with 30, 32 or 33 gauge stainless steel dispensing needles.

Features and Benefits

- Lightweight aluminum handle—as easy to use as a pen
- Applies deposits as small as 0.18 mm (0.007") diameter
- Fluid reservoir tips are molded with a UV-block additive
- Ideal for consistent microdots of 2-part epoxies and UV-cure adhesives

7018877
(5800MP)
Mikros pen and user's guide included. Order reservoir tips separately.

7018879
(5800MP-SYS)
Complete system includes (1) Mikros pen; (5) each reservoir tips in sizes 30, 32, and 33 gauge; (5) loading tubes; (1) piston installation tool and users' guide.

MIKROS REPLACEMENT PARTS

Part #	Description
7018889	Loading tubes; 38 mm (1.5") long. (50/pkg.)
7018902	Piston installation tool. Sold individually.
7018893	Neoprene finger grip. Sold individually.
7018899	Mikros air seal O-ring. NBR (10/pkg.)
7018901	Mikros air seal O-ring. Viton (10/pkg.)
7018897	Mikros dampening O-ring. NBR (10/pkg.)

Every 0.25cc fluid reservoir tip is shipped with tip protector and piston.

MIKROS 0.25CC FLUID RESERVOIR TIPS

Polypropylene reservoirs with stainless steel chamfered tips. Packaged with tip protectors. (25) tips and pistons per box.

Part #	Gauge	ID	Hub Color
7018881	30	0.2 mm (.006")	lavender
7018887	33	0.1 mm (.004")	grey

Polypropylene reservoirs with stainless steel blunt-end tips. Packaged with tip protectors. (25) tips and pistons per box.

Part #	Gauge	ID	Hub Color
7018884	32	0.1 mm (.004")	yellow

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Optimum®

The new standard in fluid dispensing

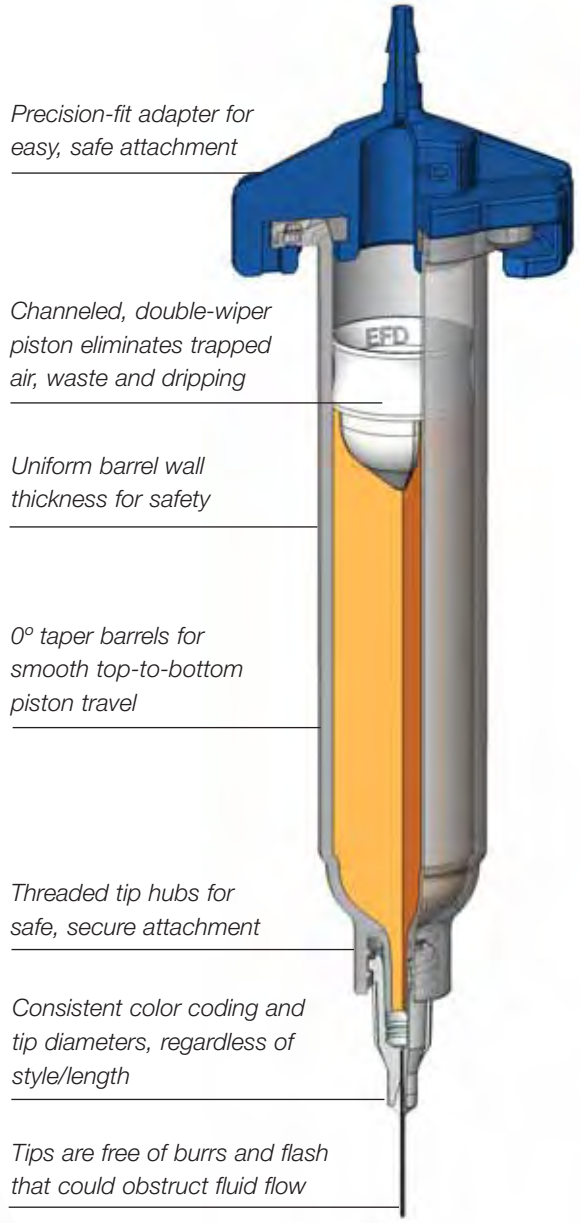
What makes EFD's new Optimum dispensing components better than the rest? Engineered Fluid Dispensing™. Each patent pending component has been designed as part of a complete, integrated system that improves yields and reduces costs by producing the most accurate, repeatable fluid deposits possible.

Our syringe barrels are made of a new, 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 five styles to ensure control for virtually any fluid in any application. When fluid is dispensed, the close tolerance double-wiping action eliminates waste and residue.

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

New tip caps protect fluid with a precisely engineered venting system that prevents air from entering through the luer during installation. The gripping action of the tip cap is designed to maximize the seal and yet be easily removed by the user.



IMPORTANT SAFETY INFORMATION

All EFD disposable components, including syringe barrels, cartridges, pistons, tip caps, end caps, and dispense tips, are precision engineered for one-time use. Attempting to clean and re-use components will compromise dispensing accuracy and may increase the risk of personal injury.

Always wear appropriate protective equipment and clothing suitable for your dispensing application.

Do not exceed maximum operating pressure of 100 psi (7.0kg/cm2).

Do not heat syringe barrels or cartridges to a temperature greater than 38°C (100°F).

Dispose of components according to local regulations after one-time use.

Do not clean components with strong solvents (e.g. MEK, Acetone, THF).

Cartridge retainer systems and barrel loaders should be cleaned with mild detergents only.

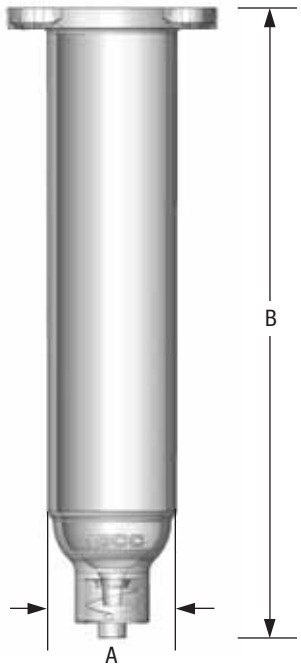
To prevent fluid waste, use EFD SmoothFlow™ pistons.

Syringe Barrels

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



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")

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

SYRINGE BARREL & PISTON SETS

Each box contains one resealable bag of syringes and SmoothFlow™ pistons. Dust-free packaging.

Size	MOST FLUIDS Clear Barrels White Pistons	UV/Light Block* Amber Barrels White Pistons	Opaque Black Barrels White Pistons	Clear Barrels Blue LV Barrier™ Piston Includes Tip Caps	QTY
3cc	7012074	7012085	7012091	7012075	(50)
5cc	7012096	7012103	7012109	n/a	(40)
10cc	7012114	7012126	7012130	7012118	(30)
30cc	7012136	7012145	7012149	7015116	(20)
55cc	7012153	7012160	7012164	n/a	(15)

Sets are available in clear for most fluids; transparent amber for UV and light-sensitive materials (*up to 550 nm); and opaque black for complete light blockage.

LV Barrier sets include tip caps and are designed for dispensing cyanoacrylates and very low viscosity fluids.

SYRINGE BARRELS

Each box contains one resealable ESD-safe bag of syringes. Dust-free packaging.

Size	MOST FLUIDS Clear Barrels	UV/Light Block* Amber Barrels	Opaque Black Barrels	Transparent Green Barrels	QTY
3cc	7012072	7012083	7012089	7015616	(50)
5cc	7012094	7012101	7012107	7015617	(40)
10cc	7012112	7012122	7012128	7015618	(30)
30cc	7012134	7012143	7012147	7015619	(20)
55cc	7012155	7012158	7012162	7015620	(15)

Note: 30cc and 55cc syringe barrels accept the same size barrel pistons, end caps and adapters. Order pistons separately.

*Transparent amber for UV- and light-sensitive materials (up to 550 nm).

Pistons

Pistons are 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. Available in five styles:

White SmoothFlow™ Double-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.

SYRINGE BARREL PISTONS

Size	White SmoothFlow	Beige SmoothFlow	Red SmoothFlow	Orange Flatwall	Blue LV Barrier	QTY
3cc	7012166	7012170	7012168	7012321	7014602	(50)
5cc	7012172	7012176	7012174	7012323	n/a	(40)
10cc	7012178	7012182	7012180	7012325	7014600	(30)
30, 55cc	7012184	7012188	7012186	7012327	7014598	(20)

End and Tip Caps

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

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

Tip caps have a large knurled gripping surface that simplifies attachment, and a vent that prevents air from being introduced into the syringe barrel during installation. Available in blue or green.

SNAP-TIGHT END AND TIP CAPS

Snap-on end caps provide tight seal.

Size	Blue	Green	QTY
3cc	7012190	7014470	(50)
5cc	7012192	7014471	(40)
10cc	7012194	7014472	(30)
30, 55cc	7012196	7014473	(20)

Snap-on tip cap seals syringe barrel.

One size	7012198	Blue	(50)
One size	7014469	Green	(50)

Adapter Assemblies

No detail of the Optimum system has been overlooked.

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
3cc	7012341	7012059	7012063
5cc	7012054	7012058	7012062
10cc	7012339	7012057	7012061
30, 55cc	7012338	7012056	7012060

Blue 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. For general use.

Components

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 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 are available with 45º and 90º 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.

PRECISION STAINLESS STEEL TIPS

Gauge	6.35 mm (0.25")	12.7 mm (0.50")	25.4 mm (1.0")	38.1 mm (1.5")	45° Bend/12.7 mm (0.5")	90° Bend/12.7 mm (0.5")	45° Bend/38.1 mm (1.5")	Color
14	7018029	7018043	7018032	7018035	7018044	7018045	7016906	Olive
15	7018056	7018068	7018059	7018062	7018069	7018070	n/a	Amber
18	7018107	7018122	7018110	7018113	7018123	7018124	7016908	Green
20	7018163	7018178	7018166	7018169	7018179	7018180	n/a	Pink
21	7005005	7018233	7018222	7018225	7018234	7018235	7016910	Purple
22	7018260	7018272	7018263	7018266	7018273	7018274	n/a	Blue
23	7018302	7018314	7018305	7018308	7018315	7018316	n/a	Orange
25	7018333	7018345	7018336	7018339	7018346	7018347	n/a	Red
27	7018395	7005008	n/a	n/a	7018404	7018405	n/a	Clear
30	7018424	7018433	n/a	n/a	7018434	7018435	n/a	Lavender
32	7018462	n/a	n/a	n/a	n/a	n/a	n/a	Yellow

Burr-free, polished, passivated stainless steel dispensing tips with polypropylene SafetyLok hubs for a secure fit to barrel reservoirs. Packaged 50 tips per box. • 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.

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SMOOTHFLOW TAPERED TIPS

Gauge	Standard	Opaque Rigid	Color
14	7018052	7018049	Olive
16	7018100	7018097	Grey
18	7018158	7018147	Green
20	7005009	7005006	Pink
22	7018298	7005007	Blue
25	7018391	7018370	Red
27	7018417	n/a	Clear

Use with gel cyanoacrylates, UV-cure adhesives, sealants, and particle-filled materials or any medium- to high-viscosity fluid. Molded of polyethylene with UV-light block additive. Packaged 50 tips per box.

FLEXIBLE TIPS

Gauge	12.7 mm (0.50")	38.1 mm (1.5")	Color
15	7018085	7018080	Amber
18	7018143	7018138	Green
20	7018205	7018201	Pink
25	7018366	7018362	Red

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. Packaged 50 tips per box.

CHAMFERED TIPS

Gauge	12.7 mm (0.50")	Color
18	7018129	Green
22	7018284	Blue
23	7018321	Orange
25	7018352	Red
27	7015236**	Clear
33	7018482**	Clear

Use for microdot application of low viscosity fluids. Packaged 50 tips per box.
**7015236 and **7018482 are 6.35 mm (0.25") long and packaged 25 tips per box.

OVAL TIPS

Gauge	12.7 mm (0.50")	Color
15	7018078	Amber

Flat ribbon deposits of thick pastes, sealants & epoxies. Outlet size is 1.98 x 0.41 mm (.078" x .016"). Packaged 50 tips per box.

TIP SHIELDS

Size	Part #	Color
3cc	7017715	Red
5cc to 55cc	7017717	Black

Reusable tip shields for light-sensitive and UV-cure adhesives. Fits over dispensing tip hub. Packaged 10 tip shields per box.

BRUSH TIPS

Style	Standard	High Flow
soft bristle	7022730	7022731
stiff bristle	7015351	7015467

Spread glues and greases. Nylon bristles, 50.8 mm (2") length. 50 brushes per box.

PTFE-COATED TIPS

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

Controls wicking to stop drips in optical media applications. Packaged 20 tips per box.

PTFE-LINED TIPS

ID mm	ID inches	12.7 mm (0.50")	25.4 mm (1.0")	Color
0.51	0.020	7018256	7005003	Grey
0.15	0.006	7018388	7005004	Pink

Resists clogging of cyanoacrylates. Use for microdot application of low viscosity fluids. Packaged 50 tips per box.

POLYETHYLENE NOZZLES

Size		Part #
6.35 x 0.318 cm	(2.5 x 0.125")	7018555
6.35 x 0.157 cm	(2.5 x 0.062")	7018557
10.6 x 0.157 cm	(4.0 x 0.062")	7018559
10.6 x 0.08 cm	(4.0 x 0.031")	7018561

Polyethylene nozzles thread into all cartridge sizes and 725 Series and 736HPA-NV valves. 1/4 NPT (6.35 mm) thread. Packaged 10 nozzles per bag.

METAL NOZZLES

Gauge	Part #	ID mm	ID inch
7	7017630	3.8	0.150
8	7017633	3.4	0.135
10	7017638	2.7	0.106
12	7017643	2.2	0.085
14	7017651	1.6	0.063
16	7017660	1.2	0.047

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

TIP RECOMMENDATIONS

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

*OK if used with tip shield, part #7017715 or 7017717.
+Chamfered tips are recommended for best results.

Key
● Recommended
▲ Satisfactory
X Do not use

COLOR CODING FOR TIP SIZES

Color	Gauge	Inner Diameter mm	Inner Diameter inch	Outer Diameter mm	Outer Diameter inch
Olive	14	1.54	0.060	1.83	0.072
Amber	15	1.36	0.053	1.65	0.065
Grey	16	1.19	0.047	n/a	n/a
Green	18	0.84	0.033	1.27	0.050
Pink	20	0.61	0.024	0.91	0.036
Purple	21	0.51	0.020	0.82	0.032
Blue	22	0.41	0.016	0.72	0.028
Orange	23	0.33	0.013	0.65	0.025
Red	25	0.25	0.010	0.52	0.020
Clear	27	0.20	0.008	0.42	0.016
Lavender	30	0.15	0.006	0.31	0.012
Yellow	32	0.10	0.004	0.24	0.009

Note: OD dimensions are for stainless tips only.
Whatever tip style, all sizes are color-coded to ensure the specified size is used.

www.nordsonefd.com info@nordsonefd.com USA & Canada 800-556-3484 Europe +44 (0) 1582 666334 Asia +86 (21) 3866 9006

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 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 green

The Clear Advantage™

CARTRIDGES		
Clear Cartridges		
Part #	Size	Qty/Box
7012389	2.5 fl oz (75 ml)	25
7012398	6 fl oz (180 ml)	25
7012407	12 fl oz (360 ml)	25
7012416	20 fl oz (600 ml)	10
7014088	32 fl oz (960 ml)	10
Part #	Size	Qty/Box
7012392	2.5 fl oz (75 ml)	250
7012401	6 fl oz (180 ml)	250
7012410	12 fl oz (360 ml)	250
7012417	20 fl oz (600 ml)	100
7014092	32 fl oz (960 ml)	100
Amber Cartridges		
Part #	Size	Qty/Box
7012390	2.5 fl oz (75 ml)	25
7012399	6 fl oz (180 ml)	25
7012408	12 fl oz (360 ml)	25
7012736	20 fl oz (600 ml)	10
7014089	32 fl oz (960 ml)	10
Part #	Size	Qty/Box
7012393	2.5 fl oz (75 ml)	250
7012402	6 fl oz (180 ml)	250
7012411	12 fl oz (360 ml)	250
7012737	20 fl oz (600 ml)	100
7014093	32 fl oz (960 ml)	100

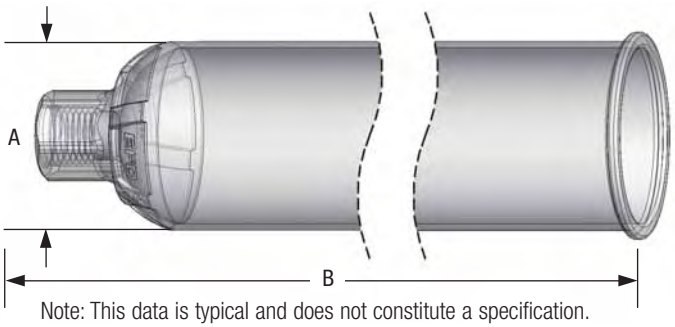
CARTRIDGES		
Black Cartridges		
Part #	Size	Qty/Box
7012391	2.5 fl oz (75 ml)	25
7012400	6 fl oz (180 ml)	25
7012409	12 fl oz (360 ml)	25
7013878	20 fl oz (600 ml)	10
7014091	32 fl oz (960 ml)	10
Part #	Size	Qty/Box
7012394	2.5 fl oz (75 ml)	250
7012403	6 fl oz (180 ml)	250
7012412	12 fl oz (360 ml)	250
7013879	20 fl oz (600 ml)	100
7014095	32 fl oz (960 ml)	100
Green Cartridges		
Part #	Size	Qty/Box
7014167	2.5 fl oz (75 ml)	25
7014170	6 fl oz (180 ml)	25
7014173	12 fl oz (360 ml)	25
7014176	20 fl oz (600 ml)	10
7014090	32 fl oz (960 ml)	10
Part #	Size	Qty/Box
7014168	2.5 fl oz (75 ml)	250
7014171	6 fl oz (180 ml)	250
7014174	12 fl oz (360 ml)	250
7014177	20 fl oz (600 ml)	100
7014094	32 fl oz (960 ml)	100

CARTRIDGES WITH PISTONS INSTALLED

Part #	Size	Qty/Box
Clear Cartridges with Pistons Installed		
7012395	2.5 fl oz (75 ml)	250
7012404	6 fl oz (180 ml)	250
7012413	12 fl oz (360 ml)	250
7012418	20 fl oz (600 ml)	100
7014096	32 fl oz (960 ml)	100
Amber Cartridges with Pistons Installed		
7012396	2.5 fl oz (75 ml)	250
7012405	6 fl oz (180 ml)	250
7012414	12 fl oz (360 ml)	250
7012738	20 fl oz (600 ml)	100
7014097	32 fl oz (960 ml)	100
Black Cartridges with Pistons Installed		
7012397	2.5 fl oz (75 ml)	250
7012406	6 fl oz (180 ml)	250
7012415	12 fl oz (360 ml)	250
7013880	20 fl oz (600 ml)	100
7014099	32 fl oz (960 ml)	100
Green Cartridges with Pistons Installed		
7014169	2.5 fl oz (75 ml)	250
7014172	6 fl oz (180 ml)	250
7014175	12 fl oz (360 ml)	250
7014178	20 fl oz (600 ml)	100
7014098	32 fl oz (960 ml)	100

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.

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.

RETAINER SYSTEMS	
Part #	Size
7012430	2.5 fl oz (75 ml)
7012433	6 fl oz (180 ml)
7012436	12 fl oz (360 ml)
7012439	20 fl oz (600 ml)
7013899	32 fl oz (960 ml)
Retainer Systems with 0-15 psi (0-1 bar) Regulator	
Part #	Size
7012431	2.5 fl oz (75 ml)
7012434	6 fl oz (180 ml)
7012437	12 fl oz (360 ml)
7013889	20 fl oz (600 ml)
Retainer Systems with 0-100 psi (0-7 bar) Regulator	
Part #	Size
7012432	2.5 fl oz (75 ml)
7012435	6 fl oz (180 ml)
7012438	12 fl oz (360 ml)
7012440	20 fl oz (600 ml)
7014100	32 fl oz (960 ml)
Retainer Bodies	
Part #	Size
7013857	2.5 fl oz (75 ml)
7013858	6 fl oz (180 ml)
7013859	12 fl oz (360 ml)
7013860	20 fl oz (600 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 #	Size
7014373	2.5, 6, 12 fl oz (75, 180, 360 ml)
7014372	20, 32 fl oz (600, 960 ml)

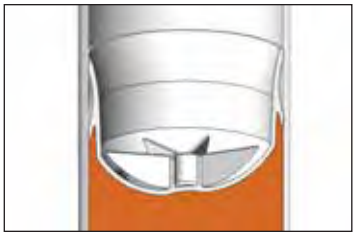
Cartridges

Pistons

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.

