GWC Valve International

PROVEN TECHNOLOGY
FOR INDIVIDUAL
VALVE SOLUTIONS
WORLDWIDE

API 6A
GATE VALVES
2000 – 15,000 psi
Size Range:
1 13/16" – 7 1/16"

CATALOG NUMBER WGV-1001

TABLE OF CONTENTS

VALVE TRIM CHART

	Non-NACE Trims			NACE Trims						
API Material Class	**AA**	**BB**	**CC**	**DD-NL**	**EE-0.5**	**EE-1.5**	**EE-NL**	**FF-0.5**	**FF-1.5**	**FF-NL**
Service	GENERAL	GENERAL	GENERAL	SOUR	SOUR	SOUR	SOUR	SOUR	SOUR	SOUR
Trim	STANDARD	SS TRIM	FULL SS	STANDARD	SS TRIM	SS TRIM	SS TRIM	FULL SS	FULL SS	FULL SS
Corrosive	NO	SLIGHTLY	MODERATE	NO	MODERATE	MODERATE	MODERATE	HIGHLY	HIGHLY	HIGHLY
Available API Temperature	L TO Y	L to Y	P to Y	L to Y	L to Y	L to Y	L to Y	P to Y	P to Y	P to Y
Body	ASTM A 487 CL 4 60K ALLOY	ASTM A 487 CL 4 60K ALLOY	ASTM A 217 or A 487 CA-15 60K SS	ASTM A 487 CL 4 60K ALLOY	ASTM A 487 CL 4 60K ALLOY	ASTM A 487 CL 4 60K ALLOY	ASTM A 487 CL 4 60K ALLOY	ASTM A 217 or A487 CA-15 60K SS	ASTM A217 or A487 CA-15 60K SS	ASTM A 217 or A487 CA-15 60K SS
Bonnet	AISI 4130 6OK ALLOY	AISI 4130 6OK ALLOY	AISI 410 6OK SS	AISI 4130 6OK ALLOY	AISI 4130 6OK ALLOY	AISI 4130 6OK ALLOY	AISI 4130 6OK ALLOY	AISI 410 6OK SS	AISI 410 6OK SS	AISI 410 6OK SS
Gate	AISI 4130 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 4130 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED
Seats	AISI 4130 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 4130 75K NITRIDED	AISI 4130 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED
Stem	AISI 4130 75K NITRIDED	ASTM A 564 GR 630 (17-4) 105K NITRIDED	ASTM A 564 GR 630 (17-4) 105K NITRIDED	AISI 4130 75K NITRIDED	ASTM A 564 GR 630 (17-4) 105K NITRIDED	CRA (2) PER NACE	CRA (2) PER NACE	ASTM A 564 GR 630 (17-4) 105K NITRIDED	CRA (2) PER NACE	CRA (2) PER NACE
Bonnet Seal Ring	AISI 1018/1020	AISI 316 SS	AISI 316 SS	AISI 1018/1020	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS
Studs	ASTM A193 GR B7 OR ASTM A320 GR L7	ASTM A193 GR B7 or ASTM A320 GR L7	ASTM A193 GR B7 or ASTM A320 GR L7	ASTM A193 GR B7 or ASTM A320 GR L7	ASTM A193 GR B7 or ASTM A320 GR L7	ASTM A193 GR B7 or ASTM A320 GR L7	ASTM A193 GR B7 or ASTM A320 GR L7	ASTM A193 GR B7 or ASTM A320 GR L7	ASTM A193 GR B7 or ASTM A320 GR L7	ASTM A193 GR B7 or ASTM A320 GR L7
Nuts	ASTM A194 GR 2H	ASTM A194 GR 2H	ASTM A194 GR 2H	ASTM A194 GR 2HM	ASTM A194 GR 2HM	ASTM A194 GR 2HM	ASTM A194 GR 2HM	ASTM A194 GR 2HM	ASTM A194 GR 2HM	ASTM A194 GR 2HM
Packing	25% GLASS FILLED PTFE (3)	25% GLASS FILLED PTFE (3)	25% GLASS FILLED PTFE (3)	25% GLASS FILLED PTFE (3)	25% GLASS FILLED PTFE (3)	25% GLASS FILLED PTFE (3)	25% GLASS FILLED PTFE (3)	25% GLASS FILLED PTFE (3)	25% GLASS FILLED PTFE (3)	25% GLASS FILLED PTFE (3)

1. Nitriding is standard on all gates and seats. Tungsten Carbide, HF6 or other hardfacing techniques are also available upon request.
2. Corrosion resistant alloy per NACE MR0175/ISO 15156.
3. High temperature (API Temp Ratings X,Y) valves use graphite packing. Other special packing is available upon request.
4. Teflon inserts on seat faces are standard in TVC valves. Metal-to-metal seats are available upon request.
5. Charpy impact test results are provided as required by API 6A according to the temperature rating and material class.
6. Materials for sour service trims conform to latest edition of NACE MR0175. Explanation for suffixes used for sour trims: 0.5 = 0.5 psi maximum partial pressure of hydrogen sulfide 1.5 = 1.5 psi maximum partial pressure of hydrogen sulfide
   NL = No limit to hydrogen sulfide exposure.
7. GWC reserves the right to use material class ZZ when customers request materials of construction that do not comply with current NACE MR0175/ISO standards.

