

**KVC UK Ltd**  
Federal International (2000)



**Pipeline Ball Valves**

# COMPANY PROFILE



**KVC (UK) Ltd specialises in the Design and Manufacture of Ball Valves for the Oil, Gas, Chemical, Petrochemical, Pipeline and Water Industries worldwide. Our valves are used in offshore, onshore and sub-sea applications.**

The Management of the Company has many years experience in the Valve Industry. The organisation and flexibility of the company allows **KVC (UK) Ltd** to offer short leadtimes, even on non-standard valves.

All valves are manufactured to the highest quality standards and are fully tested before leaving the factory.

The aim of **KVC (UK) Ltd** is to provide valves and services, which meet or exceed our Customers' requirements, at a realistic price and reliable manufacturing time and in so doing remain a market leader supplying to a worldwide base of industry leading clients.



# COMPANY PROFILE



**KVC (UK) Ltd** uses computerised systems to control the design and manufacture of the product and to ensure the latest technical and material innovations are recognised.

The product range covers both Trunnion Mounted Valves and Floating Ball from 1/2" thru 48", both full and reduced bore, and in pressure classes 150 thru 2500 including API 5,000 and 10,000. Valves are manufactured in a wide range of materials from Carbon Steel to Super Duplex and Exotic Alloys. Valves are offered in Soft Seated or Metal Seated Options. Other products within our supply range include Gate, Globe, Check and Butterfly valves.

**KVC (UK) Ltd** quality system is Lloyds approved to BS: EN ISO 9001.2008 which ensures that our product is controlled through each stage of manufacture. Valves are supplied with full chemical and mechanical material test certificates to BS EN 10204:2004 3.1. Hydrostatic and Pneumatic test certificates are also supplied with each valve.

**KVC (UK) Ltd** is part of the **Federal International (2000) Group**. This long standing relationship coupled with our own expertise has allowed **KVC (UK) Ltd** to grow and develop into our current and ever improving place within the market.

As part of a large multi-national group, **KVC (UK) Ltd** has the benefit and experience of our United Kingdom based operations together with worldwide

access to our parent company resources and our numerous sister companies.

These valuable resources afford us global reach, whilst allowing local access and understanding of both global and local markets. Allowing us to provide local technical support in almost any region.

Our key position within the group enables us to offer full management and supply of valves, services and subsidiary equipment. We also offer access to a large and continuously replenished inventory of our core in-house designed products and all others available within the group.

We can supply large quantities of varying product ranges almost instantly or equally manufacture at our various **KVC (UK) Ltd** controlled manufacturing sites with short lead times and impeccable quality.

*Full customer support from enquiry/pre-qualification through manufacture and encompassing post sales after care, makes **KVC (UK) Ltd** valves an excellent choice for the discerning valve user/specifiers worldwide.*



# APPLICABLE STANDARDS

KVC (UK) Ltd design and manufacture valves in accordance with latest editions of API, ASTM, ASME, ISO, B.S. MSS and NACE standards. The valves may be designed, manufactured and tested in accordance with other international standards on request, or to meet specific customer requirements.



## API - AMERICAN PETROLEUM INSTITUTE

<b>Spec. 6A</b>	—————	Specification for wellhead and christmas tree equipment.
<b>Spec. 6D</b>	—————	Specification for pipeline valves.
<b>Spec. 607</b>	—————	Specification for firetesting of valves. (soft seated)
<b>Std. 598</b>	—————	Valve inspection and test.
<b>Spec. Q1</b>	—————	Specification for quality programs.
<b>API 6FA</b>	—————	Specification for fire test for valves.

## ASME - AMERICAN SOCIETY OF MECHANICAL ENGINEERS

<b>B 16.5</b>	—————	Steel pipe flanges and flanged fittings.
<b>B 16.10</b>	—————	Face to Face and end to end dimensions of valves.
<b>B 16.25</b>	—————	Butt welding ends.
<b>B 16.34</b>	—————	Valves - flanged, threaded and welding ends.

## BS - BRITISH STANDARD

<b>BS EN 12627: 1999</b>	———	Face to face, centre to face, end to end, and centre to end dimensions of flanged and butt-welded end steel valves for the petroleum, petrochemical and allied industries.
<b>BS EN ISO 17292</b>	———	Metal ball valves for the petroleum petrochemical and allied industries.
<b>BS EN 17292: 2004</b>	———	Steel ball valves for the petroleum, petrochemical and allied industries.
<b>BS EN 12266 - 1 &amp; 2</b>	———	Industrial valves - testing of valves.
<b>BS EN ISO 9001: 2008</b>	———	Quality Management System-Requirements.

## ISO - INTERNATIONAL ORGANISATION FOR STANDARDIZATION

<b>ISO 10497-5</b>	—————	Fire test for soft-seated quarter-turn valves.
<b>ISO 14313: 2007</b>	—————	Specification for pipeline valves.

## MSS - MANUFACTURES STANDARDIZATION SOCIETY

<b>SP 25</b>	—————	Standard marking system for valves, fittings, flanges and unions.
<b>SP 55</b>	—————	Quality standard for steel castings-visual method.
<b>SP 44</b>	—————	Steel pipeline flanges.

## NACE - NATIONAL ASSOCIATION OF CORROSION ENGINEERS

<b>MR-01-75 (ISO 15156-1)</b>	———	Sulphide stress cracking resistant metallic materials for oil field equipment.
<b>RP0475-98</b>	—————	Selection of metallic materials to be used in all phases of water handling for injection into oil-bearing formations.

## CE AND ATEX

**EC Certificate of conformity** Assessed and approved against the requirements of annex III, Module H1 of PED 97/23/EC and Schedule 4, Module H1 of PER 1999. EC Design Examination approval to PED 97/23/EC and PER 1999 UK SI-1999,2001.

**Atex Approval** Conformity to 94/9/EC and SI 1996 No. 192.

# TRUNNION MOUNTED BALL VALVES



# TECHNICAL FEATURES

## TRUNNION MOUNTED DESIGN

### DESIGN

KVC Trunnion Mounted bolted construction Ball Valves are designed and manufactured in accordance with the latest industry standards. Our split body design gives ease of maintenance on site.

Trunnion Mounted Valves are available in both soft seated and metal seated design.

Special face to face dimensions can be supplied. All valves are available in Full or Reduced Bore, with Raised Face, Ring Type Joint, Hub End, Butt Weld or Socket end connections. Pressure rating range from ANSI 150 thru ANSI 2500, compact flanges and higher pressure ratings are available on request.

Valves are supplied as Lever Operated, Gear Operated or Actuated to customer's specification.

### MATERIAL SELECTION

Valves are manufactured in a range of materials such as Carbon Steel, Low Temp Carbon Steel, Stainless Steel, Duplex, Super Duplex, Monel, Inconel and other Special Alloys.

### BODY/CAP

Trunnion Mounted valves are normally manufactured from forged rings, which ensures a high integrity material grain structure and improved sealing between the components. Sealing is by O-rings and Graphite rings. The Graphite ring continues to provide a seal in the event of a fire. O-rings can be supplied suitable for AED applications in a variety of materials.

### SEAT

Independent seats with preloaded springs are always in contact with the Ball giving a perfect seal even at low pressure. The replaceable seat rings and soft inserts can be supplied in materials to suit most service conditions.

For very high temperatures, sealing is ensured by metal to metal seats whereby the Ball and Seats are coated with Tungsten Carbide and lapped together. Most sizes and classes have Sealant Injection system fitted as standard. This allows emergency sealing to be

carried out in the event of damage to the soft seat.

### STEM

Stems are manufactured separately from the Ball and feature an anti blow-out design. Stems are supported by RPTFE lined bushes, which reduce valve torque. Stem sealing is by O rings and graphite rings. From 2" and above stems are supplied with sealant injection system.

### BALL

Balls are supplied in Forged or Cast Stainless Steel, Duplex or Carbon Steel with ENP. The Trunnion Mounted design reduces operating torque and seat wear.

### ANTI STATIC DEVICE

Electrical conductivity is achieved by fitting a positive contact device between the Stem, Ball and Bonnet.

### DOUBLE BLOCK AND BLEED

Valves are equipped with a vent plug, which allows the cavity to be relieved when pressure is applied to both sides of the Ball simultaneously.

### TESTS

Valves are tested in accordance with BS EN 12266 Pt 1&2, API 6D, API 598 and ASME B16.34

### FIRE TEST CERTIFICATION

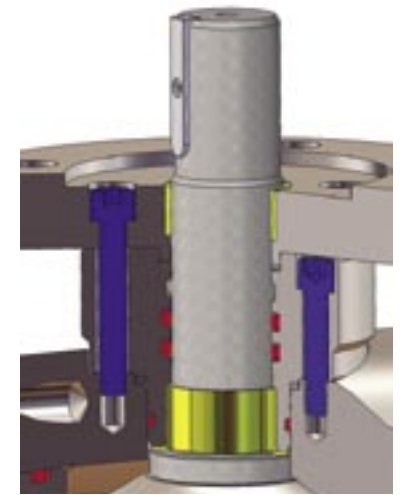
Valves are designed and certified by an Independent Authority according to API 607 and API 6FA.

### EXTERNAL COATING

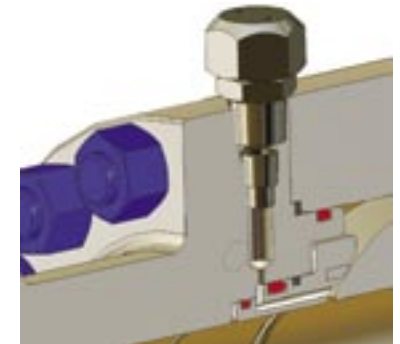
Carbon Steel valves are normally supplied with KVC standard paint finish. Valves can also be unpainted or finished to customers paint specification.

### ACCESSORIES

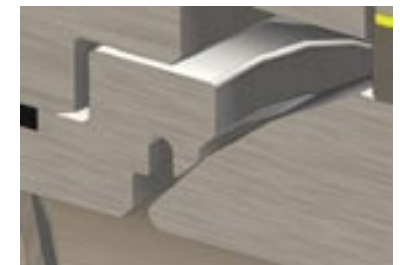
Include locking devices, pipe pups, extended bonnets and actuators. Suitable materials, components, seats and O rings can be supplied for Valves with Explosive Decompression or Cryogenic applications.



