

GATE VALVE

Gate Valve

PPGL provides high quality gate valve to satisfy the requirement from different customers, all types gate valves are manufactured to API 6A SPEC as a basic minimum.

- Forged or Cast Body & Bonnet: All types gate valve bodies and bonnets are manufactured from forged and cast AISI 4130/4140 low alloy or AISI 410 SS steel. Other materials from extreme service, such as: Inconel or Duplex stainless steel are available as per customers' requirement.
- Metal to Metal Seat to Body Interface: Precision lapped faces between the gate and seat ensure a metal-to-metal pressure tight seal is maintained. Seat is lapped on both surface to give a true metal to metal seal between the body and seat. This seal is further reinforced and protected by a Teflon or Viton lip seal, giving bubble tight sealing performance at pressure below 10 psi.
- Gate & Seat Design for Slab Gate: The seat in gate valve are fully floating, this combined with a solid slab gate gives a true downstream seal resulting in exceptionally low operating forces.
- Gate & Seat Design for Expanding Gate: The expanding gate creates a positive mechanical seal across the seats with or without line pressure. Floating seals with resilient seals allow the seats to be tightly wedged into the seats pockets in the open or closed

position.

- Bi-directional Sealing: All Gate Valve is a true bi-directional valve. Being fully symmetrical, it will effectively seal pressure from either direction without the risk of pressure lock. If the valve is used in uni-directional application, the gate and seats can be reserved to give a extra service life.
- Gate Guided: The gate is guided positively by the valve body and close fitting stainless steel skirts. The skirts minimize the ingress of well fluid mud and sand into the body cavity.
- Body to Bonnet Seal: A metal-to-metal seal is achieved between the body and bonnet. The seal ring is re-useful.
- Stem Seal: All stem seals are non-elastomeric and are insert to most know liquids and gases. Being made from PTFE/R-PTFE stem frictional resistance is minimized resulting in lower operating torque. The stem seal design is suitable for all temperature range and services. Graphite stem packing is option on user request.
- Bearing: Heavy duty thrust bearing are used to absorb stem thrust and reduce operating torque. A grease fitting is located on the bearing cap to allow for lubrication to ensure continued trouble-free operation.
- Availability Size: 1-13/16" ~ 9"
- Working Pressure: 2000psi ~ 20,000psi

- Material: AA ~ HH
- Temperature: 75°F ~ 250°F
- PSL 1 ~ PSL 4
- PR 1 ~ PR 2



Material Specifications for API 6A Gate Valve

Material Class ¹	Service Condition Description	Forging Body Material ²	Temperature ³	Casting Body Material ²	Temperature ³	Bonnet ²	Bonnet Seal Ring	Gate ⁴	Stem ⁵	Seat ⁴	Stem Seal	Stem Seal	
AA	General service	API 60K & 75K	API TEMP L-Y	API 60K	API TEMP L-Y	API 60K & 75K	AISI 1018 & 1020 low carbon steel	API 60K & 75K	API 60K & 75K	API 60K & 75K	PTFE+NBR		
	standard trim	AISI 4130		ASTM A487-4C		AISI 4130		AISI 4130	AISI 4130	Graphite			
	non-corrosive	alloy steel		alloy steel		alloy steel		Nitrided	Nitride	Nitrided	PEEK		
BB	General service	API 60K & 75K	API TEMP L-Y	API 60K	API TEMP L-Y	API 60K & 75K	AISI 304 & 316 stainless steel	AISI 410 stainless steel	ASTM A564 630(17-4PH)	AISI 410	PTFE+FKM	PTFE+FKM	
	stainless trim slightly corrosive	AISI 4130		ASTM A487-4C		AISI 4130		AISI 4130	steel Nitrided	stainless steel Nitrided	stainless steel		stainless steel
CC	General service full stainless moderately corrosive	API 75K AISI 4130 stainless steel	API TEMP L-Y	API 75K ASTM A217 CA-15 stainless steel	API TEMP L-Y	API 75K AISI 4130 stainless steel	AISI 304 & 316 stainless steel	AISI 410 stainless steel Nitrided	ASTM A564 630(17-4PH) stainless steel AISI 410 Nitrided	AISI 410 stainless steel Nitrided	PTFE+FKM Graphite PEEK	PTFE+FKM	
DD-NL	Sour service	API 60K & 75K	API TEMP L-Y	API 60K	API TEMP L-Y	API 60K & 75K	AISI 304 & 316 stainless steel	AISI 410 stainless steel	API 60K & 75K	AISI 410	PTFE+FKM	PTFE+FKM	
	Standard trim	AISI 4130		ASTM A487-4C		AISI 4130		AISI 4130	steel Nitrided	AISI 4130	stainless steel		Graphite
	Non-corrosive	alloy steel		alloy steel		alloy steel		Nitrided	Nitrided	PEEK			
EE-0.5	Sour service	API 60K & 75K	API TEMP L-Y	API 60K	API TEMP L-Y	API 60K & 75K	AISI 304 & 316 stainless steel	AISI 410 stainless steel	ASTM A564 630(17-4PH)	AISI 410	PTFE+FKM	PTFE+FKM	
	Stainless trim	AISI 4130		ASTM A487-4C		AISI 4130		AISI 4130	steel Nitrided	Stainless steel	stainless steel		Graphite
	Moderately corrosive	alloy steel		alloy steel		alloy steel		Nitrided	Nitrided	PEEK			
EE-1.5	Sour service	API 60K & 75K	API TEMP L-Y	API 60K	API TEMP L-Y	API 60K & 75K	AISI 304 & 316 stainless steel	AISI 410 stainless steel	Inconel 718/625	AISI 410	PTFE+FKM	PTFE+FKM	
	Stainless trim	AISI 4130		ASTM A487-4C		AISI 4130		AISI 4130		steel Nitrided	stainless steel		Graphite
	Moderately corrosive	alloy steel		alloy steel		alloy steel		Nitrided		Nitrided	PEEK		
EE-NL	Sour service	API 60K & 75K	API TEMP L-Y	API 60K	API TEMP L-Y	API 60K & 75K	AISI 304 & 316 stainless steel	AISI 410 stainless steel	Inconel 718/625	AISI 410	PTFE+FKM	PTFE+FKM	
	Stainless trim	AISI 4130		ASTM A487-4C		AISI 4130		AISI 4130		steel Nitrided	stainless steel		Graphite
	Moderately corrosive	alloy steel		alloy steel		alloy steel		Nitrided		Nitrided	PEEK		
FF-0.5	Sour service	API 75K	API TEMP L-Y	API 75K	API TEMP L-Y	API 75K	AISI 304 & 316 stainless steel	AISI 410 stainless steel	ASTM A564 630(17-4PH)	AISI 410	PTFE+HNBR	PTFE+NBR	
	Full stainless	AISI 4130		ASTM A217 CA-15		AISI 4130		AISI 4130	steel Nitrided	stainless steel	Graphite		
	Highly corrosive	stainless steel		stainless steel		alloy steel		Nitrided	Nitrided	PEEK			

