

UNOX DN150

UNOX Lug Type Butterfly Valve DN150 (6") Instruction Manual

Model: DN150 (6"), PN16

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of the UNOX Lug Type Butterfly Valve DN150 (6"). Please read this manual thoroughly before installation or operation to ensure proper function and longevity of the valve.

Lug type butterfly valves are critical components in fluid control systems, offering efficient regulation and control over the flow of liquids or gases. They are designed for industrial applications requiring precise flow management.

2. PRODUCT OVERVIEW

2.1 Key Features

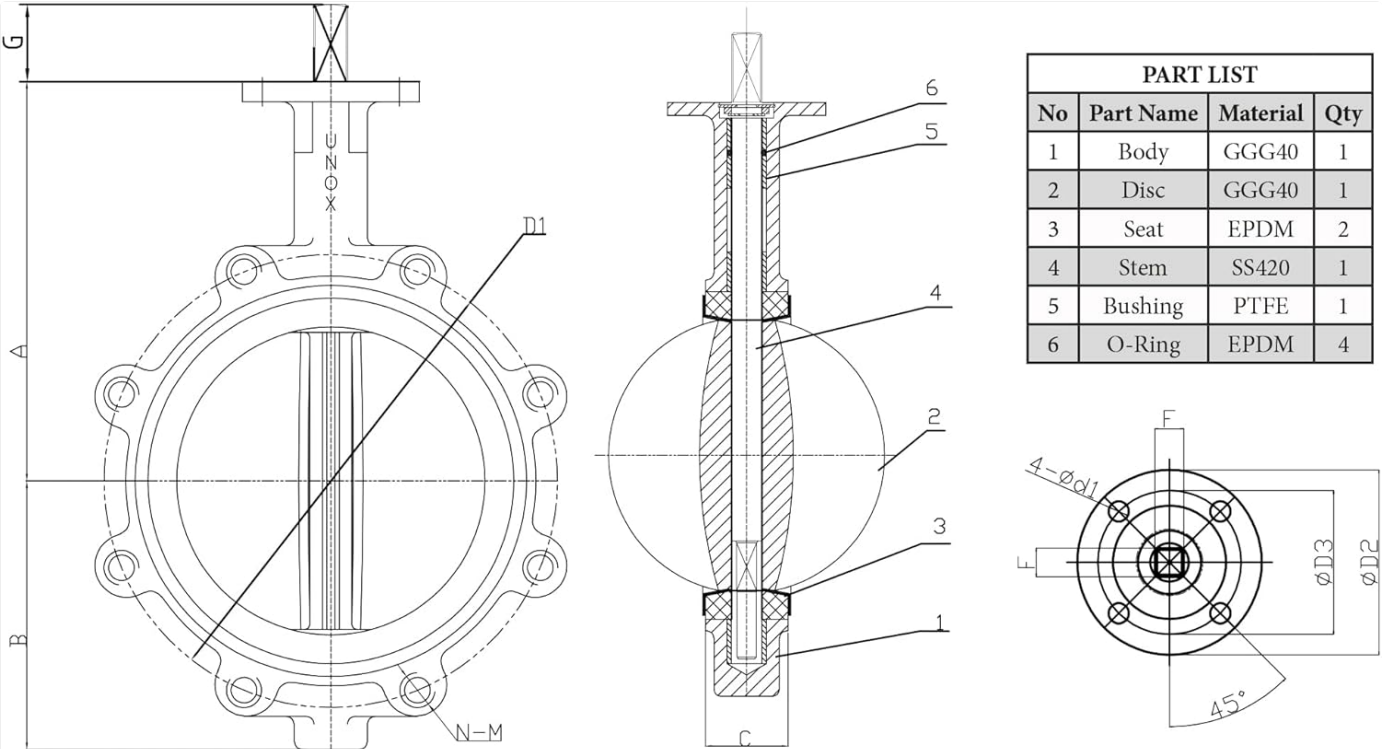
- Premium Build for Industrial Durability:** Constructed with a GGG-40 cast iron body, nickel-plated ductile iron disc, and AISI420 stainless steel shaft, ensuring exceptional corrosion resistance, structural strength, and long-term performance under demanding conditions.
- Precise Flow Control & High-Temperature Resilience:** The nickel-plated disc provides accurate and smooth fluid regulation. The stainless steel shaft maintains stable operation at temperatures up to 120°C, suitable for thermal-intensive industrial systems.
- Secure Sealing for Versatile Media:** Equipped with an EPDM gasket, the valve offers leak-proof sealing across a wide range of media, including liquids, air, and light chemicals, maintaining system integrity under varying pressures.
- Universal Flange Connection Design:** Designed with standardized inlet/outlet flanges for simple and secure integration into industrial, HVAC, water treatment, and chemical processing pipelines.

2.2 Components

The lug type butterfly valve operates through the rotation of a disc around a central shaft. Key components include:

- Disc:** Typically composed of materials like nickel, stainless steel (such as AISI304 or AISI316), or aluminum-bronze (AL-BR), the disc regulates flow.
- Shaft:** Serves as the axis of rotation for the disc.

- **Gasket:** A rubber or plastic gasket seals the disc around the shaft, ensuring fluid containment.
- **Ears/Lugs:** Protrusions covering the entire body of the valve, facilitating easy installation and alignment with flange bolt holes.