Temperature Classification	Operating Range (ºF)	
	Minimum	Maximum
K	-75ºF (-60'C)	to 180ºF (+82ºC)
L	-50ºF (-46ºC)	to 180ºF (+82ºC)
N	-50ºF (-46ºC)	to 140ºF (+60ºC)
P	-20'F (-29ºC)	to 180ºF (+82ºC)
R	Room Temperature	
S	0ºF (-18ºC)	to 140ºF (+60ºC)
T	0ºF (-18ºC)	to 180ºF (+82ºC)
U	0ºF (-18ºC)	to 250ºF (+121ºC)
V	35ºF (+2ºC)	to 250ºF (+121ºC)
X	0ºF (-18ºC)	to 350ºF (+177ºC)
Y	0ºF (-18ºC)	to 650ºF (+343ºC)

API MATERIAL REQUIREMENTS

MATERIAL CLASS		MINIMUM MATERIAL REQUIREMENTS	
		BODY, BONNET, END AND OUTLET CONNECTIONS	PRESSURE-CONTROLLING PARTS, STEMS AND MANDREL HANGERS
AA	General Service	Carbon or Low-Alloy Steel	Carbon or Low-Alloy Steel
BB	General Service	Carbon or Low-Alloy Steel	Stainless Steel
CC	General Service	Stainless Steel	Stainless Steel
DD	General Service[a]	Carbon or Low-Alloy Steel[b]	Carbon or Low-Alloy Steel[b]
EE	General Service[a]	Carbon or Low-Alloy Steel[b]	Stainless Steel[b]
FF	General Service[a]	Stainless Steel[b]	Stainless Steel[b]
HH	General Service[a]	CRAs[bcd]	CRAs[bcd]

a As defined by ISO 15156 (all parts) (NACE MR0175: see Clause 2).
b In accordance with ISO 15156 (all parts) (NACE MR0175: see Clause 2).
c CRA required on retained fluid-wetted surfaces only: CRA cladding of low-alloy or stainless steel is permitted [see 6.5.1.2.2 a].
d CRA as defined in Clause 3: ISO 15156 (all parts) (NACE MR0175: see Clause 2) definition of CRA does not apply.

API 6A PRODUCT SPECIFICATION LEVELS

	PSL-1	PSL-2	PSL-3	PSL-4
Operation	One tensile test is required to qualify heat lot	Slightly more stringent requirements than PSL-1	Same as PSL-2	Same as PSL-2
Tensile Testing	Required on selected wetted parts only for temperatures K and L	Required on all wetted parts for temperatures K, L and P. More stringent retest criteria than PSL-1	Required for all temperatures. Otherwise, same as PSL-2	Same as PSL-3, but more stringent acceptance criteria
Impact Testing (Charpy)	One hardness punch each on bonnet and stem sampling permitted	Same as PSL-1, but each part must be tested	Same as PSL-2, but additional punch on bonnet face	Same as PSL-3
Hardness Testing	No requirement	Mag particle on all surfaces. Can use wet or dry mag method	Same as PSL-2 but all surfaces must be tested. Must use wet mag method	Same as PSL-3
Service NDE	No requirement	No requirement	100% Volumetric testing by radiography or ultrasonic testing required, all wetted parts	Same as PSL-3, but more stringent acceptance criteria
Volumetric NDE Serialization	No requirement	No requirement	Each wetted part must carry a unique serialization number	Same as PSL-3
Traceability	No requirement	Traceability to job lot required	Part must be traceable to specific heat and heat treat lot	Same as PSL-3
Chemical Analysis	No requirement	Verification of material chemistry required	Same as PSL-2, but more stringent acceptance criteria	Same as PSL-3
Functional / Hydrotesting	Basic Function / Hydrotests required	Same as PSL-1	Same as PSL-1, but extended hold periods on hydrotest	Same as PSL-3 with addition of gas testing, no leakage acceptable
Documentation Supply Requirements	No requirement	No requirement	Cert of compliance for assembly, assembly trace records, pressure test records with strip charts.	Same as PSL-3 with addition of 1. NDE, hardness matl and heat treat records for bon nets & stems. 2. Cert of compliance for seals 3. Gas test records for assy.

ORDERING GUIDE

Example: 2-1/16", Expanding Gate Valve,5000 PSIG,Flanged RTJ, Performance Requirement PR1 with Product Specifications Level PSL1, Material Class DD,Temperature Rating "L"

E	500	9	–	R1	–	L1	–	DD	L
1.	2.	3.		4.		5.		6.	7.

1. MODEL

E	EXPANDING GATE	S	SLAB GATE	SB	SLAB GATE WITH BALL SCREW

2. RATING

300	3000 PSIG	500	5000 PSIG	1000	10000 PSIG	1500	15000 PSIG

3. END CONNECTION

9	RTJ FLANGE	3	EXTERNAL UPSET TUBING THREAD
1	LINE PIPE NPT	4	CLAMP HUB END
2	NON UPSET TUBING THREAD		

4. PERFORMANCE REQUIREMENT

R1	PR1	R2	PR2

5. PRODUCT SPECIFICATION LEVEL

L1	PSL1	L2	PSL2	L3	PSL3	L3G	PSL3G	L4	PSL4

6. MATERIAL CLASS

Material Class	Body	Bonnet	Stem	Gate	Seat
AA	4130 FORGED ASTM A487-CL 4 60K CAST	AISI 4130 60K ALLOY	AISI 4130 75K NITRIDED	AISI 4130 75K NITRIDED	AISI 4130 75K NITRIDED
BB	4130 FORGED ASTM A487-CL 4 60K CAST	AISI 4130 60K ALLOY	ASTM A564 GR 630 (17-4) 105K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED
CC	410 FORGED ASTM A487 CA-15 60K SS CAST	AISI 410 60K SS	ASTM A564 GR 630 (17-4) 105K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 4130 75K NITRIDE
DD-NL	4130 FORGED ASTM A487-CL 4 60K CAST	AISI 4130 60K SS	AISI 4130 75K NITRIDED	AISI 4130 75K NITRIDED	AISI 4130 75K NITRIDED
EE-0.5	4130 FORGED ASTM A487-CL 4 60K CAST	AISI 4130 60K ALLOY	ASTM A564 GR 630 (17-4) 105K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED
EE-NL	4130 FORGED ASTM A487-CL 4 60K CAST	AISI 4130 60K ALLOY	CAR (1) PER NACE	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED
FF-0.5	410 FORGED ASTM A487 CA-15 60K SS CAST	AISI 410 60K SS	ASTM A564 GR 630 (17-4) 105K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED
FF-NL	410 FORGED ASTM A487 CA-15 60K SS CAST	AISI 410 60K SS	CAR (1) PER NACE	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED

7. TEMPERATURE RATING

Temperature Classification	Operating Range (˚F)		Operating Range (˚C)	
K	-75	180	-60	82
L	-50	180	-46	82
P	-20	180	-29	82
R	ROOM TEMPERATURE			
S	0	150	-18	66
T	0	180	-18	82
U	0	250	-18	121
V	35	250	2	121

MODEL E EXPANDING GATE VALVES

GWC Model E cast-body expanding gate valves are designed for oil and natural gas wellhead or other critical service applications with operating pressures from 2,000 to 5,000 psi. All GWC model expanding gate valves are API 6A Latest Edition monogrammed equipment and are available in bore sizes ranging from 2-1/16" through 7-1/16".

