

PRATT®

Pratt® Tilting Disc Check Valve



**Engineering Creative Solutions
for Fluid Systems Since 1901**



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Pratt® Tilted Disc Check Valve

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Introduction

The Pratt® Tilting Disc Check Valve is the most versatile and reliable check valve Henry Pratt Company has to offer. This valve offers significant energy and cost savings over the life of the valve due to its large flow area and low head loss characteristics. Short disc travel from full open to full close provides the ability to close very rapidly or very slowly to avoid contributing to slamming and surges. The tilting disc check valve is also offered with an upper hydraulic dashpot to aid in disc closure in multiple pump systems even after a power failure. We continue to expand our product offering to those customers who require specialty valves for applications where opening and closing times are critical to control flow reversal and reduce water hammer.

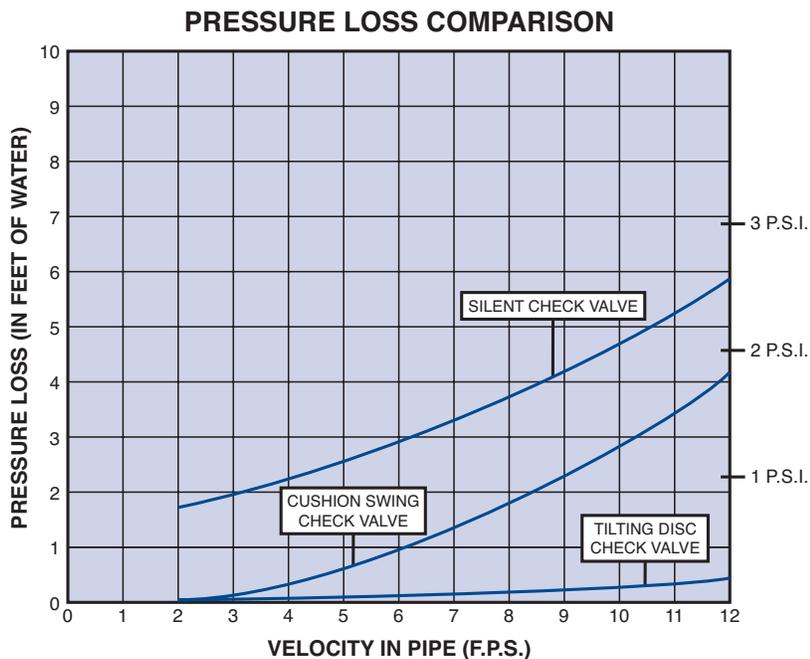


Scope of Line: Pratt Tilting Disc Check Valve

- Available in sizes 4 inches through 60 inches
- Various end configurations available
- Ductile iron body, disc and cover
- Stainless steel disc and body seat rings
- Stainless steel hinge pin
- Other materials available upon request
- Rated working pressure 250 psi

Low Headloss Design Advantage

The Pratt Tilting Disc Check Valve offers significant energy savings compared to other types of conventional check valves because of its larger flow area and low head loss characteristics. The valve achieves full opening when the disc “tilts” in the flow of the media. The tilting disc design through lifting and stabilizing in the full-open position, provides minimal flow resistance.



NOTE: CURVES BASED ON 6 INCH VALVE SIZE FOR ILLUSTRATION PURPOSES ONLY.

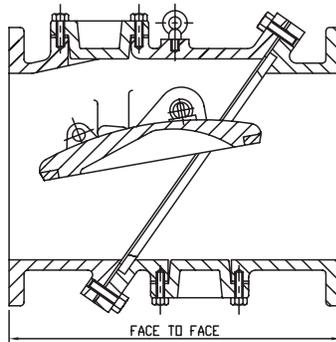
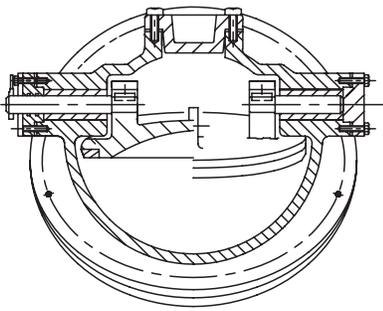
Design Details: Pratt® Tilting Disc Check Valve

| Description | Material |
|-----------------------|-------------------------------------|
| Body | Ductile Iron ASTM A536 Gr. 65-45-12 |
| Disc | Ductile Iron ASTM A536 Gr. 65-45-12 |
| Cover | Ductile Iron ASTM A536 Gr. 65-45-12 |
| Disc Seat Ring | Stainless Steel ASTM A269 Type 304 |
| Body Seat Ring | Stainless Steel ASTM A269 Type 304 |
| Hinge Pin | Stainless Steel ASTM A276 Type 304 |
| Bearing Bush | Bronze B62 |

