

# EDVC



## Quality warranty of products

We warrant to repair, replace part(s) or the whole product free of charge for a period of 18 months from delivery or 12 months after installation, whichever is shorter, provided the user correctly installed and uses the product, and the product is found defective.

To enhance customer satisfaction is our quality policy.

# EDVC

## Ball Valve



### EDVC VALVE CO.,LTD

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[www.edvcvalve.com](http://www.edvcvalve.com)

Wenzhou Plant Add(ZHENSHUN VALVE):

Dongou Industrial Zone, Oubei Street, Yongjia County, Wenzhou



# COMPANY PROFILE

# EDVC

EDVC Valve Co., Ltd was founded in 2003. EDVC is a specialized in valve manufacturing enterprise with more than 15 years of history. Now EDVC have 2 production base –Wuhan and Wenzhou.

Human Resource : No. of employees 160 people

Senior engineers 2 people ,Engineers 6 people,

Technical 15 people

Machining Equipment :

CNC machine tools ,large vertical lathes, drill press, milling lathe grinding machine , Welding machine , separate metal working workshops and many general machine tool etc.

Inspection equipment : Material analysis, PMI Material analysis. Chemical analysis.  
Low temperature test, Tensile Test ,Impact test, Hardness test

Wall thickness test, roughness test. Torque test.  
NDT Inspection (MT,PT,UT,RT). HIC test ,SSC test .  
Intercrystalline corrosion Test ,Uniform corrosion Test.

The company is the first one to pass ISO 9001(2008),ISO 14001 ,OHAS 18001 international quality system certificate, China pressure pipe safety registration certificate (AZ), European Union safety registration certificate (CE0036), and American Petroleum Institute Certificate (API 6D) and (API607) . We are one of the member unit of China Valve Association as well as China Gas Association, member unit of first class supplying network of CNPC and member unit of fittings supplying network of State Power Corporation.

We main produce ball valve, gate valve, globe valve, check valve, Plug valve and safety relief valve etc.

The products have been exported to Austria, France, Germany, United Kingdom ,America, Middle East and Asia, Africa . areas and countries. Moreover, the products are widely used in the fields of oil & gas, Oil refinery, Petrochemical,power station ,Sewage treatment, pharmacy, Paper mills, pipeline industry , mining industry , chemical industry and environmental protection.

We are a professional manufacturer of valves in China, with the aim of "providing the first class products and services". On behalf of all of the members at EDVC Valve, we thank you for the opportunity to earn your business.



# EDVC



EDVC designs and develops valve products in accordance with international and/or national standards, performs design verification utilizing international advanced design software. With in-house intranet, SAP system and PLM product life cycle

management system for design and development, Douson uses

its proven technology to bring in the best practices for manufacturing and controlling various valve products-

All of our products designed, manufactured, inspected and tested under an effective quality management system which is certified to API 6D and ISO9001 and under continuous surveillance by API and relevant authorized certification bodies EDVC has been certified to ISO9001, ISO10012, ISO14001, OHSAS18001, TS, API 6DSS and API 6D etc-

**The Precipitation  
of Quality**





# EDVC

EDVC Manufacturing



# EDVC

## EDVC INSPECTION

EDVC equips with complete sets of advanced in-house inspection and testing equipment to implement controls during the whole product realization processes from raw castings or forgings to finished products in accordance with relevant product specifications.

The state of art inspection and testing equipment enable our QC personnel to perform various indoor inspection and testing, including material PMI verification, tensile and impact test, hardness test, radiographic examination, ultrasonic examination, liquid penetrate examination, magnetic particle examination, high temperature test, cryogenic test, vacuum test, fugitive emission test, pressure test and liquid coating process examination etc.



Penetration inspection



Tensile testing



Ultrasonic examination



Form of thread projection detection



Hardness test



Material identification (PMI)



Low temperature impact testing



Magnetic particle examination



# EDVC

EDVC inspection



High pressure sealing test



Fire-proof test



Cryogenic testing



Helium mass spectrometer low emission test



Pressure test



Film thickness test and paint line



Cycle Life test

## Numbering rules of ball valve

Example: 12" CI150, API 6D design, 3-piece forged steel trunnion mounted ball valve, flange connection in RF end, gearbox operation, with lock device, A105 Body and valve cap; all materials meet the NACE requirements.

1	2	3	4	5	6	7
12	TB	1	R	-GL	-NC	A105

①		②		③		④		⑤		⑥		⑦	
Valve size(inch)		Valve type:		Pressure rating		End connections		Operator		Special requirements		Body materials	
NPS	DN	Description	Code	Class	Code	Description	Code	Description	Code	Description	Code	Casting	Forging
1/2"	15	1PC Cast steel floating ball valve	FA	150	1	Rased face flange	R	Lever	0	Valve material has NACE requirements	-NC	WCB	A105
3/4"	20	2PCS Cast steel floating ball valve	FB	250	2	RTJ flange	J	Gear box	-G	Valves meet SHELL requirement	-SH	WCC	
1"	25	2PCS Forged steel floating ball valve	FC	300	3	Flat flange	F	Electricactuator	-E	Extended stem	-ES	LCB	LF2
1-1/2"	40	3PCS Forged steel floating ball valve	FD	400	4	Socket end	S	Pneumatic actuator	-P	National standard	-GB	LCC	
2"	50	2PCS Forged steel trunnion mounted ball valve	TA	600	6	Thread end	N	Bare shaft	-BS			CF8M	F316
2-1/2"	65	3PCS Forged steel trunnion mounted ball valve	TB	800	8	Socket threaded end	SN	Lever with lock	-L			CF8	F304
3"	80	2PCS Cast steel trunnion mounted ball valve	TC	900	9	American threaded end	NPT	Gear box with lock	-GL			CF3M	F316L
4"	100	Top entry cast steel trunnion mounted ball valve	TEA	1500	15	Butt-welding ends	B	Handle	0			CF3	F304L
5"	125	Top entry forged steel trunnion mounted ball valve	TEB	2500	25	Clamp type	HUB	Handle with lock	-L			WC6	F11
6"	150	Top entry cast steel floating ball valve	FEC			Rased face	M					WC9	F22
8"	200	Top entry forged steel floating ball valve	FED			Concave	FM					C5	F5
10"	250	Full welding forged steel trunnion mounted ball valve	TW			Tenon surface	T					C12	F9
12"	300	Full welding forged steel floating ball valve	FW			Groove surface	G						0Cr18Ni10Ti
14"	350	Orbit ball valve	OB										F321
16"	400											4A	F51
18"	450											CF8C	F347
20"	500												4130
22"	550											CN7M	ALLOY 20
24"	600											6A	F53
26"	650											WC1	
28"	700											LC3	LF3
30"	750											HT200	
32"	800											B148	
34"	850												
36"	900												
40"	1000												
42"	1050												
48"	1200												
52"	1320												
56"	1420												

### Remark:

- 1.Ultra-low temperature ball valve: add letter "Y" to the valve type code.
- 2.Metal seated ball valve: add letter "M" to the valve type code.
- 3.Double ball valves: letter of D is added before the code of valve type.

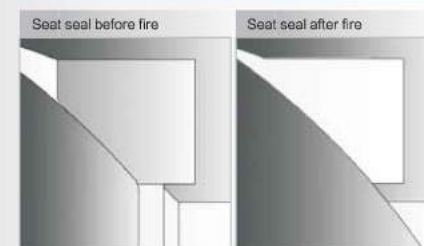
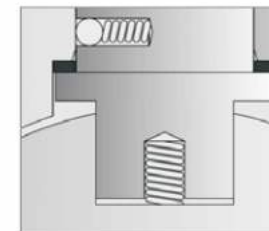
## Floating ball valve

## Structural features

### Reliability and anti-static structure of stem

The Stem uses anti-blowout structural design that is back seal lower-installed structure. The back sealing force will increasing due to the increasing of medium pressure when the pressure of cavity medium pressure abnormally elevated or the packing pressure plate is damaged, and thus this structure can ensures reliable sealing of Stem and prevent it is blown out.

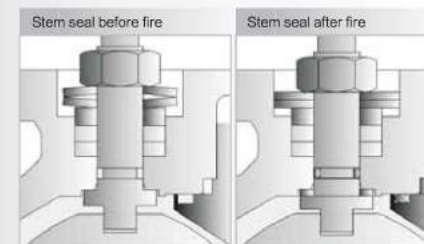
The Stem uses the structure of compression packing with the loaded pressure rings due to disc springs, which ensure the reliability of Stem sealing. Also we can adopt V-shaped packing sealing structure or double- structure design of pressing plate and pressing gland according to different user's requirement; Anti-static springs and small balls are set between the body and the stem as well as between the stem and the ball so as to ensure the electric continuity between the moving part of the valve, release the electric charge which generated by the friction during the opening/closing process of valve and prevent the fire or explosion caused by static electricity of valve.



### Fire-proof struction

When the fire occurred in valve applying site, after the Seat sealing ring, upper sealing ring of Stem, sealing packing of stem and medium flange sealing of PTFE and other non-metallic materials have been decomposed and damaged, the special metal to metal auxiliary sealing structure design of EDVC, fully control the inner and outer leakage of the valve effectively

The fire-proof designs of EDVC floating ball valves are conformed with requirements of standards such as API 607, API 6FA, BS 6755 and JB/T 6899 etc.



### Anti-misoperation & platform pre-reserved for actuating device

we use limit plate with 90° for floating ball valves, also we can adopt the locking device according with customers' s requirement to avoid misoperation,. The design of flat type is adopted for the top of stem, thus when the valve is open, the handle is in parallel with pipe, when close, the handle is perpendicular with the pipe, which can guarantee there will be no error in valve switch indication.

The installation of standard platform is used for floating ball valves, different ways of driving can be used for different work conditions,such as gearing, pneumatic device and electric device,etc





# EDVC

EDVC floating ball valves are suitable for all kinds of pipeline from CL150 to CL2500 pipes which can block or circulate the media of pipelines. Compact structure, reliable sealing, convenient maintenance, It is not easy to be scoured by the media because the surfaces of ball and seat are closed. which makes it easy to operate and maintain them. They are suitable for the conditions like gas, oil, natural gas, vapor, acid, oxygen, cryogenic and hot conditions, extensive application in all industries. The operate method is manual, worm and gear, pneumatic or electric. The floating ball valve is generally connected by flange; it can also be connected through butt welding, thread or socket-welding.

# EDVC



One-piece floating ball valve



Two-piece cast steel floating ball valve



Three-piece forged steel floating ball valve



Double ball inline floating ball valve



Full welded floating ball valve with spring return mechanism.



Ceramic hard sealed floating ball valve



Subsea two-piece floating ball valve with ROV interface valve

Two-piece structure  
Thread connection between body and cap  
One layer O-ring should be arranged before and after connecting thread.  
Prevention of external leakage and external media enter the valve to support the ROV operation.

FMC series: the materials of main parts should be metal material which have outstanding performance under the high temperature 600°C or higher & a certain stress, besides, they should also have comprehensive properties like good hot and cryogenic strengths, anti-oxidation, anti-corrosion, fatigue performance and fracture resistance etc. The Body is manufactured by integral forging and machining, which could extend its service life.

