SOURCE VERSA GATE VALVE GENERAL CATALOG








API 6A LICENSE
LICENSE NO. 6A-0541

SV-00 R02

Table of Content

SOURCE versa gate valves are manufactured from selected high grade materials. Advanced machine tools and technological process ensure dimensional accuracy, precision machining and consistent high quality. Each valve is inspected and tested in conformance to applicable API specifications and ISO 9001 quality system to ensure it meets the exacting standards mandated by its end user.

SOURCE versa valves are designed to API 6A and API 6D specifications as well as other applicable industrial standards.

SOURCE has verified the performance of its valves through mandatory testing which are witnessed and certified by third parties.

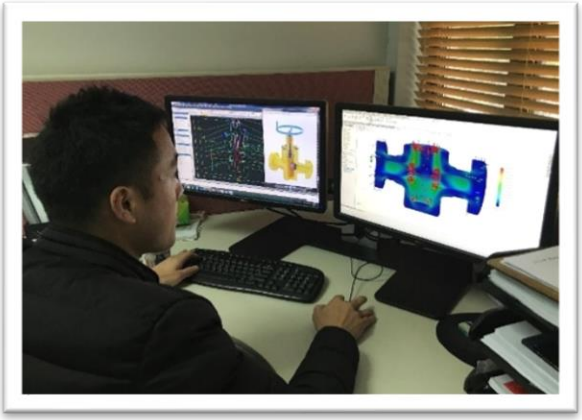
SOURCE is licensed to apply the API monogram on all of its valve products.

SOURCE is committed to consistently providing its customers with high-quality and reliable valve products through applying overall management system and pursuing scientific and technical innovation

SOURCE ENGINEERING CONTROL

SOURCE valve products are designed and manufactured strictly in compliance to recognized international standards such as API, ANSI, ASME, ASTM, NACE and others.

Source engineered products feature ease of operation which afford low operating torque with high level of safety.



SOURCE QUALITY SYSTEM

SOURCE is committed to maintain an effective quality management to comply with all customers, industrial and applicable regulatory requirements, continually improving the quality program to stay relevant, to devote much attention to the employees' training and development, investment in engineering & manufacturing technology, and investment in health, safety & environment program.

Certificate of Authority to use the Official API Monogram

License Number: 6A-0541 **ORIGINAL**

The American Petroleum Institute hereby grants to

SOURCE MANUFACTURING (SHANGHAI) CO. LTD.
988 Xiang Jing Road
Songjiang District, Shanghai
People's Republic of China

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API-6A** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: **6A-0541**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Chokes, Line Pipe, Test Flanges, Tees and Crosses, Adapter Spools and Spacer Spools, Gate, Ball, Plug Valves at PSL 1, PSL 2, PSL 3, PSL 4; Bullnose; Ring Gaskets; Valve Removal Plugs

QMS Exclusions: Servicing

Effective Date: NOVEMBER 1, 2020
Expiration Date: AUGUST 14, 2021

To verify the authenticity of this license, go to www.api.org/compositelist.

Vice President of Global Industry Services

American Petroleum Institute

Certificate No: 6A-0541

License Scope includes:

- Valves & Chokes at PLS-1, PSL-2, PSL-3
- Blind and Test Flanges
- Tees and Crosses

QUALITY CONTROL EQUIPMENT

In order to assure SOURCE products comply with international quality standards and customer specified requirements, in-house equipments are kept for monitoring control, some of this equipment includes:

UT

SOURCE has ASNT Level III Certified personnel to perform UT examination on incoming raw materials, in-process welds and overlay.

MT

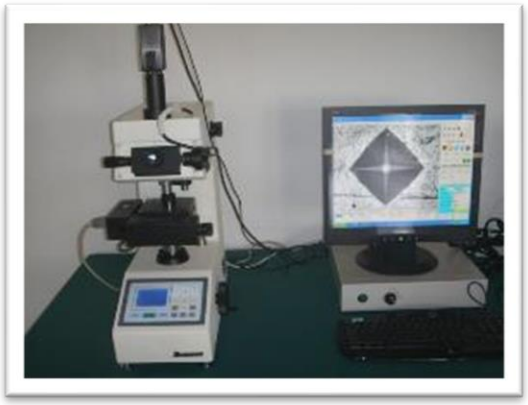
SOURCE has bench type, movable and yoke-type MT equipments for examination of different profiles of ferromagnetic material, the NDT personnel are ISO9712 Level II certified.

PT

SOURCE has the certified personnel and materials to perform PT examination by solvent removable or water washable techniques.

Brinell and Rockwell Hardness Test

Hardness test on valve part such as valve body, bonnet, stem and seat.



Vickers Hardness Test

Tungsten Carbide coating of gate and seat will be conducted Vickers hardness test.