Other materials available on request.

| Feature | Benefit |
|--|---|
| Variable opening and closing speeds | Short disc travel from full open to full close provides the ability to close very rapidly or very slowly to avoid contributing to slamming and surges. |
| Cushioned closure | Action of the fluid on the disc is balanced due to pivot points that allow for cushioned movement of the disc into the seat. |
| Long body laying length | Permits smooth passage of water with minimum turbulence and low potential for cavitation. |
| Low maintenance | The stainless steel stub shafts do not come in contact with fluid and can be lubricated either manually or automatically. |
| Non-slam characteristics | The design of the seat and hydraulic dashpot cushions the closing forces on the disc to allow for smooth operation. This prevents slamming of the disc into the seat. |
| Low headloss | Minimal effort to keep the disc open is achieved through the balanced disc design that provides light weight lifting properties, which translates to minimal flow resistance. |
| Less risk of reverse flow | Rapid closing of the disc decreases the chance of reverse flow to occur. |

Dimensional Data



| Diameter | Face-to-face Length | Approximate Weight |
|----------|---------------------|--------------------|
| 4" | 11.5" | 135 lbs. |
| 6" | 15" | 160 lbs. |
| 8" | 19.5" | 375 lbs. |
| 10" | 24.5" | 330 lbs. |
| 12" | 24" | 462 lbs. |
| 14" | 30" | 771 lbs. |
| 16" | 30" | 1062 lbs. |
| 18" | 33" | 1200 lbs. |
| 20" | 32" | 1652 lbs. |
| 24" | 38" | 2368 lbs. |
| 30" | 52" | 3525 lbs. |
| 36" | 59.5" | 5177 lbs. |
| 42" | 60" | 5727 lbs. |
| 48" | 65" | 8745 lbs. |
| 54" | 70" | 11345 lbs. |

*May vary with pressure.

Suggested Specifications

General

The check valve shall be of the tilting disc type as manufactured by Henry Pratt Company. The tilting disc check valve shall consist of a circular disc with conical rim, hinged about a fixed pivot above its center-line and offset from the plane of the seat, sealing against a body seat clamped between the two sections of the valve body.

Valve Construction

The body shall be two-piece, consisting of an entrance and a discharge section bolted together at an angle with the pipeline. An O-ring seal in a groove between the body flanges shall be in place to prevent leakage between the flanges when bolted together. The valve shall be complete with ANSI class flanges to mate with adjacent equipment.

A body seat shall be clamped in place in a slot between the two body sections. The body seat shall have a conical finish to mate with the disc seat. There shall be an inspection port provided in both the entrance and discharge sections to provide visual access both upstream and downstream of the disc. An indicator shall be provided to show disc position for the full range of travel. Bosses shall be cast in both the entrance and discharge sections to allow for a top or bottom mounted oil dashpot for controlled opening and closing.

All valve castings shall be ductile iron ASTM A536 Grade 65-45-12. The disc and body seat ring shall be stainless steel ASTM A269 Type 304. The hinge-pin shall be stainless steel ASTM A276 Type 304. The bearing sleeve shall be Bronze B62.

Testing

Seat and leakage testing shall be in strict accordance with AWWA Standard C-508 latest edition for Swing Check Valves. Rated working pressure of the check valve line is 250 psi.