FMC series: ball surface welding with cobalt base, pressure relief hole of the ball can anti-scor, its roundness is 0.01~ 0.02mm, and its roughness of sealing surface is Ra0. 2 and higher; Seat sealing surface which welding with cobalt base has a scraper structure, which makes it easy to clean coked impurities on the ball surface; seat springs can strength the sealing of ball add seat. Body & cover sealing adopt the sealing ring with pressure self-sealing function; the material is high temperature resistant alloy steel; stem sealing adopt high temperature resistant packing GARLOCK® EVSP 9000 which authenticated by the professional institute is adopted.



High temperature and high pressure metal to metal sealed floating ball valve

Design standard: ASME 16.34  
Connection mode: ASME B16.11  
Face to Face: Manufacturer standards  
Inspection and test: API 598  
Drive mode: handle

Design temperature: 550°C  
Body material: ASTM A182F22CLASS3  
Stem material: ASMESA-638Gr.660  
Seal material: Inconel 625+STL-6  
Gland packing: GARLOCK® EVSP 9000



# EDVC

Product Introduction

Floating ball valve

FA series one-piece floating ball valve



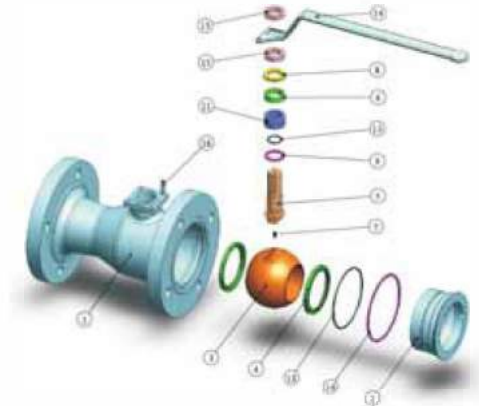
## Product description

Size: 1/2"-6"  
Pressure rating: CL150-CL300  
One-piece cast/forged body  
Floating ball, diameter/ reduced diameter;  
Antistatic design  
Blowout prevention structure;  
Fireproof construction;  
Anti-misoperation  
Standard ISO interface for Actuator

## Standard

Design standard: ASME 16.34 /API 608  
Inspection standard: API 598  
Flange end: ASME B16.5  
Face to Face: ASME B16.10  
Fire-proof test: API 607/API 6FA  
Sour service: NACE MR 0175

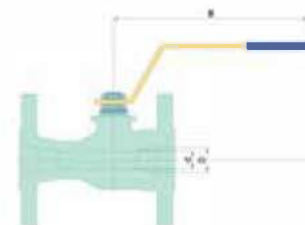
# EDVC



Typical material configuration tables

No.	Part	Standard	Stainless steel	Sour service	Low temperature
1	Body	ASTM A216 WCB	ASTM A351 CF8M	ASTM A216 WCB	ASTM A352 LCB
2	Bonnet	ASTM A216 WCB	ASTM A351 CF8M	ASTM A216 WCB	ASTM A352 LCB
3	Ball	ASTM A182 F316	ASTM A182 F316	ASTM A182 F316	ASTM A182 F316
4	seat	PTFE(TFM1700)	PTFE(TFM1700)	PTFE(TFM1700)	PTFE(TFM1700)
5	stem	ASTM A182 F316+QPQ	ASTM A182 F316+QPQ	ASTM A182 F316+QPQ	ASTM A182 F316+QPQ
6	Compression ring	316SS	316SS	316SS	316SS
7	Anti-static spring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
8	Disc spring	50CrVA	17-7PH	17-7PH	17-7PH
9	Thrust gasket	PTFE	PTFE	PTFE	PTFE
10	Wound gasket	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite
11	Packing	Flexible graphite	Flexible graphite	Flexible graphite	Flexible graphite
12	O-ring	viton	viton	viton	HNBR
13	O-ring	viton	viton	viton	HNBR
14	Handle	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel
15	Stem nut	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
16	Screw	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M

Main dimensions and weight of valve



CL150							CL300						
Size	d	D	L(RF)	H	W	Weight	Size	d	D	L(RF)	H	W	Weight
in	mm	mm	mm	mm	mm	kg	in	mm	mm	mm	mm	mm	kg
1/2"	10	13	108	90	160	5.5	1/2"	10	13	140	90	160	6
3/4"	15	18	117	90	160	6	3/4"	15	18	152	90	160	6.5
1"	19	25	127	90	180	6.5	1"	19	25	165	90	180	7.5
1-1/2"	32	40	165	106	240	8	1-1/2"	32	40	190	106	240	12.5
2"	38	50	178	111	350	13	2"	38	50	216	111	350	17.5
3"	59	80	203	146	400	25	3"	59	80	282	160	400	33
4"	76	102	229	171	400	40	4"	76	102	305	186	400	58
6"	102	150	267	246	650	78	6"	102	150	403	284	650	110

For related reduced bore information please contact sales department or technology department of EDVC;  
For detailed information of other connection method, please contact sales department or technology department of EDVC;

For related information of double ball inline floating ball valve, please contact sales department or technology department of EDVC;  
For related information of seal sealing, please contact sales department or technology department of EDVC;

\* is the gearbox operation.



# EDVC

## FB series cast steel floating ball valve



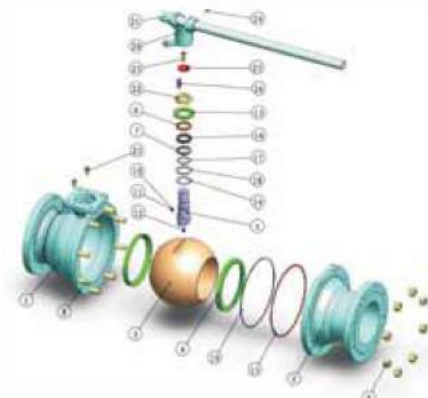
### Product description

Size: 1/2~ 10"  
 Pressure rating: CL150~CL300  
 Two-piece cast Body  
 Floating ball, reduced bore & full bore  
 Antistatic design  
 Blowout prevention structure  
 Fire-proof construction  
 Anti-maloperation  
 Standard ISO interface for Actuator

### Standard

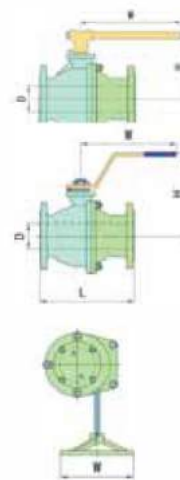
Design standard: ASME 16.34 / BS 5351/AP16D  
 Test standard: API 598 / BS 6755  
 Flange end: ASME B16.5  
 Welding end: ASME B16.25  
 Face to Face: ASME B16.10  
 Fire-proof test: API 607/API6FA  
 Sour service: NACE MR 0175

# EDVC



### Typical material configuration tables

No.	Part	Standard	Stainless steel	Sour service	Low temperature
1	Body	ASTM A216 WCB	ASTM A351 CF8M	ASTM A216 WCB	ASTM A352 LCB
2	Bonnet	ASTM A216 WCB	ASTM A351 CF8M	ASTM A216 WCB	ASTM A352 LCB
3	Ball	ASTM A182 F316	ASTM A182 F316	ASTM A182 F316	ASTM A182 F316
4	seat	PTFE(TFM1700)	PTFE(TFM1700)	PTFE(TFM1700)	PTFE(TFM1700)
5	stem	ASTM A182 F316+QPQ	ASTM A182 F316+QPQ	ASTM A182 F316+QPQ	ASTM A182 F316+QPQ
6	Compression ring	316SS	316SS	316SS	316SS
7	Spacing ring	316SS	316SS	316SS	316SS
8	Stud	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
9	Nut	ASTM A194 2H	ASTM A194 8	ASTM A194 2H-M	ASTM A194 7M
10	Anti-static ball	Stainless steel	Stainless steel	Stainless steel	Stainless steel
11	Anti-static spring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
12	Anti-static spring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
13	Disc spring	50CrVA	17-7PH	17-7PH	17-7PH
14	Thrust gasket	PTFE	PTFE	PTFE	PTFE
15	Wound gasket	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite
16	Packing	Flexible graphite	Flexible graphite	Flexible graphite	Flexible graphite
17	O-ring	Viton	Viton	Viton	HNBR
18	O-ring	Viton	Viton	Viton	HNBR
19	O-ring	Viton	Viton	Viton	HNBR
20	Handle cover	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel
21	Steel Pipe	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel
22	Stem nut	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
23	Screw	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
24	Screw	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
25	Washer	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel
26	Key	Carbon steel	Carbon steel	Carbon steel	Carbon steel



### Main dimensions and weight of valve

CL150							CL300						
Size	D	L(RF)	H	W	Weight		Size	D	L(RF)	H	W	Weight	
in	mm	mm	mm	mm	mm	kg	in	mm	mm	mm	mm	mm	kg
1/2"	13	108	85	160	2.5		1/2"	13	140	85	160	2.5	
3/4"	19	117	93	160	3		3/4"	19	152	93	160	3.5	
1"	25	127	112	180	4.5		1"	25	165	112	180	5.5	
1-1/2"	38	165	132	240	7		1-1/2"	38	190	132	240	9	
2"	51	178	138	350	9.6		2"	51	216	138	350	13	
2-1/2"	64	190	155	350	15		2-1/2"	64	241	156	350	21	
3"	76	203	175	400	19		3"	76	282	175	400	27	
4"	102	229	200	400	30		4"	102	305	200	400	40	
5"	125	356	230	600	58		5"	125	381	230	600	65	
6"	152	394	230	650	75		6"	152	403	230	650	95	
8"	203	457	290	400*	115		8"	203	502	290	400*	150	
10"	254	533	320	400*	180		10"	254	568	320	400*	230	

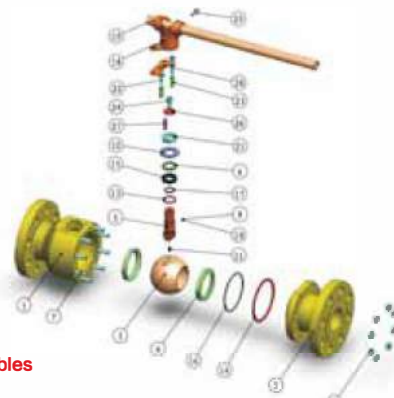
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 For detailed information of other connection method, please contact sales department or technology department of EDVC;

For related information of double ball inline floating ball valve, please contact sales department or technology department of EDVC;

For related information of seal sealing, please contact sales department or technology department of EDVC;

\* is the gearbox operation.

