



Shut-off and control technology



A line of ball valves and ideas



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2-way ball valves



with threaded connector



with flange connection



with welding-end



with staple-lock connector



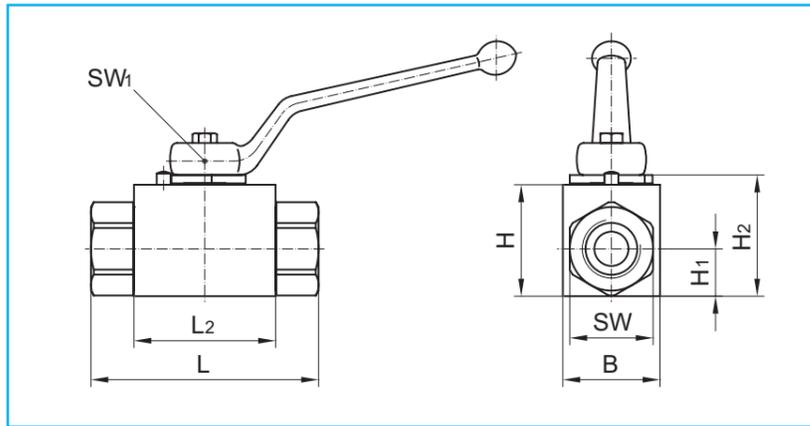
for manifold mounting



for manifold insertion
as cartridge type

2-way ball valves with threaded connector

Steel · DN 4 - DN 40/25



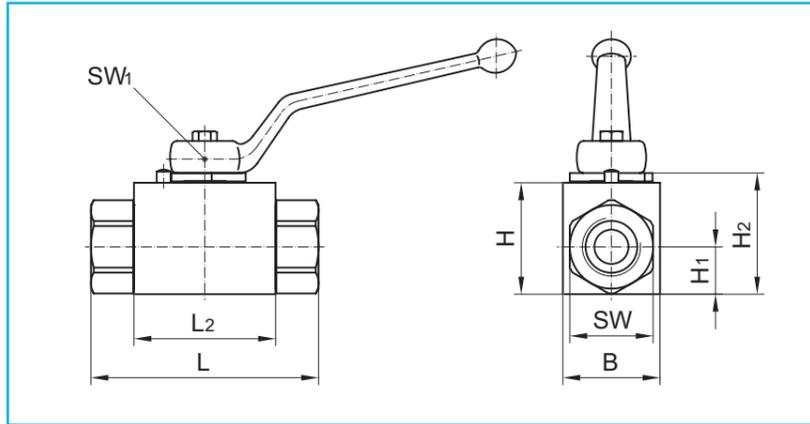
Handle included in delivery
 Please check pressure rating of the pipe fittings!
 For actuators and handles refer to "Attachments, accessories"
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body:	steel, black oxide	steel, black oxide	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated			
Stem:	steel, zinc plated	steel, zinc plated	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM	PTFE-Comp.3	metal
Stem seals:	NBR	FKM	FKM	FKM

Connection	DN	Thread D	OD	L	L ₁	L ₂	B	H	H ₁	H ₂	SW	SW ₁	Handle Code	Weight	DN	PN	Article-No.	PN	Article-No.	PN	Article-No.	PN	Article-No.
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	67	10	36	20	25	10,0	27,5	19	7	12	0,20	4	500	100 001	500	100 051	315	100 671	500	101 401
	6	M14 x 1,5	8	67	10	36	20	25	10,0	27,5	19	7	12	0,20	6	500	100 002	500	100 052	315	100 672	500	101 402
	8	M16 x 1,5	10	75	11	45	30	35	14,5	38,5	24	8	13	0,42	8	500	100 003	500	100 053	315	100 673	500	101 403
	10	M18 x 1,5	12	75	11	45	30	35	14,5	38,5	24	8	13	0,42	10	500	100 004	500	100 054	315	100 674	500	101 404
	12	M22 x 1,5	15	83	12	51	35	40	17,0	43,5	30	10	14	0,63	12	500	100 005	500	100 055	315	100 675	500	101 405
	16	M26 x 1,5	18	82	12	50	45	45	20,0	48,5	36	10	14	0,85	16	420	100 006	420	100 056	315	100 676	420	101 406
	20	M30 x 2	22	99	14	60	45	55	24,0	59,0	41	14	15	1,21	20	420	100 007	420	100 057	250	100 677	420	101 407
	25	M36 x 2	28	108	14	70	55	60	26,0	64,0	50	14	15	1,75	25	420	100 008	420	100 058	250	100 678	420	101 408
	32/25	M45 x 2	35	116	16	70	55	60	26,0	64,0	50	14	15	1,88	32/25	420	100 037	420	100 087	250	100 842	420	101 409
	40/25	M52 x 2	42	121	16	70	55	60	26,0	64,0	55	14	15	2,05	40/25	420	100 038	420	100 088	250	100 843	420	101 410
For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	73	12	36	20	25	10,0	27,5	19	7	12	0,22	4	500	100 009	500	100 059	315	100 679	500	101 411
	6	M18 x 1,5	10	73	12	36	20	25	10,0	27,5	19	7	12	0,22	6	500	100 010	500	100 060	315	100 680	500	101 412
	8	M20 x 1,5	12	77	12	45	30	35	14,5	38,5	24	8	13	0,43	8	500	100 011	500	100 061	315	100 681	500	101 413
	10	M22 x 1,5	14	81	14	45	30	35	14,5	38,5	24	8	13	0,44	10	500	100 012	500	100 062	315	100 682	500	101 414
	12	M24 x 1,5	16	87	14	51	35	40	17,0	43,5	30	10	14	0,65	12	500	100 013	500	100 063	315	100 683	500	101 415
	16	M30 x 2	20	90	16	50	45	45	20,0	48,5	36	10	14	0,89	16	420	100 014	420	100 064	315	100 684	420	101 416
	20	M36 x 2	25	107	18	60	45	55	24,0	59,0	41	14	15	1,29	20	420	100 015	420	100 065	250	100 685	420	101 417
	25	M42 x 2	30	120	20	70	55	60	26,0	64,0	50	14	15	1,88	25	420	100 016	420	100 066	250	100 686	420	101 418
	32/25	M52 x 2	38	134	22	70	55	60	26,0	64,0	55	14	15	2,20	32/25	420	100 039	420	100 089	250	100 844	420	101 419
	BSP-female thread DIN EN ISO 228-1	4	G 1/8	-	69	12	36	20	25	10,0	27,5	19	7	12	0,22	4	500	100 017	500	100 067	315	100 687	500
6		G 1/4	-	69	12	36	20	25	10,0	27,5	19	7	12	0,21	6	500	100 018	500	100 068	315	100 688	500	101 421
10		G 3/8	-	73	14	45	30	35	14,5	38,5	24	8	13	0,43	10	500	100 019	500	100 069	315	100 689	500	101 422
12		G 1/2	-	82	15	51	35	40	17,0	43,5	30	10	14	0,67	12	500	100 020	500	100 070	315	100 690	500	101 423
16		G 5/8	-	88	18	50	45	45	20,0	48,5	36	10	14	0,97	16	420	100 021	420	100 071	315	100 691	420	101 424
20		G 3/4	-	93	18	60	45	55	24,0	59,0	41	14	15	1,28	20	420	100 022	420	100 072	250	100 692	420	101 425
25		G 1	-	115	18	70	55	60	26,0	64,0	50	14	15	2,00	25	420	100 023	420	100 073	250	100 693	420	101 426
32/25		G 1 1/4	-	134	20	70	55	60	26,0	64,0	50	14	15	2,05	32/25	420	100 047	420	100 097	250	100 845	420	101 427
40/25		G 1 1/2	-	139	22	70	55	60	26,0	64,0	55	14	15	2,20	40/25	420	100 048	420	100 098	250	100 846	420	101 428
NPT-female thread ANSI/ASME B1.20.1-1983		4	1/8 - 27 NPT	-	69	6,9	36	20	25	10,0	27,5	19	7	12	0,22	4	500	100 024	500	100 074	315	100 694	500
	6	1/4 - 18 NPT	-	69	10,0	36	20	25	10,0	27,5	19	7	12	0,21	6	500	100 025	500	100 075	315	100 695	500	101 430
	10	3/8 - 18 NPT	-	73	10,3	45	30	35	14,5	38,5	24	8	13	0,43	10	500	100 026	500	100 076	315	100 696	500	101 431
	12	1/2 - 14 NPT	-	82	13,6	51	35	40	17,0	43,5	30	10	14	0,67	12	500	100 027	500	100 077	315	100 697	500	101 432
	20	3/4 - 14 NPT	-	93	14,1	60	45	55	24,0	59,0	41	14	15	1,30	20	420	100 028	420	100 078	250	100 698	420	101 433
	25	1 - 11 1/2 NPT	-	115	16,8	70	55	60	26,0	64,0	50	14	15	2,00	25	420	100 029	420	100 079	250	100 699	420	101 434
	32/25	1 1/4 - 11 1/2 NPT	-	134	17,3	70	55	60	26,0	64,0	50	14	15	2,05	32/25	420	100 049	420	100 099	250	100 847	420	101 435
	40/25	1 1/2 - 11 1/2 NPT	-	139	17,3	70	55	60	26,0	64,0	55	14	15	2,44	40/25	420	100 050	420	100 100	250	100 848	420	101 436

2-way ball valves with threaded connector

Steel · DN 4 - DN 25



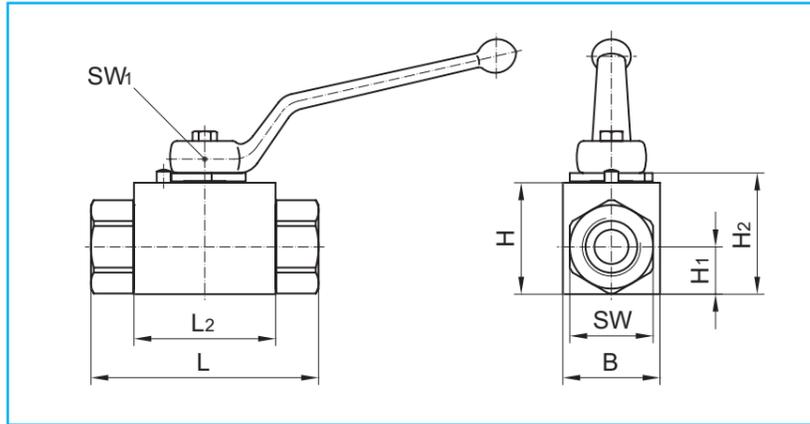
Handle included in delivery
 Please check pressure rating of the pipe fittings!
 For actuators and handles refer to "Attachments, accessories"
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body:	steel, black oxide	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM	PTFE-Comp.3
Stem seals:	NBR	FKM	FKM

Connection	DN	Thread D	OD	L	L ₁	L ₂	B	H	H ₁	H ₂	SW	SW ₁	Handle Code	Weight	DN	PN	Article-No.	PN	Article-No.	PN	Article-No.
For cut (clamp) ring tube fittings with ball lining DIN 7601 DIN 3863	4	M12 x 1,5	6	67	10	36	20	25	10,0	27,5	19	7	12	0,20	4	500	100 475	500	100 483	315	100 491
	6	M14 x 1,5	8	67	10	36	20	25	10,0	27,5	19	7	12	0,20	6	500	100 476	500	100 484	315	100 492
	8	M16 x 1,5	10	75	11	45	30	35	14,5	38,5	24	8	13	0,42	8	500	100 477	500	100 485	315	100 493
	10	M18 x 1,5	12	75	11	45	30	35	14,5	38,5	24	8	13	0,42	10	500	100 478	500	100 486	315	100 494
	12	M22 x 1,5	15	83	12	51	35	40	17,0	43,5	30	10	14	0,63	12	500	100 479	500	100 487	315	100 495
	16	M26 x 1,5	18	82	12	50	45	45	20,0	48,5	36	10	14	0,85	16	420	100 480	420	100 488	315	100 496
	20	M30 x 1,5	22	99	14	60	45	55	24,0	59,0	41	14	15	1,21	20	420	100 481	420	100 489	250	100 497
	25	M38 x 1,5	28	108	14	70	55	60	26,0	64,0	50	14	15	1,75	25	420	100 482	420	100 490	250	100 498
NPT-male thread ANSI/ASME B1.20.1-1983	4	1/8 - 27 NPT	-	67	10,0	36	20	25	10,0	27,5	19	7	12	0,20	4	500	100 613	500	100 619	315	100 625
	6	1/4 - 18 NPT	-	77	15,1	36	20	25	10,0	27,5	19	7	12	0,22	6	500	100 614	500	100 620	315	100 626
	8	3/8 - 18 NPT	-	85	15,3	45	30	35	14,5	38,5	24	8	13	0,45	8	500	100 615	500	100 621	315	100 627
	10	1/2 - 14 NPT	-	93	19,9	45	30	35	14,5	38,5	24	8	13	0,50	10	500	100 616	500	100 622	315	100 628
	16	3/4 - 14 NPT	-	99	20,2	50	45	45	20,0	48,5	36	10	14	0,90	16	420	100 617	420	100 623	250	100 629
	20	1 - 11 1/2 NPT	-	121	25,0	60	45	55	24,0	59,0	41	14	15	1,30	20	420	100 618	420	100 624	250	100 630
	25	1 1/4 - 11 1/2 NPT	-	131	25,6	70	55	60	26,0	64,0	50	14	15	1,80	25	420	100 647	420	100 648	250	100 649
BSP-male thread (flat seal) DIN EN ISO 228-1	4	G 1/8 A	-	67	10	36	20	25	10,0	27,5	19	7	12	0,20	4	500	100 631	500	100 639	315	100 663
	6	G 1/4 A	-	69	11	36	20	25	10,0	27,5	19	7	12	0,20	6	500	100 632	500	100 640	315	100 664
	8	G 3/8 A	-	77	12	45	30	35	14,5	38,5	24	8	13	0,42	8	500	100 633	500	100 641	315	100 665
	10	G 1/2 A	-	77	12	45	30	35	14,5	38,5	24	8	13	0,42	10	500	100 634	500	100 642	315	100 666
	12	G 5/8 A	-	83	12	51	35	40	17,0	43,5	30	10	14	0,63	12	500	100 635	500	100 643	315	100 667
	16	G 3/4 A	-	86	14	50	45	45	20,0	48,5	36	10	14	0,85	16	420	100 636	420	100 644	315	100 668
	20	G 1 A	-	103	16	60	45	55	24,0	59,0	41	14	15	1,22	20	420	100 637	420	100 645	250	100 669
	25	G 1 1/4 A	-	116	18	70	55	60	26,0	64,0	50	14	15	1,86	25	420	100 638	420	100 646	250	100 670
Female thread ISO 11926-1	6	7/16-20 UNF - 2B	-	69	11,7	36	20	25	10,0	27,5	22	7	12	0,22	6	500	100 031	500	100 081	315	100 041
	10	9/16-18 UNF - 2B	-	73	12,7	45	30	35	14,5	38,5	27	8	13	0,43	10	500	100 032	500	100 082	315	100 042
	12	3/4-16 UNF - 2B	-	82	14,5	51	35	40	17,0	43,5	30	10	14	0,67	12	500	100 033	500	100 083	315	100 043
	20	1 1/16-12 UN - 2B	-	93	19,0	60	45	55	24,0	59,0	41	14	15	1,28	20	420	100 035	420	100 085	315	100 045
	25	1 5/16-12 UN - 2B	-	115	19,0	70	55	60	26,0	64,0	50	14	15	2,00	25	420	100 036	420	100 086	315	100 046

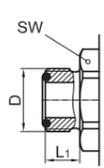
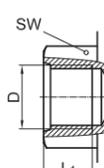
2-way ball valves with threaded connector

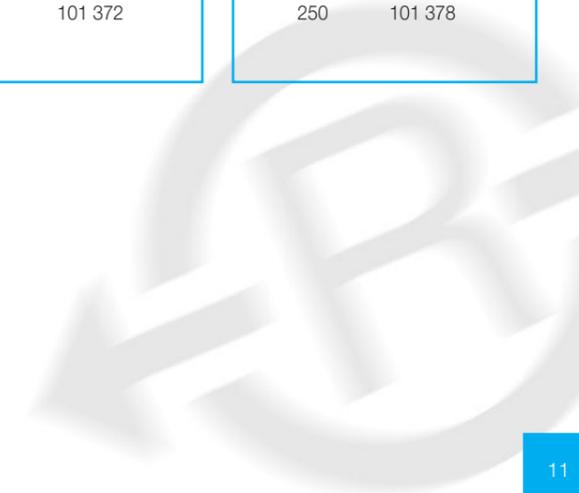
Steel · DN 4 - DN 25



*) included in delivery
 Handle included in delivery
 Please check pressure rating of the pipe fittings!
 For actuators and handles refer to "Attachments, accessories"
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body:	steel, black oxide	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM	PTFE-Comp.3
Stem seals:	NBR	FKM	FKM

Connection	DN	Thread D	L	L ₁	L ₂	B	H	H ₁	H ₂	SW	SW ₁	Handle Code	O-Ring	Weight	DN	PN	Article-No.	PN	Article-No.	PN	Article-No.
Male thread ISO 8434-3 	6	9/16-18 UNF	67	10,0	36	20	25	10,0	27,5	19	7	12	7,65 x 1,78'	0,20	6	500	101 111	500	101 121	315	101 131
	8	1 1/16-16 UN	75	11,0	45	30	35	14,5	38,5	24	8	13	9,25 x 1,78'	0,42	8	500	101 112	500	101 122	315	101 132
	10	1 3/16-16 UN	79	13,0	45	30	35	14,5	38,5	24	8	13	12,42 x 1,78'	0,44	10	500	101 113	500	101 123	315	101 133
	12	1 1/4-14 UNS	90	15,5	51	35	40	17,0	43,5	30	10	14	15,60 x 1,78'	0,65	12	500	101 114	500	101 124	315	101 134
	16	1 3/8-12 UN	92	17,0	50	45	45	20,0	48,5	36	10	14	18,77 x 1,78'	0,90	16	420	101 115	420	101 125	315	101 135
	20	1 7/8-12 UN	106	17,5	60	45	55	24,0	59,0	41	14	15	23,52 x 1,78'	1,22	20	420	101 116	420	101 126	250	101 136
	25	1 11/16-12 UN	115	17,5	70	55	60	26,0	64,0	50	14	15	29,87 x 1,78'	1,80	25	420	101 117	420	101 127	250	101 137
Female thread ISO 6149-1 	4	M10 x 1,0	69	10,0	36	20	25	10,0	27,5	19	7	12	-	0,22	4	500	101 141	500	101 151	315	101 161
	6	M12 x 1,5	69	11,5	36	20	25	10,0	27,5	19	7	12	-	0,21	6	500	101 142	500	101 152	315	101 162
	8	M14 x 1,5	73	11,5	45	30	35	14,5	38,5	24	8	13	-	0,44	8	500	101 143	500	101 153	315	101 163
	10	M16 x 1,5	73	13,0	45	30	35	14,5	38,5	24	8	13	-	0,43	10	500	101 144	500	101 154	315	101 164
	12	M18 x 1,5	82	14,5	51	35	40	17,0	43,5	30	10	14	-	0,67	12	500	101 145	500	101 155	315	101 165
	16	M22 x 1,5	88	15,5	50	45	45	20,0	48,5	36	10	14	-	0,97	16	420	101 146	420	101 156	315	101 166
	20	M27 x 2	93	19,0	60	45	55	24,0	59,0	41	14	15	-	1,28	20	420	101 147	420	101 157	250	101 167
	25	M33 x 2	115	19,0	70	55	60	26,0	64,0	50	14	15	-	2,00	25	420	101 148	420	101 158	250	101 168
BSPT-female thread ISO 7-1 	4	Rc 1/8	69	6,5	36	20	25	10,0	27,5	19	7	12	-	0,22	4	500	101 361	500	101 367	315	101 373
	6	Rc 1/4	69	9,7	36	20	25	10,0	27,5	19	7	12	-	0,21	6	500	101 362	500	101 368	315	101 374
	10	Rc 3/8	72	10,1	45	30	35	14,5	38,5	24	8	13	-	0,39	10	500	101 363	500	101 369	315	101 375
	12	Rc 1/2	83	13,2	51	35	40	17,0	43,5	30	10	14	-	0,71	12	500	101 364	500	101 370	315	101 376
	20	Rc 3/4	95	14,5	60	45	55	24,0	59,0	41	14	15	-	1,30	20	420	101 365	420	101 371	250	101 377
	25	Rc 1	113	16,8	70	55	60	26,0	64,0	50	14	15	-	2,00	25	420	101 366	420	101 372	250	101 378



2-way ball valves with threaded connector

Stainless steel · DN 4 - DN 25

NEW!

Handle included in delivery. Please check pressure rating of the pipe fittings!

For actuators and handles refer to "Attachments, accessories"

Stainless steel (material No.1.4571 - or other stainless steels)

Custom orders on request

Also available with most other connections

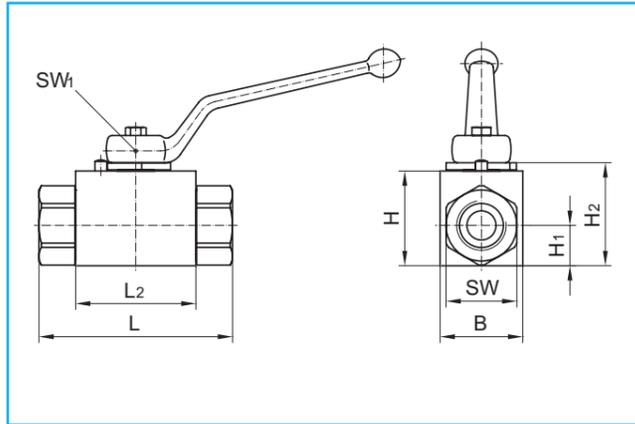
All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

Body:	stainless steel	stainless steel
Ball:	stainless steel	stainless steel
Stem:	stainless steel	stainless steel
Ball seals:	POM	PTFE-Comp.3
Stem seals:	FKM	FKM
Handle:	zinc, die cast	zinc, die cast
Stop plate:	steel, zinc plated	steel, zinc plated



Connection	DN	Thread D	OD	L	L1	L2	B	H	H1	SW	SW1	Handle Code	H2	Weight	DN	PN	Article-No.	PN	Article-No.	
For cut (clamp) ring tube fitting DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	67	10	36	20	25	10,0	19	7	12	27,5	0,20	4	500	109400	315	109460	
	6	M14 x 1,5	8	67	10	36	20	25	10,0	19	7	12	27,5	0,20	6	500	109401	315	109461	
	8	M16 x 1,5	10	75	11	45	30	35	14,5	24	8	13	38,5	0,42	8	500	109402	315	109462	
	10	M18 x 1,5	12	75	11	45	30	35	14,5	24	8	13	38,5	0,42	10	500	109403	315	109463	
	12	M22 x 1,5	15	83	12	51	35	40	17,0	30	10	14	43,5	0,63	12	500	109404	315	109464	
	16	M26 x 1,5	18	99	12	60	45	55	24,0	41	14	15	59,0	1,19	16	420	109405	250	109465	
	20	M30 x 2	22	99	14	60	45	55	24,0	41	14	15	59,0	1,21	20	420	109406	250	109466	
25	M36 x 2	28	108	14	70	55	60	26,0	50	14	15	64,0	1,75	25	420	109407	250	109467		
For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	73	12	36	20	25	10,0	19	7	12	27,5	0,22	4	500	109408	315	109468	
	6	M18 x 1,5	10	73	12	36	20	25	10,0	19	7	12	27,5	0,22	6	500	109409	315	109469	
	8	M20 x 1,5	12	77	12	45	30	35	14,5	24	8	13	38,5	0,43	8	500	109410	315	109470	
	10	M22 x 1,5	14	81	14	45	30	35	14,5	24	8	13	38,5	0,44	10	500	109411	315	109471	
	12	M24 x 1,5	16	87	14	51	35	40	17,0	30	10	14	43,5	0,65	12	500	109412	315	109472	
	16	M30 x 2	20	107	16	60	45	55	24,0	41	14	15	59,0	1,27	16	420	109413	250	109473	
	20	M36 x 2	25	107	18	60	45	55	24,0	41	14	15	59,0	1,29	20	420	109414	250	109474	
25	M42 x 2	30	120	20	70	55	60	26,0	50	14	15	64,0	1,88	25	420	109415	250	109475		
BSP-female thread DIN EN ISO 228-1	4	G 1/8	-	69	12	36	20	25	10,0	19	7	12	27,5	0,22	4	500	109416	315	109476	
	6	G 1/4	-	69	12	36	20	25	10,0	19	7	12	27,5	0,21	6	500	109417	315	109477	
	10	G 3/8	-	73	14	45	30	35	14,5	24	8	13	38,5	0,43	10	500	109418	315	109478	
	12	G 1/2	-	82	15	51	35	40	17,0	30	10	14	43,5	0,67	12	500	109419	315	109479	
	16	G 5/8	-	93	18	60	45	55	24,0	41	14	15	59,0	1,30	16	420	109420	250	109480	
	20	G 3/4	-	93	18	60	45	55	24,0	41	14	15	59,0	1,28	20	420	109421	250	109481	
25	G 1	-	115	18	70	55	60	26,0	50	14	15	64,0	1,97	25	420	109422	250	109482		
NPT-female thread ANSI/ASME B1.20.1-1983	4	1/8 - 27	NPT	-	69	6,9	36	20	25	10,0	19	7	12	27,5	0,22	4	500	109423	315	109483
	6	1/4 - 18	NPT	-	69	10,0	36	20	25	10,0	19	7	12	27,5	0,21	6	500	109424	315	109484
	10	3/8 - 18	NPT	-	73	10,3	45	30	35	14,5	24	8	13	38,5	0,43	10	500	109425	315	109485
	12	1/2 - 14	NPT	-	82	13,6	51	35	40	17,0	30	10	14	43,5	0,67	12	500	109426	315	109486
	20	3/4 - 14	NPT	-	93	14,1	60	45	55	24,0	41	14	15	59,0	1,28	20	420	109427	250	109487
25	1 - 11 1/2	NPT	-	115	16,8	70	55	60	26,0	50	14	15	64,0	1,97	25	420	109428	250	109488	



2-way ball valves with threaded connector

Stainless steel · DN 4 - DN 25

NEW!

Handle included in delivery. Please check pressure rating of the pipe fittings!

For actuators and handles refer to "Attachments, accessories"

Stainless steel (material No.1.4571 - or other stainless steels)

Custom orders on request

Also available with most other connections

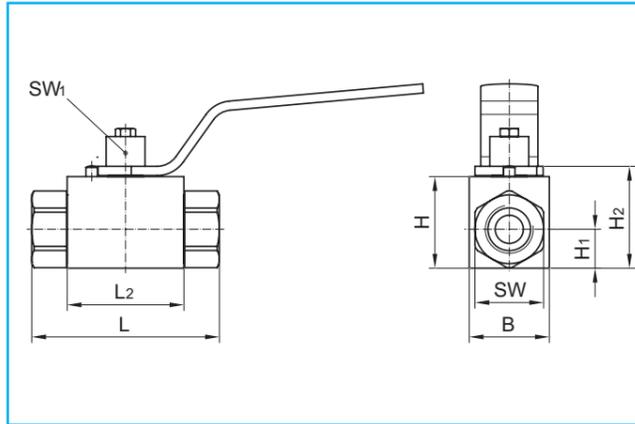
All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

Body:	stainless steel	stainless steel
Ball:	stainless steel	stainless steel
Stem:	stainless steel	stainless steel
Ball seals:	POM	PTFE-Comp.3
Stem seals:	FKM	FKM
Handle:	stainless steel	stainless steel
Stop plate:	stainless steel	stainless steel

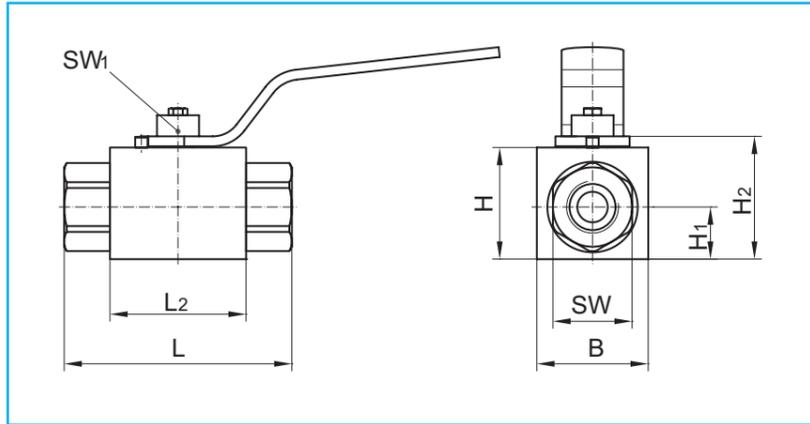


Connection	DN	Thread D	OD	L	L1	L2	B	H	H1	SW	SW1	Handle Code	H2	Weight	DN	PN	Article-No.	PN	Article-No.	
For cut (clamp) ring tube fitting DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	67	10	36	20	25	10,0	19	7	32	29,5	0,20	4	500	109490	315	109430	
	6	M14 x 1,5	8	67	10	36	20	25	10,0	19	7	32	29,5	0,20	6	500	109491	315	109431	
	8	M16 x 1,5	10	75	11	45	30	35	14,5	24	8	33	39,5	0,42	8	500	109492	315	109432	
	10	M18 x 1,5	12	75	11	45	30	35	14,5	24	8	33	39,5	0,42	10	500	109493	315	109433	
	12	M22 x 1,5	15	83	12	51	35	40	17,0	30	10	34	44,5	0,63	12	500	109494	315	109434	
	16	M26 x 1,5	18	99	12	60	45	55	24,0	41	14	35	60,5	1,19	16	420	109495	250	109435	
	20	M30 x 2	22	99	14	60	45	55	24,0	41	14	35	60,5	1,21	20	420	109496	250	109436	
	25	M36 x 2	28	108	14	70	55	60	26,0	50	14	35	65,5	1,75	25	420	109497	250	109437	
For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	73	12	36	20	25	10,0	19	7	32	29,5	0,22	4	500	109498	315	109438	
	6	M18 x 1,5	10	73	12	36	20	25	10,0	19	7	32	29,5	0,22	6	500	109499	315	109439	
	8	M20 x 1,5	12	77	12	45	30	35	14,5	24	8	33	39,5	0,43	8	500	109500	315	109440	
	10	M22 x 1,5	14	81	14	45	30	35	14,5	24	8	33	39,5	0,44	10	500	109501	315	109441	
	12	M24 x 1,5	16	87	14	51	35	40	17,0	30	10	34	44,5	0,65	12	500	109502	315	109442	
	16	M30 x 2	20	107	16	60	45	55	24,0	41	14	35	60,5	1,27	16	420	109503	250	109443	
	20	M36 x 2	25	107	18	60	45	55	24,0	41	14	35	60,5	1,29	20	420	109504	250	109444	
	25	M42 x 2	30	120	20	70	55	60	26,0	50	14	35	65,5	1,88	25	420	109505	250	109445	
BSP-female thread DIN EN ISO 228-1	4	G 1/8	-	69	12	36	20	25	10,0	19	7	32	29,5	0,22	4	500	700091	315	109446	
	6	G 1/4	-	69	12	36	20	25	10,0	19	7	32	29,5	0,21	6	500	700092	315	109447	
	10	G 3/8	-	73	14	45	30	35	14,5	24	8	33	39,5	0,43	10	500	700093	315	109448	
	12	G 1/2	-	82	15	51	35	40	17,0	30	10	34	44,5	0,67	12	500	700094	315	109449	
	16	G 5/8	-	93	18	60	45	55	24,0	41	14	35	60,5	1,30	16	420	700095	250	109450	
	20	G 3/4	-	93	18	60	45	55	24,0	41	14	35	60,5	1,28	20	420	700096	250	109451	
	25	G 1	-	115	18	70	55	60	26,0	50	14	35	65,5	1,97	25	420	700097	250	109452	
NPT-female thread ANSI/ASME B1.20.1-1983	4	1/8 - 27	NPT	-	69	6,9	36	20	25	10,0	19	7	32	29,5	0,22	4	500	700100	315	109453
	6	1/4 - 18	NPT	-	69	10,0	36	20	25	10,0	19	7	32	29,5	0,21	6	500	700101	315	109454
	10	3/8 - 18	NPT	-	73	10,3	45	30	35	14,5	24	8	33	39,5	0,43	10	500	700102	315	109455
	12	1/2 - 14	NPT	-	82	13,6	51	35	40	17,0	30	10	34	44,5	0,67	12	500	700103	315	109456
	20	3/4 - 14	NPT	-	93	14,1	60	45	55	24,0	41	14	35	60,5	1,28	20	420	700104	250	109457
	25	1 - 11 1/2	NPT	-	115	16,8	70	55	60	26,0	50	14	35	65,5	1,97	25	420	700105	250	109458



2-way ball valves with threaded connector

Stainless steel · DN 4 - DN 25 · 630 bar



Handle included in delivery
 Please check pressure rating of the pipe fittings!
 For actuators and handles refer to "Attachments, accessories"
 Stainless steel (material no. 1.4571 - or other stainless steels)
 Custom orders on request
 All dimensions subject to change without notice

Dimensions in mm
 Weight in kg
 Pressure in bar

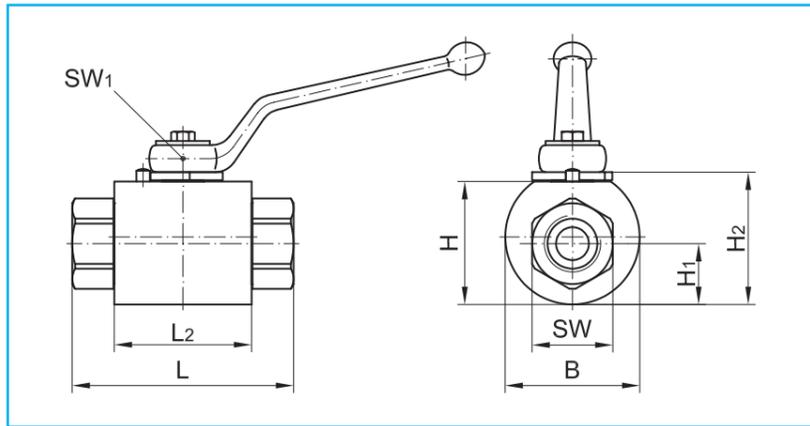
Body:	stainless steel
Ball:	stainless steel
Stem:	stainless steel
Ball seals:	PEEK
Stem seals:	FKM

Connection	DN	Thread D	OD	L	L ₁	L ₂	B	H	H ₁	H ₂	SW	SW ₁	Handle Code	Weight	DN	PN	Article-No.
For cut (clamp) ring tube fitting DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	73	10	41	30	30	13,7	34,5	22	7	32	0,38	4	630	101 309
	6	M14 x 1,5	8	73	10	41	30	30	13,7	34,5	22	7	32	0,41	6	630	101 310
	8	M16 x 1,5	10	87	11	53	40	40	18,0	44,5	30	8	33	0,82	8	630	101 311
	10	M18 x 1,5	12	87	11	53	40	40	18,0	44,5	30	8	33	0,82	10	630	101 312
	12	M22 x 1,5	15	91	12	55	45	45	21,0	49,5	32	10	34	1,03	12	630	101 313
	16	M26 x 1,5	18	101	12	65	65	65	31,0	70,5	46	14	35	2,45	16	630	109 124
For cut (clamp) ring tube fitting DIN 2353 heavy series ISO 8434-1	20	M30 x 2	22	105	14	65	65	65	31,0	70,5	46	14	35	2,50	20	630	109 102
	25	M36 x 2	28	112	14	71	75	75	38,0	80,5	50	14	35	3,07	25	630	109 103
	4	M16 x 1,5	8	76	12	41	30	30	13,7	34,5	22	7	32	0,40	4	630	101 317
	6	M18 x 1,5	10	76	12	41	30	30	13,7	34,5	22	7	32	0,40	6	630	101 318
	8	M20 x 1,5	12	89	12	53	40	40	18,0	44,5	30	8	33	0,85	8	630	101 319
	10	M22 x 1,5	14	93	14	53	40	40	18,0	44,5	30	8	33	0,85	10	630	101 320
BSP-female thread DIN EN ISO 228-1	12	M24 x 1,5	16	96	14	55	45	45	21,0	49,5	32	10	34	1,05	12	630	101 321
	16	M30 x 2	20	109	16	65	65	65	31,0	70,5	46	14	35	2,55	16	630	109 168
	20	M36 x 2	25	113	18	65	65	65	31,0	70,5	46	14	35	2,59	20	630	109 105
	25	M42 x 2	30	124	20	71	75	75	38,0	80,5	50	14	35	3,19	25	630	109 106
	4	G 1/8	-	69	11	41	30	30	13,7	34,5	22	7	32	0,42	4	630	101 325
	6	G 1/4	-	75	14	41	30	30	13,7	34,5	22	7	32	0,42	6	630	101 326
NPT-female thread ANSI/ASME B1.20.1-1983	10	G 3/8	-	86	14	53	40	40	18,0	44,5	30	8	33	0,89	10	630	101 327
	12	G 1/2	-	92	16	55	45	45	21,0	49,5	32	10	34	1,10	12	630	101 328
	16	G 5/8	-	111	19	65	65	65	31,0	70,5	46	14	35	2,64	16	630	109 172
	20	G 3/4	-	111	20	65	65	65	31,0	70,5	46	14	35	2,69	20	630	109 108
	25	G 1	-	122	22	71	75	75	38,0	80,5	50	14	35	3,31	25	630	109 109
	4	1/8 - 27 NPT	-	82	6,9	41	30	30	13,7	34,5	22	7	32	0,44	4	630	101 332
6	1/4 - 18 NPT	-	82	10,0	41	30	30	13,7	34,5	22	7	32	0,44	6	630	101 333	
10	3/8 - 18 NPT	-	95	10,3	53	40	40	18,0	44,5	30	8	33	0,95	10	630	101 334	
12	1/2 - 14 NPT	-	108	13,6	55	45	45	21,0	49,5	32	10	34	1,19	12	630	101 335	
20	3/4 - 14 NPT	-	111	14,1	65	65	65	31,0	70,5	46	14	35	2,69	20	630	109 111	
25	1 - 11 1/2 NPT	-	122	16,8	71	75	75	38,0	80,5	50	14	35	3,31	25	630	109 112	



2-way ball valves with threaded connector

Steel/Stainless steel · DN 4 - DN 25 · 840 bar



Note: Use only with fluid media!

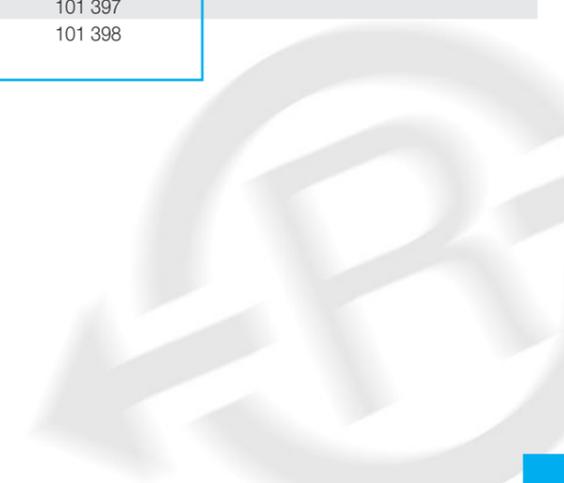
Handle included in delivery
 Please check pressure rating of the pipe fittings!
 For actuators and handles refer to "Attachments, accessories"
 Custom orders on request
 Also available with most other connections
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

NEW!



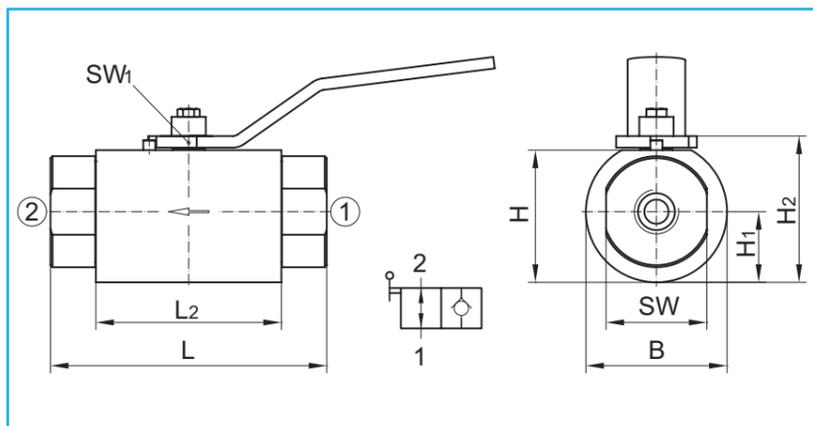
Body:	steel, black oxide	stainless steel
Ball:	steel, hard chrome plated	stainless steel
Stem:	steel, zinc plated	stainless steel
Ball seals:	PEEK	PEEK
Stem seals:	NBR	NBR

Connection	DN	Thread D	OD	L	L1	L2	B	H	H1	H2	SW	SW1	Handle Code	Weight	DN	PN	Article-No.	PN	Article-No.
For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	114	12	67	65	62,5	30	66	41	10	19	1,84	4	840	101 338	840	101 380
	6	M18 x 1,5	10	114	12	67	65	62,5	30	66	41	10	19	1,86	6	840	101 339	840	101 381
	8	M20 x 1,5	12	114	12	67	65	62,5	30	66	41	10	19	1,89	8	840	101 340	840	101 382
	10	M22 x 1,5	14	118	14	67	65	62,5	30	66	41	10	19	1,96	10	840	101 341	840	101 383
	12	M24 x 1,5	16	118	14	67	65	62,5	30	66	41	10	19	1,98	12	840	101 342	840	101 384
	20	M36 x 2	25	156	18	90	108	102,0	51	106	70	14	20	6,60	20	840	101 343	840	101 385
25	M42 x 2	30	160	20	90	108	102,0	51	106	70	14	20	6,60	25	840	101 344	840	101 386	
BSP-female thread DIN EN ISO 228-1	4	G 1/8	-	90	11	67	65	62,5	30	66	41	10	19	1,82	4	840	101 345	840	101 387
	6	G 1/4	-	90	15	67	65	62,5	30	66	41	10	19	1,82	6	840	101 346	840	101 388
	10	G 3/8	-	90	15	67	65	62,5	30	66	41	10	19	1,84	10	840	101 347	840	101 389
	12	G 1/2	-	90	17	67	65	62,5	30	66	41	10	19	1,90	12	840	101 348	840	101 390
	20	G 3/4	-	120	19	90	108	102,0	51	106	70	14	20	6,50	20	840	101 349	840	101 391
	25	G 1	-	120	21	90	108	102,0	51	106	70	14	20	6,50	25	840	101 350	840	101 392
NPT-female thread ANSI/ASME B1.20.1-1983	4	1/8 - 27 NPT	-	90	6,9	67	65	62,5	30	66	41	10	19	1,82	4	840	101 351	840	101 393
	6	1/4 - 18 NPT	-	90	10,0	67	65	62,5	30	66	41	10	19	1,82	6	840	101 352	840	101 394
	10	3/8 - 18 NPT	-	90	10,3	67	65	62,5	30	66	41	10	19	1,84	10	840	101 353	840	101 395
	12	1/2 - 14 NPT	-	90	13,6	67	65	62,5	30	66	41	10	19	1,90	12	840	101 354	840	101 396
	20	3/4 - 14 NPT	-	120	14,1	90	108	102,0	51	106	70	14	20	6,50	20	840	101 355	840	101 397
	25	1 - 11 1/2 NPT	-	120	16,8	90	108	102,0	51	106	70	14	20	6,50	25	840	101 356	840	101 398



2-way ball valves with threaded connector

Stainless steel · DN 6 - DN 25 · Ultra-High Pressure



DN 6 - DN 12:
can be actuated up to 500 bar
differential pressure

DN 20 + DN 25:
can be actuated up to 400 bar
differential pressure

Unidirectional installation!
Note: Use only with fluid media!

