



## 3" NPT HydraFlo Bottom Outlet Valve GH50000, GH50002, GH50004, GH50016



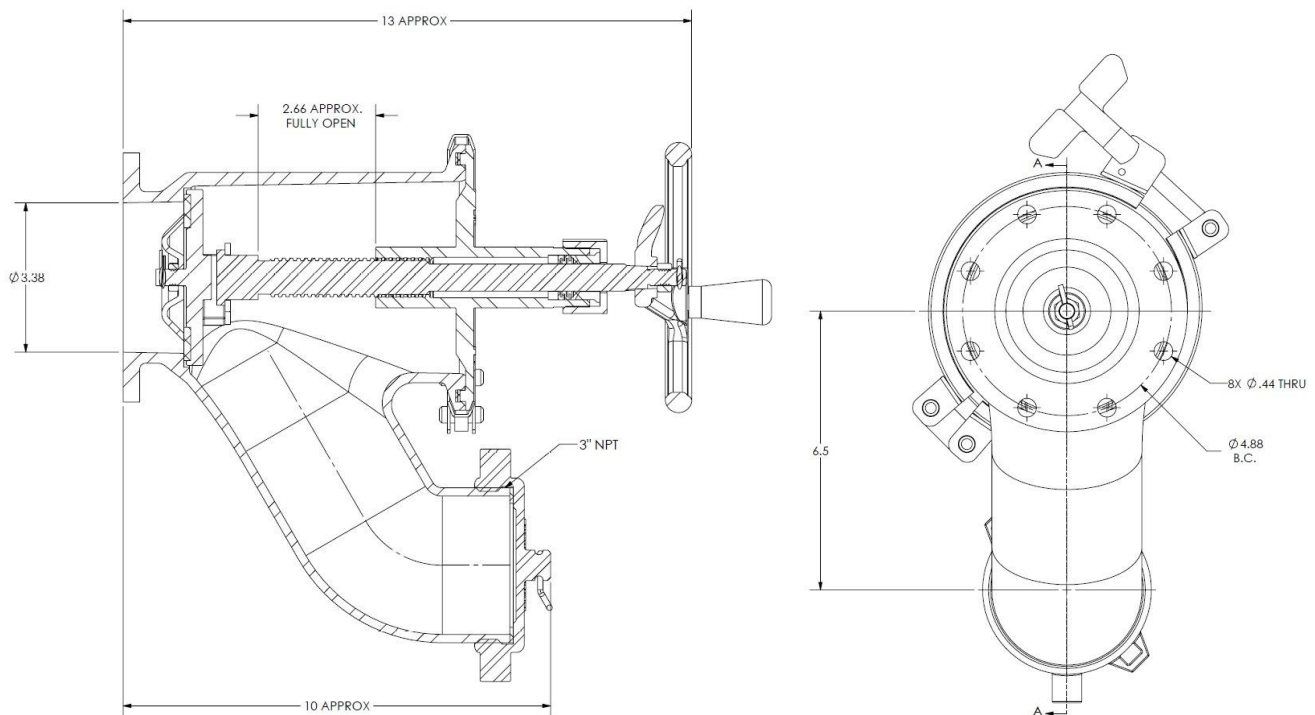
Bottom outlet discharge valve for use on DOT 407 tank trailers transporting a variety of goods.

# Table of Contents

<b>Technical Data .....</b>	<b>3</b>
<b>Exploded View of Product (GH50000) .....</b>	<b>4</b>
<b>GH50002 – HydraFlo BOV, 3” NPT, Steam Jacketed .....</b>	<b>5</b>
<b>GH50004 – HydraFlo BOV, 3” NPT, with 3/4" Blowout .....</b>	<b>5</b>
<b>Exploded View of Product (GH50016) .....</b>	<b>6</b>
<b>Safety.....</b>	<b>7</b>
General Safety Information.....	7
Product Storage .....	7
Product Handling.....	7
Disposal Requirements .....	7
<b>Installation Instructions.....</b>	<b>8</b>
<b>Operation Instructions.....</b>	<b>9</b>
<b>Maintenance Instructions .....</b>	<b>10</b>
<b>Test Instructions .....</b>	<b>14</b>
<b>Troubleshooting &amp; Repair Guide .....</b>	<b>14</b>
<b>Replacement Parts .....</b>	<b>14</b>
<b>Warranty .....</b>	<b>15</b>
<b>Contact Information .....</b>	<b>15</b>

