CELEBRATING 30 Years Anniversary 1987-2017

Forged Steel Valves

Cryogenic Service Valves

Bellows Seal Valves

High Integrity
Floating Ball Valves

Trunnion Mounted
Ball Valves

Top Entry Trunnion
Ball Valves

Metal Seated Ball Valves

Triple Offset
Butterfly Valves

Positive Isolation
Block & Bleed Valves

Instrumentation Valves

Automation Valves

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V15-MSBV-00, SEP, 2017

Metal Seated Ball Valves

Floating & Trunnion type

Reliable Performance In Extreme Conditions

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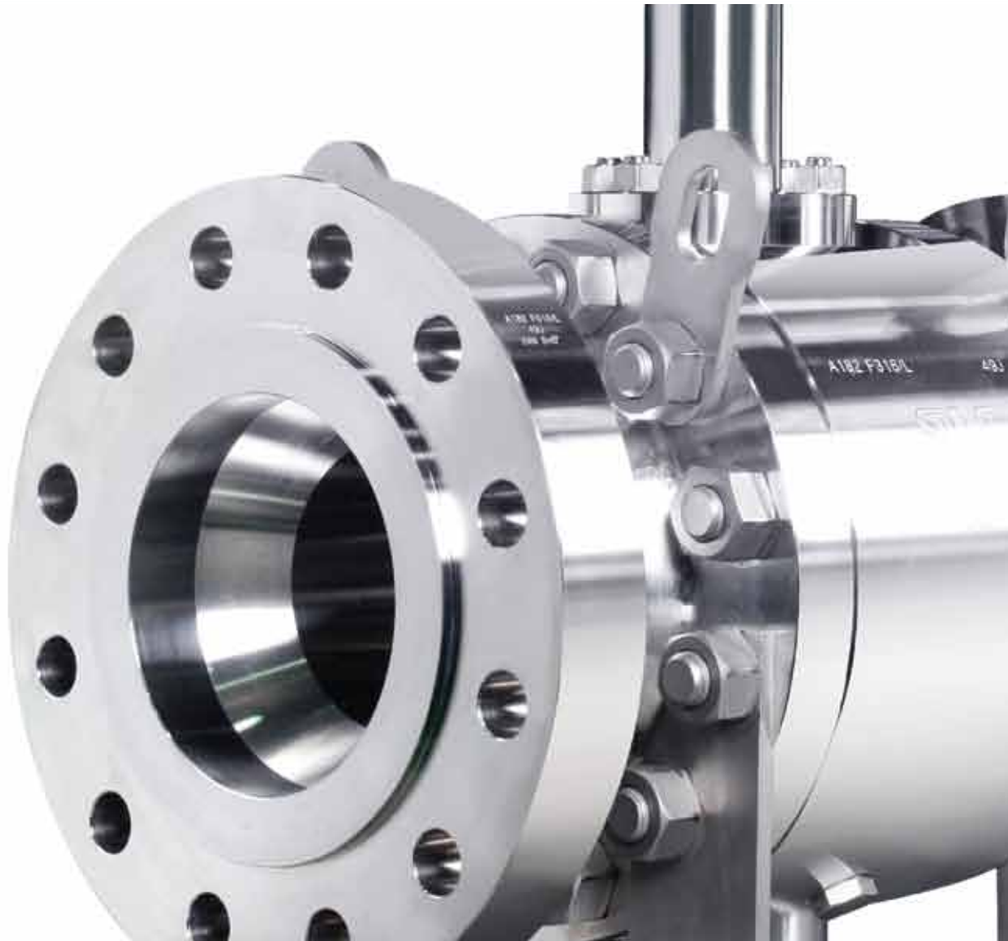

DESIGN FEATURES

SWI Metal Seated Ball Valves are designed for wide range of applications in the mining, refining, petrochemical, pulp and paper industries. The designs incorporate many technically advanced features which ensure reliable and repeatable shut off performance while providing the highest level of safety as demanded by these industries.

TECHNICAL SPECIFICATION

- Size range : DN15 (1/2") to DN200 (8") (Floating design)
  DN15 (2") to DN650 (26") (Trunnion design)
- Pressure rating : ANSI Class 150 to 2500
- Connection : Flanged to ASME B16.5
  Butt-welding ends to ASME B16.25
  Socket-welding or Threaded ends to ASME B16.11, Nipple ends
- Body materials : CS, ITCS, CS+Clad, Chrome Molly / Alloy Steel, Stainless Steel, Duplex, Super Duplex, Inconel and other special alloys
- Top mounting : ISO 5211
- Temp. range : -196°C to + 538°C(-320°F to + 1000°F)
- Design : API 608 / API 6D / ASME B16.34
  ISO 17292 / ISO 14313
- Face to face : ASME B16.10 long Pattern / API 6D
- Fire testing : API 607 / ISO 10497
- Pressure testing : API 598 / API 6D / EN 12266-1 / ISO 5208
- Certification : EN 10204 / ISO 10474 / EN 29001
  NACE MR 0175 / ISO 15156 / MR 0103
  Directive PED 2014/68/EU & ATEX 94/9/EC
  API 641, ISO 15848 Part 1&2 / IEC 61508 SIL 3
- Quality assurance : ISO 9001 / API Spec.Q1 / API Monogram

KEY FEATURES

- Design, manufacture and materials conform to the requirements of API 608, API 641, API 6D, ASME B16.34, ASME Sec. VIII, ISO 17292, ISO 14313, European Directives PED 2014/68/EU and ATEX 94/9/EC.
- Low-E high integrity stem sealing system as standard. Stem sealing is via a live loaded bolted gland fitted with 5-ring API 622 certified packing and suitable for vacuum service.
- Certified fire safe in accordance with API 607 / ISO 10497.
- 2 or 3 piece bolted body construction for ease of on-site maintenance.
- Anti-static design (10Ω under 12 Volt).
- Fully contained Spiral Wound body gasket.
- Positive engagement and alignment of the bolted body providing 'Gap Free' connection.
- Body wall thickness exceeds the minimum requirements of ASME B16.34 or ISO 17292.
- Internally assembled blow-out proof stem design. Bottom entry stem shouldered directly to the body and not to any other intermediate part bolted to the valve.
- Inline maintainable stem sealing system. Replaceable without the need for valve disassembly or removal from the pipeline.
- Cavity relief in the event of thermal expansion of trapped fluid.
- Full and reduced bore designs available.
- Independent stop plate from hand lever secured to stem even if lever is removed.
- ISO 5211 top works.
- Testing and marking to API 598 / API 6D & PED (as required).
- Available with pneumatic, hydraulic or electric actuators.
- Low temperature and cryogenic service designs available.

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PRODUCT RANGE

SWI's range of ball valve designs incorporate some of the most advanced features, including many major owner & operating company specification preferences, while fully conforming to the design requirements of API 608 / API 6D / ASME B16.34, ISO 17292 & ISO 14313. These design features contribute towards the valves' capability to provide the highest levels of performance and reliability, while ensuring repeatable shut off, positive sealing of all external leak paths and a high degree of safety for both plant and personnel.

FLOATING DESIGN

FULL BORE

Size (Ins)	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"
Class 150	■	■	■	■	■	■	■	■	
Class 300	■	■	■	■	■	■	■	■	
Class 600	■	■	■	■	■				
Class 800	■	■	■	■	■				
Class 1500	■	■	■	■					
Class 2500	■	■	■	■					

REDUCED BORE

Size (Ins)	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"
Class 150					■	■	■	■	■
Class 300					■	■	■	■	■
Class 600					■				
Class 800	■	■	■	■	■				
Class 1500	■	■	■	■	■				
Class 2500	■	■	■	■	■				

TRUNNION DESIGN

FULL BORE

Size (Ins)	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"
Class 150	■	■	■	■	■	■	■	■	■	■	■	■	
Class 300	■	■	■	■	■	■	■	■	■	■	■	■	
Class 600	■	■	■	■	■	■	■	■	■				
Class 900	■	■	■	■	■	■	■						
Class 1500	■	■	■	■	■	■	■						
Class 2500	■	■	■	■	■								

REDUCED BORE

Size (Ins)	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"
Class 150	■	■	■	■	■	■	■	■	■	■	■	■	■
Class 300	■	■	■	■	■	■	■	■	■	■	■	■	■
Class 600	■	■	■	■	■	■	■	■	■	■			
Class 900	■	■	■	■	■	■	■	■					
Class 1500	■	■	■	■	■	■	■	■					
Class 2500	■	■	■	■	■	■							

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SEATING MATERIAL

1. SOLID METAL SEAT

The failure of a valve in service is often due to the deterioration of its sealing elements or operating parts. Solid metal seated valves are adopted for critical and severe service applications, particularly when the service is dirty, abrasive, highly corrosive, at elevated temperatures or a combination of all.
Solid metal seats come with a wide range of surface treatments done for hardness over softer material to suit almost any application and base material. Stellite and nickel alloy coating can additionally be fully fused to the base metal to form a metallurgical bond, providing high integrity sealing surface which is virtually porous free with hardness up to 70 HRC, depending on the alloy used. Precision lapping of ball and seat together results in superior interfacing for tight shut-off.

2.GRAPHITE-METALLIZED (GM) SEAT

Graphite-Metallized is a product for applications where traditional soft seating materials cannot be utilized. This material has exceptional capabilities and is suitable for use in a variety of severe service applications (harsh caustics, strong acids and dry service) while providing the lowest possible operational torques (coefficient of friction 0.1~0.2) due to its self-lubricating & non-galling characteristics. Being a solid and homogenous material throughout, there are no coatings, plating or surface treatments to wear out. GM seat ball valves can be used in temperature up to 500°C (932°F).

