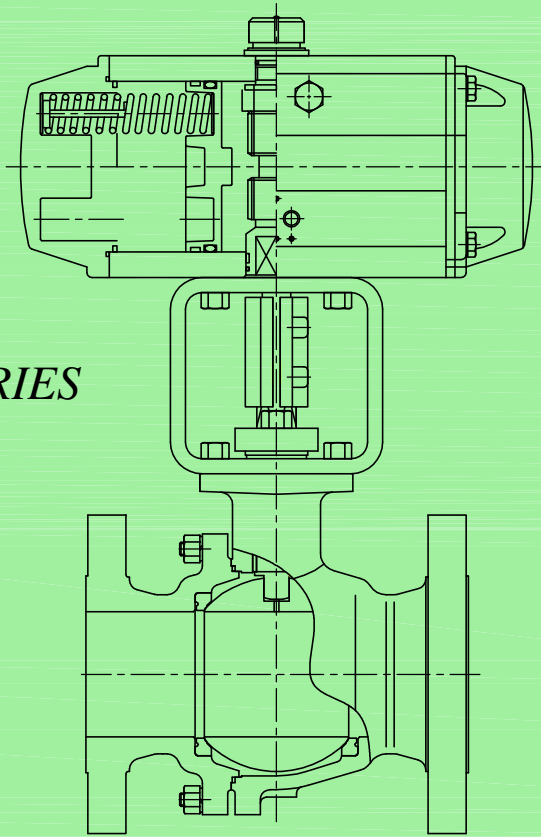


KOSO

STANDARD SPECIFICATION

***STRAIGHT-THROUGH TYPE
BALL- VALVE***



301K SERIES

KOSO

STANDARD SPECIFICATION

BALL - VALVE STRAIGHT- THROUGH TYPE 301K SERIES

GENERAL

The 301K series provides ball valves with a special inner valve which can be fully opened or closed by simply causing the stem to make 90° turn.

The off take from a ball valve, when totally opened, has the same bore as the pipeline and its fluid resistance is negligible. For this reason this automatic valve is best suited to ON-OFF service. Controlling various types of liquid, gas and slurry.

STANDARD SPECIFICATION.

Body

Type:

2 Way Full Bore, 2 Way Reduced Bore

Size:

Full Bore Type 1/2" to 36" (15-900mm)

Reduced Bore type: 4" x 3" to 36" x 32"
(100x80 To 900x800mm)

Steam jacket type (L Class Body Only)

Ball Size 1/2" to 6" (15 to 150mm)

Rating:

L Class:

ANSI 150#, JIS 10K

Ball Size for Floating Type: 1/2" to 8"

Ball Size for Trunnion Type: 10" to 36"

M Class:

ANSI 300#, JIS 20K

Ball Size for Floating Type: 1/2" to 6"

Ball Size for Trunnion Type: 8" to 36"

Connection:

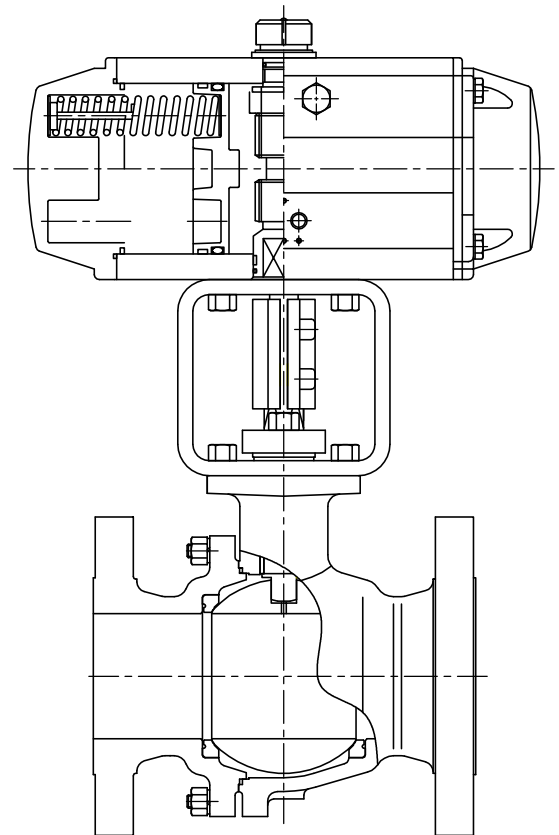
Flanged (RF & FF)

Face to Face Dimensions:

As per API 6D

Material:

FC25, SCPH2, SCS13A, SCS14A When Body Material is FC25, only L Class Floating type is available.



