

GMK VALVE

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API Ball Valves

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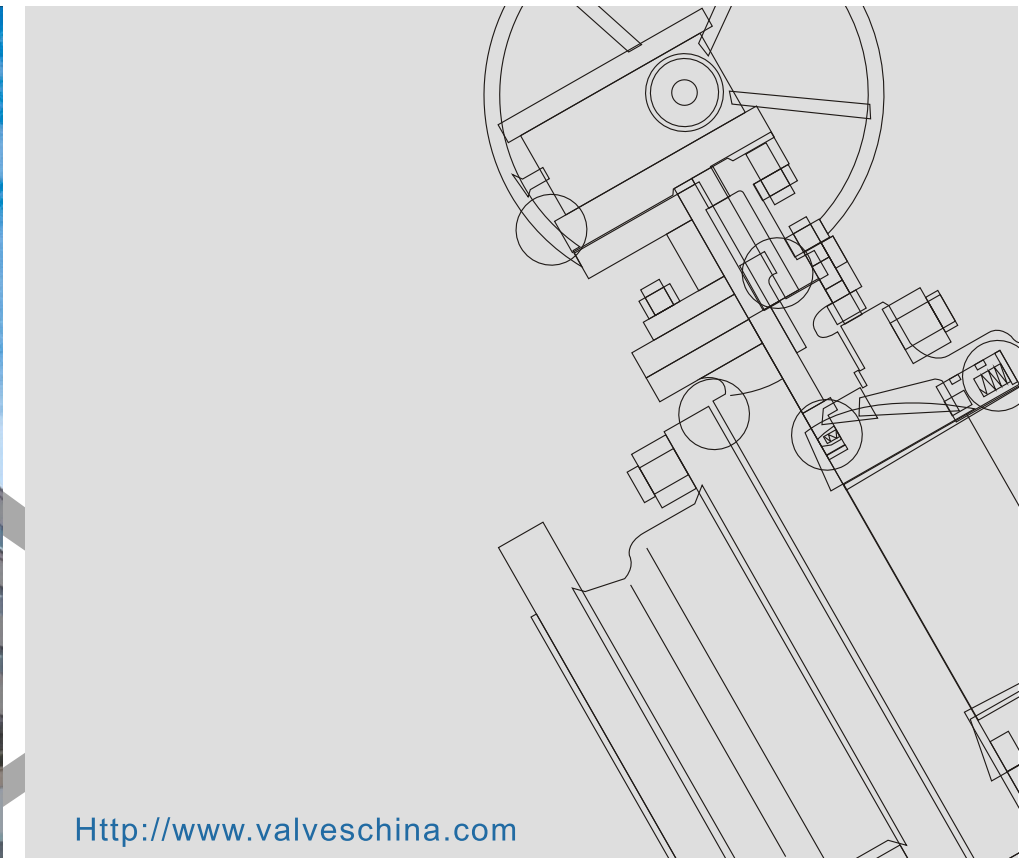
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WHERE IS PIPELINE, WHERE IS GMK VALVE



COMPANY PROFILE



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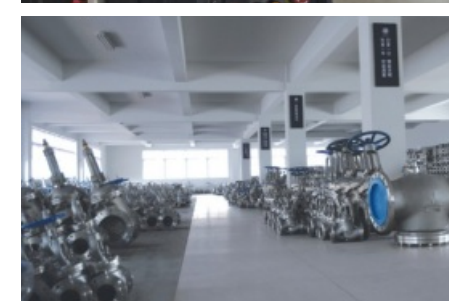


GMK VALVE works as a professional valve supplier, focusing on exporting abroad over 8 years. We are qualified with good conception by long-term dealing with different kinds of overseas clients and operating some government projects. We will always offer competitive price, nice quality, quick delivery time and also good service before and after sale.

Our main markets are Europe, America and Asia. We also export to Middle East, Africa ect and some other countries. The main products of our company are ball valve, gate valve, globe valve, check valve, butterfly valve, plug valve, and strainer valve. Product size is from 1/2" to 88" (DN15 to DN2200), pressure is from 150Lb to 2500Lb (PN1.0Mpa to PN42.0Mpa) and materials cover WCB, WCC, WC6, WC9, CF8, CF3, CF8m, CF3M, LCB, LCC, A105, 304, 316, 304L, 316L, F11, F22, LF2, F51, B148, ALLOY 20 etc. The products are widely applied in petroleum, chemical industry, natural gas, electric power, metallurgy, pharmacy, pulp & paper, urban construction and long transportation pipeline projects.

Our manufactory has advanced machining centers, CNC machine tools, metal cutting and processing equipment, physical and chemical testing equipment, nondestructive tester, spectrum analyzer, valve comprehensive performance tester and other equipment to ensure the products reach the purpose of zero leakage. Also it is certificated with ISO9001, API6D, CE/ PED.

We are consistently working hard to improve our existing products, persuit new ideas and ways to be a leading company in this rapidly changing market. We hope to make dramatic achievement in this market with our professional technique and valued experience.



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Design

GMK steel ball valves are designed manufactured to provide maximum service life and dependability. All ball valves are full ported and meet the design requirements of American Petroleum Institute Standard API 608&API 6D British standard BS 5351 and generally conform to American Society of Mechanical engineers standard ASME B16.34 valves are available in a complete range of body/bonnet materials and trims.

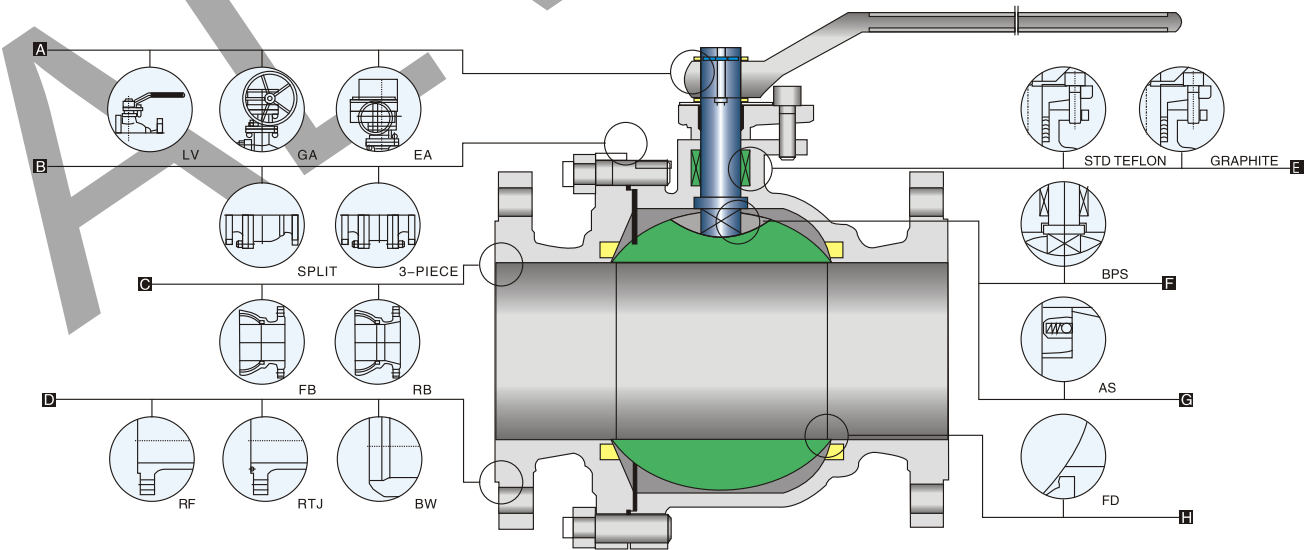
Ranges of Materials

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless steel, for special applications they can be supplied in other grades of alloy and stainless steel. There's a full range of trim materials to match any service optional packing and gasket materials are available for a full range of service conditions.

Available Modifications for GMK Steel Valves

Trim changes
End connection modifications
Packing and gasket change
Operator mounting
Handwheel extensions

Pressure equalizing
As or fd
Customer specified coatings
Weld end bore changes
Oxygen&chlorine cleaning&packaging



A Operation

Extended lever for easy operation. also available with gearing, motor actuators, pneumatic or hydraulic actuators for more difficult services

B Body&Bonnet

Split or 3–piece, split body& bonnet for 12" & small. disassembles easily for repair components.

C BORE

Full bore or reduced bore .full–bore design provides exceptional flow control.

D End Connections

A choice of flanged RTJ flanged or butt welding end for piping flexibility.

E Packing

Std packing multiple v–teflon packing, combined with live loading, maintains packing compression under high–cycle and severe service applications. Graphite packing is used for high–temperature situation.

F BPS

Blow–out proof stem A pressure–safe stem shoulder design that protects against failure under excess pressure.

G AS

Anti statics. A metallic contact is always granted between ball and stem /body to discharge eventual statics build–up during service.

H FS

Fire safe designed to API 607 or BS 6755 to grant their operation suitability in case of fire. Secondary metal–to metal seal acts as backup if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATIC, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

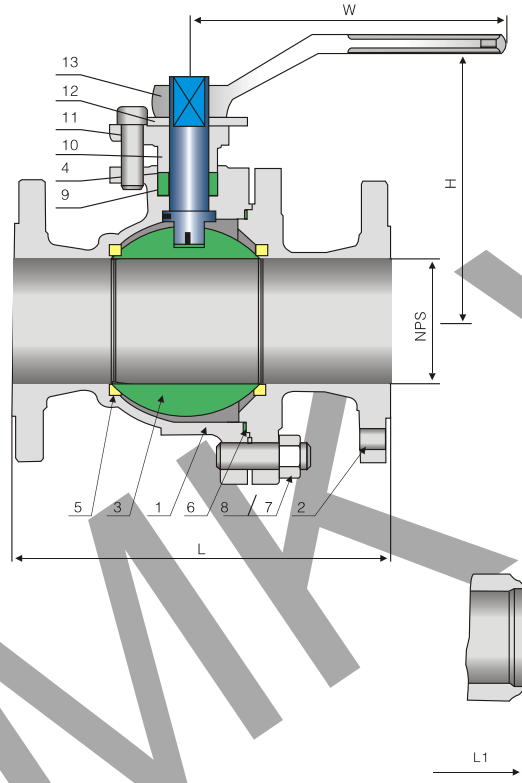
Design descriptions:

- FULL PORT DESIGN
- BG.BOLTED BONNET, SPLIT BODY
- FLOATING BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE DURABLE CONSTRUCTION
- ANTI STATIC DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR

Materials of Parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat Ring		R.PTFE	
6	Bonnet Gasket	Graphite+304 ²⁾	PTFE	Graphite+304 ²⁾
7	Bonnet stud	A193-B7	A193-B8	A320-L7
8	Bonnet Stud Nut	A194-2H	A194-8	A194-4
9	Packing		PTFE	
10	Gland Flange	A216-WCB	A351-CF8M	A352-LCB
11	Gland Bolt	A193-B7	A193-B8	A193-L7
12	Stop Plate	Carbon Steel	Carbon steel+Zn	Carbon Steel
13	Handle		Carbon Steel	

Note: 1) A105+ENP optional
2) Spiral wound construction.



Dimensional datas of ANSI Class 150Lb

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	in
	15	20	25	40	50	65	80	100	150	200	250	300	mm
L (RF)	4.25	4.62	5.00	6.50	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	in
	108	117	127	165	178	190	203	229	394	457	533	610	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	in
	140	152	165	190	216	241	283	305	457	521	559	635	mm
H	2.12	2.12	2.75	3.50	4.12	6.12	7.25	8.00	10.00	11.00	13.50	16.50	in
	55	55	70	90	105	155	185	205	255	280	345	420	mm
W	5	5	6	8	14	16	20	20	24	32	32	32	in
	130	130	160	200	350	400	500	500	600	800	800	800	mm
wt(kg)	2.3	3	4.5	7	9.5	15	19	33	93	160	200	280	
	1.8	2.8	3.7	6.2	8.5	14	21	35	98	170	225	295	BW

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATIC, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

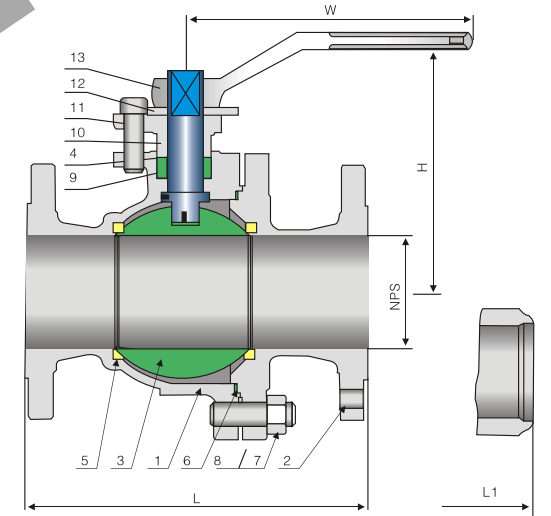
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- BG.BOLTED BONNET, SPLIT BODY
- FLOATING BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE DURABLE CONSTRUCTION
- ANTI STATIC DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR

Materials of Parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat Ring		R.PTFE	
6	Bonnet Gasket	Graphite+304 ²⁾	PTFE	Graphite+304 ²⁾
7	Bonnet stud	A193-B7	A193-B8	A320-L7
8	Bonnet Stud Nut	A194-2H	A194-8	A194-4
9	Packing		PTFE	
10	Gland Flange	A216-WCB	A351-CF8M	A352-LCB
11	Gland Bolt	A193-B7	A193-B8	A193-B7
12	Stop Plate	Carbon Steel	Carbon steel+Zn	Carbon Steel
13	Handle		Carbon Steel	

Note: 1) A105+ENP optional
2) Spiral wound construction.



Dimensional datas of ANSI Class 300Lb

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	in
	15	20	25	40	50	65	80	100	150	200	250	mm
L (RF)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.88	19.75	22.38	in
	140	152	165	190	216	241	283	305	403	502	568	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	in
	140	152	165	190	216	241	283	305	457	521	559	mm
H	2.12	2.12	2.75	3.50	4.12	6.12	7.25	8.00	10.00	11.00	13.50	in
	55	55	70	90	105	153	187	206	255	280	345	mm
W	5	5	6	8	14	16	20	20	24	32	32	in
	130	130	160	200	350	400	500	500	600	800	800	mm
wt(kg)	2.5	3.5	5.5	10.5	14.5	23.5	30	55	118	200	250	
	1.8	2	3.2	5.5	8.7	15	18	36	85	152	182	BW

Dimensional datas of ANSI Class 600Lb

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	in
	15	20	25	40	50	65	80	mm
L/L1 (RF/BW)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	in
	165	190	216	241	292	330	356	mm
L2 (RTJ)	—	—	—	—	11.62	13.12	14.12	in
	—	—	—	—	295	333	359	mm
H	2.38	2.38	3.00	4.00	4.75	6.88	8.38	in
	61.5	61.5	78	101	120	174	212	mm
W	5	6	8	14	16	20	24	in
	130	160	200	350	400	500	600	mm
wt(kg)	3.3	4.5	7.2	13.5	19	31	39	
	2.6	3.1	4.8	8	3	22	27	BW

Design

GMK steel ball valves are designed and manufactured to provide maximum service life and dependability. All ball valves are full ported and meet the design requirements of American Petroleum Institute standard API 608&API 6D British standard BS 5351 and generally conform to American Society of Mechanical Engineers standard ASME B16.34 valves are available in a complete range of body/bonnet materials and trims.