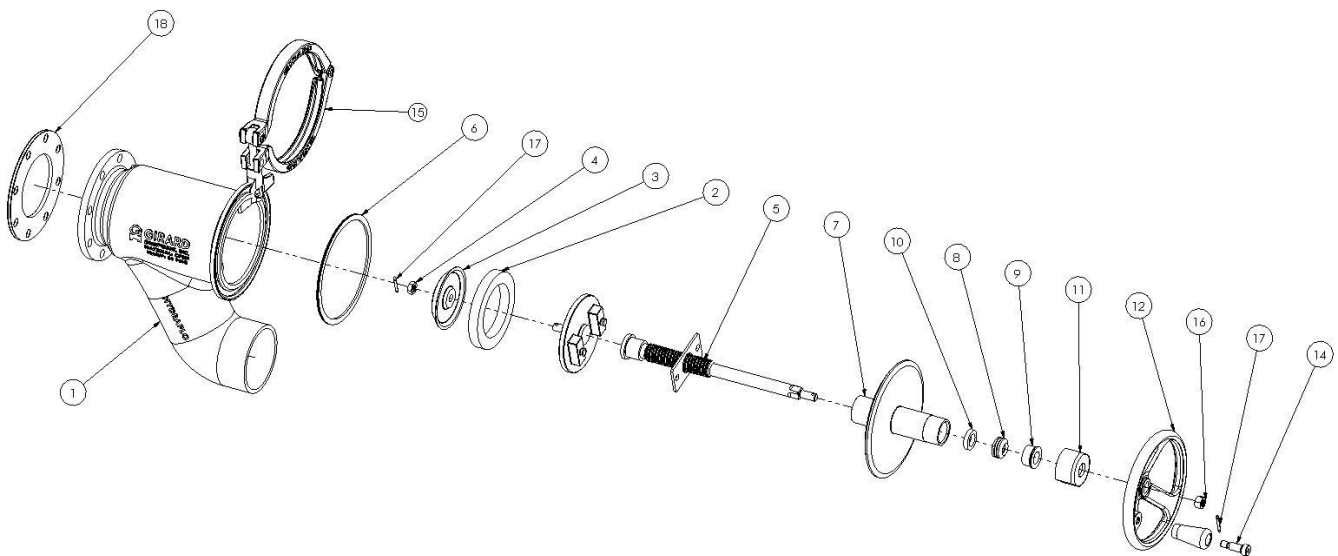
## Technical Data

- 1) Center to center height: 6.5"
- 2) Design pressure (MAWP): 50 psi (3.4 BAR)
- 3) All components constructed from corrosion resistant 316 Stainless Steel
- 4) Mounts to standard 3" TTMA flange
- 5) Teflon seals and gaskets for a broad range of chemical compatibility
- 6) Manufactured, assembled, and cast in the USA
- 7) Outlet valve meets ASME Section VIII design requirements
- 8) 3/4" NPT port(s) on valve with Steam Jacket (GH50002) and Blowout (GH50004)