FF-1.5	Sour service	API 75K	API TEMP L-Y	API 75K	API TEMP L-Y	API 75K	AISI 304 & 316	AISI 410 stainless	Inconel 718/625	AISI 410	PTFE+HNBR	
	Full stainless	AISI 4130	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y	AISI 4130		steel Nitrided		stainless steel	Graphite	PTFE+NBR
	Highly corrosive	stainless steel		stainless steel		alloy steel				Nitrided	PEEK	
FF-NL	Sour service	API 75K	API TEMP L-Y	API 75K	API TEMP L-Y	API 75K	AISI 304 & 316	AISI 410 stainless	Inconel 718/625	AISI 410	PTFE+HNBR	
	Full stainless	AISI 4130	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y	AISI 4130		steel Nitrided		stainless steel	Graphite	PTFE+NBR
	Highly corrosive	stainless steel		stainless steel		alloy steel				Nitrided	PEEK	
HH	Sour service	API 75K	API TEMP L-Y	—	—	API 75K	Inconel 825	Inconel 718/625	Inconel 718/625	Inconel 718/625	PTFE+HNBR	
	Resistance alloy	AISI 4130	API TEMP L-Y			AISI 4130	Resistant alloy				Graphite	PTFE+NBR
	Highly corrosive	stainless steel				alloy steel W/62S claded	per NACE	W/HARD facing		W/HARD facing	PEEK	

Notes:

This trim chart provides information on materials include in standard valves offered by PPGL. Special materials, trims and configurations are available upon customer request. 10,000~20,000psi slab gate valves and gate valves with ball screw operators have unique trim charts. Please refer to their respective section of the brochure for details.

1. Materials for sour service to latest edition of NACE MR0175. Alternative materials are available for special material classes designated by API & project requirements. Explanation of suffixes for material classes DD, EE and FF:
0.5=0.5 psia maximum partial pressure of H₂S.
1.5=1.5 psia maximum partial pressure of H₂S.

NL=no limit to H₂S.

2. Charpy impact test results provides as required by API temperature rating and material class.
3. API temperature ratings X and Y require working pressure of valve to be de-rated as per API 6A annex G.
4. Nitriding is standard on all gates and seat. Hardfacing with tungsten carbide or Hf6 also available upon request.
5. ASTM A564 Gr.630 (17-4ph) Hh1150 stems are not acceptable for sour service above 0.5 psia of H₂S. Corrosive resistant alloys per NACE MR0175/ISO standards are recommended.
6. Teflon inserts standard-metal to metal seats used if requested for equipment manufactured for use in elevated temperature service API temp ratings X & Y.

Model SG-22 Slab Valve

The model SG-22 performance, bi-directional slab gate valve is ideal for high pressure, critical service application 3,000 to 15,000 psi on wellheads, production trees and manifolds.

Specification: Standard model SG-22 gate valve meet the equipments of the latest edition of API 6A and/or API 6D SSV by replacing the expanding gate with a slab gate.

Material for H₂S service in accordance with NACE MR0175 latest edition.

Reliable Performance

- Forged body & bonnet
- Low operation torque
- Metal-to-metal body/bonnet seal
- Metal-to-metal back seal can be energized regardless

of gate position

- Lubrication fittings for easy maintenance
- Gate guides retain body lubricants and protect gate surface
- Manual or actuated operation
- Simple design assure low cost
- Flanged or screwed outlets