HVOF Process

Graphite - Metallized (GM) Seat

SEAT MATERIAL PROPERTIES & APPLICATIONS

Material	Coating Type	Coating Method	Hardness (HRc)	Temperature °F (°C)	Application
Solid Metal Seat	Nitriding	HT	52~70	842°F (450°C)	- Liquid + Gaseous media with partially entrained particles / solids (moderate operating cycle) - High wear resistance, excellent anti-galling properties - Low corrosion resistance
	ENP	Plating	62~63	610°F (320°C)	- Liquid + Gaseous media with partially entrained particles / solids (moderate operating cycle) - Good resistance to strongly acidic corrosive enviroment
	Stellite	HVOF & Fused	37~42	1500°F (815°C)	- Liquid + Gaseous media with partially entrained particles / solids (moderate operating cycle) - Excellent wear resistance / good corrosion resistance - Wide temperature range
	Tungsten Carbide	HVOF	69~72	800°F (427°C)	- Liquid + Gaseous media with partially entrained particles / solids (high operating cycles) - Excellent abrasion resistance / good corrosion resistance
	Hard Nickel Alloy	HVOF & Fused	58~62	932°F (500°C)	- Liquid + Gaseous media with partially entrained particles / solids (high operating cycles) - Excellent abrasion resistance
Graphite - Metallized (GM) Seat	N/A	N/A	—	932°F (500°C)	- Hot liquid or Hot gas - Low abrasion service - Good corrosion resistance

HVOF- High velocity oxygen fuel coating is a cutting edge fully automated coating technology which gives uniform layer of coating over the trim parts.

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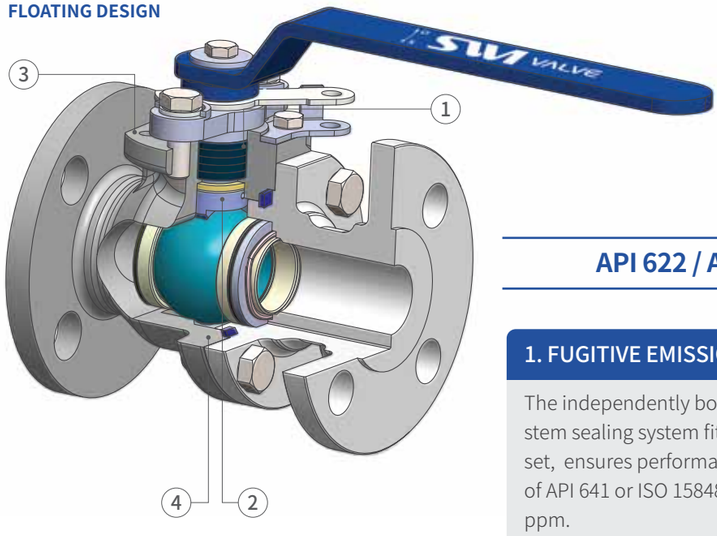
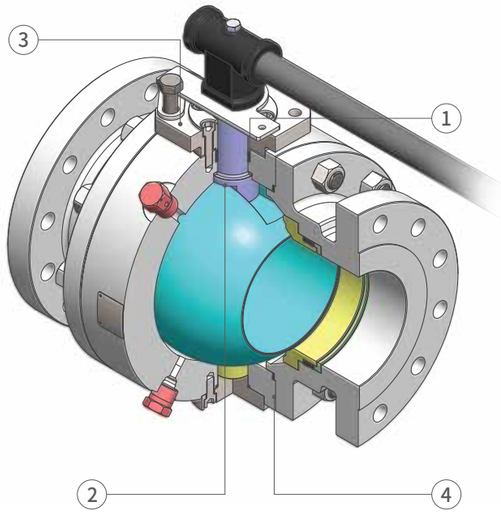
GENERAL FEATURES

FLOATING DESIGN



TRUNNION MOUNTED DESIGN



API 622 / API 641 COMPLIANT

1. FUGITIVE EMISSION / EASY MAINTENANCE

The independently bolted and live loaded high integrity stem sealing system fitted with API 622 certified packing set, ensures performance well within the requirements of API 641 or ISO 15848-1 Class BH & BM, Low-E ≤ 100 ppm.

2. BOTTOM ENTRY STEM

Integral shouldered stem with metal to metal conical seal internally assembled and directly shouldered to the body guarantees the stem cannot blow-out due to pressure or the removal of any external bolted parts.

3. ISO 5211 ACTUATOR MOUNTING

Allows precise mounting of actuator. Mounting bolts are independent from stem packing gland bolts or cover bolts. Exact alignment reduces torque requirements and prevents side load causing out-of-line wear and additional stress to stem.

4. GAP FREE JOINT

'Gap Free' connection ensures maximum resistance against pipeline stresses and loads without any effect on valve sealing capability or operational torque. The bolted body construction facilitates easy maintenance of the valve.

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GENERAL FEATURES

SEAT DESIGN

SWI floating ball valves provide reliable bi-directional sealing with cavity relief capability as standard. The precision mating of the ball between the spring loaded seat rings enhances the sealing capability to the highest levels over all pressures while providing a mechanical cavity relief capability to the high pressure side of the valve, for both flow directions.

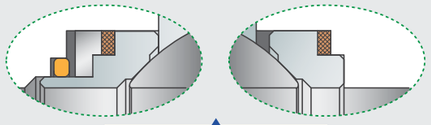
Featuring scraper seats as standard, the spring loaded seat design, within the valve body, ensures lowest possible operational torques; while maintaining a tight seal at high or low pressures, due to the effects of thermal expansion.

In the event of excessive pressure build-up in the body cavity, the excess pressure will be relieved to the high pressure side of the valve, via the spring loaded seat design.

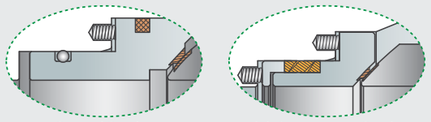
The trunnion mounted ball valve has double block and bleed (DBB) configuration as standard. Two independent single piston effect seat rings (SPE) ensure bi-directional tightness of the valve across a complete range of differential pressures .

DOUBLE ISOLATION & BLEED (DIB 1& DIB 2) (Optional)
Depending on customer requirement, trunnion valves can be supplied with either 2 DPE seats (DIB 1) or a combination of one SPE seat and one DPE seat (DIB 2).

Metal Seat



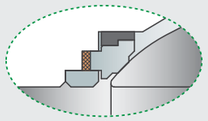
Floating type



General Service | High & Low Temp. Service

Trunnion type

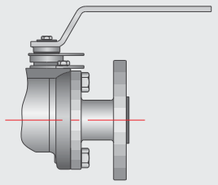
Graphite - Metallized (GM) Seat



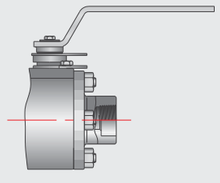
Floating type

END CONNECTIONS

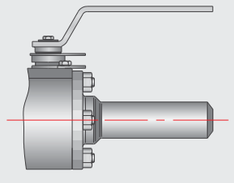
SWI ball valves can be supplied Flanged RF/RTJ according to ASME B16.5 up to 24” and ASME B16.47 Series A for 26” and larger. Other drillings available on request.
Butt weld end connections are according to ASME B16.25 and socket weld/ threaded ends according to ASME B16.11 as standard.
Special end connection preparations such as hub ends for clamped connections or integral nipple ends as per customer specifications.



Flanged (RF/RTJ) ends



Socket / NPT ends



Integral Nipple / BW ends

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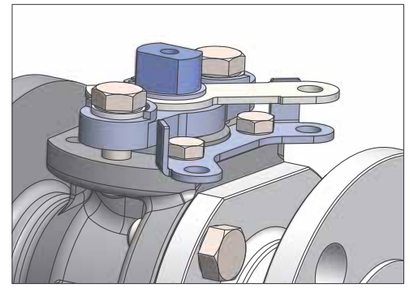
GENERAL FEATURES

LEVER REMOVAL / STOP PLATE

In the event that lever is removed to prevent unauthorized or accidental operation, such removal does not affect the integrity of the stem sealing system. Additionally, the stop plate is independent of the lever and thus remains securely attached to the valve stem, even after the removal of lever or T-Bar operator. Lever position stops are also built independent from gland flange or gland bolting, which completely prevents any interference to packing performance by operation.



EXTENDED BONNET

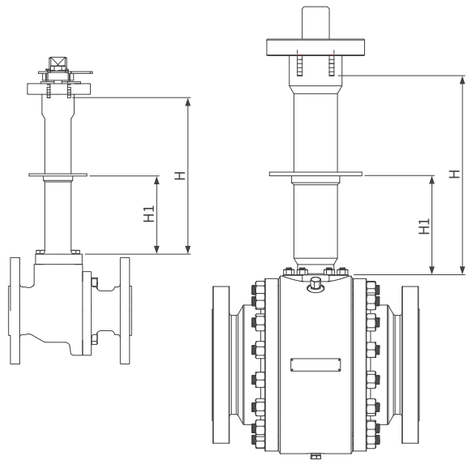
Extended bonnet designs are of the bolted, fully enclosed vapor space type with an internally assembled one-piece anti-blow-out stem design whereby all stem seals are located at the top of the bonnet away from the cold zone.

The extension lengths of the bonnets are standardized so that a part of the liquid phase is converted to gaseous phase at the top end of the bonnet column as a result of heat transfer from surrounding atmosphere through the bonnet wall surface and packing side.

EXTENSION BONNET LENGTH

SWI low temperature and cryogenic service valves use extended bonnets and are designed with addtional considerations such as :

1. Fugitive emission compliance as standard. Modular design with ease of maintenance.
2. Spring Loaded seat design providing effective performance at all pressures while minimizing operational torques.



