

# Introduction

The DHV gate valve is offered in two basic design types: ANSI & API.

The ANSI series valves conform to the standard flange dimension and pressure requirements for ANSI classes 400,600,900 and 1500.

The API series valves conform to the standard flange and pressure requirements for API classes 2000, 3000 and 5000.

Both series are offered with threaded, weld and flanged end connections. End connection availability varies by size and pressure based on market requirements. Some sizes in the ANSI series are offered with grooved end.



4-1/16" 1000psi Conform to API flange dimensions and pressure classes. Offered with threaded, flanged or weld connections. An economical non-rising stem design.

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4-1/16" 3000psi Conform to API flange dimensions and pressure classes. Rising stem design with "T" head stem connection to gate. Doubleacting thread reduces the number of turns to open or close. Offered in threaded, buttweld, and flanged ends. Stems are packed with molded rings, with a secondary seal to prevent line fluid from contaminating stem threads in the event of primary seal damage.

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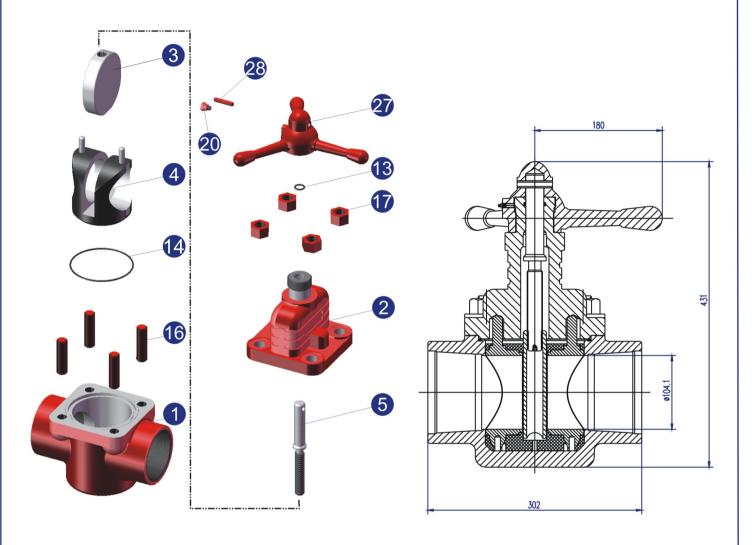


4-1/16" 5000psi Conform to API flange dimensions and pressure classes. A heavy duty stem drive, with thrust bearings, is a feature of this valve. Upper end of the stem is visible through a clear plastic guard to indicate gate position. Design is particularly suited for 5000 psi WP manifolds, in the weld end offering. Also available in threaded and flanged ends.

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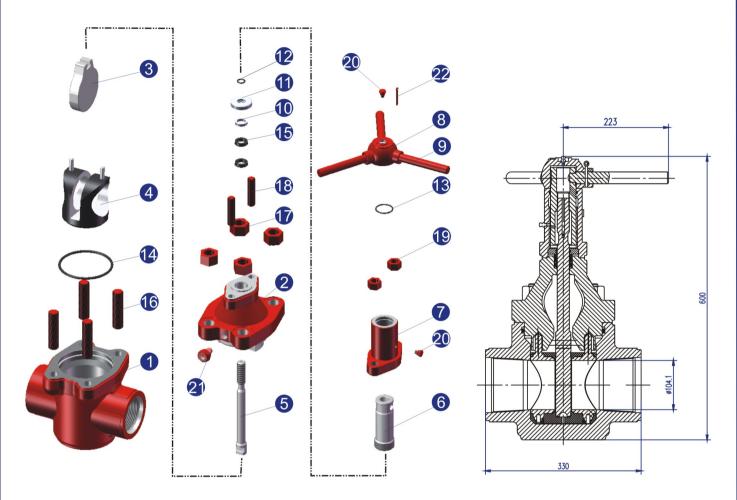
5-1/8" 3000psi Conform to API flange dimensions and pressure classes. Page 5 Rising stem design with "T" head stem connection to gate. Double-acting thread reduces the number of turns to open or close. Offered in threaded, buttweld, and flanged ends. Stems are packed with molded rings, with a secondary seal to prevent line fluid from contaminating stem threads in the event of primary seal damage.





