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**

Built entirely without elastomers, metals, or lubricants to help 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 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 shut-off. 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	Weights 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

Analytical Laboratories

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.

Academic Research Institutions

Lab turrets allow students and researchers to safely access purified water and chemicals with zero-metal, corrosion-resistant valves that meet FDA and NSF standards — ideal for clean, real-world simulations.

Biotech & Life Sciences

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...

Pharmaceutical Compounding

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.

Electronics & Semiconductor Labs

For labs needing ultra-clean water delivery, these turrets reduce particulate risk and metal ion exposure. PTFE-sealed valves and fully renewable cartridges support precise flow and long-term durability.

MADE IN USA

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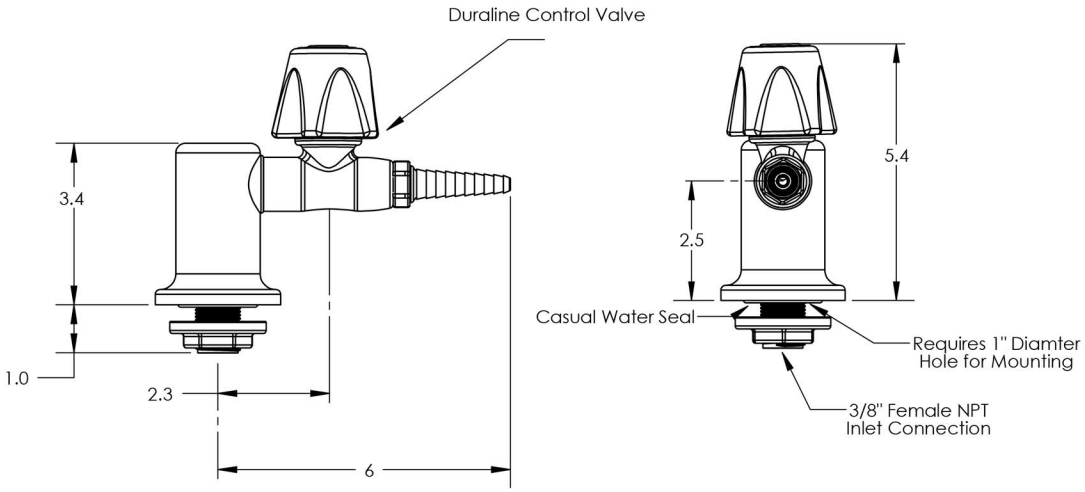
Dimensional Data - Inches

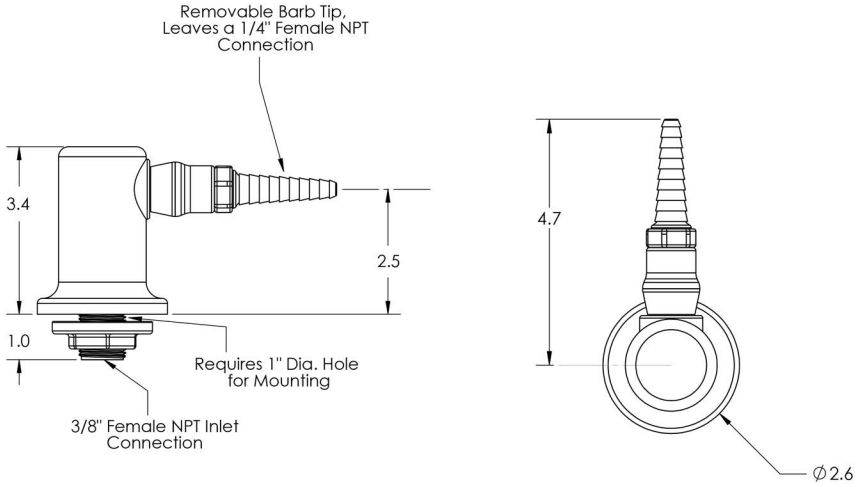
Deck or Wall Mount, Top Handle



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

Notes: (1) All assemblies require 1" diameter hole for mounting. (2) Maximum deck thickness is 3".

Deck or Wall Mount



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How to Order

Part Number Structure

		1		2		3
LT	–	**V**	–	**R**	–	**1**
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
X	No 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:

	1		2	3
LT-V-R1	=	Laboratory Turret,	Duraline Control Valve,	Right Handle, PVC

Replacement Cartridge:

DL-RC-PVD: Compatible with all Duraline 90° valves, the DL-RC-PVD renewable cartridge features a PVDF body with PTFE seals for long-lasting performance and easy maintenance. Fully compliant with SEFA 7-2010, section 8.2a for renewable valve construction.