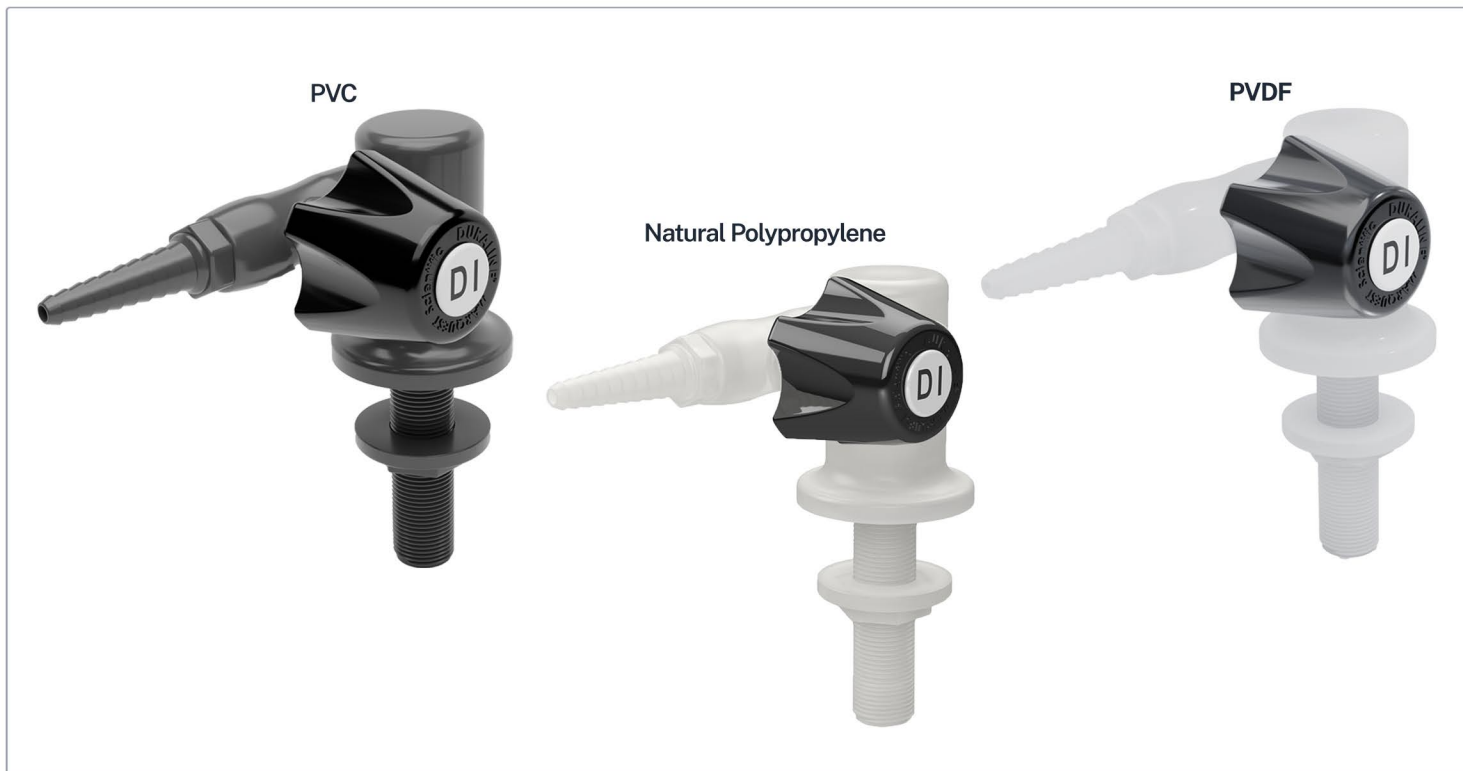


# Series LT Laboratory Turrets (Duraline Control Valve)

High-purity plastic turrets available in PVC, Natural Polypropylene, and PVDF

Doc Version: 1.0 | January 2025



## Product Overview

The Series LT Laboratory Turrets provide reliable fluid control for high-purity water and chemical dispensing applications. Available in PVC, Natural Polypropylene, and High-Purity PVDF constructions, these turrets are specifically engineered for use with Distilled, Deionized, and Reverse Osmosis water systems, as well as chemical dispensing applications.

The turrets feature an innovative, all-plastic design completely free of elastomers, metals, and lubricants, eliminating potential sources of contamination and corrosion. Their crevice-free, zero dead leg valve design with PTFE sealing ensures optimal flow characteristics while maintaining media purity. The Duraline control valve's renewable cartridge design allows for easy maintenance and complies with SEFA 7-2010-8.2a requirements.

