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INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS for TYPE D SERIES VALVES

INTENDED PURPOSE

The Spence D Series Valves are designed for air and steam service. They are direct-acting and are used on small delivery systems where pilot-operated regulators are not practical.

GENERAL DESCRIPTION

The valve is single-seated, normally open, spring-loaded and diaphragm-operated. Delivery pressure is transmitted to the diaphragm through an internal control port connecting the outlet side of the valve body with the diaphragm chamber.

PRINCIPLES OF OPERATION

When steam is turned on, the valve is in the wide open position. Steam flowing to the system creates a rising delivery pressure which feeds back through the control port to the underside of the diaphragm. As pressure on diaphragm approaches a balance with the force exerted by the adjusting spring, the disc is throttled to a position where just enough steam flows to maintain the set delivery pressure.

INSTALLATION INSTRUCTIONS

Carefully, clear inlet piping system of foreign matter and mount valve with flow arrow pointing in the direction of flow. Preferred position is in a horizontal line with spring down. When so mounted, the tendency of sediment to settle in the control parts is practically eliminated.

OPERATING INSTRUCTIONS

On starting up, proceed as follows:

1. Open inlet stop valve gradually until reducing valve takes control as indicated by delivery pressure gage.
2. Adjustment procedure: Turn adjustment nuts clockwise to increase delivery pressure and counter-clockwise to lower it.

TROUBLE SHOOTING

Inadequate flow or delivery pressure:

1. Check initial pressure to see if full intended line pressure is applied at valve inlet.

Reduced pressure builds up:

1. Foreign matter may be lodged between seat and disc. Remove blind flange to inspect.
2. Diaphragm may be ruptured as evidenced by steam discharging in the area of the adjusting spring.

ERRATIC OPERATION

Complete dismantling is recommended:

1. Check for clogged control port connecting body outlet with diaphragm chamber.
2. Check for deposits causing sticking of stem.

DISMANTLING

To change or inspect disc and stem:

1. Remove compression on adjusting spring.
2. Remove adjusting spring.
3. Remove diaphragm bolts; take off cowl and diaphragm.
4. Hold pusher plate with socket wrench or pliers and turn off stem nuts.

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