Flatness Examination

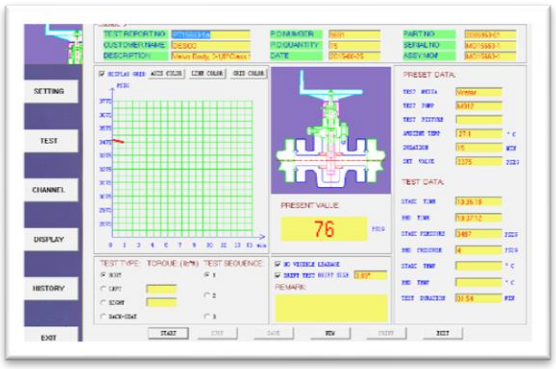
SOURCE has light band equipment for flatness examination of gate and seat.

Ball Gage

SOURCE has Gagemaker and Miller ball gage for in-process and final inspection on valve groove dimension.

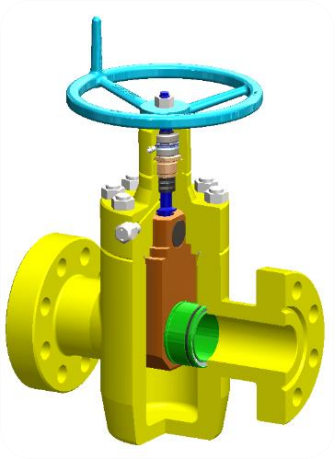
Pressure Test System

SOURCE has advanced pressure test and computerized test data acquisition system for hydrostatic and gas testing of valves.



SLAB GATE VALVES

Gate Valve (General, up to 5000psi)



The Versa Gate Valve is designed for oil and natural gas wellhead, manifold or other critical service applications. Available up to 5000psi (Special type can be up to 6500psi) work pressure with flanged or thread end connections. Valve PSL ranges from PSL-1, PSL-2, PSL-3, PSL-3G and PSL-4. The Valve is designed, manufactured and test according to the latest requirements of API 6A.

FEATURES:

- Bi-directional Flow and Seal
- Metal to Metal Sealing (Gate-to-Seat & Seat-to-Body)
- Non-rising Stem Design
- Floating Gate and Seat Design
- Stem Backseat
- Full Through Conduit Bore Design
- Thrust Bearing, Low Operating Torque
- Forged Body and Bonnet
- Test to Requirements of API 6A

Gate Valve (High-Pressure, up to 10000psi)

The Versa Gate Valve is designed for oil and natural gas wellhead, manifold or other critical service applications. Available for 10000 and 15000psi work pressure with flanged end connections. Valve PSL ranges from PSL-1, PSL-2, PSL-3, PSL-3G and PSL-4.

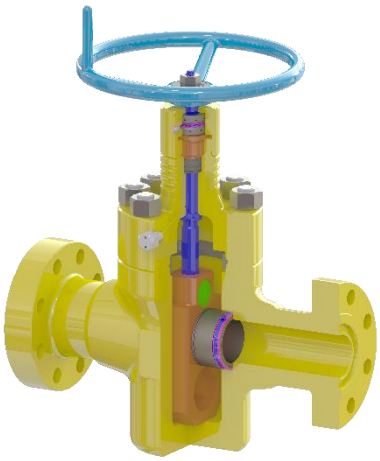
The Valve is designed, manufactured and test according to the latest requirements of API 6A.

FEATURES:

- Bi-directional Flow and Seal
- Metal to Metal Sealing (Gate-to-Seat & Seat-to-Body)
- Special Seat Seal Design
- Gate and Seat Sealing surface with Special hard-facing
- Non-rising Stem Design
- Floating Gate and Seat Design
- Stem Backseat
- Full Through Conduit Bore Design
- Thrust Bearing, Low Operating Torque
- Forged Body and Bonnet
- Test to Requirements of API 6A

SLAB GATE VALVES

Gate Valve (High-Temp)



The Versa Gate Valve is designed for steam injection on x-trees and wellheads or other critical service applications with extreme heat up to 350℃ (660℉). Available with flanged or threaded end connections for working pressures up to 10000 psi. Valve PSL ranges from PSL-1, PSL-2, PSL-3, PSL-3G and PSL-4.

The Valve is designed, manufactured and test according to the latest requirements of API 6A.

FEATURES:

- Bi-directional Flow and Seal
- Metal to Metal Sealing (Gate-to-Seat & Seat-to-Body)
- Special Seat Seal Design
- Gate and Seat Sealing surface with Special hard-facing
- Non-rising Stem Design
- Floating Gate and Seat Design
- Stem Backseat
- Full Through Conduit Bore Design
- Thrust Bearing, Low Operating Torque
- Forged Body and Bonnet
- Test to Requirements of API 6A

Gate Valve (Mud Line)

The Versa Gate Valve is designed for mud line service applications. Available with flanged or threaded end connections for working pressures up to 10000 psi. Valve PSL ranges from PSL-1, PSL-2, PSL-3, PSL-3G and PSL-4.

