

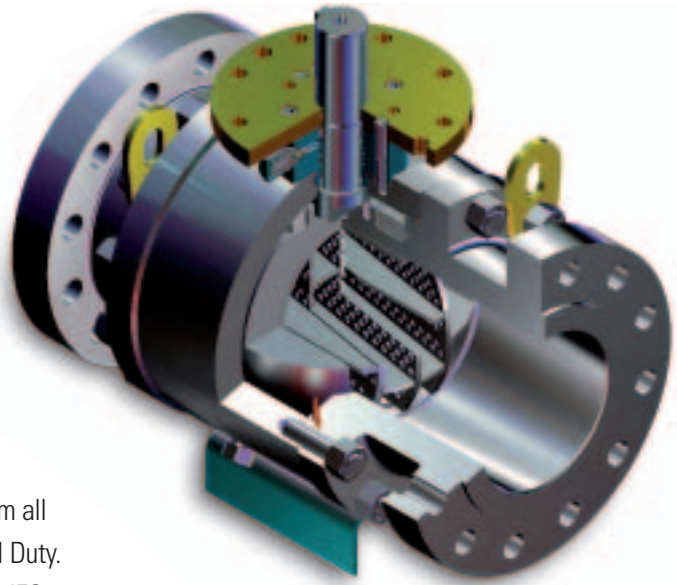
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES SIDE ENTRY ANSI 1500

General

Pibiviesse Trunnion Mounted Side Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 24"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2" x to 60"
Control valves: From 2" x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL *	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N08020 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

* The ball material shall be defined based on application and maybe upgraded case by case.

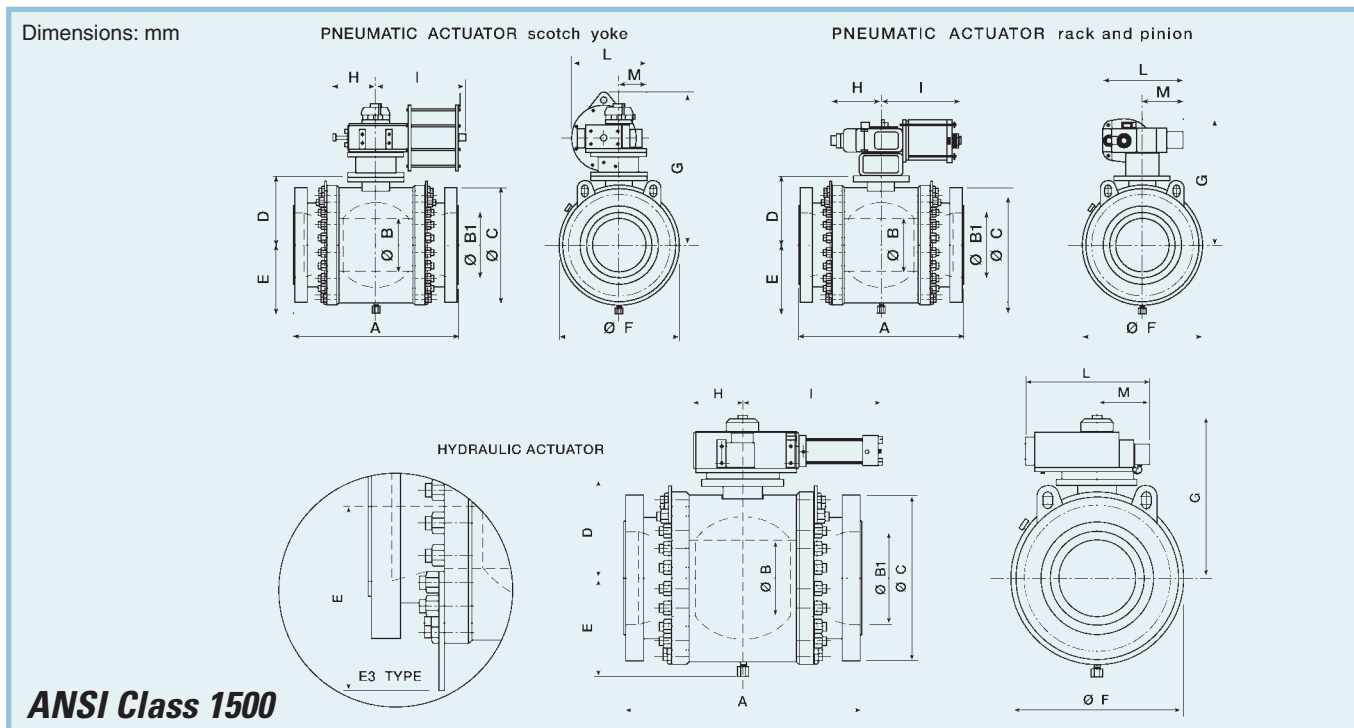
Rotary Control Ball Valve Capacity

DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	2	5	10	17	26	40	67	116	212	453
3x2	2	5	10	17	26	39	62	97	135	164
3	6	15	28	47	71	103	167	291	528	1.132
4x2	2	5	10	17	26	38	59	87	111	125
4x3	6	15	28	47	71	101	158	251	364	458
4	9	24	46	76	117	169	295	514	933	1.999
6x3	6	15	28	46	69	97	145	206	256	283
6x4	9	24	46	76	115	164	272	415	561	662
6	21	57	106	178	272	392	719	1.251	2.273	4.842
8x4	9	24	46	76	114	161	257	365	454	503
8x6	21	57	106	177	269	385	676	1.061	1.503	1.852
8	38	101	189	314	480	695	1.315	2.290	4.157	8.825
10x6	21	57	106	176	266	377	636	924	1.173	1.318
10x8	38	101	189	313	477	686	1.258	2.024	2.999	3.888
10	60	158	298	496	759	1.100	2.128	3.704	6.726	14.415
12x8	38	101	188	312	473	674	1.191	1.774	2.326	2.674
12x10	60	158	298	495	755	1.090	2.056	3.359	5.141	6.976
12	85	228	426	710	1.091	1.575	3.136	5.461	9.914	21.248
14x10	60	158	297	494	750	1.074	1.956	2.971	3.999	4.701
14x12	85	228	426	709	1.087	1.564	3.051	5.047	7.932	11.225
14	106	283	531	884	1.351	1.955	3.945	6.869	12.472	26.728
16x10	60	158	297	492	745	1.061	1.878	2.717	3.436	3.852
16x12	85	228	425	708	1.081	1.545	2.920	4.513	6.234	7.501
16x14	106	283	531	883	1.348	1.946	3.873	6.509	10.636	16.201
16	139	371	695	1.158	1.770	2.562	5.241	9.124	16.566	35.503
18x12	85	228	425	706	1.075	1.528	2.809	4.130	5.326	6.052
18x14	106	283	530	882	1.342	1.930	3.750	5.972	8.679	11.012
18x16	139	371	695	1.157	1.767	2.552	5.161	8.722	14.469	22.785
18	178	475	891	1.485	2.270	3.281	6.700	11.665	21.179	45.390
20x14	106	283	530	880	1.337	1.914	3.635	5.538	7.487	8.835
20x16	139	371	694	1.156	1.761	2.534	5.016	8.073	11.972	15.568
20x18	178	475	891	1.484	2.266	3.271	6.614	11.231	18.868	30.643
20	220	586	1.095	1.832	2.634	4.050	8.291	14.438	26.212	56.177
24x16	139	371	694	1.152	1.749	2.497	4.749	7.080	9.292	10.702
24x18	178	475	890	1.480	2.252	3.228	6.281	9.796	13.733	16.764
24x20	220	586	1.095	1.829	2.625	4.018	8.025	13.153	20.249	27.731
24	319	851	1.595	2.662	4.068	5.880	12.022	20.933	38.006	81.452
28x18	178	474	889	1.476	2.238	3.188	5.997	8.813	11.355	12.897
28x20	220	586	1.094	1.824	2.611	3.969	7.653	11.685	15.846	18.752
28x24	319	851	1.594	2.658	4.056	5.844	11.723	19.464	30.863	44.355
28	438	1.173	2.195	3.653	5.592	8.072	16.481	28.696	52.100	111.658
30x20	220	586	1.093	1.822	2.605	3.947	7.496	11.147	14.576	16.741
30x24	319	851	1.594	2.655	4.046	5.814	11.488	18.441	27.210	35.156
30x28	438	1.173	2.195	3.651	5.588	8.060	16.380	28.172	49.150	89.172
30	501	1.336	2.502	4.176	6.386	9.227	18.881	32.874	59.686	127.916
32x24	319	851	1.593	2.652	4.036	5.784	11.257	17.529	24.510	29.840
32x28	438	1.173	2.195	3.649	5.579	8.032	16.154	27.066	43.894	65.819
32x30	501	1.336	2.502	4.175	6.382	9.215	18.779	32.345	56.685	104.469
32	559	1.491	2.794	4.664	7.133	10.302	21.035	36.626	66.497	142.514
36x24	319	851	1.592	2.647	4.016	5.727	10.855	16.117	21.034	24.122
36x28	438	1.173	2.193	3.642	5.555	7.961	15.599	24.676	35.436	44.361
36x30	501	1.335	2.500	4.169	6.361	9.152	18.259	29.886	45.884	62.576
36x32	559	1.491	2.793	4.661	7.120	10.263	20.713	35.002	58.031	91.274
36	711	1.900	3.554	5.926	9.064	13.137	26.784	46.636	84.670	181.463

Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1,08	2	4	6	8	9	17	26	37	63	93
80x50	3x2	1,08	2	3	6	7	8	14	22	32	54	79
80	3	1,8	5	10	17	22	24	44	68	98	166	244
100x80	4x3	1,44	3	5	9	12	13	24	37	53	89	131
100	4	2,7	9	17	30	39	43	77	120	172	292	429
150x100	6x4	1,8	4	9	15	20	22	39	61	87	149	219
150	6	5,4	22	44	77	99	110	198	309	441	750	1103
200x150	8x6	2,7	7	15	26	33	36	66	102	146	248	365
200	8	9	38	75	132	170	189	339	528	754	1282	1886
250x200	10x8	4,5	11	23	40	52	57	103	161	230	390	574
250	10	10,8	63	127	222	286	317	571	888	1269	2157	3173
300x250	12x10	5,4	22	43	76	97	108	194	302	432	734	1080
300	12	14,4	91	182	318	409	455	818	1273	1818	3091	4680
350x300	14x12	8,1	36	72	126	162	180	324	504	720	1224	1800
350	14	19,8	111	222	389	500	556	1000	1556	2223	3779	5558
400x350	16x14	9,9	60	120	210	270	300	540	840	1200	2039	2999
400	16	27	149	298	521	670	744	1340	2084	2978	5062	7443
450x400	18x16	15,3	100	200	350	450	500	899	1399	1998	3397	4996
450	18	37,8	196	392	685	881	979	1763	2742	3917	6659	9792
500x450	20x18	28,8	166	333	583	749	832	1498	2330	3329	5660	8323
500	20	49,5	248	496	868	1115	1239	2231	3470	4957	8427	12393
600x500	24x20	43,2	277	555	971	1248	1387	2496	3883	5547	9429	13869
600x600	24	58,5	383	765	1339	1721	1913	3443	5355	7650	13005	19125
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

Side Entry - Overall Dimensions



SIZE	A			B	B1	C	D	E	F	G	H	I	L	M
	RF	RTJ	WE											
2"	368	371	368	51	51	216	155	105	145	560	250	390	255	66
3"x2"	470	473	470	51	77	267	155	105	145	560	250	390	255	66
3"	470	473	470	77	77	267	195	130	190	665	310	460	308	82
4"x3"	546	549	546	77	102	311	195	130	190	665	310	460	308	82
4"	546	549	546	102	102	311	200	164	285	780	293	633	484	185
6"x4"	705	711	705	102	146	394	200	164	285	780	293	633	484	185
6"	705	711	705	146	146	394	258	229	420	895	391	914	600	215
8"x6"	832	841	832	146	194	483	258	229	420	895	391	914	600	215
8"	832	841	832	194	194	483	335	302	530	1075	391	921	655	215
10"x8"	991	1000	991	194	241	585	335	302	530	1075	391	921	655	215
10"	991	1000	991	241	241	585	392	350	645	1132	430	1069	725	260
12"x10"	1130	1146	1130	241	289	675	392	350	645	1132	430	1069	725	260
12"	1130	1146	1130	289	289	675	462	426	780	1205	430	1069	725	260
14"x12"	1257	1276	1257	289	317	750	492	426	780	1205	430	1069	725	260
16"x12"	1384	1406	1384	289	362	825	492	426	780	1205	430	1069	725	260
14"	1257	1276	1257	317	317	750	470	483	766	1380	496	1177	855	295
16"	1384	1406	1384	362	362	825	524	539	878	1515	548	1408	955	340
18"	1537	1559	1537	407	407	916	595	606	1012	1510	1310	1380	935	340
20"	1664	1686	1664	457	457	985	680	695	1190	1670	1515	1595	1050	395
24"	2043	2071	2043	534	534	1170	758	775	1350	1750	1515	1595	1050	395

From 2" to 3" double acting pneumatic actuators rack and pinion with supply pressure of 6 bar
 From 3" to 20" double acting pneumatic actuators scotch yoke with supply pressure of 6 bar
 For 24" double acting pneumatic actuators scotch yoke with supply pressure of 7 bar

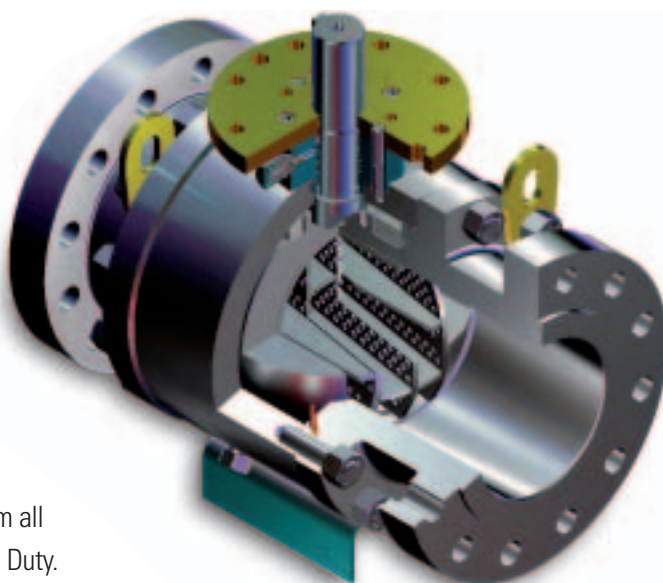
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES SIDE ENTRY ANSI 150

General

Pibiviesse Trunnion Mounted Side Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 56"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2"x to 60"
Control valves: From 2"x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

Rotary Control Ball Valve Capacity

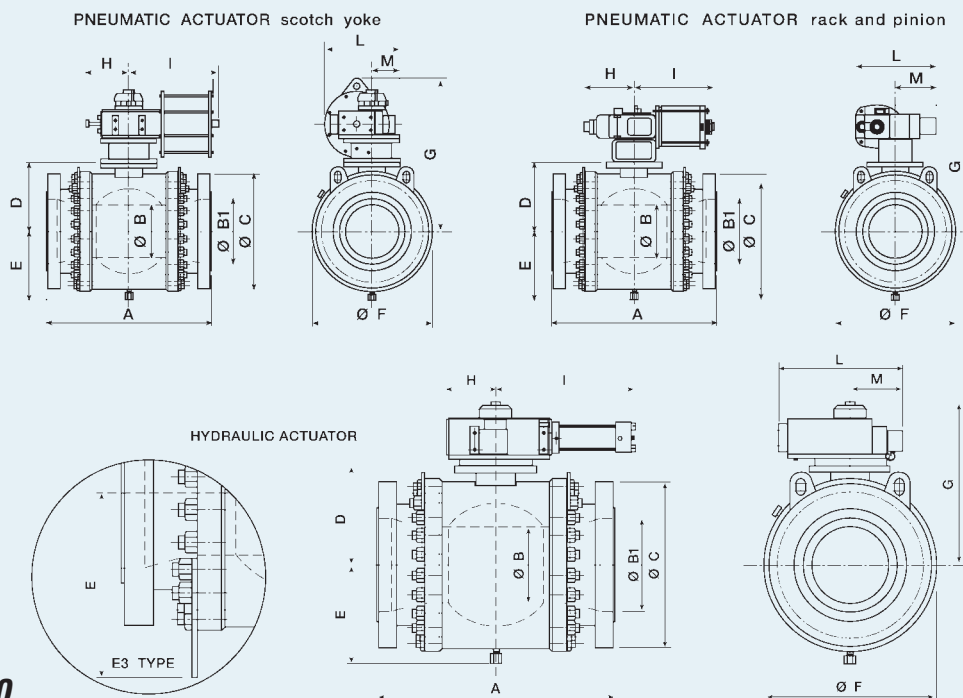
DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	3	6	11	19	29	45	74	129	235	504
3x2	3	6	11	19	29	43	68	104	141	166
3	6	17	31	52	79	114	186	323	587	1.258
4x2	3	6	11	18	29	42	64	92	114	126
4x3	6	17	31	52	78	111	174	271	381	466
4	10	27	51	85	130	188	328	571	1.036	2.221
6x3	6	17	31	51	77	106	157	217	262	285
6x4	10	27	51	84	128	181	297	443	581	669
6	23	63	118	197	302	436	799	1.390	2.525	5.380
8x4	10	27	51	84	126	176	277	384	465	506
8x6	23	63	118	196	298	426	742	1.142	1.570	1.878
8	42	112	210	349	534	772	1.461	2.544	4.619	9.806
10x6	23	63	118	195	295	415	690	976	1.204	1.328
10x8	42	112	210	348	530	760	1.385	2.194	3.159	3.961
10	66	176	331	551	843	1.222	2.365	4.116	7.473	16.017
12x8	42	112	209	346	524	744	1.296	1.885	2.398	2.698
12x10	66	176	331	550	838	1.208	2.267	3.657	5.452	7.137
12	95	253	473	789	1.212	1.750	3.484	6.068	11.016	23.608
14x10	66	176	330	548	831	1.187	2.135	3.171	4.140	4.749
14x12	95	253	473	788	1.207	1.734	3.369	5.515	8.463	11.535
14	118	315	590	982	1.501	2.172	4.383	7.632	13.857	29.698
16x10	66	176	330	546	825	1.169	2.035	2.867	3.525	3.878
16x12	95	253	472	786	1.198	1.709	3.196	4.838	6.482	7.592
16x14	118	315	590	981	1.497	2.160	4.285	7.147	11.457	16.798
16	155	412	772	1.287	1.967	2.846	5.823	10.138	18.407	39.448
18x12	95	253	472	783	1.190	1.686	3.051	4.375	5.478	6.099
18x14	118	315	589	979	1.489	2.138	4.121	6.453	9.108	11.194
18x16	155	412	772	1.286	1.963	2.833	5.714	9.595	15.647	23.733
18	198	527	990	1.650	2.522	3.646	7.444	12.961	23.532	50.433
20x14	118	315	589	977	1.482	2.116	3.970	5.915	7.757	8.928
20x16	155	412	771	1.283	1.955	2.808	5.519	8.750	12.614	15.860
20x18	198	527	989	1.648	2.517	3.632	7.327	12.373	20.475	32.063
20	244	651	1.217	2.035	2.927	4.500	9.213	16.042	29.125	62.419
24x16	155	412	770	1.279	1.938	2.759	5.169	7.524	9.583	10.796
24x18	198	527	988	1.643	2.497	3.574	6.881	10.526	14.317	16.985
24x20	244	651	1.216	2.031	2.915	4.456	8.851	14.331	21.505	28.396
24	354	946	1.772	2.957	4.520	6.533	13.358	23.259	42.229	90.502
28x18	198	527	987	1.637	2.478	3.519	6.513	9.333	11.678	12.997
28x20	244	651	1.215	2.025	2.896	4.390	8.360	12.488	16.427	18.953
28x24	354	946	1.771	2.953	4.503	6.484	12.951	21.291	32.999	45.660
28	487	1.304	2.439	4.058	6.214	8.968	18.312	31.884	57.888	124.064
30x20	244	651	1.214	2.022	2.887	4.359	8.156	11.837	15.024	16.884
30x24	354	946	1.770	2.949	4.490	6.443	12.637	19.973	28.640	35.795
30x28	487	1.304	2.439	4.057	6.208	8.952	18.174	31.171	53.919	95.121
30	557	1.484	2.780	4.640	7.096	10.252	20.979	36.527	66.318	142.129
32x24	354	946	1.770	2.945	4.476	6.402	12.331	18.828	25.540	30.228
32x28	487	1.304	2.438	4.053	6.196	8.915	17.866	29.692	47.191	68.106
32x30	557	1.484	2.780	4.639	7.091	10.236	20.839	35.806	62.271	111.793
32	621	1.657	3.104	5.183	7.926	11.446	23.373	40.696	73.886	158.349
36x24	354	945	1.768	2.937	4.449	6.325	11.808	17.109	21.674	24.325
36x28	487	1.303	2.436	4.044	6.163	8.818	17.124	26.616	37.104	45.041
36x30	557	1.484	2.778	4.630	7.062	10.149	20.136	32.551	48.700	64.049
36x32	621	1.657	3.103	5.178	7.908	11.393	22.933	38.501	62.748	95.053
36	790	2.111	3.948	6.584	10.071	14.597	29.760	51.818	94.078	201.625

Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1,2	2	4	7	9	10	19	29	41	70	103
80x50	3x2	1,2	2	4	6	8	9	16	25	35	60	88
80	3	2	5	11	19	24	27	49	76	108	184	271
100x80	4x3	1,6	3	6	10	13	15	26	41	58	99	146
100	4	3	10	19	33	43	48	86	134	191	324	477
150x100	6x4	2	5	10	17	22	24	44	68	97	165	243
150	6	6	25	49	86	110	123	221	343	490	833	1225
200x150	8x6	3	8	16	28	36	41	73	113	162	275	405
200	8	10	42	84	147	189	210	377	587	838	1425	2095
250x200	10x8	5	13	26	45	57	64	115	179	255	434	638
250	10	12	71	141	247	317	353	635	987	1410	2397	3525
300x250	12x10	6	24	48	84	108	120	216	336	480	816	1200
300	12	16	101	202	354	455	505	909	1414	2020	3434	5200
350x300	14x12	9	40	80	140	180	200	360	560	800	1360	2000
350	14	22	124	247	432	556	618	1112	1729	2470	4199	6175
400x350	16x14	11	67	133	233	300	333	600	933	1333	2266	3332
400	16	30	165	331	579	744	827	1489	2316	3308	5624	8270
450x400	18x16	17	111	222	389	500	555	999	1554	2220	3775	5551
450	18	42	218	435	762	979	1088	1958	3046	4352	7398	10880
500x450	20x18	32	185	370	647	832	925	1665	2589	3699	6289	9248
500	20	55	275	551	964	1239	1377	2479	3856	5508	9364	13770
600x500	24x20	48	308	616	1078	1387	1541	2773	4314	6163	10477	15410
600	24	65	425	850	1488	1913	2125	3825	5950	8500	14450	21250
700x600	28x24	56	339	678	1186	1525	1694	3049	4743	6776	11519	16940
700	28	75	474	949	1660	2134	2372	4269	6640	9486	16126	23715
750x700	30x28	63	439	879	1538	1977	2197	3955	6152	8788	14940	21970
750	30	81	615	1231	2154	2769	3077	5539	8616	12308	20924	30770
800x750	32x30	82	502	1003	1755	2257	2508	4514	7021	10030	17051	25075
800	32	90	702	1404	2457	3159	3511	6319	9829	14042	23871	35105
900x800	36x32	85	643	1286	2250	2893	3214	5785	8999	12856	21855	32140
900	36	110	900	1800	3150	4050	4500	8100	12600	18000	30600	45000
1000x900	40x36	97	809	1617	2830	3639	4043	7277	11320	16172	27492	40430
1000	40	220	1132	2264	3962	5094	5660	10188	15848	22640	38488	56600
1200x1000	48x40	210	1970	3735	6535	8400	9333	16800	26130	37235	62925	92500
1200	48	480	2590	5182	9068	11660	12955	23319	36260	51800	88060	129500
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

Side Entry - Overall Dimensions

Dimensions: mm



ANSI Class 150

SIZE	A			B	B1	C	D	E	F	G	H	I	L	M
	RF	RTJ	WE											
2"	178	190	216	51	51	152	155	105	145	500	175	265	160	41
3"x2"	203	216	283	51	77	191	155	105	145	500	175	265	160	41
3"	203	216	283	77	77	191	195	130	190	560	206	325	215	54
4"x3"	229	241	305	77	102	229	195	130	190	560	206	325	215	54
4"	229	241	305	102	102	229	230	164	232	630	250	390	255	66
6"x4"	394	406	457	102	152	279	230	164	232	630	250	390	255	66
6"	394	406	457	152	152	279	251	189	310	720	810	460	308	82
8"x6"	457	470	521	152	203	343	251	189	310	720	810	460	308	82
8"	457	470	521	203	203	343	274	221	395	745	810	460	308	82
10"x8"	533	456	559	203	254	406	274	221	395	745	810	460	308	82
10"	533	546	559	254	254	406	321	259	470	930	293	633	462	185
12"x10"	610	622	635	254	305	483	321	259	470	930	293	633	462	185
12"	610	622	635	305	305	483	359	297	545	935	293	633	484	185
14"x12"	686	698	762	305	337	535	359	297	545	935	293	633	484	185
16"x12"	762	775	838	305	387	595	359	297	545	935	293	633	484	185
14"	686	698	762	337	337	535	392	326	610	1030	293	627	510	185
16"x14"	762	775	838	337	387	595	392	326	610	1030	293	627	510	185
16"	762	775	838	387	387	595	400	363	680	1040	391	914	600	215
18"x16"	864	876	914	387	438	635	400	363	680	1040	391	914	600	215
20"x16"	914	927	991	387	498	700	400	363	680	1040	391	914	600	215
18"	864	876	914	438	438	635	438	403	750	1180	391	921	655	215
20"x18"	914	927	991	438	498	700	438	403	750	1180	391	921	655	215
20"	914	927	991	489	489	700	478	444	840	1220	391	921	655	215
24"x20"	1067	1079	1143	489	591	815	478	444	840	1220	391	921	655	215
22"	991	#	1092	540	540	750	520	487	925	1260	430	1069	725	260
24"	1067	1079	1143	591	591	815	573	535	1015	1430	430	1074	780	260
30"x24"	1295	#	1397	591	737	985	573	535	1015	1430	430	1074	780	260
26"	1143	#	1245	635	635	870	595	633	1066	1000	391	1141	586	215
28"	1244	#	1347	686	686	925	633	671	1142	1100	430	1195	740	260
30"	1295	#	1397	736	736	985	687	705	1215	1150	430	1195	740	260
36"x30"	1524	#	1728	736	876	1170	687	705	1215	1150	430	1195	740	260
32"	1371	#	1524	781	781	1060	751	751	1306	1215	430	1275	740	260
34"	1473	#	1626	832	832	1110	781	787	1375	1250	430	1275	740	260
36"	1524	#	1728	876	876	1170	815	818	1435	1280	430	1275	740	260
40"	1753	#	1956	978	978	1290	906	906	1613	1485	496	1330	873	330
42"	1855	#	2083	1022	1022	1345	938	940	1680	1515	496	1310	873	330
48"	2134	#	2388	1168	1168	1510	1062	1063	1926	1625	548	1224	880	330
56"	2489	#	2489	1348	1348	1735	1255	1230	2260	-	-	-	-	-

From 2" to 8" double acting pneumatic actuators rack and pinion with supply pressure of 6 bar
 From 10" to 24" double acting pneumatic actuators scotch yoke with supply pressure of 6 bar
 From 26" to 48" double acting hydraulic actuators with supply pressure of 100 bar



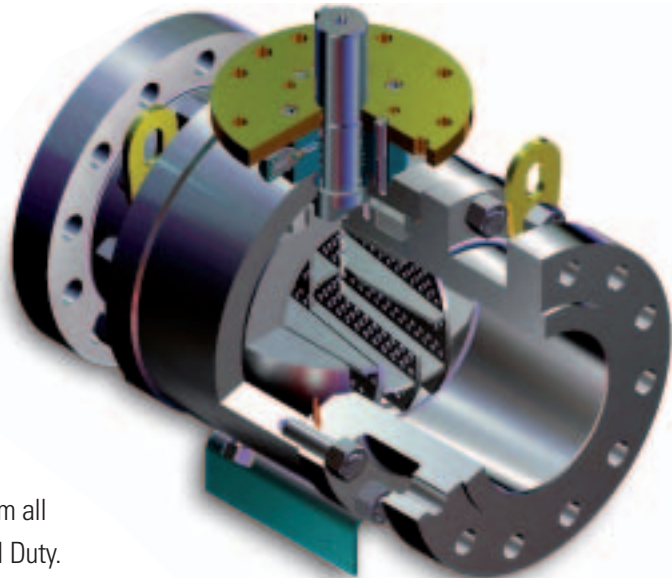
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES SIDE ENTRY ANSI 2500

General

Pibiviesse Trunnion Mounted Side Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 12"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2" x to 60"
Control valves: From 2" x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL *	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON - HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS S06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS S06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS S06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS S06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

* The ball material shall be defined based on application and maybe upgraded case by case.

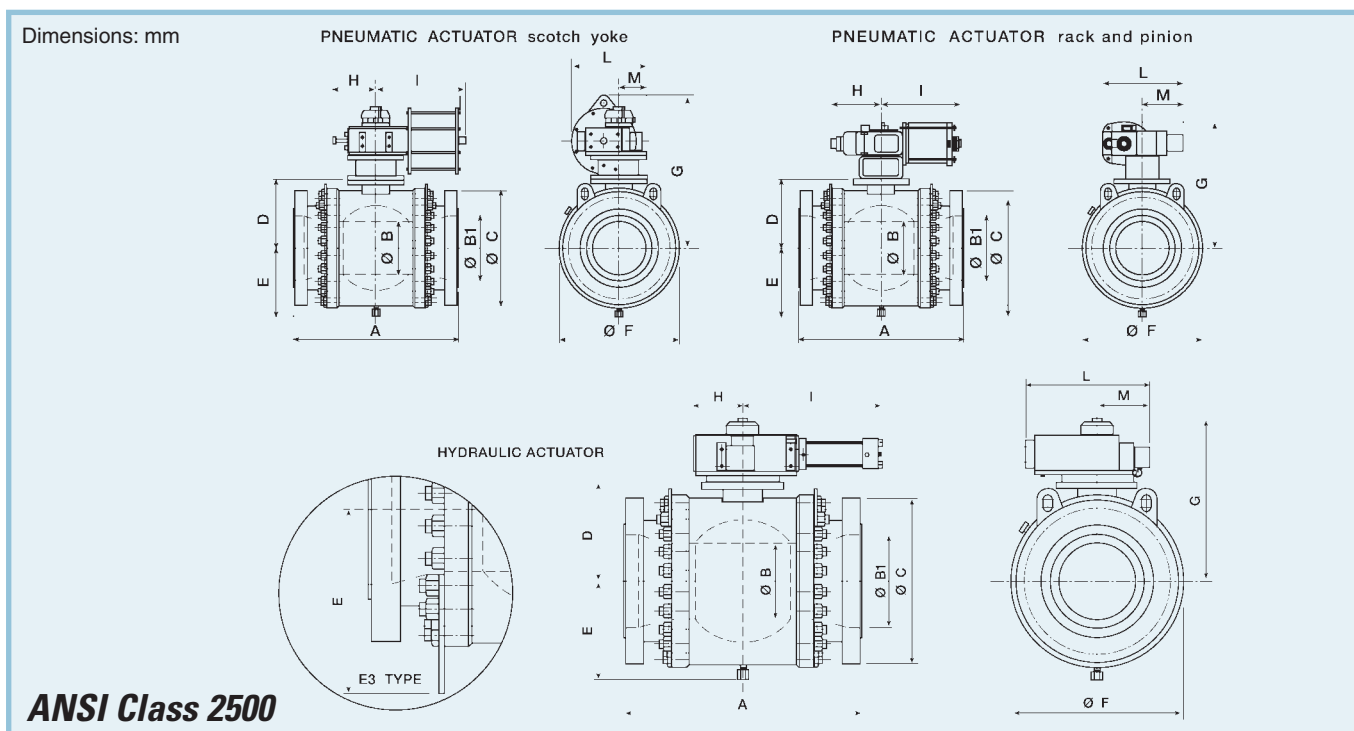
Rotary Control Ball Valve Capacity

DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	2	5	8	15	23	36	59	103	188	403
3x2	2	5	8	15	23	35	56	89	128	161
3	5	13	25	42	63	91	148	258	470	1.006
4x2	2	5	8	15	23	34	54	81	107	124
4x3	5	13	25	41	63	90	142	230	343	449
4	8	22	41	68	104	150	262	457	829	1.777
6x3	5	13	25	41	62	87	132	194	248	281
6x4	8	22	41	68	103	147	246	383	535	653
6	19	51	95	158	241	349	639	1.112	2.020	4.304
8x4	8	22	41	67	102	144	234	343	440	499
8x6	19	51	94	157	240	343	609	973	1.423	1.817
8	34	89	168	279	427	617	1.169	2.035	3.695	7.845
10x6	19	51	94	157	238	338	579	864	1.134	1.306
10x8	34	89	168	279	425	611	1.129	1.842	2.811	3.791
10	53	141	265	441	674	978	1.892	3.293	5.978	12.813
12x8	34	89	168	278	422	603	1.079	1.648	2.235	2.642
12x10	53	141	265	440	672	971	1.841	3.043	4.783	6.769
12	76	202	379	632	970	1.400	2.787	4.854	8.813	18.887
14x10	53	141	264	439	668	959	1.768	2.745	3.823	4.636
14x12	76	202	378	631	967	1.392	2.728	4.557	7.333	10.831
14	94	252	472	786	1.201	1.738	3.507	6.106	11.086	23.758
16x10	53	141	264	438	665	950	1.710	2.541	3.323	3.816
16x12	76	202	378	630	963	1.379	2.633	4.152	5.930	7.380
16x14	94	252	472	785	1.198	1.732	3.456	5.849	9.737	15.464
16	124	330	618	1.030	1.574	2.277	4.658	8.111	14.725	31.558
18x12	76	202	378	628	958	1.366	2.550	3.848	5.132	5.988
18x14	94	252	471	784	1.195	1.720	3.368	5.450	8.169	10.771
18x16	124	330	618	1.029	1.572	2.270	4.602	7.824	13.194	21.633
18	158	422	792	1.320	2.017	2.917	5.955	10.369	18.826	40.347
20x14	94	252	471	783	1.191	1.709	3.284	5.114	7.152	8.710
20x16	124	330	617	1.028	1.567	2.257	4.499	7.345	11.219	15.185
20x18	158	422	792	1.319	2.015	2.910	5.895	10.060	17.147	28.941
20	196	521	974	1.628	2.341	3.600	7.370	12.834	23.300	49.935
24x16	124	330	617	1.025	1.558	2.231	4.303	6.574	8.927	10.575
24x18	158	422	791	1.316	2.005	2.879	5.655	8.990	13.025	16.468
24x20	196	521	973	1.626	2.335	3.578	7.181	11.906	18.813	26.875
24	284	757	1.418	2.366	3.616	5.227	10.687	18.607	33.783	72.402
28x18	158	422	790	1.313	1.995	2.850	5.445	8.212	10.944	12.760
28x20	196	521	972	1.623	2.325	3.543	6.911	10.784	15.129	18.480
28x24	284	757	1.417	2.363	3.607	5.201	10.475	17.552	28.470	42.705
28	389	1.043	1.951	3.247	4.971	7.175	14.650	25.508	46.311	99.251
30x20	196	521	972	1.621	2.321	3.527	6.795	10.357	14.012	16.547
30x24	284	757	1.417	2.362	3.600	5.180	10.306	16.792	25.527	34.317
30x28	389	1.043	1.951	3.246	4.968	7.166	14.579	25.138	44.202	82.460
30	446	1.187	2.224	3.712	5.677	8.202	16.783	29.222	53.054	113.703
32x24	284	757	1.416	2.359	3.593	5.159	10.138	16.094	23.259	29.322
32x28	389	1.043	1.951	3.244	4.962	7.147	14.418	24.343	40.262	62.977
32x30	446	1.187	2.224	3.711	5.674	8.193	16.711	28.848	50.913	96.287
32	497	1.326	2.483	4.146	6.341	9.157	18.698	32.556	59.109	126.679
36x24	284	756	1.416	2.356	3.579	5.118	9.842	14.980	20.228	23.846
36x28	389	1.043	1.950	3.239	4.945	7.097	14.020	22.559	33.441	43.459
36x30	446	1.187	2.223	3.707	5.659	8.149	16.342	27.063	42.658	60.677
36x32	497	1.325	2.483	4.143	6.332	9.130	18.471	31.400	52.924	86.674
36	632	1.689	3.159	5.267	8.057	11.677	23.808	41.454	75.263	161.300

Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1,2	2	4	7	9	10	19	29	41	70	103
80x50	3x2	1,2	2	4	6	8	9	16	25	35	60	88
50	2	0,96	2	3	6	7	8	15	23	33	56	82
80x50	3x2	0,96	3	5	6	7	13	20	28	48	70	
80	3	1,6	4	9	15	20	22	39	61	87	147	217
100x80	4x3	1,28	2	5	8	11	12	21	33	47	79	117
100	4	2,4	8	15	27	34	38	69	107	153	259	382
150x100	6x4	1,6	4	8	14	17	19	35	54	78	132	194
150	6	4,8	20	39	69	88	98	176	274	392	666	980
200x150	8x6	2,4	6	13	23	29	32	58	91	130	220	324
200	8	8	34	67	117	151	168	302	469	670	1140	1676
250x200	10x8	4	10	20	36	46	51	92	143	204	347	510
250	10	9,6	56	113	197	254	282	508	790	1128	1918	2820
300x250	12x10	4,8	19	38	67	86	96	173	269	384	653	960
300	12	12,8	81	162	283	364	404	727	1131	1616	2747	4160
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

Side Entry - Overall Dimensions



SIZE	A			B	B1	C	D	E	F	G	H	I	L	M
	RF	RTJ	WE											
2"	451	454	451	44,5	44,5	235	145	170	200	615	310	460	308	82
3"x2"	578	584	578	44,5	63,5	305	145	170	200	615	310	460	308	82
3"	578	584	578	63,5	63,5	305	190	205	275	770	293	633	484	185
4"x3"	673	683	673	63,5	89	356	190	205	275	770	293	633	484	185
4"	673	683	673	89	89	356	225	240	350	865	293	627	510	185
6"x4"	914	927	914	89	133	483	225	240	350	865	293	627	510	185
6"	914	927	914	133	133	483	305	285	480	1045	430	1069	725	260
8"x6"	1022	1038	1022	133	181	550	305	285	480	1045	430	1069	725	260
8"	1022	1038	1022	181	181	550	400	370	650	1260	430	1074	780	260
10"x8"	1270	1292	1270	181	226	675	400	370	650	1260	430	1074	780	260
10"	1270	1292	1270	226	226	675	470	435	770	1380	496	1177	855	295
12"x10"	1422	1445	1422	226	267	760	470	435	770	1380	496	1177	855	295
12"	1422	1445	1422	267	267	760	540	495	915	1530	548	1408	955	340

For 2" double acting pneumatic actuators rack and pinion with supply pressure of 6 bar
 From 3" to 12" double acting pneumatic actuators scotch yoke with supply pressure of 6 bar

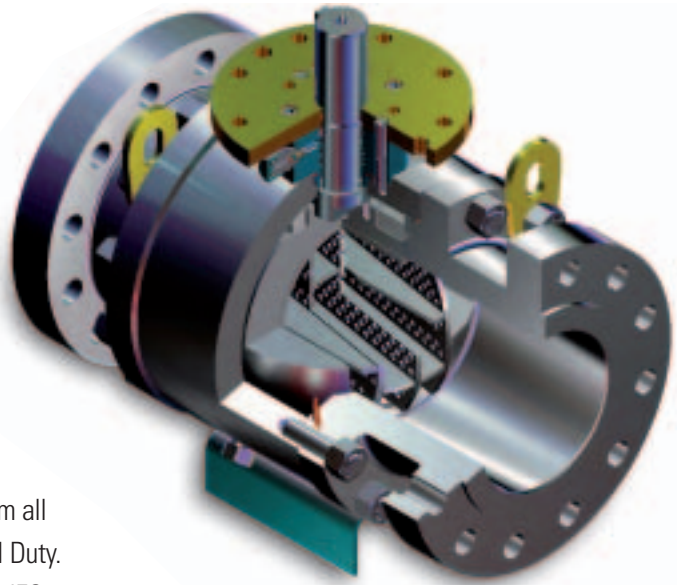
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES SIDE ENTRY ANSI 300

