Model 455 Dispensing Systems
User Guide
Contents

Safety ................................................................. 3
Using Safe Operating Pressures ................................. 3

Configuration Overview ........................................ 4

Key System Connections ......................................... 5

Dispensing Tips ..................................................... 6

System Configurations ........................................... 7
A - Systems Using a Cartridge Retainer ....................... 8
B - Systems Using a Bottle Drop-In Tank .................... 10
C - Systems Using a 10-Gallon Pressure Tank ............. 13
Safety

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.

Operating Specifications

- Recommended compressed air supply pressure to air filter/regulator = 60 to 90 psi (4.14 to 6.21 bar)
- Recommended pressure setting at air filter/regulator = 75 psi (5.2 bar)
- Maximum pressure setting at air filter/regulator = 100 psi (6.9 bar)
- Power required = 110V power receptacle (customer supplied)
Configuration Overview

Controls

Dymax valves and digital controller provide precise and consistent actuation.
- Pneumatic function
- Footswitch, manual, or PLC controlled
- Easy to operate
- Manual or timed dispense mode

Dispensing Valve & Accessories

Dymax dispensing valves for handheld and bench-top applications deliver precision solutions for low-to high-viscosity materials. Various style tips and accessories are also available.

Reservoirs

Dymax carries a variety of material reservoirs to accommodate most dispensing applications.
- Range of volumes from 6 oz. cartridges to 10-gallon pressure tanks
- Easy change-over and control
Key System Connections

**NOTE:** Figures 1-4 apply to all systems.

**Figure 1.**
Valve Air & Material Connections

**Figure 2.**
Controller Connections, Rear Panel

**Figure 3.**
High-Precision Regulator Connections

**Figure 4.**
Filter Regulator
Dispensing Tips

A variety of both needle and taper dispense tips in various lengths, gauges, and shapes are available from Dymax. Tip selection is critical when precision is required and the length, shape, and size of the tip used will define the shape of the fluid deposit and the performance of your dispense system.

The following tips are included with this system and are recommended for use with the Model 485 dispensing valve. Either tip kit can be used depending on the exact viscosity and application.

**P3423** Dispensing Tip Kit for Medium- to High-Viscosity Materials (>500 cP)

<table>
<thead>
<tr>
<th>Part #</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3169</td>
<td>Amber</td>
<td>15 GA Needle Tip</td>
</tr>
<tr>
<td>P3170</td>
<td>Green</td>
<td>18 GA Needle Tip</td>
</tr>
<tr>
<td>P3232</td>
<td>Green</td>
<td>18 GA Tapered Tip</td>
</tr>
<tr>
<td>P3247</td>
<td>Red</td>
<td>25 GA Tapered Tip</td>
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</table>

Additional kits are available (sold separately) for a range of applications using lower viscosity materials.
System Configurations

A Systems Using a Cartridge Retainer (p. 8-9)

B Systems Using a Bottle Drop-In Tank (p. 10-12)

C Systems Using a 10-Gallon Pressure Tank (p. 13-15)
A - Systems Using a Cartridge Retainer

Packaged Components

- **T17423** Tube Assembly, ¾ to ¼ NPT
- **T11146** DVC-345 Controller
- **T15279** Lab Stand, 24” [5.08 cm]
- **T15449** Mounting Assembly
- **Cartridge Reservoirs**
  - 6 oz **T15257**
  - 12 oz **T14085**
  - 20 oz **T15223**
- **T17725** System User Guide
- **T16786** Controller Air Line Kit
- **T16789** Reservoir Air Line Kit
- **T16307** Filter Regulator
- **T16629** High-Precision Regulator
- **T16786** Controller Air Line Kit
- **Model 455 Valve**
  - .125” Black PE Tubing **T17555**
  - .095” Black Teflon Tubing **T17552**
  - .066” Black Teflon Tubing **T16029**
Assembled System

User Supplied Items

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Part Number</th>
</tr>
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<tbody>
<tr>
<td>60-90 psi air supply, ¼ NPT male fitting</td>
<td>T15257</td>
</tr>
<tr>
<td>110V power receptacle</td>
<td>T14085</td>
</tr>
</tbody>
</table>

Spare Parts

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>¼&quot; male to ¼&quot; quick-disconnect fitting</td>
<td>T15223</td>
</tr>
</tbody>
</table>
B - Systems Using a Bottle Drop-In Tank

Packaged Components

- **T17423** Tube Assembly, ⅜ to ¼ NPT
- **T17555** System User Guide
- **T17556** Controller Air Line Kit
- **T16789** Reservoir Air Line Kit
- **T16307** Filter Regulator
- **T15279** Lab Stand, 24”[5.08 cm]
- **T15449** Mounting Assembly
- **T17004** 1 Gallon Bottle Drop-In Tank
- **T17423** Tube Assembly, ⅜ to ¼ NPT
- **T17555** System User Guide
- **T17556** Controller Air Line Kit
- **T16789** Reservoir Air Line Kit
- **T16307** Filter Regulator
- **T15279** Lab Stand, 24”[5.08 cm]
- **T15449** Mounting Assembly
- **T17004** 1 Gallon Bottle Drop-In Tank
- **T11146** DVC-345 Controller
- **T17555** Model 455 Valve
  - .125" Black PE Tubing **T17555**
  - .095" Black Teflon Tubing **T17552**
  - .066" Black Teflon Tubing **T16029**
- **T16307** Filter Regulator
- **T15279** Lab Stand, 24”[5.08 cm]
- **T15449** Mounting Assembly
- **T17004** 1 Gallon Bottle Drop-In Tank
- **T11146** DVC-345 Controller
- **T17555** Model 455 Valve
  - .125" Black PE Tubing **T17555**
  - .095" Black Teflon Tubing **T17552**
  - .066" Black Teflon Tubing **T16029**
Assembled System

**User Supplied Items**
- 60-90 psi air supply, ¼ NPT male fitting
- 110V power receptacle

**Spare Parts**
- ¼" male to ¼" quick-disconnect fitting
Installing the Fluid Line to the Reservoir

Tube length from top of fitting: 14.5"

End of tubing must be cut at an angle.

1-Liter Bottle

1-Gallon
C - Systems Using a 10-Gallon Pressure Tank

Packaged Components

- **T16786** Controller Air Line Kit
- **T17555** System User Guide
- **T16789** Reservoir Air Line Kit
- **T16307** Filter Regulator
- **T16423** Tube Assembly, ¾ to ¼ NPT
- **T15279** Lab Stand, 24" [5.08 cm]
- **T15449** Mounting Assembly
- **T11146** DVC-345 Controller
- **T17555** Model 455 Valve .125" Black PE Tubing
- **T17552** .095" Black Teflon Tubing
- **T16029** .066" Black Teflon Tubing
- **T16864** 10-Gallon Pressure Tank
Assembled System

User Supplied Items
- 60-90 psi air supply, ¼ NPT male fitting
- 110V power receptacle

Spare Parts
- ¼" male to ¼" quick-disconnect fitting
Installing the Fluid Line to the Reservoir

Tube to be flush with the bottom of the lid tube

15-Liter Pail