Bonnet:

Standard type..... - 20° To 250°C

Steam jacket type: Maximum working pressure:
10Kgf/cm²G

Gland Packing:

Teflon V Ring, Teflon Asbestos

Gasket:

Teflon, Asbestos, Pillar foil

ACTUATOR SPECIFICATION

Specification	Model	Pneumatic Cylinder	
		6300RB, 6400,6500	
		Double Acting	Spring Return
Purpose		On - Off	
Supply		Air Supply : 4 to 6 Kg/Cm2	
Piping / Tubing Connections		Rc 1/8 (For Cylinder Size 60 to 90), Rc 1/4, Rc 3/8, Rc 1/2, Rc 1, Rc 1 1/2	
Control Signal		On - Off Signal by Air	
Opened Or Closed		90 Deg	
Action		Fully opened or closed by On - Off Signal	Air to valve closed or Air to valve opened
Ambient Temperature		-20 to 60 Deg C	
Painting		Munsell N-6 (Epoxy resin group)	
Option		Solenoid Valve, Air set, Speed Controller, Lock - Up -Valve, Limit Switch, Manual handle	

Optional special specifications (Additional cost is required)

- Special testing (Material Certificate, Non-Destructive testing, Radiographic testing)
- Oxygen Clean ● Sand / Dust proof ● Cold area proof ● Tropical area proof
- No copper alloy ● Special Piping & fitting ● Vacuum Service ● SUS bolts/nuts for exposed parts
- Non standard painting

Table 1; Body / Trim material Combinations, Operating Temperature & Seat leakage

Table 1-1 FLOATING TYPE

Table 1-1A L Class Body / Valve Size 1/2" to 4" (15-100mm)

Body Rating		ANSI Class 150 / JIS10K		
Body Material	JIS/ASTM	SCPH2/A216WCB, SCS13A,SCS14A/A351-CF8M		
Ball	Material	SUS316	SUS316	SUS316
	Treatment	Buffing	Buffing	Buffing
Stem	Material	SUS316	SUS316	SUS316
Bearing	Material	SUS316	SUS316	SUS316
	Treatment	Chrome Plated	Chrome Plated	Chrome Plated
Seal Ring	Type	T Type	F Type	C Type
	Material	Pure Teflon	Reinforced TFE MoS2 Filled	Reinforced TFE Carbonfiber Filled
Seat leakage		Tight Shut off	Tight Shut off	Tight Shut off
Operating Temperature	SCPH2 Body	-5 To +200	-5 To +200	-5 To +200
	SCS13A Body	-20 To +200	-20 To +200	-20 To +200
	SCS14A Body	-20 To +200	-20 To +200	-20 To +200

Table 1-1B L Class Body / Valve Size 5" to 8" (125-200mm)

Body Rating		ANSI Class 150 / JIS10K					
Body Material	JIS/ASTM	SCPH2/A216WCB, SCS13A/A351-CF8M			SCS14A/ A351-CF8M		
Ball	Material	SCS13A	SCS13A	SCS13A	SCS14A	SCS14A	SCS14A
	Treatment	Buffing	Buffing	Buffing	Buffing	Buffing	Buffing
Stem	Material	SUS304 *	SUS304 *	SUS304 *	SUS316	SUS316	SUS316
Bearing	Material	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316
	Treatment	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated
Seal Ring	Type	T Type	F Type	C Type	T Type	F Type	C Type
	Material	Pure Teflon	Reinforced TFE MoS2 Filled	Reinforced TFE Carbonfiber Filled	Pure Teflon	Reinforced TFE MoS2 Filled	Reinforced TFE Carbonfiber Filled
Seat leakage		Tight Shut off	Tight Shut off	Tight Shut off	Tight Shut off	Tight Shut off	Tight Shut off
Operating Temperature	SCPH2 Body	-5 To +200	-5 To +200	-5 To +200	-20 To +200	-20 To +230	-20 To +250
	SCS13A Body	-20 To +200	-20 To +200	-20 To +200			
	SCS14A Body	-20 To +200	-20 To +200	-20 To +200			