FLOATING DESIGN

SIZE	COLD SERVICE		CRYOGENIC SERVICE	
	H	H1	H	H1
Up to 2”	125	95	250	110
3” & 4”	150	105	300	125
6” & 8”	175	120	350	150

TRUNNION MOUNTED DESIGN

SIZE	COLD SERVICE		CRYOGENIC SERVICE	
	H	H1	H	H1
Up to 2”	125	95	250	110
3” - 4”	150	105	300	125
6” - 8”	175	120	350	150
10” - 12”	200	140	400	175
14” - 16”	250	150	450	180
18” - 24”	300	170	500	220

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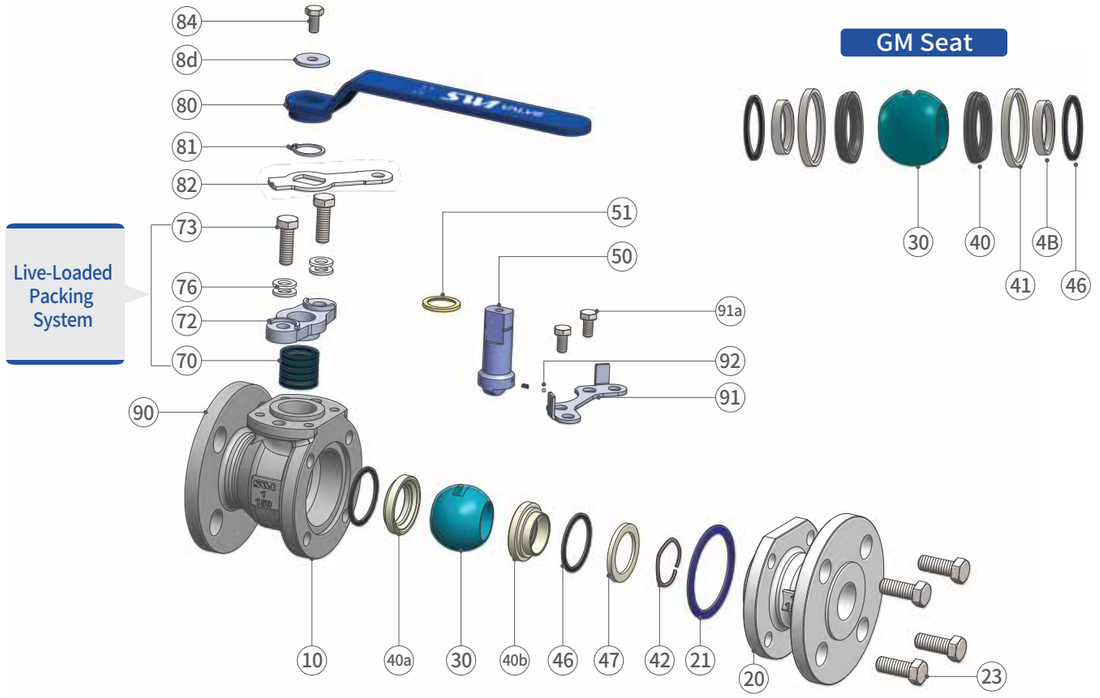
FLOATING TYPE (2P. FLANGED ENDS DESIGN)



NO.	PART NAME	SOLID METAL SEAT			GRAPHITE-METALLIZED (GM) SEAT		SPARE
		CARBON STEEL	ALLOY STEEL	STAINLESS STEEL	CARBON STEEL	STAINLESS STEEL	
10	BODY	A105N/WCB	F22/WC9	F316/CF8M	A105N/WCB	F316/CF8M	
20	CAP	A105N/WCB	F22/WC9	F316/CF8M	A105N/WCB	F316/CF8M	
21	CAP GASKET	316 HOOP + GRAPHITE					*
23	CAP BOLT	A193-B7M	A193-B16	A193-B8 CL2	A193-B7M	A193-B8 CL2	
30	BALL	316SS + Ni-Alloy / TCC			316SS + NITRIDING		*
40	SEAT RING	—			GRAPHITE-METALLIZED (GM)		*
40a	SEAT RING	316SS + Ni-Alloy / TCC / Stellite			—		*
40b	SEAT RING	316SS + Ni-Alloy / TCC / Stellite			—		*
41	SEAT HOLDER	—			316SS		*
42	SEAT SPRING	INCONEL X-750			—		
46	SEAT BACKUP SEAL	GRAPHITE					*
47	RETAINER	316SS			—		
4B	SEAT INNER RING	—			316SS		
50	STEM	A182 FXM-19			A276-316		
51	THRUST BEARING	HIGH DENSITY GRAPHITE					*
70	GLAND PACKING	GRAPHITE					*
72	GLAND FLANGE	A351-CF8M					
73	GLAND BOLT	A193-B8					
76	BELLEVILLE SPRING	INCONEL 625					
80	LEVER	A351-CF8M					
81	SNAP RING	A240-304					
82	STOPPER	A240-304					
84	LEVER SET BOLT	A193-B8					
8d	LEVER WASHER	A240-304					
90	NAME PLATE	A240-304					
91	LOCKING PLATE	A240-304					
91a	LOCKING PLATE BOLT	A193-B8					
92	ANTI STATIC DEVICE	316SS					

NOTES 1. Typical materials for standard valves. Alternative materials available on request.
2. Class 150# / 300#, 3" FB / 4" RB & above valves fitted with T-Bar operator. Option for gear or alternative operators on request.
3. GM = Graphite Metallized

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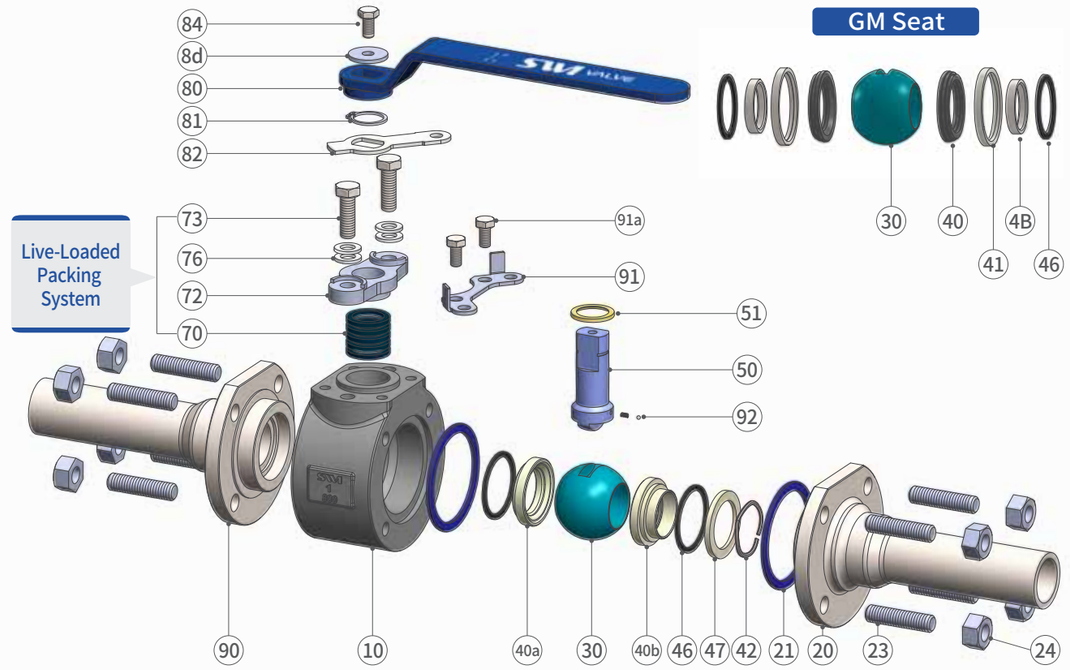
FLOATING TYPE (3P. SW / BW / NIPPLE ENDS DESIGN)



NO.	PART NAME	SOLID METAL SEAT		GRAPHITE-METALLIZED (GM) SEAT		SPARE
		CARBON STEEL	STAINLESS STEEL	CARBON STEEL	STAINLESS STEEL	
10	BODY	A105N	A182-F316	A105N	A182-F316	
20	CAP	A105N	A182-F316	A105N	A182-F316	
21	CAP GASKET	316 HOOP + GRAPHITE				*
23	CAP BOLT	A193-B7M	A193-B8 CL2	A193-B7M	A193-B8 CL2	
24	CAP NUT	A194-2HM	A194-8	A194-2HM	A194-8	
30	BALL	316SS + Ni-Alloy / TCC		316SS + NITRIDING		*
40	SEAT RING	—		GRAPHITE-METALLIZED (GM)		*
40a	SEAT RING	316SS + Ni-Alloy / TCC / Stellite		—		*
40b	SEAT RING	316SS + Ni-Alloy / TCC / Stellite		—		*
41	SEAT HOLDER	—		316SS		*
42	SEAT SPRING	INCONEL X-750		—		
46	SEAT BACKUP SEAL	GRAPHITE				*
47	RETAINER	316SS				
4B	SEAT INNER RING	—		316SS		
50	STEM	A182 FXM-19		A276-316		
51	THRUST BEARING	HIGH DENSITY GRAPHITE				*
70	GLAND PACKING	GRAPHITE				*
72	GLAND FLANGE	A351-CF8M				
73	GLAND BOLT	A193-B8				
76	BELLEVILLE SPRING	INCONEL 625				
80	LEVER	A351-CF8M				
81	SNAP RING	A240-304				
82	STOPPER	A240-304				
84	LEVER SET BOLT	A193-B8				
8d	LEVER WASHER	A240-304				
90	NAME PLATE	A240-304				
91	LOCKING PLATE	A240-304				
91a	LOCKING PLATE BOLT	A193-B8				
92	ANTI STATIC DEVICE	316SS				

NOTES 1. Typical materials for standard valves. Alternative materials available on request.
2. GM = Graphite Metallized

