

QSO[®]

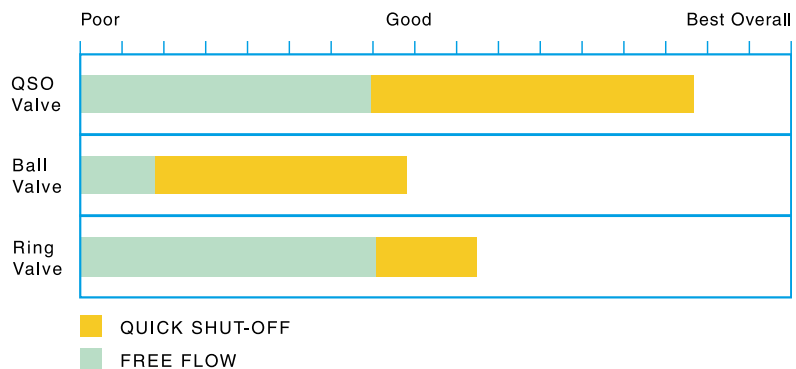
Your Best Shut-Off Valve Overall

Compared to conventional ball- and ring-check valves, only the QSO valve delivers both high flow and quick shut off.



In injection molding, you need two things from a non-return valve: **rapid material shut off** for part weight consistency; and a **smooth, high-flow profile** to prevent material degradation.

The QSO valve from Glycon gives you both. And that means higher quality parts, fewer rejects, improved yield, and a better return on every pound of material you run.



What users say about the...

QSO[®] Valve

"Our molders don't want to use anything else."

Murray Roantree, Tooling Program Mgr., Collins & Aikman, Gananoque, Ontario.

"We don't even see short shots."

Frank Bachner, Tech Service Mgr., Lear Corp., Huron, OH.

"We won't try to run PC without a QSO valve."

Chuck Pearce, Production Engineer, North American Lighting, Flora, IL.

Best Valve Overall

With most non-return valves, there's a trade-off: you can either get an open, low-shear material flow path like you find in a conventional ring valve, OR you get the rapid valve actuation of a ball-check.

Fortunately, there's an alternative design that totally eliminates the need to compromise: the QSO[®] Quick Shut-Off poppet valve from Glycon.

Fast and Consistent

Quick Shut-Off. It's all in the name. At the moment of injection forward, material pressure on the broad face of the self-centering poppet drives it back against the valve seat, shutting off plastic flow. The poppet only moves a fraction of an inch, so shut off is virtually instantaneous and part weights stay consistent—varying as little as 0.1% with many materials.

In contrast, ring valves have very little face area and react slowly to injection pressures. Ball valves have the surface area to react quickly, but they restrict flow dramatically.

Lower Stress and Shear

During recovery, melted polymer enters the QSO valve through

generous material entry ports and pushes the poppet forward into an open position.

Evenly spaced axial grooves create a smooth, wide-open material-flow path through the valve. There are no sharp corners or obstructions, and no opportunity for material to hang up, burn or degrade. Even sensitive engineering materials like polycarbonate and PET run smoothly, with low acetaldehyde levels and high intrinsic viscosity.

Compare this to conventional ball valves, which can reduce material flow to 20 or 25% of the screw's plasticating capacity, creating undesirable levels of back pressure, stress and shear.

Simply Reliable

The patented three-piece QSO design consists of the valve body, the internal poppet and a threaded retaining ring, all made from high-quality, heat-treated and nitrided tool steel. Precision grinding of the valve seating surfaces cuts friction on mating surfaces and all interior surfaces are highly polished for smooth plastic flow. And while the QSO valve is built for long-life and durability, any of the components can be easily replaced if they become damaged.

Thixomolding Needs QSO Too!

Developmental work on Thixomolding documents the critical need for a positive shut-off valve in this emerging field, and tests show the QSO valve works very well. Glycon is heavily involved in screw design and development, working cooperatively with molders, machinery manufacturers and university researchers. If you're getting into Thixomolding, metal injection molding or powder-metal injection, give us a call.



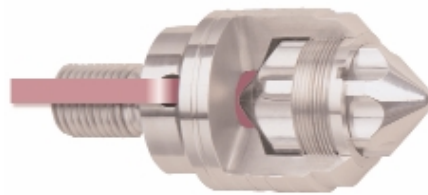
QSO is a registered trademark of Glycon, Inc.

Glycon

Glycon offers molders and extruders a unique combination of standard screw products, proprietary designs, and custom engineering capabilities and support services. We help processors increase material throughput, shorten cycle times, improve mixing of color and additives, and generally enhance product quality and plant productivity.



QSO valve—open position.



QSO valve—closed position.