

# GMK VALVE

[Http://www.valveschina.com](http://www.valveschina.com)



## API Ball Valves

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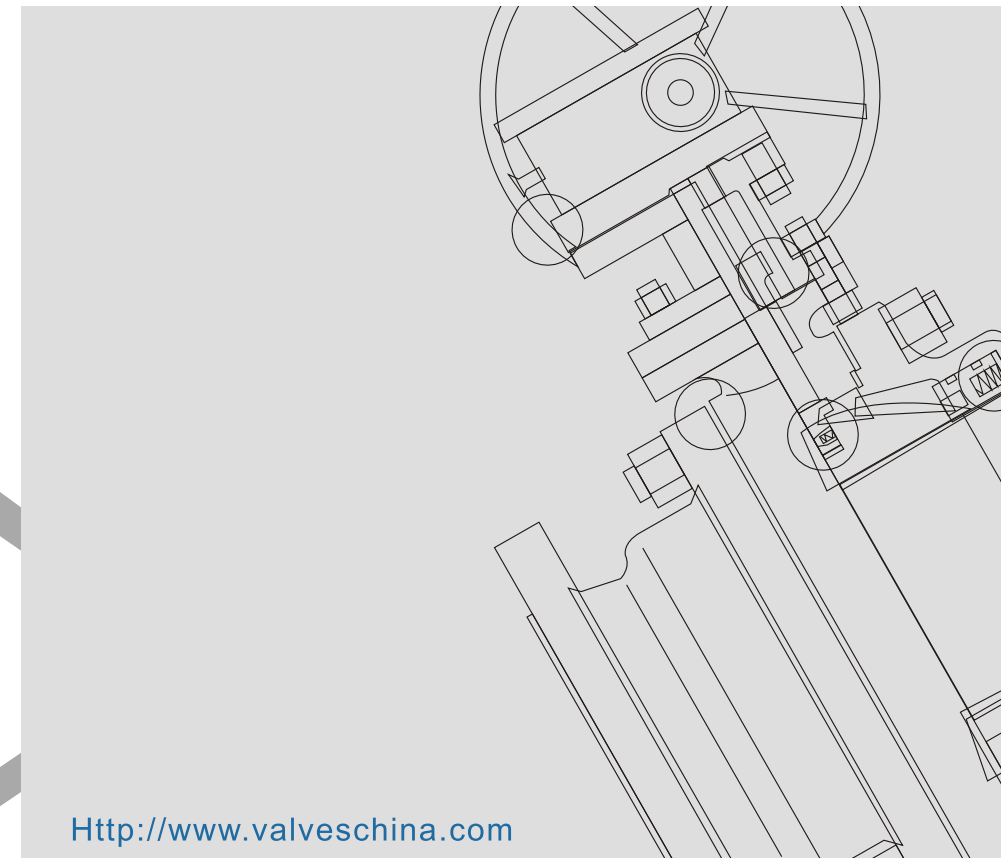
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## WHERE IS PIPELINE, WHERE IS GMK VALVE



# COMPANY PROFILE



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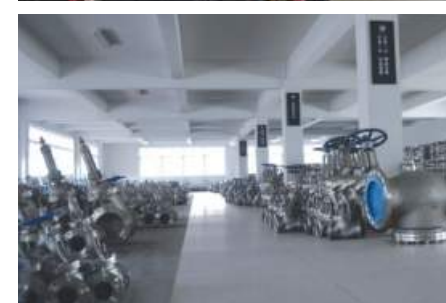


GMK VALVE works as a professional valve supplier, focusing on exporting abroad over 8 years. We are qualified with good conception by long-term dealing with different kinds of overseas clients and operating some government projects. We will always offer competitive price, nice quality, quick delivery 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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Cast Steel Valves Gate Globe & Check Valves

## 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.

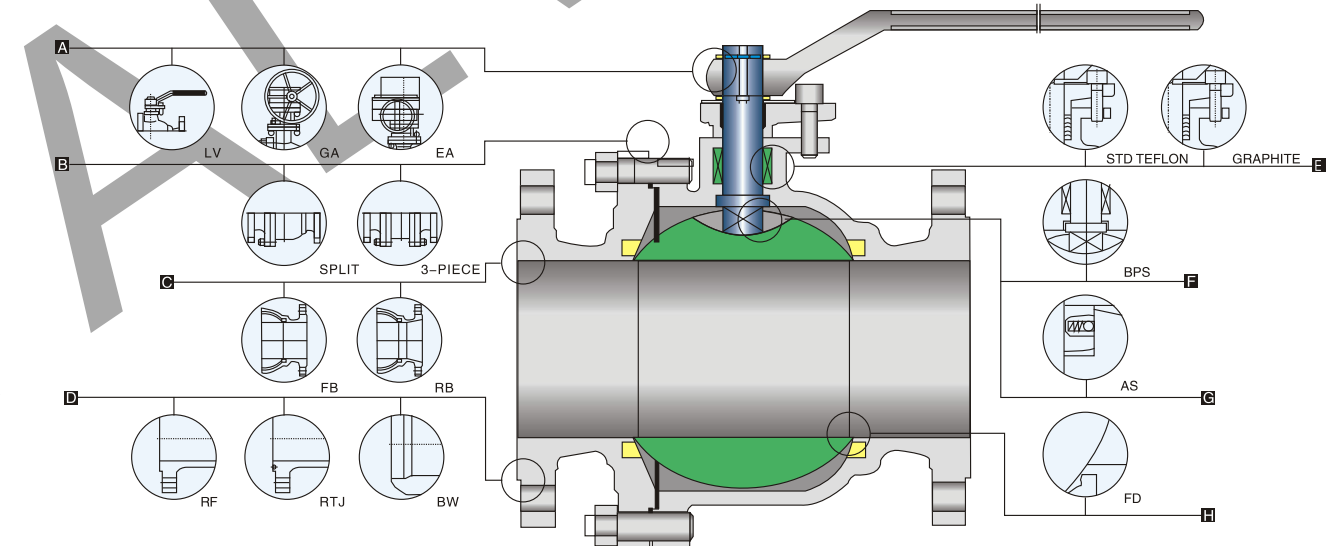
## Ranges of Materials

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 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 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

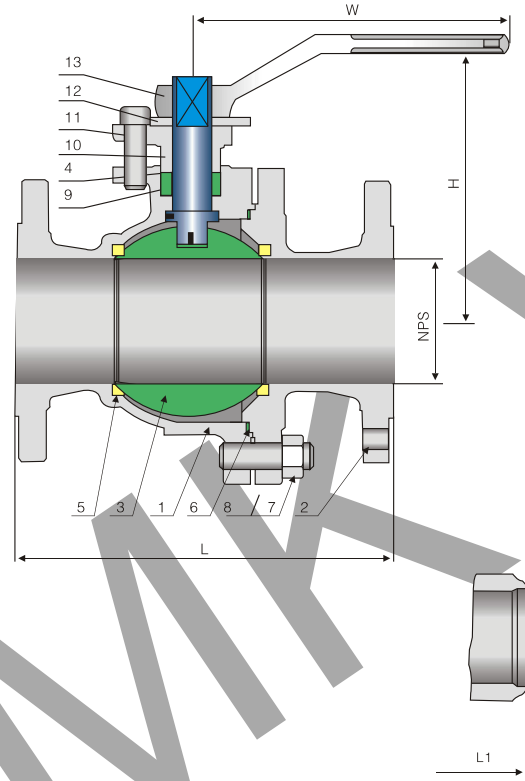
**Design descriptions:**

- 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 <sup>1)</sup>	A182-F316	A182-F304 <sup>1)</sup>
4	Stem	A276-304	A276-316	A276-304
5	Seat Ring		R.PTFE	
6	Bonnet Gasket	Graphite+304 <sup>2)</sup>	PTFE	Graphite+304 <sup>2)</sup>
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