Anti-blowout stem



Sealant injection detail



Metal seated design

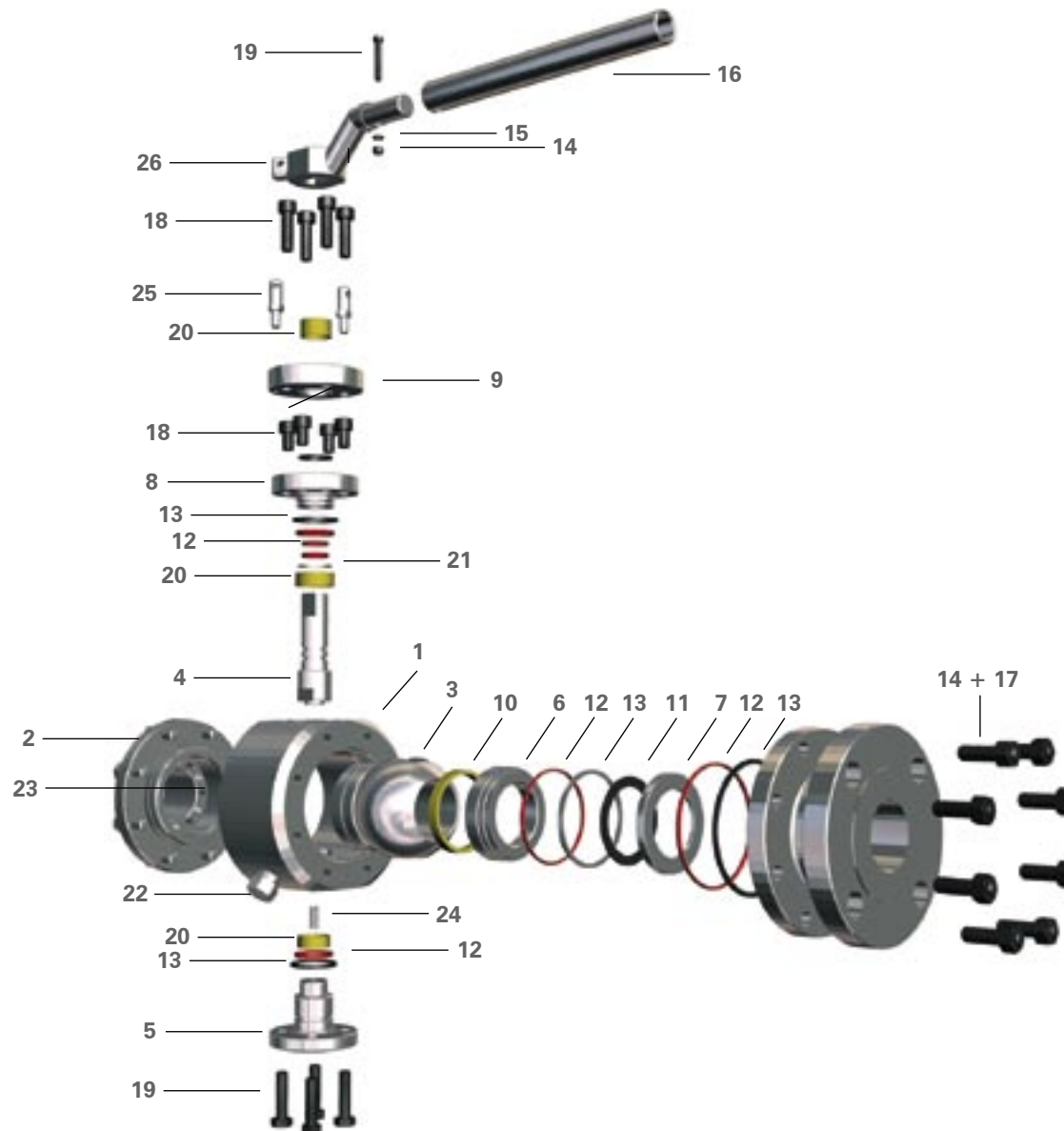
# TRUNNION MOUNTED BALL VALVES

SOFT SEATED DESIGN, 2" TO 6" RB LEVER OPERATED



## No. Description

- 1 Body
- 2 Cap
- 3 Ball
- 4 Stem
- 5 Trunnion Flange
- 6 Seat Retainer
- 7 Seat Follower
- 8 Bonnet
- 9 Bonnet Flange
- 10 Seat Insert
- 11 Seat Spacer
- 12 'O' Ring
- 13 Firesafe Seal



## No. Description

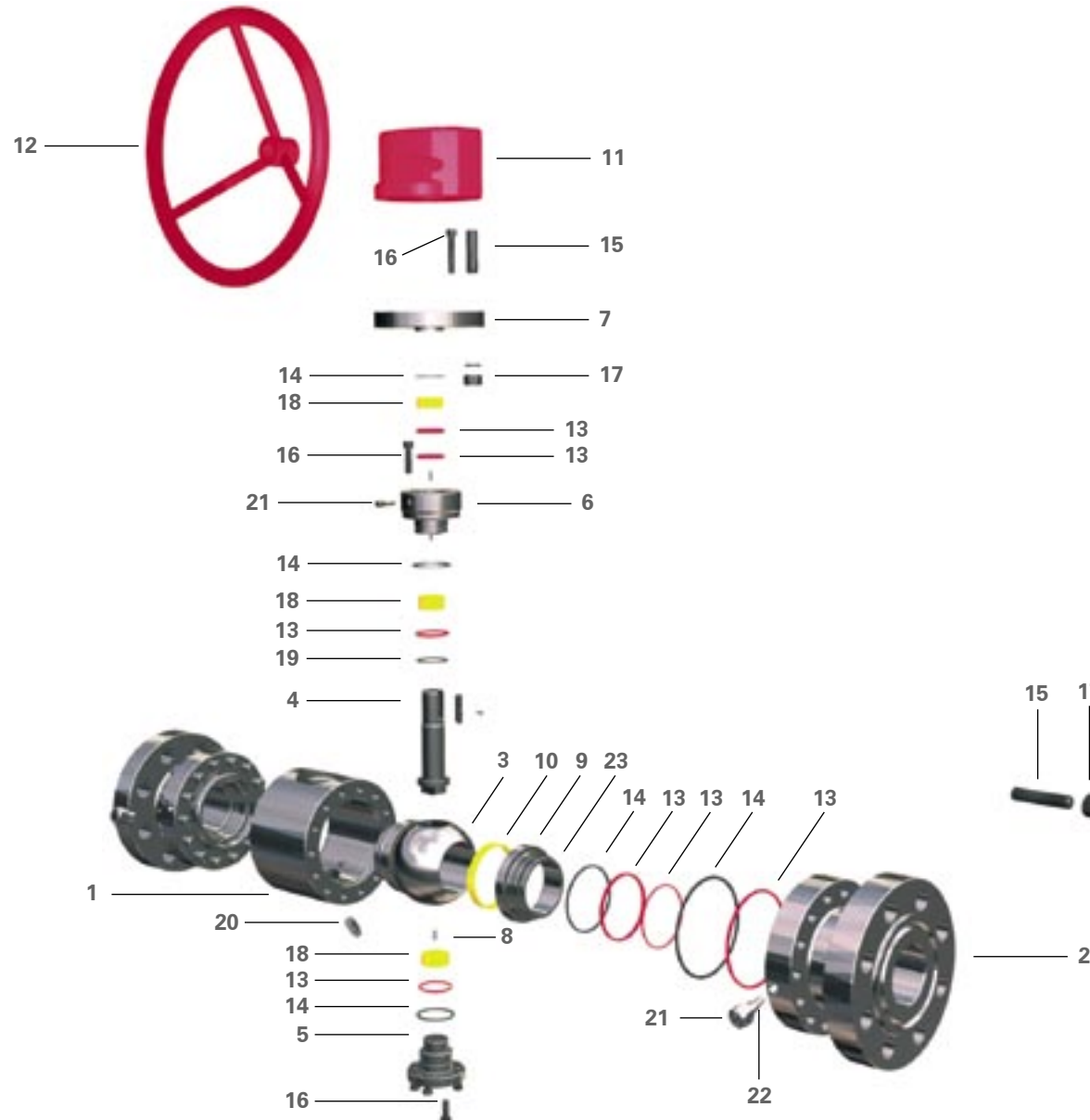
- 14 Nut
- 15 Washer
- 16 Lever Tube
- 17 Stud
- 18 Socket Head Screw
- 19 Hex Head Screw
- 20 Du Bush
- 21 Thrust Washer
- 22 Drain Plug
- 23 Spring
- 24 Anti Static Spring
- 25 Stop Pin
- 26 Lever Head

# TRUNNION MOUNTED BALL VALVES

SOFT SEATED DESIGN, 3" FB TO 6" RB GEAR OPERATED

No.	Description
-----	-------------

- |    |                    |
|----|--------------------|
| 1  | Body               |
| 2  | Cap                |
| 3  | Ball               |
| 4  | Stem               |
| 5  | Trunnion Flange    |
| 6  | Bonnet             |
| 7  | Bonnet Flange      |
| 8  | Anti Static Device |
| 9  | Seat Retainer      |
| 10 | Seat Insert        |
| 11 | Gearbox            |
| 12 | Hand Wheel         |
| 13 | 'O' Ring Seal      |
| 14 | Firesafe Seal      |
| 15 | Studs              |
| 16 | Cap Screws         |
| 17 | Nuts               |
| 18 | Bearing Brush      |
| 19 | Thrust Bearing     |
| 20 | Bleed Plug         |
| 21 | Sealant Fitting    |
| 22 | Check Valve        |
| 23 | Springs            |



## GENERAL NOTES FOR DIMENSIONAL TABLES

1. All sizes given in millimetres and are approximate.
2. All weights given in kgs and are approximate.
3. Weights given for flanged valves include gearbox unless otherwise stated.
4. Dimensions shown may be revised at any time. Use certified dimensional drawings for critical areas.



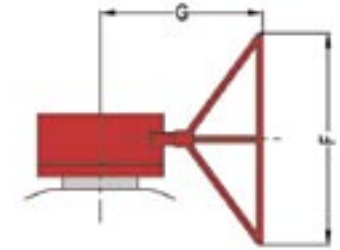
# TRUNNION MOUNTED BALL VALVES



## THREE PIECE TRUNNION MOUNTED • BALL VALVE • CLASS 150

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

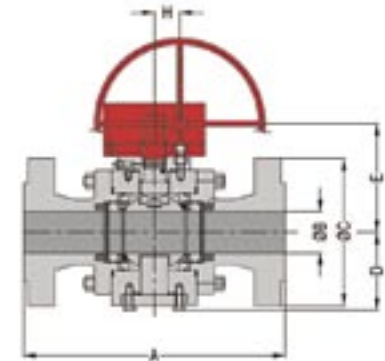
SIZE	A RF	A RTJ	A BWE	ØB	ØB1	C	D	E	F	G	H	WEIGHT
2" x 1 1/2"	178.0	191.0	216.0	38.0	50.0	152.4	161.0	330.0	LEVER OPERATED			29
2" x 2"	178.0	191.0	216.0	50.0	N/A	152.4	161.0	320.0		28		
3" x 2"	203.0	216.0	283.0	50.0	76.0	190.5	161.0	330.0		32		
3" x 3"	203.0	216.0	283.0	77.0	N/A	190.5	189.5	340.0		52		
4" x 3"	229.0	241.0	305.0	77.0	102.0	228.6	189.5	340.0		61		
4" x 4"	229.0	241.0	305.0	102.0	N/A	228.6	218.0	490.0		92		
6" x 4"	394.0	406.0	457.0	102.0	152.0	279.4	218.0	490.0		100		



## THREE PIECE TRUNNION MOUNTED • BALL VALVE • CLASS 300

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

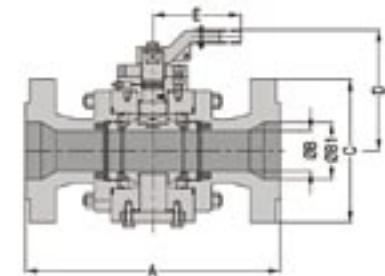
SIZE	A RF	A RTJ	A BWE	ØB	ØB1	C	D	E	F	G	H	WEIGHT
2" x 1 1/2"	216.0	232.0	216.0	38.0	50.0	165.1	161.0	330.0	LEVER OPERATED			35
2" x 2"	216.0	232.0	216.0	50.0	N/A	165.1	161.0	320.0		34		
3" x 2"	283.0	298.0	283.0	50.0	76.0	209.6	161.0	330.0		37		
3" x 3"	283.0	298.0	283.0	77.0	N/A	209.6	189.5	490.0		56		
4" x 3"	305.0	321.0	305.0	77.0	102.0	254.0	189.5	490.0		64		
4" x 4"	305.0	321.0	305.0	102.0	N/A	254.0	218.0	890.0		98		
6" x 4"	403.0	419.0	457.0	102.0	152.0	317.5	218.0	890.0		120		



## THREE PIECE TRUNNION MOUNTED • BALL VALVE • CLASS 600

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A RF	A RTJ	A BWE	ØB	ØB1	C	D	E	F	G	H	WEIGHT	
2" x 1 1/2"	292.0	295.0	292.0	38.1	51.0	165.1	192.0	492.0	LEVER OPERATED			49	
2" x 2"	292.0	295.0	292.0	51.0	N/A	165.1	192.0	492.0		54			
3" x 2"	356.0	359.0	356.0	51.0	76.0	209.6	192.0	492.0		69			
3" x 3"	356.0	359.0	356.0	76.0	N/A	209.6	223.0	752.0		72			
4" x 3"	432.0	435.0	432.0	76.0	102.0	273.0	223.0	752.0		115			
4" x 4"	432.0	435.0	432.0	102.0	N/A	273.1	260.0	147.0		460	224	77.5	130
6" x 4"	562.0	562.0	559.0	102.0	152.0	355.6	154.5	236.5		600	330.0	86.0	240

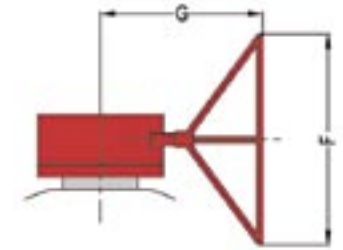


# TRUNNION MOUNTED BALL VALVES

## THREE PIECE TRUNNION MOUNTED • BALL VALVE • CLASS 900

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

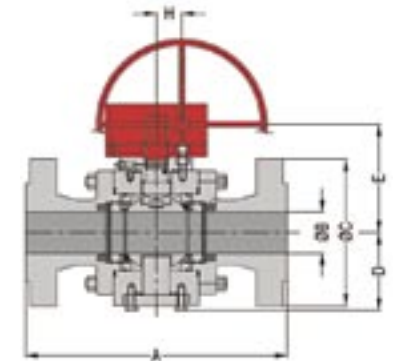
SIZE	A RF	A RTJ	A BWE	ØB	ØB1	C	D	E	F	G	H	WEIGHT
2" x 1 1/2"	368.0	371.0	368.0	38.1	51.0	215.9	192.0	742.0	LEVER OPERATED			65
2" x 2"	368.0	371.0	368.0	51.0	N/A	215.9	192.0	742.0		65		
3" x 2"	381.0	384.0	381.0	51.0	76.0	241.3	192.0	742.0		73		
3" x 3"	381.0	384.0	381.0	76.0	N/A	241.3	225.0	840.0		95		
4" x 3"	457.0	460.0	457.0	76.0	102.0	292.1	225.0	840.0		120		
4" x 4"	457.0	460.0	457.0	102.0	N/A	273.1	205.0	154.5		600	290.0	86.0
6" x 4"	610.0	613.0	610.0	102.0	152.0	381.0	154.5	236.5	600	290.0	86.0	262