# EDVC



Typical material configuration tables

No.	Part	Standard	Stainless steel	Sour service	Low temperature
1	Body	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A350 LF2
2	Bonnet	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A350 LF2
3	Ball	ASTM A182 F316	ASTM A182 F316	ASTM A182 F316	ASTM A182 F316
4	Seat	PTFE(TFM1700)	PTFE(TFM1700)	PTFE(TFM1700)	PTFE(TFM1700)
5	Stem	ASTM A182 F316+QPQ	ASTM A182 F316+QPQ	ASTM A182 F316+QPQ	ASTM A182 F316+QPQ
6	Compression ring	316SS	316SS	316SS	316SS
7	Stud	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
8	Nut	ASTM A194 2H	ASTM A194 8	ASTM A194 2HM	ASTM A194 7M
9	Anti-static ball	Stainless steel	Stainless steel	Stainless steel	Stainless steel
10	Anti-static spring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
11	Anti-static spring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
12	Disc spring	50CrVA	17-7PH	17-7PH	17-7PH
13	Thrust gasket	PTFE	PTFE	PTFE	PTFE
14	Wound gasket	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite
15	Packing	Flexible graphite	Flexible graphite	Flexible graphite	Flexible graphite
16	O-ring	Viton	Viton	Viton	HNBR
17	O-ring	Viton	Viton	Viton	HNBR
18	Handle cover	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel
19	Steel Pipe	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel
20	Lock plate	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel
21	Stem nut	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
22	Screw	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
23	Steel pipe	Stainless steel	Stainless steel	Stainless steel	Stainless steel
24	Screw	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
25	Screw	ASTM A194 2H	ASTM A194 8	ASTM A194 2HM	ASTM A194 7M
26	Washer	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel	Galvanized carbon steel
27	Key	Carbon steel	Stainless steel	Carbon steel	Carbon steel

Main dimensions and weight of valve

CL150						CL300						CL600					
Size	D	L(RF)	H	W	Weight	Size	D	L(RF)	H	W	Weight	Size	D	L(RF)	H	W	Weight
in	mm	mm	mm	mm	kg	in	mm	mm	mm	mm	kg	in	mm	mm	mm	mm	kg
1/2"	13	108	85	160	2.9	1/2"	13	140	85	160	3.2	1/2"	13	165	85	160	3.47
3/4"	19	117	93	160	3.8	3/4"	19	152	93	160	4	3/4"	19	190	93	180	5.88
1"	25	127	112	180	5.4	1"	25	165	112	180	6.5	1"	25	216	112	240	7.43
1-1/2"	38	165	125	240	8.5	1-1/2"	38	190	125	240	13	1-1/2"	38	241	125	350	13.21
2"	51	178	126	350	11.3	2"	51	216	126	350	19	2"	51	292	130	400	28.88
2-1/2"	64	190	139	400	18.5	2-1/2"	64	241	139	400	28.5	3"	76	356	178	500	49.97
3"	76	203	164	400	23	3"	76	282	164	400	39.6	4"	102	432	190	700	85.5
4"	102	229	185	450	39.5	4"	102	305	185	450	60						
6"	152	394	270	650	91	6"	152	403	240	650	130.5						
8"	203	457	360	*400	140.5	8"	203	502	360	*400	196						
10"	254	533	410	*400	232	10"	254	568	410	*400	296						

# EDVC

Floating ball valve

Product Introduction

FC series forged steel floating ball valve



## Standard

Design standard: ASME 16.34 / BS 5351/AP16D  
 Test standard: API 598 / BS 6755  
 Flange end: ASME B16.5  
 Welding end: ASME B 16.25  
 Face to Face: ASME B16.10  
 Fire-proof test: API 607/API 6FA  
 Sour service: NACE MR 0175

## Product description

Size: 1/2" - 10"  
 Pressure rating: CL150-CL300  
 Two-piece cast Body  
 Floating ball, reduced bore & full bore  
 Antistatic design  
 Blowout prevention structure  
 Fire-proof construction  
 Anti-misoperation  
 Standard ISO interface for Actuator



CL900						CL1500						CL2500					
Size	D	L(RF)	H	W	Weight	Size	D	L(RF)	H	W	Weight	Size	D	L(RF)	H	W	Weight
in	mm	mm	mm	mm	kg	in	mm	mm	mm	mm	kg	in	mm	mm	mm	mm	kg
1/2"	13	216	85	160	5.45	1/2"	13	216	85	160	5	1/2"	13	264	93	160	7.5
3/4"	19	229	93	180	7.96	3/4"	19	229	93	180	8	3/4"	19	273	96	180	12
1"	25	254	112	240	10.52	1"	25	254	112	240	10	1"	25	308	117	240	15
1-1/2"	38	305	128	350	20.5	1-1/2"	38	305	128	400	20	1-1/2"	38	384	132	450	30
2"	51	368	132	450	25.5	2"	51	368	132	450	30	2"	51	451	138	550	37.5
3"	76	381	182	600	48.5												



The trunnion mounted ball valves are suitable for all kinds of pipeline pipes which can block or circulate the media of pipelines, the trunnion mounted ball valves of different materials are suitable for multiple mediums, such as water, steam, oil product, liquefied gas, natural gas, gas, nitric acid, acetic acid, oxidizing medium, urea, etc. The operate method of the trunnion mounted ball valves is worm and gear, manual, pneumatic or electric. The trunnion mounted ball valves adopt flange connection or butt welding connection.

EDVC's trunnion mounted ball valve usually use forged steel body, we also can use cast steel body according customer's requirements. The size and Face to Face both of them are same.

Doubtlessly, except full bore, we also can design reduce bore trunnion mounted ball valve, which could also meet customer's requirements and can reduce costs.

## Double block and bleed valve (DBB structure)

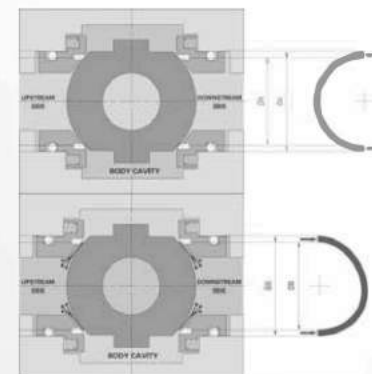
### (1). Double block and bleed function

EDVC's trunnion mounted ball valve generally use front ball sealing design structure. Two seats can separately blocks the media of the inlet and outlet to achieve double isolation. When the ball valve is closed, even apply pressure on both inlet and outlet of the valve, the body cavity and channels are blocked, the remaining media in the body cavity can be released from relief valve.

### (2). Automatic pressure relief of valve mid-cavity

When the liquid media contained within the body cavity gasify due to temperature increased and cause abnormally high pressure. The medium in cavity can be released by pushing the seat by its acting force to ensure the safety of the valve and pipeline.

The front and behind seats block the medium at the same time.



The pressure will released automatically when the pressure in middle cavity rising.

## Double isolation and bleed valve (DIB structure)

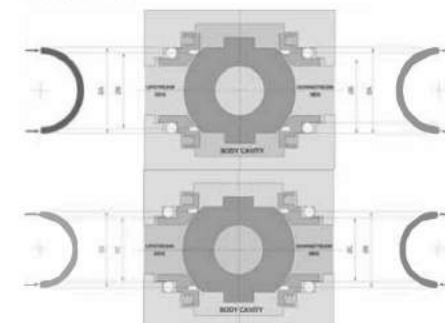
### (1) Double isolation and double ways sealing function

EDVC's trunnion mounted ball valve can supplies a selective design of double ways sealing structure. The two seats can separately blocks the medium both in the inlet and outlet, they can also block the medium of cavity, which can achieve the function of double isolation. When the valve is closed, the medium of inlet, outlet & cavity will be isolated, the outlet also ensure the sealing. When the inlet seat leakage, So the valve has two double sealing function.

### (2) The manual and automatic pressure relief of body cavity

The remained medium can be manual released by the bleed valve, When the liquid medium contained within the body cavity gasify due to temperature increased and cause abnormally high pressure. The safety valve will open automatically when the medium pressure beyond the set value to ensure the safety of the valve and pipeline.

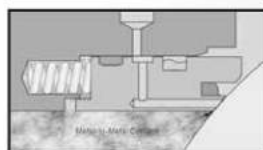
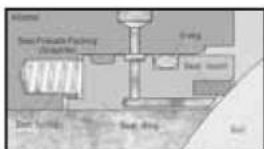
The front and behind seats block the medium into the cavity At the same time.



The front and behind seats block the medium into the upstream and the downstream form cavity at the same time.

## Structural features

Soft seal of seat and ball before the fire



Metal seal of seat and ball after the fire

## Fireproofing structure design

O-ring seals and metal graphite wound gasket are installed in the sealing parts of EDVC ball valves. When there is a fire hazard and sealing elements like seat seal rings, sealing gasket, O-ring seals made from non-metal materials like rubber, Teflon etc. are damaged, the external metal graphite wound gasket will provide supplementary sealing; when sealing rings of the Seat are damaged, the metal Seat will automatically combine with the ball into a metal sealing under spring thrust, which could effectively control the internal leakage and external leakages of valves. The valve design is fully in accordance with requirements of standards and regulations of API607, API 6FA, BS 6755 and JB/T6899, it also has passed API 607 fire-proof test.



## Anti Blowout design of Stem

The Stem adopts blowout prevention structure. The Stem with great lower end and small upper end is located by upper end cover and bolt; and the Stem cannot be blown out by the medium, even in the case of abnormal pressure in the valve cavity.



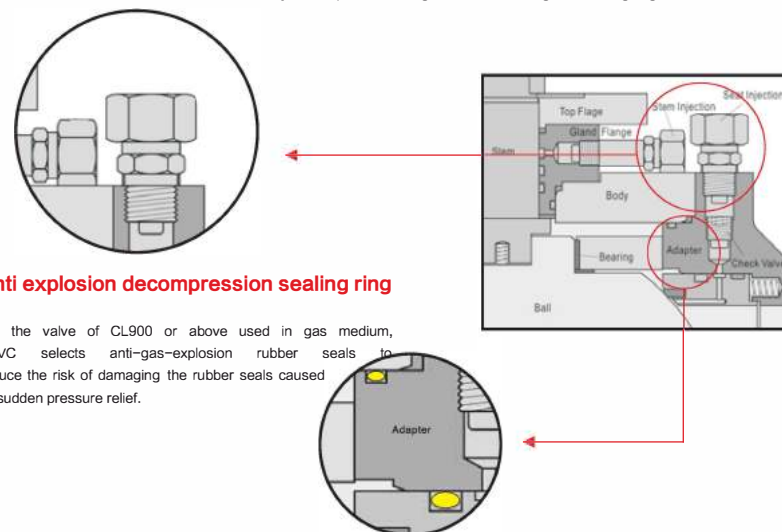
## Antistatic design

The valve design meets the antistatic requirement by setting static-prevention springs and small balls between ball and Stem, Stem and packing cover plates, which maintain the electrical continuity in places between ball and Stem, Stem and Body. And the static electricity produced by frictions of switches of balls and Seats is lead to the ground, thus reduces risks of fire hazards or explosions etc. caused by electrostatic sparks.

## Structural features

## Emergency injection device of sealing grease

For DN150 (NPS 6) or above trunnion mounted ball valves, there are sealing grease injecting devices installed on the Stem and seats; as for those DN125 or below trunnion mounted ball valves, the sealing injecting device can be installed according to the customer requirements. When the sealing ring of the Seat or the O-ring seals of Stem are damaged accidentally, sealing grease can be applied through sealing injector to prevent leakage of medium through the sealing ring of the Seat and Stem.

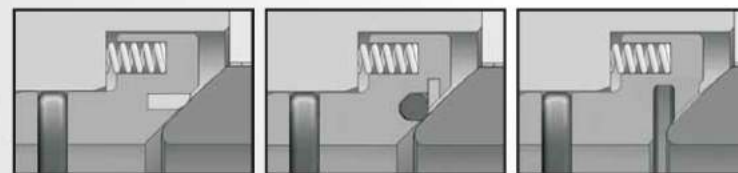


## Anti explosion decompression sealing ring

For the valve of CL900 or above used in gas medium, EDVC selects anti-gas-explosion rubber seals to reduce the risk of damaging the rubber seals caused by sudden pressure relief.

## Sealing mode selection

EDVC can provide soft sealing structural Seats, O-ring sealing structural Seats, and metal hard sealed structural Seat for user to select according to the user's requirements. The user can select different sealing methods according to the different working condition and sealing demands.



