# Tate Andale, Inc.
# Pressure Control Valve

## Constant Differential Pressure—Variable Flow
## Type FA, SA, ASW, ABW, ASWF Valves

### *Instructions... Parts List... Installation... Operation... Maintenance*

## General

The function of this valve is to automatically maintain a constant pressure-differential at varying rates of flow. When the valve discharges to atmospheric pressure it functions as a spill valve, maintaining a constant upstream pressure. When the valve discharges to a system containing restrictions, orifices, seal or bearing clearances, it serves as a pressure regulating valve, maintaining a constant differential between upstream and downstream pressures regardless of flow. Two or more valves may be manifolded to deliver fluid at their respective pressure differential settings.

The valve functions within the limits of flow set by the size of the valve. The range of pressure differential settings is limited by the valve's spring scale. A setting is made at the factory to control the pressure desired for normal operation. Small changes from the original setting are possible on the site.

## Installation

Valves should be installed to meet the user's requirements. They may be installed in any position. Spill valves should have free unrestricted discharge to atmosphere. Short, direct, adequate piping promotes precise control. Location affects performance. Any question regarding location of the valve in the piping or in relation to other equipment should be referred to **TATE ANDALE, INC.**

## Operation

The valve consists of a body, bonnet, adjusting screw, spring and valve disc. The valve disc is held down against the inlet pressure by the spring which is compressed by the setting of the adjusting screw. When the inlet pressure reaches the valve set point, it raises the disc and automatically establishes a flow of fluid necessary to maintain a constant pressure differential across the valve seat. When this fluid flow varies, the disc raises or lowers to compensate without "hunting" or chattering. The valve operates over a wide range of flows with essentially constant pressure differential.

## Maintenance

Under normal circumstances no maintenance is required. Occasional inspection of internal parts is recommended. When necessary, valve can be removed or replaced as one assembly.

## Adjustment

Stamped on bonnet at "N" is the differential pressure for which the valve was adjusted and tested and dimension "E" of the valve setting when tested.

To change adjustment Remove Cap (82). Unseat Locknut (87) and turn Adjusting Screw (85) clockwise to increase back pressure or counterclockwise to decrease back pressure. Make adjustments slowly. Reseat Locknut (87) and replace Cap (82).

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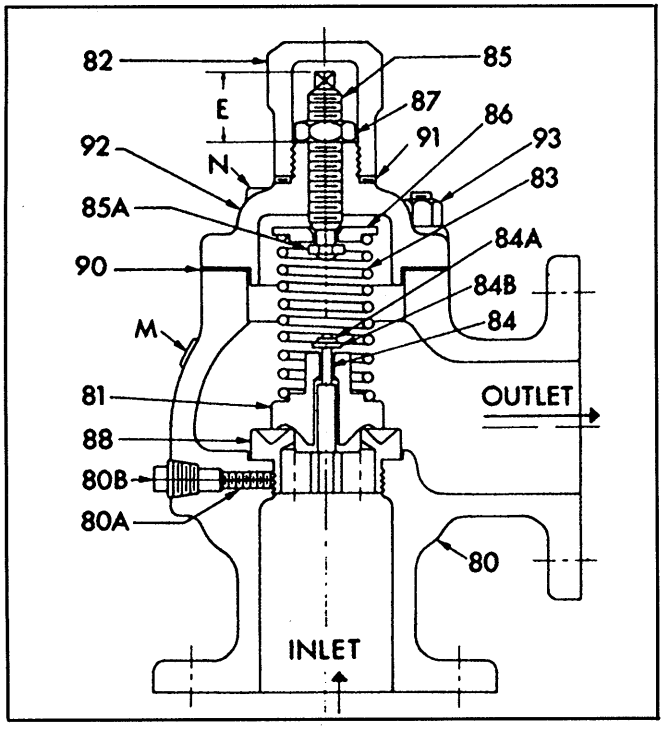
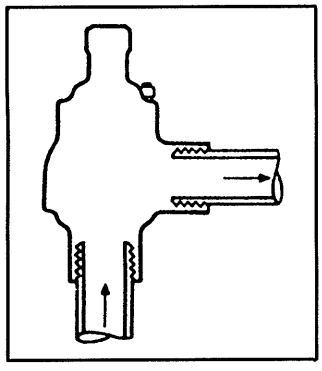
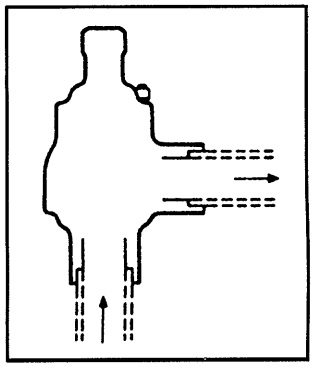


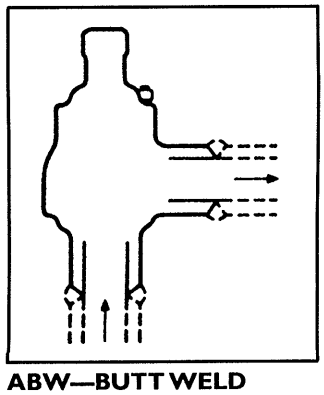

**FA—FLANGED CONNECTIONS**



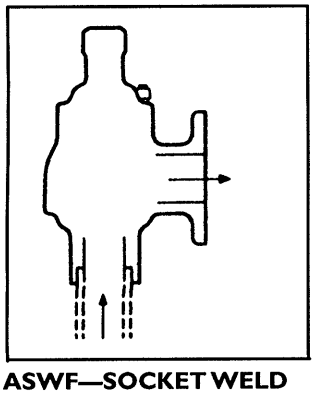
**SA—SCREWED**



**ASW—SOCKET WELD**



**ABW—BUTT WELD**



**ASWF—SOCKET WELD INLET, FLANGED OUTLET**

## PARTS LIST

| | |
|---|---|
| 80 | Body |
| 80A | Hollow Head Set Screw |
| 80B | Pipe Plug |
| 81 | Valve Disc |
| 82 | Cap-Hexagonal |
| 83 | Spring |
| 84 | Plunger |
| 84A | Retaining Ring |
| 84B | Plunger Washer |
| 85 | Adjusting Screw |
| 85A | Adjusting Screw Disc |
| 86 | Spring Disc |
| 87 | Locknut |
| 88 | Seat |
| 90 | Gasket |
| 91 | Gasket |
| 92 | Bonnet |
| 93 | Stud and Hex Nut |

***Except for connections, all internal parts of the five types illustrated here are identical.***

## Disassembly

Access to the Spring (83) and Disc (81) for check on freedom of movement or replacement can be had by removing Hex Nuts (93) and Bonnet Assembly (82, 85, 87, 91, 92, 85A, 86). This does not interfere with valve adjustment. To remove Seat (88), first remove Pipe Plug (80B) and loosen Set Screw (80A) before unscrewing Seat (88). A special tool for this purpose is available from **TATE ANDALE, INC.**

***CAUTION***

***Do not try to separate plunger (84) from seat (88).***

## Assemble in reverse order.

***NOTE***

***Replacement spring may require minor dimensional adjustment from original setting of adjustable screw.***

Inquiries regarding valve should include serial number and all data taken from name plate.

**TATE ANDALE, INC. • (800) 296-TATE • Fax: (410) 247-9672 • E-Mail: tate@tateandale.com**