Availability Sizes

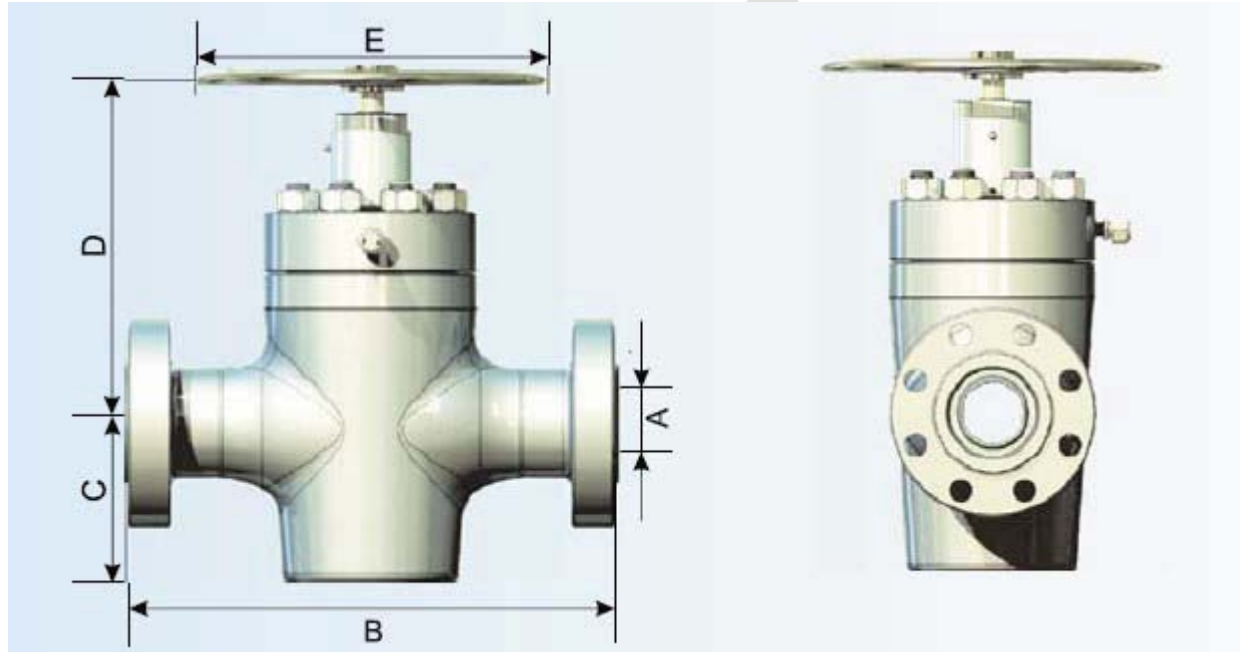
Size	2000psi	3000psi	5000psi	10000psi	15000psi
1-13/16"	---	---	---	SG22-10	SG22-11
2-1/16"	SG22-20	SG22-21	SG22-22	SG22-23	SG22-24
2-9/16"	SG22-25	SG22-26	SG22-27	SG22-28	SG22-29
3-1/16"	---	---	---	SG22-33	SG22-34
3-1/8"	SG22-30	SG22-31	SG22-32	---	---
4-1/16"	SG22-40	SG22-41	SG22-42	SG22-43	---
5-1/8"	SG22-50	SG22-51	SG22-52	SG22-53	---
7-1/16"x 6"	SG22-60	SG22-61	SG22-62	---	---
7-1/16"x6-3/8"	SG22-70	SG22-71	SG22-72	---	---
7-1/16"	SG22-75	SG22-76	SG22-77	---	---



API 6A SG22 SERIES SLAB GATE VALVE

API 6A SG22 Slab Gate Valve Dimension Data

Flanged End Valve Dimensions



2000psi Working Pressure

Size	Bore (A, in/mm)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	API Ring	Weight (lbs/kg)
2-1/16"	2.06/52.3	11.62/295.1	4.9/125	15.5/394	10.0/254	R-23	168/76
2-9/16"	2.56/65.0	13.12/333.2	5.7/145	16.5/419	13.5/343	R-26	267/121
3-1/8"	3.12/79.2	14.12/358.6	6.3/160.0	17.4/442	17/432	R-31	360/163
4-1/16"	4.06/103.1	17.12/434.8	7.9/200	19.1/485	17/432	R-37	593/269
5-1/8"	5.12/130.0	22.12/561.8	10.7/272	24.4/620	18.75/476	R-41	1319/598
7-1/16"x6"	6.00/152.4	22.12/561.8	14.3/363	27.1/688	25/635	R-45	1989/902
7-1/16"x6-3/8"	6.38/162.1	22.12/561.8	14.6/371	27.3/692	25/635	R-45	2018/915
7-1/16"	7.06/179.3	26.12/663.4	14.8/376	27.6/700	25/635	R-45	2066/937

3000psi Working Pressure

Size	Bore (A, in/mm)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	API Ring	Weight (lbs/kg)
2-1/16"	2.06/52.3	14.62/371.3	5.1/130	15.5/394	13.5/343	R-24	216/98
2-9/16"	2.56/65.0	16.62/422.1	5.9/149	16.5/419	13.5/343	R-27	289/131
3-1/8"	3.12/79.2	17.12/434.8	6.7/170	17.4/442	17/432	R-31	388/176
4-1/16"	4.06/103.1	20.12/511.0	8.3/210	19.1/485	17/432	R-37	644/292
5-1/8"	5.12/130.0	24.12/612.6	11.0/280	24.4/620	18.75/476	R-41	1347/611
7-1/16"x6"	6.00/152.4	24.12/612.6	14.8/376	27.1/688	25/635	R-45	2042/926
7-1/16"x6-3/8"	6.38/162.1	24.12/612.6	15.0/381	27.3/692	25/635	R-45	2068/938
7-1/16"	7.06/179.3	28.12/714.2	15.3/388	27.6/700	25/635	R-45	2110/957

5000psi Working Pressure

Size	Bore (A, in/mm)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	API Ring	Weight (lbs/kg)
2-1/16"	2.06/52.3	14.62/371.3	5.1/130	15.5/394	13.5/343	24	216/98
2-9/16"	2.56/65.0	16.62/422.1	5.9/149	16.5/419	13.5/343	27	289/131
3-1/8"	3.12/79.2	18.62/472.9	6.7/170	17.4/442	17/432	35	419/190
4-1/16"	4.06/103.1	21.62/549.1	8.3/210	19.1/485	17/432	39	688/312
5-1/8"	5.12/130.0	28.62/726.9	11.0/280	24.4/620	18.75/476	44	1387/629
7-1/16"x6"	6.00/152.4	29.00/736.6	14.8/376	27.1/688	25/635	46	2106/965
7-1/16"x6-3/8"	6.38/162.1	29.00/736.6	15.0/381	27.3/692	25/635	46	2132/967
7-1/16"	7.06/179.3	32.00/812.8	15.3/388	27.6/700	25/635	46	2187/992