## Soft seal structure

Simple structure, reliable sealing and wide application range, low cost.

## O-ring sealing structure

Reliable sealing, low torque, it can meet the user's requirement on high sealing reliability and low torque occasion.

## Metal to metal structure

Meet the working condition of the medium including particles; and mainly replace the occasion not suitable for above two sealing methods.



Normally, the Seat of the ball valve adopts nonmetal material, such as PTFE, so it limits the application of ball valve greatly. Aiming at the condition, EDVC has successfully researched the metal hard sealed ball valve after many years of research, including floating type and trunnion type; successful application performance has been obtained in high temperature working condition, ultra low temperature working condition, subsea working condition and dust removal system with particle medium, so that the ball valve has obtained great application space in petroleum industry, chemical industry, metallurgy industry, power industry and other industries; and it has established the leading position in valve manufacturers.

## (1) Advanced ball seat hardening technology

For the different using conditions and requirements of the users, in order to ensure the reliable sealing of the valve

at various temperature and pressure, EDVC hard sealed ball valve adopts multiple advanced ball seat hardening technologies, including supersonic spraying, nickel base spray welding, special surface hardening, hard alloy spray welding and high-strength and high-hardness ceramic material, etc; the surface of ball and Seat hardness can reach HRC 60 or above; and it can reach HRC74 or above. The temperature resistance of the materials on the sealing surface can be 540 °C; and it is 980 °C at most.

The bonding strength of material can be 10000Psi or above. Meanwhile, it has better abrasion resistance, washing resistance and other performances. The EDVC metal sealed ball valve can be suitable for numerous rigor working conditions.

## (2) Anti-expansion structural design under high temperature

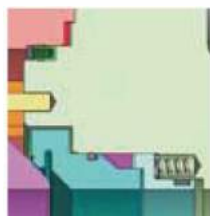
Aiming at the expansion phenomenon of valve due to the thermal expansion at high temperature, the valve cannot be normally

opened/and closed. The corrugated elastic sealing structure is used in EDVC metal hard sealed ball valves, the thermal expansion of parts at high temperature can be absorbed by disc spring or spring, thus the structure can ensure the valve flexible opening and closing at high temperature.

## (3) Excellent sealing performance and concept of reducing operation torque

EDVC metal seated ball valve uses unique grinding process, that

is through rotations of ball and grinding equipment in all directions to achieve extremely high roundness and fine smooth finish, then through grinding against Seat to satisfy the seat performance requirements of EDVC internal controls, and eventually assemble these components to guarantee each valve meet or exceed standard requirements. Besides, metal seated ball valves are produced by EDVC with a unique design of reducing valve operating torque, when the valve is working, the upstream medium pressure will transmit to the bearing, the seat will not bear too much pressure. reduces the deformation of seat.



TB series three-piece forged steel trunnion mounted ball valve



CL2500 trunnion mounted ball valve



Trunnion mounted ball valve of pneumatic actuator

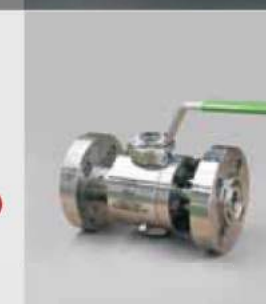


TB series API 6D larger size trunnion mounted ball valve



High temperature trunnion mounted ball valve

TB series API 6D small size trunnion mounted ball valve



Reduced bore trunnion mounted ball valve



SDV emergency shut down valve



Trunnion mounted ball valve with welding neck flange



Trunnion mounted ball valve

TB series three-piece forged steel  
trunnion mounted ball valve

## Product Description

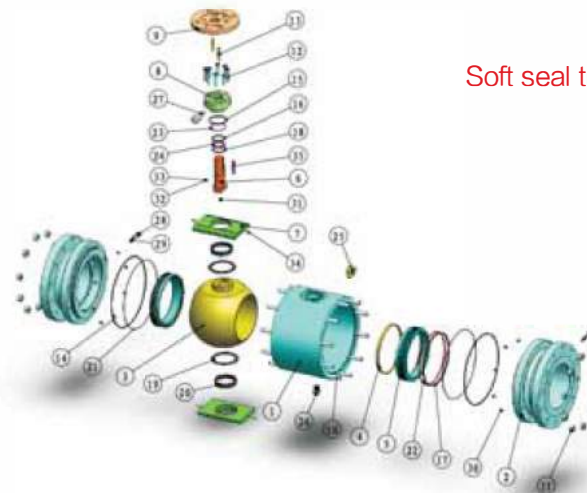
Size: 2"-56"  
 Pressure rating: CL150-CL2500  
 Three-piece forged steel trunnion mounted ball valve  
 Trunnion mounted ball structure, DBB/ DIB structure  
 Emergency injection device of sealing grease  
 Fireproofing structure design  
 Automatic pressure relief of valve cavity  
 Double block and bleed function  
 Blowout prevention structure design of stem  
 Design of double-sealing mechanism before and after ball  
 Standard ISO interface for Actuator  
 Antistatic structure design

## Standard

Design standard: API6D  
 Face to Face: ASME B16.10 API"  
 Flange: ASME B16.5 NPS≥26NASME B16.47A  
 Butt weld end: ASME B 16.25  
 Inspection : API 598 API 6D  
 Fireproofing: API 607 API 6FA  
 Sour service: NACE MR 0175

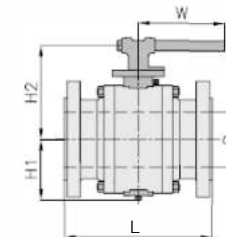
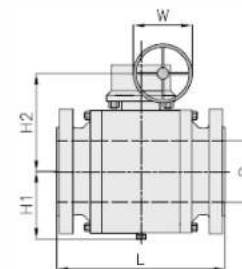
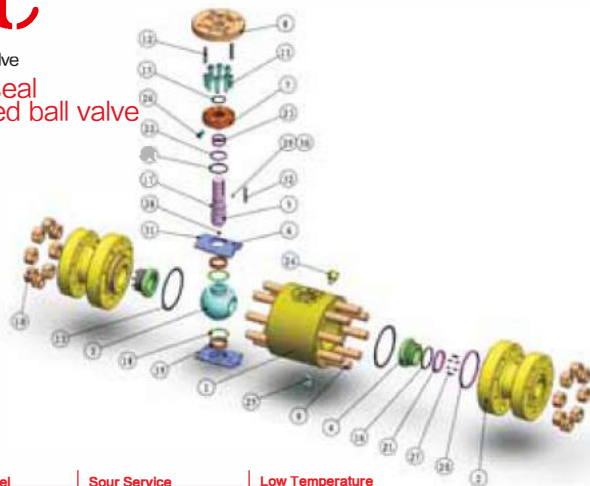
Trunnion mounted ball valve

Soft seal trunnion mounted ball valve



No.	Part	Standard	Stainless Steel	Sour Service	Low Temperature
1	Body	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A350 LF2
2	Bonnet	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A350 LF2
3	Ball	ASTM A105+ENP	ASTM A182 F316	ASTM A105+ENP	ASTM A350 LF2+ENP
4	Soft seat	PTFE(TFM1700)	PTFE(TFM1700)	PTFE(TFM1700)	PTFE(TFM1700)
5	Seat	ASTM A105+ENP	ASTM A182 F316	ASTM A105+ENP	ASTM A350 LF2+ENP
6	Stem	ASTM A105+QPO	ASTM A182 F316+QPQ	ASTM A105+QPO	ASTM A350 LF2+ENP
7	Support plate	ASTM A105+ENP	ASTM A182 F316	ASTM A105+ENP	ASTM A350 LF2+ENP
8	Packing gland	ASTM A105+ENP	ASTM A182 F316	ASTM A105+ENP	ASTM A350 LF2+ENP
9	Top flange	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A350 LF2
10	Stud	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
11	Nut	ASTM A194 2H	ASTM A194 8	ASTM A194 2HM	ASTM A194 7M
12	Screw	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
13	Pin	Carbon steel	Stainless steel	Carbon steel	Stainless steel
14	Wound gasket	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite
15	Wound gasket	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite
16	Packing	Flexible graphite	Flexible graphite	Flexible graphite	Flexible graphite
17	Packing	Carbon fiber+Graphite	Carbon fiber+Graphite	Carbon fiber+Graphite	Carbon fiber+Graphite
18	Thrust gasket	PTFE/S.S.+PTFE	PTFE/S.S.+PTFE	PTFE/S.S.+PTFE	PTFE/S.S.+PTFE
19	Gasket	PTFE	PTFE	PTFE	PTFE
20	Bearing	S.S.+PTFE	S.S.+PTFE	S.S.+PTFE	S.S.+PTFE
21	O-ring	Viton	Viton	Viton	HNBR
22	O-ring	Viton	Viton	Viton	HNBR
23	O-ring	Viton	Viton	Viton	HNBR
24	O-ring	Viton	Viton	Viton	HNBR
25	Vent valve	Stainless steel	Stainless steel	Stainless steel	Stainless steel
26	Blind plug	Stainless steel	Stainless steel	Stainless steel	Stainless steel
27	Injection valve	Stainless steel	Stainless steel	Stainless steel	Stainless steel
28	Injection valve	Stainless steel	Stainless steel	Stainless steel	Stainless steel
29	Check valve	Stainless steel	Stainless steel	Stainless steel	Stainless steel
30	Seat spring	Inconel X-750	Inconel X-750	Inconel X-750	Inconel X-750
31	Anti-static spring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
32	Anti-static spring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
33	Anti-static ball	Stainless steel	Stainless steel	Stainless steel	Stainless steel
34	Pin	Carbon steel	Stainless steel	Carbon steel	Stainless steel
35	Key	Carbon steel	Stainless steel	Carbon steel	Stainless steel





No.	Standard	Part	Stainless steel	Sour Service	Low Temperature
1		Body	ASTM A105	ASTM A105	ASTM A350 LF2
2		Bonnet	ASTM A105	ASTM A105	ASTM A350 LF2
3		Ball	ASTM A105+ENP	ASTM A105+ENP	ASTM A350 LF2+ENP
4		seat	ASTM A105+ENP	ASTM A105+ENP	ASTM A350 LF2+ENP
5		Stem	ASTM A105+QPO	ASTM A105+QPO	ASTM A350 LF2+QPO
6		Support plate	ASTM A105+ENP	ASTM A105+ENP	ASTM A350 LF2+ENP
7		Packing gland	ASTM A105+ENP	ASTM A105+ENP	ASTM A350 LF2+ENP
8		Top flange	ASTM A105	ASTM A105	ASTM A350 LF2
9		Stud	ASTM A193 B7	ASTM A193 B7M	ASTM A320 L7M
10		Nut	ASTM A194 2H	ASTM A194 2HM	ASTM A194 7M
11		Screw	ASTM A193 B7	ASTM A193 B7M	ASTM A320 L7M
12		Pin	Carbon steel	Carbon steel	Stainless steel
13		Wound gasket	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite
14		Wound gasket	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite
15		Packing	Flexible graphite	Flexible graphite	Flexible graphite
16		Packing	Carbon fiber+Graphite	Carbon fiber+Graphite	Carbon fiber+Graphite
17		Thrust gasket	PTFE/S.S.+PTFE	PTFE/S.S.+PTFE	PTFE/S.S.+PTFE
18		Gasket	PTFE	PTFE	PTFE
19		Bearing	S.S.+PTFE	S.S.+PTFE	S.S.+PTFE
20		O-ring	Viton	Viton	HNBR
21		O-ring	Viton	Viton	HNBR
22		O-ring	Viton	Viton	HNBR
23		O-ring	Viton	Viton	HNBR
24		Discharge valve	Stainless steel	Stainless steel	Stainless steel
25		Blind plug	Stainless steel	Stainless steel	Stainless steel
26		Injection valve	Stainless steel	Stainless steel	Stainless steel
27		Seat spring	Inconel X-750	Inconel X-750	Inconel X-750
28		Anti-static spring	Stainless steel	Stainless steel	Stainless steel
29		Anti-static spring	Stainless steel	Stainless steel	Stainless steel
30		Anti-static ball	Stainless steel	Stainless steel	Stainless steel
31		Pin	Carbon steel	Carbon steel	Stainless steel
32		Key	Carbon steel	Carbon steel	Stainless steel

