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KURVALF

FULLY WELDED TRUNNION BALL VALVES

Fully welded ball valves are used at pipelines for their strength and low maintenance purpose and prefered mostly for underground and aboveground applications. Their design allows lightweight structure and leakage resistance at optimum level.



WHERE TO USE

- On/Off Shore Oil and Gas Production
- Subsea Oil and Gas Production
- Oil and Gas Storage
- Oil and Gas Transportation
- Oil and Gas Gathering Systems
- Gas Re-injection Plants
- Gas Treatment Plants
- LPG and LNG Production
- LPG and LNG Storage
- LPG and LNG Transportation
- Petrochemical Industry
- Metering Systems
- Refining Industry



SIZE RANGE 6" - 56" (DN150mm - 1400mm)



PRESSURE RATINGS ANSI Classes: 150 - 2500



BORE Full bore & reduced bore



END CONNECTIONS Flanged or welded

FEATURES

- Trunnion mounted (low operating torque)
- Bubble-tight sealing from zero to full rated pressure.
- Metal-to-metal primary seal protected o-ring secondary seal.
- Double stem seals can be replaced with pipeline under pressure.
- Integral mechanical stops.
- Both upstream and downstream seat seals capable of sealing upstream pressure.
- Full block and bleed capability.
- Seal integrity can be checked by pressurising the body cavity only.
- Piggable.

REFERENCE STANDARDS										
Valves Design Standard :	ISO 17292, API 6D, ISO 14313									
Face To Face Std :	ANSI B16.10									
End Connection :	ANSI B16.5 / ANSI B.16.25 DIN EN 1092-1									
Testing :	API 6D / API 598									
Fire safe testing :	API 607 / ISO 10497 / API 6FA									
Certificate Acc. to :	10204 3.1 - 3.2									

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VALVE PART LIST

ITEM	PART NAME	QTY	MATERIAL
1	Ball	1	ASTM A105 + ENP
2	Body	1	ASTM A105
3	Bonnet	7	ASTM A216 WCB
4	Stem	1	AISI 4140 + ENP
5	Gland	1	ASTM A105
6	Trunnion	1	ASTM A105
7	Gearbox Flange	1	AISI 1040
8	Drain Plug	1	ASTM A105
9	Stem Lubrication	1	ASTM A105
10	Sealant	4	ASTM A105
11	Key	1	C45
12	Seat	2	ASTM A105 + ENP
13	Seat Seal	2	PTFE
14	Thrust Washer	2	STEEL+C.G.

ITEM	PART NAME	QTY	MATERIAL
15	Thrust Washer	1	STEEL+C.G.
16	Bush	1	STEEL+C.G.
17	Bush	2	STEEL+C.G.
18	Lifting Device	2	ST 32
19	Valve Feet	2	ST 32
20	O-Ring	1	NBR
21	O-Ring	2	NBR
22	O-Ring	2	NBR
23	O-Ring	2	NBR
24	Gasket	1	GRAPHITE
25	Gasket	2	GRAPHITE
26	Bolt	6	DIN 8.8
27	Springs	32	INOX
28	Pin	2	DIN 8.8

For sour / low gas service material options contact us...

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VALVE DESIGN & TEST



VALVE DESIGN & ANALYSIS

All valve designs, have been asset stress analysis to ensure pressure contained parts performance before manufacturing process.

VALVE REACTION & PRESSURE TEST

All KURVALF products are tested in accordance with API 598 standards with digitally aided valve test machines which correspond %100 of modern requirements. Each valve is delivered to customers as EN10204 3.1 certificated. The types of test performed as follows:

- Shell test
- Back-seat test

- Low pressure closure testHigh pressure closure test
- Visual examination of casting
- High pressure pneumatic shell test



values). 1N_m2

LEAKAGE T	EST TABLE	HYDROSTATIC S	EMI OPEN BODY	HYDROSTATIC (Working pres	SEAT TEST	PNEUMATIC SEAT TEST					
API 598		(Working pre	essure x 1,5)	(···· , ,						
ISO - 5208		Pressure (Bar)	Time	Pressure (Bar)	Time	Pressure (Bar)	Time				
ANSI 150	Working pressure 20 Bar	30 Bar		22 Bar							
ANSI 300	Working pressure 51 Bar	76 Bar	Depends on nominal diameter	57 Bar	Depends on nominal diameter	6 Bar	Depends on nominal diameter				
ANSI 600	Working pressure 102 Bar	153 Bar	diameter	113 Bar	ulumeter		uluniter				
DN 15 - 100 (1/2" - 4")			2 minute		2 minute		2 minute				
DN 150 - 250 (6" - 10")		ANSI 150 30 Bar ANSI 300	5 minute	ANSI 150 - 22 Bar ANSI 300 - 57 Bar ANSI 600 - 113 Bar							
DN 300 - 450 (12" - 18")		76 Bar ANSI 600	15 minute		5 minute	6 Bar	5 minute				
DN 500 and bigger		153 Bar	30 minute								





