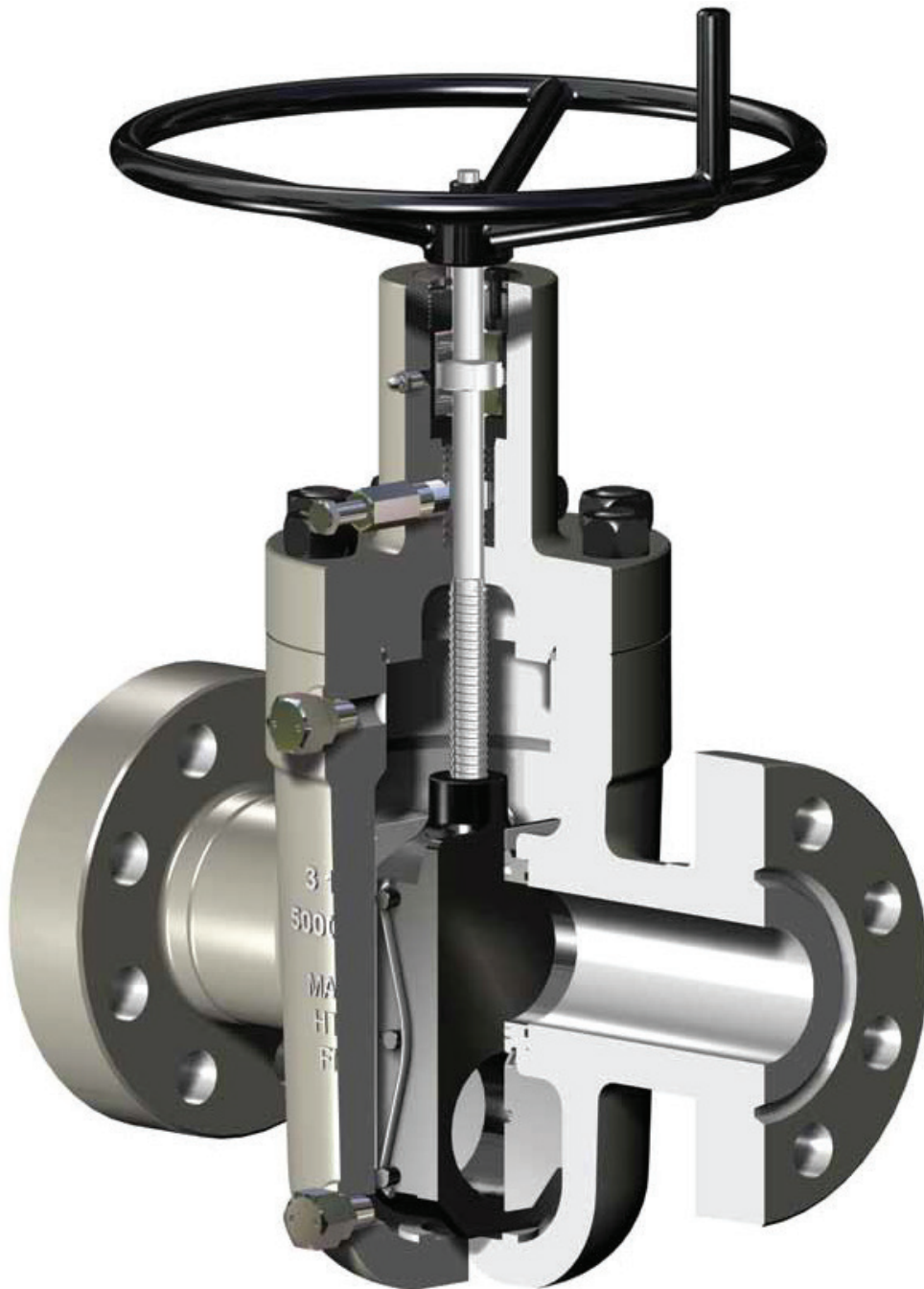


**API6A GATE VALVES**  
VALVES FOR WELLHEAD, MANIFOLD, DISTRIBUTION,  
AND FRACTURE APPLICATIONS



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## VALVE TRIM CHART

MATERIAL CLASS <sup>1</sup>	SERVICE CONDITION DESCRIPTION	FORGED STEEL BODIES		CAST STEEL BODIES	
		MATERIAL <sup>2</sup>	TEMP <sup>3</sup>	MATERIAL <sup>2</sup>	TEMP <sup>3</sup>
AA	NON-CORROSIVE GENERAL SERVICE STANDARD TRIM	AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 410 SS	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y
BB	SLIGHTLY CORROSIVE GENERAL SERVICE STANDARD TRIM	AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 410 SS	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y
CC	MODERATELY CORROSIVE GENERAL SERVICE FULL STAINLESS	AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 410 SS	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y
DD-NL	NON-CORROSIVE SOUR SERVICE STANDARD TRIM	AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 410 SS	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y
EE-0,5	MODERATELY CORROSIVE GENERAL SERVICE STAINLESS TRIM	AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 410 SS	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y
EE-1,5	MODERATELY CORROSIVE GENERAL SERVICE STAINLESS TRIM	AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 410 SS	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y
EE-NL	MODERATELY CORROSIVE SOUR SERVICE STAINLESS TRIM	AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 410 SS	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y
FF-0,5	HIGHLY CORROSIVE SOUR SERVICE FULL STAINLESS	AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 410 SS	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y
FF-1,5	HIGHLY CORROSIVE SOUR SERVICE FULL STAINLESS	AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 410 SS	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y
FF-NL	HIGHLY CORROSIVE SOUR SERVICE FULL STAINLESS	AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 4130	API TEMP L-Y	ASTM A487 4C	API TEMP L-Y
		AISI 410 SS	API TEMP L-Y	ASTM A217 CA-15	API TEMP L-Y

