

General

HX Series Butterfly Valves have been designed and engineered to provide long-lasting, reliable, trouble-free service when installed, operated, and maintained in accordance with the instructions and specifications contained herein. The following instructions apply to HX Series Butterfly Valves only.



Safety Instructions & General Precautions

CAUTION

Valves may contain or have been exposed to corrosive, toxic, flammable, or otherwise hazardous media. Use extreme care during installation, removal, operation, or service. Failure to follow these instructions may result in personal injury, equipment damage, or environmental release.

Minimum Safety Requirements

- Wear approved eye protection, gloves, and protective clothing.
- Use protective footwear and head protection as required by site conditions.
- Ensure running water is readily available.
- Keep a suitable fire extinguisher nearby when working with flammable media.

Process & Pressure Safety

- Identify the process media before disassembly and review applicable SDS / MSDS information.
- Verify all upstream and downstream pressure has been fully relieved using line gauges.
- Slowly rotate the valve to a partially open position to release any trapped pressure.
- Flush or decontaminate the valve prior to service whenever possible.

Installation & Handling

- Butterfly valves installed in-line may require partial disassembly for removal.
- Valves and accessories must not be used to support piping, equipment, or personnel.
- The use of pressure relief devices is the responsibility of the system designer.

Thermal Considerations

- Use proper insulation in high-temperature applications.
- Follow applicable OSHA and local safety regulations.

Storage & Handling

- Store valves in a clean, dry, indoor environment.
- Keep disc in a partially open position during storage.
- Protect flange faces and sealing surfaces from damage.
- Keep valves in original packaging until installation.

Receiving & Pre-Installation Inspection

Upon receipt of the HX Series Butterfly Valve, inspect the unit prior to installation or operation. Early inspection helps prevent start-up issues and ensures proper performance.

Unpacking & Inspection

Carefully remove the valve and all components from the shipping packaging. Inspect the valve body, disc, seat, and handle components for any visible damage that may have occurred during transit.

Valve ports are shipped with protective covers to prevent contamination and damage. If any covers are missing or damaged, inspect all sealing and mating surfaces closely for debris, nicks, or distortion. Documentation, including manuals and certifications, is available upon request. Retain all documents provided in plant maintenance or quality records for future reference.

Product Components

The HX Series butterfly valve manual valve components:

Item No.	Description
1	Butterfly Valve
2	Plastic Trigger Handle
3	Stainless Steel Trigger Handle
4	Pull Handle



Tools Required

The following tools are required for assembly and service:

- Metric Wrench Set or Adjustable Wrenches
 - Required for 6" body bolt assembly/removal
- Metric Allen (Hex) Key Set
 - Required for 1/2"–6" handle and body bolt assembly/removal
- Torque Wrench
 - For tightening body bolts to specified torque values
- Food-Grade Grease
 - For light lubrication during reassembly

Installation Guidelines

Prior to installation, confirm that the pipeline is clean, properly aligned, and fully depressurized. Position the valve with the disc in a partially open position to protect the seat during installation. Install the valve(s) between mating connections using appropriate gaskets or seals. Tighten bolts or clamps evenly to avoid distortion. Do not overtighten, as this may damage the valve body or sealing components.

Function Testing & Start-Up

Before placing the valve into service, perform the following checks to ensure proper operation:

- Visually inspect the valve and connections for leaks.
- Confirm all fasteners are properly tightened.
- Verify that no components were damaged during installation.
- Ensure the valve pressure rating matches the intended service conditions.
- Slowly introduce process pressure while monitoring for leaks.
- Open and close the manual handle several times to confirm smooth, unobstructed operation through the full 90° rotation.

Lubrication

Lubrication can be applied as needed

- Use approved food-grade grease only.
- Do **not** use mineral- or animal-based lubricants.
- Inspect seals for damage and replace as needed.
- Apply a light, even coat to sliding surfaces; avoid over-application.

