

The In-line Valve for Difficult Applications

Kolttek Shutter Valve

Application

The Kolttek Shutter Valve is a manually or pneumatically operated valve, designed for use in the food, chemical, pharmaceutical and other industries where valves of sanitary design are needed.

Working principle

A PTFE shutter is operated by means of a handle or an actuator. A spring system presses the shutter against the inside cylindrical surface of the valve body thus ensuring complete tightness.

The air actuated valve can be fitted with ThinkTop® (excluding the 633 actuators). The valve can be fitted with bottom-mounted indication. The actuator for the valve comes in two versions; single-acting or double-acting. The single-acting actuator operates with one main piston whereas the double-acting actuator operates with two main pistons.

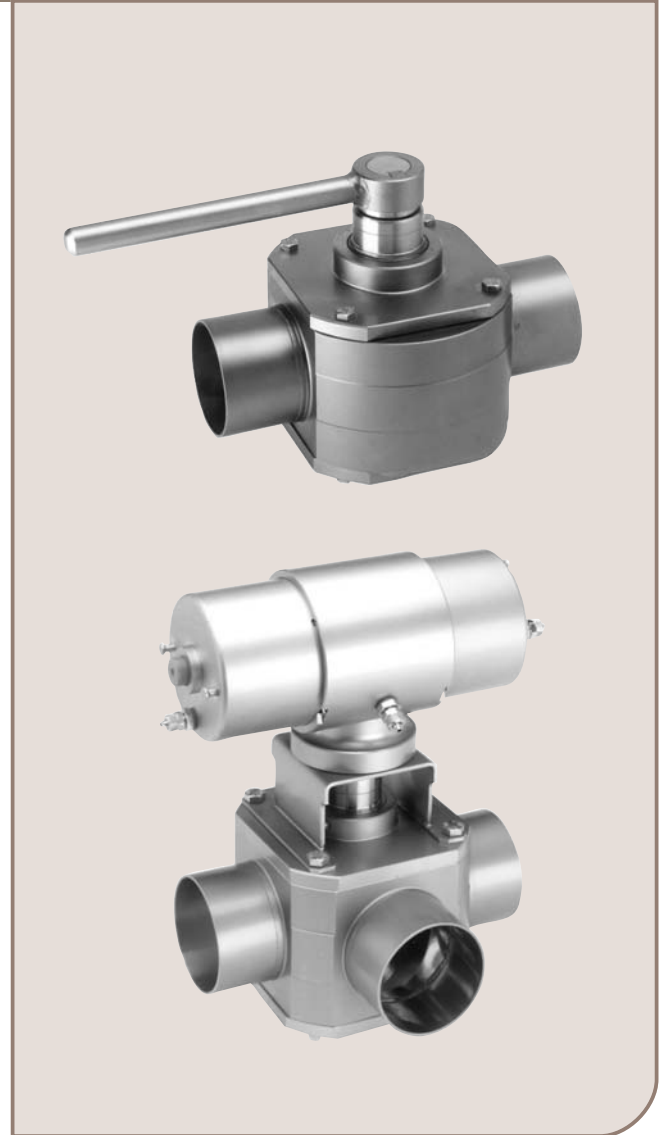
Standard Design

The valve consists of a rigid body with an internal cylindrical bore and 2 or 3 ports for pipe connection. The two lids have guide rings or bearings for an internal shaft which supports and positions the shutter. The stainless steel handle or the actuator is fitted to turn the shaft.

The actuator consists of a system of cylinders and one or two main pistons interconnected with a toothed bar which interacts with a gear wheel on the valve shaft. The system is insensitive to pressure shocks in the valve.

Technical data

| | |
|--------------------------------|---|
| Max. temperature: |230°F |
| Max. pressure against shutter: |44 PSI (3 bar) |
| Max. pressure behind shutter: |145 PSI (10 bar) |
| Air pressure for actuator: |Max. 116 PSI (8 bar)Min. 73 PSI (5 bar) |



MH52 with handle.

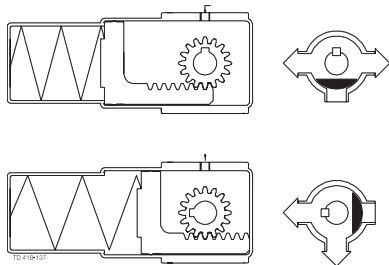
MH53 with actuator, type KH631.