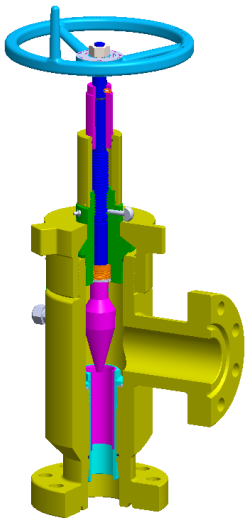
The Valve is designed, manufactured and test according to the latest requirements of API 6A.

FEATURES:

- Bi-directional Flow and Seal
- Metal to Metal Sealing (Gate-to-Seat & Seat-to-Body)
- Special Seat Seal Design
- Gate and Seat Sealing surface with Special hard-facing
- Special Seat Seal Design
- Non-rising Stem Design
- Floating Gate and Seat Design
- Stem Backseat
- Full Through Conduit Bore Design
- Thrust Bearing, Low Operating Torque
- Forged Body and Bonnet
- Test to Requirements of API 6A

CHOKE VALVES

Adjustable Choke



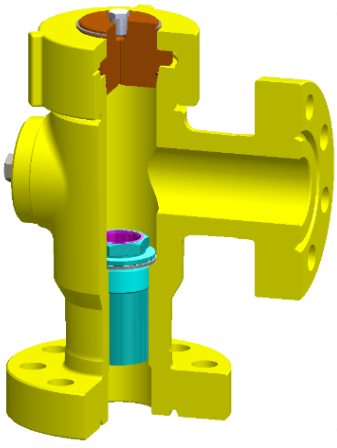
The Positive Choke Valve is intended to control production rate of the oil well and the valve maintains a constant flow restriction based on the installed bean size, application on X-tmas trees and manifolds. Available with flanged or threaded end connections for working pressures of up to 5000 psi

The Positive Choke Valve is designed, manufactured according to the latest requirements of API 6A.

FEATURES:

- 2000 to 5000 psi WP
- 2-1/16″ to 3-1/8″
- Metal to Metal Sealing (Bonnet-to-Body)
- Closed Die Forged Valve Body
- Stainless Steel Bean with Tungsten Carbide Wear Sleeve
- Orifice Sizes 2" Max.
- Non elastomeric stem packing
- Low operating torque
- Test to Requirements of API 6A
- Easy Operation and Maintenance

Positive Choke



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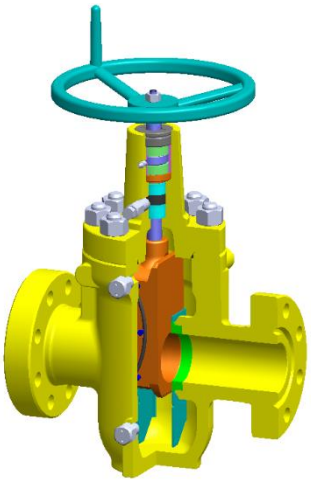
The Positive Choke Valve is designed, manufactured according to the latest requirements of API 6A.

FEATURES:

- 2000 to 5000 psi WP
- 2-1/16″ to 3-1/8″
- Metal to Metal Sealing (Bonnet-to-Body)
- Closed Die Forged Valve Body
- Stainless Steel Bean with Tungsten Carbide Wear Sleeve
- Orifice Sizes 2" Max.
- Test to Requirements of API 6A
- Easy Operation and Maintenance

EXPANDING GATE VALVES (GEOTHERMAL GATE VALVE)

Expanding Gate Valve, Non-rising Stem



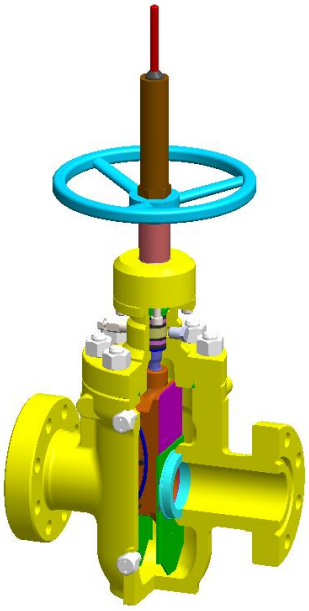
GEOTHERMAL EXPANDING GATE VALVE is full bore through conduit valve with rising stem and parallel expanding gate and segment for tight mechanical seal which is normally unaffected by pressure variation.

