MOGAS Design

DATA SHEET

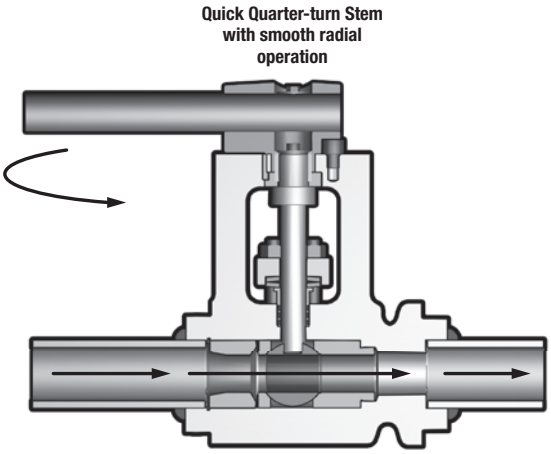
Solves Common Valve Concerns In Power Plants

Ball Valves Outperform and Outlast the Alternatives

- Gate and globe valves are multi-turn, torque seated valves that must seal against line pressure.
  The MOGAS iRSVP is a quarter-turn, position seated ball valve that utilizes pressure assisted sealing.

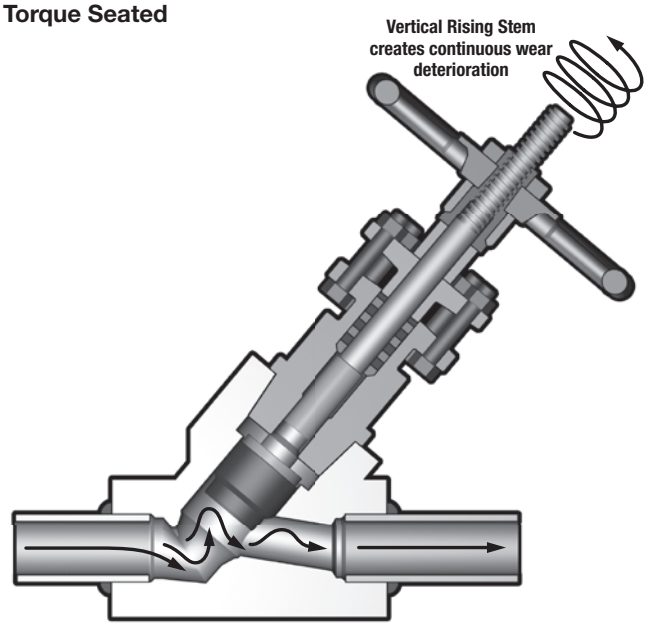
- Since drain valves remain open during start-up and shut-down, gate and globe valves can experience rapid erosion and wear due to primary sealing components being in the flow path of high pressure steam.
  The MOGAS iRSVP offers a straight-through bore path and protects the sealing components from the flow path.

iRSVP
Pressure Assisted Sealing



Straight-through Bore Path

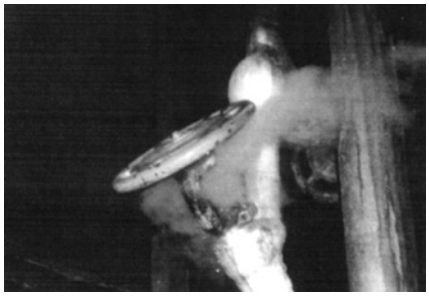
Globe
Torque Seated



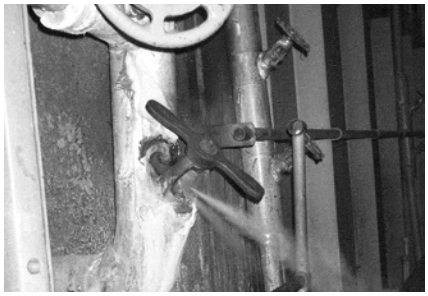
Turbulent and Interrupted Flow Path

Prevents Leaks to Atmosphere

The quick quarter-turn, radial operation of the MOGAS ball valve greatly reduces wear and friction in the packing area. By contrast, the multi-turn rising stem of a globe valve often pulls destructive high pressure steam and pipe scale up through the packing interior diameter damaging the packing material. Additionally, the MOGAS iRSVP offers live loading as a standard. The five-ring packing set includes two anti-extrusion rings and three expanded graphite rings with an adjustable, two-piece packing gland.



Continual stem leaks from globe valves allows plant efficiency to decrease and maintenance costs to rise.



The hazardous effects of high pressure wiredraw and the breakdown of torque seated sealing can create safety concerns and jeopardize the effectiveness of power generation.

MOGAS®
SEVERE SERVICE BALL VALVES

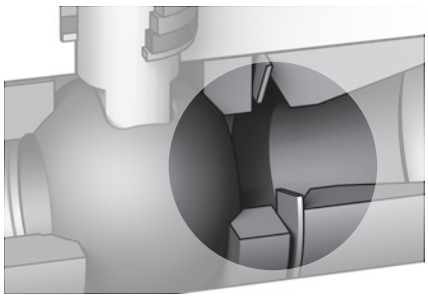
Resolves Seat Erosion

The MOGAS ball valve protects the main sealing surface by keeping the seat out of the flow path when the valve is in the open and closed position. The only time the seats are exposed to flow is during cycling, which is brief due to the quick, quarter-turn operation of the valve. In contrast, Y-pattern globe valves have a turbulent flow path and place primary sealing components in the flow path leading to plug and seat erosion. By protecting your sealing surfaces, you maintain tighter shutoff and extend the service life of the valve.

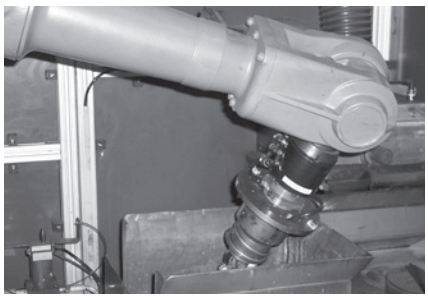
As shown in this competitor's valve, if seats are not protected from constant exposure to high pressure steam, destructive erosion can occur.

Eliminates Valve Seizure

MOGAS ball valves withstand thermal shock even when subjected to sudden swings from minimum to maximum design temperatures or vice versa. The sealing surfaces are of the same materials ensuring the same rate of expansion due to sudden heat.



The seat pocket is designed to allow for thermal shocks while maintaining tight sealing. Zero leakage is created by the Bellville spring pushing the ball into the downstream seat.



All MOGAS balls and seats are mate-lapped to ensure precise sealing. Both hand lapping or robotic lapping (as shown above) are used to provide full contact between ball and seats.

Maintains Absolute Shutoff

The MOGAS ball valve is a floating ball design, which incorporates a Bellville spring behind the upstream seat that provides a mechanical force to push the ball into the downstream seat, thus creating a tight seal. In addition to this mechanical spring force, the floating design enables line pressure to assist in the sealing of the ball and seat, versus the needed torque required in globe valves. Furthermore, the MOGAS ball and seat sealing areas are precision lapped to achieve 100% contact over the entire seat surface, eliminating areas for leaks to develop.

Using the latest technology, this seat is receiving a coating. MOGAS coatings are specially chosen to handle the operating conditions of each application.

Avoids Galled Seats

Our experience leads us to choose materials with higher hardness, producing less chance of galling while increasing wear resistance. The MOGAS seating surface has a hardness up to 69 HRC that ensures protection from scratches and particulate impregnation that can lead to galling and the development of dangerous leak paths. Through continual metallurgical R&D efforts, MOGAS has developed technology to overcome many galling problems.

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