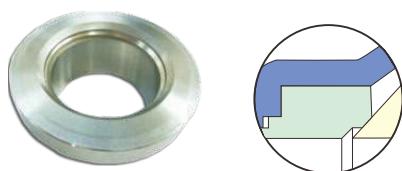


DESIGN FEATURES

Positioning/Locking Bracket Design

It can better support and stabilize the actuator to ensure reliable valve operation.



Scratch Seat Design

Enable to Remove Slurries, Muds or Other Viscous Fluids & Solid Mediums
Special Hardened Surface Treatment :
Stainless Steel Cr3C2/WC-Co/
Stellite 2.0 /Ni60...etc.



Double Disc Spring/Plunger Spring Design

Such design realizes the bidirectional sealing of the valve. It provides the elasticity helpful to absorb the tube stress and thermal expansion and to avoid a jammed valve. On the other hand, the bidirectional seated ball valve is more advantageous than the unidirectional one under certain operating conditions with the reverse sealing requirement.



Ball

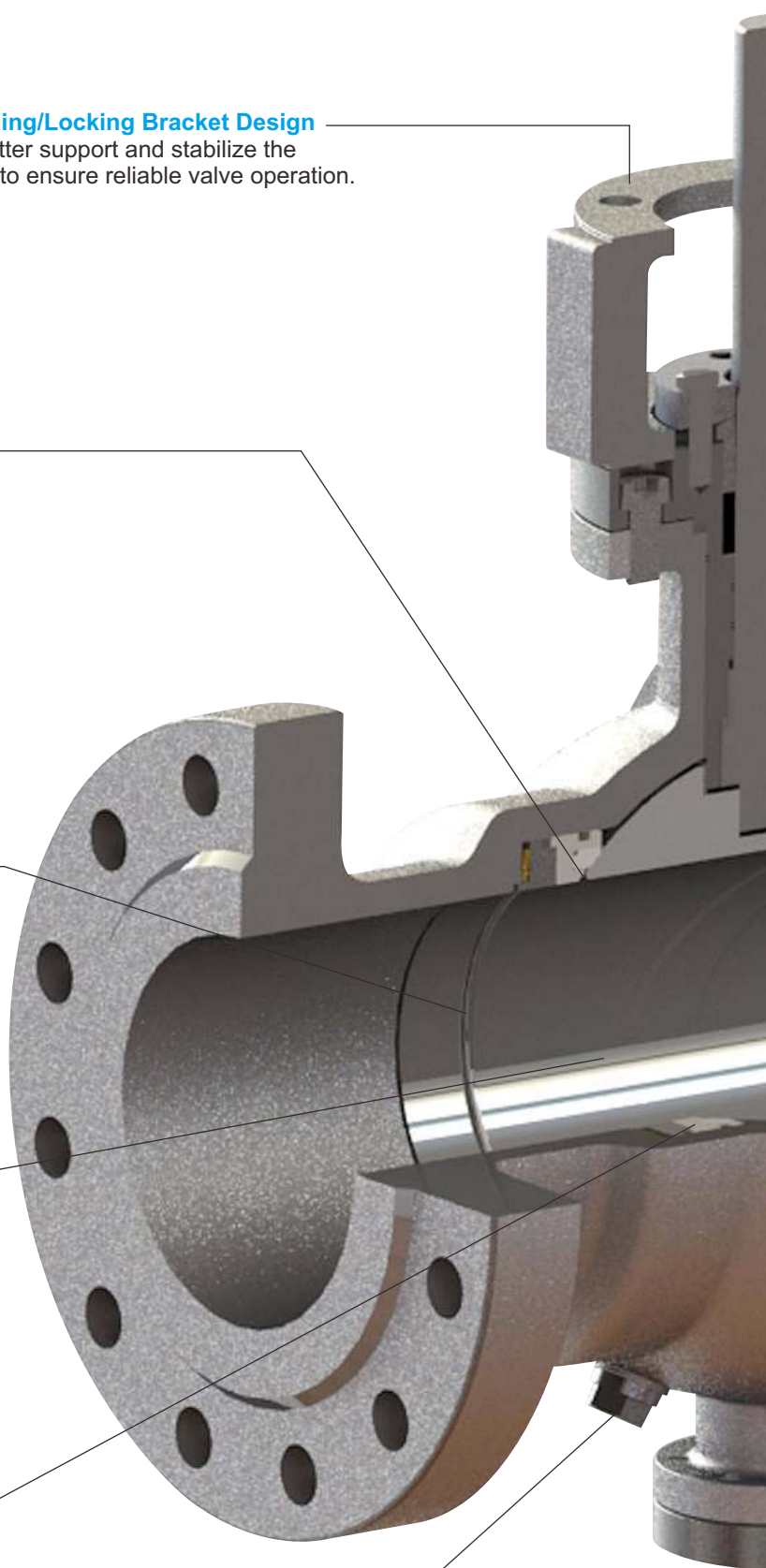
Hardened Surface Treatment
Stainless + Cr3C2/WC-Co/
Stellite.20/Ni60...etc.
For High Temperature,
Abrasive Services