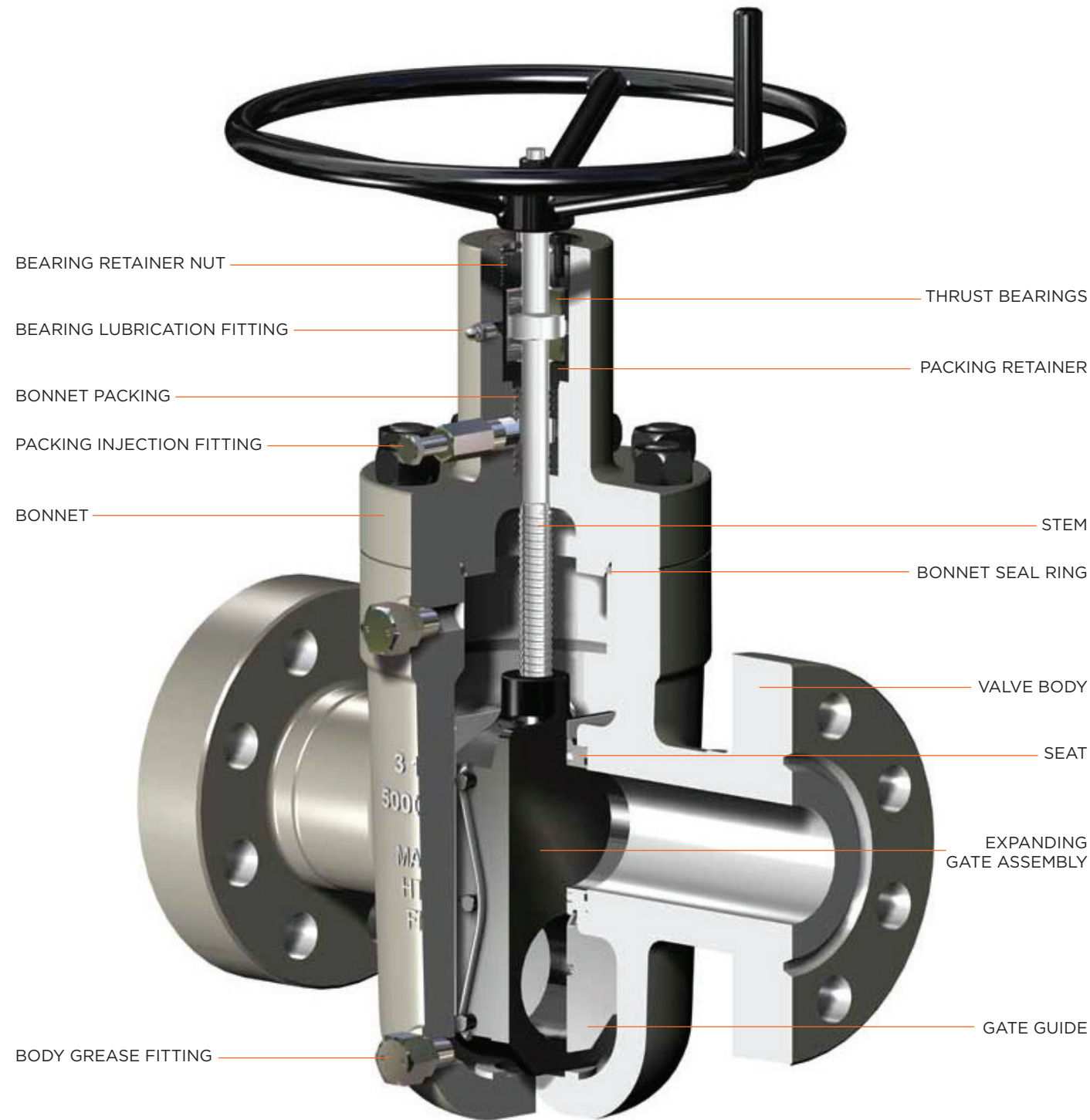
Notes: This trim chart provides information on materials included in standard valves offered by Array. Special materials, trims and configurations are available upon customer request. 10,000-15,000 psi slab gate valves and gate valves with ball screw operators have unique trim charts. Please refer to their respective section of the brochure for details.

- Materials for sour service to latest edition of NACE MR0175. Alternate materials are available for special material classes designated by API or project requirements. Explanation of suffixes for material classes DD, EE and FF:  
0,5 = 0.5 psia maximum partial pressure of H<sub>2</sub>S  
1,5 = 1.5 psia maximum partial pressure of H<sub>2</sub>S  
NL = no limit to H<sub>2</sub>S.  
API material class ZZ may be used when materials that have previously been used for sour service will not comply with current NACE MR0175/ISO standards.