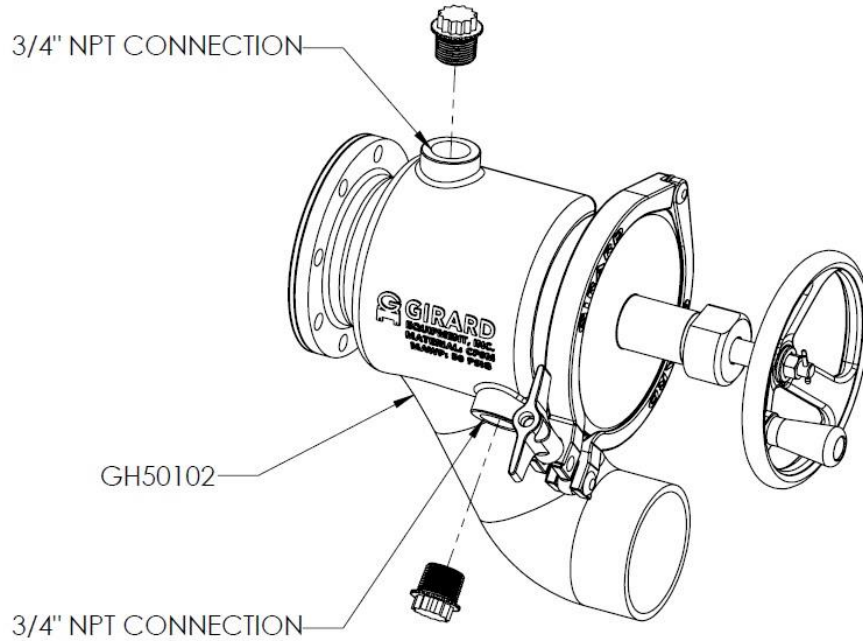


## Exploded View of Product (GH50000)

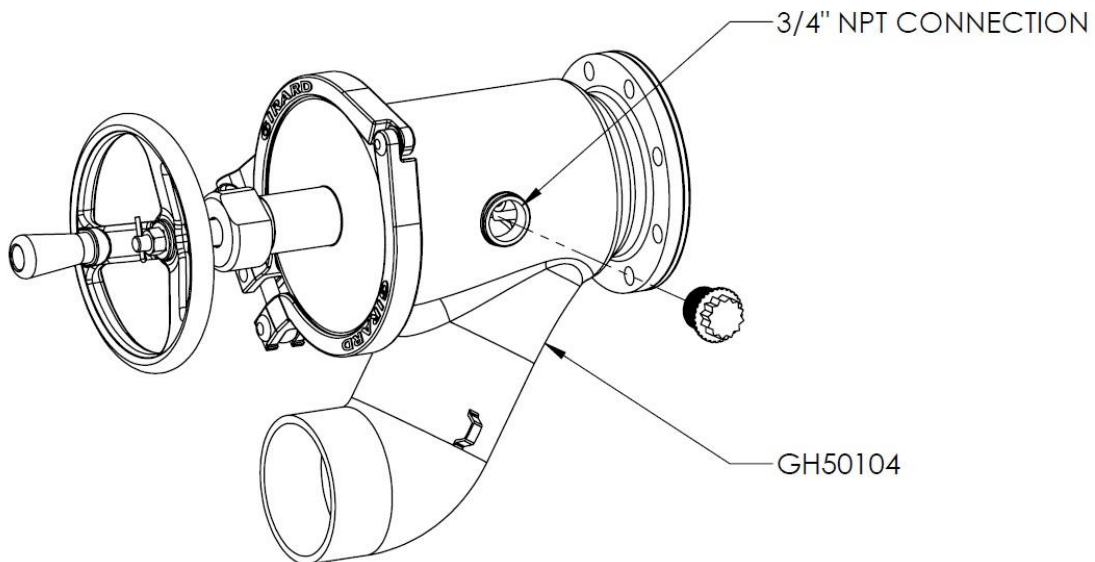
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GH50100	HYDRAFLO VALVE MAIN BODY, 3" NPT, WELDMENT	1
2	GH50140	HYDRAFLO POPPET SEAL	1
3	GH50160	HYDRAFLO POPPET RETAINER	1
4	GH50180	3/8-16 HEX JAM NUT	1
5	GH50232	HYDRAFLO POPPET AND SHAFT ASSEMBLY	1
6	GH50240	HYDRAFLO ENVELOPE GASKET	1
7	GH50260	HYDRAFLO BONNET	1
8	GH50280	TEFLON PACKING SEAL	1
9	GH50300	SHAFT SEAL RETAINER	1
10	GH50320	SHAFT SEAL WASHER	1
11	GH50340	HYDRAFLO BONNET CAP	1
12	GH50362	HYDRAFLO HANDWHEEL	1
13	GH50364	HYDRAFLO HANDWHEEL KNOB	1
14	GH50370	HYDRAFLO 5/16"-18 SHOULDER BOLT 3/4" LG	1
15	GH50380	6" HYDRAFLO COMPRESSION CLAMP	1
16	GH50400	3/8-16 HEX NUT	1
17	GH50420	1/8" DIA X 3/4" LG, COTTER PIN	2
18	GM32100	3CFE 8-HOLE 3" GASKET ASSEMBLY	1



