

Operating & Maintenance Manual



Three Way Pneumatic Actuated Globe Control Valve

Model: KP-38

Three Way Pneumatic Actuated Globe Control Valve

Introduction

KP-38, a three way pneumatic actuated globe control valve manufactured under license of Keyvalve Company Limited. It can be categorized into flow diverting type or mixing type. Pneumatic actuator conducts the opening and closing functions of the valve efficiently. By using an electro-pneumatic (E/P) or pneumatic-pneumatic (P/P) positioner, it regulates the flow pass through the valve gradually by means of changing its Kv value. Mechanical switches or inductive sensors are mounted for effective stroke monitoring.

1) Specifications

- 1.0 Type: Three way globe control valve
- 1.1 Actuator: Diaphragm pneumatic actuator
- 1.2 Connection: Flange end
- 1.3 Trim material: Stainless steel 304
- 1.4 Plug type: Diverting or mixing plug
- 1.5 Plug and seat sealing: Metal to metal sealing (hardened)
- 1.6 Stem sealing: Bellows with graphite packing, pure graphite, PTFE V-ring
- 1.7 Seat type: Screwed
- 1.8 Pressure rating: PN10 to PN16
- 1.9 Body material: Ductile iron GGG40.3

2) Standards

- 2.1 Design standard: DIN2501, GB12235
- 2.2 Face to face standard: DIN3202, GB/T12221
- 2.3 Flange standard: EN1092-2
- 2.4 Inspection and testing standard: API598

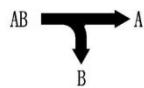
3) Testing

Pressure rating	PN10~PN16	Body test pressure	1.5 x PN
Sealing test pressure	1.1 x PN	Air supply pressure	Max. 6.0 bar
Operating temperature	-20~350 °C	Operating media	Water, steam, oil

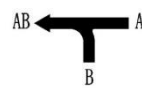
Three Way Pneumatic Actuated Globe Control Valve

4) Installation

- 4.1 Before installing the globe control valve, please check the nameplate whether is matching the requirements of the application.
- 4.2 Inspect the valve internal parts and sealing surfaces to ensure no blockage or dirt attached.
- 4.3 Inspect the bolts and nuts to ensure these parts are safely tightened.
- 4.4 Install the valve in accordance to arrow direction shown on valve body with actuator is facing upwards.



Diverting



Mixing

5) Maintenance

- 5.1 Globe control valve shall be kept in dry and ventilated area. Sealing parts such as plug, seat and stem sealing shall be taken extra care.
- 5.2 Globe control valve which has been kept for long time need to be inspected and cleaned periodically.
- 5.3 After installation, globe control valve need to be inspected from time to time. Areas that need for inspection as below:
 - a. Sealing surfaces erosion condition (plug and seat).
 - b. Visual check on foreign particles which might be attached to the plug and seat.
 - c. Actuator's shaft movement condition when closing or opening the valve.
- 5.4 After installation, globe control valve shall go through sealing performance test. The test data shall be documented for future reference.

6) Repair & Troubleshooting

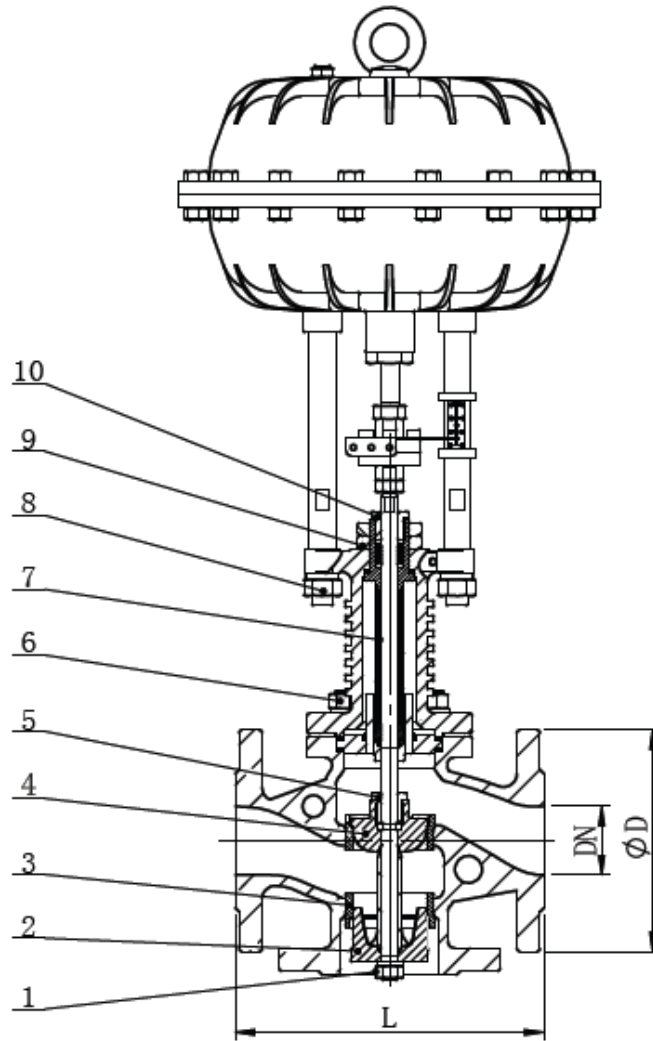
- 6.1 This product's malfunction might be due to two factors:
 - a. Stem sealing worn out which cause a leakage
 - b. Valve internal leakage due to erosion at the plug and seat surfaces.
- 6.2 Repair solution:
 - 6.2.1 Follow sequence to open part no.8, no. 9, then no. 10. After that, replace the PTFE V-ring or pure graphite packing (repair the leakage at stem).
 - 6.2.2 Dismantle in sequence for part no. 6, no. 5, then no. 1 for replacing the part no. 7 bellows seal.
 - 6.2.3 Replace part no. 2 and no. 4 diverting or mixing plug, followed by part no. 3 seat rings to repair the internal leakage.