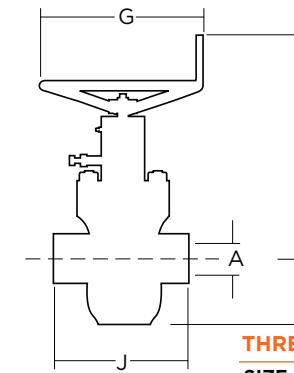
BONNET <sup>2</sup>	BONNET SEAL RING	EXPANDING OR SLAB GATE <sup>4</sup>	STEM <sup>5</sup>	SEAT <sup>4</sup>
AISI 4130	AISI 1018/1020	AISI 4130 NITRIDED	AISI 4130 NITRIDED	AISI 4130 NITRIDED
AISI 4130	AISI 316 SS	AISI 410 SS NITRIDED	17-4 HH1150 SS	AISI 410 SS NITRIDED
AISI 410 SS	AISI 316 SS	AISI 410 SS NITRIDED	17-4 HH1150 SS	AISI 410 SS NITRIDED
AISI 4130	AISI 1018/1020	AISI 4130 NITRIDED	AISI 4130 NITRIDED	AISI 4130 NITRIDED
AISI 4130	AISI 316 SS	AISI 410 SS NITRIDED	17-4 HH1150 SS	AISI 410 SS NITRIDED
AISI 4130	AISI 316 SS	AISI 410 SS NITRIDED	AISI 410 SS/CRA	AISI 410 SS NITRIDED
AISI 4130	AISI 316 SS	AISI 410 SS NITRIDED	AISI 410 SS/CRA	AISI 410 SS NITRIDED
AISI 410 SS	AISI 316 SS	AISI 410 SS NITRIDED	17-4 PH SS	AISI 410 SS NITRIDED
AISI 410 SS	AISI 316 SS	AISI 410 SS NITRIDED	AISI 410 SS/CRA	AISI 410 SS NITRIDED
AISI 410 SS	AISI 316 SS	AISI 410 SS NITRIDED	AISI 410 SS/CRA	AISI 410 SS NITRIDED

