

BLOWDOWN VALVES

CAST IRON OR CARBON STEEL BODY

MANUAL OPERATED ROTATING SINGLE DISC VALVES

Pipe size: 1" TO 2-1/2"



REPAIR INSTRUCTIONS

Sheet # BV1_0626

(Refer to the specific valve drawing supplied for your order)

⚠ WARNING: Misuse of this valve may result in equipment damage or personal injury.

i NOTE: Proper installation and regular maintenance are essential for trouble-free operation.

We recommend compliance with applicable State regulations and ASME Boiler Codes.

Proper installation and regular maintenance are essential to ensure trouble-free valve operation. Misuse of this valve may result in equipment damage or personal injury.

The manufacturer provides the following instructions for proper use and relies on the purchaser to ensure that all personnel responsible for operating these valves receive and understand this information.

Valves should be carefully inspected upon receipt for any damage that may have occurred during shipment. Any such damage should be reported to both the carrier and the manufacturer as soon as possible.

These valves are designed to provide a seal against pressure from one direction only. They operate efficiently in blow-off piping systems and in environments where cast iron or carbon steel bodies are acceptable.

- Cast iron Class 250 valves: suitable up to **200 psig**
- Carbon steel Class 300 valves: suitable up to **490 psig** (per ANSI B31.1)

⚠ Directional Installation: These valves must be installed with pressure applied to the inlet side only.

Cast iron valves are not recommended for applications involving pressure or temperature shock (e.g., water hammer or exposure to a fire hose stream on a hot valve).

i Identification: Cast iron valves are marked "INLET" on the body; carbon steel valves have an identification plate.

Part and Repair Instructions

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REPAIR

⚠ WARNING: Shut off upstream pressure, remove the valve, and allow it to cool before servicing.

Valve Part Description Reference

DISC (NO. 8W): The disc has a precision lapped face. It must be mated to a reconditioned seat face that has been ground and lapped. If grinding is not available, a smooth machine cut concentric with the port, can be taken. Tool marks must be lapped out. If a lapping machine is available, the seat face could possibly be restored by lapping ONLY.

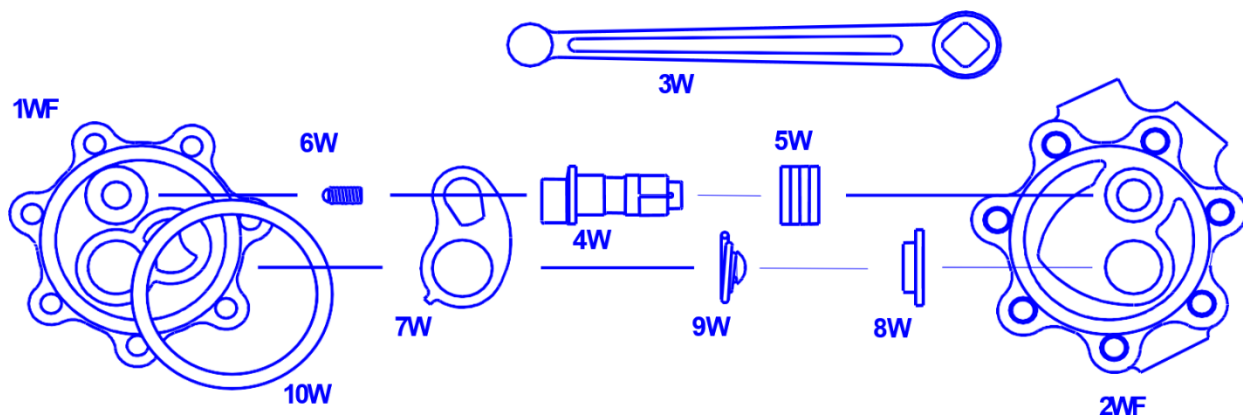
LEVER ARM (NO. 7W): The lever arm is designed with an easy sliding fit over the headend of the post, about 1/64" all around – a perfectly free fit.

INLET BONNET: The gasket face should be cleaned up only when necessary. Max. finish 0.020" is allowable without machining back face.

LUBRICATION: Use Never-Seez® Regular Grade on seat faces, "V"-rings, and post.

"V"-RING SET (NO. 5W): Rotate by hand when assembling to post to avoid damage to lips. Do not force ring on post. Lips of "V"-rings must face inside of valve body.

BOLTING: Tighten body bolts lightly and evenly all around before final tightening.



Description	Part No.
Top Bonnet Threaded, Iron	1W
Top Bonnet Flanged, Iron	1WF
Bottom Bonnet Threaded, Iron	2W
Bottom Bonnet Flanged, Iron	2WF
Operating Wrench, Steel	3W
Post, Forged Bronze	4W
Post Packing Set	5W

Description	Part No.
Post Spring & Rivet	6W
Lever Arm, Ductile Iron	7W
Disc for Iron Valve, Iron	8W
Disc for Steel Valve, 440-C SS	8W
Disc Spring & Rivet	9W
Body Gasket, Corrugated Stainless	10W

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REPAIR-CONTINUED

Valve Removal

Disassembly and Cleaning

- Disassemble and clean all components
- Remove all packing from the stuffing box
- Relap disc and seat surfaces, including bonnet gasket faces

i NOTE: If lapping is insufficient, perform

surface grinding prior to final lapping.

- Smooth sharp edges with a honing stone
- Remove smeared metal (steel valves) by scraping if necessary
- Finish edges with **240-grit silicon carbide paper**

i NOTE: Rough edges must be eliminated to prevent seat damage.

Post Bearing Inspection

- Clearance should be **0.004" to 0.008"**
- If worn, bore and install bushing
- Use bronze where possible; otherwise, cast iron may be used

Seat Bushings

Ensure press-fitted seat bushings are secure and properly seated.

Replacement Parts

Use recommended parts identified in the supplied drawings. Assemble only in a clean environment.

Reassembly

- Clamp bonnet securely
- Install rings with lips facing pressure side (do not damage lips)

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REPAIR-CONTINUED

- Lubricate with NEVER-SEEZ®

Insert assembly carefully into the stuffing box (ensure smooth edges).

For flanged valves:

- Install studs from the seat face side

Verify proper assembly by partially tightening bolts and manually operating the valve.

Bolt Tightening

Tighten evenly using a cross pattern:

Final Assembly

Install operator. For handwheel valves, confirm proper disc centering when closed. Slight overtravel is preferred.

Bolt Size	Torque
1/2" & 9/16"	50 ft-lb
5/8"	100 ft-lb
7/8"	270 ft-lb

Factory Repair Option

If repair facilities are unavailable, return the valve to the manufacturer for refurbishment. Contact the factory for authorization.

Final Review

Before returning to service, review all sections of this manual (**BV-4000, Rev. B**).

TESTING:

Hydrostatic Testing

Valve Class	Material	Body Test (Hydrostatic)	Seat Test (Hydrostatic)
Class 300	Steel	1125 psig	825 psig
Class 250	Cast Iron	750 psig	500 psig