TORQUE TABLE (FULL BORE) (Nm)

CLASS	2″	3″	4″	6″	8″	10″	12″	14″	16″	18″	20″	24″	28″	30″	32″	36″	40″	42″
150	80	120	200	300	440	700	830	1.050	1.460	2.400	3.340	6.890	11.700	17.500	24.000	29.500	35.000	45.000
300	110	190	240	430	700	1.150	1.300	1.550	2.800	3.450	4.520	8.530	17.000	23.000	28.500	36.000	44.000	53.000
600	145	260	275	600	900	1.830	2.100	2.550	3.900	4.500	5.400	13.100	24.500	29.500	35.000	48.000	59.000	68.000

Before selecting proper size, take consideration on factor of safety. Recommended factor of safety for general usage is min. 1,5 times of required torque value.

TORQUE MEASUREMENT

By making all torque measurements of our valves in the most correct way with torque measurement devices, we provide cost advantage and longevity for our customers on the equipment they chose.

Torque measurement values may show an alteration depending on valve design type and fluid type. Frequently used BTO values are shown in the table. All measurements are BTO torque values and they are for ball valves with soft and hard seat.

It is recommended to add a safety factor of 1.5 times, when selecting an actuator above the torque values.

For MTM seat, hard insert seat and other type valve torque information, please contact with us.





Ball surface plating with 150 micron TCC.

METAL COATING TYPES

- Stellite
- Tungsten Carbide
- Nickel Bore
- Special coatings available

METAL TO METAL SEAT

Mainly used abrasive fluids, severe service and corrosive fluids also high temperatures and pressures.



SOFT SEAT

Soft seats are provide excellent sealing performance and for used normal condition and normal temperature and aggressive environments.



DESIGN FEATURES

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SINGLE PISTON EFFECT

This type of seat design can ensure a tight contact with the ball in only single direction. In fact, when the line (so the valve) is under pressure (upstream), the seat is pushed toward the ball normally. It is called single piston effect due to one side seat ring pushed toward the ball.

DOUBLE PISTON EFFECT

As the name of it indicates, this type of seat design provide a tight contact with the ball in the normal direction, and also in the reverse direction. So, both sides upstream and downstream can be sealed for better leakage proof. Its design allows to use body cavity pressure to push downstream side ring toward the ball also. It is called double piston effect due to both side seat ring pushed toward the ball.

ANTI STATIC DEVICE

Spring plus graphite type antistatic device are applied between the ball, stem, gland flange and body, to keep the electrical continuity between all the metallic components, and ensure the resistance lower then the most severe service requirement.

BLOW-OUT PROOF STEM

This design ensures the valve stem cannot blown out of the body in the event of the gland being removed while the valve is under pressure. To prevent stem blow out from body, the stem has a shoulder in the lower part and so constructs that it may not blow out upwards.





DOUBLE BLOCK AND BLEED

When the ball is in the closed position, each seat seals off the process medium independently at the same time between the up/down stream and body cavity; it allows bleeding of the trapped cavity pressure (DBB) through drain or vent valve. The double block and bleed function makes it possible to flush the valve under pressure and verify that the seats are sealing properly.

STEM SEAL

For high pressure or large size valves, double o-rings located in the upper stem area are used to ensure positive sealing. And upon request, additional stem seal injection fittings are provided to be utilized in the case of emergencies, o-ring damage, or if stem leakage occurs.



EMERGENCY SEAT SEAL

In the event of damage to the valve seat, sealant can be injected to temporarily seal the valve until maintenance can be performed. It provides high integrity shut-off. On request, secondary seat sealant injection fittings are installed.







Today, Kurvalf has 2000 tons per year capacity with production of ball valves, plug valves and pressure vessels, heat exchangers, gas filters, odorization tank for Oil & Gas industry. Our company is well-known in domestic market and working with private and governmental organizations for pipelines. Also, we have international sales to Romania, Greece Iran, Iraq, Kazakhstan, Turkmenistan, Spain, Azerbaijan, Tunisia.

Kurvalf has

- API 6D
- API 6A
- ISO 9001:2015
- 2014/68/EU Certificate
- TS EN ISO 17292
- Heat Exchanger-2014/68/EU Module H1 Cert.
- Filter 2014/68/EU Module H1 Cert

- Fire Safe Cert. 10497
- Fire Safe Cert. for Floating Valves acct. 10497
- Fire Safe Cert. API 6FA
- EAC Declaration
- ATEX for Actuators Cert.
- EN ISO 14141 Valve Performance Certificate





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