



# FlowMaster<sup>®</sup> Resilient Wedge Gate Valve Installation & Operation Manual

AWWA C515 Resilient Wedge Valves through 24" are rated at 250 psi working pressure, 500 psi test pressure. Every valve must be hydrostatically tested at the manufacturer's plant before shipment.

Following these simple instructions will make your job easier:

## Inspection on Delivery

- When you first get the valve, check it for possible damage in shipment, conformance to specifications, opening directions, shortages, etc.
- Carefully unload all valves – do not drop valve – or lift valve using gearing, by-pass or other appendage as a hook.
- Any problems should be reported immediately to the operator or driver and noted on bill of lading, and signed by the driver on your copy.

## Storage

- Valves should be stored inside.
- When possible, keep valves out of the weather.
- In cold climates the inside of the valve must be kept drained of any water to prevent freezing.
- When stored outside, valve stem should be in a vertical position.
- Whenever possible, valves should be covered with a water-proof covering.
- Protect rubber seat of resilient wedge valves from ozone and hydrocarbons (solvents, paints, and oils, etc.)

## Inspection before Installation

- Check to see that the valve end-joints are clean.
- The valve is not damaged.
- Check to see that all valve joints and pressure containing bolting, including bonnet bolts, are tight.
- Open and close valve – make sure it works properly.
- Inspect casting for damage.

## Installation

- Align and support piping adjacent to valves so as not to bend and stress the valve connections.
- Provide a firm footing for the valve.
- After installation and before pressurization, check all pressure containing bolting (bonnet, seal plate and body end connections) for tightness.
- Install valve box so as not to transmit any shock loads or stress to the valve.
- Flush out valve thoroughly to remove any foreign material in the valve or water main.
- With full-line pressure applied to the valve in the open position, inspect the areas around the seal plate, bonnet and body end connections for leakage.
- Use the valve only in the fully open or fully closed position.
- Do not install this valve at the end of a pipeline without adequate restraint and support to prevent the valve from being blown off the end of the line.
- Operate valve through a full cycle periodically to insure proper working order.

## Testing

- Do not backfill valves before hydrostatic system test. Leave the valves exposed while the pipeline is being pressurized.
- Valves can be tested, but not operated, at two times the rated pressure of the valve.
- After testing, steps should be taken to relieve any trapped pressure in the valve.

## Maintenance

- Each valve should be operated through a full cycle and returned to its normal position on a time schedule designed to prevent a buildup of tuberculation or other deposits that would render the valve inoperable or prevent a tight shut off.
- The number of turns required to complete the operation cycle should be recorded and then compared with permanent installation records to ensure full travel.
- Extreme care should be exercised to avoid application of excessive torque to the valve stem when using portable auxiliary power actuators with input torque capacities exceeding the maximum operating torques recommended by AWWA standards.
- Maintenance should be performed at the time a malfunction is discovered to avoid a return trip to the same valve or to prevent forgetting about it altogether.
- A recording system should be adopted to provide a written record of the valves location, condition and maintenance record on each subsequent inspection of that valve.

## Repairs

- Leakage, broken parts, hard operation and other major defects should be corrected by a repair crew as soon as possible after the defect has been reported.
- Provisions should be made to isolate the defective valve from the water pressure and internal trapped pressure prior to performing any corrective maintenance.
- After repair of the valve, the operating mechanism should be cycled through one complete operating cycle.
- With full-line pressure applied to the valve in the open position, an inspection should be made to detect leakage in the areas around the seal plate, bonnet, packing gland, and the body-end connections.
- A record should be made to indicate that the valve has been repaired and is in working condition.

## General Notes

These reference materials are available and should be helpful in the installation and testing of Gate Valve products.

- AWWA C509 Resilient Seated Gate Valves 3" through 30" Nominal Pipe Size.
- AWWA C515 Reduced Wall Resilient Seated Gate valves 3" through 36" Nominal Pipe Size.
- AWWA C600 Installation of Ductile Iron Water Mains and Main Appurtenances.
- MSS SP-92 MSS Valve User Guide.
- AWWA M44 Distribution Valves: Selection, Installation, Field Testing, and Maintenance.
- NFPA-24 – Outside Pipeline Protection Equipment U/L.

These industry practices have been listed to help you make a safe and acceptable installation of a gate valve.