



The In-line Valve for Difficult Applications

Koltek Shutter Valve

Concept

MH Koltek 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® or a laterally fitted indication unit for remote indication of the valve position. The manually operated valve can be fitted with laterally indication units (used for LKLA actuators). 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

Temperature

Max. temperature: 230°F

Pressure

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)

Air Connections

Compressed air:

R 1/8" (BSP), internal thread



PHYSICAL DATA

Materials

Product wetted steel parts: 1.4404 (316L.)

Finish: Semi-bright (Ra = 32 µin)

Product wetted seals: Shutter in PTFE
EPDM

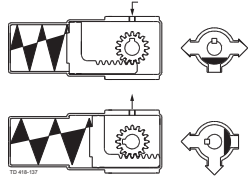
Actuator seals: NBR

Actuator functions

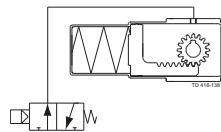
Actuator type 630:

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

Sizes 1" to 2":

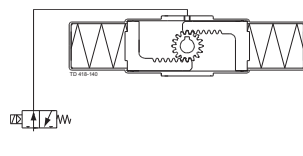
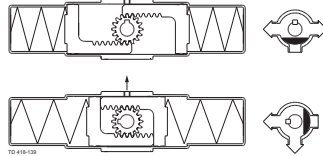


Pneumatic connections



Sizes 2½" - 3":

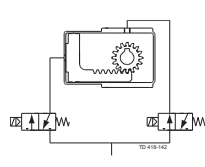
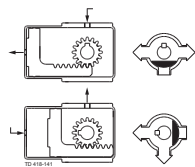
Double acting actuator



Actuator type 631:

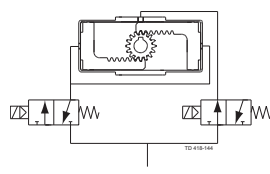
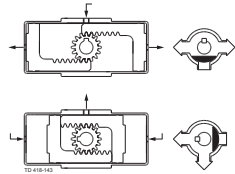
- two positions
- air/air
- turning angle 1x90°

Sizes 1" - 3":



Sizes 4":

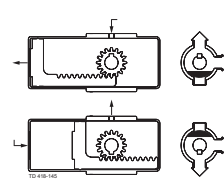
Double acting actuator



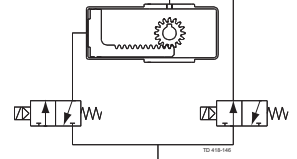
Actuator type 632:

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

Sizes 1" - 3":

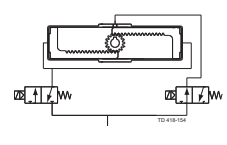
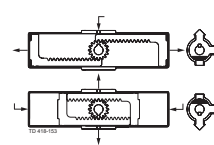


Pneumatic connections



Sizes 4":

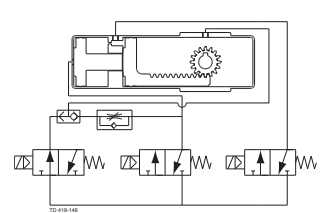
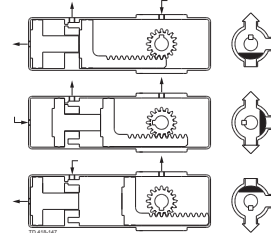
Double acting actuator



Actuator type 633:

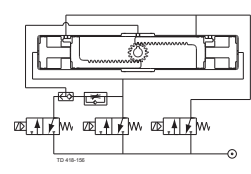
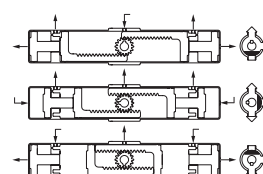
- three positions
- air/air
- turning angles 2x90°

Sizes 1" - 3":



Sizes 4":

Double acting actuator



Options

- A. Male parts or clamp liners in accordance with required standard.
- B. Control and Indication: IndiTop, ThinkTop or ThinkTop Basic.
- C. Bottom lid for hot water or steam heating.
- D. Bottom fitted indication unit.
- E. Limit stop for MH 52/53.
- F. Pilot valve, type L or T (for actuator type 633). Type L is used when two ThinkTop units are used.
- G. Rebuilding to double acting value for high viscosity product or quick operation.
- H. Product wetted seals of NBR or FPM..