- Charpy impact test results provided as required by API temperature rating and material class.
- API temperature ratings X and Y require working pressure of valve to be de-rated as per API 6A annex G.
- Nitriding is standard on all gates and seat. Hardfacing with tungsten carbide, HF6 or other techniques are available..
- NACE MR0175-2009 Table A.27 limits 17-4 PH H1150 for O5 service only (<0.5% H<sub>2</sub>S), CRA impact tested (410SS, Nitronic 50 or Alloy 718) for 1.5% or NL service depending on temperature class

## 2,000 - 5,000 PSI EXPANDING OR SLAB GATE VALVES



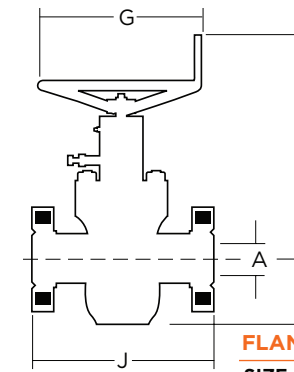
ARRAY 2,000-5,000 psi expanding and slab gate valves are available with either cast or forged steel valve bodies and bonnets. They are used in a variety of wellhead and distribution applications.



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

### THREADED VALVES

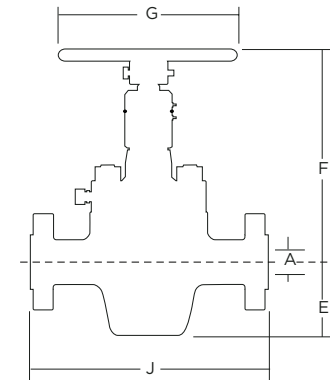
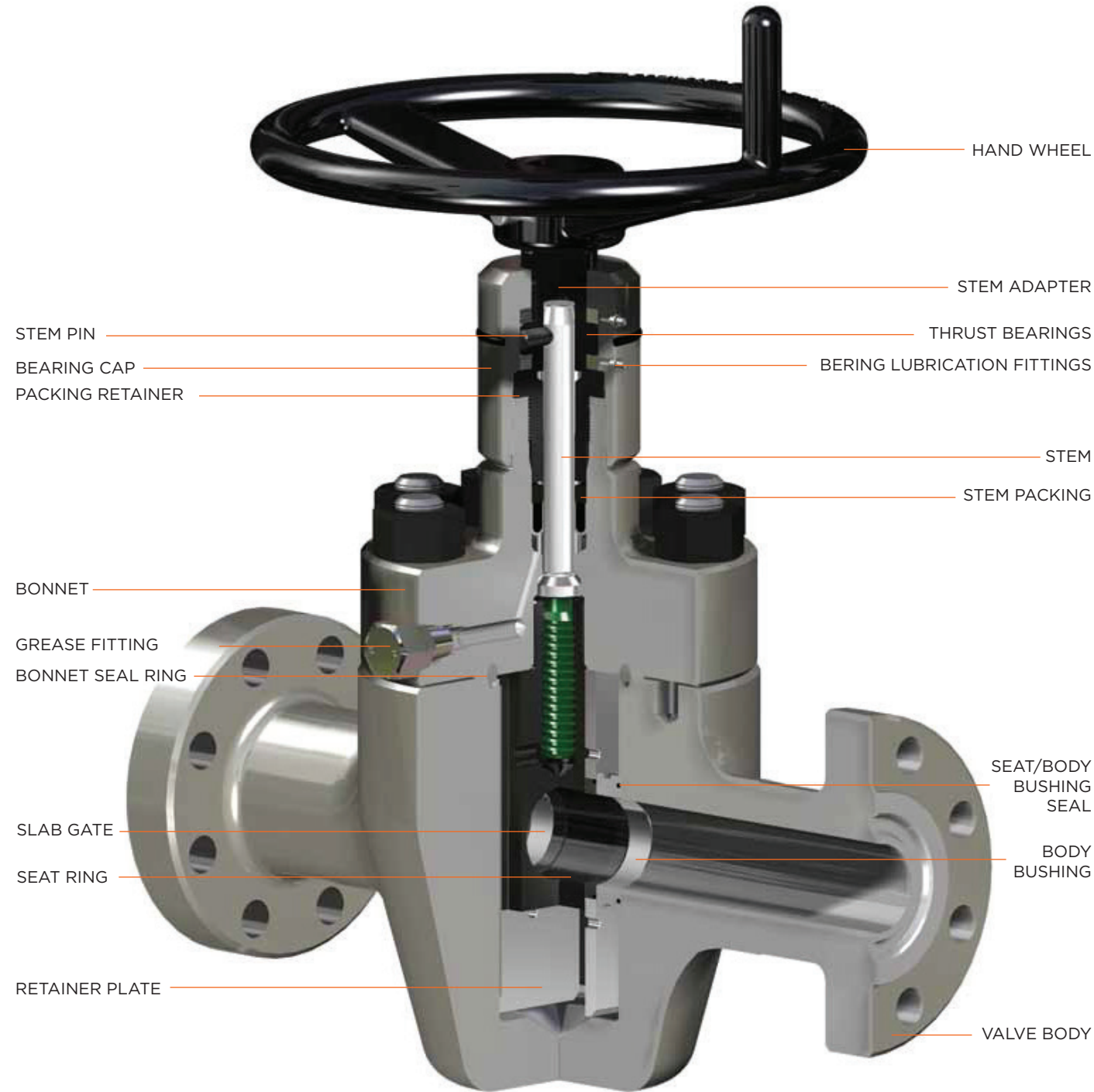
SIZE	Working (PSI)	A		E		F		G		J		WT		N
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kgs	
2 1/16	2000,	2.06	52	4.81	122	19.25	488	11.00	279	9.62	244	90	40	13
	3000-5000	2.06	52	5.06	128	19.43	493	13.00	330	9.62	244	125	56	
2 3/16	2000,	2.56	65	5.62	142	20.18	512	13.00	330	10.25	260	125	56	15-1/2
	3000-5000	2.56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