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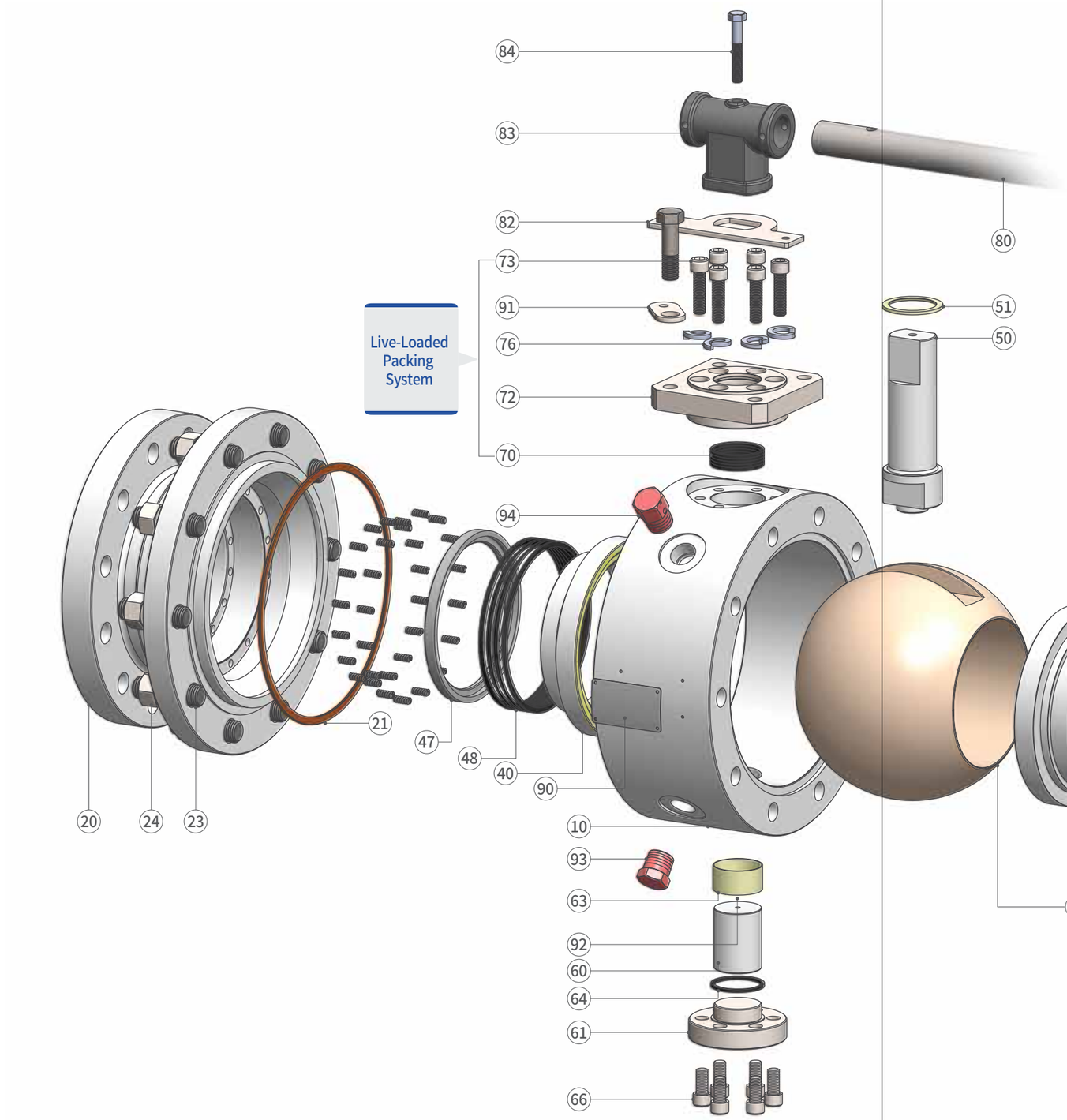
TRUNNION TYPE



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6" & BELOW

BILL OF MATERIALS						
No.	Part Description	Qty	CARBON STEEL	ALLOY STEEL	STAINLESS STEEL	SPARE
10	BODY	1	A105N/WCB	F22/WC9	F316/CF8M	
20	CAP	2	A105N/WCB	F22/WC9	F316/CF8M	
21	CAP GASKET	2	316 + GRAPHITE SWG			*
23	CAP BOLT	1 Set	A193-B7M	A193-B16	A193-B8 CL2	
24	CAP NUT	1 Set	A194-2HM	A194-4	A194-8M	
30	BALL	1	F316/CF8M + Ni-Alloy/TCC			*
40	SEAT	2	316SS + Ni-Alloy / TCC / Stellite			*
42	SEAT SPRING	1 Set	INCONEL X-750			
47	ENERGIZER	2	316SS			
48	SEAT RING FIRE SEAL	2	INHIBITED FLEXIBLE GRAPHITE			*
50	STEM	1	316SS			
51	THRUST DRY BEARING	1	316SS + DURITEX			
60	TRUNNION	1	316SS			
61	TRUNNION COVER	1	A105N	F22	F316	
63	TRUNNION DRY BEARING	1	316SS + DURITEX			
64	TRUNNION GASKET	1	316SS + GRAPHITE SWG			*
66	TRUNNION COVER BOLT	1 Set	A193-B7M	A193-B16	A193-B8M	
70	STEM SEAL PACKING	1 Set	INHIBITED FLEXIBLE GRAPHITE			*
72	STEM COVER	1	A105N	F22	F316	
73	STEM COVER BOLT	1 Set	A193-B7M	A193-B16	A193-B8M	
76	SPRING WASHER	1 Set	INCONEL 625			
80	LEVER	1	A395+BLACK PAINT / A53 + GALVANIZED			
82	STOPPER PLATE	1	316SS			
83	LEVER SOCKET	1	A395			
84	LEVER SET BOLT	1	A193-B8			
85	STOPPER BOLT	1	A193-B8			
90	NAME PLATE	1	316SS			
91	LOCKING PLATE	1	316SS			
92	ANTI STATIC DEVICE	1	316SS			
93	DRAIN PLUG	1 Set	316SS			
94	VENT PLUG	1 Set	316SS			

NOTES
* Drawings are for illustration purposes only. Parts may vary according to design and alternative material selections.
* 2 piece construction is also available.

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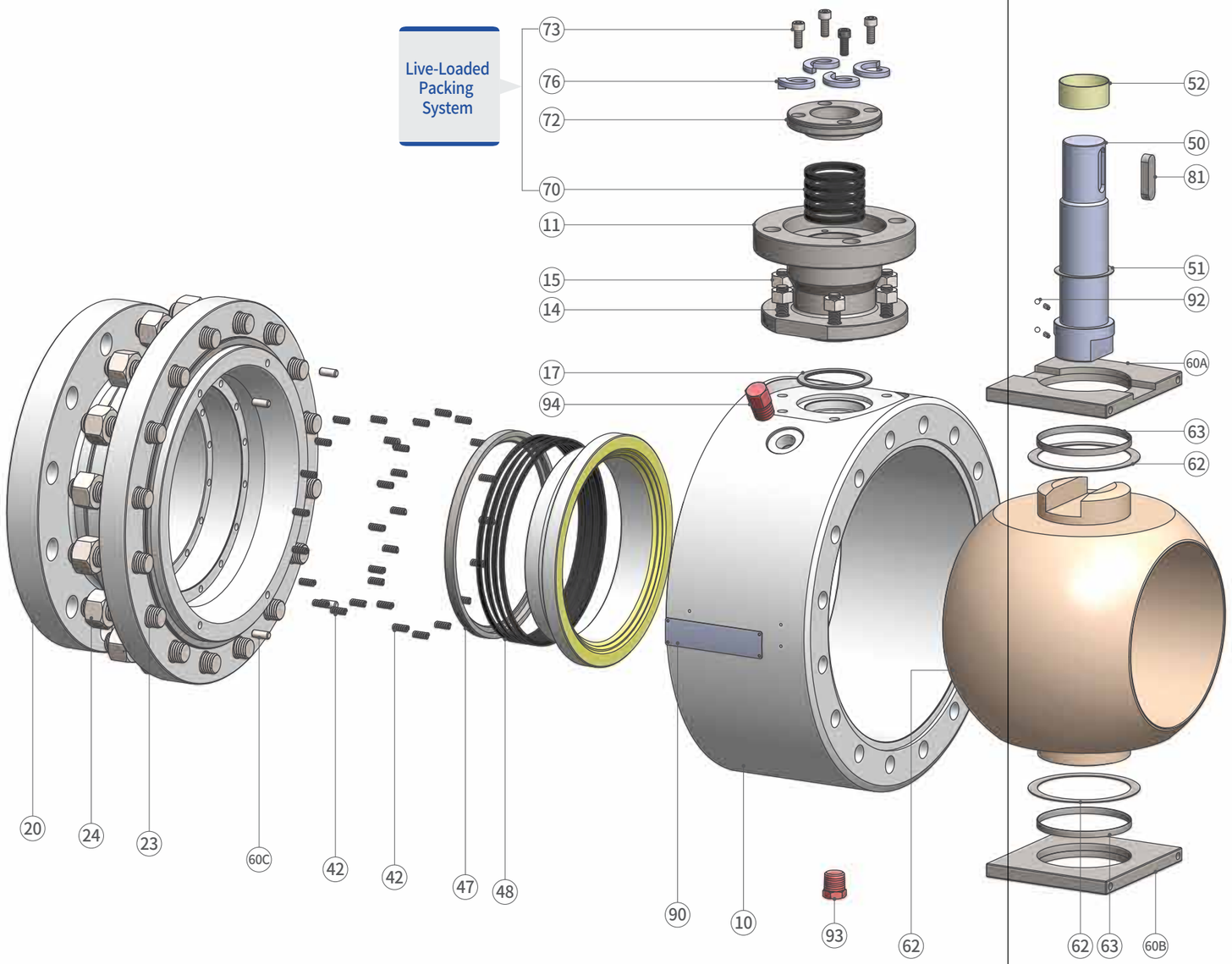
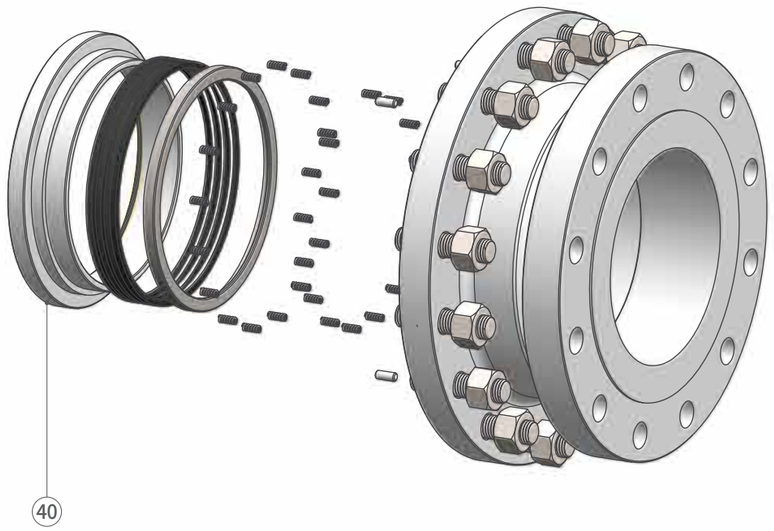
TRUNNION TYPE