CL150							CL300							CL500						
Size	D	L(RF)	H1	H2	W	Weight	Size	D	L(RF)	H1	H2	W	Weight	Size	D	L(RF)	H1	H2	W	Weight
in	mm	mm	mm	mm	mm	kg	in	mm	mm	mm	mm	mm	kg	(in)	mm	mm	mm	mm	mm	kg
2"	51	178	85	155	350	35	2"	51	216	85	155	350	35	2"	51	292	85	160	350	45
3"	76	203	110	195	400	65	3"	76	283	110	195	400	70	3"	76	356	120	210	400	85
4"	102	229	130	215	400	90	4"	102	305	130	215	400	115	4"	102	432	150	230	*406	150
6"	152	394	160	235	*250	190	6"	152	403	160	230	*305	215	6"	152	559	215	285	*406	250
8"	203	457	255	285	*400	350	8"	203	502	240	295	*406	380	8"	203	660	270	310	*500	440
10"	254	533	290	340	*400	500	10"	254	568	290	340	*406	540	10"	254	787	310	370	*610	705
12"	305	610	315	375	*400	700	12"	305	648	315	375	*500	765	12"	305	838	350	410	*610	855
14"	336	686	345	415	*610	860	14"	336	762	345	420	*610	905	14"	336	889	370	450	*610	1235
16"	387	762	385	460	*610	1025	16"	387	838	400	470	*610	1300	16"	387	991	440	495	*610	1535
18"	438	864	435	505	*610	1440	18"	438	914	440	510	*610	1720	18"	438	1092	470	550	*710	2140
20"	489	914	495	555	*610	1920	20"	489	991	495	565	*610	2100	20"	489	1194	515	630	*760	2650
22"	540	991	555	600	*610	2350	22"	540	1092	560	605	*700	2220	22"	540	1295	580	685	*812	3370
24"	591	1067	590	635	*710	2800	24"	591	1143	590	685	*812	2895	24"	591	1397	610	730	*812	3960
26"	635	1143	620	710	*710	3200	26"	686	1346	680	770	*812	4580	26"	686	1549	700	810	*914	6060
28"	686	1245	670	760	*762	4050	28"	737	1397	720	810	*812	5590	28"	737	1651	735	865	*914	6690
30"	737	1295	710	800	*762	4820	30"	781	1524	760	855	*914	6245	30"	781	1778	780	900	*914	7830
32"	781	1372	745	840	*762	5490	34"	832	1626	795	900	*914	7370	34"	832	1930	900	980	*1016	8465
34"	832	1473	775	890	*762	6700	36"	876	1727	825	940	*914	8435	36"	876	2083	930	1030	*1016	10655
36"	876	1524	805	930	*762	7615	40"	978	1956	920	1025	*914	11200							
40"	978	1727	900	1010	*762	10270	42"	1022	2032	1000	1160	*914	13000							
42"	1022	1987	980	1130	*762	12200														

CL900							CL1500							CL2500						
Size	D	L(RF)	H1	H2	W	Weight	Size	D	L(RF)	H1	H2	W	Weight	Size	D	L(RTJ)	H1	H2	W	Weight
in	mm	mm	mm	mm	mm	kg	in	mm	mm	mm	mm	mm	kg	(in)	mm	mm	mm	mm	mm	kg
2"	51	368	100	180	450	60	2"	51	368	120	180	450	70	2"	44	454	120	220	*250	95
3"	76	381	125	230	*305	90	3"	76	470	140	225	*305	120	3"	64	584	155	240	*406	200
4"	102	457	155	250	*406	160	4"	102	546	165	240	*406	195	4"	89	683	185	265	*406	385
6"	152	610	220	270	*406	390	6"	146	705	260	320	*610	585	6"	133	927	305	370	*610	780
8"	203	737	280	325	*610	580	8"	194	832	285	350	*610	755	8"	181	1038	360	425	*700	1350
10"	254	838	305	370	*610	820	10"	241	991	350	420	*710	1200	10"	225	1292	400	480	*762	2150
12"	305	965	380	425	*610	1130	12"	289	1130	400	480	*710	1965							
14"	324	1029	400	465	*610	1620	14"	318	1257	440	520	*710	2255							
16"	375	1130	445	515	*710	2010	16"	362	1384	490	600	*812	2760							
18"	425	1219	505	615	*760	2810	18"	407	1537	570	680	*812	3650							
20"	473	1321	535	645	*812	3460	20"	457	1664	580	710	*914	4500							
24"	572	1549	640	750	*812	5500														
28"	667	1753	720	835	*914	10210														
30"	714	1880	750	885	*914	11450														

For related reduced bore information please contact sales department or technology department of EDVC

For detailed information of other connection method, please contact sales department or technology department of EDVC;

For related information of double ball inline floating ball valve, please contact sales department or technology department of EDVC

For related information of seal sealing, please contact sales department or technology department of EDVC;

\* is the gearbox operation.

## Top entry trunnion mounted ball valve

Top entry trunnion mounted ball valve is widely used in oil and gas pipeline and oil recovery, oil refining, petrochemical, chemical, chemical fiber, electricity, nuclear power, food, paper-making and other devices. When the valve in the pipeline failure and need to be repaired, the valve needn't removed from the pipeline, only remove the middle flange bolt and nut, takes the bonnet and stem assembly together out of the Body, and then takes out the ball and Seat assembly, then online repair the ball and Seat, this maintenance saves time and reduced the loss in production to the lowest.

## Standard

Design standard: ASMEB16.34/  
ASMEB16.47A/API 6D  
Test standard: API 6D  
Flange end: ASME B16.5  
Welding end: ASME B 16.25  
Face to Face: API 6D  
Fire-proof test: API607/API6FA  
Sour service: NACE MR 0175



API6A top entry pneumatic ball valve



Top entry pigging valve

## Product Description

Size: 2" ~ 28"  
Pressure rating: CL150 ~ CL2500  
Integral forging  
Trunnion ball structure, DBB/ DIB structure  
Emergency injection device of sealing grease  
Fireproofing structure design  
Automatic pressure relief of valve cavity  
Double blocking and bleed function  
Blowout prevention structure design of Stem  
Design of double-sealing mechanism before and after ball  
Standard ISO interface for Actuator  
Antistatic structure design



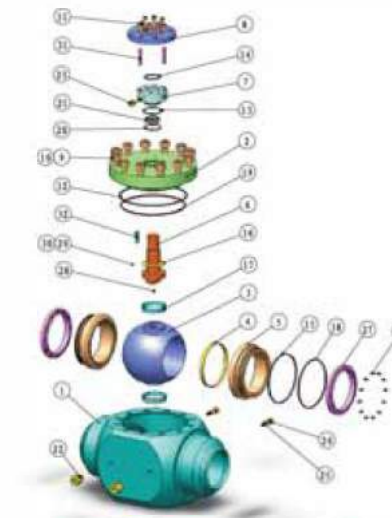
Subsea trunnion mounted ball valve



API6D top entry dual-action trunnion mounted ball valve



CL2500 top entry trunnion mounted ball valve



No.	Part	Standard	Stainless steel	Sour Service	Low Temperature
1	Body	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A350 LF2
2	Bonnet	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A350 LF2
3	Ball	ASTM A105+ENP	ASTM A182 F316	ASTM A105+ENP	ASTM A350 LF2+ENP
4	Soft Seat	PTFE(TFM1700)	PTFE(TFM1700)	PTFE(TFM1700)	PTFE(TFM1700)
5	Seat	ASTM A105+QPQ	ASTM A182 F316+QPQ	ASTM A105+QPQ	ASTM A350 LF2+QPQ
6	Stem	ASTM A105+ENP	ASTM A182 F316	ASTM A105+ENP	ASTM A350 LF2+ENP
7	Packing gland	ASTM A105+ENP	ASTM A182 F316	ASTM A105+ENP	ASTM A350 LF2+ENP
8	Top flange	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A350 LF2
9	Stud	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
10	Nut	ASTM A194 2H	ASTM A194 8	ASTM A194 2HM	ASTM A194 7M
11	Screw	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
12	Wound gasket	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite
13	Wound gasket	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite	S.S.+Flexible graphite
14	Packing	Flexible graphite	Flexible graphite	Flexible graphite	Flexible graphite
15	Packing	Carbon fiber+Graphite	Carbon fiber+Graphite	Carbon fiber+Graphite	Carbon fiber+Graphite
16	Thrust gasket	PTFE/S.S.+PTFE	PTFE/S.S.+PTFE	PTFE/S.S.+PTFE	PTFE/S.S.+PTFE
17	Bearing	S.S.+PTFE	S.S.+PTFE	S.S.+PTFE	S.S.+PTFE
18	O-ring	Viton	Viton	Viton	HNBR
19	O-ring	Viton	Viton	Viton	HNBR
20	O-ring	Viton	Viton	Viton	HNBR
21	O-ring	Viton	Viton	Viton	HNBR
22	Vent valve	Stainless steel	Stainless steel	Stainless steel	Stainless steel
23	Injection valve	Stainless steel	Stainless steel	Stainless steel	Stainless steel
24	Injection valve	Stainless steel	Stainless steel	Stainless steel	Stainless steel
25	Check valve	Stainless steel	Stainless steel	Stainless steel	Stainless steel
26	Seat spring	Inconel X-750	Inconel X-750	Inconel X-750	Inconel X-750
27	Compression ring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
28	Anti-static spring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
29	Anti-static spring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
30	Anti-static ball	Stainless steel	Stainless steel	Stainless steel	Stainless steel
31	Pin	Carbon steel	Carbon steel	Carbon steel	Carbon steel
32	Key	Carbon steel	Carbon steel	Carbon steel	Carbon steel

