

MODEL FS

Forged Body Handwheel Operated Slab Gate Valves



Forged Body Gate Valves



INTRO

Omni Model FS forged-body slab gate valves are designed for oil and natural gas wellhead, manifold or other critical service applications with operating pressures from 10,000 to 15,000 psi.

All Model FS slab gate valves are API 6A 20th Edition monogrammed equipment and are available in bore sizes ranging from 1 ¹³/₁₆" through 4 ¹/₁₆".

FEATURES

Operating Temperatures

Model FS 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 20th Edition.

Slab Gate

The single piece slab gate is field-replaceable and provides the valve with full bi-directional 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.

Integrated Backseat

All Model FS 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 MR0175.

Lubrication and Corrosion Protection

All Model FS valves have body cavity lubrication appropriate for the material class and temperature rating of the valve. This ensures smooth operation 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.

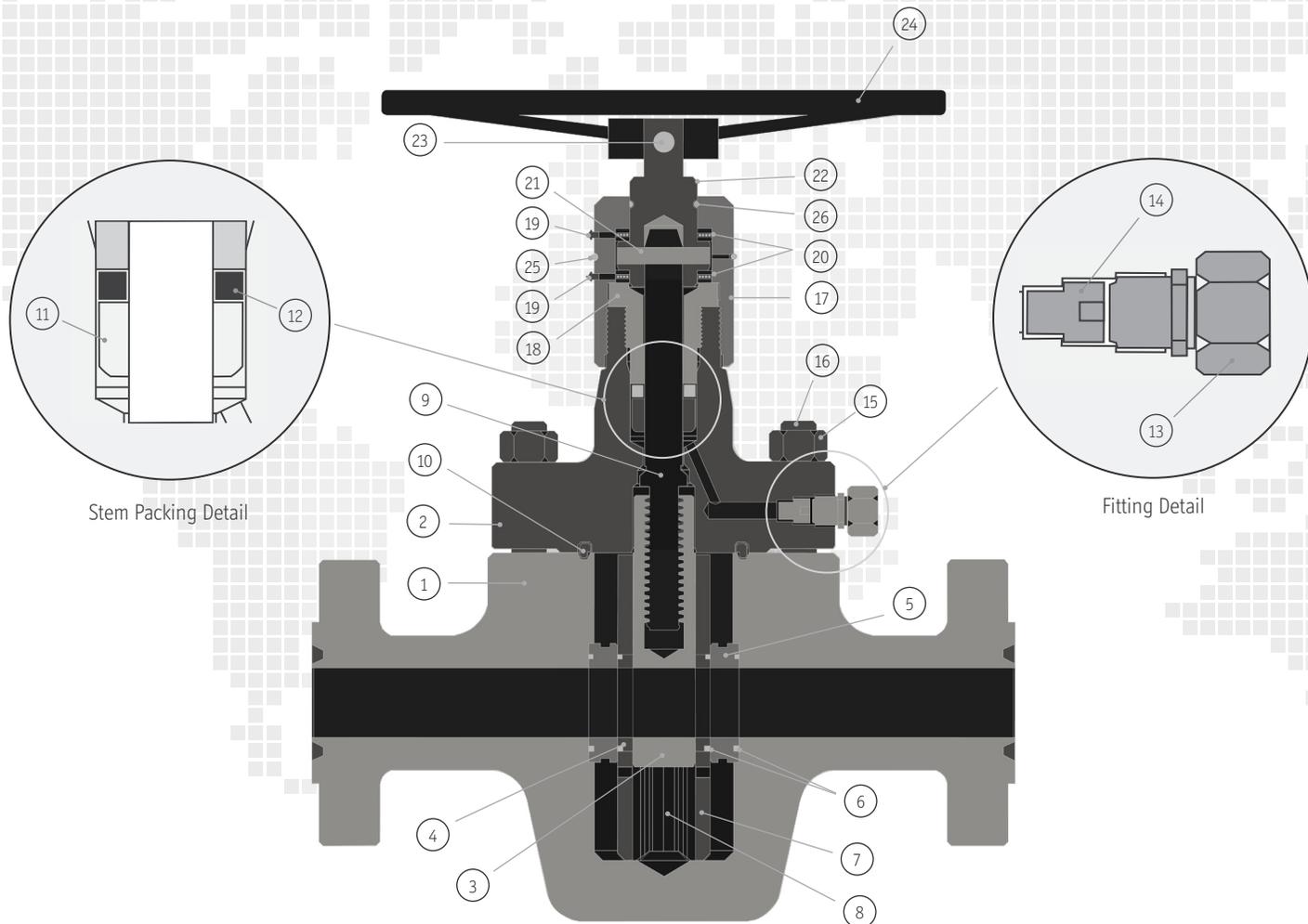
All Model FS valves are drift tested in accordance with API 6A 20th Edition requirements.