Actuator functions

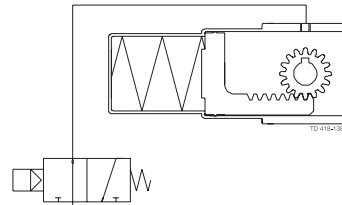
Actuator type 630:

- for 1" to 3" (25 mm to 76.1 mm) valves only
- two positions
- spring/air
- turning angle 1x90°

Sizes 1" to 2":

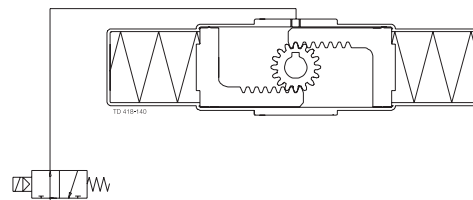
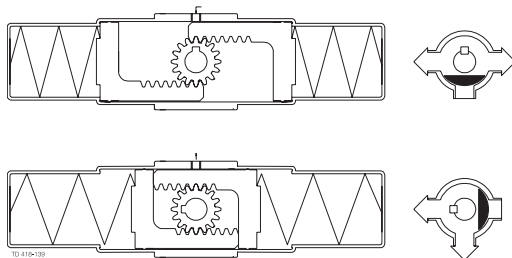


Pneumatic connections



Sizes 2½" - 3":

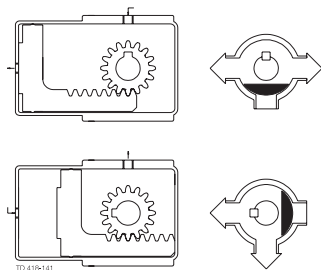
Double acting actuator



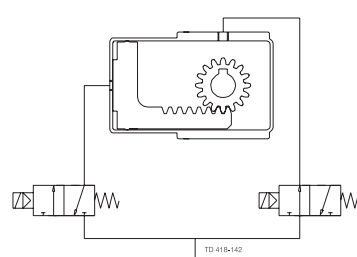
Actuator type 631:

- two positions
- air/air
- turning angle 1x180°

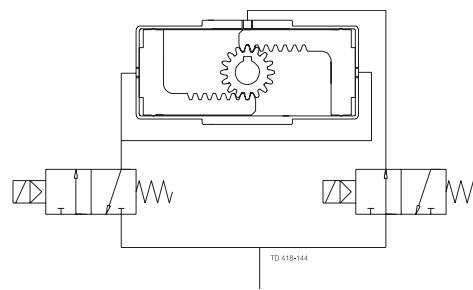
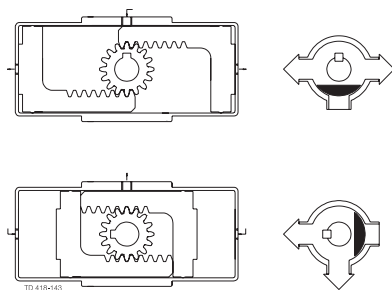
Sizes 1" to 3":



Pneumatic connections



Size 4": Double acting actuator

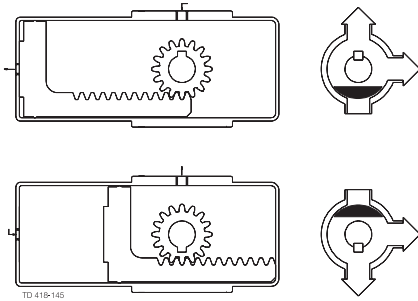


Actuator functions

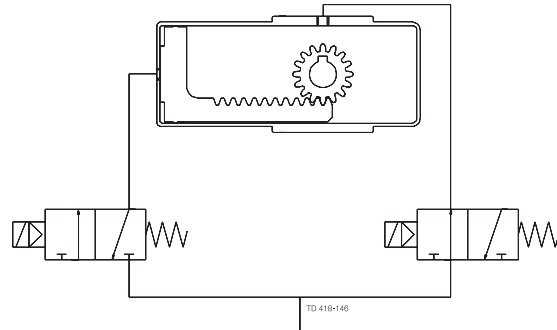
Actuator type 632:

- two positions
- air/air
- turning angle 1x180°

Sizes 1" to 3":



