

BETTIS

Actuators & Controls

GVO Series Linear Valve Operators



Description

The GVO Series linear valve operators from Bettis represents a broad line of products that have been field proven in safety shutdown and control applications. As with all Bettis

products, they have been manufactured in accordance with strict quality standards in order to assure reliability and safety in your specific service.

Models

Our six basic operators are as follows:

Model GVO-LP Type DA

- Low pressure, double-acting
- Supply pressure to 150 psig
- Thrusts to 150,000 lbs.

Model GVO-LP Type FS

- Low pressure, spring-return – retract
- Supply pressure to 150 psig
- Thrusts to 60,000 lbs.

Model GVO-LP Type SR

- Low pressure, spring-return – extend
- Supply pressure to 150 psig
- Thrusts to 60,000 lbs.

Model GVO-HP Type DA

- High pressure, double-acting
- Supply pressure to 2000 psig
- Thrusts to 500,000 lbs.

Model GVO-HP Type FS

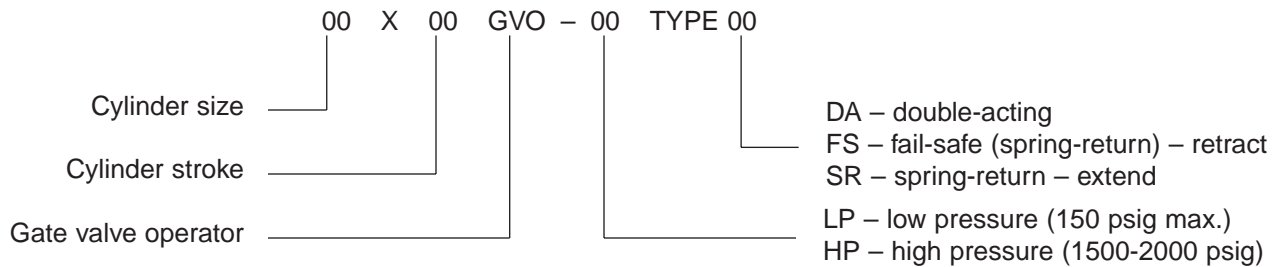
- High pressure, spring-return – retract
- Supply pressure to 2000 psig
- Thrusts to 100,000 lbs.

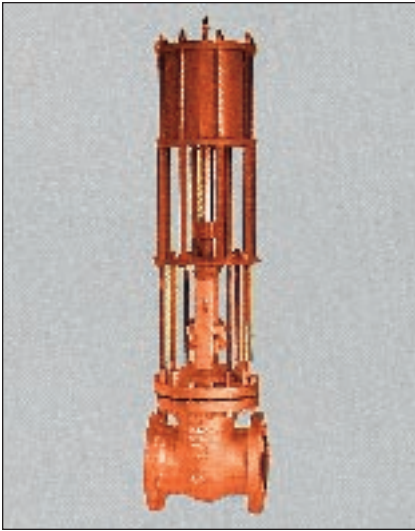
Model GVO-HP Type SR

- High pressure, spring-return – extend
- Supply pressure to 2000 psig
- Thrusts to 100,000 lbs.

Model Designation

All six basic operator types use the following designation





14 x 10 GVO-LP TYPE DA

- fail-last position
- 8" 900 ANSI slab gate
- 100 psi pneumatic supply pressure



12 x 5 GVO-LP TYPE FS

- fail-close on loss of air supply
- reverse acting valve
- 3" 5000 API valve
- over-pressure protection
- 100 psi pneumatic supply pressure



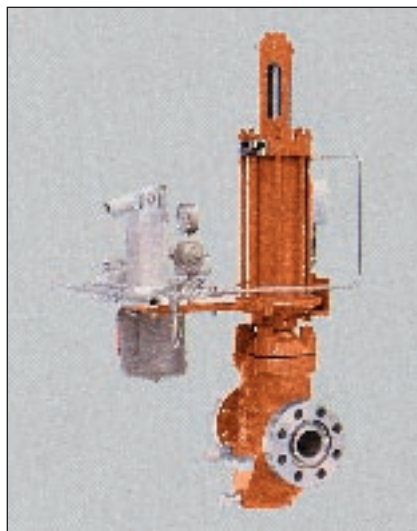
GVO-LP TYPE SR

- fail-closed
- standard acting valve
- over-pressure protection
- 100 psi pneumatic supply pressure