Notel

For further details, see also instruction IM 70735.

Dimensions (in)

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

Bottom fitted indication units*

(together with bracket for indication unit)

Actuator type	KH630	KH631	KH632	KH633
Indication unit				
LKLA (lateral indication unit)	1 pcs.	1 pcs.	2 pcs.**	2 pcs.**

*) Not possible in combination with heated lid.

**) Not suitable for micro switch.

Notel For all manually operated valves: Use LKLA indication units.

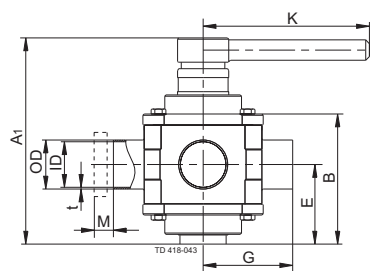
Actuators

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

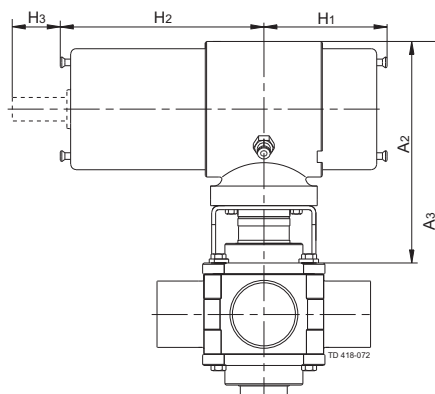
Caution, opening/closing time:

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.



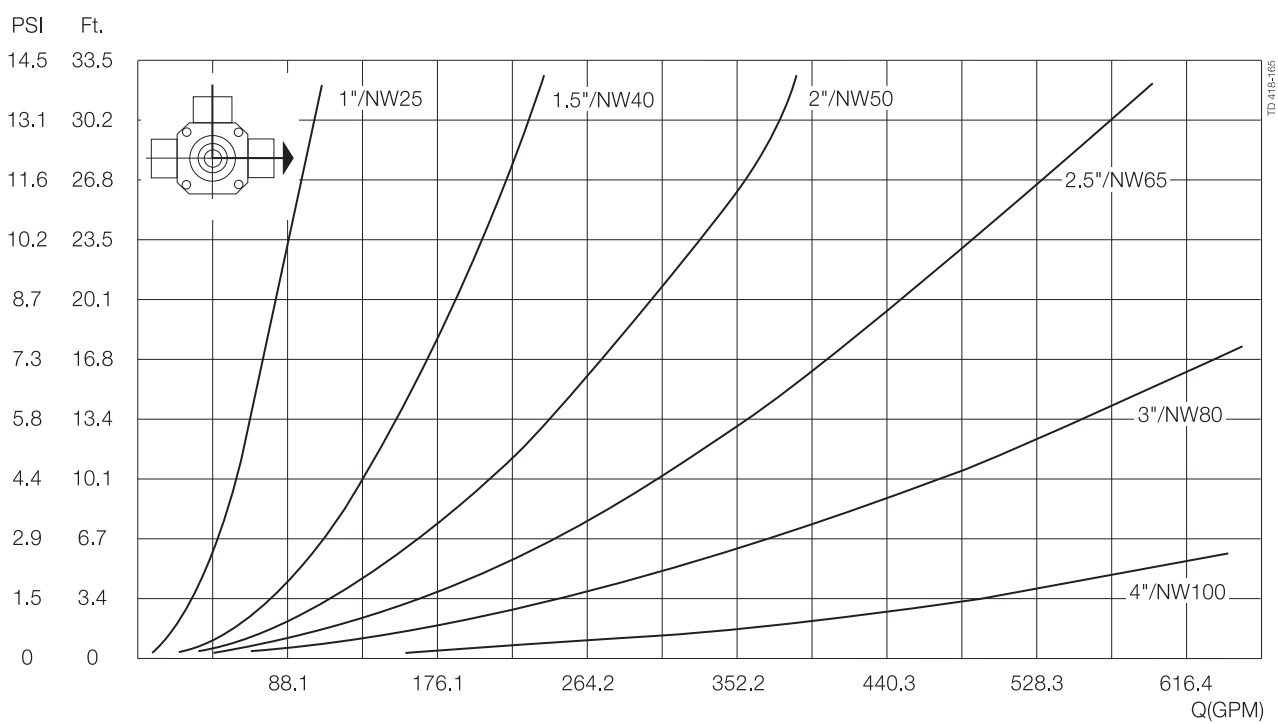
a. AH53 with handle.