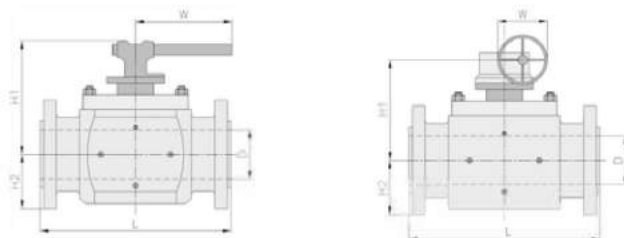


# EDVC

## Product Introduction

### Trunnion mounted ball valve

### Top entry trunnion mounted ball valve



CL150							CL300							CL600						
Size	D	L(RF)	H1	H2	W	Weight	Size	D	L(RF)	H1	H2	W	Weight	Size	D	L(RF)	H1	H2	W	Weight
in	mm	mm	mm	mm	mm	Kg	in	mm	mm	mm	mm	mm	Kg	in	mm	mm	mm	mm	mm	Kg
2"	51	292	170	83	350	35	2"	51	292	170	83	350	35	2"	51	292	195	100	350	60
3"	76	356	210	110	400	75	3"	76	356	210	110	400	75	3"	76	356	230	130	400	100
4"	102	432	240	145	450	130	4"	102	432	240	145	450	130	4"	102	432	260	160	*406	175
6"	152	559	290	220	*305	230	6"	152	559	290	220	*305	230	6"	152	559	305	220	*406	285
8"	203	660	320	265	*406	420	8"	203	660	320	265	*406	420	8"	203	660	320	265	*500	520
10"	254	787	360	315	*406	580	10"	254	787	360	315	*406	580	10"	254	787	360	315	*610	700
12"	305	838	405	375	*500	710	12"	305	838	405	375	*500	710	12"	305	838	405	375	*610	820
14"	336	889	445	430	*610	920	14"	336	889	445	430	*610	920	14"	336	889	445	430	*610	970
16"	387	991	480	455	*610	1150	16"	387	991	480	455	*610	1150	16"	387	991	480	455	*610	1230
18"	438	1092	500	470	*610	1350	18"	438	1092	500	470	*610	1350	18"	438	1092	500	470	*710	1520
20"	489	1194	560	560	*610	1980	20"	489	1194	560	560	*610	1980	20"	489	1194	560	560	*760	2150
24"	591	1397	620	600	*700	2500	24"	591	1397	620	600	*700	2500	24"	591	1397	620	600	*812	2800

CL900							CL1500							CL2500						
Size	D	L(RF)	H1	H2	W	Weight	Size	D	L(RF)	H1	H2	W	Weight	Size	D	L(RF)	H1	H2	W	Weight
in	mm	mm	mm	mm	mm	Kg	in	mm	mm	mm	mm	mm	Kg	in	mm	mm	mm	mm	mm	Kg
2"	51	368	210	110	450	85	2"	51	371	220	130	*250	120	2"	45	454	250	150	*250	150
3"	76	381	230	130	*305	130	3"	76	473	250	150	*406	150	3"	64	584	275	170	*406	280
4"	102	457	260	175	*406	205	4"	102	549	280	195	*406	230	4"	89	683	310	230	*610	420
6"	152	610	335	220	*406	410	6"	146	711	350	240	*610	430	6"	133	927	380	280	*610	830
8"	203	737	370	270	*610	630	8"	194	841	385	290	*610	650	8"	181	1038	405	330	*610	1560
10"	254	838	410	350	*610	880	10"	241	1000	430	370	*610	910	10"	226	1292	455	420	*710	2540
12"	305	965	480	390	*610	1210	12"	289	1146	495	410	*710	1350	12"	267	1445	520	470	*812	2835
14"	324	1029	520	405	*610	1830	14"	317	1276	540	435	*760	1910							
16"	375	1130	575	450	*710	2250	16"	362	1406	580	470	*812	2500							
18"	425	1219	680	505	*760	3010	18"	407	1559	690	525	*812	3200							
20"	473	1321	720	575	*812	3600	20"	457	1686	725	595	*914	3800							
24"	571	1549	785	650	*812	5750	24"	534	1972	790	670	*914	6200							

For related reduced bore information please contact sales department or technology department of EDVC

For detailed information of other connection method, please contact sales department or technology department of EDVC;

For related information of double ball inline floating ball valve, please contact sales department or technology department of Douson;

For related information of seal sealing, please contact sales department or technology department of EDVC;

\* is the gearbox operation.

# EDVC

### Trunnion mounted ball valve

### Full Welding trunnion mounted ball valve

EDVC fully welded ball valve will not have uneven stress or deformation caused by earthquakes due to it is made from the same material like that of pipes, besides, its pipes are anti-aging, thus there is no external leakage etc. Compared with peer products of same specifications, Douson fully welded ball valve is compact, with beautiful appearance, its superb quality and high performance is better than the ordinary cast steel ball valve. Fully welded ball valve is widely applied in urban fuel gas, petrochemical industry and iron and steel smelting plant and other pipeline devices, have a service life of 15 years or above

## Standard

Design Standard: ASME B16.34/API 600

Test: API 600

Flange end: ASME B16.5

Welding end: ASME B 16.25

Face to Face: API 600

Fire-proof test: API 607/API 6FA

Sour service: NACE MR 0175

## Product Description

size: 2" ~40"

Pressure rating: CL150 ~ CL2500

Trunnion mounted ball structure: DBB/DIB structure

Emergency injection device of sealing grease

Fireproofing structure design

Automatic pressure relief of middle cavity of valve

Double blocking and bleed function

Blowout prevention structure of stem

Design of double-sealing mechanism before and after ball

Standard ISO interface for Actuator

and anti-static structure design



### Shell Welding

The valve shell adopts full automatic submerged arc welding machine. Uniform welding line without defects, such as air hole in narrow lane, etc; small thermal input, reduce the valve leakage caused by deformed welding or burned sealant; and the quality of the welding line shall be checked by X-ray flaw detection and dyeing penetration flaw detection.

### Weld thermal deformation slot

The groove is designed in valve shell weld location to prevent the heat being delivered to the sealing parts and absorb the welding deformation; thus the welding speed and welding yield of the valve can be improved.

### Extended Stem, grease injecting device and release device

In order to adapt to the requirement of buried valve pipeline, the Stem, grease injection device, release device and other similar equipment will be lengthened for the full welded valve again to meet the customer's requirement on the burying condition.

### Rotary mechanism of Seat

The inner parts can't be replaced because full welded ball valve is completely welded by the shell; the sealing part of the full welded ball valve must have high reliability and service life; the sealing surface friction position of the ordinary ball valve is constant when the valve is opened or closed; After opened and closed for many times, the sealing surface of the Seat at the contacting part of the ball is quickly worn relatively to other sealing surfaces; Thus we design a rotary seat to solve the problem, so that the different sealing surfaces can contact with the ball during the opening/closing process to improve the service life of the valve.

EDVC orbit ball valves are used to block, distribute or adjust medium flow in pipeline, it's a new valve widely used in recent years. It has the advantages both gate valve and ball valve, which is suitable for tight sealing and high flow capacity condition, it is suitable for chemical industry, petroleum industry, oil refining industry and urban supply pipelines. Except control the gas, liquid and steam medium, and also suitable for sewage and fiber containing medium.

## Product Description

Size: 2" ~ 24"  
Pressure rating: CL150 ~ CL600  
Medium temperature: -30°C ~ 450°C

## Standard

Design standard: ASM: B16.34/API 6D  
Test: API 6D  
Flange end: ASME B16.5  
Welding end: ASME B16.25  
Face to Face: API 6D  
Sour service: NACE MR 0175

## Structure Feature

1. Top entry structure is adopted by Douson, which enables direct on-line maintenance, reduces maintenance cycle of pipeline parking and thus saves costs.
2. The wedge-shaped seal structure designed by EDVC, the open and close of valve should be carried out by mechanical forces from Stem, and then the ball is sealed on the wedge-shaped Seat, which makes valve sealing performance is not affected by the pipeline pressure changes and thus greatly increases the reliability of valve seals.
3. Self-cleaning function of sealing surface: when the ball is away from the Seat, the fluid in the pipeline evenly passes through the sealing surface of ball around 360°, so that the washing of high-speed fluid to the local Seat and accumulated matter on the sealing surface are eliminated.
4. Open and close without friction avoid affecting the sealing problem due to the mutual friction among the traditional sealing surfaces.
5. EDVC selects single Seat design, and adds the pressure vent valve and drain valve in middle cavity to eliminate safety problems affect the operation which resulted from abnormal pressure caused by medium in the body cavity.
6. Stem design of special structure adopted by EDVC, which makes it to be opened and closed easily with a suitable hand wheel.



## Drop color

The drainboard is designed to prevent liquefaction of water vapor in the air flowing to the valve along the valve neck.



## Quality Control

1. The pressure-containing parts must be subjected to ultrasonic flaw detection.
2. All parts must be subjected to low temperature cryogenic treatment during the process, so that the phase change of the material is completely carried out and the deformation influence of the low temperature on the material is reduced.
3. The soft seat uses PCTFE material which has good low-temperature stability performance to guarantee the valve sealing performance under cryogenic temperature by using the interference pressing technology. It is convenient for the valve to replace the damaged soft seat.

## Product Description

Size: 2" ~ 12"  
Pressure rating: CL150 ~ CL2500  
Three-piece forging body  
Trunnion mounted ball valve, DBB/DIB structure  
Emergency injection device of sealing grease  
Fireproof structure design  
Automatic pressure relief of valve middle cavity  
Double-blocking and bleed function  
Anti-blowout design  
Double-sealing structure design before and after ball  
Standard ISO interface for Actuator  
Anti-static structure design

## Standard

The valve meets the requirements of ASME B16.34, API 6D, ASME B16.10, ASME B16.25, BS 5351, BS 6364, MESG 77/200 and other standards.  
Temperature range of ultra low temperature valve: -50°C ~ -196°C  
Extension length of valve cap conforms to the requirements of MESG 77/200 or BS 6364





## Structure characteristics of API6A ball valve of EDVC

- Nominal diameter: 1~13/16~11", working pressure: 2000psi~20000 psi ,design structure of reduced bore & full bore, integral forging of the Body and cap, improve the service life of the valve. The valve design can be designed with of DBB or DIB structure, or mixed design to satisfy different requirements of sealing performance.
- Conform to the flange, thread, welding of API and ANSI standard
- The valve shell seal uses two seals: O-ring and graphite wound gasket, the wound gasket provides fire-proof sealing, besides, the ball and Seat can also use metal-to-metal sealing if required by user's ,the sealing surface could be spray welded with materials like Ni60, Stellite, tungsten carbide and chromium carbide etc. according to different working conditions and medium.
- Using lip-seal packing seals, withstand a maximum pressure of 20000Psi, with low temperature resistant of ~120°C and high temperature of 345°C; All trunnion mounted ball valves are equipped with Stem grease injectors, 6" or above valves are equipped with Seat grease injectors; all grease injectors, Vent valves and drain plugs are made of stainless steel.
- The sliding bearings used in the valve are made by sintering copper powders, PTFE polymer on the stainless steel plates, and thus reduces the valve operating torque and guarantees their long service life of the bearing.



Metal seal top entry pneumatic valve

## API 6A double ball inline trunnion mounted ball valve

Two balls are installed on the valve which can be opened or closed at the same time, also can be one opened and another closed, the structure replaces the multiple valve series complex form of hard sealing, top entry, pneumatic ball valves in traditional pipelines, and thus reduces leakage points and save space.



