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DuraChoice VBSF1-100

DuraChoice 1" Stainless Steel Flange Ball Valve User Manual

Model: VBSF1-100

INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of your DuraChoice 1" Stainless Steel (316) Flange Ball Valve. Please read this manual thoroughly before installation or use to ensure proper function and longevity of the product.

The DuraChoice 1" Stainless Steel (316) Flange Ball Valve is a 2-piece, 150LB rated valve designed for industrial and scientific applications, particularly in hydraulics, pneumatics, and plumbing systems. Its robust stainless steel construction ensures durability and resistance to corrosion.

PRODUCT OVERVIEW

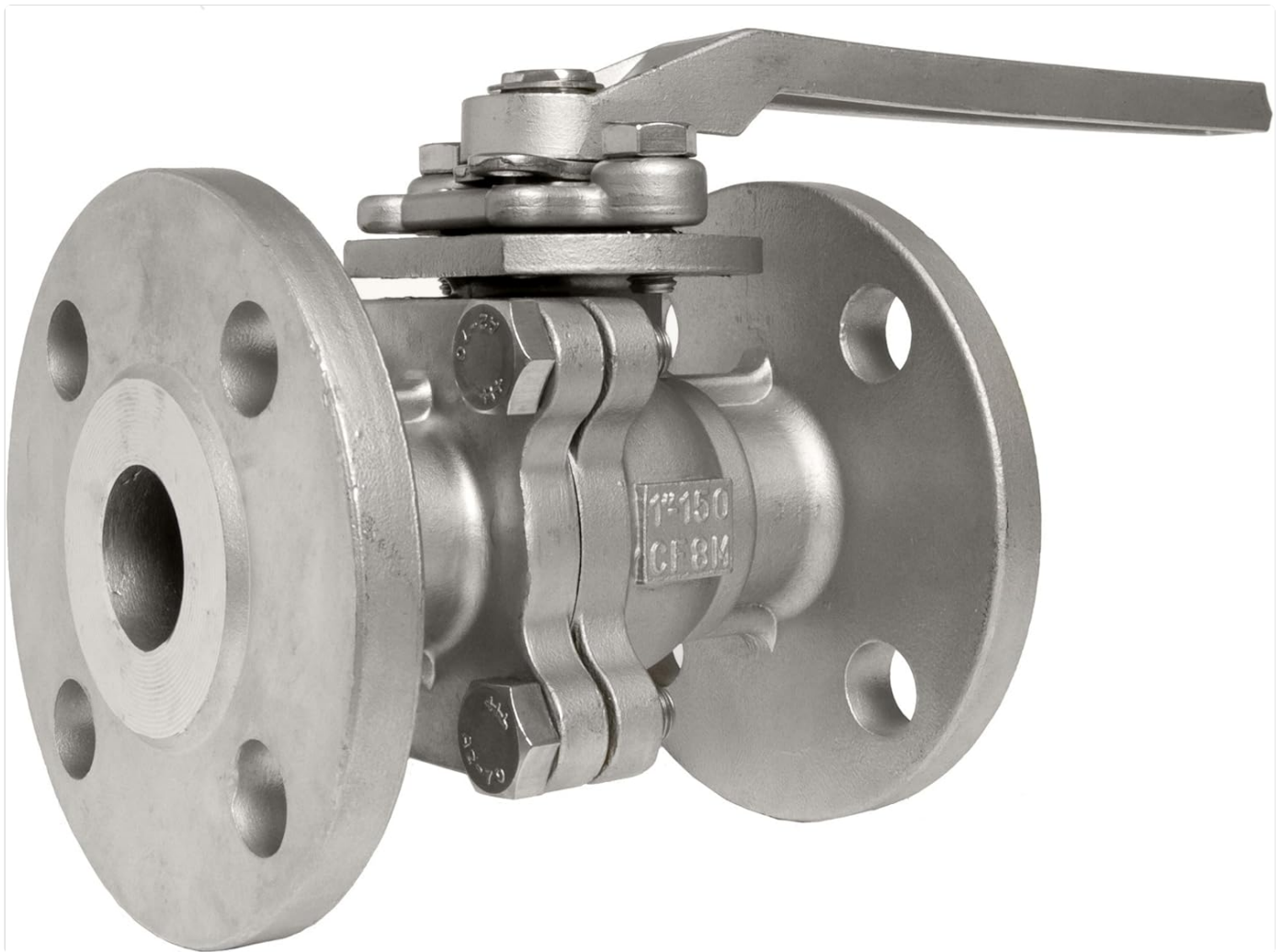


Figure 1: Overall view of the DuraChoice 1" Stainless Steel Flange Ball Valve, showing the main body, flanges, and lever handle.



Figure 2: Close-up view of one of the flanges, highlighting the bolt holes and the sealing surface.



