Bettis GVO Series Actuator

Reliability and safety come first, stay first

EMERSON

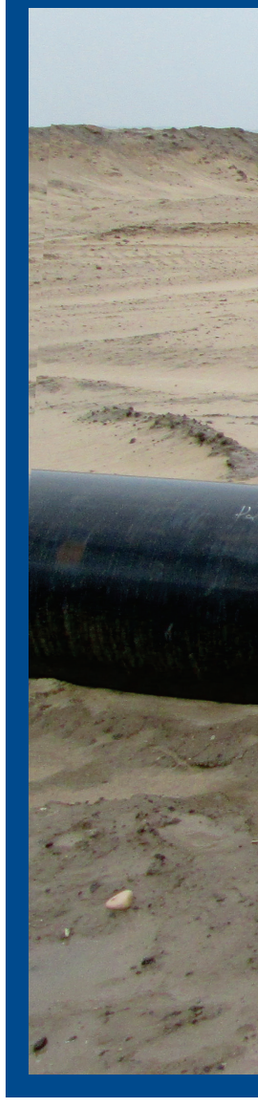
Overcome downtime risk and maintenance personnel safety working under tough conditions

Harsh environments impact performance. Oxidation, thermal stress, and seal degradation may increase risk of costly, unscheduled downtime, or worse, could lead to serious personnel injury and environmental impact. Developing solutions to prevent or avoid the effects of environmental and application extremes on critical equipment becomes mandatory. You need to look for better design, better materials, and better values to ensure minimal wear of your equipment and uninterrupted productivity under the hostile environment.

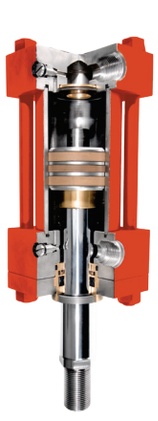
"Plants spent more than $1.2 trillion maintaining their critical plant systems with about one third of these maintenance dollars being applied to ineffective maintenance management methods."
– Plant Engineer's Handbook By R. Keith Mobley

"60% of all safety incidents occurred when a maintenance job was executed as reactive."
– Production and Operations Management by SN Chary

What if you could reduce the number of trips to the field and reduce time addressing valve operating issues?



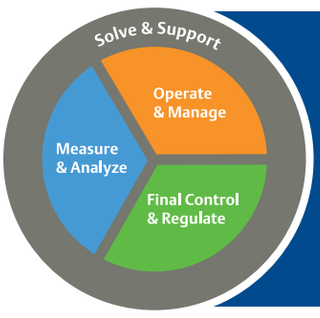
Bettis™ GVO Series actuator is built to withstand extreme temperature, corrosive and dirty environments



It is not unusual for valves operations to be in severe environmental conditions like: corrosive salt spray, submergence, wash down, harsh chemical exposure, or even extreme low or high temperatures. Actuator failure due to its inability to withstand the harsh environment leads to frequent and costly maintenance repairs and untimely production loss. Bettis GVO Series is designed and built to overcome the worries of challenging environment. It is available in a full stainless steel construction, including valve mounting kits, field tested to operate at extreme temperature ranges from as low as -65°F and up to +400°F.

Bettis GVO Series actuator, a field proven linear valve actuator suitable for wide range of applications; from commodity to severe-service extremes. Made for construction, mining, oil, and manufacturing sectors.

BETTIS™



Working with a trusted advisor is a key factor to ensure safe and reliable plant operation in critical operating environments. Emerson provides a highly reliable actuation technology that optimizes plant performance. Bettis GVO Linear is crafted without compromise.

Actuation Technologies • Control Valves • Isolation Valves • Gears
Regulators & Relief Valves • Valve Instrumentation & Accessories

"Bettis GVO Series linear pneumatic modulating actuators have increased yield by US$33M annually in our minerals processing facility, thanks to its revolutionary design advancements over the traditional pneumatic actuation options."
–Production Director, Mineral Processing Facility in West Central, United States

Corrosive or dirty environments lead to increased plant operating cost

Many actuators are not suitable for use in dirty environments due to scale buildup on the piston rod. This can lead to poor cylinder performance. Bettis GVO Series is designed to combat scale build up with a robust metallic scraper. This scraper breaks up any scale and ensures debris are kept out of the cylinder at all times. Unplanned shutdown of your plant can now be avoided.

