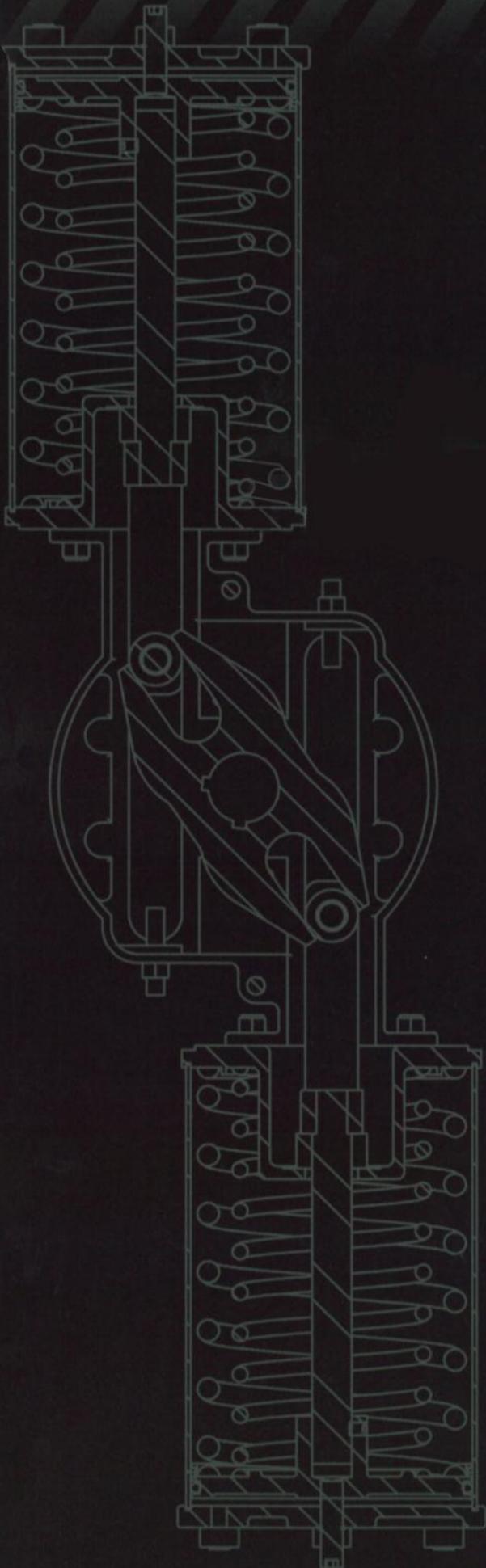


CAPABILITIES





Series QD Rack & Gear™

1/4 Turn Actuator

Ductile iron housing

Stainless steel shaft & rack

Single & double acting

Low friction for excellent control and longer life

Fewer dynamic seals extend MTBF

Torque range 0 to 14,000 pound inches

Amalga, aluminum, chromed steel or SS cylinders



Series QS Rack & Gear™

1/4 Turn Actuator

Stainless steel housing

Stainless steel shaft & rack

Single & double acting

Low friction for excellent control and longer life

Fewer dynamic seals extend MTBF

Torque range 0 to 14,000 pound inches

Amalga or SS cylinders



Series FD FLAT YOKE™

1/4 Turn Actuator

Ductile iron housing

Ductile iron yoke and shaft

Single & double acting

Fully adjustable bi-directional travel stops

Low friction for excellent control and longer life

Fewer dynamic seals extend MTBF

Torque range 0 to 2,000,000 pound inches

Amalga, aluminum, chromed steel or SS cylinders



Series FS FLAT YOKE™

1/4 Turn Actuator

Stainless steel housing

Stainless steel yoke and shaft

Single & double acting

Fully adjustable bi-directional travel stops

Low friction for excellent control and longer life

Fewer dynamic seals extend MTBF

Torque range 0 to 2,000,000 pound inches

Amalga or SS cylinders



Series LD

Linear Actuator

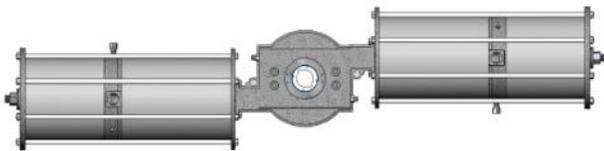
Ductile iron construction
 Throttling or on/off applications
 Single or double acting
 Fail down or fail up action
 Full accessory compatibility
 Replaces diaphragm type actuators



Series LS

Linear Actuator

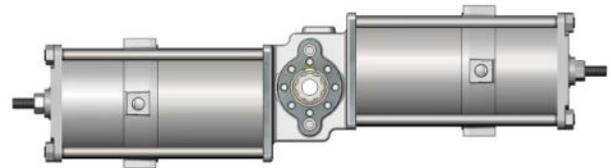
Stainless steel housing
 Throttling or on/off applications
 Single or double acting
 Fail down or fail up action
 Full accessory compatibility
 Replaces diaphragm type actuators