Coating

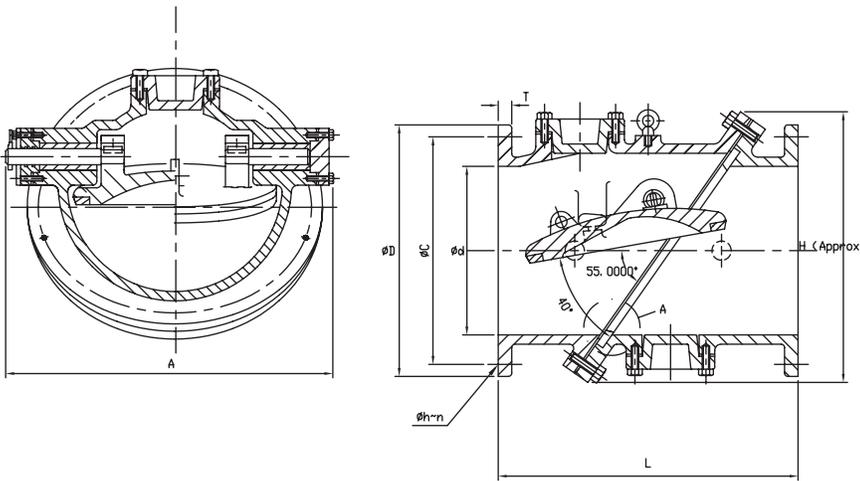
Coating shall be a NSF61 approved epoxy.

Henry Pratt Company reserves the right to change parts and components to improve product performance.

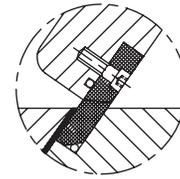
Dimensional Data: Pratt® Tilting Disc Check Valve

These dimensions are correct at time of publication and are not to be construed as certified drawings. Certified drawings available upon request.

4" – 36" Pratt Tilted Disc Check Valve



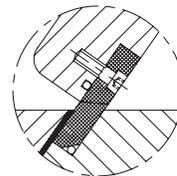
| Size | ANSI B16.1 CL.125 | | | | | | | |
|------|-------------------|-----|-----|-------|----|---------|----|-----|
| Ød | L | ØD | ØC | Øh | n | T | A | H |
| 4 | 11½ | 9 | 7½ | ¾ | 8 | 15/16 | 13 | 10 |
| 6 | 15 | 11 | 9½ | 7/8 | 8 | 1 | 16 | 13 |
| 8 | 19½ | 13½ | 11¾ | 7/8 | 8 | 1 1/8 | 19 | 16 |
| 10 | 24½ | 16 | 14¼ | 1 | 12 | 1 3/16 | 23 | 18 |
| 12 | 24 | 19 | 17 | 1 | 12 | 1 1/4 | 26 | 21 |
| 14 | 30 | 21 | 18¾ | 1 1/8 | 12 | 1 3/8 | 29 | 23¾ |
| 16 | 30 | 23½ | 21¼ | 1 1/8 | 16 | 1 7/16 | 32 | 26¾ |
| 18 | 33 | 25 | 22¾ | 1 1/4 | 16 | 1 9/16 | 36 | 30 |
| 20 | 32 | 27½ | 25 | 1 1/4 | 20 | 1 11/16 | 39 | 32 |
| 24 | 38 | 32 | 29½ | 1 3/8 | 20 | 1 7/8 | 46 | 37 |
| 30 | 52 | 38¾ | 36 | 1 3/8 | 28 | 2 1/8 | 54 | 47 |
| 36 | 59½ | 46 | 42¾ | 1 3/8 | 32 | 2 3/8 | 64 | 51 |



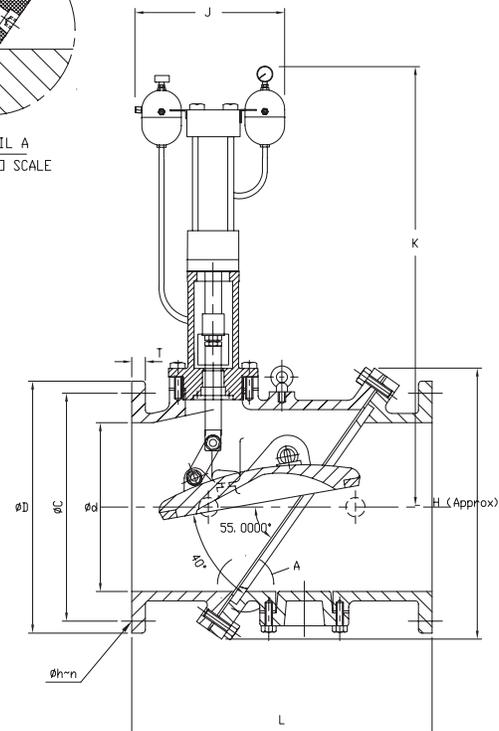
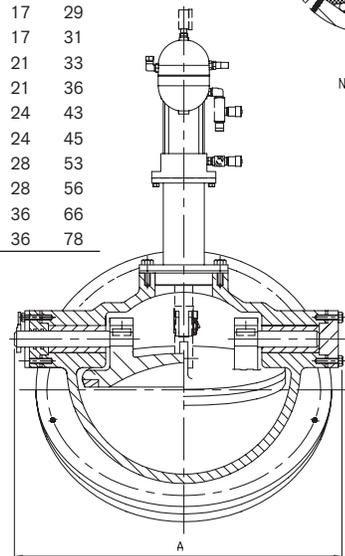
DETAIL A
NOT TO SCALE

