PRATT
Henry Pratt Company

401 S. Highland Avenue
Aurora, Illinois 60506
P 630-844-4000 F 630-844-4160
www.henrypratt.com

Cone Valve Specification

General

The cone valve shall be cast ductile iron construction as manufactured by the Henry Pratt Company. It shall have a full, unobstructed waterway equal in diameter to the size of the valve required.

Elements

The cone valve shall consist of four basic elements in its construction:

Body: The cast ductile iron body shall have a clear, unobstructed waterway in the inlet and outlet flange.

Plug: The plug, which is the conical closing element used within the body, shall have a clear, unobstructed waterway.

Cover: The cover is the method used to encase the plug within the body and support the operating mechanism.

Operating Mechanism: Attached to the cover, this mechanism performs the open and close function for the valve.

Construction

The valve shall be designed to operate under the conditions specified.

The valve body shall have welded monel seats raised above the surface of the casting. The waterway flanges shall conform to ANSI B16.1-CL.125# or 250#.

The plug shall have either one or two seats of welded monel seats, also raised above the surface of the casting. Two seats are used if there is a need to protect the body seat in the open position.

The valve shaft shall be an extension of the upper trunnion. It shall be securely pinned in position and, where it passes through the cover, chevron packing will form a seal.

Bearing stresses shall not exceed 3000 PSIG. The valve can be used in a vertical or horizontal position.

Operation

The operation of the cone valve shall take place by using an axial motion to unseat the plug and lift it above the seat surface. The plug will rotate 90 degrees from the open to the closed position and then re-seat, all in a single operation.

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Materials

Body: Cast ductile iron ASTM A536 GR 65-45-12

Plug: Cast ductile iron ASTM A536 GR 65-45-12

Cover: Cast ductile iron ASTM A536 GR 65-45-12

Seats: Welded monel overlay

Shaft: Stainless steel type 630

Body Bushing: Bronze ASTM B584-C92300

Plug Bushing: Bronze per SAE-660

Scope of the Line

The size range shall be 6˝ to 60˝ diameter. The valve is rated for use in applications up to 300 PSIG and shall have ANSI CL.125# or 250# flanges.

Types of Actuation

The valve shall be actuated by one of the following methods, as specified.

- Hydraulically, using a cylinder for water, air or oil
- Electrically, using a motor operator
- Manually, using a handwheel or AWWA square nut

Testing

With the plug in partially open position and blind flanges on the upstream and downstream waterways, the valve shall be hydrostatically tested using two times the required working pressure for thirty minutes. The casting shall show no sign of leakage or distress. With the valve in the closed position and the working pressure applied to one side at a time, leakage shall not exceed 0.4 oz./min./inch of diameter.