INTERNAL CONFIGURATION

Valve depicted with bonnet grease fitting rotated toward flange.



Forged Body Gate Valves



Component	Description	Qty
1	Valve Body	1
2	Valve Bonnet	1
3	Slab Gate	1
4	Seat Ring	2
5	Body Bushing	2
6	Seat Ring / Body Bushing Seals	4
7	Retainer Plate	2
8	Gate Guide	2
9	Operating Stem	1
10	Bonnet Seal Ring	1
11	Stem Packing	1
12	Anti-Extrusion Ring	1
13	Bonnet Grease Fitting	1

Component	Description	Qty
14	In-Line Ball Check Valve	1*
15	Nut	8**
16	Stud	8**
17	Bearing Cap	1
18	Packing Retainer	1
19	Bearing Grease Zerks	2
20	Thrust Bearings	2
21	Stem Pin	1
22	Stem Adapter	1
23	Handwheel Pin	1
24	Handwheel	1
25	Bearing Cap O-Ring	1
26	Stem Adapter O-Ring	1

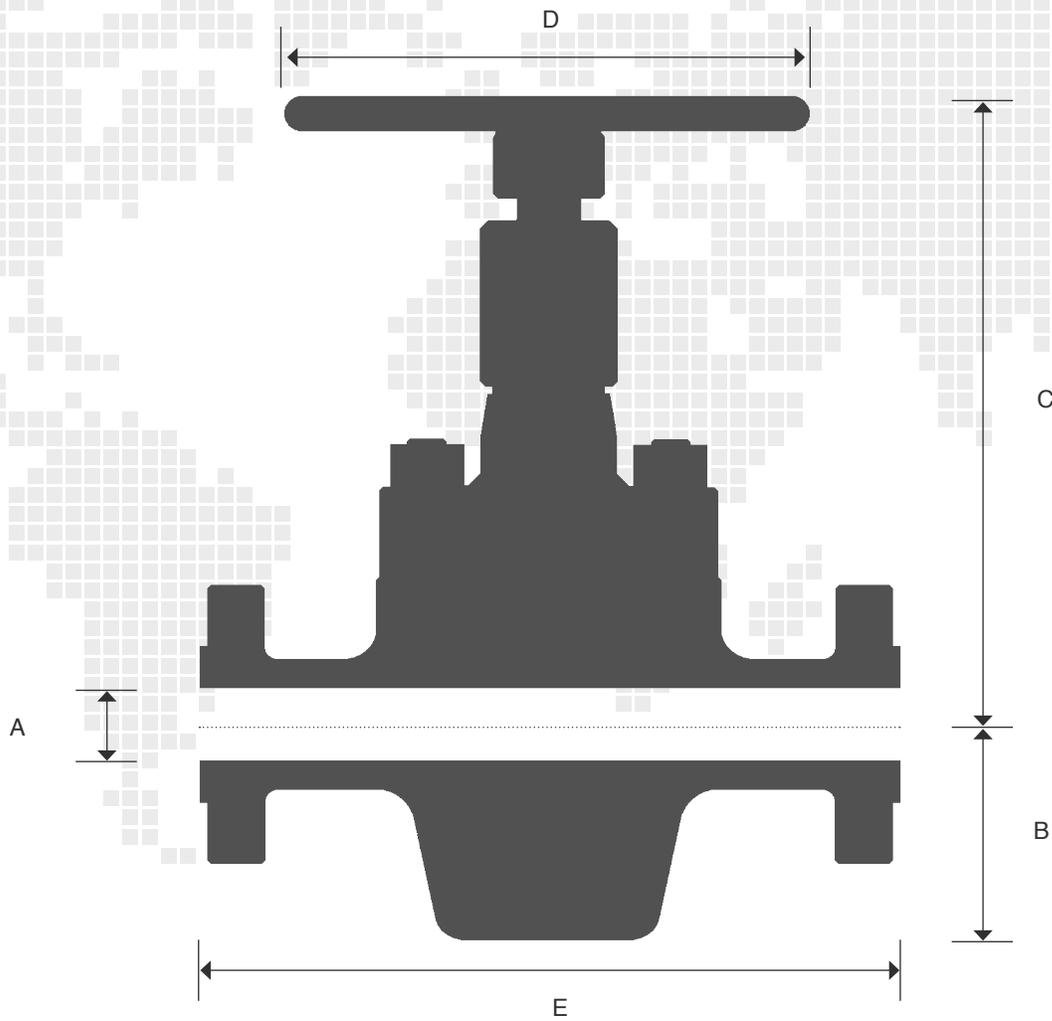
* Configuration shown is for 10,000 PSI valves only. 15,000 PSI valves will have a single Autoclave style Bonnet Grease Fitting.