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

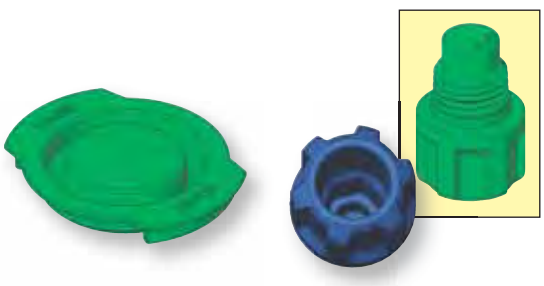


End/Outlet Caps

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

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

END CAPS			
Part #	Size	Color	Qty/Box
7012423	2.5, 6, 12 fl oz (75, 180, 360 ml)	Blue	25
7014475	2.5, 6, 12 fl oz (75, 180, 360 ml)	Green	25
7012425	20, 32 fl oz (600, 960 ml)	Blue	10
7014474	20, 32 fl oz (600, 960 ml)	Green	10
Part #	Size	Color	Qty/Box
7012424	2.5, 6, 12 fl oz (75, 180, 360 ml)	Blue	250
7012739	2.5, 6, 12 fl oz (75, 180, 360 ml)	Green	250
7012426	20, 32 fl oz (600, 960 ml)	Blue	100
7012740	20, 32 fl oz (600, 960 ml)	Green	100
OUTLET CAPS			
Part #	Size	Color	Qty/Box
7012427	All	Blue	25
7014476	All	Green	25
7012428	All	Blue	250
7012741	All	Green	250



CARTRIDGE FITTINGS

For Both Internal Molded Nozzle Cartridges and External Threaded Cartridges

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

TIP ADAPTERS

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

NOZZLES

38.1 mm (1 1/2") long metal nozzles with 1/4 NPT

Part #	Gauge	ID
7017630	7	3.8 mm (0.150")
7017633	8	3.4 mm (0.135")
7017638	10	2.7 mm (0.106")
7017643	12	2.2 mm (0.085")
7017651	14	1.6 mm (0.063")

Disposable polypropylene nozzles thread into all cartridge sizes with 1/4 NPT

Part #	Size
7018555	6.35 x 0.318 cm (2.5 x 0.125")
7018557	6.35 x 0.157 cm (2.5 x 0.062")
7018559	10.2 x 0.157 cm (4.0 x 0.062")
7018561	10.2 x 0.08 cm (4.0 x 0.031")


15
10


BACK
PACK
BACK
PACK


USA

Precision Valve Systems

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.

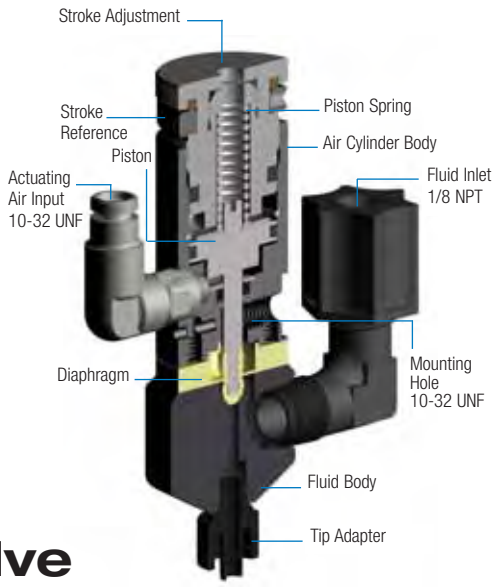
EFD offers a wide range of valves for dispensing almost any fluid, from thin solvents to thick sealants and braze pastes—in accurate, repeatable amounts.

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

Valves



For use with:

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

The ValveMate 8000 controller puts adjustment of the 752V Series valve open time where it is most needed, at the valve. See page 52.

Diaphragm Valve

752V Series

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

Features and Benefits

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

BACKPACK™ VALVE ACTUATOR

The BackPack Valve Actuator mounted on 752V Series diaphragm valves improves process control and deposit consistency. Get faster response time without the risk of process variations due to fluctuating plant air supply or varying valve air hose lengths.

- High-speed cycle capability. Cycle rate exceeds 800 per minute
- 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 is available preinstalled on new valves, or can be ordered separately (#7015581) to retrofit existing valves.

Specifications

752V-UHSS
Size: 79.5 mm length x 26.9 mm diameter (3.13" x 1.06")
Weight: 173.6 g (6.1 oz)

752V-SS
Size: 79.5 mm length x 26.9 mm diameter (3.13" x 1.06")
Weight: 181.4 g (6.4 oz)

752V-DVD
Size: 80.7 mm length x 26.9 mm diameter (3.18" x 1.06")
Weight: 172.9 g (6.1 oz)

Actuating air pressure required: 70 psi (4.8 bar)

Maximum fluid pressure: 70 psi (4.8 bar)

Fluid inlet thread: 1/8 NPT female

Fluid outlet thread: 1/4-28 UNF

Mounting: (1) 10-32 UNF tapped hole

Cycle rate: Exceeds 500 per minute

Air cylinder body:
752V-UHSS: 303 stainless steel
752V-SS: 303 stainless steel
752V-DVD: Aluminum, hard-coat anodized

Fluid body: UHMW* polyethylene, FDA approved

Fluid body options: Acetal, 303 stainless steel, PTFE

Piston and piston rod: 303 stainless steel

Tip adapter: Polypropylene

Diaphragm: UHMW* polyethylene, FDA approved

Diaphragm option: PTFE

Wetted parts: Fluid body, diaphragm, tip adapter

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

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.

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.

7021411 (752V-DVD Valve)
Air cylinder body assembly is hard-coat anodized aluminum. Tamper-resist stroke adjustment. UHMW* diaphragm and 303 stainless steel fluid body with integral tip adapter. Includes inlet fitting #7021499.

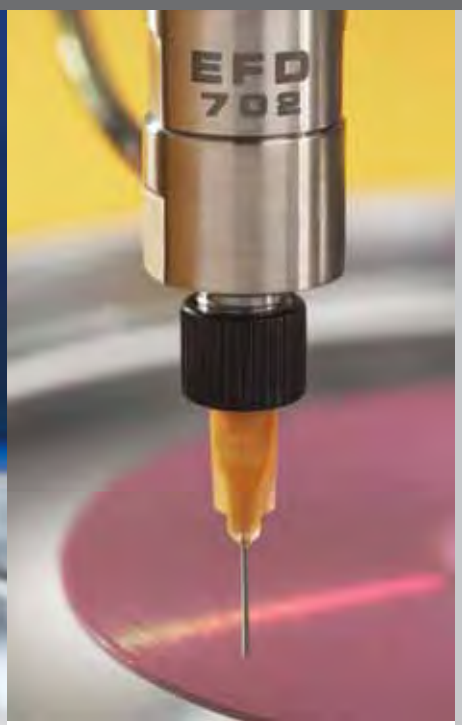
7021427 (752V-UHDVD Valve)
Same as 752V-DVD except fluid body is UHMW* with #7021443 tip adapter. Includes inlet fitting #7021499.

7021285 (750V-SS Valve)
Air cylinder body assembly is 303 stainless steel. UHMW* fluid body and diaphragm. Includes fluid inlet fitting #7021300.

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 #7015581.

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 #7015581.

*UHMW—Ultra High Molecular Weight polyethylene



Mini-diaphragm Valve

702 Series

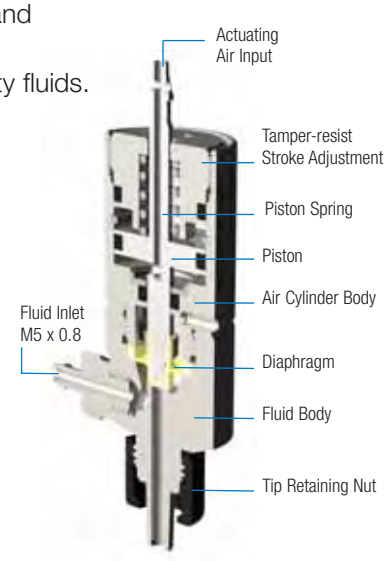
60% smaller and 70% lighter than typical dispense valves, the 702 Series is ideal for applications where space is tight, or installation on movable arms where size and weight must be considered.

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:

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

The ValveMate 8000 controller makes the 702 Series Valve setup fast and easy. See page 52.

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.

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.

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.

Specifications

Size: 63.5 mm length x 19.1 mm diameter (2.50" x 0.75")

Weight (less fittings): 49.3 g (1.74 oz)

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

Maximum fluid pressure: 70 psi (4.8 bar)

Fluid inlet thread: M5 x 0.8

Mounting: Adjustable mounting block (#7020507)

Cycle rate: Exceeds 500 per minute

Air cylinder body: 303 stainless steel

Fluid body: 303 stainless steel

Piston: 303 stainless steel

Diaphragm: FDA approved UHMW* polyethylene or PTFE. Consult Nordson EFD for part number.

Tip retaining nut: Aluminum

All stainless steel parts are passivated.

*Ultra High Molecular Weight polyethylene

For use with:

UV-cure Adhesives
Resins
UV Coatings

The ValveMate 8000 controller allows for easy on-the-fly deposit control of the 752HF Series valves. Refer to page 52.

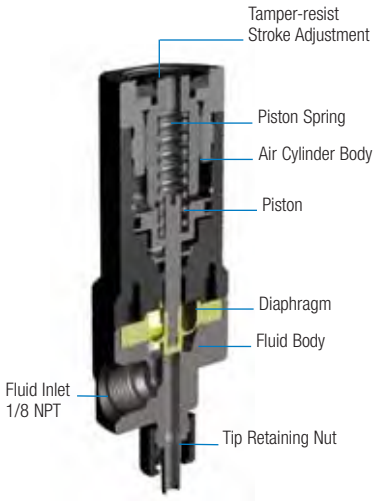
High Flow Diaphragm Valve

752HF Series

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



7014139
(752HF-A Valve)
Air cylinder body assembly and tamper-resist stroke reference knob are hard-coat 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.

*UHMW—Ultra High Molecular Weight polyethylene

Specifications

Size: 64.8 mm length x 23.8 mm diameter (2.55" x 0.94")

Weight (less fittings):
752HF-A: 81 g (2.85 oz)
752HF-SS: 123 g (4.30 oz)

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

Maximum fluid pressure: 70 psi (4.8 bar)

Fluid inlet thread: 1/8-27 NPT

Mounting: (1) M5 x 0.8

Cycle rate: Exceeds 500 per minute

Air cylinder body: Aluminum, hard-coat anodized

Fluid body:
752HF-A: Acetal copolymer
752HF-SS: 303 stainless steel

Piston: 303 stainless steel

Diaphragm: UHMW* polyethylene, FDA approved

Tip retaining nut: Aluminum

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

Aseptic Valve
754V

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.

For use with:

Saline Solutions
Optical Monomers
Pill Coating
Solvents
Vial Filling
Food Processing

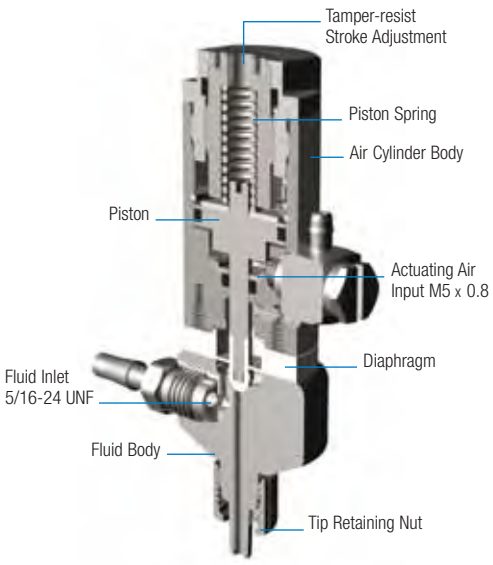
Use the ValveMate 8000 controller with the 754V valve for precise, repeatable output. See page 52.

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.

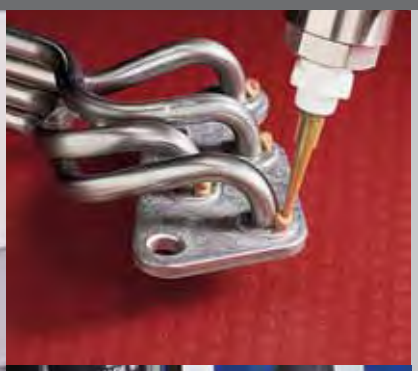
Features and Benefits

- Accurate, consistent shot size
- Clean cutoff eliminates drips
- Diaphragm life exceeds $1x10^8$
- Positive shutoff, no seals



Specifications

Size: 77.5 mm length x 26.9 mm diameter (3.05" x 1.06")
Weight: 193.3 g (6.82 oz)
Actuating air pressure required: 70 psi (4.8 bar)
Maximum fluid pressure: 70 psi (4.8 bar)
Fluid inlet thread: 5/16-24 UNF
Fluid outlet thread: Male luer lock
Mounting: None
Cycle rate: Exceeds 500 per minute
Air cylinder body: 316L stainless steel
Fluid body: 316L stainless steel
Piston and piston rod: 316L stainless steel
Tip adapter: Integrated, threadless
Diaphragm: PTFE
Wetted parts: Fluid body, diaphragm, tip adapter



For use with:

Braze Pastes	Solder Resists
Epoxies	Paste Fluxes
Greases	RTV/Sealants

Easily change deposit size settings of the 725D Series valves with the ValveMate 8000 controller. Refer to page 52.

Piston Valve

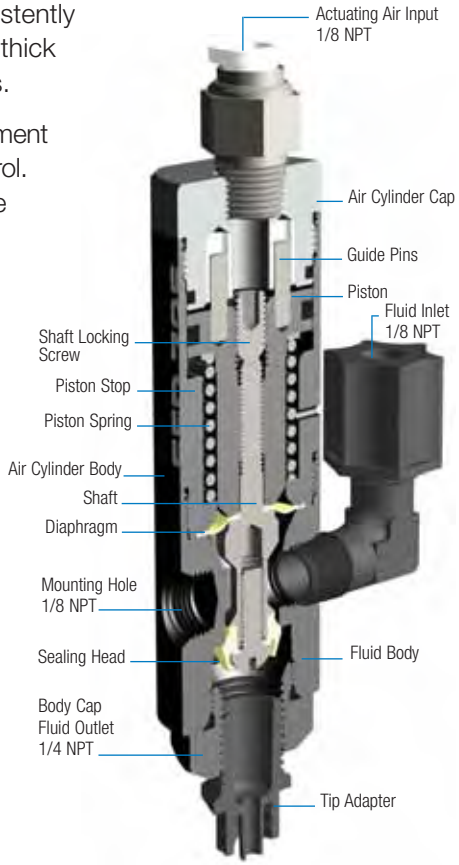
725D Series

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



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 and dispensing tip kit.

7021009
(725D-SS Valve)
Fluid body and body cap are passivated 303 stainless steel. UHMW* diaphragm and sealing head. Includes fluid inlet fittings #7021499 and #7007038.

Specifications

725DA-SS (stroke adjustment)
- **Size:** 152.4 mm length x 29.5 mm diameter (6.00" x 1.16")
- **Weight:** 326 g (11.5 oz)

725D-SS (fixed stroke-travel)
- **Size:** 127 mm length x 28.4 mm diameter (5.00" x 1.12")
- **Weight:** 279 g (9.85 oz)

Actuating air pressure required: 70 psi (4.8 bar)
Maximum input fluid pressure: 100 psi (7.0 bar)
Fluid inlet thread: 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: Aluminum, hard-coat anodized
Fluid body: 303 stainless steel
Piston: Aluminum, hard-coat anodized
Spring: Stainless steel
Sealing head/diaphragm: UHMW* polymer, FDA-approved

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

For use with:

Adhesives	Lubricants
Cosmetics	Inks
Creams	Sealants
Greases	

The ValveMate 8000 controller simplifies fill setup and purging of the 725HF Series valve. See page 52.

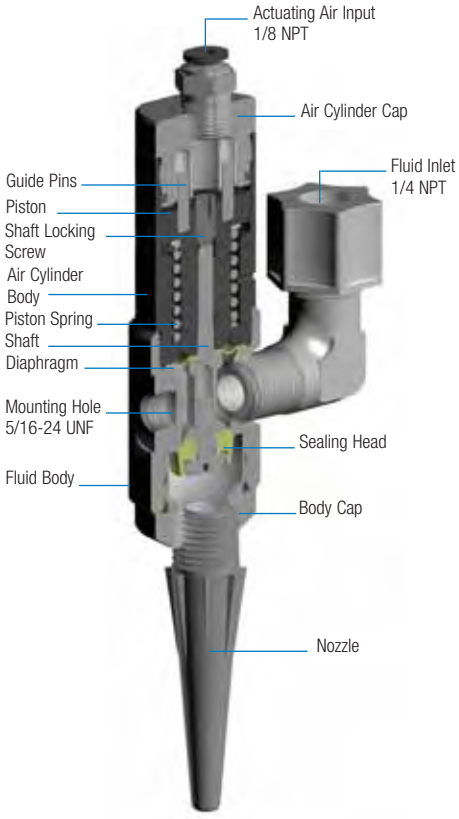
High Flow Piston Valve

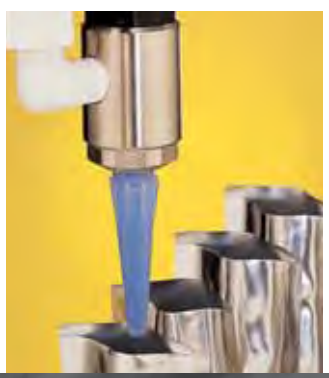
725HF Series

Dispenses a wide variety of fluids at rates up to 450ml/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
- <±1° repeat fill tolerance
- Low-maintenance design





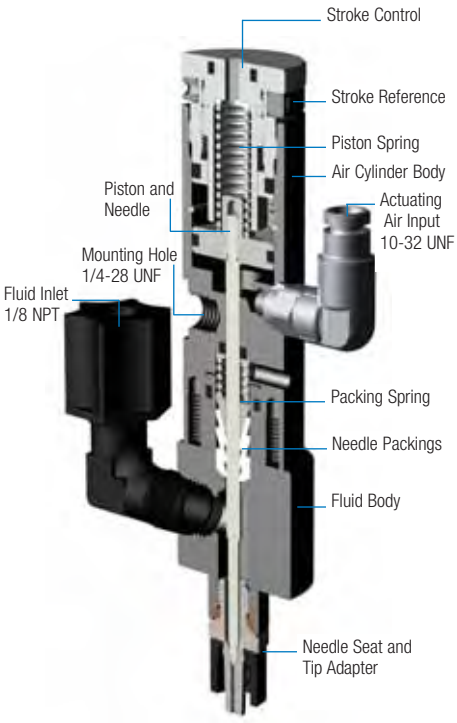
7021020
(725HF-SS Valve)
Hard-coat anodized aluminum air cylinder body assembly with passivated 303 stainless steel fluid body and shaft. UHMW* diaphragm and sealing head. Includes 1.5 m (5 ft) input air hose with male quick-connect, fluid inlet fitting #7021038 tip adapter, and two #7018554 disposable polyethylene nozzles.

7021015
(725HF-A Valve)
Same as 725HF-SS except wetted parts are acetal copolymer, UHMW* polyethylene and PTFE-coated stainless steel. Includes 1.5 m (5 ft) input air hose with male quick-connect, fluid inlet fitting #7021038, tip adapter, and (2) #7018554 disposable polyethylene nozzles.

Specifications

725HF-SS Size: 108.7 mm length x 31.2 mm diameter (4.28" x 1.23")
Weight: 309 g (10.9 oz)
725HF-A Size: 109.2 mm length x 31.2 mm diameter (4.30" x 1.23")
Weight: 185 g (6.5 oz)
Actuating air pressure required: 70 psi (4.8 bar)
Maximum fluid pressure: 100 psi (7.0 bar)
Fluid inlet thread: 1/4 NPT
Fluid outlet thread: 1/4 NPT
Mounting: (1) 5/16 UNF or adjustable mounting block
Cycle rate: Exceeds 400 per minute
Air cylinder body: Aluminum, hard-coat anodized
Fluid body: 303 stainless steel or acetal copolymer
Piston: Aluminum, hard-coat anodized
Spring: Stainless steel
Sealing head/diaphragm: UHMW* polymer, FDA-approved

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



For use with:

Accelerators
Marking Inks
Silicone Oils
Solvents
UV-cure Adhesives

The ValveMate 8000 controller can control up to (4) 741V Series valves to optimize production line efficiency. Refer to page 52.

Needle Valve

741V Series

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

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

BACKPACK™ VALVE ACTUATOR

The BackPack Valve Actuator mounted on the air cylinder of the 741V Series valve 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 rate exceeds 800 per minute
- 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 is available preinstalled on new valves, or can be ordered separately (#7015581) to retrofit existing valves.

7007029
(741V-SS Valve)
Air cylinder and fluid body is passivated 303 stainless steel. Includes fluid inlet fittings #7021499 and #7007038.

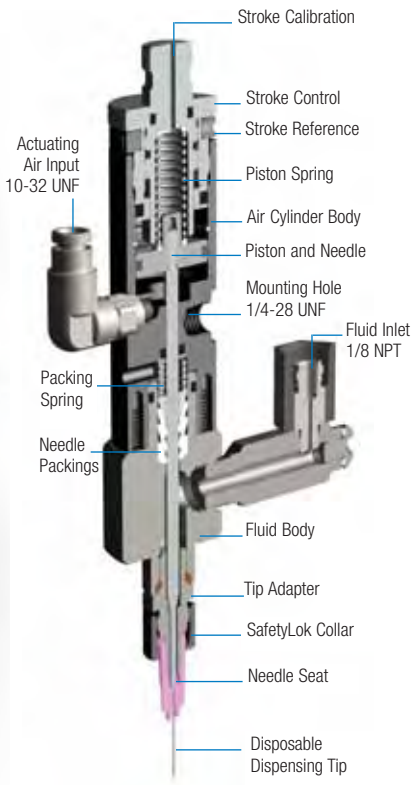
7021239
(741V-SS-TR Valve)
Same as 741V-SS but tamper resistant.

7015584
(741V-SS-BP Valve)
Air cylinder and fluid body is passivated 303 stainless steel. Includes fluid inlet fittings and BackPack valve actuator #7015581.

Specifications

Size: 114.6 mm length x 26.9 mm diameter (4.51" x 1.06")
Weight: 317.5 g (11.2 oz)
Actuating air pressure required: 70-90 psi (4.8-6.2 bar)
Maximum input fluid pressure: 300 psi (20.7 bar)
Fluid inlet thread: 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: 303 stainless steel
Fluid body: 303 stainless steel
Piston: 303 stainless steel
Needle: 303 stainless steel
Tip adapter/needle seat: 303 stainless steel
SafetyLok™ collar: Nylon
Needle packings: PTFE

Note: All stainless steel parts are passivated.