Operating Temperatures
GWC Model E Gate Valves are available with API 6A Temperature ratings of L (-50° F) through Y (650° F). Valves for API Temperature ratings of X and Y are pressure de-rated as required per Annex G of API 6A Latest Edition.

Expanding Gate
The expanding gate is field-replaceable and provides a tight mechanical seat that does not rely on line pressure. This ensures seal integrity at both high and low pressures.

Seat Designs
The standard gate to seat and seat to body sealing interface is a slip-fit design, assisted by inserts in the face and rear of each seat. Metal-to-metal gate to seat and pressed-fit seat to body sealing is used for high-temp valves and is otherwise available upon request.

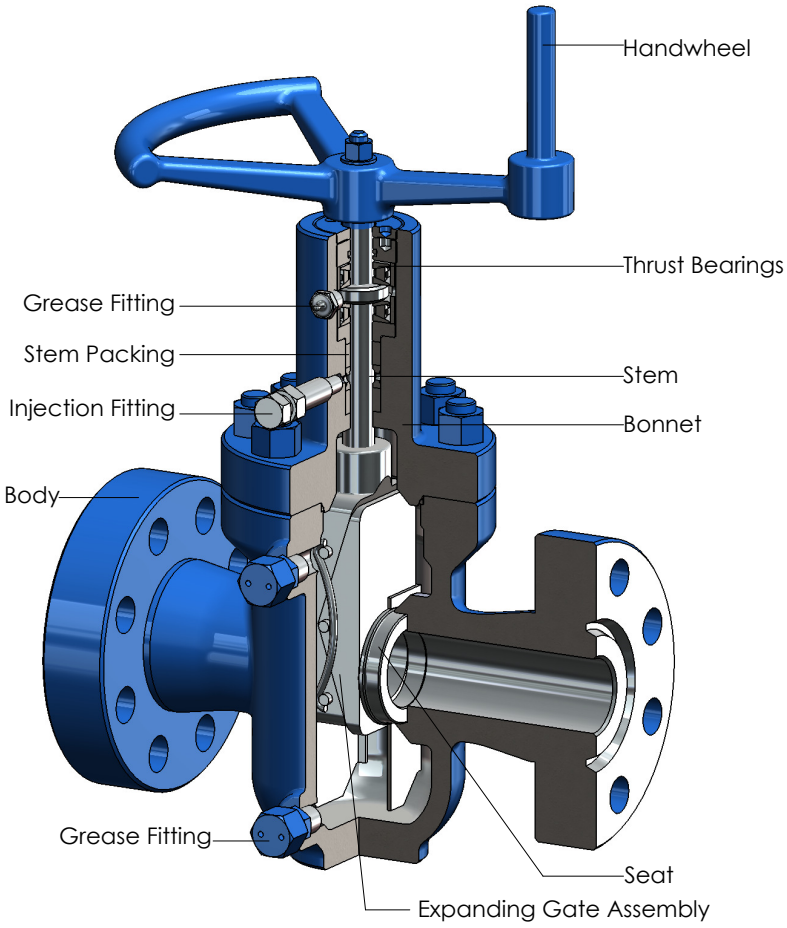
Packing Design
Chevron style stem packing is replaceable and can be re-energized by injection between the packing stacks. This ensures efficient sealing for the life of the valve. Graphite packing is used for high-temperature application.

Body Lubricant
All Model E Valves are shipped with body filler grease appropriate for the material class and temperature rating of the valve to ensure smooth operation of the valve under pressure and to prevent corrosion during storage prior to deployment.

Grease Fittings
The valve body may be lubricated through the grease fittings provided in the valve body. All fittings meet the requirements of NACE MR0175.

Exposed Bolting
All exposed bolting meets the requirements of NACE MRO175.

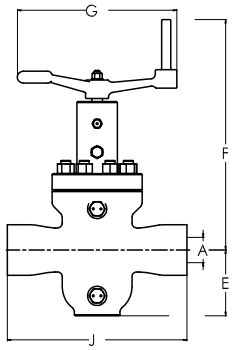
Full Through Conduit Bore
The full through conduit bore provides for smooth flow with minimal turbulence. It also provides an unobstructed passage for well intervention tools.



2,000 - 5,000 PSI Expanding Gate Valves

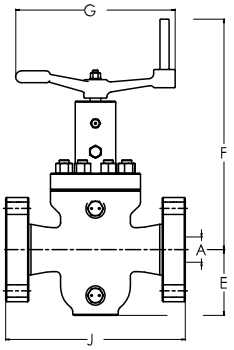
Threaded Valves

MODEL E DIMENSIONAL DETAILS														
Size	Working (PSI)	A		E		F		G		J		WT		N
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
2 1/16	2000 3000-5000	2.06 2.06	52 52	4.81 5.06	122 128	19.25 19.43	488 493	11.00 13.00	279 330	9.62 9.62	244 244	90 125	40 56	13
2 9/16	2000 3000-5000	2.56 2.56	65 65	5.62 5.93	142 150	20.18 20.43	512 519	13.00 16.00	330 406	10.25 10.25	260 260	125 160	56 72	15-1/2
3 1/8	2000 3000-5000	3.12 3.12	79 79	6.93 7.31	176 185	22.50 22.75	571 577	13.00 16.00	330 406	11.37 11.37	288 288	190 230	86 104	20
4 1/16	2000 3000-5000	4.06 4.06	103 103	8.62 9.06	219 230	25.93 26.37	658 669	16.00 20.00	330 508	13.00 13.00	330 330	320 420	145 190	24-1/2



