

# 750 Series Diaphragm Valve

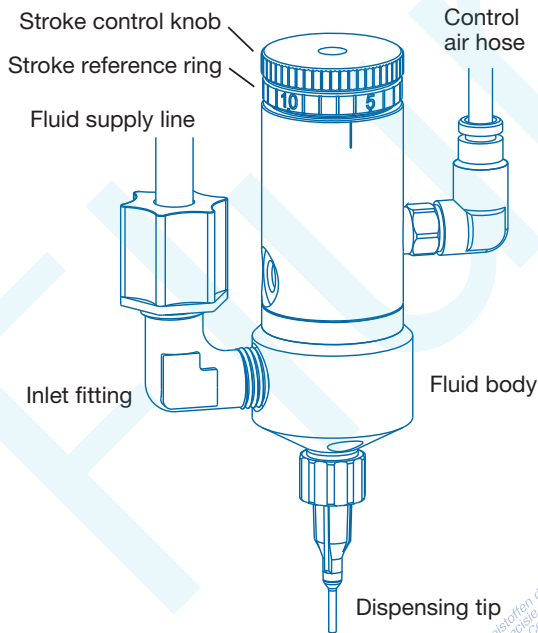
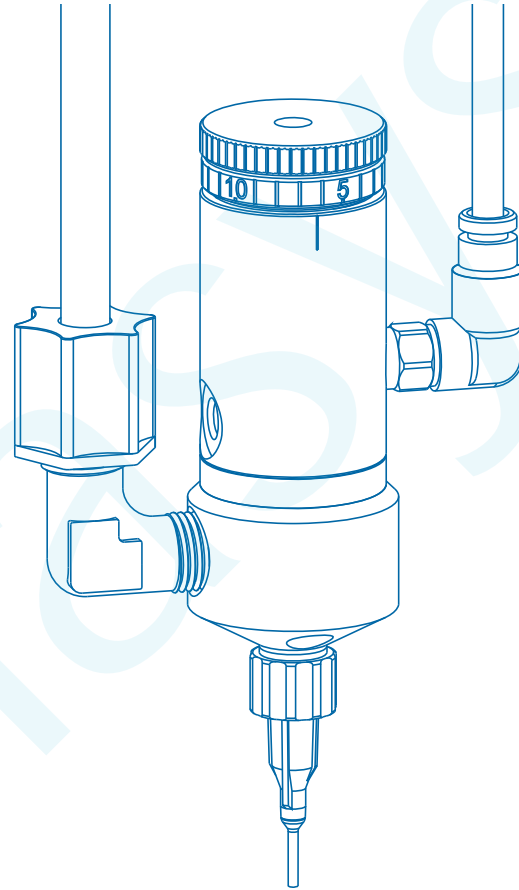
## Installation Guide

### Introduction

The 750 Series fluid dispense valves are simple to use and will operate many millions of cycles without maintenance. The 750 Series incorporates a variety of compact, precise, adjustable diaphragm valves for dispensing low to medium viscosity fluids. These include the 750V, 750V-SS, 751V, 752V, 752V-SS, 752V-UH, 752V-UHSS, 752V-DVD and 752V-UHDVD models.

All 750 Series valves use the same actuating assembly. But fluid body styles and diaphragms differ according to the model. The 752V Series fluid bodies are constructed with the outlet at the end of the fluid body. The 750V and 751V fluid bodies are constructed with the outlet on the side of the fluid body.

Each valve is shipped with a dispensing tip adapter, fluid inlet fitting and 5-foot actuating air hose installed.