For use with:

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

The ValveMate 8000 allows you to increase or decrease valve open time on the 741MD-SS valve in increments as small as 0.001 seconds. See page 52.

MicroDot™ Valve
741MD-SS

The 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

BackPack valve actuator is also available for the 741MD-SS Valve. It can be preinstalled on new valves, or ordered separately (#7015581) to retrofit to existing valves.

7021233
(741MD-SS Valve)
Fluid body is passivated 303 stainless steel. Air cylinder body assembly is hard-coat anodized aluminum. Includes fluid inlet fittings #7021499 and #7007038.

7015585
(741MD-SS-BP Valve)
Fluid body is passivated 303 stainless steel. Air cylinder body assembly is hard-coat anodized aluminum. Includes fluid inlet fittings and BackPack valve actuator #7015581.

Specifications

Size: 127.5 mm length x 26.9 mm diameter (5.02" x 1.06")
Weight: 251 g (9.0 oz)
Actuating air pressure required: 70 psi (4.8 bar)
Maximum fluid pressure: 100 psi (7.0 bar)
Fluid inlet thread: 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: Aluminum, hard-coat anodized
Fluid body: 303 stainless steel
Piston: 303 stainless steel
Needle: 303 stainless steel
Tip adapter: 303 stainless steel
EFD SafetyLok™ collar: Aluminum, hard-coat anodized

All stainless steel parts are passivated.

For use with:

Adhesives
Greases
Sealants
Silicones

The ValveMate 8000 controller and 736HPA-NV valve provide controlled beads or repeatable dots and fills. Refer to page 52.

High Pressure Valve

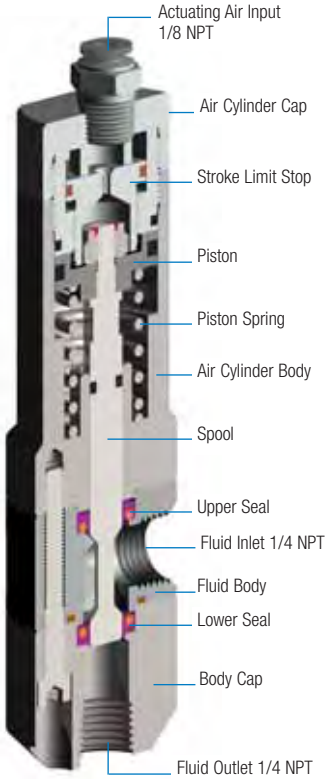
736HPA-NV

Stainless steel balanced spool valve applies uniform amounts of thick materials like greases and silicones at pressures up to 2,500 psi (172 bar).

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



7013449
(736HPA-NV Valve)

Fluid body and air cylinder body are passivated 303 stainless steel. 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.

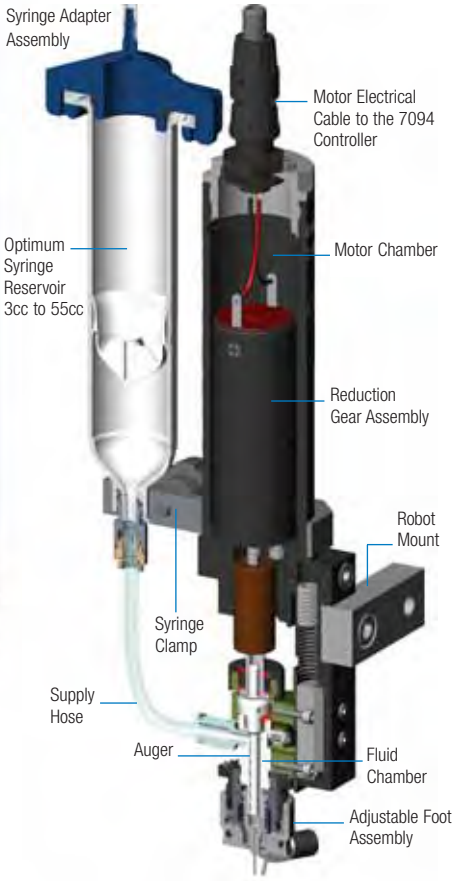
Specifications

Size: 134.4 mm length x 35.1 mm diameter (5.29" x 1.38")
Weight (less fittings): 544 g (19.2 oz)
Actuating air pressure required: 70 psi (4.8 bar)
Maximum fluid pressure: 2,500 psi (172 bar)
Fluid inlet thread: 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 and outlet cap: 303 stainless steel
Piston: Aluminum, hard-coat anodized
Spool: Stainless, hard chrome coated
Spool seals: Polyester elastomer
Wetted parts: Spool, spool seals, fluid body, body cap

All stainless steel parts are passivated.

For use with:

Solder Pastes
Particle-filled Materials
Thermal Greases
Silver Epoxies



Auger Valve
794 Series

The 794 auger valve uses screw feed technology with precision time and pressure controls to dispense accurate, repeatable amounts of particle-filled materials.

The 794 auger valve is available with two motor types. Brush motors are best for lines and stripes and deposit cycle rates under 60-90 shots per minute. Brushless motors are best for high-speed, high cycle rate microdot applications.

Features and Benefits

- Adjustable auger speed
- Two motor types—brush or brushless
- Fixed head version for lines and stripes
- Sliding head/footed tip version maintains consistent dispense gap when dispensing on surfaces with irregular height.

The 7094 Series controller regulates solder feed pressure, dispense time and auger speed of the 794 Series valve. See page 55.

Brushless Motor Style

7021913
(794-SB Valve)
Auger valve, 8 pitch, BRUSHLESS motor, SLIDING head, footed tip

7021908
(794-FB Valve)
Auger valve, 8 pitch, BRUSHLESS motor, FIXED head

7021914
(794-SB-16 Valve)
Auger valve, 16 pitch, BRUSHLESS motor, SLIDING head

7021909
(794-FB-16 Valve)
Auger valve, 16 pitch, BRUSHLESS motor, FIXED head

Brush Motor Style

7021916
(794-SR Valve)
Auger valve, 8 pitch, BRUSH motor, SLIDING head, footed tip

7021910
(794-FR Valve)
Auger valve, 8 pitch, BRUSH motor, FIXED head

7021917
(794-SR-16 Valve)
Auger valve, 16 pitch, BRUSH motor, SLIDING head, footed tip

7021911
(794-FR-16 Valve)
Auger valve, 16 pitch, BRUSH motor, FIXED head

Specifications

Size: 237.5 mm length x 31.8 mm diameter (9.35" x 1.25")
Weight: 544 g (19.2 oz)
Fluid chamber: 440C hardened stainless steel
Auger: 440C hardened stainless steel
"U" cup: Filled PTFE, spring energized
Liquid feed fitting: 304 stainless steel 10-32 UNF x 5/32 (push-in optional: polypropylene)
Auger speed: 250-500 RPM based on voltage input
Auger pitch: 8 and 16 pitch auger
Input Voltage: 12-24 VDC (<10% ripple)
Input Air: 0-30 psi (0-2.07 bar) clean, dry and filtered
Maximum Acceleration: 2g

All stainless steel parts are passivated.

For use with:

Anaerobics
Cyanoacrylates
Lubricants
Silicone Gels
Solvents

The ValveMate 7060RA controller provides exact control to the radial spinner system. Refer to page 54.

Radial Spinner System

7860C-RS Air Motor Bracket Assembly

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 mm (5") 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

7021798 (7860C-RS)
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.

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

7014235 (7060RA Radial System Controller)
Accessories included with each ValveMate 7060RA controller: Input air hose and fittings, five-micron filter regulator with air lubricator, universal mounting bracket and power cord.

RADIAL SPINNER/DISC ASSEMBLIES

Shaft length is 70 mm (2.75") x 3.18 mm (.125") diameter

Part	Part #	Description
	7021842	7880-9MM: 9 mm (.354") radial spinner/disc
	7021836	7880-12MM: 12 mm (.473") radial spinner/disc
	7021838	7880-15MM: 15 mm (.590") radial spinner/disc
	7021840	7880-19MM: 19 mm (.745") radial spinner/disc

DISPENSING TIPS

Part	Part #	Description
	7021846	18 gauge needle – 30 degree bend 20/box
	7021848	21 gauge needle – 30 degree bend 20/box
	7021850	23 gauge needle – 30 degree bend 20/box
	7021844	Tip kit: Includes (2) each of 16, 21 and 23 gauge bent tips
	7021448	Tip adapter: Rotating luer lock tip for 752V valve

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EFD 781
EFD 781


EFD

Spray Valve Systems

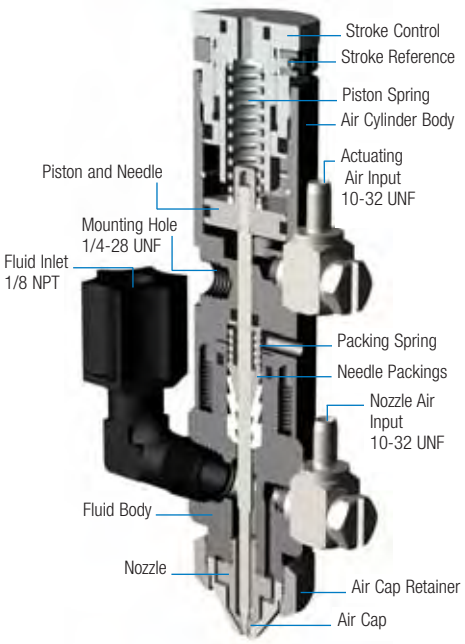
EFD's Low Volume Low Pressure (LVLP) spray systems apply consistent coatings of low- to medium-viscosity fluids, including lubricants, medical solutions, activators, oils and inks.

A wide variety of models offers industry solutions that range from micro spraying medical stent coatings to coating automotive cylinders to spray marking parts. The combination of adjustable fluid flow, adjustable nozzle air and post-air cutoff provides excellent spray control.

The system includes a compact spray valve, ValveMate™ controller and fluid tank. The controller is used to set length of time and air pressure required for precise coverage. A programmable nozzle air delay after each spray cycle keeps the spray nozzle clog-free and reduces maintenance and downtime.

Features and Benefits

- Extremely consistent coverage
- High transfer efficiency
- Cycle rate exceeds 400/minute
- No overspray or mist



Spray Valve Systems

781S Series

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

Specifications

Size: 104.6 mm length x 26.9 mm diameter (4.12" x 1.06")

Weight: **781S-SS:** 405.3 g (14.2 oz)
781S: 235.3 g (8.2 oz)

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

Maximum fluid pressure: 300 psi (20.7 bar)

Fluid inlet thread: 1/8 NPT female

Mounting: (1) 1/4-28 UNF tapped hole

Cycle rate: Exceeds 400 per minute

Air cylinder body:
781S-SS: 303 stainless steel
781S: Aluminum, hard-coat anodized

Fluid body:
781S-SS: 303 stainless steel
781S: Aluminum, hard-coat anodized

Air cap: 303 stainless steel

Piston: 303 stainless steel

Needle and nozzle: 303 stainless steel

Needle packings: PTFE

All stainless steel parts are passivated.

For use with:

Activators	Silicones
Coatings	Solvents
Greases	Inks
Liquid Fluxes	Oils

The ValveMate 8040 controller provides Low Volume Low Pressure air to the nozzle of the 781S Series valve for high transfer efficiency. Refer to page 53.

7007031
(781S-SS Spray Valve)
Nozzle size is 1.17 mm (.046") diameter. Round pattern, narrow angle. All metal parts are passivated 303 stainless steel.

7021616
(781S-SS-TR)
Same as 781S-SS, except with tamper-resist stroke.

7021615
(781S-SS-46F)
Nozzle size is 1.17 mm (.046") diameter, fan shape. 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.

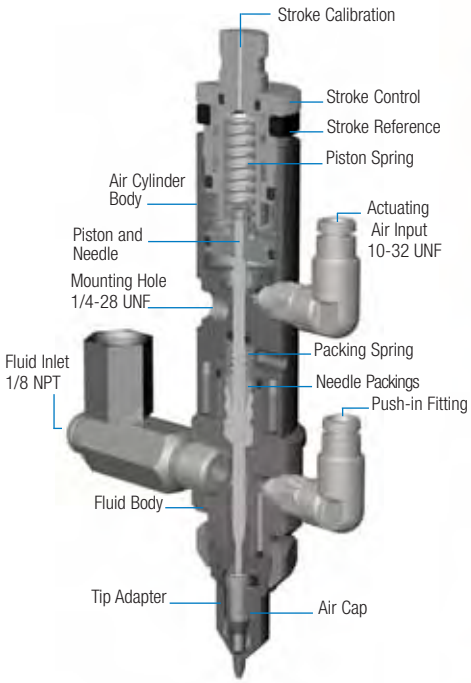
7021613
(781S-SS-28)
Nozzle size is 0.71 mm (.028") diameter. Round pattern, narrow angle. All metal parts are passivated 303 stainless steel.

7021614
(781S-SS-28F)
Nozzle size is 0.71 mm (.028") diameter, fan shape. All metal parts are passivated 303 stainless steel.

7021611
(781S-SS-14)
Nozzle size is 0.36 mm (.014") diameter. Round pattern, narrow angle. All metal parts are passivated 303 stainless steel.

7021612
(781S-SS-14F)
Nozzle size is 0.36 mm (.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.



For use with:

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

The ValveMate 8040 controller provides exact control to the 787MS-SS valve giving it exceptional spray pattern definition. See page 53.

MicroSpray™ Valve

787MS-SS

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 mm-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

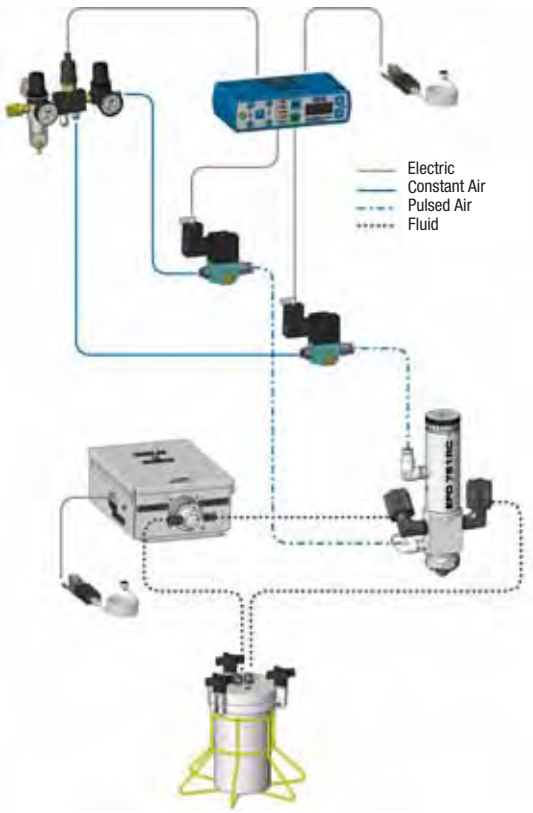
- High transfer efficiency
- No overspray or mist
- Consistent spray pattern
- Faster throughput

7012549
(787MS-SS Valve)
Includes spray tip kit, air hoses, fluid inlet fitting, barrel reservoirs, and adapter assembly for reservoir pressure.

Specifications

Size: 131.6 mm length x 26.9 mm diameter (5.18" x 1.06")
Weight: 336 g (11.8 oz)
Maximum fluid pressure: 100 psi (7.0 bar)
Fluid inlet thread: 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
Piston: 303 stainless steel
Needle: 303 stainless steel
Air cap: 303 stainless steel
Free flow orifice: 33 ga (.004"; 0.10 mm) to 23 ga (.013"; 0.33 mm)
Needle packings: PTFE
Maximum operating temperature: 102°C (215°F)

All stainless steel parts are passivated.



Recirculating Spray Marking System

781RC-SS

The 781RC MicroMark Recirculating Spray Marking System produces uniform round patterns and stripes from 5.0 mm to 30.4 mm (0.20" to 1.20") wide without clogging or overspray.

This unique marking system eliminates the clogging, maintenance and downtime encountered with standard marking systems by using a recirculating pump to keep pigments in suspension and a programmable air delay after each cycle to clean the spray nozzle.

This MicroMark system can be used to color-code similar components, indicate pass/fail, or show production or test status. It can be activated manually or interfaced with other systems to mark at scheduled intervals.

Features and Benefits

- No clogging, dripping or drying out
- Keep pigments in suspension
- No mist or overspray
- Consistent size and placement

For use with:

Marking Inks

Paints

Other Fluids that Separate

The complete recirculating spray marking system includes the 781RC-SS spray valve, the ValveMate 8040 controller with single in-line solenoid, recirculation pump enclosure assembly, 1-liter reservoir and all necessary air and fluid hoses with fittings. Available in two nozzle sizes. See below.

7013915
Recirculation spray valve with 0.36 mm (.014") diameter nozzle. Round pattern, narrow angle. All metal parts are passivated 303 stainless steel.

7013769
Same as #7013915 recirculation spray valve but with 0.71 mm (.028") diameter nozzle. Round pattern, narrow angle. All metal parts are passivated 303 stainless steel.

For fluids not requiring recirculation, select MicroMark System MM781-SYS. See below.

7023895
Includes spray valve, ValveMate 8040 controller, solenoid valve kit and 1-liter tank reservoir.

Specifications

Valve

Size: 104.6 mm length x 26.9 mm diameter (4.12" x 1.06")

Weight: 235.3 g (8.2 oz)

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

Maximum fluid pressure: 300 psi (20.7 bar)

Fluid inlet thread: 1/8 NPT female

Mounting: (1) 1/4-28 UNF tapped hole

Cycle rate: Exceeds 400 per minute

Air cylinder body, fluid body, air cap, piston and needle and nozzle: 303 stainless steel

Needle packings: PTFE

All stainless steel parts are passivated.

Pump Enclosure

Cabinet size: 25.4L x 20.3W x 10.2D cm (10"L x 8"W x 4"D)

Weight: 6.5 kg (14.6 lb)

Input AC (to power supply): 100-240 VAC, 50/60Hz

Power Requirements: 24 VDC, 2.0 Amp maximum

Pump

Flow capacity: Up to 88 liters per hour

Weight: 0.4 kg (13.6 oz)

Power input: 24 VDC, 2.0 Amp maximum

Wetted materials:
Pump body: 303 stainless steel
Gears: PEEK
Gasket: PTFE

For use with:

Saline Solutions
Stent Coatings
Silicone Oils
Solvents

The ValveMate 8040 controller provides excellent spray control to the 784S-SS Series valve. See page 53.

316L Stainless Steel Aseptic Spray Valve

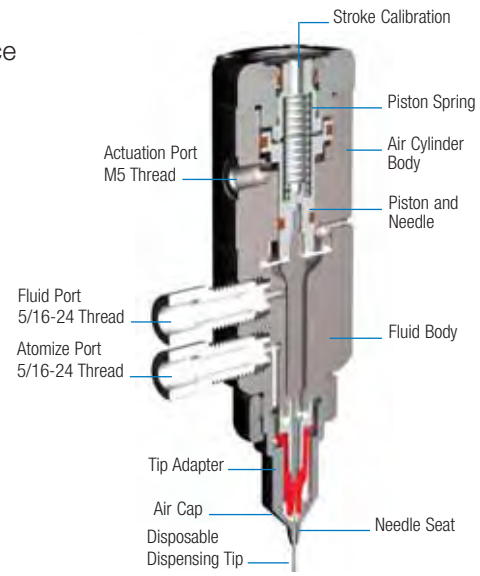
784S-SS Series

Using Low Volume Low Pressure (LVLP) technology, the 784S-SS aseptic spray valve system accurately controls the application of most low- to medium-viscosity fluids. The 784S-SS aseptic spray valve uses a small gauge dispensing tip to produce uniform round spray patterns between 0.130" and 0.75" in diameter. For a wider area of coverage, the 784S-SS-F with fan air cap is available.

The unique design of the 784S-SS provides a fluid flow path free of any entrapment areas, critical for sterile and aseptic fluid applications. Wetted parts are 316L stainless steel and PTFE, which are suitable for CIP (Clean- In-Place) and SIP (Sterilize-In-Place) processes.

Features and Benefits

- Easy to clean or sterilize in place
- FDA-compliant wetted parts
- Low-maintenance design
- Positive shutoff, no seals



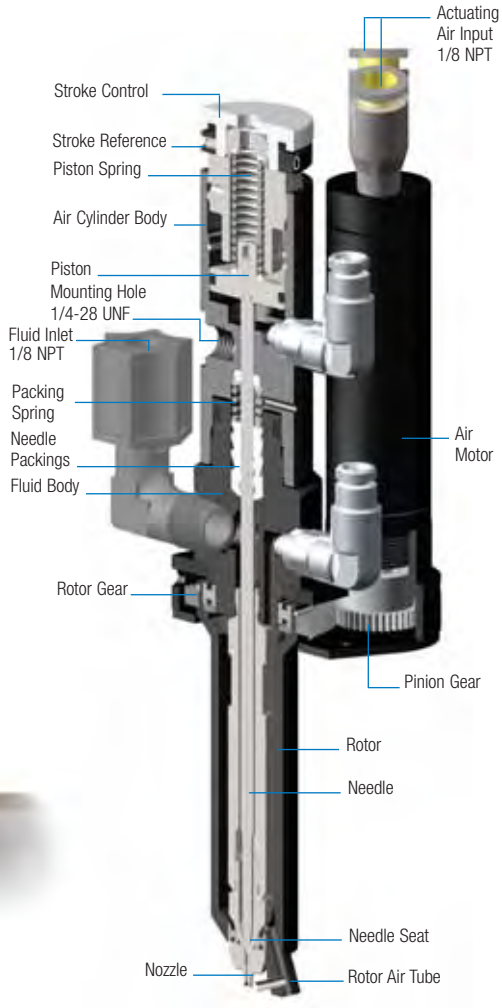
7012988
(784S-SS Valve)
Microspray valve with 316L stainless steel parts and round pattern air cap.