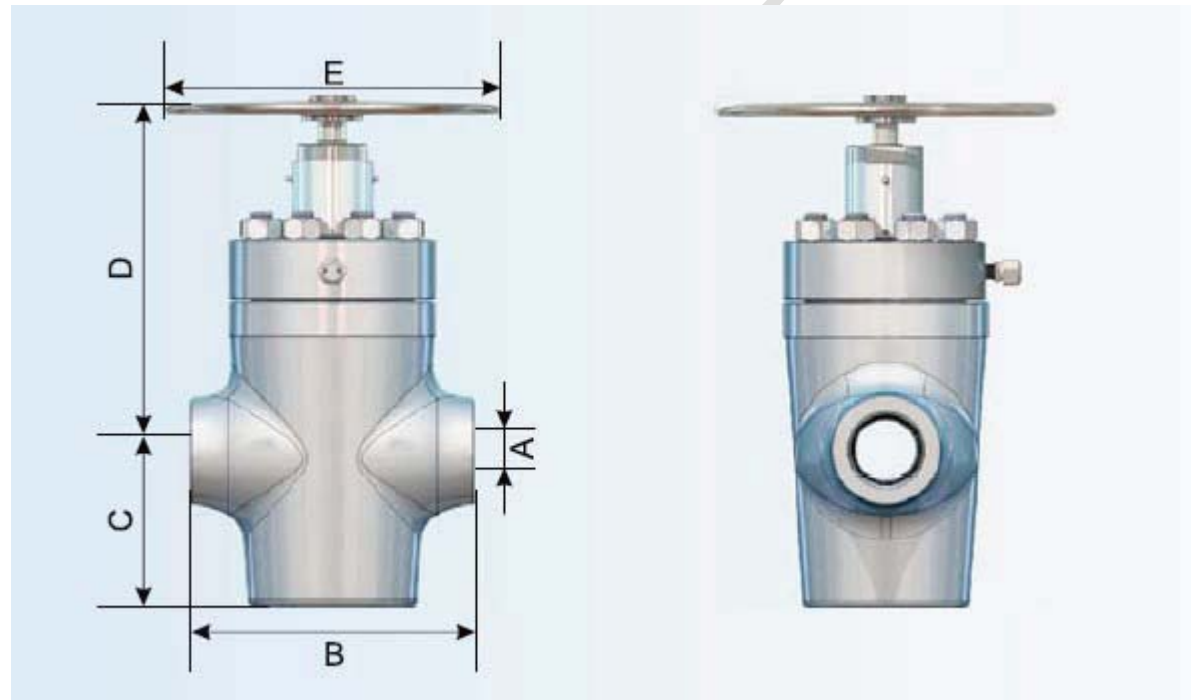
10000psi Working Pressure

Size	Bore (A, in/mm)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	API Ring	Weight (lbs/kg)
1-13/16"	1.81/46.0	18.25/463.6	5.6/142	14.8/376	17/432	BX-151	243/110
2-1/16"	2.06/52.3	20.50/520.7	6.1/155	15.5/394	17/432	BX-152	329/149
2-9/16"	2.56/65.0	22.25/565.2	6.8/173	16.5/419	17/432	BX-153	410/186
3-1/16"	3.06/77.7	24.38/619.3	7.9/200	17.4/442	18.75/475	BX-154	518/236
4-1/16"	4.06/103.1	26.38/670.1	9.8/250	19.1/485	18.75/475	BX-155	1118/507
5-1/8"	5.12/130.0	29.00/736.6	12.7/322	24.4/620	25/636	BX-169	1528/693

15000psi Working Pressure

Size	Bore (A, in/mm)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	API Ring	Weight (lbs/kg)
1-13/16"	1.81/46.0	18.00/457.2	5.9/150	14.8/376	17/432	BX-151	260/118
2-1/16"	2.06/52.3	16.62/422.1	5.9/149	16.5/419	17/432	BX-152	315/143
2-9/16"	2.56/65.0	21.00/533.4	7.7/196	16.5/419	18.75/475	BX-153	576/261
3-1/16"	3.06/77.7	23.56/598.4	9.0/228	17.4/442	18.75/475	BX-154	602/273

Threaded End Valve Dimensions



2000psi Working Pressure

Size	Bore (A)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	Number of Turns	Weight (lbs/kg)
2-1/16"	2.06/52.3	9.5/242	4.9/125	15.5/394	10/254	12	148/67
2-9/16"	2.56/65.0	11.0/280	5.7/145	16.5/419	13.5/343	15	245/111
3-1/8"	3.12/79.2	12.5/318	6.3/160	17.4/442	17/432	18	313/142
4-1/16"	4.06/103.1	15.5/394	7.9/200	19.1/485	17/432	22-1/2	509/231



3000psi Working Pressure

Size	Bore (A)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	Number of Turns	Weight (lbs/kg)
2-1/16"	2.06/52.3	10.0/254	5.1/130	15.5/394	13.5/343	12	174/79
2-9/16"	2.56/65.0	11.0/280	5.9/149	16.5/419	13.5/343	15	262/119
3-1/8"	3.12/79.2	12.5/318	6.7/170	17.4/442	17/432	18	364/155
4-1/16"	4.06/103.1	15.5/394	8.3/210	19.1/485	17/432	22-1/2	578/262

5000psi Working Pressure

Size	Bore (A)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	Number of Turns	Weight (lbs/kg)
2-1/16"	2.06/52.3	10.0/254	5.1/130	15.5/394	13.5/343	12	174/79
2-9/16"	2.56/65.0	11.0/280	5.9/149	16.5/419	13.5/343	15	262/119
3-1/8"	3.12/79.2	12.5/318	6.7/170	17.4/442	17/432	18	364/155
4-1/16"	4.06/103.1	15.5/394	8.3/210	19.1/485	17/432	22-1/2	578/262

Model EG-20 Expanding Gate Valve

The model EG-20 expanding gate valve is a bi-directional, with a preferred sealing side, valve for application on wellheads, production trees and manifolds with working pressure at and below 5000psi.

