

## Trunnion Mounted Ball Valves Structure Properties

### General

The Trunnion mounted ball valves designed in accordance with API 6D for classes ASME class 150,300, 600, 900, 1500 and 2500.

Tow-piece split body cast steel or forged steel side entry design bolted connections between body and closure, trunnion bolted connection, body thickness comply with ANSI B16.34.

Seat ring is floating type, spring loaded to assure the contact with the ball in order to provide an effective tight seal even at low differential pressure between cavity and downstream closure.

Standard design is soft seated.

A different soft seat materials are available based on the customer working condition.

Available in full and reduced bore.

Electric, pneumatic and hydraulic actuator are available based on customer requirement.

Valves have been designed for use with various combinations of materials such as Carbon steel, Low carbon steel, special alloy; stainless steel, MONEL and Inconel.

### Body Joint Construction

The boiled body designs include at tight tolerance overlapping metal fit between the body and the adapter to minimize any possibility of movement due to pipeline stress.

High temperature spiral wound stainless steel / grafoil filled gasket is used for absolute seal.

Body and adaptors are dimensioned for metal contact to ensure correct gasket crush.

### Stem design / Anti Blowout

The stem is made separately from the ball, anti-blow-up design with suitable PTFE and graphite ring and antistatic devices, See Fig.1

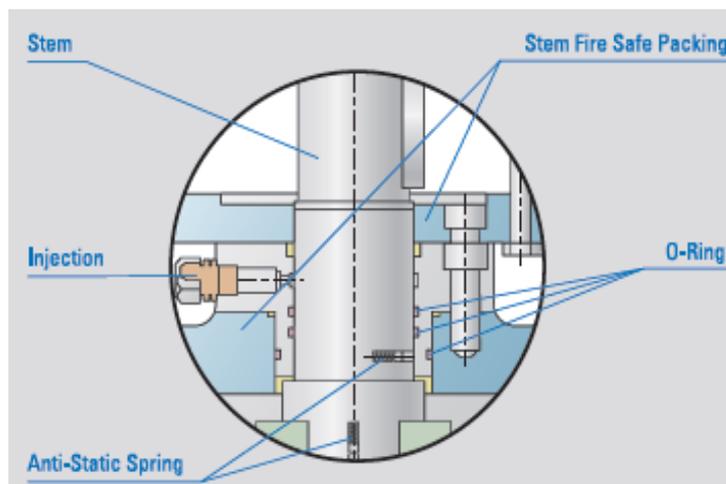


Fig 1

Subject to alternation

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**Nero Trunnion Mounted Ball Valves**

**Anti-Static Device**

All flow control- floating flange ball valves include dual grounding systems from stem to ball and stem to body. Valve testing to BS 5351 and BS 5146 was performed for all sizes, and witnessed by a third party inspection company. See Fig. 1

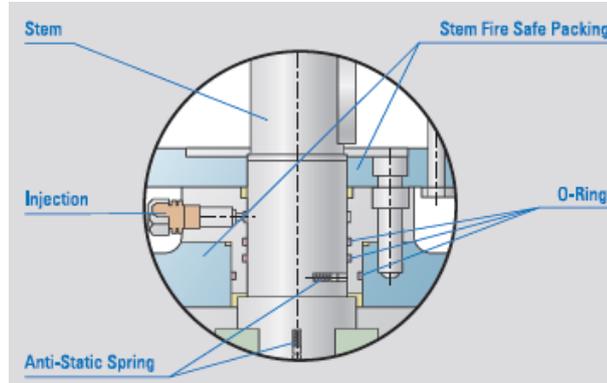


Fig 1

**Emergency Sealant injection**

The trunnion Type ball valves are filled with emergency seal to restore sealing in case of soft seal damage. See Fig 1 & Fig 2