7013000
(784S-SS-F Valve)
Microspray valve with 316L stainless steel parts and fan pattern air cap.

Specifications

Size: 96.3 mm length x 31.5 mm diameter (3.79" x 1.24")
Weight: 430 g (15.2 oz)
Maximum fluid pressure: 25 psi (1.7 bar)
Fluid inlet thread: 5/16-24 UNF tapped hole
Cycle rate: Exceeds 400 per minute
Air cylinder body: 316L stainless steel
Fluid body: 316L stainless steel
Piston: 316L stainless steel
Needle: 316L stainless steel
Air cap: 316L stainless steel
Maximum operating temperature: Autoclaving 260°C (500°F)

All stainless steel parts are electro-polished and passivated.



Radial Spray Valve

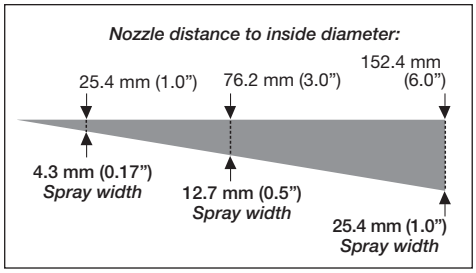
782RA

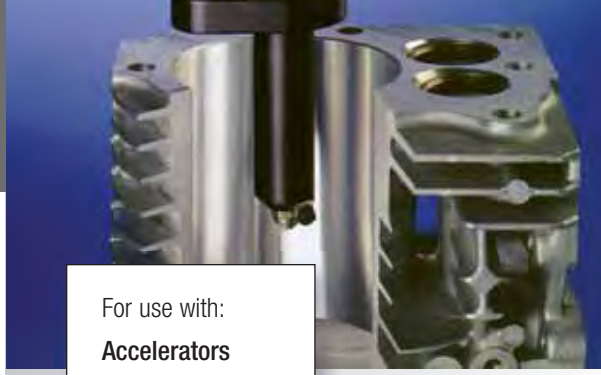
Unique design uses a precision air motor and Low Volume Low Pressure technology to apply a uniform coating of lubricants, primers and other low- to medium-viscosity fluids inside cylinders 25.4 mm to 304.8 mm (1" to 12") in diameter.

Features and Benefits

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

Spray coverage shown 1/3 actual size.





For use with:

Accelerators
Activators
Lubricants
Primers
Solvents

The ValveMate 7060RA controls the 782RA's motor speed, valve spray time and fluid nozzle air at the dispense station. Refer to page 54.

7021649
(782RA Radial Spray Valve)
Rotor length is 5.59 cm (2.2") and reaches into cylinders with a minimum inner diameter of 2.54 cm (1.0"). Includes fluid inlet fittings #7021499 and #7007038. Fluid body and rotor are hard-coat anodized aluminum. Each valve can be calibrated with the stroke reference knob for process control. Radial valves include fluid inlet fittings and two 1.5 m (5 ft) control air hoses with fittings to connect the valve to the ValveMate 7060RA controller.

Specifications

Size: 174.5 mm length x 53.8 mm diameter (6.87" x 2.12")
Weight: 480.8 g (16.9 oz)
Motor air consumption: <0.3 SCFM at 80 psi (5.4 bar)
Nozzle air consumption: 1.5 SCFM at 30 psi (2.1 bar)
Actuating air pressure required: 70 psi (4.8 bar)
Maximum fluid pressure: 300 psi (20.7 bar)
Fluid inlet thread: 1/8 NPT female
Mounting: 1/4-28 UNF tapped hole
Cycle rate: Exceeds 400 per minute
Air cylinder body: Aluminum, hard-coat anodized
Fluid body: Aluminum, hard-coat anodized
Piston: 303 stainless steel
Needle and nozzle: Stainless steel
Needle packings: PTFE
Rotor: Aluminum, hard-coat anodized

All stainless steel parts are passivated.

US Patent No. D376,376 for 782RA Radial Spray Valve

Valves

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.

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.

Note: Order appropriate dispense valve and reservoir separately. Contact Nordson EFD for recommendations.

Multi-Valve Controller

ValveMate™ 8000

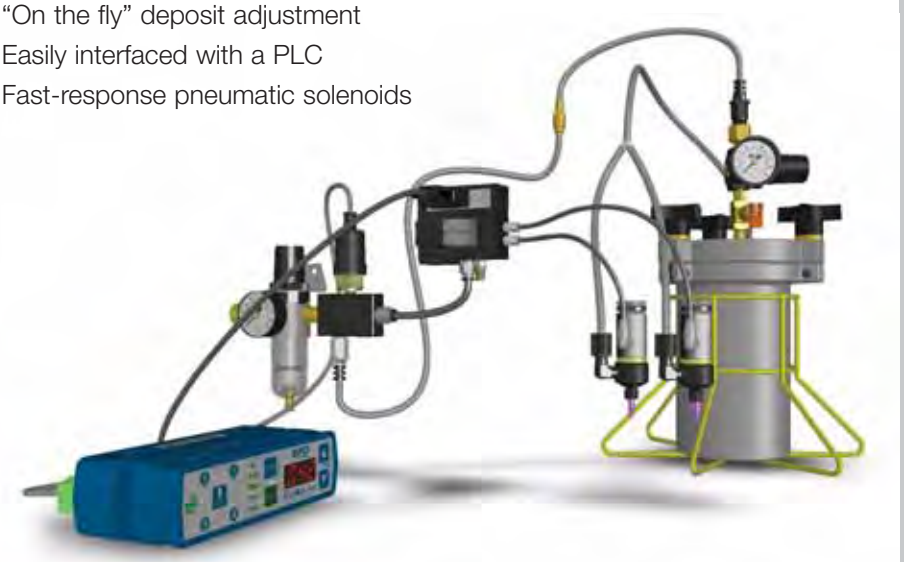
Automated dispensing stations run at maximum speed and efficiency when EFD dispense valves are operated by ValveMate controllers.

The ValveMate 8000 Multi-Valve controller provides the primary control for deposit size and is used with all **702, 725, 736HPA-NV, 741** and **752** Series dispense valves. The controller is designed to bring fluid dispensing control close to the dispense valve, and provide numerous user-friendly features that simplify valve setup and operation.

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

Features and Benefits

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



Select the appropriate solenoid assembly for the number of valves used.

7022246
Single in-line solenoid for one valve operation.

7022247
Dual-solenoid block for two valve operation.

7022248
Tri-solenoid block for three valve operation.

7022249
Quad-solenoid block for four valve operation.

Specifications

Cabinet Size: 18.3W x 5.1H x 8.6D cm (7.22"W x 2"H x 3.38"D)

Weight: .27 kg (.6 lb)

Input AC (to power supply): 100-240 VAC, 50/60Hz

Output Voltage (from power supply): 24 VDC, 1.25 Amp maximum

Power Requirements: 24 VDC, 1.25 Amp maximum

Feedback Circuits: 5 to 24 VDC NC solid-state switch 100mA maximum

Initiate Circuit: 5 to 24 VDC signal

Cycle Rate: Exceeds 600 per minute

Time Range: Programmable .001 to 99.9 seconds

Approvals: CE, CSA, RoHS, WEEE & China RoHS Compliant

Spray Valve Controller

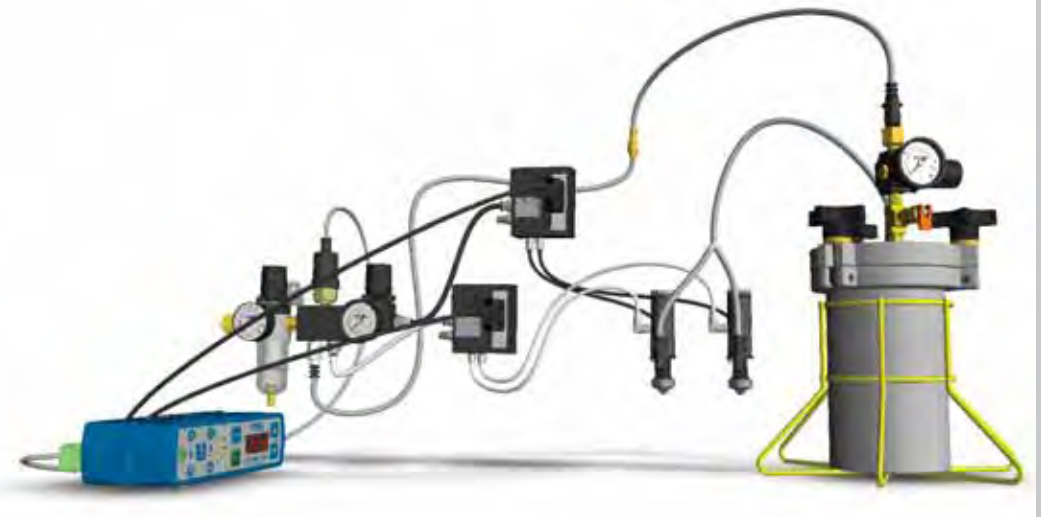
ValveMate™ 8040

The ValveMate 8040 Spray Valve controller provides precise control of nozzle air flow and spray time for the **781S, 784S** and **787MS** spray valves.

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



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.

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.

Order single or dual valve solenoid assemblies separately.

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

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

Contact EFD for recommendations.

Specifications

Cabinet Size: 18.3W x 5.1H x 8.6D cm (7.22"W x 2"H x 3.38"D)

Weight: .27 kg (.6 lb)

Input AC (to power supply): 100-240 VAC, 50/60Hz

Output Voltage (from power supply): 24 VDC, 1.25 Amp maximum

Power Requirements: 24 VDC, 1.25 Amp maximum

Feedback Circuits: 5 to 24 VDC NC solid-state switch 100mA maximum

Initiate Circuit: 5 to 24 VDC signal

Cycle Rate: Exceeds 400 per minute

Time Range: Programmable .001 to 99.9 seconds

Approvals: CE, CSA, RoHS, WEEE & China RoHS Compliant

Radial System

ValveMate™ 7060RA

The ValveMate 7060RA controller provides the proper controls required for consistent radial valve operation. Use with the **782RA radial spray valve** or **7860C-RS radial spinner system**.

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 7060RA also includes a programmable shutoff delay and a test cycle button to initiate spray cycles during setup.

Features and Benefits

- Digital time and pressure display
- Panel or bracket mounting
- Motor overload/fault detection
- Programmable time

7014235
(7060RA Radial Spray Valve Controller)
Accessories included with each ValveMate 7060RA controller: Input air hose and fittings, five-micron filter regulator with air lubricator, universal mounting bracket and power cord.

Specifications

Cabinet Size: 19.1W x 6.9H x 14.2D cm (7.5"W x 2.7"H x 5.6"D)
Weight: 1.5 kg (3.3 lb)
Input AC (to power supply): 100/120/220 VAC, 50/60 Hz
Output Voltage (from power supply): 24 VDC, 1.25 Amp maximum
Initiate Circuit: 5 to 24 VDC signal
Time Range: Programmable 0.001 to 99.9 seconds
Approvals: CE, CSA, RoHS, WEEE & China RoHS Compliant

Radial Spray System

Radial Spinner System

Auger Valve Controller

ValveMate™ 7094 Series

Designed for use with the **794 Series auger valves,** the ValveMate 7094 Series controllers provide a fast, convenient way to adjust valve open time in increments as small as 0.001 second. This provides exceptional process control and eliminates the need to reprogram a PLC.

Precision air pressure regulator provides precise pressure control to the barrel reservoir and can be operated in continuous or pulse mode. Each 794 Series auger valve requires one ValveMate 7094DC controller (for brush style motors) or ValveMate 7094BL controller (for brushless style motors) for proper operation.

Features and Benefits

- Motor voltage range of 10-24VDC
- Continuous or pulse pressure mode to reservoir
- Nonvolatile, power-off memory
- Programmable time

7013863
(7094DC Controller, Brush Motor)

Includes controller, input air hose and fittings, five-micron filter regulator with air lubricator and power cord.

7094DC Brush Motor Auger Valve Controller use with Auger Valve Series 794-SR, 794-SR-16, 794-FR, 794-FR-16, 794-FR-16DL

7013864
(7094BL Controller, Brushless Motor)

Includes controller, input air hose and fittings, five-micron filter regulator with air lubricator and power cord.

7094BL Brushless Motor Auger Valve Controller use with Auger Valve Series 794-SB, 794-SB-16, 794-FB, 794-FB-16, 794-FB-16DL

Specifications

Cabinet Size: 19.1W x 6.9H x 14.2D cm (7.5"W x 2.7"H x 5.6"D)

Weight: 1.6 kg (3.4 lb)

Input AC (to power supply): 100-240 VAC, 50/60 Hz

Output Voltage (from power supply): 30 VDC, 1.25 Amp maximum

Initiate Circuit: 5 to 24 VDC signal

Time Range: Programmable 0.001 to 99.9 seconds, 0.00005 second repeat

Approvals: CE, CSA, RoHS, WEEE & China RoHS Compliant

1.0 Liter Fluid Tank

5.0 Liter Fluid Tank

Precision Regulator/ Digital Gauge Fluid Reservoirs

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 0-10 psi (0-0.7 bar) for low-viscosity fluids and 0-100 psi (0-7.0 bar) 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

7013460
1.0 liter tank with 0-10 psi (0-0.7 bar) regulator.

7013489
1.0 liter tank with 0-100 psi (0-7.0 bar) regulator.

7013430
5.0 liter tank with 0-10 psi (0-0.7 bar) regulator.

7013490
5.0 liter tank with 0-100 psi (0-7.0 bar) regulator.

All necessary fittings and feed tubing are included with each fluid tank.

Specifications

Model: 1-Liter
Tank body: Cast aluminum
Capacity: 1 liter
Maximum Operating Pressure: 100 psi (7.0 bar)
Maximum Operating Temperature: 50°C (122°F)
Weight: 3.0 kg (6.60 lb)
Height: 350 mm (13.75")
Diameter (Cover Maximum): 172 mm (6.75")

Model: 5-Liter
Tank body: Cast aluminum
Capacity: 5 liter
Maximum Operating Pressure: 100 psi (7.0 bar)
Maximum Operating Temperature: 50°C (122°F)
Weight: 9.1 kg (20.1 lb)
Height: 413 mm (16.25")
Diameter (Cover Maximum): 251 mm (9.85")

Fluid Reservoirs

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

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

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

615 Series
1.0 Liter Tank
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.

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

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

7020120
(615DTH-FS)
1.0 liter tank with 100 psi (7.0 bar) regulator and stainless steel low level float switch (suitable for use with most lubricants, fluxes and solvents).

7020122
(615DTL-FS)
1.0 liter tank with 15 psi (1.0 bar) regulator and stainless steel low level float switch (suitable for use with most lubricants, fluxes and solvents).

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

7020189
(626DTL)
5.0 liter tank with 15 psi (1.0 bar) regulator.

7020187
(626DTH-B)
5.0 liter tank with 100 psi (7.0 bar) regulator and black feed tubing for light-sensitive and UV-cure materials.

7020188
(626DTH-FS)
5.0 liter tank with 100 psi (7.0 bar) regulator and stainless steel low level float switch (suitable for use with most lubricants, fluxes and solvents).

7020190
(626DTL-FS)
5.0 liter tank with 15 psi (1.0 bar) regulator and stainless steel low level float switch (suitable for use with most lubricants, fluxes and solvents).

Specifications

Model: 615DTH		626DTH
Tank body:	cast aluminum	cast aluminum
Inside diameter:	9.7 cm (3.82")	17.3 cm (6.81")
Inside depth:	17.4 cm (6.87")	24.8 cm (9.75")
Replaceable liner:	polyethylene	polyethylene
Liner capacity:	0.95 liter	3.8 liter
Overall width:	17.3 cm (6.81")	28.3 cm (11.14")
Overall height:	35.6 cm (14.01")	40.6 cm (15.98")
Regulator & gauge:	100 psi (7.0 bar)	100 psi (7.0 bar)
Maximum operating pressure:	100 psi (7.0 bar)	100 psi (7.0 bar)
Model:	**615DTL**	**626DTL**
Regulator & gauge:	15 psi (1.0 bar)	15 psi (1.0 bar)

Cartridge Retainer Systems

Two styles are available—one uses disposable polyethylene liners in sizes of 2.5 fl oz (75 ml), 6.0 fl oz (180 ml), 12 fl oz (360 ml), 20 fl oz (600 ml) and 32 fl oz (960 ml). The second is a 1/10 gallon (300 ml) system for use with pre-filled caulking tubes.

Both systems include cap, cartridge, all necessary fittings, air tubing, regulator with gauge and 1.5 m (5 ft) of 6 mm (0.24") OD polyethylene feed tubing.

Regulators supplied with cartridge reservoirs are precision, constant-bleed type to ensure consistent liquid pressurizing at all pressure settings.

Each reservoir includes a special tee fitting to connect both the reservoir and the controller to the EFD five-micron filter regulator (supplied with each ValveMate controller).

CARTRIDGE ASSEMBLIES AND PARTS

Cartridge Reservoir Assemblies

Part #	Size	Description
7012431	2.5 fl oz (75 ml)	Cartridge assembly with 15 psi (1.0 bar) regulator
7012432	2.5 fl oz (75 ml)	Cartridge assembly with 100 psi (7.0 bar) regulator
7012434	6 fl oz (180 ml)	Cartridge assembly with 15 psi (1.0 bar) regulator
7012435	6 fl oz (180 ml)	Cartridge assembly with 100 psi (7.0 bar) regulator
7012437	12 fl oz (360 ml)	Cartridge assembly with 15 psi (1.0 bar) regulator
7012438	12 fl oz (360 ml)	Cartridge assembly with 100 psi (7.0 bar) regulator
7013889	20 fl oz (600 ml)	Cartridge assembly with 15 psi (1.0 bar) regulator
7012440	20 fl oz (600 ml)	Cartridge assembly with 100 psi (7.0 bar) regulator
7014100	32 fl oz (960 ml)	Cartridge assembly with 100 psi (7.0 bar) regulator
7018646	1/10 gal (300 ml)	Cartridge assembly for caulking tubes with 100 psi (7.0 bar) regulator

Rhino package includes pump, mastic regulator, and all manuals.

1079235
Rhino package; Small frame; 5 gal pail; 48:1 ratio.

1080304
Rhino package; Small frame; 5 gal pail; 65:1 ratio.

1080301
Rhino package; Large frame; 55 gal drum; 48:1 ratio.

1080299
Rhino package; Large frame; 55 gal drum; 65:1 ratio.

Rhino pump assembly with output fittings.

1079234
Rhino with output fittings; Small frame; 5 gal pail; 48:1 ratio.

1080305
Rhino with output fittings; Small frame; 5 gal pail; 65:1 ratio.

1080302
Rhino with output fittings; Large frame; 55 gal drum; 48:1 ratio.

1080300
Rhino with output fittings; Large frame; 55 gal drum; 65:1 ratio.

Rhino™ Bulk Unloader

EFD's Rhino bulk unloaders are designed to dispense high-viscosity, ambient-temperature adhesives and sealants for a variety of manufacturing applications. These durable bulk unloaders provide superior flow properties and ease of operation when dispensing high-viscosity adhesive and sealant materials.

Package includes one Rhino pump assembly with output fittings sized for a 3/8" high pressure hose. Fittings are JIC, 37 degrees with 9/16-18 threads; one mastic regulator assembly with input and output fittings, fluid pressure gauge, air regulator and gauge for air diaphragm.

Features and Benefits

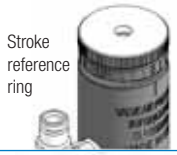
- Works with EFD high-pressure valves
- Large internal passages for greater efficiency
- Fast air motor changeovers for uniform output
- Oil-less air motor

RHINO SELECTION GUIDE

Ratio	Air Motor Size	Volumetric Displacement	Maximum Output
48:1	10"	8 in^3/stroke	4.2 liter/min.* (1.1 gal/min.)
65:1	10"	5.8 in^3/stroke	2.8 liter/min.* (.75 gal/min.)

*Output dependent on material viscosity, temperature, filters and system configuration.
** Add 152.4 mm (6") to height dimension for units with optional casters.

VALVE ACCESSORIES

Part	Part #	Valve	Description
	7020507	All valves	Universal valve mount
	7020509	All valves	Universal valve mount with #7007003 rod
	7021057	All valves	Universal stainless steel valve stand with cast aluminum base Includes universal valve mount/rod.
	7021054	750 Series	Valve stand
	7021056	781 Series	Valve stand
	7021059	725D Series	Valve stand
	7021070	750 Series	Stainless steel mounting rods are 1.3 cm diameter x 17.8 cm long (0.5" x 7"). Designed for specific valves.
	7007003	741/781Series	
	7021079	725D Series	
	7021136	736HPA-NV/725HF Series	
	7002002	All valves	Filter/Regulator provides dry, filtered air to controllers and reservoirs. Traps moisture and particles over five microns. 100 psi (7.0 bar) regulator and gauge.
	7016548	All valves	Filter/Regulator with coalescer removes remaining liquid aerosols from air supply. Traps moisture and particles over five microns. 100 psi (7.0 bar) regulator and gauge. Recommended for systems dispensing cyanoacrylates.
Stroke control knob Stroke reference ring 	7021282	750 Series (stainless steel)	Calibration ring on the stroke control knob provides 25 graduations per turn for exact stroke reference.
	7007034	782RA (aluminum)	
	7021621	741/781 Series (aluminum)	
	7021622	741/781 Series (stainless steel)	
 Removable stroke control knob 	7021266	741/781 Series	Tamper-resist upgrade kit
	7021503	750 Series	
	7021500	782RA	

VALVE ACCESSORIES

Liquid manifolds can supply liquid from one reservoir to as many as (4) valves.
Manifold and hose compression fittings are black polypropylene.