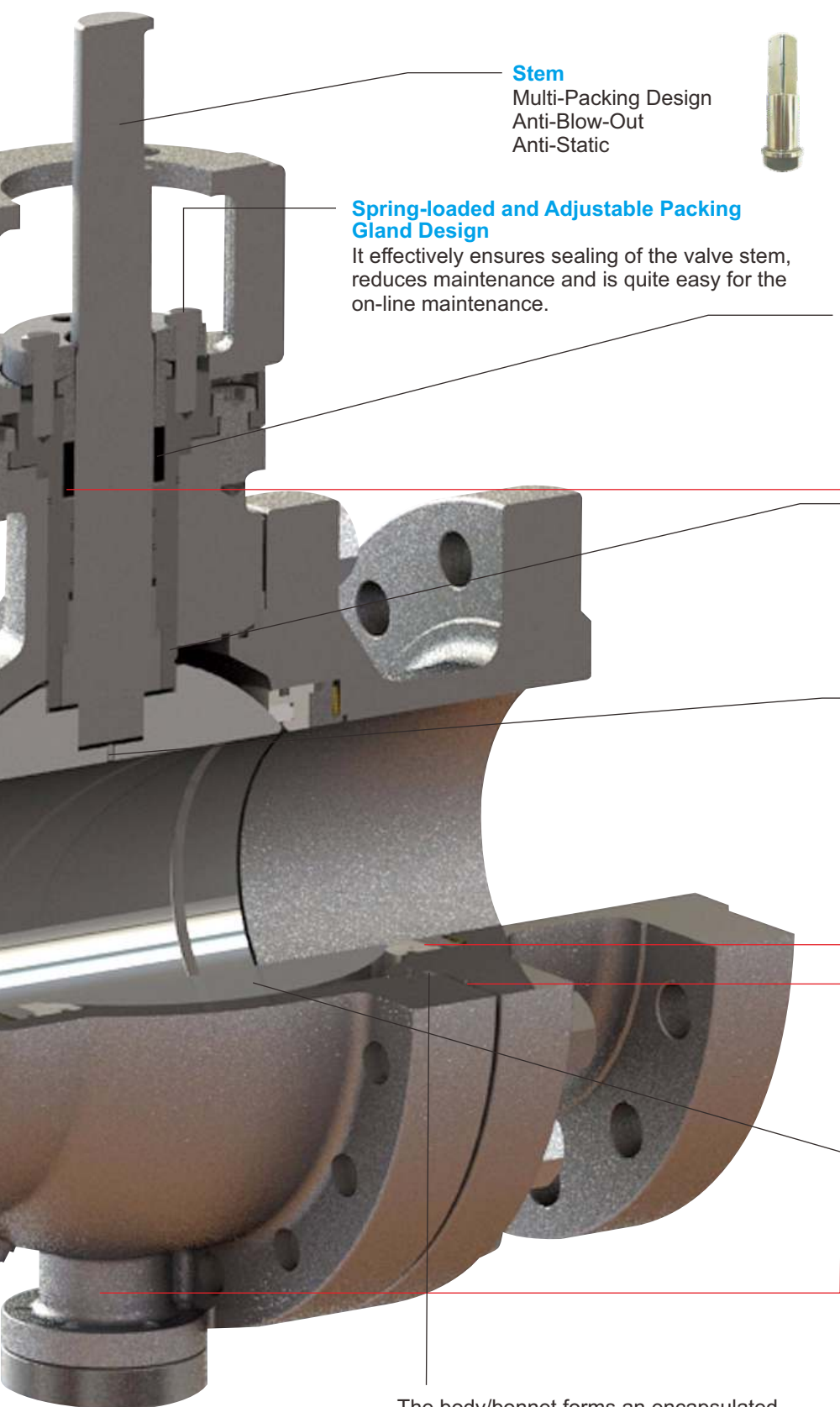
Such Construction Design as Expanded Sealing Surface on the Valve Seal