Specification

Standard Model EG-20 gate valve meet the requirements of the latest edition of API 6A and /or API 6D SSV by replacing the expanding gate with a slab gate. Material for H₂S service in accordance with NACE MR-0175 latest edition.

Reliable Performance

- Forged bonnet
- Low operation torque
- Metal-to-metal body/bonnet seal
- Lubrication fittings for easy maintainance
- Gate guides retain body lubrications and protect gate surface
- Manual or actuated operation
- Simple design assures low cost

- Flange or screwed outlets

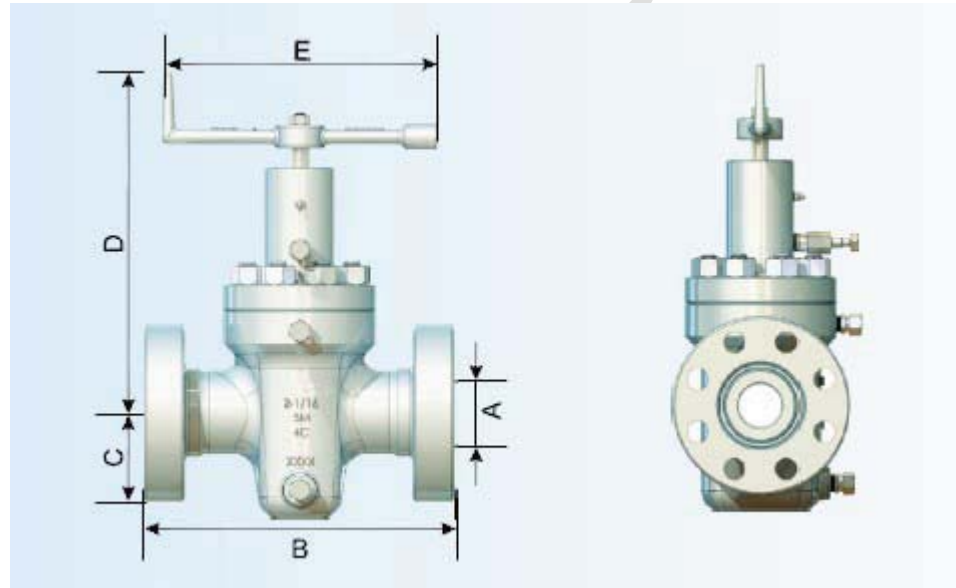


Availability Sizes

Size	2000psi	3000psi	5000psi
2-1/16"	EG20-20	EG20-21	EG20-22
2-9/16"	EG20-23	EG20-24	EG20-25
3-1/8"	EG20-30	EG20-31	EG20-32
4-1/16"	EG20-40	EG20-41	EG20-42

API 6A EG20 Expanding Gate Valve Dimension Data

Flanged End Valve Dimensions



2000psi Working Pressure

Size	Bore (A)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	Number of Turns	Weight (lbs/kg)
2-1/16"	2.06/52.3	11.62/295.1	5.1/128	19.6/498	10.0/254	13	96/44
2-9/16"	2.56/65.0	13.12/333.2	5.8/147	20.6/524	13.0/330	15-1/2	140/64
3-1/8"	3.12/79.2	14.12/358.6	7.1/179	22.8/578	13.0/330	20	218/99
4-1/16"	4.06/103.1	17.12/434.8	9.1/232	25.9/657	16.0/406	24-1/2	406/184

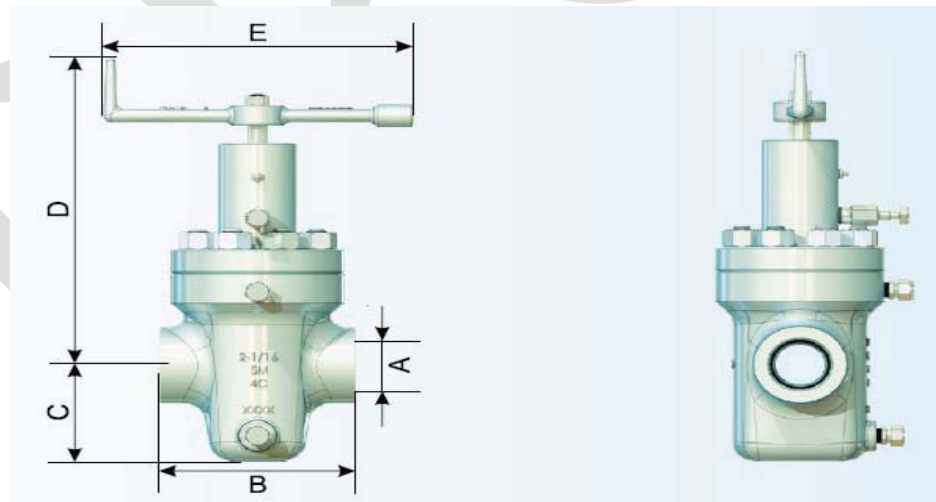
3000psi Working Pressure

Size	Bore (A)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	Number of Turns	Weight (lbs/kg)
2-1/16"	2.06/52.3	14.62/371.3	5.3/133	19.6/498	13.0/330	13	176/80
2-9/16"	2.56/65.0	16.62/422.1	6.1/155	20.6/524	13.0/330	15-1/2	224/102
3-1/8"	3.12/79.2	17.12/434.8	7.6/193	22.8/578	16.0/406	20	300/136
4-1/16"	4.06/103.1	20.12/511.0	9.4/239	25.9/657	16.0/406	24-1/2	558/253

