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General Information

Warning and Safety

Dixon Eagle® valves are designed to operate safely when used as intended. To help prevent accidents and injuries, it is vital to understand the intended use and consider factors such as size, temperature, application, media, pressure, and the manufacturer's recommendations when selecting valve assembly components. Dixon® recommends that all valve assemblies be tested according to ASME and API standards and inspected regularly to ensure they remain suitable for use and free from damage.

Warnings

Warnings contain important information related to hazard conditions, procedures, and/or practices that if not followed could result in serious injury or death to personnel or catastrophic damage to equipment or material.



WARNING:

A warning will appear with a red triangle below the information the warning pertains to.

Cautions

Cautions contain important information related to conditions, procedures, and/or practices that if not followed could result in damage to equipment or material.



CAUTION:

A caution will appear with a yellow triangle below the information the caution pertains to.

Notes

Notes contain important information related to conditions, procedures, and/or practices that are intended to provide helpful information, clarification, and/or things to consider.



NOTE:

A note will appear with a black triangle below the information the note pertains to.

Overview

This instruction manual provides information on installation, operation, and maintenance for Eagle H8-Series welded bonnet bellows seal gate valves. While socket weld ends are shown in the diagrams located in this manual, this document applies to all H8-Series bellows seal gate valves from 1/2" to 2" with any type of end connection, i.e., socket weld, butt weld, and flanged connections.

Pressure and temperature ratings are per ASME B16.34 current revision. Refer to current revision of the standard.

For identification of valve parts please refer pages 6 and 7 – Materials and Dimensions – for reference.

For any questions regarding this manual please contact eaglesales@dixonvalve.com for clarification.

General Description

The valve is a welded bonnet gate valve with bellows seal.

Primary stem sealing is accomplished by a bellows seal. Backup (secondary) stem sealing is provided by braided graphite packing.

Storage

To maintain the cleanliness of the valve, do not remove from plastic bag while in storage. Do not remove sealing cap on each end connection until the valve is ready to be installed in the pipeline. The purpose of these sealing caps is to prevent debris from entering the body of the valve.

Installation

Before Installation, inspect welding surfaces of the valve body and piping, flange faces, or threaded surfaces to be certain they are clean and free from any foreign materials.

When welding, the valve should be fully closed. Heat input should be minimized to prevent seat distortion.

Operation

Operate the valve by hand; never use a wrench or other tool to turn the handwheel. Over torquing the valve may cause damage.

To close the valve, turn the handwheel clockwise. To open the valve, turn the handwheel counterclockwise as shown on the nameplate.

The valves should be used in the fully open or closed positions.

If seat leakage is observed after closing the valve, the valve should be cracked open for a short time to flush any dirt or foreign matter which may have collected on the seat. Close the valve hand tight again and check for leakage.

Maintenance

Periodic checks with a bubble leak detector fluid at the packing area are recommended to ensure the integrity of the packing and bellows.

Proper lubrication shall be periodically applied to the stem and yoke sleeve threads using the grease fitting. Ensure the lubricant is compatible with the application.

To replace or add packing online:

- As a precaution, shut down the line in which the valve is operating
- Open the valve fully and make sure it is back seated
- Loosen and remove the gland bolt hex nuts
- Push the gland plate and gland bushing up to the yoke sleeve to expose the packing area
- Add packing or replace packing as needed
- Reinstall the gland bushing and gland plate
- Tighten hex nuts on gland bolts uniformly and evenly, moving from one side to the other

Disassembly

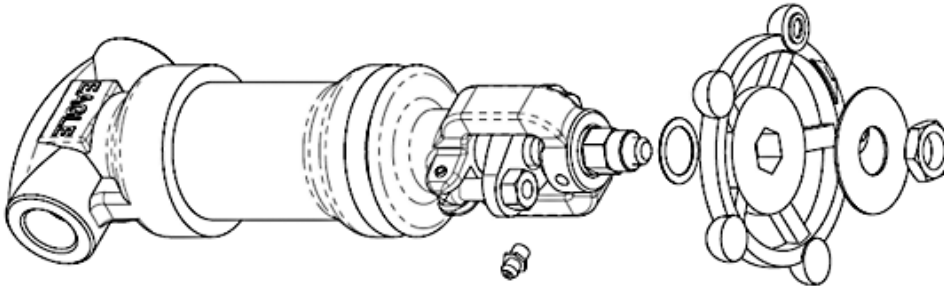
H8-Series gate valves have a welded bonnet design that doesn't allow the replacement or removal of many components. The following disassembly instructions cover the parts that can be removed.



WARNING:

Before starting any work on the valve, ensure plant personnel are aware of the work being performed and complete relief of pressure on the line.

Unfasten the handwheel nut. Remove the nameplate, the handwheel, and the thrust collar. Unfasten grease fitting.



Valve Assembly

Assemble the valve in the reverse of the disassembly procedure described above.