8" & OVER

BILL OF MATERIALS						
No.	Part Description	Qty	CARBON STEEL	ALLOY STEEL	STAINLESS STEEL	SPARE
10	BODY	1	A105N/WCB	F22/WC9	F316/CF8M	
11	BONNET	1	A105N/WCB	F22/WC9	F316/CF8M	
17	BONNET GASKET	1	316 + GRAPHITE SWG			*
14	BONNET BOLT	1 Set	A193-B7M	A193-B16	A193-B8M	
15	BONNET NUT	1 Set	A194-2HM	A194-4	A194-8M	
20	CAP	2	A105N/WCB	F22/WC9	F316/CF8M	
21	CAP GASKET	2	316 + GRAPHITE SWG			*
23	CAP BOLT	1 Set	A193-B7M	A193-B16	A193-B8 CL2	
24	CAP NUT	1 Set	A194-2HM	A194-4	A194-8	
30	BALL	1	F316/CF8M + Ni-Alloy / TCC			*
40	SEAT	2	316SS + Ni-Alloy / TCC / Stellite			*
42	SEAT SPRING	1 Set	INCONEL X-750			
47	ENERGIZER	2	316SS			
48	SEAT RING FIRE SEAL	2	INHIBITED FLEXIBLE GRAPHITE			*
50	STEM	1	316SS			
51	THRUST DRY BEARING	1	316SS + DURITEX			
52	STEM DRY BEARING	1	316SS + DURITEX			
60A	DISC TRUNNION (TOP)	1	A105N	F22	F316	
60B	DISC TRUNNION (BOTTOM)	1	A105N	F22	F316	
60C	PIN FOR TRUNNION	8	316SS			
62	THRUST BEARING (TR.)	2	316SS + DURITEX			
63	DRY BEARING (TR.)	2	316SS + DURITEX			
70	STEM SEAL PACKING	1 Set	INHIBITED FLEXIBLE GRAPHITE			*
72	STEM COVER	1	A105N	F22	F316	
73	STEM COVER BOLT	1 Set	A193-B7M	A193-B16	A193-B8M	
76	SPRING WASHER	1 Set	INCONEL 625			
81	KEY	1	AISI1025			
90	NAME PLATE	1	316SS			
92	ANTI STATIC DEVICE	2	316SS			
93	DRAIN PLUG	1 Set	316SS			
94	BLEED VALVE	1 Set	316SS			

NOTES
* Drawings are for illustration purposes only. Parts may vary according to design and alternative material selections.
* 2 piece construction is also available.



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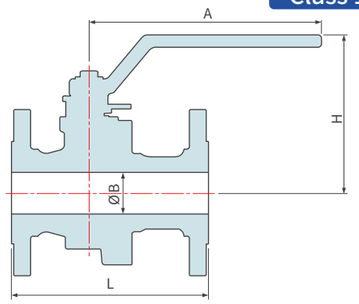
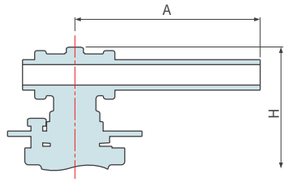
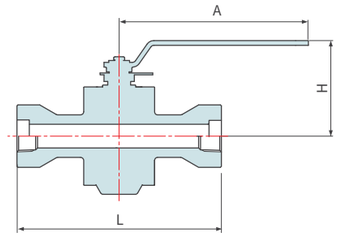
FLOATING TYPE

Class 150 ~ 600





Class 800



FULL BORE

Size	Class 150					Class 300					Class 600					Class 800				
	B	L	H	A	Kg (lb)	B	L	H	A	Kg (lb)	B	L	H	A	Kg (lb)	B	L	H	A	Kg (lb)
1/2"	13 0.51"	108 4.25"	86 3.39"	180 7.09"	2.5 5.51	13 0.51"	140 5.50"	86 3.39"	180 7.09"	3.2 7.05	13 0.51"	165 6.50"	86 3.39"	180 7.09"	3.9 8.6	13 0.51"	152 5.98"	86 3.39"	180 7.09"	3.2 7.05
3/4"	19 0.75"	117 4.62"	90 3.54"	180 7.09"	3.6 7.94	19 0.75"	152 6.00"	90 3.54"	180 7.09"	4.2 9.26	19 0.75"	190 7.50"	90 3.54"	180 7.09"	5.1 11.24	19 0.75"	178 7.01"	90 3.54"	180 7.09"	4.2 9.26
1"	25 0.98"	127 5.00"	96 3.78"	200 7.87"	5.5 12.13	25 0.98"	165 6.50"	96 3.78"	200 7.87"	7 15.43	25 0.98"	216 8.50"	96 3.78"	200 7.87"	8 17.64	25 0.98"	216 8.5"	101 3.98"	200 7.87"	7 15.65
1.1/2"	38 1.50"	165 6.50"	110 4.33"	200 7.87"	8 17.64	38 1.50"	190 7.50"	110 4.33"	200 7.87"	11 24.25	38 1.50"	241 9.50"	110 4.33"	200 7.87"	12 26.46	38 1.5"	232 9.13"	110 4.33"	200 7.87"	13 28.66
2"	49.3 1.94"	178 7.00"	156 6.14"	250 9.84"	15 33.07	49.3 1.94"	216 8.50"	156 6.14"	250 9.84"	17 37.48										
3"	76 2.99"	203 8.00"	217 8.54"	400 15.75"	20 44.09	76 2.99"	282 11.12"	217 8.54"	400 15.75"	25.5 56.22										
4"	100.1 3.94"	229 9.00"	236 9.29"	400 15.75"	36 79.37	100.1 3.94"	305 12.00"	236 9.29"	400 15.75"	44 97										
6"	150.9 5.94"	393 15.50"	319 12.56"	600 23.62"	70 154.32	150.9 5.94"	403 15.88"	319 12.56"	600 23.62"	800 194										

REDUCED BORE

Size	Class 150					Class 300					Class 800				
	B	L	H	A	Kg (lb)	B	L	H	A	Kg (lb)	B	L	H	A	Kg (lb)
2"	38 1.50"	178 7.00"	143 5.63"	250 9.84"	9 19.84	38 1.50"	216 8.50"	143 5.63"	250 9.84"	11.2 24.69	13 0.51"	152 5.98"	86 3.39"	180 7.09"	3.2 7.05
3"	64 2.52"	203 8.00"	156 6.14"	250 9.84"	17 37.48	64 2.52"	282 11.12"	156 6.14"	250 9.84"	22.5 49.6	13 0.51"	152 5.98"	86 3.39"	180 7.09"	3.2 7.05
4"	76 2.99"	229 9.00"	217 8.54"	400 15.75"	26 57.32	76 2.99"	305 12.00"	217 8.54"	400 15.75"	34 74.96	19 0.75"	178 7.01"	90 3.54"	180 7.09"	4.2 9.26
6"	100.1 3.94"	394 15.50"	236 9.29"	400 15.75"	45 99.21	100.1 3.94"	403 15.88"	236 9.29"	400 15.75"	63 138.89	25 0.98"	216 8.5"	101 3.98"	200 7.87"	7.1 15.65
8"	150.9 5.94"	457 18.00"	319 12.56"	600 23.62"	87 191.8	150.9 5.94"	502 19.75"	319 12.56"	600 23.62"	129 284.39	38 1.5"	232 9.13"	110 4.33"	200 7.87"	13 28.66

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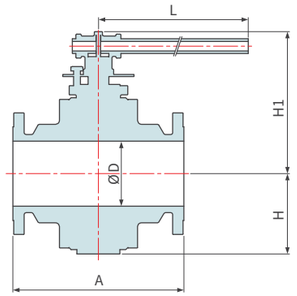
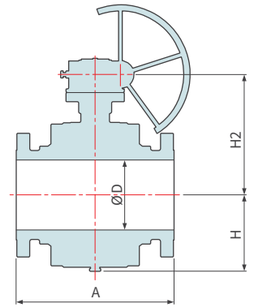
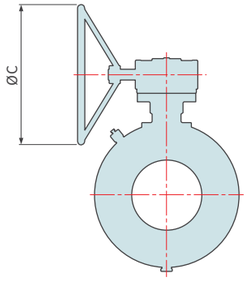
TRUNNION TYPE