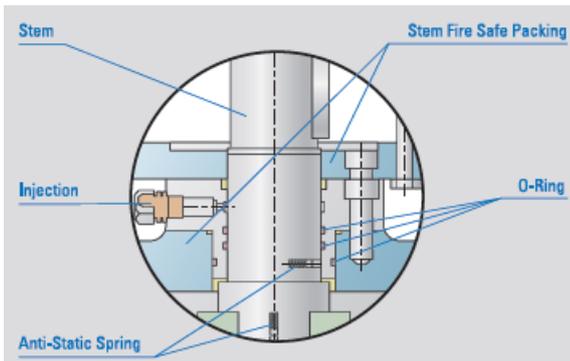


Fig 1

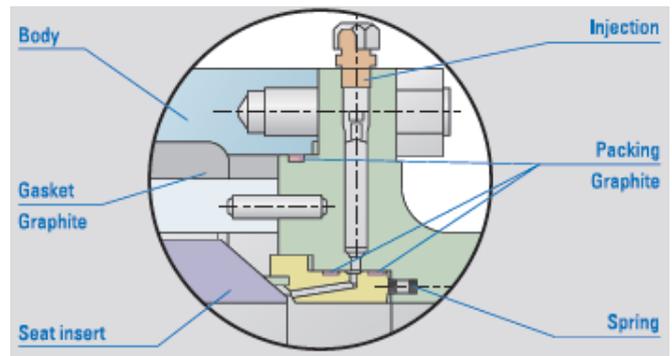


Fig 2

**Fire Safety**

All fire-safety valves conform to API 607 and API 6FA standards. See Fig.1 & Fig. 2

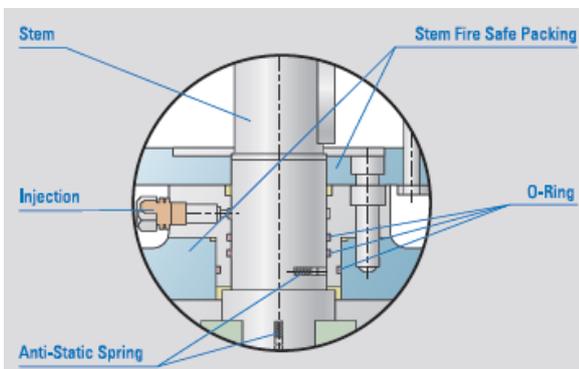


Fig 1

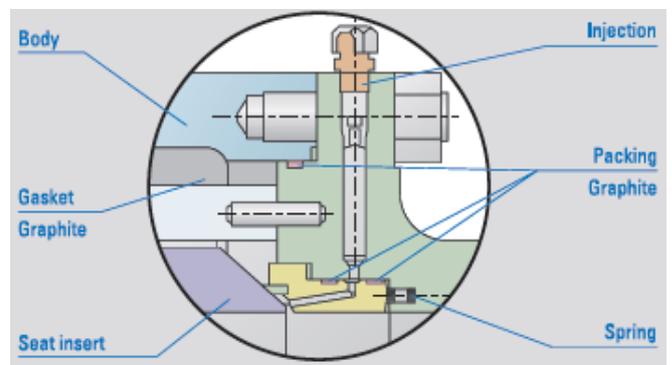


Fig 2

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## Trunnion Mounted Ball Valves

**Model: NVT S2**

**Side entry Design, two -piece Body**



### 1.- Features:

Side entry Design, two -piece Bod

Valve design according to API6D for pipeline service

Antistatic and anti blow-out stem design

Seat design with perfect tightness, available either as self-relieving type or double piston effect type

Design minimizes friction leading to low operating torque.

Available as double block and bleed model which allows venting and draining of fluid from the body cavity

Available full and reduced bore

Ball valve fire safe tested acc. to BS EN 12266-2, API 6FA and API 607.

Electric, pneumatic and hydraulic actuators are available upon customer's requirement