Table 1-1C.1 M Class Body / Valve Size 1/2” to 4” (15-100mm)

Valve Size		1/2" To 4" (15 TO 100mm)			
Body Rating		ANSI Class 300 / JIS20K			
Body Material JIS/ASTM		SCPH2/A216WCB, SCS13A		SCS14A/ A351-CF8M	
Ball	Material	SUS316	SUS316	SUS316	SUS316
	Treatment	Buffing	Buffing	Buffing	Buffing
Stem	Material	SUS630	SUS630	SUS316	SUS316
	Treatment	Heat Treatment	Heat Treatment	-	-
Bearing	Material	SUS316	SUS316	SUS316	SUS316
	Treatment	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated
Seal Ring	Type	F Type	C Type	F Type	C Type
	Material	Reinforced TFE MoS2 Filled	Reinforced TFE Carbonfiber Filled	Reinforced TFE MoS2 Filled	Reinforced TFE Carbonfiber Filled
Seat leakage		Tight Shut off	Tight Shut off	Tight Shut off	Tight Shut off
Operating Temperature	SCPH2 Body	-5 To +230	-5 To +250	-20 To +250	-20 To +250
	SCS13A Body	-20 To +230	-20 To +250		

Table 1-1C.2 M Class Body / Valve Size 5” to 6” (125-150mm)

Valve Size		5" To 6" (125 TO 150mm)			
Body Rating		ANSI Class 300 / JIS20K			
Body Material JIS/ASTM		SCPH2/A216WCB, SCS13A		SCS14A/ A351-CF8M	
Ball	Material	SCS13A	SCS13A	SCS14A	SCS14A
	Treatment	Buffing	Buffing	Buffing	Buffing
Stem	Material	SUS630	SUS630	SUS316	SUS316
	Treatment	Heat Treatment	Heat Treatment	-	-
Bearing	Material	SUS316	SUS316	SUS316	SUS316
	Treatment	Chrome Plated	Chrome Plated	Chrome Plated	Chrome Plated
Seal Ring	Type	F Type	C Type	F Type	C Type
	Material	Reinforced TFE MoS2 Filled	Reinforced TFE Carbonfiber Filled	Reinforced TFE MoS2 Filled	Reinforced TFE Carbonfiber Filled
Seat leakage		Tight Shut off	Tight Shut off	Tight Shut off	Tight Shut off
Operating Temperature	SCPH2 Body	-5 To +230	-5 To +250	-20 To +230	-20 To +250
	SCS13A Body	-20 To +230	-20 To +250		

Table 1-2 TRUNNION TYPE

Table 1-2A L Class Body / Valve Size 10” to 36” (250 To 900 mm)

Body Rating		ANSI Class 150 / JIS10K					
Body Material JIS/ASTM		SCPH2/A216WCB, SCS13A				SCS14A/ A351-CF8M	
Ball	Material	SCS13A		SCS13A		SCS14A	SCS14A
	Treatment	Buffing		Buffing		Buffing	Buffing
Stem	Material	SUS304		SUS304		SUS316	SUS316
	Treatment	-		-		-	-
Bearing	Material	SUS316		SUS316		SUS316	SUS316
	Treatment	Chrome Plated		Chrome Plated		Chrome Plated	Chrome Plated
Seal Ring	Type	F Type		C Type		F Type	C Type
	Material	Reinforced TFE MoS2 Filled		Reinforced TFE Carbonfiber Filled		Reinforced TFE MoS2 Filled	Reinforced TFE Carbonfiber Filled
	Back Ring	NBR	VITON	NBR	VITON	VITON	VITON
Operating Temperature	SCPH2 Body	-5 To +60	-5 To +170	-5 To +60	-5 To +170	-10 To +170	-10 To +170
	SCS13A Body	-20 To +60	-10 To +170	-20 To +60	-10 To +170		
Seat leakage		Tight Shut off		Tight Shut off		Tight Shut off	Tight Shut off