Materials and Dimensions

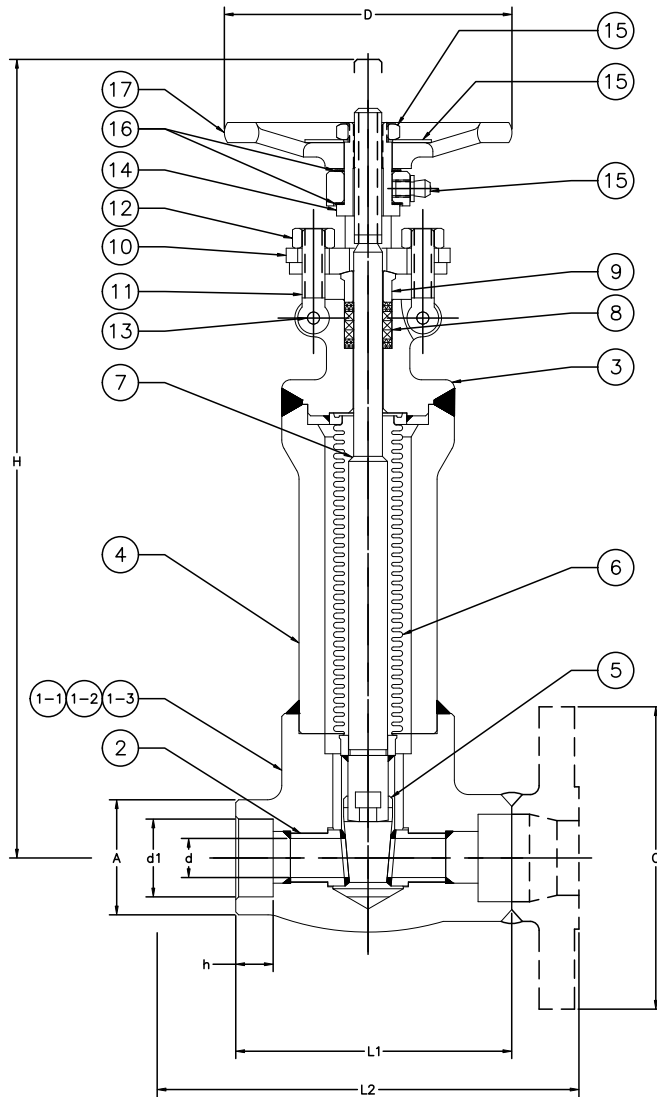
The following drawing and bill of materials contain the materials and dimensions for the H8-Series gate valves, 1/2" to 2".

Refer to Dixon Eagle® valve description key on page 6 for assembly part numbers.

Standard Materials for Carbon Steel H8 Gate Valves

Part Number

Item	Nomenclature	1/2"	3/4"	1"	1-1/2"	2"	Material	Qty.
1-1	socket weld body	---	---	---	---	---	ASTM A105	1
1-2	threaded body	---	---	---	---	---	ASTM A105	1
1-3	flanged body 150 300 600	---	---	---	---	---	ASTM A105	1
		---	---	---	---	---		
		---	---	---	---	---		
2	seat ring	---	---	---	---	---	316 stainless steel/HF	2
3	bonnet	---	---	---	---	---	ASTM A105	1
4	extension	---	---	---	---	---	ASTM A105	
5	gate	---	---	---	---	---	420 stainless steel	1
6	bellows assembly	---	---	---	---	---	321 stainless steel/ 316L stainless steel	1
7	stem	---	---	---	---	---	410 stainless steel	1
8	gland packing	---	---	---	---	---	graphite	1 set
9	gland bushing	---	---	---	---	---	410 stainless steel	1
10	gland plate	---	---	---	---	---	carbon steel	1
11	gland bolt	170021-050	170021-050	170021-100	170021-150	170021-200	410 stainless steel	2
12	hex nut	N23118000X942H	N23118000X942H	N23816000X942H	N23816000X942H	N13816000X942H	ASTM A194 2H	2
13	pin	170023-050	170023-050	170023-100	170023-150	170023-200	410 stainless steel	2
14	yoke sleeve	---	---	---	---	---	410 stainless steel	1
15	grease fitting	170045	170045	170045	170045	170045	commercial	1
16	thrust collar	170029-050	170029-050	170029-100	170029-150	170029-200	410 stainless steel	2
17	handwheel	170044-050	170044-050	170044-100	170044-150	170044-200	malleable iron	1
18	handwheel nut	170031-050	170031-050	170031-100	170031-150	170031-200	carbon steel	1
19	nameplate	---	---	---	---	---	aluminum	1



Socket Weld / Thread Gate Valves

Size	d (in)	A (in)	d1 (in)	h (in)	L1 (in)	H (in)	D (in)	Lift	Wt (lbs)	Cv
1/2"	0.39	1.34	0.855	0.39	3.11	9.8	3.94	0.51	6.4	7.1
3/4"	0.54	1.57	1.065	0.51	3.62	10.9	3.94	0.67	7.2	15.0
1"	0.71	1.93	1.330	0.51	4.37	13.1	4.92	0.87	11.0	25.0
1-1/2"	1.14	2.56	1.915	0.51	4.72	17.0	6.30	1.34	20.0	75.0
2"	1.45	3.07	2.406	0.63	5.51	20.3	7.09	1.69	30.0	120.0

Flanged Gate Valves

Size	150			300			600		
	L2 (in)	C (in)	Wt (lbs)	L2 (in)	C (in)	Wt (lbs)	L2 (in)	C (in)	Wt (lbs)
1/2"	4.25	3.50	9.0	5.50	3.75	11.0	6.50	3.75	12.0
3/4"	4.62	3.88	11.0	6.00	4.62	15.0	7.50	4.62	16.0
1"	5.00	4.25	15.0	6.50	4.88	19.0	8.50	4.88	21.0
1-1/2"	6.50	5.00	26.0	7.50	6.12	34.0	9.50	6.12	36.0
2"	7.00	6.00	40.0	8.50	6.50	48.0	11.50	6.50	51.0

Revision History

Consult Dixon® for the latest issue of this document.

Revision	ECN Number	Description	Date	Changed By	Approved By
0	---	original issue	06/22/2023	UCM	BMS

