

NELES® TRUNNION MOUNTED, BALL VALVES, FULL BORE, SERIES XH

With over 40 years of experience with trunnion-mounted ball valves, Metso has designed this ball valve to mount on two large, low-friction trunnion bearings, with the spring-loaded seat in continuous contact with the ball surface.

The trunnion mounted XH valve can be used for high cycle shut-off and throttling service with high pressure differentials.



Applications

- ☐ Chemical and petrochemical plants.
- ☐ Oil and gas production.
- ☐ Power plants.
- ☐ Natural gas.
- ☐ Crude oil.
- ☐ Coal gasification
- ☐ Hydrocarbons.
- ☐ Polymers.
- ☐ Catalyst handling.
- ☐ Liquids, gas and steam.
- ☐ From cryogenic to high temperature services.
- ☐ Control and shut-off.
- ☐ LNG.

Pressure Classes

- ☐ ASME 900

Trunnion mounted

- ☐ Low operating torque.
- ☐ Fully rated seats.
- ☐ Smooth control.
- ☐ Double block & bleed.
- ☐ Quick operations.
- ☐ High cycle capability.
- ☐ Full bore
- ☐ Maximum Cv per nominal size.
- ☐ Cylindrical flow path allows low flow resistance.
- ☐ Full bore design for API requirements.

Increased safety

- ☐ Live-loaded construction as standard.
- ☐ Spiral wound body joint gasket.
- ☐ Anti-blowout shaft.

Tightness

- ☐ Durable two-way ISO 5208 Rate C or ANSI Class V tightness as standard with spring-loaded metal seats.
- ☐ Available with improved tightness rates.
- ☐ ISO 5208 Rate B or ANSI Class VI shut-off as standard with soft seats.

Minimized emissions

- ☐ Live-loaded gland packing.
- ☐ Off-center body joint.
 - ☐ Uninterrupted circular spiral wound body gasket.
 - ☐ No bending forces to gland packing.

Excellent control characteristics

- ☐ Equal percentage inherent characteristic.
- ☐ Self flushing, low noise anti-cavitation Q-Trim is optional.
- ☐ High noise reduction Q2-Trim for gas applications.

TECHNICAL SPECIFICATION

Product type

Full bore trunnion mounted ball valve.
Split body design.
Flanged.

Pressure ratings

ASME Class 900

Size range

2"...24" in ASME Class 900.

Standard temperature range

-50 °C...+425 °C,
consult factory for higher temperature applications

Material and test certification

Design standard

Valve body	ASME B16.34.
Valve flanges	ASME B16.5.
Face-to-face	ASME B16.10 long pattern.
Actuator mounting	ISO 5211.

Standard materials

Body	ASTM A350 gr. LF2. ASTM A351 gr. CF8M.
Ball	ASTM A351 gr. CF8M/AISI 316 + Carbide with metal seats.
Bearings	PTFE or cobalt based alloy.
Seats	AISI 316+cobalt based alloy. Soft seats with PA material.
Seals/gaskets	AISI 316+PTFE insert. Graphite.
Body gaskets	Spiral wound with graphite filler.

Gland packing
Bolting

Graphite with live loaded construction.
B8M/8M with stainless steel body.
L7M/2HM with carbon steel body.

Standard options

Oxygen cleaning
Non-metallic materials compliance to Oxygen service
BAM compatible
High temperature linkages.
Degreasing.
High temperature design.
Carbide or NiBo ball coating
MR 0103 and MR 0175.

EN10204-3.1 material certificates for body and bonnet.