Table 1-2B M Class Body / Valve Size 8” to 36” (200 To 900 mm)

Body Material	JIS/ASTM	SCPH2/A216WCB, SCS13A				SCS14A/ A351-CF8M	
Ball	Material	SCS13A		SCS13A		SCS14A	SCS14A
	Treatment	Buffing		Buffing		Buffing	Buffing
Stem	Material	SUS630		SUS630		SUS316	SUS316
	Treatment	Heat Treatment		Heat Treatment		-	-
Bearing	Material	SUS316		SUS316		SUS316	SUS316
	Treatment	Chrome Plated		Chrome Plated		Chrome Plated	Chrome Plated
Seal Ring	Type	F Type		C Type		F Type	C Type
	Material	Reinforced TFE	MoS2 Filled	Reinforced TFE Carbonfiber Filled		Reinforced TFE MoS2 Filled	Reinforced TFE Carbonfiber Filled
	Back Ring	NBR	VITON	NBR	VITON	VITON	VITON
Operating Temperature	SCPH2 Body	-5 To +60	-5 To +170	-5 To +60	-5 To +170	-10 To +170	-10 To +170
	SCS13A Body	-20 To +60	-10 To +170	-20 To +60	-10 To +170		
Seat leakage		Tight Shut off		Tight Shut off		Tight Shut off	Tight Shut off

Table: 2 Cv Value (90° Opening)
L Class Body and M Class Body

Full Bore Type						Reduced Port Type		
Inch	mm	Rated Cv	Inch	mm	Rated Cv	Inch	mm	Rated Cv
1/2	(15)	14	14	(350)	30700	4x3	100x80	660
3/4	(20)	40	16	(400)	41245	5x4	125x100	1335
1	(25)	77	18	(450)	55570	6x5	150x125	2405
1 1/2	(40)	205	20	(500)	70045	8x6	200x150	2645
2	(50)	400	22	(550)	86752	10x8	250x200	5340
2 1/2	(65)	715	24	(600)	103732	12x10	300x250	9675
3	(80)	1040	26	(650)	130530	14x12	350x300	19595
4	(100)	2120	28	(700)	151830	16x14	400x350	20165
5	(125)	3690	30	(750)	177900	18x16	450x400	29150
6	(150)	5070	32	(800)	198370	20x18	500x450	39505
8	(200)	10265	34	(850)	214745	24x20	600x500	34030
10	(250)	16900	36	(900)	249050	30x24	750x600	42060
12	(300)	25900				36x30	900x750	80940

Fig: 1 Seal Ring Operating Temperature-Pressure Rating

Fig: 1-1 Floating Type (Ball Size 1/2” to 8”)
F Type Seal Ring (Pure Teflon)

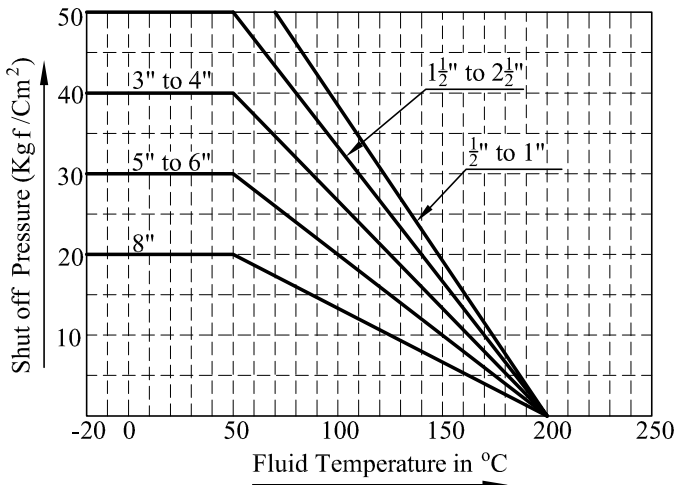


Fig: 1-2 Floating Type (Ball Size 1/2” to 8”)
F -Type Seal Ring (Reinforced Teflon MoS2 Filled)