More beneficial to the ball/seat sealing and elongating the switch service life.

Drain Design

For Easy
Cleaning on
Pipelines





Stem
Multi-Packing Design
Anti-Blow-Out
Anti-Static

Spring-loaded and Adjustable Packing Gland Design
It effectively ensures sealing of the valve stem, reduces maintenance and is quite easy for the on-line maintenance.

Flexible Graphite Stem Packing For Severe Services
It is suitable for services under extreme operating conditions. The high-performance low-emission packing from PILLAR (Japan) is available upon request.

The mid flange and bottom end cap of the trunnion type ball valves form a stationary rotation system, in which the valve stem bears the torque other than the medium thrust, thus significantly elongating the service life of the valve stem.

Steel Ball Pressure Balancing Hole Design
When the valve is "ON", the pressure balance is realized between the valve chamber and channel to ensure safer and more reliable valve operation.

Fire Safe Design

From the perspective of the overall valve structure, heat and fire-resistant graphite and metal are used for the material design, so such valve is inherently fire safe.

The ball/seats are ground with the CNC ball grinding machine. The lapping equipment independently developed by KI is also adopted. The ball/seat roundness is about 5 um. This is a crucial technology for ensuring the standard-compliant inner leakage. The ball/seats interchangeability is high. Such accessory as ball/seat needs replacing upon demand, other than the overall valve.

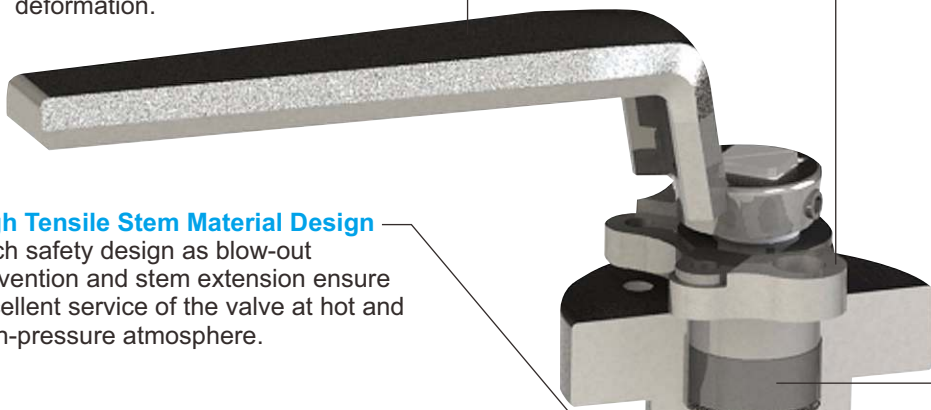
The body/bonnet forms an encapsulated groove, ensuring the sealing property of the gasket and avoiding medium leakage.

For Temperature Up to 538°C / 1000°F

DESIGN FEATURES

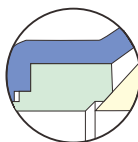
High Tensile Handle Design

It avoids insufficient "ON/OFF" operations due to the handle deformation.



High Tensile Stem Material Design

Such safety design as blow-out prevention and stem extension ensure excellent service of the valve at hot and high-pressure atmosphere.