Seal Material	Approved Grease
EPDM	Molykote 111
Viton	Molykote 111
Silicone	JAX® PurGel Klear

Valve Orientation & Accessibility

Install the valve with adequate clearance for full handle movement and maintenance access. Improper orientation or restricted space may interfere with operation or serviceability.

Equipment Cleaning Guidelines

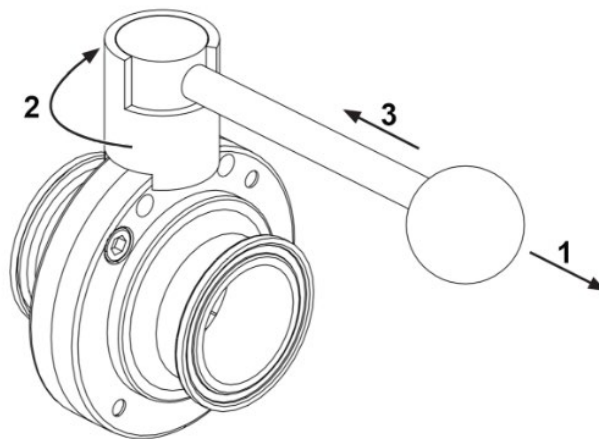
IMPORTANT: Before using this equipment for formal production, follow the steps below to ensure it is clean, safe, and ready for service.

1. **Proper Installation:** Confirm the equipment is installed correctly to allow for thorough cleaning and complete drainage.
2. **Initial Flush:** Rinse the equipment with a suitable cleaning agent to remove any residue from shipping or handling.
3. **Follow Safety Guidelines:** Always follow MSDS instructions for the proper use and handling of cleaning agents.
4. **Product Contact Cleaning:** Flush the product-contact surfaces to remove any remaining soiling. Cleaning times and cleaning agent concentrations will vary based on the material processed. It is the operator's responsibility to determine and adjust cleaning parameters as needed.
5. **Post-Processing Cleaning:** Never leave product in the equipment for extended periods. Clean the equipment promptly after each production run to maintain hygiene and prevent contamination.

Manual Valve Operation

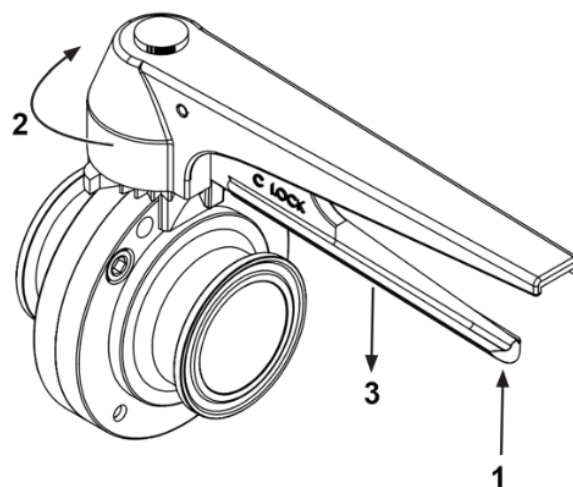
Pull Handle Operation

1. **Disengage the Locking Mechanism**
Pull the handle outward to release it from the current indexed position.
2. **Adjust Valve Position**
Rotate the handle to the required open, closed, or intermediate position.
3. **Re-Engage Lock**
Release the handle and confirm that the spring-loaded plunger seats securely into one of the machined index holes on the handle hub to lock the valve in place.



Trigger Handle Operation

1. **Release the Locking Mechanism**
Squeeze the trigger to disengage the locking arm from the notched (toothed) plate.
2. **Position the Valve**
While holding the trigger, rotate the handle to the desired open, closed, or throttled position (if applicable).
3. **Secure the Handle**
Release the trigger to allow the locking arm to re-engage with the teeth on the index plate. Confirm the handle is fully seated and locked in position before leaving the valve.