5000psi Working Pressure

Size	Bore (A)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	Number of Turns	Weight (lbs/kg)
2-1/16"	2.06/52.3	14.62/371.3	5.3/133	19.6/498	13.0/330	13	176/80
2-9/16"	2.56/65.0	16.62/422.1	6.1/155	20.6/524	13.0/330	15-1/2	224/102
3-1/8"	3.12/79.2	18.62/472.9	7.6/193	22.8/578	16.0/406	20	334/151
4-1/16"	4.06/103.1	21.62/549.1	9.4/239	25.9/657	16.0/406	24-1/2	614/279

Threaded End Valve Dimensions



2000psi Working Pressure

Size	Bore (A)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	Number of Turns	Weight (lbs/kg)
2-1/16"	2.06/52.3	9.25/235.0	5.1/128	19.6/498	10.0/254	13	86/39
2-9/16"	2.56/65.0	10.25/260.4	5.8/147	20.6/524	13.0/330	15-1/2	108/49
3-1/8"	3.12/79.2	11.38/289.1	7.1/179	22.8/578	13.0/330	20	181/82
4-1/16"	4.06/103.1	13.00/330.2	9.1/232	25.9/657	16.0/406	24-1/2	318/144

3000psi Working Pressure

Size	Bore (A)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	Number of Turns	Weight (lbs/kg)
2-1/16"	2.06/52.3	9.62/244.3	5.3/133	19.6/498	13.0/330	13	126/57
2-9/16"	2.56/65.0	10.25/260.4	6.1/155	20.6/524	13.0/330	15-1/2	142/64
3-1/8"	3.12/79.2	11.38/289.1	7.6/193	22.8/578	16.0/406	20	236/107
4-1/16"	4.06/103.1	13.00/330.2	9.4/239	25.9/657	16.0/406	24-1/2	454/206

5000psi Working Pressure

Size	Bore (A)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	Number of Turns	Weight (lbs/kg)
2-1/16"	2.06/52.3	9.62/244.3	5.3/133	19.6/498	13.0/330	13	126/57
2-9/16"	2.56/65.0	10.25/260.4	6.1/155	20.6/524	13.0/330	15-1/2	142/64
3-1/8"	3.12/79.2	11.38/289.1	7.6/193	22.8/578	16.0/406	20	236/107
4-1/16"	4.06/103.1	13.00/330.2	9.4/239	25.9/657	16.0/406	24-1/2	454/206

BG-23S Balanced Stem and Ball-Screwed Gate Valve

PPGL provides Ball Screw Gate valve that is a type of large bore high pressure gate valve, they're designed in accordance to API 6A and NACE MR-0175 and improved from Cameron FLS-R gate valve, it's the main component of frac tree, the valve is often used on the top of the wellhead on high pressure oil well, can do the frac job for isolating the fluid from the well. It contained flanged end, studded outlet and special block body, both manual and hydraulic operation type can be supplied.

Features:

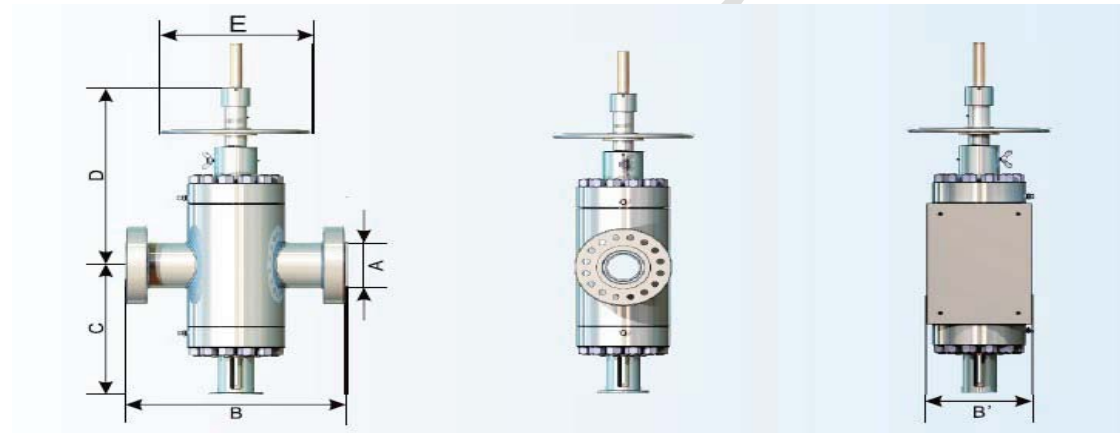
- Forged Body and Bonnet.
- Low operation torque under pressure.
- Metal-to-metal sealing gate-to seat and the seat-to-body.
- Ball screw stem when manual operation.
- Bi-directional FLS-R style slab gate valve for high pressure.
- Flanged & studded outlet are available.
- The stem packing is a pressure energized seal and can resist severe temp. and fluids.
- Critical application from 10,000psi to 20,000psi pressure.



Availability Sizes

Size (in)	10,000psi	15,000psi	20,000psi
1-13/16	---	---	BG-23S-01
2-1/16	---	---	BG-23S-02
2-9/16	---	---	BG-23S-03
3-1/16	---	BG-23S-04	BG-23S-05
4-1/16	BG-23S-06	BG-23S-07	BG-23S-08
5-1/8	BG-23S-09	BG-23S-10	BG-23S-11
7-1/16X6-3/8	BG-23S-12	BG-23S-13	BG-23S-14
7-1/16	BG-23S-15	BG-23S-16	BG-23S-17

Flanged End Valve Dimensions:



10,000psi Working Pressure

Size (in)	Bore (A) (in/mm)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	B' (in/mm)	Weight (lbs/kg)
4-1/16	4.06/103.1	26.38/670.1	26.2/665	51.9/1318	18.75/475	---	1753/795
5-1/8	5.12/130.0	29.00/736.6	27.3/693	53.0/1345	25.0/635	---	2315/1050
7-1/16x6-3/8	6.38/162.1	35.00/889.0	28.7/729	54.2/1377	31.5/800	---	2732/1239
7-1/16	7.06/179.3	35.00/889.0	29.4/748	54.9/1395	31.5/800	---	2752/1248