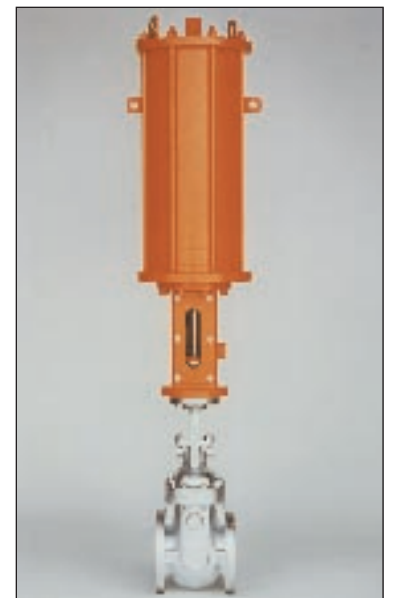
4 x 4 GVO-HP TYPE DA

- fail-last position
- standard acting valve
- 3" 3000 API valve
- 2000 psi hydraulic supply pressure



5 x 3 GVO-HP TYPE FS

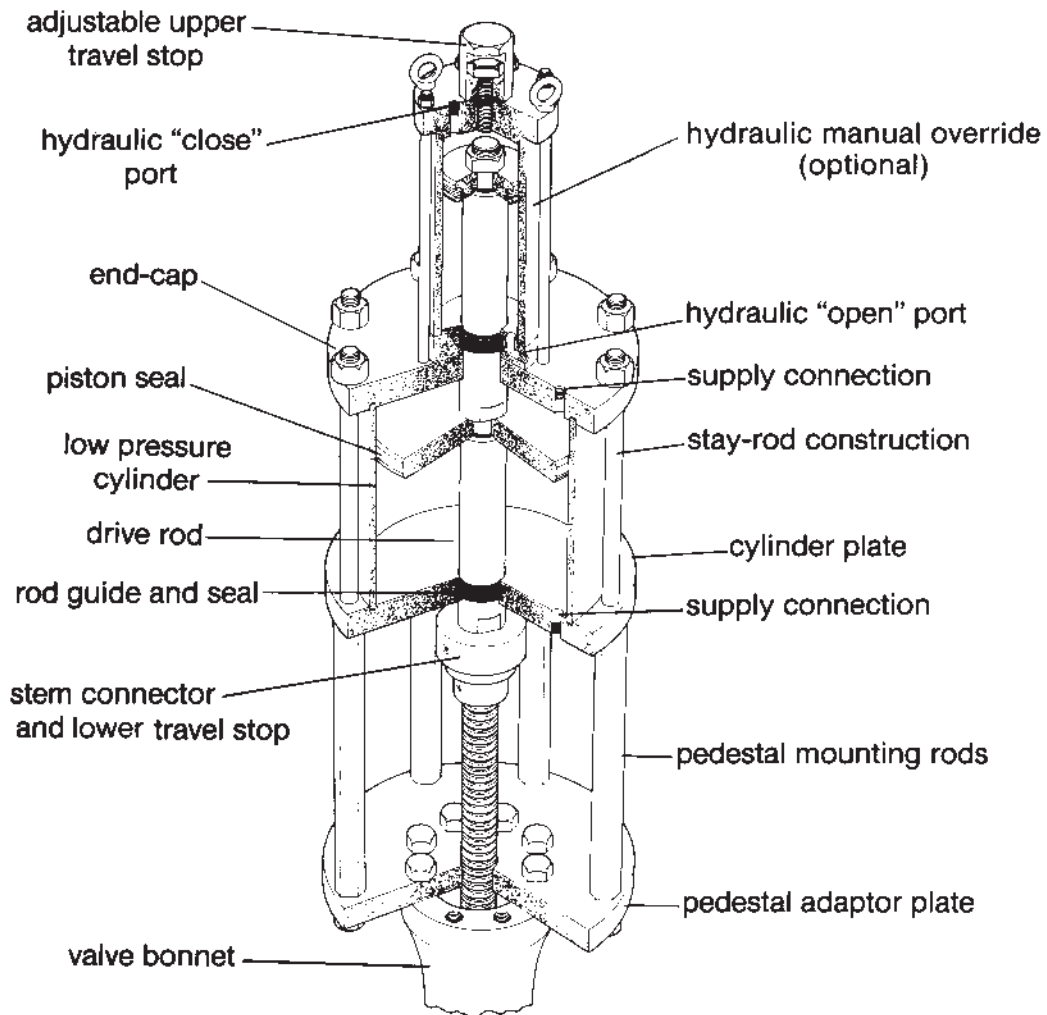
- fail-closed
- reverse acting valve
- 2" 10,000 API valve
- 1500 psi hydraulic supply pressure
- self contained hydraulic system