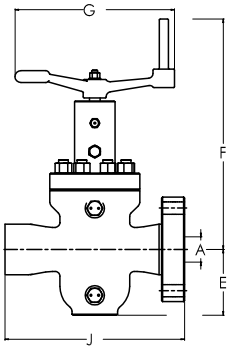
Flanged End Valves

MODEL E DIMENSIONAL DETAILS														
Size	Working (PSI)	A		E		F		G		J		WT		N
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kgs	
2 1/16	2000 3000-5000	2.06 2.06	52 52	4.81 5.06	122 128	19.25 19.43	488 493	11.00 13.00	279 330	11.62 14.62	295 371	120 180	54 56	13
2 9/16	2000 3000-5000	2.56 2.56	65 65	5.62 5.93	142 150	20.18 20.43	512 519	13.00 16.00	330 406	13.12 16.62	333 422	180 220	81 99	15-1/2
3 1/8	2000 3000 5000	3.12 3.12 3.12	79 79 79	6.93 7.31 7.31	176 185 185	22.50 22.75 22.75	571 577 577	13.00 16.00 16.00	330 406 406	14.12 17.12 18.62	358 434 437	220 300 340	99 136 154	20
4 1/16	2000 3000 5000	4.06 4.06 4.06	103 103 103	8.62 9.06 9.06	219 230 230	25.93 26.37 26.37	658 669 669	16.00 20.00 20.00	406 508 508	17.12 20.12 21.62	358 511 549	360 520 560	163 235 254	24-1/2
5 1/8	2000 3000 5000	5.12 5.12 5.12	79 79 79	11.62 11.62 11.62	295 295 295	32.50 32.50 32.50	825 825 825	21.00 23.50 23.50	533 596 596	22.12 24.12 28.62	561 612 727	800 900 980	362 408 444	31
7 1/16	2000 3000 5000	7.06 7.06 7.06	103 103 103	13.87 13.87 13.87	352 352 352	33.10 34.10 34.10	840 866 866	13.00 16.00 20.00	330 406 508	20.00 24.00 30.00	666 714 812	1021 1118 1398	463 507 634	42



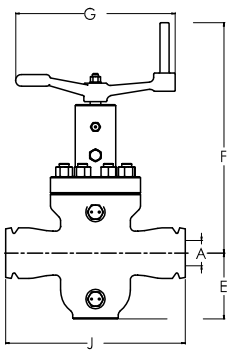
Threaded by Flanged Valves

MODEL E DIMENSIONAL DETAILS														
Size	Working (PSI)	A		E		F		G		J		WT		N
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kgs	
2 1/16	2000 3000-5000	2.06 2.06	52 52	4.81 5.06	122 128	19.25 19.43	488 493	11.00 13.00	279 330	11.62 12.12	269 307	105 140	47 63	13
2 9/16	2000 3000-5000	2.56 2.56	65 65	5.62 5.93	142 150	20.18 20.43	512 519	13.00 16.00	330 406	11.67 13.43	296 341	155 190	70 86	15-1/2
3 1/8	2000 3000 5000	3.12 3.12 3.12	79 79 79	6.93 7.31 7.31	176 185 185	22.50 22.75 22.75	571 577 577	13.00 16.00 16.00	330 406 406	12.75 14.25 15.00	323 14 15	205 265 285	92 120 129	20
4 1/16	2000 3000 5000	4.06 4.06 4.06	103 103 103	8.62 9.06 9.06	219 230 230	25.93 26.37 26.37	658 669 669	16.00 20.00 20.00	406 508 508	15.06 16.56 17.31	382 420 420	340 470 490	154 213 222	24-1/2



Clamp Hub End Valves

MODEL E DIMENSIONAL DETAILS														
Size	Working (PSI)	A		E		F		G		J		WT		N
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kgs	
2 1/16	2000 3000-5000	2.06 2.06	52 52	4.81 5.06	122 128	19.25 19.43	488 493	11.00 13.00	279 330	11.20 11.25	279 287	84 105	38 47	13
2 9/16	2000 3000-5000	2.56 2.56	65 65	5.62 5.93	142 150	20.18 20.43	512 519	13.00 16.00	330 406	12.00 15.00	304 381	109 159	49 72	15-1/2
3 1/8	2000 3000 5000	3.12 3.12 3.12	79 79 79	6.93 7.31 7.31	176 185 185	22.50 22.75 22.75	571 577 577	13.00 16.00 16.00	330 406 406	14.00 17.00 17.00	355 431 431	168 215 222	76 97 100	20
4 1/16	2000 3000 5000	4.06 4.06 4.06	103 103 103	8.62 9.06 9.06	219 230 230	25.93 26.37 26.37	658 669 669	16.00 20.00 20.00	406 508 508	16.00 18.00 19.00	406 457 482	310 396 408	140 179 185	24-1/2



MODEL S SLAB GATE VALVES

GWC Model S forged-body slab gate valves are designed for oil and natural gas wellhead, manifold or other critical service applications with operating pressures from 3,000 to 15,000 psi. All model S slab gate valves are API 6A latest edition monogrammed equipment and are available in bore sizes ranging from 1-13/16" through 4-1/16".

Operating Temperatures
GWC Model S valves are available with API 6A Temperature ratings of L (-50° F) through Y (650° F) . Valves for API Temperature ratings of X and Y are pressure de-rated as required per Annex G of API 6A Latest Edition.

Slab Gate
The single piece slab gate is field-replaceable and provides the valve with full bidirectional sealing capability at both high and low pressures.