Valve - Assembly Procedure

1. Install Seat onto Disc
 - Place the seat (Item 2) onto the valve disc (Item 3).
 - Insert the long stem through the seat opening and stretch the seat over the short stem until fully seated.
 - Apply a light coat of food-grade grease if needed to ease installation.
2. 4" Valve Only – Install Upper Bushing
 - Slide the split upper bushing (Item 4) over the square stem.
 - Ensure it is correctly aligned and fully seated.
3. Install Seat/Disc Assembly into Valve Body
 - With the disc open, press the assembly into one valve body half (Item 1).
 - Apply grease to assist installation.
 - Align and attach the second body half, ensuring the seat is fully captured and centered.
4. Prepare and Install Body Bolts
 - Lightly coat body bolts (Item 10) with food-grade anti-seize just before installation.
 - 6" valves: Use corresponding nuts (Item 5).
 - All other sizes: Thread bolts directly into the tapped body holes.
5. Install Body Cap – Not required for sizes
 - Place the Body Cap between the valve body halves before tightening the bolts
 - Make sure it sits flush with the outside of the body
6. Tighten Bolts
 - Tighten in a star (cross) pattern to ensure even compression of the seat.
 - Torque: 85 in-lbs. for valves 1/2"–6".
7. Verify Operation

Cycle the valve fully open and closed to confirm smooth movement and proper alignment.

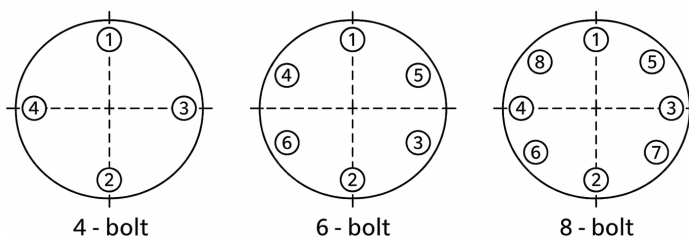
List of Components

Item No.	Description
1	Valve Body
2	Seat
3	Disc
4	Bushing*
5	Nut**
6	Bolt
7	Handle Plate
8	Handle
9	Plastic Plug
10	Bolt
11	Body Cap

*4" Valve Only, **6" Valve Only



Tightening Sequence



Valve - Disassembly Procedure

1. Remove Handle Assembly
 - Loosen and remove the retaining bolt or set screw securing the handle to the valve stem.
 - Lift the handle off and set aside.
2. Loosen Body Bolts
 - Loosen body bolts (Item 10) in a star (cross) pattern to relieve compression evenly.
 - 6" valves: Remove bolts and corresponding nuts (Item 5).
 - All other sizes: Remove bolts from tapped body holes.
3. Remove Body Cap
 - Once bolts are loose, carefully separate the body halves slightly and remove the Body Cap positioned between them.
 - Take care not to damage sealing surfaces.
4. Separate Valve Body Halves
 - Fully separate the two body halves (Item 1).
 - Support both halves to prevent the disc assembly from dropping.
5. Remove Seat/Disc Assembly
 - With the disc in the open position, lift the seat and disc assembly out of the body.
6. 4" Valve Only – Remove Upper Bushing
 - Slide the split upper bushing (Item 4) off the square stem.
7. Remove Seat from Disc
 - Compress the seat (Item 2) between your thumb and forefinger.
 - While compressed, carefully stretch the seat over the short stem and remove it from the disc (Item 3).

Trigger Handle Locking Instruction

Operation & Lockout Procedure

The valve uses a spring-loaded, multi-position trigger handle to rotate the disc 90° for open/close service. The handle locks into indexed notches on the mounting plate.

To Lock the Valve

1. Rotate the handle to the desired position (open or closed).
2. Ensure the handle fully engages in the nearest notch.
3. Slide the lock feature horizontally to align the padlock hole with the body notch.
4. Insert a padlock to secure the handle and prevent movement.
5. Verify the handle cannot rotate once locked.

Notes

- Lock only when the valve is in a confirmed safe position.
- Use a corrosion-resistant padlock suitable for sanitary environments.
- Do not force the handle—ensure proper notch engagement before locking.