### 2. Material Specifications

Parts	Standard	Parts	Standard
Body	A216 WCB	Nut	A194 2H
CAP	A216 WCB	Seal cover Bolt	A193 B8
Ball	A351 CF8M	Pad Bolt	A193 B8
Stem	A276 T316	Gear Box Bolt	A194 B7
Seat ring	PTFE	PIN-A	SS304
Packing	PTFE	Pin-B	SS304
Gasket	PTFE	Pin-C	SS307 X7
Gasket	PTFE	Spring	Inconel X50
Fire Safe Seal	Graphite	Sealant Fitting	SS304
Seat Retainer	A276 T316	Drain Plug	SS304
Trunnion Plate	A376 T316	Sealant Injection	SS304
Seal Cover	A105	Check Valve	SS304
ISO Mounting PaD	A105	Vent Plug	SS304
Key	A576 1045	Back Up Ring	PTFE
Stem Bearing	DU-Bush	O-Ring	NBR
Trunnion Bearing	DU-Bush	O-Ring	NBR
Pad Bearing	DU-Bush	Back Up Ring	PTFE
Thrust Bearing	SS304+PTFE	O-Ring	NBR
Thrust Bearing	DU-Bush	Cap Bolt	A193 B7
O-Ring	NBR	Back Up Ring	PTFE
Back Up Ring	PTFE	O-Ring	NBR
O-Ring	NBR		

### Other Material on request

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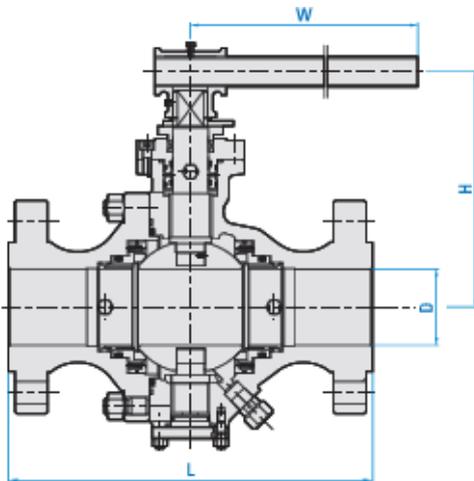
## Trunnion Mounted Ball Valves

**Model: NVT S2**

**Side entry Design, two -piece Body**

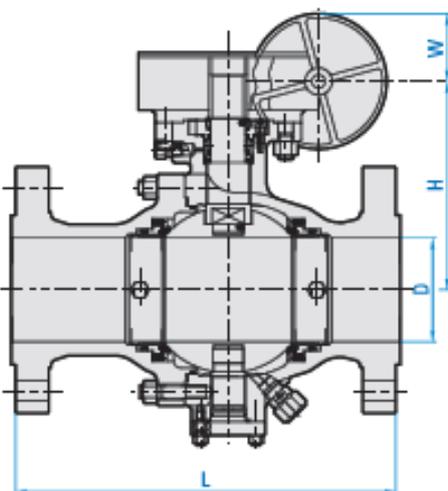


**Full Port/ Class 150**



Size(in.)	D(mm)	L(mm)	H(mm)	W(mm)	Weight(kg)
2	51	178	185	230	17
3	76	203	193	400	33
4	102	220	231	460	50
6	152	394	390	1000	93
8	203	457	495	*500	166
10	254	533	505	*500	273
12	305	610	560	*500	475
14	337	686	600	*500	570
16	387	762	750	*500	778
18	438	864	845	*500	935
20	480	914	910	*500	1190
22	540	1016	1000	*500	1346
24	591	1067	1065	*500	1579

**Reduce Port/ Class 150**



Size(in.)	d(mm)	D(mm)	L(mm)	H(mm)	W(mm)	Weight(kg)
3x2x3	51	76	203	185	230	30
4x3x4	76	102	229	193	400	47
6x4x6	102	152	394	231	400	90
8x6x8	152	203	457	390	460	161
10x8x10	203	254	533	495	1000	268
12x10x12	254	305	610	505	*500	467
14x12x14	305	337	686	560	*500	560
16x14x16	337	387	762	600	*500	766
18x16x18	387	438	864	750	*500	902
20x18x20	438	489	914	845	*500	1130
22x20x22	489	540	1016	910	*500	1300
24x22x24	540	591	1067	1000	*500	1520

**\* Gear operator**

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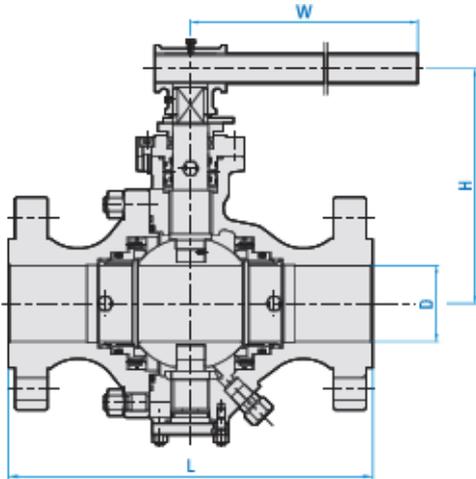
### Trunnion Mounted Ball Valves