General

Pibiviesse Trunnion Mounted Side Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 56"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2"x to 60"
Control valves: From 2"x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

Rotary Control Ball Valve Capacity

DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	3	6	11	19	29	45	74	129	235	504
3x2	3	6	11	19	29	43	68	104	141	166
3	6	17	31	52	79	114	186	323	587	1.258
4x2	3	6	11	18	29	42	64	92	114	126
4x3	6	17	31	52	78	111	174	271	381	466
4	10	27	51	85	130	188	328	571	1.036	2.221
6x3	6	17	31	51	77	106	157	217	262	285
6x4	10	27	51	84	128	181	297	443	581	669
6	23	63	118	197	302	436	799	1.390	2.525	5.380
8x4	10	27	51	84	126	176	277	384	465	506
8x6	23	63	118	196	298	426	742	1.142	1.570	1.878
8	42	112	210	349	534	772	1.461	2.544	4.619	9.806
10x6	23	63	118	195	295	415	690	976	1.204	1.328
10x8	42	112	210	348	530	760	1.385	2.194	3.159	3.961
10	66	176	331	551	843	1.222	2.365	4.116	7.473	16.017
12x8	42	112	209	346	524	744	1.296	1.885	2.398	2.698
12x10	66	176	331	550	838	1.208	2.267	3.657	5.452	7.137
12	95	253	473	789	1.212	1.750	3.484	6.068	11.016	23.608
14x10	66	176	330	548	831	1.187	2.135	3.171	4.140	4.749
14x12	95	253	473	788	1.207	1.734	3.369	5.515	8.463	11.535
14	118	315	590	982	1.501	2.172	4.383	7.632	13.857	29.698
16x10	66	176	330	546	825	1.169	2.035	2.867	3.525	3.878
16x12	95	253	472	786	1.198	1.709	3.196	4.838	6.482	7.592
16x14	118	315	590	981	1.497	2.160	4.285	7.147	11.457	16.798
16	155	412	772	1.287	1.967	2.846	5.823	10.138	18.407	39.448
18x12	95	253	472	783	1.190	1.686	3.051	4.375	5.478	6.099
18x14	118	315	589	979	1.489	2.138	4.121	6.453	9.108	11.194
18x16	155	412	772	1.286	1.963	2.833	5.714	9.595	15.647	23.733
18	198	527	990	1.650	2.522	3.646	7.444	12.961	23.532	50.433
20x14	118	315	589	977	1.482	2.116	3.970	5.915	7.757	8.928
20x16	155	412	771	1.283	1.955	2.808	5.519	8.750	12.614	15.860
20x18	198	527	989	1.648	2.517	3.632	7.327	12.373	20.475	32.063
20	244	651	1.217	2.035	2.927	4.500	9.213	16.042	29.125	62.419
24x16	155	412	770	1.279	1.938	2.759	5.169	7.524	9.583	10.796
24x18	198	527	988	1.643	2.497	3.574	6.881	10.526	14.317	16.985
24x20	244	651	1.216	2.031	2.915	4.456	8.851	14.331	21.505	28.396
24	354	946	1.772	2.957	4.520	6.533	13.358	23.259	42.229	90.502
28x18	198	527	987	1.637	2.478	3.519	6.513	9.333	11.678	12.997
28x20	244	651	1.215	2.025	2.896	4.390	8.360	12.488	16.427	18.953
28x24	354	946	1.771	2.953	4.503	6.484	12.951	21.291	32.999	45.660
28	487	1.304	2.439	4.058	6.214	8.968	18.312	31.884	57.888	124.064
30x20	244	651	1.214	2.022	2.887	4.359	8.156	11.837	15.024	16.884
30x24	354	946	1.770	2.949	4.490	6.443	12.637	19.973	28.640	35.795
30x28	487	1.304	2.439	4.057	6.208	8.952	18.174	31.171	53.919	95.121
30	557	1.484	2.780	4.640	7.096	10.252	20.979	36.527	66.318	142.129
32x24	354	946	1.770	2.945	4.476	6.402	12.331	18.828	25.540	30.228
32x28	487	1.304	2.438	4.053	6.196	8.915	17.866	29.692	47.191	68.106
32x30	557	1.484	2.780	4.639	7.091	10.236	20.839	35.806	62.271	111.793
32	621	1.657	3.104	5.183	7.926	11.446	23.373	40.696	73.886	158.349
36x24	354	945	1.768	2.937	4.449	6.325	11.808	17.109	21.674	24.325
36x28	487	1.303	2.436	4.044	6.163	8.818	17.124	26.616	37.104	45.041
36x30	557	1.484	2.778	4.630	7.062	10.149	20.136	32.551	48.700	64.049
36x32	621	1.657	3.103	5.178	7.908	11.393	22.933	38.501	62.748	95.053
36	790	2.111	3.948	6.584	10.071	14.597	29.760	51.818	94.078	201.625

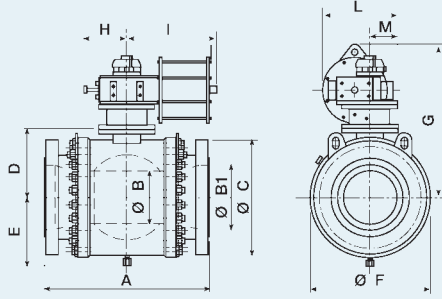
Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1,2	2	4	7	9	10	19	29	41	70	103
80x50	3x2	1,2	2	4	6	8	9	16	25	35	60	88
80	3	2	5	11	19	24	27	49	76	108	184	271
100x80	4x3	1,6	3	6	10	13	15	26	41	58	99	146
100	4	3	10	19	33	43	48	86	134	191	324	477
150x100	6x4	2	5	10	17	22	24	44	68	97	165	243
150	6	6	25	49	86	110	123	221	343	490	833	1225
200x150	8x6	3	8	16	28	36	41	73	113	162	275	405
200	8	10	42	84	147	189	210	377	587	838	1425	2095
250x200	10x8	5	13	26	45	57	64	115	179	255	434	638
250	10	12	71	141	247	317	353	635	987	1410	2397	3525
300x250	12x10	6	24	48	84	108	120	216	336	480	816	1200
300	12	16	101	202	354	455	505	909	1414	2020	3434	5200
350x300	14x12	9	40	80	140	180	200	360	560	800	1360	2000
350	14	22	124	247	432	556	618	1112	1729	2470	4199	6175
400x350	16x14	11	67	133	233	300	333	600	933	1333	2266	3332
400	16	30	165	331	579	744	827	1489	2316	3308	5624	8270
450x400	18x16	17	111	222	389	500	555	999	1554	2220	3775	5551
450	18	42	218	435	762	979	1088	1958	3046	4352	7398	10880
500x450	20x18	32	185	370	647	832	925	1665	2589	3699	6289	9248
500	20	55	275	551	964	1239	1377	2479	3856	5508	9364	13770
600x500	24x20	48	308	616	1078	1387	1541	2773	4314	6163	10477	15410
600	24	65	425	850	1488	1913	2125	3825	5950	8500	14450	21250
700x600	28x24	56	339	678	1186	1525	1694	3049	4743	6776	11519	16940
700	28	75	474	949	1660	2134	2372	4269	6640	9486	16126	23715
750x700	30x28	63	439	879	1538	1977	2197	3955	6152	8788	14940	21970
750	30	81	615	1231	2154	2769	3077	5539	8616	12308	20924	30770
800x750	32x30	82	502	1003	1755	2257	2508	4514	7021	10030	17051	25075
800	32	90	702	1404	2457	3159	3511	6319	9829	14042	23871	35105
900x800	36x32	85	643	1286	2250	2893	3214	5785	8999	12856	21855	32140
900	36	110	900	1800	3150	4050	4500	8100	12600	18000	30600	45000
1000x900	40x36	97	809	1617	2830	3639	4043	7277	11320	16172	27492	40430
1000	40	220	1132	2264	3962	5094	5660	10188	15848	22640	38488	56600
1200x1000	48x40	210	1970	3735	6535	8400	9333	16800	26130	37235	62925	92500
1200	48	480	2590	5182	9068	11660	12955	23319	36260	51800	88060	129500
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

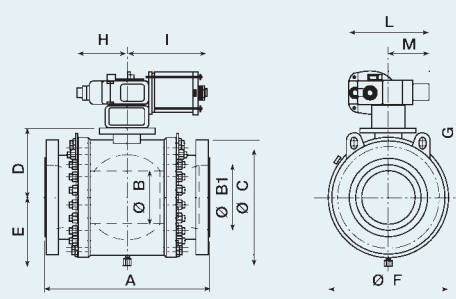
Side Entry - Overall Dimensions

Dimensions: mm

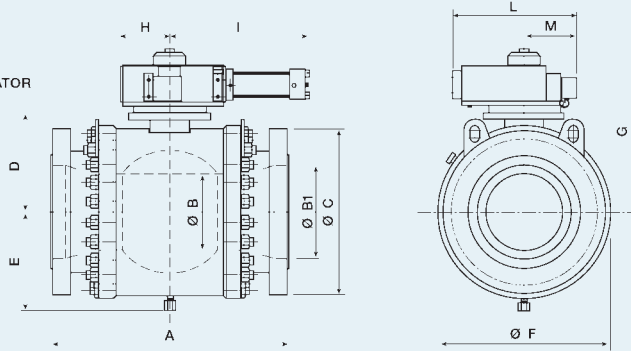
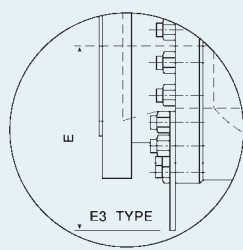
PNEUMATIC ACTUATOR scotch yoke



PNEUMATIC ACTUATOR rack and pinion



HYDRAULIC ACTUATOR



ANSI Class 300

SIZE	A			B	B1	C	D	E	F	G	H	I	L	M
	RF	RTJ	WE											
2"	216	232	216	51	51	165	155	105	145	520	206	325	215	54
3"x2"	283	298	283	51	77	210	155	105	145	520	206	325	215	54
3"	283	298	283	77	77	210	195	130	190	600	250	390	255	66
4"x3"	305	321	305	77	102	254	195	130	190	600	250	390	255	66
4"	305	321	305	102	254	254	230	164	232	635	250	390	255	66
6"x4"	403	419	457	102	152	318	230	164	232	635	250	390	255	66
6"	403	419	457	152	152	318	251	189	310	720	810	460	308	82
8"x6"	502	517	521	152	203	381	251	189	310	720	810	460	308	82
8"	502	517	521	203	203	381	274	221	395	850	293	633	484	185
10"x8"	568	584	559	203	254	445	274	221	395	850	293	633	484	185
10"	568	584	559	254	254	445	332	268	495	910	293	633	484	185
12"x10"	648	664	635	254	305	520	332	268	495	910	293	633	484	185
12"	648	664	635	305	305	520	378	314	585	1015	293	627	510	185
14"x12"	762	778	762	305	337	585	378	314	585	1015	293	627	510	185
16"x12"	838	854	838	305	387	650	378	314	585	1015	293	627	510	185
14"	762	778	762	337	337	585	380	342	640	1015	391	914	600	215
16"x14"	838	854	838	337	387	650	380	342	640	1015	391	914	600	215
16"	838	854	838	387	387	650	428	395	736	1170	391	921	655	215
18"x16"	914	930	914	387	438	710	428	395	736	1170	391	921	655	215
20"x16"	991	1010	991	387	489	775	428	395	736	1170	391	921	655	215
18"	914	930	914	438	438	710	440	480	759	1180	430	1069	725	260
20"x18"	991	1010	991	438	489	775	440	480	759	1180	430	1069	725	260
20"	991	1010	991	489	489	775	498	522	845	1360	430	1074	780	260
24"x20"	1143	1165	1143	489	591	915	498	522	845	1360	430	1074	780	260
22"	1092	1114	1092	540	540	840	524	562	924	1435	496	1177	855	295
24"	1143	1165	1143	591	591	915	584	602	1005	1575	548	1408	955	340
30"x24"	1397	1422	1397	591	737	1090	584	602	1005	1575	548	1408	955	340
26"	1245	1270	1245	635	635	970	633	654	1088	1100	430	1275	740	260
28"	1346	1372	1346	686	686	1035	673	682	1164	1250	496	1330	873	330
30"	1397	1422	1397	736	736	1090	711	719	1238	1290	496	1310	873	330
36"x30"	1727	1756	1727	736	876	1270	711	719	1238	1290	496	1310	873	330
32"	1524	1553	1524	781	781	1150	751	754	1308	1330	496	1310	873	330
34"	1626	1654	1626	832	832	1205	765	789	1378	1345	496	1310	873	330
36"	1727	1756	1727	876	876	1270	800	818	1435	1380	496	1310	873	330
40"	1956	#	1956	978	978	1240	908	910	1620	1470	548	1424	880	330
42"	2083	#	2083	1022	1022	1290	945	949	1697	1510	548	1424	880	330
48"	2170	#	2388	1168	1168	1465	1084	1083	1967	1720	700	1760	1092	387
56"	2489	#	2489	1348	1348	1735	1225	1230	2260					

From 2" to 4" double acting pneumatic actuators rack and pinion with supply pressure of 6 bar
 From 6" to 24" double acting pneumatic actuators scotch yoke with supply pressure of 6 bar
 From 26" to 48" double acting hydraulic actuators with supply pressure of 100 bar



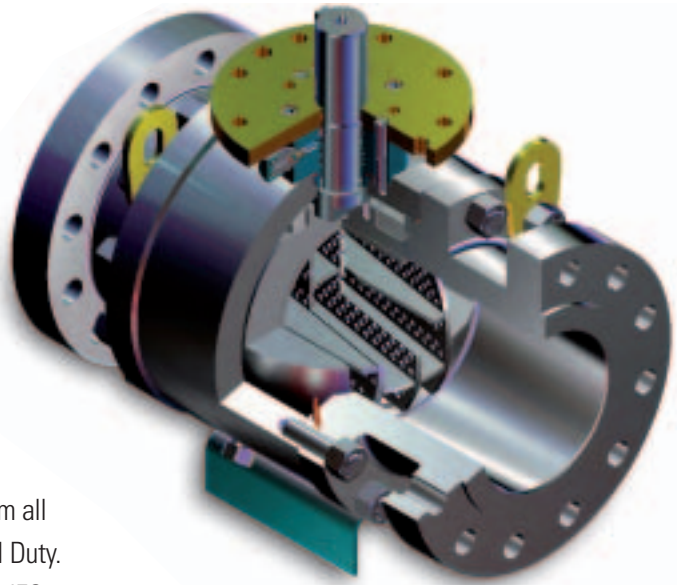
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES SIDE ENTRY ANSI 600

General

Pibiviesse Trunnion Mounted Side Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 56"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2"x to 60"
Control valves: From 2"x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

Rotary Control Ball Valve Capacity

DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	3	6	11	19	29	45	74	129	235	504
3x2	3	6	11	19	29	43	68	104	141	166
3	6	17	31	52	79	114	186	323	587	1.258
4x2	3	6	11	18	29	42	64	92	114	126
4x3	6	17	31	52	78	111	174	271	381	466
4	10	27	51	85	130	188	328	571	1.036	2.221
6x3	6	17	31	51	77	106	157	217	262	285
6x4	10	27	51	84	128	181	297	443	581	669
6	23	63	118	197	302	436	799	1.390	2.525	5.380
8x4	10	27	51	84	126	176	277	384	465	506
8x6	23	63	118	196	298	426	742	1.142	1.570	1.878
8	42	112	210	349	534	772	1.461	2.544	4.619	9.806
10x6	23	63	118	195	295	415	690	976	1.204	1.328
10x8	42	112	210	348	530	760	1.385	2.194	3.159	3.961
10	66	176	331	551	843	1.222	2.365	4.116	7.473	16.017
12x8	42	112	209	346	524	744	1.296	1.885	2.398	2.698
12x10	66	176	331	550	838	1.208	2.267	3.657	5.452	7.137
12	95	253	473	789	1.212	1.750	3.484	6.068	11.016	23.608
14x10	66	176	330	548	831	1.187	2.135	3.171	4.140	4.749
14x12	95	253	473	788	1.207	1.734	3.369	5.515	8.463	11.535
14	118	315	590	982	1.501	2.172	4.383	7.632	13.857	29.698
16x10	66	176	330	546	825	1.169	2.035	2.867	3.525	3.878
16x12	95	253	472	786	1.198	1.709	3.196	4.838	6.482	7.592
16x14	118	315	590	981	1.497	2.160	4.285	7.147	11.457	16.798
16	155	412	772	1.287	1.967	2.846	5.823	10.138	18.407	39.448
18x12	95	253	472	783	1.190	1.686	3.051	4.375	5.478	6.099
18x14	118	315	589	979	1.489	2.138	4.121	6.453	9.108	11.194
18x16	155	412	772	1.286	1.963	2.833	5.714	9.595	15.647	23.733
18	198	527	990	1.650	2.522	3.646	7.444	12.961	23.532	50.433
20x14	118	315	589	977	1.482	2.116	3.970	5.915	7.757	8.928
20x16	155	412	771	1.283	1.955	2.808	5.519	8.750	12.614	15.860
20x18	198	527	989	1.648	2.517	3.632	7.327	12.373	20.475	32.063
20	244	651	1.217	2.035	2.927	4.500	9.213	16.042	29.125	62.419
24x16	155	412	770	1.279	1.938	2.759	5.169	7.524	9.583	10.796
24x18	198	527	988	1.643	2.497	3.574	6.881	10.526	14.317	16.985
24x20	244	651	1.216	2.031	2.915	4.456	8.851	14.331	21.505	28.396
24	354	946	1.772	2.957	4.520	6.533	13.358	23.259	42.229	90.502
28x18	198	527	987	1.637	2.478	3.519	6.513	9.333	11.678	12.997
28x20	244	651	1.215	2.025	2.896	4.390	8.360	12.488	16.427	18.953
28x24	354	946	1.771	2.953	4.503	6.484	12.951	21.291	32.999	45.660
28	487	1.304	2.439	4.058	6.214	8.968	18.312	31.884	57.888	124.064
30x20	244	651	1.214	2.022	2.887	4.359	8.156	11.837	15.024	16.884
30x24	354	946	1.770	2.949	4.490	6.443	12.637	19.973	28.640	35.795
30x28	487	1.304	2.439	4.057	6.208	8.952	18.174	31.171	53.919	95.121
30	557	1.484	2.780	4.640	7.096	10.252	20.979	36.527	66.318	142.129
32x24	354	946	1.770	2.945	4.476	6.402	12.331	18.828	25.540	30.228
32x28	487	1.304	2.438	4.053	6.196	8.915	17.866	29.692	47.191	68.106
32x30	557	1.484	2.780	4.639	7.091	10.236	20.839	35.806	62.271	111.793
32	621	1.657	3.104	5.183	7.926	11.446	23.373	40.696	73.886	158.349
36x24	354	945	1.768	2.937	4.449	6.325	11.808	17.109	21.674	24.325
36x28	487	1.303	2.436	4.044	6.163	8.818	17.124	26.616	37.104	45.041
36x30	557	1.484	2.778	4.630	7.062	10.149	20.136	32.551	48.700	64.049
36x32	621	1.657	3.103	5.178	7.908	11.393	22.933	38.501	62.748	95.053
36	790	2.111	3.948	6.584	10.071	14.597	29.760	51.818	94.078	201.625