The expanding gate valve is designed, manufactured according to the latest requirements of API 6A or API 6D upon request.

FEATURES:

- NPS Size 2”~ 3” (2-1/16” ~3-1/8”)
- Pressure Class:600 to 900 (2000psi ~3000psi)
- QSL 1 to 4 or PSL-1 to PSL-4
- High temperature (up to 650 ˚F) Low temperature (up to -20 ˚F)
- Directional sealing
- Expanding wedge gate and seats design
- Option of full gate/seats/body metal to metal seals
- Reinforced PTFE packing and injectable packing
- Low operating torque
- Tested to requirement of API 6A or 6D

Expanding Gate Valve, Rising Stem



GEOTHERMAL EXPANDING GATE VALVE is full bore through conduit valve with rising stem and parallel expanding gate and segment for tight mechanical seal which is normally unaffected by pressure variation.

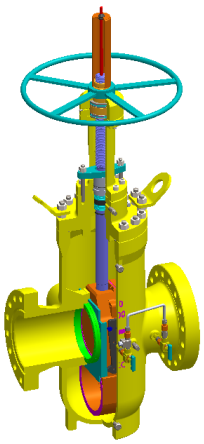
The expanding gate valve is designed, manufactured according to the latest requirements of API 6A or API 6D upon request.

FEATURES:

- QSL 1 to 4 or PSL-1 to PSL-4
- Pressure Class:600 to 900 (2000psi ~3000psi)
- NPS Size 2”~ 3” (2-1/16” ~3-1/8”)
- High temperature (up to 650 ˚F) Low temperature (up to -20 ˚F)
- Directional sealing
- Expanding wedge gate and seats design
- Option of full gate/seats/body metal to metal seals
- Reinforced PTFE packing and injectable packing
- Low operating torque
- Tested to requirement of API 6A or 6D

EXPANDING GATE VALVES (GEOTHERMAL GATE VALVE)

Expanding Gate Valve, Without Bevel Gear



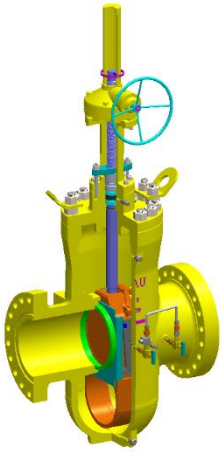
GEOTHERMAL EXPANDING GATE VALVE is full bore through conduit valve with rising stem and parallel expanding gate and segment for tight mechanical seal which is normally unaffected by pressure variation. As request, relief valve or relief system (not supplied as default) will be furnished to protect the valve when over pressure is inside the body cavity.

The expanding gate valve is designed, manufactured according to the latest requirements of API 6A or API 6D upon request.

FEATURES:

- NPS Size 10”, 12” QSL 1 to 4
- Pressure Class: 600 to 900
- High temperature up to 650 ˚F
- Directional sealing
- Expanding wedge gate and seats design
- Option of full gate/seats/body metal to metal seals
- Reinforced PTFE packing and injectable packing
- Low operating torque
- Tested to requirement of API 6D

Expanding Gate Valve, With Bevel Gear



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The expanding gate valve is designed, manufactured according to the latest requirements of API 6A or API 6D upon request.

FEATURES:

- QSL 1 to 4
- Pressure Class: 600 to 900
- NPS Size 10”, 12”
- High temperature up to 650 ˚F
- Directional sealing
- Expanding wedge gate and seats design
- Option of full gate/seats/body metal to metal seals
- Reinforced PTFE packing and injectable packing
- Low operating torque
- Tested to requirement of API 6D

NEEDLE VALVES

FEATURES:

- 1/2” NPT Male x 1/2” NPT Female or 3/8 ” NPT Male x 3/8” NPT Female are available, other Inlet & Outlet Connections as request.
- Max. Work Pressure 10000psi
- 4130LA or 316SS forging Body, 17-4PH Stem, 316SS Bonnet & Gland
- PTFE packing or Reinforced Graphite
- According with NACE MR0175

VERSA SLAB GATE VALVE

Working pressure	Nominal Size (inch)					
2000 psi	2 - 1/16	2 - 9/16			4 - 1/16	
3000 psi	2 - 1/16	2 - 9/16		3 - 1/8	4 - 1/16	
5000 psi	2 - 1/16	2 - 9/16		3 - 1/8	4 - 1/16	5 - 1/8
10000 psi	2 - 1/16	2 - 9/16	3 - 1/16		4 - 1/16	5 - 1/8

VERSA WEDGE GATE VALVE

Working pressure	Nominal Size (inch)					
2000 psi	2 - 1/16	2 - 9/16	3 - 1/8			
3000 psi	2 - 1/16	2 - 9/16	3 - 1/8			
5000 psi	2 - 1/16	2 - 9/16	3 - 1/8			

