INSTALLATION & FEATURES SCOPE SHEET

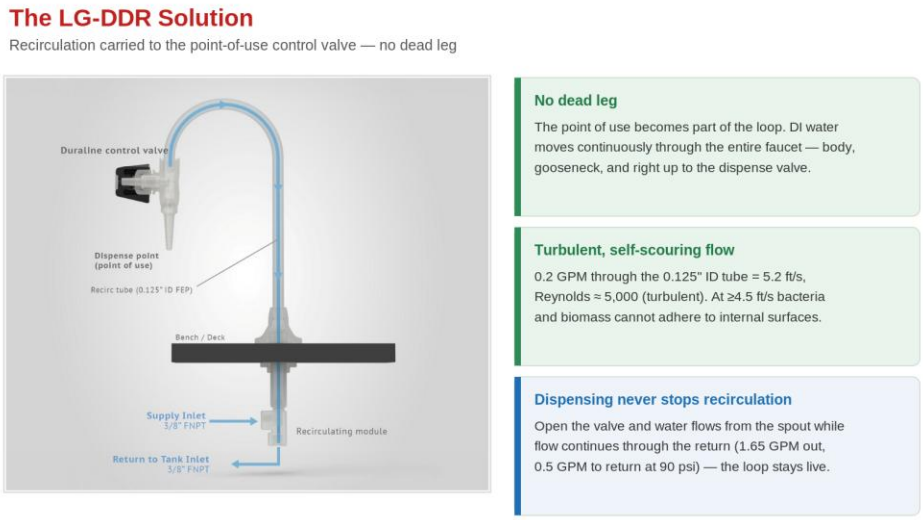
Recirculating Lab Faucet

Series LG “Gooseneck” · Duraline Control Valve · Model LG-DDR

The Marquest Series LG Recirculating Lab Faucet keeps deionized water in continuous, turbulent motion all the way to the point-of-use control valve — eliminating the stagnant dead leg where point-of-use bacteria and biofilm develop. Molded entirely from high-purity thermoplastics, with no metal in the wetted path.

How it works

A dedicated recirculating tube (0.125 in. ID FEP) carries supply water from the base, up the gooseneck, to the Duraline control valve at the spout tip, and back through the recirculating module to a return line. Flow continues to the point of use whether the valve is open or closed. Target recirculating velocity is **4.5 ft/s or greater** — a modest 0.2 GPM through the tube yields 5.2 ft/s (turbulent), so bacteria and biomass cannot adhere to internal surfaces.



Recirculation is carried to the point-of-use valve and back — no dead leg.

Features & benefits

- **Recirculation to the point of use —** removes the POU dead leg; continuous flow right up to the dispense valve.
- **Turbulent, self-scouring flow —** ≥4.5 ft/s keeps bacteria and biofilm from establishing on wetted surfaces.
- **Dispensing never stops recirculation —** the loop stays live while water is drawn from the spout.
- **All-thermoplastic wetted path —** natural polypropylene or PVDF with PTFE seals; no metal contamination or corrosion.
- **Flexible configuration —** handle left/right/front; 3/8 in. NPT or 1/2 in. OD compression connections; removable barb tip.
- **Made & assembled in the USA —** manufactured in Costa Mesa, California.

Specifications

Type	Deck-mount recirculating lab faucet; gooseneck spout; Duraline globe control valve (16 mm)
Wetted materials	Natural polypropylene (PP, code 2) or PVDF (code 3); PVDF gooseneck; FEP recirculating tube; PTFE seat & stem seals — no metal wetted
Mounting	Deck mount; requires 1 in. dia. hole; supplied mounting ring nut
Supply inlet	3/8 in. female NPT (LG-DDR-F2: 3/8 in. male NPT × 1/2 in. OD tube compression)
Recirculating return	3/8 in. female NPT (LG-DDR-F2: 1/2 in. OD tube compression)
Recirculating tube	0.125 in. ID FEP
Outlet	Removable barb tip; removal leaves a 1/4 in. female NPT connection
Handle orientation	Left (L), Right (R), or Front (F)
Nominal dimensions	Overall height ≈ 13.5 in.; spout reach ≈ 6.0 in.; spout tip height ≈ 5.2 in.; below-deck module ≈ 6.2 in.
Thread sealant	High-density PTFE tape (recommended)