GVO-HP TYPE SR

- fail-closed
- standard acting valve
- 1500 psi hydraulic supply pressure

GVO-LP Type DA



Design Features

- Adaptable to any type of gate valve
- Cylinder sizes 3" thru 36"; tandem cylinders available
- Thrusts in excess of 150,000 lbs. with 150 psi air supply
- Stay-rod construction for ease of servicing
- Open or closed pedestal available
- Adjustable mechanical end-stops for wear compensation
- Can be installed with valve in line (open position)
- Visual valve position indication
- Low temperature materials and operation

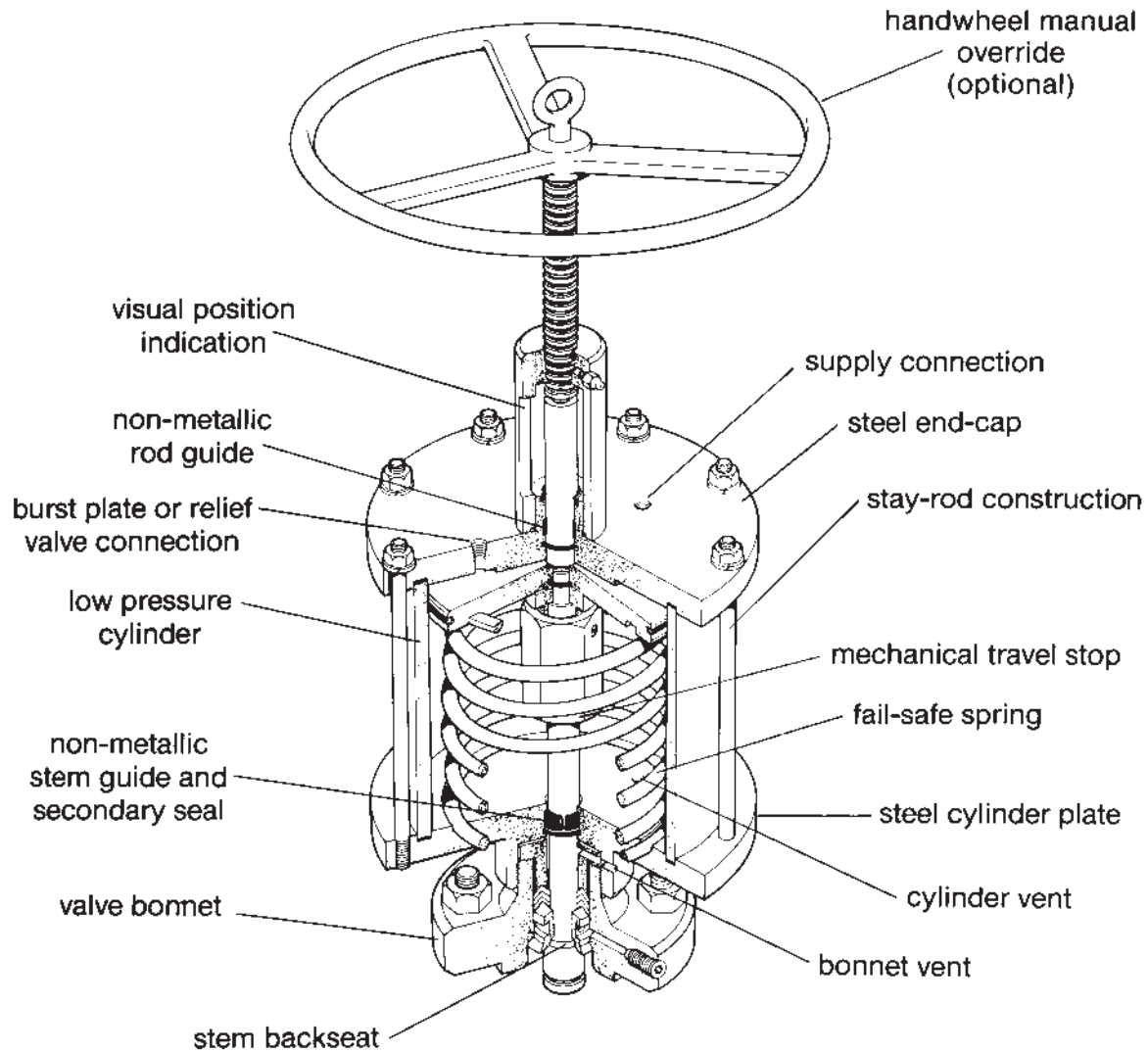
Applications

- Pipeline shutdown and switching
- Plant ESD
- Compressor stations
- Gas plants

Options

- Manual override – hydraulic or handwheel
- Optional materials of construction for H₂S service and other applications
- Limit switches, relays, solenoids
- Pressure pilots and pressure switches
- Fail-safe volume tanks
- Positioners for throttling applications
- As specified by customer

GVO-LP Type FS/SR



Type FS

Design Features

- Adaptable to direct or reverse acting gate valves of any manufacture (API or ANSI)
- Cylinder sizes 8" thru 36", valve sizes 1" thru 24"
- Close coupled
- Stay-rod construction and open or closed-in pedestal type mounting adaption for ease of servicing
- Visual valve position indication
- Secondary metal-to-metal seal on stem (close coupled type only)
- Fail-safe spring for closing or opening
- Low pressure (to 150 psi) air or gas supply
- Mechanical travel stop
- Low temperature materials and operation to -50°F (-46°C)