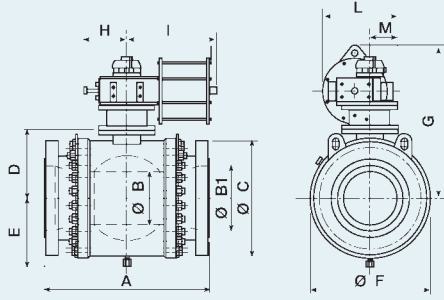
Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1,2	2	4	7	9	10	19	29	41	70	103
80x50	3x2	1,2	2	4	6	8	9	16	25	35	60	88
80	3	2	5	11	19	24	27	49	76	108	184	271
100x80	4x3	1,6	3	6	10	13	15	26	41	58	99	146
100	4	3	10	19	33	43	48	86	134	191	324	477
150x100	6x4	2	5	10	17	22	24	44	68	97	165	243
150	6	6	25	49	86	110	123	221	343	490	833	1225
200x150	8x6	3	8	16	28	36	41	73	113	162	275	405
200	8	10	42	84	147	189	210	377	587	838	1425	2095
250x200	10x8	5	13	26	45	57	64	115	179	255	434	638
250	10	12	71	141	247	317	353	635	987	1410	2397	3525
300x250	12x10	6	24	48	84	108	120	216	336	480	816	1200
300	12	16	101	202	354	455	505	909	1414	2020	3434	5200
350x300	14x12	9	40	80	140	180	200	360	560	800	1360	2000
350	14	22	124	247	432	556	618	1112	1729	2470	4199	6175
400x350	16x14	11	67	133	233	300	333	600	933	1333	2266	3332
400	16	30	165	331	579	744	827	1489	2316	3308	5624	8270
450x400	18x16	17	111	222	389	500	555	999	1554	2220	3775	5551
450	18	42	218	435	762	979	1088	1958	3046	4352	7398	10880
500x450	20x18	32	185	370	647	832	925	1665	2589	3699	6289	9248
500	20	55	275	551	964	1239	1377	2479	3856	5508	9364	13770
600x500	24x20	48	308	616	1078	1387	1541	2773	4314	6163	10477	15410
600	24	65	425	850	1488	1913	2125	3825	5950	8500	14450	21250
700x600	28x24	56	339	678	1186	1525	1694	3049	4743	6776	11519	16940
700	28	75	474	949	1660	2134	2372	4269	6640	9486	16126	23715
750x700	30x28	63	439	879	1538	1977	2197	3955	6152	8788	14940	21970
750	30	81	615	1231	2154	2769	3077	5539	8616	12308	20924	30770
800x750	32x30	82	502	1003	1755	2257	2508	4514	7021	10030	17051	25075
800	32	90	702	1404	2457	3159	3511	6319	9829	14042	23871	35105
900x800	36x32	85	643	1286	2250	2893	3214	5785	8999	12856	21855	32140
900	36	110	900	1800	3150	4050	4500	8100	12600	18000	30600	45000
1000x900	40x36	97	809	1617	2830	3639	4043	7277	11320	16172	27492	40430
1000	40	220	1132	2264	3962	5094	5660	10188	15848	22640	38488	56600
1200x1000	48x40	210	1970	3735	6535	8400	9333	16800	26130	37235	62925	92500
1200	48	480	2590	5182	9068	11660	12955	23319	36260	51800	88060	129500
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

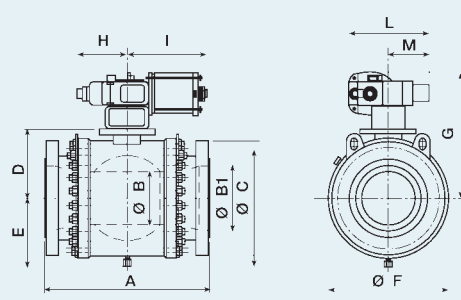
Side Entry - Overall Dimensions

Dimensions: mm

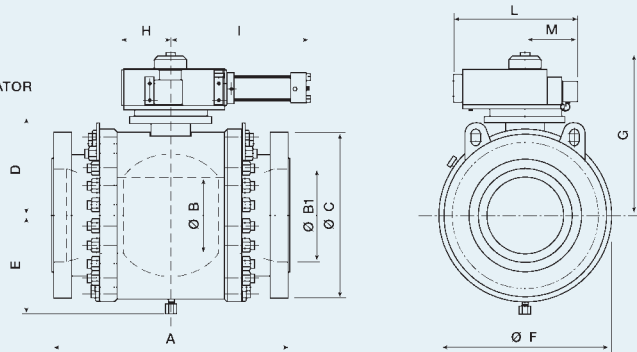
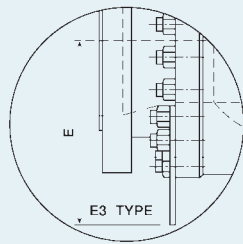
PNEUMATIC ACTUATOR scotch yoke



PNEUMATIC ACTUATOR rack and pinion



HYDRAULIC ACTUATOR



ANSI Class 600

SIZE	A			B	B1	C	D	E	F	G	H	I	L	M
	RF	RTJ	WE											
2"	292	295	292	51	51	165	155	105	145	520	206	325	215	54
3"x2"	356	359	356	51	77	210	155	105	145	520	206	325	215	54
3"	356	359	356	77	77	210	195	130	190	600	250	390	255	66
4"x3"	432	435	432	77	102	273	195	130	190	600	250	390	255	66
4"	432	435	432	102	102	273	230	164	232	700	310	460	308	82
6"x4"	559	562	559	102	152	356	230	164	232	700	310	460	308	82
6"	559	562	559	152	152	356	251	189	310	830	293	633	484	185
8"x6"	660	664	660	152	203	419	251	189	310	830	293	633	484	185
8"	660	664	660	203	203	419	311	245	460	950	293	627	510	185
10"x8"	787	791	787	203	254	510	311	245	460	950	293	627	510	185
10"	787	791	787	254	254	510	325	290	545	965	391	914	600	215
12"x10"	838	841	838	254	305	560	325	290	545	965	391	914	600	215
12"	838	841	838	305	305	560	378	343	645	1014	391	914	600	215
14"x12"	889	892	889	305	337	605	378	343	645	1014	391	914	600	215
16"x12"	991	994	991	305	387	685	378	343	645	1014	391	914	600	215
14"	889	892	889	337	337	605	359	403	605	1100	391	921	655	215
16"x14"	991	994	991	337	387	685	359	403	605	1100	391	921	655	215
16"	991	994	991	387	387	685	397	443	686	1140	430	1069	725	260
18"x16"	1092	1095	1092	387	438	745	397	443	686	1140	430	1069	725	260
20"x16"	1194	1200	1194	387	489	815	397	443	686	1140	430	1069	725	260
18"	1092	1095	1092	438	438	745	483	488	775	1340	430	1074	780	260
20"x18"	1194	1200	1194	438	489	815	483	488	775	1340	430	1074	780	260
20"	1194	1200	1194	489	489	815	503	525	850	1495	548	1408	955	340
24"x20"	1397	1406	1397	489	591	940	503	525	850	1495	548	1408	955	340
22"	1296	1305	1296	540	540	870	565	574	958	1610	548	1408	978	340
24"	1397	1406	1397	591	591	940	604	612	1023	1520	1310	1380	935	340
30"x24"	1651	1664	1651	591	737	1130	604	612	1023	1520	1310	1380	935	340
26"	1448	1460	1448	635	635	1015	638	649	1097	1215	496	1310	873	330
28"	1549	1562	1549	686	686	1075	687	686	1172	1250	548	1424	880	330
30"	1651	1664	1651	736	736	1130	727	726	1270	1290	548	1424	880	330
36"x30"	2083	2098	2083	736	876	1315	727	726	1270	1290	548	1424	880	330
32"	1778	1794	1778	791	791	1195	760	767	1334	1395	643	1620	1055	395
34"	1930	1946	1930	832	832	1245	796	804	1408	1430	643	1620	1055	395
36"	2083	2098	2083	876	876	1315	832	838	1477	1410	496	1346	873	330
40"	2337	2337	2337	978	978	1320	931	936	1672	1495	548	1405	880	330
42"	2437	2437	2437	1022	1022	1405	973	977	1755	1610	643	1620	1055	395
48"	2540	2540	2540	1168	1168	1595	1108	1113	2026	1742	700	1860	1092	387
56"	2489	#	2489	1348	1348	1735	1225	1230	2260					

From 2" to 3" double acting pneumatic actuators rack and pinion with supply pressure of 6 bar

From 4" to 24" double acting pneumatic actuators scotch yoke with supply pressure of 6 bar

From 26" to 46" double acting hydraulic actuators with supply pressure of 100 bar

For 46" double acting hydraulic actuators with supply pressure of 150 bar



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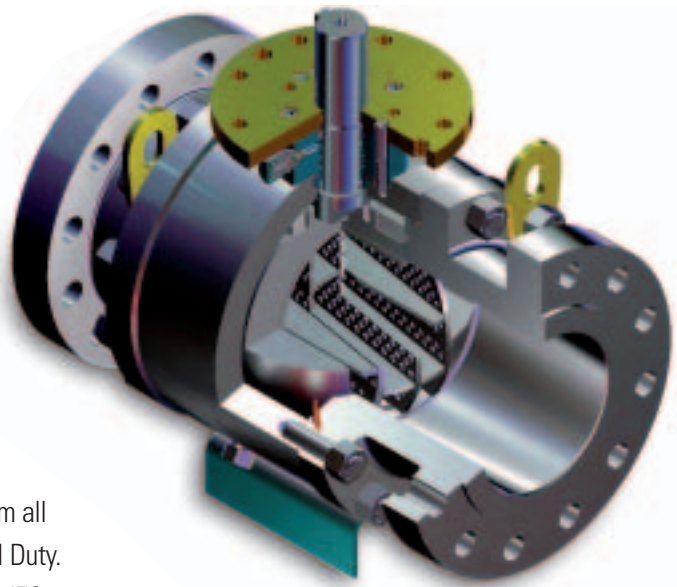
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES SIDE ENTRY ANSI 900

General

Pibiviesse Trunnion Mounted Side Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 36"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2"x to 60"
Control valves: From 2"x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL*	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

The ball material shall be defined based on application and maybe upgraded case by case.

Rotary Control Ball Valve Capacity

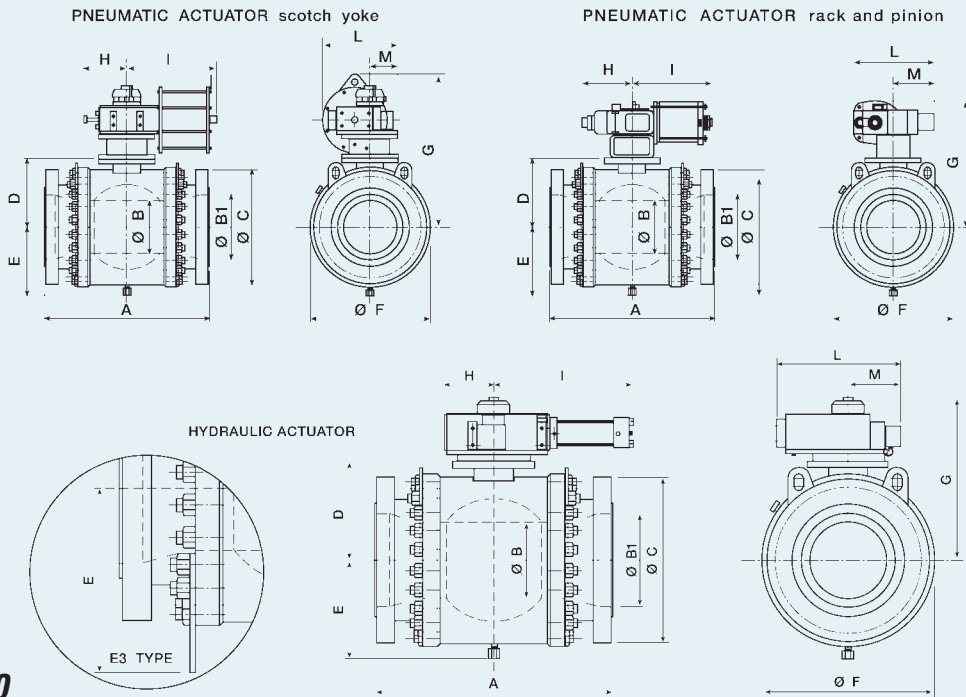
DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	2	5	10	18	28	42	71	123	223	478
3x2	2	5	10	18	27	41	65	100	138	165
3	6	16	30	49	75	109	176	307	558	1.195
4x2	2	5	10	18	27	40	62	89	112	125
4x3	6	16	30	49	75	106	166	262	373	462
4	10	26	48	81	123	178	312	542	984	2.110
6x3	6	16	29	49	73	102	151	212	259	284
6x4	10	26	48	80	122	173	285	429	571	666
6	22	60	112	187	287	414	759	1.321	2.399	5.111
8x4	10	26	48	80	120	169	267	375	460	505
8x6	22	60	112	187	284	405	709	1.103	1.538	1.866
8	40	106	199	332	507	733	1.388	2.417	4.388	9.316
10x6	22	60	112	186	281	396	664	951	1.190	1.323
10x8	40	106	199	331	503	723	1.322	2.111	3.082	3.927
10	63	167	314	524	801	1.161	2.246	3.910	7.099	15.216
12x8	40	106	199	329	499	709	1.244	1.831	2.364	2.687
12x10	63	167	314	522	797	1.149	2.162	3.511	5.302	7.061
12	90	240	450	750	1.151	1.662	3.310	5.764	10.465	22.428
14x10	63	167	314	521	791	1.131	2.047	3.074	4.073	4.727
14x12	90	240	449	749	1.147	1.649	3.211	5.284	8.206	11.389
14	112	299	560	933	1.426	2.064	4.164	7.251	13.164	28.213
16x10	63	167	313	519	785	1.115	1.958	2.795	3.483	3.866
16x12	90	240	449	747	1.140	1.627	3.060	4.680	6.364	7.550
16x14	112	299	560	932	1.422	2.053	4.080	6.831	11.056	16.515
16	147	392	734	1.223	1.869	2.704	5.532	9.631	17.486	37.476
18x12	90	240	448	745	1.133	1.607	2.932	4.257	5.406	6.077
18x14	112	299	560	930	1.416	2.034	3.937	6.217	8.902	11.109
18x16	147	392	733	1.222	1.865	2.693	5.438	9.162	15.070	23.282
18	188	501	940	1.567	2.396	3.464	7.072	12.313	22.356	47.912
20x14	112	299	559	929	1.409	2.015	3.805	5.732	7.629	8.885
20x16	147	392	733	1.220	1.858	2.671	5.270	8.418	12.306	15.723
20x18	188	501	940	1.566	2.392	3.452	6.972	11.806	19.686	31.385
20	232	619	1.156	1.933	2.781	4.275	8.752	15.240	27.669	59.298
24x16	147	391	732	1.215	1.843	2.629	4.962	7.309	9.446	10.752
24x18	188	501	939	1.561	2.375	3.401	6.584	10.170	14.039	16.882
24x20	232	619	1.155	1.930	2.770	4.237	8.440	13.750	20.898	28.084
24	337	899	1.684	2.809	4.294	6.207	12.690	22.096	40.117	85.977
28x18	188	501	938	1.557	2.358	3.354	6.260	9.082	11.526	12.950
28x20	232	619	1.154	1.924	2.754	4.180	8.011	12.098	16.152	18.860
28x24	337	898	1.683	2.805	4.280	6.164	12.340	20.388	31.962	45.045
28	462	1.239	2.317	3.855	5.903	8.520	17.396	30.290	54.994	117.861
30x20	232	619	1.154	1.922	2.746	4.154	7.831	11.504	14.813	16.818
30x24	337	898	1.682	2.802	4.268	6.129	12.067	19.222	27.954	35.497
30x28	462	1.238	2.317	3.854	5.898	8.506	17.278	29.676	51.557	92.238
30	529	1.410	2.641	4.408	6.741	9.739	19.930	34.701	63.002	135.022
32x24	337	898	1.681	2.799	4.256	6.094	11.800	18.195	25.050	30.047
32x28	462	1.238	2.316	3.851	5.888	8.474	17.013	28.392	45.583	67.023
32x30	529	1.410	2.641	4.407	6.737	9.725	19.810	34.080	59.502	108.235
32	590	1.574	2.949	4.923	7.530	10.874	22.204	38.661	70.192	150.431
36x24	337	898	1.680	2.792	4.233	6.027	11.339	16.630	21.372	24.231
36x28	462	1.238	2.315	3.843	5.859	8.391	16.369	25.667	36.307	44.724
36x30	529	1.410	2.639	4.400	6.712	9.651	19.203	31.239	47.341	63.357
36x32	590	1.574	2.948	4.919	7.514	10.829	21.826	36.765	60.438	93.255
36	750	2.005	3.751	6.255	9.567	13.867	28.272	49.227	89.374	191.544

Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1	2	4	7	9	10	18	27	39	67	98
80x50	3x2	1	2	3	6	8	8	15	23	33	57	84
80	3	2	5	10	18	23	26	46	72	103	175	257
100x80	4x3	2	3	6	10	12	14	25	39	55	94	139
100	4	3	9	18	32	41	45	82	127	181	308	453
150x100	6x4	2	5	9	16	21	23	42	65	92	157	231
150	6	6	23	47	81	105	116	209	326	466	791	1164
200x150	8x6	3	8	15	27	35	38	69	108	154	262	385
200	8	10	40	80	139	179	199	358	557	796	1353	1990
250x200	10x8	5	12	24	42	55	61	109	170	242	412	606
250	10	11	67	134	234	301	335	603	938	1340	2277	3349
300x250	12x10	6	23	46	80	103	114	205	319	456	775	1140
300	12	15	96	192	336	432	480	864	1343	1919	3262	4940
350x300	14x12	9	38	76	133	171	190	342	532	760	1292	1900
350	14	21	117	235	411	528	587	1056	1643	2347	3989	5866
400x350	16x14	10	63	127	222	285	317	570	886	1266	2152	3165
400	16	29	157	314	550	707	786	1414	2200	3143	5343	7857
450x400	18x16	16	105	211	369	475	527	949	1477	2109	3586	5273
450	18	40	207	413	724	930	1034	1860	2894	4134	7028	10336
500x450	20x18	30	176	351	615	791	879	1581	2460	3514	5974	8786
500	20	52	262	523	916	1177	1308	2355	3663	5233	8895	13082
600x500	24x20	46	293	585	1025	1317	1464	2635	4098	5855	9953	14640
600	24	62	404	808	1413	1817	2019	3634	5653	8075	13728	20188
700x600	28x24	53	322	644	1127	1448	1609	2897	4506	6437	10943	16093
700	28	71	451	901	1577	2028	2253	4055	6308	9012	15320	22529
750x700	30x28	60	417	835	1461	1878	2087	3757	5844	8349	14193	20872
750	30	77	585	1169	2046	2631	2923	5262	8185	11693	19877	29232
800x750	32x30	78	476	953	1667	2144	2382	4288	6670	9529	16198	23821
800	32	86	667	1334	2334	3001	3335	6003	9338	13340	22678	33350
900x800	36x32	81	611	1221	2137	2748	3053	5496	8549	12213	20762	30533
900	36	105	855	1710	2993	3848	4275	7695	11970	17100	29070	42750
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