CLASS 150

* Available Series : CS-2pc / CT-3pc

SIZE	BORE	ID BORE(D)	A			H	H1	L	H2	C	Kg (lb)
			RF	RTJ	BW						
2	FB	49(1.9")	178(7.0")	191(7.5")	216(8.5")	102(4.0")	132(5.2")	230(9.1")			18(40)
	RB	38(1.5")	178(7.0")	191(7.5")	216(8.5")	86(3.4")	109(4.3")	200(7.9")			16(35)
3	FB	74(2.9")	203(8.0")	216(8.5")	283(11.1")	125(4.9")	172(6.8")	400(15.7")			33(73)
	RB	49(1.9")	203(8.0")	216(8.5")	283(11.1")	102(4.0")	132(5.2")	230(9.1")			26(58)
4	FB	100(3.9")	229(9.0")	241(9.5")	305(12.0")	143(5.6")	194(7.6")	450(17.7")			56(124)
	RB	74(2.9")	229(9.0")	241(9.5")	305(12.0")	125(4.9")	172(6.8")	400(15.7")			50(110)
6	FB	150(5.9")	394(15.5")	406(16.0")	457(18.0")	185(7.3")	260(10.2")	800(31.5")	268(10.6")	300(11.8")	155(342)
	RB	100(3.9")	394(15.5")	406(16.0")	457(18.0")	128(5.0")	220(8.7")	500(19.7")	228(9.0")	300(11.8")	136(300)
8	FB	201(7.9")	457(18.0")	470(18.5")	521(20.5")	230(9.1")			285(11.2")	457(18.0")	289(638)
	RB	150(5.9")	457(18.0")	470(18.5")	521(20.5")	185(7.3")			236(9.3")	457(18.0")	175(385)
10	FB	252(9.9")	533(21.0")	546(21.5")	559(22.0")	254(10.0")			338(13.3")	457(18.0")	379(836)
	RB	201(7.9")	533(21.0")	546(21.5")	559(22.0")	230(9.1")			285(11.2")	457(18.0")	329(726)
12	FB	303(11.9")	610(24.0")	622(24.5")	635(25.0")	310(12.2")			392(15.4")	610(24.0")	579(1276)
	RB	252(9.9")	610(24.0")	546(21.5")	635(25.0")	254(10.0")			338(13.3")	457(18.0")	439(968)
14	FB	334(13.2")	686(27.0")	699(27.5")	762(30.0")	337(13.3")			426(16.8")	762(30.0")	778(1716)
	RB	252(9.9")	686(27.0")	699(27.5")	762(30.0")	254(10.0")			338(13.3")	457(18.0")	644(1419)
16	FB	385(15.2")	762(30.0")	775(30.5")	838(33.0")	362(14.3")			464(18.3")	762(30.0")	1028(2266)
	RB	303(11.9")	762(30.0")	775(30.5")	838(33.0")	310(12.2")			392(15.4")	610(24.0")	878(1936)
18	FB	436(17.2")	864(34.0")	876(34.5")	914(36.0")	411(16.2")			517(20.4")	762(30.0")	1447(3190)
	RB	334(13.2")	864(34.0")	876(34.5")	914(36.0")	337(13.3")			426(16.8")	762(30.0")	1138(2508)
20	FB	487(19.2")	914(36.0")	927(36.5")	991(39.0")	438(17.2")			575(22.6")	762(30.0")	1796(3960)
	RB	385(15.2")	914(36.0")	927(36.5")	991(39.0")	362(14.3")			464(18.3")	762(30.0")	1557(3432)
24	FB	589(23.2")	1067(42.0")	1080(42.5")	1143(45.0")	530(20.9")			693(27.3")	762(30.0")	2814(6204)
	RB	487(19.2")	1067(42.0")	1080(42.5")	1143(45.0")	438(17.2")			575(22.6")	762(30.0")	2495(5500)
26											
	RB	487(19.2")	1143(45.0")		1245(49.0")	438(17.2")			575(22.6")	762(30.0")	2944(6490)

CLASS 300

* Available Series : CS-2pc / CT-3pc

SIZE	BORE	ID BORE(D)	A			H	H1	L	H2	C	Kg (lb)
			RF	RTJ	BW						
2	FB	49(1.9")	216(8.5")	232(9.12")	216(8.5")	102(4.0")	132(5.2")	230(9.1")			26(58)
	RB	38(1.5")	216(8.5")	232(9.12")	216(8.5")	86(3.4")	109(4.3")	200(7.9")			24(53)
3	FB	74(2.9")	283(11.12")	298(11.74")	283(11.125")	125(4.9")	172(6.8")	400(15.7")			45(100)
	RB	49(1.9")	283(11.1")	298(11.74")	283(11.1")	102(4.0")	132(5.2")	230(9.1")			35(78)
4	FB	100(3.9")	305(12.0")	321(12.62")	305(12.0")	143(5.6")	194(7.6")	450(17.7")			61(135)
	RB	74(2.9")	305(12.0")	321(12.62")	305(12.0")	125(4.9")	172(6.8")	400(15.7")			57(125)
6	FB	150(5.9")	403(15.88")	419(16.5")	457(18.0")	185(7.3")	260(10.2")	800(31.5")	268(10.6")	300(11.8")	175(386)
	RB	100(3.9")	403(15.88")	419(16.5")	457(18.0")	128(5.0")	220(8.7")	500(19.7")	228(9.0")	300(11.8")	150(330)
8	FB	201(7.9")	502(19.75")	518(20.37")	521(20.5")	230(9.1")			311(12.2")	457(18.0")	309(682)
	RB	150(5.9")	502(19.75")	518(20.37")	521(20.5")	185(7.3")			268(10.6")	457(18.0")	210(464)
10	FB	252(9.9")	568(22.38")	584(23.0")	559(22.0")	254(10.0")			358(14.1")	457(18.0")	409(902)
	RB	201(7.9")	568(22.38")	584(23.0")	559(22.0")	230(9.1")			311(12.2")	457(18.0")	369(814)
12	FB	303(11.9")	648(25.5")	664(26.12")	635(25.0")	310(12.2")			402(15.8")	610(24.0")	659(1452)
	RB	252(9.9")	648(25.5")	664(26.12")	635(25.0")	254(10.0")			358(14.1")	457(18.0")	479(1056)
14	FB	334(13.2")	762(30.0")	778(30.62")	762(30.0")	337(13.3")			528(20.8")	762(30.0")	923(2035)
	RB	252(9.9")	762(30.0")	778(30.62")	762(30.0")	254(10.0")			358(14.1")	457(18.0")	788(1738)
16	FB	385(15.2")	838(33.0")	854(33.62")	838(33.0")	362(14.3")			568(22.4")	762(30.0")	1207(2662)
	RB	303(11.9")	838(33.0")	854(33.62")	838(33.0")	310(12.2")			402(25.8")	610(24.0")	1013(2233)
18	FB	436(17.2")	914(36.0")	930(36.62")	914(36.0")	411(16.2")			665(26.2")	762(30.0")	1696(3740)
	RB	334(13.2")	914(36.0")	930(36.62")	914(36.0")	337(13.3")			528(20.8")	762(30.0")	1342(2959)
20	FB	487(19.2")	991(39.0")	1010(39.75")	991(39.0")	438(17.2")			680(26.8")	762(30.0")	2116(4664)
	RB	385(15.2")	991(39.0")	1010(39.75")	991(39.0")	362(14.3")			568(22.4")	762(30.0")	1896(4180)
24	FB	589(23.2")	1143(45.0")	1165(45.88")	1143(45.0")	530(20.9")			768(30.2")	762(30.0")	3233(7128)
	RB	487(19.2")	1143(45.0")	1165(45.88")	1143(45.0")	438(17.2")			680(26.8")	762(30.0")	2854(6292)
26											
	RB	487(19.2")	1245(49.0")		1245(49.0")	438(17.2")			560(22.0")	762(30.0")	3592(7920)

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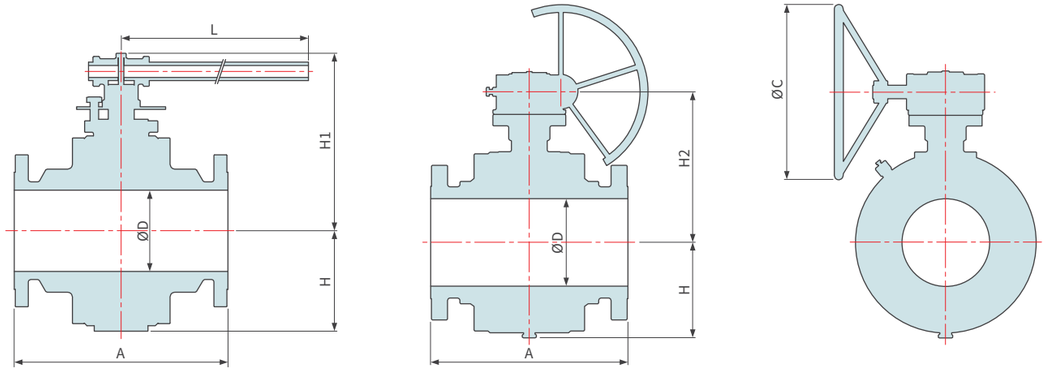
TRUNNION TYPE