Actuators do not need additional testing for extreme temperature applications

Most actuator components are not ideal for cold or hot climates. In many cases you must perform additional impact testing of actuator components subsequently adding time and expense. Each Bettis GVO Series actuator is pressure-tested and has a unique serial number that works without requiring any additional impact testing.

Customized design is no longer needed

Reduced design and development costs with faster, simpler selection process improves your project planning and turnaround. Bettis GVO Series now comes in full range of available dimensional sizes and thrust. Springs are pre-compressed and sealed in a factory-installed canister: no extended tie-rods required. Shorter lead time is guaranteed.

Poor positioning of linkage arms resulting poor process control

Traditional linear actuators will have exposed linkage arms when positioner mounted on the valve and they are easily jammed, loosened or damaged, resulting in lost or compromised feedback positions. With Bettis GVO Series actuators, conventional linkage arms are replaced with a fully-enclosed tranducer. This is a major design innovation that will ensure there is no accelerated valve and actuator tear, which provides for better process control.

Easy installation, maintenance and extended lifecycle service in the most extreme environments

Bettis GVO Series actuators are equipped with removable gland bushing for easy seal replacement. Seals available for low temperatures to -65°F and high temperatures to 400°F. The nitrile U-cup seal was designed for extended cycle life as compared to the traditional O-ring seal. High integrity composite component for lower friction and better stability in every environment extremes.

All series can be fitted with jackscrew or hydraulic pump type manual overrides. Valve adaption hardware is available for any automated valve package.

What's your challenge?

What if the extreme environment does not allow the actuator to continue to operate optimally?

What's your opportunity?

Bettis GVO Series actuator is designed with variations for easy installation, tolerance of harsh environments, and minimal wear on the actuator. Unplanned shutdowns can be prevented safely and reliably.

Ensure minimal wear

- Extensive range: up to 425,000 lb thrust and stroke up to 144”
- Removable gland bushing for easy seal replacement
- Standard carbon-fiber material for light-weight durability and low friction (steel, stainless steel, aluminum and brass optional)
- Fail-open and fail-close
- Temperature range available from -65°F to +400°F
- Solids-proof gland option for harsh environments
- U-cup seals ensure high cycle-life

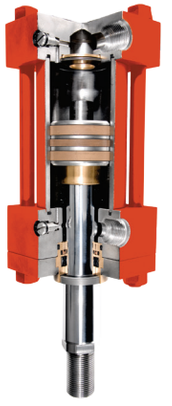
Spring return now in standardized design

- Springs are pre-compressed and sealed in a factory-installed canister: no extended tie-rods required
- Canisters are easily and safely removed for in-field servicing
- Available in Fail-Open and Fail-Close modes
- Bore size range from 6” to 30” single-stage or tandem
- Strokes up to 24”
- Spring thrusts up to 75,000 lbs
- Rated to 150 psi
- SIL 3 capable
- CE/PED certified

Integral transducer

- Eliminates need for linkage system in modulating applications
- Available in multiple digital and/or analog output configurations including discrete position switches
- Infinite resolution, accuracy to 0.5%, repeatability
- Allows remote mounting of positioners (ideal for harsh environment or hazardous areas)
- Eliminates valve hunting
- Significantly reduces calibration time
- In-line replaceable module for increased serviceability

Longevity in the harshest environment



- Heavy duty gland seal to reduce hydraulic fluid contamination
- Bore sizes from 1 1/2” to 24”
- Piston rod sizes from 5/8” to 10”
- Thrusts up to 1.5M lbs
- Strokes up to 144”
- Hydraulic controls dual-speed cam-operated allows slower speed at end of stroke

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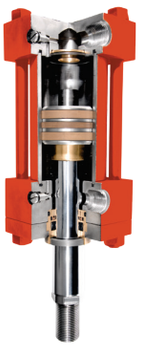
No more customized design. Spring into action with our industry leading shorter delivery



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GVO Series actuators are available in both pneumatic and hydraulic actuation. All actuators are SIL capable.

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