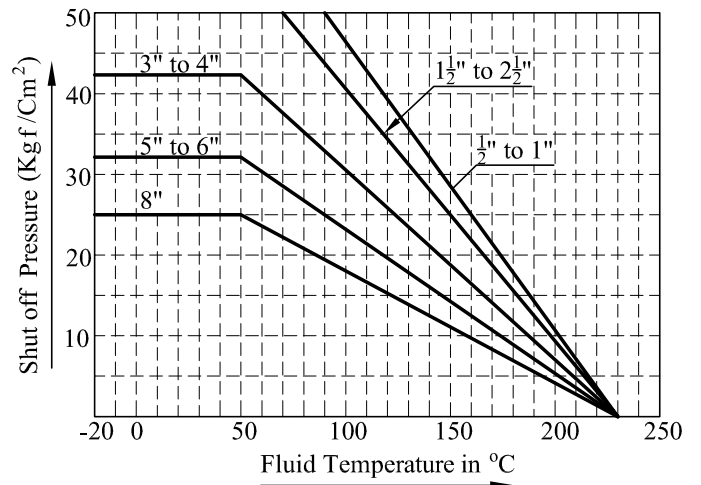


Fig: 1-3 Floating Type (Ball Size 1/2" to 8")
C -Type Seal Ring (Carbon fiber Filled Teflon)

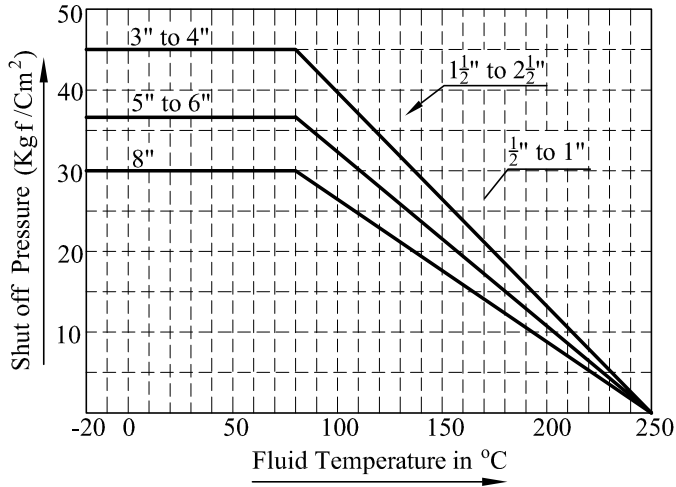


Fig: 1-4 Trunion Type (Ball Size 8" to 36")
F&C -Type Seal Ring / VITON Back Ring