Side Entry - Overall Dimensions

Dimensions: mm



ANSI Class 900

SIZE	A			B	B1	C	D	E	F	G	H	I	L	M
	RF	RTJ	WE											
2"	368	371	368	50	51	216	155	105	145	520	206	325	215	54
3"x2"	381	384	381	51	77	241	155	105	145	520	206	325	215	54
3"	381	384	381	77	77	241	195	130	190	665	310	460	308	82
4"x3"	457	460	457	77	102	292	195	130	190	665	310	460	308	82
4"	457	460	457	102	102	292	200	164	232	670	310	460	308	82
6"x4"	610	613	610	102	152	381	200	164	232	670	310	460	308	82
6"	610	613	610	152	152	381	270	203	382	850	293	633	484	185
8"x6"	737	740	737	152	203	470	270	203	382	850	293	633	484	185
8"	737	740	737	203	203	470	295	260	485	930	391	914	600	215
10"x8"	838	841	838	203	254	545	295	260	485	930	391	914	600	215
10"	838	841	838	254	254	545	390	321	595	1025	391	914	600	215
12"x10"	965	968	965	254	305	610	390	321	595	1025	391	914	600	215
12"	965	968	965	305	305	610	446	377	700	1085	391	921	655	215
14"x12"	1029	1038	1029	305	324	640	446	377	700	1085	391	921	655	215
16"x12"	1130	1140	1130	305	375	705	446	377	700	1085	391	921	655	215
14"	1029	1038	1029	324	324	640	377	420	640	1120	430	1069	725	260
16"x14"	1130	1140	1130	324	375	705	377	420	640	1120	430	1069	725	260
16"	1130	1140	1130	375	375	705	459	470	740	1320	430	1074	780	260
18"x16"	1219	1232	1219	375	425	785	459	470	740	1320	430	1074	780	260
20"x16"	1321	1333	1321	375	473	855	459	470	740	1320	430	1074	780	260
18"	1219	1232	1219	425	425	785	504	511	822	1495	548	1408	955	340
20"x18"	1321	1333	1321	425	473	855	504	511	822	1495	548	1408	955	340
20"	1321	1333	1321	473	473	855	556	562	924	1600	548	1408	978	340
24"x20"	1549	1568	1549	473	571	1040	556	562	924	1600	548	1408	978	340
24"	1549	1568	1549	571	571	1040	640	650	1100	1630	1515	1595	1050	395
30"x24"	1880	1902	1880	571	714	1230	640	650	1100	1630	1515	1595	1050	395
26"	1651	1674	1651	619	619	1085	680	688	1176	1315	643	1620	1055	395
28"	1753	1775	1753	667	667	1170	725	735	1270	1305	496	1346	873	330
30"	1880	1902	1880	714	714	1230	775	789	1378	1340	548	1405	880	330
36"x30"	2286	2315	2286	714	857	1460	775	789	1378	1340	548	1405	880	330
32"	2032	2054	2032	762	762	1315	820	824	1448	1455	643	1620	1055	395
34"	2159	2188	2159	810	810	1395	858	860	1520	1495	643	1620	1055	395
36"	2286	2315	2286	857	857	1460	900	900	1600	1535	643	1620	1055	395

From 2" to 3" double acting pneumatic actuators rack and pinion with supply pressure of 6 bar
 From 3" to 24" double acting pneumatic actuators scotch yoke with supply pressure of 6 bar
 From 26" to 36" double acting hydraulic actuators with supply pressure of 100 bar



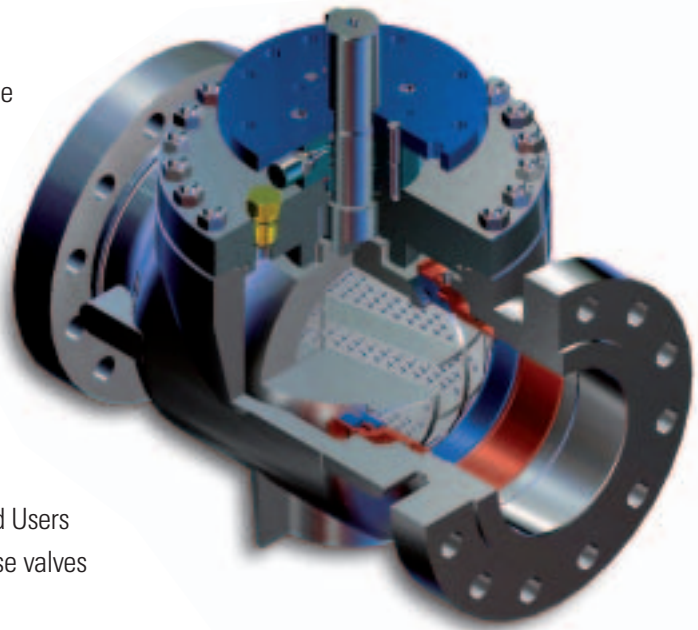
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES TOP ENTRY ANSI 1500

General

Pibiviesse Trunnion Mounted Top Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 24"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2"x to 60"
Control valves: From 2"x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL *	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N08020 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

* The ball material shall be defined based on application and maybe upgraded case by case.

Rotary Control Ball Valve Capacity

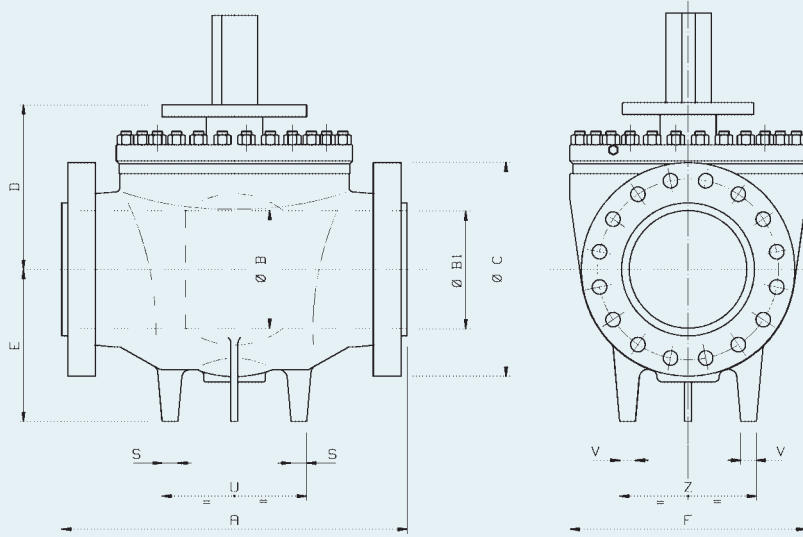
DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	2	5	10	17	26	40	67	116	212	453
3x2	2	5	10	17	26	39	62	97	135	164
3	6	15	28	47	71	103	167	291	528	1.132
4x2	2	5	10	17	26	38	59	87	111	125
4x3	6	15	28	47	71	101	158	251	364	458
4	9	24	46	76	117	169	295	514	933	1.999
6x3	6	15	28	46	69	97	145	206	256	283
6x4	9	24	46	76	115	164	272	415	561	662
6	21	57	106	178	272	392	719	1.251	2.273	4.842
8x4	9	24	46	76	114	161	257	365	454	503
8x6	21	57	106	177	269	385	676	1.061	1.503	1.852
8	38	101	189	314	480	695	1.315	2.290	4.157	8.825
10x6	21	57	106	176	266	377	636	924	1.173	1.318
10x8	38	101	189	313	477	686	1.258	2.024	2.999	3.888
10	60	158	298	496	759	1.100	2.128	3.704	6.726	14.415
12x8	38	101	188	312	473	674	1.191	1.774	2.326	2.674
12x10	60	158	298	495	755	1.090	2.056	3.359	5.141	6.976
12	85	228	426	710	1.091	1.575	3.136	5.461	9.914	21.248
14x10	60	158	297	494	750	1.074	1.956	2.971	3.999	4.701
14x12	85	228	426	709	1.087	1.564	3.051	5.047	7.932	11.225
14	106	283	531	884	1.351	1.955	3.945	6.869	12.472	26.728
16x10	60	158	297	492	745	1.061	1.878	2.717	3.436	3.852
16x12	85	228	425	708	1.081	1.545	2.920	4.513	6.234	7.501
16x14	106	283	531	883	1.348	1.946	3.873	6.509	10.636	16.201
16	139	371	695	1.158	1.770	2.562	5.241	9.124	16.566	35.503
18x12	85	228	425	706	1.075	1.528	2.809	4.130	5.326	6.052
18x14	106	283	530	882	1.342	1.930	3.750	5.972	8.679	11.012
18x16	139	371	695	1.157	1.767	2.552	5.161	8.722	14.469	22.785
18	178	475	891	1.485	2.270	3.281	6.700	11.665	21.179	45.390
20x14	106	283	530	880	1.337	1.914	3.635	5.538	7.487	8.835
20x16	139	371	694	1.156	1.761	2.534	5.016	8.073	11.972	15.568
20x18	178	475	891	1.484	2.266	3.271	6.614	11.231	18.868	30.643
20	220	586	1.095	1.832	2.634	4.050	8.291	14.438	26.212	56.177
24x16	139	371	694	1.152	1.749	2.497	4.749	7.080	9.292	10.702
24x18	178	475	890	1.480	2.252	3.228	6.281	9.796	13.733	16.764
24x20	220	586	1.095	1.829	2.625	4.018	8.025	13.153	20.249	27.731
24	319	851	1.595	2.662	4.068	5.880	12.022	20.933	38.006	81.452
28x18	178	474	889	1.476	2.238	3.188	5.997	8.813	11.355	12.897
28x20	220	586	1.094	1.824	2.611	3.969	7.653	11.685	15.846	18.752
28x24	319	851	1.594	2.658	4.056	5.844	11.723	19.464	30.863	44.355
28	438	1.173	2.195	3.653	5.592	8.072	16.481	28.696	52.100	111.658
30x20	220	586	1.093	1.822	2.605	3.947	7.496	11.147	14.576	16.741
30x24	319	851	1.594	2.655	4.046	5.814	11.488	18.441	27.210	35.156
30x28	438	1.173	2.195	3.651	5.588	8.060	16.380	28.172	49.150	89.172
30	501	1.336	2.502	4.176	6.386	9.227	18.881	32.874	59.686	127.916
32x24	319	851	1.593	2.652	4.036	5.784	11.257	17.529	24.510	29.840
32x28	438	1.173	2.195	3.649	5.579	8.032	16.154	27.066	43.894	65.819
32x30	501	1.336	2.502	4.175	6.382	9.215	18.779	32.345	56.685	104.469
32	559	1.491	2.794	4.664	7.133	10.302	21.035	36.626	66.497	142.514
36x24	319	851	1.592	2.647	4.016	5.727	10.855	16.117	21.034	24.122
36x28	438	1.173	2.193	3.642	5.555	7.961	15.599	24.676	35.436	44.361
36x30	501	1.335	2.500	4.169	6.361	9.152	18.259	29.886	45.884	62.576
36x32	559	1.491	2.793	4.661	7.120	10.263	20.713	35.002	58.031	91.274
36	711	1.900	3.554	5.926	9.064	13.137	26.784	46.636	84.670	181.463

Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1,08	2	4	6	8	9	17	26	37	63	93
80x50	3x2	1,08	2	3	6	7	8	14	22	32	54	79
80	3	1,8	5	10	17	22	24	44	68	98	166	244
100x80	4x3	1,44	3	5	9	12	13	24	37	53	89	131
100	4	2,7	9	17	30	39	43	77	120	172	292	429
150x100	6x4	1,8	4	9	15	20	22	39	61	87	149	219
150	6	5,4	22	44	77	99	110	198	309	441	750	1103
200x150	8x6	2,7	7	15	26	33	36	66	102	146	248	365
200	8	9	38	75	132	170	189	339	528	754	1282	1886
250x200	10x8	4,5	11	23	40	52	57	103	161	230	390	574
250	10	10,8	63	127	222	286	317	571	888	1269	2157	3173
300x250	12x10	5,4	22	43	76	97	108	194	302	432	734	1080
300	12	14,4	91	182	318	409	455	818	1273	1818	3091	4680
350x300	14x12	8,1	36	72	126	162	180	324	504	720	1224	1800
350	14	19,8	111	222	389	500	556	1000	1556	2223	3779	5558
400x350	16x14	9,9	60	120	210	270	300	540	840	1200	2039	2999
400	16	27	149	298	521	670	744	1340	2084	2978	5062	7443
450x400	18x16	15,3	100	200	350	450	500	899	1399	1998	3397	4996
450	18	37,8	196	392	685	881	979	1763	2742	3917	6659	9792
500x450	20x18	28,8	166	333	583	749	832	1498	2330	3329	5660	8323
500	20	49,5	248	496	868	1115	1239	2231	3470	4957	8427	12393
600x500	24x20	43,2	277	555	971	1248	1387	2496	3883	5547	9429	13869
600x600	24	58,5	383	765	1339	1721	1913	3443	5355	7650	13005	19125
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

Top Entry - Overall Dimensions

Dimensions: mm



ANSI Class 1500

DN	A			B	B1	C	D	E	WGT Kg
	RF	RTJ	WE						
2"x1-1/2"	368	371	368	38	51	216	179	85	49
2"	368	371	368	51	51	216	179	85	52
3"x2"	470	473	470	51	77	267	179	85	98
3"	470	473	470	77	77	267	201	120	152
4"x3"	546	549	546	77	102	311	201	120	205
4"	546	549	546	102	102	311	240	155	280
6"x4"	705	711	705	102	146	394	240	155	382
6"	705	711	705	146	146	394	273	240	640
8"x6"	832	841	832	146	194	483	273	240	720
8"	832	841	832	194	194	483	335	280	1180
10"x8"	991	1000	991	194	241	585	335	280	1320
10"	991	1000	991	241	241	585	385	340	1500
12"x10"	1130	1146	1130	241	289	675	385	340	1600
14"x10"	1257	1276	1257	241	317	750	385	340	2170
12"	1130	1146	1130	289	289	675	436	400	2065
14"x12"	1257	1276	1257	317	317	750	436	400	2780
16"x12"	1384	1406	1384	289	362	825	436	400	3280
14"	1257	1276	1257	317	317	750	485	467	2700
16"x14"	1384	1406	1384	317	362	825	485	467	3240
16"	1384	1406	1384	362	362	825	530	495	3980
18"	1537	1559	1537	407	407	916	585	520	5325
20"	1664	1686	1664	457	457	985	640	639	6800
24"	2043	2071	2043	534	534	1070	708	640	11900

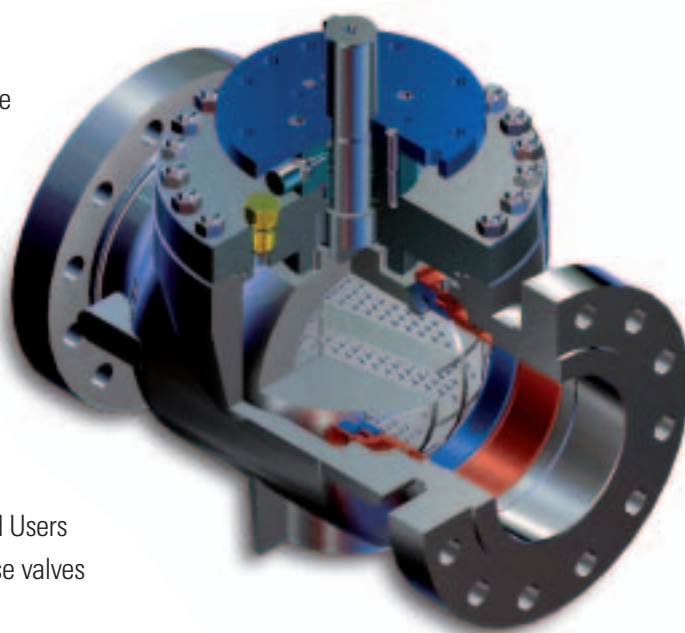
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES TOP ENTRY ANSI 150

General

Pibiviesse Trunnion Mounted Top Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 48"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2" x to 60"
Control valves: From 2" x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

Rotary Control Ball Valve Capacity

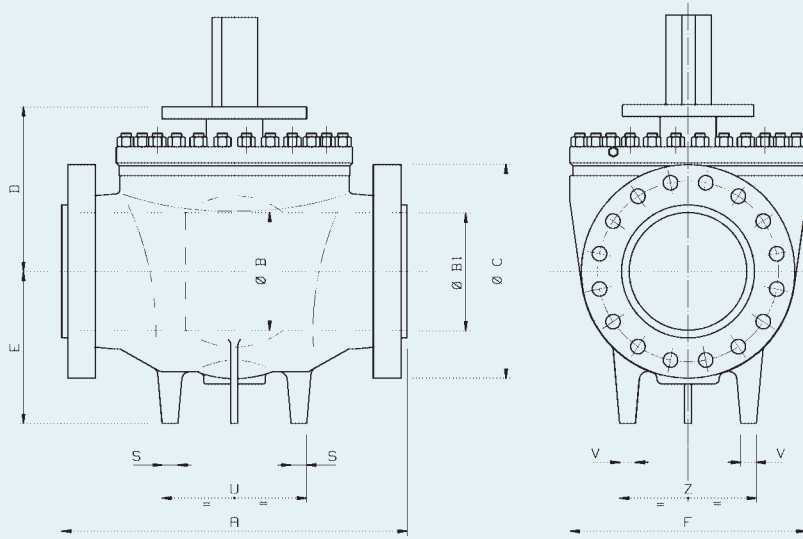
DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	3	6	11	19	29	45	74	129	235	504
3x2	3	6	11	19	29	43	68	104	141	166
3	6	17	31	52	79	114	186	323	587	1.258
4x2	3	6	11	18	29	42	64	92	114	126
4x3	6	17	31	52	78	111	174	271	381	466
4	10	27	51	85	130	188	328	571	1.036	2.221
6x3	6	17	31	51	77	106	157	217	262	285
6x4	10	27	51	84	128	181	297	443	581	669
6	23	63	118	197	302	436	799	1.390	2.525	5.380
8x4	10	27	51	84	126	176	277	384	465	506
8x6	23	63	118	196	298	426	742	1.142	1.570	1.878
8	42	112	210	349	534	772	1.461	2.544	4.619	9.806
10x6	23	63	118	195	295	415	690	976	1.204	1.328
10x8	42	112	210	348	530	760	1.385	2.194	3.159	3.961
10	66	176	331	551	843	1.222	2.365	4.116	7.473	16.017
12x8	42	112	209	346	524	744	1.296	1.885	2.398	2.698
12x10	66	176	331	550	838	1.208	2.267	3.657	5.452	7.137
12	95	253	473	789	1.212	1.750	3.484	6.068	11.016	23.608
14x10	66	176	330	548	831	1.187	2.135	3.171	4.140	4.749
14x12	95	253	473	788	1.207	1.734	3.369	5.515	8.463	11.535
14	118	315	590	982	1.501	2.172	4.383	7.632	13.857	29.698
16x10	66	176	330	546	825	1.169	2.035	2.867	3.525	3.878
16x12	95	253	472	786	1.198	1.709	3.196	4.838	6.482	7.592
16x14	118	315	590	981	1.497	2.160	4.285	7.147	11.457	16.798
16	155	412	772	1.287	1.967	2.846	5.823	10.138	18.407	39.448
18x12	95	253	472	783	1.190	1.686	3.051	4.375	5.478	6.099
18x14	118	315	589	979	1.489	2.138	4.121	6.453	9.108	11.194
18x16	155	412	772	1.286	1.963	2.833	5.714	9.595	15.647	23.733
18	198	527	990	1.650	2.522	3.646	7.444	12.961	23.532	50.433
20x14	118	315	589	977	1.482	2.116	3.970	5.915	7.757	8.928
20x16	155	412	771	1.283	1.955	2.808	5.519	8.750	12.614	15.860
20x18	198	527	989	1.648	2.517	3.632	7.327	12.373	20.475	32.063
20	244	651	1.217	2.035	2.927	4.500	9.213	16.042	29.125	62.419
24x16	155	412	770	1.279	1.938	2.759	5.169	7.524	9.583	10.796
24x18	198	527	988	1.643	2.497	3.574	6.881	10.526	14.317	16.985
24x20	244	651	1.216	2.031	2.915	4.456	8.851	14.331	21.505	28.396
24	354	946	1.772	2.957	4.520	6.533	13.358	23.259	42.229	90.502
28x18	198	527	987	1.637	2.478	3.519	6.513	9.333	11.678	12.997
28x20	244	651	1.215	2.025	2.896	4.390	8.360	12.488	16.427	18.953
28x24	354	946	1.771	2.953	4.503	6.484	12.951	21.291	32.999	45.660
28	487	1.304	2.439	4.058	6.214	8.968	18.312	31.884	57.888	124.064
30x20	244	651	1.214	2.022	2.887	4.359	8.156	11.837	15.024	16.884
30x24	354	946	1.770	2.949	4.490	6.443	12.637	19.973	28.640	35.795
30x28	487	1.304	2.439	4.057	6.208	8.952	18.174	31.171	53.919	95.121
30	557	1.484	2.780	4.640	7.096	10.252	20.979	36.527	66.318	142.129
32x24	354	946	1.770	2.945	4.476	6.402	12.331	18.828	25.540	30.228
32x28	487	1.304	2.438	4.053	6.196	8.915	17.866	29.692	47.191	68.106
32x30	557	1.484	2.780	4.639	7.091	10.236	20.839	35.806	62.271	111.793
32	621	1.657	3.104	5.183	7.926	11.446	23.373	40.696	73.886	158.349
36x24	354	945	1.768	2.937	4.449	6.325	11.808	17.109	21.674	24.325
36x28	487	1.303	2.436	4.044	6.163	8.818	17.124	26.616	37.104	45.041
36x30	557	1.484	2.778	4.630	7.062	10.149	20.136	32.551	48.700	64.049
36x32	621	1.657	3.103	5.178	7.908	11.393	22.933	38.501	62.748	95.053
36	790	2.111	3.948	6.584	10.071	14.597	29.760	51.818	94.078	201.625

Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1,2	2	4	7	9	10	19	29	41	70	103
80x50	3x2	1,2	2	4	6	8	9	16	25	35	60	88
80	3	2	5	11	19	24	27	49	76	108	184	271
100x80	4x3	1,6	3	6	10	13	15	26	41	58	99	146
100	4	3	10	19	33	43	48	86	134	191	324	477
150x100	6x4	2	5	10	17	22	24	44	68	97	165	243
150	6	6	25	49	86	110	123	221	343	490	833	1225
200x150	8x6	3	8	16	28	36	41	73	113	162	275	405
200	8	10	42	84	147	189	210	377	587	838	1425	2095
250x200	10x8	5	13	26	45	57	64	115	179	255	434	638
250	10	12	71	141	247	317	353	635	987	1410	2397	3525
300x250	12x10	6	24	48	84	108	120	216	336	480	816	1200
300	12	16	101	202	354	455	505	909	1414	2020	3434	5200
350x300	14x12	9	40	80	140	180	200	360	560	800	1360	2000
350	14	22	124	247	432	556	618	1112	1729	2470	4199	6175
400x350	16x14	11	67	133	233	300	333	600	933	1333	2266	3332
400	16	30	165	331	579	744	827	1489	2316	3308	5624	8270
450x400	18x16	17	111	222	389	500	555	999	1554	2220	3775	5551
450	18	42	218	435	762	979	1088	1958	3046	4352	7398	10880
500x450	20x18	32	185	370	647	832	925	1665	2589	3699	6289	9248
500	20	55	275	551	964	1239	1377	2479	3856	5508	9364	13770
600x500	24x20	48	308	616	1078	1387	1541	2773	4314	6163	10477	15410
600	24	65	425	850	1488	1913	2125	3825	5950	8500	14450	21250
700x600	28x24	56	339	678	1186	1525	1694	3049	4743	6776	11519	16940
700	28	75	474	949	1660	2134	2372	4269	6640	9486	16126	23715
750x700	30x28	63	439	879	1538	1977	2197	3955	6152	8788	14940	21970
750	30	81	615	1231	2154	2769	3077	5539	8616	12308	20924	30770
800x750	32x30	82	502	1003	1755	2257	2508	4514	7021	10030	17051	25075
800	32	90	702	1404	2457	3159	3511	6319	9829	14042	23871	35105
900x800	36x32	85	643	1286	2250	2893	3214	5785	8999	12856	21855	32140
900	36	110	900	1800	3150	4050	4500	8100	12600	18000	30600	45000
1000x900	40x36	97	809	1617	2830	3639	4043	7277	11320	16172	27492	40430
1000	40	220	1132	2264	3962	5094	5660	10188	15848	22640	38488	56600
1200x1000	48x40	210	1970	3735	6535	8400	9333	16800	26130	37235	62925	92500
1200	48	480	2590	5182	9068	11660	12955	23319	36260	51800	88060	129500
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

Top Entry - Overall Dimensions

Dimensions: mm



ANSI Class 150

DN	A			B	B1	C	D	E	WGT Kg
	RF	RTJ	WE						
2"x1-1/2"	292	295	292	38	51	152	212	85	25
2"	292	295	292	51	51	152	212	85	28
3"x2"	356	359	356	51	77	191	212	85	37
3"	356	359	356	77	77	191	228	112	55
4"x3"	432	435	432	77	102	229	228	112	75
4"	432	435	432	102	102	229	272	145	105
6"x4"	559	562	559	102	152	279	272	145	140
6"	559	562	559	152	152	279	281	220	235
8"x6"	660	664	660	152	203	343	281	220	265
8"	660	664	660	203	203	343	320	260	430
10"x8"	787	791	787	203	254	406	320	260	480
10"	787	791	787	254	254	406	360	311	475
12"x10"	838	841	838	254	305	483	360	311	510
14"x10"	889	892	889	254	337	535	360	311	690
12"	838	841	838	305	305	483	403	366	610
14"x12"	889	892	889	305	337	535	403	366	820
16"x12"	991	994	991	305	387	595	403	366	970
14"	889	892	889	337	337	535	453	428	795
16"x14"	991	994	991	387	337	595	453	428	955
16"	991	994	991	387	387	595	459	450	1160
18"x16"	1092	1095	1092	387	438	635	450	450	1295
20"x16"	1194	1200	1194	387	489	700	459	450	1590
18"	1092	1095	1092	438	438	635	502	473	1570
20"x18"	1194	1200	1194	438	489	700	502	473	1800
20"	1194	1200	1194	489	489	700	551	580	2000
24"x20"	1397	1406	1397	489	591	815	551	580	2440
22"	1295	1305	1295	540	540	750	578	590	2830
24"	1397	1406	1397	591	591	815	606	600	3300
30"x24"	1651	1664	1651	591	736	985	606	600	4100
26"	1448	1460	1448	635	635	870	675	635	3970
28"	1549	1562	1549	686	686	925	735	700	4755
30"	1651	1664	1651	736	736	985	795	775	5820
36"x30"	2083	2098	2083	736	876	1170	795	775	7200
32"	1778	1794	1778	781	781	1060	840	825	7240
34"	1930	1946	1930	832	832	1110	875	880	7960
36"	2083	2098	2083	876	876	1170	931	930	9300
40"	2337	2337	2337	978	978	1290	1015	1025	12950
42"	2437	2437	2437	1022	1022	1345	1065	1080	15200
48"	2540	2540	2540	1168	1168	1510	1180	1225	22750

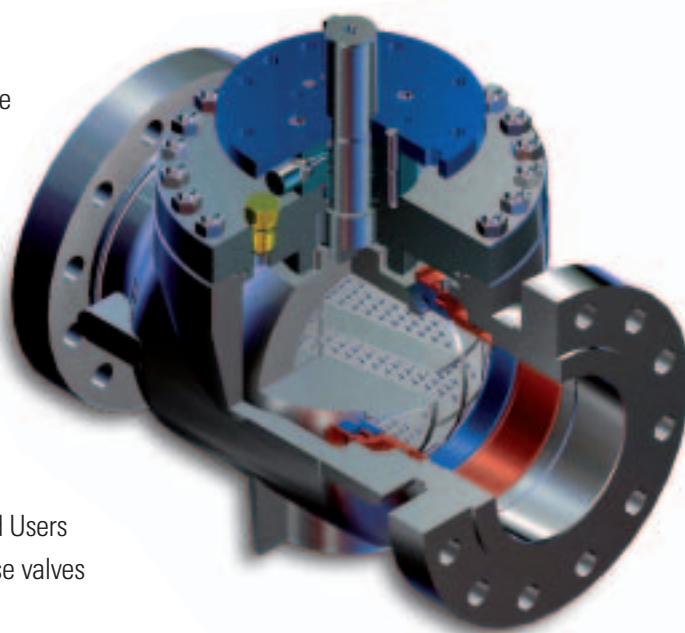
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES TOP ENTRY ANSI 2500

General

Pibiviesse Trunnion Mounted Top Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 12"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2"x to 60"
Control valves: From 2"x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL *	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON - HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS S06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS S06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS S06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS S06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR - PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

* The ball material shall be defined based on application and maybe upgraded case by case.

Rotary Control Ball Valve Capacity

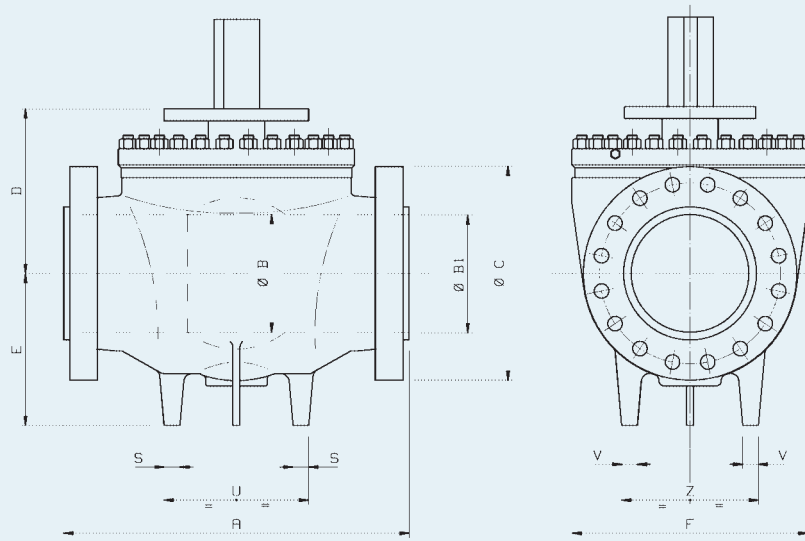
DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	2	5	8	15	23	36	59	103	188	403
3x2	2	5	8	15	23	35	56	89	128	161
3	5	13	25	42	63	91	148	258	470	1.006
4x2	2	5	8	15	23	34	54	81	107	124
4x3	5	13	25	41	63	90	142	230	343	449
4	8	22	41	68	104	150	262	457	829	1.777
6x3	5	13	25	41	62	87	132	194	248	281
6x4	8	22	41	68	103	147	246	383	535	653
6	19	51	95	158	241	349	639	1.112	2.020	4.304
8x4	8	22	41	67	102	144	234	343	440	499
8x6	19	51	94	157	240	343	609	973	1.423	1.817
8	34	89	168	279	427	617	1.169	2.035	3.695	7.845
10x6	19	51	94	157	238	338	579	864	1.134	1.306
10x8	34	89	168	279	425	611	1.129	1.842	2.811	3.791
10	53	141	265	441	674	978	1.892	3.293	5.978	12.813
12x8	34	89	168	278	422	603	1.079	1.648	2.235	2.642
12x10	53	141	265	440	672	971	1.841	3.043	4.783	6.769
12	76	202	379	632	970	1.400	2.787	4.854	8.813	18.887
14x10	53	141	264	439	668	959	1.768	2.745	3.823	4.636
14x12	76	202	378	631	967	1.392	2.728	4.557	7.333	10.831
14	94	252	472	786	1.201	1.738	3.507	6.106	11.086	23.758
16x10	53	141	264	438	665	950	1.710	2.541	3.323	3.816
16x12	76	202	378	630	963	1.379	2.633	4.152	5.930	7.380
16x14	94	252	472	785	1.198	1.732	3.456	5.849	9.737	15.464
16	124	330	618	1.030	1.574	2.277	4.658	8.111	14.725	31.558
18x12	76	202	378	628	958	1.366	2.550	3.848	5.132	5.988
18x14	94	252	471	784	1.195	1.720	3.368	5.450	8.169	10.771
18x16	124	330	618	1.029	1.572	2.270	4.602	7.824	13.194	21.633
18	158	422	792	1.320	2.017	2.917	5.955	10.369	18.826	40.347
20x14	94	252	471	783	1.191	1.709	3.284	5.114	7.152	8.710
20x16	124	330	617	1.028	1.567	2.257	4.499	7.345	11.219	15.185
20x18	158	422	792	1.319	2.015	2.910	5.895	10.060	17.147	28.941
20	196	521	974	1.628	2.341	3.600	7.370	12.834	23.300	49.935
24x16	124	330	617	1.025	1.558	2.231	4.303	6.574	8.927	10.575
24x18	158	422	791	1.316	2.005	2.879	5.655	8.990	13.025	16.468
24x20	196	521	973	1.626	2.335	3.578	7.181	11.906	18.813	26.875
24	284	757	1.418	2.366	3.616	5.227	10.687	18.607	33.783	72.402
28x18	158	422	790	1.313	1.995	2.850	5.445	8.212	10.944	12.760
28x20	196	521	972	1.623	2.325	3.543	6.911	10.784	15.129	18.480
28x24	284	757	1.417	2.363	3.607	5.201	10.475	17.552	28.470	42.705
28	389	1.043	1.951	3.247	4.971	7.175	14.650	25.508	46.311	99.251
30x20	196	521	972	1.621	2.321	3.527	6.795	10.357	14.012	16.547
30x24	284	757	1.417	2.362	3.600	5.180	10.306	16.792	25.527	34.317
30x28	389	1.043	1.951	3.246	4.968	7.166	14.579	25.138	44.202	82.460
30	446	1.187	2.224	3.712	5.677	8.202	16.783	29.222	53.054	113.703
32x24	284	757	1.416	2.359	3.593	5.159	10.138	16.094	23.259	29.322
32x28	389	1.043	1.951	3.244	4.962	7.147	14.418	24.343	40.262	62.977
32x30	446	1.187	2.224	3.711	5.674	8.193	16.711	28.848	50.913	96.287
32	497	1.326	2.483	4.146	6.341	9.157	18.698	32.556	59.109	126.679
36x24	284	756	1.416	2.356	3.579	5.118	9.842	14.980	20.228	23.846
36x28	389	1.043	1.950	3.239	4.945	7.097	14.020	22.559	33.441	43.459
36x30	446	1.187	2.223	3.707	5.659	8.149	16.342	27.063	42.658	60.677
36x32	497	1.325	2.483	4.143	6.332	9.130	18.471	31.400	52.924	86.674
36	632	1.689	3.159	5.267	8.057	11.677	23.808	41.454	75.263	161.300

Cage Ball Control Valve Capacity

Size			RELATIVE TRAVEL OPENING										
DN	INCH		> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	0,96	2	3	6	7	8	15	23	33	56	82	
80x50	3x2		0,96	1	3	5	6	7	13	20	28	48	70
80	3		1,6	4	9	15	20	22	39	61	87	147	217
100x80	4x3		1,28	2	5	8	11	12	21	33	47	79	117
100	4		2,4	8	15	27	34	38	69	107	153	259	382
150x100	6x4		1,6	4	8	14	17	19	35	54	78	132	194
150	6		4,8	20	39	69	88	98	176	274	392	666	980
200x150	8x6		2,4	6	13	23	29	32	58	91	130	220	324
200	8		8	34	67	117	151	168	302	469	670	1140	1676
250x200	10x8		4	10	20	36	46	51	92	143	204	347	510
250	10		9,6	56	113	197	254	282	508	790	1128	1918	2820
300x250	12x10		4,8	19	38	67	86	96	173	269	384	653	960
300	12		12,8	81	162	283	364	404	727	1131	1616	2747	4160
Cv/d2				0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl				>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt				0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

Top Entry - Overall Dimensions

Dimensions: mm



ANSI Class 2500

DN	A			B	B1	C	D	E	WGT Kg
	RF	RTJ	WE						
2"x1-1/2"	451	454	451	38	44,5	235	150	93	80
2"	451	454	451	44,5	44,5	235	198	105	120
3"x2"	578	584	578	44,5	63,5	305	198	105	170
3"	578	584	578	63,5	63,5	305	250	127	256
4"x3"	673	683	673	63,5	89	356	250	127	330
4"	673	683	673	89	89	356	305	156	475
6"x4"	914	927	914	89	133	483	305	156	680
6"	914	927	914	133	133	483	355	240	1000
8"x6"	1022	1038	1022	133	181	550	355	240	1178
8"	1022	1038	1022	181	181	550	438	280	1556
10"x8"	1270	1292	1270	181	226	675	438	280	2270
10"	1270	1292	1270	226	226	675	530	365	2730
12"x10"	1422	1445	1422	226	267	760	530	365	3422
12"	1422	1445	1422	267	267	760	590	430	4310

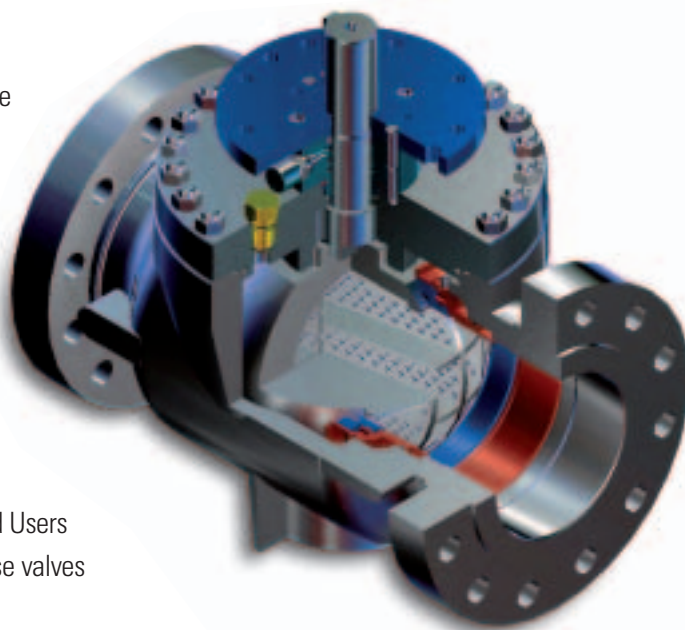
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES TOP ENTRY ANSI 300

General

Pibiviesse Trunnion Mounted Top Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 48"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2"x to 60"
Control valves: From 2"x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

Rotary Control Ball Valve Capacity

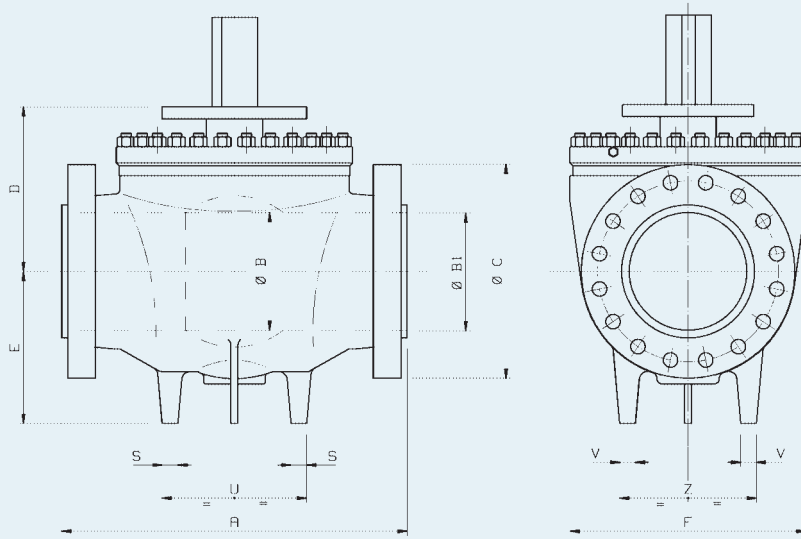
DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	3	6	11	19	29	45	74	129	235	504
3x2	3	6	11	19	29	43	68	104	141	166
3	6	17	31	52	79	114	186	323	587	1.258
4x2	3	6	11	18	29	42	64	92	114	126
4x3	6	17	31	52	78	111	174	271	381	466
4	10	27	51	85	130	188	328	571	1.036	2.221
6x3	6	17	31	51	77	106	157	217	262	285
6x4	10	27	51	84	128	181	297	443	581	669
6	23	63	118	197	302	436	799	1.390	2.525	5.380
8x4	10	27	51	84	126	176	277	384	465	506
8x6	23	63	118	196	298	426	742	1.142	1.570	1.878
8	42	112	210	349	534	772	1.461	2.544	4.619	9.806
10x6	23	63	118	195	295	415	690	976	1.204	1.328
10x8	42	112	210	348	530	760	1.385	2.194	3.159	3.961
10	66	176	331	551	843	1.222	2.365	4.116	7.473	16.017
12x8	42	112	209	346	524	744	1.296	1.885	2.398	2.698
12x10	66	176	331	550	838	1.208	2.267	3.657	5.452	7.137
12	95	253	473	789	1.212	1.750	3.484	6.068	11.016	23.608
14x10	66	176	330	548	831	1.187	2.135	3.171	4.140	4.749
14x12	95	253	473	788	1.207	1.734	3.369	5.515	8.463	11.535
14	118	315	590	982	1.501	2.172	4.383	7.632	13.857	29.698
16x10	66	176	330	546	825	1.169	2.035	2.867	3.525	3.878
16x12	95	253	472	786	1.198	1.709	3.196	4.838	6.482	7.592
16x14	118	315	590	981	1.497	2.160	4.285	7.147	11.457	16.798
16	155	412	772	1.287	1.967	2.846	5.823	10.138	18.407	39.448
18x12	95	253	472	783	1.190	1.686	3.051	4.375	5.478	6.099
18x14	118	315	589	979	1.489	2.138	4.121	6.453	9.108	11.194
18x16	155	412	772	1.286	1.963	2.833	5.714	9.595	15.647	23.733
18	198	527	990	1.650	2.522	3.646	7.444	12.961	23.532	50.433
20x14	118	315	589	977	1.482	2.116	3.970	5.915	7.757	8.928
20x16	155	412	771	1.283	1.955	2.808	5.519	8.750	12.614	15.860
20x18	198	527	989	1.648	2.517	3.632	7.327	12.373	20.475	32.063
20	244	651	1.217	2.035	2.927	4.500	9.213	16.042	29.125	62.419
24x16	155	412	770	1.279	1.938	2.759	5.169	7.524	9.583	10.796
24x18	198	527	988	1.643	2.497	3.574	6.881	10.526	14.317	16.985
24x20	244	651	1.216	2.031	2.915	4.456	8.851	14.331	21.505	28.396
24	354	946	1.772	2.957	4.520	6.533	13.358	23.259	42.229	90.502
28x18	198	527	987	1.637	2.478	3.519	6.513	9.333	11.678	12.997
28x20	244	651	1.215	2.025	2.896	4.390	8.360	12.488	16.427	18.953
28x24	354	946	1.771	2.953	4.503	6.484	12.951	21.291	32.999	45.660
28	487	1.304	2.439	4.058	6.214	8.968	18.312	31.884	57.888	124.064
30x20	244	651	1.214	2.022	2.887	4.359	8.156	11.837	15.024	16.884
30x24	354	946	1.770	2.949	4.490	6.443	12.637	19.973	28.640	35.795
30x28	487	1.304	2.439	4.057	6.208	8.952	18.174	31.171	53.919	95.121
30	557	1.484	2.780	4.640	7.096	10.252	20.979	36.527	66.318	142.129
32x24	354	946	1.770	2.945	4.476	6.402	12.331	18.828	25.540	30.228
32x28	487	1.304	2.438	4.053	6.196	8.915	17.866	29.692	47.191	68.106
32x30	557	1.484	2.780	4.639	7.091	10.236	20.839	35.806	62.271	111.793
32	621	1.657	3.104	5.183	7.926	11.446	23.373	40.696	73.886	158.349
36x24	354	945	1.768	2.937	4.449	6.325	11.808	17.109	21.674	24.325
36x28	487	1.303	2.436	4.044	6.163	8.818	17.124	26.616	37.104	45.041
36x30	557	1.484	2.778	4.630	7.062	10.149	20.136	32.551	48.700	64.049
36x32	621	1.657	3.103	5.178	7.908	11.393	22.933	38.501	62.748	95.053
36	790	2.111	3.948	6.584	10.071	14.597	29.760	51.818	94.078	201.625

Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1,2	2	4	7	9	10	19	29	41	70	103
80x50	3x2	1,2	2	4	6	8	9	16	25	35	60	88
80	3	2	5	11	19	24	27	49	76	108	184	271
100x80	4x3	1,6	3	6	10	13	15	26	41	58	99	146
100	4	3	10	19	33	43	48	86	134	191	324	477
150x100	6x4	2	5	10	17	22	24	44	68	97	165	243
150	6	6	25	49	86	110	123	221	343	490	833	1225
200x150	8x6	3	8	16	28	36	41	73	113	162	275	405
200	8	10	42	84	147	189	210	377	587	838	1425	2095
250x200	10x8	5	13	26	45	57	64	115	179	255	434	638
250	10	12	71	141	247	317	353	635	987	1410	2397	3525
300x250	12x10	6	24	48	84	108	120	216	336	480	816	1200
300	12	16	101	202	354	455	505	909	1414	2020	3434	5200
350x300	14x12	9	40	80	140	180	200	360	560	800	1360	2000
350	14	22	124	247	432	556	618	1112	1729	2470	4199	6175
400x350	16x14	11	67	133	233	300	333	600	933	1333	2266	3332
400	16	30	165	331	579	744	827	1489	2316	3308	5624	8270
450x400	18x16	17	111	222	389	500	555	999	1554	2220	3775	5551
450	18	42	218	435	762	979	1088	1958	3046	4352	7398	10880
500x450	20x18	32	185	370	647	832	925	1665	2589	3699	6289	9248
500	20	55	275	551	964	1239	1377	2479	3856	5508	9364	13770
600x500	24x20	48	308	616	1078	1387	1541	2773	4314	6163	10477	15410
600	24	65	425	850	1488	1913	2125	3825	5950	8500	14450	21250
700x600	28x24	56	339	678	1186	1525	1694	3049	4743	6776	11519	16940
700	28	75	474	949	1660	2134	2372	4269	6640	9486	16126	23715
750x700	30x28	63	439	879	1538	1977	2197	3955	6152	8788	14940	21970
750	30	81	615	1231	2154	2769	3077	5539	8616	12308	20924	30770
800x750	32x30	82	502	1003	1755	2257	2508	4514	7021	10030	17051	25075
800	32	90	702	1404	2457	3159	3511	6319	9829	14042	23871	35105
900x800	36x32	85	643	1286	2250	2893	3214	5785	8999	12856	21855	32140
900	36	110	900	1800	3150	4050	4500	8100	12600	18000	30600	45000
1000x900	40x36	97	809	1617	2830	3639	4043	7277	11320	16172	27492	40430
1000	40	220	1132	2264	3962	5094	5660	10188	15848	22640	38488	56600
1200x1000	48x40	210	1970	3735	6535	8400	9333	16800	26130	37235	62925	92500
1200	48	480	2590	5182	9068	11660	12955	23319	36260	51800	88060	129500
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

Top Entry - Overall Dimensions

Dimensions: mm



ANSI Class 300

DN	A			B	B1	C	D	E	WGT Kg
	RF	RTJ	WE						
2"x1-1/2"	292	295	292	38	51	165	212		29
2"	292	295	292	51	51	165	212		33
3"x2"	356	359	356	51	77	210	212		43
3"	356	359	356	77	77	210	228		64
4"x3"	432	435	432	77	102	254	228		88
4"	432	435	432	102	102	254	272		123
6"x4"	559	562	559	102	152	318	272		164
6"	559	562	559	152	152	318	281		275
8"x6"	660	664	660	152	203	381	281		311
8"	660	664	660	203	203	381	330		505
10"x8"	787	791	787	203	254	445	330		563
10"	787	791	787	254	254	445	371		557
12"x10"	838	841	838	254	305	520	371		598
14"x10"	889	892	889	254	337	585	371		809
12"	838	841	838	305	305	520	418		715
14"x12"	889	892	889	305	337	585	418		960
16"x12"	991	994	991	305	387	650	418		1135
14"	889	892	889	337	337	585	470		932
16"x14"	991	994	991	387	337	650	470		1120
16"	991	994	991	387	387	650	477		1360
18"x16"	1092	1095	1092	387	438	710	477		1518
20"x16"	1194	1200	1194	387	489	775	477		1865
18"	1092	1095	1092	438	438	710	522		1840
20"x18"	1194	1200	1194	438	489	775	522		2110
20"	1194	1200	1194	489	489	775	573		2340
24"x20"	1397	1406	1397	489	591	915	573		2860
22"	1295	1305	1295	540	540	840	600		3320
24"	1397	1406	1397	591	591	915	631		3870
30"x24"	1651	1664	1651	591	736	1090	631		4810
26"	1448	1460	1448	635	635	970	702		4655
28"	1549	1562	1549	686	686	1035	764		5575
30"	1651	1664	1651	736	736	1090	827		6825
36"x30"	2083	2098	2083	736	876	1270	827		8440
32"	1778	1794	1778	781	781	1150	874		8490
34"	1930	1946	1930	832	832	1205	910		9335
36"	2083	2098	2083	876	876	1270	968		10900
40"	2337	2337	2337	978	978	1240	1056		15185
42"	2437	2437	2437	1022	1022	1290	1107		17820
48"	2540	2540	2540	1168	1168	1465	1228		26675

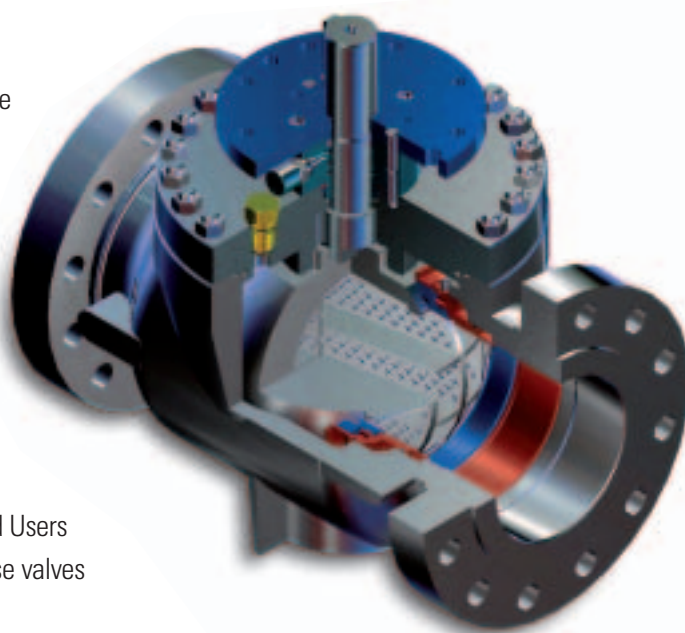
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES TOP ENTRY ANSI 600

General

Pibiviesse Trunnion Mounted Top Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 48"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2"x to 60"
Control valves: From 2"x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 (UNS R50400) TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

Rotary Control Ball Valve Capacity

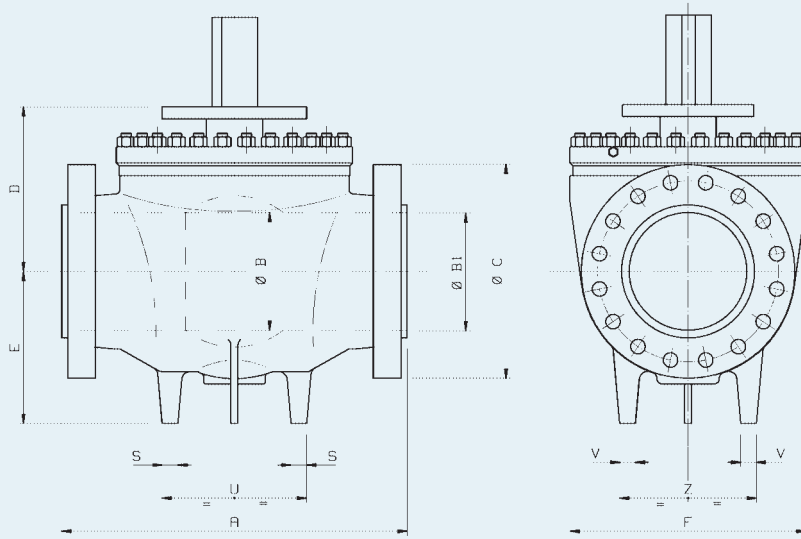
DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	3	6	11	19	29	45	74	129	235	504
3x2	3	6	11	19	29	43	68	104	141	166
3	6	17	31	52	79	114	186	323	587	1.258
4x2	3	6	11	18	29	42	64	92	114	126
4x3	6	17	31	52	78	111	174	271	381	466
4	10	27	51	85	130	188	328	571	1.036	2.221
6x3	6	17	31	51	77	106	157	217	262	285
6x4	10	27	51	84	128	181	297	443	581	669
6	23	63	118	197	302	436	799	1.390	2.525	5.380
8x4	10	27	51	84	126	176	277	384	465	506
8x6	23	63	118	196	298	426	742	1.142	1.570	1.878
8	42	112	210	349	534	772	1.461	2.544	4.619	9.806
10x6	23	63	118	195	295	415	690	976	1.204	1.328
10x8	42	112	210	348	530	760	1.385	2.194	3.159	3.961
10	66	176	331	551	843	1.222	2.365	4.116	7.473	16.017
12x8	42	112	209	346	524	744	1.296	1.885	2.398	2.698
12x10	66	176	331	550	838	1.208	2.267	3.657	5.452	7.137
12	95	253	473	789	1.212	1.750	3.484	6.068	11.016	23.608
14x10	66	176	330	548	831	1.187	2.135	3.171	4.140	4.749
14x12	95	253	473	788	1.207	1.734	3.369	5.515	8.463	11.535
14	118	315	590	982	1.501	2.172	4.383	7.632	13.857	29.698
16x10	66	176	330	546	825	1.169	2.035	2.867	3.525	3.878
16x12	95	253	472	786	1.198	1.709	3.196	4.838	6.482	7.592
16x14	118	315	590	981	1.497	2.160	4.285	7.147	11.457	16.798
16	155	412	772	1.287	1.967	2.846	5.823	10.138	18.407	39.448
18x12	95	253	472	783	1.190	1.686	3.051	4.375	5.478	6.099
18x14	118	315	589	979	1.489	2.138	4.121	6.453	9.108	11.194
18x16	155	412	772	1.286	1.963	2.833	5.714	9.595	15.647	23.733
18	198	527	990	1.650	2.522	3.646	7.444	12.961	23.532	50.433
20x14	118	315	589	977	1.482	2.116	3.970	5.915	7.757	8.928
20x16	155	412	771	1.283	1.955	2.808	5.519	8.750	12.614	15.860
20x18	198	527	989	1.648	2.517	3.632	7.327	12.373	20.475	32.063
20	244	651	1.217	2.035	2.927	4.500	9.213	16.042	29.125	62.419
24x16	155	412	770	1.279	1.938	2.759	5.169	7.524	9.583	10.796
24x18	198	527	988	1.643	2.497	3.574	6.881	10.526	14.317	16.985
24x20	244	651	1.216	2.031	2.915	4.456	8.851	14.331	21.505	28.396
24	354	946	1.772	2.957	4.520	6.533	13.358	23.259	42.229	90.502
28x18	198	527	987	1.637	2.478	3.519	6.513	9.333	11.678	12.997
28x20	244	651	1.215	2.025	2.896	4.390	8.360	12.488	16.427	18.953
28x24	354	946	1.771	2.953	4.503	6.484	12.951	21.291	32.999	45.660
28	487	1.304	2.439	4.058	6.214	8.968	18.312	31.884	57.888	124.064
30x20	244	651	1.214	2.022	2.887	4.359	8.156	11.837	15.024	16.884
30x24	354	946	1.770	2.949	4.490	6.443	12.637	19.973	28.640	35.795
30x28	487	1.304	2.439	4.057	6.208	8.952	18.174	31.171	53.919	95.121
30	557	1.484	2.780	4.640	7.096	10.252	20.979	36.527	66.318	142.129
32x24	354	946	1.770	2.945	4.476	6.402	12.331	18.828	25.540	30.228
32x28	487	1.304	2.438	4.053	6.196	8.915	17.866	29.692	47.191	68.106
32x30	557	1.484	2.780	4.639	7.091	10.236	20.839	35.806	62.271	111.793
32	621	1.657	3.104	5.183	7.926	11.446	23.373	40.696	73.886	158.349
36x24	354	945	1.768	2.937	4.449	6.325	11.808	17.109	21.674	24.325
36x28	487	1.303	2.436	4.044	6.163	8.818	17.124	26.616	37.104	45.041
36x30	557	1.484	2.778	4.630	7.062	10.149	20.136	32.551	48.700	64.049
36x32	621	1.657	3.103	5.178	7.908	11.393	22.933	38.501	62.748	95.053
36	790	2.111	3.948	6.584	10.071	14.597	29.760	51.818	94.078	201.625

Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1,2	2	4	7	9	10	19	29	41	70	103
80x50	3x2	1,2	2	4	6	8	9	16	25	35	60	88
80	3	2	5	11	19	24	27	49	76	108	184	271
100x80	4x3	1,6	3	6	10	13	15	26	41	58	99	146
100	4	3	10	19	33	43	48	86	134	191	324	477
150x100	6x4	2	5	10	17	22	24	44	68	97	165	243
150	6	6	25	49	86	110	123	221	343	490	833	1225
200x150	8x6	3	8	16	28	36	41	73	113	162	275	405
200	8	10	42	84	147	189	210	377	587	838	1425	2095
250x200	10x8	5	13	26	45	57	64	115	179	255	434	638
250	10	12	71	141	247	317	353	635	987	1410	2397	3525
300x250	12x10	6	24	48	84	108	120	216	336	480	816	1200
300	12	16	101	202	354	455	505	909	1414	2020	3434	5200
350x300	14x12	9	40	80	140	180	200	360	560	800	1360	2000
350	14	22	124	247	432	556	618	1112	1729	2470	4199	6175
400x350	16x14	11	67	133	233	300	333	600	933	1333	2266	3332
400	16	30	165	331	579	744	827	1489	2316	3308	5624	8270
450x400	18x16	17	111	222	389	500	555	999	1554	2220	3775	5551
450	18	42	218	435	762	979	1088	1958	3046	4352	7398	10880
500x450	20x18	32	185	370	647	832	925	1665	2589	3699	6289	9248
500	20	55	275	551	964	1239	1377	2479	3856	5508	9364	13770
600x500	24x20	48	308	616	1078	1387	1541	2773	4314	6163	10477	15410
600	24	65	425	850	1488	1913	2125	3825	5950	8500	14450	21250
700x600	28x24	56	339	678	1186	1525	1694	3049	4743	6776	11519	16940
700	28	75	474	949	1660	2134	2372	4269	6640	9486	16126	23715
750x700	30x28	63	439	879	1538	1977	2197	3955	6152	8788	14940	21970
750	30	81	615	1231	2154	2769	3077	5539	8616	12308	20924	30770
800x750	32x30	82	502	1003	1755	2257	2508	4514	7021	10030	17051	25075
800	32	90	702	1404	2457	3159	3511	6319	9829	14042	23871	35105
900x800	36x32	85	643	1286	2250	2893	3214	5785	8999	12856	21855	32140
900	36	110	900	1800	3150	4050	4500	8100	12600	18000	30600	45000
1000x900	40x36	97	809	1617	2830	3639	4043	7277	11320	16172	27492	40430
1000	40	220	1132	2264	3962	5094	5660	10188	15848	22640	38488	56600
1200x1000	48x40	210	1970	3735	6535	8400	9333	16800	26130	37235	62925	92500
1200	48	480	2590	5182	9068	11660	12955	23319	36260	51800	88060	129500
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

Top Entry - Overall Dimensions

Dimensions: mm



ANSI Class 600

DN	TYPE	A			B	B1	C	D	E	F	WGT Kg
		RF	RTJ	WE							
2"x1-1/2"	T	292	295	292	38	51	165	212	85	180	33
2"	T	292	295	292	51	51	165	212	85	180	37
3"x2"	T	356	359	356	51	77	210	212	85	180	48
3"	T	356	359	356	77	77	210	228	112	230	72
4"x3"	T	432	435	432	77	102	273	228	112	230	97
4"	T	432	435	432	102	102	273	250	145	283	137
6"x4"	T	559	562	559	102	152	356	250	145	283	181
6"	T	559	562	559	152	152	356	281	220	325	302
8"x6"	T	660	664	660	152	203	419	281	220	325	340
8"	T	660	664	660	203	203	419	340	260	415	560
10"x8"	T	787	791	787	203	254	510	340	260	415	625
10"	T	787	791	787	254	254	510	355	311	505	710
12"x10"	T	838	841	838	254	305	560	355	311	505	760
14"x10"	T	889	892	889	254	337	605	355	311	505	1030
12"	T	838	841	838	305	305	560	401	366	585	910
14"x12"	T	889	892	889	305	337	605	401	366	585	1230
16"x12"	T	991	994	991	305	387	686	401	366	585	1450
14"	T	889	994	889	337	337	605	451	428	680	1190
16"x14"	T	991	994	991	337	387	686	451	428	680	1430
16"	T	991	994	991	387	387	686	493	450	730	1735
18"x16"	T	1092	1095	1092	387	438	745	493	450	730	1940
20"x16"	T	1194	1200	1194	387	489	815	493	450	730	2380
18"	T	1092	1095	1092	438	438	745	539	473	7840	2380
20"x18"	T	1194	1200	1194	438	489	815	539	473	784	2700
20"	T	1194	1200	1194	489	489	815	592	580	900	3000
24"x20"	T	1397	1406	1397	489	591	940	592	580	900	3660
22"	T	1295	1305	1295	540	540	870	621	590	890	4240
24"	T	1397	1406	1397	591	591	940	635	600	1070	4950
30"x24"	T	1651	1664	1651	591	736	1130	653	600	1070	6150
26"	T	1448	1460	1448	635	635	1015	725	635	1115	5950
28"	T	1549	1562	1549	686	686	1075	790	700	1210	7130
30"	T	1651	1664	1651	736	736	1130	850	775	1300	8730
36"x30"	T	2083	2098	2083	736	876	1315	850	775	1300	10800
32"	T	1778	1794	1778	781	781	1195	900	825	1380	10850
34"	T	1930	1946	1930	832	832	1245	940	880	1460	11930
36"	T	2083	2098	2083	876	876	1315	1000	930	1535	13950
40"	T	2337	2337	2337	978	978	1320	1090	1025	1700	19420
42"	T	2437	2437	2437	1022	1022	1405	1140	1080	1775	22350
48"	T	2540	2540	2540	1168	1168	1595	1270	1225	2015	32340