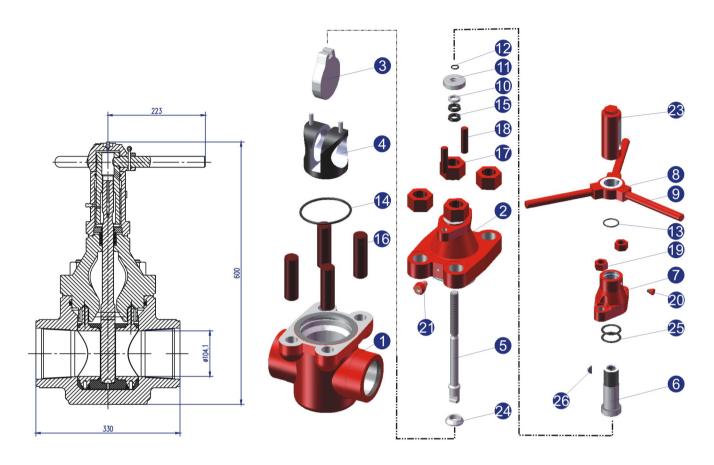
No	Name	Material	No	Name	Material
1	Body	ASTM A487-4C	14	Bonnet Seal	D90 HSN
2	Bonnet	ASTM A487-4C	16	Body Stud	ASTM A193-B7M
3	Gate	AISI 4130	17	Body Nut	ASTM A194-2HM
4	Seat Assembly	AISI 4140+NBR	20	Lube Fitting	STAINLESS STEEL
5	Stem	AISI 4130	27	Handle Head	ASTM A216- WCB
13	Secondary Seal	BUNA-N	28	Stem Pin	STAINLESS STEEL





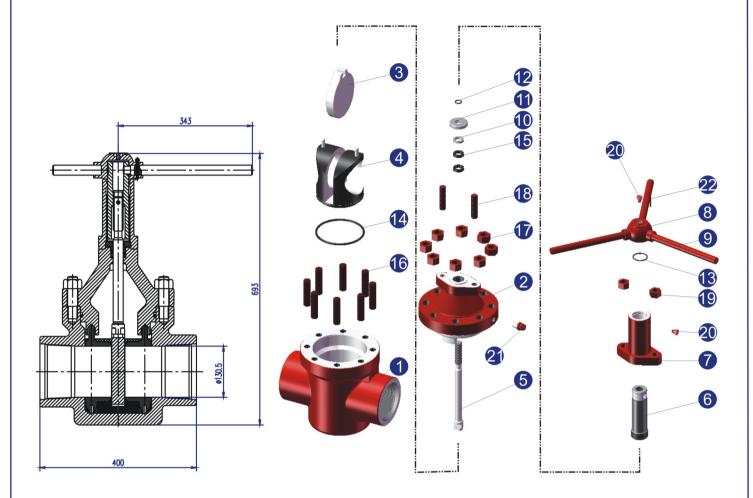
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No	Name	Material	No	Name	Material		
1	Body	ASTM A487-4C	12	Secondary Seal	NBR		
2	Bonnet	ASTM A487-4C	13	Stem Screw Seal	NBR		
3	Gate	AISI 4130	14	Bonnet Seal	D90 HSN		
4	Seat Assembly	AISI 4140+NBR	15	Packing	POLYPAK		
5	Stem	AISI 4130	16	Body Stud	ASTM A193-B7M		
6	Stem Nut	CARBON STEEL	17	Body Nut	ASTM A194-2HM		
7	Screw Housing	ASTM A216- WCB	18	Bonnet Stud	ASTM A193-B7M		
8	Handle Head	ASTM A216- WCB	19	Bonnet Nut	ASTM A194-2HM		
9	Handle	CARBON STEEL	20	Lube Fitting	STAINLESS STEEL		
10	Packing Ring	STAINLESS STEEL	21	Sealant Injection Fitting	STAINLESS STEEL		
11	Retainer	STAINLESS STEEL	22	Pin	CARBON STEEL		



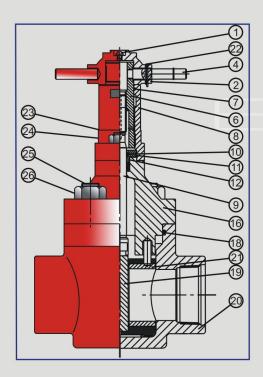


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1	Body	ASTM A487-4C	14	Bonnet Seal	D90 HSN
2	Bonnet	ASTM A487-4C	15	Packing	POLYPAK
3	Gate	AISI 4130	16	Body Stud	ASTM A193-B7M
4	Seat Assembly	AISI 4140+NBR	17	Body Nut	ASTM A194-2HM
5	Stem	AISI 4130	18	Bonnet Stud	ASTM A193-B7M
6	Stem Nut	CARBON STEEL	19	Bonnet Nut	ASTM A194-2HM
7	Screw Housing	ASTM A216- WCB	20	Lube Fitting	STAINLESS STEEL
8	Handle Head	ASTM A216- WCB	21	Sealant Injection Fitting	STAINLESS STEEL
9	Handle	CARBON STEEL	23	Stem Cap	ASTM A216- WCB
10	Packing Ring	STAINLESS STEEL	24	Downstop Ring	ASTM A487-4C
11	Retainer	STAINLESS STEEL	25	Bearing	PTFE
12	Secondary Seal	BUNA-N	26	Key	CARBON STEEL
13	Stem Screw Seal	BUNA-N	-	-	-