Scratch Seat Design

Enable to Remove Slurries, Muds or Other Viscous Fluids & Solid Mediums
Special Hardened Surface Treatment :
Stainless Steel Cr3C2/WC-Co/
Stellite 2.0 /Ni60...etc.

Low-torque Disc Spring Design

Strict design and inspection ensure the minimum preload of the valve and reduce its torque.

The ball/seats are ground with the CNC ball grinding machine. The lapping equipment independently developed by KI is also adopted. The ball/seat roundness is about 5 um. This is a crucial technology for ensuring the standard-compliant inner leakage. The ball/seats interchangeability is high. Such accessory as ball/seat needs replacing upon demand, other than the overall valve.

Spring-loaded and Adjustable Packing Gland Design

It effectively ensures sealing of the valve stem, reduces maintenance and is quite easy for the on-line maintenance.



Flexible Graphite Stem Packing For Severe Services

It is suitable for services under extreme operating conditions. The high-performance low-leakage packing from PILLAR (Japan) is available upon demand.

Rigid Extension Bracket Design

It elongates the service life of the flexible graphite packing, reduces the temperature in the operation position at a high temperature, and ensures the user-friendly operation.

Metal Wear-resistant Bearing Design

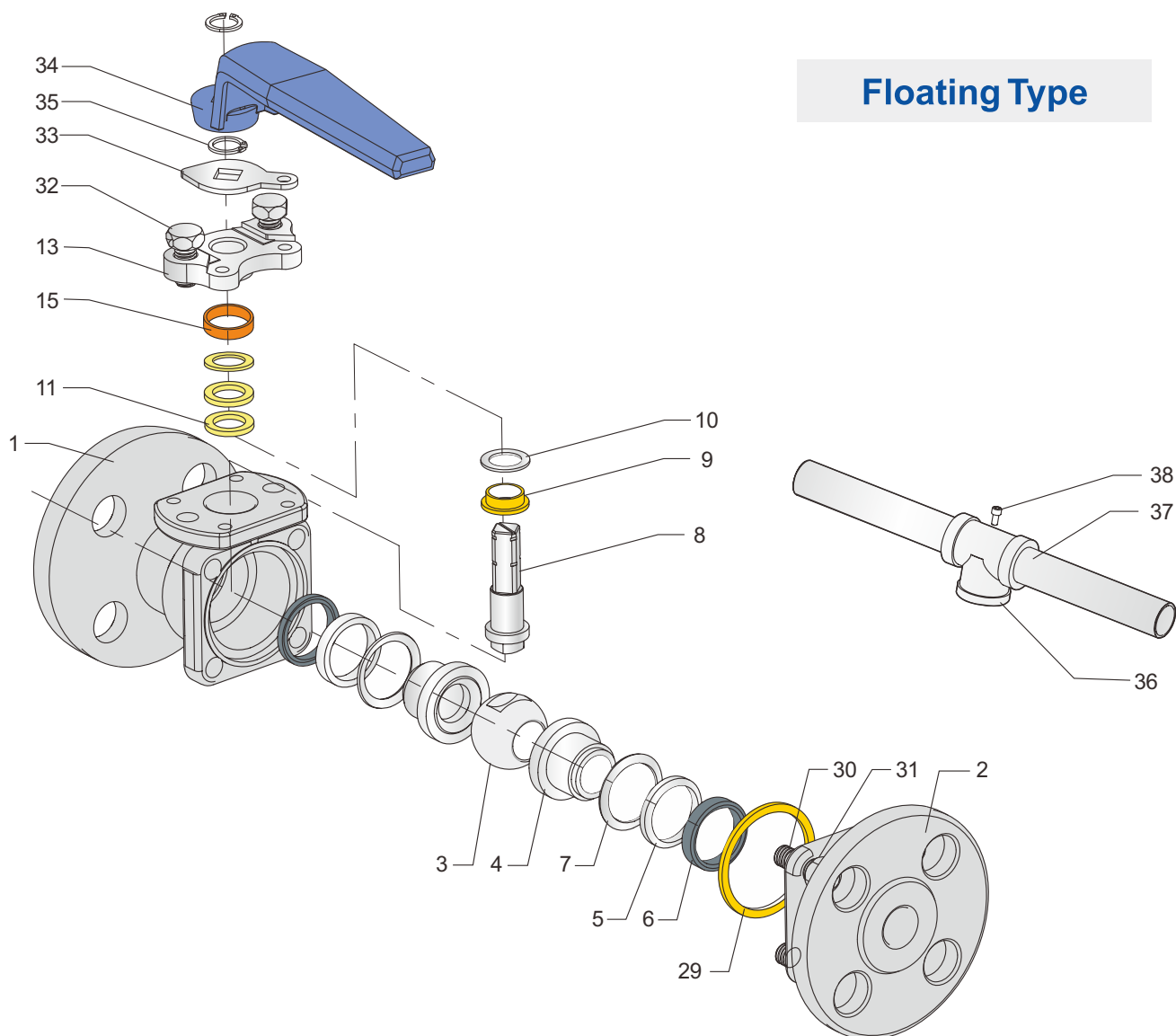
It ensures the reliable rotation on the central shaft.