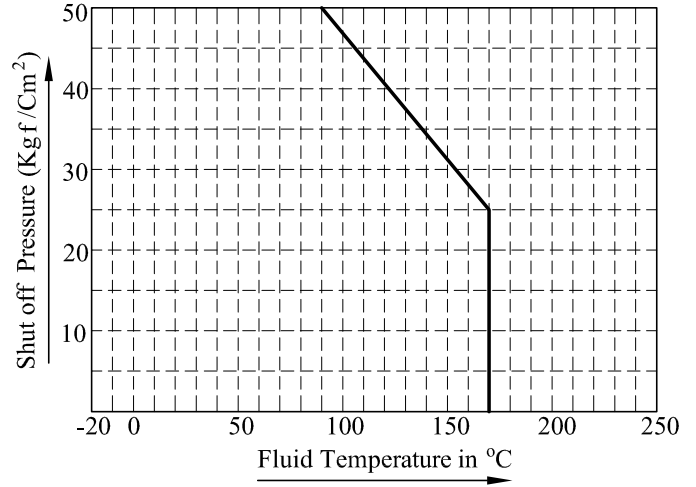


Fig: 1-5 Trunion Type (Ball Size 8" to 36")
F&C -Type Seal Ring / NBR Back Ring

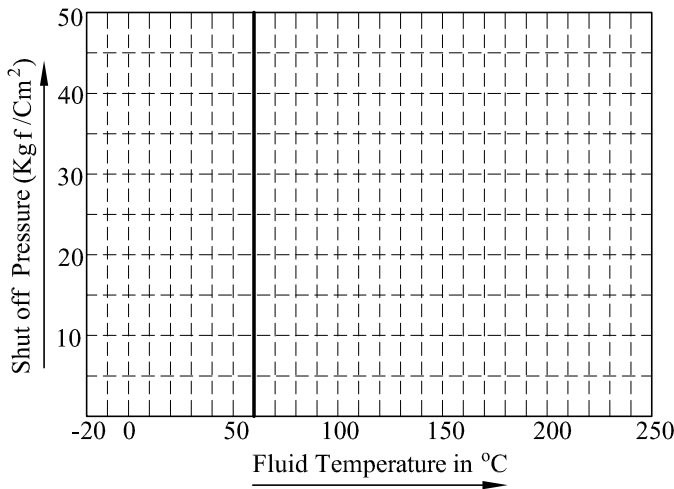


Fig: 2 Gasket Temperature / Pressure rating

Fig: 2-1 Teflon (VAL7010)

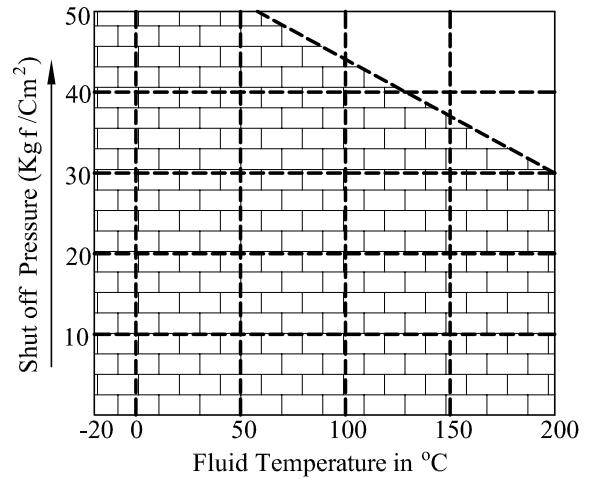


Fig: 2-2 Asbestos (VAL 1500AC)

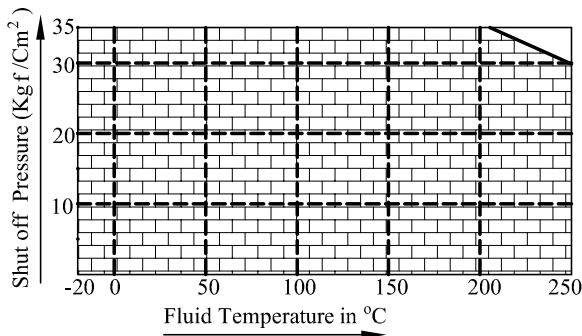


Fig: 2-3 Pillar foil (P6631)

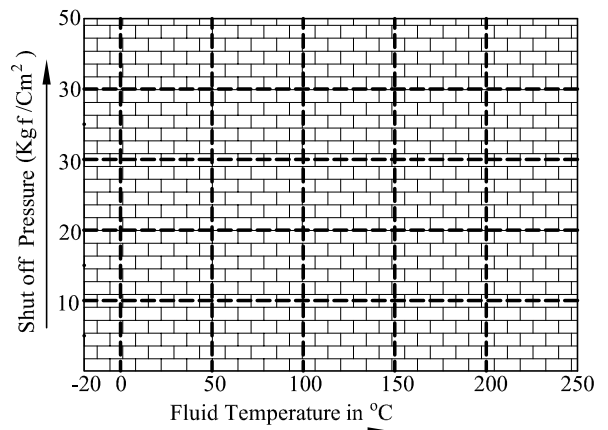


Fig: 3 Gland Packing Temperature /Pressure rating

Fig: 3-1 Teflon Asbestos (P4513+P4513L)
Oxidizing Fluids (P4514+P#2S)

