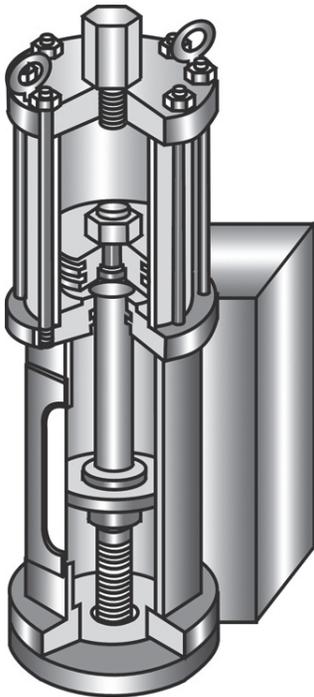




Hydraulic or Gas Actuators



Hydraulic or Gas pressure is applied directly to the valve stem through the piston/rod assembly providing full, direct power to the valve stem. These Actuators provide adjustable speed shock free operation. Materials of construction to suit process and ambient conditions.

Manual pumps for emergency operation, special valve position locking, thermal relief protection and thrust limiting devices available.

Fail safe mode can be provided using spring return actuators, or a set of air accumulators for storing pressure energy. Manual over-rides can also be accommodated.

Diaphragm Actuators

Diaphragm actuators available are: double acting (air pressure required open or close), direct acting (air pressure required to close, mechanical spring to open) or reverse acting (mechanical spring to close, air pressure required to open).

This very simple and very economical actuator has application limitations. The first limitation is stroke; a 4" stroke is the longest available from most manufacturers. This limits adaptable valve size to gate valves 4" and smaller and globe valves in smaller sizes.

Information Required to Quote Cylinder or Diaphragm Actuators

1. Valve size, figure number or description.
2. Operating conditions (pressure, temperature, flow rate and fluid).
3. Maximum differential (shut-off) pressure and Design Temperature
4. Primary power supply—air or hydraulic—available maximum and minimum pressure and source.
5. Failure mode (open, closed, as is?).
6. Control voltage and enclosure designations (NEMA, etc.).
7. Auxiliary equipment:
 - a) limit switches,
 - b) solenoids,
 - c) positioners,
 - d) manual over-rides.
 - e) Accumulators for pressure energy storage
 - f) independent hydraulic power unit.
8. Valve orientation.
9. Preference for specific manufacturer, if any.
10. Coating for environment (exterior, sea, ice, fire protection)
11. Closing & Opening time (1)

(1) Note: Depending on the required time to opening and closing, special construction for the valve may be required. For example, when a very short period of time is required for opening the valve, modifications on the gate valve body guides are necessary for sliding the wedge in an intermediate position, with full differential pressure.