*) Deviating from the standard:
longer connection thread

Handle included in delivery
Please check pressure rating of the pipe fittings!
For actuators and handles refer to "Attachments, accessories"
Custom orders on request
All dimensions subject to change without notice
Dimensions in mm
Weight in kg
Pressure in bar

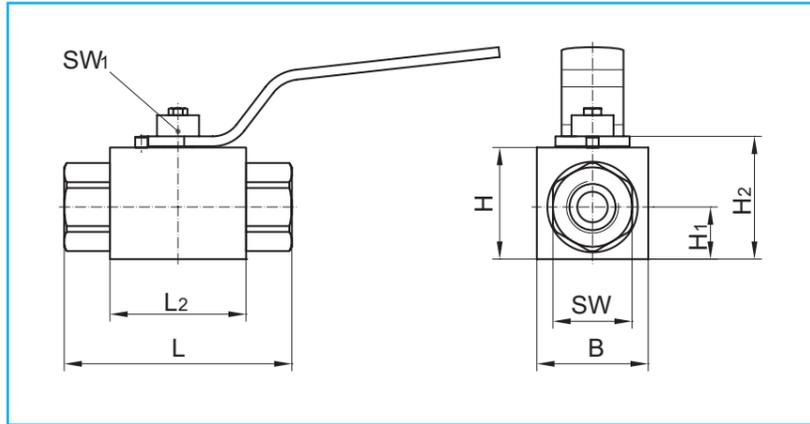
Body:	stainless steel
Ball:	stainless steel
Stem:	bronze
Ball seals:	PEEK
Stem seals:	FKM

Connection	DN	Thread D	OD	L	L ₁	L ₂	B	H	H ₁	H ₂	SW	SW ₁	Handle Code	Weight	DN	PN	Article-No.
For cut (clamp) ring tube fitting DIN 2353 heavy series ISO 8434-1	6	M18 x 1,5	10	144,0	18*	92	79	76	39,5	81	46	10	34	4,1	6	1500	100 900
	8	M20 x 1,5	12	144,0	18*	92	79	76	39,5	81	46	10	34	4,1	8	1500	100 901
	10	M22 x 1,5	14	150,0	21*	92	79	76	39,5	81	46	10	34	4,1	10	1500	100 902
	12	M24 x 1,5	16	150,0	21*	92	79	76	39,5	81	46	10	34	4,1	12	1500	100 903
	20	M36 x 2	25	178,5	23*	115	90	88	45,0	81	55	10	34	6,1	20	1400	100 994
25	M42 x 2	30	202,0	25*	128	100	95	50,0	101	70	14	35	9,2	25	1000	100 991	
BSP-female thread DIN EN ISO 228-1	6	G 1/4	-	108,0	12	92	79	76	39,5	81	46	10	34	4,1	6	1500	100 906
	10	G 3/8	-	120,0	14	92	79	76	39,5	81	46	10	34	4,2	10	1500	100 907
	12	G 1/2	-	137,0	16	92	79	76	39,5	81	46	10	34	4,4	12	1500	100 908
	20	G 3/4	-	132,5	19	115	90	88	45,0	81	55	10	34	5,8	20	1400	100 995
	25	G 1	-	152,5	21	128	99	95	47,5	101	70	14	35	8,7	25	1000	100 993



2-way ball valves with threaded connector

Aluminium · DN 4 - DN 25



Handle included in delivery
 Please check pressure rating of the pipe fittings!
 For actuators and handles refer to "Attachments, accessories".
 Stainless steel (material No.1.4571 - or other stainless steels)
 Custom orders on request
 Also available with most other connections
 All dimensions subject to change without notice

Dimensions in mm
 Weight in kg
 Pressure in bar

Overall length: female thread connector DIN 3202-4-M6/M9

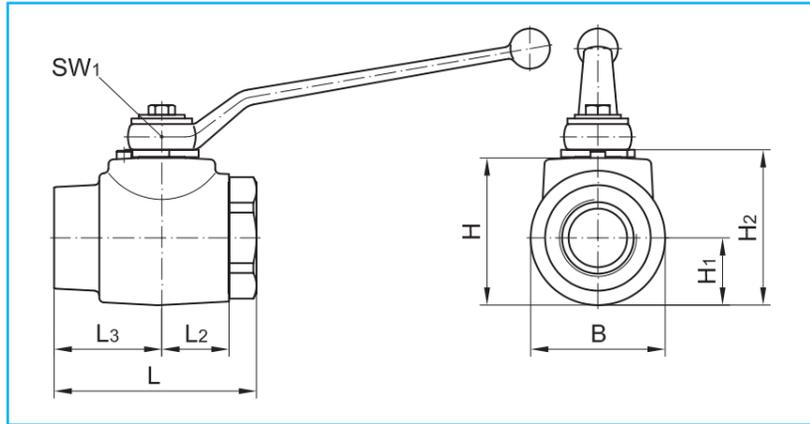
Body:	aluminium
Ball:	stainless steel
Stem:	stainless steel
Ball seals:	POM
Stem seals:	NBR

Connection	DN	Thread D	OD	L	L ₁	L ₂	B	H	H ₁	H ₂	SW	SW ₁	Handle Code	Weight	DN	PN	Article-No.
For cut (clamp) ring tube fitting DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	78	10	46,4	30	30	13,7	34,5	22	7	32	0,20	4	400	105 152
	6	M14 x 1,5	8	78	10	46,4	30	30	13,7	34,5	22	7	32	0,20	6	400	105 153
	8	M16 x 1,5	10	87	11	53,0	45	45	23,0	49,5	30	8	33	0,49	8	400	105 170
	10	M18 x 1,5	12	87	11	53,0	45	45	23,0	49,5	30	8	33	0,49	10	400	105 154
	12	M22 x 1,5	15	93	12	57,0	50	50	26,0	54,5	32	10	34	0,56	12	400	105 155
	20	M30 x 2	22	108	14	68,0	70	70	36,0	75,5	46	14	35	1,34	20	400	105 156
25	M36 x 2	28	114	14	73,0	80	80	43,0	85,5	50	14	35	1,59	25	400	105 157	
For cut (clamp) ring tube fitting DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	81	12	46,4	30	30	13,7	34,5	22	7	32	0,22	4	400	105 158
	6	M18 x 1,5	10	81	12	46,4	30	30	13,7	34,5	22	7	32	0,22	6	400	105 159
	8	M20 x 1,5	12	89	12	53,0	45	45	23,0	49,5	30	8	33	0,50	8	400	105 171
	10	M22 x 1,5	14	93	14	53,0	45	45	23,0	49,5	30	8	33	0,50	10	400	105 160
	12	M24 x 1,5	16	98	14	57,0	50	50	26,0	54,5	32	10	34	0,58	12	400	105 161
	20	M36 x 2	25	116	18	68,0	70	70	36,0	75,5	46	14	35	1,42	20	400	105 162
25	M42 x 2	30	126	20	73,0	80	80	43,0	85,5	50	14	35	1,66	25	400	105 163	
BSP-female thread DIN EN ISO 228-1	4	G 1/8	-	80	11	46,4	30	30	13,7	34,5	22	7	32	0,22	4	400	105 151
	6	G 1/4	-	80	14	46,4	30	30	13,7	34,5	22	7	32	0,22	6	400	105 141
	10	G 3/8	-	85	14	53,0	45	45	23,0	49,5	30	8	33	0,50	10	400	105 142
	12	G 1/2	-	100	16	57,0	50	50	26,0	54,5	32	10	34	0,60	12	400	105 143
	20	G 3/4	-	120	18	68,0	70	70	36,0	75,5	46	14	35	1,41	20	400	105 144
25	G 1	-	135	20	73,0	80	80	43,0	85,5	50	14	35	1,78	25	400	105 145	
NPT-female thread ISO 11926-1	4	7/16 - 20	UNF - 2B	79	11,5	46,4	30	30	13,7	34,5	22	7	32	0,22	4	400	105 172
	6	1/2 - 20	UNF - 2B	79	11,5	46,4	30	30	13,7	34,5	22	7	32	0,22	6	400	105 173
	8	9/16 - 18	UNF - 2B	80	12,7	53,0	45	45	23,0	49,5	30	8	33	0,40	8	400	105 174
	10	3/4 - 16	UNF - 2B	97	14,3	53,0	45	45	23,0	49,5	30	8	33	0,50	10	400	105 175
	12	7/8 - 14	UNF - 2B	106	16,7	57,0	50	50	26,0	54,5	32	10	34	0,60	12	400	105 176
	20	1 5/16 - 12	UN - 2B	123	19,0	68,0	70	70	36,0	75,5	46	14	35	1,41	20	400	105 177
	25	1 5/8 - 12	UN - 2B	133	19,0	73,0	80	80	43,0	85,5	50	14	35	1,78	25	400	105 178



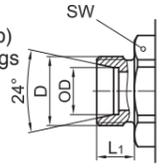
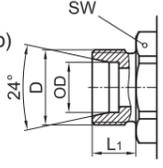
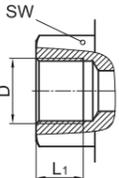
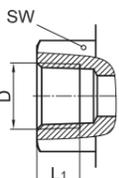
2-way ball valves with threaded connector

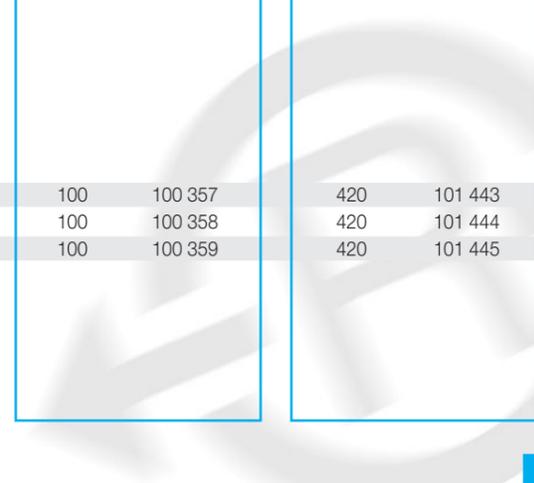
Steel · DN 32 - DN 50



Handle included in delivery.
 Please check pressure rating of the pipe fittings!
 For actuators and handles refer to "Attachments, accessories"
 Custom orders on request
 Also available with most other connections
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body:	steel, black oxide	steel, black oxide	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated			
Stem:	steel, zinc plated	steel, zinc plated	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM	PTFE-Comp.3	metal
Stem seals:	NBR	FKM	FKM	FKM

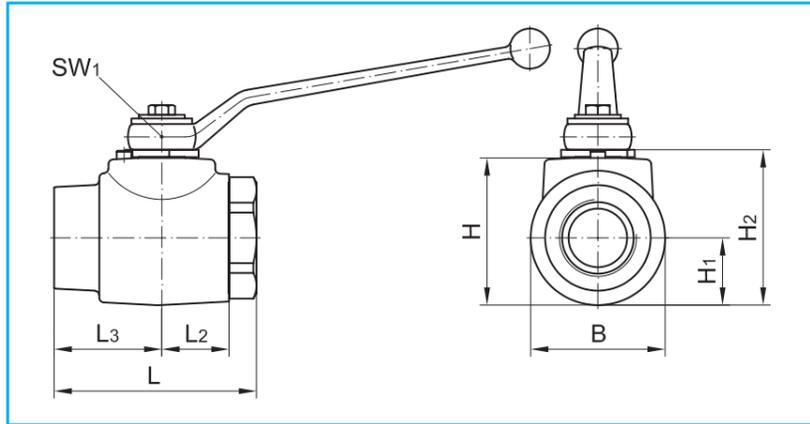
Connection	DN	Thread D	OD	L	L ₁	L ₂	L ₃	B	H	H ₁	H ₂	SW	SW ₁	Handle Code	Weight	DN	PN	Article-No.	PN	Article-No.	PN	Article-No.	PN	Article-No.
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1 	32	M45 x 2	35	121	16	36,5	58,5	73	80	36,5	84,5	60	17	21	2,59	32	420	100 251	420	100 301	100	100 351	420	101 437
	40	M52 x 2	42	118	16	40,0	52,5	85	90	42,5	94,5	75	17	21	3,24	40	420	100 252	420	100 302	100	100 352	420	101 438
For cut (clamp) ring tube fitting DIN 2353 heavy series ISO 8434-1 	32	M52 x 2	38	127	22	36,5	58,2	73	80	36,5	84,5	60	17	21	2,73	32	420	100 253	420	100 303	100	100 353	420	101 439
BSP-female thread DIN EN ISO 228-1 	32	G 1 1/4	-	110	24,0	36,5	58,5	73	80	36,5	84,5	60	17	21	3,07	32	420	100 254	420	100 304	100	100 354	420	101 440
	40	G 1 1/2	-	114	26,0	40,0	57,0	85	90	42,5	94,5	75	17	21	3,96	40	420	100 255	420	100 305	100	100 355	420	101 441
	50	G 2	-	129	27,5	48,0	65,0	99	104	49,5	108,5	85	17	22	5,02	50	420	100 256	420	100 306	100	100 356	420	101 442
NPT-female thread ANSI/ASME B1.20.1-1983 	32	1 1/4 - 11 1/2 NPT	-	110	17,3	36,5	58,5	73	80	36,5	84,5	60	17	21	3,46	32	420	100 257	420	100 307	100	100 357	420	101 443
	40	1 1/2 - 11 1/2 NPT	-	114	17,3	40,0	57,0	85	90	42,5	94,5	75	17	21	3,96	40	420	100 258	420	100 308	100	100 358	420	101 444
	50	2 - 11 1/2 NPT	-	129	17,7	48,0	65,0	99	104	49,5	108,5	85	17	22	5,28	50	420	100 259	420	100 309	100	100 359	420	101 445



2-way ball valves with threaded connector

Stainless steel · DN 32 - DN 50

NEW!

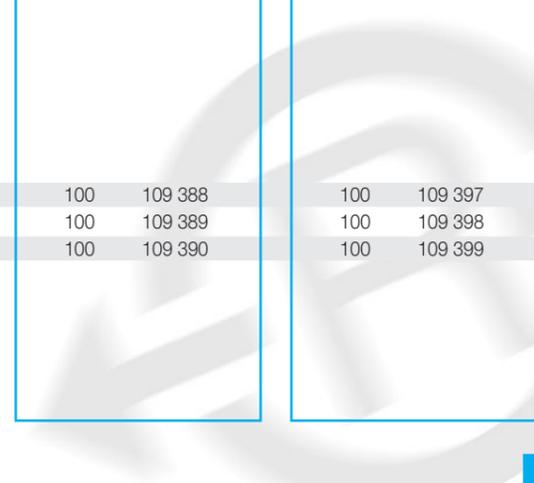


Handle included in delivery.
 Please check pressure rating of the pipe fittings!
 For actuators and handles refer to "Attachments, accessories"
 Stainless steel (material No.1.4571 - or other stainless steels)
 Custom orders on request
 All dimensions subject to change without notice

Dimensions in mm
 Weight in kg
 Pressure in bar

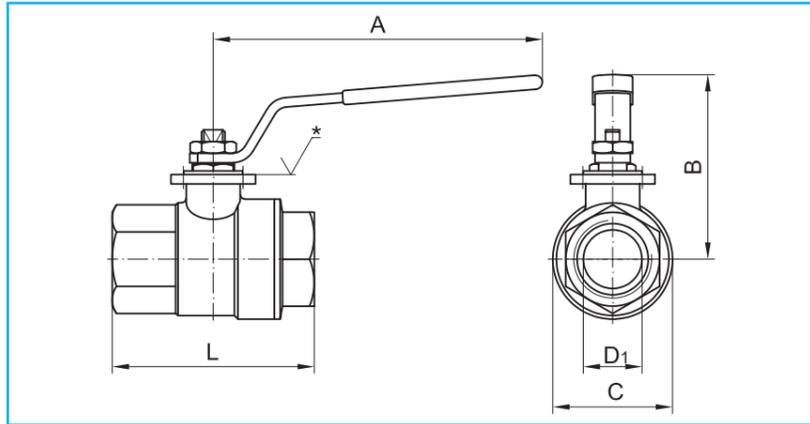
Body:	stainless steel	stainless steel	stainless steel	stainless steel
Ball:	stainless steel	stainless steel	stainless steel	stainless steel
Stem:	stainless steel	stainless steel	stainless steel	stainless steel
Ball seals:	POM	POM	PTFE-Comp.3	PTFE-Comp.3
Stem seals:	NBR	FKM	FKM	FFKM
Handle:	stainless steel	stainless steel	stainless steel	stainless steel
Stop plate:	stainless steel	stainless steel	stainless steel	stainless steel

Connection	DN	Thread D	OD	L	L ₁	L ₂	L ₃	B	H	H ₁	H ₂	SW	SW ₁	Handle Weight Code	DN	PN	Article-No.	PN	Article-No.	PN	Article-No.	PN	Article-No.	
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1	32	M45 x 2	35	121	16	36,5	58,5	73	80	36,5	84,5	60	17	37	2,59	32	420	109 364	420	109 373	100	109 382	100	109 391
	40	M52 x 2	42	118	16	40,0	52,5	85	90	42,5	94,5	75	17	37	3,24	40	420	109 365	420	109 374	100	109 383	100	109 392
For cut (clamp) ring tube fitting DIN 2353 heavy series ISO 8434-1	32	M52 x 2	38	127	22	36,5	58,2	73	80	36,5	84,5	60	17	37	2,73	32	420	109 366	420	109 375	100	109 384	100	109 393
	32	G 1 1/4	-	110	24,0	36,5	58,5	73	80	36,5	84,5	60	17	37	3,07	32	420	109 367	420	109 376	100	109 385	100	109 394
BSP-female thread DIN EN ISO 228-1	40	G 1 1/2	-	114	26,0	40,0	57,0	85	90	42,5	94,5	75	17	37	3,96	40	420	109 368	420	109 377	100	109 386	100	109 395
	50	G 2	-	129	27,5	48,0	65,0	99	104	49,5	108,5	85	17	38	5,02	50	420	109 369	420	109 378	100	109 387	100	109 396
NPT-female thread ANSI/ASME B1.20.1-1983	32	1 1/4 - 11 1/2 NPT	-	110	17,3	36,5	58,5	73	80	36,5	84,5	60	17	37	3,46	32	420	109 370	420	109 379	100	109 388	100	109 397
	40	1 1/2 - 11 1/2 NPT	-	114	17,3	40,0	57,0	85	90	42,5	94,5	75	17	37	3,96	40	420	109 371	420	109 380	100	109 389	100	109 398
	50	2 - 11 1/2 NPT	-	129	17,7	48,0	65,0	99	104	49,5	108,5	85	17	38	5,28	50	420	109 372	420	109 381	100	109 390	100	109 399



2-way ball valves with threaded connector

Stainless steel · DN 10 - DN 50



Handle included in delivery
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

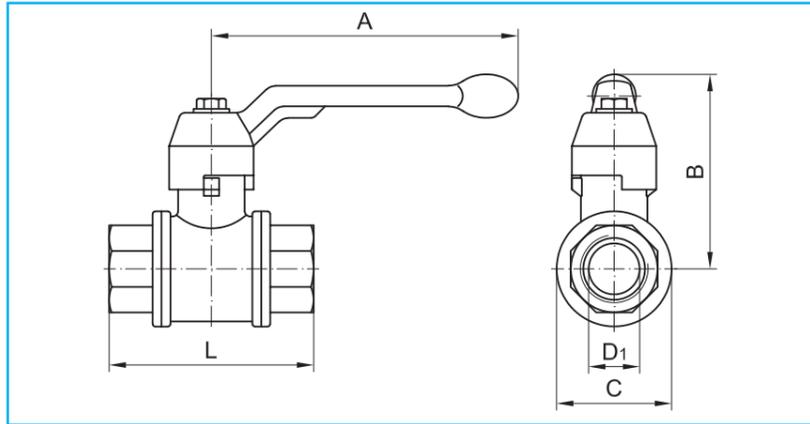
Body:	stainless steel
Ball:	stainless steel
Stem:	stainless steel
Ball seals:	PTFE
Stem seals:	FKM

Connection	DN	Thread	D1	L	L1	A	B	C	*Porting pattern DIN EN ISO 5211	Weight	DN	PN	Article-No.
BSP-female thread DIN EN 10226-1	10	Rp 3/8	10	55	11,4	110	52	29,0	F 03	0,23	10	100	101 523
	12	Rp 1/2	15	65	15,0	110	55	34,5	F 03	0,31	12	100	101 524
	20	Rp 3/4	20	70	16,3	140	66	42,5	F 03	0,51	20	100	101 525
	25	Rp 1	25	85	19,1	140	70	50,5	F 03	0,76	25	100	101 526
	32	Rp 1 1/4	32	95	21,4	180	85	63,0	F 04	1,27	32	64	101 527
	40	Rp 1 1/2	40	105	21,4	180	91	75,5	F 04	1,81	40	64	101 528
	50	Rp 2	50	125	25,7	230	105	91,0	F 05	3,16	50	40	101 529



2-way ball valves with threaded connector

Brass · DN 4 - DN 80



Handle included in delivery
 Approved by DVGW for use up to PN 4
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

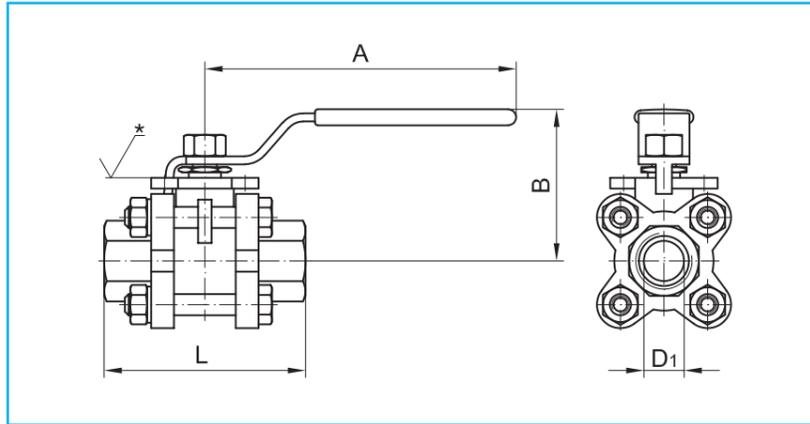
Body:	brass
Ball:	brass
Stem:	brass
Ball seals:	PTFE
Stem seals:	PTFE

Connection	DN	Thread D	D1	L	L1	A	B	C	Weight	DN	PN	Article-No.
<p>BSP-female thread DIN EN 10226-1</p>	4	Rp 1/8	8	48	10	75	52	23	0,16	4	100	101 531
	6	Rp 1/4	8	51	13	75	52	23	0,15	6	100	101 532
	10	Rp 3/8	10	55	13	100	61	29	0,25	10	100	101 533
	12	Rp 1/2	15	69	16	100	64	36	0,37	12	100	101 534
	20	Rp 3/4	20	77	17	120	76	45	0,64	20	100	101 535
	25	Rp 1	25	89	19	120	80	54	0,89	25	100	101 536
	32	Rp 1 1/4	32	103	22	150	98	65	1,56	32	100	101 537
	40	Rp 1 1/2	40	114	22	150	104	79	2,32	40	100	101 538
	50	Rp 2	50	134	27	175	119	96	3,63	50	80	101 539
	65	Rp 2 1/2	65	160	32	280	155	119	5,54	65	40	101 540
	80	Rp 3	80	185	35	280	167	144	8,44	80	40	101 541



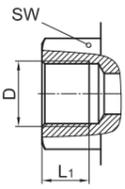
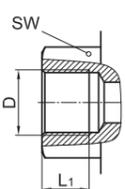
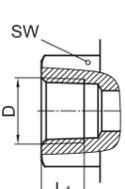
2-way ball valves with threaded connector

Stainless steel · with removable centre · DN 6 - DN 50



Handle included in delivery
 Overall length DIN 3202-4-M3
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

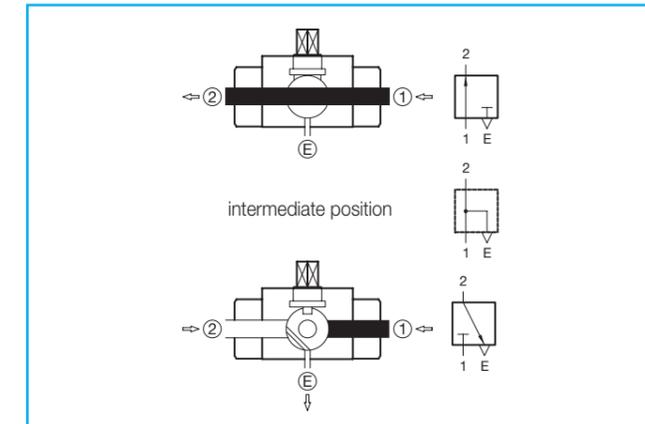
Body:	stainless steel
Ball:	stainless steel
Stem:	stainless steel
Ball seals:	PTFE
Stem seals:	PTFE

Connection	DN	Thread D	D1	L	L1	A	B	*Porting pattern DIN EN ISO 5211	Weight	DN	PN	Article-No.
BSP-female thread DIN EN ISO 228-1 	6	G 1/4	11,6	50	12,0	105	51	F04	0,45	6	63	100 853
	10	G 3/8	12,7	60	12,0	105	51	F04	0,45	10	63	100 854
	12	G 1/2	15,0	75	15,0	105	61	F04	0,65	12	63	100 855
	20	G 3/4	20,0	80	19,0	125	66	F04	0,75	20	63	100 856
	25	G 1	25,0	90	22,0	152	78	F04	1,15	25	63	100 857
	32	G 1 1/4	32,0	110	21,4	152	82	F04	1,75	32	63	100 858
BSP-female thread DIN EN 10266-1 	40	G 1 1/2	38,0	120	21,4	191	95	F05	2,40	40	63	100 859
	50	G 2	49,0	140	26,0	191	104	F05	3,60	50	40	100 860
	6	Rp 1/4	11,6	50	12,0	105	51	F04	0,45	6	63	100 890
	10	Rp 3/8	12,7	60	12,0	105	51	F04	0,45	10	63	100 891
	12	Rp 1/2	15,0	75	15,0	105	61	F04	0,65	12	63	100 892
	20	Rp 3/4	20,0	80	19,0	125	66	F04	0,75	20	63	100 893
NPT-female thread ANSI/ASME B1.20.1-1983 	25	Rp 1	25,0	90	22,0	152	78	F04	1,15	25	63	100 894
	32	Rp 1 1/4	32,0	110	21,4	152	82	F04	1,75	32	63	100 895
	40	Rp 1 1/2	38,0	120	21,4	191	95	F05	2,40	40	63	100 896
	50	Rp 2	49,0	140	26,0	191	104	F05	3,60	50	40	100 897
	6	1/4 - 18 NPT	11,6	50	10,0	105	51	F04	0,45	6	63	100 913
	10	3/8 - 18 NPT	12,7	60	10,3	105	51	F04	0,45	10	63	100 914
	12	1/2 - 14 NPT	15,0	75	13,6	105	61	F04	0,65	12	63	100 915
	20	3/4 - 14 NPT	20,0	80	14,1	125	66	F04	0,75	20	63	100 916
	25	1 - 11 1/2 NPT	25,0	90	16,8	152	78	F04	1,15	25	63	100 917
32	1 1/4 - 11 1/2 NPT	32,0	110	17,3	152	82	F04	1,75	32	63	100 918	
40	1 1/2 - 11 1/2 NPT	38,0	120	17,3	191	95	F05	2,40	40	63	100 919	
50	2 - 11 1/2 NPT	49,0	140	17,7	191	104	F05	3,60	50	40	100 920	



2-way ball valves with threaded connector

Steel or stainless steel · with automatic pressure relief · DN 4 - DN 50



Materials/seals/connections:

2-way ball valves with automatic pressure relief can be delivered in nearly all dimensions as described in the chapter "2-way ball valves". Article-nos. on request

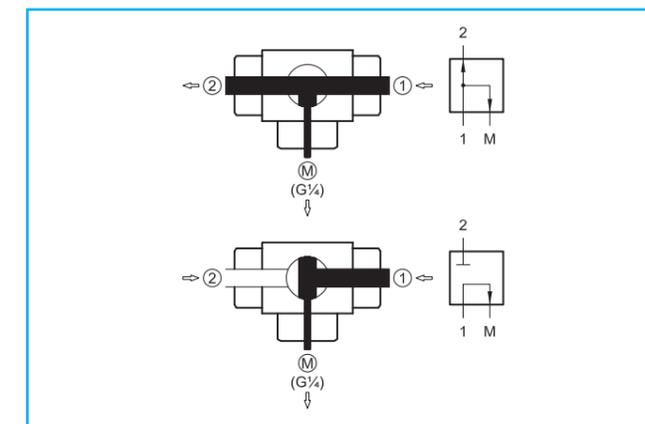
Function:

To separate quick connection couplings or to test pressure gauges etc. the consumer side of a system has to be shut off and relieved. Up to now these have been two independent processes with different valves.

This type of ball valve implies both functions, i.e. shut off and relief are done simultaneously. This simplifies operation because relief cannot be forgotten. Ball valves with automatic relief have to be installed unidirectional in according to the direction of the arrow.

2-way ball valves with threaded connector

Steel or stainless steel · with additional miniature test point outlet
DN 4 - DN 50



Materials/seals/connections:

2-way ball valves with additional test point connection can be delivered in nearly all versions. Article-nos. and dimensions on request

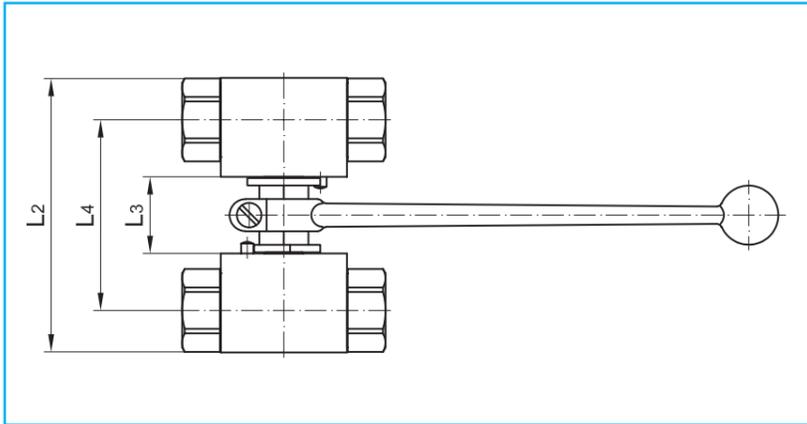
Function:

With this ball valve the system pressure can be measured in open and/or closed position. It replaces the combination of a standard ball valve and additional, cost intensive piping. Different possibilities can be realised by different porting patterns.



2-way ball valves with threaded connector

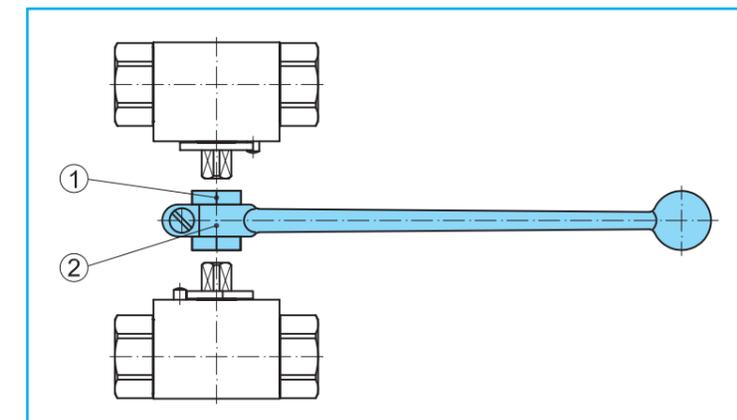
Steel or stainless steel · as combination · DN 4 - DN 50



Mounting sets are identical in design for multi-way ball valves with floating ball.
 For dimensions and article numbers for ball valve bodies refer to the respective chapter.
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm

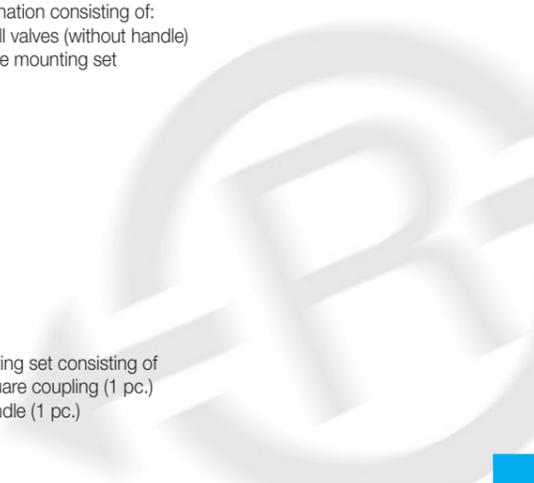
Also available completely assembled

Connection	DN	Steel			Stainless steel (standard)			Stainless steel (630 bar)			Mounting sets DN	Steel	Stainless steel
		L2	L3	L4	L2	L3	L4	L2	L3	L4		Article-No.	Article-No.
ALL	4	67	17	47	67	17	47	77	17	49,6	4	100 780	100 849
	6	67	17	47	67	17	47	77	17	49,6	6	100 780	100 849
	8	94	24	65	94	24	65	104	24	68,0	8	100 781	100 850
	10	94	24	65	94	24	65	104	24	68,0	10	100 781	100 850
	12	111	31	77	111	31	77	121	31	79,0	12	100 782	100 851
	16	121	31	81	150	40	102	170	40	108,0	16	100 782	100 852
	20	150	40	102	150	40	102	170	40	108,0	20	100 784	100 852
	25	160	40	108	160	40	108	190	40	114,0	25	100 784	100 852
	32	203	43	130	203	43	130	-	-	-	32	100 785	100 803
	40	223	43	138	223	43	138	-	-	-	40	100 785	100 803
	50	251	43	152	251	43	152	-	-	-	50	100 785	100 803



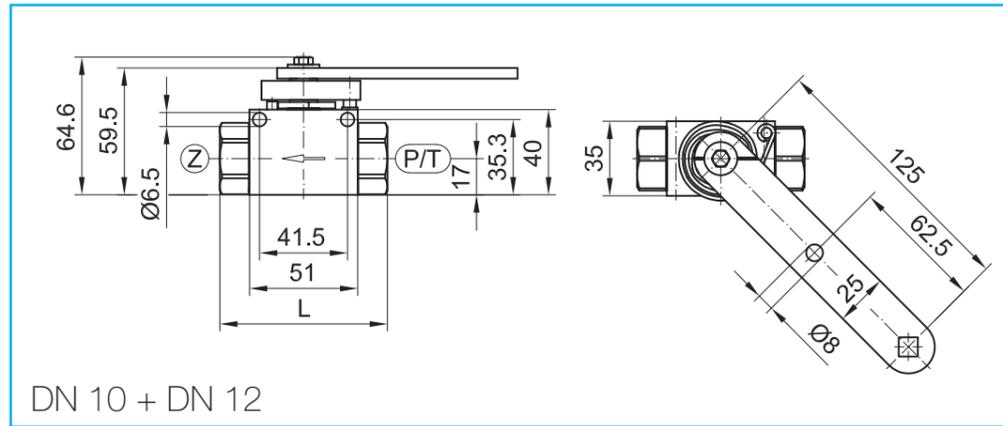
Combination consisting of:
 two ball valves (without handle)
 and one mounting set

Mounting set consisting of
 ① Square coupling (1 pc.)
 ② Handle (1 pc.)



2-way ball valves with threaded connector

Steel · with spring return and integrated check valve



Unidirectional installation!

Please check pressure rating of the pipe fittings!
 Custom orders on request
 All dimensions subject to change without notice
 Handle included in delivery.

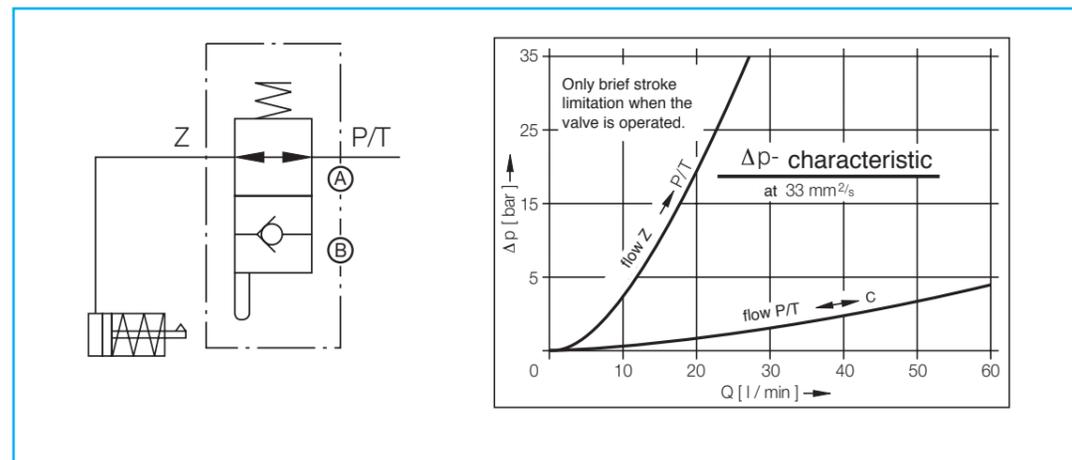
Also available without check valve

Dimensions in mm
 Weight in kg
 Pressure in bar

Body:	steel, black oxide
Ball:	steel, hard chrome plated
Stem:	steel, zinc plated
Ball seals:	POM
Stem seals:	NBR

Connection	DN	Thread D	OD	L	L ₁	SW	Weight
For cut (clamp) ring tube fitting DIN 2353 light series ISO 8434-1	10	M 18 x 1,5	12	81	11	30	0,82
	12	M 22 x 1,5	15	83	12	30	0,82
For cut (clamp) ring tube fitting DIN 2353 heavy series ISO 8434-1	10	M 22 x 1,5	14	87	14	30	0,85
	12	M 24 x 1,5	16	87	14	30	0,85
BSP-female thread DIN EN ISO 228-1	10	G 3/8	-	79	14	30	0,82
	12	G 1/2	-	82	15	30	0,82

DN	PN	Article-No.
10	500	300 004
12	500	300 005
10	500	300 008
12	500	300 009
10	500	300 006
12	500	300 007

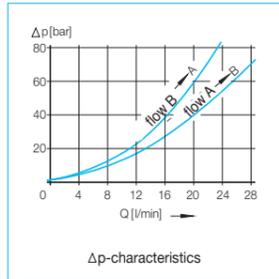
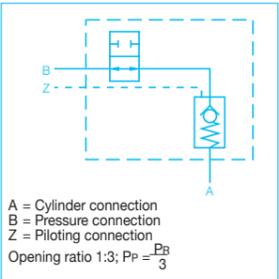


2-way ball valves with threaded connector

For support cylinder control · Technical information



2-way ball valve pilot-operated check valve for support cylinder control



Previous solutions:

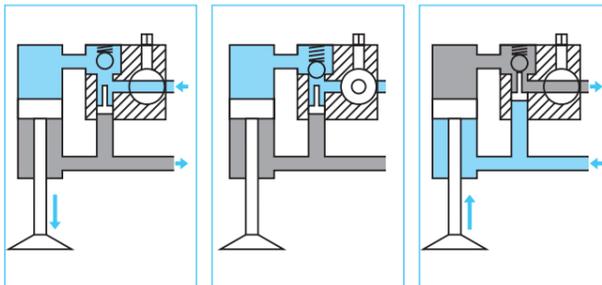
Central control from the cabin with complex rotary distributors and piping, or central control from the chassis with an unsatisfactory view of outrigger components; in some cases pilot-operated check valves are located in the lines serving the cylinders, without protection against burst lines as prescribed by the guidelines of the Central Association of the Workmen's Compensation Insurance Societies and Safety Authorities.