## GH50002 – HydraFlo BOV, 3" NPT, Steam Jacketed

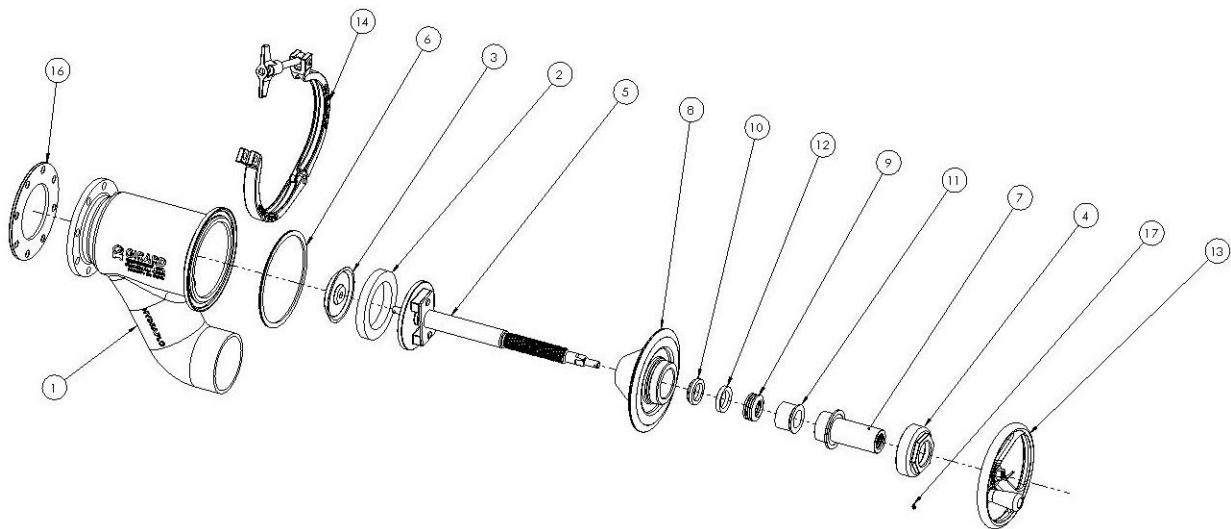


## GH50004 – HydraFlo BOV, 3" NPT, with 3/4" Blowout



## Exploded View of Product (GH50016)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GH50100	HYDRAFLO VALVE MAIN BODY, 3" NPT, WELDMENT	1
2	GH50140	HYDRAFLO POPPET SEAL	1
3	GH50160	HYDRAFLO POPPET RETAINER	1
4	GH50180	3/8-16 HEX JAM NUT	1
5	GH50226	EXT YOKE COMPRESSION CAP, MACHINED	1
6	GH50234	HydraFlo EXT. YOKE POPPET & SHAFT ASSEM	1
7	GH50240	HYDRAFLO ENVELOPE GASKET	1
8	GH50246	EXTERNAL YOKE THREAD MODUAL ,CASTING	1
9	GH50266	EXTERNAL YOKE BONNET, MACHINED	1
10	GH50286	TEFLON PACKING SEAL	1
11	GH50296	GIRARD SHAFT SCRAPER 1"	1
12	GH50306	EXTERNAL YOKE, SHAFT SEAL RETAINER	1
13	GH50326	SHAFT SEAL WASHER	1
14	GH50360	HYDRAFLO HANDWHEEL W/ KNOB	1
15	GH50380	6" HYDRAFLO COMPRESSION CLAMP	1
16	GH50420	1/8" DIA X 3/4" LG, COTTER PIN	1
17	GM32100	3CFE 8-HOLE 3" GASKET ASSEMBLY	1
18	GQ86175	CHEMOVATION SET SCREW	1





# Safety

## General Safety Information



**WARNING: All Safety regulations must be followed during the operation of this product.** Follow maintenance instructions as set forth in this manual to avoid serious injury. Do not attempt to disassemble the device unless you have been properly trained by a Girard Equipment representative. Plastic pipe plugs found in valves with steam jacket and/or blowout are for shipping only and are not designed to hold pressure.

## Product Storage

- Temperature Range: -40°F to +250°F
- Humidity Range: N/A
- Altitude Range: N/A

Store device upright, in its original container, to maintain a dust-free environment.

Install pipe plugs in devices with steam jacket or blowout port to prevent debris from entering. We recommend that stored valves be retested every year or as required by DOT regulations. The initial test date will be listed on the valve certificate.

## Product Handling

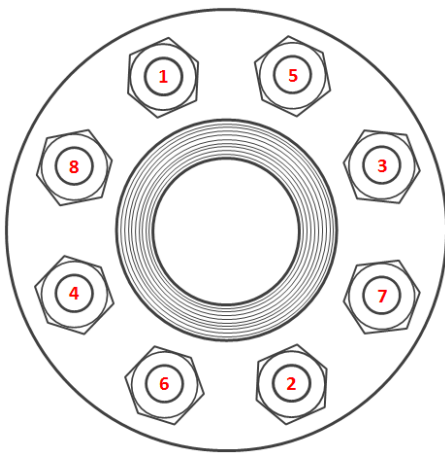
Follow OSHA practices for lifting of heavy objects.

## Disposal Requirements

No Special Requirements.

## Installation Instructions

- 1) Remove valve from packaging.
- 2) Insert new, clean gasket.
- 3) Align the valve with the tank mounting flange at the rear of the tank.
- 4) Girard Equipment recommends using new, non-lubricated, stainless steel studs and nuts to bolt device to tank container.



Torque Value: **40** Ft/Lbs. of torque +/- 10 %.

*Note:* This is a guideline; customer needs to perform their own torque study.

- 5) For GH50002 and GH50004 – Remove and discard plastic pipe plug(s) to connect necessary equipment or replace with 316 stainless steel 3/4 " NPT pipe plugs\*.

\*Pipe plugs provided are for shipping purposes only and are not designed to hold pressure.



## Operation Instructions

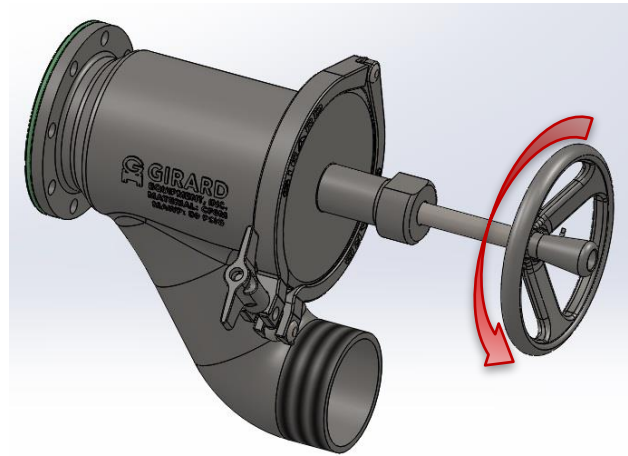
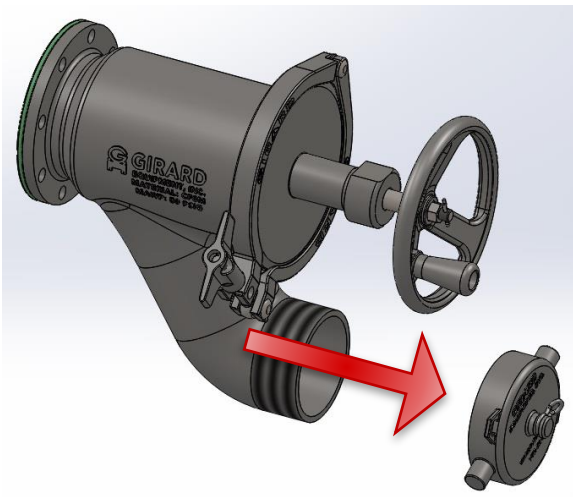
**NOTE:** It is the responsibility of all persons performing the operation of the HydraFlo Valve to read and understand this procedure before starting work.