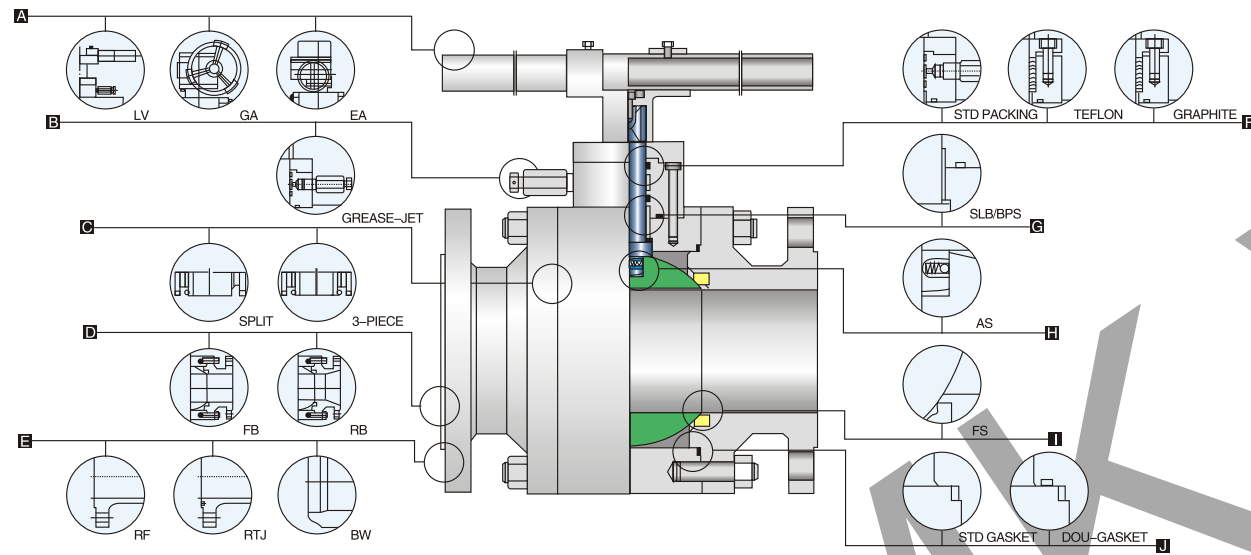
Available Modifications for GMK Cast Steel Valves

Trim changes
End connection modifications
Packing and gasket changes
Operator mounting
Handwheel extensions

Ranges of Materials

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless steel, for special applications they can be supplied in other grades of alloy and stainless steel, there's a full range of trim materials to match any service optional packing and gasket materials are available for a full range of service conditions.

Pressure equalizing
AS OR FS
Customer specified coatings
Weld end bore changes
Oxygen & chlorine cleaning & packaging



A Operation

Extended lever for easy operation. Also available with gearing, motor actuators, pneumatic or hydraulic actuators for more difficult services

B Grease-jet joint

Installed in prescriptive part accord to the apply and satisfied with ecumenical situations and realize seal in spot with maintenance easily.

C Body&Bonnet

Split or 3-piece, split body & bonnet for 8" & small. Disassembles easily for repair or replacement of internal components.

D BORE

Full bore or reduced bore. Full-bore design provides exceptional flow control.

E End Connectios

A choice of flanged RTJ flanged or buttwelding end for piping flexibility.

F Packing

Std packing multiple v-teflon packing, combined with live loading, maintains packing compression under high-cycle and severe service applications. Graphite packing is used for high-temperature situation.

G SLB

Self-lubrication bearing. Easy operation, low torque and longer life

BPS

Blow-out proof stem. A pressure-safe stem. Shoulder design that protects against failure under excess pressure.

H AS

Anti statics. A metallic contact is always granted between ball and stem/body to discharge eventual statics build-up during service.

I FS

Fire safe, designed to API 607 or BS 6755 to grant their operation suitability in case of fire. Secondary metal-to metal seal acts as back up if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

J Gasket

Std gasket or dou-gasket. Std gasket adopt high-performance rubber seal ring. Dou-gasket adopt high-performance rubber seal ring and spiral wound graphite.

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATICS, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

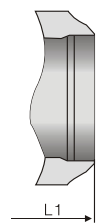
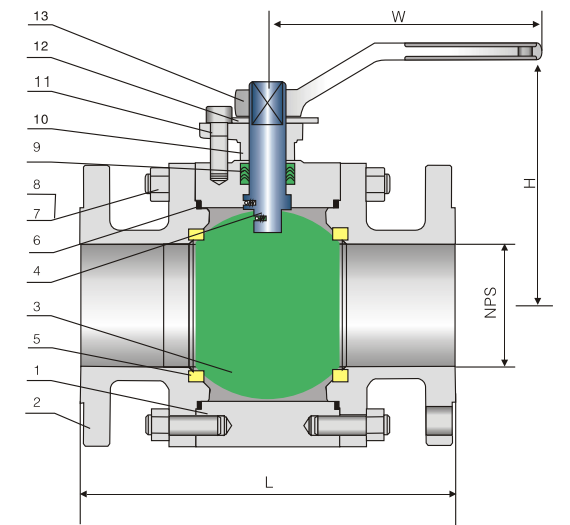
Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- FLOATING BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR

Materials of parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A105	A182-F316	A350-LF2
2	Bonnet	A105	A182-F316	A350-LF2
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat Ring	R.PTFE		
6	Bonnet Gasket	Graphite+304 ²⁾	PTFE	Graphite+304 ²⁾
7	Bonnet Stud	A193-B7	A193-B8	A320-L7
8	Bonnet Stud Nut	A194-2H	A194-8	A194-4
9	Packing	PTFE		
10	Gland Flange	A105	A182-F316	A350-LF2
11	Gland Bolt	A193-B7	A193-B8	A193-B7
12	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
13	Handle	Carbon Steel		

Note: 1)A105+ENP optional
2)Spiral wound construction.



Dimensional datas of ANSI Class 150Lb

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	in
L	4.25	4.62	5.00	6.50	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	in
(RF)	108	117	127	165	178	190	203	229	394	457	533	610	mm
L1	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	in
(BW)	140	152	165	190	216	241	283	305	457	521	559	635	mm
H	2.12	2.12	2.50	3.38	4.00	6.00	7.00	9.25	9.88	11.00	12.62	15.38	in
	55	55	65	85	100	150	180	235	250	280	320	390	mm
W	8	8	12	12	166	16	24	24	24	24	32	32	in
	200	200	300	300	400	400	600	600	600	600	800	800	mm
wt(kg)	3.1	4.1	6	9.5	12.8	20	26	45	126	216	270	378	
	2.6	3.9	5.2	8.7	11.8	19	28	47	131	226	295	393	BW

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATICS, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

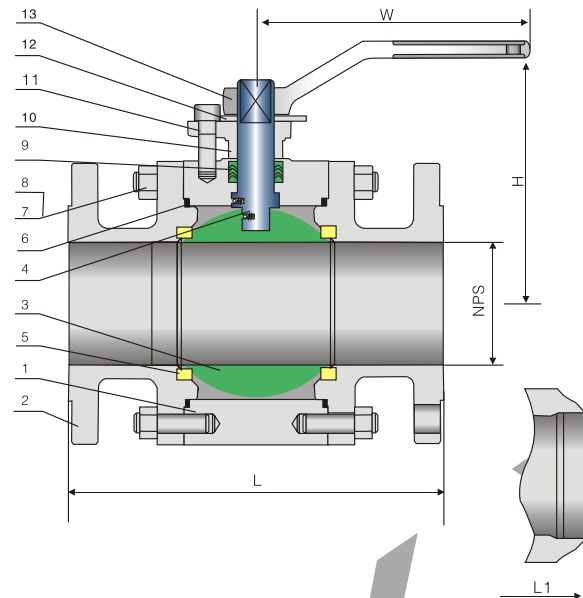
Materials of parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A105	A182-F316	A350-LF2
2	Bonnet	A105	A182-F316	A350-LF2
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat Ring	R.PTFE		
6	Bonnet Gasket	Graphite+304 ²⁾	PTFE	Graphite+304 ²⁾
7	Bonnet Stud	A193-B7	A193-B8	A320-L7
8	Bonnet Stud Nut	A194-2H	A194-8	A194-4
9	Packing	PTFE		
10	Gland Flange	A105	A182-F316	A350-LF2
11	Gland Bolt	A193-B7	A193-B8	A193-B7
12	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
13	Handle	Carbon Steel		

Note: 1) A105+ENP optional
2) Spiral wound construction.

Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- FLOATING BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Dimensional datas of ANSI Class 300Lb

NPS DN	1/2	3/4	1	1½	2	2½	3	4	6	8	10	12	in
	15	20	25	40	50	65	80	100	150	200	250	300	mm
L (RF)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	in
	140	152	165	190	216	241	283	305	403	502	568	648	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	in
	140	152	165	190	216	241	283	305	457	521	559	635	mm
H	2.12	2.12	2.50	3.38	16.00	16.00	24.00	24.00	9.88	11.00	12.62	15.38	in
	55	55	65	85	400	400	600	600	250	280	320	390	mm
W	8	8	12	12	10	12	14	19	24	24	32	32	in
	200	200	300	300	250	300	350	480	600	600	800	800	mm
wt(kg)	3.5	4.6	6.7	10.5	14.5	22	29	50	141	242	302	423	
	2.8	3.1	4.4	5.5	8.7	13.5	17	31	108	194	234	325	BW

Dimensional datas of ANSI Class 600Lb

NPS DN	1/2	3/4	1	1½	2	2½	3	4	6	8	10	12	in
	15	20	25	40	50	65	80	100	150	200	250	300	mm
L/L1 (RF/BW)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	—	—	—	in
	165	190	216	241	292	330	356	432	559	—	—	—	mm
L2 (RTJ)	—	—	—	—	11.62	13.12	14.12	17.12	22.12	—	—	—	in
	—	—	—	—	295	333	359	435	562	—	—	—	mm
H	2.25	2.25	2.62	3.50	4.12	6.25	7.50	9.75	10.38	—	—	—	in
	58	58	68	89	105	158	190	247	262	—	—	—	mm
W	8	12	12	16	16	24	24	24	32	—	—	—	in
	200	300	300	400	400	600	600	600	800	—	—	—	mm
wt(kg)	4.5	5.5	8	12.5	18	27	35	61	172	—	—	—	
	3.8	4.1	5.6	7	12	18	23	43	139	—	—	—	BW

Design

GMK steel ball valves are designed manufactured to provide maximum service life and dependability. All ball valves are full ported and meet the design requirements of American Petroleum Institute standard API 608&API 6D British standard BS 5351 and generally conform to American society of Mechanical Engineers standard ASME B16.34 valves are available in a complete range of body/bonnet materials and trims.

Ranges of Materials

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless steel, for special applications they can be supplied in other grades of ally and stainless steel, there's a full range of trim materials to match any service optional packing and gasket materials are available for a full range of service conditions.

Available Modifications For GMK Steel Valves

Trim Changes

End Connection Modifications

Packing And Gasket Change

Operator Mounting

Handwheel Extensions

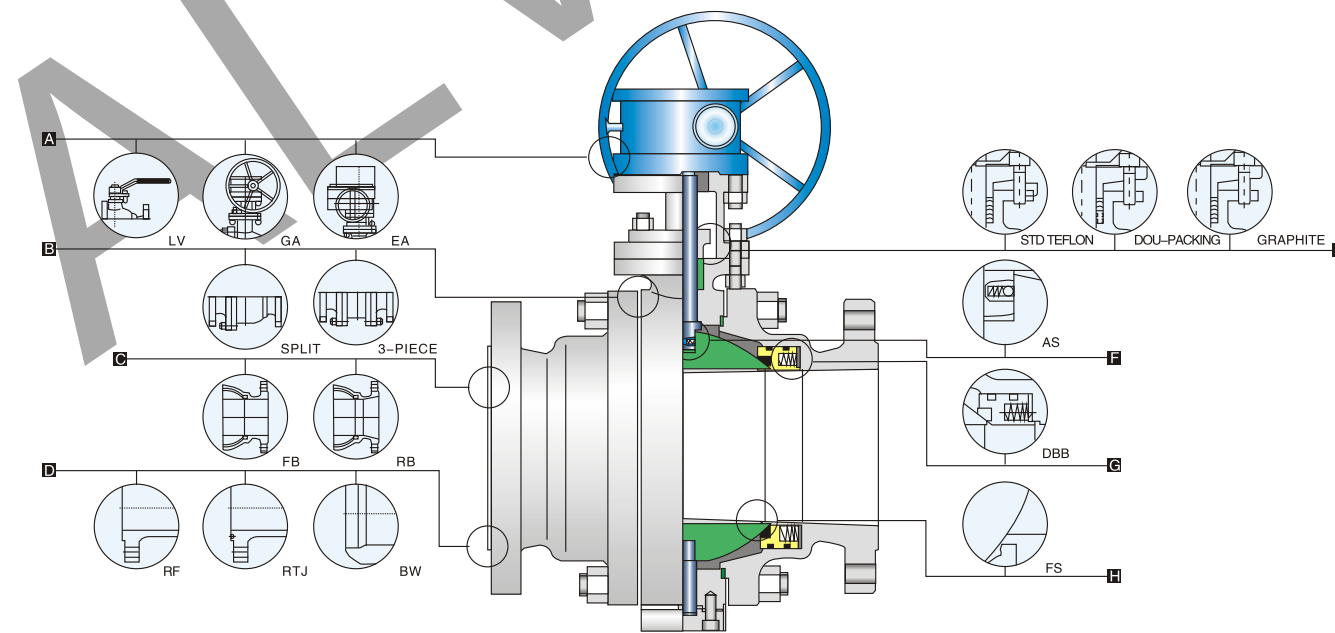
Pressure Equalizing

AS OR FD

Customer Specified Coatings

Weld End Bore Changes

Oxygen & Chlorine Cleaning & Packaging



A Operation

Extended lever for easy operation. Also available with gearing, motor actuators, pneumatic or hydraulic actuators for more difficult services

B Body&bonnet

Split or 3-piece, split body & bonnet for 12" & small. Disassembles easily for repair or replacement of internal components.

C BORE

Full bore or reduced bore. Full-bore design provides exceptional flow control.

D End Connections

A choice of flanged RTJ flanged or buttwelding end for piping flexibility.

E Packing

Std packing multiple v-teflon packing, combined with live loading, maintains packing compression under high-cycle and severe service applications. Graphite packing is used for high-temperature situation.

F AS

Anti statics. A metallic contact is always granted between ball and stem/body to discharge eventual statics build-up during service.

G DBB

Double block & bleed. The body cavity is isolated when the ball is in either fully closed or fully opened position, the medium entrapped in it can easily be bled to avoid overpressure.

H FS

Fire safe designed to API 607 or BS 6755 to grant their operation suitability in case of fire. Secondary metal-to-metal seal acts as backup if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATICS, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

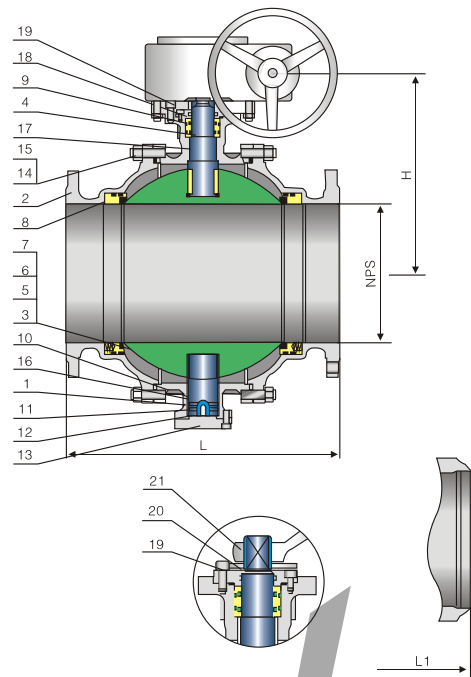
Design descriptions:

- FULL PORT DESIGN
- SPLIT BODY THREE PIECES BODY FOR 12" & ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR

Materials of parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat	A105+ENP	A182-F316	A350-LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313-304	Inconel X-750	A313-304
8	Seat O-Ring	NPR	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304 ²⁾	Graphite+316 ²⁾	Graphite+304 ²⁾
11	Bonnet O-Ring	NBR	Viton	Viton
12	Antistatic Spring	A313-304	A313-316	A313-304
13	Lower Cover	A216-WCB	A182-F316	A182-F304
14	Bonnet Stud	A193-B7	A193-B8	A320-L7
15	Bonnet Stud Nut	A194-2H	A194-8	A194-4
16	Trunnion	A276-304	A276-316	A276-304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland Flange	A216-WCB	A351-CF8M	A352-LCB
19	Gland Bolt	A193-B7	A193-B8	A193-B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note: 1) A105+ENP optional
2) Spiral wound construction.



