



Model BV70 Differential Control Valves

Description

The Model BV70 Brodie Differential Control Valves are normally closed valves designed to maintain a controlled pressure differential within $\pm 2\%$.

The pilot is balanced, single seated with large ports and will operate on a differential as low as 5 PSI (34.5 kPa).

Principle of Operation

The Valve is pilot operated and operates on a balanced piston principle, spring biased to a closed position. Pressure differential overcomes the force of the spring, causing the main valve to open and establish flow. The pilot control varies the pressure on the spring side of the piston for position.

“AP” (Aggressive Products) Option

The “AP” option valve cylinder incorporates a combination of seals and o-ring materials to provide optimum performance in aggressive product applications. Specify “AP” Option at time of order when valve is to be used on products which may affect standard seals.

Design Features

- Modular construction -all internal parts including seat ring can be removed with the cylinder assembly without disturbing line connections.
- No diaphragms or stuffing boxes
- 45° body design assures high capacity
- Positive shut-off
- Uniform speed of response
- Linear control characteristics
- Inherently checks reverse flow
- Characterized ports for better low flow response

Applications

The Brodie Model BV70 is recommended for applications requiring valve closure on decreasing pressure differential, such as, pump differential control, LPG or Anhydrous Ammonia vapor control.



WARNING

Do NOT operate this instrument in excess of the specifications listed. Failure to heed this warning could result in serious injury and/or damage to the equipment.

Valve Capacity Data

Valve Size	2"	3"	4"	6"
*Cv-gpm	90	190	315	700

**Cv based on wide open valve utilizing water at 60F (15.6C).*

Ordering Information

In order to accurately process an order, such information as product to be controlled, product viscosity, product temperature range, ambient temperature range, rate of flow, operating pressure, and optional features needed must be specified by the customer.

Materials of Construction

Main Valve Body: Steel-ASTM-A216-GR-WCB
Main Valve Cylinder: 17-4 Stainless Steel, Heat Treated
Main Valve Piston: Stainless Steel
Seat Ring: Stainless Steel
O-Rings: Viton Standard
 (Other elastomers available)
Other Internal Parts: Stainless Steel
Pilot Valve Strainer/Needle Valve Strainer:
 Standard: Steel
Tubings and Fittings: Standard: Steel

Optional Equipment

- Valve Position Indicator
- Position Indicator Switches
- Independent Opening Speed Control
- Stainless Steel Tubing
- Thermal Relief
- Additional Pilot Control Functions
- Pilot Line Isolation Block Valves
- Epoxy coating main valve body unmachined surfaces

Recommended Spare Parts

O-Rings

Pilot Spring Ranges

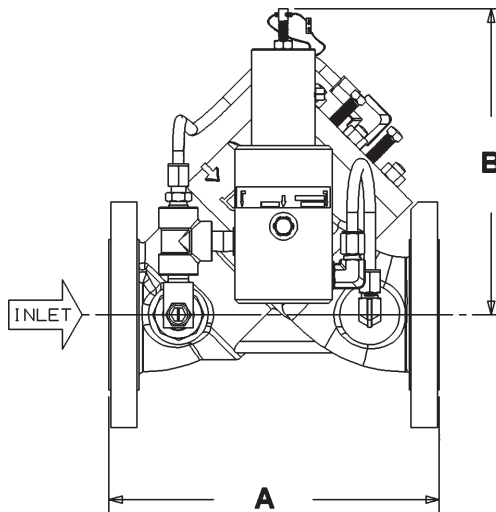
Flange Connections

Valve Size	Maximum Working Pressure at 100F	
	150 # ANSI	300 # ANSI
2" - 6"	285 PSI	740 PSI

150-300 lb. Valves	
(PSI)	(kPa)
0-20	0-138
*0-40	0-276
30-80	207-552
70-180	483-1241
150-350	1034-2413
350-650	2413-4482

* Spring selection based on control pressure set point.

Dimensions (For Certified Dimensional Prints - Consult Factory)



Valve Size	Dimension A				Dimension B	
	150#		300#		150#-300#	
	Inches	mm	Inches	mm	Inches	mm
2"	10 1/4	260	10 1/2	267	10 7/8	276
3"	11	279	13 1/8	333	11.25	286
4"	13	330	14 1/2	368	11.5	292
6"	17	432	17 7/8	454	13 5/8	346



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