## Key Features

- ✓ **Contamination-Free Construction**  
These turrets are built entirely without elastomers, metals, or lubricants, helping minimize potential contamination of purified water. This metal-free, corrosion-free design helps maintain water purity during active flow.
- ✓ **Rugged "Duraline" Control Valves**  
Zero-dead-leg hot/cold control valves offer easy open/close operation with 120° rotation from full flow to closed.
- ✓ **Material Options for Laboratory Water Applications**
  - PVC:** Standard material for Type II and Type III DI water applications.
  - Natural Polypropylene:** Improved purity for Type II DI water applications.
  - PVDF:** Highest purity material for Type I DI / Ultra-Pure water applications. All options include PTFE seals and offer chemical resistance for laboratory environments.



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## Key Features (Continued)

✓ **Regulatory Compliance**  
Meets and/or exceeds FDA, USDA, and USP standards.

✓ **Variable Flow Control**  
Cv value of 0.310 at full open, with precise metering capability through 120-degree handle rotation to hard-stop shutoff. Maximum flow: 2.5 GPM @ 80 PSI.

## Performance Parameters

Flow Data	
Flow Coefficient (Cv)	0.310 at full open
Maximum Flow Rate	2.5 GPM @ 80 PSI
Maximum Operating Pressure	250 PSI
Control Range	120-degree rotation with hard stop shut-off

Pressure / Temperature Ratings

Working pressures (PSI) at various media operating temperatures

Material	10°C 50°F	20°C 68°F	30°C 86°F	40°C 104°F	50°C 122°F	60°C 140°F	70°C 158°F	80°C 176°F	90°C 194°F	100°C 212°F	120°C 248°F	Net Weights Pounds*
PVC	200	250	250	220	140	135	---	---	---	---	---	0.75
PPN	200	240	240	210	145	125	75	60	---	---	---	0.63
PVDF	240	250	250	250	250	230	220	200	160	140	80	0.92

MARVIS

Based on the data, PVDF maintains the highest and most stable pressure ratings across elevated temperatures, making it ideal for high-temperature and high-purity applications. PPN (Natural PP) offers moderate performance with a sharper pressure decline above 60°C. PVC is cost-effective but not recommended above 50°C due to rapid pressure loss. Select material based on your system's peak temperature and required pressure tolerance.

Markets & Applications			
<b>Analytical Laboratories</b> Lab turrets provide precise control for dispensing DI or RO water during reagent prep and glassware rinsing. Their crevice-free design eliminates contamination risks in sensitive workflows.	<b>Biotech &amp; Life Sciences</b> High-purity PVDF and polypropylene turret materials ensure compatibility with media prep and buffer solutions. The zero-dead-leg valve design minimizes hold-up volume in sterile environments.  and many more...	<b>Pharmaceutical Compounding</b> Lab turrets meet USP and FDA compliance needs in aseptic compounding spaces. Their rugged, injection-molded design supports contamination-free dispensing with no elastomers or lubricants.	<b>Electronics &amp; Semiconductor Labs</b> For labs needing ultra-clean water delivery, these turrets reduce particulate risk and metal ion exposure. PTFE-sealed valves and fully renewable cartridges provide precise flow and long-term durability.
<b>Academic Research Institutions</b> Lab turrets allow students and researchers to safely access purified water and chemicals through zero-metal, corrosion-resistant valves that meet FDA and NSF standards — ideal for clean, real-world simulations.			