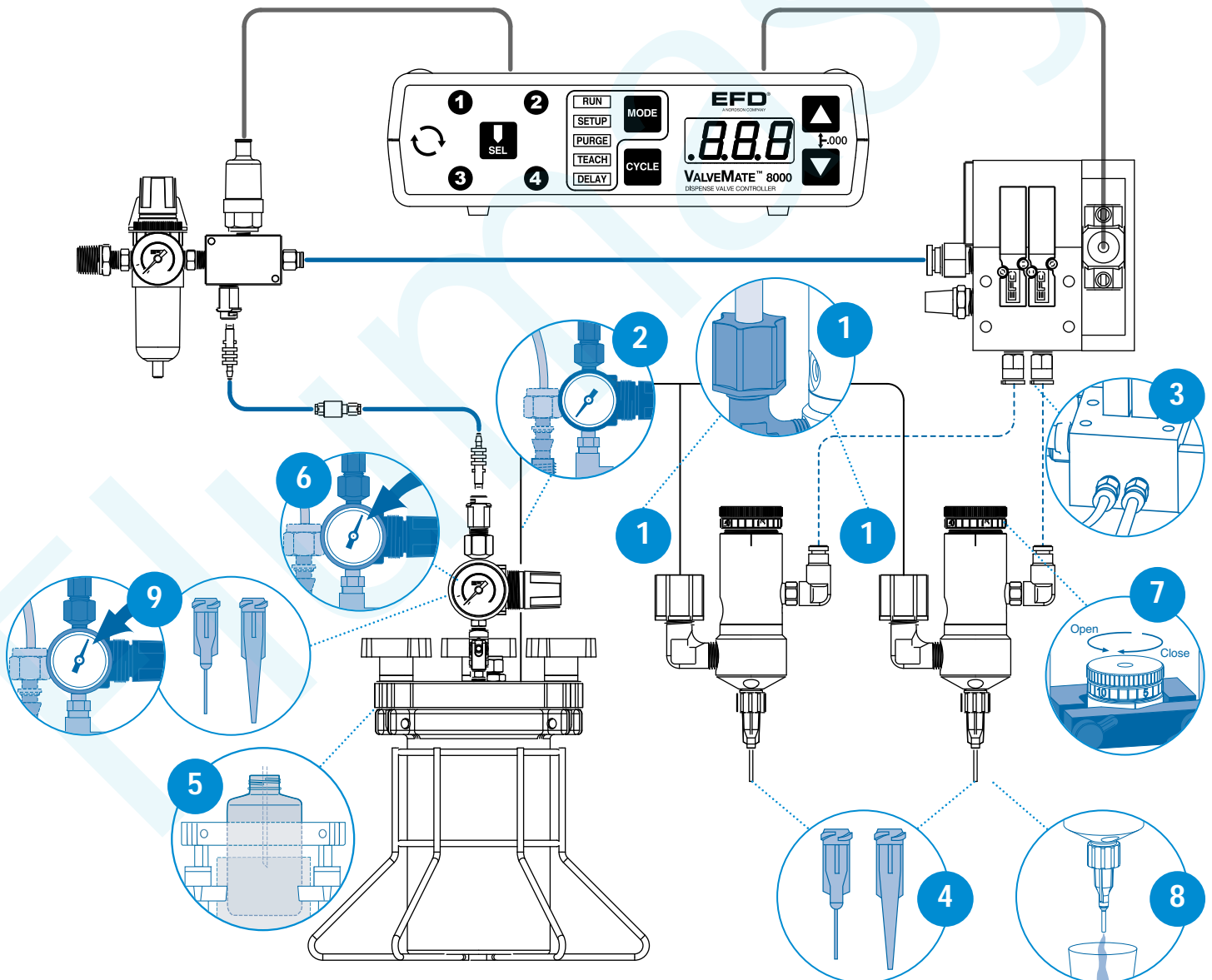
# Installation

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

1. Connect fluid supply line to valve. If 3/8" OD tubing is used, change to fitting #7610BP supplied.
2. Connect the fluid supply line to reservoir. The reservoir can accept either 1/4" OD or 3/8" OD tubing using #62518PT supplied.
3. Connect 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.
5. Fill reservoir by pouring fluid directly into tank liner or manufacturer's bottle placed inside reservoir. Secure cover prior to setting pressure.
6. Set reservoir pressure to low for thin fluids and higher for thick fluids.
7. Set the diaphragm stroke starting with no more than 1/2 turn open.\*
8. Place a cup under the dispensing tip and actuate the valve until fluid lines, valve and dispensing tip are free of air.
9. Set desired flow rate by adjusting fluid reservoir pressure or changing dispensing tip.

\* Do not overtighten the stroke adjustment knob or open it more than two full turns. If open more than two turns, pressurized liquid could force open the diaphragm seal, resulting in continuous liquid flow.

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



# How the Valve Operates

Input air pressure at 70 psi (4.8 bar) forces the internal piston ① to move.

② The piston rod pulls open the diaphragm seal, ③ permitting fluid flow. When the input air pressure is relieved, the spring retracts the piston and the diaphragm closes.

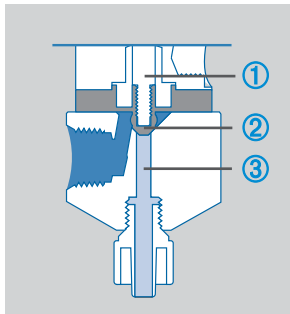
The amount of fluid dispensed will depend on the time the valve is open, the viscosity of the fluid, the air pressure in the fluid reservoir, the dispensing tip size and the diaphragm stroke.

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

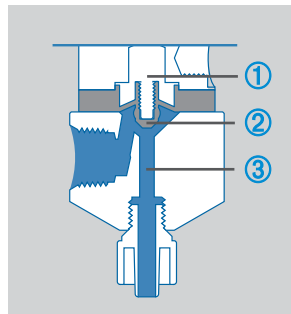
To calibrate the valve, the “0” mark on the stroke reference ring should align with one of the two reference marks on the valve body. When the set-screw is tightened, the valve is calibrated.

The primary control of deposit size is the valve open time.

