

741V Series Needle Valve

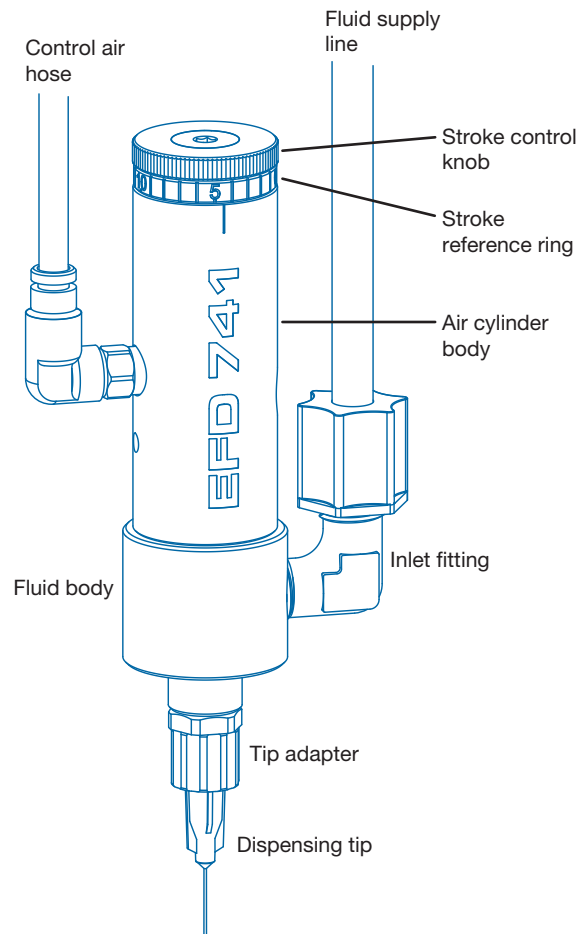
Installation Guide

Introduction

The 741V Series dispense valve is simple to use and will operate many millions of cycles without maintenance. 741V Series valves are designed to apply low-viscosity fluids with accurate, extremely close repeat deposit control. The valves are ideal for use on automatic assembly machines.

Each valve comes equipped with a 5-foot actuating air hose and male quick-connect, adjustable stroke control, and a fluid inlet fitting. The dispensing tip adapter features a SafetyLok™ collar for secure dispensing tip attachment.

The 741V-AL valve fluid body and air cylinder body are hard-coated anodized aluminum. The 741V-SS valve has a Type 303 stainless steel fluid body and air cylinder body.



Valve Part Numbers

Part #	Model	Description
7007029	741V-SS	Air cylinder body and fluid body are passivated 303 stainless steel. Includes fluid inlet fittings #7021499 and #7007038.
7021235	741V-AL	Air cylinder body and fluid body are hard-coated anodized aluminum. Includes fluid inlet fittings #7021499 and #7007038.
7015584	741V-SS-BP	Air cylinder body and fluid body are passivated 303 stainless steel. Includes fluid inlet fittings #7021499 and #7007038 and BackPack™ valve actuator.

Installation

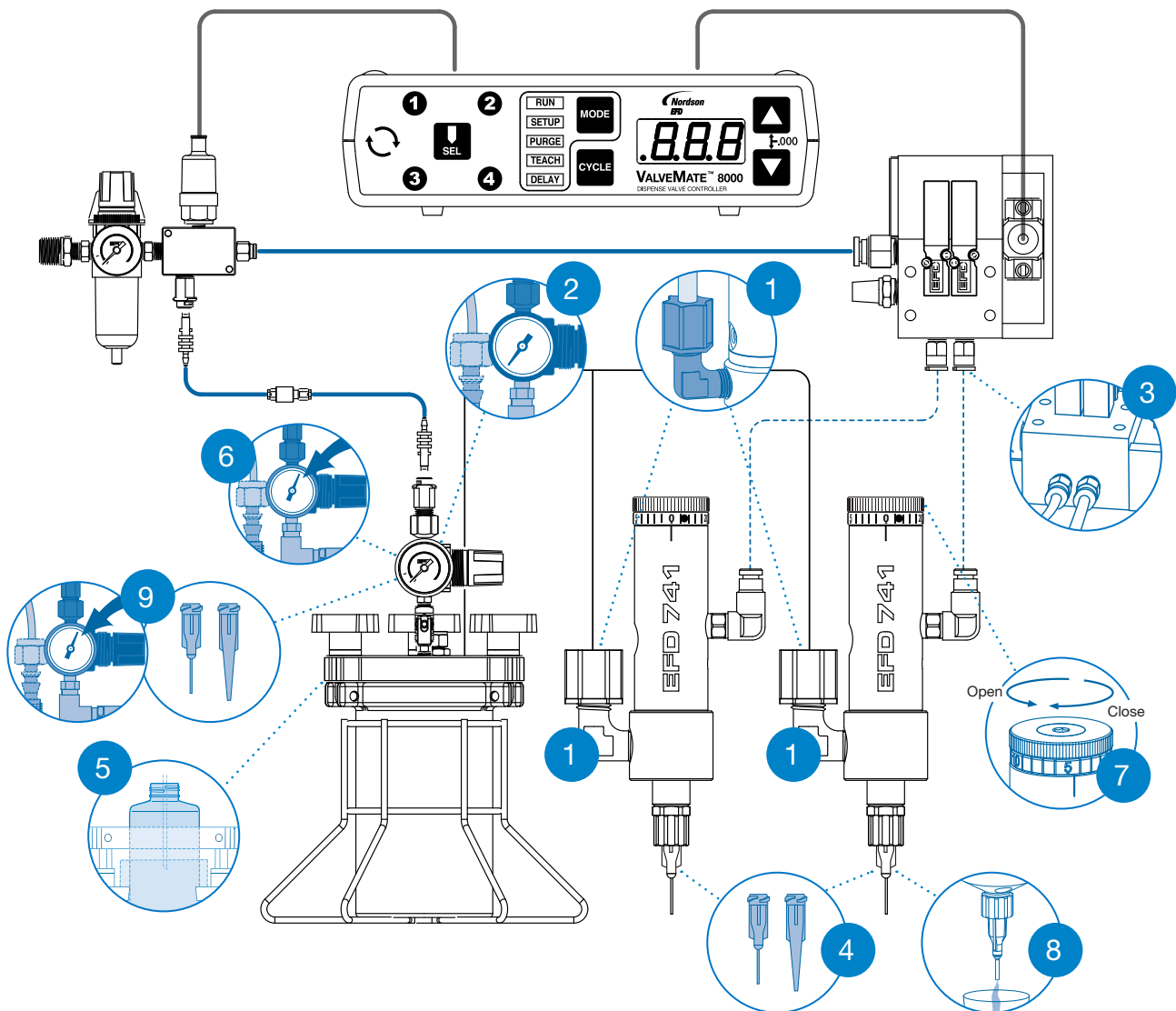
Prior to installing this valve, read the associated reservoir and valve controller operating instructions to become familiar with the operation of all components of the dispensing system.