### Unloading procedure for GH50000

**CAUTION:** Do not pressurize tank prior to opening internal valve.

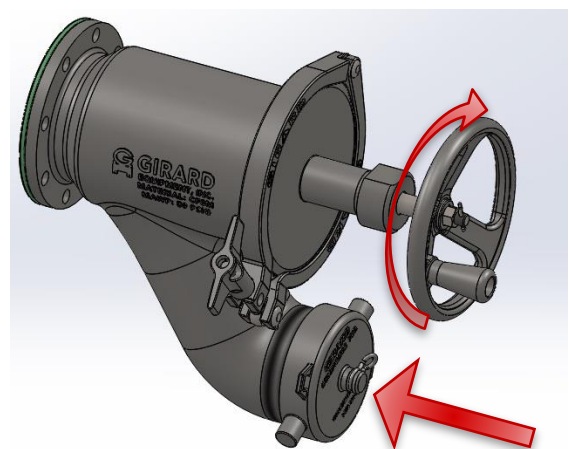
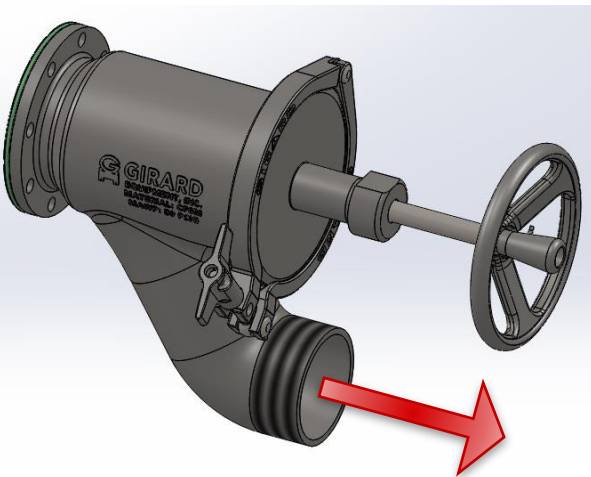
- 1) Remove cap from HydraFlo Valve.
- 2) Connect discharge hose to outlet.
- 3) Rotate valve handwheel counter-clockwise to open valve.



- 4) Tank will now unload.

- 6) When finished unloading, re-close the valve by rotating the handwheel clockwise.


- 7) Re-install cap on valve outlet.



### Loading precautions

Before loading the tank container, ensure that the Hydra Flo Valve is closed and the cap is installed.

## Maintenance Instructions

 **Warning:** Do not attempt to disassemble this device unless you have been properly trained by a Girard Equipment representative. Follow all installation, maintenance and repair instructions to avoid injury.

### Gasket and Seal Maintenance

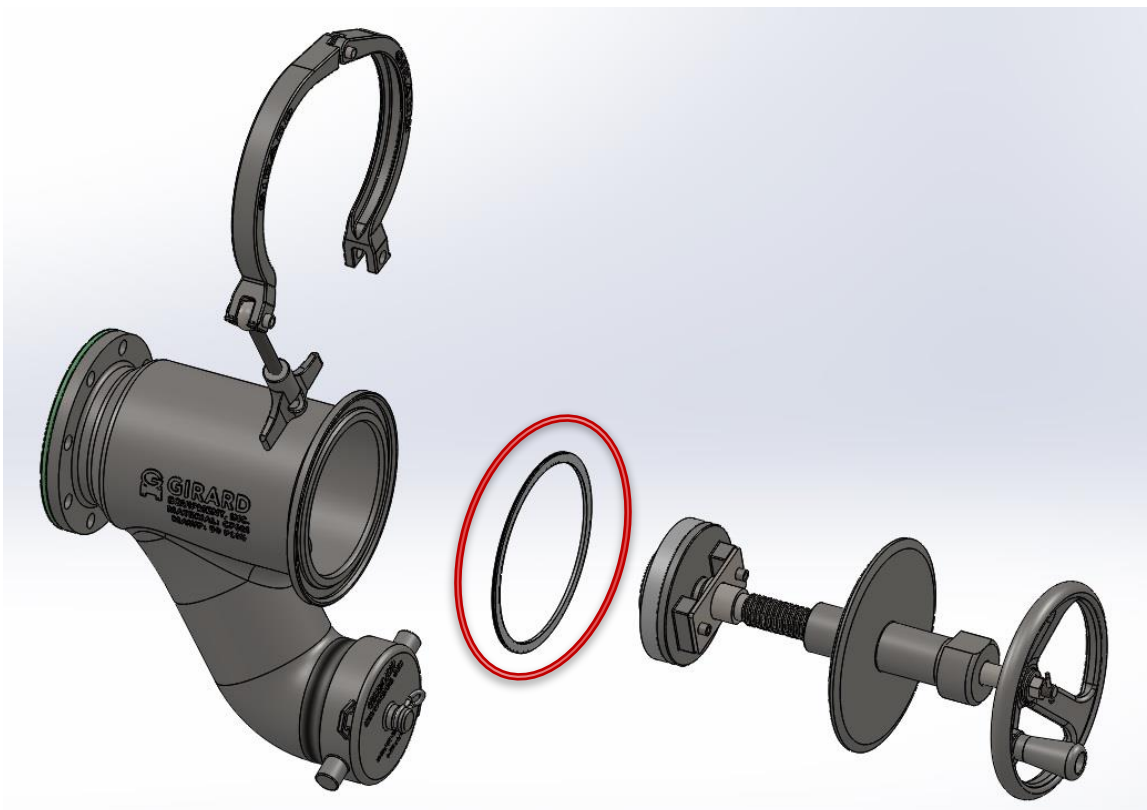
All soft goods should be replaced at time of regular maintenance and requalification.