## THREE PIECE TRUNNION MOUNTED • BALL VALVE • CLASS 1500

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

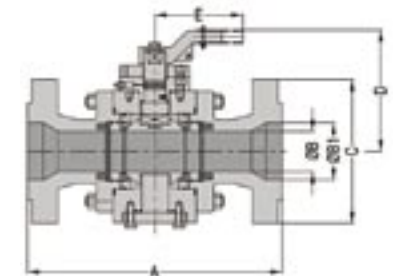
SIZE	A RF	A RTJ	A BWE	ØB	ØB1	C	D	E	F	G	H	WEIGHT
2" x 1 1/2"	368.0	371.0	368.0	38.1	51.0	215.9	195.0	740.0	LEVER OPERATED			66
2" x 2"	368.0	371.0	368.0	51.0	N/A	215.9	192.0	742.0		65		
3" x 2"	470.0	473.0	470.0	50.0	76.0	266.7	142	105		102		
3" x 3"	470.0	473.0	470.0	76.0	N/A	266.7	168	130	300	315	86	130
4" x 3"	546.0	549.0	546.0	76.0	100.0	311.2	168	130	300	315	86	144
4" x 4"	546.0	549.0	546.0	102.0	N/A	311.2	205.0	154.5	600	290.0	86.0	245
6" x 4"	705.0	711.0	705.0	102.0	152.0	393.7	205.0	154.5	600	290.0	86.0	326



## THREE PIECE TRUNNION MOUNTED • BALL VALVE • CLASS 2500

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A RF	A RTJ	A BWE	ØB	ØB1	C	D	E	F	G	H	WEIGHT
2" x 1 1/2"	451	454	451	30	42.0	234.9	197	890	LEVER OPERATED			66
2" x 2"	451	454	451	42	N/A	234.9	199	890		245		
3" x 2"	578	584	578	42	64.0	304.8	199	890		102		
3" x 3"	578	584	578	64	N/A	304.8	158	257	460	224	77.5	200
4" x 3"	673	683	673	64	89.0	355.6	158	257	460	224	77.5	310
4" x 4"	673	683	673	89	N/A	355.6	169	259	610	399	126	450
6" x 4"	914	927	914	89	133.1	483	169	259	610	399	126	540



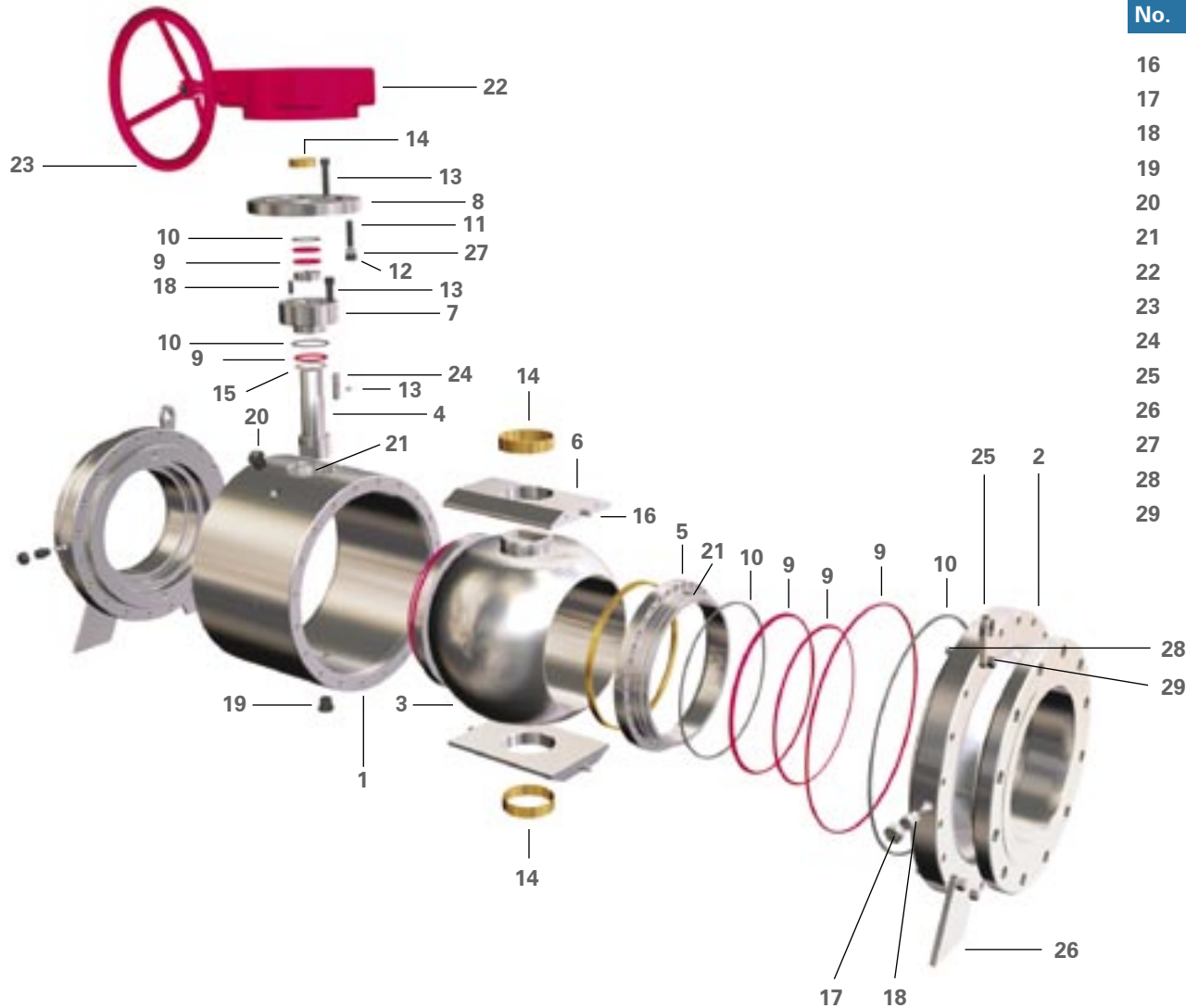
# TRUNNION MOUNTED BALL VALVES

SOFT SEATED DESIGN, 6" FB UPWARDS



## No. Description

- 1 Body
- 2 Cap
- 3 Ball
- 4 Stem
- 5 Seat Retainer
- 6 Bearing Plate
- 7 Bonnet
- 8 Bonnet Flange
- 9 'O' Ring
- 10 Firesafe Seal
- 11 Stud
- 12 Nut
- 13 Cap Screw
- 14 Du Bush
- 15 Thrust Washer



## No. Description

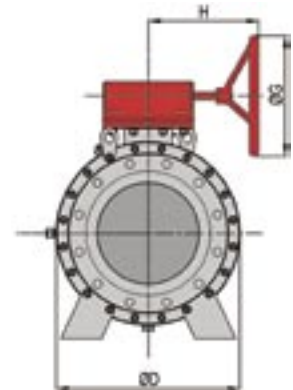
- 16 Dowel Pin
- 17 Sealant Fitting
- 18 Check Valve
- 19 Drain Plug
- 20 Vent Plug
- 21 Spring
- 22 Gearbox
- 23 Handwheel
- 24 Key
- 25 Lifting Lug
- 26 Support Feet
- 27 Spring Washer
- 28 Bolt
- 29 Nut

# TRUNNION MOUNTED BALL VALVES

## 3 PIECE TRUNNION MOUNTED • FULL & REDUCED BORE (CLASS 150)

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

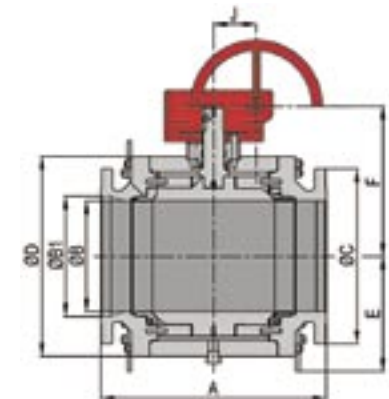
SIZE	A-RF	A-RTJ	A-BWE	ØB	ØB1	ØC	ØD	E	F	ØG	H	J	WT
6" x 6"	394	406	457	152	N/A	279.4	325	200	282	460	224	77.5	168
8" x 6"	457	470	521	152	203	342.9	325	200	282	460	224	77.5	195
8" X 8"	457	470	521	203	N/A	342.9	400	240	322	460	224	77.5	265
10" X 8"	533	546	559	203	254	406.4	400	240	322	460	224	77.5	305
10" x 10"	533	546	559	254	N/A	406.4	490	290	372	610	399	126	496
12" x 10"	610	622	635	254	305	282.6	490	290	372	610	399	126	560
12" x 12"	610	622	635	305	N/A	482.6	560	320	409	610	399	126	710
14" x 12"	686	699	762	305	337	533.4	560	320	409	610	399	126	774
14" x 14"	686	699	762	337	N/A	533.4	610	350	434	610	399	126	912
16" x 14"	762	775	838	337	387	596.9	610	350	434	610	399	126	990
16" x 16"	762	775	838	387	N/A	596.9	680	390	493	762	533.5	138	1253
18" x 16"	864	876	914	387	438	635	680	390	493	762	533.5	138	1355
18" x 18"	864	876	914	438	N/A	635	753	430	530	762	533.5	138	1603
20" x 18"	914	927	991	438	489	698.5	753	430	530	762	533.5	138	1763
20" x 20"	914	927	991	489	N/A	698.5	830	465	569	762	533.5	138	1969
24" x 20"	1067	1080	1143	591	489	812.8	830	465	569	762	533.5	138	2166
24" x 24"	1067	1080	1143	591	N/A	812.8	1000	550	659	762	533.5	138	2389



## 3 PIECE TRUNNION MOUNTED • FULL & REDUCED BORE (CLASS 300)

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A-RF	A-RTJ	A-BWE	ØB	ØB1	ØC	ØD	E	F	ØG	H	J	WT
6" x 6"	403	419	457	152	N/A	317.5	325	200	282	460	224	77.5	184
8" x 6"	502	518	521	152	203	381	325	200	282	460	224	77.5	220
8" x 8"	502	518	521	203	N/A	381	400	240	322	460	224	77.5	298
10" x 8"	568	584	559	203	254	445	400	240	322	460	224	77.5	345
10" x 10"	568	584	559	254	N/A	445	490	290	372	610	399	126	507
12" x 10"	648	664	635	254	305	520.7	490	290	372	610	399	126	590
12" x 12"	648	664	635	305	N/A	520.7	560	320	409	610	399	126	777
14" x 12"	762	778	762	305	337	584.2	560	320	409	610	399	126	883
14" x 14"	762	778	762	337	N/A	584.2	610	350	409	610	399	126	1059
16" x 14"	838	854	838	337	387	647.7	610	350	457	762	533.5	138	1185
16" x 16"	838	854	838	387	N/A	647.7	680	390	493	762	533.5	138	1369
18" x 16"	914	930	914	387	438	711.2	680	390	493	762	533.5	138	1525
18" x 18"	914	930	914	438	N/A	711.2	760	430	533	762	533.5	138	1793
20" x 18"	991	1010	991	438	489	774.7	760	430	533	762	533.5	138	1948
20" x 20"	991	1010	991	489	N/A	774.7	845	475	577	762	533.5	138	2433
24" x 20"	1143	1165	1143	591	489	914.4	845	475	577	762	630.5	230	2972
24" x 24"	1143	1165	1143	591	N/A	914.4	1015	557.5	677.5	762	630.5	230	3416



