

TECHNICAL SPECIFICATIONS

DIN PN10, PN16

Flanged Ball Valves Sizes 1" - 10" (Series 410, 1"-4")

Series 300, 310, 410, 500XP, 610XP



1. SCOPE

Ball valves for corrosive chemical service used in construction of pressurized piping systems requiring DIN PN10, 16 flange connections.

2. SERVICE RATING

Temperature rating from -50 to 300° F as shown on pressure/temperature chart on the reverse side. See Catalog 1000 for temperature limits for specific chemicals.

3. MATERIALS OF CONSTRUCTION

- (1) **Body:** Compression molded thermoset (300, 310, 500XP, 610XP) and Engineered Thermoplastic Resin (410)
- (2) **Gland:** Hastelloy-C with integral locking plate.
- (3) **Stem:** Hastelloy-C metal insert with molded composite on all wetted surfaces.
- (4) **Gland Bolts:** Hastelloy-C
- (5) **Stem Packing:** PTFE V-Rings.
- (6) **Thrust Washer:** Glass and carbon-filled PTFE
- (7) **Insert:** Same material as body
- (8) **Seals:** PTFE-coated Viton O-ring.
- (9) **Ball:** Same material as body (except 300 GR/VE ball used in 310 and 300 body)
- (10) **Seats:** Virgin PTFE. Glass-filled and cavity-filler seats available.
- (11) **Handle:** Glass/VE FRP (1"-4"). Stainless Steel handle adapter (5"-8"). All handles have locking provision. Gear only on 10"

4. DESIGN

- Valves shall be flanged and conform to the face-to-face dimensions of ANSI/ASME B16.10.
- Valve shall have integral 4-bolt mounting pads and threaded holes for actuator mounting.
- Stems shall be blowout proof.
- Valves shall have a regular port with ball dimensions as shown on Page 2.
- Flanges shall be flat-faced with serrated finish to allow installation in metallic, lined metal, FRP, and thermoplastic piping systems.
- Flange bolt sizes and spacing shall conform to DIN PN 10 or 16 where applicable.
- Disassembly, maintenance and replacement of any parts shall not require machining or bonding.
- Ball and stem strength shall be sufficient to operate with abrasive particles filling the cavity.

5. QUALITY ASSURANCE

- The Manufacturer's facility shall be certified to ISO 9001 or equivalent. The Manufacturer shall be certified to the European Pressure Equipment Directive (PED) and the "CE" mark shall be affixed to each valve label.
- Each valve shall be hydrostatically shell tested at no less than 1.43x its rated cold working pressure for 3 minutes.
- Each valve shall be seat tested with air at 20 and 80 psig. The seat test pressure shall be applied successively to each end of the closed valve with the other end open to the atmosphere. No visible leakage shall be permitted for the duration of the tests.

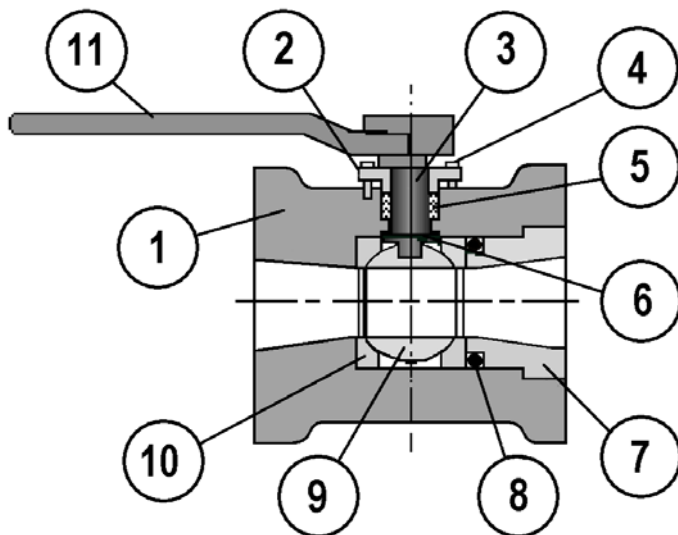
6. PACKING AND SHIPPING

Valves shall be shipped in a closed position with both ends capped to exclude dirt and properly boxed to avoid damage. Each valve shall be marked with the manufacturer, valve size, model, serial number, and valve component designations.