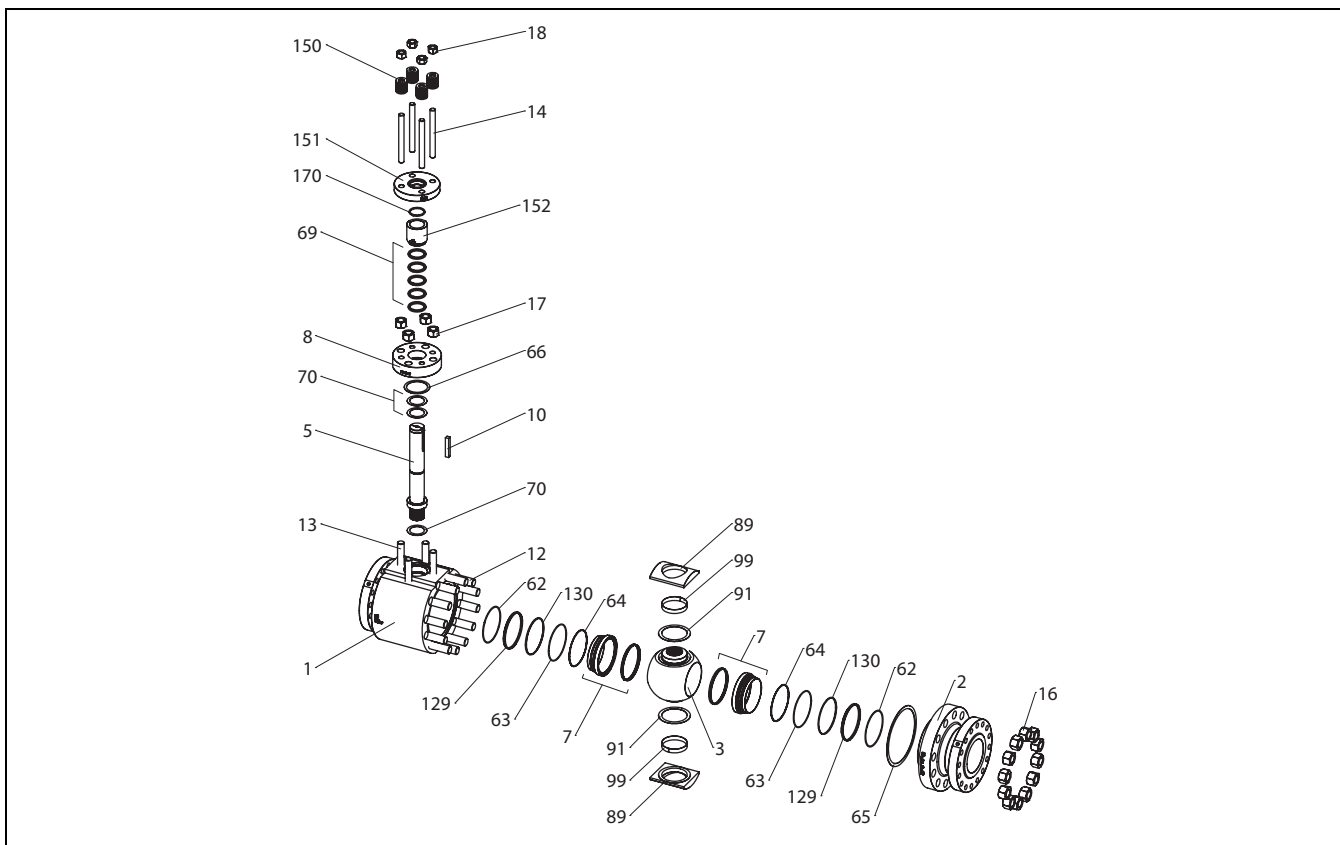
Valve testing

Each valve is tested for body integrity and seat tightness.
The body test pressure is 1,5 x Pressure Class. The seat test is done according to selected standard. Test medium is inhibited water or air depending on standard.

Standard tightness

ISO 5208 Rate C or Class V for metal seats.
ISO 5208 Rate B or Class VI for soft seats.
Other tightness rates upon request.