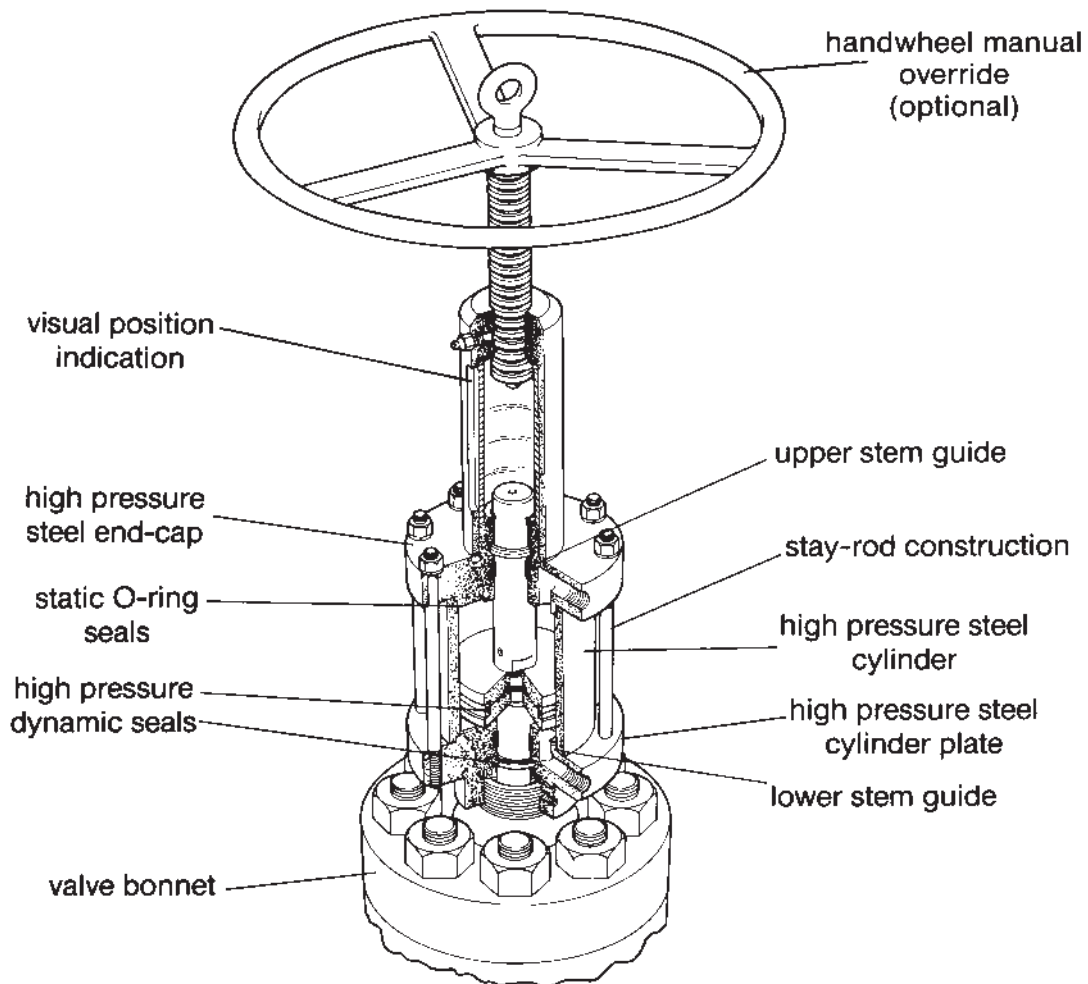
Applications

- Wellhead shut-in
- Linebreak control
- Plant ESD
- Slurry pipeline
- Compressor stations
- Gas plants

Options

- Manual handwheel or hydraulic override
- Optional materials of construction for H_2S service and other applications
- Fusible plugs, burst plates, relief valves
- Limit switches, relays, solenoids
- Pressure pilots and pressure switches
- As specified by customer

GVO-HP Type DA



Design Features

- Adaptable to any type of gate valve
- Close coupled and pedestal types available
- Cylinder sizes thru 22"
- Stay-rod construction for ease of servicing
- Visual valve position indication
- Secondary metal-to-metal stem seal (close coupled type only)
- Suitable for 2000 psi hydraulic service (higher on application)
- Low temperature materials and operation