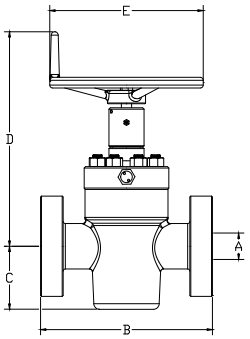
VERSA CHOKE VALVE

Working pressure	Nominal Size (inch)					
2000 psi	2 - 1/16	3 - 1/8				
3000 psi	2 - 1/16	3 - 1/8				
5000 psi	2 - 1/16	3 - 1/8				

VERSA EXPANDING GATE VALVE (CAST BODY)

Pressure Class	Nominal Pipe Size (inch)					
CL 600	2	3	10	12		
CL 900	2	3	10	12		

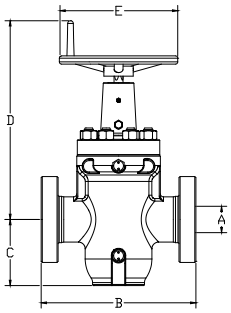
SLAB GATE VALVE REFERENCE DIMENSIONS AND WEIGHTS



A Valve Bore
B Flange Face to Face
C Bore Centerline to Bottom of Valve
D Bore Centerline to Handwheel Top
E Handwheel Diameter
N Number of Turns to Open/Close
WT Estimated Weight

Nominal Size	Working Pressure (psi)	A		B		C		D		E		WT		N	API Ring
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg		
2 1/16	2000	2.06	52.3	11.62	295	4.95	126	18.07	459	13	330	158	72	13 1/2	R-23
	3000-5000	2.06	52.3	14.62	371	5.38	137	18.87	479	13	330	180	82		R-24
	10000	2.06	52.3	20.50	521	5.5	140	19.7	500	16	406	286	130	13	BX-152
2 9⁄16	2000	2.56	65.0	13.12	333	6.18	157	19.65	499	13	330	275	125	20	R-26
	3000-5000	2.56	65.0	16.62	422	6.28	160	19.95	507	13	330	297	135		R-27
3 1⁄8	2000	3.12	79.2	14.12	359	6.93	176	21.35	542	13	330	218	99	20	R-31
	3000	3.12	79.2	17.12	435	7.15	182	21.35	542	16	406	299	136		R-31
	5000	3.12	79.2	18.62	473	7.15	182	21.35	542	16	406	339	154		R-35
3 1/16	10000	3.12	79.2	24.38	619	8.22	209	22.02	559	16	406	528	240	19	BX-154
4 1⁄16	2000	4.06	103.1	17.12	435	8.62	219	23.41	595	16	406	517	235	24	R-37
	3000	4.06	103.1	20.12	511	8.8	224	23.41	595	16	406	559	254		R-37
	5000	4.06	103.1	21.62	549	8.8	224	23.95	608	20	508	605	275		R-39
	10000	4.06	103.1	26.38	670	9.5	241	26.1	663	24	610	924	420	24-1⁄2	BX-155
5 1⁄8	5000	5.12	130.0	28.62	727	11.69	297	27.3	693	20	508	1225	557	23	R-44
	10000	5.12	130.0	29.00	737	12.71	323	32.5	826	24	610	1364	620	23 1/2	BX-169

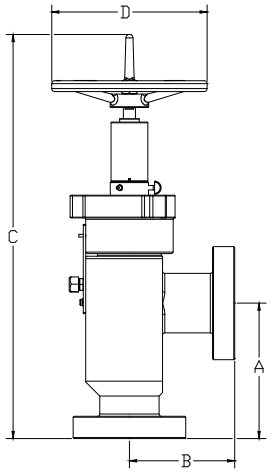
WEDGE GATE VALVE REFERENCE DIMENSIONS AND WEIGHTS



A Valve Bore
B Flange Face to Face
C Bore Centerline to Bottom of Valve
D Bore Centerline to Handwheel Top
E Handwheel Diameter
N Number of Turns to Open/Close
WT Estimated Weight

Nominal Size	Working Pressure (psi)	A		B		C		D		E		WT		N	API Ring
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg		
2 1/16	2000	2.06	52.3	11.62	295	4.81	122	19.25	489	13	330	119	54	13	R-23
	3000-5000	2.06	52.3	14.62	371	5.06	129	19.43	494	13	330	123	56		R-24
2 9⁄16	2000	2.56	65.0	13.12	333	5.62	143	20.18	513	13	330	178	81	15-1⁄2	R-26
	3000-5000	2.56	65.0	16.62	422	5.93	151	20.43	519	13	330	218	99		R-27
3 1⁄8	2000	3.12	79.2	14.12	359	7.18	182	22.5	572	13	330	218	99	20	R-31
	3000	3.12	79.2	17.12	435	7.31	186	21.88	556	13	330	299	136		R-31
	5000	3.12	79.2	18.62	473	7.31	186	21.88	556	16	406	339	154		R-35