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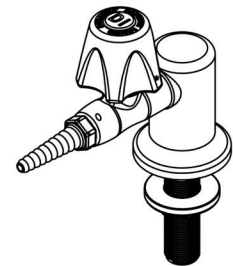
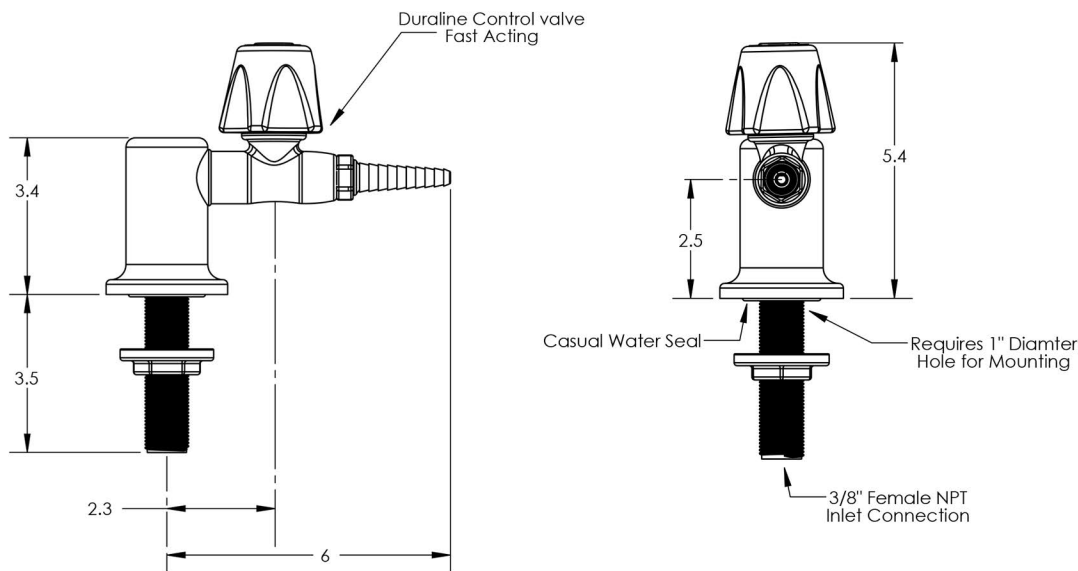
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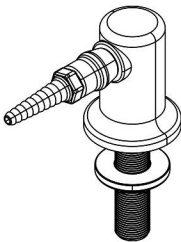
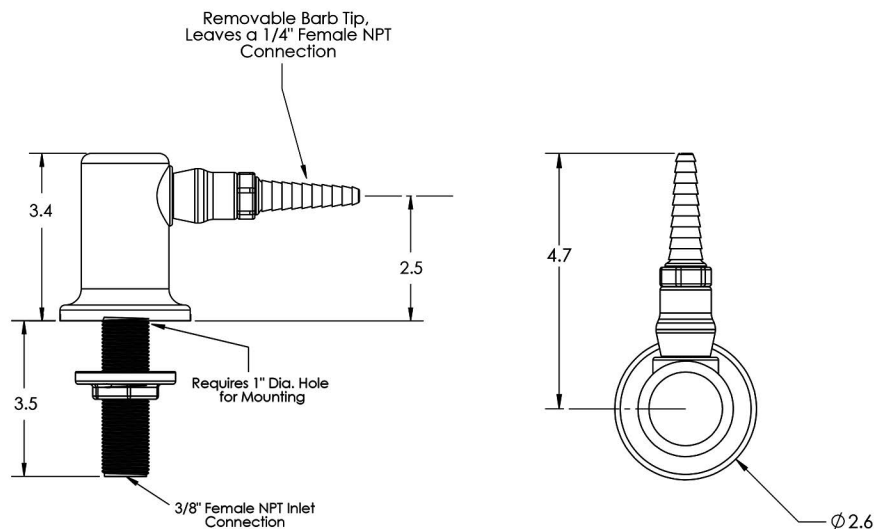
## Dimensional Data - Inches

### Deck or Wall Mount, Top Handle



Material P/N Suffix	Material
1	PVC, Dark Grey
2	Polypropylene, Natural
3	PVDF, Natural

### Deck or Wall Mount



Material P/N Suffix	Material
1	PVC, Dark Grey
2	Polypropylene, Natural
3	PVDF, Natural





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## How to Order

### Part Number Structure

<b>LT</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>—</b>	<b>—</b>		
<b>V</b>	<b>R</b>	<b>1</b>	
Lab Turret Series	Duraline Valve or Not	Right or Left Handle	Material

#### 1. Valve

Code	Description
V	Duraline Valve
R	No-Valve

#### 2. Handle

Code	Description
R	Right Handle
L	Left Handle
T	Top Handle

#### 3. Material

Code	Material
1	PVC / PTFE
2	PPN / PTFE
3	PVDF / PTFE

#### All models include:

- 3/8" Female NPT inlet connections
- PTFE seals
- Removable serrated barb tip (leaves 1/4" fem NPT outlet when removed)
- Compression tube adapter fittings

## How to Order

### Example:

**LT-V-R1** = Laboratory Turret, Duraline Control Valve, Right Handle, PVC

### Replacement Cartridge:

**DL-RC180-PVD:** Duraline Renewable Cartridge, Straight Pattern (180 Deg), PVDF, PTFE Seals. The DL-RC180-PVD is a renewable cartridge designed for seamless integration with all Marquest Duraline Control Valves featuring a straight or 180-degree body style.