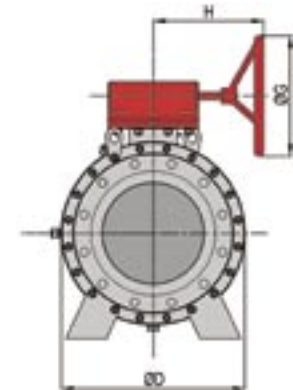
# TRUNNION MOUNTED BALL VALVES



## 3 PIECE TRUNNION MOUNTED • FULL & REDUCED BORE (CLASS 600)

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

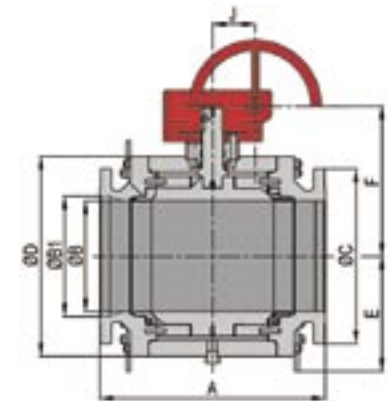
SIZE	A-RF	A-RTJ	A-BWE	ØB	ØB1	ØC	ØD	E	F	ØG	H	J	WT
6" x 6"	559	562	559	152	N/A	356	325	220	282	460	224	77.5	259
8" x 6"	660	664	660	152	203	419	325	220	282	460	224	77.5	312
8" x 8"	660	664	660	203	N/A	419	415	260	336	610	339	126	478
10" x 8"	787	791	787	203	254	508	415	260	336	610	339	126	591
10" x 10"	787	791	787	254	N/A	508	490	300	395	762	534	138	770
12" x 10"	838	841	838	254	305	559	490	300	395	762	534	138	843
12" x 12"	838	841	838	305	N/A	559	580	345	442	762	534	138	1070
14" x 12"	889	892	889	305	337	603.3	580	345	442	762	534	138	1152
14" x 14"	889	892	889	337	N/A	603.3	640	370	471	762	534	138	1218
16" x 14"	991	994	991	337	387	685.8	640	370	471	762	534	138	1486
16" x 16"	991	994	991	387	N/A	685.8	725	413	515	762	534	138	1942
18" x 16"	1092	1095	1092	387	438	743	725	413	515	762	534	138	2050
18" x 18"	1092	1095	1092	438	N/A	743	790	445	561.5	762	631	230	2426
20" x 18"	1194	1200	1194	438	489	812.8	790	445	561.5	762	631	230	2935
20" x 20"	1194	1200	1194	489	N/A	812.8	890	490	612.5	762	631	230	3260
24" x 20"	1397	1407	1397	489	591	939.8	890	490	612.5	762	631	230	3802
24" x 24"	1397	1407	1397	591	N/A	939.8	1060	580	731.5	762	631	230	5173



## 3 PIECE TRUNNION MOUNTED • FULL & REDUCED BORE (CLASS 900)

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A-RF	A-RTJ	A-BWE	ØB	ØB1	ØC	ØD	E	F	ØG	H	J	WT
6" x 6"	610	613	610	152	N/A	381	325	245	282	460	224	77.5	311
8" x 6"	737	740	737	152	203	470	325	245	282	460	224	77.5	410
8" x 8"	737	740	737	203	N/A	470	415	280	358	762	534	138	601
10" x 8"	838	841	838	203	254	546	415	280	358	762	534	138	710
10" x 10"	838	841	838	254	N/A	546	515	315	407	762	534	138	915
12" x 10"	965	968	965	254	305	609.6	515	315	407	762	534	138	1053
12" x 12"	965	968	965	305	N/A	609.6	605	345	454	762	534	138	1348
14" x 12"	1029	1038	1029	305	324	641.4	605	345	454	762	534	138	1435
14" x 14"	1029	1038	1029	324	N/A	641.4	670	385	489	762	534	138	1889
16" x 14"	1130	1140	1130	324	375	704.9	670	385	489	762	534	138	2031
16" x 16"	1130	1140	1130	375	N/A	704.9	740	420	535.5	762	631	230	2359
18" x 16"	1219	1232	1219	375	425	787.4	740	420	535.5	762	631	230	2659
18" x 18"	1219	1232	1219	425	N/A	787.4	840	470	617.5	762	631	230	3217
20" x 18"	1321	1334	1321	425	473	857.3	840	470	617.5	762	631	230	3865
20" x 20"	1321	1334	1321	473	N/A	857.3	935	550	671.5	762	631	230	4193
24" x 20"	1549	1568	1549	473	572	1041.4	935	550	671.5	762	631	230	6278
24" x 24"	1549	1568	1549	572	N/A	1041.4	1135	640	788	700	766	279.5	7263

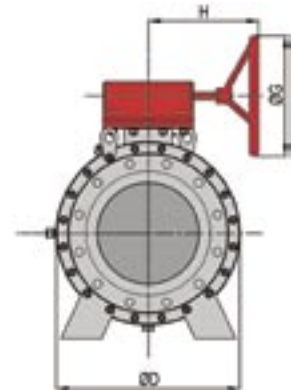


# TRUNNION MOUNTED BALL VALVES

## 3 PIECE TRUNNION BLOCK VALVE • FULL & REDUCED BORE (CLASS 1500)

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

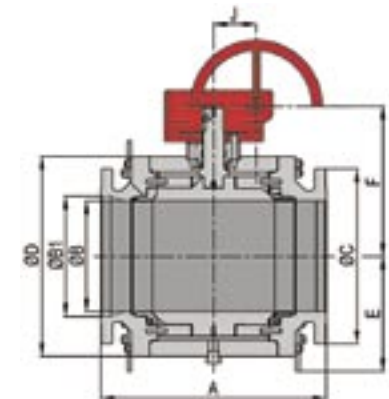
SIZE	A-RF	A-RTJ	A-BWE	ØB	ØB1	ØC	ØD	E	F	ØG	H	J	WT
6" x 6"	705	711	705	146	N/A	393.7	380	250	317	610	399	126	473
8" x 6"	832	841	832	146	194	482.6	380	250	317	610	399	126	647
8" x 8"	832	841	832	194	N/A	482.6	485	300	392	762	533.5	138	877
10" x 8"	991	1000	991	194	241	584.2	485	300	392	762	533.5	138	1095
10" x 10"	991	1000	991	241	N/A	584.2	590	350	450	762	533.5	138	1473
12" x 10"	1130	1146	1130	241	289	673.1	590	350	450	762	533.5	138	1759
12" x 12"	1130	1146	1130	289	N/A	673.1	700	400	525	762	630.5	230	2409
14" x 12"	1257	1276	1257	318	289	749.3	700	400	525	762	630.5	230	2757
14" x 14"	1257	1276	1257	318	N/A	749.3	770	440	585	762	630.5	230	3145
16" x 14"	1384	1407	1384	362	318	825.5	770	440	585	762	630.5	230	3565
16" x 16"	1384	1407	1384	362	N/A	825.5	860	480	629	762	630.5	230	4140
18" x 16"	1537	1559	1537	410	362	914.4	860	480	629	762	630.5	230	4605
18" x 18"	1537	1559	1537	410	N/A	914.4	980	540	710	762	630.5	230	5800
20" x 18"	1664	1686	1664	456	410	984.0	980	540	710	762	630.5	230	6500
20" x 20"	1664	1686	1664	456	N/A	984.0	1080	650	765	1000	605.5	425	8120
24" x 20"	1972	1972	1972	544	456	1170	1080	650	765	1000	605.5	425	9055
24" x 24"	1972	1972	1972	544	N/A	1170	1260	705	780	1000	731.5	402	11300



## 3 PIECE TRUNNION MOUNTED • FULL & REDUCED BORE (CLASS 2500)

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A-RF	A-RTJ	A-BWE	ØB	ØB1	ØC	ØD	E	F	ØG	H	J	WT
6" x 6"	914	927	914	133	N/A	482.6	450	290	381.5	762	533.5	138	932
8" x 6"	1022	1038	1022	133	181	552.5	450	290	381.5	762	533.5	138	1101
8" x 8"	1022	1038	1022	181	N/A	552.5	620	360	474	762	533.5	138	1665
10" x 8"	1270	1292	1270	181	225	673.1	620	360	474	762	533.5	138	2165
10" x 10"	1270	1292	1270	223	N/A	675	771	425.5	577	762	630.5	230	2850
12" x 10"	1422	1445	1422	223	267	762.0	771	425.5	577	762	630.5	230	3605
12" x 12"	1422	1445	1422	267	N/A	762.0	900	500	651.5	762	630.5	230	4528



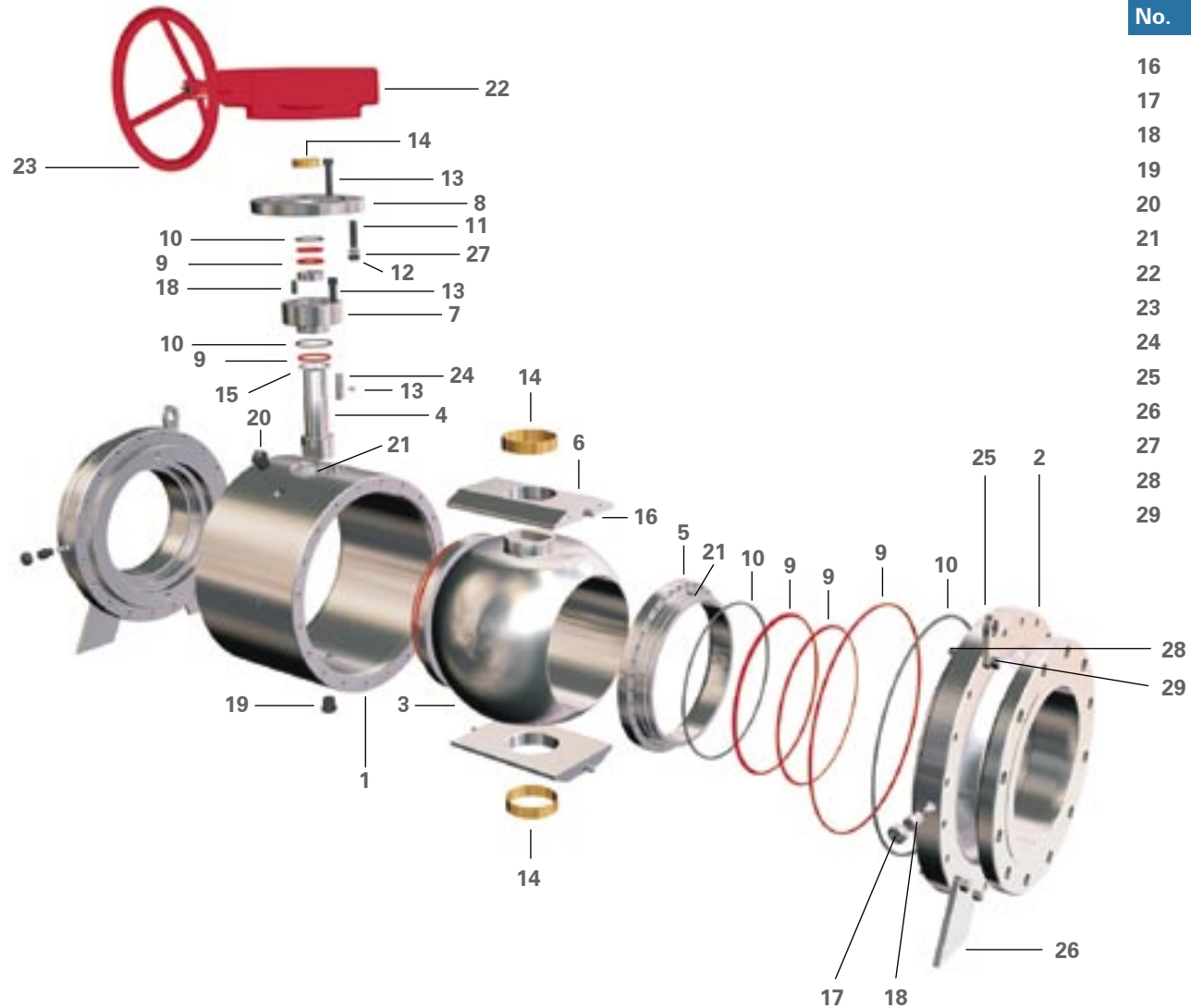
# TRUNNION MOUNTED BALL VALVES

METAL SEATED DESIGN



## No. Description

- 1 Body
- 2 Cap
- 3 Ball
- 4 Stem
- 5 Seat Retainer
- 6 Bearing Plate
- 7 Bonnet
- 8 Bonnet Flange
- 9 'O' Ring
- 10 Firesafe Seal
- 11 Stud
- 12 Nut
- 13 Cap Screw
- 14 Du Bush
- 15 Thrust Washer

