

## Stop Check Valve Information

Stop Check Valves are as essential to safe operation of a boiler plant as safety valves or other safety devices attached to the boiler.

When more than one boiler is connected to the main steam header, a stop check valve should be installed in the pipeline between each boiler and the header.

The valve should always be placed so that the pressure in the boiler is under the disc. Straightway valves may be used in horizontal or vertical lines for upward flow. Angle valves may be used for upward horizontal or horizontal downward flow.

### Features

Valve designed for steam application that operate between 100 psi (9 bar) and 375 psi (26 bar).

The Stop Check feature of this valve requires a minimum of 50 psi (3.5 bar) pressure differential between the piping system and the boiler to operate correctly.

For installation between boilers supplying the same steam header, and positioned with pressure under the disc. Straightway is for horizontal or vertical line with upward flow. Angle valves are for "horizontal-downward" or "upward-horizontal" flow.

These valves will perform the four following important functions:

1. Act as an automatic-non return valve applied as a containment device to prevent gross backflow of steam from main header to boiler in case the boiler fails.
2. Assist in cutting out boiler, when ceasing to fire and boiler is blown down. In this case, valve disc automatically closes to restrict backflow of steam to the boiler.

3. Assist in returning boiler after a shutdown.
4. Restricts backflow of steam from header into boiler which has been shut down and opened or suffered a pressure containment blowout. The check valve feature should not be relied upon for primary shut-off.

Cylindrical shaped disc is the only pressure-actuated part, light in weight with ample guiding surface. It is specially designed to produce a maximum lift at minimum velocities. There are no wing guides to cause "spinning" with resultant rapid wear.

### Notes

**Cylindrical-Shaped Disc** is the only moving part. It is especially designed to produce maximum lift at minimum velocities. There are no wing guides to cause "spinning" with resultant rapid wear.

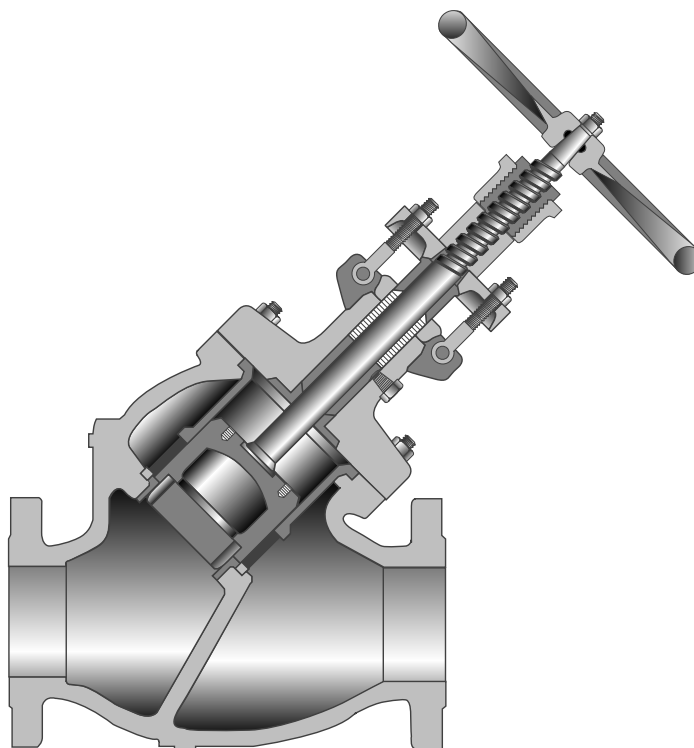
**Long Throttling Lip** on the disc retards flow when seating position is approached. Disc chattering is prevented, and wiredrawing of seating surfaces is reduced.

**Removable Liner** guides the disc throughout the full travel. Being entirely independent of the body, it is not subject to distortion by expansion strains.

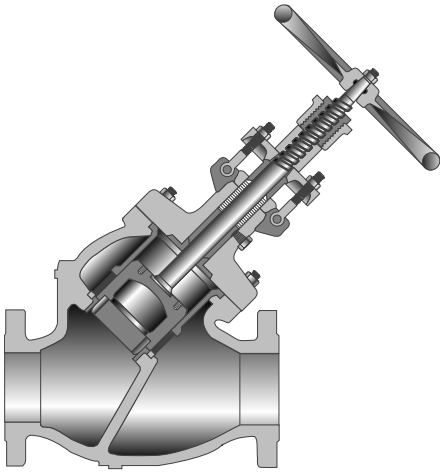
**Piston Ring** adds to dashpot's ability to avoid rapid disc movement and where pulsations are extremely severe, two piston rings can be installed.

**Easy Regrinding Tap Bosses** on top of the disc permit inserting nipples or eye bolts to facilitate quick removal of the disc for grinding.

**Large Port Areas** in the liner produce only a minimum of pressure drop through the valve and assure unrestricted movement of the disc.



## Class 300 • Outside Screw & Yoke • Bolted Bonnet



**Figure 28**  
Flanged  
**Figure 28½**  
Butt Weld

**Size Range:**  
3 through 10 inches  
(80 - 250 mm)

**Pressure Temperature Rating**  
Carbon Steel  
ASTM A216 Grade WCB  
740 psi @ -20°F to 100°F  
(51 bar @ -28°C to 37°C)

### Notes

- Butt weld ends on valves 10" (250 mm) and smaller are bored to match standard pipe unless otherwise specified. For larger valves, diameter (I.D. of pipe) of bore must be specified.
- Sizes 8" and 10" (200 mm & 250 mm), Class 300 are equipped with a hammer-blow handwheel.