Dimensional datas of ANSI Class 150Lb

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	mm
L (RF)	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	27.00	30.00	34.00	36.00	42.00	45.00	49.00	51.00	54.00	60.00	in
	178	190	203	229	394	457	533	610	686	762	864	914	1067	1143	1245	1295	1372	1524	mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	68.00	in
	216	241	283	305	457	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	1727	mm
H	7.00	7.50	8.25	9.25	20.88	24.62	25.62	30.75	31.00	36.25	38.25	43.38	45.25	50.75	55.12	64.12	70.88	80.75	in
	177	190	210	235	530	625	650	780	790	920	970	1100	1150	1290	1400	1630	1840	2050	mm
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	32	32	32	in
	350	400	500	500	600	600	600	600	800	800	800	800	800	800	800	800	800	800	mm
wt(kg)	15	19	27	38	81	140	160	205	260	390	510	750	1200	1400	1860	2100	2530	2970	BW
	13.5	15.5	24.5	32.5	76	132	147	182	241	370	495	726	1125	1250	1640	1930	2390	2760	BW

Dimensional datas of ANSI Class 300Lb

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	mm
L (RF)	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	-	in
	216	241	283	305	403	502	568	648	762	838	914	991	1143	1245	1346	1397	1524	-	mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	-	in
	216	241	283	305	403	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	-	mm
H	7.00	7.50	8.25	9.25	20.88	24.62	25.62	30.75	31.00	36.25	38.25	43.38	45.25	50.75	55.12	64.12	70.88	-	in
	177	190	210	235	530	625	650	780	790	920	970	1100	1150	1290	1400	1630	1800	-	mm
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	32	32	-	in
	350	400	500	500	600	600	600	600	800	800	800	800	800	800	800	800	800	-	mm
wt(kg)	19	24	34	48	101	175	200	255	325	485	635	935	1500	1750	2225	2450	2870	-	BW
	14	16	25	34	82	145	155	185	238	375	516	782	1280	1375	1825	2180	2260	-	BW

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATICS, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

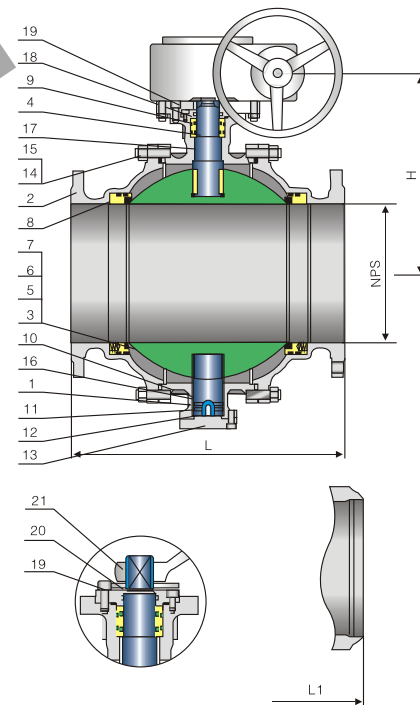
Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- THREE PIECES BODY FOR 12" & ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR

Materials of parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat	A105+ENP	A182-F316	A350-LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313-304	Inconel X-750	A313-304
8	Seat O-Ring	NPR	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304 ²⁾	Graphite+316 ²⁾	Graphite+304 ²⁾
11	Bonnet O-Ring	NBR	Viton	Viton
12	Antistatic Spring	A313-304	A313-316	A313-304
13	Lower Cover	A216-WCB	A182-F316	A182-F304
14	Bonnet Stud	A193-B7	A193-B8	A320-L7
15	Bonnet Stud Nut	A194-2H	A194-8	A194-4
16	Trunnion	A276-304	A276-316	A276-304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland Flange	A216-WCB	A351-CF8M	A352-LCB
19	Gland Bolt	A193-B7	A193-B8	A193-B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note: 1) A105+ENP optional
2) Spiral wound construction.



Dimensional datas of ANSI Class 600Lb

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	mm
L/L1 (RF/BW)	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	mm
L2 (RTJ)	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.50	61.50	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1461	1562	mm
H	7.12	7.62	8.50	9.50	21.25	25.00	26.12	31.12	31.88	36.38	38.75	44.50	46.62	52.50	57.00	in
	180	193	215	241	540	635	665	790	810	925	985	1130	1185	1335	1450	mm
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	in
	350	400	500	500	600	600	600	600	800	800	800	800	800	800	800	mm
wt(kg)	26	35	58	81	142	287	540	780	1000	1300	1700	2100	3400	3800	4500	BW
	19	25	42	51	85	200	395	610	805	1010	1350	1656	2775	3125	3790	BW

Dimensional datas of ANSI Class 900Lb

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	mm
L/L1 (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00	in
	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.50	52.50	61.75	in
	371	422	384	460	613	740	841	968	1038	1140	1232	1334	1568	mm
H	8.62	9.25	10.25	15.38	25.75	30.25	31.75	38.00	38.50	45.00	47.00	53.50	56.00	in
	219	235	260	390	655	770	805	965	980	1145	1195	1360	1425	mm
W	20	20	20	24	24	24	24	32	32	32	32	32	32	in
	500	500	500	600	600	600	600	800	800	800	800	800	800	mm
wt(kg)	31	43	68	98	171	345	650	940	1205	1565	2050	2535	3950	BW
	23	31	51	61	102	240	480	735	965	1215	1625	1995	3335	BW

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATICS, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

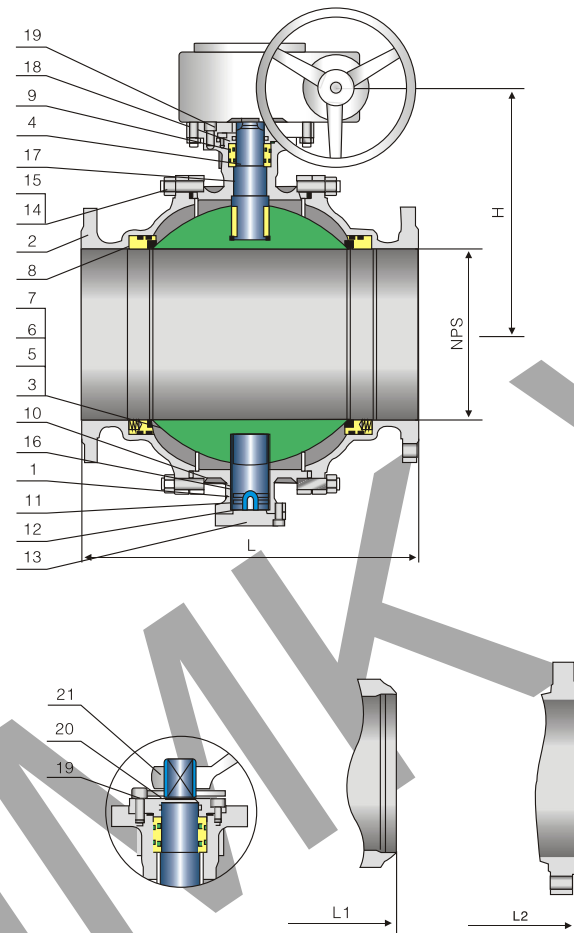
Design descriptions:

- FULL PORT DESIGN
- BB, BOLTED BONNET, SPLIT BODY
- THREE PIECES BODY FOR 12" & ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR

Materials of parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat	A105+ENP	A182-F316	A350-LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313-304	Inconel X-750	A313-304
8	Seat O-Ring	NPR	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304 ²⁾	Graphite+316 ²⁾	Graphite+304 ²⁾
11	Bonnet O-Ring	NBR	Viton	Viton
12	Antistatic Spring	A313-304	A313-316	A313-304
13	Lower Cover	A216-WCB	A182-F316	A182-F304
14	Bonnet Stud	A193-B7	A193-B8	A320-L7
15	Bonnet Stud Nut	A194-2H	A194-8	A194-4
16	Trunnion	A276-304	A276-316	A276-304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland Flange	A216-WCB	A351-CF8M	A352-LCB
19	Gland Bolt	A193-B7	A193-B8	A193-B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note: 1) A105+ENP optional
2) Spiral wound construction.



Dimensional datas

NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)	
		ANSI Class1500Lb										ANSI Class2500Lb									
2	50	14.50	368	14.62	371	11.25	285	20	500	49	33	17.75	451	17.88	454	12.00	304	20	500	55	41
2 ^{1/2}	65	16.50	419	16.62	422	12.00	305	20	500	67	44	20.00	508	21.25	540	12.88	327	24	600	76	55
3	80	18.50	470	18.62	473	13.25	338	24	600	106	73	22.75	578	23.00	584	14.25	362	24	600	120	91
4	100	21.50	546	21.62	549	20.00	506	24	600	153	87	26.50	673	26.88	683	21.25	540	24	600	173	110
6	150	27.75	705	28.00	711	33.50	852	24	600	268	145	36.00	914	36.50	927	35.88	911	32	800	302	182
8	200	32.75	832	33.12	841	39.38	1000	32	800	540	345	40.25	1022	40.88	1038	42.12	1070	32	800	612	430
10	250	39.00	991	39.38	1000	41.12	1045	32	800	1020	685	50.00	1270	50.88	1292	44.00	1120	32	800	1150	855
12	300	44.50	1130	45.12	1146	49.38	1255	32	800	1475	1050	56.00	1422	56.88	1445	53.00	1345	32	800	1665	1315
14	350	49.50	1257	20.25	1276	50.00	1270	32	800	1885	1385	-	-	-	-	-	-	-	-	-	-
16	400	54.50	1384	44.38	1407	58.50	1485	32	800	2455	1735	-	-	-	-	-	-	-	-	-	-
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW

Design

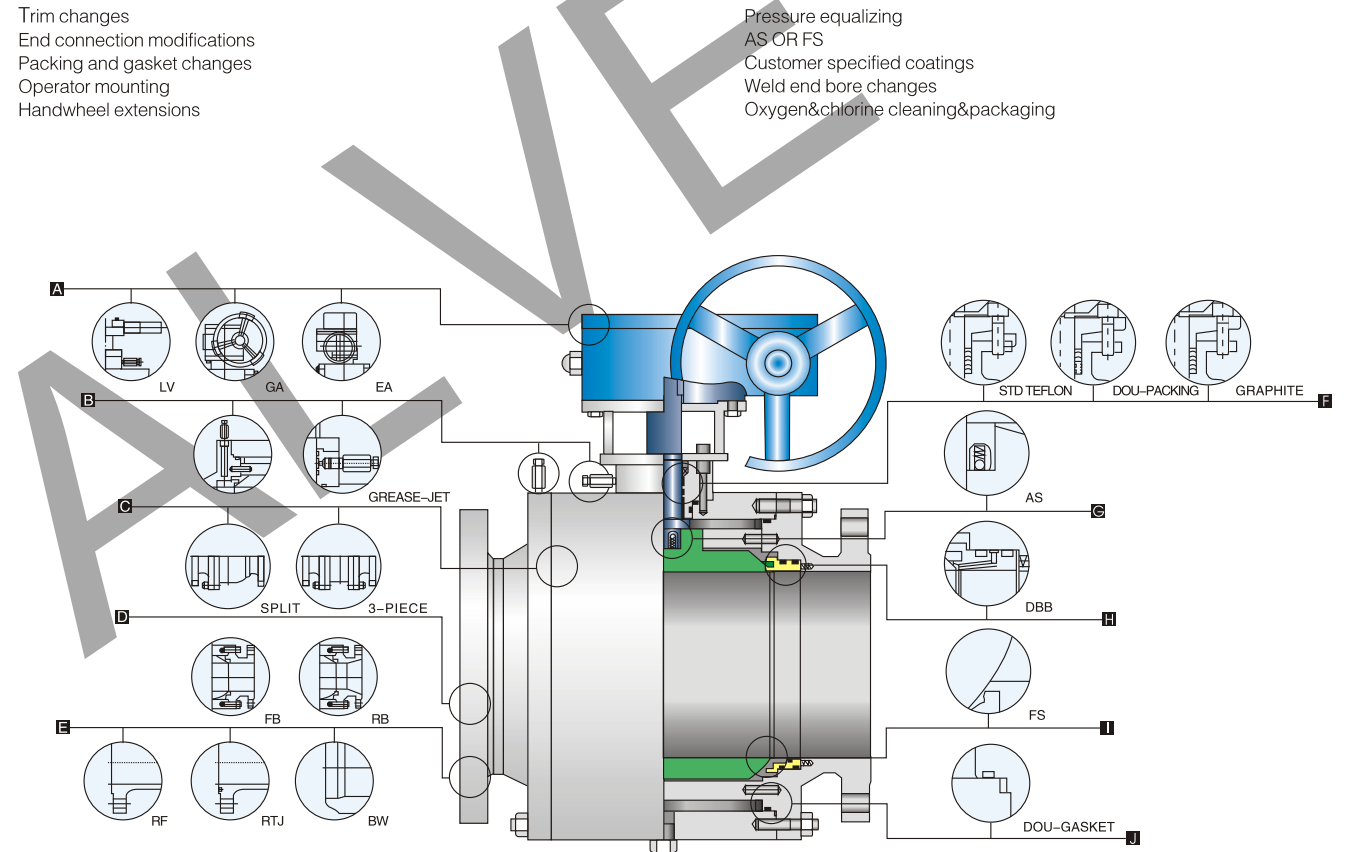
GMK steel ball valves are designed manufactured to provide maximum service life and dependability. All ball valves are full ported and meet the design requirements of American Petroleum Institute standard API 608&API 6D, British standard BS 5351 and generally conform to American Society of Mechanical Engineers standard ASME B16.34 valves are available in a complete range of body/bonnet materials and trims.

Available Modifications for GMK Cast Steel Valves

Trim changes
End connection modifications
Packing and gasket changes
Operator mounting
Handwheel extensions

Ranges of Materials

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless steels, for special applications they can be supplied in other grades of alloy and stainless steel, there's a full range of trim materials to match any service optional packing and gasket materials are available for a full range of service conditions.



A Operation

Extended lever for easy operation. Also available with gearing, motor actuators, pneumatic or hydraulic actuators for more difficult services

B Grease-jet joint

Installed in prescriptive part accord to the apply and satisfied with ecumenical situations and realize seal in spot with maintenance easily.

C Body&Bonnet

Split or 3-piece, split body& bonnet for 8" & small. Disassembles easily for repair or replacement of internal components.

D BORE

Full bore or reduced bore . Full-bore design provides exceptional flow control.

E End Connectios

A choice of flanged RTJ flanged or buttwelding end for piping flexibility.

F Packing

Std packing multiple v-teslon packing, combined with live loading, maintains packing compression under high-cycle and severe service applications. Graphite packing is used for high-temperature situation.

G AS

Anti statics. A metallic contact is always granted between ball and stem/body to discharge eventual statics build-up during service.

H DBB

Double block&bleed.The body cavity is isolated when the ball is in either fully closed or fully opened position, the medium entrapped in it can easily be bled to avoid over pressure.

I FS

Fire Safe. Designed to API607 or BS 6755 to grant their operation suitability in case of fire. Secondary metal-to metal seal acts as backup if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

J Gasket

Adopt high-performance rubber seal ring and spiral wound graphite.

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATICS, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

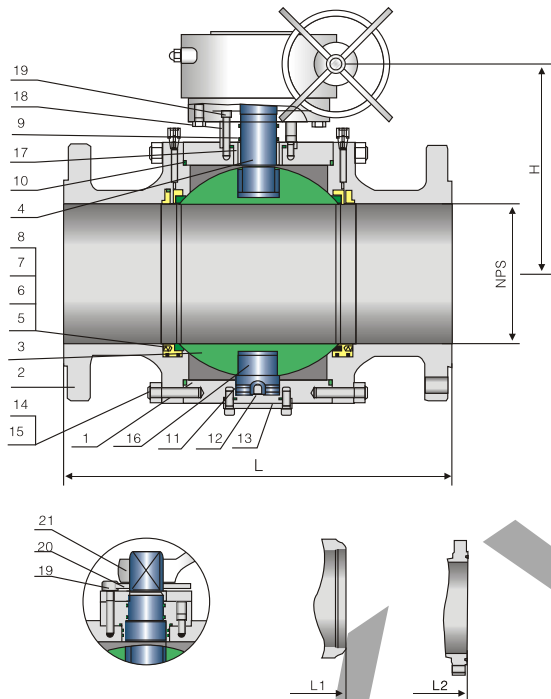
Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- THREE PIECES BODY FOR 12" & ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR

Materials of parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A105	A182-F316	A350-LF2
2	Bonnet	A105	A182-F316	A350-LF2
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat	A105+ENP	A182-F316	A350-LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313-304	Inconel X-750	A313-304
8	Seat O-Ring	NBR	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304 ²⁾	Graphite+316 ²⁾	Graphite+304 ²⁾
11	Bonnet O-ring	NBR	Viton	Viton
12	Antistatic Spring	A313-304	A313-316	A313-304
13	Lower Cover	A182-F304	A182-F316	A182-F304
14	Bonnet Stud	A193-B7	A193-B8	A320-L7
15	Bonnet Stud Nut	A194-2H	A194-8	A194-4
16	Trunnion	A276-304	A276-316	A276-304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland	A105	A182-F316	A350-LF2
19	Gland Bolt	A193-B7	A193-B8	A193-B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note: 1) A105+ENP optional
2) Spiral wound construction.