### Preparation

Before performing maintenance on any part of the valve, loosen the cap to relieve built up pressure in the outlet, then open the valve to relieve tension on the assembly. Loosen and remove the Compression Clamp from the Bonnet to access the internal components.

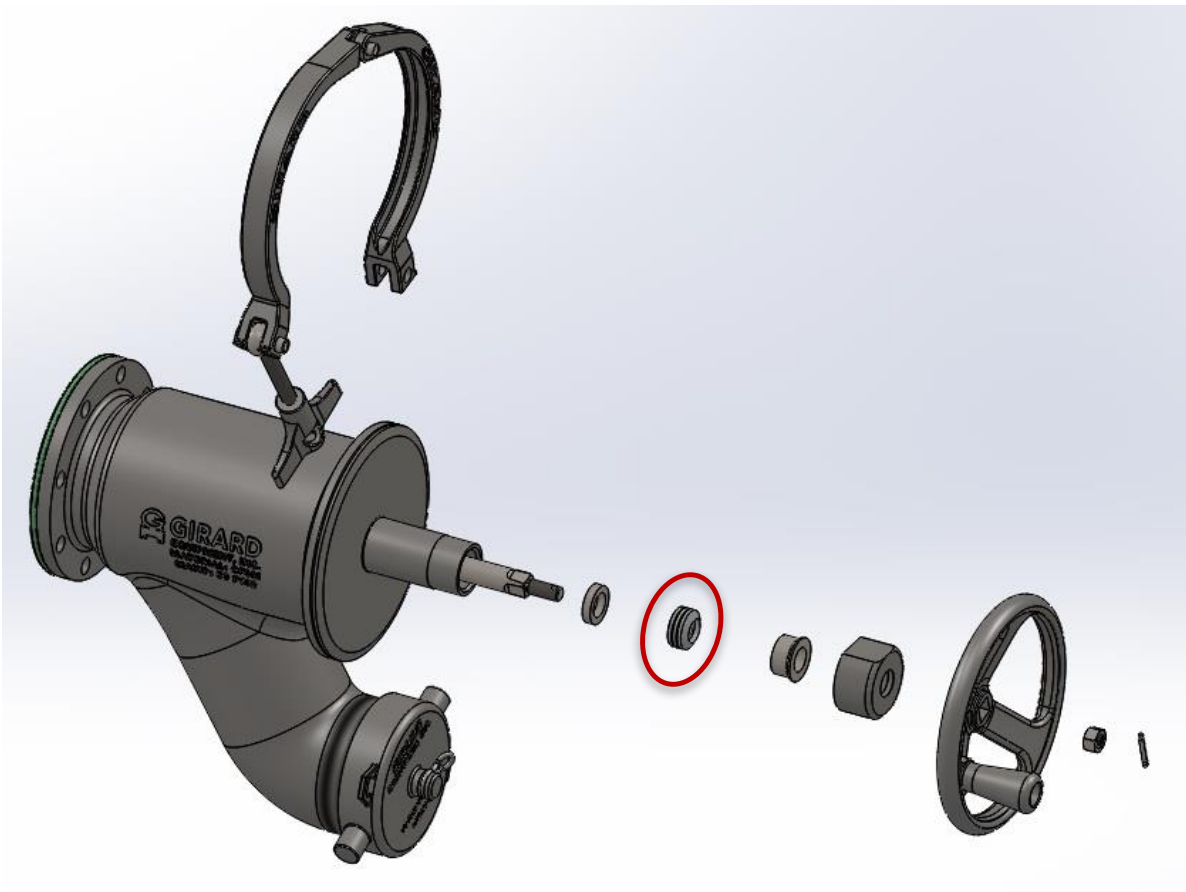
### To Replace Bonnet Gasket (GH50240)

- 1) Remove the bonnet (with internal components intact) from the main body.
- 2) Remove the gasket (GH50240) from the groove of the main body.
- 3) Replace with new gasket and re-assemble.