Our solution for this problem:

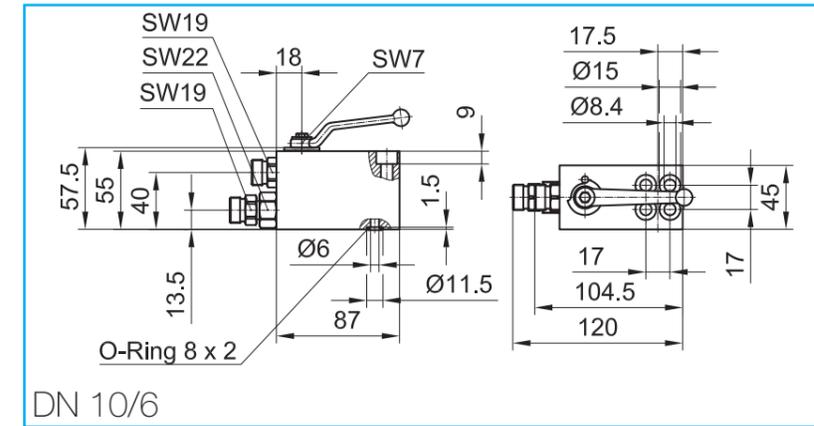
The support cylinder ball valve is flanged directly to the support cylinder, the combination forming a compact operating unit. The outrigger piston extends into position when the valve is opened. The check valve integrated into the valve body prevents unintentional retraction of the support piston under load due to operating errors or pipe rupture. During hydraulic retraction the check valve is automatically cracked to permit return flow.

Advantages:

- decentralised control of each outrigger unit directly at the support cylinder for improved safety
- simplified design for the main rotary distributor
- savings on piping and fitting
- strict compliance with the guidelines published by the Central Association of the Workmen's Compensation Insurance Societies 11.1977



with integrated, pilot-operated check valve

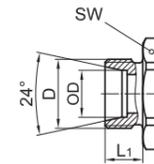


Handle included in delivery
For handle refer to "Attachments, accessories"
Please check pressure rating of the pipe fittings!
Custom orders on request
All dimensions subject to change without notice
Dimensions in mm
Weight in kg
Pressure in bar

Body:	steel, black oxide
Ball:	steel, hard chrome plated
Stem:	steel, zinc plated
Body seals:	NBR
Ball seals:	POM
Stem seals:	NBR

Connection

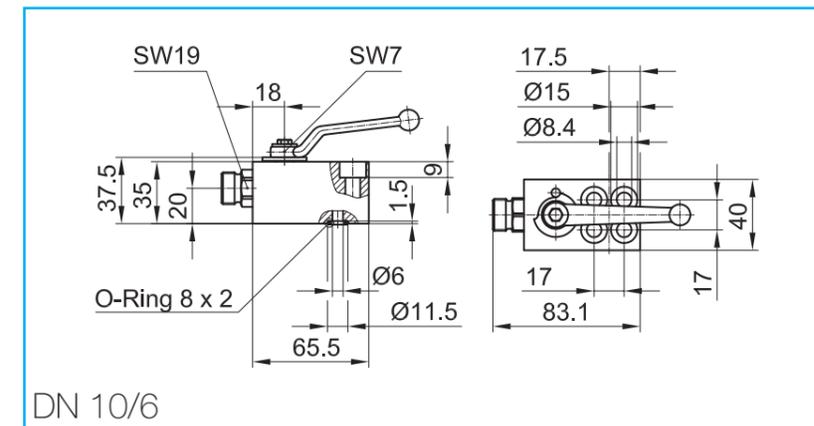
For cut (clamp) ring tube fitting DIN 2353 light series ISO 8434-1



DN	Thread D	OD	L1	Handle Code	Weight
10/6	M 18 x 1,5	12	11	12	1,57

PN	Article-No.
315	300 101

without check valve

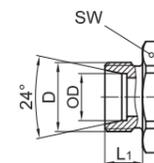


Handle included in delivery
For handle refer to "Attachments, accessories"
Please check pressure rating of the pipe fittings!
Custom orders on request
All dimensions subject to change without notice
Dimensions in mm
Weight in kg
Pressure in bar

Body:	steel, black oxide
Ball:	steel, hard chrome plated
Stem:	steel, zinc plated
Body seals:	NBR
Ball seals:	POM
Stem seals:	NBR

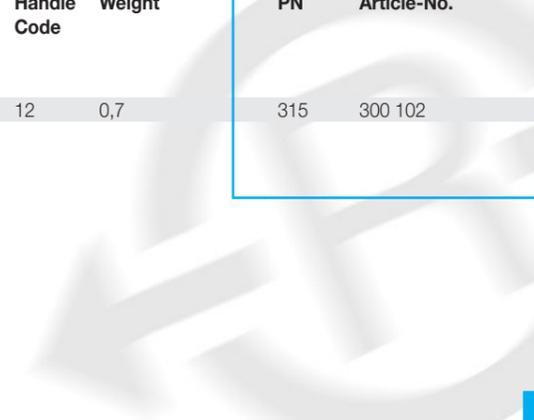
Connection

For cut (clamp) ring tube fitting DIN 2353 light series ISO 8434-1



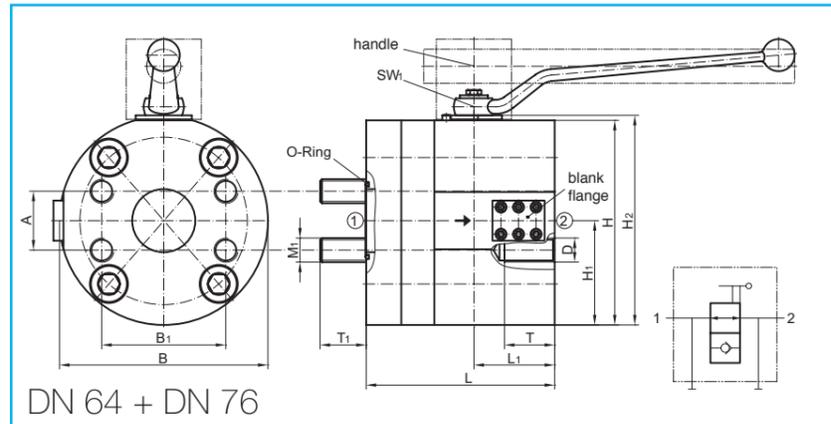
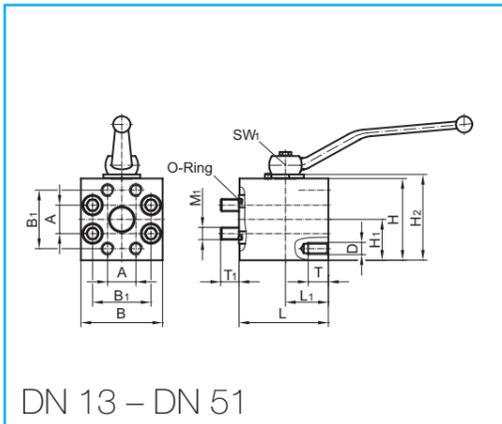
DN	Thread D	OD	L1	Handle Code	Weight
10/6	M 18 x 1,5	12	11	12	0,7

PN	Article-No.
315	300 102



2-way ball valves with flange connection

Steel · ISO 6162 (SAE) · DN 13 - DN 76 · direct flangable



Handle and o-ring included in delivery
 For handle refer to "Attachments, accessories"
 Actuators and custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

NEW!
 Full flow,
 no reduction!

**Bypass-ball valve instead of blank flange retrofitable,
 also deliverable completely assembled with bypass-ball valve**

*) Fixing bolts are not included as standard equipment.
 Please check property class of the fixing bolts.
 **) DN 64 and DN 76: steel, zinc plated

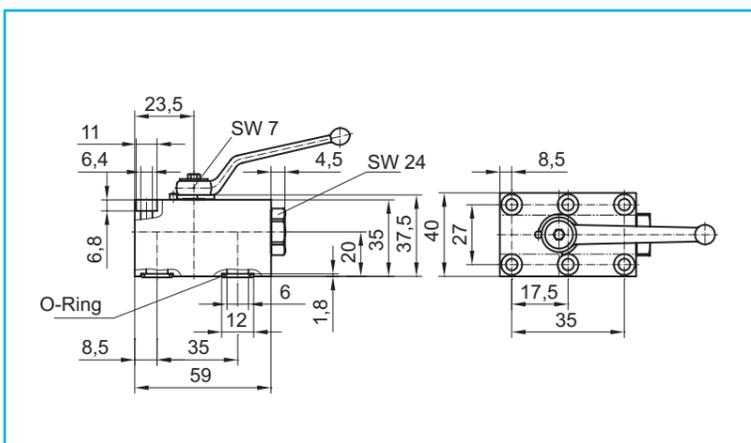
Body:	steel, black oxide**	steel, black oxide**
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM
Stem seals:	NBR	FKM

Connection	DN Flange-size (inch)	D	T	A	B ₁	L	L ₁	B	H	H ₁	H ₂	SW ₁	M1*	T ₁	Handle Weight Code	DN	O-Ring	PN	Article-No.	PN	Article-No.	
ISO 6162-2	13 1/2	M8	15,0	18,2	40,5	55,5	27,0	60	55	28,5	58,5	10	M8x60	13,5	14	1,29	13	18,64 x 3,53	420	104 093	420	104 120
	19 3/4	M10	16,5	23,8	50,8	62,5	31,0	70	70	35,0	74,0	14	M10x65	14,0	15	1,99	19	24,99 x 3,53	420	104 094	420	104 121
	25 1	M12	21,5	27,8	57,2	75,5	38,5	80	80	40,0	84,0	14	M12x80	18,0	15	2,98	25	32,92 x 3,53	420	104 095	420	104 122
	32 1 1/4	M12	23,5	31,8	66,6	82,0	43,5	100	100	50,0	104,5	17	M12x85	18,0	21	5,80	32	37,69 x 3,53	420	104 166	420	104 167
	38 1 1/2	M16	26,0	36,5	79,3	99,0	53,5	120	120	60,0	124,5	17	M16x100	18,0	21	9,50	38	47,22 x 3,53	420	104 097	420	104 124
	51 2	M20	34,0	44,5	96,8	109,5	61,0	134	123	61,5	128,5	17	M20x110	22,0	22	11,10	51	56,74 x 3,53	420	104 098	420	104 125
	64 2 1/2	M24	50,0	58,7	123,8	188,0	80,5	208	204	104,0	209,0	17	M24x55	46,0	22	46,00	64	69,44 x 3,53	420	104 277	420	104 281
76 3	M30	60,0	71,4	152,4	214,0	91,0	248	231	124,0	-	19	M30x70	56,0	58	78,00	76	85,32 x 3,53	420	104 278	420	104 282	
ISO 6162-2	13 1/2	5/16-18 UNC	19	18,2	40,5	55,5	27,0	60	55	28,5	58,5	10	5/16 UNC x 2 1/2	17,5	14	1,29	13	18,64 x 3,53	420	104 099	420	104 126
	19 3/4	3/8 -16 UNC	21	23,8	50,8	62,5	31,0	70	70	35,0	74,0	14	3/8 UNC x 2 3/4	19,0	15	1,99	19	24,99 x 3,53	420	104 100	420	104 127
	25 1	7/16-14 UNC	21	27,8	57,2	75,5	38,5	80	80	40,0	84,0	14	7/16 UNC x 3 1/4	20,0	15	2,98	25	32,92 x 3,53	420	104 101	420	104 128
	32 1 1/4	1/2 -13 UNC	25	31,8	66,6	82,0	43,5	100	100	50,0	104,5	17	1/2 UNC x 3 1/2	21,0	21	5,80	32	37,69 x 3,53	420	104 102	420	104 129
	38 1 1/2	5/8 -11 UNC	28	36,5	79,3	99,0	53,5	120	120	60,0	124,5	17	5/8 UNC x 4 1/4	26,0	21	9,50	38	47,22 x 3,53	420	104 103	420	104 130
	51 2	3/4 -10 UNC	34	44,5	96,8	109,5	61,0	134	123	61,5	128,5	17	3/4 UNC x 4 1/2	26,0	22	11,10	51	56,74 x 3,53	420	104 104	420	104 131
	64 2 1/2	7/8 -9 UNC	50	58,7	123,8	188,0	80,5	208	204	104,0	209,0	17	7/8 UNC x 2 1/4	48,0	22	46,00	64	69,44 x 3,53	420	104 279	420	104 283
76 3	1 1/8 -7 UNC	60	71,4	152,4	214,0	91,0	248	231	124,0	-	19	1 1/8 UNC x 2 3/4	56,0	58	78,00	76	85,32 x 3,53	420	104 280	420	104 284	



Pressure application only completely assembled!

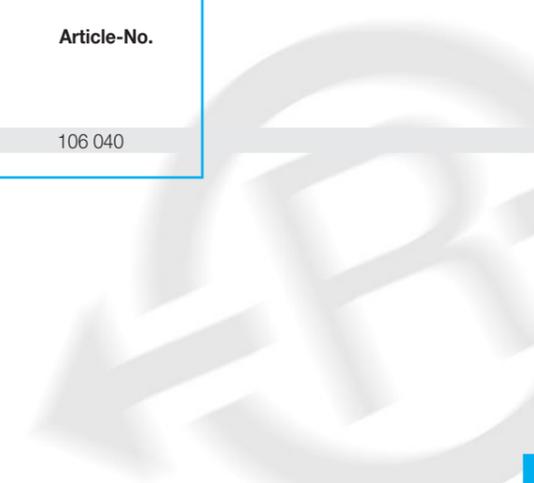
Bypass-ball valve for DN 64 and DN 76



DN	Handle Code	Weight	O-Ring
6	12	0,58	7,50 x 2,50

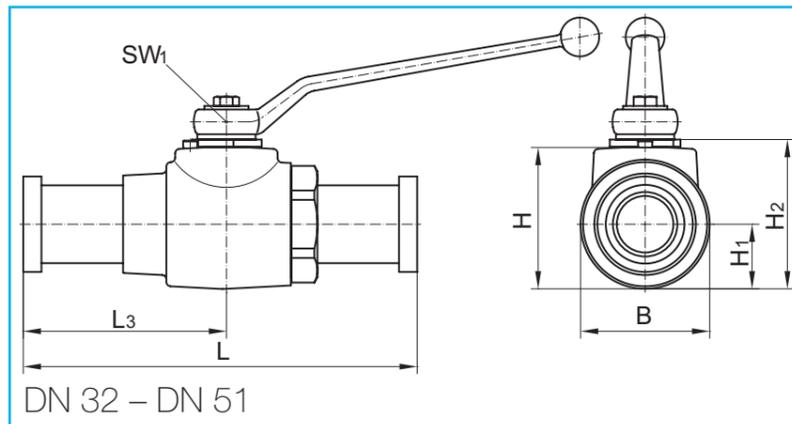
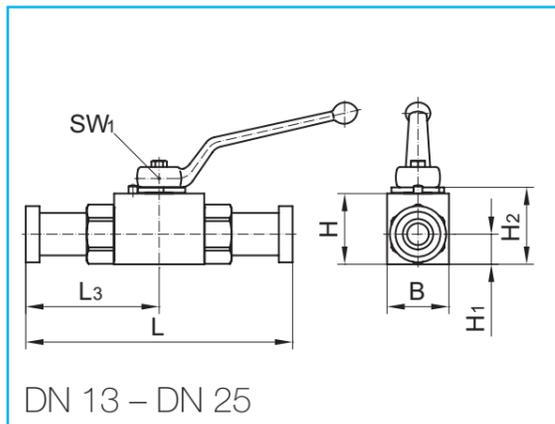
Article-No.
106 040

Bolts included in delivery



2-way ball valves with flange connection

Steel · ISO 6162 (SAE) · DN 13 - DN 51 · for split flanges



Handle and o-ring included in delivery

For actuators and handles refer to "Attachments, accessories"

Custom orders on request

All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

DN 32 - DN 51 also available with completely assembled full flanges

Body:	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM
Stem seals:	NBR	FKM

Connection	DN	Flange-size (inch)	D1	D2	L	L2	L3	B	H	H1	H2	SW1	Handle Code	Weight
 ISO 6162-1	13	1/2	30,20	24,0	151,0	6,8	75,5	35	40	17,0	43,5	10	14	0,9
	19	3/4	38,10	31,5	162,0	6,8	81,0	45	55	24,0	59,0	14	15	1,7
	25	1	44,45	38,0	178,0	8,0	89,0	55	60	26,0	64,0	14	15	2,5
	32	1 1/4	50,80	43,0	195,0*	8,0	99,0	73	80	36,5	84,5	17	21	3,8
	38	1 1/2	60,35	50,0	231,0*	8,0	115,5	85	90	42,5	94,5	17	21	4,5
	51	2	71,40	62,0	232,0*	9,6	116,5	99	104	49,5	108,5	17	22	6,1

 ISO 6162-2	13	1/2	31,8	24	151	7,8	75,5	35	40	17,0	43,5	10	14	1,0
	19	3/4	41,3	32	174	8,8	87,0	45	55	24,0	59,0	14	15	1,8
	25	1	47,6	38	198	9,5	99,0	55	60	26,0	64,0	14	15	2,6
	32	1 1/4	54,0	44	227*	10,3	115,0	73	80	36,5	84,5	17	21	4,0
	38	1 1/2	63,5	51	281	12,6	140,5	85	90	42,5	94,5	17	21	5,6
	51	2	79,4	67	316	12,6	158,5	99	104	49,5	108,5	17	22	7,7

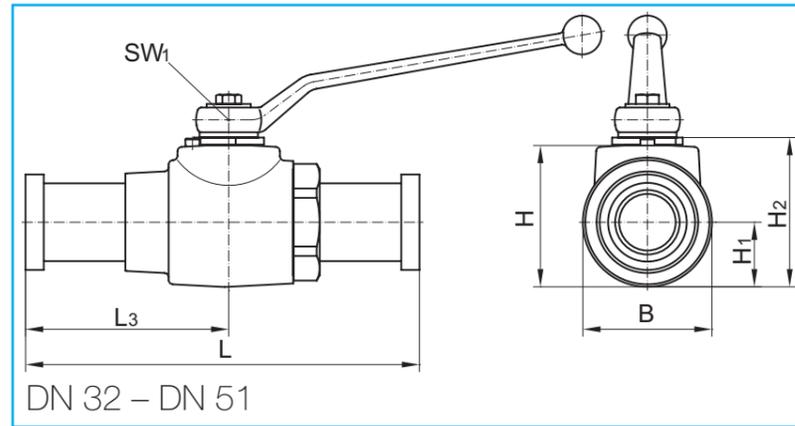
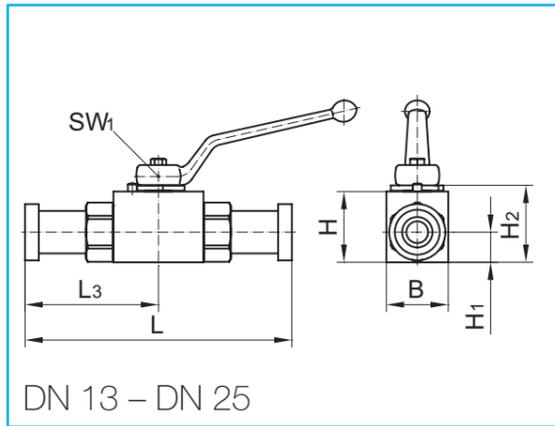
DN	O-Ring	PN	Article-No.	PN	Article-No.
13	18,64 x 3,53	350	104 523	350	104 533
19	24,99 x 3,53	350	104 524	350	104 534
25	32,92 x 3,53	320	104 501	320	104 511
32	37,69 x 3,53	280	104 502	280	104 512
38	47,22 x 3,53	210	104 503	210	104 513
51	56,74 x 3,53	210	104 504	210	104 514
13	18,64 x 3,53	420	104 528	420	104 538
19	24,99 x 3,53	420	104 529	420	104 539
25	32,92 x 3,53	420	104 505	420	104 515
32	37,69 x 3,53	420	104 506	420	104 516
38	47,22 x 3,53	420	104 507	420	104 517
51	56,74 x 3,53	420	104 508	420	104 518

*) Please regard changed dimensions!



2-way ball valves with flange connection

Stainless steel · ISO 6162 (SAE) · DN 13 - DN 51 · for split flanges



Handle and o-ring included in delivery
 For actuators and handles refer to "Attachments, accessories"
 Stainless steel (material no. 1.4571 - or other stainless steels)
 Custom orders on request
 All dimensions subject to change without notice

Dimensions in mm
 Weight in kg
 Pressure in bar

Also available with completely assembled full flanges

Body:	stainless steel	stainless steel	
Ball:	stainless steel	stainless steel	
Stem:	stainless steel	stainless steel	
Ball seals:	POM	POM	
Stem seals:	NBR	FKM	
Handle:	zinc, die cast	zinc, die cast	DN 13 - DN 25
Stop plate:	steel, zinc plated	steel, zinc plated	DN 13 - DN 25
Handle:	stainless steel	stainless steel	DN 32 - DN 51
Stop plate:	stainless steel	stainless steel	DN 32 - DN 51

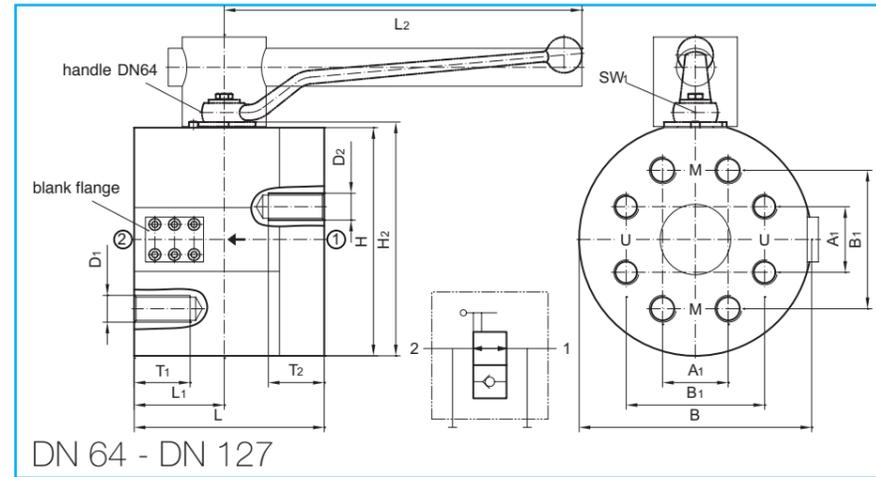
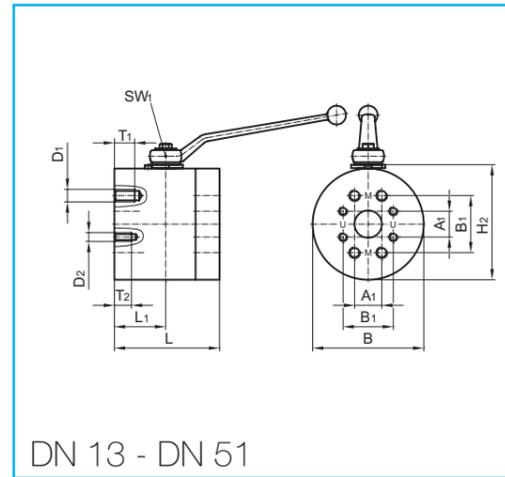
Connection	DN	Flange-size (inch)	D1	D2	L	L2	L3	B	H	H1	H2	SW1	Handle Code	Weight
 ISO 6162-1	13	1/2	30,20	24,0	151,0	6,8	75,5	35	40	17,0	43,5	10	14	0,9
	19	3/4	38,10	31,5	162,0	6,8	81,0	45	55	24,0	59,0	14	15	1,7
	25	1	44,45	38,0	178,0	8,0	89,0	55	60	26,0	64,0	14	15	2,5
	32	1 1/4	50,80	43,0*	195,0	8,0	99,0	73	80	36,5	84,5	17	37	3,8
	38	1 1/2	60,35	50,0*	231,0	8,0	115,5	85	90	42,5	94,5	17	37	4,5
	51	2	71,40	62,0*	232,0	9,6	116,5	99	104	49,5	108,5	17	38	6,1
 ISO 6162-2	13	1/2	31,8	24	151	7,8	75,5	35	40	17,0	43,5	10	14	1,0
	19	3/4	41,3	32	174	8,8	87,0	45	55	24,0	59,0	14	15	1,8
	25	1	47,6	38	198	9,5	99,0	55	60	26,0	64,0	14	15	2,6
	32	1 1/4	54,0	44	227	10,3	115,0	73	80	36,5	84,5	17	37	4,0
	38	1 1/2	63,5	51	281	12,6	140,5	85	90	42,5	94,5	17	37	5,6
	51	2	79,4	67	316	12,6	158,5	99	104	49,5	108,5	17	38	7,7

DN	O-Ring	PN	Article-No.	PN	Article-No.
13	18,64 x 3,53	350	104 315	350	104 327
19	24,99 x 3,53	350	104 316	350	104 328
25	32,92 x 3,53	320	104 317	320	104 329
32	37,69 x 3,53	280	104 318	280	104 330
38	47,22 x 3,53	210	104 319	210	104 331
51	56,74 x 3,53	210	104 320	210	104 332
13	18,64 x 3,53	420	104 321	420	104 333
19	24,99 x 3,53	420	104 322	420	104 334
25	32,92 x 3,53	420	104 323	420	104 335
32	37,69 x 3,53	420	104 324	420	104 336
38	47,22 x 3,53	420	104 325	420	104 337
51	56,74 x 3,53	420	104 326	420	104 338



2-way ball valves with flange connection

Steel · ISO 6162 (SAE) · DN 13 - DN 127



Handle and o-ring included in delivery
 For handle refer to "Attachments, accessories".
 Actuators and custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

**Bypass-ball valve instead of blank flange retrofittable,
 also deliverable completely assembled with bypass-ball valve**

NEW!
 Metric and UNC-
 thread in the same
 body!

*) DN 64 - DN 127: steel, zinc plated

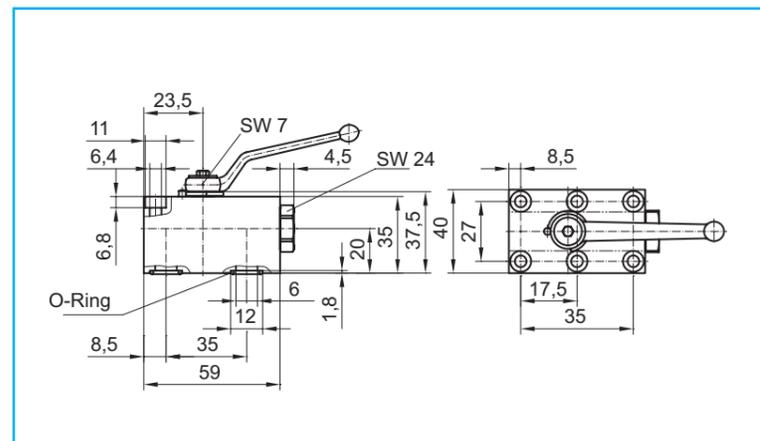
Body:	steel, black oxide*	steel, black oxide*
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM
Stem seals:	NBR	FKM

Connection	DN	Flange-size (inch)	D1	T1	D2	T2	A1	B1	L	L1	B	H	H2	SW1	Handle Code	Weight	DN
ISO 6162-1	13	1/2	M8	14	5/16 - 18 UNC	21	17,5	38,1	76	38,0	55	54,0	57,5	10	14	1,3	13
	19	3/4	M10	18	3/8 - 16 UNC	22	22,2	47,6	78	36,5	70	66,0	70,0	14	15	2,1	19
	25	1	M10	16	3/8 - 16 UNC	22	26,2	52,4	80	34,0	78	73,0	77,0	14	15	2,6	25
	32	1 1/4	M10	22	7/16 - 14 UNC	28	30,2	58,7	123	60,0	130	130,0	134,5	17	21	11,8	32
	38	1 1/2	M12	25	1/2 - 13 UNC	27	35,7	69,9	133	61,0	140	140,0	144,5	17	21	13,6	38
	51	2	M12	25	1/2 - 13 UNC	27	42,9	77,8	162	79,0	160	158,0	162,5	17	22	20,9	51
	64	2 1/2	M12	27	1/2 - 13 UNC	27	50,8	88,9	150	75,5	180	175,0	180,0	17	22	28,0	64
	76	3	M16	30	5/8 - 11 UNC	30	61,9	106,4	155	80,5	208	202,0	-	19	58	43,0	76
	102	4	M16	30	5/8 - 11 UNC	30	77,8	130,2	170	85,0	258	251,0	-	27	57	73,0	102
	127	5	M16	30	5/8 - 11 UNC	30	92,1	152,4	210	105,0	295	287,5	-	27	57	108,0	127
ISO 6162-2	13	1/2	M8	16	5/16 - 18 UNC	21	18,2	40,5	81,0	40,5	59	36,0	59,5	10	14	1,7	13
	19	3/4	M10	18	3/8 - 16 UNC	24	23,8	50,8	83,0	41,5	74	72,0	76,0	14	15	2,6	19
	25	1	M12	23	7/16 - 14 UNC	27	27,8	57,2	99,5	49,5	85	82,7	86,7	14	15	4,0	25
	32	1 1/4	M12*	20	1/2 - 13 UNC	25	31,8	66,7	123,0	60,0	130	130,0	134,5	17	21	11,8	32
	38	1 1/2	M16	27	5/8 - 11 UNC	35	36,5	79,4	133,0	61,0	140	140,0	144,5	17	21	13,6	38
	51	2	M20	35	3/4 - 10 UNC	38	44,5	96,8	162,0	79,0	160	158,0	162,5	17	22	20,9	51
	64	2 1/2	M24	50	7/8 - 9 UNC	50	58,7	123,8	170,0	80,5	208	204,0	209,0	17	22	42,0	64
76	3	M30	60	1 1/8 - 7 UNC	60	71,4	152,4	196,0	91,0	248	231,0	-	19	58	74,0	76	

* ISO change from M14 to M12

DN	PN	Article-No.	PN	Article-No.
13	350	104 200	350	104 206
19	350	104 201	350	104 207
25	320	104 202	320	104 208
32	280	104 175	280	104 185
38	210	104 176	210	104 186
51	210	104 177	210	104 187
64	-	-	175	104 213
76	-	-	160	104 214
102	-	-	35	104 215
127	-	-	35	104 216
13	420	104 203	420	104 209
19	420	104 204	420	104 210
25	420	104 205	420	104 211
32	420	104 182	420	104 192
38	420	104 183	420	104 193
51	420	104 184	420	104 194
64	-	-	420	104 217
76	-	-	420	104 218

Bypass-ball valve for DN 64 - DN 127



DN	Handle Code	Weight	O-Ring
6	12	0,58	7,50 x 2,50

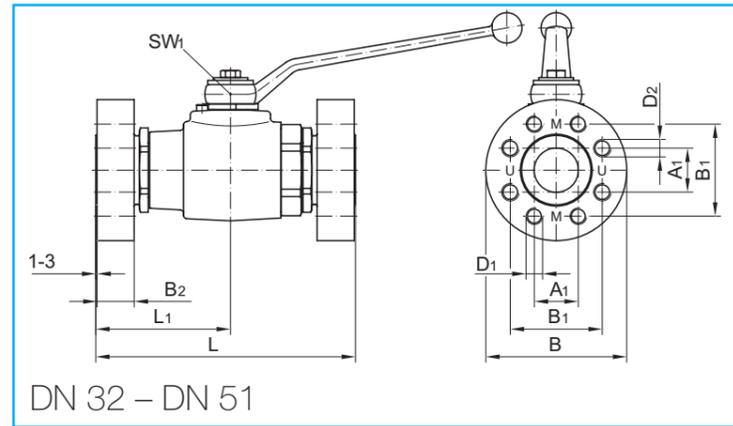
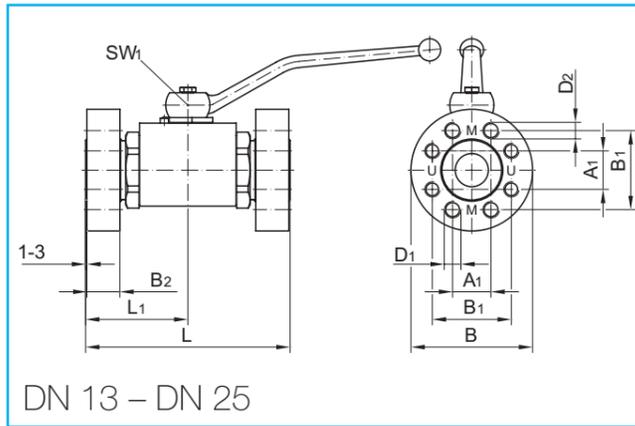
Article-No.
106 040

Bolts included in delivery



2-way ball valves with flange connection

Steel · ISO 6162 (SAE) · DN 13 - DN 51



For dimensions of ball valves refer to the respective chapter "2-way ball valves".

For handle refer to "Attachments, accessories"

Custom orders on request

All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

Body:	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM
Stem seals:	NBR	FKM

Connection

DN Flange - size (inch) D1 D2 A1 B1 B2 L L1 B SW1 Handle Code Weight

ISO 6162-1



13	1/2	M8	5/16-18 UNC	17,5	38,1	20	108,0	54,0	60	10	14	1,30
19	3/4	M10	3/8 - 16 UNC	22,2	47,6	22	131,0	65,5	70	14	15	2,60
25	1	M10	3/8 - 16 UNC	26,2	52,4	22	144,0	72,0	75	14	15	3,70
32	1 1/4	M10	7/16- 14 UNC	30,2	58,7	25	200,0	66,0	85	17	21	8,30
38	1 1/2	M12	1/2 - 13 UNC	35,7	69,9	27	235,0	117,5	100	17	21	9,50
51	2	M12	1/2 - 13 UNC	42,9	77,8	27	285,0	129,5	110	17	22	13,10

ISO 6162-2



13	1/2	M8	5/16- 18 UNC	18,2	40,5	21	108,0	54,0	60	10	14	1,40
19	3/4	M10	3/8 - 16 UNC	23,8	50,8	24	131,0	65,5	80	14	15	2,80
25	1	M12	7/16- 14 UNC	27,8	57,2	27	144,0	72,0	90	14	15	4,10
32	1 1/4	M12	1/2 - 13 UNC	31,8	66,7	25	200,0	66,0	100	17	21	4,95
38	1 1/2	M16	5/8 - 11 UNC	36,5	79,4	35	235,0	117,5	120	17	21	10,20
51	2	M20	3/4 - 10 UNC	44,5	96,8	38	285,0	129,5	140	17	22	14,10

DN

PN

Article-No.

PN

Article-No.

13

350

104 286

350

104 293

19

350

104 287

350

104 294

25

320

104 288

320

104 295

32

280

104 289

280

104 296

38

210

104 290

210

104 297

51

210

104 291

210

104 298

13

420

104 300

420

104 307

19

420

104 301

420

104 308

25

420

104 302

420

104 309

32

420

104 303

420

104 310

38

420

104 304

420

104 311

51

420

104 305

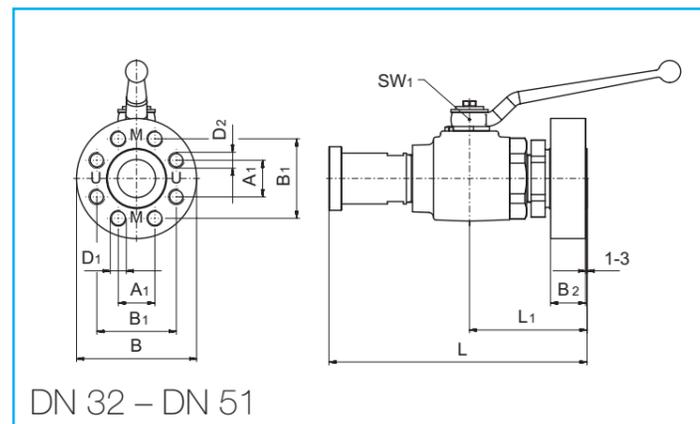
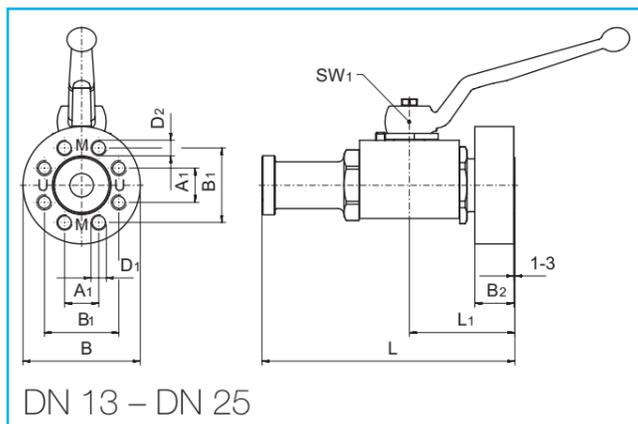
420

104 312



2-way ball valves with flange connection

Steel · ISO 6162 (SAE) · DN 13 - DN 51 · for split flanges + flange connection



For dimensions of ball valves refer to the respective chapter "2-way ball valves".

For handle refer to "Attachments, accessories"

Custom orders on request

All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

DN 32 - DN 51 also available with completely assembled full flanges

Body:	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM
Stem seals:	NBR	FKM

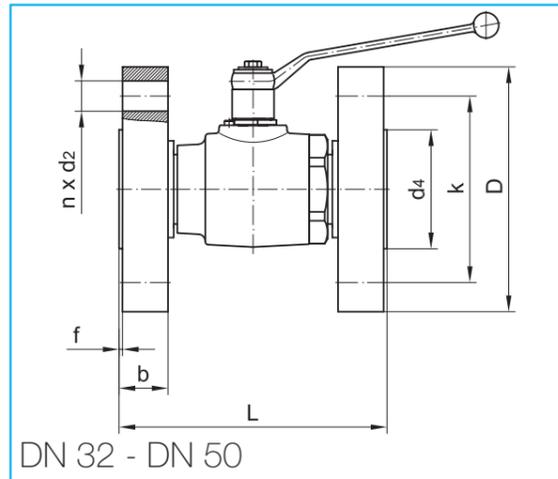
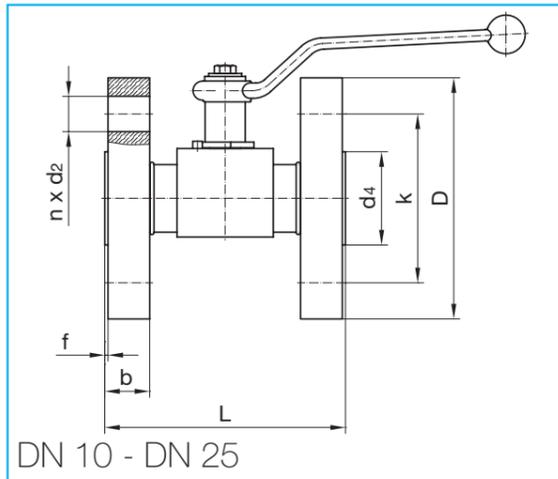
Connection	DN	Flange-size (inch)	D1	D2	A1	B1	B2	D3	D4	L	L1	L2	B	SW1	Handle Code	Weight
 ISO 6162-1	13	1/2	M8	5/16 - 18 UNC	17,5	38,1	20	30,20	24,0	129,5	54,0	6,8	60	10	14	1,10
	19	3/4	M10	3/8 - 16 UNC	22,2	47,6	22	38,10	31,5	146,5	65,5	6,8	70	14	15	2,15
	25	1	M10	3/8 - 16 UNC	26,2	52,4	22	44,45	38,0	161,0	72,0	8,0	75	14	15	3,10
	32	1 1/4	M10	7/16 - 14 UNC	30,2	58,7	25	50,80	43,0	196,0	104,0	8,0	85	17	21	6,05
	38	1 1/2	M12	1/2 - 13 UNC	35,7	69,9	27	60,35	50,0	233,0	117,5	8,0	100	17	21	7,00
51	2	M12	1/2 - 13 UNC	42,9	77,8	27	71,40	62,0	245,0	129,5	9,6	110	17	22	9,60	
 ISO 6162-2	13	1/2	M8	5/16 - 18 UNC	18,2	40,5	21	31,8	24,0	129,5	54,0	7,8	60	10	14	1,20
	19	3/4	M10	3/8 - 16 UNC	23,8	50,8	24	41,3	32,0	152,5	65,5	8,8	80	14	15	2,30
	25	1	M12	7/16 - 14 UNC	27,8	57,2	27	47,6	38,0	171,0	72,0	9,5	90	14	15	3,35
	32	1 1/4	M12	1/2 - 13 UNC	31,8	66,7	25	54,0	44,0	212,0	104,0	10,3	100	17	21	4,13
	38	1 1/2	M16	5/8 - 11 UNC	36,5	79,4	35	63,5	51,0	258,0	117,5	12,6	120	17	21	7,90
51	2	M20	3/4 - 10 UNC	44,5	96,8	38	79,4	67,0	287,0	129,5	12,6	140	17	22	10,90	

DN	O-Ring	PN	Article-No.	PN	Article-No.
13	18,64 x 3,53	350	104 340	350	104 352
19	24,99 x 3,53	350	104 341	350	104 353
25	32,92 x 3,53	320	104 342	320	104 354
32	37,69 x 3,53	280	104 343	280	104 355
38	47,22 x 3,53	210	104 344	210	104 356
51	56,74 x 3,53	210	104 345	210	104 357
13	18,64 x 3,53	420	104 346	420	104 358
19	24,99 x 3,53	420	104 347	420	104 359
25	32,92 x 3,53	420	104 348	420	104 360
32	37,69 x 3,53	420	104 349	420	104 361
38	47,22 x 3,53	420	104 350	420	104 362
51	56,74 x 3,53	420	104 351	420	104 363



2-way ball valves with flange connection

Steel · DIN · DN 10 - DN 50 · adjustable



Flange-connecting dimension: DIN EN 1092-1 (DIN 2501-1)
 Overall length PN 25 - PN 320: DIN EN 558 basic range 1 (DIN 3202-1-F1)
 Overall length PN 400: DIN EN 558 basic range 2 (DIN 3202-1-F2)
 For dimensions of ball valves refer to the respective chapter "2-way ball valves".