3PCS Soft seal trunnion mounted ball valve

Material Type	Minimum requirement of material	
	Body, cap, and outlet connection	Air compressor parts, Stem
AA	Carbon or low alloy steel	Carbon steel or Low alloy steel
BB	Carbon or low alloy steel	Stainless steel
CC	Stainless steel	Stainless steel
DD <sup>a</sup>	Carbon or low alloy steel <sup>b</sup>	Carbon steel or Low alloy steel
EE <sup>a</sup>	Carbon or low alloy steel <sup>b</sup>	Stainless steel <sup>b</sup>
FF <sup>a</sup>	Stainless steel <sup>b</sup>	Stainless steel <sup>b</sup>
HH <sup>a</sup>	Corrosion resistance alloy <sup>b</sup>	Corrosion resistance alloy <sup>b</sup>
ZZ	NACE MR0175/ISO 15156 is not listed, or user provide the ZZ material information about Sour service and the test requirement.	
a. 指按NACE MR 0175定义		
b. 指符合NACE MR 0175。		

Temperature Type	Operating Range°C	
	min	max
K	-60	82
L	-46	82
N	-46	60
P	-29	82
R	Room temperature	
S	-18	66
T	-18	82
U	-18	121
V	-18	121
X	-18	180
Y	-18	345



## Ser. G(API 6D) – Metal to Metal Sealing Trunnion Mounted Ball Valve

HUB ends

The valve meet the DBB, fire safe (API 607) , anti-static, stem anti-blow out performance Seat and stem injection for emergency sealing.

Metal to Metal hard face sealing:

Ensure the sealing performance through strict control of ball roundness and the surface quality of tungsten carbide coating of the ball and seats.

Low torque design:

During the service period of the valve, the pressure of medium which react on ball will all transfer to the bearing, the pressure of seat would be not overload, so the valve torque is small, the deformation of seat is tiny, Seal performance is stable, long service life.

Corrosion resistant performance:

Exposed fasteners is conformed to the related requirements of the NACE – MR – 0103, all the surface treatment of XYLAN has superior corrosion resistance.



## Low temperature anti-corrosion top entry trunnion mounted ball valve

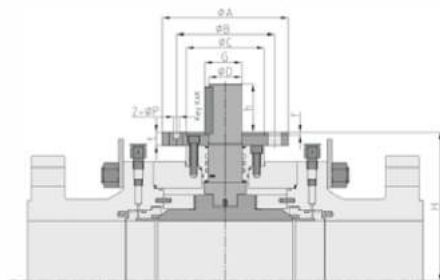
Temperature range: -105°C~+150°C;

the stem is sealed by Saint-Gobain combined packing;

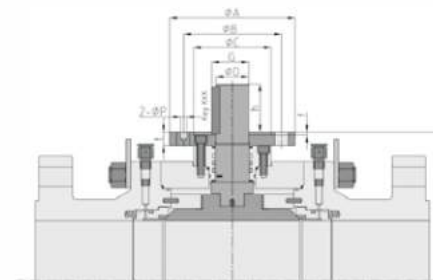
The surfaces of the upper and lower trunnion are coated with tungsten carbide to increase the hardness and abrasion resistance; and the material of valve adopts Inconel 625 stainless steel;

It has excellent anti-corrosive capacity against corrosive medium such as oxidizing and reducing environment.





Size inch	Pressure rating	Torque NM	Flange size mm							ISO 5211 Flange No.	Key size KxkX mm	G mm	D mm	h mm	H mm
			A	B	C	f	f <sub>1</sub>	e-e <sub>1</sub>	D						
2"	150	76	90	70	55	3	12	4-9	6	F07	6x6	25	22	25	103
	300	91	90	70	55	3	12	6x6	6	F07	6x6	25	22	25	103
	600	143	90	70	55	3	12	F07	6	F07	6x6	25	22	25	103
	900	231	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	117
	1500	349	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	117
	2500	798	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	135
3"	150	121	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	130
	300	159	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	130
	600	269	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	132
	900	524	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	142
	1500	887	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	147
	2500	1583	175	140	100	4	20	4-13	10	F14	12x8	48	45	65	165
4"	150	179	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	150
	300	355	125	102	70	3	15	4-11	8	F10	8x8	32	28	30	150
	600	670	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	160
	900	875	175	140	100	4	20	4-13	10	F14	12x8	48	45	65	172
	1500	1351	210	165	130	5	22	4-22	12	F16	14x9	54	50	75	185
	2500	2111	210	165	130	5	22	4-22	12	F16	14x9	59	55	80	205
6"	150	631	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	186
	300	854	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	186
	600	1609	175	140	100	4	20	4-13	10	F14	12x8	48	45	65	208
	900	1927	210	165	130	5	22	4-22	12	F16	14x9	59	55	80	215
	1500	3512	210	165	130	5	24	4-22	14	F16	16x10	64	60	90	255
	2500	5454	300	254	200	5	26	8-18	16	F25	16x10	69	65	95	305
8"	150	987	210	165	130	5	20	4-22	10	F16	12x8	48	45	60	233
	300	1562	210	165	130	5	20	4-22	10	F16	12x8	48	45	60	233
	600	2501	210	165	130	5	22	4-22	12	F16	14x9	59	55	80	250
	900	4012	210	165	130	5	22	4-22	14	F16	16x10	64	60	90	260
	1500	6513	300	254	200	5	25	8-18	16	F25	18x11	74	70	105	280
	2500	8495	300	254	200	5	28	8-18	16	F25	18x11	89	75	110	360
10"	150	1321	210	165	130	5	22	4-22	12	F16	14x9	59	55	80	280
	300	2304	210	165	130	5	22	4-22	12	F16	14x9	59	55	80	280
	600	3450	210	165	130	5	24	4-22	14	F16	16x10	64	60	90	290
	900	5017	300	254	200	5	25	8-18	16	F25	18x11	74	70	105	305
	1500	7996	300	254	200	5	28	8-18	16	F25	18x11	89	75	110	345
	2500	13148	300	254	200	5	28	8-18	16	F25	20x12	90	85	125	390



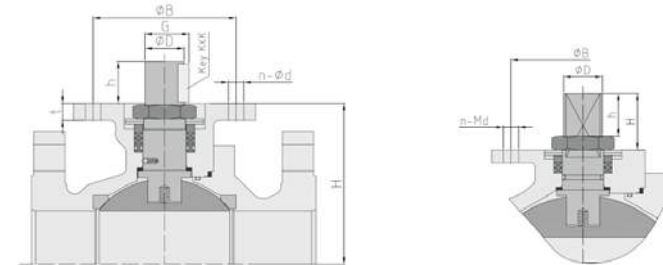
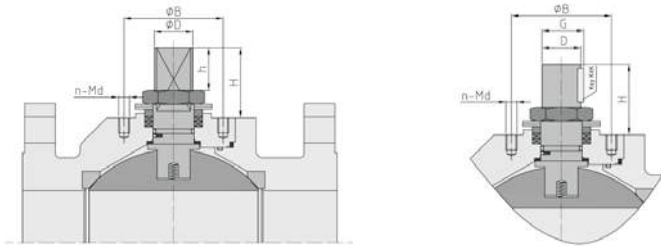
Size inch	Pressure rating	Torque NM	Flange size mm							ISO 5211 Flange No.	Key size Key mm	G mm	D mm	h mm	H mm
			A	B	C	f	T	b-H	B						
12"	150	1650	210	165	130	5	24	4-22	14	F16	16x10	64	60	90	315
	300	3041	210	165	130	5	24	4-22	14	F16	16x10	64	60	90	315
	600	4507	300	254	200	5	25	8-18	16	F25	18x11	74	70	105	345
	900	6512	300	254	200	5	28	8-18	16	F25	18x11	79	75	110	360
	1500	10078	300	254	200	5	28	8-18	16	F25	20x12	90	85	125	405
	2500	18007	300	254	200	5	30	8-18	16	F25	25x14	100	95	140	465
14"	150	2415	300	254	200	5	26	8-18	16	F25	16x10	69	65	95	353
	300	4019	300	254	200	5	26	8-18	16	F25	16x10	69	65	95	353
	600	6578	300	254	200	5	28	8-18	16	F25	18x11	89	75	110	370
	900	9489	300	254	200	5	28	8-18	16	F25	20x12	90	85	125	390
16"	1500	14860	300	254	200	5	30	8-18	16	F25	25x14	100	95	140	435
	150	3314	300	254	200	5	28	8-18	16	F25	18x11	79	75	110	393
	300	5350	300	254	200	5	28	8-18	16	F25	18x11	79	75	110	400
	600	9025	300	254	200	5	28	8-18	16	F25	20x12	90	85	125	420
	900	12877	300	254	200	5	30	8-18	16	F25	25x14	100	95	140	440
	1500	21857	350	298	230	5	32	8-22	20	F30	28x16	111	105	165	485
18"	150	5148	300	254	200	5	28	8-18	16	F25	18x11	89	75	110	435
	300	8375	300	254	200	5	28	8-18	16	F25	20x12	90	85	125	440
	600	13493	300	254	200	5	30	8-18	16	F25	25x14	100	95	140	462
	900	18975	350	298	230	5	32	8-22	20	F30	28x16	111	105	165	500
	1500	29032	350	298	230	5	38	8-22	20	F30	32x18	127	120	180	545
	20"	150	6425	300	254	200	5	30	8-18	16	F25	20x12	95	80	120
300		10987	300	254	200	5	30	8-18	16	F25	25x14	100	95	140	490
600		18502	350	298	230	5	32	8-22	20	F30	28x16	111	105	165	515
900		26048	350	298	230	5	38	8-22	20	F30	32x18	127	120	180	530
1500		40907	415	356	260	5	42	8-33	28	F35	36x20	148	140	210	580
24"	150	12379	300	254	200	5	32	8-18	16	F25	25x14	95	90	135	562
	300	19384	350	298	230	5	32	8-22	20	F30	28x16	116	110	165	570
	600	29546	350	298	230	5	38	8-22	20	F30	32x18	127	120	180	610
	900	42379	415	356	260	5	42	8-33	28	F35	36x20	148	140	210	630
	1500	65223	475	406	300	8	48	8-39	28	F40	40x22	169	160	240	730

Note:

1. The ball valve torque is based on normal temperature; the material of CL 150–CL600 seat is PTEE; the material of CL900–CL1500 seat is DEVLON; the material of CL2500 seat is PEEK; and it is obtained by theoretical calculation.
2. The shown torque can be used as the reference for selecting the actuator; when you select the model, we suggest considering 1.3–1.5 times of safety factor.
3. For there is great difference of torque between different material pairings (ball and seat); it is recommended to consult manufacturers.