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5	Stem	AISI 4130	16	Body Stud	ASTM A193-B7M		
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9	Handle	CARBON STEEL	20	Lube Fitting	STAINLESS STEEL		
10	Packing Ring	STAINLESS STEEL	21	Sealant Injection Fitting	STAINLESS STEEL		
11	Retainer	STAINLESS STEEL	22	Pin	CARBON STEEL		



### Disassembly

DHV Gate valves for high pressure service are designed for disassembly for repairs or inspection without full removal from the line. All parts are completely interchangeable between valves of the same model. During in-line valve repair or inspection, be certain all pressure is released from the line and upstream valve is closed, locked and monitored during the procedure.

- 1. Fully open the gate valve. Remove nuts (5) and withdraw the bonnet assembly from the body. Collapse the seat (16), by compressing the insert pins together, and remove it from the body.
- 2. With the bonnet assembly on it's side, remove pin (22) and lock handle (2) then lift off hub (1). Turn stem screw (7) clockwise to bottom, then withdraw gate (14) from stem (13) by rotating a quarter turn and sliding it off the teehead of the stem.
- 3. Seat or gate replacement may be made at this point. To reassemble the valve, proceed from reassembly instruction
- 4. If it is desired to inspect other parts, the following instructions apply:

Turn the stem clockwise, until it disengages from stem screw (7) and withdraw it from the underside of the bonnet. Unscrew the lock screw (21) and lift screw housing (4) off the bonnet. Remove retainer (9) o-ring seal (8) and stem seal assembly (10) from the bonnet. Turn stem screw (7) clockwise out of the screw housing and bonnet seal (17) from the valve body.

Thoroughly clean all parts and inspect them for wear or damage. It is recommended that seals (3), (8), (17) and stem seal assembly (10) be replaced if they are worn or cut. Inspect the outside surface of the stem, where it passes through the packing, for nicks or scratches and smooth with emery cloth if required. Before reassembling, apply a good grade of general purpose grease to all threads, seal rings and exterior of the seat and on the surfaces of the bonnet, stem and stem screw which are in contact with seals.

## Reassembly

- 1. Slide the threaded end of the stem through the bonnet bore, from the underside, and place the stem seal assembly over the stem. This assembly consists of the seal rings, a flat-backed follower ring and a bushing, which are placed over the end of the stem in that order. Slide the retainer (9), with o-ring seal (8) inside, beveled side first, over the stem. Seat the stem seal assembly into its counter bore in the bonnet.
- 2. Engage the stem screw (7) in the screw housing (4) about half its total travel and place the screw housing on the bonnet and stem. Replace lock nuts (21)
- 3. Rotate the stem screw clockwise until it bottoms on the retainer, then back it up approximately one-eighth turn. Engage the gate on the tee-head of the stem and turn them together, counter clockwise, until the gate touches the underside of the bonnet lugs. Align the gate with the opening between the lugs and retract it into the bonnet by turning the stem screw, insert the lock handle and retain it with the cotter pin. Do not spread the pin since it may be removed later while adjusting the gate level.
- 4. Install the seat on the bonnet and stand the assembly upright, resting on the seat. Turn the handle clockwise until the hub is stopped by the top of the screw housing.
- 5. Replace bonnet seal (17) and install the seat and bonnet in the body, making sure the gate is started into the seat and the top pins on the seat are started into the drilled holes in the bonnet. Replace and tighten nuts (5). Spread the cotter pin (22) in the lock handle and repack the hub with general purpose grease through fitting (19).

When the high pressure gate valve is reassembled in the manner described, the hub is stopped by the screw housing at the proper down position of the gate. Over tightening is impossible and maximum sealing efficiency is assured.

#### Seeking a Great Name in Valve Technology

Please visit our DHV website: www.dhvindustries.com or www.dhvvalve.com for a copy of our API 6D monogram certificate. Customer and Project referrals are available upon request. For certified data and current specifications, please contact us or your local DHV agent. Information provided in this catalog is for general purposes only.

DHV reserves the right to discontinue the manufacture or change and modify our design and construction of any DHV product, in due course of our manufacturing procedure without incurring any obligation to accept for credit, to replace or furnish or install such changes or modifications on products previously or subsequently sold.

#### Your local DHV agent



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