



DVC-345 Valve Controller

User Guide





About Dymax

Light-curable adhesives. Systems for light curing, fluid dispensing, and fluid packaging.

Dymax manufactures industrial adhesives, light-curable adhesives, epoxy resins, cyanoacrylates, and activator-cured adhesives. We also manufacture a complete line of manual fluid dispensing systems, automatic dispensing systems, and light-curing systems. Light-curing systems include LED light sources, spot, flood, and conveyor systems designed for compatibility and high performance with Dymax adhesives. Dymax adhesives and light-curing systems optimize the speed of automated assembly, allow for 100% in-line inspection, and increase throughput. System designs enable stand-alone configuration or integration into your existing assembly line.

Please note that most dispensing and curing system applications are unique. Dymax does not warrant the fitness of the product for the intended application. Any warranty applicable to the product, its application, and use is strictly limited to that contained in the Dymax standard Conditions of Sale. Dymax recommends that any intended application be evaluated and tested by the user to ensure that desired performance criteria are satisfied. Dymax is willing to assist users in their performance testing and evaluation. Data sheets are available for valve controllers or pressure pots upon request.

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Introduction

This guide describes how to use the Dymax DVC-345 digital valve controller (T11146). Sections in this guide describe how to assemble, use, and maintain the valve controller safely and efficiently.

Intended Audience

Dymax prepared this user guide for experienced process engineers, maintenance technicians, and manufacturing personnel. If you are new to pneumatically operated fluid dispensing equipment and do not understand the instructions, contact Dymax Application Engineering to answer your questions before using the equipment.

Where to Get Help

Customer Support and Applications Engineering teams are available by phone and email in Germany, Monday through Friday, from 8:00 a.m. to 5:00 p.m. Central European Time. You can also email Dymax Europe GmbH at info_de@dymax.com. Please see the back cover for worldwide contact information.

Additional resources are available to ensure a trouble-free experience with our products:

- Detailed product information on www.dymax.com
- Dymax adhesive Product Data Sheets (PDS) on our website
- Material Safety Data Sheets (SDS) provided with shipments of Dymax adhesives

Safety



WARNING! *If you use this fluid dispensing equipment without first reading and understanding the information in this guide, personal injury can result from the uncontrolled release of high-pressure gas, injection injury, or exposure to chemicals. To reduce the risk of injury, read and understand this guide before assembling and using Dymax fluid dispensing equipment.*

General Safety Considerations

All users of Dymax fluid dispensing equipment should read and understand this user guide before assembling and using the equipment.

To learn about the safe handling and use of dispensing fluids, obtain and read the SDS for each fluid before using it. Dymax includes an SDS with each adhesive sold. SDS for Dymax products can also be requested through the Dymax website.

The safety of any system incorporating the DVC-345 digital valve controller is the responsibility of the assembler of the system. The protection provided by the DVC-345 digital valve controller may be impaired if the controller is not operated as specified by this user guide.

Specific Safety Considerations

Using Safe Operating Pressures

Pressurizing the components in the dispensing system beyond the maximum recommended pressure can result in the rupturing of components and serious personal injury. To minimize the risk of rupturing components and injury, do not exceed the maximum operating pressure of the components in your fluid dispensing system (see system specifications on page 11).

Personal Protective Equipment

Operators are recommended to wear any personal protective equipment specified by their company's safety policy for the materials used during dispensing. Personal protective equipment should be in place and used at all times before pressurizing the system and when handling any potentially hazardous materials.

Product Overview

Description of the DVC-345

The DVC-345 digital valve controller provides a precise and settable time duration for controlling (opening and closing) a variety of dispense valves. This dispense controller features electronically controlled dispense time as well as DC operation. This ensures precise and repeatable shots with adjustable shot time durations of as little as 0.01 seconds to 9.99 seconds.

Figure 1.
DVC-345 Component Diagram (Front)



Figure 2.
DVC-345 Component Diagram (Rear)



Assembly and Setup

Unpacking and Inspecting Your Shipment

When your DVC-345 digital valve controller arrives, inspect the boxes for damage and notify the shipper of box damage immediately.

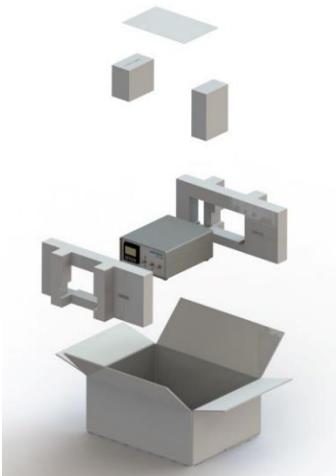
Open each box and check for equipment damage. If parts are damaged, notify the shipper and submit a claim for the damaged parts. Contact Dymax so that new parts can be shipped to you immediately.