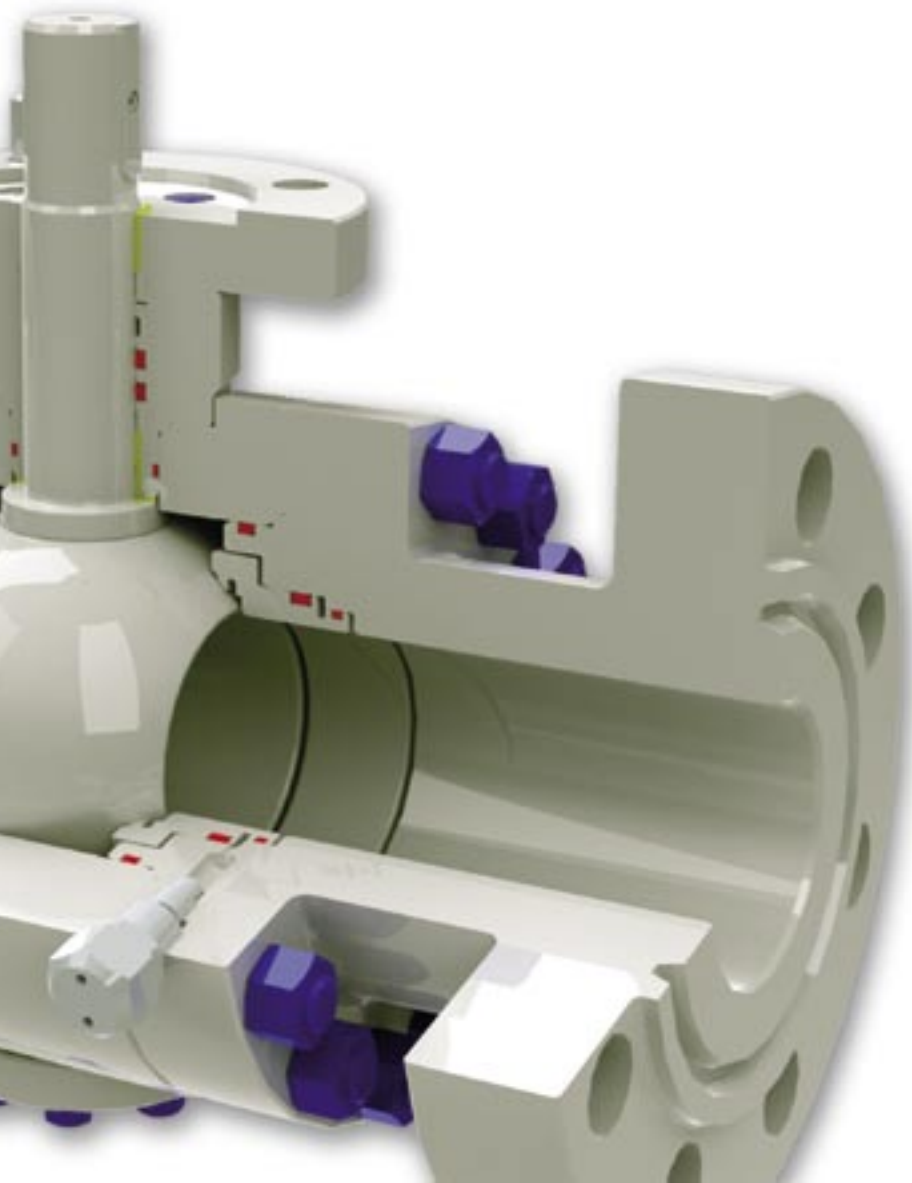


## No. Description

- 16 Dowel Pin
- 17 Sealant Fitting
- 18 Check Valve
- 19 Drain Plug
- 20 Vent Plug
- 21 Spring
- 22 Gearbox
- 23 Handwheel
- 24 Key
- 25 Lifting Lug
- 26 Support Feet
- 27 Spring Washer
- 28 Bolt
- 29 Nut

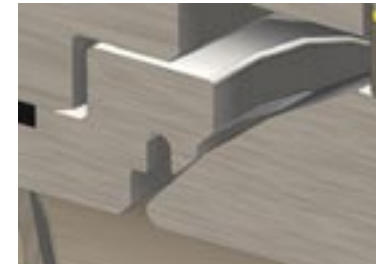
# TRUNNION MOUNTED BALL VALVES

## METAL SEATED DESIGN



KVC (UK) Ltd design, manufacture and supply a range of metal seated ball valves from 1" up to 48", CL150 - CL2500 and API 5000 & 10000.

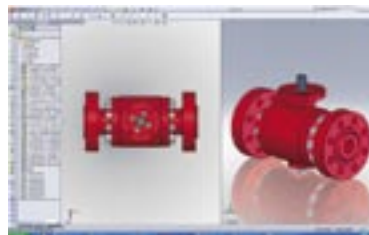
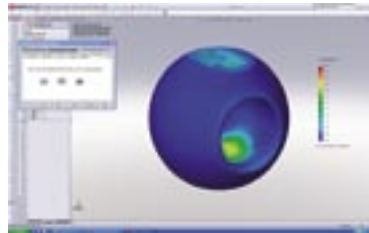
(All dimensions and approx weights are as the Trunnion mounted tables.)



**Hard faced metal to metal seating contact.**



**Metal seal on ball illustration.**



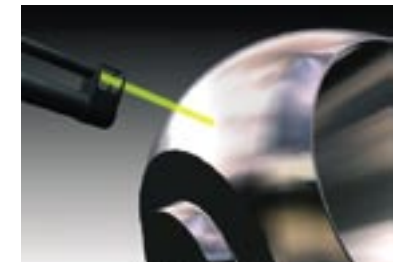
Latest computer aided design technology used throughout all stages of product realisation.

Metal seated valves are manufactured in various sealing arrangements from o-rings or enerseals or full grafoil construction to suit the required environment and operating conditions, including high temperature and abraivse service.

The ball and seat sealing faces are coated with a hard surface material and individually paired and lapped together for efficient sealing.

Hard Coatings available are:

- Stellite**
- Chrome Carbide**
- Tungsten Carbide**
- Plasma**



**Coating process illustration.**

These are selected either by customer specification or KVC (UK) Ltd engineering department recommendation for advised application.



# FLOATING BALL VALVES



# TECHNICAL FEATURES

## FLOATING BALL DESIGN

### DESIGN

Floating Ball valves are manufactured in three main types;  
One piece End Entry Type.  
Two Piece Bolted Construction.  
Three Piece Bolted Construction.

Valves can be supplied Full or Reduced Bore and are manufactured in either cast or forged construction.

Bolted and Screwed Body connections give ease of service and maintenance on site.

Valves can be supplied with either Raised Face, Ring Type Joint, Socket Weld or Screwed End connections.

Pressure rating is from ANSI 150 thru ANSI 2500. Higher pressures can be supplied on request.

Valves are supplied with Lever or Gear Operator.

### MATERIAL SELECTION

Valves are manufactured in a range of materials such as Carbon Steel, Low Temp Carbon Steel, Stainless Steel, Duplex, Super Duplex, Monel, Inconel and other Special Alloys.

### BODY / CAP SEAL

Graphite rings, O rings or PTFE Seals guarantee perfect sealing between Body and Cap. The Graphite ring continues to provide a seal in the event of a fire. O rings can be supplied suitable for AED applications.

### SEAT

Valve seat design provides a perfect seal with various materials in both high and low pressure applications.

### STEM

Stems are manufactured separately from the Ball, and incorporate O Rings, Graphite rings and Anti-static devices.

### BALL

Balls are supplied in Forged or Cast Stainless Steel, Duplex or Carbon Steel with ENP.

### TESTS

Valves are tested in accordance with BS EN 12266, API 6D, API 598 and ASME B16.34

### FIRE TEST CERTIFICATION

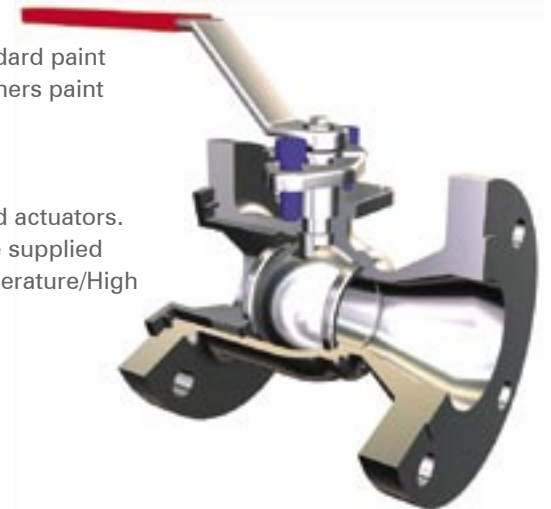
Valves are designed and certified by an Independent Authority according to API 607 and API 6FA.

### EXTERNAL COATING

Carbon Steel valves are normally supplied with KVC standard paint finish. Valves can also be supplied unpainted or to customers paint specification.

### ACCESSORIES

Include locking devices, pipe pups, extended bonnets and actuators. Suitable materials, components, seats and O rings can be supplied for valves with Anti Explosive Decompression, Low Temperature/High Temperature or Cryogenic applications.



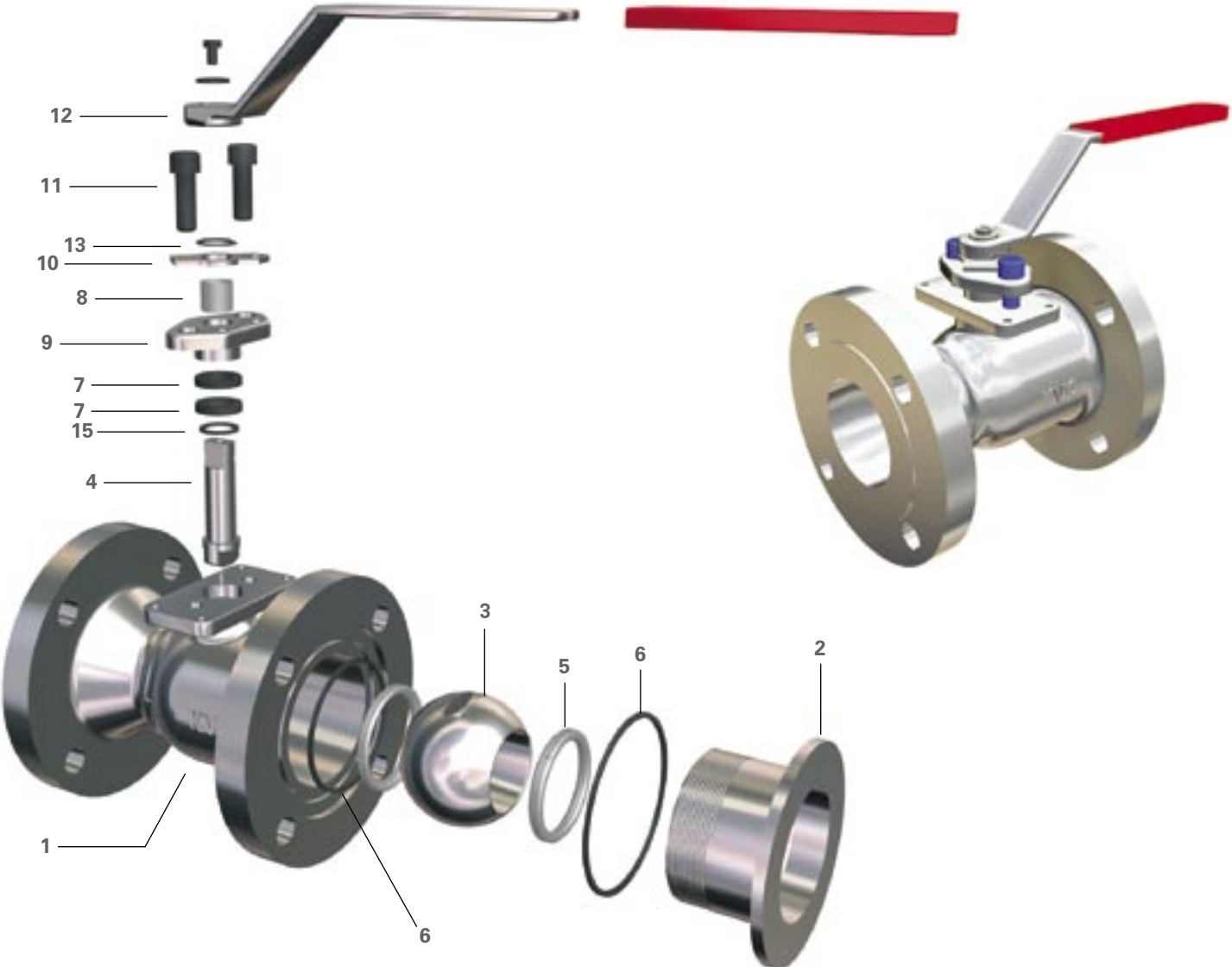
# FLOATING BALL VALVES

UNI BODY, 1 PIECE DESIGN



**No. Description**

- 1 Body
- 2 Insert
- 3 Ball
- 4 Stem
- 5 Seat
- 6 Gasket
- 7 Packing
- 8 Bearing
- 9 Gland Flange
- 10 Stopper
- 11 Gland Bolt
- 12 Handle
- 13 Snap Ring
- 14 Anti Static (Not shown)
- 15 Thrust Washer