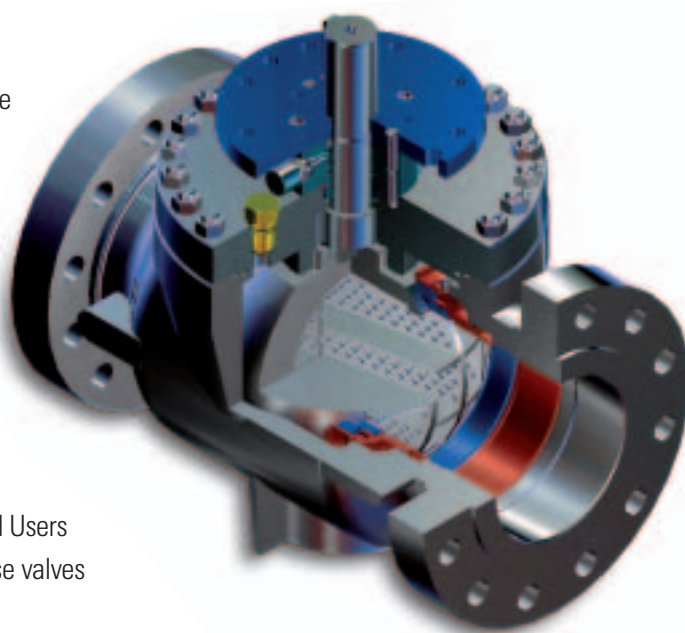
TECHNICAL PRODUCT DATA SHEET

ROTARY CONTROL VALVES TOP ENTRY ANSI 900

General

Pibiviesse Trunnion Mounted Top Entry high performance full and reduced bore control ball valves are designed according to IEC 534 and ISA S75 and meet API 6A, API 6D and other International valve design standards. The range contains both Standard Ball Control Valves and special Low Noise and Cavitation / Vibration Control metal seated valves. They are Fire Safe tested and have passed various demanding qualifications like Cryogenic, High Temperature, Low Emission, ESD / HIPPS, Sub Sea, Erosion, and have received approvals from all major End Users and Contractors as a platform for Control Duty. Pibiviesse valves are certified by TÜV to meet SIL3 acc. to IEC 61508.

For PIBIVIESSE Control Valve sizing we offer our SimOne sizing software.



SIZE: 2" to 36"

Ball Control Valve Family

- Ball Control Valve
- Cage Ball Control Valve
- Hyper Cage Ball Control Valve
- 3-Way Control Valve

Cage Ball Features

- Noise reduction up to 35 dBA
- Low recovery F1 1...0.85
- High capacity up to 300'000
- Rangeability 1:400
- Vibration reduction
- Very High Energy Dissipation
- Erosion reduction

Complete Pibiviesse Range

Size Range

On-Off valves: From 1/2"x to 60"
Control valves: From 2"x to 56"

Pressure Ratings

From ANSI 150 to ANSI 2500 including 4500
From API 2000 to API 15000

Temperature Range

From - 196°C (- 320°F) to + 800°C (+ 1472°F)

Actuation

Pibiviesse Trunnion Mounted Ball Control Valves can be delivered with various types of pneumatic, hydraulic or electric Control Actuator options including Positioners and full instrumentation to meet the application requirements. Each valve and valve / actuator unit shall be tested at Pibiviesse Delivery Center to fulfil the order requirements.

For more detailed Technical data we refer to our Product Catalogue. - Pibiviesse reserves the right to modify data without any advice



Main Parts Material List

	METAL SEATED						
	BODY	BALL*	STEM	SEAT	SEAT SEAL	SEALS	BOLTING
CARBON STEEL	ASTM A105N ASTM A216 WCB ASTM A216 WCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
LOW TEMP. CARBON STEEL	ASTM A350 LF2 ASTM A352 LCB ASTM A352 LCC	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	ASTM A694 F60 + ENP ASTM A564 Gr. 630 H1150D	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M
LOW ALLOY STEEL	ASTM A182 F11 ASTM A182 F22 ASTM A217 WC6 ASTM A217 WC9	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F11 + ENP ASTM A182 F22 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
3.5Ni ALLOY STEEL	ASTM A350 LF3 ASTM A352 LC3	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A350 LF3 + ENP ASTM A479 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
9Cr ALLOY STEEL	ASTM A182 F9 ASTM A182 F91 ASTM A217 CA12 ASTM A217 CA12A	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr MARTENSITIC STAINLESS STEEL	ASTM A182 F6a ASTM A217 CA15	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F6a ASTM A564 Gr. 630 H1150D	ASTM A182 F6a ASTM A217 CA15 TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
13Cr-4Ni LOW CARBON MARTENSITIC STAINLESS STEEL	ASTM A182 F6NM ASTM A217 CA6NM	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	ASTM A182 F6NM ASTM A564 Gr. 630 H1150D	ASTM A182 F6NM ASTM A217 CA6NM TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM
18Cr-10Ni-3Mo AUSTENITIC STAINLESS STEEL	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	ASTM A182 F316/F316L ASTM A182 XM19	ASTM A182 F316/F316L ASTM A351 CF8M/CF3M ASTM A182 F316 LNM ASTM A351-CF3MN MOD. ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED or CHROME CARBIDE COATED	METAL TO METAL	VITON HNBR PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M A320 B8/A194 8 A320 B8M/A194 8M
20Cr-18Ni-6Mo SUPER-AUSTENITIC STAINLESS STEEL	ASTM A182 F44 ASTM A351 CK-3MCuN	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	ASTM A182 F44 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM A182 F44 ASTM A351 CK-3MCuN TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
22Cr-5Ni DUPLEX STAINLESS STEEL	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	ASTM A182 F51 ASTM A182 F53/F55 ASTM B637 Gr. 718	ASTM A182 F51 ASTM A890 Gr. 4A ASTM A995 Gr. 4A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-4Mo-N SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	ASTM A182 F53 ASTM B637 Gr. 718	ASTM A182 F53 ASTM A890 Gr. 5A ASTM A995 Gr. 5A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
25Cr-7Ni-3.5Mo-N-Cu-W SUPER-DUPLEX STAINLESS STEEL	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	ASTM A182 F55 ASTM B637 Gr. 718	ASTM A182 F55 ASTM A890 Gr. 6A ASTM A 995 Gr. 6A TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
35Ni-35Fe-20Cr-Cb ALLOY 20	ASTM B462 UNS N08020	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08020 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
ALLOY 28	ASTM B462 UNS N08028	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B462 UNS N08028 ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
42Ni-21.5Cr-3Mo-2.3Cu INCOLOY 825	ASTM B425 UNS N08825 ASTM A494 CU5MCuC	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B425 UNS N08825 ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B425 UNS N08825 ASTM A494 CU5MCuC ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-22Cr-9Mo-3.5Cb INCONEL 625	ASTM B564 UNS N06625 ASTM A494 CW-6MC	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	ASTM B564 UNS N06625 ASTM B637 Gr. 718	ASTM B564 UNS N06625 ASTM A494 CW-6MC TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
60Ni-15.5Cr-16Mo-5Fe-4.3W HASTELLOY C276	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	ASTM B564 UNS N10276	ASTM B564 UNS N10276 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
63Ni-31Cu-2Fe MONEL	ASTM B564 UNS N04400 ASTM A494 M30H	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	ASTM B865 UNS N05500	ASTM B564 UNS N04400 ASTM A494 M30H TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	A193 B7/A194 2H A193 B7M/A194 2HM A320 L7/A194 4 A320 L7M/A194 7M
TITANIUM ALLOY	ASTM B381 Gr. F2 (UNS R50400)	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	ASTM B381 GR. F5	ASTM B381 Gr. F2 UNS R50400 ASTM B381 Gr. F5 TUNGSTEN CARBIDE COATED	METAL TO METAL	VITON HNBR – PTFE GRAPHITE LIP SEAL	ASTM F468 UNS R56400

The ball material shall be defined based on application and maybe upgraded case by case.

Rotary Control Ball Valve Capacity

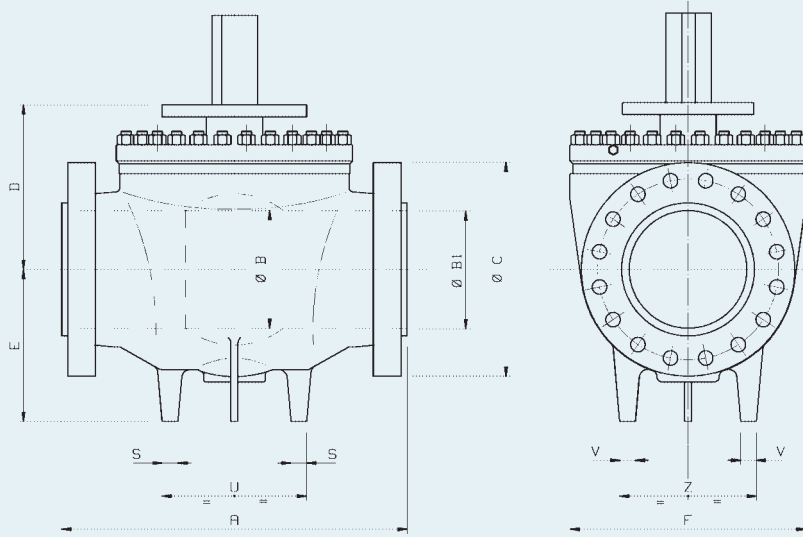
DN [inch]	Travel [%]									
	10	20	30	40	50	60	70	80	90	100
2	2	5	10	18	28	42	71	123	223	478
3x2	2	5	10	18	27	41	65	100	138	165
3	6	16	30	49	75	109	176	307	558	1.195
4x2	2	5	10	18	27	40	62	89	112	125
4x3	6	16	30	49	75	106	166	262	373	462
4	10	26	48	81	123	178	312	542	984	2.110
6x3	6	16	29	49	73	102	151	212	259	284
6x4	10	26	48	80	122	173	285	429	571	666
6	22	60	112	187	287	414	759	1.321	2.399	5.111
8x4	10	26	48	80	120	169	267	375	460	505
8x6	22	60	112	187	284	405	709	1.103	1.538	1.866
8	40	106	199	332	507	733	1.388	2.417	4.388	9.316
10x6	22	60	112	186	281	396	664	951	1.190	1.323
10x8	40	106	199	331	503	723	1.322	2.111	3.082	3.927
10	63	167	314	524	801	1.161	2.246	3.910	7.099	15.216
12x8	40	106	199	329	499	709	1.244	1.831	2.364	2.687
12x10	63	167	314	522	797	1.149	2.162	3.511	5.302	7.061
12	90	240	450	750	1.151	1.662	3.310	5.764	10.465	22.428
14x10	63	167	314	521	791	1.131	2.047	3.074	4.073	4.727
14x12	90	240	449	749	1.147	1.649	3.211	5.284	8.206	11.389
14	112	299	560	933	1.426	2.064	4.164	7.251	13.164	28.213
16x10	63	167	313	519	785	1.115	1.958	2.795	3.483	3.866
16x12	90	240	449	747	1.140	1.627	3.060	4.680	6.364	7.550
16x14	112	299	560	932	1.422	2.053	4.080	6.831	11.056	16.515
16	147	392	734	1.223	1.869	2.704	5.532	9.631	17.486	37.476
18x12	90	240	448	745	1.133	1.607	2.932	4.257	5.406	6.077
18x14	112	299	560	930	1.416	2.034	3.937	6.217	8.902	11.109
18x16	147	392	733	1.222	1.865	2.693	5.438	9.162	15.070	23.282
18	188	501	940	1.567	2.396	3.464	7.072	12.313	22.356	47.912
20x14	112	299	559	929	1.409	2.015	3.805	5.732	7.629	8.885
20x16	147	392	733	1.220	1.858	2.671	5.270	8.418	12.306	15.723
20x18	188	501	940	1.566	2.392	3.452	6.972	11.806	19.686	31.385
20	232	619	1.156	1.933	2.781	4.275	8.752	15.240	27.669	59.298
24x16	147	391	732	1.215	1.843	2.629	4.962	7.309	9.446	10.752
24x18	188	501	939	1.561	2.375	3.401	6.584	10.170	14.039	16.882
24x20	232	619	1.155	1.930	2.770	4.237	8.440	13.750	20.898	28.084
24	337	899	1.684	2.809	4.294	6.207	12.690	22.096	40.117	85.977
28x18	188	501	938	1.557	2.358	3.354	6.260	9.082	11.526	12.950
28x20	232	619	1.154	1.924	2.754	4.180	8.011	12.098	16.152	18.860
28x24	337	898	1.683	2.805	4.280	6.164	12.340	20.388	31.962	45.045
28	462	1.239	2.317	3.855	5.903	8.520	17.396	30.290	54.994	117.861
30x20	232	619	1.154	1.922	2.746	4.154	7.831	11.504	14.813	16.818
30x24	337	898	1.682	2.802	4.268	6.129	12.067	19.222	27.954	35.497
30x28	462	1.238	2.317	3.854	5.898	8.506	17.278	29.676	51.557	92.238
30	529	1.410	2.641	4.408	6.741	9.739	19.930	34.701	63.002	135.022
32x24	337	898	1.681	2.799	4.256	6.094	11.800	18.195	25.050	30.047
32x28	462	1.238	2.316	3.851	5.888	8.474	17.013	28.392	45.583	67.023
32x30	529	1.410	2.641	4.407	6.737	9.725	19.810	34.080	59.502	108.235
32	590	1.574	2.949	4.923	7.530	10.874	22.204	38.661	70.192	150.431
36x24	337	898	1.680	2.792	4.233	6.027	11.339	16.630	21.372	24.231
36x28	462	1.238	2.315	3.843	5.859	8.391	16.369	25.667	36.307	44.724
36x30	529	1.410	2.639	4.400	6.712	9.651	19.203	31.239	47.341	63.357
36x32	590	1.574	2.948	4.919	7.514	10.829	21.826	36.765	60.438	93.255
36	750	2.005	3.751	6.255	9.567	13.867	28.272	49.227	89.374	191.544

Cage Ball Control Valve Capacity

Size		RELATIVE TRAVEL OPENING										
DN	INCH	> 0 (*)	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2	1	2	4	7	9	10	18	27	39	67	98
80x50	3x2	1	2	3	6	8	8	15	23	33	57	84
80	3	2	5	10	18	23	26	46	72	103	175	257
100x80	4x3	2	3	6	10	12	14	25	39	55	94	139
100	4	3	9	18	32	41	45	82	127	181	308	453
150x100	6x4	2	5	9	16	21	23	42	65	92	157	231
150	6	6	23	47	81	105	116	209	326	466	791	1164
200x150	8x6	3	8	15	27	35	38	69	108	154	262	385
200	8	10	40	80	139	179	199	358	557	796	1353	1990
250x200	10x8	5	12	24	42	55	61	109	170	242	412	606
250	10	11	67	134	234	301	335	603	938	1340	2277	3349
300x250	12x10	6	23	46	80	103	114	205	319	456	775	1140
300	12	15	96	192	336	432	480	864	1343	1919	3262	4940
350x300	14x12	9	38	76	133	171	190	342	532	760	1292	1900
350	14	21	117	235	411	528	587	1056	1643	2347	3989	5866
400x350	16x14	10	63	127	222	285	317	570	886	1266	2152	3165
400	16	29	157	314	550	707	786	1414	2200	3143	5343	7857
450x400	18x16	16	105	211	369	475	527	949	1477	2109	3586	5273
450	18	40	207	413	724	930	1034	1860	2894	4134	7028	10336
500x450	20x18	30	176	351	615	791	879	1581	2460	3514	5974	8786
500	20	52	262	523	916	1177	1308	2355	3663	5233	8895	13082
600x500	24x20	46	293	585	1025	1317	1464	2635	4098	5855	9953	14640
600	24	62	404	808	1413	1817	2019	3634	5653	8075	13728	20188
700x600	28x24	53	322	644	1127	1448	1609	2897	4506	6437	10943	16093
700	28	71	451	901	1577	2028	2253	4055	6308	9012	15320	22529
750x700	30x28	60	417	835	1461	1878	2087	3757	5844	8349	14193	20872
750	30	77	585	1169	2046	2631	2923	5262	8185	11693	19877	29232
800x750	32x30	78	476	953	1667	2144	2382	4288	6670	9529	16198	23821
800	32	86	667	1334	2334	3001	3335	6003	9338	13340	22678	33350
900x800	36x32	81	611	1221	2137	2748	3053	5496	8549	12213	20762	30533
900	36	105	855	1710	2993	3848	4275	7695	11970	17100	29070	42750
Cv/d2			0,87	1,75	3,05	3,93	4,36	7,86	12,20	17,50	29,70	43,60
Fl			>0,97	>0,97	>0,95	0,95	0,93	0,93	0,92	0,91	0,89	0,85
Xt			0,86	0,86	0,85	0,85	0,80	0,75	0,68	0,62	0,58	0,49

Top Entry - Overall Dimensions

Dimensions: mm



ANSI Class 900

DN	A			B	B1	C	D	E	WGT Kg
	RF	RTJ	WE						
2"x1-1/2"	368	371	368	38	51	216	215	85	49
2"	368	371	368	51	51	216	215	85	52
3"x2"	381	384	381	77	77	241	215	112	108
3"	381	384	381	77	77	241	193	112	108
4"x3"	457	460	457	77	102	292	193	112	146
4"	457	460	457	102	102	292	227	145	200
6"x4"	610	613	610	102	152	381	227	145	273
6"	610	613	610	152	152	381	258	225	456
8"x6"	737	740	737	152	203	470	258	225	573
8"	737	740	737	203	203	470	318	260	845
10"x8"	838	841	838	203	254	545	318	260	943
10"	838	841	838	254	254	545	370	320	1070
12"x10"	965	968	965	254	305	610	370	320	1150
14"x10"	1029	1038	1029	254	324	640	370	320	1550
12"	965	968	965	305	305	610	418	375	1375
14"x12"	1029	1038	1029	324	305	640	418	375	1855
16"x12"	1130	1140	1130	305	375	705	418	375	2185
14"	1029	1038	1029	324	324	640	470	440	1800
16"x14"	1130	1140	1130	324	375	705	470	440	2160
16"	1130	1140	1130	375	375	705	515	465	2650
18"x16"	1219	1232	1219	375	425	705	515	465	2925
20"x16"	1321	1331	1321	375	473	855	515	465	3590
18"	1219	1232	1219	425	425	705	560	485	3550
20"x18"	1321	1331	1321	425	473	855	560	485	4100
20"	1321	1331	1321	473	473	855	620	600	4530
24"x20"	1549	1568	1549	473	571	1040	620	600	5520
24"	1549	1568	1549	571	571	1040	680	620	7450
30"x24"	1880	1902	1880	571	714	1230	680	620	9225
26"	1651	1674	1651	619	619	1085	760	655	8925
28"	1753	1775	1753	667	667	1170	824	720	10695
30"	1880	1902	1880	714	714	1230	886	800	13095
36"x30"	2286	2315	2286	714	857	1460	886	800	15700
32"	2032	2054	2032	762	762	1315	938	848	16200
34"	2159	2188	2159	810	810	1395	980	905	17800
36"	2286	2315	2286	857	857	1460	1042	957	20930