Check that the parts included in your order match those listed below. If parts are missing, contact your local Dymax representative or Dymax Customer Support to resolve the problem.

Parts Included

- DVC-345 digital valve controller
- Foot switch
- Power supply
- DVC-345 user guide

Figure 3.
Unpacking Diagram



System Interconnect

Refer to Table 1 to determine how to plumb the particular dispensing valve you are using with the digital controller. For Model 300, 455, 475, 775, and 826 dispensing valves, one of the Air-Out Ports must be plugged since these dispensing valves are single acting.

Begin set-up by attaching a 0.25" [0.64 cm] Air Line to the Air-In Fitting on the rear of the Controller.

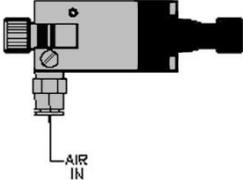
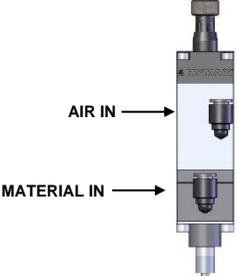
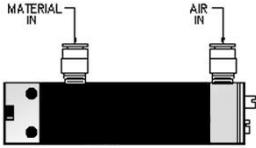
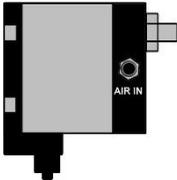
Next, ensure that the Power Toggle Switch is in the OFF position. Plug the cylindrical end of the DC Wall Mount Adapter into the Power Supply Receptacle on the back of the Controller and plug the DC Wall Adapter in an appropriate outlet.

Plug the Foot Switch into the External Trigger Receptacle on the back of the Controller.

Attach the Material Reservoir to the Dispensing Valve and the appropriate air supply pressure to the Material Reservoir. ***Consult Dymax if you are unsure of this step. Excessive air pressure to a Reservoir can result in a dangerous or deadly situation!***

The system is ready for operation.

Table 1.
 Dispensing Valve Plumbing Configurations

Valve Diagram	Plumbing Instructions
 <p>AIR IN →</p> <p>The diagram shows a vertical, cylindrical valve. An arrow labeled 'AIR IN' points to a port on the left side of the valve body.</p>	<p>Model 300: Single-acting, normally closed diaphragm valve.</p> <p>Plug Port No. 1 (normally open) on the back of the controller and plumb Port No. 2 (normally closed) to the Air-In Port on the dispensing valve.</p>
 <p>AIR IN</p> <p>The diagram shows a horizontal valve with a cylindrical body. An arrow labeled 'AIR IN' points to a port on the bottom left of the valve.</p>	<p>Model 455: Single-acting, normally closed pinch valve.</p> <p>Plug Port No. 1 (normally open) on the back of the controller and plumb Port No. 2 (normally closed) to the Air-In Port on the dispensing valve.</p>
 <p>AIR IN →</p> <p>MATERIAL IN →</p> <p>The diagram shows a vertical valve with a cylindrical body. Two arrows point to ports on the left side: 'AIR IN' points to the upper port and 'MATERIAL IN' points to the lower port.</p>	<p>Model 475: Single-acting, normally closed diaphragm valve.</p> <p>Plug Port No. 1 (normally open) on the back of the controller and plumb Port No. 2 (normally closed) to the Air-In Port on the dispensing valve.</p>
 <p>MATERIAL IN</p> <p>AIR IN</p> <p>The diagram shows a horizontal valve with a cylindrical body. Two arrows point to ports on the top: 'MATERIAL IN' points to the left port and 'AIR IN' points to the right port.</p>	<p>Model 775: Single-acting, normally closed spool valve.</p> <p>Plug Port No. 1 (normally open) on the back of the controller and plumb Port No. 2 to the Air-In Port on the dispensing valve.</p>
 <p>AIR IN</p> <p>The diagram shows a horizontal valve with a cylindrical body. An arrow labeled 'AIR IN' points to a port on the right side of the valve.</p>	<p>Model 826: Single-acting, normally closed pinch valve.</p> <p>Plug Port No. 1 (normally open) on the back of the controller and plumb Port No. 2 to the Air-In Port on the dispensing valve.</p>

Operating the Controller

Setting the Dispense Time

The digital timer on the front of the controller uses up and down arrows to set the required dispense time. The time range is from 0.01 seconds to 9.99 seconds with a settable resolution of .001 seconds.