# FLOATING BALL VALVES

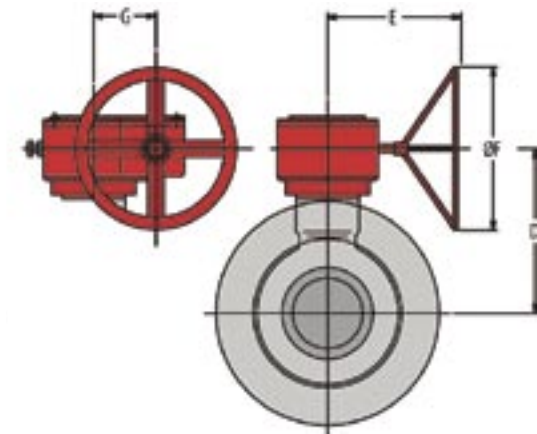
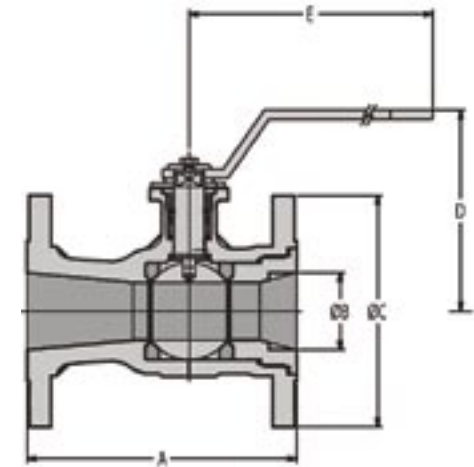
## UNIBODY 1 PIECE DESIGN

### ONE PIECE FLOATING BALL • REDUCED BORE • CLASS 150 DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A	B	C	D	E	F	G	H	WEIGHT
RF									
1/2" x 3/8"	108.0	15.0	89.0	78.0	153.0	LEVER OPERATED			1.6
3/4" x 1/2"	117.0	20.0	99.0	78.0	153.0				2.5
1" x 3/4"	127.0	25.0	108.0	98.0	220.0				3.0
1 1/2" x 1 1/4"	165.1	38.0	127.0	118.0	250.0				6.0
2" x 1 1/2"	177.8	51.0	152.0	133.0	250.0				9.0
3" x 2"	203.2	76.0	191.0	156.0	250.0				16.0
4" x 3"	228.6	100.0	229.0	189.0	350.0				28.0
6" x 4"	393.7	150.0	279.0	209.0	460.0				50.0
8" x 6"	457.2	203.0	343.0	305.0	800.0				83.0
10" x 8"	533.4	254.0	406.0	335.0	800.0				375.0
8" x 6"	457.2	203.0	343.0	172.0	268.0	310.0	82.5	166.0	95.0
10" x 8"	533.4	254.0	406.0	203.0	298.0	310.0	82.5	166.0	160.0

### ONE PIECE FLOATING BALL • REDUCED BORE • CLASS 300 DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A	B	C	D	E	F	G	H	WEIGHT
RF									
1/2" x 3/8"	140.0	15.0	95.0	78.0	152.5	LEVER OPERATED			2.5
3/4" x 1/2"	152.0	20.0	117.0	80.0	153.0				4.2
1" x 3/4"	165.0	25.0	124.0	98.0	220.0				4.8
1 1/2" x 1 1/4"	190.5	38.0	156.0	118.0	250.0				8.6
2" x 1 1/2"	215.9	51.0	165.0	133.0	250.0				12
3" x 2"	282.58	76.0	210.0	156.0	250.0				24
4" x 3"	304.8	100.0	254.0	189.0	350.0				39
6" x 4"	403.23	150.0	318.0	209.0	460.0				65
8" x 6"	501.65	203.0	381.0	305.0	800.0				140
8" x 6"	501.65	203.0	381.0	190.5	268.0		310.0	82.5	166.0
10" x 8"	568.33	254.0	455.0	22.5	301.0	355.0	97.5	210.0	210



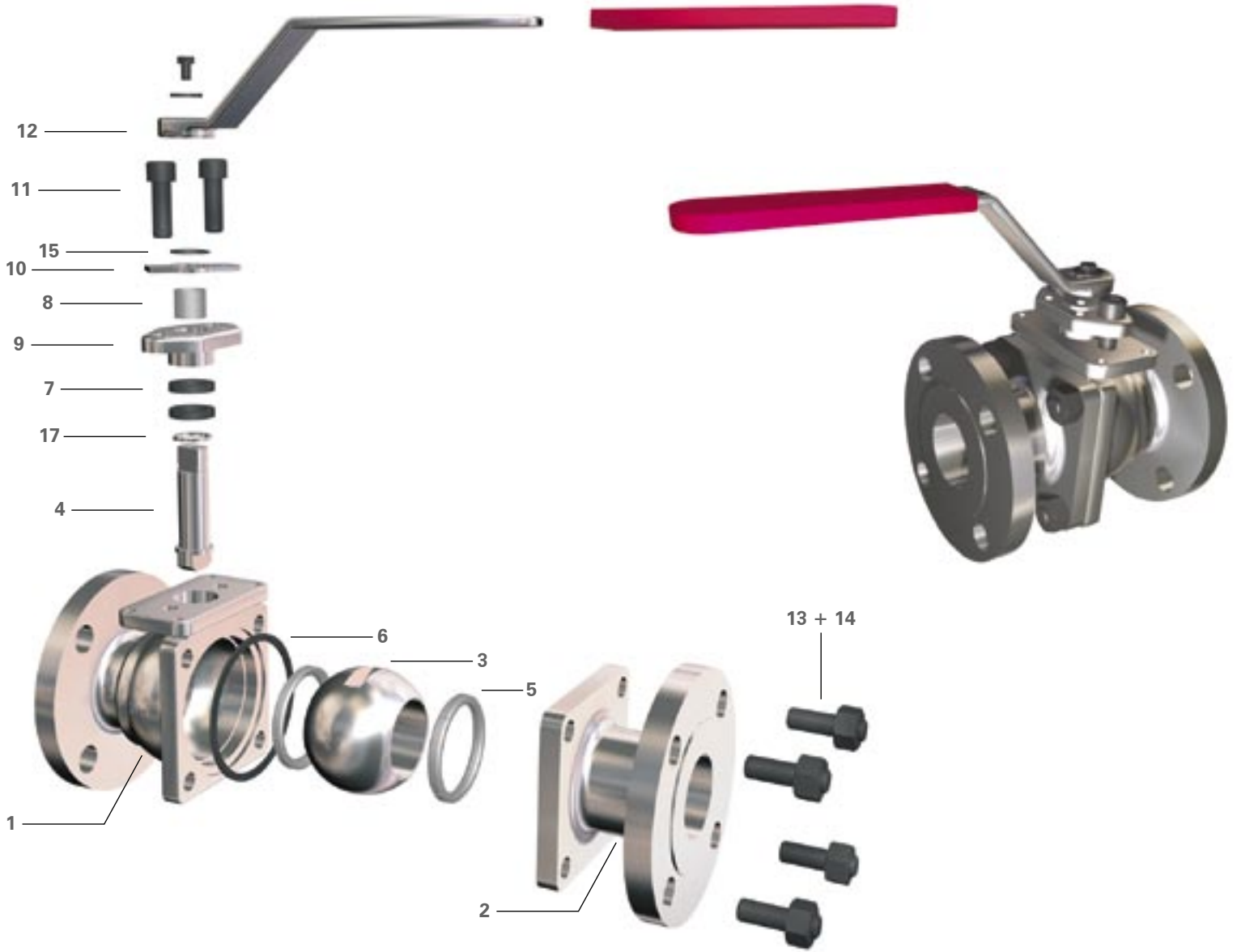
# FLOATING BALL VALVES

SPLIT BODY, 2 PIECE DESIGN



No.	Description
-----	-------------

- |    |                         |
|----|-------------------------|
| 1  | Body                    |
| 2  | Cap                     |
| 3  | Ball                    |
| 4  | Stem                    |
| 5  | Seat                    |
| 6  | Gasket                  |
| 7  | Packing                 |
| 8  | Bearing                 |
| 9  | Gland Flange            |
| 10 | Stopper                 |
| 11 | Gland Bolt              |
| 12 | Handle                  |
| 13 | Body Stud               |
| 14 | Body Nut                |
| 15 | Snap Ring               |
| 16 | Anti Static (not shown) |
| 17 | Thrust Washer           |

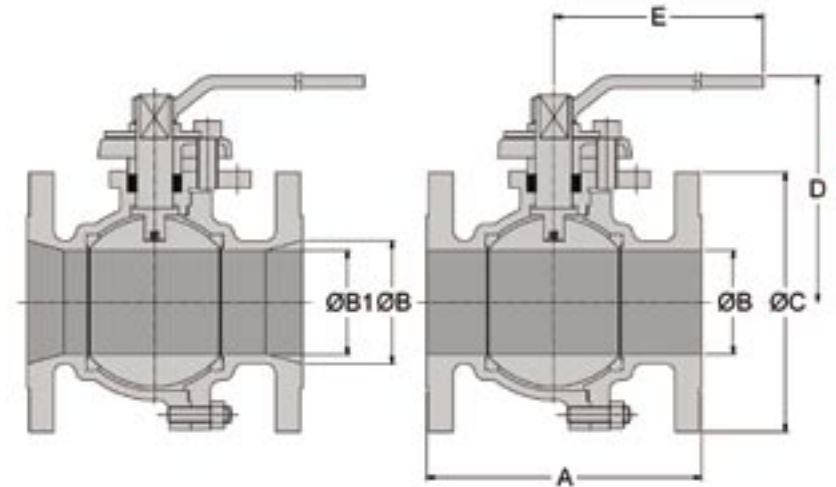
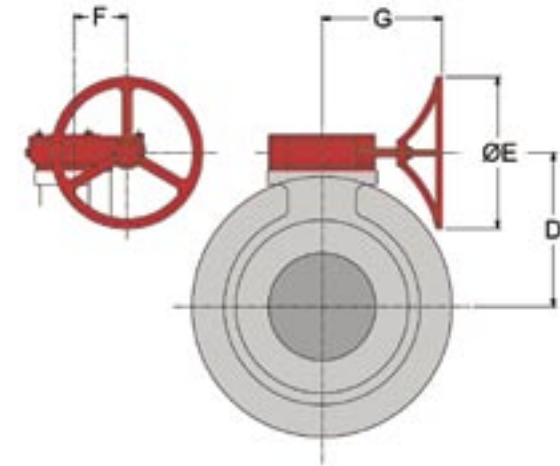


# FLOATING BALL VALVES

## SPLIT BODY 2 PIECE DESIGN

### TWO PIECE FLOATING BALL • FULL AND REDUCED BORE • CLASS 150 DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A	B	B1	C	D	E	F	G	WEIGHT
RF									
1/2" x 1/2"	108.0	15.0	N/A	88.9	98.1	130.0	LEVER OPERATED		2.1
3/4" x 3/4"	117.6	19.8	N/A	98.6	100.6	130.0		2.6	
1" x 1"	127.0	25.4	N/A	108.0	111.5	130.0		3.5	
1 1/2" x 1 1/4"	165.1	38.1	31.8	127.0	139.0	299.7		6.2	
1 1/2" x 1 1/2"	165.1	38.1	N/A	127.0	139.0	299.7		7.0	
2" x 1 1/2"	177.8	50.8	38.1	152.4	139.0	299.7		9.0	
2" x 2"	177.8	50.8	N/A	152.4	145.1	299.7		9.4	
2 1/2" x 2"	190.5	63.5	50.8	177.8	145.1	299.7		13.2	
3" x 2"	203.2	76.2	63.5	190.5	182.9	398.8		18.5	
3" x 3"	203.2	76.2	N/A	190.5	192.1	398.8		20.7	
4" x 3"	228.6	101.6	76.2	228.6	192.1	398.8		27.2	
4" x 4"	228.6	101.6	N/A	228.6	220.5	500.4		33.4	
6" x 4"	266.7	152.4	101.6	279.4	220.5	500.4		45.6	
6" x 6"	393.7	152.4	N/A	279.4	296.7	800.1		76.7	
8" x 6"	292.1	203.2	152.4	342.9	296.7	800.1		89.0	
6" x 6"	393.7	152.4	N/A	279.4	253.0	299.7		89.9	240.0
8" x 6"	292.1	203.2	152.4	342.9	253.0	299.7	89.9	240.0	97
8" x 8"	457.2	203.2	N/A	203.2	304.0	398.8	89.9	350.5	134
10" x 8"	330.2	254.0	203.2	406.4	304.8	398.8	89.9	350.5	152
10" x 10"	533.4	254.0	N/A	254.0	348.0	500.0	141.5	350.5	224