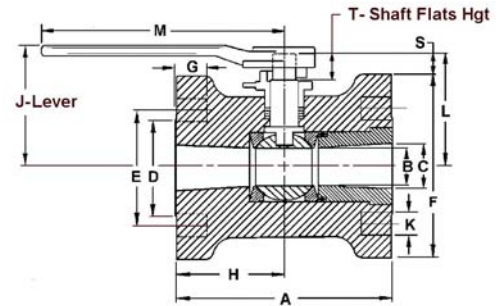
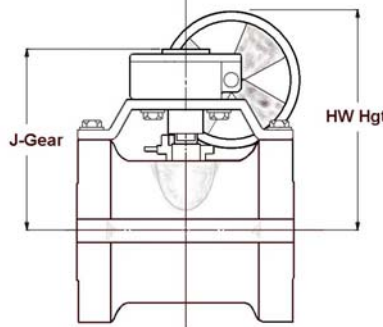
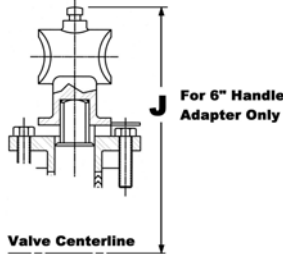
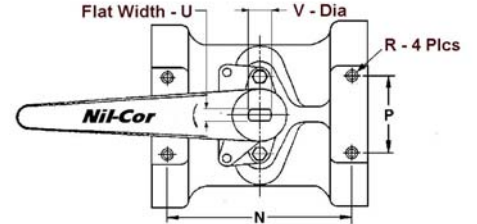
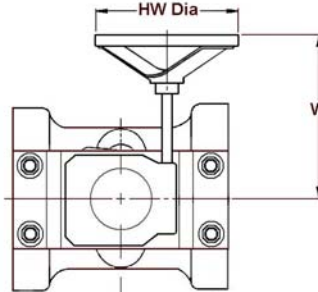
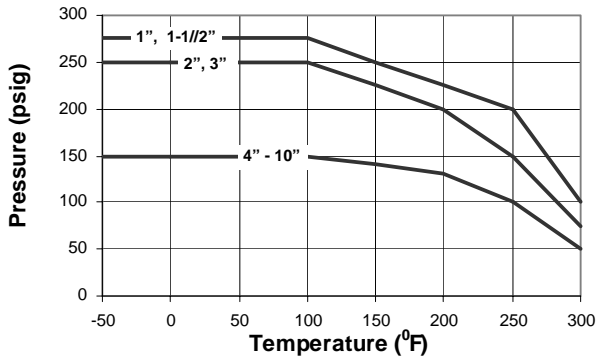
7. AVAILABILITY

Valves meeting this specification are available from:

Nil-Cor[®], LLC
4855 Broadmoor Ave.
Kentwood, MI 49512
P: 616-554-3100
F: 616-554-5623
www.nilcor.com



Pressure/Temperature Rating



Note: Use 18" length of 1" sched. 40 pipe with 6" handle adapter

SIZE	A	B	C	D	E*	F	G	H	J-Lever	J-Gear	HW-Dia	HW-Hgt	K**	K (QTY)	L	M	W
25	127	22	25	57	85	108	22	64	78	142	203	203	14	4	70	159	161
38	165	32	38	76	110	127	25	83	95	166	203	227	18	4	90	159	161
50	178	38	51	93	125	152	25	89	106	170	203	231	18	4	101	229	161
65	191	48	64	108	145	178	30	95	138	216	203	277	18	4	131	229	161
80	203	59	76	127	160	191	35	102	142	216	203	277	18	8	138	229	161
100	229	76	102	157	180	229	38	114	179	242	203	304	18	8	165	291	161
125	254	95	127	191	210	254	38	127	197	281	305	359	18	8	183	Note 4	188
150	267	114	152	216	240	279	41	133	267	275	305	394	22	8	201	Note 4	188
200	292	152	203	286	295	343	44	146	299	308	305	425	22	8	234	Note 4	223
250	330	191	254	356	350	406	51	165	NA	338	457	524	22	12	263	NA	223

*Flange bolt holes notched on size 38 mm (1-1/2") due to larger bolts and BC for DIN compared to ANSI 150.

** All flange bolt holes drilled through.

Actuation Mounting Dimensions								Actuation Torque (N-M)				Flow Coeff. Max. Cv	Weight Bare Stem (kg.)	Weight with Gear (kg)
Valve	N	P	R x (deep ¹)	S	T	+0.00 / -0.25 mm U	+0.00 / -0.25 mm V	Valve Running Torque ⁽²⁾	Breakaway Torque ⁽³⁾					
Size									0-7 bar DP	>7 bar DP				
25	106	44	5/16 - 18 x 1/2	16	13	9.53	12.70	10	16	18	75	1.4	4.1	
38	143	44	5/16 - 18 x 1/2	27	18	9.53	12.70	14	21	26	115	2.7	5.5	
50	157	57	5/16 - 18 x 5/8	24	19	9.53	15.88	17	26	31	135	3.6	6.8	
65	168	67	3/8 - 16 x 3/4	42	19	12.70	22.23	29	45	54	250	5.9	9.1	
80	181	89	3/8 - 16 x 3/4	42	19	12.70	22.23	42	64	77	350	6.4	9.5	
100	203	102	7/16 - 14 x 7/8	51	29	19.05	25.40	77	118	141	540	10.5	13.6	
125	229	121	7/16 - 14 x 7/8	56	29	19.05	25.40	113	177	206	1,000	15.0	20.9	
150	229	133	7/16 - 14 x 1-1/8	61	29	19.05	25.40	158	237	271	1,240	18.2	24.1	
200	248	152	7/16 - 14 x 1-1/8	62	29	27.79	31.75	316	475	542	2,200	29.5	40.9	
250	286	197	1/2 - 13 x 1-1/8	79	29	31.75	36.53	463	712	814	2,600	45.5	56.8	

- Minimum thread engagement required to develop design joint strength on the actuator mounting pad (composite valve body).
- Flowing fluid, ball in motion between 0 and 90 deg.
- Maximum breakaway torque for clean liquid service.
- For manual 5"-8" size, use handle adapter or gear operator. Gear only on 10"