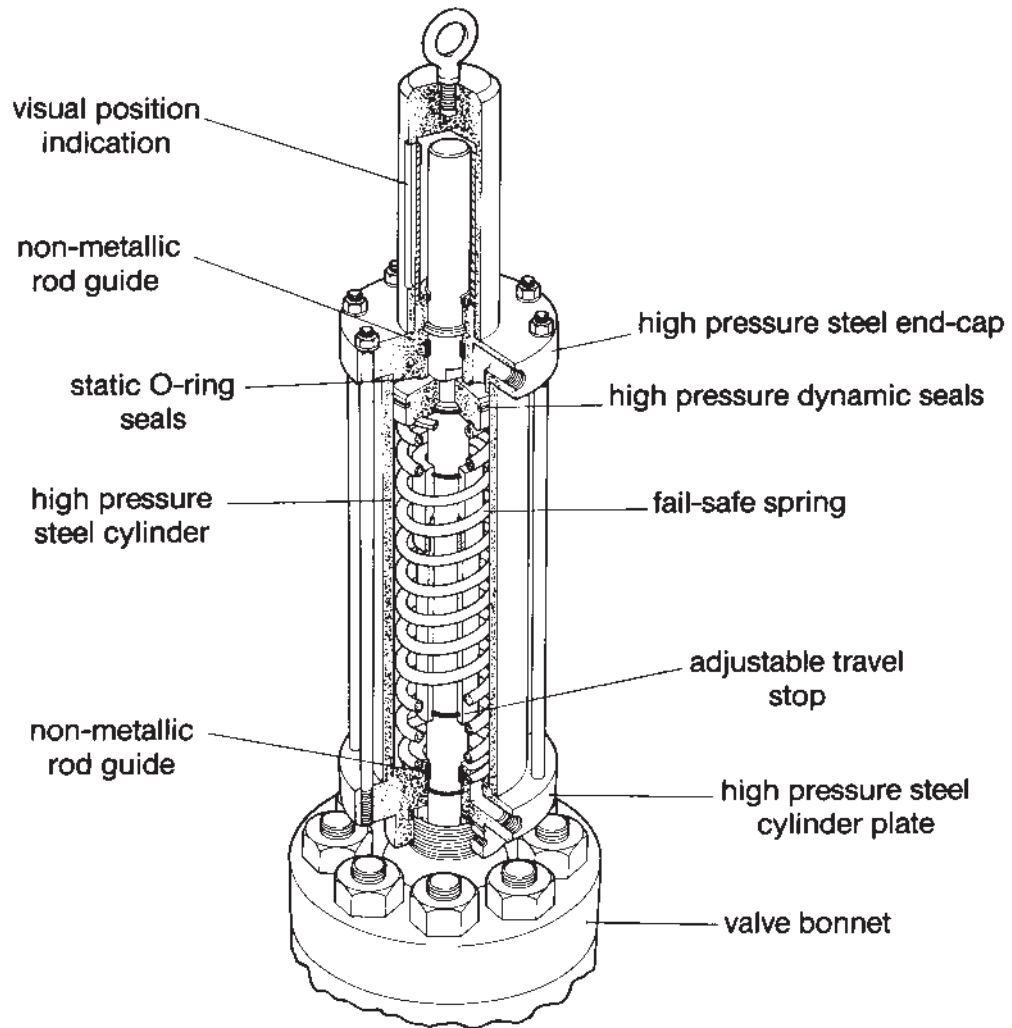
Applications

- Pipeline shutdown and package
- Drilling rigs, kill lines

Options

- Jackscrew manual override
- Optional materials of construction
- Limit switches, relays, solenoids
- Manual directional control valves
- Locking blocks for:
 - thermal expansion protection
 - valve creep prevention
- Central hydraulic power supply
- Electrohydraulic power supply
- As specified by customer

GVO-HP Type FS/SR



Type FS

Design Features

- Adaptable to direct or reverse acting gate valves, API or ANSI
- Cylinder sizes thru 12"
- Close coupled and open or closed-in pedestal type mounting adaption
- Stay-rod construction for ease of servicing
- Visual position indication
- Suitable for 2000 psi hydraulic service (higher on application)
- Fail-safe spring for closing or opening
- Mechanical travel stop
- Low temperature materials and operation -50°F (-46°C)

Applications

- Wellhead shutdown
- Plant ESD
- Pipeline shutdown

Options

- Manual handwheel or hydraulic override
- Optional materials of construction
- Limit switches, relays, self-contained hydraulic, solenoids
- Self-contained hydraulics (See PressureGuard™ brochure)
- Electrohydraulic applications
- Central hydraulic
- As specified by customer

Ordering Information

To enable us to select and size a suitable Bettis GVO linear valve operator for your particular applications, we require the following information.

Valve

- Size, rating, manufacturer, model number and trim
- Maximum operating pressure and maximum differential pressure
- Min./max. operating temperatures; min./max. ambient temperatures
- Flowing media
- Service conditions (sweet, sour, other)
- Valve thrust requirements

Operator

- Min./max. supply pressure
- Power supply (air, gas, hydraulic, other); condition
- Fail position (open, close, last)
- Min./max. ambient temperature conditions

Optional Accessories

- Manual overrides
- Power supply filter
- Status switches, electric or pneumatic
- Solenoid (electrical switching)
- Relay (pneumatic switching)
- High/low pressure pilot – mounting (remote or spool)
- Manual/auto valving, lockout
- Self-contained power supply
- Valve lubricant (if required)
- System hydrostatic test (valve to full rating)



Cert. Num. 93-13

Bettis Canada Ltd.
Edmonton, Alberta



Accredited by
the Dutch Council
for certification

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