Figure 4.
Front Panel



- **(A) Up Arrow** - used to increase the present value at each digit.
- **(B) Down Arrow** - used to decrease the present value at each digit.
- **(C) Mode** - changes modes and setting items on the timer.
- **(D) Reset** - used to reset the current count.
- **(E) Active Timing Value**
- **(F) Current Preset Timing Value**
- **(G) Left Toggle** - used to switch the system between timed or untimed mode.

Timed Mode: hitting the center trigger toggle or foot switch will open the dispense valve for the duration preset in the digital timer.

Untimed Mode: the valve will remain open for as long as the trigger or foot switch is held down.

- **(H) Center Toggle** - used to trigger the valve. Actuating the supplied foot switch performs this same function.
- **(I) Right Toggle** - turns the system's power on or off.

Spare Parts and Accessories

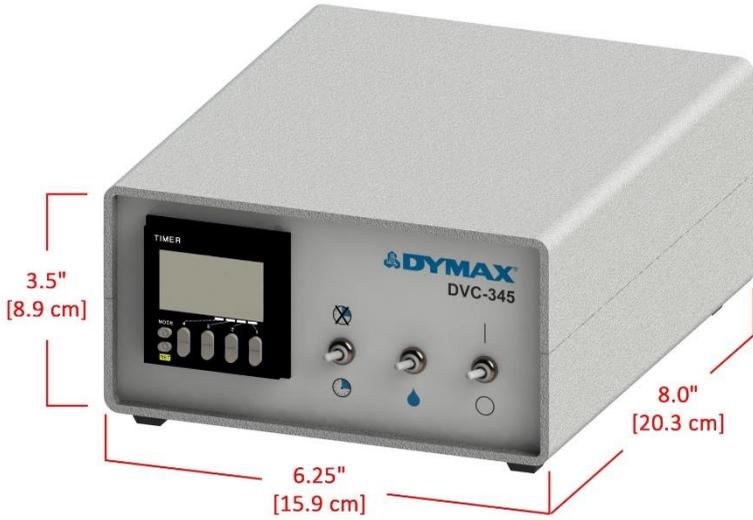
Item	Part Number
Foot Switch	T14999
Power Supply	T11624

Specifications

Property	Specification
Part Numbers	T11146 DVC-345 Digital Valve Controller
Power Requirements	Switch-mode auto-ranging power supply; includes four power plug adapters Input: 100-240V~, 50-60 Hz Output: 24V --- 0.35A
Air Pressure Requirements (into external regulator)	60 psi [0.413 MPa] minimum/100 psi [0.689 MPa] maximum 25 micron filtered air
Operating Temperature	0-50°C [32-122°F]
Timer	Digital timer; programmable to 0.01-9.99 seconds in 0.01 second increments
Activation	Foot switch or PLC
Dimensions (W x H x D)	6.25" x 8" x 3.5" [15.9 cm x 20.3 cm x 8.9 cm]
Weight	2.8 lbs [1.27 kg]
Unit Warranty	1 year from purchase date



Figure 5.
Controller Dimensions



Declaration of Conformity



Declaration of Conformity

Manufacturer:
Dymax Corporation
318 Industrial Lane
Torrington, CT 06790, USA

European Address:
Dymax Europe GmbH
Kasteler Str.45
Geb.G359
Wiesbaden Germany 65203

UK Address:
Dymax
1b Hunts Grove Drive, Hardwick,
Gloucester, Gloucestershire, GL2 4BH
United Kingdom

Product description:
Model name(s):
Digital Valve Controller
DVC-345

This product complies with the following Directives, legal acts and standards:

European Union Compliance (CE)
Electromagnetic Compatibility Directive (2014/30/EU):
EN 55011:2009 + A1:2010
EN 61000-3-2:2014 Class A
EN 61000-3-3:2013
EN 61326-1:2013

Low Voltage Directive (2014/35/EU):
EN 61010-1:2010 (3rd Edition)

RoHS Directive EU (2015/863)

Declaration:

I declare that the above information in relation to the supply and manufacture of this product is in conformity with the above standards and directives.



3-10-2021

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Date

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Warranty

From date of purchase, Dymax Corporation offers a one-year warranty against defects in material and workmanship on all system components *with proof of purchase and purchase date*. Unauthorized repair, modification, or improper use of equipment may void your warranty benefits. The use of aftermarket replacement parts not supplied or approved by Dymax Corporation, will void any effective warranties and may result in damage to the equipment.

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