BONETTI®

Piston Valve FACTSHEET

Enersol Flomar™

It's a matter of responsibility.

Overview

Designed originally for marine applications, the Piston Valve was the concept of the Klinger Valve Co. of Austria, and since 1970, they have been manufactured by Cesare Bonetti of Milan. Today, Bonetti manufacture and distribute globally and have an unsurpassed reputation for product quality and longevity; just one of the reasons Enersol Flomar recommends Bonetti Piston Valves.

Like most excellent innovations, the operation of the piston valve is startlingly simple. Most valves rely on a packing box to provide shutoff by closing off and sealing the stem. The piston valve operates via a hand-turned spindle which raises or lowers a piston which has throughways to allow fluid to pass. When the valve is closed, the piston moves down and the throughway is removed from the flow.
Sealing rings, manufactured from alloy reinforced with lamellar graphite, are located at the top and bottom of the cylinder to ensure perfect seating, and therefore perfect shutoff.

Operation is simplicity itself: the handwheel turned clockwise will close the valve. No wheel key is necessary because at full stroke, the piston can travel no further and perfect shutoff will have been achieved.

The valve is not affected by flow direction, and can therefore be used under or over the piston. However we generally advise that the flow be used under the piston to assist with opening.

Advantages of Piston Valves

- SLOW OPENING. This helps to stop water hammer. The valve has a cage unit fitted in which the piston moves, creating a variable orifice by degree as opposed to simply 'open or closed'
- POSITIVE SHUT OFF. The valve has a positive seal between piston and seal the BSI classification is 1V. No other valve type achieves the shut off of the piston valve.
- CAN BE MAINTAINED IN-LINE. The replacement of the piston rings can be carried out in-line by removing the yoke, leaving the body seals and cage in-line. The top seal is removed, the cage unit taken out, the bottom seal removed and new seats simply installed in reverse order.
- NO LEAKS TO THE ATMOSPHERE. Because the top ring has the same leakage classification as the bottom ring the chances of leakage are as good as or better than bellows-sealed valves.
- NO WIREDRAWING ON SEATING FACE. The valve seals on the sides of the piston and not on the flat face. This means that if the valve is left in an 'in-between' position for any length of time, no wiredrawing can occur on the seating face.
- DIN 2533.The valve's 'face to face' complies with DIN standards and can fit any comparable DIN valve

Piston Valves Compared

- BELLOWS-SEALED VALVES.
  Whilst competitively priced, the operational concept is to stop leaks to atmosphere, not to provide positive isolation. Piston valves provide the best isolation.
- PARALLEL SLIDE VALVES
  The constant issue with these valves is not the valves themselves, but usually their operation. Many - arguably most - operators do not understand how they work and many valves are damaged in service. When one factors in the comparative expense, PS valves are seldom a preferred or recommended option.
- STEAM GLOBE VALVES.
  Many manufactures provide steam globe valves, the perceived advantage being one of cost. However the service life is much shorter. Many operators try to regulate with this valve and end up cutting the seat, and this damage does not become apparent until it comes to plant isolation.

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