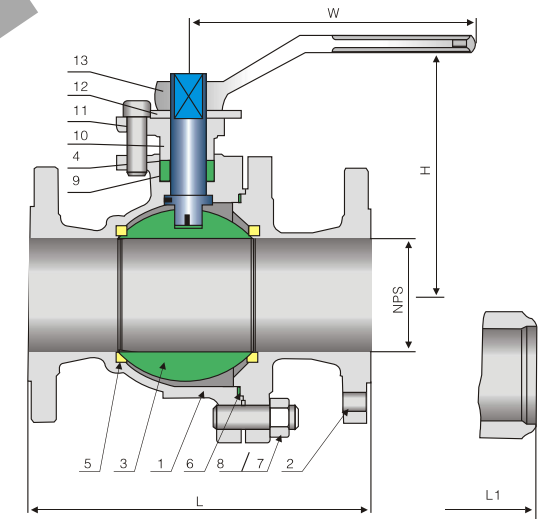
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- AVAILABLE WITH WG OPERATOR

**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 <sup>1)</sup>	A182-F316	A182-F304 <sup>1)</sup>
4	Stem	A276-304	A276-316	A276-304
5	Seat Ring		R.PTFE	
6	Bonnet Gasket	Graphite+304 <sup>2)</sup>	PTFE	Graphite+304 <sup>2)</sup>
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.

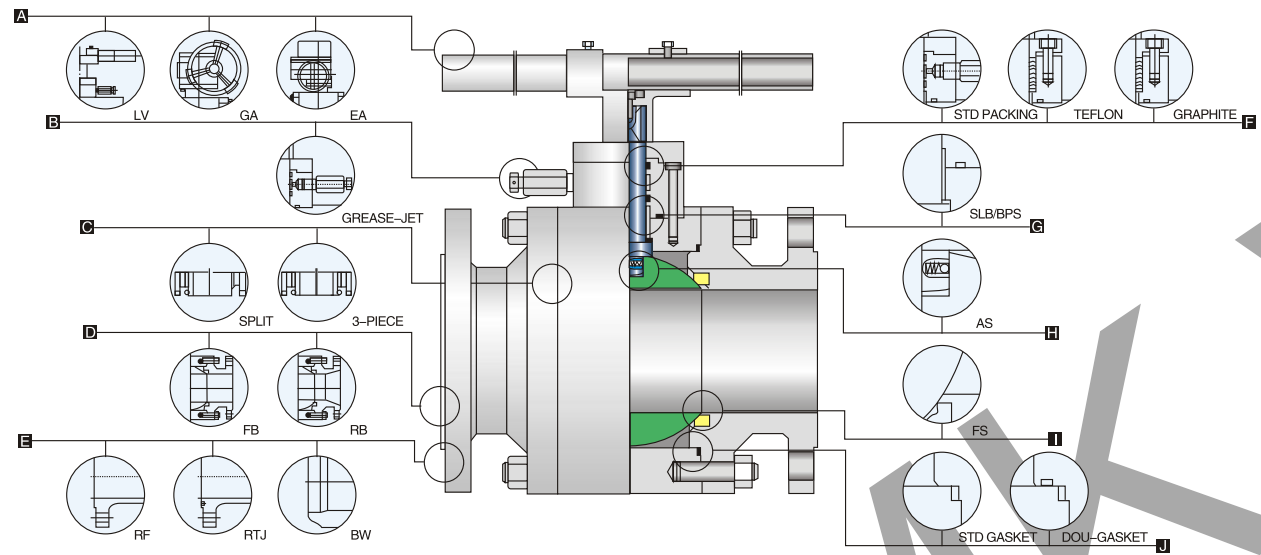
**Available Modifications for GMK Cast Steel Valves**

- 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

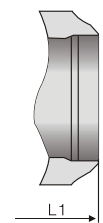
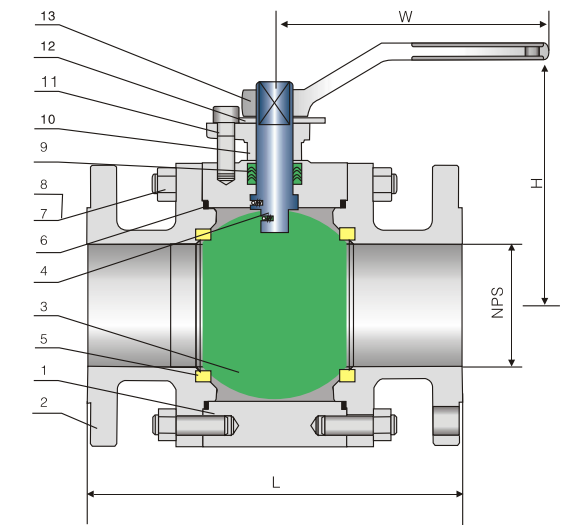
**Design descriptions:**

- 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 <sup>1)</sup>	A182-F316	A182-F304 <sup>1)</sup>
4	Stem	A276-304	A276-316	A276-304
5	Seat Ring	R.PTFE		
6	Bonnet Gasket	Graphite+304 <sup>2)</sup>	PTFE	Graphite+304 <sup>2)</sup>
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 (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
L1 (BW)	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
H	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
W	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
W	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	
wt(kg)	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

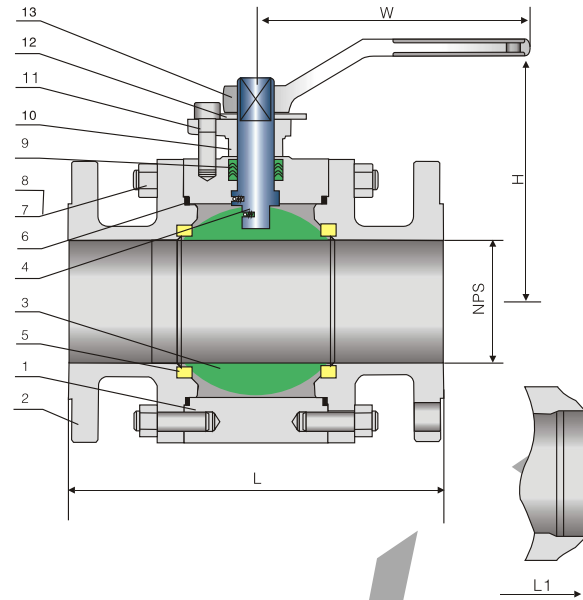
**Materials of parts**

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 <sup>1)</sup>	A182-F316	A182-F304 <sup>1)</sup>
4	Stem	A276-304	A276-316	A276-304
5	Seat Ring	R.PTFE		
6	Bonnet Gasket	Graphite+304 <sup>2)</sup>	PTFE	Graphite+304 <sup>2)</sup>
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	1 1/2	2	2 1/2	3	4	6	8	10	12	in
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
L1 (BW)	140	152	165	190	216	241	283	305	403	502	568	648	mm
L2 (RTJ)	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
H	140	152	165	190	216	241	283	305	457	521	559	635	mm
W	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
	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	1 1/2	2	2 1/2	3	4	6	8	10	12	in
L/L1 (RF/BW)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	-	-	-	in
L2 (RTJ)	165	190	216	241	292	330	356	432	559	-	-	-	mm
H	-	-	-	-	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.

