

Website: www.ValveAndEquipment.com

Val-Matic® Cam-Centric® Rectangular Ported, Eccentric Plug Valves Seating System

The success of the seating systems of an eccentric plug valve is predicated on three factors; the movement of the plug in and out of the seat, positioning of the plug in the seat and the resilient/welded mating surfaces.

Movement of the plug

The movement of the plug in and out of the seat is referred to as eccentric which means off-center. The valve's seat is off-set from the center line of the pivot axis. This off-set provides an eccentric action allowing the plug to rotate in and out of the seated position with minimal rubbing or wear.

Positioning the Plug

To assure a good seal, proper positioning of the plug in the seat must be assured. The Val-Matic® design relies on two factors to accomplish this. Closed positioning is assured by adjustable stops located on the cover for lever actuated valves and on the gear for gear actuated valves. Vertical positioning is provided by thrust bearings located above and below the plug.

Finally, to assure proper position as well as a leak free performance every valve is 100% tested and inspected prior to shipment.

Mating Surfaces

The mating surfaces of the Cam-Centric® Plug Valve are resilient to metal.

The standard resilient surface is a Buna-N facing. The Buna-N formulation was specially developed by Val-Matic® and leading industry rubber experts to assure that the plug would seal time and time again without loosing its original shape and provide maximum abrasion resistance while handling the wide variety of contaminants found in wastewater. Small diameter valves have precision molded plugs to assure an optimum seating surface. Larger sizes which do not lend themselves to molding, are vulcanized and ground to assure a high quality finish. Both provide a smooth surface for excellent seating as well as low torque during movement in and out of the seat.

The valve seat is a welded overlay of 99% pure nickel applied directly to the body on a pre-machined surface and precision machined to a smooth finish.

There are several factors which will impact the quality of a weld. One is the quality of materials. Val-Matic® requires material certifications for both the body casting and the nickel welding wire to assure high quality and consistency. The second factor is the surface. If the surface is not properly prepared the weld will be inconsistent. It is for this reason that the surface is machined prior to welding. The third factor which must be considered is the welding process itself. The temperature and the way the weld is applied are both critical when trying to achieve a high quality weld. A state-of-the-art robotic welding system is utilized which assures that each and every weld will be applied in a consistent manner. The robotic system was developed specifically for Plug Valves. The system took over three years to develop and included the welding of hundreds of test bodies. Upon Completion of development of the prototype, the production system was built, tested and installed at Val-Matic®.

The seating system has successfully completed all of the pressure and cycle proof of design tests in accordance with AWWA C504 and MSS-SP-108.

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Seating System of Cam-Centric® Rectangular Ported, Eccentric Plug Valves

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VAL-MATIC®

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