### FLANGED END VALVES

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	2.06	52	4.81	122	19.25	488	11.00	279	11.62	295	120	54	13
	3000-5000	2.06	52	5.06	128	19.43	493	13.00	330	14.62	371	125	56	
2 3/16	2000	2.56	65	5.62	142	20.18	512	13.00	330	13.12	333	180	81	15-1/2
	3000-5000	2.56	65	5.93	150	20.43	519	16.00	406	16.62	422	220	99	
3 1/8	2000	3.12	79	6.93	176	22.50	571	13.00	330	14.12	359	220	99	20
	3000	3.12	79	7.31	185	22.75	577	16.00	406	17.12	435	300	136	
	5000	3.12	79	7.31	185	22.75	577	16.00	406	18.62	473	340	154	
4 1/16	2000	4.06	103	8.62	219	25.93	658	16.00	406	17.12	435	360	163	24-1/2
	3000	4.06	103	9.06	230	26.37	669	20.00	508	20.12	511	520	235	
	5000	4.06	103	9.06	230	26.37	669	20.00	508	21.62	549	560	254	
5 1/8	2000	5.12	130	11.62	295	32.50	825	21.00	533	22.12	562	800	362	31
	3000	5.12	130	11.62	295	32.50	825	23.50	596	24.12	613	900	408	
	5000	5.12	130	11.62	295	32.50	825	23.50	596	28.62	727	980	444	