Seat Design
The standard gate to seat and seat to body sealing interface is a two-piece design consisting of a seat ring and a body bushing, assisted by inserts in the rear of each piece. Metal-to-metal gate to seat interface is standard. Metal inserts are used for high-temperature applications.

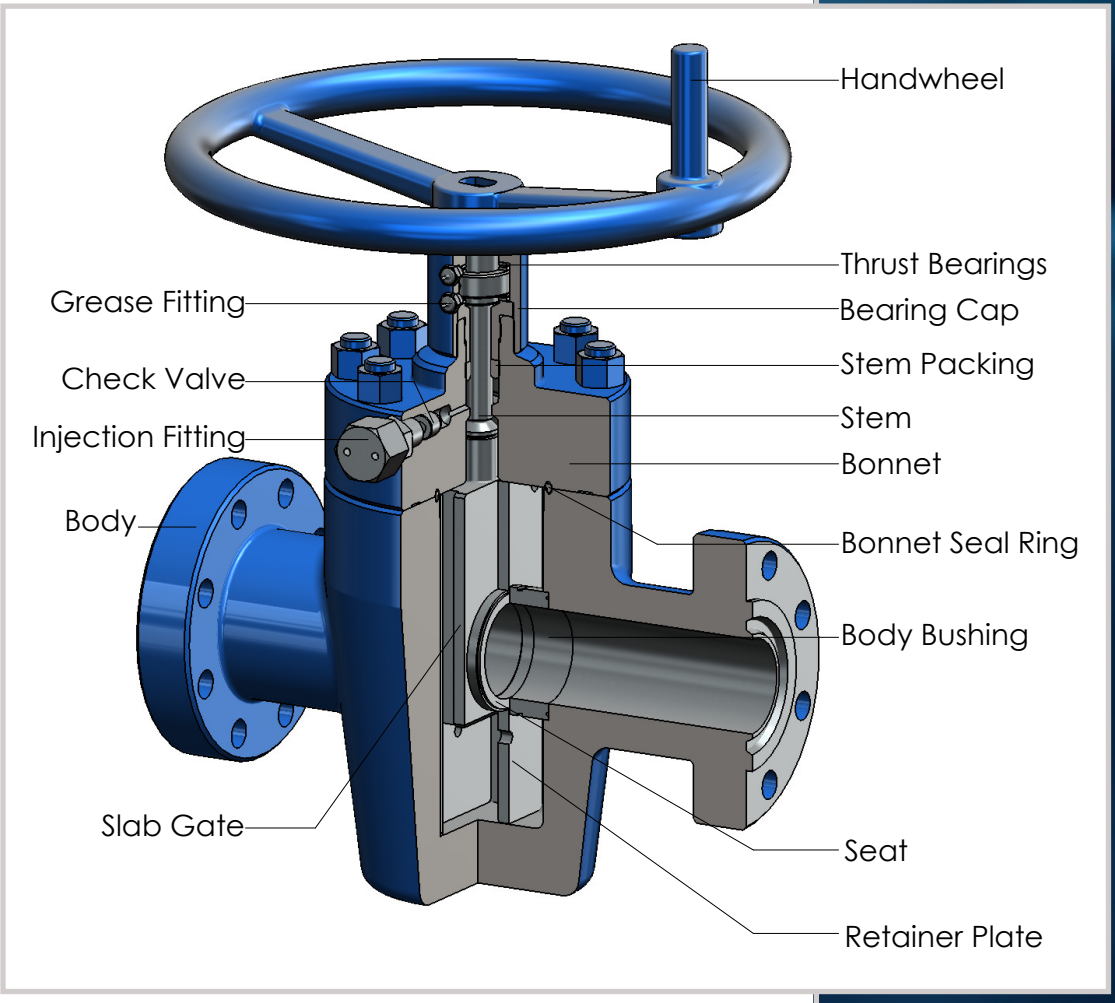
Packing Design
Stem packing is replaceable and assisted by an anti-extrusion ring. This ensures efficient sealing for the life of the valve. Graphite packing is used for high-temperature applications.

Integrates Backseat
All Model S valves have an integrated metal-to-metal stem to bonnet backseat. When valve is in backseat position pressure is contained within the valve cavity and cannot ingress into bonnet or stem packing area.

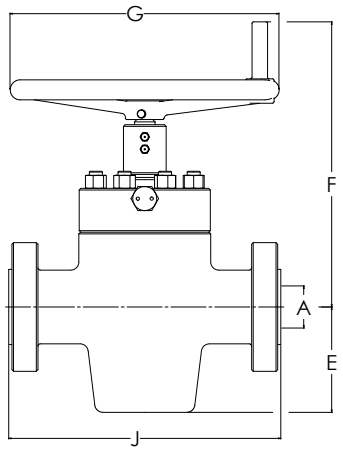
Grease Fittings
The valve body may be lubricated through the grease fitting provided in the valve bonnet. An in-line check valve is provided behind the grease fitting to ensure a unidirectional flow. All fittings meet the requirements of NACE MRO175.

Lubrication and Corrosion Protection
All model S valves have body cavity lubrication appropriate for the material class and temperature rating of the valve under pressure and prevents corrosion during storage.

Full Through Conduit Bore
The full through conduit bore provides for smooth flow with minimal turbulence. It also provides an unobstructed passage for well intervention tools.