** Depends on valve size

DIMENSION DATA



Forged Body Gate Valves



Dimensions

Bore Size	Pressure (psi)	API Ring #	A		B		C		D		E		Weight		Turns To Open
			in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kgs	
1 13/16"	10,000	BX151	1.81	46	5.69	145	16.47	418	14	356	18.25	464	232	105	12
	15,000	BX151	1.81	46	5.9	150	16.73	425	18	457	18	457	299	136	12
2 1/16"	10,000	BX152	2.06	52	5.69	145	16.45	418	14	358	20.5	521	265	120	12
	15,000	BX152	2.06	52	5.9	150	16.73	425	18	457	19	483	320	145	12
2 9/16"	10,000	BX153	2.56	65	6.75	171	17.68	449	18	457	22.25	565	360	163	15
	15,000	BX153	2.56	65	7.74	197	18.95	481	18	457	21	533	445	202	15
3 1/16"	10,000	BX154	3.06	78	8.12	206	18.58	472	24	610	24.38	619	510	231	18
	15,000	BX154	3.06	78	9.65	245	22.79	579	24	610	23.56	598	860	390	19
4 1/16"	10,000	BX155	4.06	103	10.19	259	21.42	544	24	610	26.38	670	835	379	23
	15,000	BX155	4.06	103	11.71	297	24.05	611	24	610	29	737	1290	585	24

TRIM CHART



Forged Body Gate Valves

Materials of construction listed below are as provided in Omni's standard valve configurations. Alternate materials are available upon customer request.

NON-NACE TRIMS

NACE TRIMS

API Mat'l 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	Ful SS	Full SS	Full SS
Corrosive	No	Slightly	Moderate	No	Moderate	Moderate	Moderate	Highly	Highly	Highly
Avail API Temp	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

COMPONENT

Body	AISI 4130 75K ALLOY	AISI 4130 75K ALLOY	AISI 410 75K SS	AISI 4130 75K ALLOY	AISI 4130 75K ALLOY	AISI 4130 75K ALLOY	AISI 4130 75K ALLOY	AISI 410 75K SS	AISI 410 75K SS	AISI 410 75K SS
Bonnet	AISI 4130 75K ALLOY	AISI 4130 75K ALLOY	AISI 410 75K SS	AISI 4130 75K ALLOY	AISI 4130 75K ALLOY	AISI 4130 75K ALLOY	AISI 4130 75K ALLOY	AISI 410 75K SS	AISI 410 75K SS	AISI 410 75K SS
Gate (4)	AISI 4130 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 4130 75K NITRIDED	AISI 410 SS 75K NITRIDED					
Seats (4)	AISI 4130 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 410 SS 75K NITRIDED	AISI 4130 75K NITRIDED	AISI 410 SS 75K NITRIDED					
Stem	AISI 4130 75K NITRIDED	ASTM A564 GR 630 (17-4)	ASTM A564 GR 630 (17-4)	AISI 4130 75K NITRIDED	ASTM A564 GR 630 (17-4)	CRA (2) PER NACE	CRA (2) PER NACE	ASTM A564 GR 630 (17-4)	CRA (2) PER NACE	CRA (2) PER NACE
Bonnet Seal Ring	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS	AISI 316 SS
Studs	ASTM A193 GR B7	ASTM A193 GR B7	ASTM A193 GR B7	ASTM A193 GR B7M or ASTM A320 GR L7M						
Nuts	ASTM A194 GR 2H	ASTM A194 GR 2H	ASTM A194 GR 2H	ASTM A194 GR 2HM						
Packing	PTFE WRAP WITH FKM 70D INSERT -3	PTFE WRAP WITH FKM 70D INSERT -3	PTFE WRAP WITH FKM 70D INSERT -3	PTFE WRAP WITH FKM 70D INSERT -3	PTFE WRAP WITH FKM 70D INSERT -3	PTFE WRAP WITH FKM 70D INSERT -3	PTFE WRAP WITH FKM 70D INSERT -3			
Seals for Body Bushings & Seat Ring	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE

NOTES

1	Nitriding is standard on all gates and seats. See Note 4 for explanation of hardfacing alternatives.
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	Omni standard hardfacing alternative is Tungsten Carbide on gates. Solid Stellite seats. Other methods are available.
5	Charpy impact test results are provided as required by API 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	Omni reserves the right to use material class ZZ when customers request materials of construction that do not comply with current NACE MR0175/ISO standards.
8	High temperature (API Temp Ratings X,Y) valves use metal-to-metal seals. Other special seals are available upon request.

All Model FS valves are available in API PSL-1, PSL-2, PSL-3 or PSL-3G, PR-1 or PR-2. Please specify at time of order.