Ball

Hardened Surface Treatment
Stainless + Cr3C2/WC-Co/
Stellite.20/Ni60...etc.
For High Temperature,
Abrasive Services



The body/bonnet forms an encapsulated groove, ensuring the sealing property of the gasket and avoiding medium leakage.

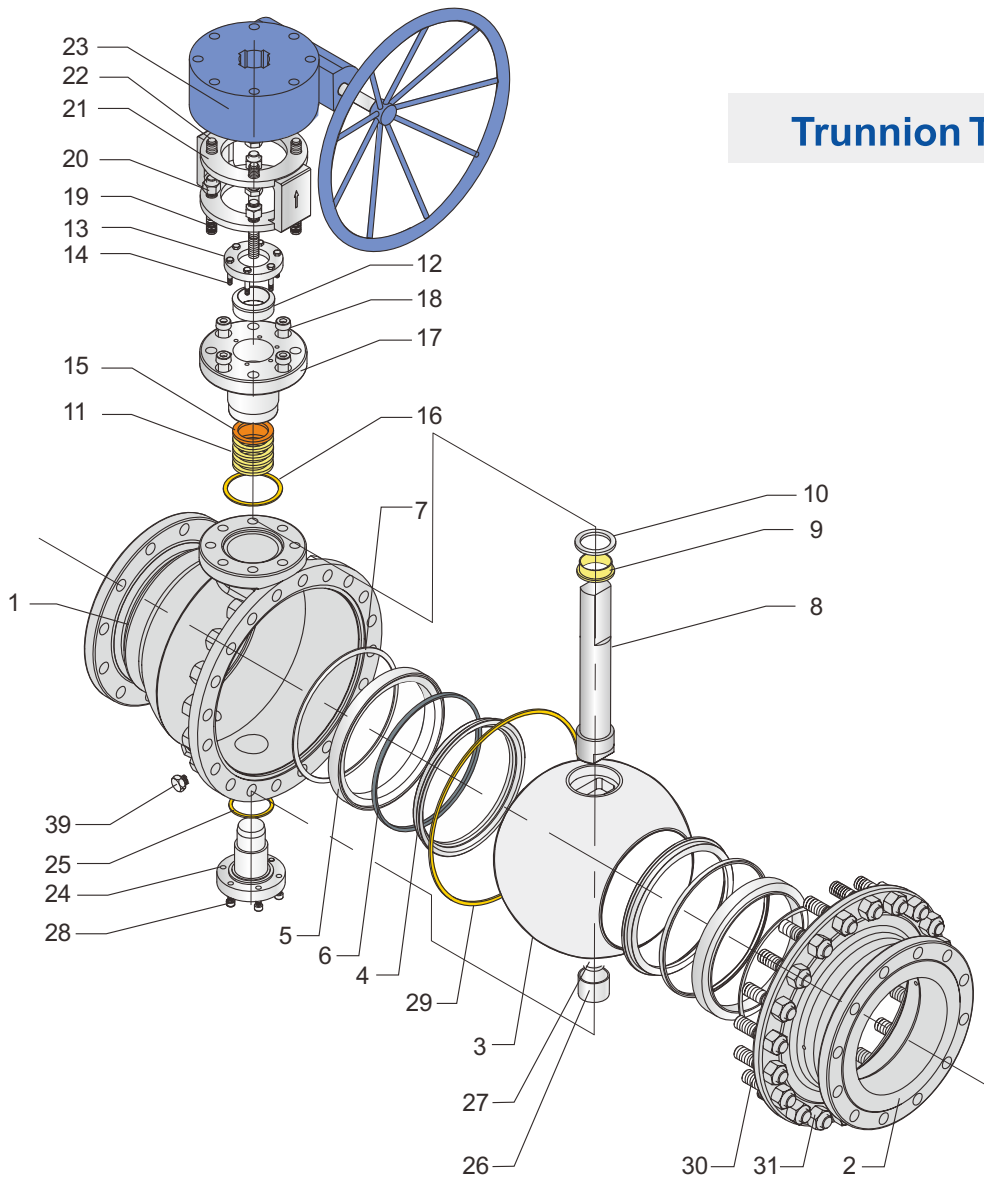


Floating Type

NO	PART NAME	MATERIALS			
		A351-CF8M	A351-CF8	A216-WCB	Other Alloy Steels
1	Body	A351-CF8M	A351-CF8	A216-WCB	Other Alloy Steels
2	Body end	A351-CF8M	A351-CF8	A216-WCB	Other Alloy Steels
3	Ball	A182-F316+Cemented Carbide			
4	Seat	A182-F316+Cemented Carbide			
5	Pressure ring	A182-F316	A182-F304		
6	Seal ring	GRAFOIL			
7	Belleville spring	INCONEL X-750* / SUS631			SUS631
8	Stem	ASTM A564 630			
9	Stem sleeve	A439 D2*/50%SS+50%PTFE			
10	Packing bushing	SUS316			
11	Stem packing	GRAFOIL* /PTFE			
12	Gland	A351-CF8			A216-WCB
13	Packing gland	A351-CF8			A216-WCB
14	Hexagon bolt	A193-B8			A193-B7
15	Wear sleeve	A439 D2*			
16	Mid. Flange gasket	316 SPIRAL WOUND + GRAFOIL*/PTFE		304 SPIRAL WOUND + GRAFOIL*/PTFE	
17	Mid. Flange	A351-CF8M	A351-CF8	A216-WCB	
18	Hexagon socket cap head screw	A193-B8			A193-B7
19	Fully threaded stud	A193-B8			A193-B7
20	Hexagon nut	A194-8			A194-2H

* All valves with graphite stem packing, gasket, back-up seals & seal rings are inherently fire-safe