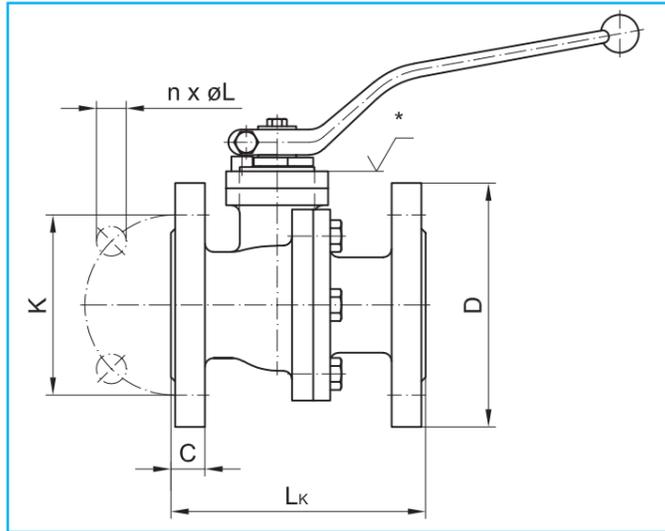
Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body:	steel, black oxide	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM	PTFE-Comp.3
Stem seals:	NBR	FKM	FKM

Connection	DN	D	b	k	d4	f	Number n	d2	L	Weight	DN	Article-No.	Article-No.	Article-No.
PN 25 PN 40	10	90	16	60	40	2	4	14	130	2,1	10	109 212	109 219	109 200
	15	95	16	65	45	2	4	14	130	2,7	15	109 213	109 220	109 201
	20	105	18	75	58	2	4	14	150	3,8	20	109 214	109 221	109 202
	25	115	18	85	68	2	4	14	160	4,9	25	109 215	109 222	109 203
	32	140	18	100	78	2	4	18	180	7,0	32	109 216	109 223	109 204
	40	150	18	110	88	3	4	18	200	8,9	40	109 217	109 224	109 205
PN 63	50	165	20	125	102	3	4	18	230	12,2	50	109 218	109 225	109 206
	10	100	20	70	40	2	4	14	130	2,9	10	109 226	109 231	109 236
	15	105	20	75	45	2	4	14	130	3,5	15	109 227	109 232	109 237
	20	130	22	90	58	2	4	18	150	5,7	20	109 272	109 274	109 276
	25	140	24	100	68	2	4	18	160	7,6	25	109 228	109 233	109 238
	32	155	24	110	78	2	4	22	180	9,8	32	109 273	109 275	109 277
PN 100	40	170	26	125	88	3	4	22	200	12,6	40	109 229	109 234	109 239
	50	180	26	135	102	3	4	22	230	15,3	50	109 230	109 235	109 240
	10	100	20	70	40	2	4	14	130	2,9	10	109 226	109 231	109 236
	15	105	20	75	45	2	4	14	130	3,5	15	109 227	109 232	109 237
	20	130	22	90	58	2	4	18	150	5,7	20	109 272	109 274	109 276
	25	140	24	100	68	2	4	18	160	7,6	25	109 228	109 233	109 238
PN 160	32	155	24	110	78	2	4	22	180	9,8	32	109 273	109 275	109 277
	40	170	26	125	88	3	4	22	200	12,6	40	109 229	109 234	109 239
	50	195	28	145	102	3	4	26	230	17,9	50	109 241	109 242	109 243
	10	100	20	70	40	2	4	14	130	2,9	10	109 226	109 231	109 236
	15	105	20	75	45	2	4	14	130	3,5	15	109 227	109 232	109 237
PN 250	25	140	24	100	68	2	4	18	160	7,6	25	109 228	109 233	109 238
	40	170	28	125	88	3	4	22	200	13,2	40	109 244	109 246	-
	50	195	30	145	102	3	4	26	230	18,7	50	109 245	109 247	-
	10	125	24	85	40	2	4	18	130	5,0	10	109 207	109 251	109 256
	15	130	26	90	45	2	4	18	130	6,2	15	109 208	109 252	109 257
PN 320	25	150	28	105	68	2	4	22	160	9,5	25	109 248	109 253	109 258
	40	185	34	135	88	3	4	26	200	17,2	40	109 249	109 254	-
	50	200	38	150	102	3	8	26	230	22,6	50	109 250	109 255	-
	10	125	24	85	40	2	4	18	130	5,0	10	109 207	109 251	109 256
	15	130	26	90	45	2	4	18	130	6,2	15	109 208	109 252	109 257
PN 400	25	160	34	115	68	2	4	22	160	12,5	25	109 209	109 259	-
	40	195	38	145	88	3	4	26	200	20,5	40	109 210	109 260	-
	50	210	42	160	102	3	8	26	230	26,4	50	109 211	109 261	-
	10	125	28	85	40	2	4	18	210	6,0	10	109 262	109 267	-
	15	145	30	100	45	2	4	22	210	9,0	15	109 263	109 268	-
PN 400	25	180	38	130	68	2	4	26	230	17,4	25	109 264	109 269	-
	40	220	48	165	88	3	4	30	260	31,9	40	109 265	109 270	-
	50	235	52	180	102	3	8	30	300	38,9	50	109 266	109 271	-

2-way ball valves with flange connection

Steel and stainless steel · DIN · DN 15 - DN 200



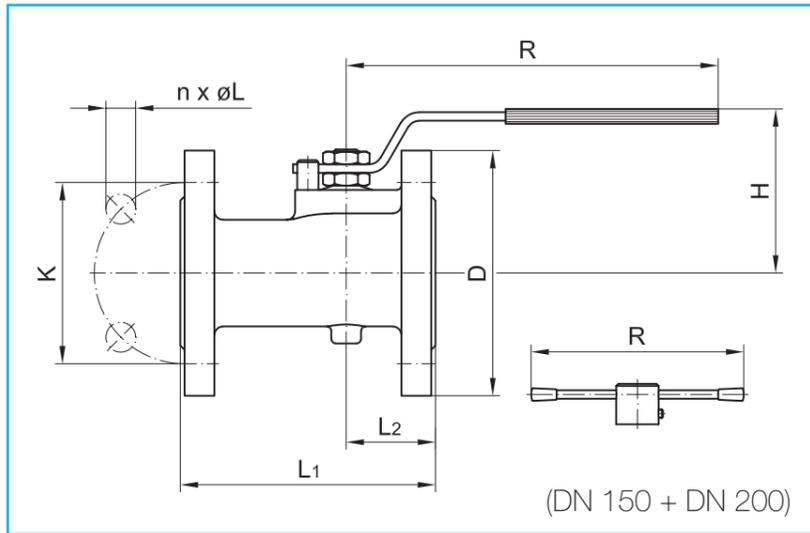
Flange-connecting dimension: DIN EN 1092-2 (DIN 2501-1)
 Overall length: DIN EN 558 basic range 27 (DIN 3202-1-F4/F5)
 1) without porting pattern DIN EN ISO 5211
 2) design with inspection certificate according to DIN EN 10204
 3) deviating from the standard PN 40
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body:	GGG	GS	stainless steel	stainless steel
Ball:	stainless steel	stainless steel	stainless steel	stainless steel
Stem:	stainless steel	stainless steel	stainless steel	stainless steel
Ball seals:	PTFE	PTFE	PTFE	PTFE
Stem seals:	FKM	PTFE	PTFE	PTFE

Connection	DN	D	C	K	Number n	ØL	Lk	*Porting pattern DIN EN ISO 5211	DN	Article-No. ¹⁾ Weight		Article-No. Weight		Article-No. ²⁾ Weight			
										Article-No.	Weight	Article-No.	Weight	Article-No.	Weight		
PN 10	15	95	16 ³⁾	65	4	14	115	F 05	15	-	105 271	3,9	105 071	3,0	105 215	3,9	
	20	105	18 ³⁾	75	4	14	120	F 05	20	-	105 272	4,4	105 072	3,6	105 216	4,4	
	25	115	18 ³⁾	85	4	14	125	F 05	25	105 260	3,8	105 273	4,6	105 073	4,5	105 217	4,6
	32	140	18 ³⁾	100	4	18	130	F 05	32	105 261	5,7	105 274	6,4	105 074	6,1	105 218	6,4
	40	150	18 ³⁾	110	4	18	140	F 07	40	105 262	6,7	105 275	8,5	105 075	8,2	105 219	8,5
	50	165	20 ³⁾	125	4	18	150	F 07	50	105 263	9,1	105 276	12,8	105 076	10,7	105 220	12,8
	65	185	18	145	4	18	170	F 10	65	105 264	15,5	105 277	19,0	105 077	13,5	105 221	19,0
	80	200	20	160	8	18	180	F 10	80	105 265	19,8	105 278	25,0	105 078	21,0	105 222	25,0
	100	220	20	180	8	18	190	F 10	100	105 266	27,5	105 279	30,0	105 079	28,6	105 223	30,0
	125	250	22	210	8	18	325	F 12	125	105 267	53,0	105 280	67,0	-	-	105 224	67,0
	150	285	22	240	8	22	350	F 12	150	105 268	68,0	105 281	100,0	-	-	105 225	100,0
	200	340	24	295	8	22	400	F 12	200	105 269	140,0	105 282	161,0	-	-	105 242	161,0
	PN 16	15	95	16 ³⁾	65	4	14	115	F 05	15	-	105 271	3,9	105 071	3,0	105 215	3,9
20		105	18 ³⁾	75	4	14	120	F 05	20	-	105 272	4,4	105 072	3,6	105 216	4,4	
25		115	18 ³⁾	85	4	14	125	F 05	25	105 260	3,8	105 273	4,6	105 073	4,5	105 217	4,6
32		140	18 ³⁾	100	4	18	130	F 05	32	105 261	5,7	105 274	6,4	105 074	6,1	105 218	6,4
40		150	18 ³⁾	110	4	18	140	F 07	40	105 262	6,7	105 275	8,5	105 075	8,2	105 219	8,5
50		165	20 ³⁾	125	4	18	150	F 07	50	105 263	9,1	105 276	12,8	105 076	10,7	105 220	12,8
65		185	18	145	4	18	170	F 10	65	105 264	15,5	105 277	19,0	105 077	13,5	105 221	19,0
80		200	20	160	8	18	180	F 10	80	105 265	19,8	105 278	25,0	105 078	21,0	105 222	25,0
100		220	20	180	8	18	190	F 10	100	105 266	27,5	105 279	30,0	105 079	28,6	105 223	30,0
125		250	22	210	8	18	325	F 12	125	105 267	53,0	105 280	67,0	-	-	105 224	67,0
150		285	22	240	8	22	350	F 12	150	105 268	68,0	105 281	100,0	-	-	105 225	100,0
200		340	24	295	12	22	400	F 12	200	105 270	140,0	105 283	161,0	-	-	105 226	161,0
PN 25 PN 40		15	95	16	65	4	14	115	F 05	15	-	105 284	3,9	105 084	3,0	105 230	3,9
	20	105	18	75	4	14	120	F 05	20	-	105 285	4,4	105 085	3,6	105 231	4,4	
	25	115	18	85	4	14	125	F 05	25	-	105 286	4,6	105 086	4,5	105 232	4,6	
	32	140	18	100	4	18	130	F 05	32	-	105 287	6,4	105 087	6,1	105 233	6,4	
	40	150	18	110	4	18	140	F 07	40	-	105 288	8,5	105 088	8,2	105 234	8,5	
	50	165	20	125	4	18	150	F 07	50	-	105 289	12,8	105 089	10,7	105 235	12,8	
	65	185	22	145	8	18	170	F 10	65	-	105 290	20,0	105 090	14,5	105 236	20,0	
	80	200	24	160	8	18	180	F 10	80	-	105 291	25,0	105 091	22,6	105 237	25,0	
	100	235	24	190	8	22	190	F 10	100	-	105 292	33,5	105 092	30,8	105 238	33,5	
	125	270	26	220	8	26	325	F 12	125	-	105 293	72,0	-	-	105 239	72,0	
	150	300	28	250	8	26	350	F 12	150	-	105 294	106,0	-	-	105 240	106,0	

2-way ball valves with flange connection

Grey cast iron · sim. to DIN · DN 25 - DN 200



Overall length: DN 25 - DN 150: DIN EN 558 basic range 14 (DIN 3202-1-F4)

Overall length: DN 200: DIN EN 558 basic range 15 (DIN 3262-1-F5)

All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

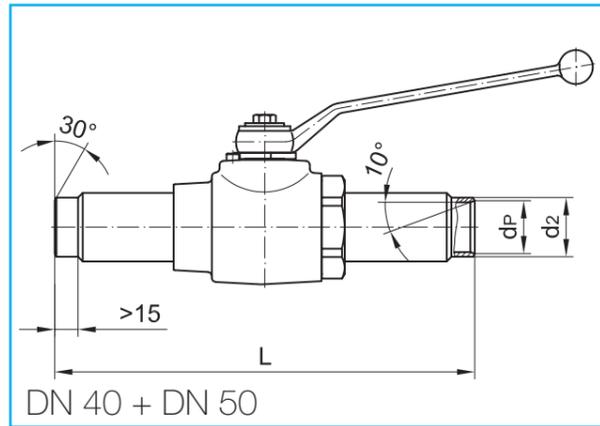
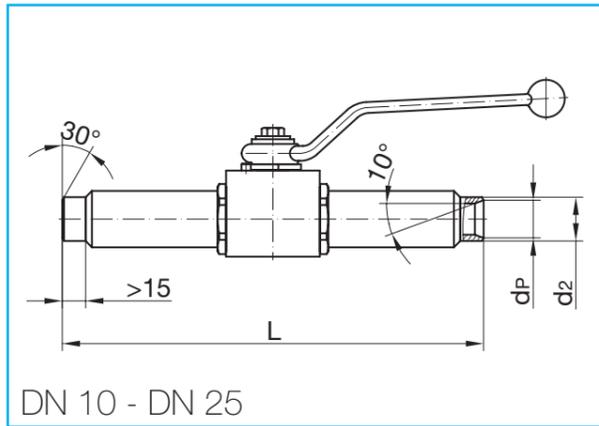
Body:	GG
Ball:	brass
Stem:	steel
Ball seals:	PTFE
Stem seals:	NBR

Connection	DN	D	K	Number n	ØL	L1	L2	H	R	Weight	DN	Article-No.
PN 10	25	115	85	4	M12	125	44,5	79	174	3,1	25	105 050
	32	140	100	4	M16	130	51,5	85	174	4,8	32	105 051
	40	150	110	4	M16	140	49,0	103	250	6,1	40	105 052
	50	165	125	4	M16	150	52,0	110	250	7,8	50	105 053
	65	185	145	4	M16	170	65,0	126	321	11,4	65	105 054
	80	200	160	8	M16	180	66,0	137	321	14,1	80	105 055
	100	220	180	8	M16	190	89,0	158	381	20,0	100	105 056
	125	250	210	8	M16	200	100,0	180	381	30,4	125	105 057
	150	285	240	8	M20	210	105,0	265	700	44,5	150	105 058
	200	340	295	8	Ø22	400	200,0	308	700	103,0	200	105 059
PN 16	25	115	85	4	M12	125	44,5	79	174	3,1	25	105 050
	32	140	100	4	M16	130	51,5	85	174	4,8	32	105 051
	40	150	110	4	M16	140	49,0	103	250	6,1	40	105 052
	50	165	125	4	M16	150	52,0	110	250	7,8	50	105 053
	65	185	145	4	M16	170	65,0	126	321	11,4	65	105 054
	80	200	160	8	M16	180	66,0	137	321	14,1	80	105 055
	100	220	180	8	M16	190	89,0	158	381	20,0	100	105 056
	125	250	210	8	M16	200	100,0	180	381	30,4	125	105 057
	150	285	240	8	M20	210	105,0	265	700	44,5	150	105 058
	200	340	295	12	Ø22	400	200,0	308	700	103,0	200	105 069



2-way ball valves with welding end

Steel · DN 10 - DN 50



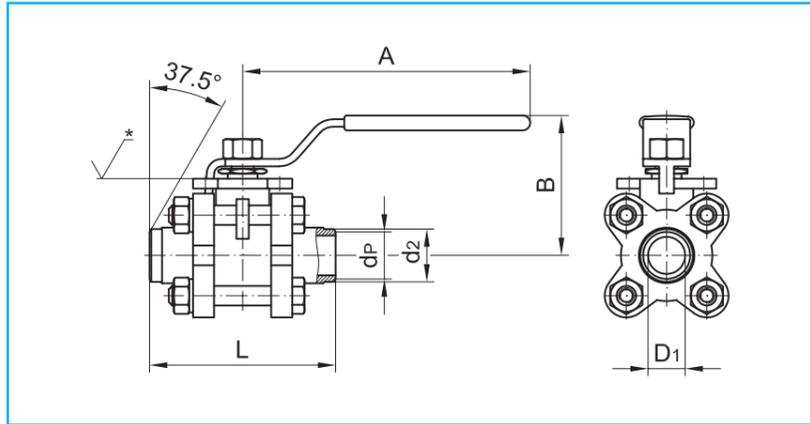
Welding ends : DIN EN 12627 (DIN 3239-1)
 Overall length : DIN EN 12982 basic range 68 (DIN 3202-2-S10)
 For dimensions of the ball valves refer to respective chapter "2-way ball valves".
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body:	steel, black oxide	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM	PTFE-Comp.3
Stem seals:	NBR	FKM	FKM

Connection	DN	d2	dP	L	Weight	DN	Article-No.	Article-No.	Article-No.
PN 40	10	18	13,0	270	1,00	10	109 300	109 306	109 312
	15	22	17,0	270	2,05	15	109 301	109 307	109 313
	20	28	22,0	270	2,75	20	109 302	109 308	109 314
	25	34	28,5	270	3,85	25	109 303	109 309	109 315
	40	49	43,0	270	6,50	40	109 304	109 310	109 316
	50	61	54,0	300	9,55	50	109 305	109 311	109 317
PN 63 PN 100	10	18	13,0	270	1,00	10	109 300	109 306	109 312
	15	22	17,0	270	2,05	15	109 301	109 307	109 313
	25	34	28,5	270	3,85	25	109 303	109 309	109 315
	40	49	43,0	270	6,50	40	109 304	109 310	109 316
	50	61	54,0	300	9,55	50	109 305	109 311	109 317
PN 160	10	18	13,0	270	1,00	10	109 300	109 306	109 312
	15	22	17,0	270	2,05	15	109 301	109 307	109 313
	25	34	27,0	270	3,85	25	109 318	109 321	109 324
	40	49	41,0	270	6,50	40	109 319	109 322	-
	50	61	52,5	300	9,55	50	109 320	109 323	-
PN 250	10	18	12,0	270	1,00	10	109 325	109 330	109 335
	15	22	16,0	270	2,05	15	109 326	109 331	109 336
	25	35	26,5	270	3,85	25	109 327	109 332	109 337
	40	49	38,5	270	6,50	40	109 328	109 333	-
	50	61	45,0	300	9,55	50	109 329	109 334	-
PN 320	10	18	12,0	270	1,00	10	109 325	109 330	109 335
	15	22	15,0	270	2,05	15	109 338	109 342	109 346
	25	35	24,0	270	3,85	25	109 339	109 343	-
	40	49	36,0	270	6,50	40	109 340	109 344	-
	50	77	59,5	300	9,55	50	109 341	109 345	-
PN 400	10	18	10,0	270	1,00	10	109 347	109 352	-
	15	28	17,0	270	2,05	15	109 348	109 353	-
	25	44	29,0	270	3,85	25	109 349	109 354	-
	40	61	40,0	270	6,50	40	109 350	109 355	-
	50	77	49,5	300	9,55	50	109 351	109 356	-

2-way ball valves with welding end

Stainless steel · with removable centre · DN 10 - DN 50



Handle included in delivery
 Welding ends: DIN EN 12627 (DIN 3239-1)
 Overall length: DIN EN 12982 basic range 67 (DIN 3202-2-S13)
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

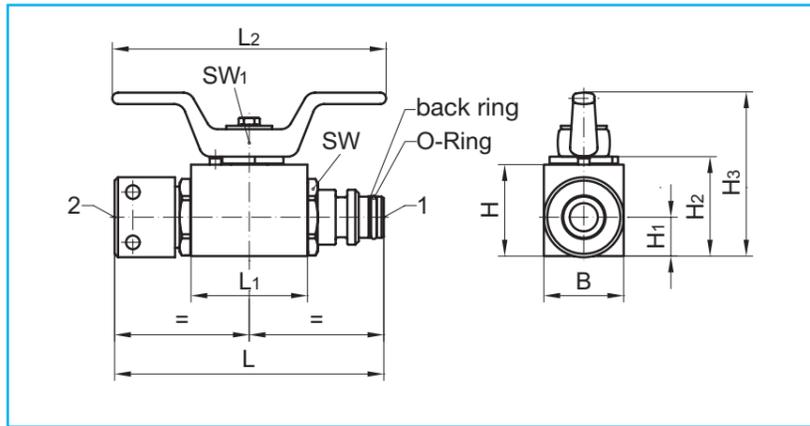
Body:	stainless steel
Ball:	stainless steel
Stem:	stainless steel
Ball seals:	PTFE
Stem seals:	PTFE

Connection	DN	D1	d2	dp	L	A	B	*Porting pattern DIN EN ISO 5211	Weight	DN	Article-No.
PN 40	50	49,0	60,3	56,5	150	191	104	F05	3,60	50	109 363
PN 63	10	12,7	17,2	15,0	70	105	51	F04	0,45	10	109 357
	15	15,0	21,3	19,0	75	105	61	F04	0,60	15	109 358
	20	20,0	26,9	23,0	90	125	66	F04	0,65	20	109 359
	25	25,0	33,7	30,0	100	152	78	F04	1,20	25	109 360
	32	32,0	42,4	39,0	110	152	82	F04	1,75	32	109 361
	40	38,0	48,3	45,0	125	191	95	F05	2,45	40	109 362



2-way ball valves with staple lock connector

Steel · DN 6 - DN 25



Handle, o-ring and back-ring included in delivery
 Actuators and custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

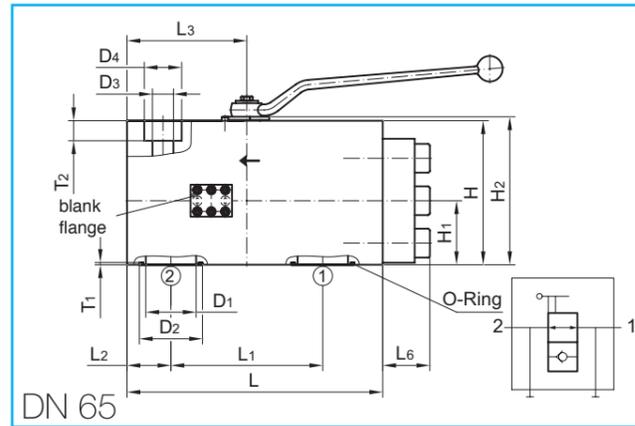
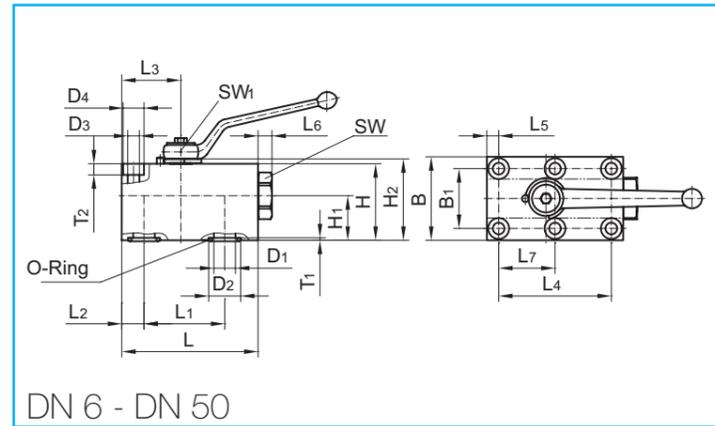
Body:	steel, zinc plated
Ball:	steel, hard chrome plated
Stem:	steel, zinc plated
Ball seals:	POM
Stem seals:	NBR

Connection	DN	L	L1	L2	B	H	H1	H2	H3	SW	SW1	Weight	DN	O-Ring	PN	Article-No.
Staple lock female/ male connector DIN 20043-2 DIN 20043-1	6	102	36	80	20	25	10,0	27,5	45,5	19	7	0,35	6	6 x 2,0	500	103 011
	10	114	45	105	30	35	14,5	38,5	62,5	24	8	0,55	10	10 x 2,0	500	103 012
	12	118	51	120	35	40	17,0	43,5	71,5	30	10	0,75	12	13 x 2,5	500	103 013
	19	130	60	200	45	55	24,0	59,0	99,0	41	14	1,50	19	19 x 2,5	400	103 014
	25	152	70	200	55	60	26,0	64,0	104,0	50	14	2,30	25	25 x 2,5	400	103 015
female x female connector DIN 20043-2	6	102	36	80	20	25	10,0	27,5	45,5	19	7	0,40	6	-	500	103 021
	10	114	45	105	30	35	14,5	38,5	62,5	24	8	0,60	10	-	500	103 022
	12	118	51	120	35	40	17,0	43,5	71,5	30	10	0,80	12	-	500	103 023
	19	130	60	200	45	55	24,0	59,0	99,0	41	14	1,60	19	-	400	103 024
	25	152	70	200	55	60	26,0	64,0	104,0	50	14	2,40	25	-	400	103 025
male x male connector DIN 20043-1	6	102	36	80	20	25	10,0	27,5	45,5	19	7	0,30	6	6 x 2,0	500	103 031
	10	114	45	105	30	35	14,5	38,5	62,5	24	8	0,50	10	10 x 2,0	500	103 032
	12	118	51	120	35	40	17,0	43,5	71,5	30	10	0,70	12	13 x 2,5	500	103 033
	19	130	60	200	45	55	24,0	59,0	99,0	41	14	1,40	19	19 x 2,5	400	103 034
	25	152	70	200	55	60	26,0	64,0	104,0	50	14	2,20	25	25 x 2,5	400	103 035



2-way ball valves for manifold mounting

Steel · DN 6 - DN 65



Handle and o-rings included in delivery
 For handle refer to "Attachments, accessories"
 Custom orders on request
 All dimensions subject to change without notice
 *) DN 32 to DN 50: grey cast iron
 Dimensions in mm
 Weight in kg
 Pressure in bar

**Bypass-ball valve instead of blank flange retrofittable,
 also deliverable completely assembled with bypass-ball valve**

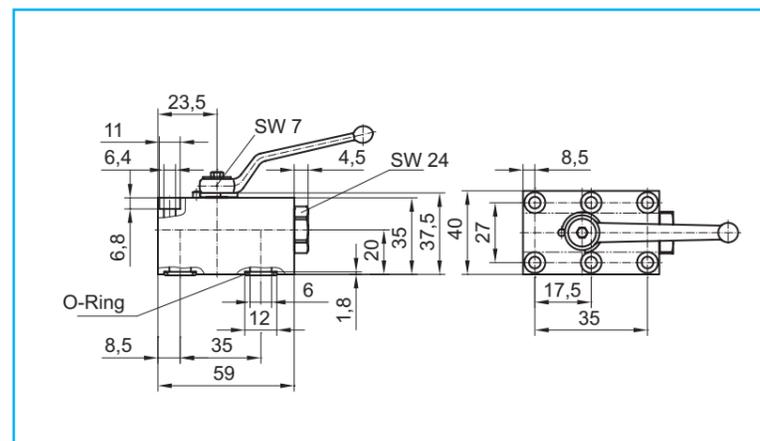
Body*:	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Body seals:	NBR	FKM
Ball seals:	POM	POM
Stem seals:	NBR	FKM

Connection	DN	L	L1	L2	L3	L4	L5	L6	L7	B	B1	H	H1	H2	T1	T2
Body-Flange with O-ring-seal	6	59	35	8,5	23,5	35	8,5	4,5	17,5	40	27	35	20,0	37,5	1,8	6,8
	10	73	44	10,0	29,0	55	7,5	7,0	27,5	55	40	45	24,5	48,5	1,8	8,0
	12	98	58	16,0	42,5	83	7,5	10,0	41,5	60	45	55	32,0	58,5	1,8	8,0
	20	117	69	20,0	52,0	97	10,0	12,0	48,5	70	51	70	39,0	74,0	2,7	11,0
	25	138	81	24,0	62,0	115	10,0	7,0	57,5	80	60	80	46,0	84,0	2,7	11,0
	32	165	96	29,0	75,0	136	12,0	11,0	68,0	100	78	100	56,6	104,5	2,7	12,0
	40	175	112	28,5	84,5	112	28,5	25,0	56,0	130	95	100	52,6	104,5	2,7	17,5
	50	215	136	38,0	106,0	136	38,0	25,0	68,0	150	112	110	55,1	114,5	2,7	20,0
	65	320	190	55,0	150,0	210	45,0	59,0	105,0	235	185	180	80,0	185,0	2,8	25,5

DN	D1	D2	D3	D4	SW	SW1	Handle Code	Weight	For cylinder-head screw DIN EN ISO 4762 (DIN 912)	PN	Article-No.	PN	Article-No.
6	6,0	12,0	6,4	11	24	7	12	0,58	M6 - 10,9	500	106 021	500	106 031
10	9,5	15,0	8,4	-	32	8	13	1,17	M8 - 10,9	500	106 022	500	106 032
12	12,5	25,0	8,4	-	36	10	14	2,25	M8 - 12,9	500	106 023	500	106 033
20	20,0	30,0	10,5	17	-	14	15	4,00	M10 - 12,9	400	106 024	400	106 034
25	24,0	35,0	10,5	17	50	14	15	5,82	M10 - 12,9	400	106 025	400	106 035
32	32,0	40,0	13,0	19	70	17	21	10,97	M12 - 12,9	400	106 026	400	106 036
40	38,0	48,5	17,0	26	-	17	21	15,25	M16 - 12,9	400	106 027	400	106 037
50	48,0	55,5	21,0	33	-	17	22	23,20	M20 - 12,9	400	106 028	400	106 038
65	62,0	79,0	26,0	40	-	17	22	101,50	M24 - 12,9	400	106 041	400	106 042

DN	D1	E1	E2	E3	E4	E5	E6	E7	E8	M	O-Ring
6	6,0	35	35,0	50,5	0,0	8,5	13,5	20,0	17,5	M6	7,50 x 2,50
10	9,5	44	52,5	63,0	2,5	10,0	20,0	27,5	25,0	M8	10,50 x 2,50
12	15,5	58	74,5	82,0	8,5	16,0	22,5	30,0	33,0	M8	20,50 x 2,50
20	20,0	69	87,0	97,0	10,0	20,0	25,5	35,0	38,5	M10	23,50 x 3,50
25	24,0	81	101,0	114,0	14,0	24,0	30,0	40,0	43,5	M10	28,50 x 3,50
32	32,0	96	119,0	136,0	17,0	29,0	39,0	50,0	51,0	M12	33,50 x 3,50
40	38,0	112	112,0	146,5	0,0	28,5	47,5	65,0	56,0	M16	42,00 x 3,50
50	48,0	136	136,0	177,0	0,0	38,0	56,0	75,0	68,0	M20	49,00 x 3,50
65	62,0	190	200,0	265,0	10,0	55,0	92,5	117,5	95,0	M24	72,66 x 3,53

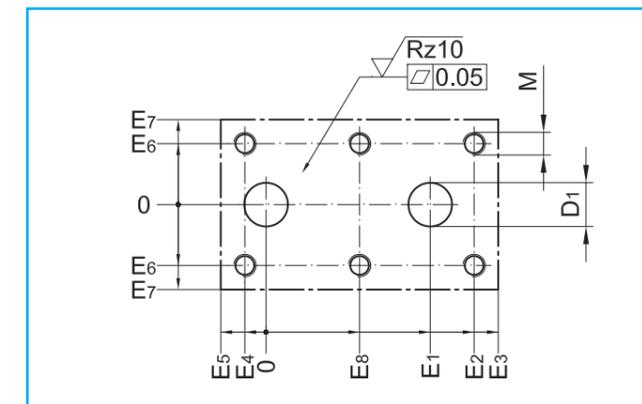
Bypass-ball valve for DN 65



DN	Handle Code	Weight	O-Ring
65	12	0,58	7,50 x 2,50

Bolts included in delivery

Drilling pattern



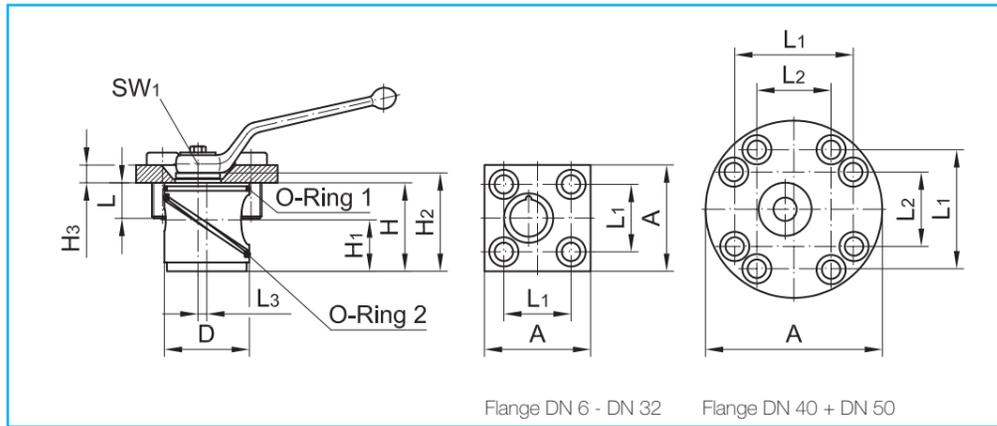
Article-No.

106 040



2-way ball valves for manifold insertion as cartridge type

Steel · DN 6 - DN 50



Handle and attachment screws included in delivery

For handle refer to "Attachments, accessories"

Actuators and custom orders on request

All dimensions subject to change without notice

Dimensions in mm

Weight in kg

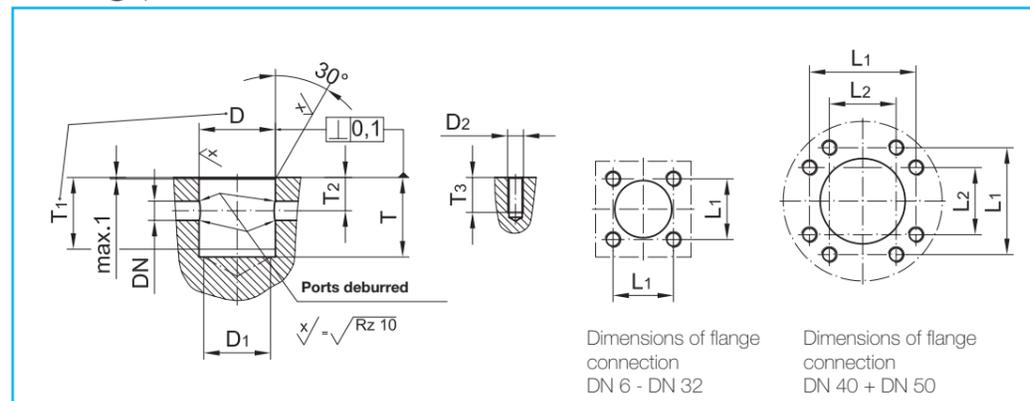
Pressure in bar

Body:	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Body seals:	NBR	FKM
Ball seals:	POM	POM
Stem seals:	NBR	FKM

Connection	DN	D	H	H ₁	H ₂	H ₃	L	L ₁	L ₂	L ₃	SW ₁	A	Handle Code	DN	O-Ring 1	O-Ring 2	Weight	Cylinder-head screws DIN EN ISO 4762 (DIN 912)	PN		Article-No.	
																			PN	Article-No.	PN	Article-No.
Cavity	6	36	34,6	21,0	40,5	8	20	38	-	5,0	7	60	12	6	31,00 x 1,50	32,00 x 3,00	0,55	M10 x 25-8.8	500	107 001	500	107 021
	10	45	45,4	27,0	50,0	10	20	50	-	5,0	8	80	13	10	40,00 x 2,00	42,00 x 3,00	1,10	M12 x 25-8.8	500	107 002	500	107 022
	12	48	49,9	29,0	56,5	10	20	50	-	5,0	10	80	14	12	43,00 x 2,00	46,00 x 3,00	1,25	M12 x 25-8.8	400	107 003	400	107 023
	16	54	53,9	31,0	59,5	10	20	60	-	5,5	10	90	14	16	49,00 x 2,00	50,39 x 3,53	1,55	M12 x 25-8.8	315	107 009	315	107 029
	20	63	64,9	36,0	74,5	18	25	70	-	7,0	14	100	15	20	55,20 x 3,00	61,00 x 3,50	2,95	M16 x 35-8.8	315	107 004	315	107 024
	25	70	70,9	39,0	81,0	18	25	70	-	7,0	14	100	15	25	63,00 x 3,00	67,00 x 4,00	3,35	M16 x 35-8.8	315	107 005	315	107 025
	32	92	90,0	47,5	122,5	35	30	100	-	10,0	17	140	21	32	82,14 x 3,53	92,00 x 5,00	9,10	M20 x 50-8.8	315	107 006	315	107 026
	40	107	106,0	56,0	140,5	35	30	134	84	10,0	17	200	21	40	98,02 x 3,53	108,00 x 6,00	14,65	M20 x 50-8.8	315	107 007	315	107 027
	50	126	120,0	63,0	155,0	35	30	152	96	11,5	17	230	22	50	117,07 x 3,53	124,00 x 6,00	20,60	M20 x 50-8.8	315	107 008	315	107 028

General tolerances DIN ISO 2768 Surfaces DIN EN ISO 4287	DN	D H9	D ₁ max.	D ₂	L ₁ ±0,2	L ₂ ±0,2	T +0,1	T ₁ +0,2	T ₂ +0,1	T ₃ min.	Mounting-tool	
											DN	Article-No.
	6	36	31	M10	38	-	34,7	33	13,6	22	6	107 051
	10	45	39	M12	50	-	45,5	41	18,4	22	10	107 052
	12	48	42	M12	50	-	50,0	45	20,9	22	12	107 053
	16	54	47	M12	60	-	54,0	49	22,9	22	16	107 054
	20	63	55	M16	70	-	65,0	61	28,9	28	20	107 055
	25	70	62	M16	70	-	71,0	66	31,9	28	25	107 056
	32	92	80	M20	100	-	90,0	86	42,5	33	32	107 057
	40	107	95	M20	134	84	106,0	101	50,0	33	40	107 058
	50	126	115	M20	152	96	120,0	115	57,0	33	50	107 059

Drilling pattern





with floating ball



with trunion ball

Multi-way ball valves

Standard- and special porting patterns



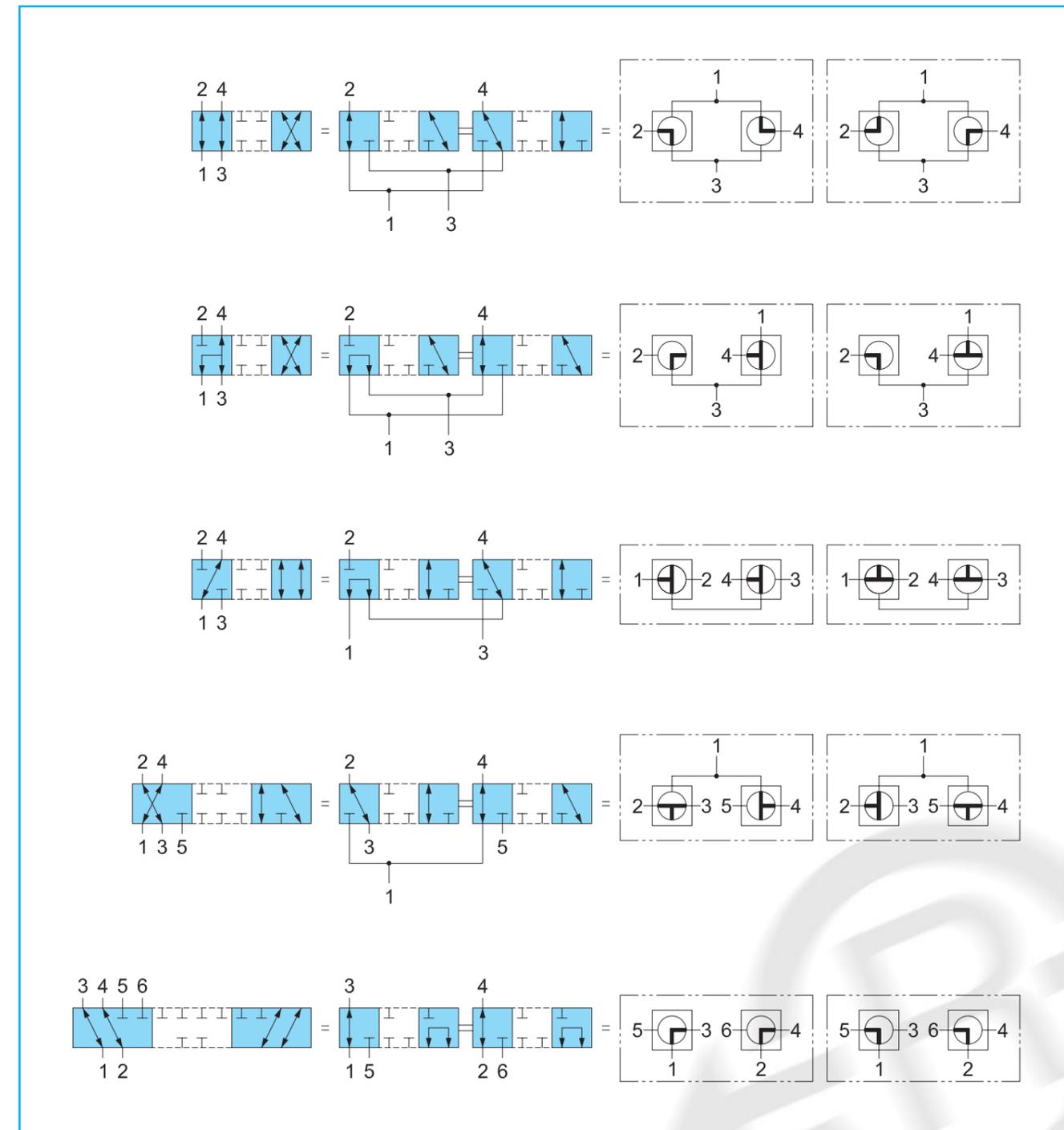
Ref-No.	Ball valve style	Cycling	Porting symbols	Descriptions
01	3-way compact ball valve with L-bore	90°		Floating ball, all ports connected in the cross-over position, pressure should not be applied from the closed port
03	3-way compact ball valve with T-bore	90°		Floating ball, all ports connected in the cross-over position, pressure should not be applied from the closed port
08	3-way ball valve with L-bore	90°		Trunnion ball, all ports closed in the cross-over position, full bore
09	3-way ball valve with T-bore	90°		Trunnion ball, all ports closed in the cross-over position, full bore
10	3-way ball valve with T-bore	2 x 90°		Trunnion ball, all ports closed in the cross-over position, full bore, detent at center position is recommended
11	4-way ball valve with L-bore	90°		Trunnion ball, all ports closed in the cross-over position, full bore
12	4-way ball valve with L-bore	2 x 90°		Trunnion ball, all ports closed in the cross-over position, full-bore, detent at center position is recommended
13	4-way ball valve with double L-bore	90°		Trunnion ball, temporary connection of all ports in the cross-over position but with full shut-off at center point, reduced bore
14	4-way ball valve with double L-bore and additional bore	2 x 45°		Trunnion ball, all ports connected in the cross-over position with center shut-off position, reduced bore, detent for center position is recommended
15	4-way ball valve with double L-bore and additional bore	2 x 45°		Trunnion ball, all ports connected in the cross-over position, reduced bore, detent for center position is recommended
16	4-way ball valve with Y-bore	2 x 45°		Trunnion ball, all ports connected in the cross-over position, reduced bore, detent for center position is recommended
17	5-way ball valve with double L-bore perpendicular	3 x 90°		Trunnion ball, all ports closed, full-bore passage, detents for switching positions are recommended
18	4-way ball valve with T- and L-bore	45°		Trunnion ball, all ports connected in the cross-over position, reduced bore
19	4-way ball valve with double L-bore and additional bore	45°		Trunnion ball, all ports connected in the cross-over position, reduced bore
20	3-way ball valve with L-bore and additional bore	90°		Trunnion ball, all ports connected in the cross-over position, full bore
21	3-way ball valve with T-bore and additional bore	2 x 45°		Trunnion ball, all ports connected in the cross-over position, reduced bore
22	3-way ball valve with L-bore and additional bore	45°		Trunnion ball, all ports connected in the cross-over position, reduced bore

Other special porting patterns on request

Multi-way ball valves

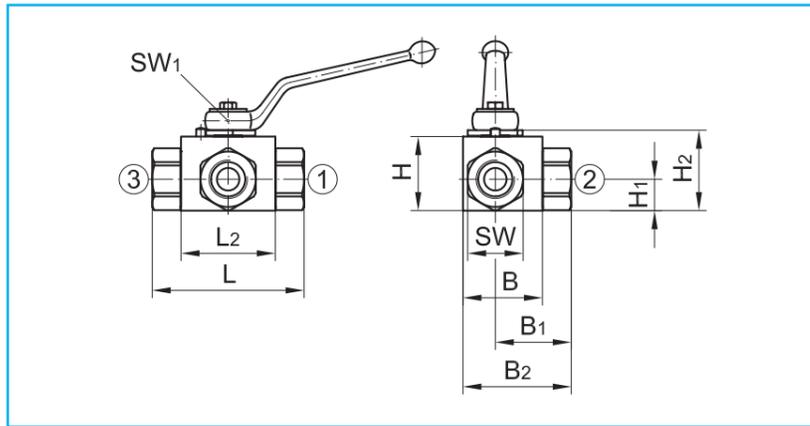
Special porting patterns · examples for combinations

By combining simple patterns more complex functions can be achieved.