4" – 36" Tilted Disc Check Valve with Dashpot

| Size | ANSI B16.1 CL.125 | | | | | | | | | | |
|------|-------------------|-----|-----|-------|----|---------|----|-----|----|----|--|
| Ød | L | ØD | ØC | Øh | n | T | A | H | J | K | |
| 4 | 11½ | 9 | 7½ | ¾ | 8 | 15/16 | 13 | 10 | 12 | 19 | |
| 6 | 15 | 11 | 9½ | 7/8 | 8 | 1 | 16 | 13 | 12 | 23 | |
| 8 | 19½ | 13½ | 11¾ | 7/8 | 8 | 1 1/8 | 19 | 16 | 17 | 29 | |
| 10 | 24½ | 16 | 14¼ | 1 | 12 | 1 3/16 | 23 | 18 | 17 | 31 | |
| 12 | 24 | 19 | 17 | 1 | 12 | 1 1/4 | 26 | 21 | 21 | 33 | |
| 14 | 30 | 21 | 18¾ | 1 1/8 | 12 | 1 3/8 | 29 | 23¾ | 21 | 36 | |
| 16 | 30 | 23½ | 21¼ | 1 1/8 | 16 | 1 7/16 | 32 | 26¾ | 24 | 43 | |
| 18 | 33 | 25 | 22¾ | 1 1/4 | 16 | 1 9/16 | 36 | 30 | 24 | 45 | |
| 20 | 32 | 27½ | 25 | 1 1/4 | 20 | 1 11/16 | 39 | 32 | 28 | 53 | |
| 24 | 38 | 32 | 29½ | 1 3/8 | 20 | 1 7/8 | 46 | 37 | 28 | 56 | |
| 30 | 52 | 38¾ | 36 | 1 3/8 | 28 | 2 1/8 | 54 | 47 | 36 | 66 | |
| 36 | 59½ | 46 | 42¾ | 1 3/8 | 32 | 2 3/8 | 64 | 51 | 36 | 78 | |

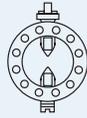


DETAIL A
NOT TO SCALE



Notes

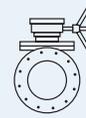
PRATT® PRODUCT GUIDE



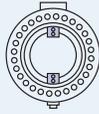
**Model
2FI**



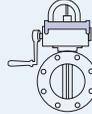
**Monoflange
MKII**



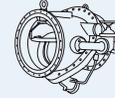
**Plug
Valve**



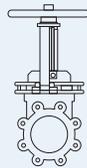
**Triton®
XR70**



**Indicating Butterfly Valve
UL & FM approved**



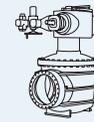
**Tilting Disc
Check Valve**



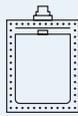
Knife Gate Valve



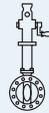
**N-Stamp Nuclear
Butterfly Valve**



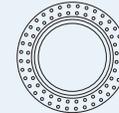
**Cone
Valve**



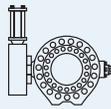
Rectangular



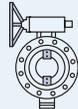
**PIVA Post Indicating Valve Assembly
UL & FM approved**



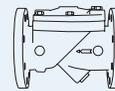
**Sleeve
Valve**



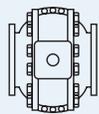
**Rubber Seated
Ball Valve**



**Triton®
HP250**



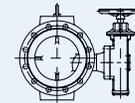
**Check
Valve**



**Metal Seated
Ball Valve**

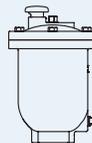


**Control
Systems**



Plunger Valve

PRATT®



Air Valve

Mueller Co.

Reliable Connections®

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