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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**

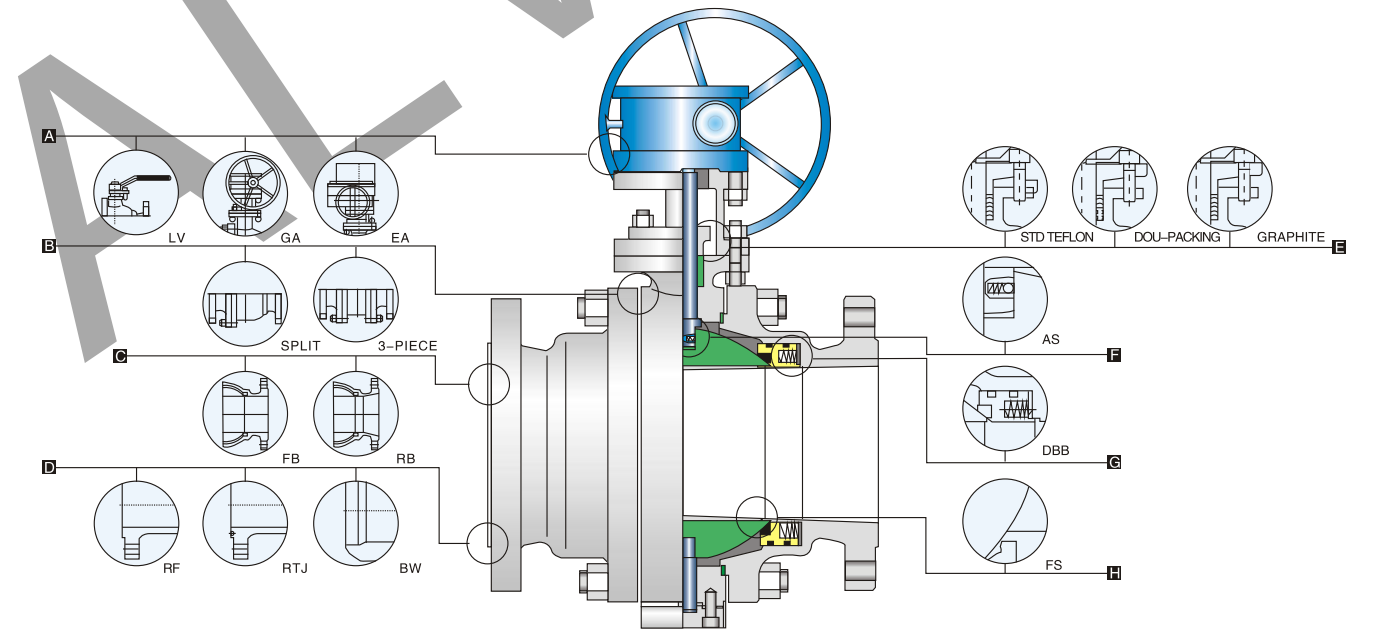
**End Connection Modifications**

**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 over pressure.

**H 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 backg 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

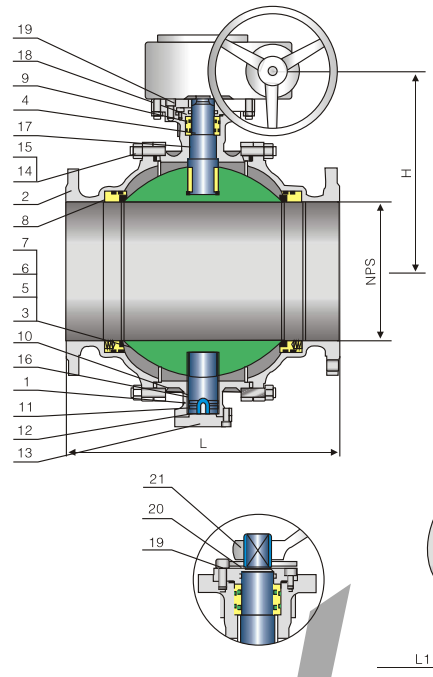
### Design descriptions:

- 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 <sup>1)</sup>	A182-F316	A182-F304 <sup>1)</sup>
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 <sup>2)</sup>	Graphite+316 <sup>2)</sup>	Graphite+304 <sup>2)</sup>
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	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
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
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
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
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	32	32	32	in
wt(kg)	15	19	27	38	81	140	160	205	260	390	510	750	1200	1400	1860	2100	2530	2970	mm
	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	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
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
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
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
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	32	32	-	in
wt(kg)	19	24	34	48	101	175	200	255	325	485	635	935	1500	1750	2225	2450	2870	-	mm
	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

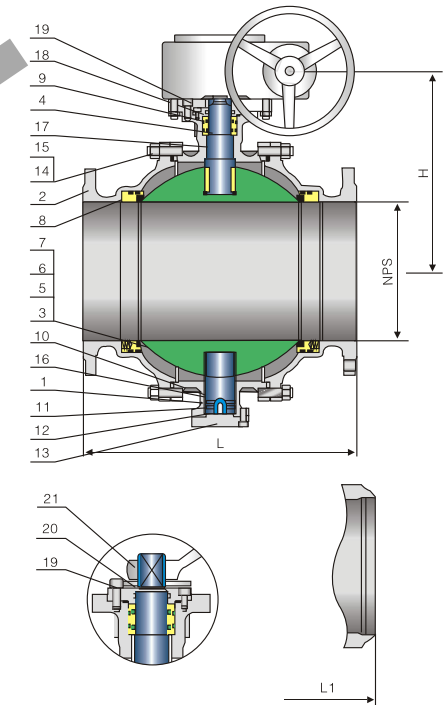
### Design descriptions:

- 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 <sup>1)</sup>	A182-F316	A182-F304 <sup>1)</sup>
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 <sup>2)</sup>	Graphite+316 <sup>2)</sup>	Graphite+304 <sup>2)</sup>
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	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	in
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
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
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
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	in
wt(kg)	26	35	58	81	142	287	540	780	1000	1300	1700	2100	3400	3800	4500	mm
	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	2 1/2	3	4	6	8	10	12	14	16	18	20	24	in
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
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
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
W	20	20	20	24	24	24	24	32	32	32	32	32	32	in
wt(kg)	31	43	68	98	171	345	650	940	1205	1565	2050	2535	3950	mm
	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

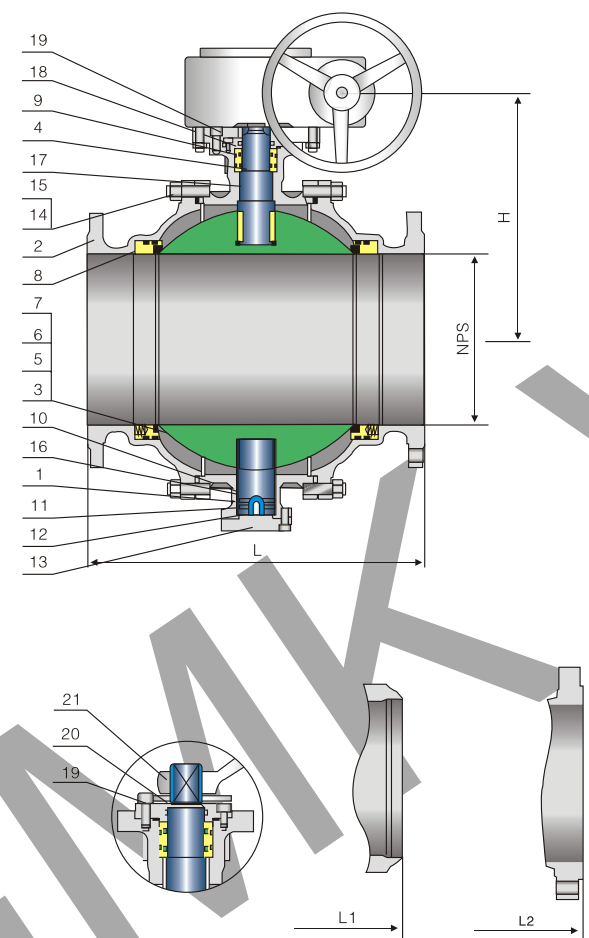
**Design descriptions:**

- 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 <sup>1)</sup>	A182-F316	A182-F304 <sup>1)</sup>
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 <sup>2)</sup>	Graphite+316 <sup>2)</sup>	Graphite+304 <sup>2)</sup>
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
2 1/2	65	16.50	419	16.62	422	12.00	305	20	500	67	44
3	80	18.50	470	18.62	473	13.25	338	24	600	106	73
4	100	21.50	546	21.62	549	20.00	506	24	600	153	87
6	150	27.75	705	28.00	711	33.50	852	24	600	268	145
8	200	32.75	832	33.12	841	39.38	1000	32	800	540	345
10	250	39.00	991	39.38	1000	41.12	1045	32	800	1020	685
12	300	44.50	1130	45.12	1146	49.38	1255	32	800	1475	1050
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	in	mm