752V and 752V-UH Fluid Flow

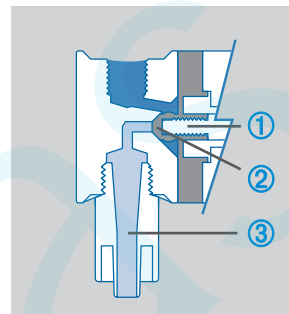


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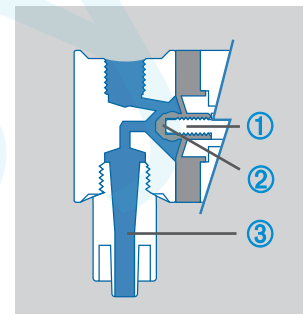


open

750V and 751V Fluid Flow



closed



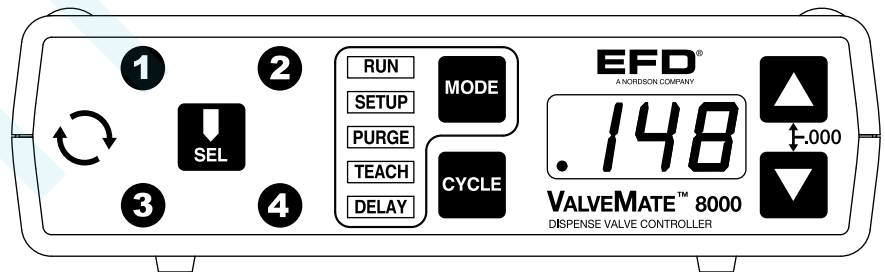
open

## ValveMate Concept

The ValveMate 8000 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 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.

**Note:** EFD® XYZ automated dispensing systems have integrated ValveMate controllers for operating all EFD dispense valves.



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

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# Specifications

## General

**Diaphragm:** UHMW\* polyethylene  
**Air pressure required:** 70 to 90 psi (4.8 to 6.2 bar)  
**Maximum fluid pressure:** 70 psi (4.8 bar)  
**Maximum operating temperature:** 43°C (110°F)  
**Mounting:** (1) 10-32 UNF tapped hole

## 750V and 750V-SS

**Size:** 64.7 mm length x 23.8 mm diameter  
(2.55" x 0.94")  
**Weight:** 750V – 93.5 grams (3.30 oz)  
750V-SS – 165.8 grams (5.85 oz)  
**Air cylinder body:** 750V – Hard-coated aluminum  
750V-SS – Type 303 stainless steel  
**Fluid body:** UHMW\* polyethylene  
**Free flow orifice:** 1.57 mm diameter (0.062")  
**Fluid inlet thread:** 1/4-28 UNF  
**Output thread:** 5/16-28 UNF  
**Tip adapter:** Polypropylene

## 751V

**Size:** 64.7 mm length x 26.9 mm diameter  
(2.55" x 1.06")  
**Weight:** 101.7 grams (3.59 oz)  
**Air cylinder body:** Hard-coated aluminum  
**Fluid body:** Acetal copolymer  
**Free flow orifice:** 2.03 mm diameter (0.08")  
**Fluid inlet thread:** 1/8 NPT female  
**Output thread:** 1/8 NPT female  
**Tip adapter:** Nylon

\* Ultra High Molecular Weight

## 752V, 752V-UH/752V-SS and 752V-UHSS

**Size:** 80.7 mm length x 26.9 mm diameter (3.18" x 1.06")  
**Weight:** 752V and 752V-UH – 99.5 grams (3.51 oz)  
752V-SS and 752V-UHSS – 181.9 grams (6.42 oz)  
**Air cylinder body:** 752V and 752V-UH – Hard-coated aluminum. 752V-SS and 752V-UHSS – Type 303 stainless steel  
**Fluid body:** 752V and 752V-SS – Acetal copolymer  
752V-UH and 752V-UHSS – UHMW\* polyethylene  
**Free flow orifice:** 2.5 mm diameter (0.10")  
**Fluid inlet thread:** 1/8 NPT female  
**Output thread:** 1/4-28 UNF  
**Tip adapter:** Polypropylene

## 752V-DVD and 752V-UHDVD

**Size:** 80.7 mm length x 26.9 mm diameter (3.18" x 1.06")  
**Weight:** 752V-DVD – 172.9 grams (6.1 oz)  
752V-UHDVD – 99.5 grams (3.51 oz)  
**Air cylinder body:** Type 303 stainless steel  
**Fluid body:** 752V-DVD – Type 303 stainless steel  
752V-UHDVD – UHMW\* polyethylene  
**Free flow orifice:** 2.5 mm diameter (0.10")  
**Fluid inlet thread:** 1/8 NPT female  
**Output thread:** 1/4-28 UNF 752V-UHDVD  
752V-DVD (not applicable)  
**Tip adapter:** 752V-DVD – Aluminum  
752V-UHDVD – Polypropylene



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

EFD dispensing robots incorporate dispensing control into the main system

Contact the EFD Dispense Valve Systems Group for details.



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