Fitting	Part #	Description
	7021523	Liquid manifold, 3 outlets, 9.5 mm (3/8") OD tubing
	7021524	Liquid manifold, 3 outlets, 6.4 mm (1/4") OD tubing
	7021525	Liquid manifold, 4 outlets, 9.5 mm (3/8") OD tubing
	7021526	Liquid manifold, 4 outlets, 6.4 mm (1/4") OD tubing

Y fittings for fluid or air tubing

Fitting	Part #	Description
	7007017	Polypropylene Y barb fitting for 3.2 mm (1/8") ID tube
	7021537	Black nylon Y barb fitting for 3.2 mm (1/8") ID tube
	7021541	Polypropylene Y barb fitting for 6.4 mm (1/4") ID tube
	7021545	Black plastic push-in fitting for 4.0 mm (5/32") OD tube

Valves


VALVE FITTINGS

Fitting	Part #	Description	Color	Recommended Use
	7016864	1/4 hose to barrel adapter, polypropylene	White	Dispensing wand inlet from barrel, 1/8" ID hose
	7020133	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
	7020153	3/8 pass-thru bulkhead, nylon	Black	5 liter top-ported tank outlet to 3/8" OD tubing, pass-thru style
	7012255	M5 X 4 mm push-in elbow fitting	Silver	754V aseptic valve
	7016865	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
	7021537	Black nylon fitting 1/8 tubing	Black	1/8" ID tubing
	7021464	Elbow fitting: 1/8 NPT X 1/8 barb, polypropylene	Clear	752V and 741V Series inlet to 1/8" ID tubing
	7021496	Elbow fitting: 1/8 NPT X 3/8 barb black, nylon	Black	Inlet fitting for 3/8" OD X 1/4" ID tubing
	7021494	Elbow fitting: 1/8 NPT X 3/8 barb, polypropylene natural	Natural	Inlet fitting for 3/8" OD X 1/4" ID tubing
	7020130	Fitting: 1/4 X 1/4 bulkhead, nylon	Black	1.0 liter tank outlet to 1/4" OD tubing
	7020136	Fitting: 1/8 NPT X 3/8 compression elbow, nylon	Black	1/8 NPT elbow to 3/8" OD tubing
	7021489	Fitting, fluid: 1/8 barb - 754V	Silver	754V inlet to 1/4" OD X 1/8" ID tubing
	7021491	Fitting, fluid: 4 mm barb - 754V	Silver	754V inlet to 6 mm OD X 4 mm ID tubing
	7021299	Fitting: 1/4-28 to 1/8 barb, stainless steel	Silver	750V inlet to 1/8" ID tubing
	7021309	Fitting: 1/4-28 to barrel black, polypropylene	Black	750V inlet to barrel
	7021310	Fitting: 1/4-28 to cartridge, polypropylene	Clear	750V to cartridge
	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

VALVE FITTINGS

Fitting	Part #	Description	Color	Recommended Use
	7020896	Fitting: 1/8 NPT X 3/8 compression elbow, brass	Brass	725D, 725DA, 741V, 752V and 781S Series inlet to 3/8 OD" tubing
	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
	7021462	Fitting: 1/8 NPT X 1/8 barb, nylon	Black	751V inlet to 1/8" ID tubing (for UV-cure materials)
	7021460	Fitting: 1/8 NPT X1/8 barb, polypropylene	Clear	751V inlet to 1/8" ID tubing
	7021466	Fitting: 1/8 NPT X 1/8 barb elbow, nylon	Black	752V and 741V Series inlet to 1/8" ID 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
	7021376	Fitting: 5/16-28 to 1/8 barb, polypropylene	White	750V Series outlet to 1/8" ID tubing (dispense wand fitting)
	7020895	Fitting: Cartridge to 1/8 NPT elbow, nylon	White	725D, 725DA, 741V, 752V and 781S Series inlet from cartridge
	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
	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
	7021486	Fitting: 4.0 mm OD tubing with ferrule	White	754V inlet to 4 mm OD tubing
	7020903	Fitting: Barrel to 1/8 NPT elbow, black, polypropylene	Black	725D, 741V, 752V, 781S Series inlet to barrel
	7020150	Fitting: 3/8 X 3/8 bulkhead with O-Ring	Black	5 liter top-ported tank outlet to 3/8" OD tubing
	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
	7021919	Fitting: 10-32 UNF X 3/32 barb
	7021867	Inlet fitting assembly-794
	7021541	Polypropylene "Y" fitting for 1/4" ID tubing
	7007017	Polypropylene "Y" fitting for 1/8" ID tubing
	7021539	Polypropylene "Y" fitting for 3/32" ID tubing
	7020156	Reducer 3/8 to 1/4 tubing, nylon
	7020159	Pass-through reducer 3/8 to 1/4 tubing, nylon

VALVE TIP ADAPTERS

Fitting	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, .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	Polypropylene	Tip adapter
	7021317	751V	Nylon	Tip adapter
	7021443	752V-SS	Polypropylene	Tip adapter, black
	7021447	752V-UHSS	Polypropylene	Tip adapter, natural

VALVE AND CONTROLLER FEATURES

Valve Features	VALVES														
	702M-SS	725DA-SS	725HF-SS	725HF-A	736HPA-NV	741V-SS 741MD-SS	752V-SS	752V-UHSS	754V-SS	787MS-SS	781S-SS	782RA	784S-SS	7860C-RS	794
Adjustable fluid flow	✓	✓	—	—	—	✓	✓	✓	✓	✓	✓	✓	✓	—	✓
Snuff-back cutoff	—	✓	—	—	✓	—	—	—	—	—	—	—	—	—	—
Air cutoff	—	—	—	—	—	—	—	—	—	✓	✓	✓	—	✓	—
Fluid body															
Acetal	—	—	—	✓	—	—	✓	—	—	—	—	—	—	—	O
303 stainless steel	✓	✓	✓	—	✓	✓	O	O	316L	✓	✓	—	316L	—	440C
UHMW* polymer	—	—	—	—	—	—	—	✓	—	—	—	—	—	—	—
Fail-safe normally closed	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	—	—
FDA-compliant wetted parts	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓
Stroke control reference	✓	—	—	—	—	✓	✓	✓	✓	✓	✓	✓	✓	—	—
Tamper-resistant stroke control	✓	—	—	—	—	O	O	O	✓	—	O	O	✓	—	—
UHMW* polymer diaphragm	✓	✓	✓	✓	—	—	✓	✓	PTFE	—	—	—	PTFE	—	—
303 stainless steel air cylinder	✓	—	—	—	✓	✓**	✓	✓	316L	✓	✓	—	316L	—	—

*Ultra High Molecular Weight polyethylene **741V-SS model only ✓ Applicable O Optional — Not applicable

Controller Features	VALVEMATE CONTROLLERS				
	8000	8040	7060RA	7094BL	7094DC
Application	General Purpose Valve Control	Spray Valve Control	Radial Spinner/Spray Valve Control	Auger Valve Control	Auger Valve Control
Use with valve series	702, 725, 736, 741, 752, 754	781S, 787MS-SS	782RA, 7860C-RS Spinner	794 Brushless Motor*	794 Brush Motor**
Independent multi-valve control	4-channel control	2-channel control	Single channel	Single channel	Single channel
Digital time set and display	✓	✓	✓	✓	✓
Nonvolatile memory	✓	✓	✓	✓	✓
I/O interface circuitry	✓	✓	✓	✓	✓
Purge control	✓	✓	✓	✓	✓
Panel mount/panel cutout size	183.6 mm x 51.6 mm (7.23" x 2.03")	183.6 mm x 51.6 mm (7.23" x 2.03")	187 mm x 66 mm (7.35" x 2.58")	187 mm x 66 mm (7.35" x 2.58")	187 mm x 66 mm 7.35" x 2.58")
Programmable	✓	✓	✓	✓	✓
Test cycle verification	✓	✓	✓	✓	✓
Air pressure display	Analog	Analog	Digital	Digital	✓
Nozzle air shutoff delay	n/a	Adjustable, 0 to 9.99 sec.	Adjustable, 0 to 2.5 seconds	n/a	n/a
Pre-dispense time cycle delay	✓	n/a	n/a	n/a	n/a
Low air pressure sensing	<60 psi (4.1 bar)	<60 psi (4.1 bar)	n/a	n/a	n/a
Cycle rate	>600/minute	>600/minute	>600/minute	>600/minute	>600/minute
On-the-fly adjustability	✓	✓	✓	✓	✓
Five micron filter/regulator	Included	Included	Included	Included	Included

* For 7094BL controller, use only with brushless motor version auger valves, 794-SB & 794-SB-16, 794-FB & 794-FB-16 & and 794-SB-16-DL
** For 7094DC controller, use only with brush motor version auger valves, 794-SR & 794-SR-16, 794-FR & 794-FR-16, and 794-SR-16-DL

Fluids	VALVE APPLICATIONS										
	Microdots*	Dots	Potting	Encapsulating	Lines/ Stripes	Filling/ Packaging	Micro Spray	316 L Aseptic Microspray	Spray	Internal Spray	Internal Band
Accelerators	741V-SS	752V-UHSS	—	—	741V-SS	752V-UHSS	787MS-SS	784S-SS	781S-SS	782RA	7860C-RS
Activators	741V-SS	752V-UHSS	—	—	741V-SS	752V-UHSS	787MS-SS	784S-SS	781S-SS	782RA	7860C-RS
Alcohol	741V-SS	752V-UHSS	—	—	741V-SS	752V-UHSS	787MS-SS	784S-SS	781S-SS	782RA	7860C-RS
Anaerobics	752V-UHSS	752V-UHSS	—	—	752V-UHSS	725HF-A	—	—	—	—	7860C-RS
Conformal Coatings	741V-SS	752V-UHSS	—	752V-UHSS	752V-UHSS	725HF-SS	787MS-SS	784S-SS	781S-SS	—	—
Copper Braze Paste	—	725DA-SS	—	—	725DA-SS	725HF-SS	—	—	—	—	—
Cyanoacrylates	752V-UHSS	752V-UHSS	—	—	752V-UHSS	725HF-SS	—	—	—	—	7860C-RS
Electrolytes	741V-SS	752V-UHSS	—	—	—	752V-UHSS	787MS-SS	784S-SS	781S-SS	—	—
Epoxies	741V-SS	752V-UHSS	725DA-SS	725DA-SS	725DA-SS	725HF-SS	—	—	—	—	—
Fluxes, liquid	741V-SS	752V-UHSS	—	—	752V-UHSS	725HF-SS	787MS-SS	784S-SS	781S-SS	—	—
Fluxes, paste	741V-SS	725DA-SS	—	—	725DA-SS	725HF-SS	—	—	—	—	—
Greases											
low pressure (to 100 psi, 7.0 bar)	741V-SS	725DA-SS	—	—	725DA-SS	725HF-SS	—	—	781S-SS	—	—
medium pressure (to 300 psi, 20.7 bar)	741V-SS	736HPA-NV	—	—	736HPA-NV	736HPA-NV	—	—	781S-SS	—	—
high pressure (to 2500 psi, 172 bar)	—	736HPA-NV	—	—	736HPA-NV	736HPA-NV	—	—	—	—	—
Inks	741V-SS	752V-UHSS	—	—	741V-SS	725HF-SS	787MS-SS	784S-SS	781S-SS	782RA	7860C-RS
Oils	741V-SS	752V-UHSS	—	—	741V-SS	725HF-SS	787MS-SS	784S-SS	781S-SS	782RA	7860C-RS
Optical Dyes	702M-SS	702M-SS	—	—	702M-SS	—	—	—	—	—	—
Optical Lacquers	702M-SS	702M-SS	—	—	702M-SS	—	—	—	—	—	—

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

Fluids	VALVE APPLICATIONS										
	Microdots*	Dots	Potting	Encapsulating	Lines/ Stripes	Filling/ Packaging	Micro Spray	316 L Aseptic Microspray	Spray	Internal Spray	Internal Band
Paints	741V-SS	752V-UHSS	—	—	741V-SS	725HF-SS	787MS-SS	784S-SS	781S-SS	782RA	7860C-RS
Reagents	754V-SS**	754V-SS**	—	—	754V-SS**	754V-SS**	787MS-SS	784S-SS	781S-SS	—	—
RTV/sealants											
low pressure (to 100 psi, 7.0 bar)	741V-SS	725DA-SS	725DA-SS	725DA-SS	725DA-SS	725HF-SS	—	—	—	—	—
medium pressure (to 300 psi, 20.7 bar)	741V-SS	736HPA-NV	736HPA-NV	736HPA-NV	736HPA-NV	736HPA-NV	—	—	—	—	—
high pressure (to 2500 psi, 172 bar)	—	736HPA-NV	736HPA-NV	736HPA-NV	736HPA-NV	736HPA-NV	—	—	—	—	—
Saline	—	754V-SS	—	—	754V-SS	754V-SS*	—	784S-SS	—	—	—
Solder Resists	—	725DA-SS	—	—	725DA-SS	725HF-SS	—	—	—	—	—
Solvents	741V-SS	741V-SS	—	—	741V-SS	752V-UHSS	787MS-SS	784S-SS	781S-SS	782RA	7860C-RS
Solder Pastes	794	794	—	—	794	—	—	—	—	—	—
UV-cure & Light-cure	741V-SS	752V-SS	752V-SS	752V-SS	752V-SS	725HF-A	—	—	—	—	—
UV-cure with anaerobics	752V-SS	752V-SS	752V-SS	752V-SS	752V-SS	725HF-A	—	—	—	—	—
Water	741V-SS	752V-UHSS	—	—	741V-SS	752V-UHSS	787MS-SS	784S-SS	781S-SS	782RA	7860C-RS
White Glue	—	725DA-SS	—	—	725DA-SS	725HF-SS	—	—	—	—	7860C-RS

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

**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.

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.

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: A line, bead or stripe of material.

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

Spray: Applying fluids 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.

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

Valves

Fluids	VALVES AND RESERVOIRS											
	725DA-SS	725HF-SS	725HF-A	736HPA-NV	741V-SS 741MD-SS	702M-SS 752V-SS 754V-SS	752V-UHSS	787MS-SS	781S-SS	782RA	7860C-RS	794
Accelerators	—	—	—	—	615DTL	—	615DTL	Barrel	615DTL	615DTL	615DTL	—
Activators	—	—	—	—	615DTL	—	615DTL	Barrel	615DTL	615DTL	615DTL	—
Alcohol	—	—	—	—	615DTL	—	615DTL	Barrel	615DTL	615DTL	615DTL	—
Anaerobics	—	—	626DTH	—	—	—	615DTH	—	—	—	615DTL	—
Conformal Coatings	—	626DTH	—	—	615DTH	—	615DTH	Barrel	626DTH	—	—	—
Copper Braze Paste	626DTH	626DTH	—	—	—	—	—	—	—	—	—	—
Cyanoacrylates	—	626DTH	—	—	—	—	615DTL	—	—	—	615DTL	—
Electrolytes	—	—	—	—	615DTL	—	615DTL	Barrel	615DTL	—	—	—
Epoxies	626DTH	626DTH	—	—	615DTH	—	615DTH	—	—	—	—	—
Fluxes, liquid	—	626DTL	—	—	615DTL	—	615DTL	Barrel	615DTL	—	—	—
Fluxes, paste	5194-12H	5194-12H	—	—	5192-6H	—	—	—	—	—	—	—
Greases												
low pressure (to 100 psi, 7.0 bar)	5194-12H	5194-12H	—	—	5192-6H	—	—	—	5192-6H	—	—	—
medium pressure (to 300 psi, 20.7 bar)	—	—	—	Ratio Pump	Ratio Pump	—	—	—	Ratio Pump	—	—	—
high pressure (to 2500 psi, 172 bar)	—	—	—	Ratio Pump	—	—	—	—	—	—	—	—
Inks	—	626DTL	—	—	615DTL	—	615DTL	Barrel	615DTL	615DTL	615DTL	—
Oils	—	626DTH	—	—	615DTH	—	615DTH	Barrel	615DTH	615DTH	615DTL	—
Optical Dyes	—	—	—	—	—	Custom	—	—	—	—	—	—
Optical Lacquers	—	—	—	—	—	Custom	—	—	—	—	—	—

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VALVE AND RESERVOIR SELECTOR

Fluids	VALVES AND RESERVOIRS											
	725DA-SS	725HF-SS	725HF-A	736HPA-NV	741V-SS 741MD-SS	702M-SS 752V-SS 754V-SS	752V-UHSS	787MS-SS	781S-SS	782RA	7860C-RS	794
Paints	—	626DTH	—	—	615DTH	—	615DTH	Barrel	615DTH	615DTH	615DTL	—
Reagents	—	—	—	—	615DTL	615DTL	615DTL	Barrel	615DTL	—	—	—
RTV/sealants												
low pressure (to 100 psi, 7.0 bar)	5201-SYS-H	—	—	Ratio Pump	5201-SYS-H	—	—	—	—	—	—	—
medium pressure (to 300 psi, 20.7 bar)	—	—	—	Ratio Pump	Ratio Pump	—	—	—	—	—	—	—
high pressure (to 2500 psi, 172 bar)	—	—	—	—	—	—	—	—	—	—	—	—
Saline	—	—	—	—	—	626DTL	—	—	—	—	—	—
Solder Resists	626DTH	626DTH	—	—	—	—	—	—	—	—	—	—
Solvents	—	—	—	—	615DTL	—	615DTL	Barrel	615DTL	615DTL	615DTL	—
Solder Pastes	—	—	—	—	—	—	—	—	—	—	—	Barrel
UV-cure & Light-cure	—	—	626DTH-B	—	626DTH-B	626DTH-B	—	—	—	—	—	—
UV-cure with anaerobics	—	—	626DTH-B	—	—	626DTH-B	—	—	—	—	—	—
Water	—	—	—	—	615DTL	—	615DTL	Barrel	615DTL	615DTL	615DTL	—
White Glue	626DTH	626DTH	—	—	—	—	—	—	—	—	—	—

NOTES

The **741MD-SS** is supplied with a luer lock input fitting for barrel reservoir use.

The **615** and **626** series tanks are top ported and can accept shipping containers that fit the internal dimensions of the tanks.

	model 615	model 626
Inside diameter	9.7 cm (3.82")	17.3 cm (6.81")
Inside depth	17.4 cm (6.87")	24.8 cm (9.75")
Liner volume	0.95 liter	3.8 liter

The 615 and 626 series tanks can be supplied with a stainless steel float switch (add **-FS** after tank part #). Tanks with a float switch are not recommended for use with adhesives or fluids that may restrict float travel.

For low viscosity fluids, specify the 0-15 psi (0-1.0 bar) reservoir.

For medium viscosity fluids, specify the 0-100 psi (0-7.0 bar) reservoirs.

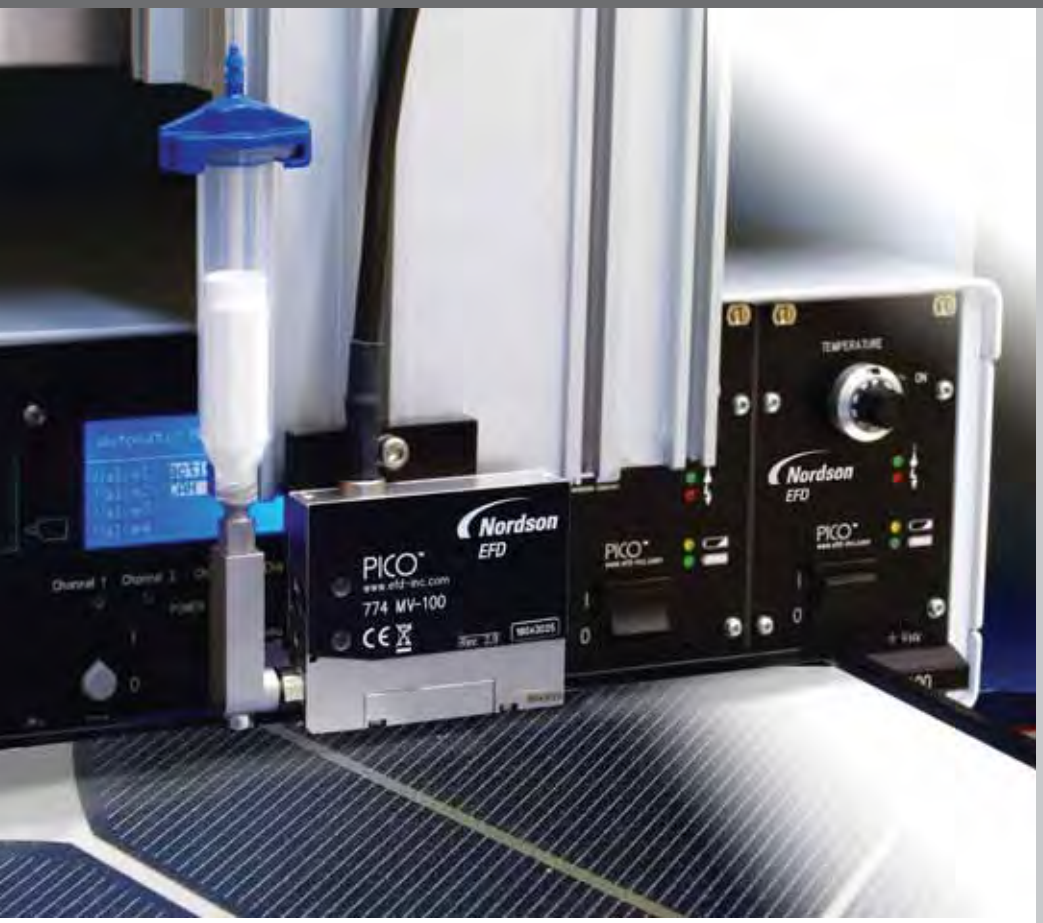
The **615DTL** (15 psi, 1.0 bar) and **615DTH** (100 psi, 7.0 bar) are supplied with 10 ft (3.0 m) of 1/4" flexible polyethylene feed tubing.