**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.

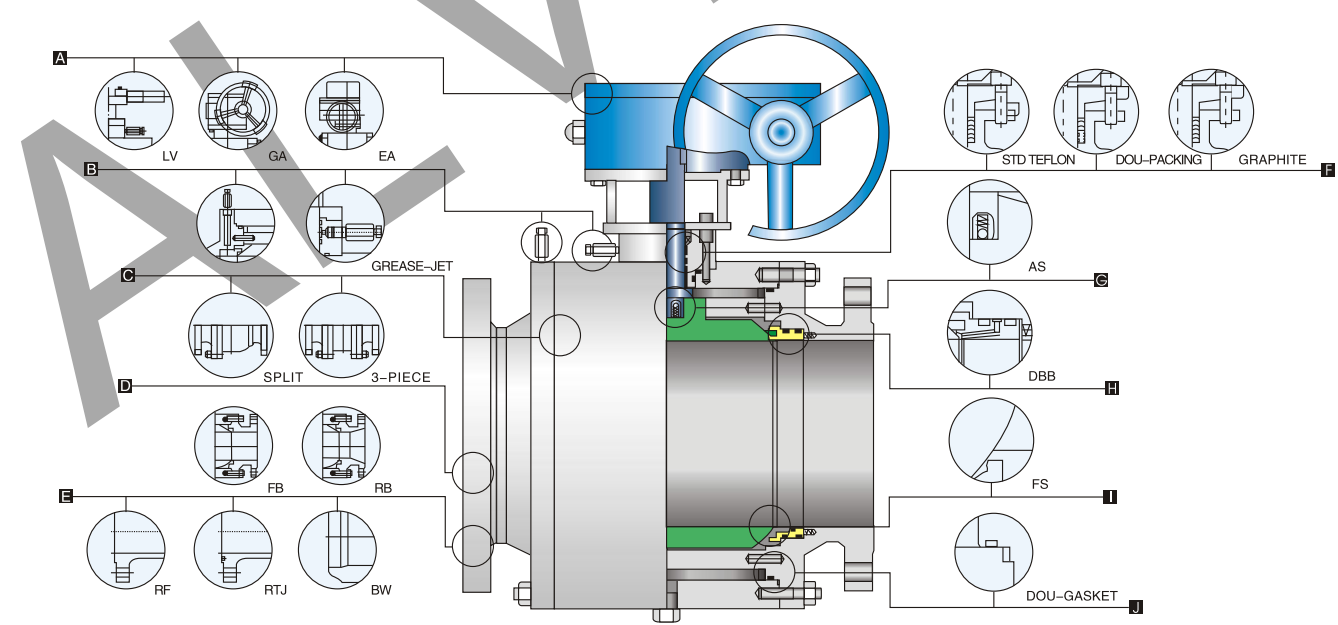
**Ranges of Materials**

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless 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.

**Available Modifications for GMK Cast Steel Valves**

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

- 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 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

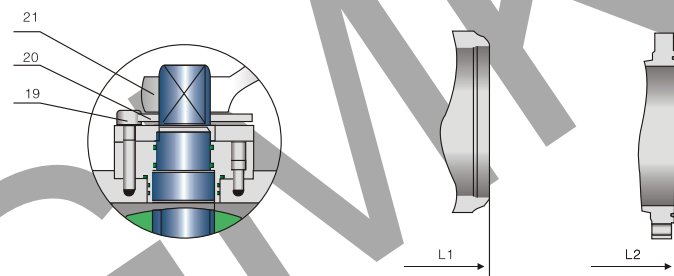
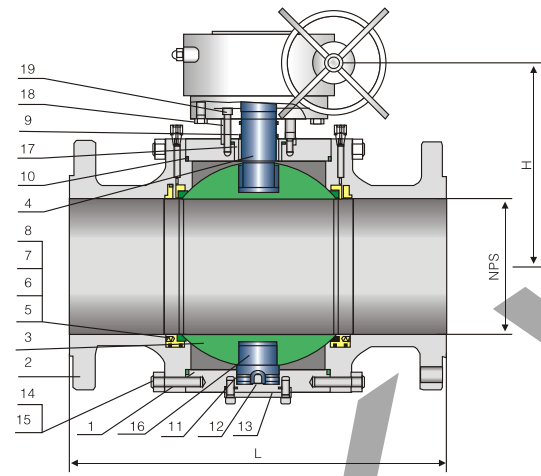
**Design descriptions:**

- 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 <sup>1)</sup>	A182-F316	A182-F304 <sup>1)</sup>
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 <sup>2)</sup>	Graphite+316 <sup>2)</sup>	Graphite+304 <sup>2)</sup>
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**

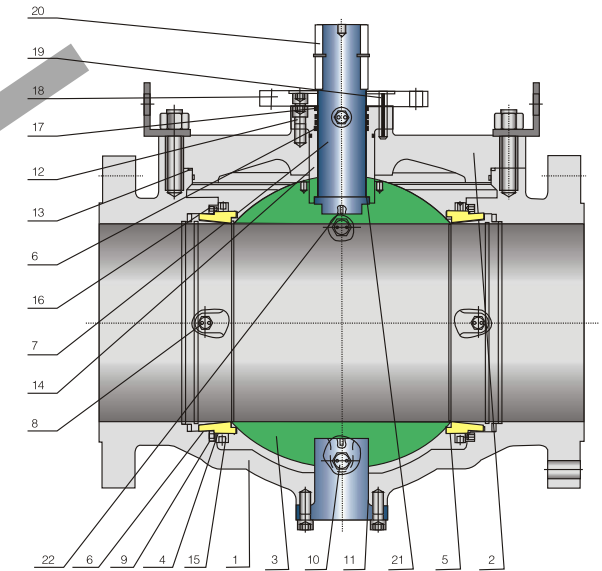
NPS	DN	L/L1 (RF/BW)	L2 (RTJ)	H	W	WT(kg)	L/L1 (RF/BW)	L2 (RTJ)	H	W	WT(kg)
						<b>ANSI Class1500Lb</b>					
2	50	14.50	368	14.62	371	6.75	170	24	600	55	40
2 1/2	65	16.50	419	16.62	422	7.50	190	24	600	75	55
3	80	18.50	470	18.62	473	5.25	210	32	800	95	65
4	100	21.50	546	21.62	549	11.38	290	32	800	150	115
6	150	27.75	705	28.00	711	13.00	330	32	800	540	420
8	200	32.75	832	33.12	841	15.75	400	32	800	880	685
10	250	39.00	991	39.38	1000	17.38	440	32	800	1360	1025
12	300	44.50	1130	45.12	1146	22.00	560	40	1000	1980	1555
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	in	mm

