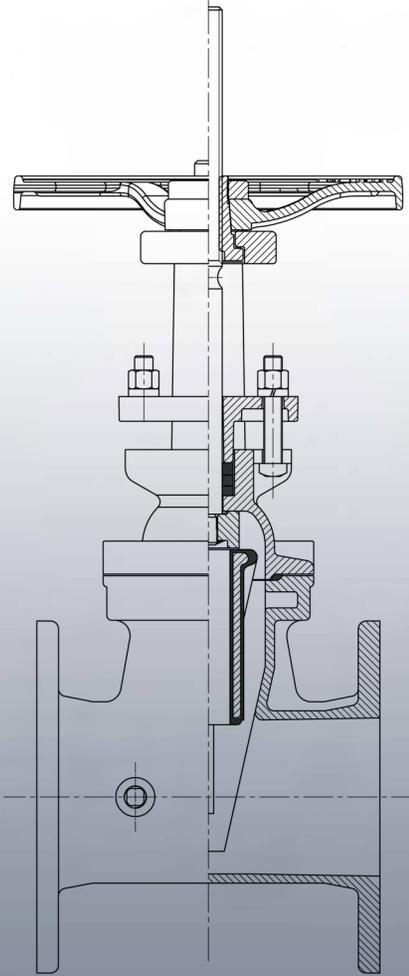
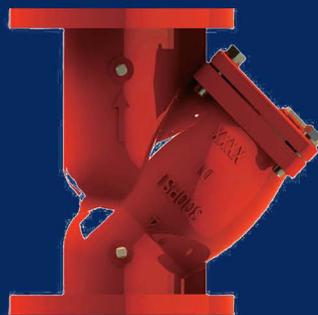


# Century



Model 203  
Resilient Seat OS&Y Gate Valve  
Installation and Maintenance Manual



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# Century

## Operation and installation manual Century OS&Y Gate Valve Model 203

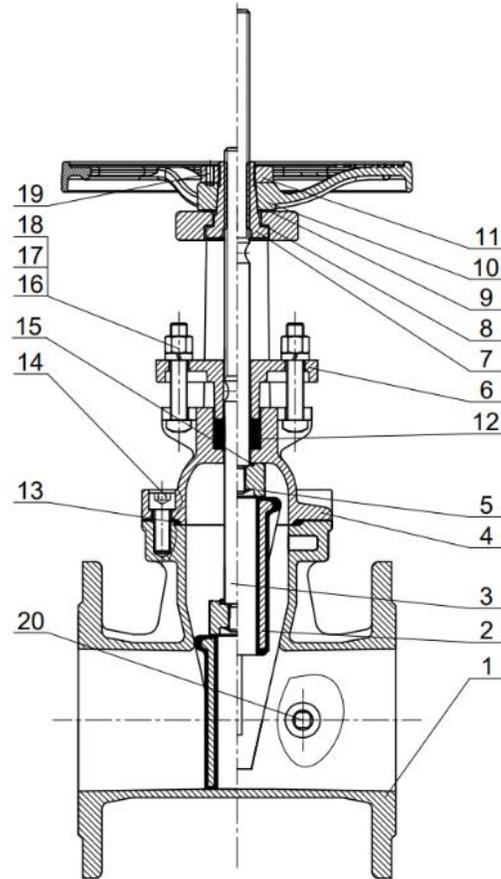
This document is an inspection, installation, and maintenance manual for the Century OS&Y Resilient Seat Gate Valve Model 203. It details the Valve components, their specifications, and proper installation procedures to ensure longevity and functionality. The manual also provides step-by-step instructions for inspection, operation, adjustment and routine maintenance.

Emphasis is placed on safety precautions during all procedures; this will ensure reliable operation and longevity of the equipment.

### **Components:**

The Century OS&Y Resilient Seat Valve Model 203 is made of various parts.

