

# 702 Series Mini-Diaphragm Valve

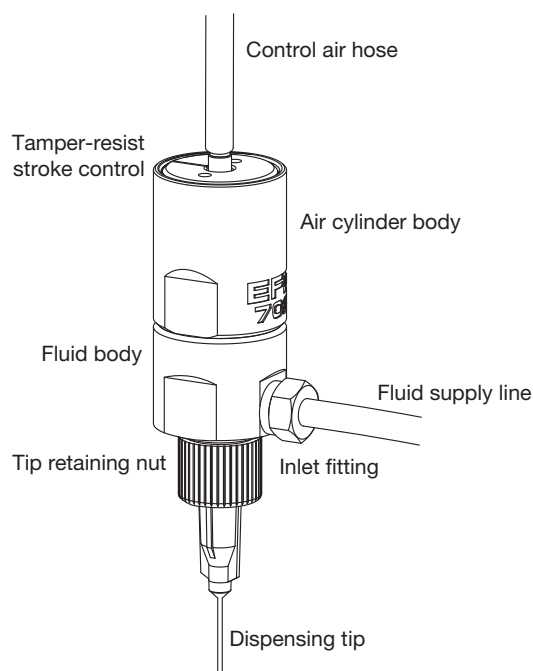
## Installation Guide

### Introduction

The 702 Series diaphragm valve is simple to use and will operate many millions of cycles without maintenance. The 702 Series incorporates a compact, precise, adjustable diaphragm for dispensing low to medium viscosity fluids.

The 702 Series has a unique flat seat that enables the valve to provide full flow at one half the stroke of a standard EFD 750 Series valve. This design also reduces turbulence and provides bubble-free dispensing of dyes and UV-cure resins used in the optical media and other industries. The central control air allows the valve to obtain its small size.

Each valve is shipped with a stroke control adjustment key.



### Valve Part Numbers

Part #	Model	Description
7020679	702M-SS	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	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	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 quickconnect and fluid inlet fitting, #7020677.

\*Ultra High Molecular Weight

# Installation

Prior to installing this valve, read the associated reservoir and valve controller operating instructions to become familiar with the operation of all components of the dispensing system.

1. Connect the fluid supply line to the valve. Install the M5 exterior thread fluid fitting. (Not supplied with 702M valve.)
2. Connect the fluid supply line to the reservoir.
3. Connect the valve control air hose to ValveMate™ 8000 (solenoid pack) used to control valve open time.
4. Choose a dispensing tip — small tips (20 gauge) for low-viscosity fluids and

larger (14 gauge) for higher viscosities. We recommend EFD PTFE-coated tips for the 702M-SS model.