Dimensional datas of ANSI Class 150Lb

NPS DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	mm
L (RF)	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	27.00	30.00	34.00	36.00	42.00	45.00	49.00	51.00	54.00	60.00	in
	178	190	203	229	394	457	533	610	686	762	864	914	1067	1143	1245	1295	1372	1524	mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	68.00	in
	216	241	283	305	457	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	1727	mm
H	4.00	6.00	7.00	9.25	9.88	11.00	12.62	15.38	16.50	21.88	23.62	25.00	28.00	29.50	31.50	34.00	36.00	38.50	in
	120	150	180	235	250	280	320	390	420	555	600	635	710	750	800	865	915	980	mm
W	16	16	24	24	24	24	32	32	32	32	32	32	32	40	40	40	40	40	in
	400	400	600	600	600	600	800	800	800	800	800	800	800	1000	1000	1000	1000	1000	mm
wt(kg)	28	35	55	80	190	290	445	570	780	1520	2300	2500	3950	4890	6300	7100	8950	13500	
	25	28	49	71	182	277	553	553	747	1481	2266	2460	3904	4939	6362	8149	9000	13570	BW

Dimensional datas of ANSI Class 300Lb

NPS DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	mm
L (RF)	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	-	in
	216	241	283	305	403	502	568	648	762	838	914	991	1143	1245	1346	1397	1524	-	mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	-	in
	216	241	283	305	403	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	-	mm
H	4.00	6.00	7.00	9.25	9.88	11.00	12.62	15.38	16.50	21.88	23.62	25.00	28.00	29.50	31.50	34.00	36.00	-	in
	120	150	180	235	250	280	320	390	420	555	600	635	710	750	800	865	915	-	mm
W	16	16	24	24	24	24	32	32	32	32	32	32	32	40	40	40	40	-	in
	400	400	600	600	600	600	800	800	800	800	800	800	800	1000	1000	1000	1000	-	mm
wt(kg)	30	40	60	90	200	325	490	690	900	1810	2620	2860	4430	5430	6810	7655	9590	-	
	24	31	49	72	169	280	424	598	872	1665	2440	2635	4075	4880	6225	7115	9230	-	BW

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATICS, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

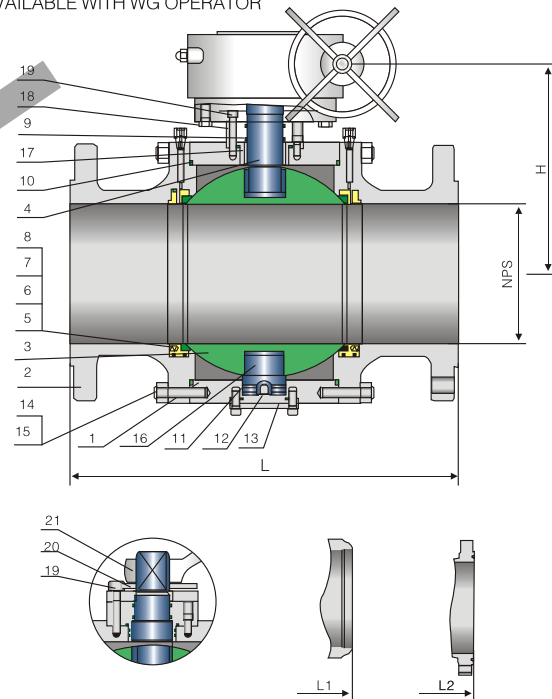
Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- THREE PIECES BODY FOR 12" & ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR

Materials of parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A105	A182-F316	A350-LF2
2	Bonnet	A105	A182-F316	A350-LF2
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat	A105+ENP	A182-F316	A350-LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313-304	Inconel X-750	A313-304
8	Seat O-Ring	NBR	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304 ²⁾	Graphite+316 ²⁾	Graphite+304 ²⁾
11	Bonnet O-ring	NBR	Viton	Viton
12	Antistatic Spring	A313-304	A313-316	A313-304
13	Lower Cover	A182-F304	A182-F316	A182-F304
14	Bonnet Stud	A193-B7	A193-B8	A320-L7
15	Bonnet Stud Nut	A194-2H	A194-8	A194-4
16	Trunnion	A276-304	A276-316	A276-304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland	A105	A182-F316	A350-LF2
19	Gland Bolt	A193-B7	A193-B8	A193-B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note: 1) A105+ENP optional
2) Spiral wound construction.



Dimensional datas of ANSI Class 600Lb

NPS DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	mm
L/L1 (RF/BW)	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	mm
L2 (RTJ)	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.50	61.50	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1461	1562	mm
H	6.50	7.00	7.88	11.00	12.25	14.00	16.12	18.00	19.25	21.00	24.88	25.62	30.12	31.88	34.62	in
	165	180	200	280	310	355	410	455	490	535	630	650	765	810	880	mm
W	16	24	24	24	32	32	32	32	32	32	40	40	40	40	40	in
	400	600	600	600	800	800	800	800	800	800	1000	1000	1000	1000	1000	mm
wt(kg)	34	53	65	125	245	505	640	910	1380	2250	3400	3850	4900	6700	8300	
	27	43	49	95	188	418	495	740	1185	1960	3050	3406	4275	6025	7590	BW

Dimensional datas of ANSI Class 900Lb

NPS DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	mm
L/L1 (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00	in
	368	419	381	457	610	737	965	965	1029	1130	1219	1321	1549	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	38.12	38.12	40.88	44.88	48.50	52.50	61.75	in
	371	422	384	460	613	740	968	968	1038	1140	1232	1334	1568	mm
H	6.72	7.50	8.25	11.38	12.62	15.38	18.50	18.50	20.88	24.00	26.00	27.50	30.75	in
	170	190	210	290	320	390	470	470	530	610	660	700	780	mm
W	24	24	24	32	32	32	32	32	32	40	40	40	40	in
	600	600	600	800	800	800	800	500	800	1000	1000	1000	1000	mm
wt(kg)	45	65	73	135	360	650	1350	1350	1890	3100	4300	4950	7100	
	37	53	56	98	291	545	1145	1145	1650	2750	3875	4410	6485	BW

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATICS, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

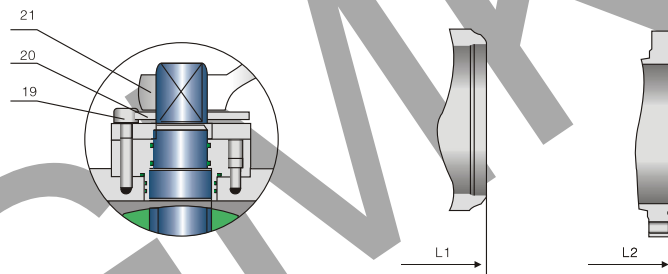
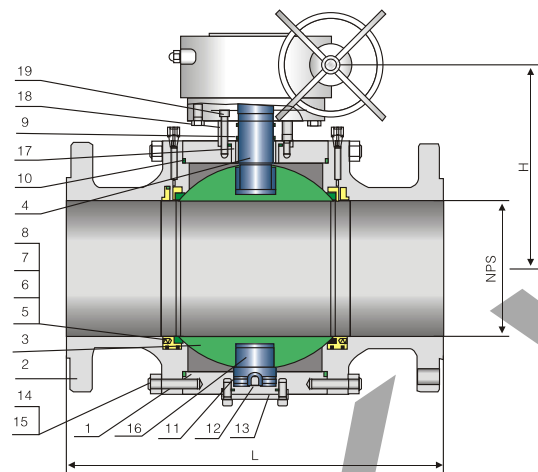
Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- THREE PIECES BODY FOR 12" & ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR

Materials of parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A105	A182-F316	A350-LF2
2	Bonnet	A105	A182-F316	A350-LF2
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat	A105+ENP	A182-F316	A350-LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313-304	Inconel X-750	A313-304
8	Seat O-Ring	NBR	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304 ²⁾	Graphite+316 ²⁾	Graphite+304 ²⁾
11	Bonnet O-ring	NBR	Viton	Viton
12	Antistatic Spring	A313-304	A313-316	A313-304
13	Lower Cover	A182-F304	A182-F316	A182-F304
14	Bonnet Stud	A193-B7	A193-B8	A320-L7
15	Bonnet Stud Nut	A194-2H	A194-8	A194-4
16	Trunnion	A276-304	A276-316	A276-304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland	A105	A182-F316	A350-LF2
19	Gland Bolt	A193-B7	A193-B8	A193-B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note: 1) A105+ENP optional
2) Spiral wound construction.



Dimensional datas

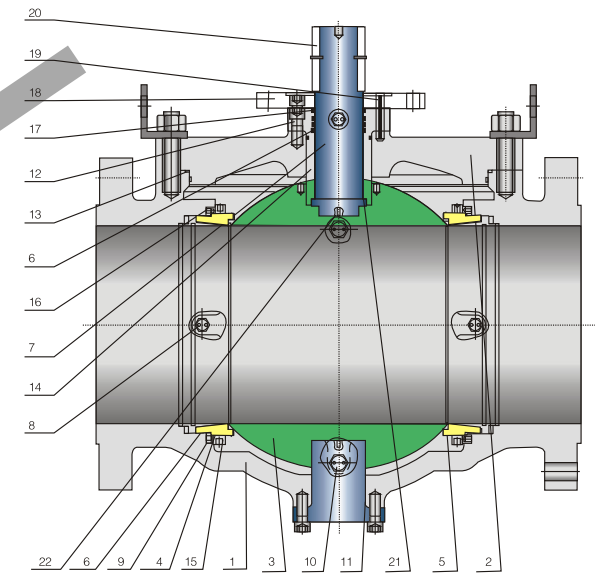
NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)			
ANSI Class1500Lb												ANSI Class2500Lb											
2	50	14.50	368	14.62	371	6.75	170	24	600	55	40	17.75	451	17.88	454	7.50	190	24	600	68	57		
2½	65	16.50	419	16.62	422	7.50	190	24	600	75	55	20.00	508	21.25	540	9.00	230	32	800	95	74		
3	80	18.50	470	18.62	473	5.25	210	32	800	95	65	22.75	578	23.00	584	11.00	280	32	800	120	91		
4	100	21.50	546	21.62	549	11.38	290	32	800	150	115	26.50	673	26.88	683	14.12	360	32	800	185	122		
6	150	27.75	705	28.00	711	13.00	330	32	800	540	420	36.00	914	36.50	927	15.75	400	32	800	675	555		
8	200	32.75	832	33.12	841	15.75	400	32	800	880	685	40.25	1022	40.88	1038	18.88	480	40	1000	1100	918		
10	250	39.00	991	39.38	1000	17.38	440	32	800	1360	1025	50.00	1270	50.88	1292	20.50	520	40	1000	1650	1355		
12	300	44.50	1130	45.12	1146	22.00	560	40	1000	1980	1555	56.00	1422	56.88	1445	26.38	670	40	1000	2300	1950		
14	350	49.50	1257	50.25	1276	25.25	640	40	1000	3100	2600	-	-	-	-	-	-	-	-	-	-		
16	400	54.50	1384	55.38	1407	27.12	690	40	1000	4650	3930	-	-	-	-	-	-	-	-	-	-		
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	bw	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW		

Applicable Standards:

DESIGN & MANUFACTURE CONFORMS WITH: API 6D/ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WITH: ASME B16.5、DN EN 1092
FIRE RESISTANCE DESIGN CONFORMS WITH: API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH: API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH: ISO 15156

Materials of parts

No	Part Name	No	Part Name
1	Body	12	Screw
2	Lid	13	Body gasket
3	Ball	14	Support cover
4	Seat	15	Seat retainer ring
5	Sealing ring	16	Spring support cover
6	O-ring	17	Packing
7	Stem	18	Connected disk
8	Seat grease injection valve	19	Elastic cylindrical pin
9	Spring	20	Flat key
10	Blow-down valve	21	Stem gasket
11	Ball lubricating bearing	22	Antistatic spring



Features and Application:

This product is a new type top entry combination ball valve, the seat can be installed and move around the body. Through the thread, the outer margin of the seat connected to the retainer ring. There is spring on the support cover, which installed on the valve body, and the retainer ring can compress spring. The fabrication holes are on the outer margin of the seat and the retainer ring. This new type product adopts total body design, the compensation can be automatically, the possibility of leakage is small, safety in use, vibrate resistance, and double seal. The ball is installed from the top part, so can finish the maintenance without removing the pipe, it is very convenient.

Materials of parts

Body	WCB/LCB/CF8M/CF8/CF3M/CF3/WC6/WC9/CD3MN
Lid	WCB/LCB/CF8M/CF8/CF3M/CF3/WC6/WC9/CD3MN
Ball	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Seat	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Stem	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Seat ring	PTFE/MYLON/PEEK/TEFLON
O-ring	VITON/NBR
Bolt	B7M/B8M/L7M/B16M
Support cover	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Spring	17-4PH/17-7PH/Inconel
Bearing	304+PTFE/316+PTFE
Gasket	Flexible graphite+PTFE

Materials could be choosed according to customers' requirement & working condition.

Applicable Standards:

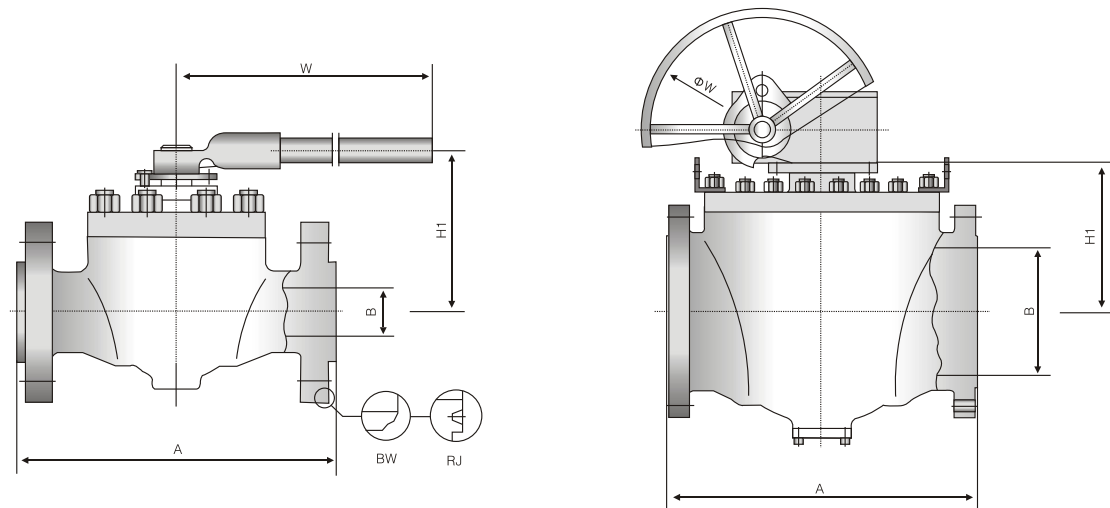
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CONNECTION DIMENSION CONFORMS WITH: ASME B16.5、DN EN 1092

FIRE RESISTANCE DESIGN CONFORMS WITH: API 607/ISO 10497

INSPECTION & TEST CONFORMS WITH: API 6D、ISO 5208、API 598

MATERIAL CONFORMS WITH: ISO 15156



Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 150Lb															
2	50	292	51	207	300	30	50	★14	350	889	334	455	600	760	2426
3	80	356	76	223	400	57	65	★16	400	991	385	460	600	1100	3016
4	100	432	100	280	450	100	151	★18	450	1092	436	503	600	1512	4574
★6	150	559	150	275	460	215	320	★20	500	1194	487	560	700	1930	6016
★8	200	660	201	321	460	407	1020	★24	600	1397	589	610	700	3200	9750
★10	250	787	252	355	600	560	1085	★28	700	1549	684	730	700	4600	14540
★12	300	838	303	470	600	710	1562	★30	750	1651	735	800	760	5630	18005