3,000 - 15,000 PSI Slab Gate Valves



A Valve Bore
E Bore centerline to bottom of valve
F Bore centerline to handwheel top
G Handwheel diameter
J Flange face to face
N Number of turns to open valve
WT Estimated weight

MODEL S DIMENSIONAL DETAILS														
Size	Press	A		E		F		G		J		WT		N
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kgs	
1 13⁄16	10,000	1.81	46	5.69	144	16.47	418	14.00	355	18.25	463	240	108	12
	15,000	1.81	46	5.90	149	16.73	425	18.00	431	18.00	457	300	136	12
2 1⁄16	3,000-5,000	2.06	52	5.06	128	19.43	493	13.00	330	14.62	371	125	56	13
	10,000	2.06	52	5.69	144	16.45	417	14.00	355	20.50	520	265	120	12
	15,000	2.06	52	5.90	149	16.73	425	18.00	431	19.00	482	330	149	12
2 9⁄16	3,000-5,000	2.56	65	5.93	150	20.43	519	16.00	406	16.62	422	220	99	15 1/2
	10,000	2.56	65	6.75	171	17.68	448	18.00	431	22.25	565	370	167	15
	15,000	2.56	65	7.74	196	18.95	481	18.00	431	21.00	533	450	204	15
3 1⁄8	3,000	3.12	79	7.31	185	22.75	577	16.00	406	17.12	434	300	136	20
	5,000	3.12	79	7.31	185	22.75	577	16.00	406	18.62	437	340	154	20
	10,000	3.06	77	8.12	206	18.58	471	24.00	584	24.38	619	520	235	18
	15,000	3.06	77	9.65	245	22.79	578	24.00	584	23.56	598	880	399	19
4 1⁄16	3,000	4.06	103	9.06	230	26.37	669	20.00	508	20.12	511	520	235	24 1/2
	5,000	4.06	103	9.06	230	26.37	669	20.00	508	21.62	549	560	254	24 1/2
	10,000	4.06	103	10.19	258	21.42	544	24.00	584	26.38	670	850	385	23
	15,000	4.06	103	11.71	297	24.05	636	24.00	584	29.00	736	1360	616	24

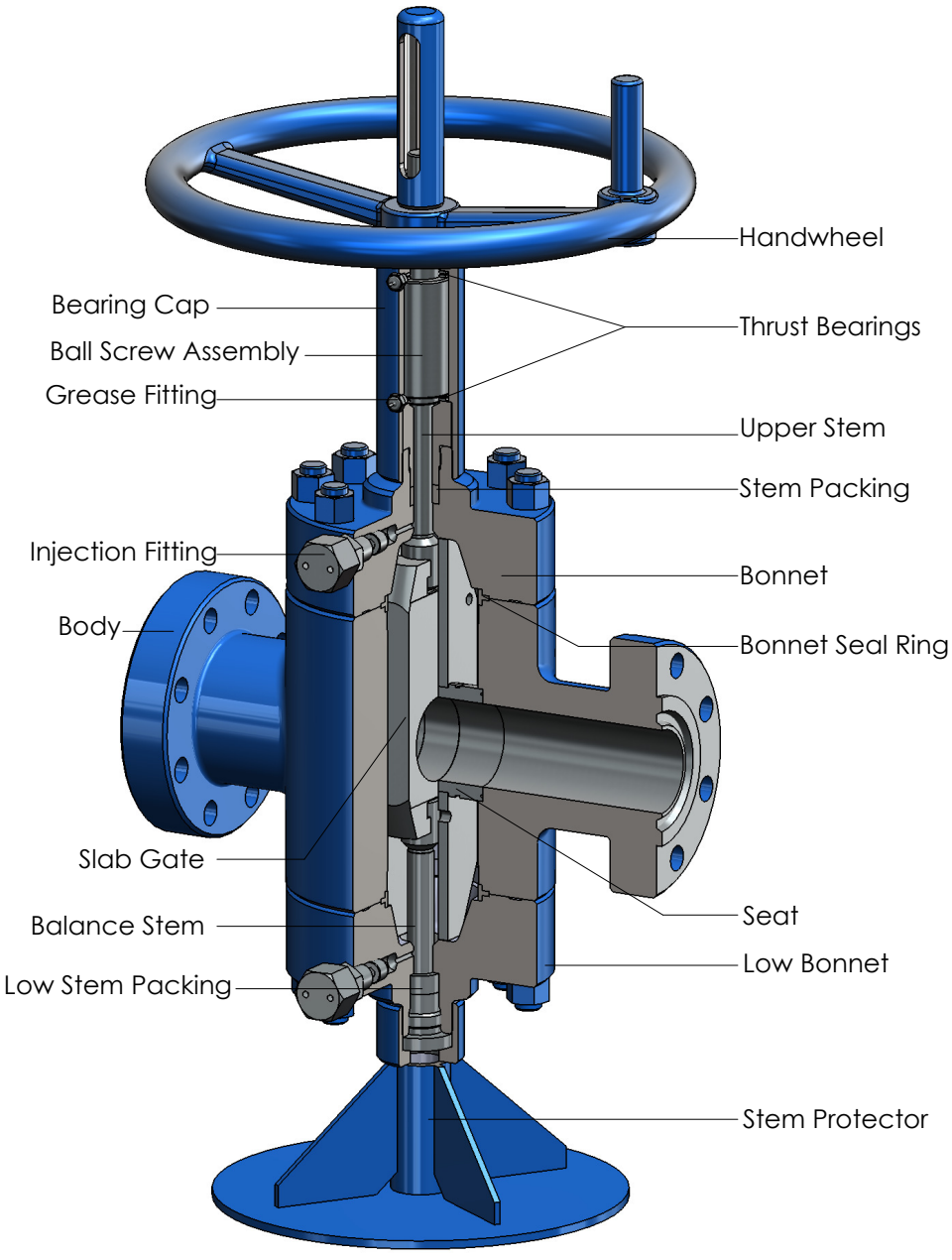
MODEL S DIMENSIONAL DETAILS				
		FULL STAINLESS	STANDARD WITH HARDFACING	FULL STAINLESS WITH HARDFACING
	API MATERIAL CLASS: EE-0,5	API MATERIAL CLASS: FF-0,5	API MATERIAL CLASS: EE-NL	API MATERIAL CLASS: FF-NL
COMPONENT	MATERIAL	MATERIAL	MATERIAL	MATERIAL
BODY	AISI 4130 75K	AISI 410 SS 75K	AISI 4130 75K	AISI 410 SS 75K
BONNET	AISI 4130 75K	AISI 410 SS 75K	AISI 4130 75K	AISI 410 SS 75K
GATE	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 4130 75K HARDFACED	AISI 410 SS 75K HARDFACED
SEAT RING	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	SOLID STELLITE #6 (1)	SOLID STELLITE #6 (1)
SEAT SEAL	GTFE	GTFE	GTFE	GTFE
BODY BUSHING	AISI 410 SS 75K	AISI 410 SS 75K	AISI 410 SS 75K	AISI 410 SS 75K
BODY BUSHING SEAL	GTFE	GTFE	GTFE	GTFE
STEM	17-4 PH HH1150	17-4 PH HH1150	INCONEL 718 (2)	INCONEL 718 (2)
BONNET SEAL RING	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS
RETAINER PLATE	AISI 316 OR 304 SS	AISI 316 OR 304 SS	AISI 316 OR 304 SS	AISI 316 OR 304 SS
STUDS	B7M / L7M	B7M / L7M	B7M / L7M	B7M / L7M
NUTS	2HM	2HM	2HM	2HM