The **626DTL** (15 psi, 1.0 bar) and **626DTH** (100 psi, 7.0 bar) are supplied with 10 ft (3.0 m) of both the 1/4" and 3/8" tubing.

The **626DTH-B** reservoir is supplied with both 1/4" and 3/8" black tubing.

The 0-100 psi (0-7.0 bar) cartridge reservoirs have 5 ft (1.5 m) of 3/8" flexible polyethylene tubing.

The **5201-SYS-H** has 5 ft (1.5 m) of 3/8" flexible polyethylene tubing.



PICO™ Jet Dispensing System

PICO non-contact dispensing systems combine high production speed with exceptional deposit accuracy and process control. By jetting droplets of fluid onto the product, time-consuming Z-axis movement of the valve to the substrate is eliminated. Fluid can be dispensed into difficult-to-access areas and onto uneven or other substrates where a dispensing needle cannot contact the surface.

An integrated heater allows fluid viscosity to be adjusted for best jetting performance and maintains a stable, controlled fluid temperature for highly consistent dot sizes.

Features and Benefits

- Eliminates Z-axis movement and the need for precise height positioning
- Consistent shot size with droplets starting at 0.002 µl (2 nl) to flow rates up to 300 g/min (10 oz/min)
- Reduces downtime and scrap by eliminating risk of nozzle-substrate collision
- Outstanding process control for highest dot-to-dot consistency

For use with:

- Oils
- Greases
- Adhesives
- Alcohol
- Food colors
- Hydrous Solutions
- Organic Solvents
- Liquid Polymers

PICO Jet Valve LV

Viscosity range of 50 - 1,000 mPa•s (thixotropic).
Maximum operating pressure: 1450 psi (100 bar)

Available with several different nozzle orifice diameters. All models are available with or without an integrated heater.

PICO Jet Valve MV

Viscosity range of 50 - 200,000 mPa•s (thixotropic).
Maximum operating pressure: 1450 psi (100 bar)

Available with several different nozzle orifice diameters. All models include an integrated heater.

PICO Jet Valve HV

Viscosity range of 1,000 - 500,000 mPa•s (thixotropic).
Maximum operating pressure: 870 psi (60 bar)

Available with several different nozzle orifice diameters. All models include an integrated heater.

Contact Nordson EFD for free application review.

Specifications

Size: 71.1L x 15.2W x 60.1H mm (2.8" x 0.6" x 2.4")
Weight: 290 g (10 oz)
Maximum open time: Infinite (permanently open)
Maximum cycle frequency: 150Hz (continuous operation)
Cycle rate: Up to 150 dots per second
Nozzle diameter: 0.15, 0.20, 0.30, 0.40 mm
Fluid heating range for valves with integrated heater: Up to 100°C (212°F)
Approvals: CE, RoHS, and WEEE

For use with:

- Oils
- Greases
- Varnishes
- Hydrous Solutions
- Organic Solvents
- Liquid Polymers
- Polymeric Solutions

PICO Needle Dispensing System

PICO needle dispensing systems offer exceptional deposit accuracy and process control for a wide range of fluids. The fast-acting piezoelectric drive makes it possible to apply extremely small dots and well-defined lines with precise control of the beginning and end points. User-friendly control menus allow the timing and flow rates of multiple valves to be synchronized electronically. The controls also allow synchronizing the timing and flow rates of multiple valves electronically.

Features and Benefits

- Consistent shot size with deposits starting at 0.001 µl (0.1 nl)
- Outstanding process control for highest dot-to-dot consistency

PICO Needle Valve

Viscosity range of 50—200,000 mPa•s (thixotropic).

Includes luer lock needle adapter. Performs contact dispensing through a dispense needle.

Specifications

Size: 72L x 16W x 96H mm (2.8" x 0.6" x 3.7")

Weight: 314 g (11.1 oz)

Maximum operating pressure: 145 psi (10 bar)

Maximum open time: Infinite (permanently open)

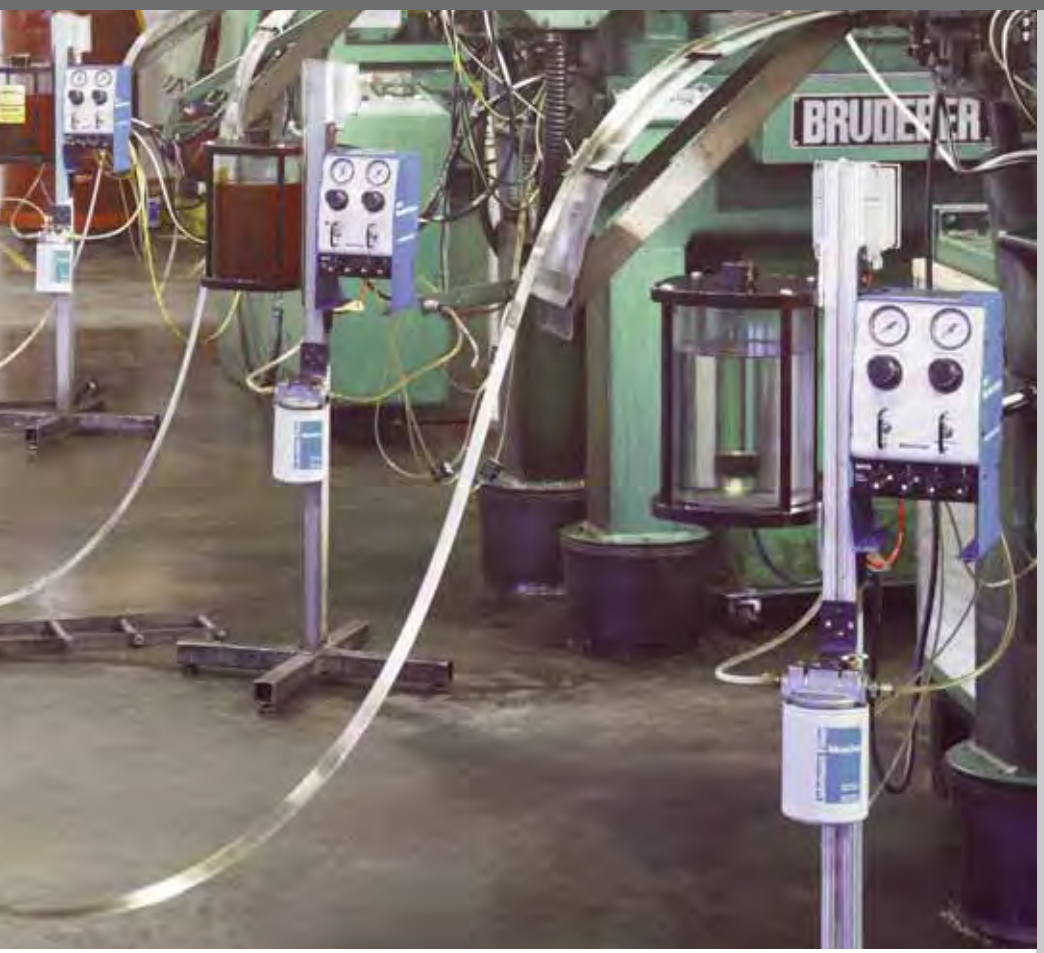
Maximum cycle frequency: 150Hz (continuous operation)

Cycle rate: Up to 150 dots per second

Needle adapter: For dispense needles with luer lock hub

Fluid heating range for valves with integrated heater: Up to 100°C (212°F)

Approvals: CE, RoHS, and WEEE



MicroCoat® Lubrication System

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

The MicroCoat is a non-contact system that applies oil as a fine, consistent film that provides complete coverage using much less oil.

Whether you are looking for steady or pulsed lubrication, these unique lubrication systems use Low Volume Low Pressure (LVLP) technology to provide uniform coverage without overspray or mist.

Features and Benefits

- Even, uniform coverage, top and bottom
- On-the-fly adjustment of oil coating
- Expandable, modular system
- Easy “plug and play” setup

MicroCoat spray valves

7008020 (MC785M)
Standard fan spray valve up to 76.2 mm (3") coverage.

7008013 (MC785M-WF)
Wide fan spray valve up to 152.4 mm (6") coverage.

MicroCoat controllers

7008008 (MC800)
MicroCoat controller with 0-100 psi (0-7 bar) regulator.

7023877 (MC800-15)
MicroCoat controller with 0-15 psi (0-1 bar) regulator.

MicroCoat fluid manifolds accept up to (4) flow controls

7008010 (8101)
Manifold with pressure sensor.

7008003 (8101NPS)
Manifold without pressure sensor.

7022182 (8129)
Manifold with 10 psi (.70 bar) pressure sensor.

MicroCoat tank reservoirs

7023843 (MC685M)
3.8 liter (1 gal) acrylic see-through tank.

7023846 (MC686M)
7.5 liter (2 gal) acrylic see-through tank.

7023849 (MC687M)
19 liter (5 gal) stainless steel tank with low-level float switch.

7023850 (MC687M-DFS)
19 liter (5 gal) stainless steel tank with double float switch (detects mid and low level).

Custom Options

7023854
Fluid regulator kit provides step-down fluid pressure control. Includes MC filter assembly with fluid regulator attached.

Flow guard
Signals low or high flow alerts. Available in different voltages to meet your application requirements. Please contact Nordson EFD for custom configuration.

MICROCOAT LUBRICATION SYSTEM

Applications:

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

Specifications

MC785M and MC785M-WF Valves

Size: 66.3 height mm x 49.3 mm diameter (2.61" x 1.94")

Weight: 206.4 g (7.28 oz)

Lubricant chamber: Aluminum, hard-coat anodized

Return spring: 303 stainless steel

Lubricant inlet hole: 1/8 NPT

Mounting: 6 mm tapped hole

Air cap: 303 stainless steel

Diaphragm: Viton® with PTFE coating

Needle and nozzle: 303 stainless steel

Nozzle diameter: 1.17 mm (0.046")

U.S. Patent # D-398, 705

All stainless steel parts are passivated.

MC800 Controller

Cabinet size: 14.6W x 19.1D x 27.6H cm (5.75" x 7.50" x 10.88")

Weight: 4.8 kg (10.62 lb)

Air input required: 60 psi (4.14 bar) minimum

Tank air pressure regulator: 30 psi (2.07 bar) maximum

Nozzle air regulator: 30 psi (2.07 bar) maximum

Cycle rate: Up to 60 per minute

Pressure switch rating: 20VA, 240V

The MC800 Series system 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 MicroCoat system is initiated, steady air pressure supplied to the lubricant reservoir forces lubricant through the filter and flow controls, and out to the valves.

As the press starts, a 3-way air solenoid activates the system. As the valves open, Low Volume Low Pressure (LVLP) air transfers a fine, consistent film of lubricant onto the stock surface.

4-Axis Robot

3-Axis Robot

Dispensing Robots

EFD's range of multi-axis systems and in-line dispensing arm offer reliable operation with excellent repeatability for dispensing adhesives and sealants in gasketing, bonding, molding and sealing applications.

The multi-axis systems are true three- and four-dimensional motion control systems that allow easy programming of dots, stripes, arcs, compound arcs and patterns on different planes.

EFD's in-line dispensing arm offers the flexibility of working as a key part of an automated solution or a stand-alone system. A built-in sequencer allows easy integration of the dispensing arm into in-line transfer systems, rotary tables and palletizing solutions.

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

Features and Benefits

- Easily programmed
- Produces more parts and reduces process time
- Height sensor for critical deposit control
- Fully integrated positioning and dispensing functions

Please contact your local Nordson EFD Sales Representative for information regarding our robots.

DISPENSING ROBOTS

In-Line Dispensing Arm

Applications:

- **Dam and Fill**
- **Dots**
- **Gasketing**
- **Patterns**
- **Underfills**

For use with:

- **Adhesives**
- **Conformal Coatings**
- **Cyanoacrylates**
- **Greases**
- **Paints**
- **Reagents**
- **Sealants**
- **Solder Pastes**
- **Solvents**

SPECIFICATIONS

Features		2200	2300	2400	2500	4400
Moving Range	X/Y	200/200 mm	300/320 mm	400/400 mm	510/510 mm	J1(90°)+J2(150°) @440 mm
	Z	50 mm	100 mm	150 mm	150 mm	100 mm
	R	360°	360°	360°	360°	360°
Work Piece Payload		7 kg	11 kg	11 kg	11 kg	n/a
Tool Payload		3.5 kg	6 kg	6 kg	6 kg	5 kg
Max. Speed		500 mm/sec	800 mm/sec	800 mm/sec	800 mm/sec	1300mm/sec @max load
Unit Weight		18 kg	35 kg	42 kg	42 kg	41 kg
Dimensions	Width	320 mm	560 mm	584 mm	584 mm	290 mm
	Depth	377 mm	529 mm	629 mm	629 mm	858 mm
	Height	536 mm	649 mm	799 mm	799 mm	MAX 840 mm
Drive System		5-Phase Stepping Motor	5-Phase Stepping Motor	5-Phase Stepping Motor	5-Phase Stepping Motor	5-Phase Stepping Motor with Encoder
Program Capacity		225	225	225	225	225
Point Capacity		30,000	30,000	30,000	30,000	30,000
General Purpose I/O		16 Inputs/ 16 Outputs	16 Inputs/ 16 Outputs	16 Inputs/ 16 Outputs	16 Inputs/ 16 Outputs	25 Inputs/ 25 Outputs
External Communications		RS232-C	RS232-C	RS232-C	RS232-C	RS232C 3 Ch
Drive Method		PTP and CP	PTP and CP	PTP and CP	PTP and CP	PTP and CP
Dispensing Controller		External	External	External	External	External
Current Consumption		200VA	200VA	200VA	200VA	200VA
Power Source		Multi-voltage	Multi-voltage	Multi-voltage	Multi-voltage	Multi-voltage

Universal Centrifuge

ProcessMate™ 5000

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

7015542 (100-240 VAC)
Multi voltage. RoHS compliant. Includes syringe adapters and power cord.

For use with:

2-part Epoxies
Frozen Epoxies
RTVs
Greases
Various Other Fluids

Temperature Control Unit

ProcessMate™ 6500

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

The Process controller maintains temperature-sensitive dispensing processes within ±0.1°C of a desired set point, across a 10° to 40°C range (50 to 104°F).

Features and Benefits

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

Specifications

Cabinet Size: 19.1W x 7.1H x 16.0D cm (7.5" x 2.8" x 6.3")

Weight: 1.0 kg (2.2 lb)

Input AC (to power supply):
Universal Multi Voltage
100-240 VAC, 50/60Hz

Output DC (from power supply):
24 VDC, 1.04 Amp maximum

Air Input: 40-100 psi (2.76-7.0 bar)

Air Usage: 55 L/Min (2 CFM)

Temperature Control:
+/-0.1°C from 10°C to 40°C (50°F to 104°F)

Ambient Operating Condition Limits:
Temperature: -10°C to 55°C (14° to 131°F)
Humidity: 85% RH at 30°C (86°F) non-condensing
Height above sea level:
2000 meters max. (6,562 ft.)

7020340
Temperature control unit. Includes fittings, muffler, connectors, overlay and universal power cord.

ProcessMate 100

ProcessMate 6100

Vacuum Pickup System

ProcessMate™ 100

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.

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

7012329
ProcessMate 100 Vacuum Pickup Pen
Includes assorted antistatic tips and vacuum cups.

Specifications

Cabinet size: 18.3W x 5.1H x 8.6D cm (7.22"W x 2"H x 3.38"D)

Weight: 1 kg (2.2 lb)

Input AC (to power supply):
Universal Multi Voltage
100/240 VAC, 50/60 Hz

Output DC (from power supply):
24 VDC, 1.04 Amp maximum

Initiate circuits: Foot pedal, finger switch

Approvals: CE, CSA, RoHS, WEEE & China RoHS Compliant

Hot Air Reflow System

ProcessMate™ 6100

Digital benchtop hot air reflow system to reflow solder paste. The digital flow control and precision temperature controller that allows controlling the air temperature within ±5ºC (±9ºF) provides a stable, controlled reflow process without overheating components. For best results, we recommend EFD's SolderPlus® solder paste.

Features and Benefits

- Reduces operator variability, rework and scrap while increasing productivity and production yields
- Compact—requires little benchtop space
- Easy to set up, just set the desired airflow and temperature
- Includes four nozzle sizes to focus the hot air on different sized areas

7024003
Hot Air Reflow System (US)

7024005
Hot Air Reflow System (UK)

Specifications

Cabinet Size: 18.8W x 12.7H x 24.4D cm (7.4"W x 5"H x 9.6"D)

Weight: 3.8 kg (8.3 lb)

Input Voltage: 100-130 or 210-240 VAC (depending on model)

Input Frequency: 50/60 Hz (automatic detection and use adjustable)

Power Consumption: 500W maximum

Hot Air Temperature: 82°C to 462°C (180°F to 864°F)

Heat Element: Metal heating core

Air Pump: Diaphragm pump

Pump Capacity: 23L/min maximum

Approvals: CE, RoHS, WEEE & China RoHS Compliant


PrintPlus
EFD
P/N 6-SN63-576-C
P/N 6-SN63-477-D
P/N 6-415-C
P/N: 6-SN63-576-S
P/N 6-SN96-477-E
P/N 6-SN62-477-E
P/N 6-SN62-566-J
P/N: 6-412-A
P/N 6-415-A

Solder Products

EFD Solder is ISO9001 certified. We provide application-based specialized solder products, complete paste dispensing solutions and develop supportive technical partnerships with our customers to deliver consistent and reliable solder joints that improve yields and reduce costs in electronics and electro-mechanical assembly processes.

SolderPlus® Dispensing Paste EFD's premium dispensing solder paste formulations support a wider array of solder applications than any other solder paste supplier. Beyond our standard offerings, we offer specialized formulations for low-temperature and high-temperature reflow, leaded and lead-free alloys, in all flux types and alloy particle sizes. Specially formulated for exact, repeatable dispensing. Ideal for point-to-point assembly with no waste, clogs or misses. Formulated for consistent top-to-bottom dispensing.

PrintPlus® Print Paste The principal choice for Surface Mount Technology applications. PrintPlus 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™ Paste Flux Flux characteristics are the most important feature when dispensing and reflowing solder paste, and our tacky flux outperforms messy liquid fluxes, increasing soldering speed and reducing costs. We provide a wide array of formulations in No Clean (NC), Water Soluble (WS), Rosin Mildly Activated (RMA), and Rosin Activated (RA) to suit your application needs. We supply fluxes formulated to work with any alloy and heating process, perfect for rework and BGA applications.

Features and Benefits

- Specialized formulations
- Reliable process control to increase throughput and first-pass yield
- Less than 0.2 mm microdot capability
- Easy to automate

SolderPlus

PrintPlus

FluxPlus

Select Your Solder

Step 1 Choose Alloy

Alloy Selection Containing Lead	Solidus (°C)	Liquidus (°C)	Tensile Strength (psi / MPa)	Powder Mesh Size
Sn43 Pb43 Bi14	144	163	6120 / 42.2	II, III
Sn62 Pb36 Ag2	179	189	6700 / 46.2	II, III, IV, V, VI
Sn63 Pb37	–E–	183	6700 / 46.2	II, III, IV, V, VI
Sn60 Pb40	183	191	6200 / 42.7	II, III, IV, V
Sn10 Pb88 Ag2	268	290	4900 / 33.8	II, III, IV, V
Sn5 Pb92.5 Ag2.5	287	296	4210 / 29.0	II, III, IV, V
Sn10 Pb90	275	302	4600 / 31.7	II, III, IV, V,
Sn5 Pb95	308	312	4190 / 28.9	II, III, IV, V

–E– : Eutectic MP: Melting Point

LEAD-FREE Alloy Selection	Solidus (°C)	Liquidus (°C)	Tensile Strength (psi / MPa)	Powder Mesh Size
Sn42 Bi58	–E–	138	8000 / 55.2	II, III
Sn96.5 Ag3.0 Cu0.5	217	219	7340 / 50.6	II, III, IV, V, VI
Sn96.3 Ag3.7	–E–	221	8900 / 61.4	II, III, IV, V, VI
Sn100	MP	232	1800 / 12.4	II, III, IV, V
Sn95 Sb5	232	240	5900 / 40.7	II, III, IV, V
Sn95 Ag5	221	245	10100 / 69.6	II, III, IV, V, VI
Sn89 Sb10.5 Cu0.5	242	262	12000 / 82.7	II, III, IV, V

Step 2 Choose Alloy Powder Size

Powder Type	Dispensing Tip Size	Size (Micron)	Mesh Count	Dispense Dot Dia. Aperture (mm/in)	Gullwing Lead Pitch (mm/in)	Square/Circle Aperture (mm/in)
II	≥21 ga.	75-45µ	-200+325	0.80/0.030	0.65/0.025	0.65/0.025
III	≥23 ga.	45-25µ	-325+500	0.50/0.020	0.50/0.020	0.50/0.020
IV	≥25 ga.	38-25µ	-400+500	0.30/0.012	0.30/0.012	0.30/0.012
V	≥27 ga.	25-20µ	-500+635	0.25/0.010	0.20/0.008	0.15/0.006
VI	≥32 ga.	15-5µ	n/a	0.10/0.004	0.10/0.004	0.05/0.002

Solder Families

Dispensing and Printing

General Purpose
Suitable for the majority of applications not requiring additional flux features to make a quality solder joint. Available in NC, RA, RMA, and WS.