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 300Lb															
2	50	292	51	211	300	36	86	★14	350	889	334	460	600	766	3800
3	80	356	76	226	500	63	110	★16	400	991	385	480	600	1106	5376
4	100	432	100	286	550	106	270	★18	450	1092	436	508	600	1519	8000
★6	150	559	150	282	460	221	500	★20	500	1194	487	565	600	2010	10610
★8	200	660	201	325	460	412	1620	★24	600	1397	589	617	760	3208	17280
★10	250	787	252	360	600	566	1824	★28	700	1549	684	678	760	4607	25102
★12	300	838	303	420	600	715	2632	★30	750	1651	735	738	760	5638	31664

Note: ★ Turbine drives

Applicable Standards:

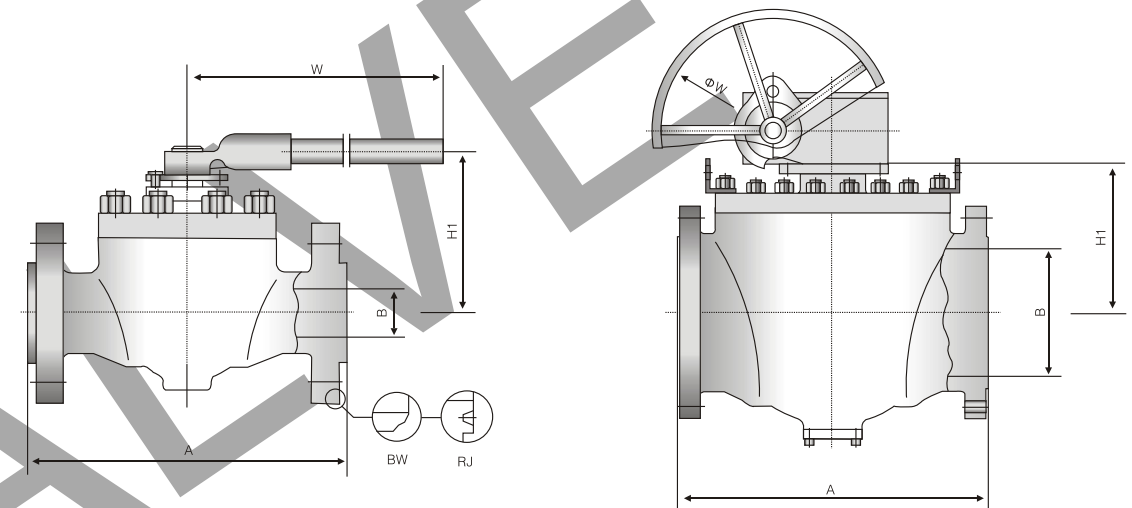
DESIGN & MANUFACTURE CONFORMS WITH: API 6D/ISO 14313、ASME B16.34

CONNECTION DIMENSION CONFORMS WITH: ASME B16.5、DN EN 1092

FIRE RESISTANCE DESIGN CONFORMS WITH: API 607/ISO 10497

INSPECTION & TEST CONFORMS WITH: API 6D、ISO 5208、API 598

MATERIAL CONFORMS WITH: ISO 15156



Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 600Lb															
2	50	292	51	215	500	41	148	★14	350	889	334	465	700	770	7255
3	80	356	76	232	600	67	200	★16	400	991	385	470	700	1112	9174
4	100	432	100	294	600	110	460	★18	450	1092	436	512	760	1523	13520
★6	150	559	150	287	600	226	908	★20	500	1194	487	570	760	1940	18034
★8	200	660	201	324	600	417	2560	★24	600	1397	589	622	760	3213	29512
★10	250	787	252	365	600	570	3048	★28	700	1549	684	742	760	4612	42264
★12	300	838	303	480	700	720	4300	★30	750	1651	735	817	850	5640	58864

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 900Lb															
2	50	368	49	212	650	52	208	★12	300	965	303	507	700	1300	6000
3	80	381	74	227	700	110	280	★14	350	1029	322	520	700	1695	10220
4	100	457	100	277	800	200	650	★16	400	1130	373	538	760	2560	12968
★6	150	610	150	283	600	430	1298	★18	450	1219	423	580	760	3400	19054
★8	200	737	201	334	600	800	3596	★20	500	1321	471	625	760	4400	25452
★10	250	838	252	380	600	1000	4306	★24	600	1549	589	690	850	7200	38655

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 1500Lb															
2	50	368	49	212	600	56	330	★10	250	991	239	398	700	1438	6720
3	80	470	74	236	930	153	440	★12	300	1130	287	520	700	2017	14520
4	100	546	100	295	460	278	1034	★14	350	1257	315	560	760	2612	32600
★6	150	705	144	303	600	600	2084	★16	400	1384	360	570	760	3890	49650
★8	200	832	192	354	600	1100	5496	★18	450	1477	405	592	760	5100	66350

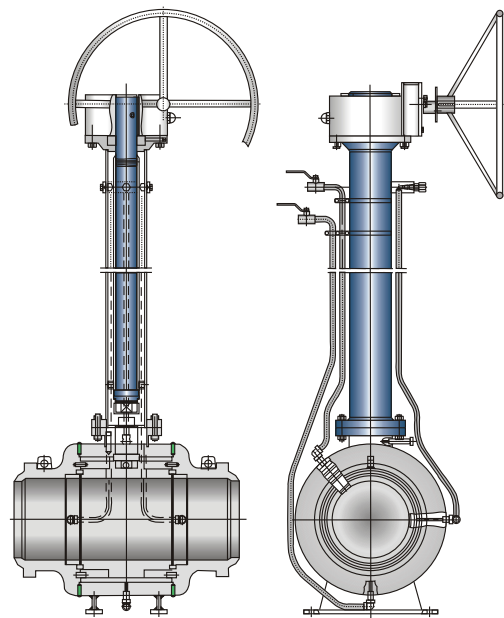
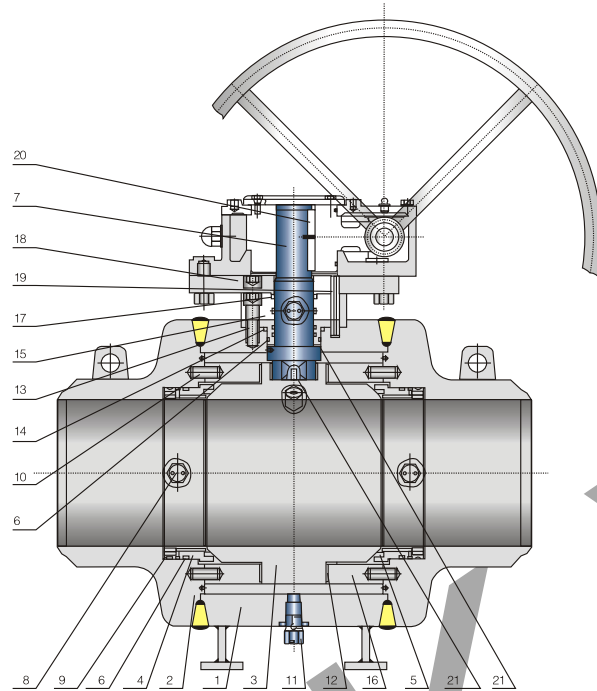
Note: ★ Turbine drives

Applicable Standards:

DESIGN & MANUFACTURE CONFORMS WITH: API 6D/ISO 14313, ASME B16.34
CONNECTION DIMENSION CONFORMS WITH: ASME B16.25, DIN EN 12627
FIRE RESISTANCE DESIGN CONFORMS WITH: API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH: API 6D, ISO 5208, API 598
MATERIAL CONFORMS WITH: ISO 15156

Materials of parts

No	Part Name	No	Part Name
1	Body	12	Ball lubricating bearing
2	Left-right body	13	Screw
3	Ball	14	Bonnet gasket
4	Seat	15	Support cover
5	Sealing ring	16	Die holder
6	O-ring	17	Packing
7	Stem	18	Terminal pad
8	Seat grease injection valve	19	Spring pin
9	Spring	20	Flat key
10	straight pin	21	Stem gasket
11	Blow-down valve	22	Static-free spring



Ground extended product structure diagram

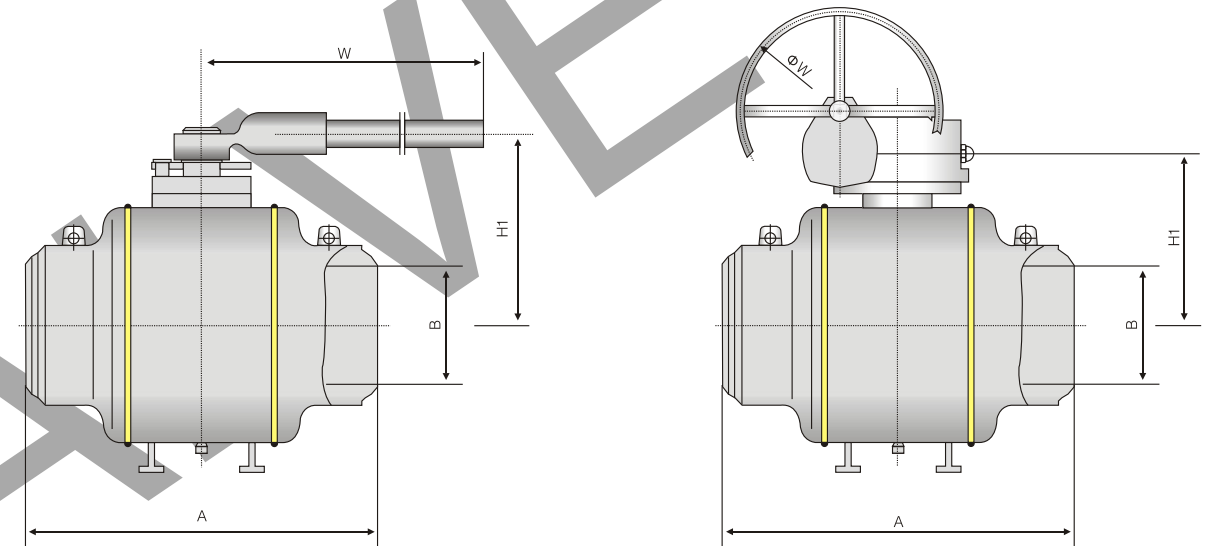
Materials of parts

Body	A105/LF2/F304/F316/F304L/F316L/F11/F22/F51
Ball	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Seat	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Stem	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Sealing ring	PTFE/NYLON/PEEK/TEFLON
O-ring	VITON/NBR
Screw	B7M/B8M/L7M/B16M
Support cover	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Die holder	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Spring	17-4PH/17-7PH/Inconel
Bearing	304+PTFE/316+PTFE
Gasket	Flexible graphite+304/PTFE

Materials could be chosen according to customers' requirement & working condition.

Applicable Standards:

DESIGN & MANUFACTURE CONFORMS WITH: API 6D/ISO 14313, ASME B16.34
CONNECTION DIMENSION CONFORMS WITH: ASME B16.25, DIN EN 12627
FIRE RESISTANCE DESIGN CONFORMS WITH: API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH: API 6D, ISO 5208, API 598
MATERIAL CONFORMS WITH: ISO 15156



Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 150Lb															
2	50	216	51	146	300	12	50	★14	350	762	334	410	600	860	2426
3	80	283	76	170	400	28	65	★16	400	838	385	460	600	980	3016
4	100	305	100	204	450	42	151	★18	450	914	436	520	600	1210	4574
★6	150	457	150	260	460	125	320	★20	500	991	487	560	700	1760	6016
★8	200	521	201	300	460	220	1020	★24	600	1143	589	600	700	2010	9750
★10	250	559	252	340	600	340	1085	★28	700	1346	684	730	700	3200	14540
★12	300	635	303	385	600	520	1562	★30	750	1397	735	840	760	4120	18005

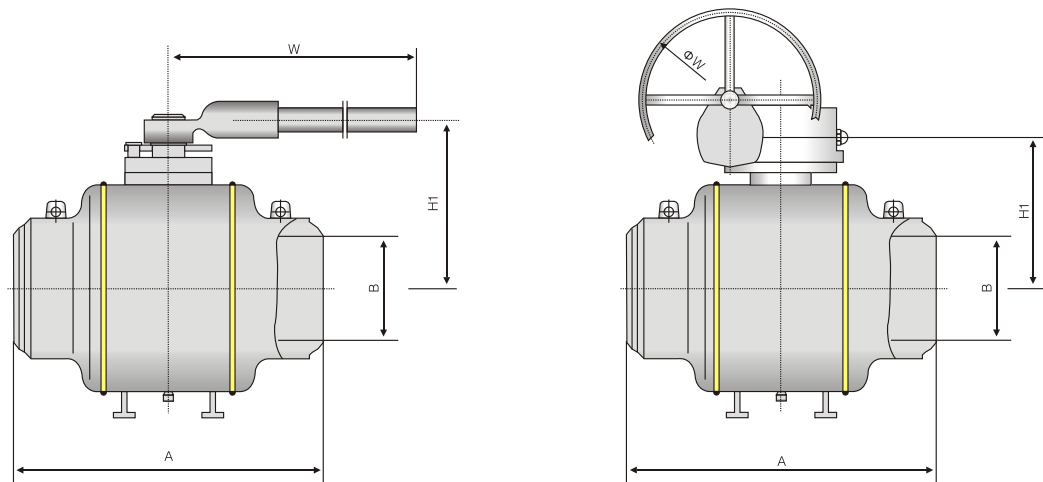
Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 300Lb															
2	50	216	51	170	300	16	86	★14	350	762	334	420	600	980	3800
3	80	283	76	185	500	35	110	★16	400	838	385	470	600	1210	5376
4	100	305	100	210	550	60	270	★18	450	914	436	530	600	1520	8000
★6	150	457	150	260	460	150	500	★20	500	991	487	590	600	2010	10610
★8	200	521	201	310	460	250	1620	★24	600	1143	589	600	760	2520	17280
★10	250	559	252	345	600	350	1824	★28	700	1346	684	750	760	3600	25012
★12	300	635	303	390	600	580	2632	★30	750	1397	735	850	760	4620	31664

Note: ★ Turbine drives

Applicable Standards:

DESIGN & MANUFACTURE CONFORMS WITH: API 6D/ ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WITH: ASME B16.25、DIN EN 12627
FIRE RESISTANCE DESIGN CONFORMS WITH: API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH: API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH: ISO 15156



Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 600Lb															
2	50	292	51	185	500	27	148	★14	350	889	334	450	700	1228	7255
3	80	356	76	190	600	48	200	★16	400	991	385	500	700	1705	9174
4	100	432	100	220	600	95	460	★18	450	1092	436	560	760	2380	13520
★6	150	559	150	270	600	210	908	★20	500	1194	487	620	760	2875	18034
★8	200	660	201	320	600	405	2560	★24	600	1397	589	750	760	4830	29512
★10	250	787	252	350	600	655	3048	★28	700	1549	684	880	760	5900	42264
★12	300	838	303	400	700	915	4300	★30	750	1651	735	960	850	7200	58864

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 900Lb															
2	50	368	49	180	650	40	208	★12	300	965	303	450	700	1270	6000
3	80	381	74	208	700	70	280	★14	350	1029	322	550	700	1515	10220
4	100	457	100	222	800	110	650	★16	400	1130	373	650	760	2420	12968
★6	150	610	150	270	600	255	1298	★18	450	1219	423	750	760	2740	19054
★8	200	737	201	325	600	525	3596	★20	500	1321	471	830	760	3325	25452
★10	250	838	252	360	600	810	4306	★24	600	1549	589	950	850	4800	38655

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 1500Lb															
2	50	368	49	175	600	50	330	★8	200	832	192	360	600	580	5496
3	80	470	74	232	930	115	440	★10	250	991	239	410	700	1120	6720
4	100	546	100	395	460	170	1034	★12	300	1130	287	500	700	1492	14520
★6	150	705	144	300	600	402	2084	★14	350	1257	315	560	760	2140	32600

