

Proven Expertise



◀ Five large, externally geared, manually operated double disk gate valves were part of an 1874 reservoir construction program designed to protect the reservoir and downstream transmission system. On inspection, three of the five valves were found frozen. Through rehabilitation, testing and operation, all five valves are now operable and control the system as designed.



▲ This 72" butterfly valve did not hold when used on shutdowns. Wachs Water Services inspected the valve and determined that the valve seal had deteriorated. The valve seal was replaced and the valve seal and the valve stops were reset.



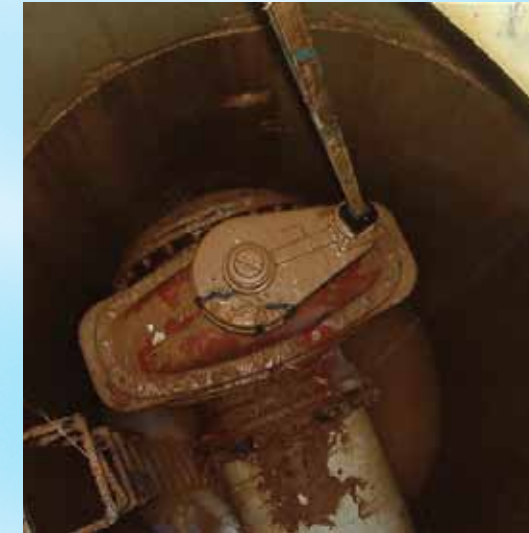
▲ This 54" butterfly valve was originally installed as a nonstandard operating valve (it turned to close in the opposite direction of the "standard close direction"). Wachs Water Services retrofitted the actuator so that it is a system consistent counter-clockwise standard operating valve.

Client Testimonial

"The real value that Wachs Water Services brings to the City is their expertise. After having worked with their team in our distribution system I developed an appreciation for their knowledge of valves which then gave me the confidence to turn them loose on our large transmission mains. None of these valves had been exercised in many years and I don't think we would have tackled them on our own. If we had undertaken valve exercising on our own we would have found many more inoperable valves which would have necessitated unnecessary repair and replacement expense."

Greg Alimenti, Superintendent and Utility Services Director
City of St. Joseph, MI

Large Valve Assessment and Rehabilitation



801 Asbury Drive Buffalo Grove, Illinois 60089

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Unmatched Experience

The operability of large valves is essential to controlling a water system.

Large valves control water transmission lines – the backbone of any water system. Operable large valves provide control of critical assets and reduce the consequences of large diameter main breaks.

Large valves are typically located in vaults/ chambers and exposed to the elements for long periods of time.

Primarily due to this exposure, and potentially not having a routine operating and maintenance process, many large valves in water systems do not function as designed.

Large valves are expensive to replace.

In addition to the substantial cost of the valve itself, the related costs are huge; such as, civil engineering, shutdown of the main, service disruption, traffic management, old valve removal, new valve insertion and safely bringing the system back on line.

Large valves frequently degrade faster than the water main due to the deterioration of moving parts.

Assessment and Rehabilitation Services Include:

- Inspecting and documenting large valves
- Cleaning gearing
- Testing at low, medium, and high torque
- Internal inspections (through a nearby tap using the Investigator™ inspection system)
- Valve raises
- Packing seal replacements
- Replacements (stock and custom sizes) for operating nuts, pinion shafts and gears, and bull gears
- Valve body nut and bolt replacements
- Gear box repairs, refit and replacement of worn or broken components
- Replacement of shear pins for butterfly valves
- Replacement of operators, limitorques, stops set, timing set for auto-shutdowns (electric and manual)

Wachs Water Services Experience

Wachs Water Services has assessed, operated and rehabilitated over 9,000 large valves (16" and larger), of which more than 2,000 valves were 30" and larger.

Our operational processes have proven safe, economical and efficient. Using the Wachs Water Services' process of controlling torque and constantly adjusting to asset response, a high percentage of large valves can be rehabilitated at a fraction of the cost of replacement.

Wachs Water Services has operated over 9,000 large valves for utilities including:

- Houston, Texas
- Baltimore, Maryland
- Washington, DC
- Norwalk, Connecticut
- Detroit, Michigan
- Atlanta, Georgia
- Portland, Maine
- Knoxville, Tennessee
- Tampa, Florida
- Allentown, Pennsylvania
- Kansas City, Kansas
- Charlotte, North Carolina
- Washington Suburban Sanitary Commission



Wachs Water Services makes custom gears and operating nuts for large valve repairs. ▶

Valve Renewal Examples

A pinion gear, bull gear, operating nut, pinion ring retainer, and pinion shaft were replaced on this 36" double disk gate valve. ▶



Before



After

The fractured yoke was replaced on this 36" valve, restoring operability. ▶



Before



After

The small drive gear was frozen, fractured and failed on this 36" large double disk gate valve. The valve was rehabilitated by testing and operating the large drive gear, in a controlled and planned manner. The valve now operates fully using the large drive gear. ▶



Before



After

Two 48" rising stem gate valves that controlled the flow from a reservoir were inoperable. Both valves were disassembled, repaired and reassembled, with a pinion shaft replaced on one. ▶