**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.

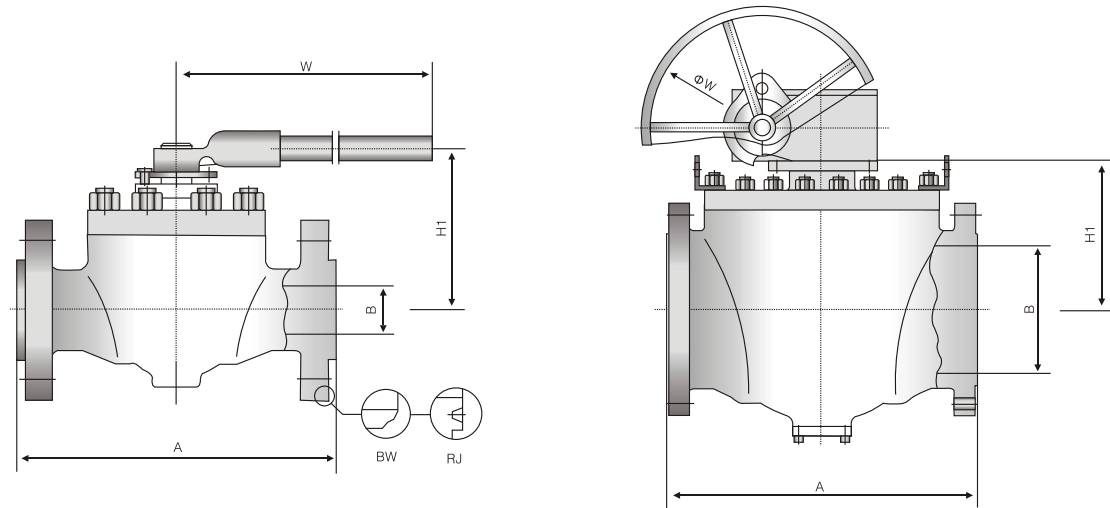
**Materials of parts**

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

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

**Applicable Standards:**

DESIGN & MANUFACTURE CONFORMS WITH: API 6D/ISO 14313、ASME B16.34  
 CONNECTION DIMENSION CONFORMS WITH: ASME B16.5、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
<b>ANSI Class 150Lb</b>															
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

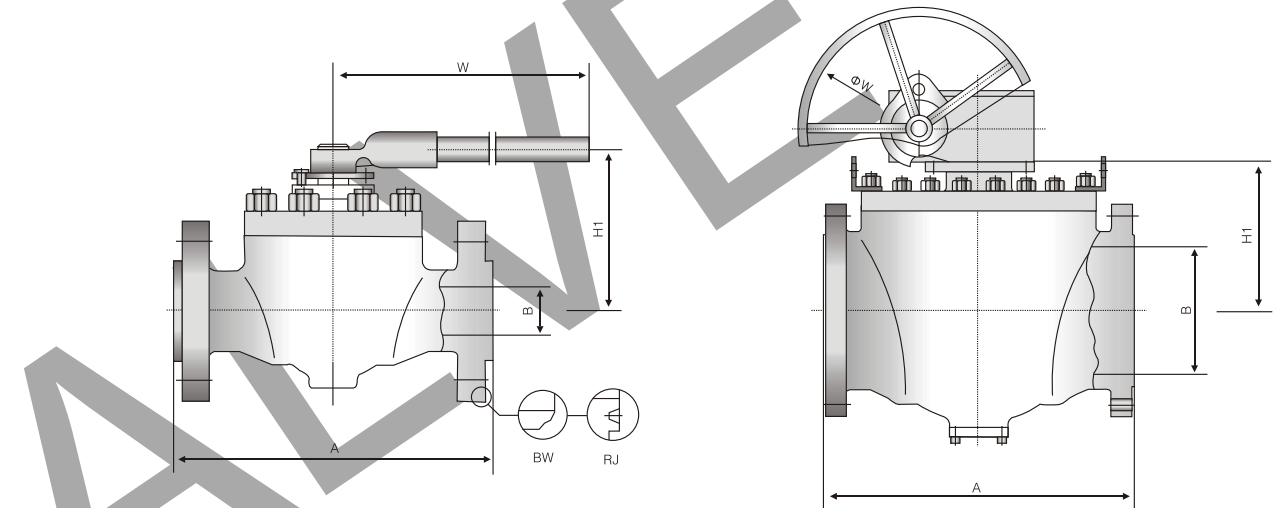
**Dimensional datas**

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
<b>ANSI Class 300Lb</b>															
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
<b>ANSI Class 600Lb</b>															
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
<b>ANSI Class 900Lb</b>															
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
<b>ANSI Class 1500Lb</b>															
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

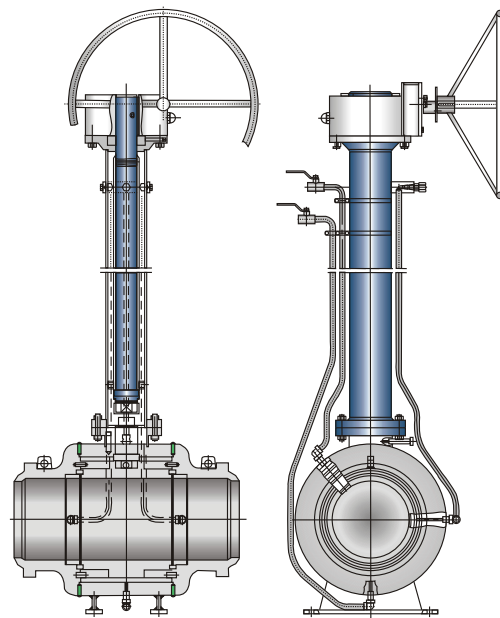
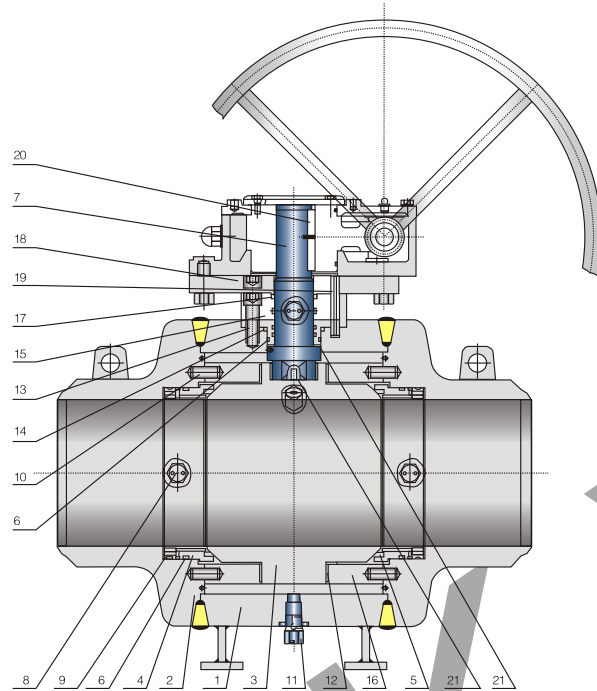
Note: ★ Turbine drives

**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

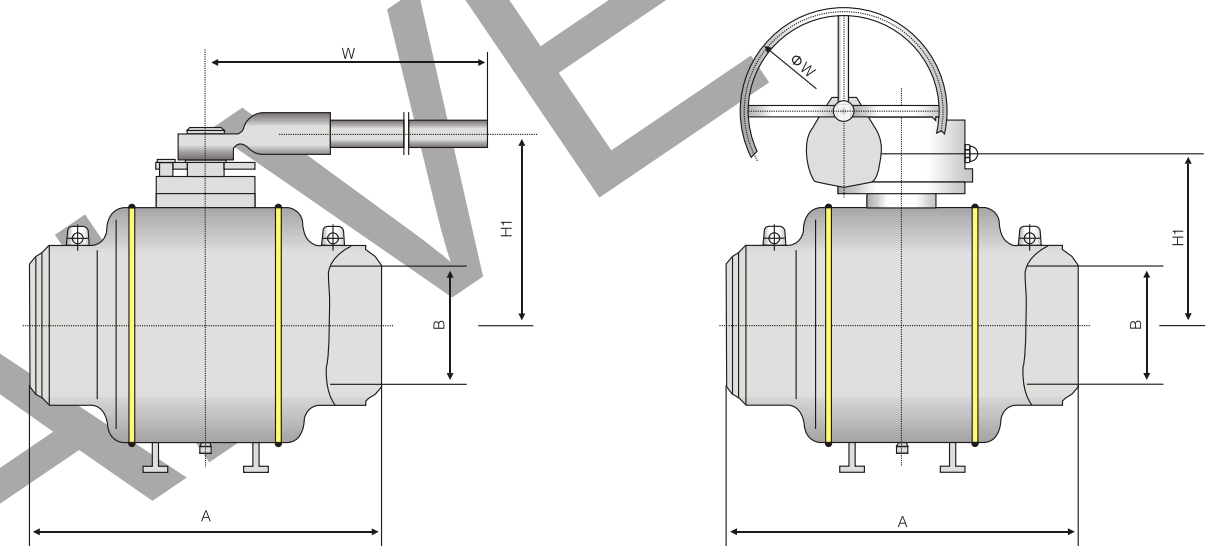
**Materials of parts**

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

Materials could be choosed 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
<b>ANSI Class 150Lb</b>															
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