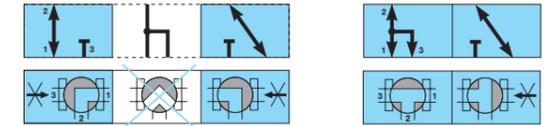


Multi-way ball valves with floating ball

3-way · steel · threaded connector · DN 4 - DN 40/25



Handle included in delivery. For handle refer to "Attachments, accessories"
 ✖ Application of pressure only as indicated in chapter "Technical information"
 Please check pressure rating of the pipe fittings!
 Actuators and custom orders on request
 All dimensions subject to change without notice
 Also available with most other connections
 All ball valves available with mounting plate



Dimensions in mm
 Weight in kg
 Pressure in bar

Bore:	L	T
Cycling:	90°	90°
Body:	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM
Stem seals:	NBR	NBR

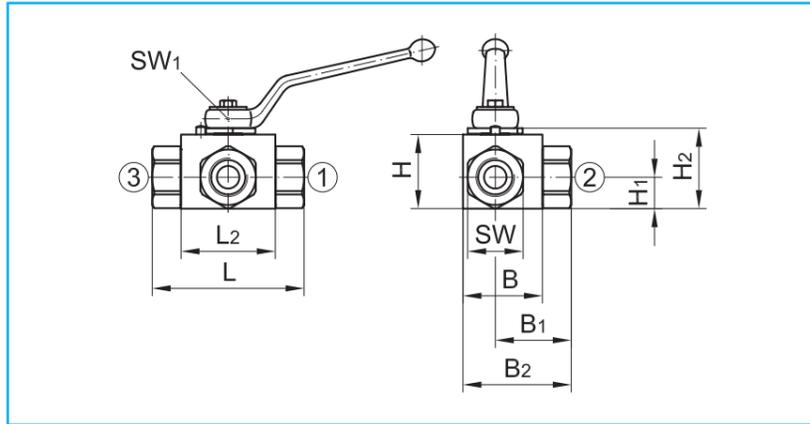
Connection	DN	Thread D	OD	L	L1	L2	B	B1	B2	H	H1	H2	SW	SW1	Handle Code	Weight
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	67	10	36	30	33,5	45,5	30	15,0	32,5	19	7	12	0,32
	6	M14 x 1,5	8	67	10	36	30	33,5	45,5	30	15,0	32,5	19	7	12	0,32
	8	M16 x 1,5	10	75	11	45	40	37,5	55,0	35	14,5	38,5	24	8	13	0,55
	10	M18 x 1,5	12	75	11	45	40	37,5	55,0	35	14,5	38,5	24	8	13	0,55
	12	M22 x 1,5	15	83	12	51	45	41,5	61,0	45	22,0	48,5	30	10	14	0,89
	16	M26 x 1,5	18	82	12	50	50	41,0	66,0	50	25,0	53,5	36	10	14	1,05
	20	M30 x 2	22	99	14	60	55	51,0	74,5	60	29,0	64,0	41	14	15	1,61
	25	M36 x 2	28	108	14	70	65	54,0	84,0	65	31,0	69,0	50	14	15	2,27
	32/25	M45 x 2	35	116	16	70	65	58,0	88,0	65	31,0	69,0	50	14	15	2,48
	40/25	M52 x 2	42	121	16	70	65	60,5	90,5	65	31,0	69,0	55	14	15	2,60
For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	73	12	36	30	36,5	48,5	30	15,0	32,5	19	7	12	0,35
	6	M18 x 1,5	10	73	12	36	30	36,5	48,5	30	15,0	32,5	19	7	12	0,35
	8	M20 x 1,5	12	77	12	46	40	38,5	56,0	35	14,5	38,5	24	8	13	0,57
	10	M22 x 1,5	14	81	14	45	40	40,5	58,0	35	14,5	38,5	24	8	13	0,57
	12	M24 x 1,5	16	87	14	51	45	43,5	63,0	45	22,0	48,5	30	10	14	0,91
	16	M30 x 2	20	90	16	50	50	45,0	70,0	50	25,0	53,5	36	10	14	1,12
	20	M36 x 2	25	107	18	60	55	55,0	78,5	60	29,0	64,0	41	14	15	1,72
	25	M42 x 2	30	120	20	70	65	60,0	90,0	65	31,0	69,0	50	14	15	2,44
	32/25	M52 x 2	38	134	22	70	65	67,0	97,0	65	31,0	69,0	55	14	15	2,95
	BSP-female thread DIN EN ISO 228-1	4	G 1/8	-	69	12	36	30	34,5	46,5	30	15,0	32,5	19	7	12
6		G 1/4	-	69	12	36	30	34,5	46,5	30	15,0	32,5	19	7	12	0,34
10		G 3/8	-	73	14	45	40	36,5	54,0	35	14,5	38,5	24	8	13	0,57
12		G 1/2	-	82	15	51	45	41,0	60,5	45	22,0	48,5	30	10	14	0,94
16		G 5/8	-	88	18	50	50	44,0	69,0	50	25,0	53,5	36	10	14	1,24
20		G 3/4	-	93	18	60	55	48,0	71,5	60	29,0	64,0	41	14	15	1,72
25		G1	-	115	18	70	65	57,5	87,5	65	31,0	69,0	50	14	15	2,65
32/25		G1 1/4	-	134	20	70	65	67,0	97,0	65	31,0	69,0	50	14	15	2,71
40/25		G1 1/2	-	139	22	70	65	69,5	99,5	65	31,0	69,0	55	14	15	2,91
NPT-female thread ANSI/ASME B1.20.1-1983		4	1/8 - 27 NPT	-	69	6,9	36	30	34,5	46,5	30	15,0	32,5	19	7	12
	6	1/4 - 18 NPT	-	69	10,0	36	30	34,5	46,5	30	15,0	32,5	19	7	12	0,34
	10	3/8 - 18 NPT	-	73	10,3	45	40	36,5	54,0	35	14,5	38,5	24	8	13	0,57
	12	1/2 - 14 NPT	-	82	13,6	51	45	41,0	60,5	45	22,0	48,5	30	10	14	0,94
	20	3/4 - 14 NPT	-	93	14,1	60	55	48,0	71,5	60	29,0	64,0	41	14	15	1,75
	25	1 - 11 1/2 NPT	-	115	16,8	70	65	57,5	87,5	65	31,0	69,0	50	14	15	2,71
	32/25	1 1/4 - 11 1/2 NPT	-	134	17,3	70	65	67,0	97,0	65	31,0	69,0	50	14	15	2,79
	40/25	1 1/2 - 11 1/2 NPT	-	139	17,3	70	65	69,5	99,5	65	31,0	69,0	55	14	15	2,94

DN	PN	Article-No.	PN	Article-No.
4	500	200 151	500	200 191
6	500	200 152	500	200 192
8	500	200 153	500	200 193
10	500	200 154	500	200 194
12	500	200 155	500	200 195
16	400	200 156	400	200 196
20	400	200 157	400	200 197
25	400	200 158	400	200 198
32/25	400	200 159	400	200 199
40/25	400	200 160	400	200 200
4	500	200 161	500	200 201
6	500	200 162	500	200 202
8	500	200 163	500	200 203
10	500	200 164	500	200 204
12	500	200 165	500	200 205
16	400	200 166	400	200 206
20	400	200 167	400	200 207
25	400	200 168	400	200 208
32/25	400	200 169	400	200 209
4	500	200 171	500	200 211
6	500	200 172	500	200 212
10	500	200 173	500	200 213
12	500	200 174	500	200 214
16	400	200 175	400	200 215
20	400	200 176	400	200 216
25	400	200 177	400	200 217
32/25	400	200 178	400	200 218
40/25	400	200 179	400	200 219
4	500	200 181	500	200 221
6	500	200 182	500	200 222
10	500	200 183	500	200 223
12	500	200 184	500	200 224
20	400	200 185	400	200 225
25	400	200 186	400	200 226
32/25	400	200 187	400	200 227
40/25	400	200 188	400	200 228

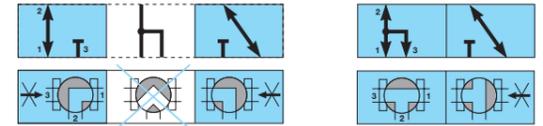
Multi-way ball valves with floating ball

3-way · steel · threaded connector · DN 32 - DN 50

NEW!
Up to DN 50!



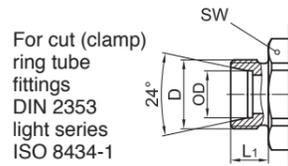
Handle included in delivery. For handle refer to "Attachments, accessories"
 ✖ Application of pressure only as indicated in chapter "Technical information"
 Please check pressure rating of the pipe fittings!
 Actuators and custom orders on request
 All dimensions subject to change without notice
 Also available with most other connections
 All ball valves available with mounting plate



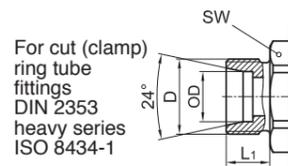
Dimensions in mm
 Weight in kg
 Pressure in bar

Bore:	L	T
Cycling:	90°	90°
Body:	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM
Stem seals:	NBR	NBR

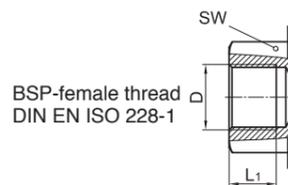
Connection	DN	Thread D	OD	L	L ₁	L ₂	B	B ₁	B ₂	H	H ₁	H ₂	SW	SW ₁	Handle Weight Code
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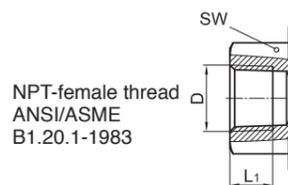
32	M45 x 2	35	125	16	74	80	70,5	105,5	80	36,6	84,0	60	17	21	3,11
40	M52 x 2	42	131	16	90	100	83,0	125,0	90	42,6	94,0	75	17	21	5,18



32	M52 x 2	38	137	22	74	80	76,5	111,5	80	36,6	84,0	60	17	21	3,32
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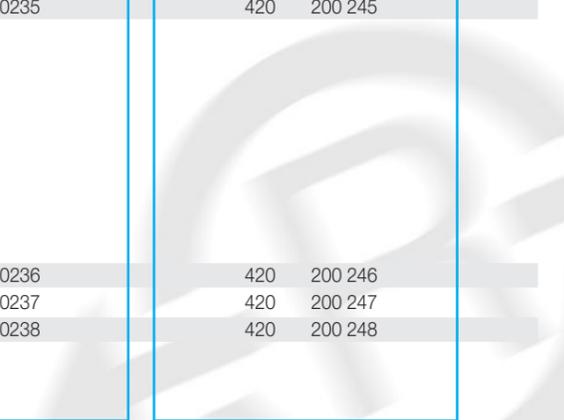


32	G1 ¹ / ₄	-	103	24,0	74	80	59,5	94,5	80	36,6	84,0	60	17	21	3,83
40	G1 ¹ / ₂	-	114	26,0	90	100	76,4	118,4	90	42,6	94,0	75	17	21	6,28
50	G2	-	128	27,5	110	120	93,5	144,5	110	55,1	114,0	85	17	21	10,41



32	1 ¹ / ₄ - 1 ¹ / ₂ NPT	-	103	17,3	74	80	59,5	94,5	80	36,6	84,0	60	17	21	3,85
40	1 ¹ / ₂ - 1 ¹ / ₂ NPT	-	114	17,3	90	100	76,4	118,4	90	42,6	94,0	75	17	21	6,28
50	2 - 1 ¹ / ₂ NPT	-	128	17,3	110	120	93,5	144,5	110	55,1	114,0	85	17	22	10,43

DN	PN	Article-No.	PN	Article-No.
32	420	200230	420	200 240
40	420	200231	420	200 241
32	420	200232	420	200 242
32	420	200233	420	200 243
40	420	200234	420	200 244
50	420	200235	420	200 245
32	420	200236	420	200 246
40	420	200237	420	200 247
50	420	200238	420	200 248



Multi-way ball valves with floating ball

3-way · stainless steel · threaded connector · DN 4 - DN 25

NEW!

Smaller dimensions!

Handle included in delivery. For handle refer to "Attachments, accessories"
 ✦ Application of pressure only as indicated in chapter "Technical information"

Please check pressure rating of the pipe fittings!

Full-PTFE-version, actuators and custom orders on request

Stainless steel (material no. 1.4571 - or other stainless steels)

All ball valves available with mounting plate

Also available with most other connections

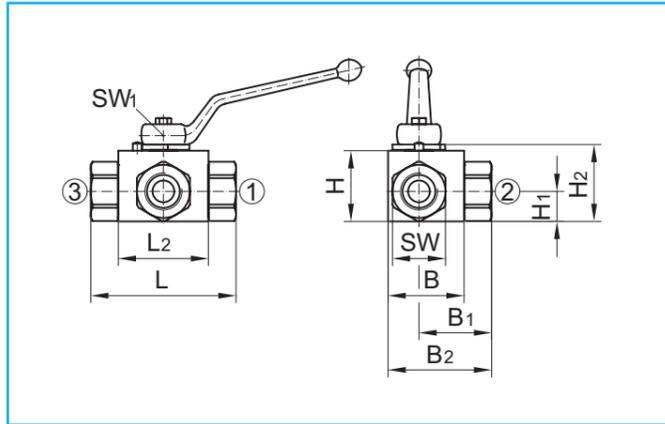
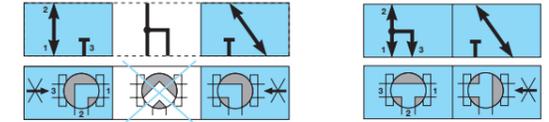
All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

Bore:	L	T
Body:	stainless steel	stainless steel
Ball:	stainless steel	stainless steel
Stem:	stainless steel	stainless steel
Ball seals:	POM	POM
Stem seals:	FKM	FKM
Handle:	zinc, die cast	zinc, die cast
Stop plate:	steel, zinc plated	steel, zinc plated



Connection	DN	Thread D	OD	L	L1	L2	B	B1	B2	H	H1	H2	SW	SW1	Handle Code	Weight	DN	PN	Article-No.	PN	Article-No.
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	67	10	36	30	33,5	45,5	30	15,0	32,5	19	7	12	0,32	4	500	200 481	500	200 581
	6	M14 x 1,5	8	67	10	36	30	33,5	45,5	30	15,0	32,5	19	7	12	0,32	6	500	200 482	500	200 582
	8	M16 x 1,5	10	75	11	45	40	37,5	55,0	35	14,5	38,5	24	8	13	0,55	8	500	200 483	500	200 583
	10	M18 x 1,5	12	75	11	45	40	37,5	55,0	35	14,5	38,5	24	8	13	0,55	10	500	200 484	500	200 584
	12	M22 x 1,5	15	83	12	51	45	41,5	61,0	45	22,0	48,5	30	10	14	0,89	12	500	200 485	500	200 585
	16	M26 x 1,5	18	99	12	60	55	51,0	74,5	60	29,0	64,0	41	14	15	1,67	16	400	200 486	400	200 586
	20	M30 x 2	22	99	14	60	55	51,0	74,5	60	29,0	64,0	41	14	15	1,61	20	400	200 487	400	200 587
	25	M36 x 2	28	108	14	70	65	54,0	84,0	65	31,0	69,0	50	14	15	2,27	25	400	200 488	400	200 588
For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	73	12	36	30	36,5	48,5	30	15,0	32,5	19	7	12	0,35	4	500	200 489	500	200 589
	6	M18 x 1,5	10	73	12	36	30	36,5	48,5	30	15,0	32,5	19	7	12	0,35	6	500	200 490	500	200 590
	8	M20 x 1,5	12	77	12	45	40	38,5	56,0	35	14,5	38,5	24	8	13	0,57	8	500	200 491	500	200 591
	10	M22 x 1,5	14	81	14	45	40	40,5	58,0	35	14,5	38,5	24	8	13	0,57	10	500	200 492	500	200 592
	12	M24 x 1,5	16	87	14	51	45	43,5	63,0	45	22,0	48,5	30	10	14	0,91	12	500	200 493	500	200 593
	16	M30 x 2	20	107	16	60	55	55,0	78,5	60	29,0	64,0	41	14	15	1,78	16	400	200 494	400	200 594
	20	M36 x 2	25	107	18	60	55	55,0	78,5	60	29,0	64,0	41	14	15	1,72	20	400	200 495	400	200 595
	25	M42 x 2	30	120	20	70	65	60,0	90,0	65	31,0	69,0	50	14	15	2,44	25	400	200 496	400	200 596
BSP-female thread DIN EN ISO 228-1	4	G 1/8	-	69	12	36	30	34,5	46,5	30	15,0	32,5	19	7	12	0,37	4	500	200 497	500	200 597
	6	G 1/4	-	69	12	36	30	34,5	46,5	30	15,0	32,5	19	7	12	0,34	6	500	200 498	500	200 598
	10	G 3/8	-	73	14	45	40	36,5	54,0	35	14,5	38,5	24	8	13	0,57	10	500	200 499	500	200 599
	12	G 1/2	-	82	15	51	45	41,0	60,5	45	22,0	48,5	30	10	14	0,94	12	500	200 500	500	200 530
	16	G 5/8	-	93	18	60	55	48,0	71,5	60	29,0	64,0	41	14	15	1,78	16	400	200 541	400	200 531
	20	G 3/4	-	93	18	60	55	48,0	71,5	60	29,0	64,0	41	14	15	1,72	20	400	200 542	400	200 532
	25	G1	-	115	18	70	65	57,5	87,5	65	31,0	69,0	50	14	15	2,65	25	400	200 543	400	200 533
NPT-female thread ANSI/ASME B1.20.1-1983	4	1/8 - 27 NPT	-	69	7,0	36	30	34,5	46,5	30	15,0	32,5	19	7	12	0,37	4	500	200 544	500	200 534
	6	1/4 - 18 NPT	-	69	10,0	36	30	34,5	46,5	30	15,0	32,5	19	7	12	0,34	6	500	200 545	500	200 535
	10	3/8 - 18 NPT	-	73	10,3	45	40	36,5	54,0	35	14,5	38,5	24	8	13	0,57	10	500	200 546	500	200 536
	12	1/2 - 14 NPT	-	82	13,6	51	45	41,0	60,5	45	22,0	48,5	30	10	14	0,94	12	500	200 547	500	200 537
	20	3/4 - 14 NPT	-	93	14,1	60	55	48,0	71,5	60	29,0	64,0	41	14	15	1,75	20	400	200 548	400	200 538
	25	1 - 11 1/2 NPT	-	115	16,8	70	65	57,5	87,5	65	31,0	69,0	50	14	15	2,71	25	400	200 549	400	200 539

Multi-way ball valves with floating ball

3-way · stainless steel · threaded connector · DN 4 - DN 25

NEW!

Smaller dimensions!

Handle included in delivery. For handle refer to "Attachments, accessories"

✳ Application of pressure only as indicated in chapter "Technical information"

Please check pressure rating of the pipe fittings!

Full-PTFE-version, actuators and custom orders on request

Stainless steel (material no. 1.4571 - or other stainless steels)

All ball valves available with mounting plate

Also available with most other connections

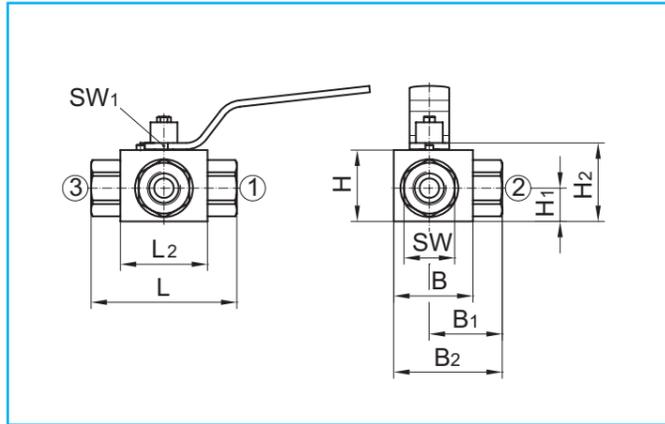
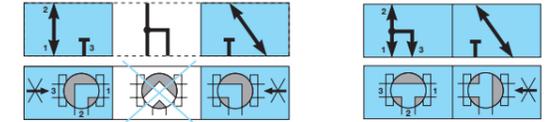
All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

Bore:	L	T
Body:	stainless steel	stainless steel
Ball:	stainless steel	stainless steel
Stem:	stainless steel	stainless steel
Ball seals:	PTFE Comp. 3	PTFE Comp. 3
Stem seals:	FKM	FKM
Handle:	stainless steel	stainless steel
Stop plate:	stainless steel	stainless steel

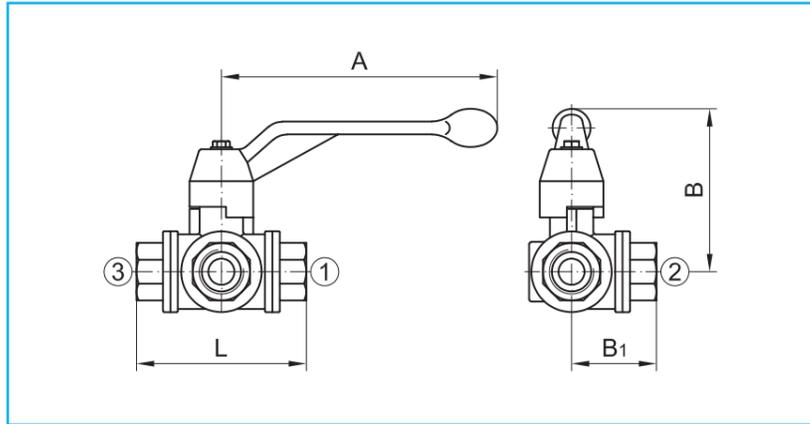


Connection	DN	Thread D	OD	L	L ₁	L ₂	B	B ₁	B ₂	H	H ₁	H ₂	SW	SW ₁	Handle Code	Weight
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	67	10	36	30	33,5	45,5	30	15,0	34,5	19	7	32	0,32
	6	M14 x 1,5	8	67	10	36	30	33,5	45,5	30	15,0	34,5	19	7	32	0,32
	8	M16 x 1,5	10	75	11	45	40	37,5	55,0	35	14,5	39,5	24	8	33	0,55
	10	M18 x 1,5	12	75	11	45	40	37,5	55,0	35	14,5	39,5	24	8	33	0,55
	12	M22 x 1,5	15	83	12	51	45	41,5	61,0	45	22,0	49,5	30	10	34	0,89
	16	M26 x 1,5	18	99	12	60	55	51,0	74,5	60	29,0	65,5	41	14	35	1,67
	20	M30 x 2	22	99	14	60	55	51,0	74,5	60	29,0	65,5	41	14	35	1,61
25	M36 x 2	28	108	14	70	65	54,0	84,0	65	31,0	70,5	50	14	35	2,27	
For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	73	12	36	30	36,5	48,5	30	15,0	32,5	19	7	32	0,35
	6	M18 x 1,5	10	73	12	36	30	36,5	48,5	30	15,0	32,5	19	7	32	0,35
	8	M20 x 1,5	12	77	12	45	40	38,5	56,0	35	14,5	38,5	24	8	33	0,57
	10	M22 x 1,5	14	81	14	45	40	40,5	58,0	35	14,5	38,5	24	8	33	0,57
	12	M24 x 1,5	16	87	14	51	45	43,5	63,0	45	22,0	48,5	30	10	34	0,91
	16	M30 x 2	20	107	16	60	55	55,0	78,5	60	29,0	64,0	41	14	35	1,78
	20	M36 x 2	25	107	18	60	55	55,0	78,5	60	29,0	64,0	41	14	35	1,72
25	M42 x 2	30	120	20	70	65	60,0	90,0	65	31,0	69,0	50	14	35	2,44	
BSP-female thread DIN EN ISO 228-1	4	G 1/8	-	69	12	36	30	34,5	46,5	30	15,0	32,5	19	7	32	0,37
	6	G 1/4	-	69	12	36	30	34,5	46,5	30	15,0	32,5	19	7	32	0,34
	10	G 3/8	-	73	14	45	40	36,5	54,0	35	14,5	38,5	24	8	33	0,57
	12	G 1/2	-	82	15	51	45	41,0	60,5	45	22,0	48,5	30	10	34	0,94
	16	G 5/8	-	93	18	60	55	48,0	71,5	60	29,0	64,0	41	14	35	1,78
	20	G 3/4	-	93	18	60	55	48,0	71,5	60	29,0	64,0	41	14	35	1,72
25	G1	-	115	18	70	65	57,5	87,5	65	31,0	69,0	50	14	35	2,65	
NPT-female thread ANSI/ASME B1.20.1-1983	4	1/8 - 27 NPT	-	69	7,0	36	30	34,5	46,5	30	15,0	32,5	19	7	32	0,37
	6	1/4 - 18 NPT	-	69	10,0	36	30	34,5	46,5	30	15,0	32,5	19	7	32	0,34
	10	3/8 - 18 NPT	-	73	10,3	45	40	36,5	54,0	35	14,5	38,5	24	8	33	0,57
	12	1/2 - 14 NPT	-	82	13,6	51	45	41,0	60,5	45	22,0	48,5	30	10	34	0,94
	20	3/4 - 14 NPT	-	93	14,1	60	55	48,0	71,5	60	29,0	64,0	41	14	35	1,75
	25	1 - 11 1/2 NPT	-	115	16,8	70	65	57,5	87,5	65	31,0	69,0	50	14	35	2,71

DN	PN	Article-No.	PN	Article-No.
4	315	200 643	315	200 695
6	315	200 644	315	200 696
8	315	200 645	315	200 697
10	315	200 646	315	200 698
12	315	200 647	315	200 699
16	250	200 648	250	200 700
20	250	200 649	250	200 701
25	250	200 650	250	200 702
4	315	200 651	315	200 703
6	315	200 652	315	200 704
8	315	200 653	315	200 705
10	315	200 654	315	200 706
12	315	200 655	315	200 707
16	250	200 656	250	200 708
20	250	200 657	250	200 709
25	250	200 658	250	200 710
4	315	200 659	315	200 711
6	315	200 660	315	200 712
10	315	200 661	315	200 713
12	315	200 662	315	200 714
16	250	200 663	250	200 715
20	250	200 664	250	200 716
25	250	200 665	250	200 717
4	315	200 666	315	200 718
6	315	200 667	315	200 719
10	315	200 668	315	200 720
12	315	200 669	315	200 721
20	250	200 670	250	200 722
25	250	200 671	250	200 723

Multi-way ball valves with floating ball

3-way · brass · threaded connector · DN 6 - DN 80



Handle included in delivery

✳ Application of pressure only as indicated in chapter "Technical information"

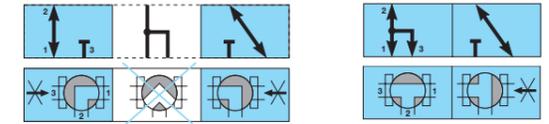
Actuators and custom orders on request

All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar



Bore:	L	T
Cycling:	90°	90°
Body:	brass	brass
Ball:	brass, hard chrome plated	brass, hard chrome plated
Stem:	brass	brass
Ball seals:	PTFE	PTFE
Stem seals:	PTFE	PTFE

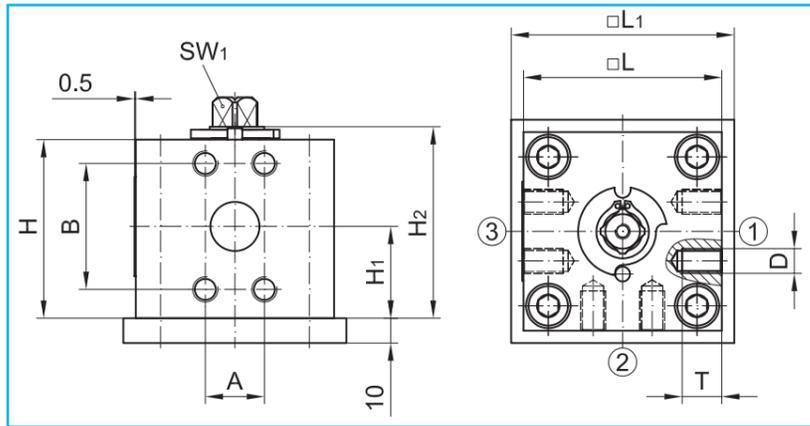
Connection	DN/LW	Thread D	L	L1	A	B	B1	Weight
BSP-female thread DIN EN 10226-1	6/10	Rp 1/4	71	13	130	85	35,5	0,7
	10/13	Rp 3/8	71	13	130	85	35,5	0,7
	15/13	Rp 1/2	80	13	130	85	40,0	0,7
	20/18	Rp 3/4	96	15	160	98	48,0	1,1
	25/23	Rp 1	113	17	160	102	56,5	1,7
	32/29	Rp 1 1/4	130	19	195	121	65,0	2,6
	40/35	Rp 1 1/2	147	22	195	125	73,5	3,7
	50/44	Rp 2	169	27	235	141	84,5	5,8
80/44	Rp 3	202	35	235	141	101,0	7,0	

DN/LW	PN	Article-No.	PN	Article-No.
6/10	40	201 501	40	201 551
10/13	40	201 502	40	201 552
15/13	40	201 503	40	201 553
20/18	40	201 504	40	201 554
25/23	25	201 505	25	201 555
32/29	16	201 506	16	201 556
40/35	16	201 507	16	201 557
50/44	16	201 508	16	201 558
80/44	16	201 509	16	201 559



Multi-way ball valves with floating ball

3-way · steel · ISO 6162 (SAE) · DN 19 - DN 32



Handle on request, refer to "Attachments, accessories".

✦ Application of pressure only as indicated in chapter "Technical information"

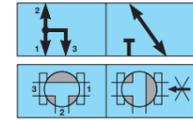
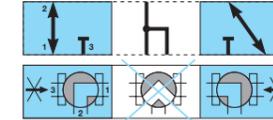
Actuators and custom orders on request

All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar



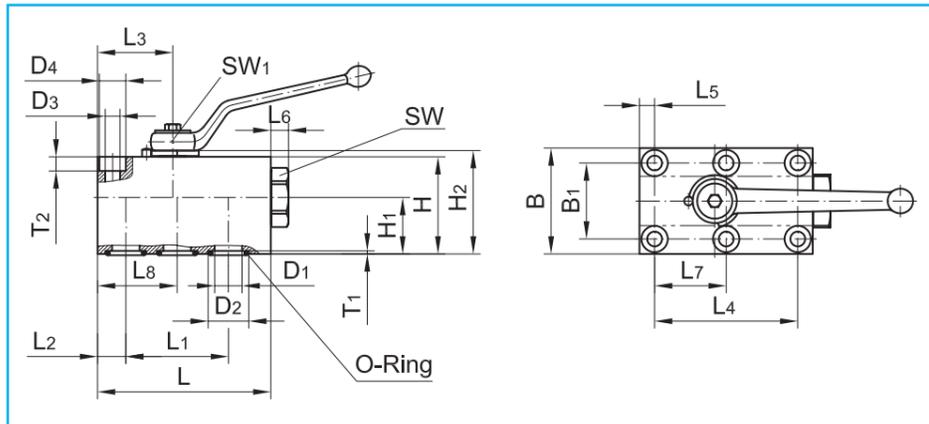
	L	L	T	T
Bore:	L	L	T	T
Cycling:	90°	90°	90°	90°
Body:	steel, zinc plated	steel, zinc plated	steel, zinc plated	steel, zinc plated
Ball:	steel, hard chrome plated			
Stem:	steel, zinc plated	steel, zinc plated	steel, zinc plated	steel, zinc plated
Ball seals:	POM	POM	POM	POM
Stem seals:	NBR	FKM	NBR	FKM

Connection	DN	Flange-size (inch)	D	T	A	B	L	L1	H	H1	H2	SW1	Weight	DN	PN		PN		PN		PN	
															Article-No.	Article-No.	Article-No.	Article-No.	Article-No.	Article-No.		
ISO 6162-2	19	3/4	M10	21	23,8	50,8	80	90	72	37	77,5	14	4,0	19	400	204 301	400	204 306	400	204 311	400	204 316
	25	1	M12	23	27,8	57,2	90	100	80	40	85,5	14	5,5	25	400	204 302	400	204 307	400	204 312	400	204 317
	32	1 1/4	M12	24	31,8	66,6	100	110	100	50	106,0	17	8,0	32	400	204 304	400	204 309	400	204 314	400	204 319
	19	3/4	3/8 - 16 UNC	24	23,8	50,8	80	90	72	37	77,5	14	4,0	19	400	204 321	400	204 326	400	204 331	400	204 336
	25	1	7/16 - 14 UNC	27	27,8	57,2	90	100	80	40	85,5	14	5,5	25	400	204 322	400	204 327	400	204 332	400	204 337
	32	1 1/4	1/2 - 13 UNC	28	31,8	66,7	100	110	100	50	106,0	17	8,0	32	400	204 323	400	204 328	400	204 333	400	204 338



Multi-way ball valves with floating ball

3-way · steel · manifold mounting · DN 6 - DN 65



Handle and o-rings included in delivery

For handles refer to "Attachments, accessories".

✳ Application of pressure only as indicated in chapter "Technical information"

Actuators and custom orders on request

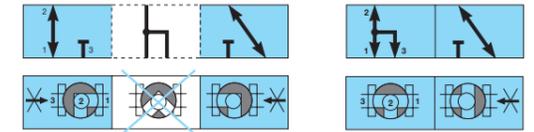
All dimensions subject to change without notice

*) DN 40 - DN 65: grey cast iron

Dimensions in mm

Weight in kg

Pressure in bar



Bore:	L	T
Cycling:	90°	90°
Body*:	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Body seals:	NBR	NBR
Ball seals:	POM	POM
Stem seals:	NBR	NBR

Connection	DN	L	L1	L2	L3	L4	L5	L6	L7	L8	B	B1	H	H1	H2	T1	T2
Body-Flange with O-ring-seal	6	59	35	8,5	23,5	35	8,5	4,5	17,5	26,0	40	27	35	20,0	37,5	1,8	6,8
	10	73	44	10,0	29,0	55	7,5	7,0	27,5	29,0	55	40	45	24,5	48,5	1,8	8,0
	12	98	58	16,0	42,5	83	7,5	10,0	41,5	42,5	60	45	55	32,0	58,5	1,8	8,0
	20	117	69	20,0	52,0	97	10,0	12,0	48,5	52,0	70	51	70	39,0	74,0	2,7	11,0
	25	138	81	24,0	62,0	115	10,0	7,0	57,5	62,0	80	60	80	46,0	84,0	2,7	11,0
	32	165	96	29,0	75,0	136	12,0	11,0	68,0	75,0	100	78	100	56,6	104,5	2,7	12,0
	40	175	112	28,5	84,5	112	28,5	25,0	56,0	84,5	130	95	100	52,6	104,5	2,7	17,5
	50	215	136	38,0	106,0	136	38,0	25,0	68,0	106,0	150	112	110	55,1	114,5	2,7	20,0
	65	320	190	55,0	150,0	210	45,0	59,0	105,0	150,0	235	185	180	80,0	185,0	2,8	25,5

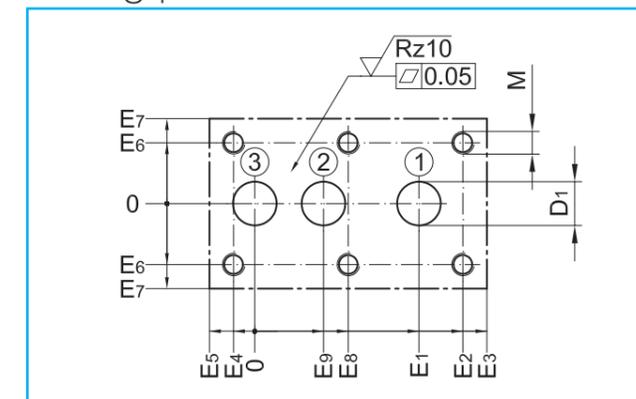
DN	D1	D2	D3	D4	SW	SW1	Handle Code	Weight	for Cylinder-head screws DIN EN ISO 4762 (DIN 912)
6	6,0	12,0	6,4	11	24	7	12	0,58	M6 - 10,9
10	9,5	15,0	8,4	-	32	8	13	1,15	M8 - 10,9
12	12,5	25,0	8,4	-	36	10	14	2,11	M8 - 12,9
20	20,0	30,0	10,5	17	-	14	15	4,00	M10 - 12,9
25	24,0	35,0	10,5	17	50	14	15	5,58	M10 - 12,9
32	32,0	40,0	13,0	19	70	17	21	11,14	M12 - 12,9
40	38,0	48,5	17,0	26	-	17	21	15,19	M16 - 12,9
50	48,0	55,5	21,0	33	-	17	22	22,67	M20 - 12,9
65	62,0	79,0	26,0	40	-	17	22	101,50	M24 - 12,9

PN	Article-No.	PN	Article-No.
500	206 101	500	206 121
500	206 102	500	206 122
500	206 103	500	206 123
400	206 104	400	206 124
400	206 105	400	206 125
400	206 106	400	206 126
400	206 107	400	206 127
400	206 108	400	206 128
400	206 131	400	206 132

DN	D1	E1	E2	E3	E4	E5	E6	E7	E8	E9	M	O-Ring
6	6,0	35	35,0	50,5	0,0	8,5	13,5	20,0	17,5	17,5	M 6	7,50 x 2,50
10	9,5	44	52,5	63,0	2,5	10,0	20,0	27,5	25,0	19,0	M 8	10,50 x 2,50
12	15,5	58	74,5	82,0	8,5	16,0	22,5	30,0	33,0	26,5	M 8	20,50 x 2,50
20	20,0	69	87,0	97,0	10,0	20,0	25,5	35,0	38,5	32,0	M10	23,50 x 3,50
25	24,0	81	101,0	114,0	14,0	24,0	30,0	40,0	43,5	38,0	M10	28,50 x 3,50
32	32,0	96	119,0	136,0	17,0	29,0	39,0	50,0	51,0	46,0	M12	33,50 x 3,50
40	38,0	112	112,0	146,5	0,0	28,5	47,5	65,0	56,0	56,0	M16	42,00 x 3,50
50	48,0	136	136,0	177,0	0,0	38,0	56,0	75,0	68,0	68,0	M20	49,00 x 3,50
65	62,0	190	200,0	265,0	10,0	55,0	92,5	117,5	95,0	95,0	M24	72,66 x 3,53

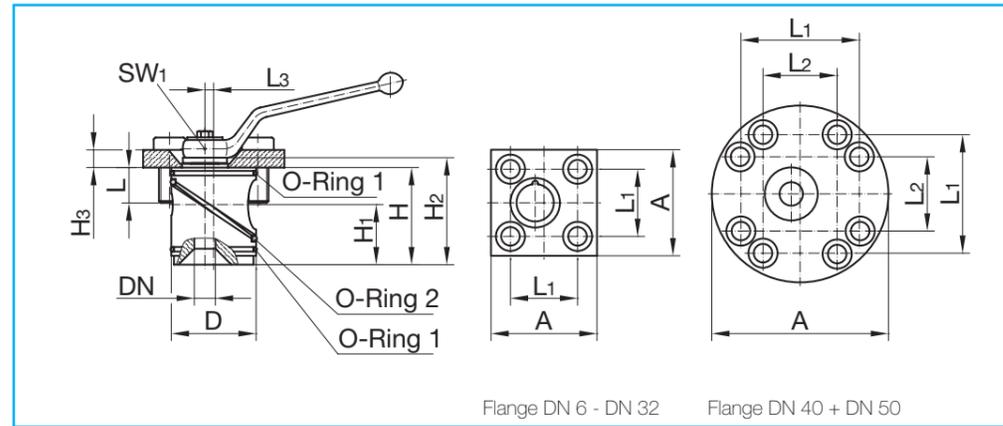
General tolerances
DIN ISO 2768
Surfaces
DIN EN ISO 4287

Drilling pattern



Multi-way ball valves with floating ball

3-way · steel · for manifold insertion as cartridge type · DN 6 - DN 50



Handle and attachment screws included in delivery

For handles refer to "Attachments, accessories".