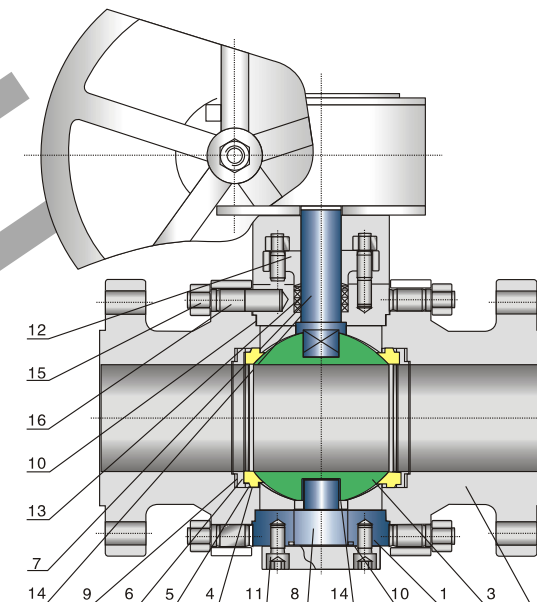
Note: ★ Turbine drives

Applicable Standards:

DESIGN & MANUFACTURE CONFORMS WITH: API 608、ASME B16.34
CONNECTION DIMENSION CONFORMS WITH: ASME B16.5、DIN EN 1092
FIRE RESISTANCE DESIGN CONFORMS WITH: API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH: ISO 5208、API 598
MATERIAL CONFORMS WITH: ISO 15156

Materials of parts

No	Part Name	No	Part Name
1	Body	9	Spring
2	Left-right body	10	Seat washer
3	Ball	11	Screw
4	Seat	12	Packing bushing
5	Graphite sealing ring	13	Packing
6	Pressure ring	14	Bushing
7	Stem	15	Nut
8	Lower lid	16	Stud



Characteristics & Application

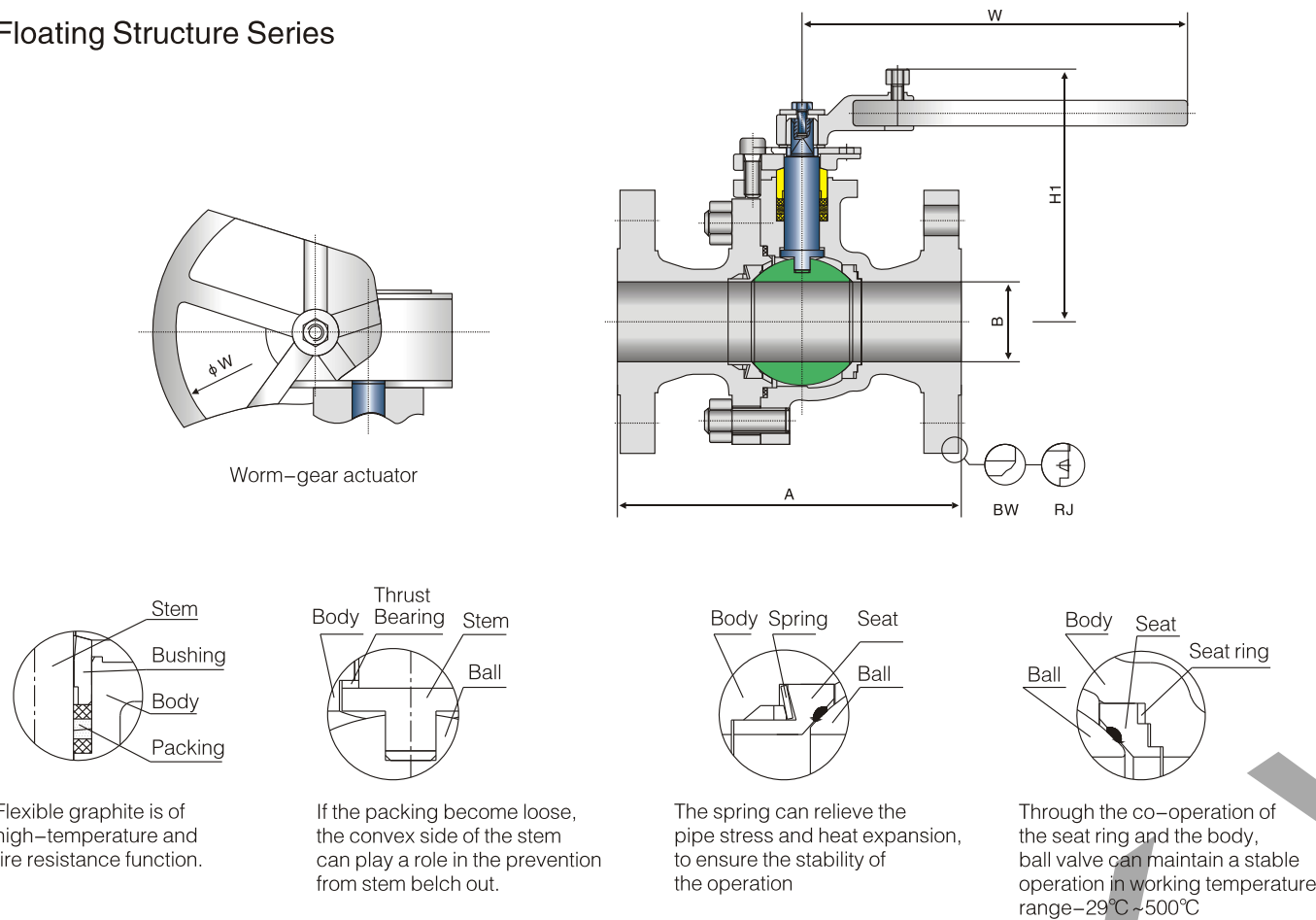
- The product is suitable for harsh work conditions, can be used for a wide temperature range, such as the high temperature, corrosive media and so on.
- The tungsten-chromium alloy solid stainless steel seat firmed by the spring, this kind of design can be applied to a wide range of operating conditions, it not only improves the seal performance, but also has the excellent features of long service life and maintenance-free.
- The stable torque is easy to use, and cheaper in cost.
- High-quality sealing performance depends on a high level of processing technology, through this way the ball can have a close contact with seat.
- Even in a low temperature, the spring installed in the seat can also ensure the ball have a close contact with the seat, so in a wide temperature range, under high-pressure difference and high frequency, the torque can still be open and closed stably.
- composed of different materials, the valve can be used for different temperatures, up to 500°C (932°F)
- After the surface-hardening treatment, the ball valve seat can be more widely used, on as cement, paper pulp, as well as other corrosive occasions, and have a long lifetime. What's more, the fixed ball with an unique design is suitable for the media containing dust.

Materials of parts

Body	WCB/A105/CF8M/F316/CF8/F304/CF3M F316L/CF3/F304L/CD3MN/F51
Bonnet	WCB/A105/CF8M/F316/CF8/F304/CF3M F316L/CF3/F304L/CD3MN/F51
Ball	(F304/F316/F304L/F316L/F51) + Ionitriding/Hard Chromium/Nialloy surfacing
Seat	(F304/F316/F304L/F316L/F51) +Stellite
Stem	F6a/A105+ENP/F304/F316/F304L/F316L/F51
Sealing ring	Flexible graphite
Lower lid	A105+ENP/F316/F304/F316L/F304L/F51
Bolt	B7M/B8M
Nut	B7M/B8M
Packing	Flexible graphite
Spring	17-4PH/Inconel series
Bushing	(304/316) + Ion nitriding
Seal gasket	304+Flexible graphite

Materials could be choosed according to customers' requirement & working condition.

Floating Structure Series



Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 150Lb															
1/2	15	108	13	60	200	2.5	5	2 1/2	65	191	65	160	600	18	80
3/4	20	117	19	65	200	3.5	8	3	80	203	76	190	600	25	120
1	25	127	25	75	250	5.8	11	4	100	229	100	210	700	38	150
1 1/2	40	165	32	98	350	7.5	25	★6	150	394	150	360	460	106	600
2	50	178	51	128	350	11	45	★8	200	457	201	523	600	180	1050

Dimensional datas

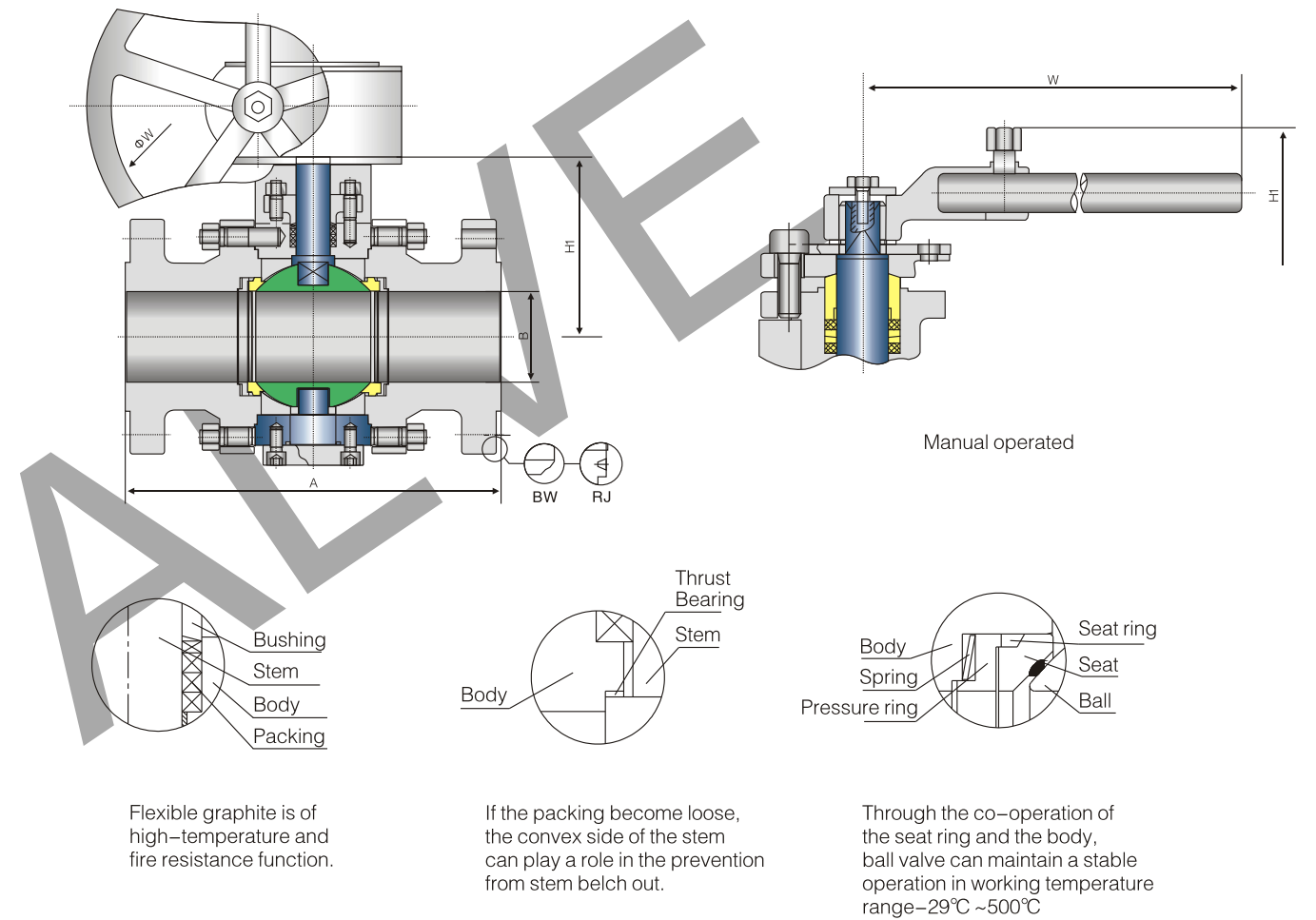
NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 300Lb															
1/2	15	140	13	60	200	3	11	2 1/2	65	241	65	160	600	30	160
3/4	20	152	19	65	200	5	18	3	80	383	76	190	600	40	221
1	25	165	25	75	250	8	40	4	100	305	100	210	700	65	392
1 1/2	40	191	32	98	350	11	57	★6	150	403	150	360	600	122	1240
2	50	216	51	128	350	18	90	★8	200	502	201	523	600	246	2100

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 600Lb															
2	50	292	51	150	450	28	266	3	80	356	76	210	700	40	644
2 1/2	65	330	65	180	450	45	504	★4	100	432	100	270	600	65	1078

Note: ★ Worm-gear actuator

Fixed Structure Series



Dimensional datas

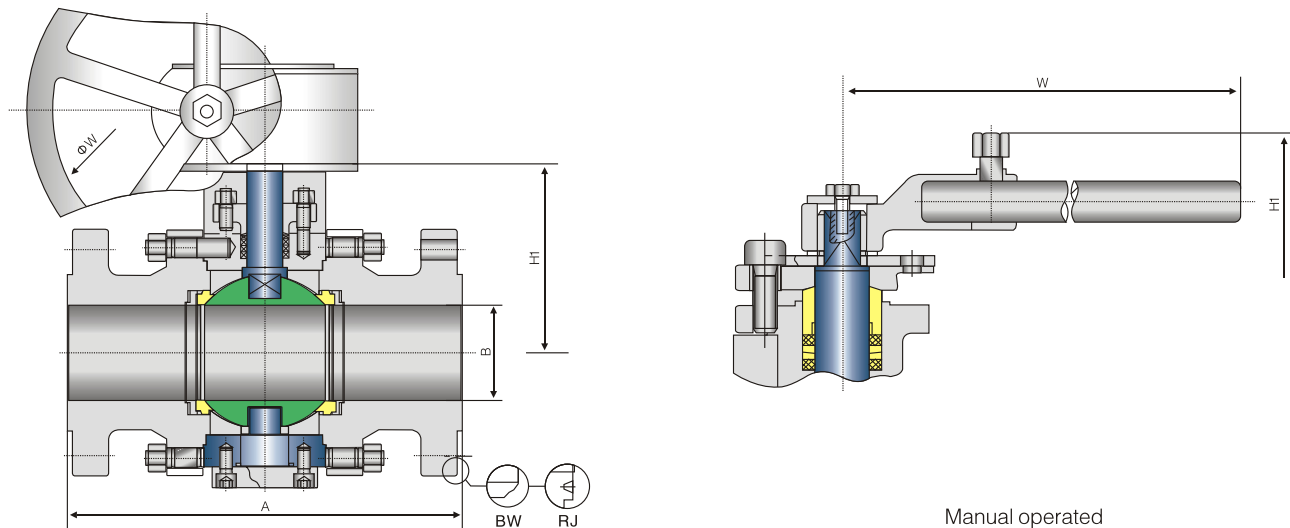
NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 150Lb															
2	50	178	51	172	350	16	72	★10	250	533	252	350	600	280	1437
2 1/2	65	191	65	184	400	26	92	★12	300	610	303	380	600	460	2152
3	80	203	76	196	500	35	123	★14	350	686	334	415	600	580	3234
4	100	229	100	225	650	51	240	★16	400	762	385	450	700	790	3797
★6	150	394	150	290	460	103	640	★18	450	864	436	490	700	930	4574
★8	200	457	201	320	600	170	1082	★20	500	914	487	540	700	1288	6875

Dimensional datas

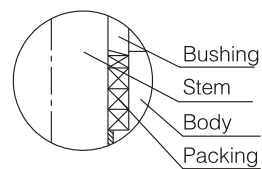
NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 300Lb															
2	50	216	51	172	350	22	119	★10	250	568	252	356	600	310	2170
2 1/2	65	241	65	184	400	34	149	★12	300	648	303	388	600	512	2985
3	80	283	76	196	500	45	255	★14	350	762	334	425	700	612	4030
4	100	305	100	225	650	92	402	★16	400	838	385	466	700	1010	6424
★6	150	403	150	295	600	180	680	★18	450	914	436	502	700	1183	9963
★8	200	502	201	325	600	246	1620	★20	500	991	487	550	760	1353	13213

Note: ★ Worm-gear actuator

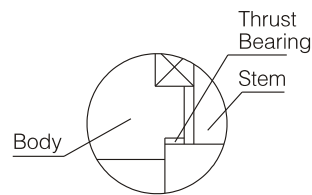
Fixed Structure Series



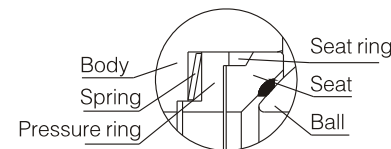
Manual operated



Flexible graphite is of high-temperature and fire resistance function.