Model: NVT S2

Side entry Design, two -piece Body

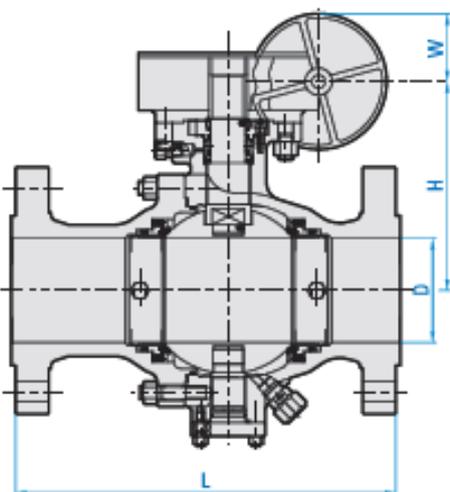


#### Full Port/ Class 300



Size(in.)	D(mm)	L(mm)	H(mm)	W(mm)	Weight(kg)
2	51	216	185	230	18
3	76	283	193	400	40
4	102	305	231	750	63
6	152	403	390	1000	150
8	203	502	495	1500	240
10	254	568	505	*500	305
12	305	648	560	*500	507
14	337	762	600	*500	602
16	387	838	750	*500	1000
18	438	914	845	*500	1160
20	489	991	910	*500	1320
22	540	1092	1000	*500	1540
24	591	1143	1065	*500	1874

#### Reduce Port/ Class 300



Size(in.)	d(mm)	D(mm)	L(mm)	H(mm)	W(mm)	Weight(kg)
3x2x3	51	76	283	165	230	38
4x3x4	76	102	305	193	400	60
6x4x6	102	152	403	231	750	147
8x6x8	152	203	502	390	1000	234
10x8x10	203	254	568	495	1500	295
12x10x12	254	305	648	505	*500	488
14x12x14	305	337	762	560	*500	570
16x14x16	337	387	838	600	*500	910
18x16x18	387	438	914	750	*500	1020
20x18x20	438	489	991	845	*500	1280
22x20x22	489	540	1092	910	*500	1360
24x22x24	540	591	1143	1000	*500	1670

\* Gear operator

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Industrial Valves: DIN · API · ASME

**Nero Trunnion Mounted Ball Valves**

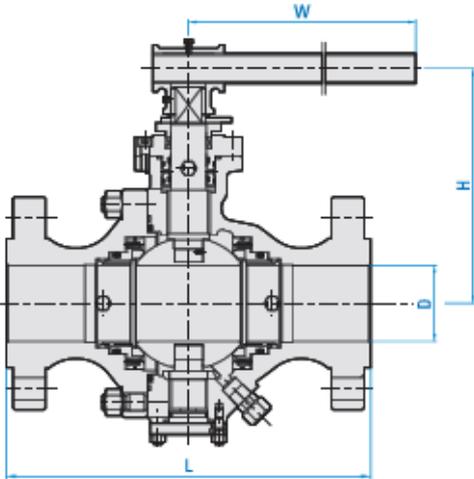
**Trunnion Mounted Ball Valves**

**Model: NVT S2**

**Side entry Design, two -piece Body**

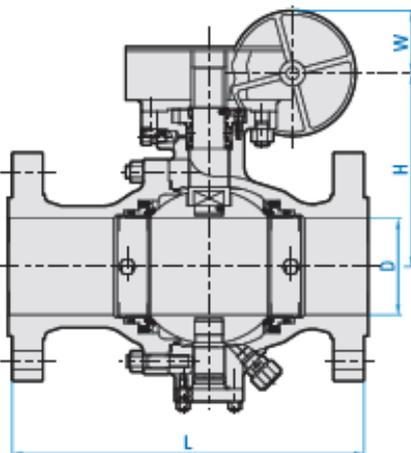


**Full Port/ Class 600**



Size(in.)	D(mm)	L(mm)	H(mm)	W(mm)	Weight(kg)
2	51	292	176	400	27
3	76	356	247	750	50
4	102	432	335	1000	80
6	152	559	420	1500	220
8	203	660	430	*500	350
10	254	787	520	*500	600
12	305	838	665	*500	820
14	337	889	720	*500	1130
16	387	991	780	*500	1550
18	438	1092	950	*500	2100
20	489	1194	1010	*500	2800
24	591	1397	1120	*500	3626

