

It's Easy Being Green

The Chicago Department of Water Management needed a new ball valve and quickly, so they called on Val-Matic Valve & Mfg. Corp. for a green solution.

Built in 1911, the Roseland Pumping Station is located on the south side of Chicago and is the largest of three pumping stations in the city. Roseland Station transports an average of 39,000 million gallons of potable water annually, which is then pumped to over 750,000 Chicagoans throughout the south side of the city and southern suburbs. The station houses five pumps and each pump has a 24" metal-seated ball valve. One of these metal-seated valves was leaking and sticking. Although the seat had been recently replaced, it continued to stick and the overall condition of the valve was progressively deteriorating, thus requiring a full replacement. Fortunately, the perfect solution was only 20 miles away.

Val-Matic Valve & Mfg. Corp is located in Elmhurst, Illinois and is a leader in designing, manufacturing and marketing of quarter turn shut-off valves, air valves, check valves and foot valves for municipal, water/wastewater, power, industrial, and HVAC building applications. The Chicago Department of Water met with Val-Matic to discuss the engineering behind the Ener•G® AWWA Rubber Seated Ball Valve and to witness ball valve testing. Both parties were confident the 24" double seated AWWA Class 150 Ener•G® Ball Valve would be the ideal valve for the application. The Department of Water Management was impressed by the key design features of Val-Matic's Ball Valve and the short leadtime allowed a quick replacement for the failing valve. According to Raymond Rutz, Foreman of Machinists at the Department of Water Management, "The response time was phenomenal. We witnessed the ball valve testing, which was a bonus, and we were able to work with Val-Matic in creating a solution that suited our needs." Significant selling points were the Ener•G® Ball Valve's compatibility with the existing actuator, easily adjustable and replaceable seat, and flow characteristics equivalent to the existing metal-seated ball valve.



Ener•G® Ball Valve installed at Roseland Pumping Station, Chicago, IL

One of the trademark features of the Ener•G® Ball Valve is ease of serviceability. “Replace the seats and hold on to the valves? Boy, these guys were really thinking,” mused Rutz. Adjustment of the resilient seat is easily performed with a torque wrench, unlike many of Val-Matic’s competitors which require hypodermic needles or pressure pots for adjustment. In addition, the valve is coated internally and externally with NSF 61 fusion bonded epoxy per AWWA C550. The materials and engineering of the Ener•G® Ball Valve are specifically designed for continuous service and the fusion bonded epoxy coating is able to withstand the rigors of most liquid applications.



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The Ener•G® AWWA Rubber Seated Ball Valve was developed with over 50 years of combined engineering experience and was designed for tight seating, long life and energy savings. The Ener•G® Ball Valve utilizes resilient seat technology and when fully open the seat is completely out of the flow stream. The seat is fully adjustable or replaceable with minimal downtime and is available in single or double-seated for sealing in one or two directions. The Ener•G® Ball Valve seat utilizes the Tri-Loc™ seat retention system and is secured by three methods: clamp force, through-bolting, and opposing registers in the ball and seat-retaining ring. Tightening the Nylok cap screws provides the clamp force and these same screws provide through-bolting seat retention by passing through the precision molded holes in the Buna-N seat. Finally, molded shoulders in the seat are captured by registers and serrations in the ball and the retaining ring preventing outward movement of the seat (see diagram A).

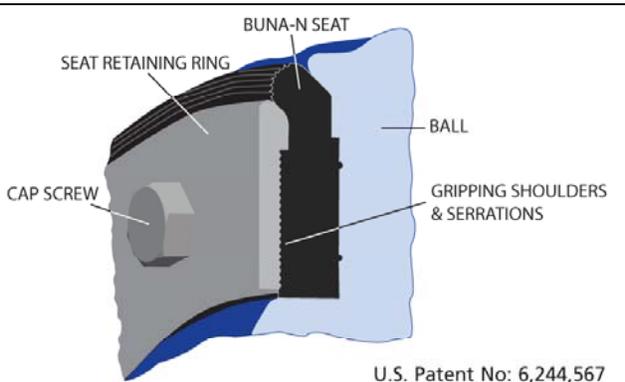


Diagram A – Ener•G® Seat Cross Section

In addition to being easily serviced, the Ener•G® Ball Valve offers long-term energy savings. When fully open, the Ener•G® Ball Valve provides a 100% clear flow area equal to the valve size. Thus, the valve headloss is equal to an equivalent length of pipe and will represent a significant savings in pumping costs. The Ener•G® Ball Valve consumes the least amount of energy of any control valve (less than 1% of the energy of a globe-style control valve). For headloss calculation and energy savings projections, Val-Matic features an Energy Cost Calculator on their website. Users can input data specific to their application and compare the projected energy savings of the Ener•G® Ball Valve to various check, pump control and shut-off valves. To conserve energy and reduce costs, there is no greener valve.



According to Rutz, he was impressed with the availability of the Ener•G® Ball Valve, the design features and the long-term cost savings, and the ability to incorporate the valve into an existing application. “As you go down the line, more seats are beginning to show signs of sticking, so this valve replacement is the first of many to come. We look forward to working with Val-Matic to replace ancient equipment and albatrosses throughout the station.”

Val-Matic Valve & Mfg. Corp. incorporates the latest in valve technology to assure a high-quality valve that will provide a long service life. The Ener•G® AWWA Rubber Seated Ball Valve is certified to rigorous pressure and cycle proof design tests per AWWA C507. Manufacturing technology uses automated process control in the foundry and ISO 9001-2008 controlled manufacturing processes. Every valve is tested in accordance with AWWA C507 on automated hydraulic test rigs with calibrated gauges. For more information regarding the Ener•G® Ball Valve or to take advantage of the Energy Cost Calculator, please visit www.valmatic.com.