CLASS 600

*Available Series :
CS - 2pc
CT - 3pc

SIZE	BORE	ID BORE(D)	A			H	H1	L	H2	C	Kg (lb)
			RF	RTJ	BW						
2	FB	49(1.9")	292(11.5")	295(11.62")	292(11.5")	102(4.0")	146(5.7")	400(15.7")			30(66)
	RB	38(1.5")	292(11.5")	295(11.62")	292(11.5")	94(3.7")	132(5.2")	260(10.2")			24(53)
3	FB	74(2.9")	356(14.0")	359(14.12")	356(14.0")	140(5.5")	210(8.3")	460(18.1")			60(132)
	RB	49(1.9")	356(14.0")	359(14.12")	356(14.0")	102(4.0")	146(5.7")	460(18.1")			31(68)
4	FB	100(3.9")	432(17.0")	435(17.12")	432(17.0")	172(6.8")	238(9.4")	600(23.6")	246(9.7")	300(11.8")	90(198)
	RB	74(2.9")	432(17.0")	435(17.12")	432(17.0")	140(5.5")	210(8.3")	460(18.1")	218(8.6")	300(11.8")	70(154)
6	FB	150(5.9")	559(22.0")	562(22.12")	559(22.0")	210(8.3")			272(10.7")	457(18.0")	249(550)
	RB	100(3.9")	559(22.0")	562(22.12")	559(22.0")	172(6.8")			246(9.7")	457(18.0")	158(348)
8	FB	201(7.9")	660(26.0")	664(26.12")	660(26.0")	262(10.3")			348(13.7")	610(24.0")	429(946)
	RB	150(5.9")	660(26.0")	664(26.12")	660(26.0")	210(8.3")			272(10.7")	457(18.0")	309(682)
10	FB	252(9.9")	787(31.0")	791(31.12")	787(31.0")	306(12.0")			396(15.6")	610(24.0")	649(1430)
	RB	201(7.9")	787(31.0")	791(31.12")	787(31.0")	262(10.3")			348(13.7")	610(24.0")	529(1166)
12	FB	303(11.9")	838(33.0")	841(33.12")	838(33.0")	348(13.7")			540(21.3")	610(24.0")	933(2057)
	RB	252(9.9")	838(33.0")	841(33.12")	838(33.0")	306(2.0")			396(15.6")	610(24.0")	709(1562)
14	FB	334(13.2")	889(35.0")	892(35.12")	889(35.0")	366(14.4")			558(22.0")	762(30.0")	1277(2816)
	RB	252(9.9")	889(35.0")	892(35.12")	889(35.0")	306(12.0")			396(15.6")	762(30.0")	998(2200)
16	FB	385(15.2")	991(39.0")	994(39.12")	991(39.0")	410(16.1")			610(24.0")	762(30.0")	1657(3652)
	RB	303(11.9")	991(39.0")	994(39.12")	991(39.0")	348(13.7")			540(21.3")	762(30.0")	1507(3322)
18	FB	436(17.2")	1092(43.0")	1095(43.12")	1092(43.0")	445(17.5")			664(26.1")	762(30.0")	2295(5060)
	RB	334(13.2")	1092(43.0")	1095(43.12")	1092(43.0")	366(14.4")			558(22.0")	762(30.0")	1876(4136)
20	FB	487(19.2")	1194(47.0")	1200(47.25")	1194(47.0")	499(19.6")			696(27.4")	762(30.0")	2994(6600)
	RB	385(15.2")	1194(47.0")	1200(47.25")	1194(47.0")	410(16.1")			610(24.0")	762(30.0")	2615(5764)
24	FB	589(23.2")	1397(55.0")	1407(55.38")	1397(55.0")	586(23.1")			812(32.0")	762(30.0")	4590(10120)
	RB	487(19.2")	1397(55.0")	1407(55.38")	1397(55.0")	499(19.6")			696(27.4")	762(30.0")	4012(8844)
26											
	RB	487(19.2")	1448(57.0")	1461(57.5")	1448(57.0")				696(27.4")	762(30.0")	4910(10824)

CLASS 900

*Available Series :
CS - 2pc
CT - 3pc

SIZE	BORE	ID BORE(D)	A			H	H1	L	H2	C	Kg (lb)
			RF	RTJ	BW						
2	FB	49(1.9")	368(14.5")	371(14.62")	368(14.5")	108(4.3")	160(6.3")	600(23.6")			58(127)
	RB	38(1.5")	368(14.5")	371(14.62")	368(14.5")	98(3.9")	146(5.7")	460(18.1")			24(53)
3	FB	74(2.9")	381(15.0")	384(15.12")	381(15.0")	146(5.7")	248(9.8")	600(23.6")			92(202)
	RB	49(1.9")	381(15.0")	384(15.12")	381(15.0")	108(4.3")	160(6.3")	600(23.6")			63(139)
4	FB	100(3.9")	457(18.0")	460(18.12")	457(18.0")	178(7.0")	282(11.1")	600(23.6")	290(11.4")	300(11.8")	140(308)
	RB	74(2.9")	457(18.0")	460(18.12")	457(18.0")	133(5.2")	248(9.8")	600(23.6")	256(10.1")	300(11.8")	114(251)
6	FB	150(5.9")	610(24.0")	613(24.12")	610(24.0")	218(8.6")			309(12.2")	610(24.0")	319(704)
	RB	100(3.9")	610(24.0")	613(24.12")	610(24.0")	178(7.0")			289(11.4")	457(18.0")	210(462)
8	FB	201(7.9")	737(29.0")	740(29.12")	737(29.0")	278(10.9")			398(15.7")	610(24.0")	599(1320)
	RB	150(5.9")	737(29.0")	740(29.12")	737(29.0")	218(8.6")			309(12.2")	610(24.0")	409(902)
10	FB	252(9.9")	838(33.0")	841(33.12")	838(33.0")	320(12.6")			504(19.8")	762(30.0")	908(2002)
	RB	201(7.9")	838(33.0")	841(33.12")	838(33.0")	278(10.9")			398(15.7")	610(24.0")	709(1562)
12	FB	303(11.9")	965(38.0")	968(38.12")	965(38.0")	361(14.2")			546(21.5")	762(30.0")	1297(2860)
	RB	252(9.9")	965(38.0")	968(38.12")	965(38.0")	320(12.6")			504(19.8")	762(30.0")	1038(2288)
14	FB										
	RB	252(9.9")	1029(40.5")	1038(40.88")	1029(40.5")	320(12.6")			504(19.8")	762(30.0")	1387(3058)

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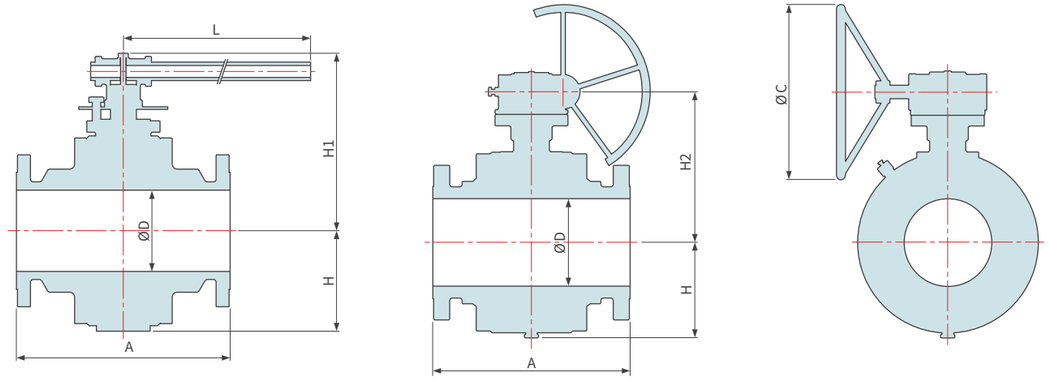
TRUNNION TYPE



CLASS 1500

*Available Series :
CS - 2pc
CT - 3pc

SIZE	BORE	ID BORE(D)	A			H	H1	L	H2	C	Kg (lb)
			RF	RTJ	BW						
2	FB	49(1.9")	368(14.5")	371(14.62")	368(14.5")	108(4.3")	160(6.3")	600(23.6")			58(128)
	RB	38(1.5")	368(14.5")	371(14.62")	368(14.5")	98(3.9")	146(5.7")	460(18.1")			46(101)
3	FB	74(2.9")	470(18.5")	473(18.62")	470(18.5")	152(6.0")	248(9.8")	762(30.0")			110(242)
	RB	49(1.9")	470(18.5")	473(18.62")	470(18.5")	108(4.3")	160(6.3")	600(23.6")			78(172)
4	FB	100(3.9")	546(21.5")	549(21.62")	546(21.5")	197(7.8")	294(11.6")	762(30.0")	302(11.9")	300(11.8")	190(418)
	RB	74(2.9")	546(21.5")	549(21.62")	546(21.5")	152(6.0")	248(9.8")	762(30.0")	256(10.1")	300(11.8")	135(297)
6	FB	144(5.7")	705(27.75")	711(28.0")	705(27.75")	222(8.7")			325(12.8")	610(24.0")	499(1100)
	RB	100(3.9")	705(27.75")	711(28.0")	705(27.75")	197(7.8")			302(11.9")	457(18.0")	289(638)
8	FB	192(7.6")	832(32.75")	841(33.13")	832(32.75")	290(11.4")			423(16.7")	762(30.0")	808(1782)
	RB	144(5.7")	832(32.75")	841(33.13")	832(32.75")	222(8.7")			325(12.8")	610(24.0")	619(1364)
10	FB	239(9.4")	991(39.0")	1000(39.38")	991(39.0")	352(13.9")			560(22.0")	762(30.0")	1397(3080)
	RB	192(7.6")	991(39.0")	1000(39.38")	991(39.0")	290(11.4")			423(16.7")	762(30.0")	1028(2266
12	FB	287(11.3")	1130(44.5")	1146(45.12")	1130(44.5")	422(16.6")			620(24.4")	762(30.0")	2145(4730)
	RB	239(9.4")	1130(44.5")	1146(45.12")	1130(44.5")	352(13.9")			560(22.0")	762(30.0")	1676(3696)
14	FB										
	RB	239(9.4")	1257(49.5")	1276(50.25")	1257(49.5")	352(13.9")			560(22.0")	762(30.0")	2445(5390)