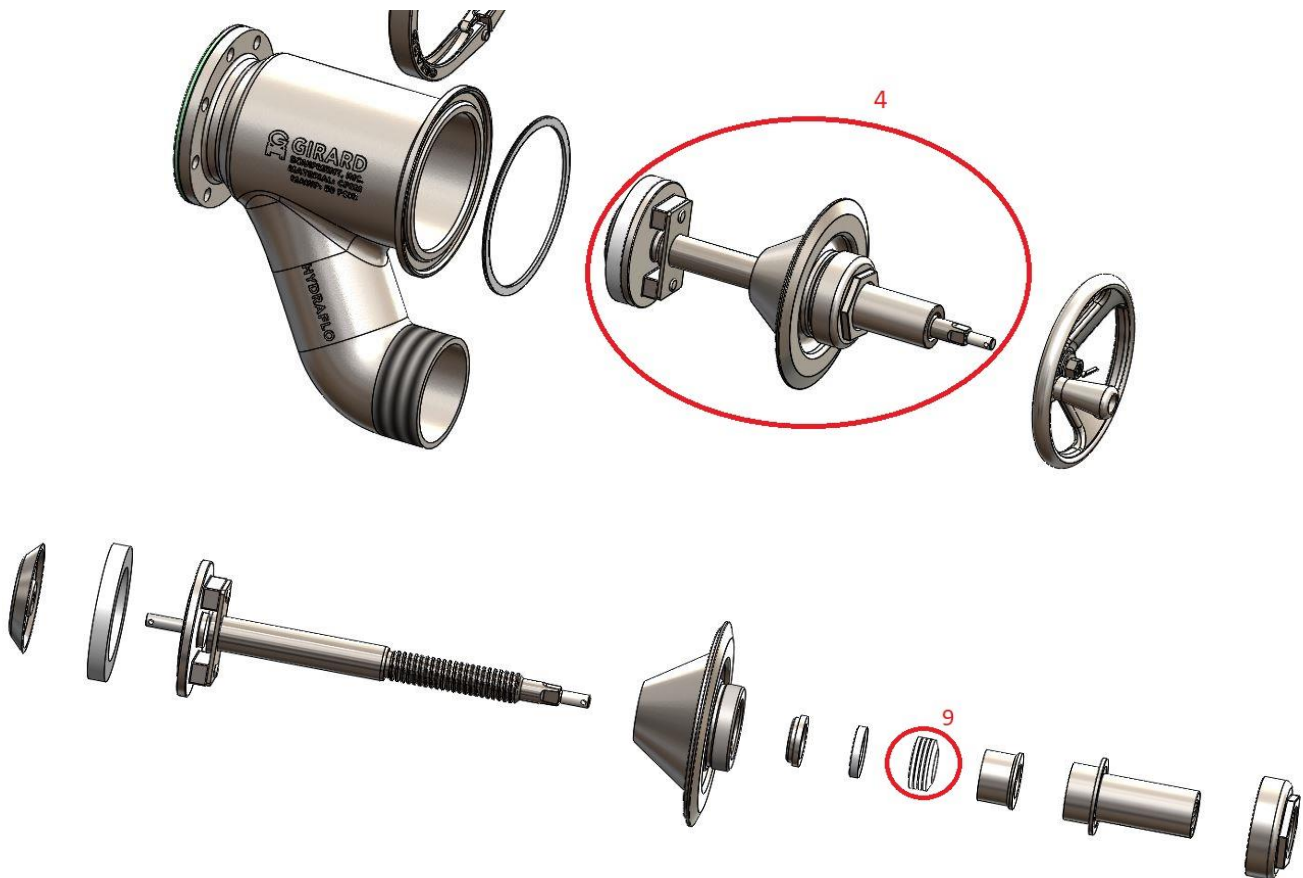
**To Replace Teflon® Packing Seal (GH50280) (\*For GH50000, GH50002, GH50004 only)**

- 1) Remove the cotter pin from the handwheel location (may need to be replaced if damaged).
- 2) Using a 9/16" wrench, loosen and remove the 3/8" hex nut (GH50400) from the handwheel/shaft joint.
- 3) Remove the handwheel from the assembly.
- 4) Using a crescent wrench, loosen and remove the Bonnet Cap (GH50340).
- 5) Remove the Shaft Seal Retainer (GH50300).
- 6) Remove and replace the Teflon Packing Seal (GH50280).
- 7) Re-assemble following step 1-5 in reverse order.



