



# FLAT YOKE ACTUATORS

What We Did

WWD-F-070709

## FLAT YOKE ACTUATORS

### WHAT WE DID ... to make them superior

#### Extended the life

- Balanced the forces to increase efficiency while eliminating wear inducing loading on the shaft and bushings
- Eliminated piston rods, rod bushings and rod seals to rid the actuator of failure prone components
- Designed with no rods passing through the pistons so as to not require failure prone seals on these rods
- Placed the bi-directional travel stops so they stop piston movement rather than stopping yoke movement as prevalent in the industry. Stopping travel using the yoke allows the maximum force of the piston to yet be applied to the yoke along with the resulting bending stresses on the piston rod and rod bushings

#### Made them easier to install

- Balanced the weight for ease of lifting into place
- On larger sizes provided two diametrically opposite lifting eye holes to assure level lifting

#### Made them easier to maintain

- By extending the life, we reduced the required maintenance
- Placed the pistons outward of the springs for ease of access - even while the actuator remains mounted on the valve

#### Made them safer

- Captured the springs so that a user will never see an expanded spring
- Balanced the weight to make lifting less subject to handling errors

#### Reduced the air consumption

- Placed the pistons outward of the springs where they nearly contact the end cap, assuring that the air consumed is what is not greater than that required to stroke the pistons

#### Made them suitable for very fast stroking speed

- Made them rugged, balanced the forces and placed the pistons outward of the springs so that a minimal amount of air needs to be applied or exhausted

#### Made them more resistant to the effects of corrosion

- Offer an all stainless steel option
- Offer Amalgon and stainless steel cylinder options in both the ductile and stainless versions - both extremely resistant to corrosion

#### Made them suitable for emergency shut down valve applications

- Made them compatible with the XRCISER™ PSTD option

#### Reduced the cost of ownership

- Made them initially cost competitive
- Extended the life capabilities via reduction of wear prone components , balanced forces and reduced friction
- Enabled on-the-valve actuator seal replacement to save labor, time, equipment rental and lost production
- Made the cylinders such that they can be turned end for end, using the opposite end as a spare should damage occur
- Created a design that requires only one or two pages to describe the full assembly / disassembly operation