XRCISER™

Partial Stroke Testing Option

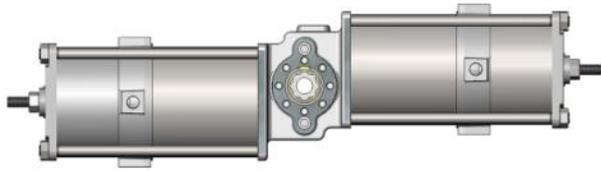
Integral to, and same materials, as base actuator
 Remotely activated - PC, PLC or manual
 Local interaction not required
 Absolute assurance against over-travel
 Applies 100% of actuator torque versus 40% or less from 'smart' accessories
 Multiple cycles provide true exercise of valve
 Diagnostics options available
 Performs equally well with small or large actuators
 Available with QD, QS, FD, FS, LD and LS series



TwoStep™

Dribble Control for Batch Filling

Same concept as Partial Stroke
 Tandem piston regulates valve position for final fill
 Positive "dribble" control assures fill consistency
 Available with QD, QS, FD, FS, LD and LS series



SafStart

Two Stage Flow Control for Pipeline Fill

The SafStart actuator partially opens the main valve to provide a precise, limited, flow rate for line fill, thereby preventing water hammer without need for bypass valves, piping, controls, etc.

Once the line is filled, the SafStart actuator then fully opens the main valve.

May be powered by air or water pressure

Available with QD, QS, FD, FS, LD and LS series



TopLock™

Top mounted lockout

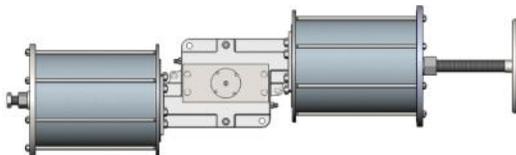
Tag Out - Lock Out option

Lockable engaged and disengaged

Low profile

Stainless steel

Available with QD, QS, FD, and FS

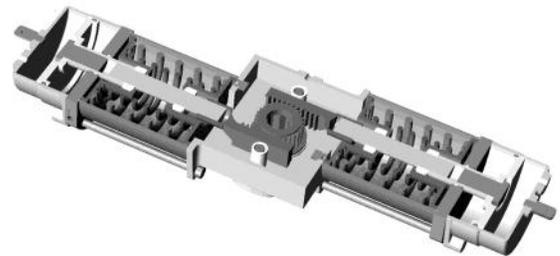


Jackscrew Override

Option for all single acting actuators

Handwheel sizes to match user input force specifications

Available with QD, QS, FD, FS, LD and LS series



Fail Center Option

1/4 Turn Actuator, typically combined with gearbox on 120 thru 180 degree valves for 0 / 90 / 180 or other greater than 90 degree travel positions

Also available with interim travel position via added tandem position for 0 / 45 / 90 / 180 degree travel positions

Available with QD, QS, FD and FS Series



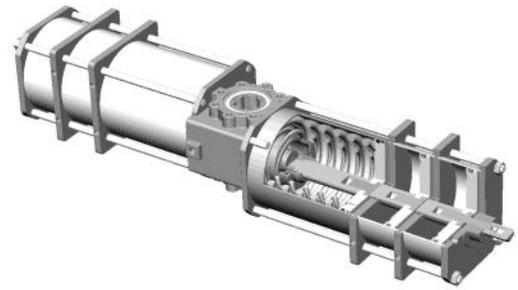
Fast Acting (FA)

Stroking speeds as fast as 1/10 second
Actuator port sizes increased for greater flow
Shock absorbers available on larger actuators to soften impact on valve

Slow Acting (SA)

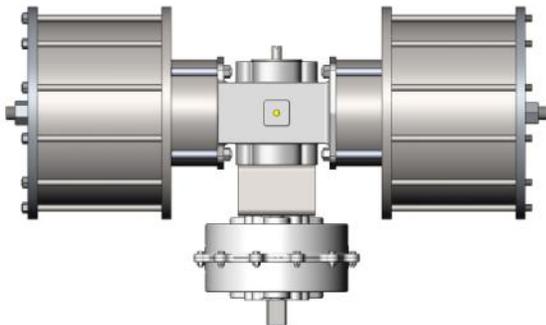
Actuator port sizes permanently decreased for reduced flow and extended stroke times
Prevents unauthorized changes to stroke speed

Both available with QD, QS, FD and FS Series



Low Pressure

Tandem pistons increase piston area for high force from low supply pressure
Standard full force springs maximize output torque
Image shows actuator with 6 pistons for 40 psig supply - springs are same as used for 100 psig supply
Available with QD, QS, FD and FS Series



120 to 180 Degree Rotation

Combines 1:2, or other ratio gearbox to convert 90 degree actuators to greater than 90 degree rotation
Available with QD, QS, FD and FS Series