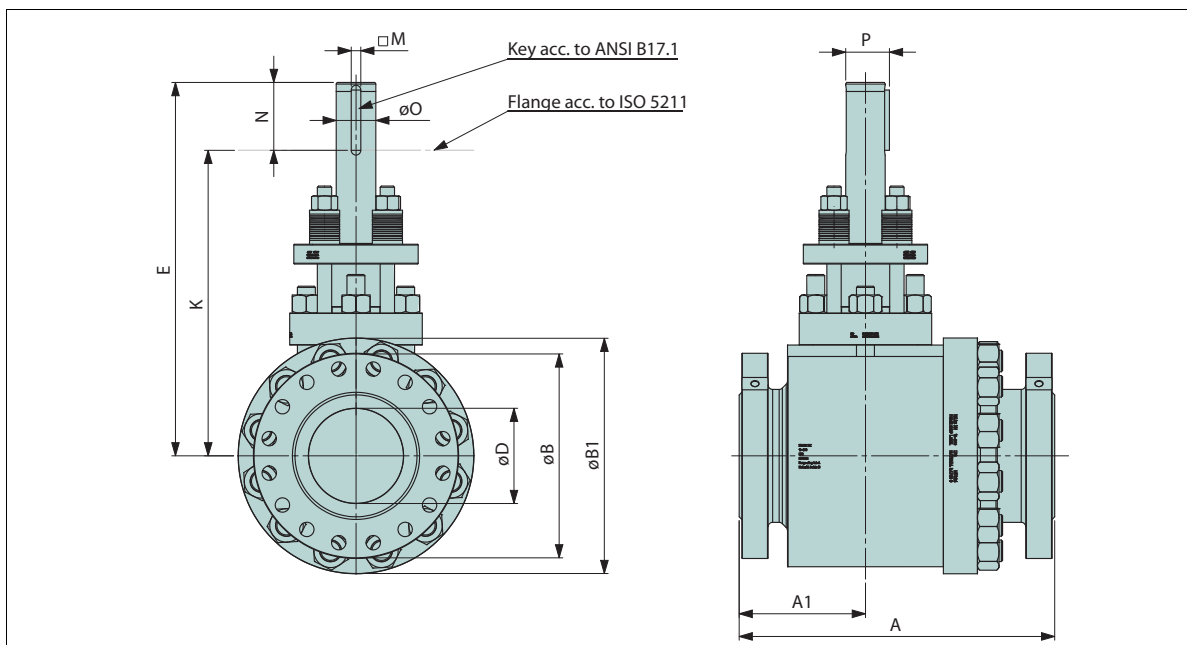
EXPLODED VIEW



PARTS LIST

Item	Part description
1	Body
2	Body cap
3	Ball
5	Shaft
7	Ball seat
8	Bonnet
10	Key
12	Stud
13	Stud
14	Stud
16	Hexagon nut
17	Hexagon nut
18	Hexagon nut
62	Seat spring
63	O-ring
64	Back-up ring
65	Body gasket
66	Bonnet gasket
69	Packing ring
70	Thrust bearing
89	Trunnion plate
91	Thrust bearing
99	Trunnion bearing
129	Ring
130	Back seal
150	Disc spring set
151	Gland
152	Sleeve
170	Retainer ring

DIMENSIONS AND WEIGHTS



	NPS	DN	A	A1	ϕB	$\phi B1$	ϕD	E	K	M	N	O	P	Weight [kg]	Weight [kg] (with bracket & adapter)
"XHG Class 900 Raised Face"	02	50	368	144	215	225	49	353	308	6,35	46	25	27,8	85	95
	03	80	381	145	240	285	74	434	383	6,35	51	30	32,9	140	160
	04	100	457	173	290	348	100	541	462	12,70	80	45	50,4	230	250
	06	150	610	237	380	433	150	629	539	12,70	90	55	60,6	470	540
	08	200	737	303	470	508	201	847	701	22,23	146	85	94,6	850	980
	10	250	838	325	545	630	252	1045	866	25,40	180	105	116,1	1430	1640
	12	300	965	389	610	728	303	1110	905	31,75	205	120	133,8	2150	2480
	14	350	1029	416	640	804	322	1279	1054	31,75	225	135	149,0	2890	3340
	16	400	1130	443	705	922	373	1401	1153	38,10	250	150	166,6	3950	4460
	18	450	1219	504	785	1010	423	1474	1195	38,10	280	165	181,8	5020	5610
	20	500	1321	549	855	1114	471	1508	1194	44,45	315	180	199,5	6530	7390
	24	600	1549	643	1040	1300	570	1720	1350	50,80	370	220	242,4	10190	11120
"XHG Class 900 Ring Type Joint"	02	50	371	145	215	225	49	353	308	6,35	46	25	27,8	85	95
	03	80	384	146	240	285	74	434	383	6,35	51	30	32,9	140	160
	04	100	460	175	290	348	100	541	462	12,70	80	45	50,4	230	250
	06	150	613	239	380	433	150	629	539	12,70	90	55	60,6	470	540
	08	200	740	304	470	508	201	847	701	22,23	146	85	94,6	850	980
	10	250	841	327	545	630	252	1045	866	25,40	180	105	116,1	1430	1640
	12	300	968	390	610	728	303	1110	905	31,75	205	120	133,8	2150	2480
	14	350	1039	420	640	804	322	1279	1054	31,75	225	135	149,0	2890	3340
	16	400	1140	448	705	922	373	1401	1153	38,10	250	150	166,6	3950	4460
	18	450	1232	510	785	1010	423	1474	1195	38,10	280	165	181,8	5020	5610
	20	500	1334	556	855	1114	471	1508	1194	44,45	315	180	199,5	6530	7390
	24	600	1568	652	1040	1300	570	1720	1350	50,80	370	220	242,4	10190	11120

Metso Automation Inc.

Europe, Vanha Porvoontie 229, P.O. Box 304, FI-01301 VANTAA, Finland.

Tel. +358 20 483 150. Fax +358 20 483 151

North America, 44 Bowditch Drive, P.O. Box 8044, Shrewsbury, MA 01545, USA.

Tel. +1 508 852 0200. Fax +1 508 852 8172

South America, Av. Independência, 2500- Iporanga, 18087-101, Sorocaba-São Paulo, Brazil.

Tel. +55 15 2102 9700. Fax +55 15 2102 9748/49

Asia Pacific, Haw Par Centre #06-01, 180 Clemenceau Avenue, Singapore 239922.

Tel. +65 6511 1011. Fax +65 6250 0830

China, 11/F, China Youth Plaza, No.19 North Rd of East 3rd Ring Rd, Chaoyang District, Beijing 100020, China. Tel. +86 10 6566 6600. Fax +86 10 6566 2583.

Middle East, Roundabout 8, Unit AB-07, P.O. Box 17175, Jebel Ali Freezone, Dubai, United Arab Emirates. Tel. +971 4 883 6974. Fax +971 4 883 6836

www.metso.com/valves

Subject to change without prior notice.