Item	Name
1	Body
2	Wedge
3	Stem
4	Bonnet
5	Disc Nut
6	Gland
7	Stem Nut
8	Stem Nut Washer
9	Handwheel Washer
10	Handwheel
11	Handwheel Nut
12	Packing
13	Gasket
14	Hex. Socket Cap Screw
15	O-Ring
16	Nut
17	SQ Bolt
18	Spring Washer
19	Hex. Cylinder Head Set Screws
20	Plug



## PRE-INSTALLATION INSPECTION

### 1. Proper Storage

If storage is required before installation, position the valve upright on its base flanges. Prior to installation, re-inspect the unit to verify its condition has not changed.

### 2. Inspect for Shipping Damage

Visually inspect the entire valve assembly for any cracks, dents, or other damage sustained during transit. Subsequently, operate the Handwheel (Item 10) through its full range of motion to confirm the Stem (Item 3) rises and lowers smoothly.

### 3. Verify External Hardware

Confirm that all bolts, such as the SQ Bolt (Item 17) on the gland, and other external hardware are secure and have not loosened during shipment.

### Handling Notice

This is a precision-engineered valve. To prevent damage and ensure proper function:

- Handle with care at all times to protect sealing surfaces and external components.
- Lift only by the valve Body (Item 1).
- Never lift, carry, or support the valve by its Handwheel (Item 10) or Stem (Item 3). Applying force to these components can damage the operator and compromise valve alignment.

### Sitting and Orientation

1. **Access and Clearance:** When designing the system layout, ensure the valve is located with sufficient access for operation, adjustment, and maintenance. OS&Y valves require significant vertical clearance above the handwheel to accommodate the rising stem.

2. **Pipe Support:** The valve must be properly supported to prevent pipeline strain on the valve Body (Item 1), which can impair performance or cause damage. Heavy valves may require independent support or anchorage.

3. **Installation Orientation:** This valve may be installed in the following orientations:

- In horizontal pipework with the stem pointing vertically upwards.
- In vertical pipework with the stem in a horizontal position.
- **Note:** Installation in horizontal pipework with the stem also oriented horizontally is not recommended as it may impair shut-off performance over time.

## INSTALLATION GUIDELINES

### 1. Verify Valve Specifications

Before installation, confirm the valve's model, size, pressure rating, and material specifications match system engineering plans.

### 2. Prepare Mating Surfaces

Thoroughly clean the valve flanges and both mating pipe flanges. Ensure all surfaces are free of dirt, rust, or debris that could compromise the seal.

### 3. Select and Inspect Gasket

Use only gaskets rated for the system's maximum operating pressure and temperature. Before installation, inspect the gasket for any defects or damage. Do not use a damaged gasket.

### 4. Align Flanges

Position the valve between the pipe flanges, ensuring the faces are parallel and concentric.