✳ Application of pressure only as indicated in chapter "Technical information"

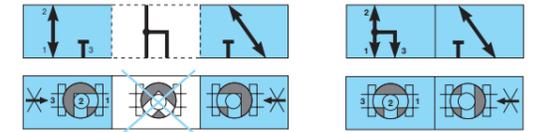
Actuators and custom orders on request

All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar



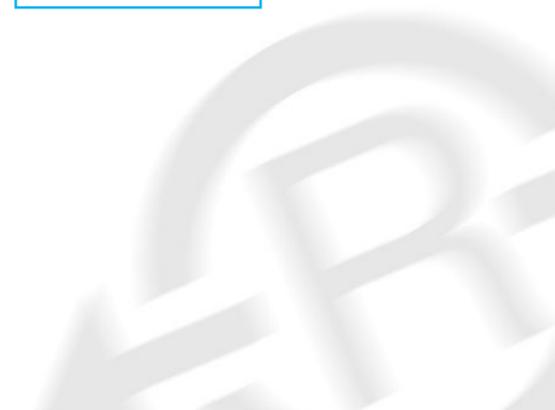
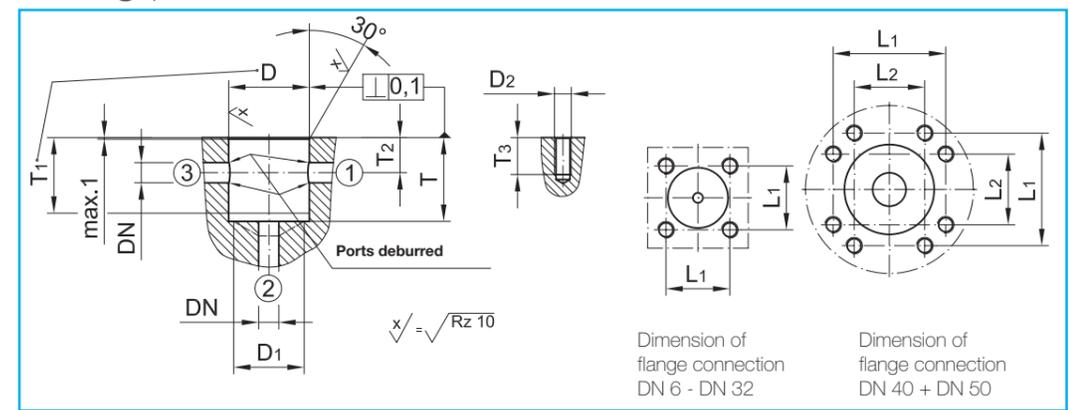
Bore:	L	T
Cycling:	90°	90°
Body:	steel, black oxide	steel, black oxide
Ball:	steel, hard chrome plated	steel, hard chrome plated
Stem:	steel, zinc plated	steel, zinc plated
Body seals:	NBR	NBR
Ball seals:	POM	POM
Stem seals:	NBR	NBR

Connection	DN	D	H	H ₁	H ₂	H ₃	L	L ₁	L ₂	L ₃	SW ₁	A	Handle Code	DN	O-Ring 1	O-Ring 2	Weight	Cylinder-head screws DIN EN ISO 4762 (DIN 912)	PN	Article-No.	PN	Article-No.
Cavity	6	36	39,9	26,3	45,8	8	20	38	-	5,0	7	60	12	6	31,00 x 1,50	32,00 x 3,00	0,59	M10 x 25-8.8	500	107 031	500	107 041
	10	45	50,9	32,5	55,8	10	20	50	-	5,0	8	80	13	10	40,00 x 2,00	42,00 x 3,00	1,15	M12 x 25-8.8	500	107 032	500	107 042
	12	48	54,9	34,0	61,5	10	20	50	-	5,0	10	80	14	12	43,00 x 2,00	46,00 x 3,00	1,29	M12 x 25-8.8	400	107 033	400	107 043
	16	54	58,9	36,0	64,5	10	20	60	-	5,5	10	90	14	16	49,00 x 2,00	50,39 x 3,53	1,59	M12 x 25-8.8	315	107 034	315	107 044
	20	63	72,9	44,0	82,5	18	25	70	-	7,0	14	100	15	20	55,20 x 3,00	61,00 x 3,50	3,04	M16 x 35-8.8	315	107 035	315	107 045
	25	70	78,9	47,0	89,0	18	25	70	-	7,0	14	100	15	25	63,00 x 3,00	67,00 x 4,00	3,31	M16 x 35-8.8	315	107 036	315	107 046
	32	92	100,0	57,5	132,5	35	30	100	-	10,0	17	140	21	32	82,14 x 3,53	92,00 x 5,00	9,26	M20 x 50-8.8	315	107 037	315	107 047
	40	107	116,0	66,0	150,5	35	30	134	84	10,0	17	200	21	40	98,02 x 3,53	108,00 x 6,00	14,77	M20 x 50-8.8	315	107 038	315	107 048
	50	126	130,0	73,0	165,0	35	30	152	96	11,6	17	230	22	50	117,07 x 3,53	124,00 x 6,00	20,60	M20 x 50-8.8	315	107 039	315	107 049

General tolerances DIN ISO 2768	Surfaces DIN EN ISO 4287	DN	D H9	D ₁ max.	D ₂	L ₁ ±0,2	L ₂ ±0,2	T +0,1	T ₁ +0,2	T ₂ +0,1	T ₃ min.
		6	36	31	M10	38	-	40	38	13,6	22
		10	45	39	M12	50	-	51	47	18,4	22
		12	48	42	M12	50	-	55	50	20,9	22
		16	54	47	M12	60	-	59	54	22,9	22
		20	63	55	M16	70	-	73	69	28,9	28
		25	70	62	M16	70	-	79	74	31,9	28
		32	92	80	M20	100	-	100	96	42,5	33
		40	107	95	M20	134	84	116	111	50,0	33
		50	126	115	M20	152	96	130	125	57,0	33

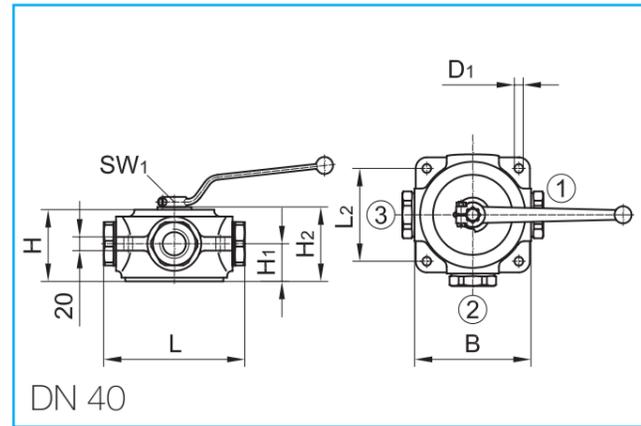
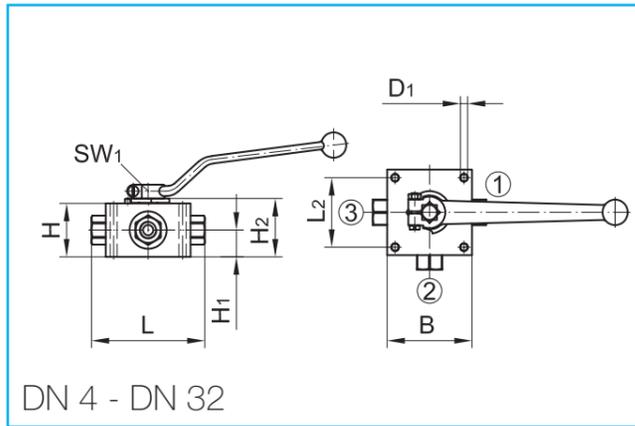
Mounting-tool	
DN	Article-No.
6	107 051
10	107 052
12	107 053
16	107 054
20	107 055
25	107 056
32	107 057
40	107 058
50	107 059

Drilling pattern



Multi-way ball valves with trunnion ball

3-way · steel · threaded connector · DN 4 - DN 40



Handle included in delivery

For more porting patterns refer to "Standard- and special porting patterns".

Also available with most other connections

Please check pressure rating of the pipe fittings!

*) can be actuated up to 100 bar manually

**) DN 40: grey cast iron

For handles refer to "Attachments, accessories"

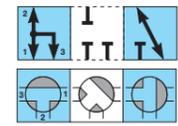
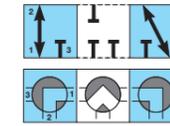
Actuators and custom orders on request

All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar



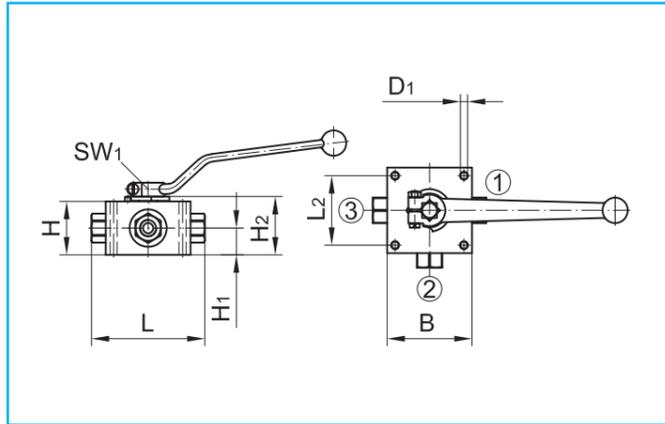
	L	L	T	T
Bore:	L	L	T	T
Cycling:	90°	90°	90°	90°
Body**:	steel, black oxide	steel, black oxide	steel, black oxide	steel, black oxide
Trunnion ball:	steel, hard chrome plated			
Ball seals:	POM	PTFE	POM	PTFE
Shaft seals:	NBR	FKM	NBR	FKM

Connection	DN	Thread D	OD	L	L1	L2	B	H	H1	H2	D1	SW	SW1	Handle Code	Weight
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	100	10	55	70	40	20,0	44,5	6,7	19	12	7	1,58
	6	M14 x 1,5	8	100	10	55	70	40	20,0	44,5	6,7	19	12	7	1,57
	8	M16 x 1,5	10	109	11	65	80	50	25,0	54,5	6,7	24	14	8	2,50
	10	M18 x 1,5	12	109	11	65	80	50	25,0	54,5	6,7	24	14	8	2,50
	12	M22 x 1,5	15	130	12	80	100	55	27,5	59,5	8,4	30	14	8	4,16
	16/12	M26 x 1,5	18	136	12	80	100	55	27,5	59,5	8,4	30	14	8	4,26
	20	M30 x 2	22	138	14	85	100	75	40,0	79,5	8,4	41	19	10	5,71
	25	M36 x 2	28	157	14	105	120	81	43,5	85,5	10,5	50	19	10	8,60
	32	M45 x 2	35	210	16	106	Ø180	100	50,0	104,5	10,5	60	19	10	17,10
	40	M52 x 2	42	256	16	150	190	116	61,0	120,5	14,5	75	19	10	20,84
For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	106	12	55	70	40	20,0	44,5	6,7	19	12	7	1,61
	6	M18 x 1,5	10	106	12	55	70	40	20,0	44,5	6,7	19	12	7	1,61
	8	M20 x 1,5	12	111	12	65	80	50	25,0	54,5	6,7	24	14	8	2,52
	10	M22 x 1,5	14	115	14	65	80	50	25,0	54,5	6,7	24	14	8	2,53
	12	M24 x 1,5	16	134	14	80	100	55	27,5	59,5	8,4	30	14	8	4,15
	16/12	M30 x 2	20	144	16	80	100	55	27,5	59,5	8,4	36	14	8	4,32
	20	M36 x 2	25	146	18	85	100	75	40,0	79,5	8,4	41	19	10	5,82
	25	M42 x 2	30	169	20	105	120	81	43,5	85,5	10,5	50	19	10	8,73
	32	M52 x 2	38	222	22	106	Ø180	100	50,0	104,5	10,5	60	19	10	17,40
	BSP-female thread DIN EN ISO 228-1	4	G 1/8	-	102	12	55	70	40	20,0	44,5	6,7	19	12	7
6		G 1/4	-	102	12	55	70	40	20,0	44,5	6,7	19	12	7	1,60
10		G 3/8	-	107	14	65	80	50	25,0	54,5	6,7	24	14	8	2,51
12		G 1/2	-	129	15	80	100	55	27,5	59,5	8,4	30	14	8	4,20
16/12		G 5/8	-	146	18	80	100	55	27,5	59,5	8,4	36	14	8	4,31
20		G 3/4	-	132	18	85	100	75	40,0	79,5	8,4	41	19	10	5,82
25		G1	-	162	20	105	120	81	43,5	85,5	10,5	50	19	10	8,95
32		G1 1/4	-	188	20	106	Ø180	100	50,0	104,5	10,5	60	19	10	16,61
40		G1 1/2	-	224	25	150	190	116	61,0	120,5	14,5	75	19	10	20,30
NPT-female thread ANSI/ASME B1.20.1-1983		4	1/8 - 27 NPT	-	102	6,9	55	70	40	20,0	44,5	6,7	19	12	7
	6	1/4 - 18 NPT	-	102	10,0	55	70	40	20,0	44,5	6,7	19	12	7	1,60
	10	3/8 - 18 NPT	-	107	10,3	65	80	50	25,0	54,5	6,7	24	14	8	2,51
	12	1/2 - 14 NPT	-	129	13,6	80	100	55	27,5	59,5	8,4	30	14	8	4,20
	20	3/4 - 14 NPT	-	132	14,1	85	100	75	40,0	79,5	8,4	41	19	10	5,82
	25	1 - 11 1/2 NPT	-	162	16,8	105	120	81	43,5	85,5	10,5	50	19	10	8,95
	32	1 1/4 - 11 1/2 NPT	-	188	17,3	106	Ø180	100	50,0	104,5	10,5	60	19	10	16,61
	40	1 1/2 - 11 1/2 NPT	-	224	17,3	150	190	116	61,0	120,5	14,5	75	19	10	20,30

DN	PN	Article-No.	PN	Article-No.	PN	Article-No.	PN	Article-No.
4	500	202 001	100	202 026	500	202 051	100	202 076
6	500	202 002	100	202 027	500	202 052	100	202 077
8	500	202 003	100	202 028	500	202 053	100	202 078
10	500	202 004	100	202 029	500	202 054	100	202 079
12	500	202 005	100	202 030	500	202 055	100	202 080
16/12	500	202 006	100	202 031	500	202 056	100	202 081
20	315	202 901	100	202 902	315	202 903	100	202 904
25	315	202 921	100	202 922	315	202 923	100	202 924
32	315*	202 253	100	202 278	315*	202 303	100	202 328
40	100	202 940	100	202 955	100	202 970	100	202 985
4	500	202 007	100	202 032	500	202 057	100	202 082
6	500	202 008	100	202 033	500	202 058	100	202 083
8	500	202 009	100	202 034	500	202 059	100	202 084
10	500	202 010	100	202 035	500	202 060	100	202 085
12	500	202 011	100	202 036	500	202 061	100	202 086
16/12	500	202 012	100	202 037	500	202 062	100	202 087
20	315	202 905	100	202 906	315	202 907	100	202 908
25	315	202 925	100	202 926	315	202 927	100	202 928
32	315*	202 257	100	202 282	315*	202 307	100	202 332
4	500	202 013	100	202 038	500	202 063	100	202 088
6	500	202 014	100	202 039	500	202 064	100	202 089
10	500	202 015	100	202 040	500	202 065	100	202 090
12	500	202 016	100	202 041	500	202 066	100	202 091
16/12	500	202 017	100	202 042	500	202 067	100	202 092
20	315	202 909	100	202 910	315	202 911	100	202 912
25	315	202 929	100	202 930	315	202 931	100	202 932
32	315*	202 260	100	202 285	315*	202 310	100	202 335
40	100	202 947	100	202 962	100	202 977	100	202 992
4	500	202 018	100	202 043	500	202 068	100	202 093
6	500	202 019	100	202 044	500	202 069	100	202 094
10	500	202 020	100	202 045	500	202 070	100	202 095
12	500	202 021	100	202 046	500	202 071	100	202 096
20	315	202 913	100	202 914	315	202 915	100	202 916
25	315	202 933	100	202 934	315	202 935	100	202 936
32	315*	202 264	100	202 289	315*	202 314	100	202 339
40	100	202 951	100	202 966	100	202 981	100	202 996

Multi-way ball valves with trunnion ball

3-way · stainless steel · threaded connector · DN 4 - DN 32



Handle included in delivery

For handles refer to "Attachments, accessories".

For more porting patterns refer to "Standard- and special porting patterns".

Stainless steel (material no. 1.4571 - or other stainless steels)

Also available with most other connections

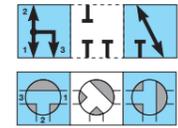
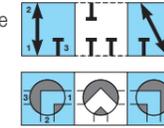
Actuators and custom orders on request

All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

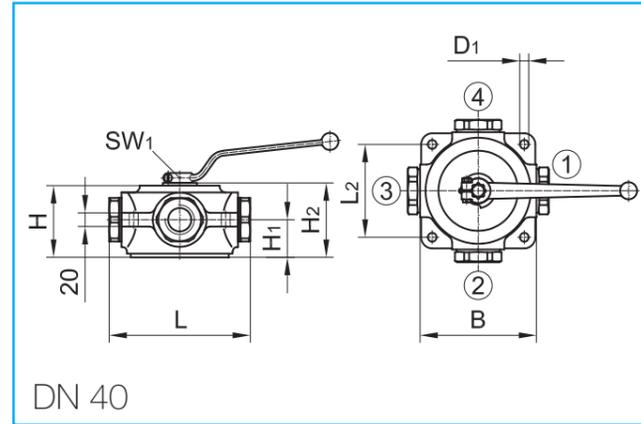
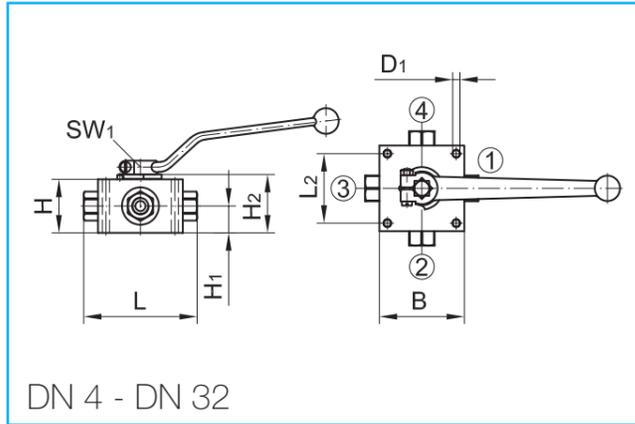


	L	L	T	T
Bore:	L	L	T	T
Cycling:	90°	90°	90°	90°
Body:	stainless steel	stainless steel	stainless steel	stainless steel
Trunnion ball:	stainless steel	stainless steel	stainless steel	stainless steel
Ball seals:	PTFE	PTFE	PTFE	PTFE
Shaft seals:	FKM	FFKM	FKM	FFKM

Connection	DN	Thread D	OD	L	L1	L2	B	H	H1	H2	D1	SW	SW1	Handle Code	Weight	DN	PN	Article-No.	PN	Article-No.	PN	Article-No.	PN	Article-No.	
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	100	10	55	70	40	20,0	44,5	6,7	19	12	7	1,58	4	100	202 501	100	202 526	100	202 551	100	202 576	
	6	M14 x 1,5	8	100	10	55	70	40	20,0	44,5	6,7	19	12	7	1,57	6	100	202 502	100	202 527	100	202 552	100	202 577	
	8	M16 x 1,5	10	109	11	65	80	50	25,0	54,5	6,7	24	14	8	2,50	8	100	202 503	100	202 528	100	202 553	100	202 578	
	10	M18 x 1,5	12	109	11	65	80	50	25,0	54,5	6,7	24	14	8	2,50	10	100	202 504	100	202 529	100	202 554	100	202 579	
	12	M22 x 1,5	15	130	12	80	100	55	27,5	59,5	8,4	30	14	8	4,16	12	100	202 505	100	202 530	100	202 555	100	202 580	
	16/12	M26 x 1,5	18	136	12	80	100	55	27,5	59,5	8,4	30	14	8	4,26	16/12	100	202 506	100	202 531	100	202 556	100	202 581	
	20	M30 x 2	22	138	14	85	100	75	40,0	79,5	8,4	41	19	10	5,71	20	100	202 751	100	202 776	100	202 801	100	202 826	
	25	M36 x 2	28	157	14	105	120	81	43,5	85,5	10,5	50	19	10	8,60	25	100	202 752	100	202 777	100	202 802	100	202 827	
	32	M45 x 2	35	210	16	106	Ø180	100	50,0	104,5	10,5	60	19	10	17,10	32	100	202 753	100	202 778	100	202 803	100	202 828	
	For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	106	12	55	70	40	20,0	44,5	6,7	19	12	7	1,61	4	100	202 507	100	202 532	100	202 557	100	202 582
6		M18 x 1,5	10	106	12	55	70	40	20,0	44,5	6,7	19	12	7	1,61	6	100	202 508	100	202 533	100	202 558	100	202 583	
8		M20 x 1,5	12	111	12	65	80	50	25,0	54,5	6,7	24	14	8	2,52	8	100	202 509	100	202 534	100	202 559	100	202 584	
10		M22 x 1,5	14	115	14	65	80	50	25,0	54,5	6,7	24	14	8	2,53	10	100	202 510	100	202 535	100	202 560	100	202 585	
12		M24 x 1,5	16	134	14	80	100	55	27,5	59,5	8,4	30	14	8	4,15	12	100	202 511	100	202 536	100	202 561	100	202 586	
16/12		M30 x 2	20	144	16	80	100	55	27,5	59,5	8,4	36	14	8	4,32	16/12	100	202 512	100	202 537	100	202 562	100	202 587	
20		M36 x 2	25	146	18	85	100	75	40,0	79,5	8,4	41	19	10	5,82	20	100	202 755	100	202 780	100	202 805	100	202 830	
25		M42 x 2	30	169	20	105	120	81	43,5	85,5	10,5	50	19	10	8,73	25	100	202 756	100	202 781	100	202 806	100	202 831	
32		M52 x 2	38	222	22	106	Ø180	100	50,0	104,5	10,5	60	19	10	17,40	32	100	202 757	100	202 782	100	202 807	100	202 832	
BSP-female thread DIN EN ISO 228-1		4	G 1/8	-	102	12	55	70	40	20,0	44,5	6,7	19	12	7	1,63	4	100	202 513	100	202 538	100	202 563	100	202 588
	6	G 1/4	-	102	12	55	70	40	20,0	44,5	6,7	19	12	7	1,60	6	100	202 514	100	202 539	100	202 564	100	202 589	
	10	G 3/8	-	107	14	65	80	50	25,0	54,5	6,7	24	14	8	2,51	10	100	202 515	100	202 540	100	202 565	100	202 590	
	12	G 1/2	-	129	15	80	100	55	27,5	59,5	8,4	30	14	8	4,20	12	100	202 516	100	202 541	100	202 566	100	202 591	
	16/12	G 5/8	-	146	18	80	100	55	27,5	59,5	8,4	36	14	8	4,31	16/12	100	202 517	100	202 542	100	202 567	100	202 592	
	20	G 3/4	-	132	18	85	100	75	40,0	79,5	8,4	41	19	10	5,82	20	100	202 758	100	202 783	100	202 808	100	202 833	
	25	G1	-	162	20	105	120	81	43,5	85,5	10,5	50	19	10	8,95	25	100	202 759	100	202 784	100	202 809	100	202 834	
NPT-female thread ANSI/ASME B1.20.1-1983	4	1/8 - 27	NPT	-	102	6,9	55	70	40	20,0	44,5	6,7	19	12	7	1,63	4	100	202 518	100	202 543	100	202 568	100	202 593
	6	1/4 - 18	NPT	-	102	10,0	55	70	40	20,0	44,5	6,7	19	12	7	1,60	6	100	202 519	100	202 544	100	202 569	100	202 594
	10	3/8 - 18	NPT	-	107	10,3	65	80	50	25,0	54,5	6,7	24	14	8	2,51	10	100	202 520	100	202 545	100	202 570	100	202 595
	12	1/2 - 14	NPT	-	129	13,6	80	100	55	27,5	59,5	8,4	30	14	8	4,20	12	100	202 521	100	202 546	100	202 571	100	202 596
	20	3/4 - 14	NPT	-	132	14,1	85	100	75	40,0	79,5	8,4	41	19	10	5,82	20	100	202 762	100	202 787	100	202 812	100	202 837
	25	1 - 11 1/2	NPT	-	162	16,8	105	120	81	43,5	85,5	10,5	50	19	10	8,95	25	100	202 763	100	202 788	100	202 813	100	202 838
	32	1 1/4 - 11 1/2	NPT	-	188	17,3	106	Ø180	100	50,0	104,5	10,5	60	19	10	16,61	32	100	202 764	100	202 789	100	202 814	100	202 839

Multi-way ball valves with trunnion ball

4-way · steel · threaded connector · DN 4 - DN 40



Handle included in delivery

For more porting patterns refer to "Standard- and special porting patterns".

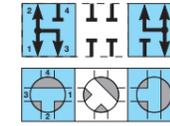
Also available with most other connections

Please check pressure ratings of the pipe fittings!

*) can be actuated up to 100 bar manually

**) DN 32 + DN 40: steel, hard chrome plated

**) DN 40: grey cast iron



For handles refer to "Attachments, accessories"

Actuators and custom orders on request

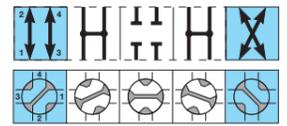
All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

(reduced bore)

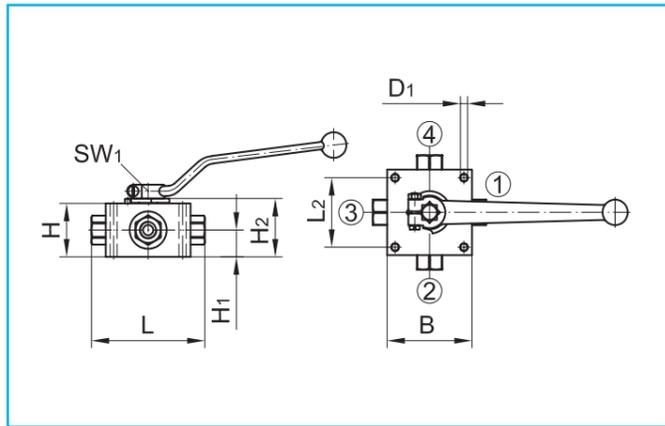


	T	T	Double-L	Double-L
Bore:	T	T	Double-L	Double-L
Cycling:	90°	90°	90°	90°
Body***):	steel, black oxide	steel, black oxide	steel, black oxide	steel, black oxide
Trunnion ball**):	steel, hard chrome plated			
Ball seals:	POM	PTFE	POM	PTFE
Shaft seals:	NBR	FKM	NBR	FKM

Connection	DN	Thread D	OD	L	L1	L2	B	H	H1	H2	D1	SW	SW1	Handle Code	Weight	DN	PN		PN		PN		PN	
																	Article-No.	Article-No.	Article-No.	Article-No.	Article-No.	Article-No.		
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	100	10	55	70	40	20,0	44,5	6,7	19	12	7	1,60	4	500	203 001	100	203 026	500	203 051	100	203 076
	6	M14 x 1,5	8	100	10	55	70	40	20,0	44,5	6,7	19	12	7	1,60	6	500	203 002	100	203 027	500	203 052	100	203 077
	8	M16 x 1,5	10	109	11	65	80	50	25,0	54,5	6,7	24	14	8	2,50	8	500	203 003	100	203 028	500	203 053	100	203 078
	10	M18 x 1,5	12	109	11	65	80	50	25,0	54,5	6,7	24	14	8	2,50	10	500	203 004	100	203 029	500	203 054	100	203 079
	12	M22 x 1,5	15	130	12	80	100	55	27,5	59,5	8,4	30	14	8	4,16	12	500	203 005	100	203 030	500	203 055	100	203 080
	16/12	M26 x 1,5	18	136	12	80	100	55	27,5	59,5	8,4	30	14	8	4,26	16/12	500	203 006	100	203 031	500	203 056	100	203 081
	20	M30 x 2	22	138	14	85	100	75	40,0	79,5	8,4	41	19	10	5,72	20	315	203 911	100	203 912	315	203 913	100	203 914
	25	M36 x 2	28	157	14	105	120	81	43,5	85,5	10,5	50	19	10	8,60	25	315	203 931	100	203 932	315	203 933	100	203 934
	32	M45 x 2	35	210	16	106	Ø180	100	50,0	104,5	10,5	60	19	10	17,10	32	315*)	203 253	100	203 278	315*)	203 303	100	203 328
	40	M52 x 2	42	256	16	150	190	116	61,0	120,5	14,5	75	19	10	20,84	40	100	204 204	100	204 219	100	204 234	100	204 249
For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	106	12	55	70	40	20,0	44,5	6,7	19	12	7	1,61	4	500	203 007	100	203 032	500	203 057	100	203 082
	6	M18 x 1,5	10	106	12	55	70	40	20,0	44,5	6,7	19	12	7	1,61	6	500	203 008	100	203 033	500	203 058	100	203 083
	8	M20 x 1,5	12	111	12	65	80	50	25,0	54,5	6,7	24	14	8	2,52	8	500	203 009	100	203 034	500	203 059	100	203 084
	10	M22 x 1,5	14	115	14	65	80	50	25,0	54,5	6,7	24	14	8	2,53	10	500	203 010	100	203 035	500	203 060	100	203 085
	12	M24 x 1,5	16	134	14	80	100	55	27,5	59,5	8,4	30	14	8	4,15	12	500	203 011	100	203 036	500	203 061	100	203 086
	16/12	M30 x 2	20	144	16	80	100	55	27,5	59,5	8,4	36	14	8	4,32	16/12	500	203 012	100	203 037	500	203 062	100	203 087
	20	M36 x 2	25	146	18	85	100	75	40,0	79,5	8,4	41	19	10	5,82	20	315	203 915	100	203 916	315	203 917	100	203 918
	25	M42 x 2	30	169	20	105	120	81	43,5	85,5	10,5	50	19	10	8,73	25	315	203 935	100	203 936	315	203 937	100	203 938
BSP-female thread DIN EN ISO 228-1	4	G 1/8	-	102	12	55	70	40	20,0	44,5	6,7	19	12	7	1,63	4	500	203 013	100	203 038	500	203 063	100	203 088
	6	G 1/4	-	102	12	55	70	40	20,0	44,5	6,7	19	12	7	1,60	6	500	203 014	100	203 039	500	203 064	100	203 089
	10	G 3/8	-	107	14	65	80	50	25,0	54,5	6,7	24	14	8	2,51	10	500	203 015	100	203 040	500	203 065	100	203 090
	12	G 1/2	-	129	15	80	100	55	27,5	59,5	8,4	30	14	8	4,20	12	500	203 016	100	203 041	500	203 066	100	203 091
	16/12	G 5/8	-	146	18	80	100	55	27,5	59,5	8,4	36	14	8	4,31	16/12	500	203 017	100	203 042	500	203 067	100	203 092
	20	G 3/4	-	132	18	85	100	75	40,0	79,5	8,4	41	19	10	5,82	20	315	203 919	100	203 920	315	203 921	100	203 922
	25	G1	-	162	20	105	120	81	43,5	85,5	10,5	50	19	10	8,95	25	315	203 939	100	203 940	315	203 941	100	203 942
	32	G1 1/4	-	188	20	106	Ø180	100	50,0	104,5	10,5	60	19	10	16,61	32	315*)	203 260	100	203 285	315*)	203 310	100	203 335
NPT-female thread ANSI/ASME B1.20.1-1983	4	1/8 - 27 NPT	-	102	6,9	55	70	40	20,0	44,5	6,7	19	12	7	1,63	4	500	203 018	100	203 043	500	203 068	100	203 093
	6	1/4 - 18 NPT	-	102	10,0	55	70	40	20,0	44,5	6,7	19	12	7	1,60	6	500	203 019	100	203 044	500	203 069	100	203 094
	10	3/8 - 18 NPT	-	107	10,3	65	80	50	25,0	54,5	6,7	24	14	8	2,51	10	500	203 020	100	203 045	500	203 070	100	203 095
	12	1/2 - 14 NPT	-	129	13,6	80	100	55	27,5	59,5	8,4	30	14	8	4,20	12	500	203 021	100	203 046	500	203 071	100	203 096
	20	3/4 - 14 NPT	-	132	14,1	85	100	75	40,0	79,5	8,4	41	19	10	5,85	20	315	203 923	100	203 924	315	203 925	100	203 926
	25	1 - 11 1/2 NPT	-	162	16,8	105	120	81	43,5	85,5	10,5	50	19	10	8,95	25	315	203 943	100	203 944	315	203 945	100	203 946
	32	1 1/4 - 11 1/2 NPT	-	188	17,3	106	Ø180	100	50,0	104,5	10,5	60	19	10	16,61	32	315*)	203 264	100	203 289	315*)	203 314	100	203 339
	40	1 1/2 - 11 1/2 NPT	-	224	17,3	150	190	116	61,0	120,5	14,5	75	19	10	20,30	40	100	204 215	100	204 230	100	204 245	100	204 260

Multi-way ball valves with trunnion ball

4-way · stainless steel · threaded connector · DN 4 - DN 32



Handle included in delivery

For handles refer to "Attachments, accessories"

For more porting patterns refer to "Standard- and special porting patterns".

Stainless steel (material no.1.4571 - or other stainless steels)

Also available with most other connections

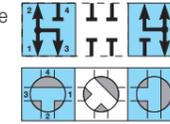
Actuators and custom orders on request

All dimensions subject to change without notice

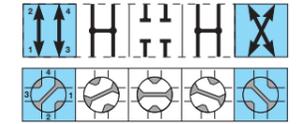
Dimensions in mm

Weight in kg

Pressure in bar



(reduced bore)

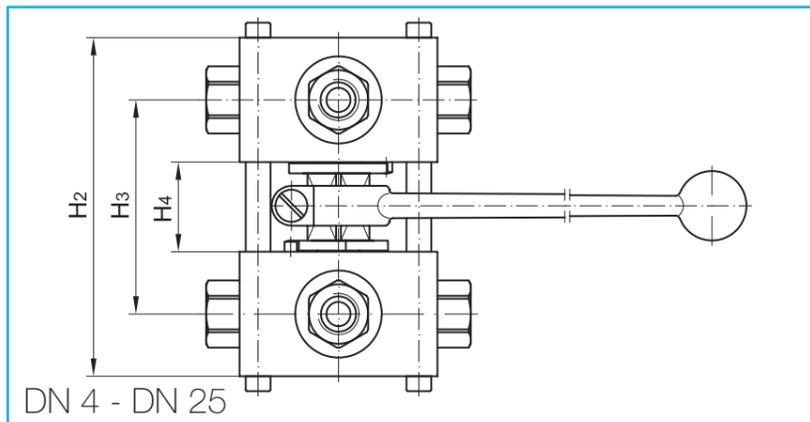


Bore:	T	T	Double-L	Double-L
Cycling:	90°	90°	90°	90°
Body:	stainless steel	stainless steel	stainless steel	stainless steel
Trunnion ball:	stainless steel	stainless steel	stainless steel	stainless steel
Ball seals:	PTFE	PTFE	PTFE	PTFE
Shaft seals:	FKM	FFKM	FKM	FFKM

Connection	DN	Thread D	OD	L	L1	L2	B	H	H1	H2	D1	SW	SW1	Handle Code	Weight	DN	PN	Article-No.	PN	Article-No.	PN	Article-No.	PN	Article-No.
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	100	10	55	70	40	20,0	44,5	6,7	19	12	7	1,60	4	100	203 501	100	203 526	100	203 551	100	203 576
	6	M14 x 1,5	8	100	10	55	70	40	20,0	44,5	6,7	19	12	7	1,60	6	100	203 502	100	203 527	100	203 552	100	203 577
	8	M16 x 1,5	10	109	11	65	80	50	25,0	54,5	6,7	24	14	8	2,50	8	100	203 503	100	203 528	100	203 553	100	203 578
	10	M18 x 1,5	12	109	11	65	80	50	25,0	54,5	6,7	24	14	8	2,50	10	100	203 504	100	203 529	100	203 554	100	203 579
	12	M22 x 1,5	15	130	12	80	100	55	27,5	59,5	8,4	30	14	8	4,16	12	100	203 505	100	203 530	100	203 555	100	203 580
	16/12	M26 x 1,5	18	136	12	80	100	55	27,5	59,5	8,4	30	14	8	4,26	16/12	100	203 506	100	203 531	100	203 556	100	203 581
	20	M30 x 2	22	138	14	85	100	75	40,0	79,5	8,4	41	19	10	5,72	20	100	203 751	100	203 776	100	203 801	100	203 826
	25	M36 x 2	28	157	14	105	120	81	43,5	85,5	10,5	50	19	10	8,60	25	100	203 752	100	203 777	100	203 802	100	203 827
	32	M45 x 2	35	210	16	106	Ø180	100	50,0	104,5	10,5	60	19	10	17,10	32	100	203 753	100	203 778	100	203 803	100	203 828
	For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	106	12	55	70	40	20,0	44,5	6,7	19	12	7	1,61	4	100	203 507	100	203 532	100	203 557	100
6		M18 x 1,5	10	106	12	55	70	40	20,0	44,5	6,7	19	12	7	1,61	6	100	203 508	100	203 533	100	203 558	100	203 583
8		M20 x 1,5	12	111	12	65	80	50	25,0	54,5	6,7	24	14	8	2,52	8	100	203 509	100	203 534	100	203 559	100	203 584
10		M22 x 1,5	14	115	14	65	80	50	25,0	54,5	6,7	24	14	8	2,53	10	100	203 510	100	203 535	100	203 560	100	203 585
12		M24 x 1,5	16	134	14	80	100	55	27,5	59,5	8,4	30	14	8	4,15	12	100	203 511	100	203 536	100	203 561	100	203 586
16/12		M30 x 2	20	144	16	80	100	55	27,5	59,5	8,4	36	14	8	4,32	16/12	100	203 512	100	203 537	100	203 562	100	203 587
20		M36 x 2	25	146	18	85	100	75	40,0	79,5	8,4	41	19	10	5,82	20	100	203 755	100	203 780	100	203 805	100	203 830
25		M42 x 2	30	169	20	105	120	81	43,5	85,5	10,5	50	19	10	8,73	25	100	203 756	100	203 781	100	203 806	100	203 831
BSP-female thread DIN EN ISO 228-1	32	M52 x 2	38	222	22	106	Ø180	100	50,0	104,5	10,5	60	19	10	17,40	32	100	203 757	100	203 782	100	203 807	100	203 832
	4	G 1/8	-	102	12	55	70	40	20,0	44,5	6,7	19	12	7	1,63	4	100	203 513	100	203 538	100	203 563	100	203 588
	6	G 1/4	-	102	12	55	70	40	20,0	44,5	6,7	19	12	7	1,60	6	100	203 514	100	203 539	100	203 564	100	203 589
	10	G 3/8	-	107	14	65	80	50	25,0	54,5	6,7	24	14	8	2,51	10	100	203 515	100	203 540	100	203 565	100	203 590
	12	G 1/2	-	129	15	80	100	55	27,5	59,5	8,4	30	14	8	4,20	12	100	203 516	100	203 541	100	203 566	100	203 591
	16/12	G 5/8	-	146	18	80	100	55	27,5	59,5	8,4	36	14	8	4,31	16/12	100	203 517	100	203 542	100	203 567	100	203 592
NPT-female thread ANSI/ASME B1.20.1-1983	20	G 3/4	-	132	18	85	100	75	40,0	79,5	8,4	41	19	10	5,82	20	100	203 758	100	203 783	100	203 808	100	203 833
	25	G1	-	162	20	105	120	81	43,5	85,5	10,5	50	19	10	8,95	25	100	203 759	100	203 784	100	203 809	100	203 834
	32	G1 1/4	-	188	20	106	Ø180	100	50,0	104,5	10,5	60	19	10	16,61	32	100	203 760	100	203 785	100	203 810	100	203 835
	4	1/8 - 27 NPT	-	102	6,9	55	70	40	20,0	44,5	6,7	19	12	7	1,63	4	100	203 518	100	203 543	100	203 568	100	203 593
	6	1/4 - 18 NPT	-	102	10,0	55	70	40	20,0	44,5	6,7	19	12	7	1,60	6	100	203 519	100	203 544	100	203 569	100	203 594
	10	3/8 - 18 NPT	-	107	10,3	65	80	50	25,0	54,5	6,7	24	14	8	2,51	10	100	203 520	100	203 545	100	203 570	100	203 595
	12	1/2 - 14 NPT	-	129	13,6	80	100	55	27,5	59,5	8,4	30	14	8	4,20	12	100	203 521	100	203 546	100	203 571	100	203 596
	20	3/4 - 14 NPT	-	132	14,1	85	100	75	40,0	79,5	8,4	41	19	10	5,85	20	100	203 762	100	203 787	100	203 812	100	203 837
25	1 - 11 1/2 NPT	-	162	16,8	105	120	81	43,5	85,5	10,5	50	19	10	8,95	25	100	203 763	100	203 788	100	203 813	100	203 838	
32	1 1/4 - 11 1/2 NPT	-	188	17,3	106	Ø180	100	50,0	104,5	10,5	60	19	10	16,61	32	100	203 764	100	203 789	100	203 814	100	203 839	