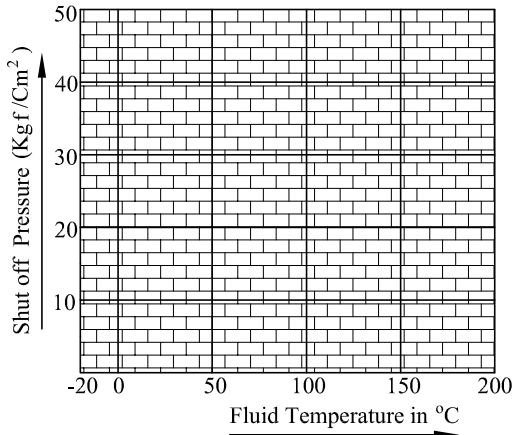


Fig: 3-2 Pillar foil (P6616A+P316)

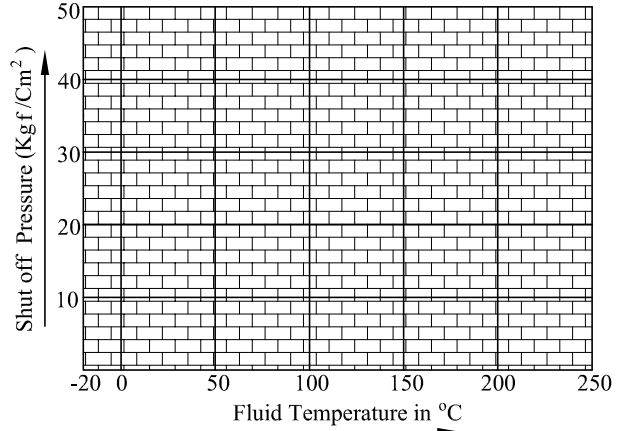
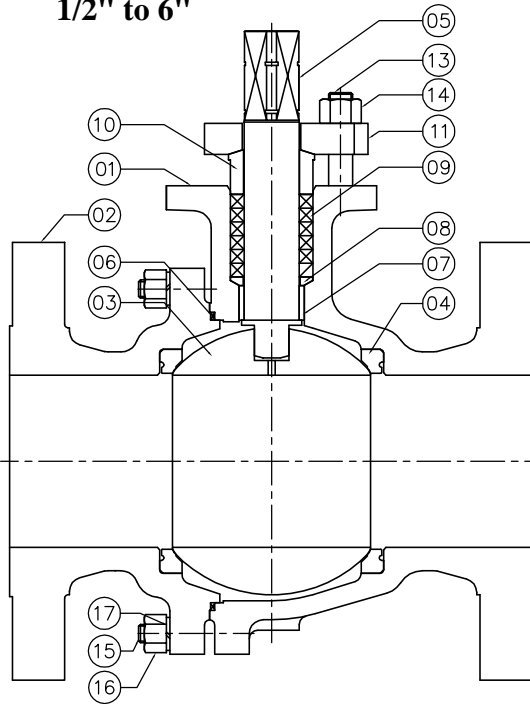