Pneumatic connections

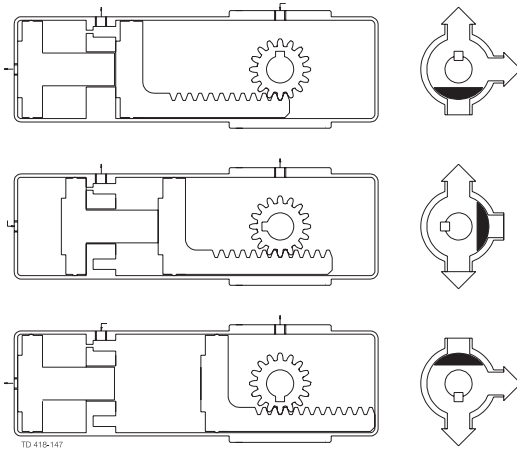


Size 4": Double acting actuator

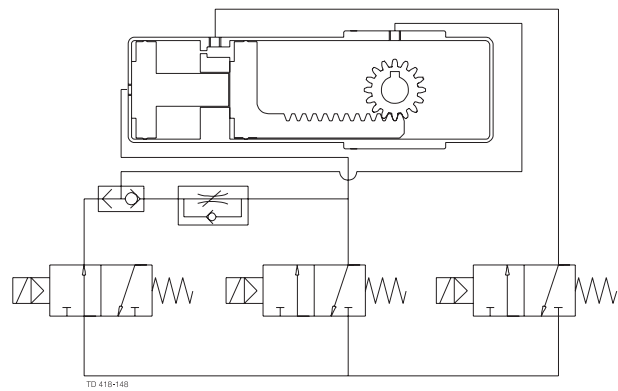
Actuator type 633:

- two positions
- air/air
- turning angles 2x90°

Sizes 1" to 3":



Pneumatic connections

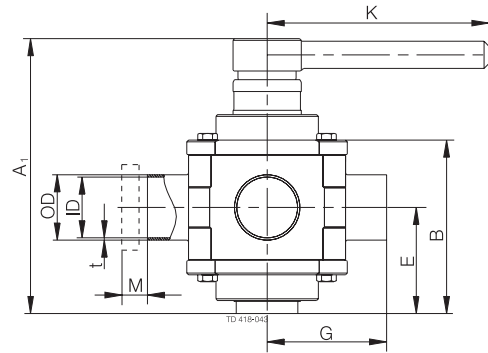


Size 4": Double acting actuator

Dimensions

AH valves:

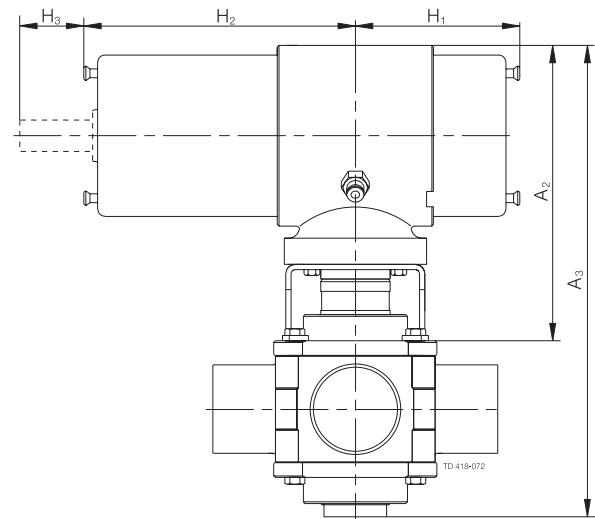
| Size | 1" | 1.5" | 2" | 2.5" | 3" | 4" |
|------------------------|------|------|-------|-------|-------|-------|
| A ₁ | 4.57 | 5.87 | 6.34 | 7.05 | 8.03 | 11.50 |
| B | 2.56 | 3.54 | 4.02 | 4.65 | 5.39 | 7.68 |
| OD | 1.00 | 1.51 | 2.06 | 2.53 | 3.00 | 4.00 |
| ID | 0.89 | 1.40 | 1.91 | 2.37 | 2.83 | 3.82 |
| t | 0.06 | 0.05 | 0.07 | 0.08 | 0.08 | 0.09 |
| E | 1.65 | 2.20 | 2.44 | 2.76 | 3.15 | 4.61 |
| G | 2.17 | 2.76 | 3.23 | 4.13 | 4.33 | 6.10 |
| G ₁ (Clamp) | 4.75 | 5.83 | 6.82 | 8.27 | 9.46 | 13.08 |
| K | 5.12 | 5.12 | 7.09 | 7.09 | 9.25 | 12.99 |
| Weight (lbs.) | 4.00 | 7.30 | 10.60 | 15.20 | 25.15 | 55.15 |



a. MH53 with handle.
Fig. 3. Dimensions.