Multi-way ball valves with trunnion ball

Steel or stainless steel • as combination

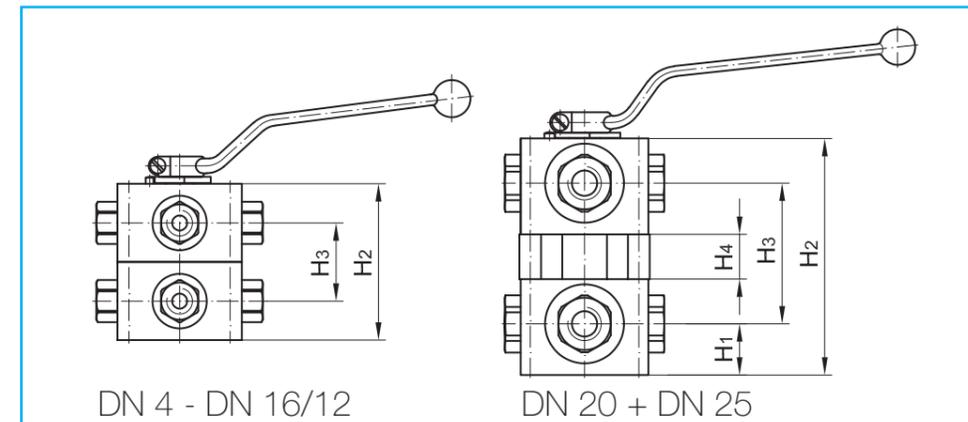


Handle included in delivery
 For dimensions and article-numbers for ball valve bodies refer to the respective chapter.
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm

Also available completely assembled

Connection	DN	H2	H3	H4	Handle Code
ALL	4	114	74	34	44
	6	114	74	34	44
	8	136	86	36	45
	10	136	86	36	45
	12	146	91	36	45
	16/12	146	91	36	45
	20	195	115	45	47
25	207	120	45	47	

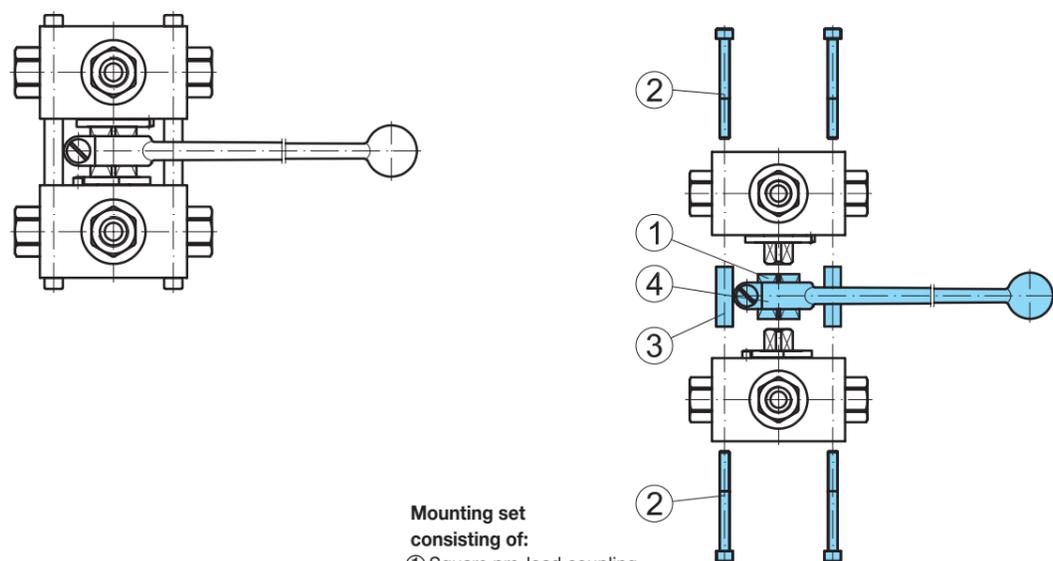
Article-No.
203 890
203 890
203 891
203 891
203 892
203 892
203 893
203 894



Handle included in delivery
 For dimensions and article-numbers for ball valve bodies refer to the respective chapter.
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm

Connection	DN	H1	H2	H3	H4	Handle Code
ALL	4	-	80	40	-	7
	6	-	80	40	-	7
	8	-	100	50	-	8
	10	-	100	50	-	8
	12	-	110	55	-	8
	16/12	-	110	55	-	8
	20	40,0	185	110	35	10
	25	43,5	197	116	35	10

Combination consisting of:
 two multi-way ball valves (without handle) and one mounting set

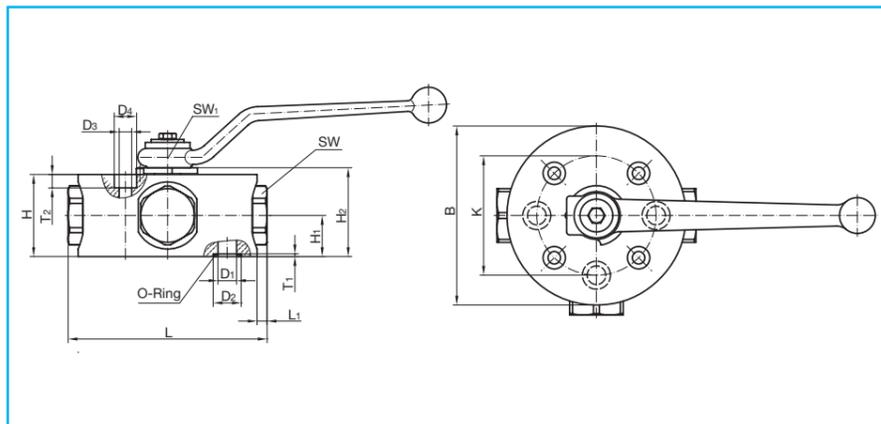


Mounting set consisting of:
 ① Square pre-load coupling
 ② Hex-head bolt (6 pc.)
 ③ Spacer sleeves (3 pc.)
 ④ Handle

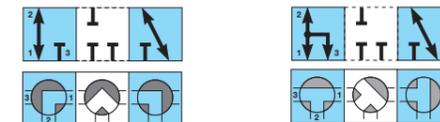


Multi-way ball valves with trunnion ball

3-way · steel · manifold mounting · DN 6 - DN 25



Handle and o-rings included in delivery
 For handles refer to "Attachments, accessories"
 For more porting patterns refer to "Standard- and special porting patterns".
 *) can be actuated up to 100 bar manually
 Actuators and custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar



Bore:	L	T
Cycling:	90°	90°
Body:	steel, black oxide	steel, black oxide
Trunnion ball:	steel, hard chrome plated	steel, hard chrome plated
Body seals:	NBR	NBR
Ball seals:	POM	POM
Shaft seals:	NBR	NBR

Connection	DN	L	L1	B	H	H1	H2	K	D1	D2	D3	D4	T1	T2
Body-flange with o-ring-seal	6	95	2,5	Ø 90	40,5	20,5	45,0	55	6,0	12,5	6,4	11	1,8	6,8
	10	108	4,0	Ø 100	50,0	25,0	54,5	65	8,0	15,0	6,4	11	1,8	6,8
	12	133	6,5	Ø 120	55,0	27,5	59,5	80	12,5	18,8	8,4	15	1,8	9,0
	20	190	5,0	Ø 180	75,0	40,0	79,5	115	19,0	30,0	17,0	26	3,0	22,0
	25	210	5,0	Ø 200	81,0	43,5	85,5	135	23,5	35,0	21,0	33	3,0	21,5
	32	300	5,0	Ø 290	100,0	50,0	104,5	200	32,0	40,0	25,0	40	3,0	26,5

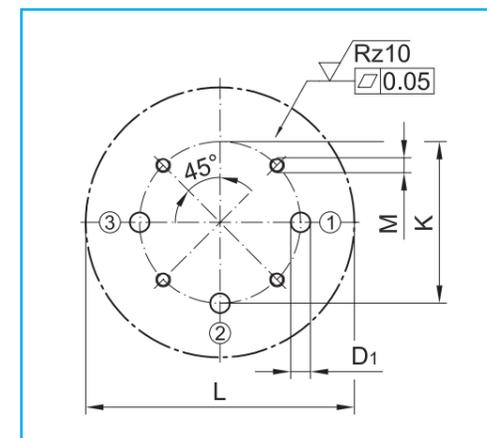
DN	SW	SW1	Handle Code	Weight	For Cylinder-head screws DIN EN ISO 4762 (DIN 912)
6	24	12	7	1,73	M 6 - 10.9
10	30	14	8	2,70	M 6 - 12.9
12	36	14	8	4,58	M 8 - 12.9
20	50	19	10	12,96	M16 - 8.8
25	60	19	10	16,60	M20 - 8.8
32	70	19	10	41,50	M24 - 8.8

PN	Article-No.	PN	Article-No.
400	206 501	400	206 561
400	206 502	400	206 562
400	206 503	400	206 563
315	206 504	315	206 564
315	206 505	315	206 565
315*	206 506	315*	206 566

DN	D1	K	L	M	O-Ring
6	6,0	55	95	M 6	8,0 x 2,5
10	8,0	65	108	M 6	10,0 x 2,5
12	12,5	80	133	M 8	14,0 x 2,5
20	19,0	115	190	M16	23,5 x 3,5
25	23,5	135	210	M20	28,1 x 3,5
32	32,0	200	300	M24	33,5 x 3,5

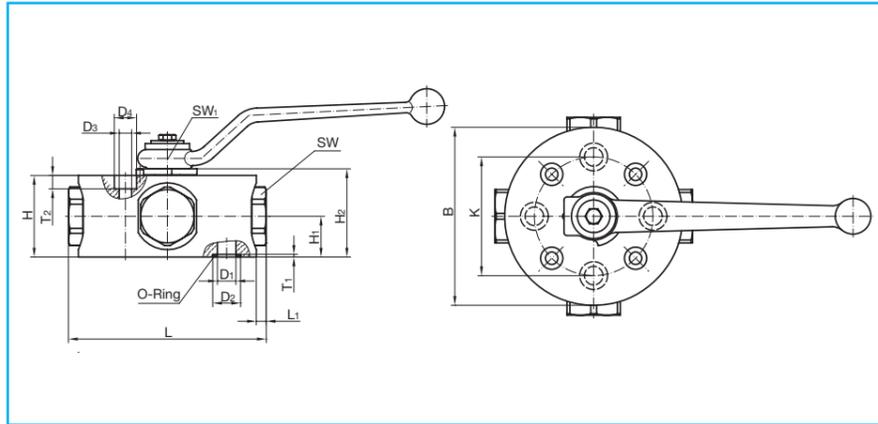
General tolerances
 DIN ISO 2768
 Surfaces
 DIN EN ISO 4287

Drilling pattern DN 6 - DN 32

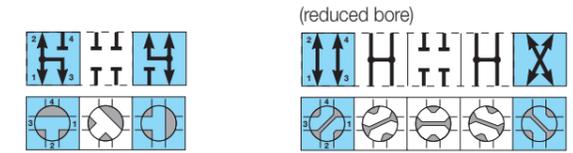


Multi-way ball valves with trunnion ball

4-way · steel · manifold mounting · DN 6 - DN 32



Handle and o-rings included in delivery
 For handles refer to "Attachments, accessories"
 For more porting patterns refer to "Standard- and special porting patterns".
 *) can be actuated up to 100 bar manually
 Actuators and custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

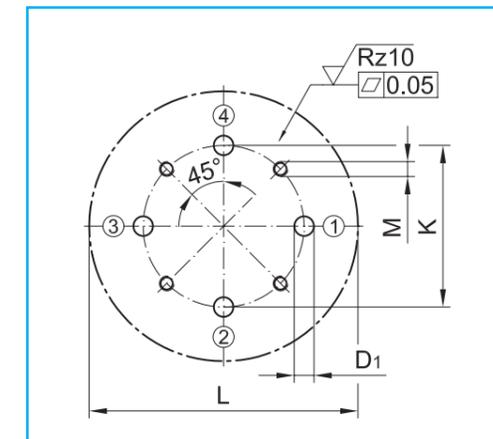


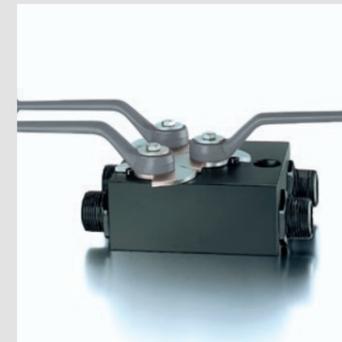
Bore:	T	Double-L
Cycling:	90°	90°
Body:	steel, black oxide	steel, black oxide
Trunnion ball:	steel, hard chrome plated	steel, hard chrome plated
Body seals:	NBR	NBR
Ball seals:	POM	POM
Shaft seals:	NBR	NBR

Connection	DN	L	L1	B	H	H1	H2	K	D1	D2	D3	D4	T1	T2	DN	SW	SW1	Handle Code	Weight	For Cylinder-head screws DIN EN ISO 4762 (DIN 912)	PN	Article-No.	PN	Article-No.
Body-flange with o-ring-seal	6	95	2,5	Ø 90	40,5	20,5	45,0	55	6,0	12,5	6,4	11	1,8	6,8	6	24	12	7	1,73	M 6 - 10.9	400	206 521	400	206 541
	10	108	4,0	Ø 100	50,0	25,0	54,5	65	8,0	15,0	6,4	11	1,8	6,8	10	30	14	8	2,70	M 6 - 12.9	400	206 522	400	206 542
	12	133	6,5	Ø 120	55,0	27,5	59,5	80	12,5	18,8	8,4	15	1,8	9,0	12	36	14	8	4,58	M 8 - 12.9	400	206 523	400	206 543
	20	190	5,0	Ø 180	75,0	40,0	79,5	115	19,0	30,0	17,0	26	3,0	22,0	20	50	19	10	12,96	M16 - 8.8	315	206 524	315	206 544
	25	210	5,0	Ø 200	81,0	43,5	85,5	135	23,5	35,0	21,0	33	3,0	21,5	25	60	19	10	16,60	M20 - 8.8	315	206 525	315	206 545
	32	300	5,0	Ø 290	100,0	50,0	104,5	200	32,0	40,0	25,0	40	3,0	26,5	32	70	19	10	41,50	M24 - 8.8	315*	206 526	315*	206 546

General tolerances DIN ISO 2768 Surfaces DIN EN ISO 4287	DN	D1	K	L	M	O-Ring
	6	6,0	55	95	M 6	8,0 x 2,5
	10	8,0	65	108	M 6	10,0 x 2,5
	12	12,5	80	133	M 8	14,0 x 2,5
	20	19,0	115	190	M16	23,5 x 3,5
	25	23,5	135	210	M20	28,1 x 3,5
	32	32,0	200	300	M24	33,5 x 3,5

Drilling pattern DN 6 - DN 32





Shut-off blocks with integrated bypass and safety-lock



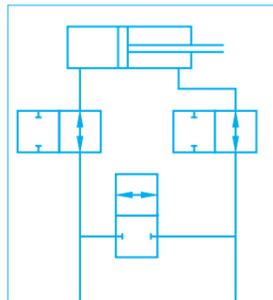
Sandwich plates



Accumulator safety blocks

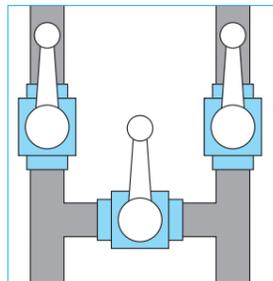


Shut-off blocks with integrated bypass and safety-lock



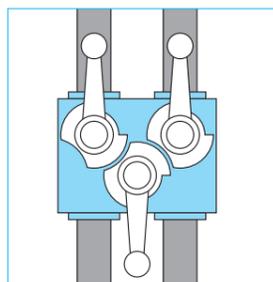
Application/function:

For liquid and oily media as per the compatibility table in the technical data appendix; for insertion upline of actuator cylinders with the capability to both block the cylinder feed lines and to short-circuit them.



The previous situation:

Installation of separate ball valves in the piping system. Here a total of twelve pipe joints must be provided, using two tees. This is labor-intensive and thus expensive. In addition, the hazard of leaks rises with the number of joints.



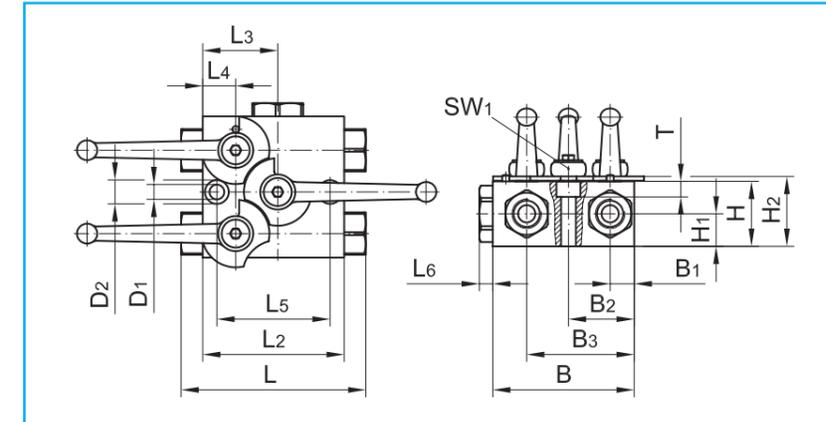
Our solution for the problem:

Combining the three shut-off functions within a single block by incorporating three ball valve assemblies. Only four pipe connections need to be made. A certain sequence in operation is achieved by cam interlocks on the ball valves:

1. block the rod end
2. open the bypass
3. block the piston end

Advantages:

- clear design and user-friendly arrangement
- quick assembly with a reduced number of pipe connections
- reduced hazard of leaks
- mutual interlocks for the valves give a specific operating sequence and prevent any pressure intensification in the rod end of the cylinder
- switches can be attached

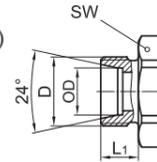


Handle included in delivery
 For handles refer to "Attachments, accessories".
 Please check pressure ratings of pipe fittings!
 Also available with most other connections
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body:	steel, black oxide
Ball:	steel, hard chrome plated
Stem:	steel, zinc plated
Ball seals:	POM
Stem seals:	NBR

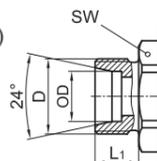
Type of connection

For cut (clamp) ring tube fittings
 DIN 2353
 light series
 ISO 8434-1



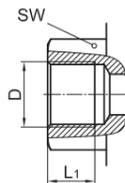
DN	Thread D	OD	L	L1	L2	L3	L4	L5	L6	B	B1	B2	B3	H	H1	H2	D1	D2	T	SW	SW1	Handle Code	Weight	PN	Article-No.
10	M18 x 1,5	12	120	11	90	51,0	22,8	60	6,5	90	20,7	45,7	70,7	40	19,5	43,5	8,4	15	9	24	8	13	1,9	500	250 001
12	M22 x 1,5	15	132	12	100	53,0	23,5	80	9,5	100	17,0	46,5	76,0	46	23,0	49,5	10,5	17	11	30	10	14	3,2	500	250 002
20	M30 x 2	22	149	14	110	66,5	29,0	90	12,0	125	23,0	60,0	97,0	62	31,0	68,5	10,5	17	11	41	14	15	5,5	400	250 004
25	M36 x 2	28	173	14	135	76,6	32,6	115	6,5	147	27,8	71,8	115,8	68	34,0	74,5	10,5	17	11	50	14	15	8,3	400	250 005

For cut (clamp) ring tube fittings
 DIN 2353
 heavy series
 ISO 8434-1



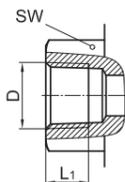
10	M22 x 1,5	14	126	14	90	51,0	22,8	60	6,5	90	20,7	45,7	70,7	40	19,5	43,5	8,4	15	9	24	8	13	1,9	500	250 006
12	M24 x 1,5	16	136	14	100	53,0	23,5	80	9,5	100	17,0	46,5	76,0	46	23,0	49,5	10,5	17	11	30	10	14	3,2	500	250 007
20	M36 x 2	25	157	18	110	66,5	29,0	90	12,0	125	23,0	60,0	97,0	62	31,0	68,5	10,5	17	11	41	14	15	5,5	400	250 009
25	M42 x 2	30	185	20	135	76,6	32,6	115	6,5	147	27,8	71,8	115,8	68	34,0	74,5	10,5	17	11	50	14	15	8,3	400	250 010

BSP-female thread
 DIN EN ISO 228-1

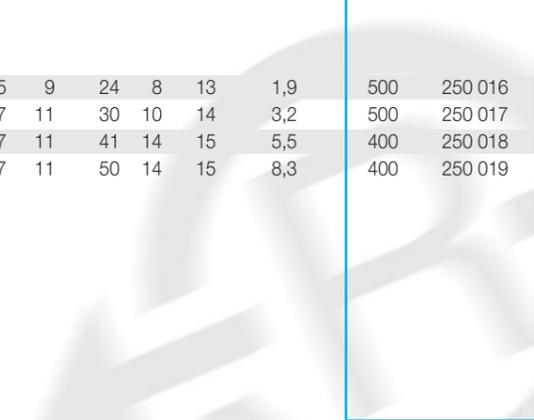


10	G 3/8	-	118	14	90	51,0	22,8	60	6,5	90	20,7	45,7	70,7	40	19,5	43,5	8,4	15	9	24	8	13	1,9	500	250 011
12	G 1/2	-	131	15	100	53,0	23,5	80	9,5	100	17,0	46,5	76,0	46	23,0	49,5	10,5	17	11	30	10	14	3,2	500	250 012
20	G 3/4	-	143	18	110	66,5	29,0	90	12,0	125	23,0	60,0	97,0	62	31,0	68,5	10,5	17	11	41	14	15	5,5	400	250 014
25	G 1	-	178	18	135	76,6	32,6	115	6,5	147	27,8	71,8	115,8	68	34,0	74,5	10,5	17	11	50	14	15	8,3	400	250 015

NPT-female thread
 ANSI/ASME
 B1.20.1-1983

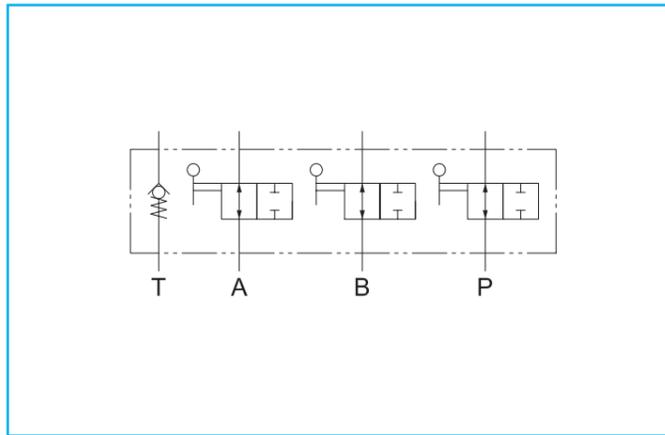


10	3/8-18	NPT	-	118	10,3	90	51,0	22,8	60	6,5	90	20,7	45,7	70,7	40	19,5	43,5	8,4	15	9	24	8	13	1,9	500	250 016
12	1/2-14	NPT	-	131	13,6	100	53,0	23,5	80	9,5	100	17,0	46,5	76,0	46	23,0	49,5	10,5	17	11	30	10	14	3,2	500	250 017
20	3/4-14	NPT	-	143	14,1	110	66,5	29,0	90	12,0	125	23,0	60,0	97,0	62	31,0	68,5	10,5	17	11	41	14	15	5,5	400	250 018
25	1-11 1/2	NPT	-	178	16,8	135	76,6	32,6	115	6,5	147	27,8	71,8	115,8	68	34,0	74,5	10,5	17	11	50	14	15	8,3	400	250 019



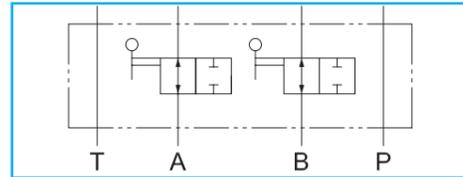
Ball valve-function systems

Sandwich plates · NG 10 · PN 315

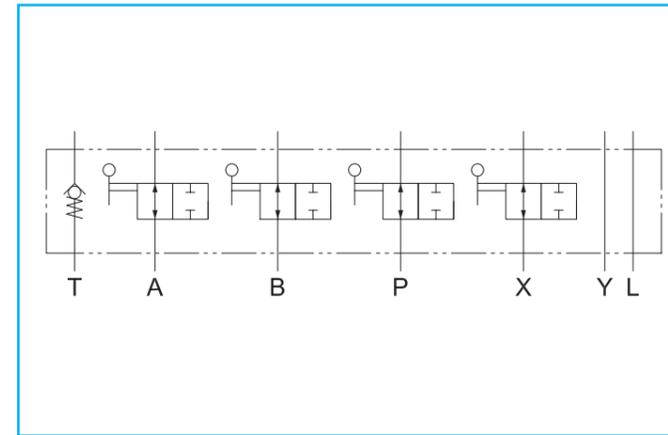


Article-No. 208 032

Weight: 4,45 kg
 Opening pressure of check valve: approx. 0,3 bar
 Drilling pattern to DIN 24340-A10 and ISO 4401-05-04-0-94
 Custom orders on request
 All dimensions subject to change without notice
 Also available with blocking in A and B only
 Dimension sheet on request, locking device retrofittable

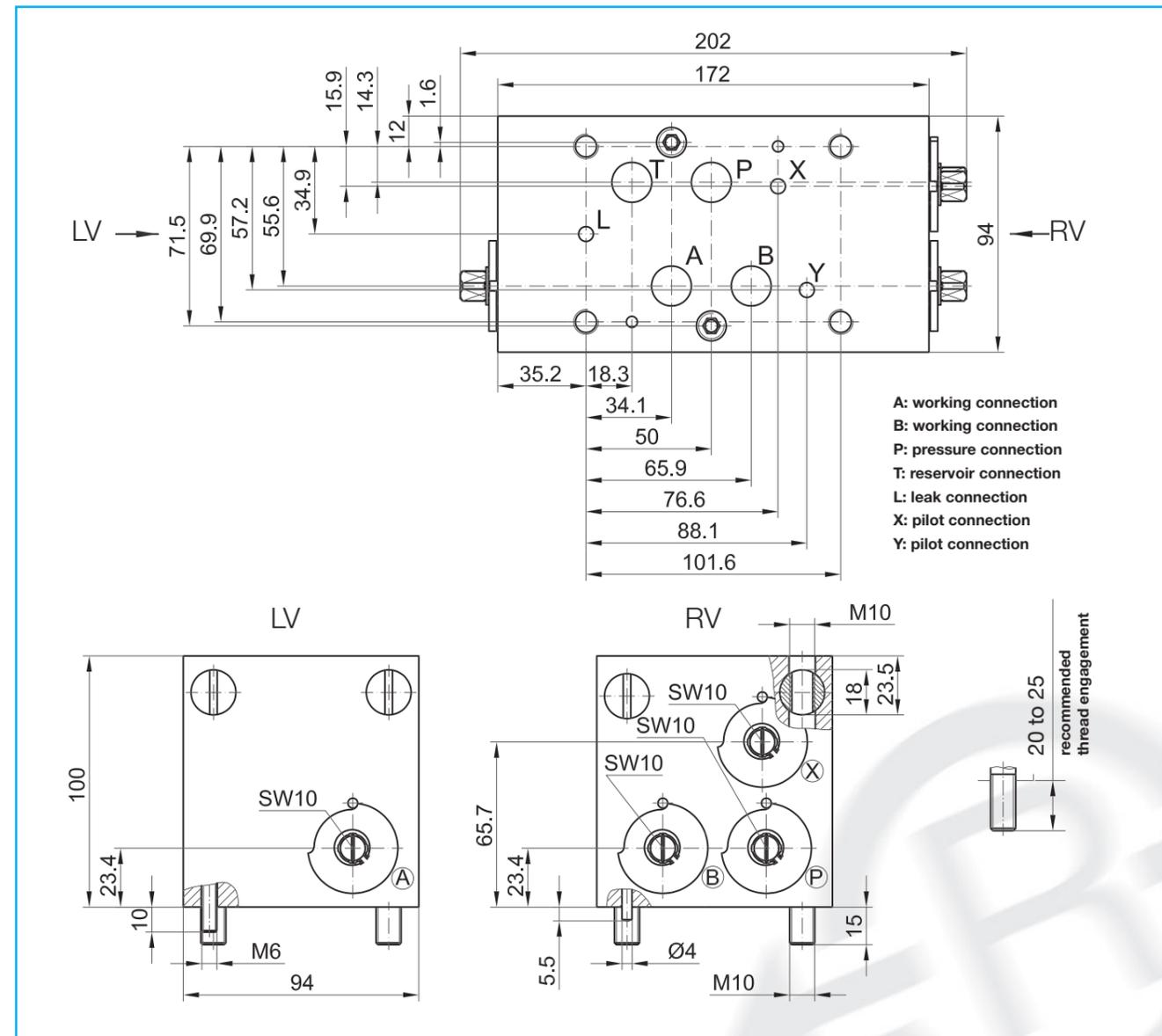
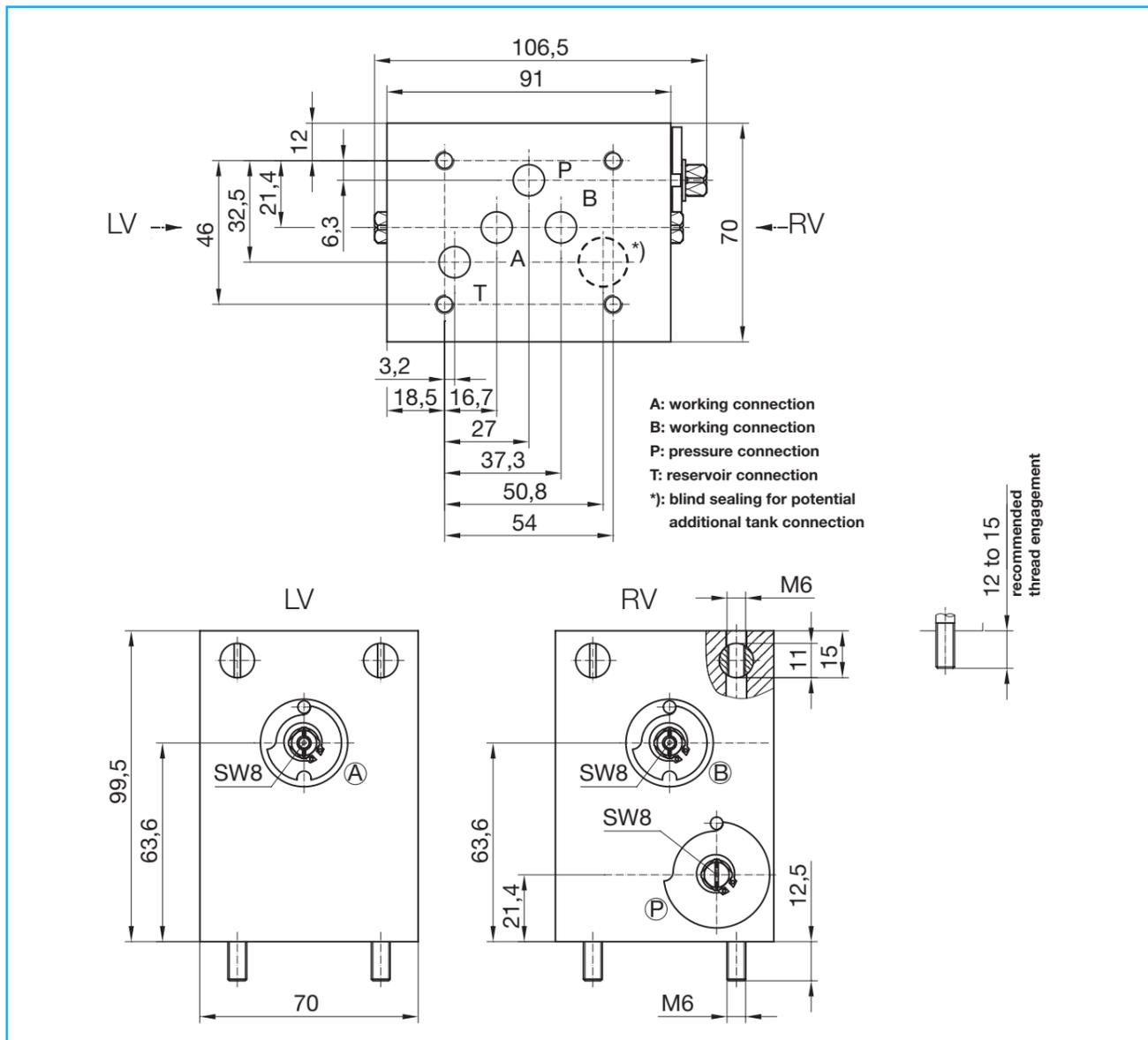
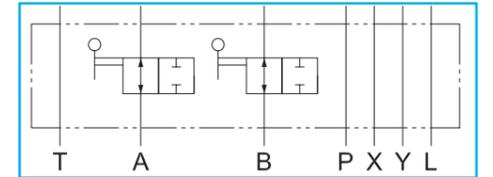


Sandwich plates · NG 16 · PN 315



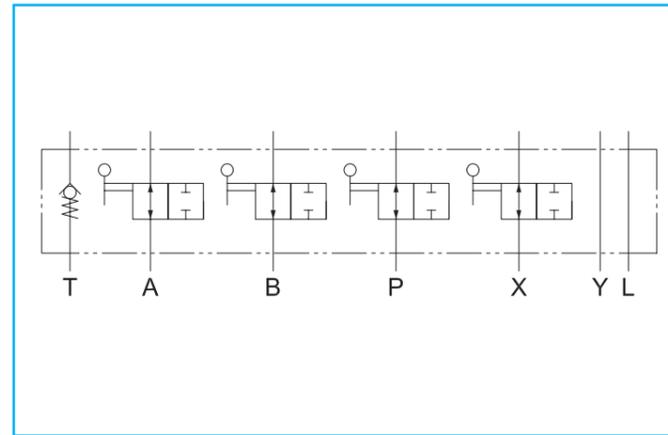
Article-No. 208 034

Weight: 11,7 kg
 Opening pressure of check valve: approx. 0,3 bar
 Drilling pattern to DIN 24340-A16 and ISO 4401-07-06-0-94
 Custom orders on request
 All dimensions subject to change without notice
 Also available with blocking in A and B only
 Dimension sheet on request, locking device retrofittable



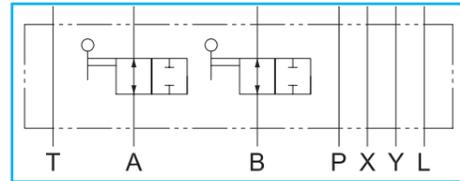
Ball valve-function systems

Sandwich plates · NG 25 · PN 315

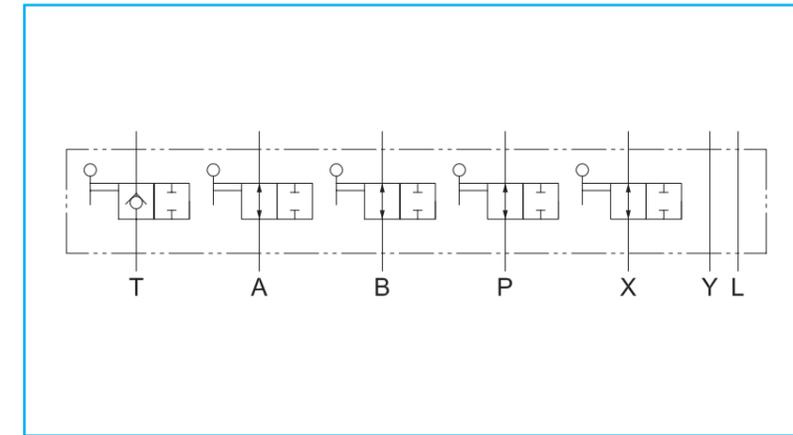


Article-No. 208 036

Weight: 25,4 kg
 Opening pressure of check valve: approx. 0,3 bar
 Drilling pattern to DIN 24340-A25 and ISO 4401-08-07-0-94
 Custom orders on request
 All dimensions subject to change without notice
 Also available with blocking in A and B only
 Dimension sheet on request, locking device retrofittable

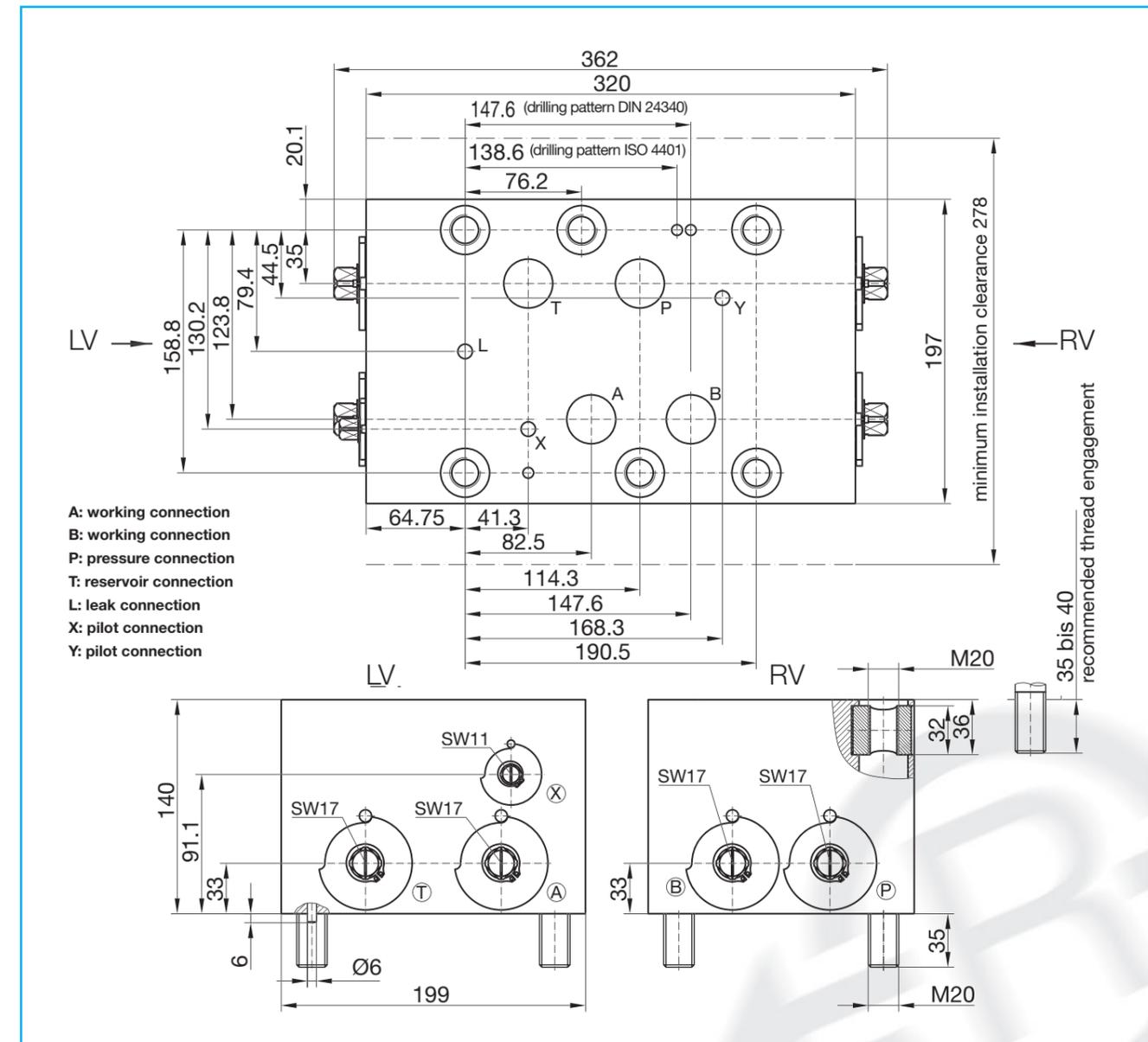
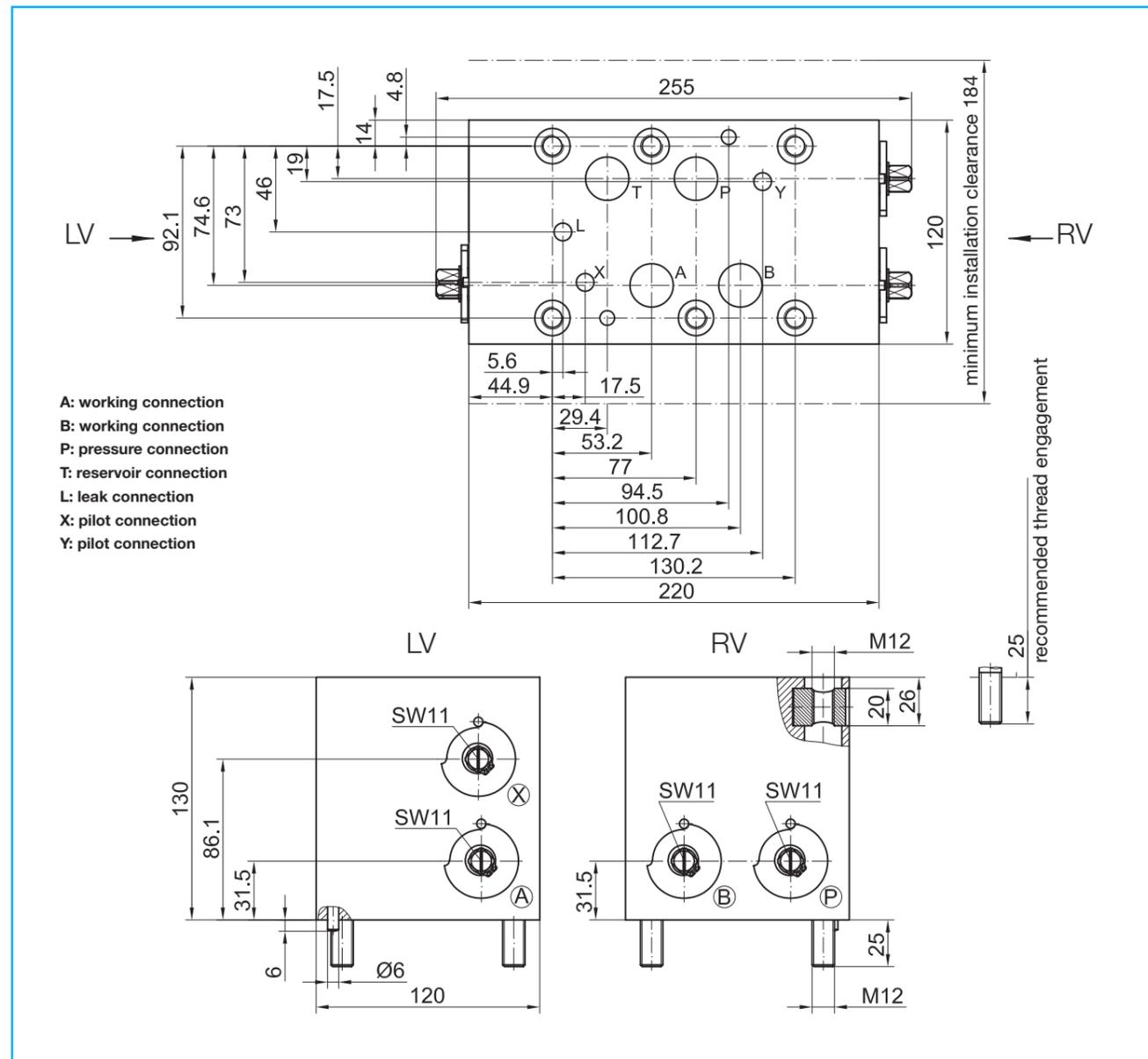
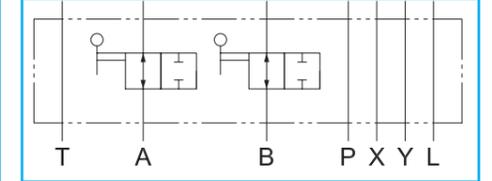