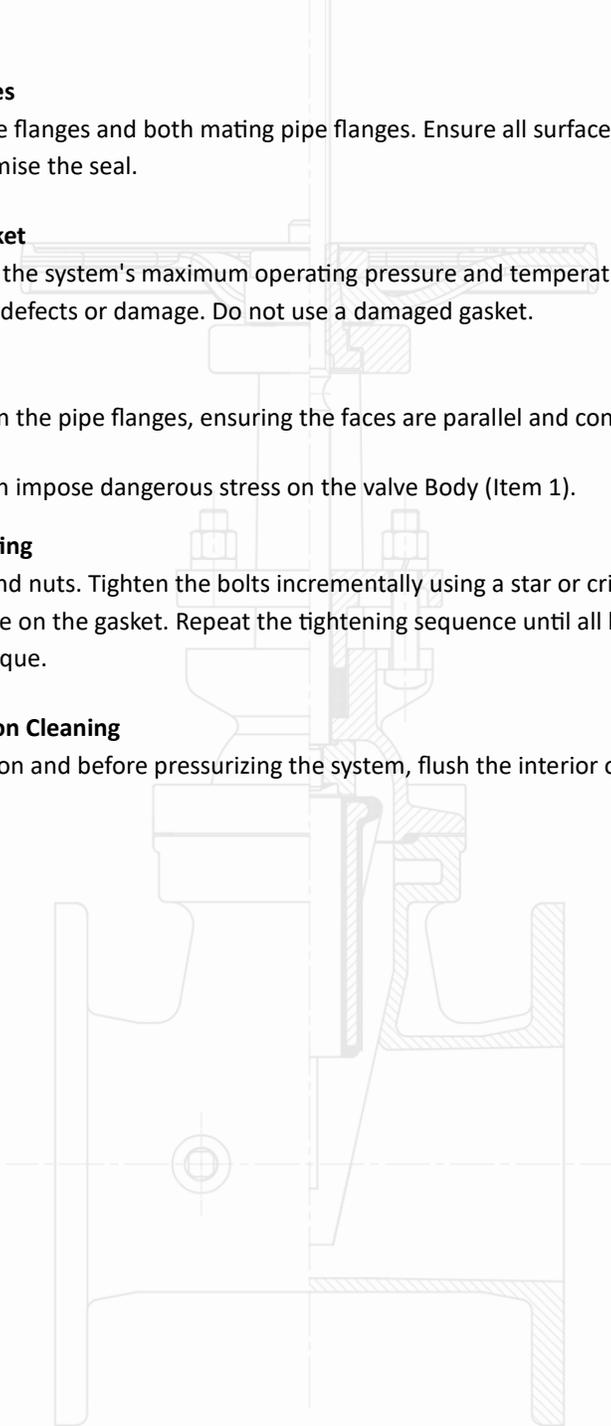
**Caution:** Misalignment can impose dangerous stress on the valve Body (Item 1).

### 5. Install and Tighten Bolting

Install all specified bolts and nuts. Tighten the bolts incrementally using a star or crisscross pattern to ensure uniform pressure on the gasket. Repeat the tightening sequence until all bolts have reached their required torque.

### 6. Perform Post-Installation Cleaning

After completing installation and before pressurizing the system, flush the interior of the valve and piping to remove all debris.



## OPERATING

### 1. Opening Procedure

To open the valve, rotate the Handwheel (Item 10) counterclockwise. The Stem (Item 3) will rise, visually indicating the valve is opening. Continue until the handwheel reaches a firm stop. Once fully open, it is advantageous to rotate the handwheel clockwise approximately one-half turn.

### 2. Closing Procedure

To close the valve, rotate the Handwheel (Item 10) clockwise. The Stem (Item 3) will lower. Continue until the handwheel reaches a firm stop.

### 3. Operational and Safety Notices

- **Prohibited Practices:** Never use wheel keys, "cheater bars," or other leverage devices on the Handwheel (Item 10). Excessive force can damage the Stem (Item 3) and other components.
- **On/Off Service Only:** This valve is for on/off service only. Do not use it for throttling, as this will cause wear to the Wedge (Item 2) and seats.
- **Personal Protective Equipment:** Operators must wear suitable hand protection when operating the valve in extreme temperature environments.

## MAINTAINANCE

### 1. Pre-Maintenance Safety Requirements

Before any maintenance, the valve must be fully depressurized and at ambient temperature. A full risk assessment must be completed.

### 2. Gland Packing Adjustment

If a leak is observed from the Stem (Item 3) where it exits the Gland (Item 6), the packing may require adjustment.

- **Procedure:** Evenly tighten the nuts on the SQ Bolt (Item 17) in small, clockwise increments.
- **Completion:** Continue until the leakage stops. Warning: Do not over-tighten, as this can damage the Packing (Item 12) and score the Stem (Item 3).

### 3. Corrosion and Wall Thickness Inspection

In systems where corrosion is a risk, periodic inspection of the valve's wall thickness is mandatory.

- **Inspection Method:** This check requires either removing the valve from the pipeline or removing the Bonnet (Item 4) from the Body (Item 1).
- **Replacement Criteria:** If wall thickness measurements indicate a material loss of 25% or more, the valve must be replaced.

By following these maintenance steps, your valve will remain in proper working condition and ready to provide service when needed most.

Please contact us at [sales@centuryvalves.com](mailto:sales@centuryvalves.com) for all your valve needs.