Fig: 4 Body section view

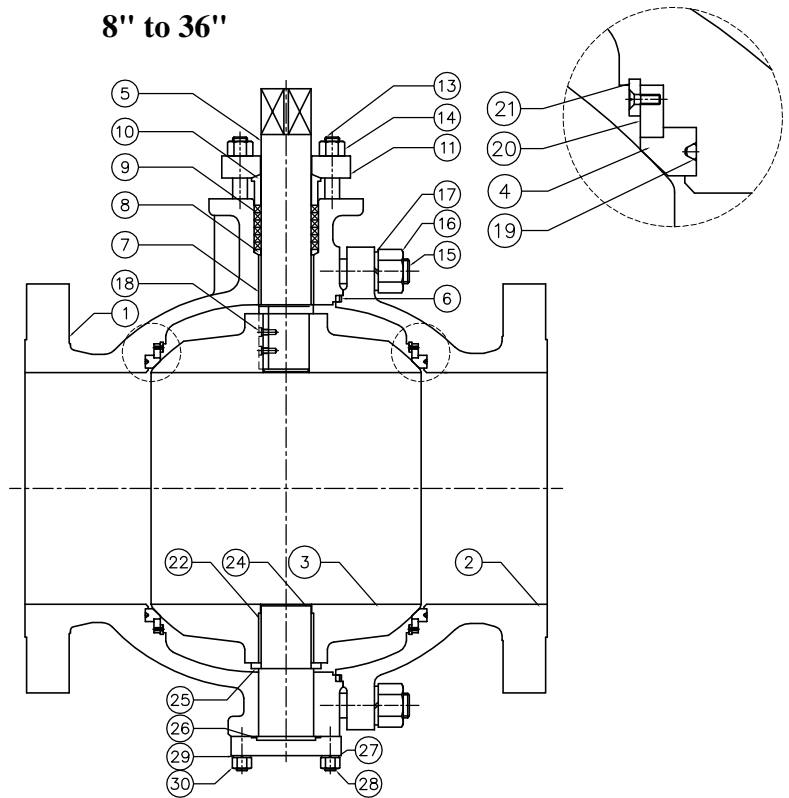
Straight Through Floating Type

1/2" to 6"



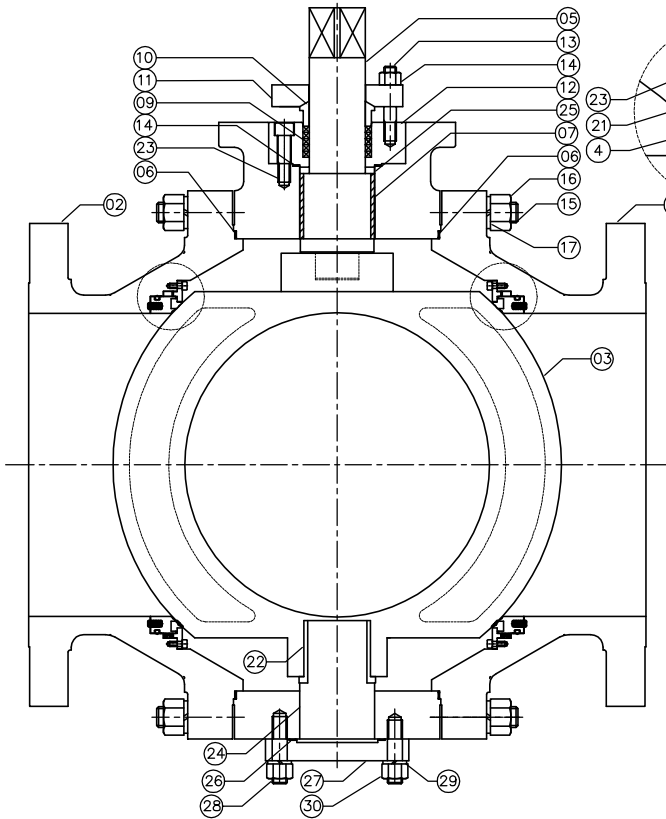
Straight Through Trunnion Type

8" to 36"



No:	Description	No:	Description	No:	Description	No:	Description
1	Body	9	Gland Packing	17	Spring Washer	25	Thrust ring
2	Body Cap	10	Gland Ring	18	Stem Key	26	Bottom Gasket
3	Ball	11	Gland Flange	19	O- Ring	27	Bottom Flange
4	Seat Ring	12	Gland Plate	20	Seat Holder	28	Bottom Stud
5	Stem	13	Gland Stud	21	Retainer	29	Spring Washer
6	Body Gasket	14	Gland Nut	22	Bottom Bearing	30	Bottom Nut
7	Stem Bearing	15	Body Stud	23	Hex. Socket Screw	31	Foil Ribbon Pack
8	Packing Seat	16	Body Nut	24	Bottom Guide	32	Coil Spring

**Straight Through Trunnion Type
Fire Safe Design (Three Piece Design)
20" to 36"**



**Straight Through Trunnion Type
Fire Safe Design (Two Piece Design)
6" to 18"**