7 1/16	2000	7.06	179	13.87	352	33.10	840	13.00	330	26.12	663	1021	463	42
	3000	7.06	179	13.87	352	34.10	866	16.00	406	28.12	714	1118	507	
	5000	7.06	179	13.87	352	34.10	866	20.00	508	32.00	813	1398	634	

# 10,000–15,000 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
- WT** Estimated weight
- N** Number of turns to open valve

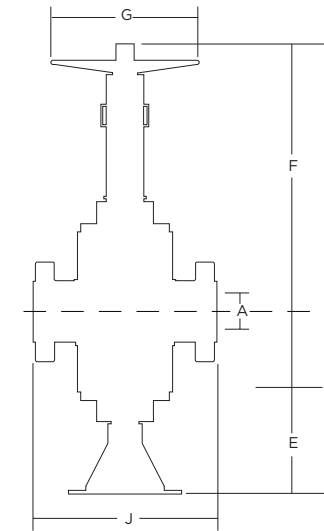
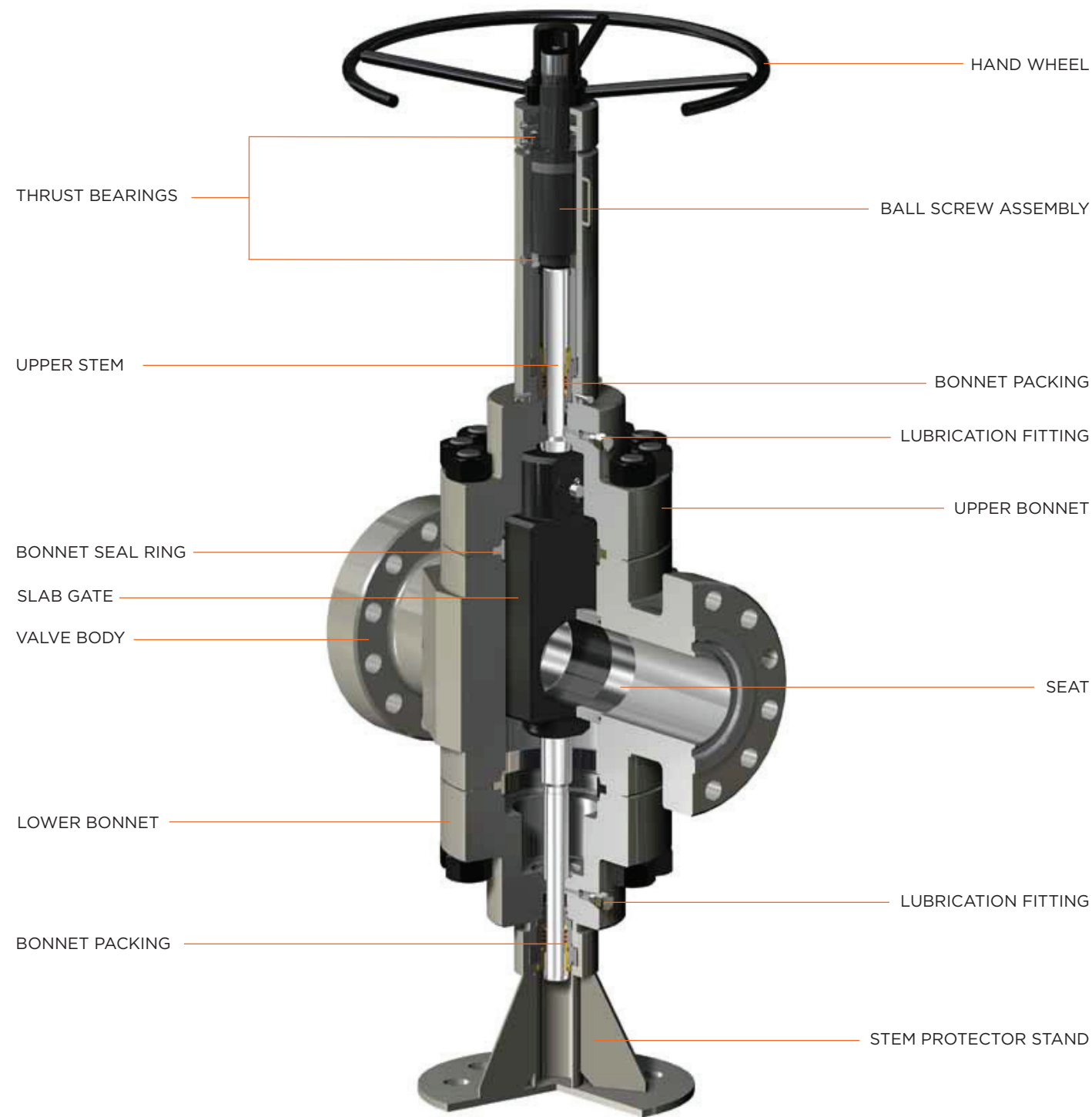
SIZE	PRESS	A		E		F		G		J		WT		N
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kgs	
1 13/16	10,000	1.81	46	5.69	144	16.47	418	14.00	355	18.25	464	240	108	12
	15,000	1.81	46	5.90	149	16.73	425	18.00	431	18.00	457	300	136	12
2 1/16	10,000	2.06	52	5.69	144	16.45	417	14.00	355	20.50	521	265	120	12
	15,000	2.06	52	5.90	149	16.73	425	18.00	431	19.00	483	330	149	12
2 9/16	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 1/16	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	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	737	1360	616	24