Actuators

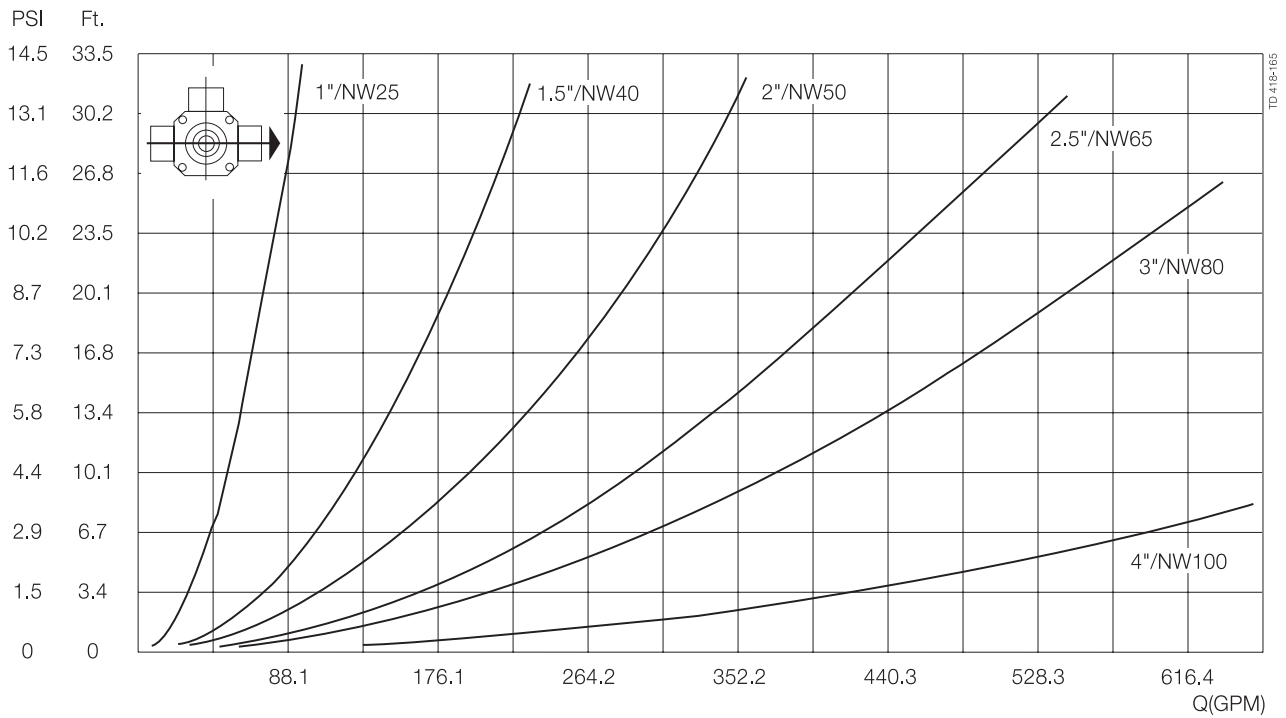
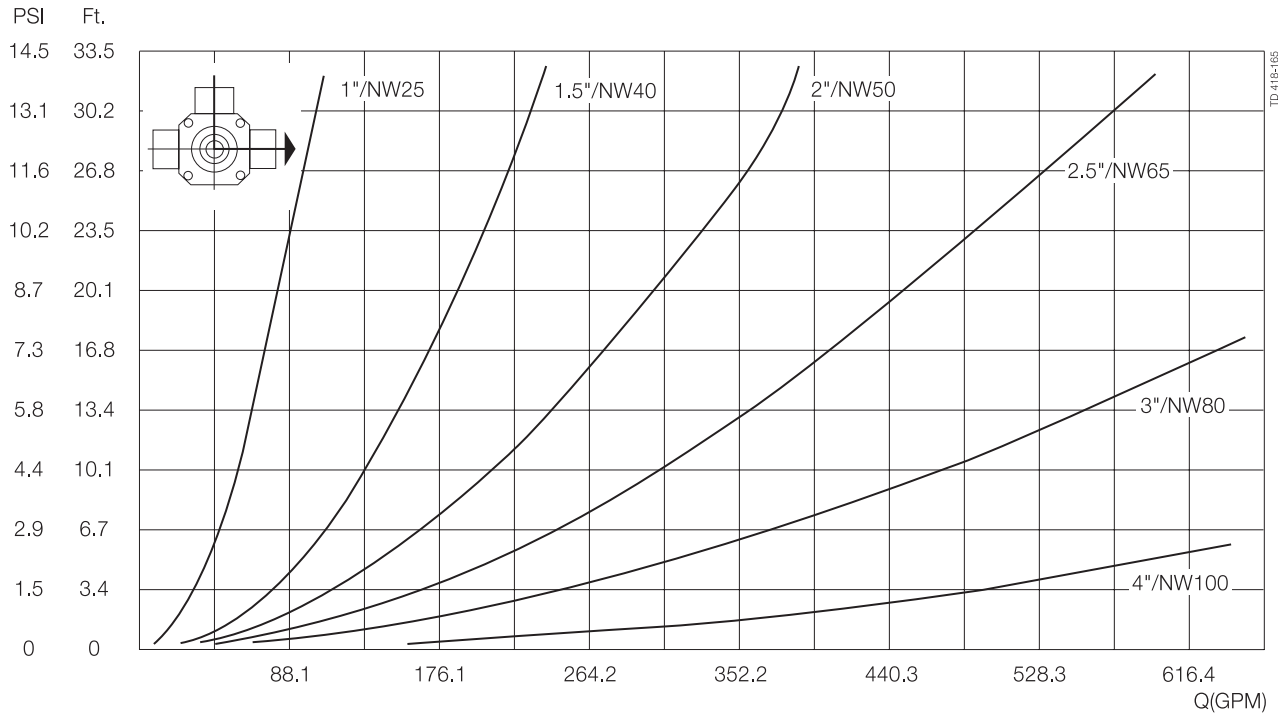
| Size | 1" | 1.5" | 2" | 2.5" | 3" | 4" |
|--------------------|-------|-------|-------|-------|-------|-------|
| A ₁ | 6.69 | 6.69 | 6.69 | 6.77 | 7.01 | 7.64 |
| A ₂ | 9.17 | 10.24 | 10.75 | 11.42 | 12.40 | 15.31 |
| H ₁ 630 | 2.24 | 2.24 | 2.24 | 11.22 | 11.22 | - |
| H ₁ 631 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 4.69 |
| H ₁ 632 | 3.74 | 3.74 | 3.74 | 3.74 | 3.74 | 7.64 |
| H ₁ 633 | 3.74 | 3.74 | 3.74 | 3.74 | 3.74 | 11.06 |
| H ₂ 630 | 12.83 | 12.83 | 12.83 | 11.22 | 11.22 | - |
| H ₂ 631 | 4.69 | 4.69 | 4.69 | 4.69 | 4.69 | 4.69 |
| H ₂ 632 | 6.18 | 6.18 | 6.18 | 6.18 | 6.18 | 7.64 |
| H ₂ 633 | 9.57 | 9.57 | 9.57 | 9.57 | 9.57 | 11.06 |
| H ₃ | 1.69 | 1.69 | 4.69 | 1.69 | 1.69 | 1.69 |