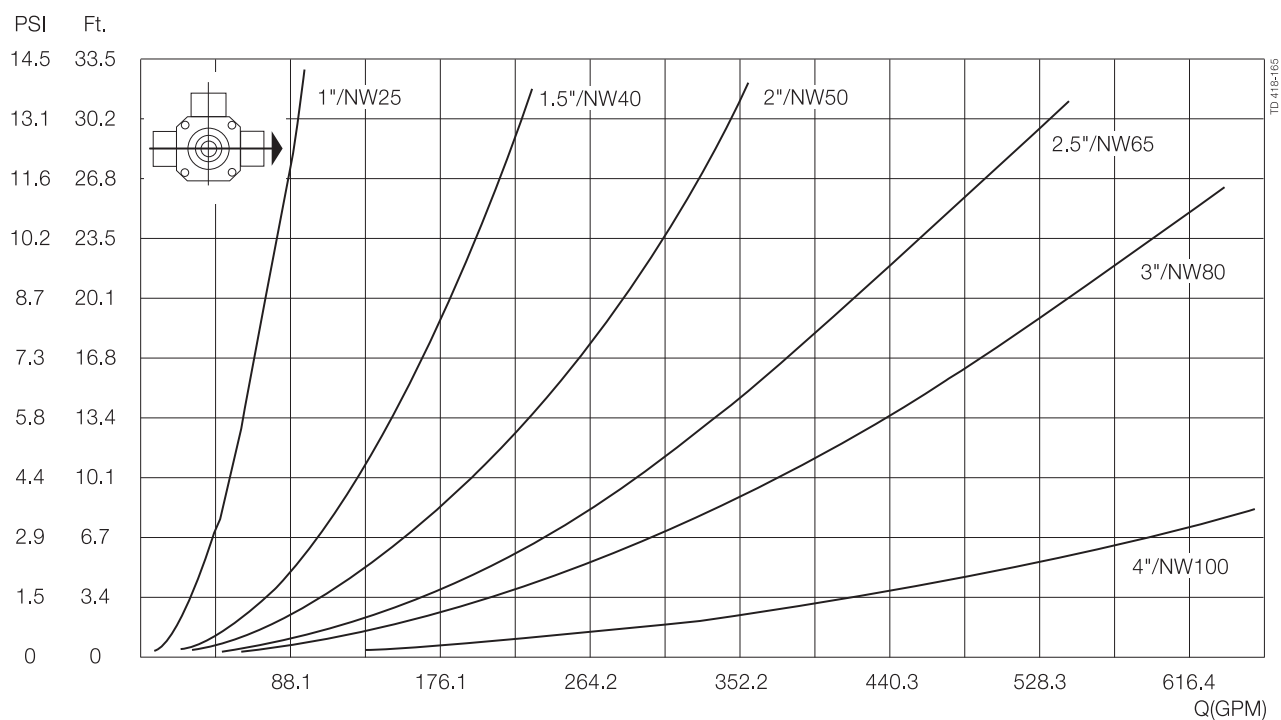


b. AH53 with actuator, type KH631.

Fig. 1. Dimensions.

Pressure drop/capacity diagrams





Note!

For the diagram the following applies:

Medium: Water(68°F).

Measurement: In accordance with VDI 2173.

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