Figure 3: Top view of the valve, showing the lever handle and the bolting mechanism for the valve body.

INSTALLATION AND SETUP

Proper installation is crucial for the safe and efficient operation of the ball valve. Ensure all safety precautions are followed.

Safety Precautions:

- Always depressurize and drain the pipeline before installation or maintenance.
- Wear appropriate personal protective equipment (PPE), including gloves and eye protection.
- Ensure the valve's pressure rating (150LB) is suitable for the system's operating pressure.
- Verify compatibility of valve materials (Stainless Steel 316) with the media being handled.

Installation Steps:

1. **Inspect the Valve:** Before installation, visually inspect the valve for any damage during shipping. Ensure the flanges are clean and free of debris.
2. **Prepare Piping:** Ensure the mating pipe flanges are clean, properly aligned, and free of burrs or sharp edges.
3. **Gasket Placement:** Place appropriate gaskets between the valve flanges and the pipe flanges. Ensure the gasket material is compatible with the system's media and temperature.
4. **Position the Valve:** Carefully lift and position the valve between the pipe flanges. Ensure the valve is properly supported to prevent strain on the piping.
5. **Insert Bolts:** Insert bolts through the flange holes. Use washers under both the bolt heads and nuts.
6. **Tighten Bolts:** Hand-tighten all bolts first. Then, using a torque wrench, tighten the bolts in a star pattern to ensure even compression of the gasket. Refer to industry standards for appropriate torque values for 150LB flanges.
7. **Leak Test:** After installation, slowly pressurize the system and check for leaks around the flange connections.

OPERATING INSTRUCTIONS

The DuraChoice ball valve is designed for simple quarter-turn operation.

- **Opening the Valve:** To open the valve, rotate the lever handle 90 degrees (a quarter turn) until it is parallel with the pipeline. This aligns the ball's bore with the flow path, allowing media to pass through.
- **Closing the Valve:** To close the valve, rotate the lever handle 90 degrees (a quarter turn) until it is perpendicular to the pipeline. This positions the ball to block the flow path, stopping the media.
- **Flow Direction:** Ball valves are generally bi-directional and can be installed in either flow direction.

MAINTENANCE

Regular maintenance helps ensure the longevity and reliable performance of your valve.

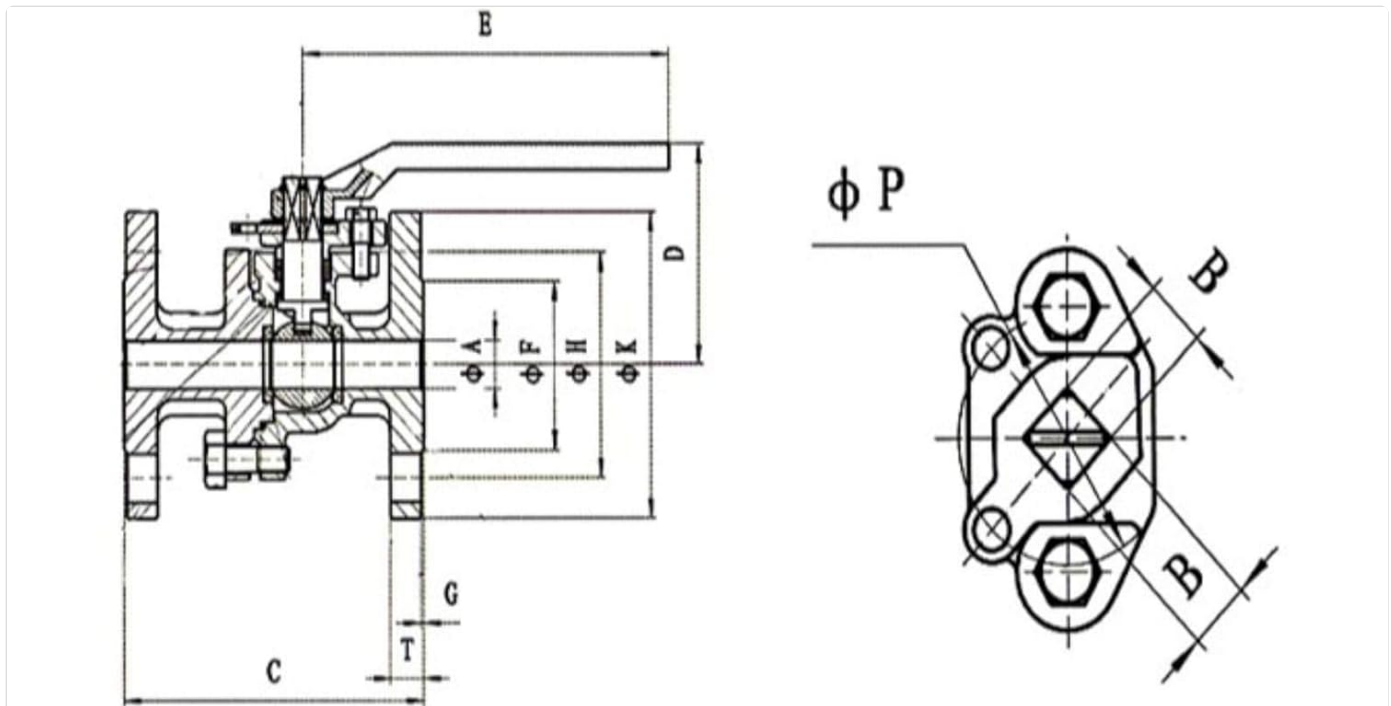
- **Periodic Inspection:** Regularly inspect the valve for any signs of external leakage, corrosion, or damage to the body or handle.
- **Actuator/Handle Check:** Ensure the handle operates smoothly and securely. If the handle becomes loose, check the mounting bolts and tighten if necessary.
- **Cleaning:** Keep the exterior of the valve clean. For internal cleaning, follow system-specific procedures, ensuring the system is depressurized and drained first.
- **Seal Replacement:** If persistent leakage occurs from the stem packing or body seals, professional service may be required for seal replacement.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Leakage from flange connection	Improper gasket installation, damaged gasket, loose bolts, misaligned flanges.	Depressurize system. Inspect and replace gasket if necessary. Re-tighten flange bolts evenly in a star pattern. Ensure proper flange alignment.
Leakage from valve stem	Worn or damaged stem packing.	Contact a qualified technician for stem packing adjustment or replacement.
Valve difficult to operate (turn handle)	Accumulation of debris, internal corrosion, worn internal components.	Ensure system is clean. If problem persists, valve may require professional servicing or replacement. Do not force the handle.