Clear Residue
An enhanced No-Clean flux formulation remaining on the surface area after solder paste has been reflowed, leaving minimal visible flux.

Enhanced Wetting
Improved alloy spread on wettable surfaces.

Fine Pitch
The centerline spacing of pads on a surface mount board or the leads 20 mils (0.5 mm) or less on a component.

Reduced Slump
The reduction of spreading out of solder paste after deposition, resulting in loss of definition.

Restricted Residue
The part of flux that remains after solder paste has been reflowed on or very close to the fillet.

Lead-Free Shiny Fillet
The solder joint is shiny with similar appearance to Sn/Pb.

Halide-Free
Materials that may be found in some flux activators. Halides include: Chloride, Bromide, Fluoride, and Iodide.

Difficult-to-Solder Surfaces
Degradation of a metal surface caused by an oxygen attack. The result is a more difficult to wet surface.

Extended Reflow Cycle Time (>6 minutes)
Heating and melting of pre-alloyed solder is extended beyond normal times where the assembly has a high thermal mass.

Dispensing

Low Residue
After solder paste has been reflowed, the part of flux that remains is reduced in volume.

Gap Filling and/or Vertical Surfaces
Paste resists flow prior to reflow, resulting in the ability to fill gaps or be applied to vertical surfaces.

Rapid Reflow Cycle Time (<5 seconds)
A term used to describe the heating and melting of pre-alloyed solder. Typical reflow processes include laser, solder iron, hot bar, or induction.

UV Traceable
A fluorescent dye is added to aid in the inspection of the solder deposit using UV lighting.

Pin Transfer or Dipping (Low Viscosity)
An application technique where the soldering is applied by dipping into the solder or transferring it with a pin.

Printing

24-hour
The working life of printing paste.

Step 3 Choose Flux Features

PRINTING	NC	RMA	RA	WS
General Purpose	✓	✓	✓	✓
24-Hour	✓	✓	—	✓
Clear Residue	✓	—	—	—
Enhanced Wetting	✓	✓	—	✓
Fine Pitch	✓	✓	✓	✓
Reduced Slump	✓	✓	—	✓
Restricted Residue	✓	—	—	—
Lead-Free Shiny Fillet	✓	—	—	—
Halide-Free	—	✓	—	✓
Difficult-to-Solder Surfaces	—	✓	✓	✓
Extended Reflow Cycle Time (>6 Minutes)	✓	✓	—	✓

DISPENSING	NC	RMA	RA	WS
General Purpose	✓	✓	✓	✓
Clear Residue	✓	—	—	—
Enhanced Wetting	✓	✓	✓	✓
Fine Pitch	✓	✓	✓	✓
Low Residue	✓	—	—	—
Reduced Slump	✓	✓	—	✓
Restricted Residue	✓	—	—	—
Lead-Free Shiny Fillet	✓	—	—	—
Halide-Free	—	✓	—	✓
Difficult-to-Solder Surfaces	✓	—	✓	✓
Extended Reflow Cycle Time (>6 Minutes)	✓	✓	—	✓
Gap Filling and/or Vertical Surfaces	✓	✓	—	—
Rapid Reflow Cycle Time (<5 Seconds)	—	✓	—	—
UV Traceable	—	✓	—	—
Pin Transfer or Dipping (Low Viscosity)	✓	✓	—	—

Flux Choices

No Clean (NC)

Consists of rosin, solvent, and a small amount of activator. NC flux has low activity and is suited to easily solderable surfaces. NC residue is clear, hard, non-corrosive, non-conductive, and designed to be left on your assembly. Residue may be removed with an appropriate solvent.

Rosin Mildly Activated (RMA)

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. RMA flux residue is clear, soft, non-corrosive, and non-conductive. Cleaning is optional. Residue may be removed with an appropriate solvent.

Rosin Activated (RA)

Consists of rosin, solvent, and aggressive activators. RA flux has higher activity than RMA for moderately oxidized surfaces. RA flux residue is corrosive and should be removed as soon as possible after reflow to prevent damage to your assembly. Maximum safe time before cleaning is product dependent. Residue may be removed with an appropriate solvent.

Water Soluble (WS)

Consists of organic acids, thixotrope, and solvent. WS flux comes in a wide range of activity levels for soldering to even the most difficult surfaces. WS flux residue is corrosive and should be removed as soon as possible after reflow to avoid damage to your assembly. Maximum safe time before cleaning is product dependent. Residue may be removed with 60°C (140°F) water and 40 psi (2.7 bar) pressure.

Solder

Innovative 1K and 2K Packaging Solutions

EFD manufactures a comprehensive line of high-quality syringes and cartridges for packaging one- and two-component materials quickly and efficiently, without trapped air or waste.

We also make a wide range of static mixers, including traditional round spiral mixers and square mixers that provide comparable mixing in a shorter length that allows the user to get closer to the workpiece. Both styles are available with bayonet, bell or integral nut attachment configurations.

All products are molded in our own US facilities, which enables us to provide individual components in economical bulk quantities, or in any preassembled configuration needed to make our customers' filling processes more efficient and cost-effective.

Features and Benefits

- Superior quality
- Dependable performance
- In-house testing of packaged materials for shelf life and product stability
- No third parties involved – parts are delivered from our molds to you
- Timely delivery from our own US facilities
- Consistent, reliable service – we deliver when others can't

7014123
Atlas Cartridge Filling System
Includes tool kit, accessory kit, desktop power supply with AC cord and Quick Start Guide.

Specifications

Cabinet size: 52.3W x 71.1H x 22.9D cm (21"W x 28"H x 9"D)

Max extended tower height: 100 cm (39.4")

Weight: 9.1 kg (20 lb)

Input AC (to power supply):
Universal Multi Voltage
100/240 VAC, 50/60 Hz

Machine power requirement:
24 VDC, 0.5 Amp maximum

Max. input shop air pressure: 120 psi (8.3 bar)

An electrical fuse: 250 volt, 1Apm, slow blow, 3AG cartridge

Cartridge Filling System

The Atlas Cartridge Filling System provides a simple, cost-effective way to fill 2.5 to 32 ounce cartridges with greater accuracy at lower cost, making it ideal for:

- Material suppliers
- Custom packagers
- Manufacturers who down-pack from larger containers

Easy to set up and operate, the Atlas Cartridge Filling System allows virtually any operator to bottom-fill 2.5 ounce to 32 ounce cartridges with consistent amounts of material.

Features and Benefits

- Accurate, repeatable filling
- Eliminates rework and overfills
- Fast, easy changeovers
- Handles viscosities from 2000 cps and up
- Sensors work with all color cartridges and pistons

REPLACEMENT PARTS

Part #	Description
7022019	Power supply, 30 W
7015447	Fuse kit, CF 3 (3/pkg)
7015377	Magnetic switch assembly, CF
7015378	Solenoid valve, CF
7015379	Plunger, CF
7015380	Magnetic switch
7013449	736HPA-NV valve
7015448	Kit, air cylinder assembly with switch
7015458	Cartridge detect switch, CF
7015460	Lever arm, CF

Atlas™ 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 3, 5, 10, 30 and 55cc 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 55cc syringes
- Small footprint allows easy positioning of multiple units
- Prefilling syringes increases productivity and reduces labor costs

7022446
(922BL)
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 30/55cc syringe barrel fill level plugs.

7022447
(926BL)
6 fl oz (180 ml) cartridge. Ships with the same parts as the 922BL.

7022445
(920BL)
12 fl oz (360 ml) cartridge. Ships with the same parts as the 922BL.

7013568
20 fl oz (600 ml) cartridge. Ships with the same parts as the 922BL.

7013901
32 fl oz (960 ml) cartridge. Ships with the same parts as the 922BL.

www.nordsonefd.com info@nordsonefd.com USA & Canada 800-556-3484 Europe +44 (0) 1582 666334 Asia +86 (21) 3866 9006

Atlas Filling Systems

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 or 55cc syringe barrels without waste, mess or air bubbles.

Automatic Syringe Filling Systems For extremely fast, consistent, and cost-effective volumetric filling of pastes, gels and other non-pourable assembly fluids, specify our automatic systems. These systems rapidly fill syringe barrels with ± 2% accuracy at the press of a button. Syringes are bottom filled, allowing air to escape for a consistent volumetric fill. Accommodates 3cc, 5cc, 10cc, 30cc and 55cc syringe barrels.

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 30/55cc size syringe barrel fill level plugs.

7022070
(8000BF-PW)
Use with reactive fluids that require a disposable fluid path at pressures up to 80 psi (5.5 bar). System ships complete with microprocessor controller, five-micron filter regulator, fittings and foot pedal.

7022064
(8000BF-HF)
Use with cartridges and tanks at pressures up to 100 psi (7.0 bar). Ships with the same parts as 8000BF-PW.

7022068
(8000BF-HPA)
Use with very thick fluids at pressures up to 2,500 psi (172 bar). Ships with the same parts as 8000BF-PW.

Static Mixers

EFD offers a wide variety of high-quality static mixers that ensure optimum performance of adhesives and other two-component materials by dividing and recombining the materials into a homogeneous stream. Reusable metal mixers with either metal or plastic elements are available as well as disposable plastic mixers for single-use dispensing. Disposable mixers are available in two different geometries: Spiral Mixers™ and Turbo Mixers™ (square).

Series 85 In-Line Spiral Stainless Steel Pipe Mixers
Designed for high-pressure applications that feature sturdy metal housings with Series 120 disposable plastic mixing elements.

Series 100 Spiral Stainless Steel Pipe Mixers
Designed with all stainless steel parts, the mixer is rugged and reliable. The modular construction allows the elements to be removed for easy cleaning.

Series 160 Disposable Plastic Spiral Bell Mixers
Designed to be used with reactive materials. The mixing nozzle has a bell inlet that fits on large volume cartridge systems and most meter mix dispensers.

Series 180A Disposable Plastic Turbo Bell Mixers
EFD's newest disposable static mixer ensures superior mixing performance and allows the operator to be closer to the work piece.

Series 190 Disposable Plastic Spiral Bayonet Mixers
The Series 190 mixer is designed for use with 50mL two-component cartridges. Typical applications include mixing epoxies, urethanes, acrylics, and silicones.

Series 295 Disposable Plastic Turbo Bayonet Mixers
Patented design channels the fluids from the walls into the center of the mixer and from the center to the walls. For use with 50mL two-component cartridges.

85 SERIES STAINLESS STEEL SPIRAL PIPE MIXERS

Part #	Mixing Elements	Element Diameter	Housing Ends	Housing Length	Housing Outside Diameter	Pressure Limit (psi @300°F / bar @ 150°C)
7700180	12	9.30 mm (0.366")	1/4" mnpt	10.67 cm (4.20")	13.72 mm (0.54")	8500 psi (585 bar)
7700181	18	9.30 mm (0.366")	1/4" mnpt	15.75 cm (6.20")	13.72 mm (0.54")	8500 psi (585 bar)
7700182	24	9.30 mm (0.366")	1/4" mnpt	20.83 cm (8.20")	13.72 mm (0.54")	8500 psi (585 bar)
7700183	30	9.30 mm (0.366")	1/4" mnpt	25.40 cm (10.00")	13.72 mm (0.54")	8500 psi (585 bar)
7700193	24	12.62 mm (0.497")	3/8" mnpt	27.18 cm (10.70")	17.15 mm (0.68")	7250 psi (500 bar)
7700195	30	12.62 mm (0.497")	3/8" mnpt	33.32 cm (13.12")	17.15 mm (0.68")	7250 psi (500 bar)
7700199	30	16.00 mm (0.630")	1/2" mnpt	41.66 cm (16.40")	21.34 mm (0.84")	7250 psi (500 bar)
7700205	24	19.91 mm (0.784")	3/4" mnpt	41.66 cm (16.40")	26.67 mm (1.05")	6000 psi (415 bar)
7700206	32	19.91 mm (0.784")	3/4" mnpt	55.12 cm (21.70")	26.67 mm (1.05")	6000 psi (415 bar)

100 SERIES STAINLESS STEEL SPIRAL PIPE MIXERS

Part #	Mixing Elements	Element Diameter	Housing Ends	Housing Length	Housing Outside Diameter	Pressure Limit (psi @300°F / bar @ 150°C)
7700364	12	6.78 mm (0.267")	1/8" mnpt	13.67 cm (5.38")	10.29 mm (0.41")	4400 psi (303 bar)
7700366	6	9.22 mm (0.366")	1/4" mnpt	9.53 cm (3.75")	13.72 mm (0.54")	3400 psi (234 bar)
7700367	12	9.22 mm (0.366")	1/4" mnpt	17.78 cm (7.00")	13.72 mm (0.54")	3400 psi (234 bar)
7700370	12	12.55 mm (0.494")	3/8" mnpt	24.13 cm (9.50")	17.15 mm (0.68")	7250 psi (500 bar)
7700372	6	15.83 mm (0.623")	1/2" mnpt	14.61 cm (5.75")	21.34 mm (0.84")	7250 psi (500 bar)
7700373	12	15.83 mm (0.623")	1/2" mnpt	27.94 cm (11.00")	21.34 mm (0.84")	7250 psi (500 bar)
7700377	12	19.79 mm (0.779")	3/4" mnpt	37.47 cm (14.75")	26.67 mm (1.05")	6000 psi (415 bar)
7700381	6	26.21 mm (1.032")	1" mnpt	24.13 cm (9.50")	33.40 mm (1.32")	4500 psi (310 bar)
7700384	12	26.21 mm (1.032")	1" mnpt	46.99 cm (18.50")	33.40 mm (1.32")	4500 psi (310 bar)
7700391	6	40.13 mm (1.580")	1-1/2" mnpt	35.56 cm (14.00")	48.26 mm (1.90")	3000 psi (207 bar)
7700395	6	51.69 mm (2.035")	2" mnpt	44.45 cm (17.50")	60.33 mm (2.38")	2500 psi (170 bar)

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160 SERIES DISPOSABLE PLASTIC SPIRAL BELL MIXERS

Part #	Mixing Elements	Element Diameter	Housing Length	Housing Outside Diameter	Outlet Tip Orifice	Outlet Tip Style	Pressure Limit (psi @75°F / bar @ 30°C)
7700810	8	4.80 mm (0.189")	6.65 cm (2.62")	7.62 mm (0.30")	1.78 mm (0.07")	Slip Luer	500 psi (34 bar)
7700811	16	4.80 mm (0.189")	9.91 cm (3.90")	7.62 mm (0.30")	1.78 mm (0.07")	Slip Luer	500psi (34 bar)
7700819	24	4.80 mm (0.189")	13.16 cm (5.18")	7.62 mm (0.30")	1.78 mm (0.07")	Slip Luer	500 psi (34 bar)
7700824	32	4.80 mm (0.189")	16.46 cm (6.48")	7.62 mm (0.30")	1.78 mm (0.07")	Slip Luer	500 psi (34 bar)
7700825	48	4.80 mm (0.189")	22.96 cm (9.04")	7.62 mm (0.30")	1.78 mm (0.07")	Slip Luer	500 psi (34 bar)
7700830	8	6.30 mm (0.248")	9.04 cm (3.56")	9.40 mm (0.37")	2.29 mm (0.09")	Slip Luer	360 psi (25 bar)
7700831	16	6.30 mm (0.248")	13.87 cm (5.46")	9.40 mm (0.37")	2.29 mm (0.09")	Slip Luer	360 psi (25 bar)
7700837	24	6.30 mm (0.248")	18.95 cm (7.46")	9.40 mm (0.37")	2.29 mm (0.09")	Slip Luer	360 psi (25 bar)
7700856	32	6.30 mm (0.248")	24.10 cm (9.49")	9.40 mm (0.37")	2.29 mm (0.09")	Slip Luer	360 psi (25 bar)
7700866	48	6.30 mm (0.248")	33.38 cm (13.14")	9.40 mm (0.37")	2.29 mm (0.09")	Slip Luer	360 psi (25 bar)
7700873	18	8.00 mm (0.314")	17.68 cm (6.96")	11.71 mm (0.46")	2.54 mm (0.10")	Stepped	330 psi (23 bar)
7700876	24	8.00 mm (0.314")	22.45 cm (8.84")	11.71 mm (0.46")	2.54 mm (0.10")	Stepped	330 psi (23 bar)
7700879	32	8.00 mm (0.314")	29.06 cm (11.44")	11.71 mm (0.46")	2.54 mm (0.10")	Stepped	330 psi (23 bar)
7700885	12	9.30 mm (0.366")	13.92 cm (5.48")	12.95 mm (0.51")	3.05 mm (0.12")	Stepped	300 psi (21 bar)
7013510	18	9.30 mm (0.366")	18.49 cm (7.28")	12.95 mm (0.51")	3.05 mm (0.12")	Stepped	300 psi (21 bar)
7700904	24	9.30 mm (0.366")	23.24 cm (9.15")	12.95 mm (0.51")	3.05 mm (0.12")	Stepped	300 psi (21 bar)
7700927	30	9.30 mm (0.366")	28.55 cm (11.24")	12.95 mm (0.51")	3.05 mm (0.12")	Stepped	300 psi (21 bar)
7700932	40	9.30 mm (0.366")	35.92 cm (14.14")	12.95 mm (0.51")	3.05 mm (0.12")	Stepped	300 psi (21 bar)
7700941	60	9.30 mm (0.366")	56.90 cm (22.4")	12.95 mm (0.51")	3.05 mm (0.12")	Stepped	300 psi (21 bar)
7700942	64	9.30 mm (0.366")	60.96 cm (24.0")	12.95 mm (0.51")	3.05 mm (0.12")	Stepped	300 psi (21 bar)
7700990	12	12.65 mm (0.497")	17.04 cm (6.71")	16.76 mm (0.66")	4.57 mm (0.18")	Stepped	270 psi (19 bar)
7701001	18	12.65 mm (0.497")	23.06 cm (9.08")	16.76 mm (0.66")	4.57 mm (0.18")	Stepped	270 psi (19 bar)
7701010	24	12.65 mm (0.497")	29.46 cm (11.60")	16.76 mm (0.66")	4.57 mm (0.18")	Stepped	270 psi (19 bar)
7701028	30	12.65 mm (0.497")	35.79 cm (14.09")	16.76 mm (0.66")	4.57 mm (0.18")	Stepped	270 psi (19 bar)
7701038	36	12.65 mm (0.497")	42.24 cm (16.63")	16.76 mm (0.66")	4.57 mm (0.18")	Stepped	270 psi (19 bar)

162 SERIES DISPOSABLE PLASTIC SPIRAL BELL HIGH FLOW MIXERS

Part #	Mixing Elements	Element Diameter	Housing Length	Outside Diameter	Pressure Limit (psi @75°F / bar @ 30°C)
7701057	16	19.9 mm (0.784")	31.7 cm (12.5")	24.9 mm (0.98")	580 psi (39 bar)
7701059	23	19.9 mm (0.784")	43.2 cm (17.0")	24.9 mm (0.98")	580 psi (39 bar)
7701063	32	19.9 mm (0.784")	62.2 cm (24.5")	24.9 mm (0.98")	580 psi (39 bar)
7701066	39	19.9 mm (0.784")	77.0 cm (30.3")	24.9 mm (0.98")	580 psi (39 bar)
7701067	48	19.9 mm (0.784")	92.5 cm (36.4")	24.9 mm (0.98")	580 psi (39 bar)

180A SERIES DISPOSABLE PLASTIC TURBO (SQUARE) BELL MIXERS

Part #	Mixing Elements	Element Diameter	Housing Length	Housing Retained Volume
7701353	18	8.7 mm (0.344")	13.0 cm (5.1")	6.5 ml
7701358	24	8.7 mm (0.344")	16.0 cm (6.3")	7.5 ml
7701367	36	8.7 mm (0.344")	24.4 cm (8.8")	11.0 ml

190 SERIES DISPOSABLE PLASTIC SPIRAL BAYONET MIXERS

Part #	Mixing Elements	Element Diameter	Element Length	Outlet Tip Style	Housing Retained Volume
7701408	12	2.36 mm (0.093")	3.8 cm (1.5")	Slip Luer	0.10 ml
7701411	12	3.18 mm (0.125")	5.3 cm (2.1")	H-Tapered	0.20 ml
7701416	24	3.18 mm (0.125")	8.6 cm (3.4")	H-Tapered	0.40 ml
7701417	8	4.75 mm (0.187")	4.1 cm (1.6")	Full Bore	0.40 ml
7701424	16	4.75 mm (0.187")	8.6 cm (3.4")	Slip Luer	0.90 ml
7701436	16	4.75 mm (0.187")	8.6 cm (3.4")	H-Tapered	0.90 ml
7701429	16	4.75 mm (0.187")	7.4 cm (2.9")	Full Bore	0.80 ml
7701438	7	5.40 mm (0.213")	5.8 cm (2.3")	Slip Luer	0.90 ml
7701449	17	5.40 mm (0.213")	11.2 cm (4.4")	Stepped	1.90 ml
7701453	21	5.40 mm (0.213")	13.5 cm (5.3")	Stepped	2.40 ml
7701458	12	6.35 mm (0.250")	9.9 cm (3.9")	Slip Luer	1.90 ml
7701486	16	6.35 mm (0.250")	12.2 cm (4.8")	Stepped	2.50 ml
7701487	20	6.35 mm (0.250")	15.0 cm (5.9")	Slip Luer	3.00 ml
7701488	20	6.35 mm (0.250")	15.0 cm (5.9")	Stepped	3.00 ml
7701510	20	6.35 mm (0.250")	15.0 cm (5.9")	H-Tapered	3.00 ml
7701507	20	6.35 mm (0.250")	13.5 cm (5.3")	Full Bore	2.80 ml

295 SERIES DISPOSABLE PLASTIC TURBO (SQUARE) BAYONNET MIXERS

Part #	Mixing Elements	Element Diameter	Housing Length	Outlet Tip Style	Housing Retained Volume
7701830	20	5.15 mm (0.203")	10.2 cm (4.05")	Slip Luer	1.4 ml
7701832	20	5.15 mm (0.203")	9.2 cm (3.63")	Full Bore	1.4 ml
7701836	20	5.15 mm (0.203")	10.2 cm (4.05")	LuerLok	1.4 ml

u-TAH™ Nano Cartridge System

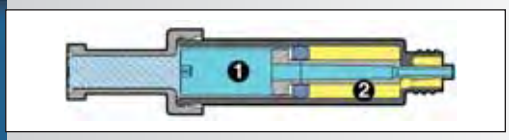
The u-TAH Nano is a revolutionary packaging system for mixing and applying 2-component dental and medical materials. This single-use system allows the healthcare professional to accurately and precisely apply mixed material using industry standard "Centrix®" type dispensers.