COMPONENT	STANDARD	STANDARD WITH HARDFACING	FULL STAINLESS	FULL STAINLESS WITH HARDFACING
	API MATERIAL CLASS: EE-0,5	API MATERIAL CLASS: EE-NL	API MATERIAL CLASS: FF-0,5	API MATERIAL CLASS: FF-NL
BODY	AISI 4130	AISI 4130	AISI 410 SS	AISI 410 SS
BONNET	AISI 4130	AISI 4130	AISI 410 SS	AISI 410 SS
GATE	AISI 410 SS NITRIDED	AISI 4130 75K HARDFACED	AISI 410 SS NITRIDED	AISI 410 SS HARDFACED
SEAT RING	AISI 410 SS NITRIDED	SOLID STELLITE #6 (1)	AISI 410 SS NITRIDED	SOLID STELLITE #6 (1)
SEAT SEAL	GTFE	GTFE	GTFE	GTFE
BODY BUSHING	AISI 410 SS	AISI 410 SS	AISI 410 SS	AISI 410 SS
BODY BUSHING SEAL	U-TYPE PTFE+FKM	U-TYPE PTFE+FKM	U-TYPE PTFE+FKM	U-TYPE PTFE+FKM
STEM	17-4 PH HH1150	AISI 410/CRA	17-4 PH HH1150	AISI 410/CRA
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

ARRAY 10,000–15,000 psi slab gate valves come standard with forged steel valve bodies and bonnets. They are used in a variety of wellhead, distribution and manifold applications.