SolPaq

NAMUR Solenoid Mount

Enables direct mounting of NAMUR type solenoid valves
Tubing by QTRCO or user
Available with QD, QS, FD and FS Series



Automation Services

QTRCO will mount our actuators to your valve using QTRCO designed and sourced, or your provided hardware



QTRCO Direct Mounting Capability

Universal mounting bracket + Adapter enable direct mounting

Also allows direct replacement of competitor actuators by replication of the competitor's mounting geometry

Engineered Mounting Hardware



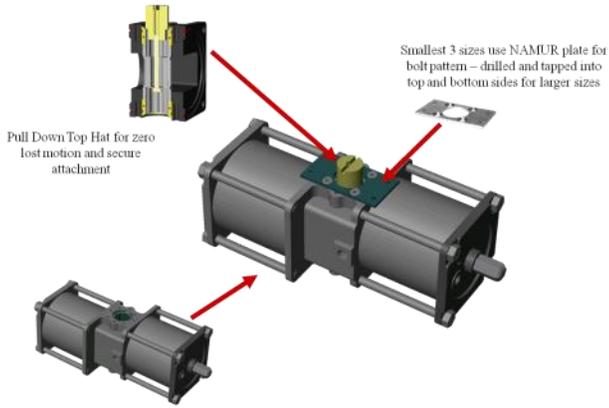
Two piece Omega bracket



Specific bracket for valve type



Common C shape bent brackets



Full NAMUR Accessory Mounting

- Converts female actuator drive geometry to NAMUR
- Locates on either side of the actuator for ease of action reversibility

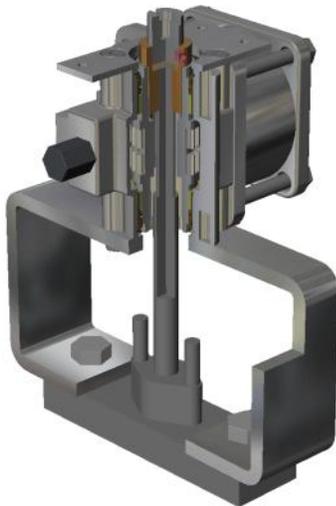


Accessories

QTRCO will provide and/or mount the following:

- Switchboxes
- Positioners
- Position transmitters
- Solenoid valves
- Quick exhaust valves
- Volume boosting relays
- Declutchable manual overrides

Engineered Mounting Hardware



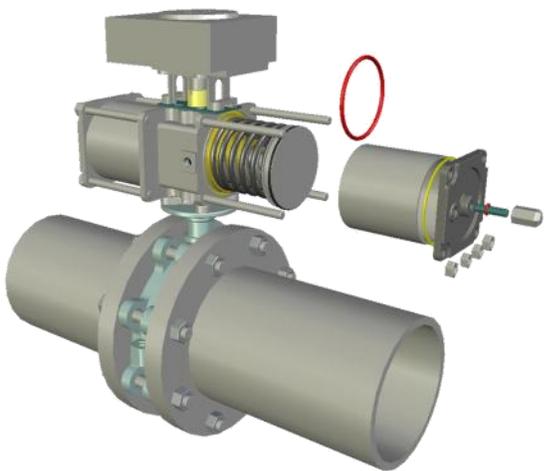
'Close mount' splined drives for extra long stemmed valves. Valve stem passes through the QTRCO actuator shaft and is driven from the top end for a shorter overall package height



Highly specialized brackets as required for existing valves

All QTRCO actuators share numerous key features:

1. Highly efficient
 - Internal forces are balanced, no side loading on output shafts, friction on shaft is zero
 - Components roll against one another rather than slide
2. Ease of installation
 - Weight is balanced for easier lifting and positioning
 - Optional bolting patterns match user mounting geometries
 - Action is reversible by simply turning top side down
3. Ease of maintenance
 - Fewer seals, less friction yield less frequent maintenance requirements
 - On spring return units, there are no seals located inward of the pistons
 - Piston seals are replaceable while actuator remains on the valve (see photo below)
 - Cylinders of SR units may be reversed to provide new seal surface (a free spare cylinder on each end)
4. Corrosions resistant
 - All stainless construction available as standard
 - Ductile QD series has SS racks and shafts
5. Special configuration option
 - User selectable mounting geometry (via use of Universal Mounting Plate with user preferred bolt circle etc)
 - Full NAMUR accessory drive compatible
 - High and low temperature options (-60F to +400F)
6. Unique warranty
 - Three year free replacement of failed components
 - Or - QTRCO will rebuild failed actuator without charge for three years if user pays freight to and from our Tomball, TX factory



Piston o-ring replacement with actuator yet mounted on valve - Cylinder is reversible end for end should it have scratched by contaminants - Springs are captured for safety



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Actuators that deliver uptime