

## Technical Data

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### Power Cylinder Operated Valve

#### Model BV28



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#### General

The Model BV28 Power Cylinder Operated Valve is designed to be used where minimum pressure drop is required or applications where it is not practical to use the flowing stream as the power medium to operate a valve. Because the main piston is controlled externally, and by reason of the 45° body design, pressure drop through these valves is extremely low.

Standard power cylinders are designed to operate on 30 psi (207 kPa) minimum for full stroke and are limited to a maximum pressure of 100 psi (689 kPa).

The power cylinder may be operated with electric pneumatic pilot valves to control application or removal of pressure from the cylinder.

#### “AP” (Aggressive Products) Option

The aggressive products valve cylinder incorporates a combination of seals and o-ring materials to provide optional performance in aggressive product applications.

#### Principle of Operation

The valve is pilot operated on a balanced piston principle, with a spring biased power cylinder operator. Spring loading of the power cylinder operator in the BV28 is such that the valve is normally closed. The BV28 Digital Valve is electrically operated from presets or batch control devices. Energizing the solenoids opens the valves. By using presets, the valves can be automatically positioned for low flow start/stop, high flow, and no flow. The solenoids control the position of the power cylinder by applying or venting the power source.

#### Design Features

- Precision flow rate and batch control
- 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
- Linear control characteristics with uniform response speed
- Automatic check valve - no reverse flow
- Fail-safe closes on loss of electrical power
- Characterized ports for better low flow response
- Extremely low pressure drop
- Atmospheric vent prevents mixing of line fluid and power cylinder operating fluid

### Materials of Construction

**Main Valve Body:** Steel-ASTM-A216-GR-WCB  
**Main Valve Cylinder:** 17-4 Stainless Steel  
**Main Valve Piston:** Stainless Steel  
**Seat Ring:** Stainless Steel  
**O-Rings:** Viton Standard  
**Other Internal Parts:** Stainless Steel  
**Power Cylinder:** Stainless Steel  
**Power Cylinder Piston:** Anodized Aluminum  
**Other Power Cylinder Internal Parts:** Stainless Steel

### Optional Equipment

- Thermal Relief

### Recommended Spare Parts

O-Rings

### Flange Connections

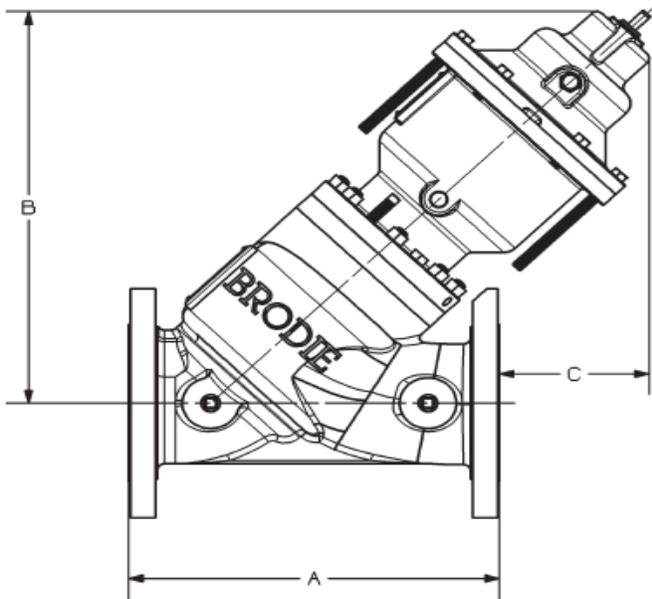
Value Size	Connections	Max Working Pressures @100F	DIN Connections	Max working pressure
3", 4", & 6"	150 lb. ANSI	285 psi	DN 80 - DN 150 PN 25	25 Bar
3", 4", & 6"	300 lb. ANSI	740 psi	DN 80 - DN 150 PN 64	51 Bar

Temperature Range: -20°F to 400°F (-29°C to 204°C)

### Shipping Weight And Volume (Approximate)

Value Size	150 lb. ANSI	300 lb. ANSI
3"	102 lbs. @ 3.35 Cu. Feet	110 lbs. @ 3.35 Cu. Feet
	46.3 kgs. @ 0.095 Cu. Meters	49.9 kgs. @ 0.095 Cu. Meters
4"	120 lbs. @ 3.35 Cu. Feet	135 lbs. @ 3.35 Cu. Feet
	54.4 kgs. @ 0.095 Cu. Meters	61.2 kgs. @ 0.095 Cu. Meters
6"	230 lbs. @ 3.35 Cu. Feet	276 lbs. @ 3.35 Cu. Feet
	104 kgs. @ 0.095 Cu. Meters	125 kgs. @ 0.095 Cu. Meters

### Dimensions (For Certified Dimensional Prints -Consult Factory)



#### Displacement of Power Cylinder - Full Stroke

Valve Size	Piston Displacement Cubic Inches
3"	20
4"	38
6"	51

#### Ordering Information

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

Valve Size	mm	A		B		C	
	inches	150 lb.	300 lb.	150 lb.	300 lb.	150 lb.	300 lb.
3"	mm	279	333	378	375	156	121
	inches	11"	13-1/8"	14-7/8"	14-3/4"	6-1/8"	4-3/4"
4"	mm	330	368	391		134	111
	inches	13"	14-1/2"	15-3/8"		5-1/4"	4-3/8"
6"	mm	432	454	454		95	86
	inches	17"	17-7/8"	17-7/8"		3-3/4"	3-3/8"

#### NOTE:

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.

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