Flow data (at 90 psi supply):

Condition	Flow
Full-open dispense (at spout)	1.65 GPM
Recirculating return — valve closed	1.4 GPM
Recirculating return — valve open	0.5 GPM
Target recirculating velocity	≥ 4.5 ft/s (5.2 ft/s at 0.2 GPM through 0.125 in. ID tube)

Configuration & ordering

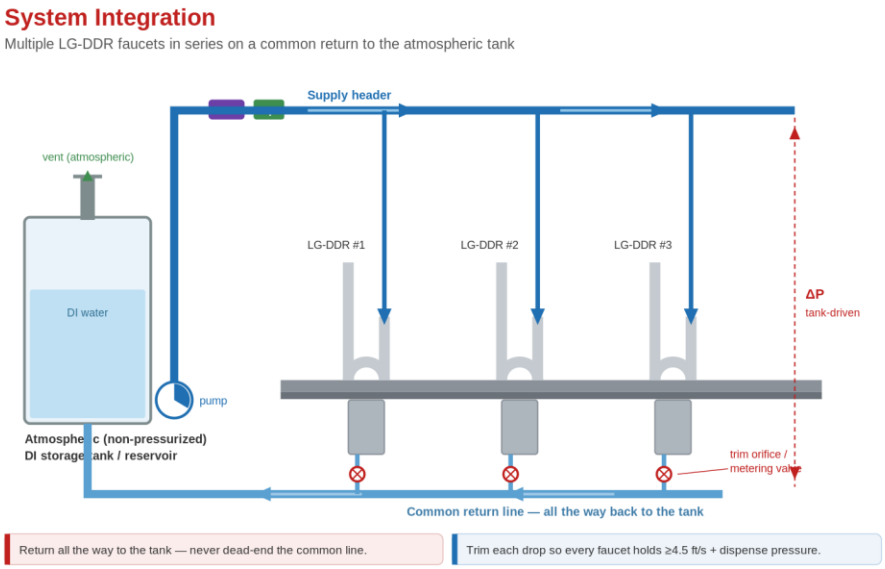
Model code: LG-DDR-**[Handle][Material]** — Handle: R = right, L = left, F = front; Material: 2 = natural polypropylene, 3 = PVDF.

Example	Description
LG-DDR-F3	Recirculating lab faucet, deck mount, front handle, natural PVDF, 3/8 in. FNPT inlet/return
LG-DDR-R2	Recirculating lab faucet, deck mount, right handle, natural polypropylene, 3/8 in. FNPT inlet/return
LG-DDR-F2	Recirculating lab faucet, deck mount, front handle, natural polypropylene, 3/8 in. FNPT inlet/return

Installation

1. Remove the recirculating module and tube from the through-deck nipple (shipped temporarily assembled).
2. Mount the faucet through a 1 in. hole; tighten to the deck with the supplied ring nut.
3. Insert the recirculating tube through the through-deck nipple until its 3/8 in. male NPT mates with the inlet; tighten by hand plus 1/4 wrench turn.
4. Connect the supply line to the 3/8 in. female NPT inlet connection.
5. Connect the recirculating return line to the 3/8 in. female NPT outlet connection.
6. Pressure-test all connections.

System requirements



Series faucets on a common return to an atmospheric (vented) DI tank.

- **Atmospheric tank.** The recirculating return must terminate at a non-pressurized (vented) DI storage tank/reservoir; the tank provides the ΔP that drives return flow. Returned water is not consumed.
- **Return to the tank.** Route the return line all the way back to the tank — do not tie it into a pressurized line or dead-end it.
- **Velocity.** Balance each faucet's recirculating leg for ≥ 4.5 ft/s (≈ 0.2 GPM through the 0.125 in. ID tube).
- **Series faucets.** A common return may serve several faucets. Series runs add cumulative pressure loss — fit a small trim orifice/metering valve downstream of each faucet to assure positive recirculation and adequate dispensing pressure.
- **Vacuum breaker.** Because the control valve is at the gooseneck tip, the recirculating configuration cannot accept an atmospheric vacuum breaker at the outlet. If an outlet AVB is required by code, contact Marquest to review options.

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