Note: Please refer to diagram 7.1 for part number indication

Three Way Pneumatic Actuated Globe Control Valve

7) Structure Diagram

7.1 Part Indication



Operating & Maintenance Manual



Three Way Electric Actuated Globe Control Valve

Model: KT-38

Three Way Electric Actuated Globe Control Valve

Introduction

KT-38, a three way electric actuated globe control valve manufactured under license of Keyvalve Company Limited. It can be categorized into flow diverting type or mixing type. Electric actuator conducts the opening and closing functions of the valve efficiently. By using electronic positioner with potentiometer, it regulates the flow pass through the valve gradually by means of changing its Kv value. Limit switches and position transmitter are applicable when effective position monitoring is needed.

1) Specifications

- 1.0 Type: Three way globe control valve
- 1.1 Actuator: DC motorized electric actuator
- 1.2 Connection: Flange end
- 1.3 Trim material: Stainless steel 304
- 1.4 Plug type: Diverting or mixing plug
- 1.5 Plug and seat sealing: Metal to metal sealing (hardened)
- 1.6 Stem sealing: Bellows with graphite packing, pure graphite, PTFE V-ring
- 1.7 Seat type: Screwed
- 1.8 Pressure rating: PN10 to PN16
- 1.9 Body material: Ductile iron GGG40.3

2) Standards

- 2.1 Design standard: DIN2501, ASME 16.34, GB12235
- 2.2 Face to face standard: DIN3202, ASME B16.10, GB/T12221
- 2.3 Flange standard: EN1092-2, ASME B16.5
- 2.4 Inspection and testing standard: API598

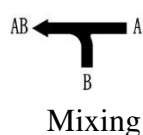
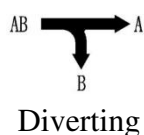
3) Testing

Pressure rating	PN10~PN16	Body test pressure	1.5 x PN
Sealing test pressure	1.1 x PN	Power supply	24VDC, 110V/220VAC
Operating temperature	-20~350 °C	Operating media	Water, steam, oil

Three Way Electric Actuated Globe Control Valve

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- 4.2 Inspect the valve internal parts and sealing surfaces to ensure no blockage or dirt attached.
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- 4.4 Install the valve in accordance to arrow direction shown on valve body with actuator is facing upwards.



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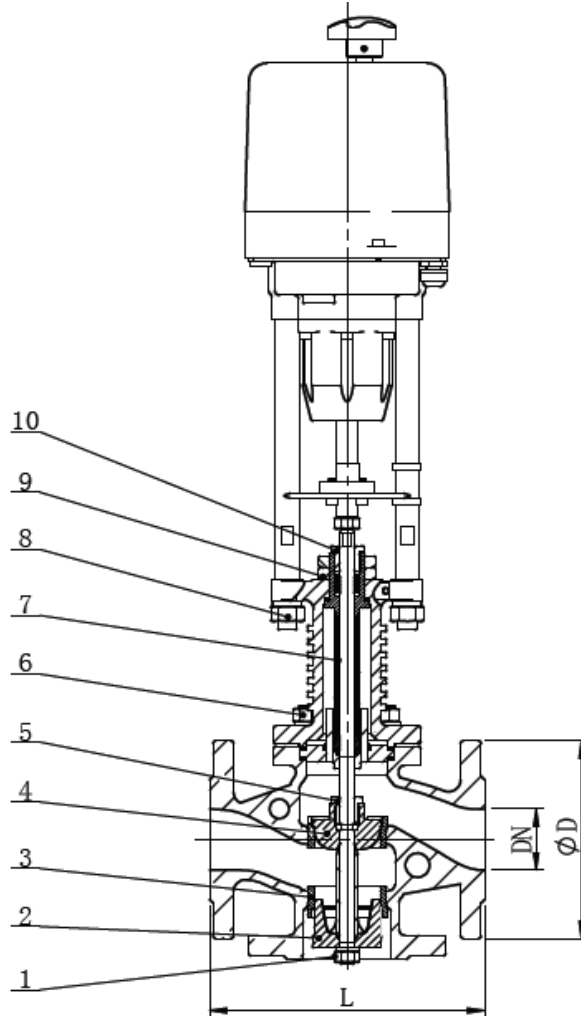
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- Note: Please refer to diagram 7.1 for part number indication.

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7) Structure Diagram

7.1 Part Indication





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