1. Connect the fluid supply line to the valve. If 3/8" OD tubing is used, change to fitting #7007038 (supplied).
2. Connect the fluid supply line to the reservoir. The reservoir can accept either 1/4" OD or 3/8" OD tubing using #7021499 (supplied).
3. Connect the valve control air hose to the ValveMate™ 8000 controller (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 the reservoir by pouring fluid directly into the tank liner or 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 needle stroke starting at one full turn open.*

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, changing the dispensing tip, or adjusting the stroke setting.

*Do not overtighten the stroke adjustment knob or open it more than four full turns.

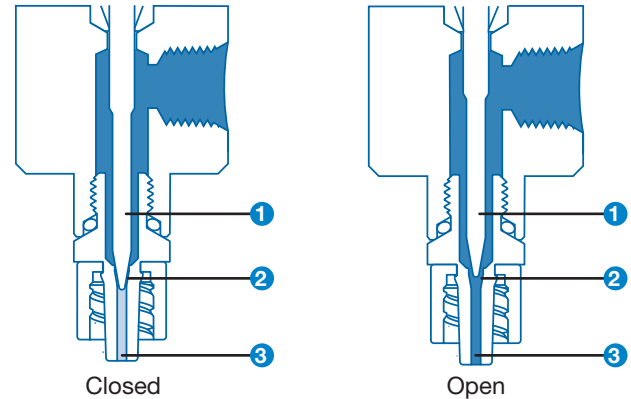
NOTE: Set the desired deposit size by adjusting the valve open time. Refer to the valve controller operating manual.



How the Valve Operates

Input air pressure at 4.8 bar (70 psi) retracts the needle **1** from the needle seat **2**, permitting fluid flow from the output tip adapter **3**. Piston and needle stroke and fluid flow are controlled by the stroke control knob. Once the cycle is complete, air is exhausted back through the valve controller, ensuring rapid and positive fluid shutoff.

The 741V Series can be operated in any position without affecting flow. The amount of fluid dispensed will depend on the time the valve is open, fluid reservoir pressure, dispensing tip size, needle stroke and fluid viscosity.

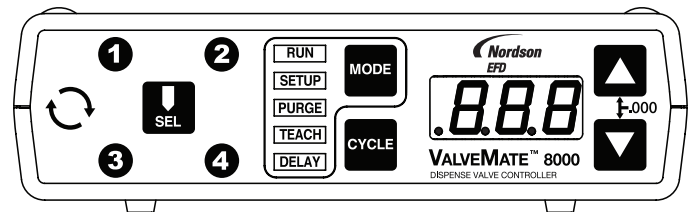


The primary control of deposit size is the valve open time.

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.

Calibration

To calibrate or document the dispensing process, use the stroke control reference. To calibrate, turn the calibrating adjustment (located in the end of the stroke adjustment knob) out two full turns. Close the stroke adjustment knob fully until it bottoms against the air cylinder body. Turn the adjustment until it stops, calibrating the valve to zero stroke.

Specifications

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

Item	Specification
Size	114.6L x 26.9DIA mm (4.51L x 1.06DIA")
Weight	317.5 g (11.2 oz)
Actuating air pressure required	4.8–6.2 bar (70–90 psi)
Maximum fluid pressure	20.7 bar (300 psi)
Fluid inlet	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	741V-SS / 741V-SS-BP: 303 stainless steel 741V-AL: Hard-coated anodized aluminum
Fluid body	741V-SS / 741V-SS-BP: 303 stainless steel 741V-AL: Hard-coated anodized aluminum
Piston	303 stainless steel
Needle and nozzle	303 stainless steel
Tip adapter	303 stainless steel
SafetyLok collar	Nylon
Maximum operating temperature	43° C (110° F)
All stainless steel parts are passivated.	



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

Global

800-556-3484; +1-401-431-7000
info@nordsonefd.com

Europe

00800 7001 7001
infoefd.europe@nordsonefd.com

Asia

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