## LEDEEN SY Series

Pneumatic and Hydraulic Actuators


## LEDEEN ${ }^{*}$ SY Series

## TYPICAL APPLICATION

For on/off or modulating control of any quarter-turn operated valve.

## MODULAR ASSEMBLY

Consistent engineering design and efficient modular assembly allows increased flexibility to be achieved. Double acting, spring fail close/open or manual override operations are combinations that are readily obtainable on the pneumatic and hydraulic products.


## STANDARD FEATURES

- All models available as double acting or spring return configurations
- Torque outputs to $3,600,000 \mathrm{in}-\mathrm{lb}(400,000 \mathrm{~N} \cdot \mathrm{~m})$
- Open and close travel stops provide $\pm 3$ degrees minimum
- Scotch yoke mechanism generates powerful opening and closing torque outputs
- Steel fabricated frame provides rugged foundation of modular assemblies
- Chrome-plated side load bar with guide block for effective elimination of piston rod deflection
- Bronze bushing interfaces provide low-friction support of sliding
 and rotating components
- Aluminum bronze sliding blocks for a low-friction, low-stress pin connection
- Steel cylinder assembly provides robust pressure containment for all conditions
- Nickel-plated cylinder ID ensures sealing surface with excellent corrosion resistance
- Buna piston seal configurations specifically designed for pneumatic and hydraulic applications
- Composite guide band on piston provides low-friction guidance and support
- Steel spring cartridge is fully enclosed from environmental conditions
- Epoxy-coated prestressed springs provide consistent performance with corrosion protection
- Seal-welded design construction provides improved personnel safety

STANDARD PRODUCT CHARACTERISTICS

| TYPE | TEMPERATURE RANGE | Pressure RaNGE |
| :---: | :---: | :---: |
| Pneumatic |  | 40 to 175 psig |
|  |  |  |



Pneumatic Spring Return Actuator

| Item | Description | Material |
| :---: | :---: | :---: |
| 1 | Travel Stop | Alloy Steel |
| 2 | Guide Bar | Alloy Steel/Chrome Plated |
| 3 | Pin | Alloy Steel |
| 4 | Guide Block | Carbon Steel |
| 5 | Sliding Block | Aluminum Bronze |
| 6 | Cylinder | Carbon Steel |
| 7 | Tie Rod | Alloy Steel |
| 8 | Flange | Carbon Steel |
| 9 | Guide Band | Teflon and Graphite |
| 10 | Seal | Buna O-ring |
| 11 | Piston | Carbon Steel |
| 12 | Piston Rod | Alloy Steel |
| 13 | Scotch Yoke | Alloy Steel |
| 14 | Bushing | Bronze |
| 15 | Frame | Carbon Steel |
| 16 | Spring Cartridge | Carbon Steel |
| 17 | Spring | Alloy Steel |

## HYDRAULIC ACTUATOR STANDARD CONSTRUCTION



Hydraulic Spring Return Actuator

| Item | Description | Material |
| ---: | :---: | :---: |
| 1 | Travel Stop | Alloy Steel |
| 2 | Guide Bar | Alloy Steel/Chrome Plated |
| 3 | Pin | Alloy Steel |
| 4 | Guide Block | Carbon Steel |
| 5 | Sliding Block | Aluminum Bronze |
| 6 | Cylinder | Carbon Steel |
| 7 | Tie Rod | Alloy Steel |
| 8 | Flange | Carbon Steel |
| 9 | Guide Band | Teflon and Graphite |
| 10 | Seal | Buna Quad-ring |
| 11 | Piston | Carbon Steel |
| 12 | Piston Rod | Alloy Steel |
| 13 | Scotch Yoke | Alloy Steel |
| 14 | Bushing | Bronze |
| 15 | Frame | Carbon Steel |
| 16 | Spring Cartridge | Carbon Steel |
| 17 | Spring | Alloy Steel |

## STANDARD OPTIONS

- Jackscrew override
- Hand pump override
- Fluorosilicone seals for low-temperature applications to $-76^{\circ} \mathrm{F}\left(-60^{\circ} \mathrm{C}\right)$
- Viton ${ }^{\bullet}$ seals for high-temperature applications to $392^{\circ} \mathrm{F}\left(200^{\circ} \mathrm{C}\right)$


## CERTIFICATIONS

Cameron's LEDEEN SY Series of actuators comply with many industry standards.

- ISO 9001:2000, Quality
- PED 97/23/EC, Design
- SI 825, Safety
- IEC 61508:2000, Integrity (TUV/SIL3)
- TR CU, Safety and Quality



## MODEL NUMBER DESIGNATION

Cameron offers customizable actuators from the frame type to the override options. A sample of the actuator selection process is shown below. Starting with Step 1, Frame Type,
the actuator components needed to fit the customer's requirements are built. An example model number is shown below, which specifically identifies each variable for selection.


## (1) Frame Size <br> 8 to 32

Frame Type
SY

## TECHNICAL DATA

For additional technical data such as torque charts, dimensional drawings, etc., refer to the LEDEEN SY Series actuators technical data packages or contact LEDEEN@c-a-m.com.


## CAMERON

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