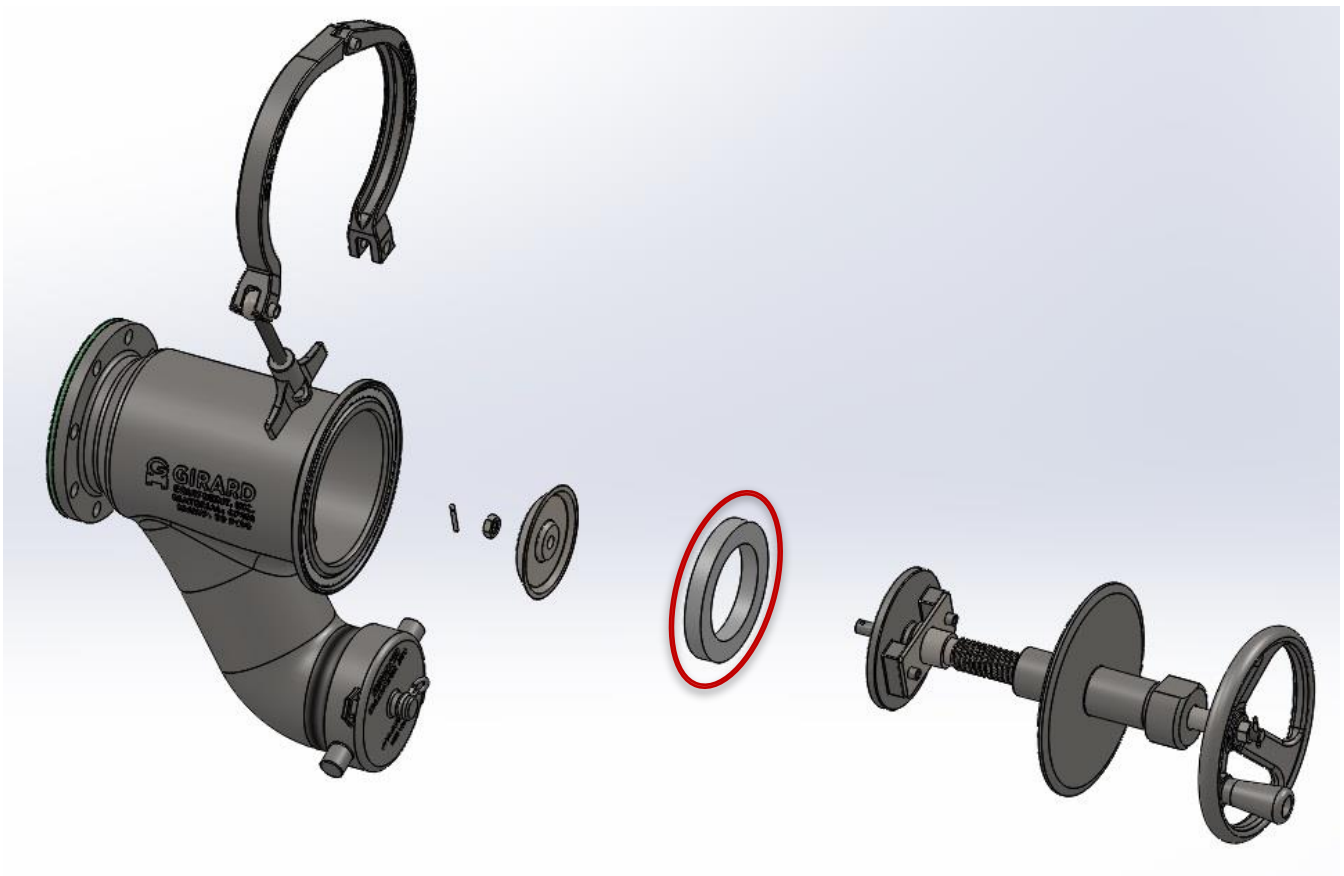
### To Replace Teflon® Packing Seal (GH50286) (\*For GH50016 only)

- 1) Remove the cotter pin from the handwheel location (may need to be replaced if damaged).
- 2) Using a 9/16" wrench, loosen and remove the 3/8" hex nut (GH50400) from the handwheel/shaft joint.
- 3) Remove the handwheel from the assembly.
- 4) Using a crescent wrench, loosen compression cap (GH50226), undo the clamp (GH50380), and remove the bonnet assembly from the valve body.
- 5) Remove the set screw (GQ86175) from the compression cap.
- 6) Unscrew and remove the shaft assembly from the bonnet assembly.
- 7) Remove the compression cap.
- 8) Remove the thread module (GH50246) and shaft seal retainer (GH50306).
- 9) Remove and replace the Teflon Packing Seal (GH50286).
- 10) Re-assemble following steps 1-8 in reverse order.



### To Replace the Poppet Seal (GH50140)

- 1) Remove the bonnet (with internal components intact) from the main body.
- 2) Remove the cotter pin from the poppet side of the shaft assembly (may need to be replaced if damaged).
- 3) Loosen and remove the 3/8 hex jam nut (GH50180) from the poppet retainer/shaft joint.
- 4) Remove the Poppet Retainer (GH50160).
- 5) Remove and replace the Poppet Seal (GH50140).
- 6) Re-assemble following steps 1-4 in reverse order.



## Test Instructions

Perform visual inspection and leakage test in accordance with DOT regulations 49 CFR 180.407 and any other regulations that may apply.

## Troubleshooting & Repair Guide

### If device doesn't seal properly:

1. Wipe sealing area with clean rag.
2. Tighten Bonnet Cap and Compression Clamp.
3. Install new gaskets.
4. If problem cannot be corrected, contact a Girard Equipment representative.

## Replacement Parts

### Replacement Parts for GH50000

Seals:	GH50280 (TEFLON PACKING SEAL), GH50140 (POPPET SEAL) GH50286 (TEFLON PACKING SEAL)
Gaskets:	GH50240 (BONNET GASKET), GM30000 (CAP GASKET)
Additional:	GH50420 (1/8 X 3/4 COTTER PIN)

**For additional materials and options, contact Girard Equipment's Engineering Department.**

## Warranty

All goods manufactured by Girard Equipment, Inc. from “genuine” Girard parts are warranted to be free from defects and will be replaced free of charge if failure occurs within 5 years of date of shipment, provided that these parts have been used in accordance with seller’s recommendations. Our liability in any case shall be limited to the sale price of the product and will not extend to any consequential damage.

## Contact Information

**GIRARD**  
**EQUIPMENT, INC.**

4360 Old Dixie Hwy  
Vero Beach, FL 32967  
(908) 862-6300

[www.GirardEquip.com](http://www.GirardEquip.com)