15,000psi Working Pressure

Size (in)	Bore (A) (in/mm)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	B' (in/mm)	Weight (lbs/kg)
3-1/16	3.06/77.7	23.56/598.4	29.7/755	55.0/1396	17.00/432	---	1367/620
4-1/16	4.06/103.1	29.00/736.6	31.2/792	56.6/1438	18.75/475	---	1874/850
5-1/8	5.12/130.0	35.00/889.0	33.0/838	58.0/1473	25.0/635	---	2822/1280
7-1/16x6-3/8	6.38/162.1	---	34.5/876	59.1/1500	31.5/800	23.00/584.2	5325/2415
7-1/16	7.06/179.3	---	35.1/892	59.9/1522	31.5/800	23.00/584.2	5385/2422

20,000psi Working Pressure

Size (in)	Bore (A) (in/mm)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)	B' (in/mm)	Weight (lbs/kg)
1-13/16	1.81/46.0	21.00/533.4	28.3/720	53.5/1358	17/432	---	573/260
2-1/16	2.06/52.3	27.00/584.2	28.7/730	53.7/1365	17/432	---	706/320
2-9/16	2.56/65.0	26.50/673.1	29.3/745	54.4/1382	18.75/475	---	1305/592
3-1/16	3.06/77.7	30.50/774.7	29.7/755	55.0/1396	18.75/475	---	2095/950
4-1/16	4.06/103.1	35.00/889.0	31.2/792	56.6/1438	25/635	---	3043/1380
5-1/8	5.12/130.0	---	33.0/838	58.0/1473	31.5/800	23.00/584.2	5208/2362
7-1/16x6-3/8	6.38/162.1	---	34.5/876	59.1/1500	31.5/800	24.00/609.6	6086/2760
7-1/16	7.06/179.3	---	35.1/892	59.9/1522	31.5/800	24.00/609.6	6097/2765

DHA 1-25 Hydraulic Actuator

The model hydraulic actuator is available in size from 1-13/16" to 7-1/16" and pressure ratings from 2000psi to 15000psi. The actuator is designed with safety in mind and is adaptable to all major manufacturer's gate valves. In addition, optional wire-cutting application and fusible-opening device are available as well.

The actuator is designed to operate when hydraulic pressure is applied between a stationary cylinder tube and a moveable piston causing the down-stem, spring and flashboard to move downward, opening a reverse-cating gate valve. When hydraulic pressure is withdrawn or liquid is leaking the helical spring returns the actuator to the fully closed position. This fail-safe return action occurs independently of valve pressurization. The actuator spring housing is sealed unit which eliminates internal corrosion caused by atmospheric contamination, thereby:

- Reducing down time
- Reducing related maintenance and repairing time

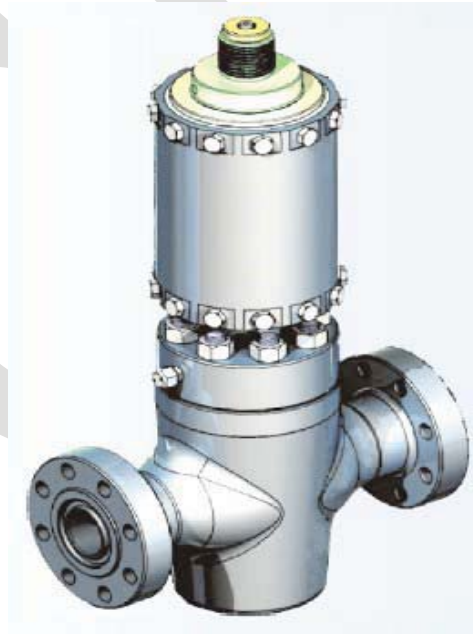
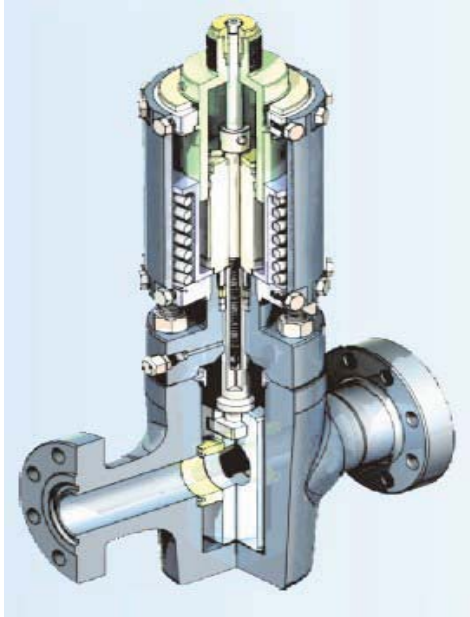
- Extending actuator life

Features

- Safety
 - Visual position indicator
 - Optional fire protection
 - No harmful emissions
- Designed for long service life
 - Separate stems can make them easy disassembling and maintaining
 - Optional overpressure protection
 - Has a compound-springs designing to improve its stability.
- Modular design
 - Adaptability to all major manufacturer's gate valves
 - Optional wire-cutting applications.