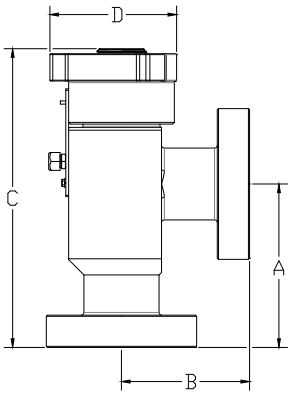
ADJUSTABLE CHOKE VALVE REFERENCE DIMENSIONS AND WEIGHTS



A Inlet Bore Centerline to outlet Flange
B Outlet Bore Centerline to Inlet Flange
C Overall Length of Choke
D Handwheel Diameter
WT Estimated Weight

Nominal Size	Working Pressure (psi)	A		B		C-Closed		C-Open		D		WT		Max. Orifice (in)	API Ring
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg		
2 1/16	2000	7.31	186	7.31	186	25.8	655	27.5	699	11	279	132	60	1	R-23
	3000-5000	9.38	238	7.5	191	27.03	687	28.26	718	13	330	154	70		R-24
3 1⁄8	2000	11.38	289	8.88	226	33.5	851	36.5	927	13	330	265	120	2	R-31
	3000	11.38	289	8.88	226	33.5	851	37.44	951	16	406	298	135		R-31
	5000	11.38	289	8.88	226	34.39	874	37.44	951	16	406	320	145		R-35

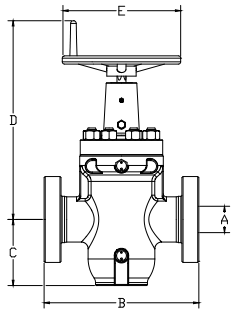
POSITIVE CHOKE VALVE REFERENCE DIMENSIONS AND WEIGHTS



A Inlet Bore Centerline to outlet Flange
B Outlet Bore Centerline to Inlet Flange
C Overall Length of Choke
D Wing Nut Profile Dimension
WT Estimated Weight

Nominal Size	Working Pressure (psi)	A		B		C		D		WT		Bean (in)	API Ring
		in	mm	in	mm	in	mm	in	mm	lbs	kg		
2 1/16	3000-5000	9.38	238	7.5	191	15.59	396	7.57	192	132	60	1	R-24
3 1⁄8	3000	11.38	289	8.88	226	20.5	521	8.85	225	256	116	2	R-31
	5000	11.38	289	8.88	226	20.5	521	8.85	225	278	126		R-35

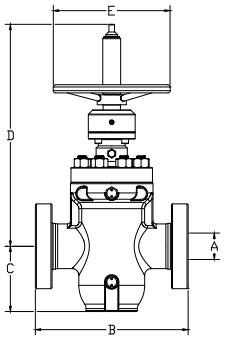
EXPANDING GATE VALVE REFERENCE DIMENSIONS AND WEIGHTS (NON-RISING STEM)



A Valve Bore
B Flange Face to Face
C Bore Centerline to Bottom of Valve
D Bore Centerline to Handwheel Top
E Handwheel Diameter
N Number of Turns to Open/Close
WT Estimated Weight

NPS in	Pressure Class	A		B		C		D		E		WT		N	Cv (Ref.)	API
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg			Ring
2	600	2 1/16	52	11.63	295	4.81	122	19	489	13	330	119	54	13	378	R-23
	900	2 1/16	52	14.63	372	5.02	128	19	494	13	330	123	56		337	R-24
3	600	3 1/8	79	14.13	359	7.07	180	22	556	13	330	218	99	20	1109	R-31
	900	3 1/8	79	15.13	384	7.13	181	22	556	13	330	299	136		1072	R-31

EXPANDING GATE VALVE REFERENCE DIMENSIONS AND WEIGHTS (RISING STEM)



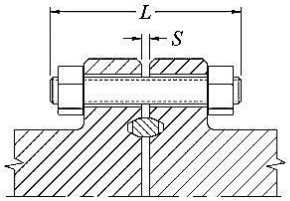
A Valve Bore
B Flange Face to Face
C Bore Centerline to Bottom of Valve
D Bore Centerline to Handwheel Top
E Handwheel Diameter
N Number of Turns to Open/Close
WT Estimated Weight