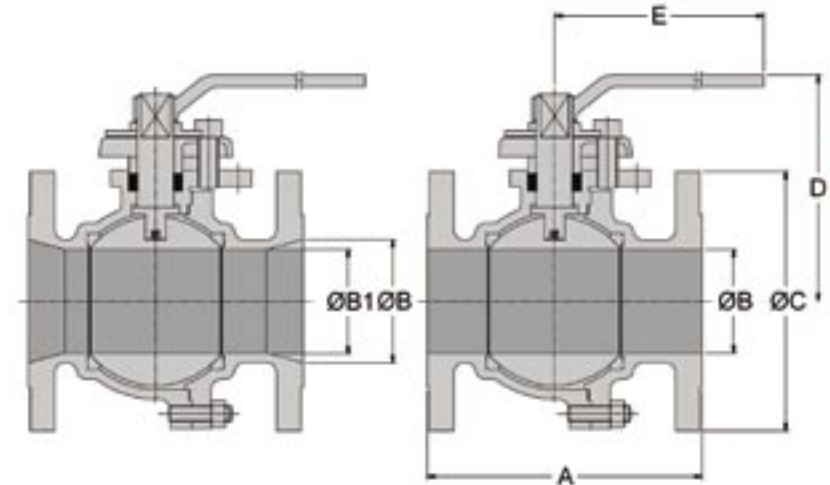
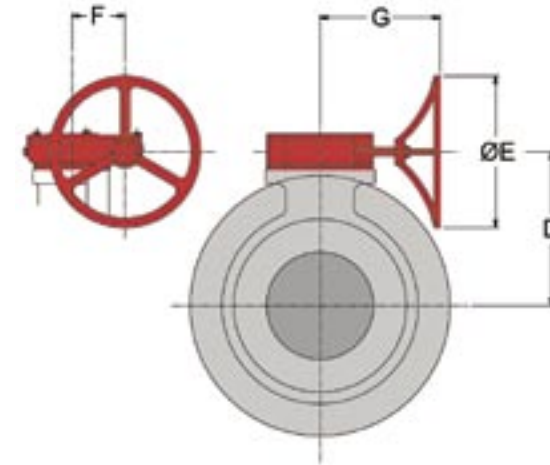
# FLOATING BALL VALVES

SPLIT BODY 2 PIECE DESIGN



**TWO PIECE FLOATING BALL • FULL AND REDUCED BORE • CLASS 300**  
**DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS**

SIZE	A RF	B	B1	C	D	E	F	G	WEIGHT
1/2" x 1/2"	139.7	15.0	N/A	95.3	98.1	130.0	LEVER OPERATED		2.4
3/4" x 3/4"	152.4	19.8	N/A	117.3	100.6	130.0		4.2	
1" x 1"	165.1	25.4	N/A	124.0	111.5	130.0		5.4	
1 1/2"x1 1/4"	165.1	38.1	31.8	127.0	139.0	299.7		6.0	
1 1/2"x1 1/2"	190.5	381.0	N/A	155.4	139.0	299.7		11.2	
2" x 1 1/2"	177.8	50.8	38.1	152.4	139.0	299.7		8.0	
2" x 2"	215.9	50.8	N/A	165.1	145.1	299.7		13.8	
2 1/2" x 2"	190.5	63.5	50.8	177.8	145.1	299.7		13.2	
3" x 2"	203.2	76.2	63.5	190.5	182.9	398.8		16.8	
3" x 3"	282.6	76.2	N/A	209.6	195.6	398.8		31.6	
4" x 3"	228.6	101.6	76.2	228.6	192.1	398.8		26.2	
4" x 4"	304.8	101.6	N/A	254.0	220.5	500.4		47.6	
6" x 4"	266.7	152.4	101.6	279.4	220.5	500.4		46.4	
6" x 6"	403.2	152.4	N/A	317.5	296.7	800.1		99.6	
8" x 6"	292.1	203.2	152.4	342.9	296.7	800.1	91.0		
6" x 6"	403.2	152.4	N/A	317.5	253.0	299.7	74.9	317.5	118
8" x 6"	292.1	203.2	152.4	342.9	253.0	299.7	89.9	240.0	89
8" x 8"	501.7	203.2	N/A	381.0	304.8	398.8	89.9	350.5	171
10" x 8"	330.2	254.0	203.2	406.4	304.8	398.8	89.9	350.5	152
10" x 10"	568.3	254.0	N/A	444.5	348.0	500.0	141.5	350.5	288
12" x 10"	355.6	304.8	254.0	482.6	348.0	500.4	141.5	350.5	246

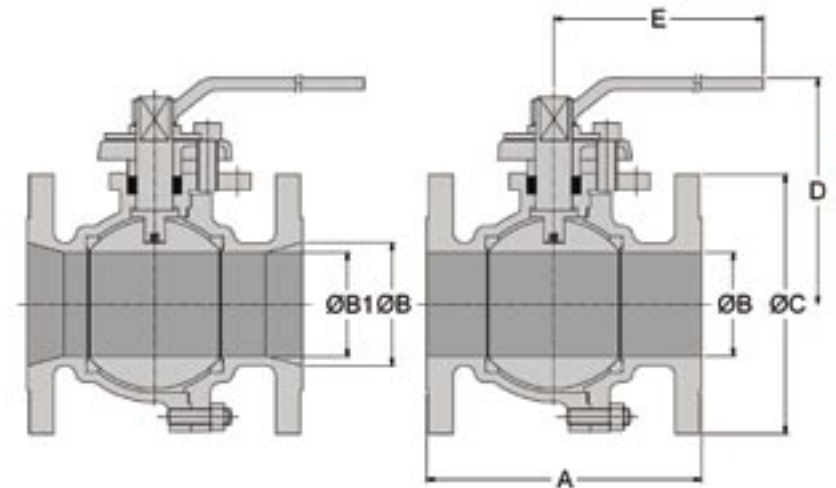
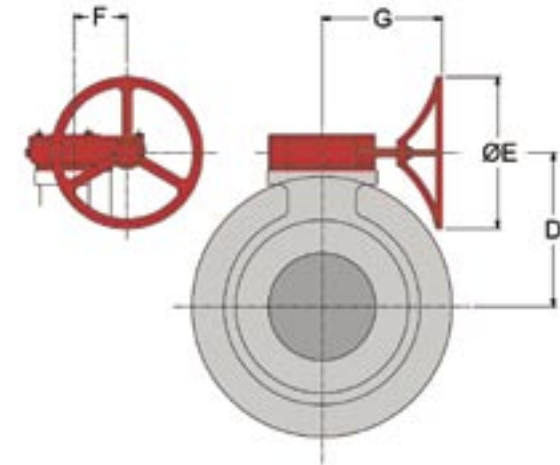


# FLOATING BALL VALVES

## SPLIT BODY 2 PIECE DESIGN

### TWO PIECE FLOATING BALL • FULL AND REDUCED BORE • CLASS 600 DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A RF	B	B1	C	D	E	F	G	APPROX WEIGHT KG
1/2" x 1/2"	165.1	15.0	N/A	95.3	113.1	150.0	LEVER OPERATED		3.7
3/4" x 3/4"	190.5	198.0	N/A	117.3	112.5	150.0		5	
1" x 1"	215.9	25.4	N/A	124.0	163.1	300.0		7	
1 1/2"x1 1/2"	241.3	38.1	N/A	155.4	171.1	300.0		13	
2" x 1 1/2"	292.1	51.0	38.1	165.1	125.0	365.0		18	
2" x 2"	292.1	51.0	N/A	165.1	130.0	365.0		26	
3" x 2"	355.6	76.0	51.0	209.5	130.0	365.0		30	
3" x 3"	355.6	76.0	N/A	209.5	195.0	365.0		53	
4" x 3"	432.0	100.0	76.0	273.0	195.0	365.0		67	
4" x 4"	431.8	100.0	N/A	273.0	248.0	800.0		93	
6" x 4"	558.8	152.0	100.0	355.6	248.0	800.0	120		
6" x 6"	558.8	152.0	N/A	355.6	295.0	800.0	178		
8" x 6"	660.1	203.0	152.0	419.1	295.0	800.0	182		
3" x 3"	355.0	76.0	N/A	209.5	195.0	310.0	60		
4" x 3"	432.0	100.0	76.0	273.0	195.0	310.0	74		
4" x 4"	432.0	100.0	N/A	273.0	248.0	310.0	62.5	165.0	100
6" x 4"	559.0	152.0	100.0	355.6	248.0	310.0	62.5	165.0	127
6" x 6"	559.0	152.0	N/A	355.6	295.0	355.0	97.5	210.0	185
8" x 6"	660.4	203.0	152.0	419.1	295.0	355.0	97.5	210.0	189





# FLOATING BALL VALVES

## SPLIT BODY 2 PIECE DESIGN



### TWO PIECE FLOATING BALL • REDUCED BORE • CLASS 900

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A RF	A RTJ	A BWE	B	B1	C	D	E	WEIGHT
1/2" x 1/2"	216.0	216.0	216.0	14.0	N/A	120.6	95.0	276.0	12
3/4" x 1/2"	229.0	229.0	229.0	14.0	20.0	130.0	95.0	276.0	14
3/4" x 3/4"	229.0	229.0	229.0	19.0	N/A	130.0	95.0	276.0	18
1" x 3/4"	254.0	254.0	254.0	19.0	25.0	149.3	95.0	276.0	20
1" x 1"	254.0	254.0	254.0	25.0	N/A	149.3	105.0	276.0	24
1 1/2" x 1 1/2"	305.0	305.0	305.0	38.0	N/A	117.8	130.0	365.0	32
2" x 1 1/2"	368.0	368.0	368.0	38.0	50	216.0	130.0	365.0	35

### TWO PIECE FLOATING BALL • REDUCED BORE • CLASS 1500

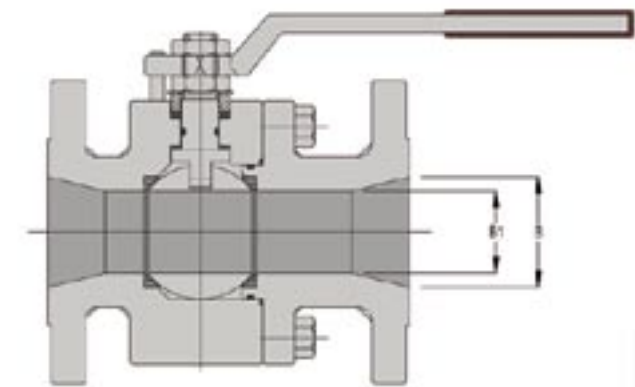
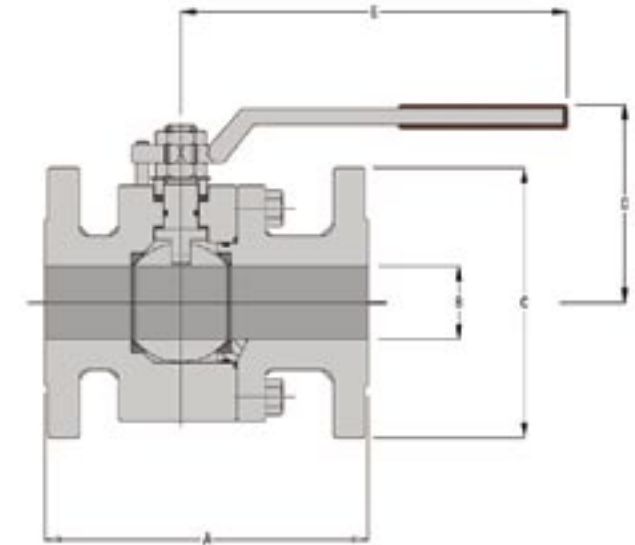
DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A RF	A RTJ	A BWE	B	B1	C	D	E	WEIGHT
1/2" x 1/2"	216.0	216.0	216.0	14.0	N/A	120.6	95.0	276.0	16
3/4" x 1/2"	229.0	229.0	229.0	14.0	20.0	130.0	95.0	276.0	14
3/4" x 3/4"	229.0	229.0	229.0	19.0	N/A	130.0	95.0	276.0	18
1" x 3/4"	254.0	254.0	254.0	19.0	25.0	149.3	95.0	276.0	20
1" x 1"	254.0	254.0	254.0	25.0	N/A	149.3	105.0	276.0	26
1 1/2" x 1 1/2"	305.0	305.0	305.0	38.0	N/A	177.8	130.0	365.0	32
2" x 1 1/2"	368.0	368.0	368.0	38.0	50.0	216.0	130.0	365.0	35

### TWO PIECE FLOATING BALL • REDUCED BORE • CLASS 2500

DIMENSIONS IN MILLIMETRES AND WEIGHT IN KILOGRAMS

SIZE	A RF	A RTJ	A BWE	B	B1	C	D	E	WEIGHT
1/2" x 1/2"	264.0	264.0	264.0	14.0	N/A	133.3	95.0	276.0	18
3/4" x 1/2"	273.0	273.0	273.0	14.0	20.0	139.7	95.0	276.0	18
3/4" x 3/4"	273.0	273.0	273.0	19.0	N/A	139.7	95.0	276.0	25
1" x 3/4"	308.0	308.0	308.0	19.0	25.0	158.7	95.0	276.0	25
1" x 1"	308.0	308.0	308.0	19.0	N/A	158.7	105.0	276.0	33



# KVC UK Ltd

Federal International (2000)



**Extensive Valve Testing Facilities**  
(2" up to 48")

**Metal to Metal Seated Valves**

**Bespoke Design**

**Energised Lipseals**

**Fugitive Emission Testing**  
(in accordance with MESC 77/312)

**Low Temperature  
and Cryogenic  
Applications**

**Subsea Valves**

**Fire Testing**  
(API 607 5th Edition)

**High Temperature Applications**

**Double Piston Effect Sealing**





# SEALING TECHNOLOGY

## SEAT TYPE AND ARRANGEMENT

### SEAT MATERIALS

#### PCTFE

Capable of higher loads than PTFE. Good low temperature strength, excellent chemical resistance.