SLAB GATE VALVES WITH BALL SCREW

Model SB 10,000 -15,000 PSI Slab Gate Valves

GWC Model SB (Ball-Screw Operated) forged body slab gate valves are designed for High-Pressure / Large Bore applications which are exposed to abrasive and high fluid volumes such as Fracing Operations or other critical service requirements with working pressures from 10,000psi thru 15,000psi. All Model SB slab gate valves are produced according to the latest edition of the API 6A and are available in bore sizes from 4 1/16" thru 7 1/16" with features as follows:

- Frac Valve Service
- Bidirectional Flow and Seal Capabilities
- Metal to Metal Sealing (Gate to Seat-Seat to Body- Backseat Fire Safe Seal)
- Non-rising Stem Design
- Forged Body and Bonnet
- Low Operating Torque
- No Special Tools Required for Repairs
- Full Bore Design
- Fewer Turns Manually for Open-Close Cycles
- Manual Ball Screw or Hydraulically Actuated



10,000 - 15,000 PSI Slab Gate Valves with Ball Screw

A Valve Bore

E Bore centerline to bottom of valve

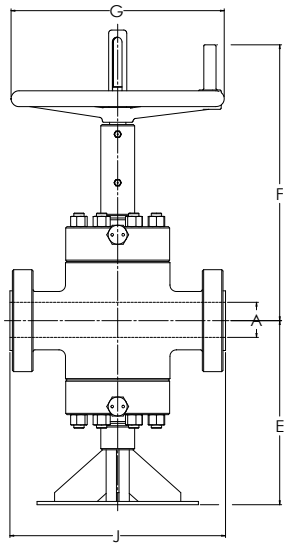
F Bore centerline to handwheel top

G Handwheel diameter

J Flange face to face

N Number of turns to open valve

WT Estimated weight



10,000 PSI Flanged End Studded Valves

MODEL SB DIMENSIONAL DETAILS														
Size	PRESS	A		E		F		G		J		WT		N
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kgs	
5 1⁄8	10,000	5.12	130	25.70	653	44.90	1140	24.00	610	29.00	736	2304	860	23
7 1⁄16	10,000	7.06	179	30.28	769	55.88	1419	31.00	787	35.00	889	3804	1420	31
7 1⁄16	10,000	7.06	179	30.28	769	55.88	1419	31.00	787	24.00	610	3429	1280	31

15,000 PSI Flanged End Studded Valves

MODEL SB DIMENSIONAL DETAILS														
Size	PRESS	A		E		F		G		J		WT		N
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kgs	
3 1⁄16	15,000	3.06	78	22.68	576	31.47	799	22.00	559	23.56	598	1474	550	15.5
4 1⁄16	15,000	4.06	103	22.12	562	42.00	1067	24.00	610	29.00	737	2170	810	19.5
5 1⁄16	15,000	5.12	130	25.70	653	44.90	1140	24.00	610	29.00	737	3738	1395	24.5
7 1⁄16	15,000	7.06	179	31.50	800	58.00	1473	30.00	762	41.00	1041	8091	3020	33
7 1⁄16	15,000	7.06	179	31.50	800	55.00	1473	30.00	762	26.00	660	7502	2800	33

MODEL SB DIMENSIONAL DETAILS				
	STANDARD WITH HARDFACING	FULL STAINLESS WITH HARDFACING	STANDARD WITH INCONEL HARDFACING	FULL STAINLESS WITH INCONEL AND HARDFACING
	API MATERIAL CLASS: EE-0.5	API MATERIAL CLASS: FF-0.5	API MATERIAL CLASS: EE-NL	API MATERIAL CLASS: FF-NL
COMPONENT	MATERIAL	MATERIAL	MATERIAL	MATERIAL
BODY	AISI 4130 75K	AISI 4130 75K	AISI 4130 75K	AISI 4130 75K
BONNET	AISI 4130 75K	AISI 4130 75K	AISI 4130 75K	AISI 4130 75K
GATE	AISI 410 SS 75K HFTC	AISI 410 SS 75K HFTC	AISI 410 SS 75K Hardfacing	AISI 410 SS 75K HFTC
SEAT RING	Solid Stellite #6	Solid Stellite #6	Solid Stellite #6	Solid Stellite #6
SEAT SEAL	GTFE	GTFE	GTFE	GTFE
BODY BUSHING	AISI 4130 75K	AISI 4130 75K	AISI 410 75K	AISI 410 75K
BODY BUSHING SEAL	GTFE	GTFE	GTFE	GTFE
STEM – UPPER & LOWER	17-4 PH HH1150	17-4 PH HH1150	INCONEL 718	INCONEL 718
BONNET SEAL RING	AISI 410 75K	AISI 410 75K	AISI 410 75K	AISI 410 75K
RETAINER PLATE		AISI 410 75K	AISI 410 75K	AISI 410 75K
STUDS	B7M / L7M	B7M / L7M	B7M / L7M	B7M / L7M
NUTS	2HM	2HM	2HM	2HM

1. Stellite is a registered trademark of the Deloro Stellite Group
2. Inconel is a registered trademark of Special Metals Corporation

TERMS & CONDITIONS OF SALE

Scope
These terms and conditions apply to all GWC valve products, and supersedes all previously published terms and conditions.