## Top connection dimension and torque

## Top connection dimension and torque



Size inch	Pressure rating	Torque NM	ISO 5211 Flange No.	n-Md mm	Key size KxK mm	B mm	G mm	D mm	H mm	h mm
1/2"	150	12	F03	4-M5	Flat type12x8	36		12	16.5	8.5
	300	17	F03	4-M5	Flat type12x8	36		12	16.5	8.5
	600	30	F03	4-M5	Flat type12x8	36		12	16.5	8.5
	900	38	F03	4-M5	Flat type14x9	36		14	21	11
	1500	51	F03	4-M5	Flat type14x9	36		14	21	11
3/4"	2500	56	F03	4-M5	Flat type14x9	36		14	21	11
	150	14	F03	4-M5	Flat type14x9	36		14	21	11
	300	23	F03	4-M5	Flat type14x9	36		14	21	11
	600	38	F03	4-M5	Flat type14x9	36		14	21	11
	900	56	F04	4-M5	Flat type16x10	42		16	23	13
1"	1500	71	F04	4-M5	Flat type16x10	42		16	23	13
	2500	82	F04	4-M5	Flat type16x10	42		16	23	13
	150	27	F04	4-M5	Flat type16x10	42		16	25.5	13
	300	48	F04	4-M5	Flat type16x10	42		16	25.5	13
	600	66	F04	4-M5	Flat type16x10	42		16	25.5	13
1"	900	98	F05	4-M6	Flat type18x11	50		18	24.5	14
	150	130	F05	4-M6	Flat type18x11	50		18	24.5	14
	2500	191	F05	4-M6	Flat type18x11	50		18	24.5	14
	150	55	F05	4-M6	Flat type18x11	50		18	26	14
	300	89	F05	4-M6	Flat type18x11	50		18	26	14
1-1/2"	600	120	F05	4-M6	Flat type18x11	50		18	26	14
	900	189	F05	4-M6	6x6	50	23	20	40	25
	1500	238	F05	4-M6	6x6	50	23	20	40	25
	2500	321	F05	4-M6	6x6	50	23	20	40	25
	150	75	F05	4-M6	6x6	50	23	20	40	25
2"	300	100	F05	4-M6	6x6	50	23	20	40	25
	600	160	F05	4-M6	6x6	50	23	20	40	25
	900	240	F07	4-M8	8x8	70	32	28	49.5	31
	1500	350	F07	4-M8	8x8	70	32	28	49.5	31
	150	162	F07	4-M8	8x8	70	32	28	49.5	31
3"	300	216	F07	4-M8	8x8	70	32	28	49.5	31
	600	308	F07	4-M8	8x8	70	32	28	49.5	31
	900	610	F10	4-M10	8x8	102	32	28	51	31
	150	234	F10	4-M10	8x8	102	32	28	51	31
	300	476	F10	4-M10	8x8	102	32	28	51	31
4"	600	635	F12	4-M12	10x10	125	41	36	67	41
	150	804	F12	4-M12	10x10	125	41	36	67	41
	300	1338	F12	4-M12	10x10	125	41	36	67	41
	150	1410	F14	4-M16	12x12	140	51	45	90	60
	300	3100	F14	4-M16	12x12	140	51	45	90	60

Size inch	Pressure rating	Torque NM	ISO 5211 Flange No.	n-φd mm	Key size KxK mm	B mm	G mm	D mm	H mm	h mm	t mm
1/2"	150	12	F03	4-M5	Flat type12x8	36		12	14	9.5	6
	300	17	F03	4-M5	Flat type12x8	36		12	14	9.5	6
3/4"	150	14	F03	4-M5	Flat type14x9	36		14	16	11	6
	300	23	F03	4-M5	Flat type14x9	36		14	16	11	6
1"	150	27	F04	4-M5	Flat type16x10	42		16	20	14	6
	300	48	F04	4-M5	Flat type16x10	42		16	20	14	6
1-1/2"	150	55	F05	4-M6	Flat type18x11	50		18	20	14	8
	300	89	F05	4-M6	Flat type18x11	50		18	20	14	8
2"	150	75	F07	4-φ9	6x6	70	23	20	85	25.5	10
	300	100	F07	4-φ9	6x6	70	23	20	85	25.5	10
3"	150	162	F10	4-φ11	8x8	102	32	28	115	30	12
	300	216	F10	4-φ11	8x8	102	32	28	115	30	12
4"	150	234	F10	4-φ11	8x8	102	32	28	140	30	12
	300	476	F10	4-φ11	8x8	102	32	28	140	30	12
6"	150	804	F12	4-φ13	10x10	125	41	36	185	40	14
	300	1338	F12	4-φ13	10x10	125	41	36	185	40	14
8"	150	1410	F14	4-φ18	12x12	140	51	45	245	65	16
	300	3100	F14	4-φ18	12x12	140	51	45	245	65	16

## Note:

- The ball valve torque is based on normal temperature; the material of CL150-CL600 base ring is PTEE; CL900-CL1500 base ring material is DEVLON; the material of CL2500 base ring is PEEK; and it is obtained by theoretical calculation.
- The shown torque can be used as the reference for selecting the driver; when selecting the model, we suggest considering 1.3~1.5 times of safety factor.
- For there is great difference of torque between different material pairings (spherical body and housing washer), it is recommended to consult manufacturers.

## Flow coefficient of ball valve (CV value)

Size (inch)	CL150	CL300	CL600	CL900	CL1500
1/2"	24	24	24	24	24
3/4"	53	53	53	53	53
1"	92	92	92	92	92
2001/1/2	211	211	211	211	211
2"	381	381	381	381	381
3"	845	845	845	845	845
4"	1523	1523	1523	1523	1523
6"	3381	3381	3381	3381	3120
8"	6031	6031	6031	6031	5508
10"	9442	9442	9442	9442	8500
12"	13614	13614	13614	13614	12223
14"	16621	16621	16621	15363	14800
16"	21920	21920	21920	20581	19178
18"	28076	28076	28076	26435	24243
20"	34995	24995	24995	32743	30565
22"	42676	42676	42676	40184	35860
24"	51117	51117	51117	47884	41733

## Notes

- All dimensions are nominal diameter.
- Pressure rating are consistent with API 6D.

## Method of flow coefficient calculation

Cv value of flow coefficient is the flow that the water passes through the totally opened valve with 1PSI pressure drop (gallon/min.). Cv value can be calculated by the following formula;

Liquid Flow:

$$Q_L = C_v(P/G)^{1/2}$$

Q<sub>L</sub>=Flow rate of liquid (gal./min)

P=Differential pressure across the valve

G=Specific gravity of liquid (for water, G=1)

Gas Flow:

$$Q_g = 61C_v(P_2/P)^{1/2}$$

(For non-critical flow, P<sub>2</sub>/P<1)

Q<sub>L</sub>=Flow rate of gas (CFH at STP)

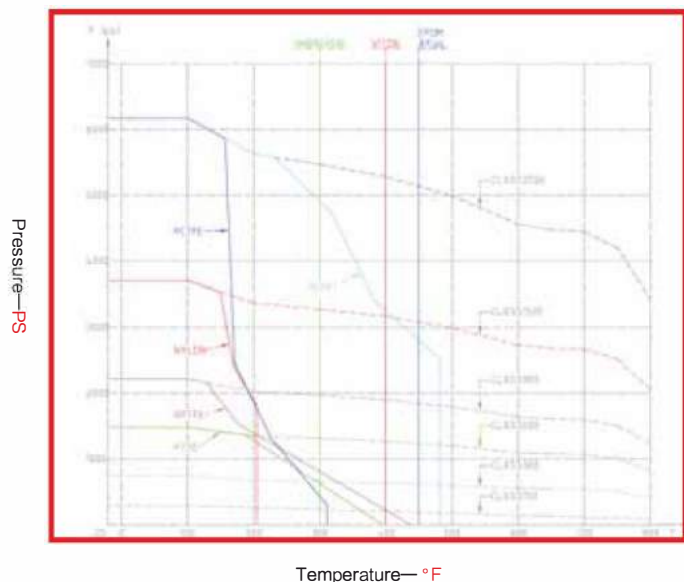
P<sub>2</sub>=Outlet pressure(psia)

G=specific gravity of gas (for air, g=1.0)

Scope of application of common sealing material of ball valve

Material	Application temperature/°C		Maximum pressure level			Applicable medium
	Min.	Max.	Seat	Stem	Seal	
NYLON1010	-40	120	CL1500	N/A	N/A	Water, oil, gas, weak acid and other medium
NYLON12	-50	100	CL1500	N/A	N/A	Water, oil, gas, weak acid and other medium
DEVLOX	-100	140	CL1500	N/A	N/A	Water, oil, gas, weak acid and other medium
PEEK	-60	220	CL2500	N/A	N/A	All medium except strong acid or oxidant ones.
PTFE	-100	200	CL600	CL2500	CL2500	Applicable to all medium
PCTFE	-196	150	CL2500	N/A	N/A	Applicable to all medium
MOLON	-50	120	CL1500	N/A	N/A	Water, oil, gas, weak acid and other medium
VITON A	-20	180	N/A	CL900	CL900	The medium corrosion resistance is better than other rubbers; and it resists to the radiation and acid.
VITON B	-25	200	N/A	CL900	CL900	The medium corrosion resistance is better than other rubbers; and it resists to the radiation and acid.
VITON GLT	-45	230	N/A	CL900	CL900	The medium corrosion resistance is better than other rubbers; and it resists to the radiation and acid.
VITON AED	-25	200	N/A	CL2500	CL2500	The medium corrosion resistance is better than other rubbers; and it resists to the radiation and acid.
FFKM	-25	327	N/A	CL2500	CL2500	The corrosion resistance is better than other fluorine rubber; and the high temperature performance is excellent.
NBR	-30	120	N/A	CL900	CL900	Good resistant to fatty hydrocarbon oil fuel and other organic substance, and good resilience.
HNBR	-40	160	N/A	CL2500	CL2500	Resistant to all kinds of fuel oil and other organic substances, Good resistance to chemical corrosion and good weathering resistance
EPDM	-40	120	N/A	CL2500	CL2500	Salt water, 40% boron water, 5%-15% nitric acid and sodium chloride etc.
AFLAS	5	200	N/A	CL2500	CL2500	Good resistance to steam and radiation performance; resistant to all chemicals and good weathering resistance.

Temperature pressure curve of common sealing material



Provided by EDVC

Delivery

Guide installation

Trouble shooting and repairing

Defective product recall and replace

Regular maintenance and protection

Use training

Transportation

## Selection of valves:

If the valve has no other special requirements, it can be purchased according to the number rules of **EDVC** valve; the users must know about the number specification of the **EDVC** valve when purchasing the valve product; although it is hard for the user, but the user can select the suitable number according to the needed product parameter so that the provided valve can conform to the user's demands totally; also the user can contact with the sales Department of **EDVC** directly, and **EDVC** can provide professional consultation and service.

## Transportation, storage and installation of the valve:

1. During storage, both ends of valve channels should be blocked by cover plates and then keep the valve in a dry indoor place with good ventilation. If long-term storage is needed, it should be regularly checked and cleaned to remove the dirt, the an-rust oil needs to be applied to the finished surface which is exposed in surroundings to prevent rust.
2. The valve should be stored in a dry room rather than outside to avoid possible damaged resulted from exposure to dampness.
3. Before transportation, these valves must be tested and debugged according to methods or standards stipulated in the contract to avoid operation errors. For pneumatic or electric valves, they must satisfy the power source requirements listed in their instructions of pneumatic or electric devices. If the user needs test and inspect, it must be carried out according to the standard requirement; it must prevent poor deserved performance due to the error test method; the accumulated water in the valve shall be cleared after the pressure test; and then the valve can be stored.
4. When installing the valve, cover plates on both sides must be removed. For welding end valves, the valve should be protected during the welding process of valves and pipelines to avoid any adverse effect on the valve caused by high temperature.
5. For valves that have installation directions, their installation should be in accordance with the direction arrow on Body to prevent installation error.

## Operation method :

1. Manual valve: when the handle is at the position parallel to the pipeline, the valve is at opening position; when the handle is at 90 degree, the valve is at closing position. The handle rotates clockwise to close the valve; and the handle rotates anticlockwise to open the valve.
2. Turbine drive valve; it is identified according to the switch indication on the operation device of the valve; the hand wheel rotates clockwise to close the valve; and the hand wheel rotates anticlockwise to open the valve.
3. Pneumatic, electric, gas-liquid linkage and electro-hydraulic linkage valves should be operated according to the related driver specifications.