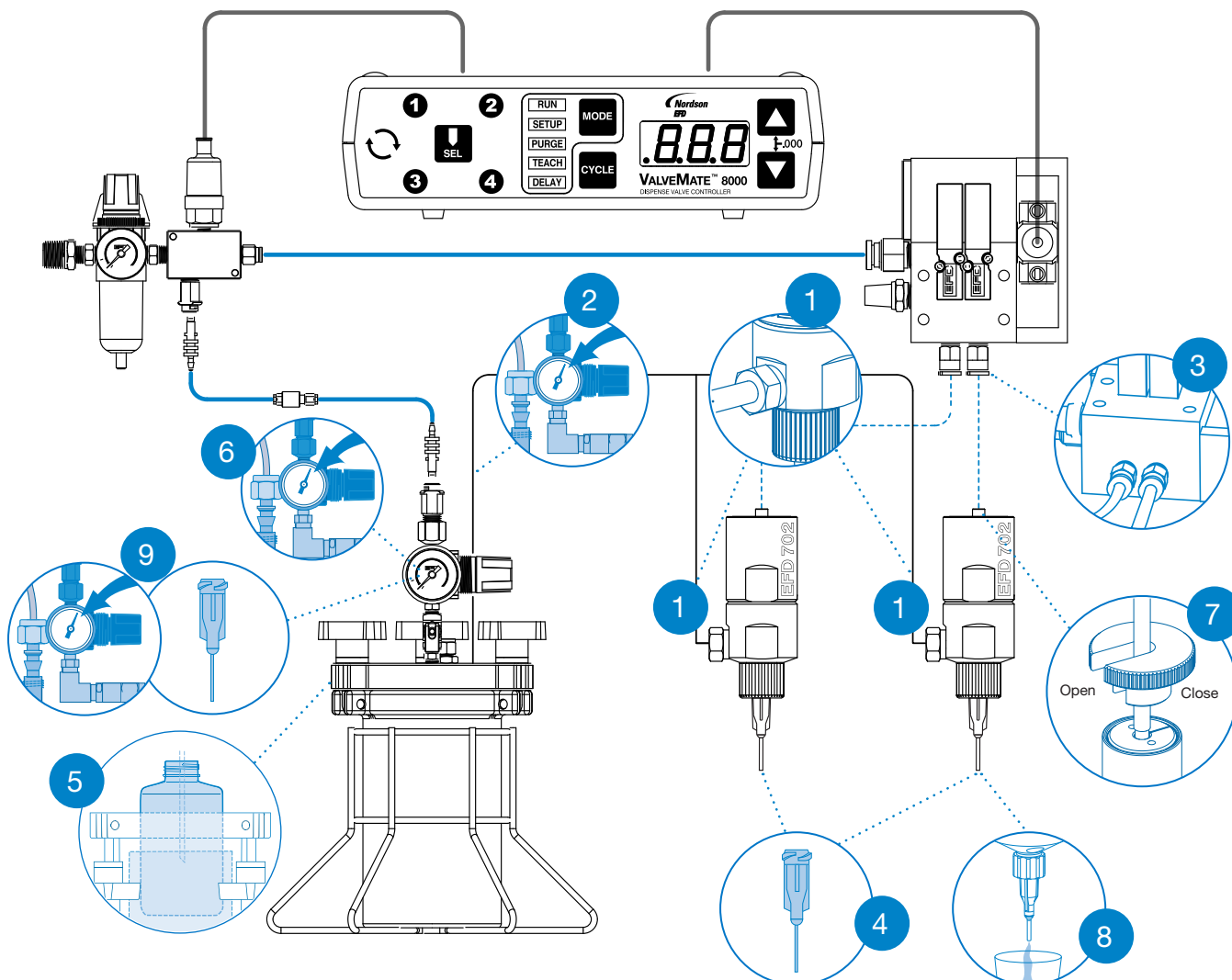
5. Fill the reservoir by pouring the fluid directly into the tank liner or into a manufacturer's bottle placed inside the reservoir. Secure the cover prior to setting the pressure.
6. Set the reservoir pressure to low for thin fluids and higher for thick fluids.
7. Set the stroke control starting with no more than 1/2 turn open from closed position (full clockwise).\*
8. Place a cup under the dispensing tip and actuate the valve until the fluid lines, valve, and dispensing tip are free of air.

9. Set the desired flow rate by adjusting the fluid reservoir pressure or changing the dispensing tip.

\*For a PTFE diaphragm — do not overtighten the stroke adjustment or open more than 1/2 turn. Opening more than 1/2 turn can cause dramatic reduction of the diaphragm cycle life.

\*For a UHMW diaphragm — do not overtighten the stroke adjustment or open it more than one full turn. If opened more than one full turn, pressurized liquid could force open the diaphragm seal, causing continuous liquid flow.