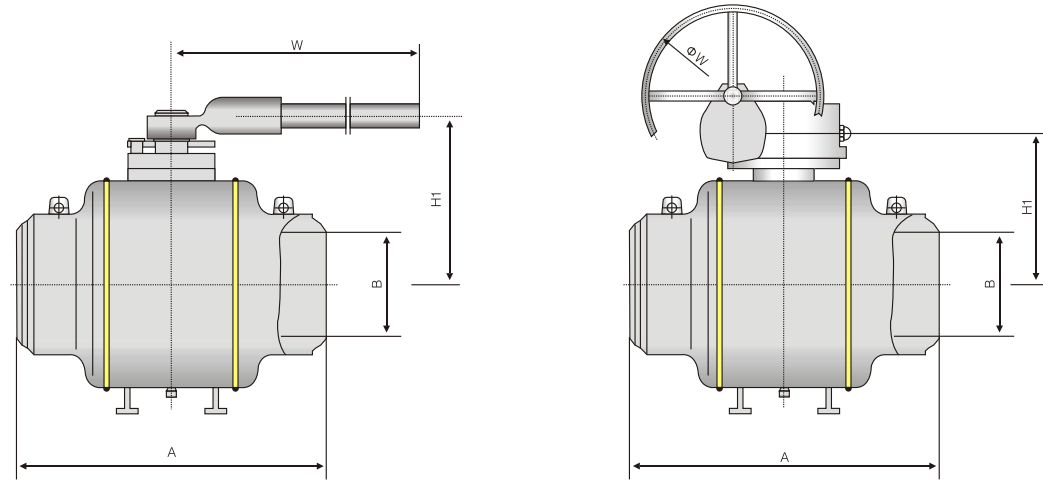
**Dimensional datas**

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
<b>ANSI Class 300Lb</b>															
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
<b>ANSI Class 600Lb</b>															
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
<b>ANSI Class 900Lb</b>															
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
<b>ANSI Class 1500Lb</b>															
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

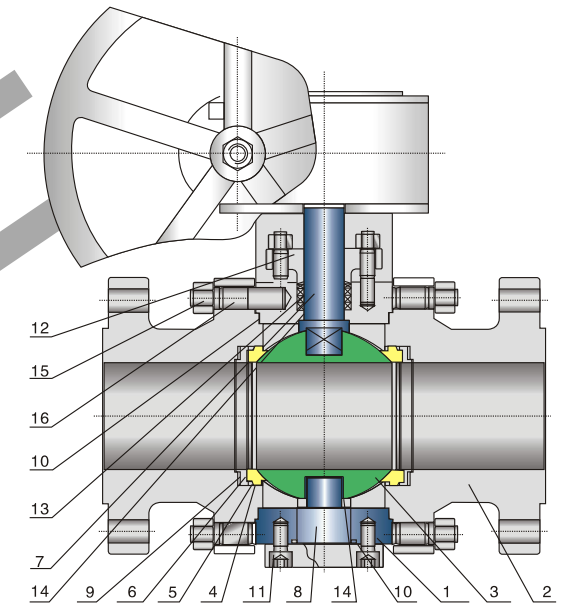
Note: ★ Turbine drives

**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**

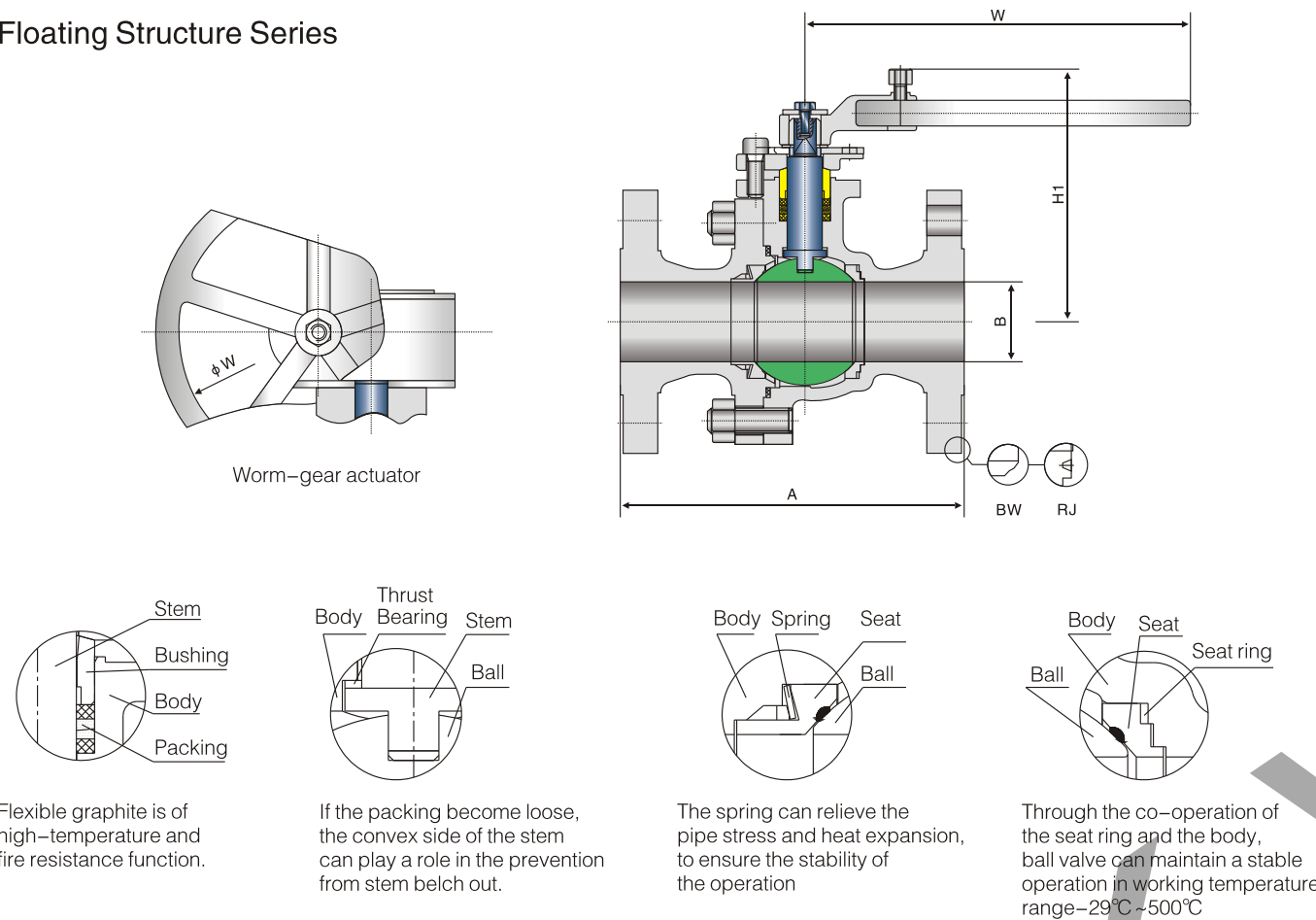
- The product is suitable for harsh work conditions, can be used for a wide temperature range, such as the high temperature, corrosive media and so on.
- The tungsten-chromium alloy solid stainless steel seat firm by the spring, this kind of design can be applied to a wide range of operating conditions, 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 a unique design is suitable for the media containing dust.