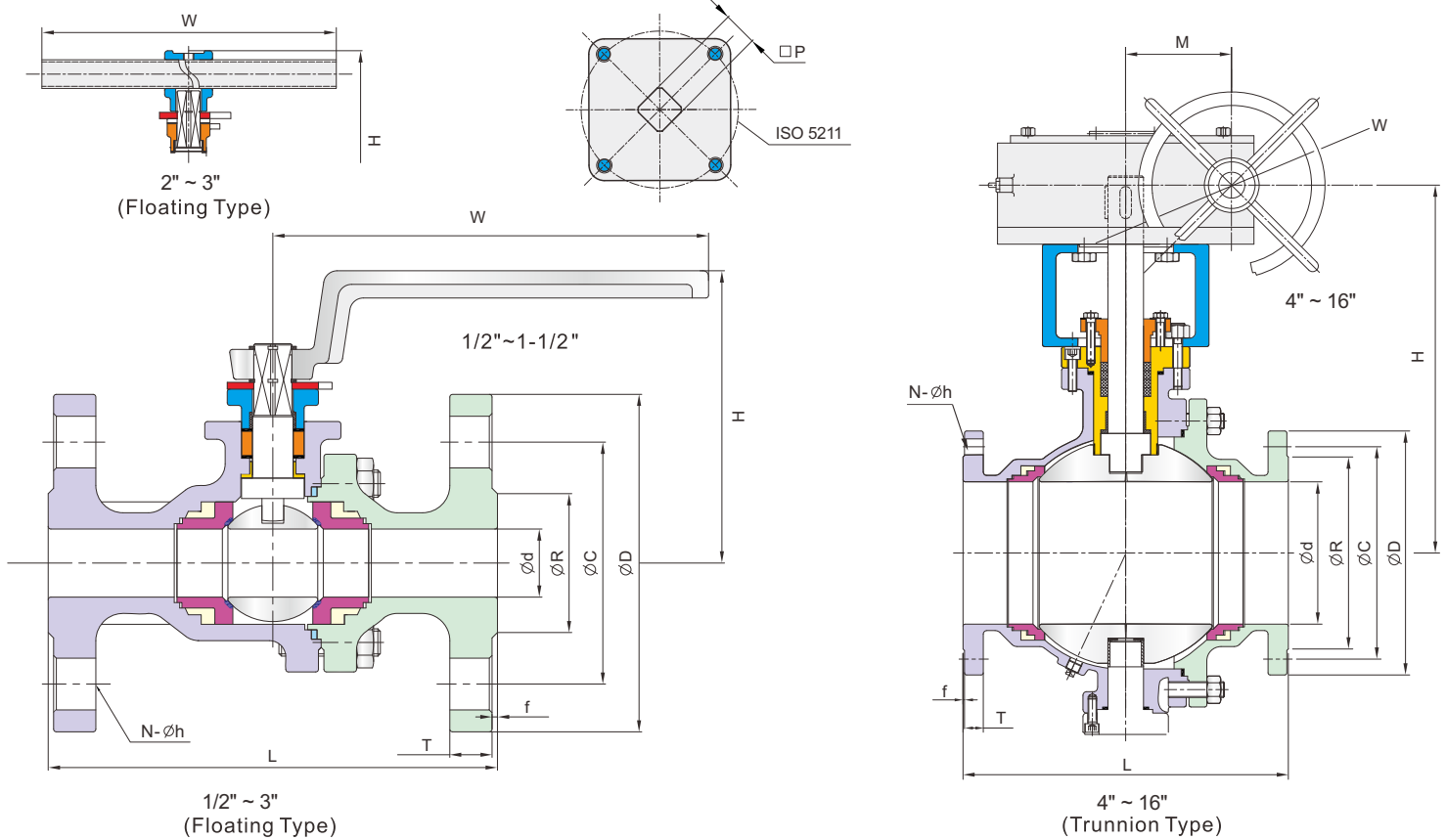
Trunnion Type



NO	PART NAME	MATERIALS		
21	Yoke	ASTMA216-WCB		
22	Hexagon bolt	A193-B8	A193-B7	
23	Worm gear	A351-WCB		
24	Bottom end cap	A182-F316	A182-F304	ASTM A105
25	Bottom end cap seal ring	316 SPIRAL WOUND + GRAFOIL*/PTFE	304 SPIRAL WOUND + GRAFOIL*/PTFE	
26	Bottom end cap sleeve	A439 D2*/50%SS+50%PTFE		
27	Bottom end cap wear bushing	A439 D2*/50%SS+50%PTFE		
28	Hexagon socket cap head screw	A193-B8	A193-B7	
29	Body gasket	316 SPIRAL WOUND + GRAFOIL*/PTFE	304 SPIRAL WOUND + GRAFOIL*/PTFE	
30	Stud	A193-B8	A193-B7	
31	Hexagon nut	A194-8	A194-2H	
32	Hexagon bolt	A193-B8	A193-B7	
33	Stopper locking	SUS 304		
34	Handle	A216-WCB		
35	Retainer ring	SUS 304		
36	Handle connector	A351-CF8	A216-WCB	
37	Steel tube handle	A53+Zn Plated		
38	Set screw	SUS 304		
39	Drain plug	SUS 316	SUS 304	