**NOTE:** Set the desired deposit size by adjusting the valve open time. Refer to the valve controller operating manual.

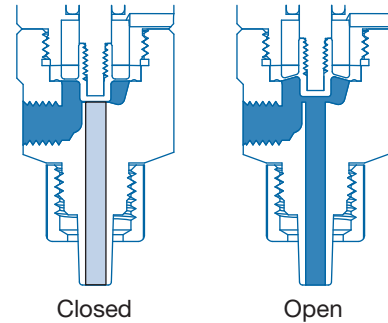


## How the Valve Operates

Input air pressure at 4.8 bar (70 psi) forces the internal piston to move. The piston rod pulls open the diaphragm seal, permitting fluid flow. When the input air pressure is relieved, the spring retracts the piston and the diaphragm closes.

The amount of fluid dispensed will depend on the time the valve is open, the viscosity of the fluid, the air pressure in the fluid reservoir, the dispensing tip size and the diaphragm stroke.

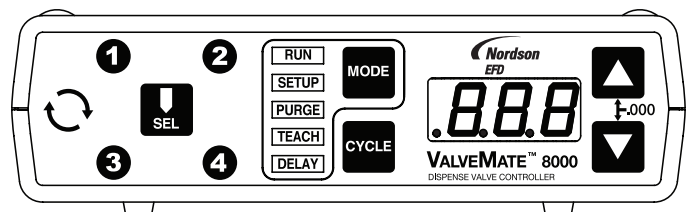
Flow rate is a function of reservoir pressure, tip size, and fluid viscosity.



## ValveMate Concept

The ValveMate 8000 controller provides easy adjustment of valve output for maximum end-user convenience and efficiency. Valve open time is the primary control of deposit. The 8000 puts push-button adjustment of valve open time where it needs to be—at the valve.

The ValveMate 8000 controller features micro-processor circuitry for extremely precise control of deposit size. Feed lines can be purged, initial deposit sizes set, and adjustments made quickly and easily at the dispensing station, without stopping the production line.



**Important Note:** Order your 1-, 2-, 3- or 4-solenoid manifold block assembly separately. Consult EFD for recommendations.

For consistent dispense valve operation and easy adjustment of valve output, Nordson EFD recommends using the ValveMate 8000 controller on all automatic, semi-automatic, and benchtop applications.

Nordson EFD automated dispensing systems integrate with ValveMate controllers for operating all pneumatic and BackPack dispense valves.

Contact Nordson EFD for details.

## Specifications

**NOTE:** Specifications and technical details are subject to change without prior notification.

Item	Specification
Size	63.5L x 19.1DIA mm (2.50L x 0.75DIA")
Weight (less fittings)	49.3 g (1.7 oz)
Actuating air pressure required	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure	4.8 bar (70 psi)
Fluid inlet	M5 x 0.8
Mounting	Adjustable mounting block (#7020507)
Cycle rate	Exceeds 500 per minute
Air cylinder body	303 stainless steel
Fluid body	702V-SS, 702M-SS: 303 stainless steel 702V-A: Acetal copolymer
Piston	303 stainless steel
Diaphragm	FDA-approved UHMW* polyethylene or PTFE
Tip retaining nut	Aluminum
Maximum operating temperature	43° C (110° F)
All stainless steel parts are passivated. *Ultra High Molecular Weight	



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### Global

800-556-3484; +1-401-431-7000  
[info@nordsonefd.com](mailto:info@nordsonefd.com)

### Europe

00800 7001 7001  
[infoefd.europe@nordsonefd.com](mailto:infoefd.europe@nordsonefd.com)

### Asia

China: +86 (21) 3866 9006; [china@nordsonefd.com](mailto:china@nordsonefd.com)  
India: +91 80 4021 3600; [india@nordsonefd.com](mailto:india@nordsonefd.com)  
Japan: +81 03 5762 2760; [japan@nordsonefd.com](mailto:japan@nordsonefd.com)  
Korea: +82-31-736-8321; [korea@nordsonefd.com](mailto:korea@nordsonefd.com)  
SEAsia: +65 6796 9522; [sin-mal@nordsonefd.com](mailto:sin-mal@nordsonefd.com)