#### FILLED PTFE

Mixed with an inert filler at the processing stage to give a stiffer material than virgin polymer, this material gives good chemical resistance and low coefficient of friction.

#### DEVLON V (MONOCAST NYLON)

For services higher than filled PTFE, Devlon V gives good resistance to oils, greases and solvents. Its low water absorption gives superior dimensional stability.

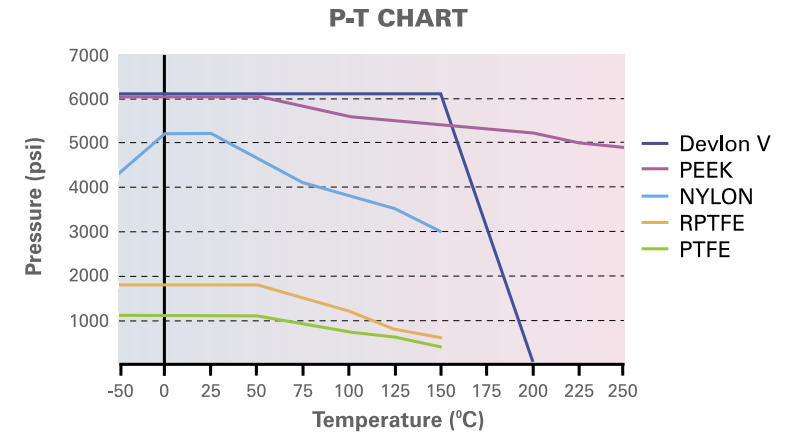
#### PEEK

This material is an abrasion resistant high performance thermo plastic which retains good tensile and flexural properties at temperatures in excess of plus 250 degrees C.

#### METAL SEATED

Tungsten or plasma coating provides sealing for extremely high temperatures and abraasive services.

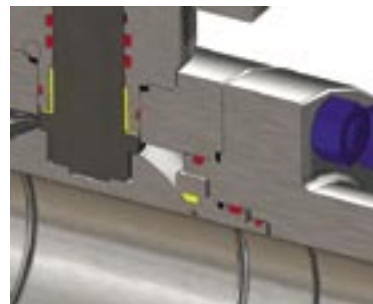
The ball and seat retainer sealing face are lapped and paired together before and after coating to ensure a high integrity seal.



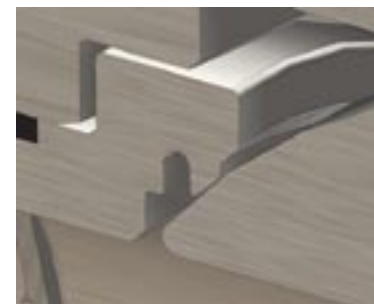
**OPTIONAL: Double Piston Seated Arrangement**

Pressure upstream and downstream of the seat creates a resultant push of the seat ring onto the ball, with this option any pressure in the cavity will also have a resultant push of the seat ring onto the ball.

This option is available as either single or double sided to each valve. Consideration must be given to cavity pressure relief valve if valve is fitted with double piston type seats to both sides.



KVC (UK) Ltd ball valve soft seated (Single Piston) arrangement.



KVC (UK) Ltd ball valve metal seated.



Various soft seats available within the KVC (UK) Ltd ball valve range.

# SEALING TECHNOLOGY

## O-RINGS AND GASKETS



Image courtesy of James Walker



Image courtesy of Klingner



Image courtesy of Precision Polymer Engineering

### SEAL MATERIALS

#### VITON® (FKM)

Shore hardness 90. Excellent resistance to petroleum products and solvents.

#### NITRILE (NBR)

Shore hardness 90. Good general purpose material.

#### FLUOROSILICONE

Suitable for low temperature applications.

#### VITON® AED

Shore hardness 90. Grades such as FR58-90 and Endura V91J\*.

#### HNBR AED

Shore hardness 90. Grades such as Endura Z95X and Elastolion 985/101®\*.

#### FFKM

Superior chemical resistance and high temperature performance to most other o-ring grades. Grades such as Kalrez® and Perlast.

#### ENERGISED LIP SEALS.

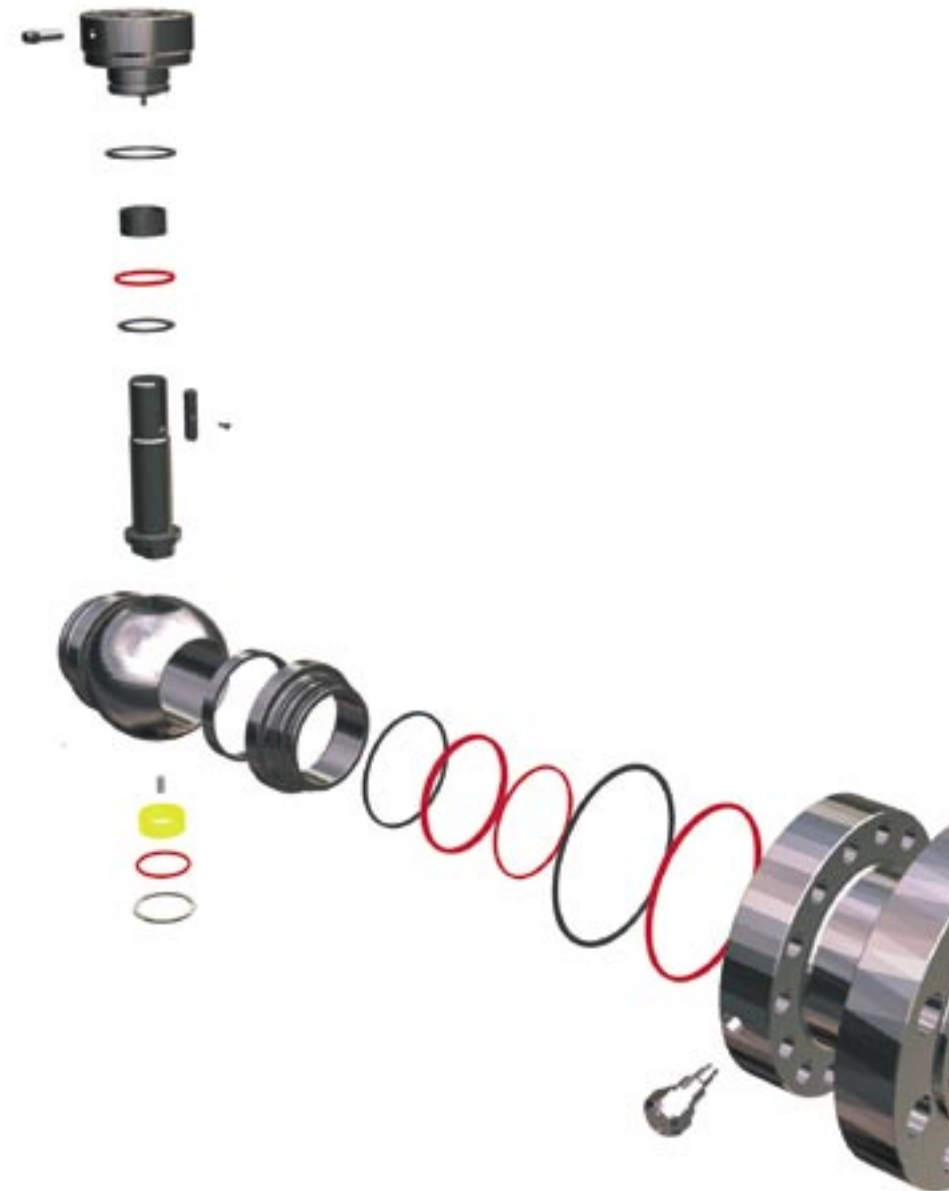
Used in more extreme temperature or pressure conditions. Available in a wide range of springs from 316 to Inconel and seal material varying from PTFE to PEEK depending on application.

\* O-rings specified as explosive decompression resistant tested, will be in accordance with Norsok M-710 testing specification.

#### FIRESAFE MATERIAL

Natural Graphite is purified, expanded, and pressed into a typical hexagonal crystalline structure of Graphite which remains permanently flexible.

Supplied in moulded ring form it is suitable for temperatures of minus 250 deg C to plus 2500 deg C in non-oxidising atmosphere and up to plus 500 deg C in oxygen. Its features include natural resilience, self lubricating, almost chemically inert, no fillers or binders and no structural change against pressure, temperature or time. Metal Seated valves suitable for high temperature and abrasive service have a full grafoil sealing arrangement.



# FIGURE NUMBER

<b>K</b>	<b>09</b>	<b>2</b>	<b>4</b>	<b>T</b>
<b>TYPE OF BORE</b>	<b>ANSI CLASS</b>	<b>BODY MATERIAL</b>	<b>TRIM MATERIAL</b>	<b>TYPE OF BALL</b>
K = FULL BORE (2Pc & 3Pc Design)	01 = CL 150 03 = CL 300	1 = LC3/LF3 2 = WCB / A105	1 = CF8C (347) 2 = MONEL	T = TRUNNION without 'T' = FLOATING
R = REDUCED BORE (2Pc & 3Pc Design)	06 = CL 600 09 = CL 900	3 = CF8 4 = CF8M	3 = CF8 (304) 4 = CF8M (316)	TM = TRUNNION Metal Seated
1R = REDUCED BORE (1Pc Design)	15 = CL 1500 25 = CL 2500 50 – 5,000 10 – 10,000	5 = CF3 (304L) 6 = DUPLEX 7 = CF3M 8 = CN7M/ALLOY 20 9 = LCB/LCC/LF2 0 = SPECIAL	5 = CF3 (304L) 6 = DUPLEX (F51) 7 = CF3M (316L) 8 = CS+ENP 3MILS 9 = CN7M (ALLOY20) 0 = SPECIAL	M = FLOATING Metal Seated B = TRUNNION 6" FB and above

## OPTIONS

<b>SEATS</b>	<b>SEALS</b>	<b>BOLTINGS</b>	<b>ENDS CONNECTION</b>
PEEK	GRAPHITE	A193 B7/ A194 2H	BUTT WELD
PTFE	PTFE	A193 B7M / A194 2HM	RAISED FACE
RPTFE	EPDM	A320 L7 / A194 GR4	RING TYPE JOINT
NYLON	VITON 'B'	A320 L7M / A194 GR4	HUB ENDS
PCTFE	NITRILE	A320 B8 CLASS II / A194 GR8	SOCKET WELD
DEVLON 'V'	AED	A320 B8M CLASS II / A194 GR8M	SCREWED
SPECIAL	SPECIAL	ZINC PLATED AND/OR PTFE COATED	SPECIAL

Other materials available on request

Customers should advise materials/application on enquiries to enable KVC (UK) Ltd to select appropriate figure number.

# AGENTS AND DISTRIBUTORS

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**Tel:** 971 6 5576257

**Fax:** 971 6 5576258

**Email:** makesh@fedsin.com.sg

For others countries / regions  
please contact **KVC (UK) Ltd** for  
contact details.

Other products available in the  
**KVC (UK) Ltd** range are:

**Gate Valves**

**Globe Valves**

**Check Valves**

**Butterfly Valves**



**KVC (UK) Ltd.,**

6 Beardmore Way, Clydebank Industrial Estate, Clydebank, Dunbartonshire G81 4HT, Scotland, UK

**Tel:** +44 (0)141 435 7640

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