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

## 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
- WT** Estimated weight
- N** Number of turns to open valve

SIZE	PRESS	A		E		F		G		J		WT		N
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kgs	
5 <sup>1</sup> / <sub>8</sub>	10,000	5.12	130	29.59	751	45.20	1148	28.00	711	29.00	737	2304	860	23
7 <sup>1</sup> / <sub>16</sub>	10,000	7.06	179	34.74	882	51.28	1302	28.00	711	35.00	889	3804	1420	31

COMPONENT	STANDARD	STANDARD WITH INCONEL	FULL STAINLESS	FULL STAINLESS WITH INCONEL
	API MATERIAL CLASS: EE-0,5	API MATERIAL CLASS: EE-NL	API MATERIAL CLASS: FF-0,5	API MATERIAL CLASS: FF-NL
	MATERIAL	MATERIAL	MATERIAL	MATERIAL
BODY	AISI 4130	AISI 4130	AISI 410 SS	AISI 410 SS
BONNET	AISI 4130	AISI 4130	AISI 410 SS	AISI 410 SS
GATE	17-4 HH1150 - NITRIDED	17-4 HH1150 - NITRIDED	17-4 HH1150 - NITRIDED	17-4 HH1150 - NITRIDED
SEAT	AISI 410 SS - NITRIDED	AISI 410 SS - NITRIDED	AISI 410 SS - NITRIDED	AISI 410 SS - NITRIDED
SEAT SEAL	U-TYPE PTFE+FKM & POLYPAK	U-TYPE PTFE+FKM & POLYPAK	U-TYPE PTFE+FKM & POLYPAK	U-TYPE PTFE+FKM & POLYPAK
STEM - UPPER & LOWER	17-4 PH HH1150	AISI 410/CRA	17-4 PH HH1150	AISI 410/CRA
BONNET SEAL RING	AISI 316 SS/AISI 410 SS	AISI 316 SS/AISI 410 SS	AISI 316 SS/AISI 410 SS	AISI 316 SS/AISI 410 SS
STUDS	B7M /L7M	B7M /L7M	B7M /L7M	B7M /L7M
NUTS	2HM	2HM	2HM	2HM

ARRAY 10,000–15,000 psi slab gate valves have ball screw operators to reduce the torque required to open or close the valve under pressure. They come standard with forged valve bodies and bonnets as well as hardfaced gates and seats for durability. These features make them well suited for well fracture applications.

(1) Inconel is a registered trademark of Special Metals Corporation

## CONFIGURATION OPTIONS

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API 6A gate valves from Array can be provided in a variety of configurations based on project requirements or customer preference. A general description of some of the major configuration options appears below. Please see trim chart for additional information.

### **Slab Gate - 10,000 - 15,000 psi valves**

Offered in ARRAY'S 10,000 and 15,000 psi slab gate valves, the parallel slab gate offers bi-directional sealing capabilities ideal for wellhead and manifold applications.

### **Slab Gate - 2,000-5,000 psi valves**

Offered in ARRAY'S 5,000 psi slab gate valves, the slab gate offers bi-directional sealing capabilities and is preferred by some end users.

### **Expanding Gate - 2,000-5,000 psi valves**

Offered in ARRAY'S 2,000-15,000 psi gate valves, the expanding gate is the most popular gate we offer because it allows for a positive seal between gate and both seats even at extremely low pressures.

### **Cast Gate Valve Body - 2,000-5,000 psi valves**

Offered in ARRAY'S 2,000-5,000 psi gate valves, the cast valve body is the most popular body we offer for 5,000 psi and below wellhead gate valves. It is very cost effective and offers extremely reliable service.

### **Forged Gate Valve Body - 2,000-15,000 psi valves**

Offered in ARRAY'S 2,000-15,000 psi gate valves, the forged valve body is standard on all 10,000 and 15,000 psi gate valves. Some end users also prefer a forged body for wellhead applications where pressures are 5,000 psi and below.

For more information scan below  
or call: 713.956.1595  
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