Accessories

- Manual control system
- Remote control device
- Fusible open devices
- Wire-cutting applications
- Electric limit switches
- Electric powered control system



Specifications:

Model DHA1-25	
Applicable Valve Sizing	1-13/16" to 7-1/16"
API Specification	API 6A
Standard Material	AA
Temperature	-50°F to 150°F (-46°C to 66°C)
Maximum Working Pressure	25.0MPa
Maximum Test Pressure	37.5MPa

Model DHA1-25 Sizing chart for API 6A

Size	Pressure(psi)	Model	Piston Eff DIA (in/mm)	Actuator Stroke (in/mm)
1-13/16"	10000	DHA1-25-120-55	4.72/120	2.17/55
	15000	DHA1-25-150-55	5.91/150	2.17/55
2-1/16"	2000	DHA1-25-90-60	3.54/90	2.36/60
	3000			
	5000			
	10000	DHA1-25-120-60	4.72/120	2.36/60
	15000	DHA1-25-150-60	5.91/150	2.36/60
2-9/16"	2000	DHA1-25-100-75	3.94/100	2.95/75
	3000			
	5000			
	10000	DHA1-25-125-75	4.92/125	2.95/75
	15000	DHA1-25-160-75	6.30/160	2.95/75
3-1/16"	10000	DHA1-25-125-85	4.92/125	3.35/85
	15000	DHA1-25-125-85	6.30/160	3.35/85
3-1/8"	2000	DHA1-25-100-90	3.94/100	3.54/90
	3000			
	5000			
4-1/16"	2000	DHA1-25-120-115	4.72/120	4.53/115
	3000			
	5000			
	10000	DHA1-25-140-110	5.51/140	4.33/110
	15000	DHA1-25-180-110	7.09/180	4.33/110
5-1/8"	3000	DHA1-25-120-140	4.72/120	5.51/140
	5000			
	10000	DHA1-25-160-140	6.30/160	5.51/140

7-1/16"x6-3/8"	3000	DHA1-25-180-185	7.09/180	7.28/185
	5000			
7-1/16"	3000			
	5000			

DPA1-10 Pneumatic Piston Actuator

The model pneumatic piston actuator is a remarkably simple and practical design. This actuator will open a reverse acting gate valve and is suitable for all types of applications and environments. To operate the valve, pneumatic pressure is applied against a piston causing a downward movement of the piston, top shaft, down-stem and valve gate. The valve gate will remain in the open position until actuator control pressure is released and the actuator spring closed the valve.

Features

- Easy to install and repair
 - Lightweight and compact
 - No special tools required for repair
 - Easily repaired by one service technician
- Designed for long service life
 - All non-stainless components are coated with Xylan to protect against harsh marine environments.
 - Floating piston travels on bearing, eliminating metal-to-metal contact.
- Designed for safety
 - Valve body penetration is on bonnet above backseat allowing monitoring of backseat and venting well pressure trapped below packing.
 - Heavy-duty compression spring insures stem backseat at low-pressure.
 - Bonnet-to-stem, metal-to-metal fire safe backseat protects against bonnet packing distortion or damage in the event of fire.

Packing retainer has wear bearings that prevent metal-to-metal contact with bonnet stem.

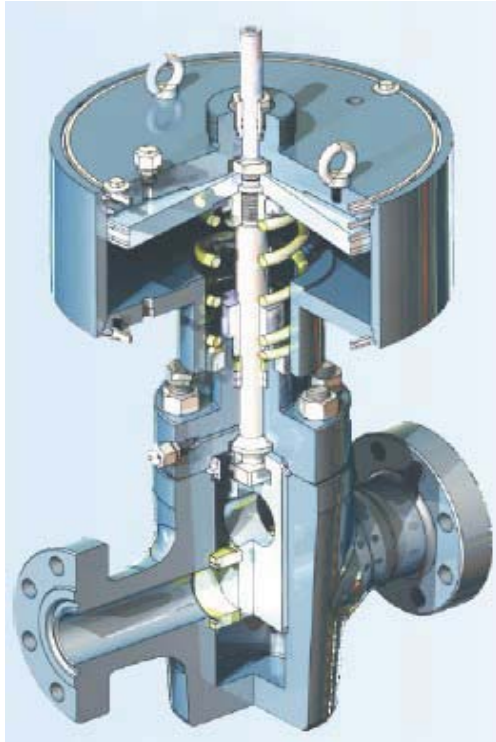
If pressure is present in the cylinder when the seal nut is backed off during servicing, the technician of an unsafe condition.

Top shaft is free-floating thereby eliminating torque transfer when using manual hold-open device.

Top shaft indicates position of gate valve.

Accessories

- Manual control system
- Remote control device
- Fusible open devices
- Electric limit switches
- Electric powered control system



Specifications:

Model DPA1-10	
Applicable Valve Sizing	1-13/16" to 7-1/16"
API Specification	API 6A
Standard Material	AA, EE
Temperature	0°F to 150°F (-18°C to 66°C)
Maximum Working Pressure	1.0MPa
Maximum Test Pressure	1.5MPa

Model DPA1-10 SIZING Chart for API 6A

Size	Pressure (psi)	Model	Piston Eff DIA (in/mm)	Actuator Stroke (in/mm)
1-13/16"	10000	DPA1-10-330-55	13.0/330	2.17/55
	15000	DPA1-10-460-55	18.1/460	2.17/55
2-1/16"	2000	DPA1-10-330-60	13.0/330	2.36/60
	3000			
	5000			
	10000			
	15000	DPA1-10-460-60	18.1/460	2.36/60
2-9/16"	2000	DPA1-10-330-75	13.0/330	2.95/75
	3000			
	5000			
	10000			
	15000	DPA1-10-460-75	18.1/460	2.95/75
3-1/16"	10000	DPA1-10-460-85	18.1/460	3.35/85
	15000			
3-1/8"	2000	DPA1-10-330-90	13.0/330	3.54/90
	3000			
	5000			
4-1/16"	2000	DPA1-10-330-115	13.0/330	4.53/115
	3000			
	5000			
	10000	DPA1-10-460-115	18.1/460	4.53/115
	15000			
5-1/8"	2000	DPA1-10-460-140	18.1/460	5.51/140
	3000			
	5000			

7-1/16"x6-3/8"	2000	DPA1-10-460-185	18.1/460	7.28/185
	3000			
7-1/16"	2000	DPA1-10-460-200	18.1/460	7.87/200

PPGGL