**Materials of parts**

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

Materials could be chosen 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
<b>ANSI Class 150Lb</b>															
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

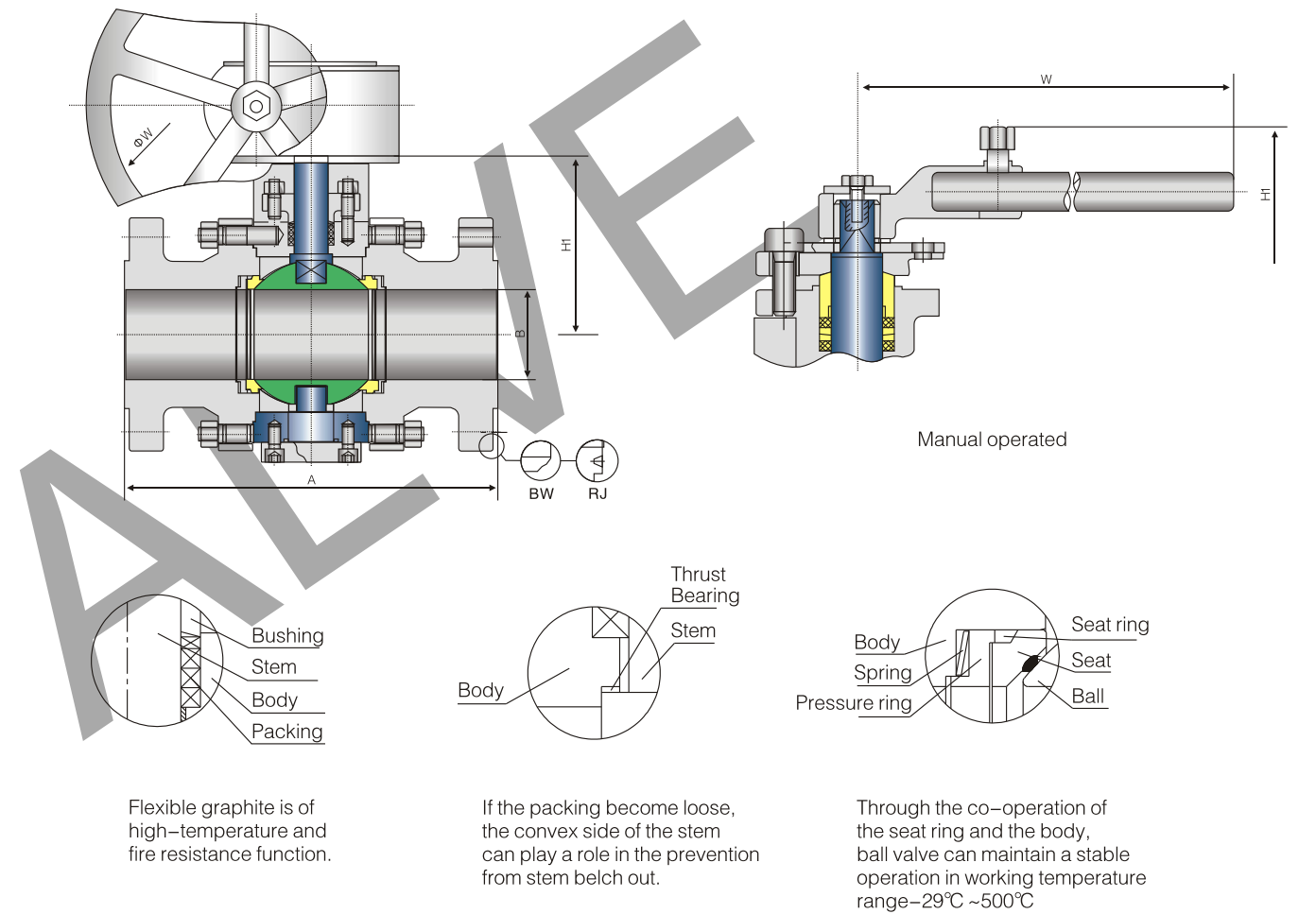
NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
<b>ANSI Class 300Lb</b>															
1/2	15	140	13	60	200	3	11	2 1/2	65	241	65	160	600	30	160
3/4	20	152	19	65	200	5	18	3	80	383	76	190	600	40	221
1	25	165	25	75	250	8	40	4	100	305	100	210	700	65	392
1 1/2	40	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
<b>ANSI Class 600Lb</b>															
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

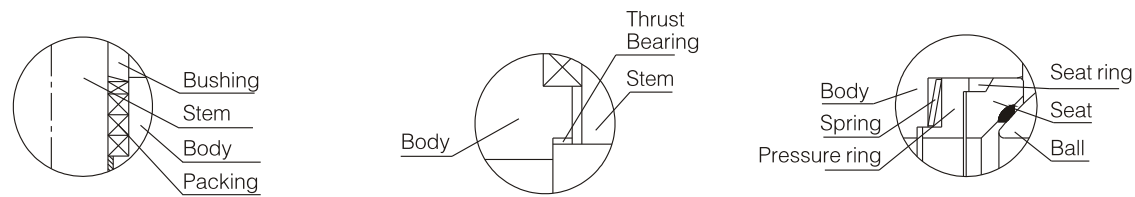
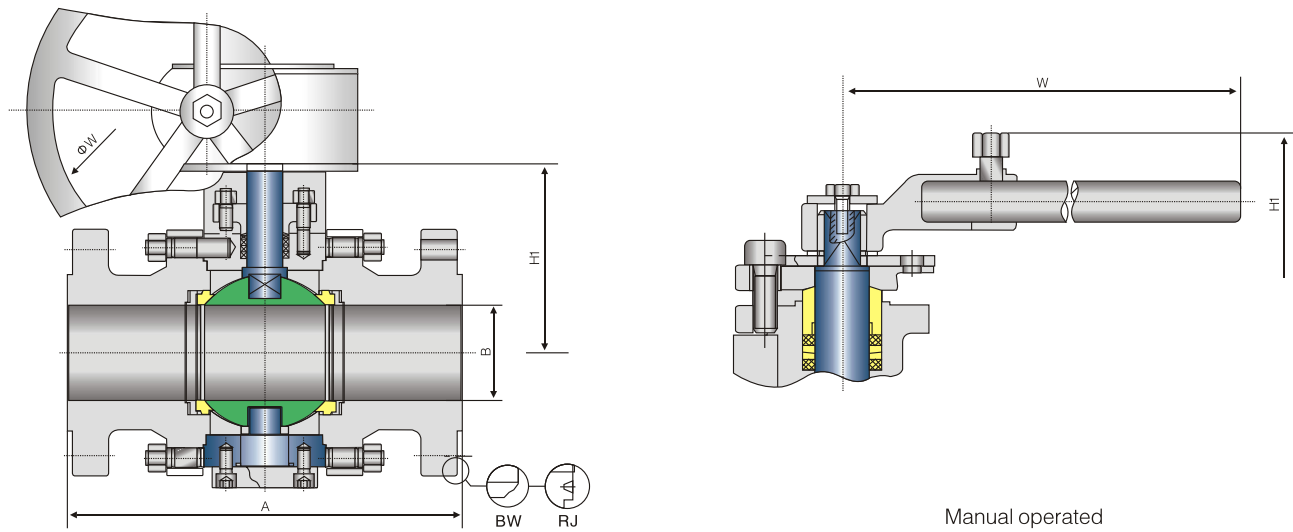
NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
<b>ANSI Class 150Lb</b>															
2	50	178	51	172	350	16	72	★10	250	533	252	350	600	280	1437
2 1/2	65	191	65	184	400	26	92	★12	300	610	303	380	600	460	2152
3	80	203	76	196	500	35	123	★14	350	686	334	415	600	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
<b>ANSI Class 300Lb</b>															
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