SPECIFICATIONS

Detailed specifications for the DuraChoice 1" Stainless Steel Flange Ball Valve (Model: VBSF1-100).



Dimensions:

Part #	Specifications (inches)	A	B	D	E	P	150 (PN2.0MPa)							
							F	H	K	T	G	N	M	C
VBSF1-050	1/2"	0.59	0.43	2.87	5.12	1.65	1.38	2.38	3.50	0.43	0.08	0.16	0.59	4.25
VBSF1-075	3/4"	0.79	0.43	2.99	5.12	1.65	1.69	2.76	3.86	0.43	0.08	0.16	0.59	4.61
VBSF1-100	1"	0.98	0.55	3.39	6.30	1.97	2.01	3.13	4.25	0.47	0.08	0.16	0.59	5.00
VBSF1-125	1 1/4"	1.26	0.55	3.58	6.30	1.97	2.52	3.50	4.61	0.51	0.08	0.16	0.59	5.51
VBSF1-150	1 1/2"	1.50	0.67	4.69	7.87	2.76	2.87	3.88	5.00	0.59	0.08	0.16	0.59	6.50
VBSF1-200	2"	1.97	0.67	5.00	7.87	2.76	3.62	4.74	5.98	0.63	0.08	0.16	0.75	7.01
VBSF1-250	2 1/2"	2.56	0.87	5.35	7.87	4.02	4.13	5.49	7.01	0.71	0.08	0.16	0.75	7.48
VBSF1-300	3"	2.99	0.87	6.46	12.80	4.02	5.00	6.00	7.48	0.75	0.08	0.16	0.75	7.99
VBSF1-400	4"	3.70	0.87	7.01	12.80	4.02	6.18	7.50	9.02	0.94	0.08	0.31	0.75	9.02

Figure 4: Dimensional drawing of the valve, indicating various measurement points (A, B, D, E, P, F, H, K, T, G, N, M, C).

Attribute	Value
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Attribute	Value
Model Number	VBSF1-100
Size	1 inch
Material	Stainless Steel (316)
Pressure Rating	150LB
Number of Pieces	2
Connection Type	Flange (Inlet & Outlet)
Number of Ports	2
Item Weight	6.19 pounds
UPC	783583830171
Manufacturer	DuraChoice

Dimensional Specifications (for 1" valve, VBSF1-100):

Dimension	Value (inches)
A	0.98
B	0.55
D	3.39
E	6.30
P	1.97
F	2.01
H	3.13
K	4.25
T	0.47
G	0.08
N	0.16
M	0.59
C	5.00

WARRANTY AND SUPPORT

Specific warranty information for DuraChoice products is typically provided at the point of purchase or on the manufacturer's official website. Please refer to your purchase documentation for details regarding warranty coverage. For technical support, product inquiries, or assistance with troubleshooting beyond the scope of this manual, please

contact DuraChoice customer service or visit their official website. Contact information can usually be found on the product packaging or the seller's page.

You can visit the DuraChoice Store on Amazon for more information:[DuraChoice Store](#)

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