CLASS 2500

*Available Series :
CS - 2pc
CT - 3pc

SIZE	BORE	ID BORE(D)	A			H	H1	L	H2	C	Kg (lb)
			RF	RTJ	BW						
2	FB	42(1.7")	451(17.75")	454(17.87")	451(17.75")	120(4.7")	168(6.6")	762(30.0")			110(242)
	RB	38(1.5")	451(17.75")		451(17.75")	104(4.1")	154(6.1")	600(23.6")			100(220)
3	FB	62(2.4")	578(22.75")	584(23.0")	578(22.75")	160(6.3")	252(9.9")	762(30.0")	260(10.2")	300(11.8")	220(484)
	RB	42(1.7")	578(22.75")		578(22.75")	120(4.7")	168(6.6")	762(30.0")	176(6.9")	300(11.8")	155(341)
4	FB	87(3.4")	673(26.5")	683(26.88")	673(26.5")	210(8.3")			320(12.6")	457(18.0")	369(814)
	RB	62(2.4")	673(26.5")		673(26.5")	160(6.3")			260(10.2")	457(18.0")	259(572)
6	FB	131(5.2")	914(36.0")	927(36.5")	914(36.0")	274(10.8")			394(15.5")	610(24.0")	948(2090)
	RB	87(3.4")	914(36.0")		914(36.0")	210(8.3")			320(12.6")	457(18.0")	574(1265)
8	FB	179(7.0")	1022(40.25")	1038(40.88")	1022(40.25")	336(13.2")			477(18.8")	762(30.0")	1517(3344)
	RB	131(5.2")	1022(40.25")		1022(40.25")	274(10.8")			260(10.2")	762(30.0")	1118(2464)
10	FB										
	RB	179(7.0")	1270(50.0")		1270(50.0")	336(13.2")			477(18.8")	762(30.0")	1986(4378)

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ORDERING INFORMATION

SWI Metal Seated Ball Valve Figure Number System

A	B	-	C	D	E	F	(*)	G	H	J	K
SIZE	MODEL	CLASS		BODY MATERIAL	BALL SEAT RING	HARDFACING SEATING COATING	SEALS	END CONN.	BONNET	PORT	OPP.
2"	CN	B	-	11	A	N	G	-	R	A	2	1

(*) – = Non NACE materials, N = NACE materials

A

VALVE TYPE/SERIES	
AM	1-PCE BODY TOP ENTRY FLOATING BALL VALVE
CP	3-PCE BODY END ENTRY FLOATING BALL VALVE
CN	2-PCE BODY END ENTRY FLOATING BALL VALVE
CS	2-PCE BODY END ENTRY TRUNNION BALL VALVE
CT	3-PCE BODY END ENTRY TRUNNION BALL VALVE
TE	1-PCE BODY TOP ENTRY TRUNNION BALL VALVE

B

CLASS			
B	150	G	900
D	300	H	1500
E	600	J	2500
F	800	9	OTHER

C

	SHELL MATERIAL BODY / BONNET / COVER
11	A216-WCB / A105N
13	A352-LCB / A350-LF2
50	A352-LCC
15	A217-C5 / A182-F5
16	A217-C12 / A182-F9
17	A217-WC6 / A182-F11
18	A217-WC9 / A182-F22
19	A351-CF8 / A182-F304
46	A351-CF3 / A182-F304L
24	A182-F316 / F316L (Dual Grade)
23	A351-CF8M / A182-F316
47	A351-CF3M / A182-F316L
28	A351-CF8C / A182-F347
29	ASTM A995-4A / A182-F51
31	ASTM A995-5A / A182-F53
45	ASTM A890-6A / A182-F55
44	ASTM A351-CK3MCUN / A182-F44
34	A494 CW-12MW / B564-N10276
35	A494-CW6MC / B564-N06625
36	A494-CU5MCuC / B564-N08825
33	A494-M35-1 / B564-N04400
39	A990-CN3MCu / B462-N08020
41	B367 Grade C2 / B381-F2
43	F317 / CG3M
99	OTHER

D

TRIM MATERIAL		
	BALL & SEAT RING	STEM
A	A351-CF8M / A276-316 / A182-F316	A276 Type XM-19 (Nitronic® 50)
B	A351-CF8M / A276-316 / A182-F316	A276-316 / A182-F316
C	A351-CF8M / A276-316 / A182-F316	A564-630 / 17-4PH
D	A217-CA15 / A276-410 / A182-F6A	A276-410 / A182-F6A
E	A105N	AISI 4140
F	AISI 4140	AISI 4140
G	A995-4A / A276-S32205 / A182-F51	A182-F51 / UNS S31803
H	A995-5A / A276-S32750 / A182-F53	A182-F53 / UNS S32750
J	A995-6A / A275-S32760 / A182-F55	A182-F55 / UNS S32760
K	A351-CK3MCUN / A276-S31254 / A182-F44	A182-F44 / UNS S31254
L	A351-CF8C / A276-347 / A182-F347	A276-347 / A182-F347
M	A494-CW6MC / B446-N06625	B446 - N06625 (Inconel 625)
N	A990-CN3MCu / B473-N08020	B473-N08020 (Alloy 20)
P	B348 Grade 5 / UNS R56400	B348 Grade 5 / UNS R56400
R	B348 Grade 2 / UNS R50400	B348 Grade 2 / UNS R50400
S	A217-CA15 / A276-410 / A182-F6A	A453 Grade 660 / A-286
Q	317SS	A276 Type XM-19 (Nitronic 50)
T	MONEL 400	MONEL K500
9	OTHER	OTHER

E

HARDFACING / SEATING / COATING			
	BALL	SEAT RING	STEM
A	N/A	STL'6	N/A
N	M16C	M16C	N/A
M	M16C	STL'6	N/A
T	TC 150 micron	TC 150 micron	N/A
R	TC 150 micron	STL'6	N/A
U	TC 400 micron	TC 400 micron	N/A
C	CC 200 micron	CC 200 micron	N/A
P	NITRIDED	STL'6	N/A
W	TC 150 micron	TC 150 micron	ENP 0.001"
S	STL'6	STL'6	N/A
H	HARD CHROME	STL'6	N/A
V	ENP 0.001"	ENP 0.001" + FKM	ENP 0.001"
E	ENP 0.003"	STL'6	N/A
G	N/A	GM Seat	N/A
9	SPECIAL	SPECIAL	SPECIAL

TC = Tungsten Carbide, CC = Chromium Carbide,
M16C = Hard Nickel Alloy Fused Coating, STL'6 = Stellite 6, GM = Graphite Metalized

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ORDERING INFORMATION

SWI Metal Seated Ball Valve Figure Number System

A	B	-	C	D	E	F	(*)	G	H	J	K
SIZE	MODEL	CLASS		BODY MATERIAL	BALL SEAT RING	HARDFACING SEATING COATING	SEALS	END CONN.	BONNET	PORT	OPP.
2"	CN	B	-	11	A	N	G	-	R	A	2	1

(*) – = Non NACE materials, N = NACE materials

F

SEALS (1 & 2)			
P	PTFE	E	PTFE ELGILOY LIP SEAL & GRAPHITE
1	PTFE / FKM-B & GRAPHITE	G	ENERGIZED GRAPHITE & GRAPHITE
2	PTFE / FKM-GLT & GRAPHITE		
3	PTFE / HNBR & GRAPHITE	9	OTHER
4	PTFE / FFKM & GRAPHITE		

(1) Elastomeric O-ring seals ED resistant.
(2) 1500# & 2500# o-rings fitted with anti-extrusion rings.

G

END CONNECTION (3)	
A	SOCKET WELD (SW) ASME B16.11
B	BUTT WELD (BW) ASME B16.25
C	NIPPLE STUB ENDS
E	BW X NPTF
G	EXTENDED BODY MSW x FNPT
H	EXTENDED BODY MSW x FSW
J	SW (ASME) x NIPPLE
S	SW (ASME) x FNPT
K	NIPPLE x FNPT
L	EXTENDED BODY MNPT x FNPT
M	EXTENDED BODY MNPT x FSW
N	FNPT
R	FLANGED - ASME B16.5 RF
T	FLANGED - ASME B16.5 RTJ
9	OTHER

(3) For BW (Butt Weld Ends) pipe schedule to be specified.

H

BONNET	
A	STANDARD BOLTED BONNET
B	BOLTED EXTN. BONNET, LT -46°C
C	BOLTED EXTN. BONNET, CRYO -196°C
D	LAGGING / HEAT DISSIPATION EXTENSION
H	FINNED HEAT DISSIPATION BONNET
E	RIGID EXTENDED STEM (Inner / Outer)
S	EXTENDED STEM - BURIED SERVICE
F	EXTENDED BONNET + FED
G	FINNED HEAT DISSIPATION BONNET + FED
9	OTHER

J

BORE	
1	REDUCED BORE
2	FULL BORE
3	DOUBLE REDUCED BORE - API 608
9	OTHER

K

OPERATOR	
0	BARE STEM
1	WRENCH OPERATED + LD
2	GEAR OPERATED
3	GEAR OPERATED + LD
P	PNEUMATIC
E	ELECTRIC (MOV)
H	HYDRAULIC
G	GAS OVER OIL (GOV)
9	OTHER

LD = Open & Closed Locking Facility

BOLTING MATERIAL (4, 5 & 6)		
BODY CODE	BOLT	NUT
11, 29, 34	A193-B7	A194-2H
13, 44, 50	A320-L7	A194-7
19, 23, 24, 35, 36, 46, 47	A193-B8 CL2	A194-8
19, 23, 24, 46, 47	A320-B8 CL2 (6)	A194-8
15, 16, 17, 18	A193-B16	A194-7
41	F467/468 GD. 5	F467/468 GD. 5
28, 29, 31, 33, 39, 45	A193-B8M CL2	A194-8M

(4) SWI standard bolting unless specified otherwise.
(5) For NACE, Grade 'M' applied.
(6) For Cryogenic Valves.

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