ASME CLASS 150/300
2-PC Body, Flanged Ends, Full Port

KV-M41, KV-M42 (-29 °C ~ 200 °C)
KV-M61, KV-M62 (-29 °C ~ 450 °C)



ASME CLASS 150

KV-M41, KV-M61

Unit: mm

Size	Ød	L	ØR	ØC	ØD	f	T	N	Øh	H	W	M	P	ISO 5211 on Valve
1/2"	15	108	34.9	60.3	90	2	8.0	4	16.0	82	130	—	9	F04
3/4"	20	117	42.9	69.9	100	2	8.9	4	16.0	90	130	—	9	F04
1"	25	127	50.8	79.4	110	2	9.6	4	16.0	107	160	—	11	F05
1-1/4"	32	140	63.5	88.9	115	2	11.2	4	16.0	110	160	—	14	F05
1-1/2"	38	165	73.0	98.4	125	2	12.7	4	16.0	130	200	—	14	F07
2"	50	178	92.1	120.7	150	2	14.3	4	19.0	132	400	—	14	F07
2-1/2"	64	190	104.8	139.7	180	2	15.9	4	19.0	195	400	—	17	F10
3"	76	203	127.0	152.4	190	2	17.5	4	19.0	202	600	—	22	F10
4"	100	229	157.2	190.5	230	2	22.3	8	19.0	323	305	92	22	F12
5"	125	356	185.7	215.9	255	2	22.3	8	22.3	351	406	105	27	F16
6"	150	394	215.9	241.3	280	2	23.9	8	22.3	437	406	105	27	F16
8"	200	457	269.9	298.5	345	2	27.0	8	22.3	502	508	120	36	F16
10"	250	533	323.8	362.0	405	2	28.6	12	25.4	545	610	142	46	F16
12"	300	610	381.0	431.8	485	2	30.2	12	25.4	615	610	172	55	F25
14"	334	686	412.8	476.3	535	2	33.4	12	28.6	630	500	126	—	F25
16"	385	762	469.8	539.8	595	2	35.0	16	28.6	680	710	126	—	F25

ASME CLASS 300

KV-M42, KV-M62

Unit: mm

Size	Ød	L	ØR	ØC	ØD	f	T	N	Øh	H	W	M	P	ISO 5211 on Valve
1/2"	15	140	34.9	66.7	95.0	2	12.7	4	16.0	82	130	—	9	F04
3/4"	20	152	42.9	82.6	115.0	2	14.3	4	19.0	90	130	—	9	F04
1"	25	165	50.8	88.9	125.0	2	15.9	4	19.0	107	160	—	11	F05
1-1/4"	32	178	63.5	98.4	135.0	2	17.1	4	19.0	110	160	—	14	F05
1-1/2"	38	190	73.0	114.3	155.0	2	19.1	4	22.3	130	200	—	14	F07
2"	50	216	92.1	127.0	165.0	2	20.7	8	19.0	132	400	—	14	F07
2-1/2"	64	241	104.8	149.2	190.0	2	23.9	8	22.3	195	400	—	17	F10
3"	76	282	127.0	168.3	210.0	2	27.0	8	22.3	202	600	—	22	F10
4"	100	305	157.2	200.0	255.0	2	28.6	8	22.3	323	305	92	22	F12
5"	125	381	185.7	235.0	280.0	2	33.4	8	22.3	351	406	105	27	F16
6"	150	403	215.9	269.9	320.0	2	35.0	12	22.3	437	406	105	27	F16
8"	200	502	269.9	330.2	380.0	2	39.7	12	25.4	502	508	120	36	F16
10"	250	568	323.8	387.4	445.0	2	46.1	16	28.6	545	610	142	46	F16
12"	300	648	381.0	450.8	520.0	2	49.3	16	31.8	615	610	172	55	F25
14"	334	762	412.8	514.4	585.0	2	54.4	20	31.8	630	710	138	—	F25
16"	385	838	469.9	571.5	650.0	2	57.6	20	35.1	680	710	138	—	F25