NPS in	Pressure Class	A		B		C		D - Closed -Open		E		WT		N	Cv (Ref.)	API Ring
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg			
2	600	2 1/16	52	11.63	295	4.81	122	23.15	588	13	330	119	54	13	378	R-23
								25.90	658							
	900	2 1/16	52	14.63	372	5.02	128	23.57	599	13	330	123	56		337	R-24
								26.27	667							
3	600	3 1/8	79	14.13	359	7.07	180	24.15	613	13	330	218	99	20	1109	R-31
								28.15	715							
	900	3 1/8	79	15.13	384	7.13	181	24.85	631	13	330	299	136		1072	R-31
								28.85	733							
10	600	10	254	31.13	791	19.75	502	66.29	1684	30	762	2204	1002	34	14533	R-53
								77.10	1958							
	900	10	254	33.13	842	20.15	512	66.29	1684	30	762	2721	1237		14087	R-53
								77.10	1958							
12 Note	600	12 3/8	314	33.13	842	23.00	584	71.00	1803	30	762	2673	1215	44	22729	R-57
								85.75	2178							
	900	12 3/8	314	38.13	969	23.50	597	73.51	1867	24	610	3362	1528	176	21025	R-57
								88.35	2244							

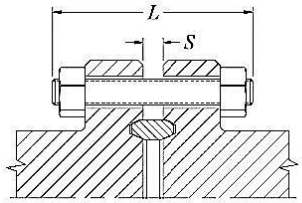
Note: All the valves are handwheel operated, except 12" Class900 valve is bevel gear operated.

RECOMMENDED FLANGE BOLT LENGTHS & RING GASKET TYPE

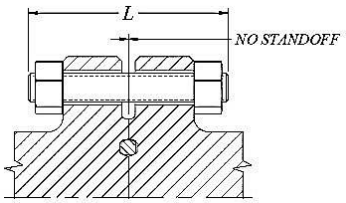
Recommended Bolt Lengths						
Nominal Size	Working Pressure (psi)	Stud			Nut	Ring Gasket
		Bolt Size and Thread	Length +0.125/−0	Qty	Qty	
2 1/16	2000	5/8-11 UNC	5	8	16	R23
	3000-5000	7/8-9 UNC	6.5	8	16	R24
	10000	3/4-10 UNC	5.5	8	16	BX-152
2 9⁄16	2000	3/4-10 UNC	5.5	8	16	R26
	3000-5000	1-8 UNC	7	8	16	R27
3 1⁄8	2000	3/4-10 UNC	5.75	8	16	R31
	3000	7/8-9 UNC	6.5	8	16	R31
	5000	1-1/8-8 UNC	7.75	8	16	R35
3 1/16	10000	1-8 UNC	7.25	8	16	BX-154
4 1⁄16	2000	7/8-9 UNC	6.5	8	16	R37
	3000	1-1/8-8 UN	7.5	8	16	R37
	5000	1-1/4-8 UN	8.5	8	16	R39
	10000	1-1/8-8 UN	8.5	8	16	BX-155
5 1⁄8	5000	1-1/2-8 UN	10.5	8	16	R44
	10000	1-1/8-8 UN	9.25	12	24	BX-169



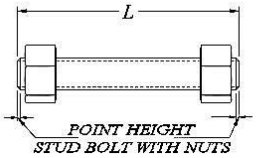
API TYPE 6B FLANGE WITH R GASKET



API TYPE 6B FLANGE WITH RX GASKET



API TYPE 6BX FLANGE



STUD BOLT WITH NUTS

LENGTH = 2(T + t + d) + S + 2(P)

T is total flange thickness;

t is plus tolerance for flange thickness;

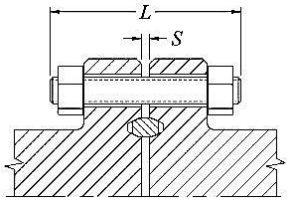
d is heavy hex nut thickness;

S is flange face standoff (with “RX” gasket),S=0 for BX connection which has no standoff height;

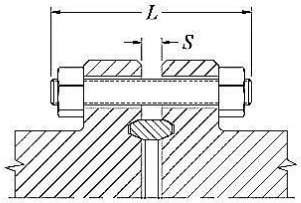
P is point max. (1.5 x pitch).

