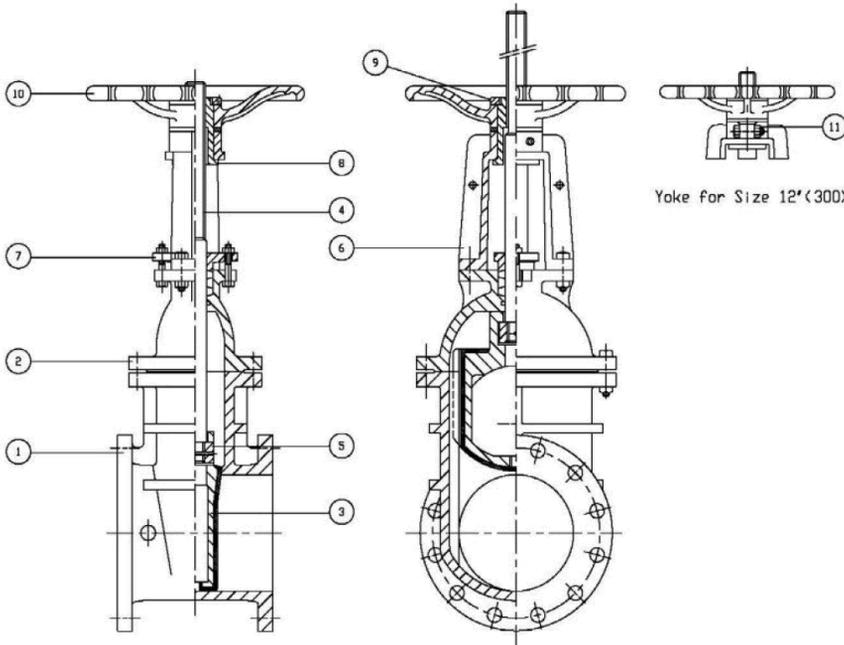


105U UL/FM Cast Iron Gate Valve Operations Instructions



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MAIN PARTS

- | | | |
|-----------|----------------|---------------------|
| 1. Body | 5. Stem Nut | 9. Hand Wheel Nut |
| 2. Bonnet | 6. Yoke | 10. Hand Wheel |
| 3. Disc | 7. Gland | 11. Yoke Bolt & Nut |
| 4. Stem | 8. Yoke Sleeve | |

OPERATION

Gate Valve is operated by turning the Hand Wheel to open or close. When turn Hand Wheel clockwise, the Disc is dropped and the valve is closed, so the flow passage is shut off. When turn Hand Wheel counterclockwise, the Disc is raised. The valve is opened, so the flow passage is open.

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HANDLING

Before dispatched from the factory, the ends of all valves are covered with the protective to prevent entry of foreign materials.

All valves should be carefully unloaded. The valve should be carefully lowered from the truck to the ground, not dropped. In the case of larger valves, forklifts or slings around the body of valve or under the skids should be used for unloading. Only hoists and slings with adequate load capacity to handle the weight of the valve or valves should be used. Do not hook hoists into or fasten chains around bypasses, yokes, gearing, motors, cylinders or hand wheels. Failure to carefully follow these recommendations is likely to result in damage to the valve.

INSPECTION

Valves should be inspected for damage at the time of receipt from shipment. The initial inspection should verify compliance with specification, direction of opening, size and shape of cap /hand wheel, number of turns and type of end connection. A visual inspection of the body and disc seat ring should be performed to detect any damage in shipment or scoring of the seating surfaces. Inspection personnel should look for bent stems, broken cap / hand wheels, cracked parts, loose bolts, missing parts and accessories, and any other evidence of mishandling during shipment. Each valve should be cycled through one complete opening and closing cycle in the position which it is to be installed.

STORAGE

Valves should be stored in the closed position to prevent entry of foreign materials that could cause damage to the seating surfaces. Valves should be stored indoors. If outdoor storage is required, it should be provided to protect operating mechanisms, such as gears, motor, actuators, and cylinders, from weather elements. During outdoor storage, valves should be protected from the weather, sunlight, ozone, and foreign materials. In colder climates, where valves may be subject to freezing temperatures, it is absolutely essential to remove water from the valve stored in cold climates should be stored with the discs in a vertical position. If the discs are in a horizontal flat position, rainwater can accumulate on top of the top disc, seep into the valve body cavity, and freeze and crack the casting.

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INSTALLATION

To install Gate Valve, the following steps should be followed:

1. Remove the protective cover from Body Ends.
2. Clean the internal surfaces, if necessary.
3. Recheck all bolts and nuts for proper tightness.
4. Insert valve and flange gaskets between pipe flanges, install flange bolt nuts and tighten by applying a moderate force, then cross - tighten each nut with proper torque.
5. After completing installation and before pressurize the valve, all pressure containing bolts and nuts should be inspected for adequate tightness to prevent leakage.

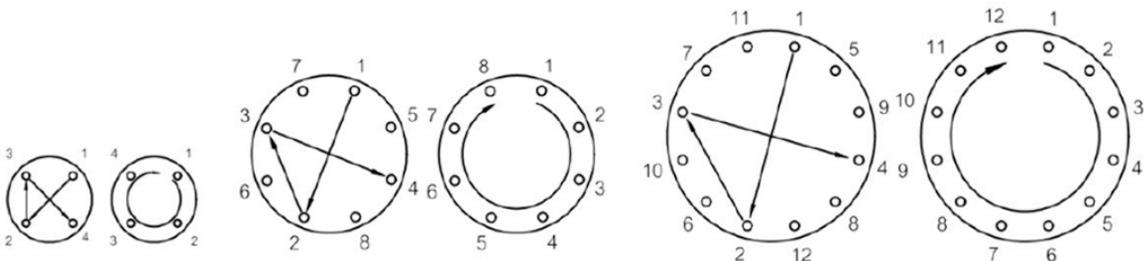
MAINTENANCE

Each Gate Valve should be operated through a full cycle and returned to its normal position on a schedule designed to prevent a build up of tuberculation or other deposits that could render the valve inoperable or prevent a tight shut off.

With the Disc is partially open position, a visual inspection should be performed to check for leakage at all joints, connections, and seal areas. If leakage is observed, all defective O-Rings, gaskets or end connection sealing members should be replaced. If the leakage cannot be corrected immediately, the nature of the leakage should be reported promptly to those who are responsible for repairs.

FLANGE BOLT TIGHTENING METHOD

1. All the flange bolts or studs are inserted around the flange bolt circle.
2. Hand tightens the bolts and nuts.
3. Starting at the 1st bolt, follow a cross-over bolt tightening pattern as shown below.
4. Start at the 1st bolt. Follow a circular bolt tightening pattern. Tighten bolt to firmness.
5. Repeat step 4, as many times as required until equilibrium is achieved.



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PRECAUTION

1. Valves should not be installed for applications or services other than those recommended by the manufacturer.
2. Valves should not be installed in lines where service pressure will exceed the rated working pressure of the valve, because it may cause the valves damaged or exploded.
3. Gate Valve should not be used for throttling service unless the design is specifically recommended for that purpose in advance by the manufacturer.
4. Gate Valve should be operated through a full cycle and returned to its normal position on a time schedule designed to prevent deposits that would render the valve inoperable or prevent a tight shutoff.
5. The number of turns required to complete the operation cycles should be recorded and compared with permanent installation records to ensure full disc travel.
6. When Valve is operated with electric actuator, Torque value should be applied in range of actuator manufacturer's recommend.

SPARE PARTS

There are spare parts as follows Packing or O-ring, Gaskets and other seal.