Size									PN16		
DN	A	B	C	D2	D3	F	G	4-Ød1	D1	N-M	Torque N/M
mm											
40	130	68	43	65	50	9*9	20	4-7	110	4-16	14
50	130	68	43	65	50	9*9	20	4-7	125	4-16	14
65	140	68	46	65	50	9*9	20	4-7	145	4-16	16
80	145	90	46	65	50	9*9	20	4-7	160	8-16	20
100	166	100	52	90	70	11*11	20	4-10	180	8-16	40
125	210	120	56	90	70	14*14	20	4-10	210	8-16	60
150	225	130	56	90	70	14*14	30	4-10	240	8-20	100
200	260	160	60	125	102	17*17	30	4-12	295	8-20	220
250	295	190	68	125	102	22*22	30	4-12	355	12-20	396
300	345	215	78	125	102	22*22	30	4-12	410	12-20	648

Figure 2.2.1: Technical drawing showing valve components and dimensions. The drawing includes a part list with numbers corresponding to the Body (GGG40), Disc (GGG40), Seat (EPDM), Stem (SS420), Bushing (PTFE), and O-Ring (EPDM).

3. SETUP AND INSTALLATION

3.1 Pre-Installation Checks

- Verify that the valve size (DN150 or 6 inches) and pressure rating (PN16) match the system requirements.
- **Important Flange Compatibility Advisory:** This valve is manufactured according to EN 1092-1 (PN16) flange standards. It may not be directly compatible with ANSI/ASME B16.5 (Class 150) flanges. Confirm flange compatibility before installation.
- Inspect the valve for any visible damage during shipping.
- Ensure the pipeline is clean and free of debris before installation.

3.2 Installation Procedure

1. Ensure the pipeline is depressurized and drained.
2. Align the valve with the mating flanges. The lugs on the valve body facilitate alignment with the bolt holes.
3. Insert the appropriate bolts through the flanges and valve lugs.
4. Tighten the bolts evenly in a star pattern to ensure a proper seal and prevent distortion of the valve body. Refer to industry standards for torque specifications.
5. Ensure the valve disc is in the fully open position during installation to prevent damage.





Figure 3.2.1: UNOX Lug Type Butterfly Valve, ready for installation. Note the distinct lugs for secure flange mounting.

4. OPERATING INSTRUCTIONS

4.1 Manual Operation

The valve is equipped with a manual handle for operation. To open or close the valve, rotate the handle. The disc's position indicates the flow status:

- **Open:** When the handle is parallel to the pipeline, the disc is fully open, allowing maximum flow.
- **Closed:** When the handle is perpendicular to the pipeline, the disc is fully closed, blocking flow.
- **Throttling:** Intermediate positions of the handle allow for throttling or regulating flow rates.

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Video 4.1.1: Demonstration of the UNOX Butterfly Valve with a manual handle. The video shows the valve disc rotating from a closed to an open position, illustrating the flow control mechanism.

4.2 Actuator Compatibility

For automated control, the valve is compatible with pneumatic or electric actuators. Consult the actuator manufacturer's instructions for installation and operation of the specific actuator model.

5. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your UNOX butterfly valve.

5.1 Routine Inspection

- Periodically check for external leaks around the shaft and body connections.
- Inspect the EPDM gasket for signs of wear, cracking, or degradation.
- Ensure all bolts are securely tightened.
- Verify smooth operation of the handle/actuator and disc movement.

5.2 Cleaning

Clean the exterior of the valve as needed to prevent accumulation of dirt or corrosive substances. Use mild cleaning agents and avoid abrasive materials that could damage the finish.

5.3 Gasket and Seal Replacement

If leaks are detected or the gasket shows significant wear, it should be replaced by qualified personnel. Use only genuine UNOX replacement parts to ensure compatibility and performance.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Valve leaking from body/flange connection	Improper bolt tightening; Damaged gasket; Misaligned flanges.	Retighten bolts evenly; Inspect and replace gasket; Realign flanges.
Valve leaking from shaft	Worn shaft seals/O-rings.	Replace shaft seals/O-rings.
Difficulty operating handle/disc movement	Debris in valve; Damaged disc or shaft; Excessive pressure differential.	Inspect for and remove debris; Check for physical damage; Reduce pressure differential if possible.
Incomplete closure/opening	Obstruction; Incorrect stop setting (for actuators).	Inspect valve interior for obstructions; Adjust actuator stop settings.

For issues not listed or if solutions do not resolve the problem, contact UNOX customer support.

7. SPECIFICATIONS

Attribute	Value
Model	DN150 (6 Inches)
Item Model Number	6c6eadf6-ff5c-4e02-bdd3-365a05f10013
Material	GGG-40 Cast Iron Body, Nickel-plated Ductile Iron Disc, AISI420 Stainless Steel Shaft
Gasket Material	EPDM
Maximum Operating Pressure	16 Bars (PN16)
Maximum Operating Temperature	120°C
Inlet/Outlet Connection Type	Flange (EN 1092-1 PN16 Standard)
Number of Ports	2
Valve Type	Butterfly Valve (Lug Type)



Figure 7.1: UNOX Lug Type Butterfly Valve with visible product label.

8. WARRANTY AND SUPPORT

For warranty information, technical support, or to purchase genuine replacement parts, please contact UNOX customer service. Refer to your purchase documentation for specific warranty terms and contact details.

You can also visit the official UNOX store on Amazon for more information: [UNOX Store](#)