RECOMMENDED FLANGE BOLT LENGTHS & RING GASKET

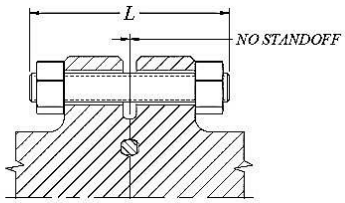
Recommended Bolt Lengths						
Nominal Pipe Size	Pressure Class	Stud			Nut	Ring Gasket
		Bolt Size and Thread	Length +0.125/−0	Qty	Qty	
2	600	5/8-11 UNC	5	8	16	R23
	900	7/8-9 UNC	6.5	8	16	R24
3	600	3/4-10 UNC	5.75	8	16	R31
	900	7/8-9 UNC	6.5	8	16	R31
10	600	7/8-9 UNC	6.5	8	16	R37
	900	1-1/8-8 UN	7.5	8	16	R37
12	600	1-1/2-8 UN	10.5	8	16	R44
	900	1-1/8-8 UN	9.25	12	24	BX-169



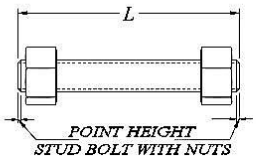
API TYPE 6B FLANGE WITH R GASKET



API TYPE 6B FLANGE WITH RX GASKET



API TYPE 6BX FLANGE



STUD BOLT WITH NUTS

LENGTH = 2(T + t + d) + S + 2(P)

T is total flange thickness;

t is plus tolerance for flange thickness;

d is heavy hex nut thickness;

S is flange face standoff (with “RX” gasket),S=0 for BX connection which has no standoff height;

P is point max. (1.5 x pitch).

6A GATE VALVE TRIM CHART

TRIM		SERVICE CONDITION	BODY	BONNET	GATE	SEAT	STEM[*3]
AA	Non-sour Service	Standard Trim, Non Corrosive	A487 4C /4130LA	4130LA	4130LA	4130LA	17-4PH
BB		Stainless Trim, Slightly Corrosive	A487 4C /4130LA	4130LA	410SS	410SS	17-4PH
CC		Full Stainless Trim, Moderately Corrosive	410SS	410SS	410SS	410SS	17-4PH
DD-0.5	Sour Service	Standard Trim, Non Corrosive	A487 4C /4130LA	4130LA	4130LA	4130LA	17-4PH
DD-NL		Standard Trim, Non Corrosive	A487 4C /4130LA	4130LA	4130LA	4130LA	4130LA
EE-0.5		Stainless Trim, Slightly Corrosive	4130LA	4130LA	410SS	410SS	17-4PH
EE-1.5		Stainless Trim, Highly Corrosive	4130LA	4130LA	410SS	410SS	410SS
EE-NL		Stainless Trim, Highly Corrosive	4130LA	4130LA	410SS	410SS	Inconel 718[*4]
FF-0.5		Full Stainless Trim Highly Corrosive	410SS	410SS	410SS	410SS	17-4PH
FF-1.5		Full Stainless Trim Highly Corrosive	410SS	410SS	410SS	410SS	410SS
FF-NL		Full Stainless Trim Highly Corrosive	410SS	410SS	410SS[*3]	410SS[*3]	Inconel 718[*4]
HH-NL[*5]		Highly Corrosive Extreme Service	4130 W/625 Inlay[*5]	4130 W/625 Inlay[*5]	Inconel 718[*4]	Inconel 718[*4]	Inconel 718[*4]

NOTES:

1.This trim chart provides information on materials included in standard valves offered by Array. Special materials, trims and configurations are available upon customer request.

2.Standard trim parts are QPQ nitrided. Tungsten Carbide HVOF, Hardfaced gates and seats are available for any TRIM upon request.

3.Materials for sour service trims conform to latest edition of NACE MR0175/ISO15156. Explanation for suffixes used for sour trims:

a) 0.5 = 0.5 psi maximum partial pressure of hydrogen sulfide(H2S)

b) 1.5 = 1.5 psi maximum partial pressure of hydrogen sulfide(H2S)

c) NL = No limit to hydrogen sulfide (H2S) exposure.

4.Inconel 718 is an alternative material for upgrade.

5.Inconel 718 is only "NL" for temperatures K thru U. Inconel 725 can be used up to temp. X.

6.CRA material is not available for temp. Y service.

7.Source reserves the right to use material class ZZ when customers request materials of construction that do not comply with current NACE MR0175/ISO standards

Temp. Class	Temperature Range			
	°C		°F	
	min.	max.	min.	max.
K	–60	82	–75	180
L	–46	82	–50	180
N	–46	60	–50	140
P	–29	82	–20	180
S	–18	60	0	140
T	–18	82	0	180
U	–18	121	0	250
V	2	121	35	250
X	–18	180	0	350
Y	-18	350	0	650

NOTE

Minimum temperature is the lowest ambient temperature to which the equipment can be subjected. Maximum temperature is the highest temperature of the fluid that can directly contact the equipment.

YOUR STRATEGIC PARTNER IN SUPPLY MANAGEMENT

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Shanghai 201611, P.R.China
Tel: 86 21 57775088
Fax: 86 21 57775068
Email: sales@source-mfg.com

Change Record:

R01: API 6D valve calculated Cv added in list for ref.

R02: Remove API 6D Product License