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

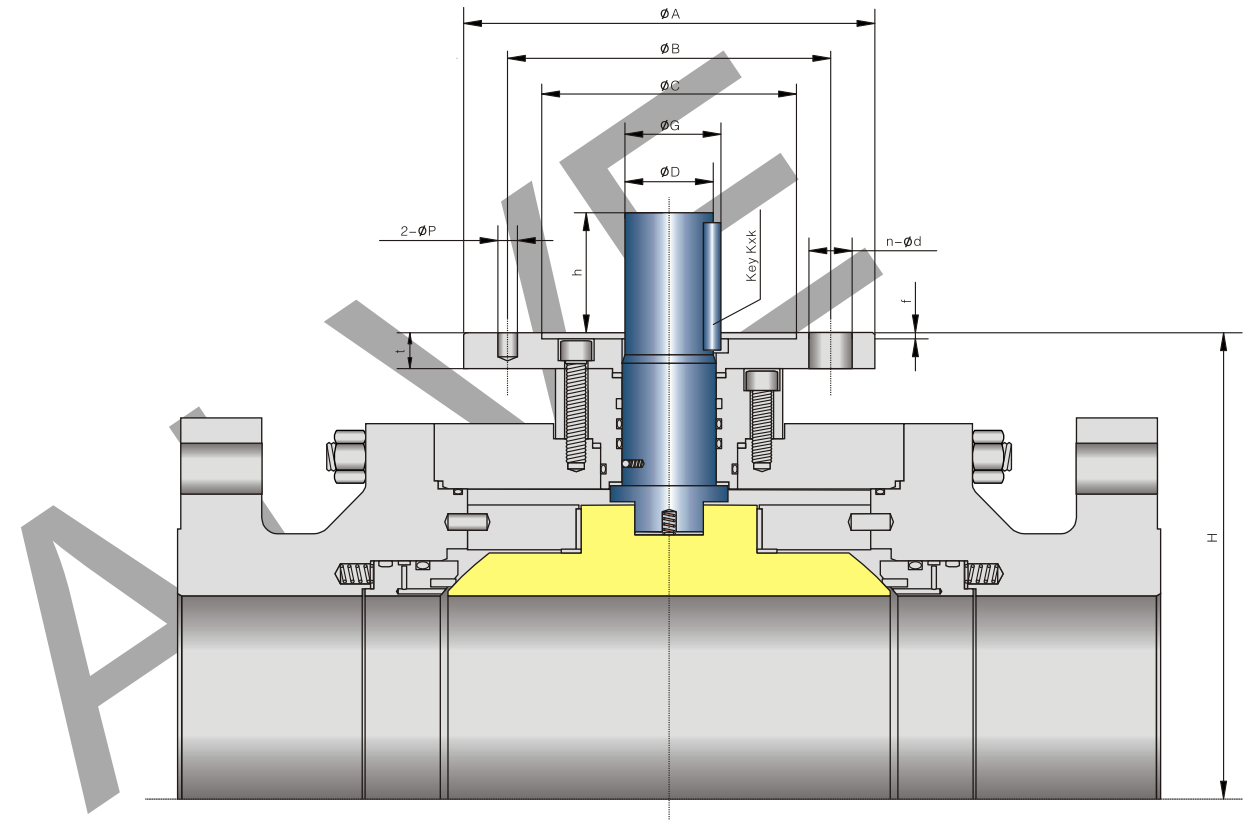
Dimensional datas

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
<b>ANSI Class 900Lb</b>															
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
<b>ANSI Class 1500Lb</b>															
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



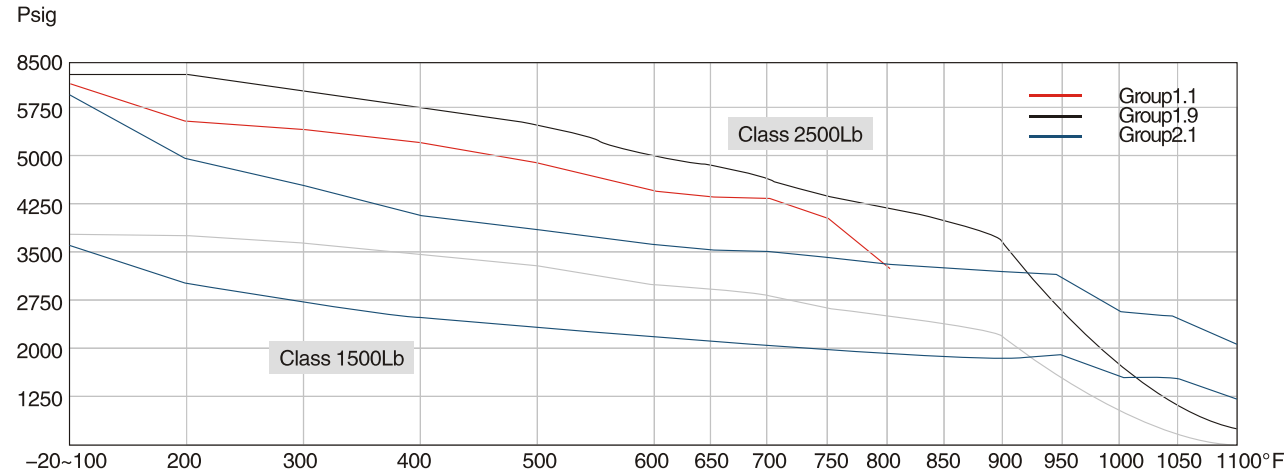
Dimensional datas

Size inch	Class	Torque N.m	Flange Dimensions (mm)							ISO5211 Flange No.	KeySize KxK mm	G mm	D mm	h mm	H mm
			A	B	C	f	t	n-d	P						
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	









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	3880	3980	
600	316	2735	3025	2665	3025	3025	3025	2185	2255	4560	5040	4440	5040	5040	3640	3760	
650	343	2685	2940	2615	2940	2940	2940	2150	2220	4475	4905	4355	4905	4905	3580	3700	
700	371	2665	2840		2840	2840	2840	2125	2170	4440	4730	4440	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

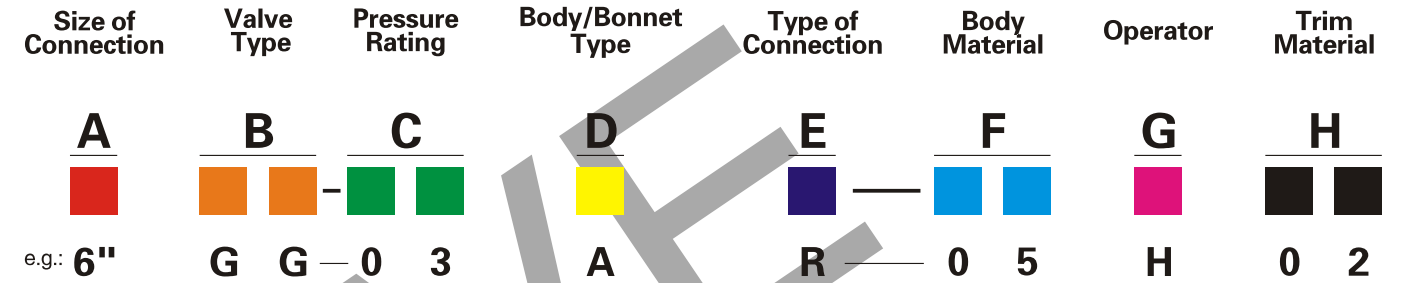
TEST PRESSURE BY API 598

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 <sup>(e)</sup>	A216-WCB <sup>(e)</sup>	
Group 1.2	A216-WCC <sup>(e)</sup>	A352-LCC <sup>(a)</sup>	
Group 1.3	A352-LCB <sup>(a)</sup>		
Group 1.9	A217-WC6 <sup>(d)</sup>		
Group 1.10	A217-WC9 <sup>(d)</sup>		
Group 1.13	A217-C5		
Group 2.1	A182-F304	A351-CF8	A351-CF3 <sup>(b)</sup>
Group 2.2	A182-F316	A352-CF8M	A351-CF3M <sup>(e)</sup>

- 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	05-CF8
06-CF8M	07-CF3	08-CF3M	09-CG8M	10-CG3M
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