Hereafter, GWC Valve International, Inc. shall be referred to as GWC.

Special terms and conditions printed on a buyer's order will only apply insofar as they conform to the terms and conditions detailed on these pages. Terms and conditions of an order that change or modify those on this sheet shall not be binding on GWC.

Approval
All quotations, contracts, orders, or agreements are subject to approval and/or acceptance by the main office of GWC.

We reserve the right to correct clerical or stenographic errors in quotations, orders, invoices, and other contracts, agreements, or documents.

Prices
Possession of price lists will not be accepted by GWC as an obligation, or offer to sell the goods listed therein to anyone.

All prices contained therein are subject to change without notice, and supersede all previous lists. All orders will be invoiced at prices in effect at the time of shipment unless quoted in writing.

Changes
Orders cannot be cancelled or specifications be changed without the consent of GWC, and then only in terms indemnifying GWC against loss.

Quotations
Goods quoted F.O.B. our service center are subject to prior sale. Prices quoted are valid only for the duration indicated in the quotation. Quoted prices supersede all previous prices, quotations, or contracts, and are subject to change without notice.

Cancellations
Orders placed with us cannot be cancelled without our prior written consent. A cancellation charge will be applicable as outlined in our quotation.

Claims
All claims for shortages, corrections, or deductions must be made within 10 days after receipt of goods. Responsibility for goods lost or damaged in transit rests with carrier, and claims should be filed with the carrier by the consignee. Delivery of material to a common carrier shall be considered delivery to the buyer, and shall be at the buyers risk thereafter.

Delivery Delays
We assume no responsibility for delays in delivery, or defaults resulting from strikes, work stoppages, fires, floods, accidents, war, inability to obtain materials, or any other cause unavoidable and beyond our control.

Taxes
GWC quotations and/or contracts do not include any municipal, state, or federal sales, excise, use occupational, or other taxes, and any such tax, if paid by us will be charged to the purchaser.

Catalog Illustrations
Catalog illustrations are actual representations of a certain size of each product line, but do not necessarily represent all sizes in details. We reserve the right to institute changes in materials, designs, and specifications without notice in keeping with our policy of continuing product improvement.

Catalog Weights
Catalog weights represent average weights of products and are in no sense guaranteed.

Returns
See Return Goods Policy on next page.

Special Orders
Orders for special goods must be in writing and accompanied with detailed prints and/or sets of specifications, unless specifications on the orders are definite and complete. Orders will not be entered with the factory unless this is adhered to. Cancellation charges will be as outlined in our quotations.

Freight Terms
All shipments are F.O.B. our service centers. See current bulletin for freight allowance.

Warranty
See warranty on reverse side

RETURN GOODS POLICY

This policy supersedes all other policies for return goods.

I. Goods returned at customers request:
A. Material must be:
1. Of our manufacture.
2. In clean, new and saleable condition. It must have been stored inside out of the weather.
3. Shipped from one of our service centers within the 12 calendar months preceding the request for return, and the return will not cause inventory to exceed maximum allowable levels.
4. Personally inspected by a GWC representative prior to its return.
5. Special or non-standard items are non-returnable.

B. Return shipments must be prepaid.
C. Credit will be allowed at invoice price, less 25% handling cost, and less any freight paid by GWC.
D. A Return Goods Card must be furnished by a GWC representative after inspection of the material, and must be returned with the shipment.
E. Shipments received without a Return Goods Authorization Card will be refused. Customer will be responsible for any storage and/or return freight.
F. Material returned which is not of GWC manufacture, not in clean and saleable condition, or not authorized for return will be returned to the customer freight collect.

II. Goods returned because of an error by GWC.
A. Material must be in a clean, new, saleable condition.
B. Return shipment should be made freight collect.
C. Full credit will be allowed.
D. Customer must receive Return Goods authorization prior to the return of the material. Return Goods Authorization Card must accompany shipment. Shipments received without Return Goods Authorization Card will be refused. Return Goods Authorization Card should be attached to the packing list.

All requests to return material to GWC Valve International, Inc. must be submitted in writing to our National Sales Manager for authorization.

WARRANTY

GWC Valve International, Inc. warrants each product sold, if the products are of our manufacture, against defects in material and workmanship under normal use and service for a period of one year after date of shipment.

This warranty is made to the buyer only, and does not extend to any other party. The obligation of GWC Valve International, Inc. under this warranty is limited to: (a) replacement of any part or parts proven defective in material or workmanship, (b) repair of the product F.O.B. the factory or service center, (c) refund of the purchase price. In the case of product or parts not wholly of GWC's manufacture, GWC's liability under this warranty shall be limited to the extent of GWC's recovery from the manufacturer of such parts under its warranty to GWC. This warranty does not extend to any claims for labor, consequential damages, down time, or any other loss, damage, or expense of any kind arising out of the defect. We do not allow claims for unauthorized repairs, labor, or material. We are not responsible for loss of use, personal injury, lost profits, or any other damages whatsoever in connection with the warranties set forth.

No warranty shall apply to any product which has been modified or changed in design or function after leaving GWC's facilities or which is misused or operated beyond its design capabilities, or used for other than its intended purpose. Purchasers of GWC products should consult knowledgeable advisors in the selection of product type and material of construction for their specific use. The buyer assumes all risk of this selection.

The buyer shall permit GWC or its authorized representative to inspect the product so that it may determine its obligation. GWC shall be entitled to the return of the defective product or parts. Buyer must notify GWC promptly upon discover of any claimed defect.

No material may be returned without first obtaining written permission from GWC Valve International, Inc.

NOTES

GWC Valve International

PROVEN TECHNOLOGY
FOR INDIVIDUAL
VALVE SOLUTIONS
WORLDWIDE

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