Applications include dental bonding and impressions, external chemical bandages, tissue sealants, orthopedic adhesives and compounds, glues for reinforcing sutures and impression materials for hearing aids.

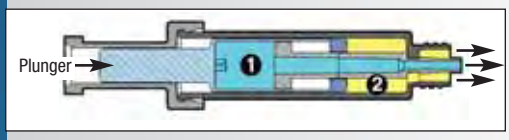
Features and Benefits

- Compatible with existing "Centrix" type dispensers
- Superior ergonomics and mechanical advantage
- Single use eliminates risk of cross-contamination
- Accurate and consistent 1:1 ratio dispensing and mixing

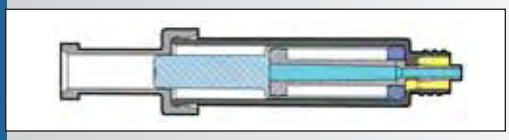
How the u-TAH Nano Works



Full



Half-Dispensed



Fully Dispensed

The unit holds the two mixable components, one behind the other, in a single cylinder. As the dispenser plunger advances into the back of the cartridge, materials ① and ② are forced simultaneously through separate outlets into a disposable in-line mixer. The ratio of the two components is precisely controlled by the cross-sectional area of the back and front chambers, and is varied by adjusting these diameters. The cutaway drawings above depict the 1:1 ratio.

7704129
u-TAH Nano Dispenser
Use with cartridges #7703269 (white) or #7704120 (black). Both have a 1.0mL capacity with a 1:1 ratio. Use with mixer #7703940 which has 12+ elements and a 3.2 mm diameter.

Other mixers are available.
Contact Nordson EFD for recommendations.

u-TAH™ Universal Cartridge System

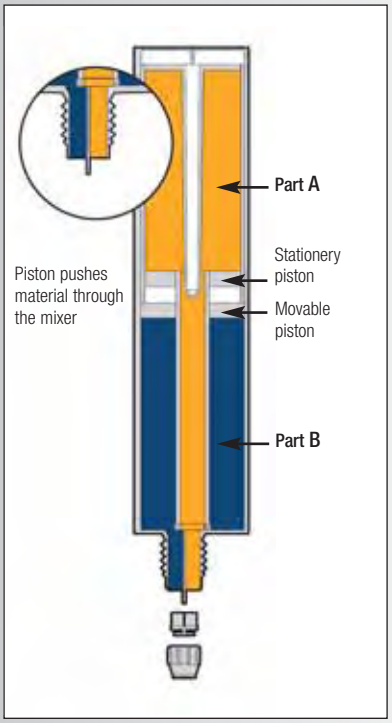
The u-TAH Cartridge looks identical to standard caulking cartridges. It is the only cartridge system that maintains accurate ratio control and fits into an existing 1/10th gallon or 310mL caulking gun. This system also fits into pneumatic (rod-driven) and battery-powered caulking tools.

The patented in-line design stores one component in front of the other but both are extruded through the cartridge outlet and into a static mixer simultaneously. Special non-vented versions are available to handle very low viscosity fluids. The cartridge is offered in a 1:1 ratio with 250mL volume, a 2:1 ratio with 180mL volume and a 10:1 ratio with 280mL volume. The cartridge body is either nylon or polypropylene construction that won't burst during most demanding applications, providing trouble-free applications in the field.

Features and Benefits

- Accurate ratio control
- After filling, maintains a superior shelf life
- No need to purchase special-purpose dispensing guns

How the Universal Cartridge Works



The cartridge stores the two mixable components, one in front of the other. As shown in the diagram, the rear piston is stationary. As the inner can is pushed forward, the orange fluid is extruded into the center tube, through the cartridge outlet, and into the mixer. At the same time, the movable piston causes the blue fluid to be extruded through the cartridge outlet and into the mixer. The cartridge in the diagram shows a 1:1 ratio, although a 2:1 ratio cartridge is also available. With the 2:1 cartridge, the stationary piston and inner cartridge have a smaller diameter and cross sectional area.

7702982
1:1 vented cartridge system with 250mL volume and polypropylene construction.

7704048
1:1 vented cartridge system with 250mL volume and nylon construction.

7702988
1:1 non-vented cartridge system with 250mL volume and polypropylene construction.

7702991
2:1 vented cartridge system with 180mL volume and polypropylene construction.

7702994
2:1 non-vented cartridge system with 180mL volume and polypropylene construction.

7702996
10:1 vented cartridge system with 280mL volume and nylon construction.

Cartridge Systems

EFD produces a variety of side-by-side cartridges, from 50mL to 600mL sizes. A large selection of static mixers in spiral and square configurations are available to provide complete system solutions.

50mL Bayonet Cartridge Available in 1:1, 2:1, 4:1, and 10:1 ratios. Each is available in an open-end cartridge with a polyethylene plug and retaining cap. The durable plug is inert to most adhesives such as epoxies, urethanes, acrylics or silicones. The popular 1:1 and 2:1 ratios are also offered with a hermetically-sealed closed end option.

200mL Cartridge High quality one-piece design features 1:1 and 2:1 ratios with a total volume capacity of 215mL for 1:1 ratio and 222mL for 2:1 ratio. Available in open or closed outlet with a solid multi-seal piston, multi-seal piston with prestage center bleed plug or the new AF seal (1:1 ratio only) that allows for one-step insertion and bleeds air around the circumference of the piston without using a shim.

400mL Cartridge Sturdy one-piece design features a 1:1 ratio with a total volume capacity of 406mL (approximately 200mL in each side). Available with a solid multi-seal piston or multi-seal piston with prestage center bleed plug.

600mL Cartridge Large cartridge offers a 1:1 ratio with a total volume capacity of 630mL (approximately 300mL in each side). Available with a solid multi-seal piston or multi-seal piston with prestage center bleed plug.

Recommended mixers, dispensers and pistons to complete the cartridge systems

50mL Bayonet Cartridge

Mixers: Series 190 spiral mixers
Series 295 turbo bayonet mixers

Dispensers: 50mL manual dispenser
Caulking gun conversion kit

Pistons: Solid O-ring
Solid multi-seal
Multi-seal with a prestaged center
Bleed plug (prevents trapped air when inserting the piston without a shim)
AF piston for one-step insertion (1:1 ratio only)

200mL Cartridge

Mixers: Series 160 disposable plastic spiral bell mixers
Series 260 spiral bell mixers
Series 180A turbo bell mixers

Dispensers: Contact EFD for manual and pneumatic dispensers for 200mL cartridges

Pistons: Solid multi-seal
Multi-seal with a prestaged center
Bleed plug (prevents trapped air when inserting the piston without a shim)
AF piston for one-step insertion (1:1 ratio only)

400mL and 600mL Cartridges

Mixers: Series 160 disposable plastic spiral bell mixers
Series 260 spiral bell mixers
Series 180A turbo bell mixers

Dispensers: Contact EFD for manual and pneumatic dispensers for 400mL and 600mL cartridges

Pistons: Solid multi-seal
Multi-seal with a prestaged center
Bleed plug (prevents trapped air when inserting the piston without a shim)

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SIDE X SIDE CARTRIDGE SYSTEMS

50mL CARTRIDGE SYSTEMS

50mL Cartridges

Part #	Ratio	Description
7015724	1:1	50mL open cartridge with retainer & plug
7702619	1:1	50mL closed cartridge with protective cap
7702892	2:1	50mL open cartridge with retainer & plug
7702627	2:1	50mL closed cartridge with protective cap
7702896	4:1	42mL open cartridge with retainer & plug
7702900	10:1	37mL open cartridge with retainer & plug

50mL Pistons

Part #	Ratio	Description
7702687	1:1	EPDM O-Ring piston (short)
7702692	1:1	EPDM O-Ring piston (tall)
7702702	1:1	Multi-seal piston with prestaged bleed plug
7704061	1:1	AF piston*
7702705	2:1, 4:1, 10:1	EPDM O-Ring piston (large)
7702714	2:1	EPDM O-Ring piston (small)
7702721	4:1	EPDM O-Ring piston (small)
7702728	10:1	EPDM O-Ring piston (small)

200mL CARTRIDGE SYSTEMS

200mL Cartridges

Part #	Ratio	Description
7703001	1:1	215mL open cartridge with installed nose plug & 3/8" nut
7703004	1:1	215mL open cartridge with installed nose plug & 1/2" nut
7702942	1:1	215mL closed cartridge with protective cap
7702950	2:1	222mL closed cartridge with protective cap

200mL Pistons

Part #	Ratio	Description
7702664	1:1	Solid multi-seal piston
7702744	1:1	Multi-seal piston with prestaged bleed plug
7704307	1:1	AF piston*
7702672	2:1	Solid multi-seal piston (small)
7702674	2:1	Solid multi-seal piston (large)
7702752	2:1	Multi-seal piston with prestaged bleed plug (small)
7702754	2:1	Multi-seal piston with prestaged bleed plug (large)

Note: All cartridges and pistons shown are polyethylene with the exception of AF pistons* which are Polyethylene/Polybutylene Terephtalate (PE/PBT). Nylon cartridges and pistons also available. Contact Nordson EFD for recommendations.

400mL CARTRIDGE SYSTEMS

400mL Cartridges

Part #	Ratio	Description
7703011	1:1	406mL open cartridge with installed nose plug & 3/8" nut
7703013	1:1	406mL open cartridge with installed nose plug & 1/2" nut
7702965	1:1	406mL closed cartridge with protective cap

400mL Pistons

Part #	Ratio	Description
7702677	1:1	Solid multi-seal piston
7702757	1:1	Multi-seal piston with prestaged bleed plug

600mL CARTRIDGE SYSTEMS

600mL Cartridges

Part #	Ratio	Description
7702971	1:1	630mL closed cartridge with protective cap

600mL Pistons

Part #	Ratio	Description
7702684	1:1	Solid multi-seal piston
7702765	1:1	Multi-seal piston with prestaged bleed plug

Atlas 2K Piston Inserter

Atlas 2K Piston Inserters are a fast, convenient and cost-effective way to install new AF pistons in 50mL and 200mL side x side cartridges.

7015502
50mL piston inserter

7015503
200mL piston inserter

New AF Air-free Pistons
Self-venting AF (Air Free) pistons combine excellent chemical compatibility with an airtight, leakproof seal that ensures safe shipment and long shelf life. They also save time and effort by eliminating the need to insert shims or bleed plugs during the packaging process.

Autovalves

EFD meter mix offerings consist of a meter mix dispenser and a static mixer. They set the standard for high-volume, two-component dispensing operations by combining easy, reliable operation with simplified maintenance.

Meter mix valves feature an innovative design that prevents cross-contamination by keeping A and B components separate until they enter the mixer—an approach that reduces downtime by eliminating the need for solvent flushing. When cleaning is required, the modular design permits fast, easy disassembly.

Spiral mixers attach to the dispenser manifold and blend the components into a homogeneous mix that ensures optimal material performance. Mixers are available in different styles and element configurations to accommodate a wide variety of materials and production requirements.

EFD valves are available in a variety of configurations to accommodate different fluids, flow rates, viscosities and volumetric ratios. Two of our newest offerings include the high flow valve and the recirculating valve.

400HF High Flow Valve Permits flow rates of 4-5 gallons per minute, depending on pump capability and material viscosity. The valve dispenses low to high viscosity urethanes, epoxies and silicones.

450RC Recirculating Valve Allows continuous flow of material while still being able to control shutoff at the mixer. Typical uses are for heated materials or materials with fillers that need to remain suspended. Gear pump applications can also benefit from the recirculating valve because pumps can be kept running while material is shut off at the mixer.

450XT Snuff Back Valve Designed specifically for dispensing two-component urethanes. Since two-component urethanes are moisture sensitive, any contact with air can cure the material, locking up the dispense valve. This production proven design eliminates exposure of wetted shafts to air. Optional stainless steel valve is available for corrosive acrylics or epoxies.

Features and Benefits

- Dispenses two-component adhesives and sealants
- Can be mounted for beads or timed shots
- Manual, robotic or stationary operation
- Aluminum or stainless steel configurations

400 Series Autovalves

7701895
Aluminum valve with single air cylinder and TPV seals.

7701908
Aluminum valve with double air cylinders and TPV seals.

7702095
Stainless steel valve with single air cylinder and TGT seals.

400HF Series Autovalves

7704105
Aluminum valve with single air cylinder and TGT seals.

7701924
Aluminum valve with single air cylinder and TPV seals.

450RC Series Snuff Back Autovalves

7702201
Aluminum valve with single air cylinder with snuffback and GT seals.

7702209
Aluminum valve with single air cylinder with snuffback and PV seals.

7702443
Stainless steel valve with single air cylinder with snuffback and GT seals.

450XT Series Snuff Back Autovalves

7702216
Aluminum valve extended air cylinder with snuffback and GT seals.

7702447
Stainless steel valve with extended air cylinder with snuff-back and GT seals.

Contact Nordson EFD for manifold selection and a complete list of accessories.

Manual Dispensers

550 Low Pressure Manual Dispenser

Intended for low-pressure meter mix applications. this manual dispenser is ideal for dispensing beads or RTM casting. The design is simple: two ball valves are threaded into the back of the manifold and are connected to a common lever so that both valves open and close at the same time.

600 High Flow (MEGA) Manual Dispenser

Specifically designed to be used with the 162A Series disposable 3/4" diameter static mixer. Allows the user to handle both high flow and high viscosity materials easily. The A & B components are separately ported through the valve body and do not combine until they meet inside the static mixer.

Features and Benefits

- Moderately priced
- Materials remain separate until they enter the mixer

550 Series Manual Dispensers

7702508
Aluminum valve with series 160 outlet and wide ratio.

7702511
Aluminum valve with series 160 outlet and high flow.

7702515
Aluminum valve with series 160 outlet and low flow.

600 Series Manual Dispensers

7702569
1/2" FNPT material inlet and maximum working pressure of 600 psi (40 bar).

Contact Nordson EFD for manifold selection and a complete list of accessories.

550 Manual Dispenser

600 Manual Dispenser

Dot Volumes

Volume = D^3 x 0.5236 ÷ 2*
(* 1/2 the volume of a sphere)

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's
	1.6	0.06	0.0031	0.050
	2.4	0.09	0.0069	0.113
	3.2	0.12	0.0123	0.201
	4.8	0.19	0.0276	0.453

Measurement Conversions

Volume

1 fluid ounce	= 29.57 cubic centimeters
1 gallon	= 3785 cubic centimeters
1 gallon	= 3.785 liters
1 gallon	= 128 fluid ounces
1 gallon	= 4 quarts
1 gallon	= 8 pints
1 gallon	= 16 cups
1 gallon	= 231 cubic inches
1 gallon	= 0.134 cubic feet
1 liter	= 0.264 gallons
1 liter	= 1.06 quarts
1 liter	= 1000 milliliters
1 cubic foot	= 1728 cubic inches
1 cubic foot	= 7.48 gallons
1 cubic inch	= 16.387 cubic centimeters
1 cubic centimeter	= 1 milliliter
1 microliter	= 0.001 cc's
1 microliter	= 1000 nanoliters
1 nanoliter	= 0.000001 cc's
1 nanoliter	= 1000 picoliters

Weight

1 kilogram	= 1000 grams
1 kilogram	= 2.2 pounds
1 pound	= 16 ounces
1 pound	= 453.6 grams
1 pound	= 7000 grains
1 ounce	= 28.35 grams

Length

1 micron	= .0000394 inches
1 micron	= 0.001 millimeters
1 centimeter	= 10 millimeters
1 centimeter	= 10,000 microns
1 inch	= 2.54 centimeters
1 inch	= 25.4 millimeters
1 inch	= 25,400 microns
1 foot	= 30.48 centimeters
1 yard	= 91.44 centimeters
1 mile	= 5280 feet
1 mile	= 1.6 kilometers

Pressure

1 psi	= 0.069 bar
1 psi	= 0.070 kgf/cm²
1 psi	= 6894.8 Pa
1 psi	= 27.680 in H_20@4°C

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Fluid Viscosities

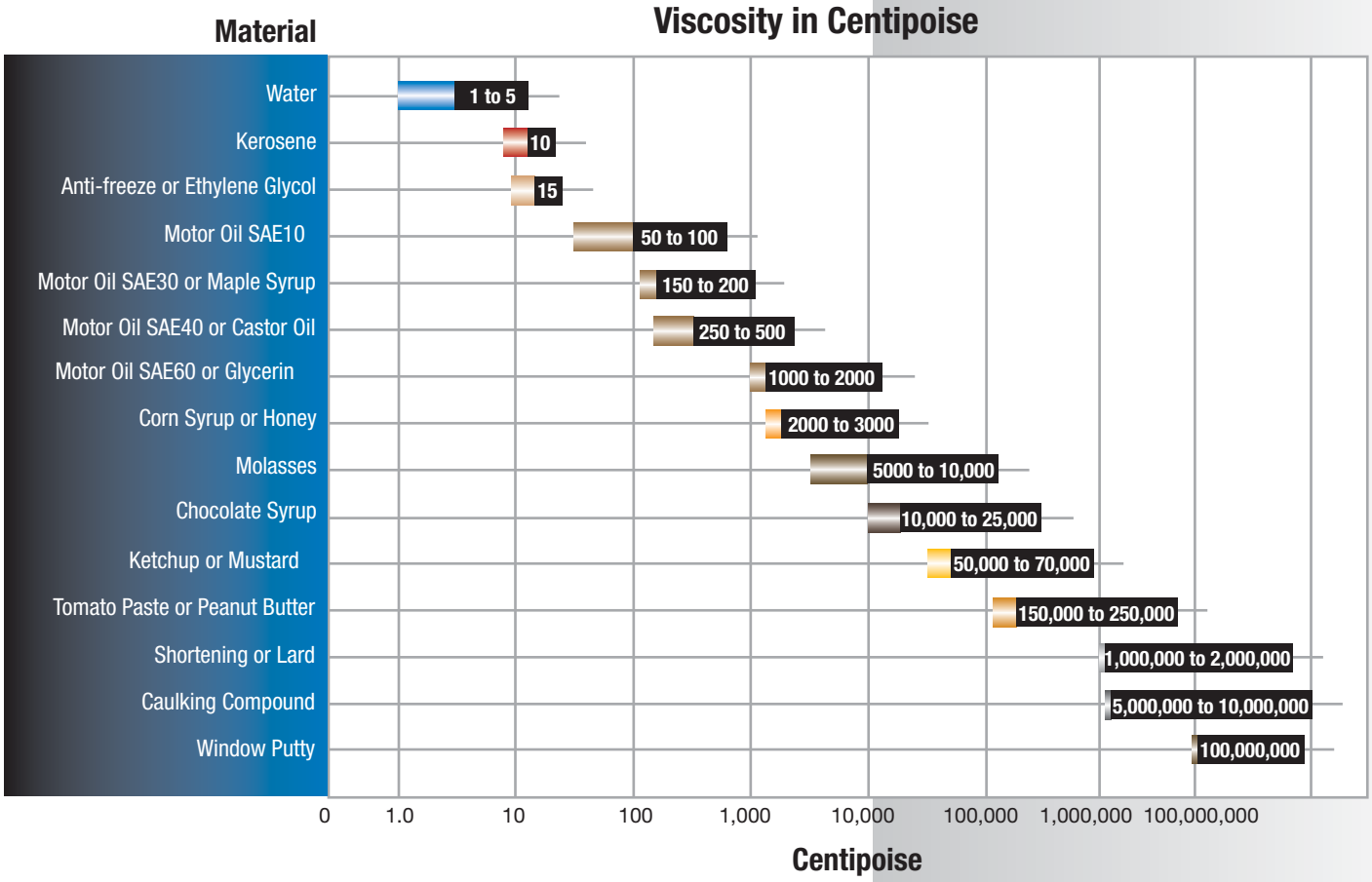
Dispensing conditions are driven by many factors. When selecting the correct system for your application, the material's properties, including viscosity and deposit size are important considerations.

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 chart to the right.

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

Approximate Viscosities of Common Materials (at room temperature - 21°C (70°F)



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 glue

Notes


Dosiernadeln Boquillas de dispensac
Kwaliteit Pasta lutownicze
rendszerek 高精度 Ago e
Calidad Aiguilles de dépos
Silicone 卡式胶筒 Doseurs Bez si
Pájecí pasta Niezawodn
Consistência 솜
de aplicação Szilikonmer
精密 Forrasztópaszta Valv
ソルダーペースト Dosee

Worldwide markets: one customer at a time.

From catheters in Ireland to mobile phones in Malaysia, from light bulbs in Hungary to connectors in Puerto Rico, and from optoelectronics in Singapore to automotive parts in Brazil, EFD precision fluid dispense systems are a critical part of today's global production.

For Nordson EFD LLC sales and service in over 30 countries, contact EFD or go to www.nordsonefd.com

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