### Industry Standards

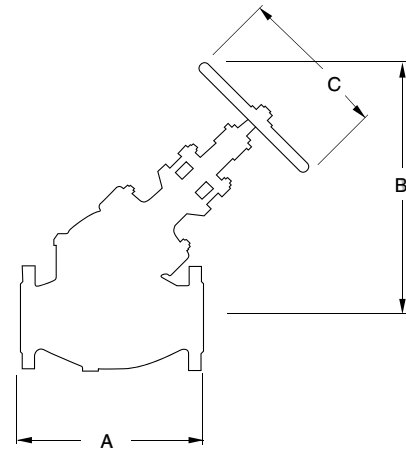
Steel Valves	ASME B16.34
Face-to-Face/End-to-End	ASME B16.10
Flange Dimensions	ASME B16.5
Weld End	ASME B.16.25
Testing	API 598

### Material of Construction\*

Description	Material
Body	ASTM A216 WCB
Bonnet	ASTM A216 WCB
Disc	Hardfaced
Stem	13% Chrome
Body Gasket	Soft Steel
Body Studs	ASTM A194 B7
Body Nuts	ASTM A194 2H
Eyebolts	Carbon Steel
Groove Pins	Carbon Steel
Liner	13% Chrome
Seat	13% Chrome
Gland	13% Chrome
Gland Flange	Carbon Steel
Handwheel	Ductile Iron
Yokesleeve	Bronze

**NOTE:**

\*Standard construction: WCB-Trim 8, other options are available.



### Dimensions and Weights

Inches (millimeters) - pounds (kilograms)

Valves	3 (80)	4 (100)	6 (150)	8 (200)	10 (250)
A	14.75 (374)	17.00 (431)	21.50 (546)	26.00 (660)	30.00 (762)
B	22 (558)	27 (685)	34 (863)	41 (1041)	48 (1219)
C	10 (254)	14 (355)	18 (457)	20 (508)	30 (762)
Wt. (28)	140 (63)	260 (117)	430 (195)	770 (349)	1320 (598)
Wt. (28½)	125 (56)	225 (102)	395 (179)	755 (342)	1265 (573)

# Stop Check Valve

Figures 30  
30½



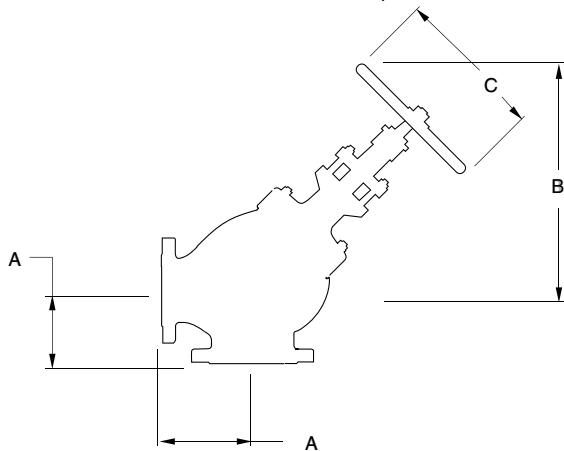
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Seat	13% Chrome
Gland	13% Chrome
Gland Flange	Carbon Steel
Handwheel	Ductile Iron
Yokesleeve	Bronze

**NOTE:**

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### Figure 30

Flanged

### Figure 30½

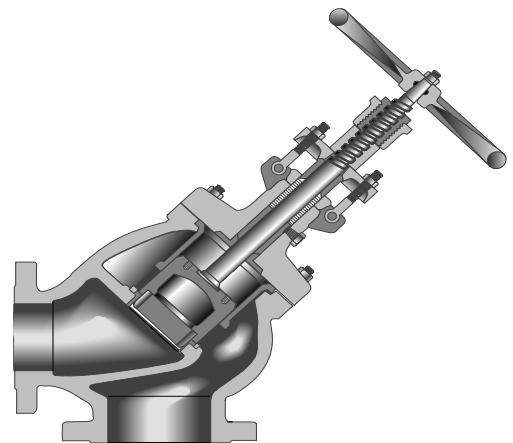
Butt Weld

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3 through 10 inches  
(80 - 250 mm)

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ASTM A216 Grade WCB  
740 psi @ -20°F to 100°F  
(51 bar @ -28°C to 37°C)



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Weld End	ASME B.16.25
Testing	API 598

### Dimensions and Weights

Inches (millimeters) - pounds (kilograms)

Valves	3 (80)	4 (100)	6 (150)	8 (200)	10 (250)
A	6.25 (158)	7.00 (177)	8.75 (222)	10.50 (266)	12.25 (311)
B	17 (431)	21 (533)	27 (685)	32 (812)	38 (965)
C	10 (254)	14 (355)	18 (457)	20 (508)	30 (762)
Wt. (30)	120 (54)	200 (90)	370 (167)	680 (308)	1120 (508)
Wt. (30½)	90 (40)	160 (72)	320 (145)	570 (258)	970 (439)