If the packing become loose, the convex side of the stem can play a role in the prevention from stem belch out.



Through the co-operation of the seat ring and the body, ball valve can maintain a stable operation in working temperature range-29°C~500°C

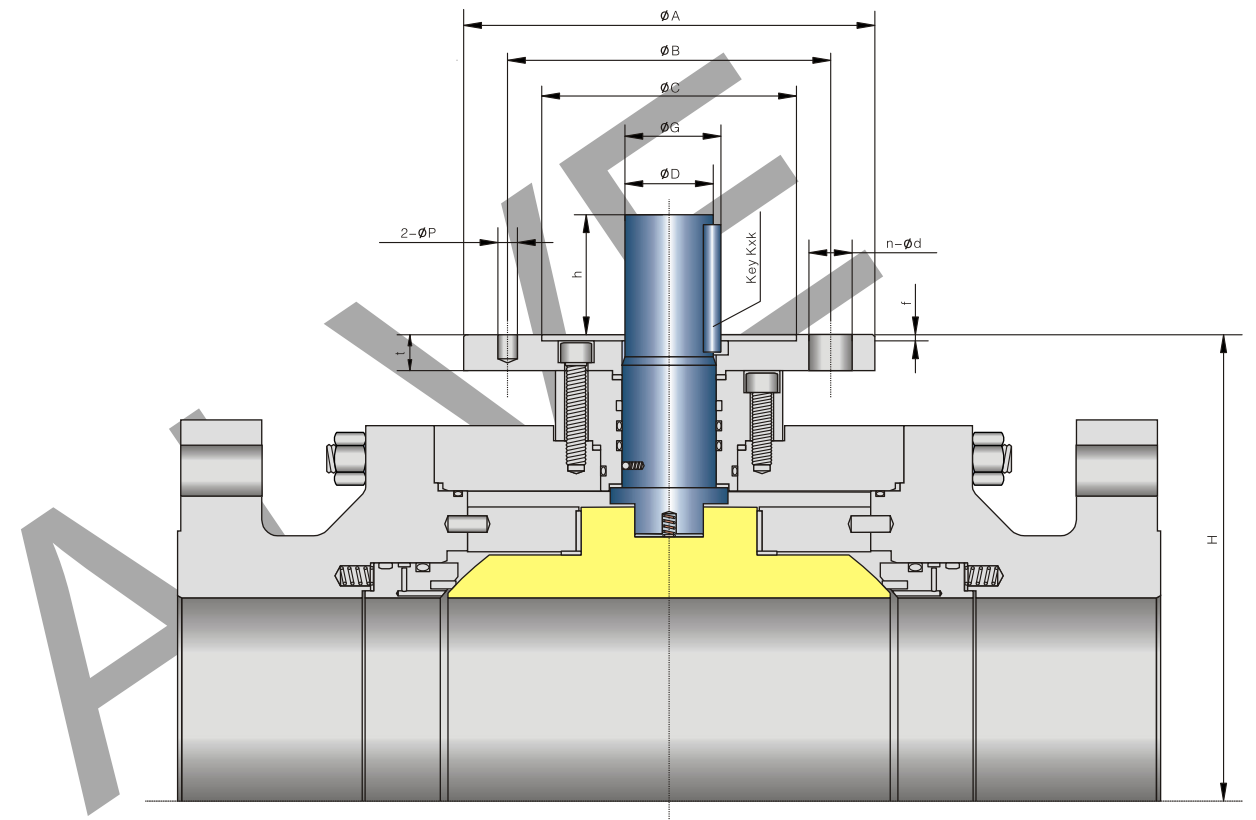
Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 900Lb															
2	50	368	49	190	650	45	296	★8	200	737	201	340	600	520	5351
3	80	381	74	208	700	78	342	★10	250	838	252	372	700	810	7683
★4	100	457	100	238	600	120	1230	★12	300	965	303	420	700	1050	13178
★6	150	610	150	312	600	255	2319	★14	350	1029	322	465	760	1386	18383

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 1500Lb															
2	50	368	49	190	650	45	507	★6	150	705	144	315	600	430	3814
3	80	470	74	210	750	116	1080	★8	200	832	192	350	600	630	9380
★4	100	546	100	240	600	170	1981	★10	250	991	239	388	700	1188	14466

Note: ★ Worm-gear actuator



Dimensional datas

Size inch	Class	Torque N.m	Flange Dimensions (mm)							ISO5211 Flange No.	KeySize KxK mm	G mm	D mm	h mm	H mm
2*1-1/2	150	42	90	70	55	3	12	4-9	6	F07	6x6	25	22	25	95
	300	66	90	70	55	3	12	4-9	6	F07	6x6	25	22	25	95
	600	102	90	70	55	3	12	4-9	6	F07	6x6	25	22	25	95
	900	142	90	70	55	3	12	4-9	6	F07	6x6	25	22	25	100
	1500	241	90	70	55	3	15	4-9	6	F07	6x6	25	22	25	100
	2500	423	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	115
2	150	76	90	70	55	3	12	4-9	6	F07	6x6	25	22	25	103
	300	91	90	70	55	3	12	4-9	6	F07	6x6	25	22	25	103
	600	143	90	70	55	3	12	4-9	6	F07	6x6	25	22	25	102
	900	231	125	102	70	3	17	4-11	8	F10	8x8	32	28	30	117
	1500	349	125	102	70	3	17	4-11	8	F10	8x8	32	28	30	117
	2500	798	150	125	85	3	20	4-13	10	F12	10x10	41	36	55	141
3	150	121	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	129
	300	159	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	129
	600	269	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	132
	900	524	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	140
	1500	887	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	153
	2500	1583	175	140	100	3	24	4-18	10	F14	12x12	51	45	65	169
4	150	179	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	150
	300	355	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	150
	600	670	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	160
	900	875	175	140	100	4	20	4-18	10	F14	12x12	51	45	65	172
	1500	1351	210	165	130	5	24	4-22	12	F16	14x14	57	50	75	193
	2500	2111	210	165	130	5	26	4-22	12	F16	14x14	62	55	80	205

Dimensional datas															
Size inch	Class	Torque N.m	Flange Dimensions (mm)							ISO5211 Flange No.	KeySize Kxk mm	G mm	D mm	h mm	H mm
6	150	631	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	188
	300	854	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	188
	600	1609	175	140	100	4	20	4-18	10	F14	12x12	51	45	65	208
	900	1927	210	165	130	5	22	4-22	12	F16	14x14	62	55	80	215
	1500	3512	210	165	130	5	24	4-22	14	F16	16x16	68	60	90	235
	2500	5454	300	254	200	5	28	8-18	16	F25	16x16	73	65	95	270
8	150	987	210	165	130	5	20	4-22	10	F16	12x12	51	45	60	233
	300	1562	210	165	130	5	20	4-22	10	F16	12x12	51	45	60	233
	600	2501	210	165	130	5	22	4-22	12	F16	14x14	62	55	80	249
	900	4012	210	165	130	5	22	4-22	14	F16	16x16	38	60	90	266
	1500	6513	300	254	200	5	28	8-18	16	F25	18x18	79	70	105	285
	2500	8495	300	254	200	5	32	8-18	16	F25	18x18	84	75	110	355
10	150	1321	210	165	130	5	20	4-22	12	F16	14x14	62	55	80	278
	300	2304	210	165	130	5	20	4-22	12	F16	14x14	62	55	80	278
	600	3450	210	165	130	5	24	4-22	14	F16	16x16	68	60	90	300
	900	5017	300	254	200	5	25	8-18	16	F25	18x18	79	70	105	315
	1500	7996	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	345
	2500	13148	300	254	200	5	32	8-18	16	F25	20x20	95	85	125	412
12	150	1650	210	165	130	5	24	4-22	14	F16	16x16	68	60	90	318
	300	3041	210	165	130	5	24	4-22	14	F16	16x16	68	60	90	320
	600	4507	300	254	200	5	25	8-18	16	F25	18x18	79	70	105	345
	900	6512	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	360
	1500	10078	300	254	200	5	30	8-18	16	F25	20x20	95	85	125	408
	2500	18007	350	298	260	5	38	8-22	20	F30	24x24	107	95	140	478
14	150	2415	300	254	200	5	26	8-18	16	F25	16x16	73	65	95	353
	300	4019	300	254	200	5	26	8-18	16	F25	16x16	73	65	95	360
	600	6578	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	376
	900	9489	300	254	200	5	28	8-18	16	F25	20x20	95	85	125	388
	1500	14860	300	254	200	5	35	8-18	16	F25	24x24	107	95	140	448
	150	3314	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	393
16	300	5350	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	406
	600	9025	300	254	200	5	28	8-18	16	F25	20x20	95	85	125	414
	900	12877	300	254	200	5	30	8-18	16	F25	24x24	107	95	140	442
	1500	21857	350	298	230	5	35	8-22	20	F30	28x28	119	105	155	490
	150	5148	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	435
	300	8375	300	254	200	5	28	8-18	16	F25	20x20	95	85	125	448
18	600	13493	300	254	200	5	30	8-18	16	F25	24x24	107	95	140	458
	900	18975	350	298	230	5	32	8-22	20	F30	28x28	119	105	165	487
	1500	29032	350	298	230	5	38	8-22	20	F30	32x32	136	120	180	545
	150	6425	300	254	200	5	30	8-18	16	F25	20x20	90	80	120	477
	300	10987	300	254	200	5	30	8-18	16	F25	24x24	107	95	140	485
	600	18502	350	298	230	5	32	8-22	20	F30	28x28	119	105	165	510
20	900	26048	350	298	230	5	38	8-22	20	F30	32x32	136	120	180	530
	1500	40907	415	356	260	5	42	8-33	28	F35	36x36	158	140	210	580
24	150	12379	300	254	200	5	32	8-18	16	F25	24x24	102	90	135	562
	300	19384	350	298	230	5	32	8-22	20	F30	28x28	124	110	165	565
	600	29546	350	298	230	5	38	8-22	20	F30	32x32	136	120	180	602
	900	42379	415	356	260	5	42	8-33	28	F35	36x36	158	140	210	630
	1500	65223	475	406	300	8	48	8-39	28	F40	40x40	180	160	240	730

Notes:

- 1.The above table is for TF,TW&TT series valves,which are with ISO 5211 mounting flange and adaptability for alltypes actuators mounting.
- 2.The torque is for valves with PTFE seat or Nylon seat as per different size/class selection.
- 3.The torque value showed in above table is the valve torque at normal temperature.For customer's sizing actuator:

a.If medium temperature is -10℃~40℃,the output torque of actuator should be 1.5 time the valve torque;

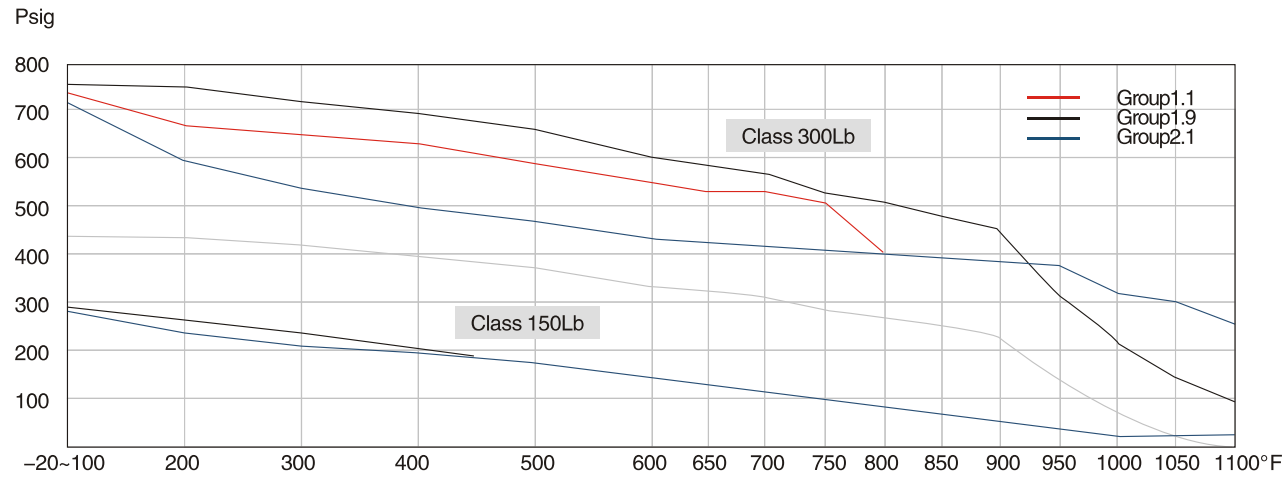
b.If medium temperature is -10℃,the output torque of actuator should be 2 or 2.5 time the valve torque;

Specification for Seat Materials				
	PTFE	RPTFE	Molon(Nylon+MoS2)	PEEK
Tensile Strength(MPa)	24.8	25.4	75~100	91
Compressive Strength(MPa)	35	52	100~140	137
Elongation(%)	250	120	10~30	50
Hardness(SH.A)	56	60	78	82
Water Absorption(%)	<0.01	<0.01	0.7	0.12
Specific Gravity(G/cm3)	2.2	2.2	1.2	1.35
Temperature Range(°F)	-300~400	-150~425	-40~300	-150~500
Pressure Rating(Class)	150~600	150~600	150~1500	150~1500
Service Application	Chemical & Cryogenic	Chemical & Cryogenic	HighPressure & LowTemperature	HighPressure & LowTemperature
	Nylon1010	Nylon12	DevlonV	Delrin
Tensile Strength(MPa)	55	60	80	68
Compressive Strength(MPa)	70	79	140	110
Elongation(%)	150	200	5.37	220
Hardness(SH.A)	70	75	78	78
Water Absorption(%)	0.3	0.2	0.1	0.2
Specific Gravity(G/cm3)	1.01	1.01	1.14	1.41
Temperature Range(°F)	-40~200	-58~250	-150~300	-58~230
Pressure Rating(Class)	600~1500	600~1500	150~1500	150~1500
Service Application	HighPressure & LowTemperature	HighPressure & LowTemperature	HighPressure & LowTemperature	HighPressure & LowTemperature

Specification for Seat Materials					
	VitonA	NBR	VitonB	NBR(HSN)	Viton AED
Temperature Range(°F)	-20~400	-20~400	-20~400	-40~320	-20~480
Hardness(SH.A)	70	70	70	80	90
Specific Gravity(G/cm3)	1.85	1.85	1.85	1.33	1.9
Service Application	PetroleumOils, Gasoline, TransmissionFluid	PetrlreumOils, Water, HydraulicOils	MineralAcid, Steam, MTBE	PetrlreumOils, H2S&C O2 Anti-Explosive Decompression	PetrlreumOils, H2S&C O2 Anti-Explosive Decompression

Specification for Seat Materials				
	Flexible Graphite	SpiralWound 316+Graphite	PTFE	SpiralWound Monel+P TFE
Temperature Range(°F)	-300~900	-300~800	-300~400	-300~400
PH	0~14	0~14	0~14	0~14
Service Application	Fire-safe	Fire-safe	Cryogenic, HighCorrosive	HighCorrosive

*Due to quick develop,we reserve the right to institute changes in material,design and specifications for all GMK designed valves without prior notice.