b. MH53 with actuator, type KH631.

3.5

Pressure drop/capacity diagrams



Note! For the diagram the following applies:
 Medium: Water(68°F).
 Measurement: In accordance with VDI 2173.

Caution, opening/closing time:

Opening/closing time will be affected by the following:

- The air supply (air pressure).
- The length and dimensions of the air hoses.
- Number of valves connected to the same air hose.
- Use of single solenoid valve for serial connected air actuator functions.
- Product pressure.

Air Connections

Compressed air:

R 1/8" (BSP), internal thread.

Materials

| | |
|---------------------------------------|---------------------------------|
| Product wetted steel parts: | .Acid-resistant steel AISI 316L |
| Finish: | .Semi-bright (Ra = 0.8 µm) |
| Seals | .Shutter in PTFE. |
| Seals | .In valve: EPDM rubber |
| | .In actuator: Nitrile (NBR) |

Options

Equipment

- Male parts or clamp liners in accordance with required standard.
- ThinkTop® (excludes 633 actuators)
- Bottom lid for hot water or steam heating.
- Bottom fitted indication unit.
- Limit stop for manual valve.
- Pilot valve, T (for actuator type 633)
- Rebuilding to double acting valve, if high viscosity product or quick operation

Ordering

Please state the following when ordering:

- Koltek valve; manually or air-operated
- Size.
- Number of ports; 2 or 3.
- Connections, if not welding ends.
- Type of actuator (if applicable).
- Options.

The valve is authorized to carry the 3A symbol.

Material grades

- Product wetted seals of Nitrile (NBR) or Fluorinated rubber (FPM).
- Shutter in reinforced PTFE (max. 266oF together with seals in EPDM or FPM)

(Material for the reinforced shutter is not compliant with the regulation of the U.S. Food and Drug administration (FDA) as published in the code of federal regulations, title 21, paragraph 177.2600.)