OMNI GATE VALVE PRODUCTS

Model FS



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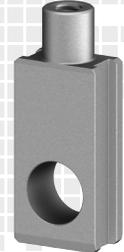
Omni offers a full range of gate valves for wellhead, manifold, fracture and safety shutdown applications.

WELLHEAD, MANIFOLD AND FRAC VALVES

Model	Description
CX	Cast Body Expanding Gate Valves for 2-3-5,000 psi Service
CS	Cast Body Slab Gate Valves for 2-3-5,000 psi Service
FX	Forged Body Expanding Gate Valves for 2-3-5,000 psi Service
FS	Forged Body Slab Gate Valves for 2-15,000 psi Service
FSB	Forged Body Slab Gate Valves for 10-15,000 psi Fracture Service



Expanding Gate



Slab Gate

SAFETY VALVES PREPARED FOR ACTUATOR

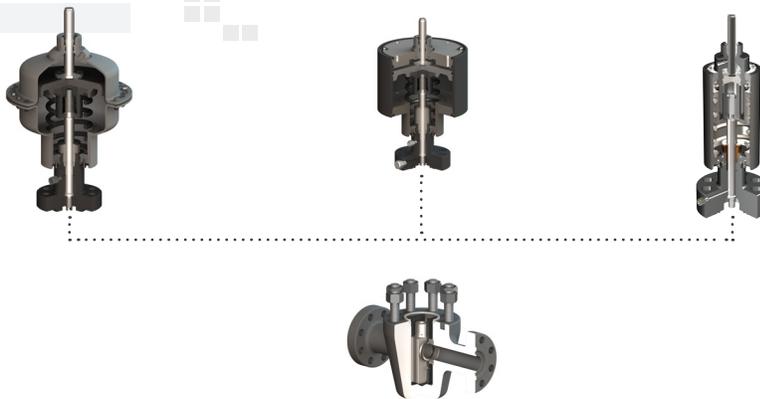
Model	Description
CS-R	Cast Body Reverse Acting Slab Gate Valves Prepared for Actuator, for 2-3-5,000 psi Service
FS-R	Forged Body Reverse Acting Slab Gate Valves Prepared for Actuator, for 2-15,000 psi Service



Reverse Acting Slab Gate

OMNI ACTUATORS

Omni also offers a complete line of pneumatic and hydraulic actuators for manifold and safety shutdown applications. All Omni actuators can be provided as actuated valve assemblies ready to be put into service or as actuators adapted to mount on valves from any valve manufacturer.



Model	Description
DX	Pneumatic Diaphragm Actuator (Fail Safe)
PX	Pneumatic Piston Actuator (Fail Safe, Removable Manual Override)
PMX	Pneumatic Piston Actuator (Fail Safe, Integrated Manual Override)
HX	Hydraulic Piston Actuator (Fail Safe)
HWX	Hydraulic Piston Actuator (Fail Safe, Wirecutting)
HDX	Hydraulic Piston Actuator (Double Acting)



Full Assembly

MODEL FS

Product Warranty



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LIMITED PRODUCT WARRANTY

All products manufactured or sold by Omni are warranted against defects of material and workmanship for a period of twelve (12) months from the date of installation or eighteen (18) months from date of shipment, whichever period first expires, when all such products are used in the service and within the pressure range for which they were manufactured.

In the case of products or parts not wholly of Omni's manufacture, Omni's liability shall be limited to the extent of Omni's recovery from the original manufacturer of such products or parts under its warranty or liability to Omni.

Any repair work performed by Omni is warranted for one year from completion of such repairs and applies only to work performed. If, within these specified periods, Omni receives notice from Buyer of any alleged defect in or nonconformance of any product or repair and if in Omni's sole judgment the product or repair does not conform or is found to be defective in material or workmanship, then, Buyer shall, at Omni's request, return the part or product F.O.B. to Omni's designated plant or service location.

Omni has no liability for removal or reinstallation of products or equipment. Omni, at its option and expense, shall repair or replace the defective part or product, or repay to Buyer the full price paid by Buyer for such defective part, repair or product. Any repayment of purchase price shall be without interest.

Omni's warranty liability, including defects caused by Omni's negligence, shall be limited to such repair, replacement or refund, and shall not include claims for labor costs, expenses of Buyer resulting from such defects, recovery under general tort law or strict liability or for damages resulting from delays, loss of use, or other direct, indirect, incidental or consequential damages of any kind.

Omni will not be responsible for failures of products which have been in any way tampered with or altered by anyone other than an authorized representative of Omni, failures due to lack of compliance with recommended maintenance procedures or products which have been repaired or altered in such a way (in Omni's judgment) as to affect the products adversely.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, STATUTORY OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE WHICH EXCEED THE FOREGOING WARRANTY.

If you have questions regarding this warranty or if you would like information about other Omni products and services please contact us at the address and phone numbers below.



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