**Reduce Port/ Class 600**



Size(in.)	d(mm)	D(mm)	L(mm)	H(mm)	W(mm)	Weight(kg)
3x2x3	51	76	356	176	400	41
4x3x4	76	102	432	247	750	70
6x4x6	102	152	559	335	1000	122
8x6x8	152	203	660	420	1500	255
10x8x10	203	254	787	430	*500	440
12x10x12	254	305	838	520	*500	662
14x12x14	305	337	889	665	*500	1060
16x14x16	337	387	991	720	*500	1440
18x16x18	387	438	1092	780	*500	1860
20x18x20	438	489	1194	950	*500	2400
24x20x24	489	591	1397	1010	*500	3240

**\* Gear operator**

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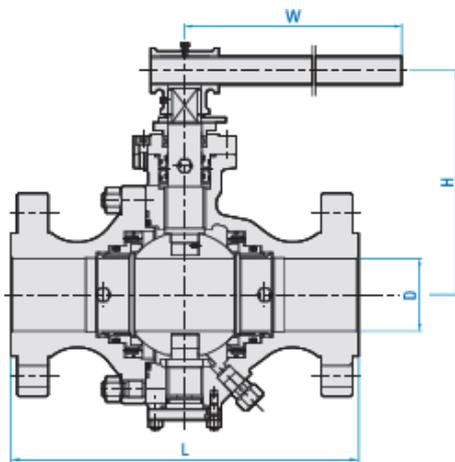
### Trunnion Mounted Ball Valves

Model: NVTs2

Side entry Design, two -piece Body

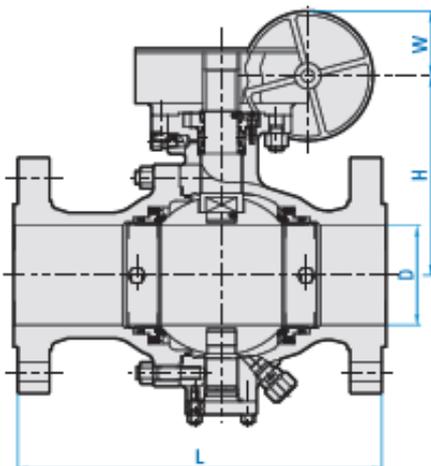


Full Port/ Class 900



Size(in.)	D(mm)	L(mm)	H(mm)	W(mm)	Weight(kg)
2	51	368	192	460	52
3	76	381	279	1000	97
4	102	457	355	1500	138
6	152	610	385	*500	288
8	203	737	460	*500	448
10	254	838	600	*500	748
12	305	965	690	*500	1018
14	324	1029	785	*500	1398
16	375	1130	850	*500	1828
18	426	1219	915	*500	2328
20	473	1321	975	*610	2928
24	572	1549	1030	*610	4178

Reduce Port/ Class 900



Size(in.)	d(mm)	D(mm)	L(mm)	H(mm)	W(mm)	Weight(kg)
3x2x3	51	76	381	192	460	83
4x3x4	76	102	457	279	1000	103
6x4x6	102	152	610	355	1500	201
8x6x8	152	203	737	385	*500	348
10x8x10	203	254	838	460	*500	598
12x10x12	254	305	965	600	*500	788
14x12x14	305	324	1029	690	*500	1100
16x14x16	324	375	1130	785	*500	1420
18x16x18	375	426	1219	850	*500	1928
20x18x20	426	473	1321	915	*500	2428
24x20x24	473	572	1549	975	*610	3578

\* Gear operator

Other dimensions and class on request

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