ASME B16.34 Maximum Allowable Non-Shock Pressure

Psig

TEMPERATURE		ASTM MATERIALS															
		ANSI Class 150Lb								ANSI Class 300Lb							
		Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2
-20~100	-20~38	285	290	265	290	290	290	275	275	740	750	695	750	750	750	720	720
200	93	260	260	250	230	260	260	230	235	670	750	655	750	750	745	600	620
300	149	230	230	230	230	230	230	205	215	655	730	640	720	720	715	540	560
400	204	200	200	200	200	200	200	190	195	635	705	620	695	695	705	495	515
500	260	170	170	170	170	170	170	170	170	600	665	585	665	665	665	465	480
600	316	140	140	140	140	140	140	140	140	550	605	535	605	605	605	435	450
650	343	125	125	125	125	125	125	125	125	535	590	525	590	590	590	430	445
700	371	110	110		110	110	110	110	110	535	570		570	570	570	425	430
750	399	95	95		95	95	95	95	95	505	505		530	530	530	415	425
800	427	80	80		80	80	80	80	80	410	410		510	510	510	405	420
850	454				65	65	65	65	65				485	485	485	395	420
900	482				50	50	50	50	50				450	450	370	390	415
950	510				35	35	35	35	35				320	375	275	380	385
1000	538				20	20	20	20	20				215	260	200	320	350
1050	566				20	20	20	20	20				145	175	145	310	345
1100	593				20 ^{a)}	20 ^{a)}	20 ^{a)}	20 ^{a)}	20 ^{a)}				95	110	100	255	305

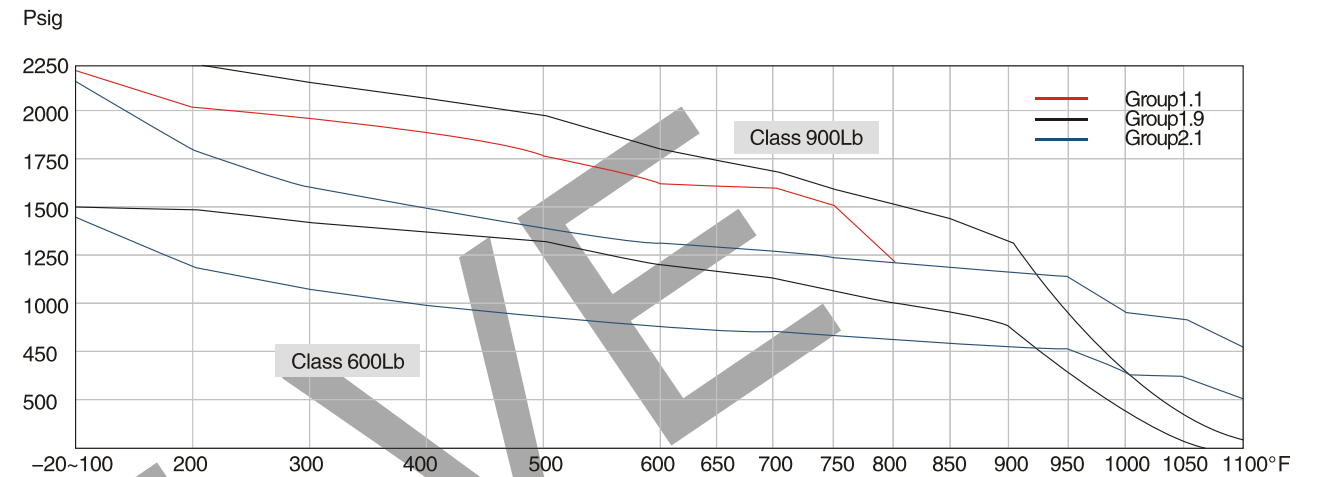
TEST PRESSURE BY API 598

Hydrostatic shell test	450	450	400	450	450	450	425	425	1125	1125	1050	1125	1125	1125	1100	1100
Hydrostatic seal test	315	320	295	320	320	320	305	305	815	825	765	825	825	825	795	795
Air seat test	80 ± 20								80 ± 20							

Metric conversions by API STD 2564 pressure: 1 pound per square inch (psig) = 0.06894757 bar = 0.006894757 MPa temperature: °C = (5/9)°F - 32

ASME B16.34 Materials Group			
Group 1.1	A105 ^{a)}	A216-WCB ^{a)}	
Group 1.2	A216-WCC ^{a)}	A352-LCC ^{a)}	
Group 1.3	A352-LCB ^{a)}		
Group 1.9	A217-WC6 ^{d)}		
Group 1.10	A217-WC9 ^{d)}		
Group 1.13	A217-C5		
Group 2.1	A182-F304	A351-CF8	A351-CF3 ^{b)}
Group 2.2	A182-F316	A352-CF8M	A351-CF3M ^{c)}

- a). Not to be used over 650° F (343°C).
b). Not to be used over 650° F (427°C).
c). Not to be used over 650° F (538°C).
b). Not to be used over 650° F (593°C).
e). Permissible, but not recommended for prolonged use above 800° F (427°C).
f). For welding end valve only, flanged end rating terminates at 1000° F (538°C).



ASME B16.34 Maximum Allowable Non-Shock Pressure

Psig

TEMPERATURE		ASTM MATERIALS															
		ANSI Class 600Lb								ANSI Class 900Lb							
		Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2
-20~100	-20~38	1480	1500	1390	1500	1500	1500	1440	1440	2220	2250	2085	2250	2250	2250	2160	2160
200	93	1350	1500	1315	1500	1500	1490	1200	1240	2025	2250	1970	2250	2250	2235	1800	1860
300	149	1315	1455	1275	1445	1455	1430	1080	1120	1970	2185	1915	2165	2185	2150	1620	1680
400	204	1270	1410	1235	1385	1410	1410	995	1025	1900	2115	1850	2080	2115	2115	1490	1540
500	260	1200	1330	1165	1330	1330	1330	930	955	1795	1995	1745	1995	1995	1995	1395	1435
600	316	1095	1210	1065	1210	1210	1210	875	1640	1640	1815	1600	1815	1815	1815	1310	1355
650	343	1075	1175	1045	1175	1175	1175	860	1610	1610	1765	1570	1765	1765	1765	1290	1330
700	371	1065	1135		1135	1135	1135	850	1600	1600	1705		1705	1705	1705	1275	1305
750	399	1010	1010		1065	1065	1055	830	1510	1510	1510		1595	1595	1585	1245	1280
800	427	825	825		1015	1015	1015	805	1235	1235	1235		1525	1525	1525	1210	1265
850	454				975	975	965	790					1460	1460	1450	1190	1255
900	482				900	900	740	780					1350	1350	1110	1165	1245
950	510				640	755	550	765					955	1130	825	1145	1160
1000	538				430	520	400	640					650	780	595	965	1050
1050	566				290	350	290	615					430	525	430	925	1030
1100	593				190	220	200	515					290	330	300	770	915

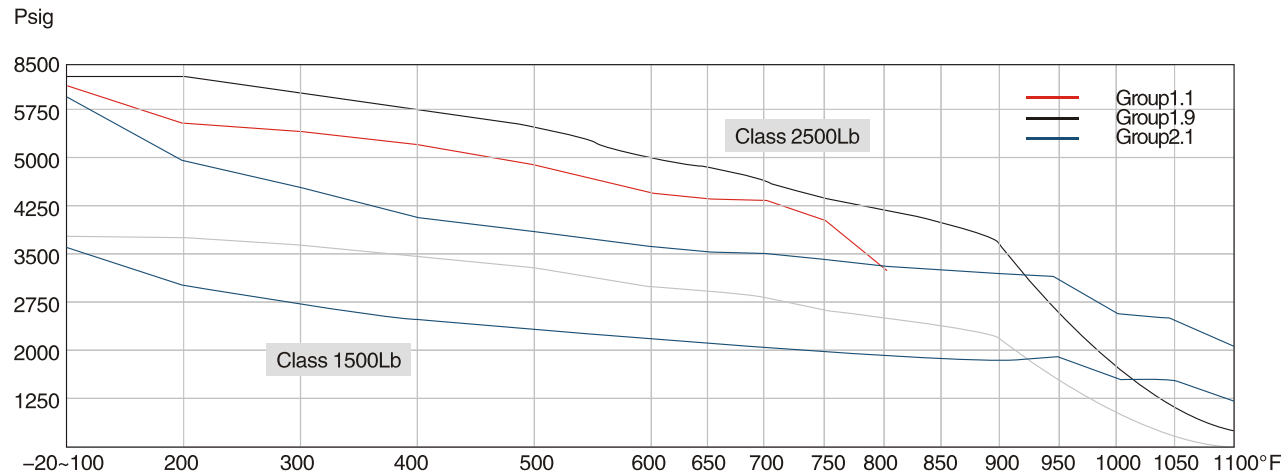
TEST PRESSURE BY API 598

Hydrostatic shell test	2225	2250	2100	2250	2250	2250	2175	3350	3350	3375	3150	3375	3375	3250	3250	3250
Hydrostatic seal test	1630	1650	1530	1650	1650	1650	1585	2445	2445	2475	2295	2475	2475	2380	2380	2380
Air seat test	80 ± 20															

Metric conversions by API STD 2564 pressure: 1 pound per square inch (psig) = 0.06894757 bar = 0.006894757 MPa temperature: °C = (5/9)°F - 32

ASME B16.34 Materials Group			
Group 1.1	A105 ^{a)}	A216-WCB ^{a)}	
Group 1.2	A216-WCC ^{a)}	A352-LCC ^{a)}	
Group 1.3	A352-LCB ^{a)}		
Group 1.9	A217-WC6 ^{d)}		
Group 1.10	A217-WC9 ^{d)}		
Group 1.13	A217-C5		
Group 2.1	A182-F304	A351-CF8	A351-CF3 ^{b)}
Group 2.2	A182-F316	A352-CF8M	A351-CF3M ^{c)}

- a). Not to be used over 650° F (343°C).
b). Not to be used over 650° F (427°C).
c). Not to be used over 650° F (538°C).
b). Not to be used over 650° F (593°C).
e). Permissible, but not recommended for prolonged use above 800° F (427°C).



ASME B16.34 Maximum Allowable Non-Shock Pressure

Psig

TEMPERATURE		ASTM MATERIALS															
		ANSI Class 1500Lb								ANSI Class 2500Lb							
°F	°C	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2
-20~100	-20~38	3705	3750	3470	3750	3750	3750	3600	3600	6170	6250	5785	6250	6250	6250	6000	6000
200	93	3375	3750	3280	3750	3750	3725	3000	3095	5625	6250	5470	6250	6250	6205	5000	5160
300	149	3280	3640	3190	3610	3640	3580	2700	2795	5470	6070	5315	6015	6070	5965	4500	4660
400	204	3170	3530	3085	3465	3530	3530	2485	2570	5280	5880	5145	5775	5880	5880	4140	4280
500	260	2995	3325	2910	3325	3325	3325	2330	2390	4990	5540	4850	5540	5540	5540	3880	3980
600	316	2735	3025	2665	3025	3025	3025	2185	2255	4560	5040	4440	5040	5040	5040	3640	3760
650	343	2685	2940	2615	2940	2940	2940	2150	2220	4475	4905	4355	4905	4905	4905	3580	3700
700	371	2665	2840		2840	2840	2840	2125	2170	4440	4730		4730	4730	4730	3540	3620
750	399	2520	2520		2660	2660	2640	2075	2135	4200	4200		4430	4430	4400	3460	3560
800	427	2060	2060		2540	2540	2540	2015	2110	3430	3430		4230	4230	4230	3360	3520
850	454				2435	2435	2415	1980	2090				4060	4060	4030	3300	3480
900	482				2245	2245	1850	1945	2075				3745	3745	3085	3240	3460
950	510				1595	1885	1370	1910	1930				2655	3145	2285	3180	3220
1000	538				1080	1305	995	1605	1750				1800	2170	1655	2675	2915
1050	566				720	875	720	1545	1720				1200	1455	1200	2570	2865
1100	593				480	550	495	1285	1525				800	915	830	2145	2545

TEST PRESSURE BY API 598

Hydrostatic shell test	5575	5625	5225	5625	5625	5625	5400	5400	9275	9375	8700	9375	9375	9375	9000	9000
Hydrostatic seal test	4080	4125	3820	4125	4125	4125	2960	3960	6790	6875	6365	6875	6875	6875	6600	6600
Air seat test	80 ± 20															

Metric conversions by API STD 2564 pressure: 1pound per square inch(psig)=0.06894757 bar=0.006894757 MPa temperature: °C=(5/9)°F-32

ASME B16.34 Materials Group			
Group 1.1	A105 ^{a)}	A216-WCB ^{a)}	
Group 1.2	A216-WCC ^{a)}	A352-LCC ^{a)}	
Group 1.3	A352-LCB ^{a)}		
Group 1.9	A217-WC6 ^{d)}		
Group 1.10	A217-WC9 ^{d)}		
Group 1.13	A217-C5		
Group 2.1	A182-F304	A351-CF8	A351-CF3 ^{b)}
Group 2.2	A182-F316	A352-CF8M	A351-CF3M ^{e)}

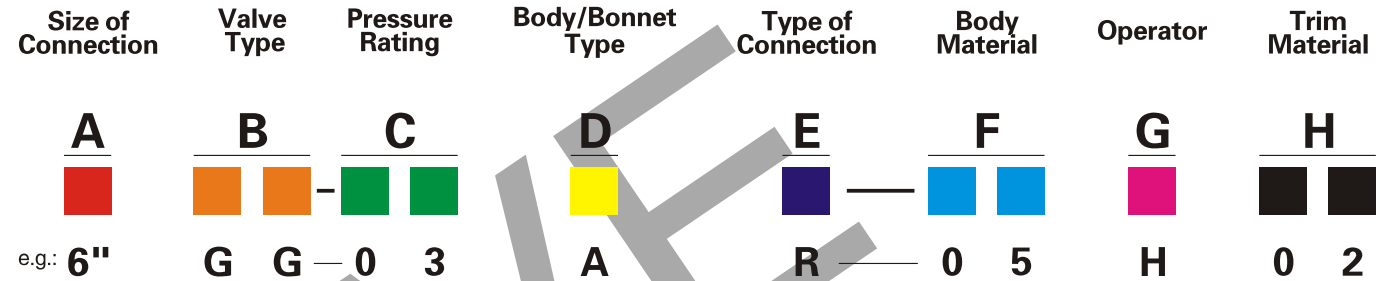
a). Not to be used over 650°F(343°C).

b). Not to be used over 650°F(427°C).

c). Not to be used over 650°F(538°C).

b). Not to be used over 650°F(593°C).

e). Permissible, but not recommended for prolonged use above 800°F(427°C).



Example: Flanged 6" class 300 cast stainless steel full bore gate valve with trim 02.

The figure numbers shown on this key are designed to cover essential features of GMK valves.

Please use figure numbers to ensure prompt and accurate processing of your order.

A detailed description must accompany any special orders.

A Size of Connection			
2"(50mm)	8"(200mm)	20"(500mm)	32"(800mm)
2 1/2"(65mm)	10"(250mm)	22"(550mm)	34"(850mm)
3"(80mm)	12"(300mm)	24"(600mm)	36"(900mm)
4"(100mm)	14"(350mm)	26"(650mm)	40"(950mm)
5"(125mm)	16"(400mm)	28"(700mm)	42"(1050mm)
6"(150mm)	18"(450mm)	30"(750mm)	48"(1200mm)
B Valve Type			
GG—Gate Valve		GL—Globe Valve	YG—Y—Globe Valve
BG—Bellows Globe Valve		SC—Swing Check Valve	
LC—Lift Check Valve		WC—Water Check Valve	
C Pressure Rating			
01—ANSI 150		03—ANSI 300	06—ANSI 600
09—ANSI 900		15—ANSI 1500	25—ANSI 2500
D Body/Bonnet Style			
A—Bolted bonnet(cast)			B—Extended bonnet
C—Cast bolted bonnet bellows seal			
D—Pressure seal bonnet			
E Type of Connection			
B—butt welding end		F—flat face flange end	
J—ring joint flange end		N—screwed end	
R—raised face flange end		S—socket welding end	
w—wafer			
F Body Material			
01—WCB	02—WC6	03—WC9	04—C5
06—CF8M	07—CF3	08—CF3M	09—CG8M
11—LCB	12—LCC	13—Monel	14—Hastelloy C
15—Alloy 20	16—Tiannium		17—Special

G Operator			
H-Handwheel	G-Gear operator	P-Pneumatic actuator	
E-Electric actuator	S-Special		
H Trim material			
Trim No.	Seat Ring or Surface	Wedge/Disc or Surface	Stem
01	13Cr	13Cr	ASTM A 182 F6a
02	18Cr-8Ni	18Cr-8Ni	ASTM A 182 F304
03	Stellite	18Cr-8Ni	ASTM A 182 F304
04	Stellite	13Cr	ASTM A 182 F6a
05	Stellite	Stellite	ASTM A 182 F6a
06	18Cr-8Ni-Mo	18Cr-8Ni-Mo	ASTM A 182 F316
07	Stellite	18Cr-8Ni-Mo	ASTM A 182 F316
08	Stellite	Stellite	ASTM A 182 F316
09	Monel	Monel	Ni Cu Alloy Monel
10	Alloy 20	Alloy 20	ASTM B473
11	Special	Special	Special