Sandwich plates · NG 32 · PN 315



Article-No. 208 038

Weight: approx. 60 kg
 Drilling pattern to DIN 24340-A32 and ISO 4401-10-08-0-94
 Custom orders on request
 All dimensions subject to change without notice
 also available with blocking in A and B only
 Dimension sheet on request, locking device retrofittable



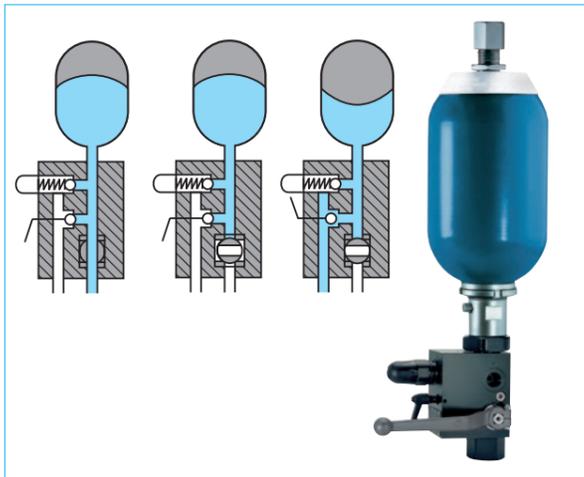
Ball valve-function systems

Accumulator safety blocks · with integrated 2-way ball valve type RSA

Technical information



Locking device available



- Easy order guide:** **RSA 10 F S010 1 1 N 300 E Y 1**
- Nominal size (NG) ball valve**
 10 = NG 10
 20 = NG 20
 32 = NG 32
- Connection thread pump (P)**
 A = M22x1.5 light series (ISO 8434-1)
 B = M36x2 light series (ISO 8434-1)
 C = M52x2 light series (ISO 8434-1)
 D = M24x1.5 heavy series (ISO 8434-1)
 E = M42x2 heavy series (ISO 8434-1)
 F = G 1/2 (DIN EN ISO 228-1)
 G = G1 (DIN EN ISO 228-1)
 H = G1 1/2 (DIN EN ISO 228-1)
 J = 1/2-14NPT (ANSI/ASME B1.20.1-1983)
 K = 1-11 1/2NPT (ANSI/ASME B1.20.1-1983)
 L = 1 1/2-11 1/2NPT (ANSI/ASME B1.20.1-1983)
 M = other threads
- Connection thread tank (T)**
 A = M22x1.5 light series (ISO 8434-1)
 B = M36x2 light series (ISO 8434-1)
 C = M52x2 light series (ISO 8434-1)
 D = M24x1.5 heavy series (ISO 8434-1)
 E = M42x2 heavy series (ISO 8434-1)
 F = G 1/2 (DIN EN ISO 228-1)
 G = G1 (DIN EN ISO 228-1)
 H = G1 1/2 (DIN EN ISO 228-1)
 J = 1/2-14NPT (ANSI/ASME B1.20.1-1983)
 K = 1-11 1/2NPT (ANSI/ASME B1.20.1-1983)
 L = 1 1/2-11 1/2NPT (ANSI/ASME B1.20.1-1983)
 M = other threads
- Adapter fitting for accumulator (S)**
 e.g. S010 = G 3/4A (DIN EN ISO 228-1) refer to table
- Body material**
 1 = Steel
 4 = other material
- Sealing material (elastomer)**
 1 = NBR
 2 = FKM
 3 = EPDM
 5 = other material
- Pressure relief valve (DBV)**
 N = without approval
 T = with TÜV-approval
 X = Delivered without pressure limiter valve
- opening pressure**
 300 = e.g. 300 bar
 000 = Delivered without pressure limiter valve
- Relief**
 M = manual
 E = manual and electromagnetic
 V = prepared for electromagnetic relief
- Solenoid valve design**
 X = Delivered without solenoid valve
 Y = open when de-energized
 Z = closed when de-energized
- Solenoid valve voltage**
 0 = Delivered without solenoid valve
 1 = 24 V DC
 2 = 230 V DC
 3 = other

Securing, isolating and depressurising hydraulic pressure accumulators:

Simple operation stands for absolute operational safety. Depending on the position of the handle, the passage from the system to the accumulator will be opened or closed. The accumulator block can be kept pressurised with the valve in the closed status (battery configuration). The accumulator can be relieved manually with the integrated valve. - Refer to "3-way accumulator safety blocks" if automatic relief is desired.

Flexibility thanks to a modular design:

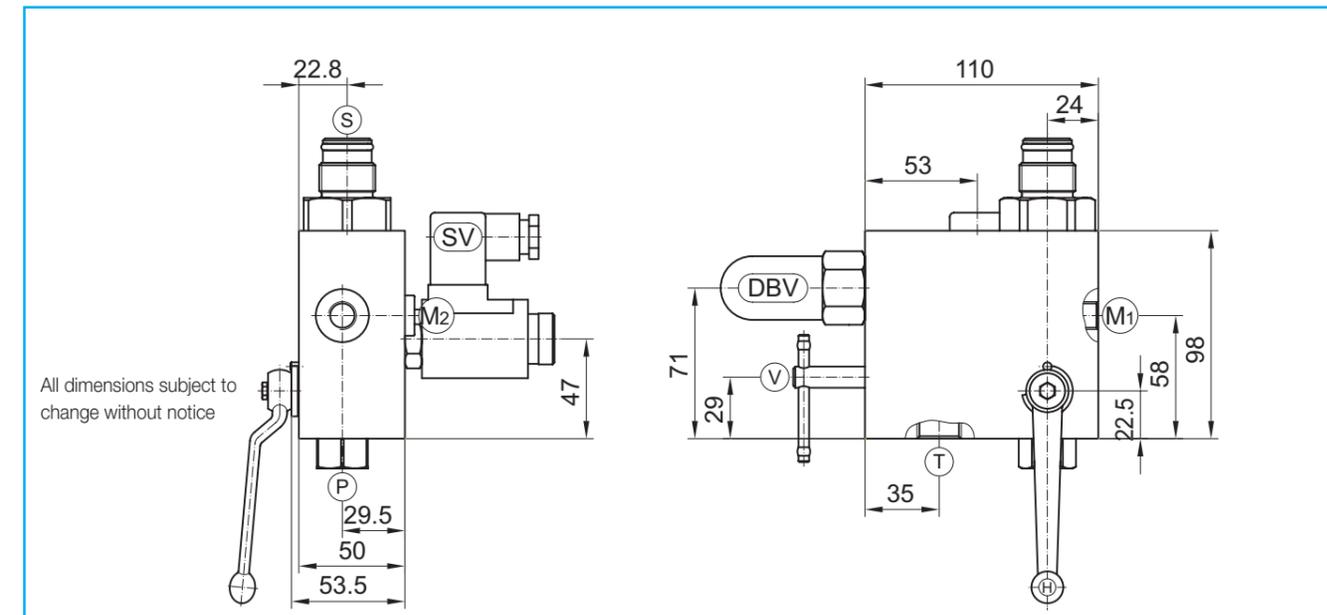
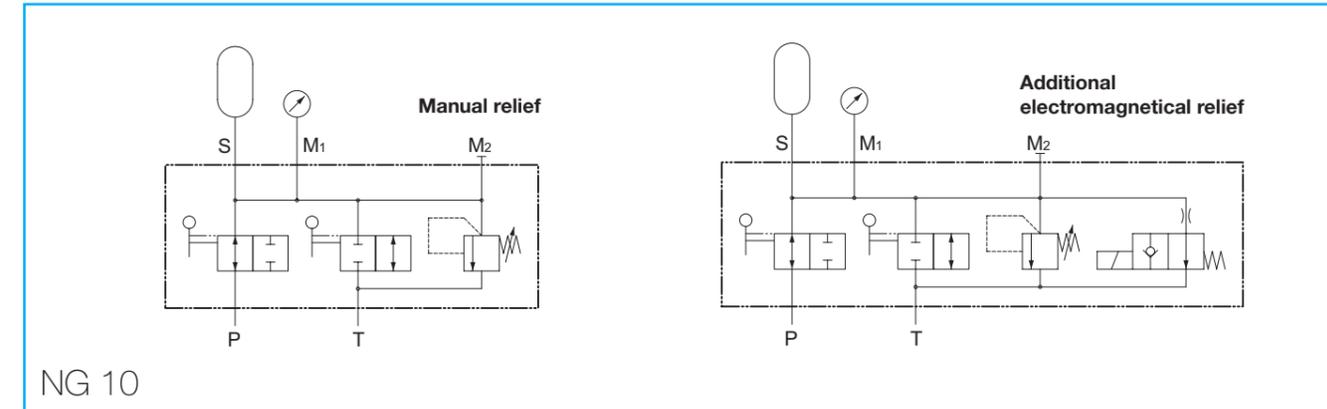
The modular design concept makes the safety block particularly economical and flexible to meet customer requirements. The body is assembled at the factory with adapter fittings in accordance with your order.

Applications/functions:

For liquid media as per the compatibility table in the technical data appendix

The accumulator safety blocks can be supplied with solenoid-operated relief valves if desired. Every block is equipped with the connections required for retrofitting.

Accumulator safety blocks · with integrated 2-way ball valve type RSA



- P = Pump connection**
 M-version 400 bar
 E-version 350 bar
- T = Tank connection**
- S = Accumulator connection**
- M₁ = Test gauge connection**
 G1/4 (DIN EN ISO 228-1)
- M₂ = Pressure gauge connection (closed)**
 G1/4 (DIN EN ISO 228-1)
- DBV = Pressure relief valve**
 cavity-thread M28x1.5
 assembly torque 50⁺⁵ Nm
- SV = 2-way-solenoid valve**
 cavity-thread M20x1.5
 assembly torque 25⁺⁵ Nm
 (manual relief closed)
- V = Pressure relief**
- H = Handle Code 13 (8kt8)**
 refer to chapter "Attachments, accessories"

Adapter fittings for accumulator connection S

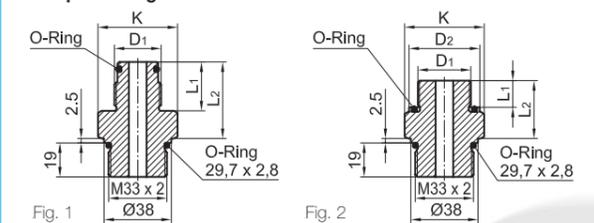
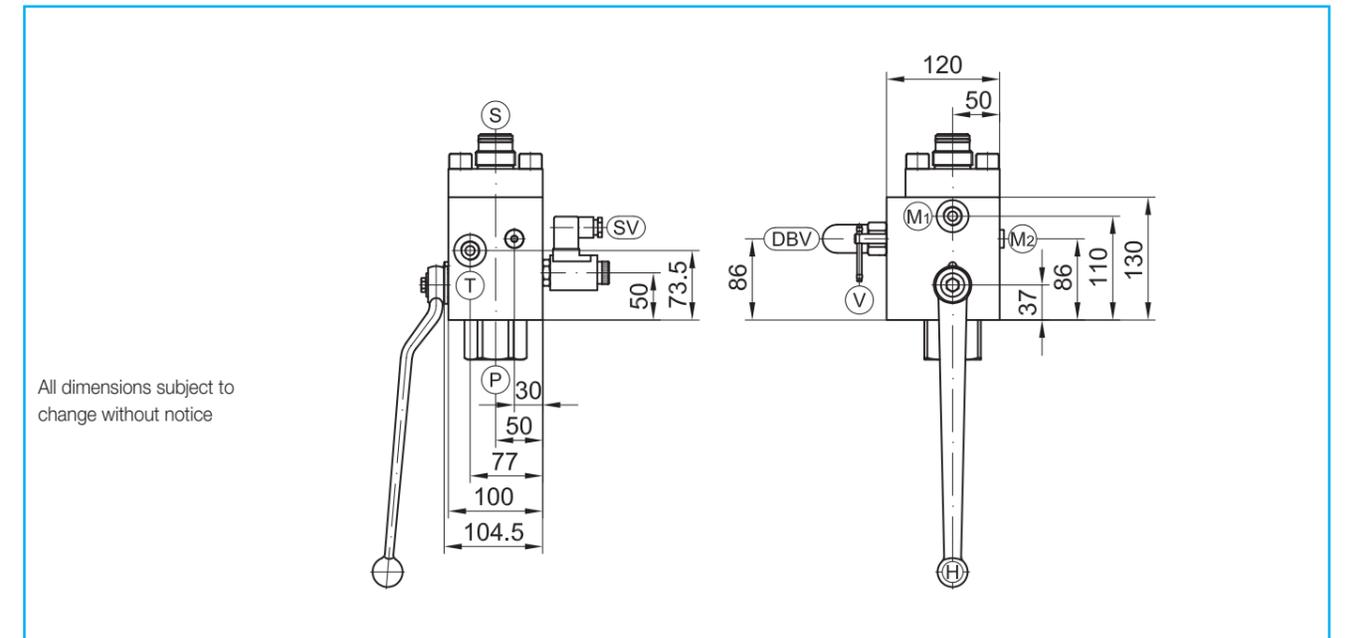
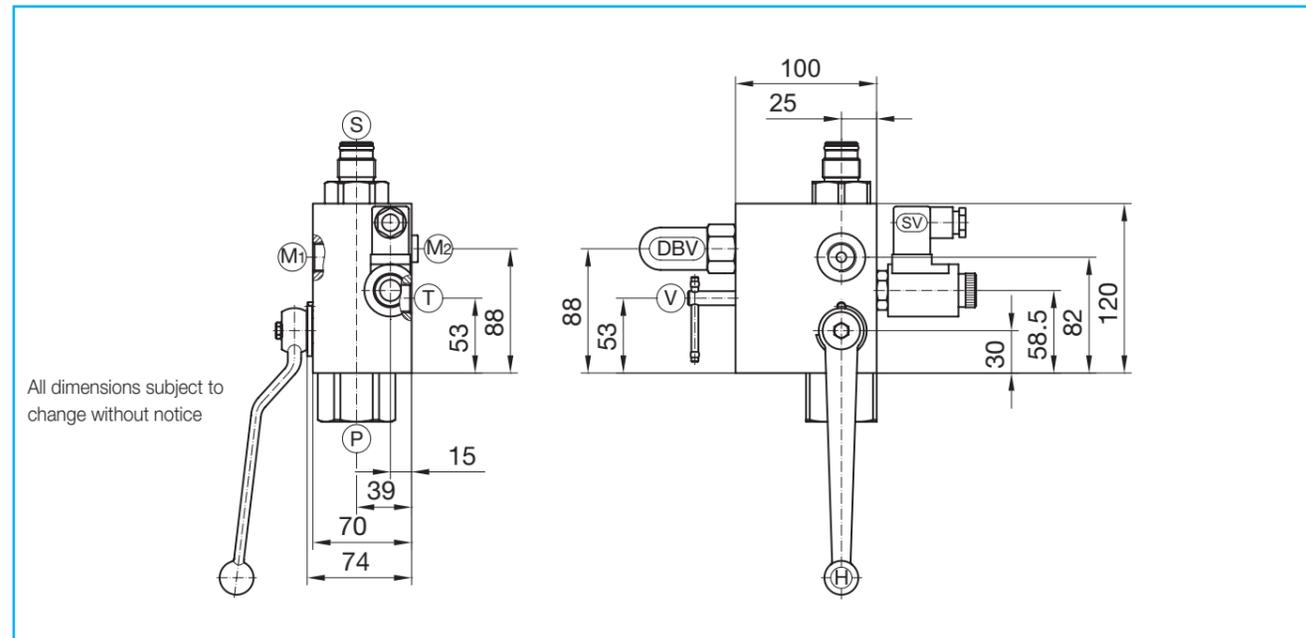
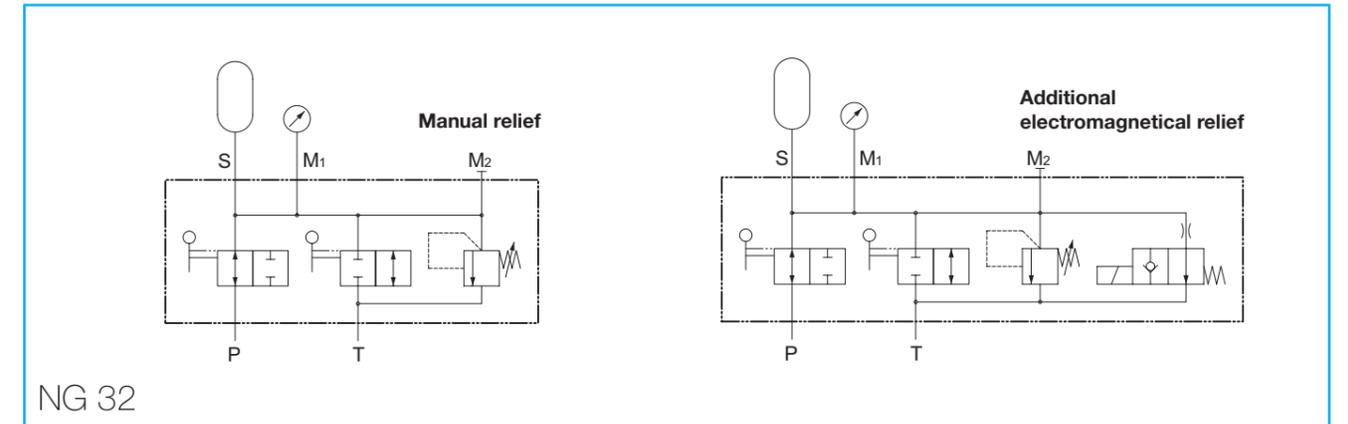
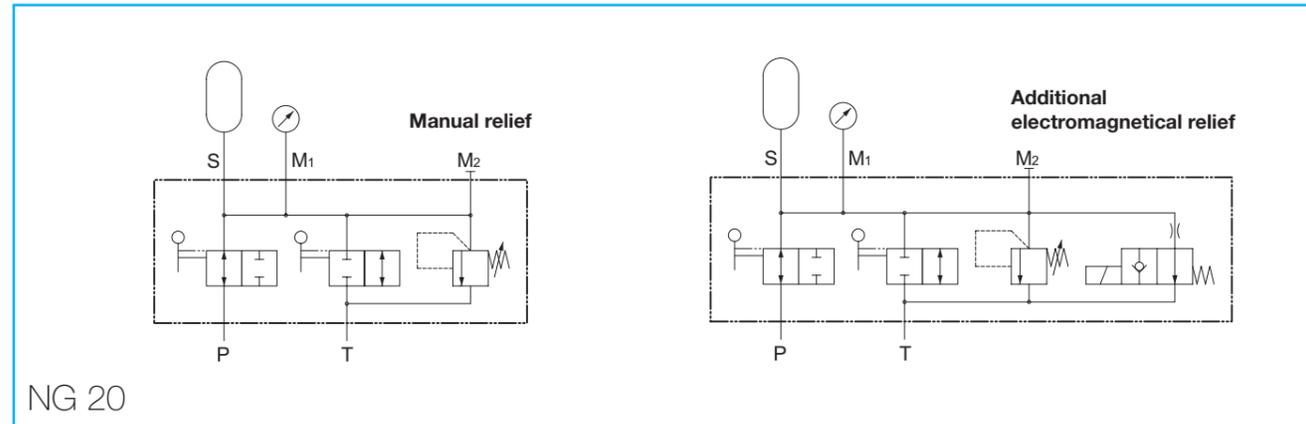


Fig.	D ₁ Connection-thread	Adapter-fitting	K (SW)	L ₁	L ₂	D ₂	O-Ring
1	G 3/4 A	S010	41	28	43,5	-	17 x 3
	G 1 A	S011	46	34	50,5	-	22 x 3
	G 1 1/4 A	S012	46	37	53,5	-	30 x 3
	G 2 A	S013	65	44	64,5	-	48 x 3
2	M 30 x 1,5	S020	41	15	32,5	40	32 x 2
	M 40 x 1,5	S021	55	20	40,5	54	43 x 3
	M 50 x 1,5	S022	65	20	40,5	64	53 x 3

Also available with most other connections



- P = Pump connection**
M-version 400 bar
E-version 350 bar
- T = Tank connection**
- S = Accumulator connection**
G¹/₂ (DIN EN ISO 228-1)
- M₂ = Pressure gauge connection (closed)**
G¹/₄ (DIN EN ISO 228-1)
- DBV = Pressure relief valve**
cavity-thread M35x1.5
assembly torque 80⁺⁵ Nm
- SV = 2-way-solenoid valve**
cavity-thread M20x1.5
assembly torque 25⁺⁵ Nm
(manual relief closed)
- V = Pressure relief**
- H = Handle Code 15 (8kt14)**
refer to chapter "Attachments, accessories"

Adapter fittings for accumulator connection S

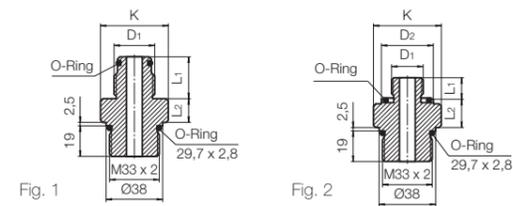


Abb.	D ₁ Connection-thread	Adapter-fitting	K (SW)	L ₁	L ₂	D ₂	O-Ring
1	G 3/4 A	S010	41	28	43,5	-	17 x 3
	G 1 A	S011	46	34	50,5	-	22 x 3
	G 1 1/4 A	S012	46	37	53,5	-	30 x 3
	G 2 A	S013	65	44	64,5	-	48 x 3
2	M 30 x 1,5	S020	41	15	32,5	40	32 x 2
	M 40 x 1,5	S021	55	20	40,5	54	43 x 3
	M 50 x 1,5	S022	65	20	40,5	64	53 x 3

Also available with most other connections

- P = Pump connection**
M-version 400 bar
E-version 350 bar
- T = Tank connection**
- S = Accumulator connection**
G¹/₂ (DIN EN ISO 228-1)
- M₁ = Test gauge connection**
G¹/₂ (DIN EN ISO 228-1)
- M₂ = Pressure gauge connection (closed)**
G¹/₄ (DIN EN ISO 228-1)
- DBV = Pressure relief valve**
cavity-thread M35x1.5
assembly torque 80⁺⁵ Nm
- SV = 2-way-solenoid valve**
cavity-thread M20x1.5
assembly torque 25⁺⁵ Nm
(manual relief closed)
- V = Pressure relief**
- H = Handle Code 21 (8kt17)**
refer to chapter "Attachments, accessories"

Adapter fittings for accumulator connection S

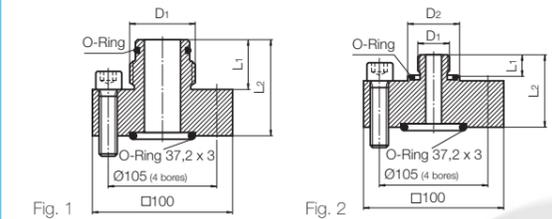


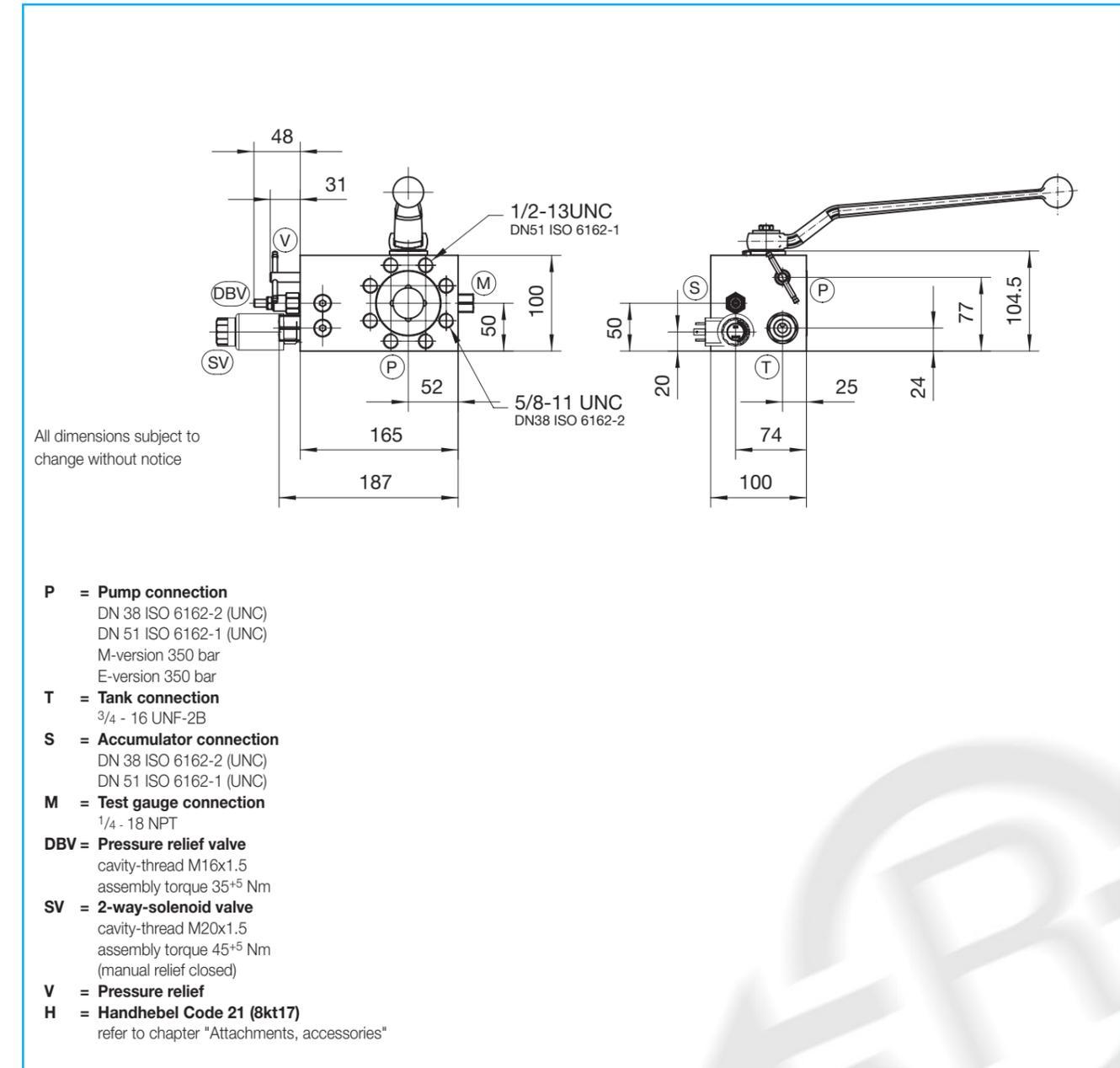
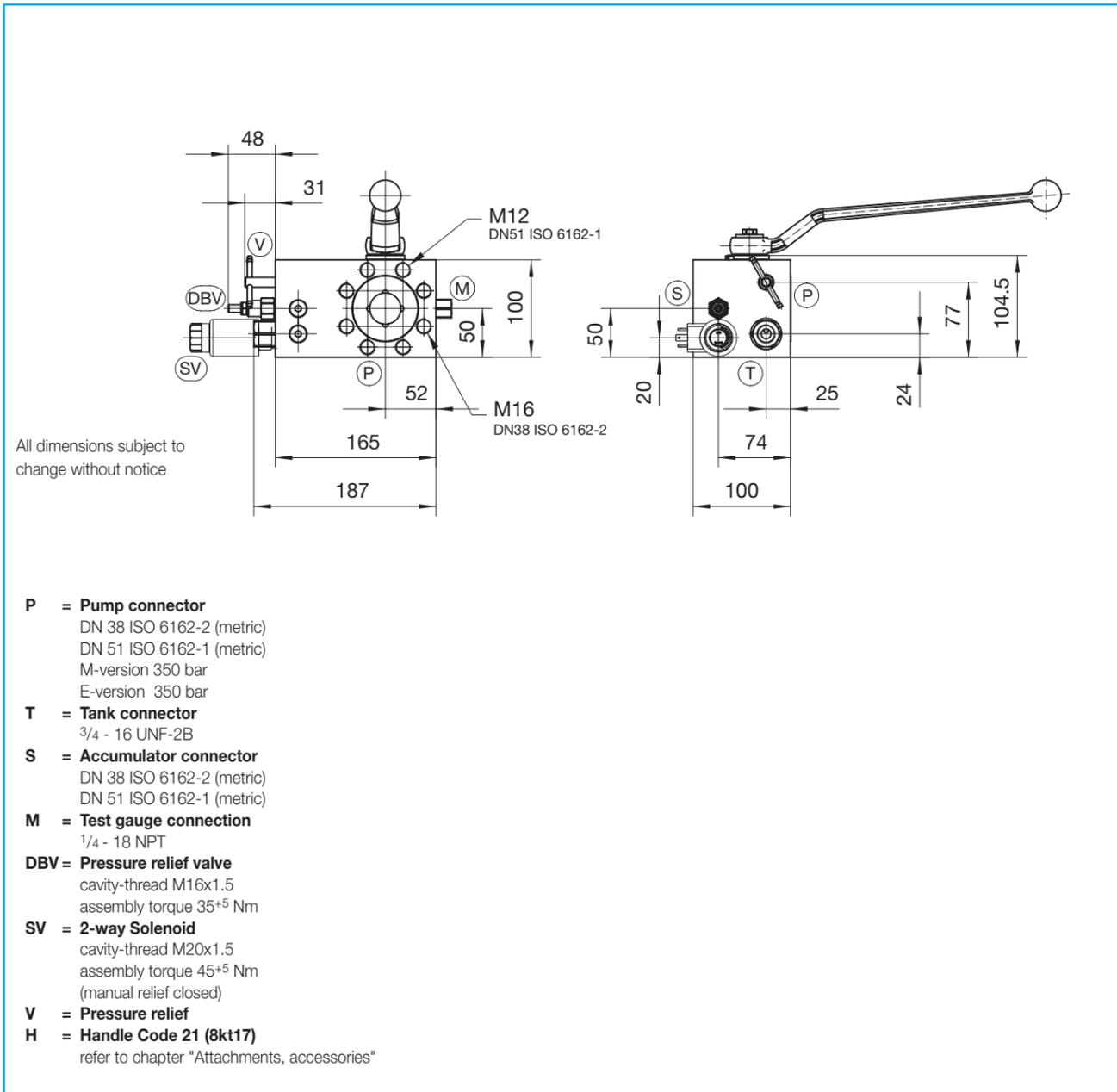
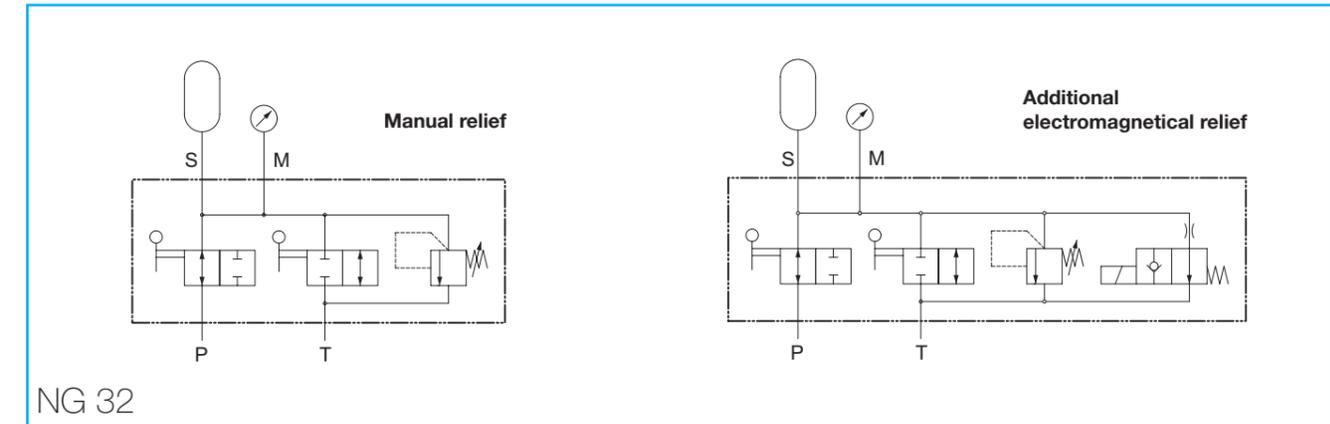
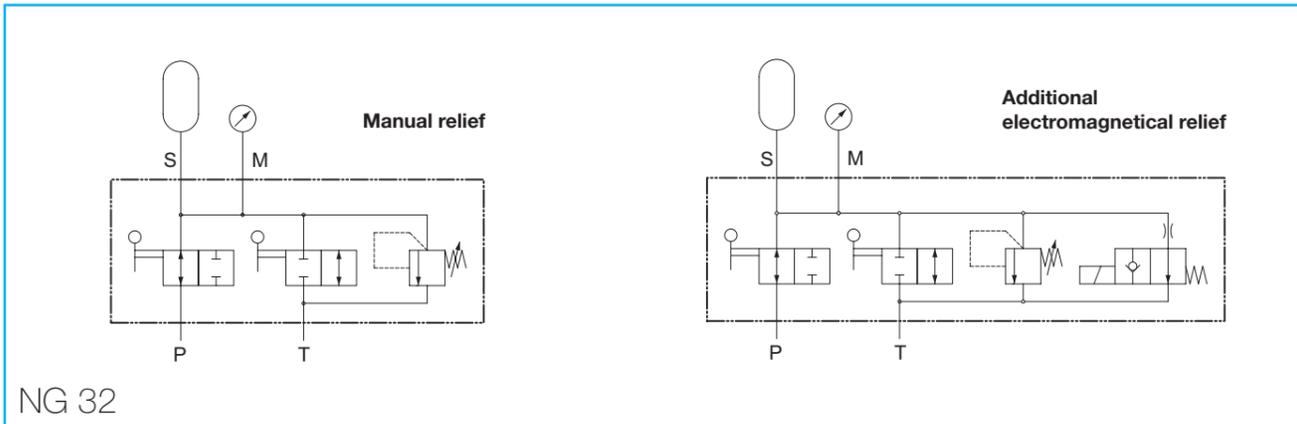
Fig.	D ₁ Connection-thread	Adapter-fitting	L ₁	L ₂	D ₂	O-Ring
1	G 3/4 A	S305	28	58	-	17 x 3
	G 1 A	S306	34	64	-	22 x 3
	G 1 1/4 A	S307	37	67	-	30 x 3
	G 2 A	S309	44	74	-	48 x 3
2	M 30 x 1,5	S330	15	47	45	32 x 2
	M 40 x 1,5	S340	20	51	60	43 x 3
	M 50 x 1,5	S350	20	51	75	53 x 3

Also available with most other connections

Ball valve-function systems

Accumulator safety blocks · with integrated 2-way ball valve type RSA

Accumulator safety blocks · with integrated 2-way ball valve type RSA



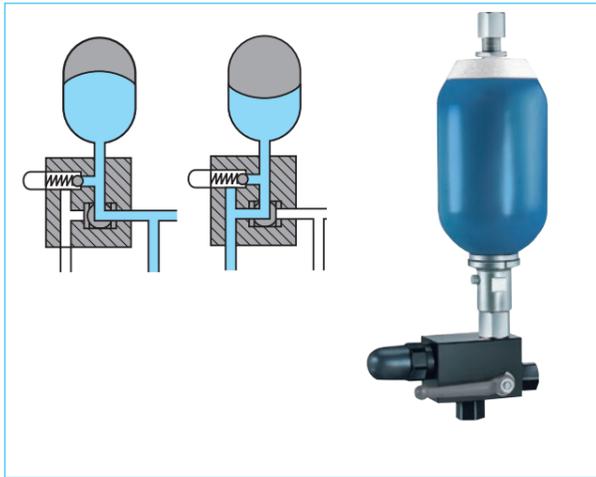
Ball valve-function systems

Accumulator safety blocks · with integrated 3-way ball valve type RSK

Technical information



Locking device available



Easy order guide : **RSK 10 E E S500 1 1 L N 300 E Y 1**

Nominal size (NG) ball valve

- 6 = NG 6
- 10 = NG 10
- 20 = NG 20

Connection thread pump (P)

- A = M18x1.5 light series (ISO 8434-1)
- B = M30x2 light series (ISO 8434-1)
- C = M22x1.5 heavy series (ISO 8434-1)
- D = M36x2 heavy series (ISO 8434-1)
- E = G 3/8 (DIN EN ISO 228-1)
- F = G 3/4 (DIN EN ISO 228-1)
- G = 3/8 - 18 NPT (ANSI/ASME B1.20.1-1983)
- H = 3/4 - 14 NPT (ANSI/ASME B1.20.1-1983)
- J = other thread

Connection thread tank (T)

- A = M18x1.5 light series (ISO 8434-1)
- B = M30x2 light series (ISO 8434-1)
- C = M22x1.5 heavy series (ISO 8434-1)
- D = M36x2 heavy series (ISO 8434-1)
- E = G 3/8 (DIN EN ISO 228-1)
- F = G 3/4 (DIN EN ISO 228-1)
- G = 3/8 - 18 NPT (ANSI/ASME B1.20.1-1983)
- H = 3/4 - 14 NPT (ANSI/ASME B1.20.1-1983)
- J = other thread

Adapter fitting for accumulator (S)

e.g. S500 = G 3/4A (DIN EN ISO 228 - 1) refer to table

Body material

- 1 = Steel
- 4 = other material

Sealing material (elastomer)

- 1 = NBR
- 2 = FKM
- 3 = EPDM
- 5 = other material

Ball-bore

- L = L-shaped bore
- T = T-shaped bore

Pressure relief valve (DBV)

- N = without approval
 - T = with TÜV-approval
 - X = Delivered without pressure limiter valve
- opening pressure
- 300 = e.g. 300 bar
 - 000 = Delivered without pressure limiter valve

Relief

- M = manual
- E = manual and electromagnetic
- V = prepared for electromagnetic relief

Solenoid valve design

- X = Delivered without solenoid valve
- Y = open when de-energized
- Z = closed when de-energized

Solenoid valve voltage

- 0 = Delivered without solenoid valve
- 1 = 24 V DC
- 2 = 230 V DC
- 3 = other

Securing, isolating and depressurizing hydraulic pressure accumulators:

Simple operation stands for absolute operational safety. Depending on the position of the handle, the passage from the system to the accumulator will be opened or - with simultaneous relief of the accumulator - closed. The integrated 3-way ball valve ensures that the system will be blocked off and the accumulator pressure relieved with just a single motion; this eliminates the need for an additional relief valve. If separate isolation of the accumulator is desired, refer to the "Accumulator 2-way safety block" information.

Flexibility thanks to a modular design:

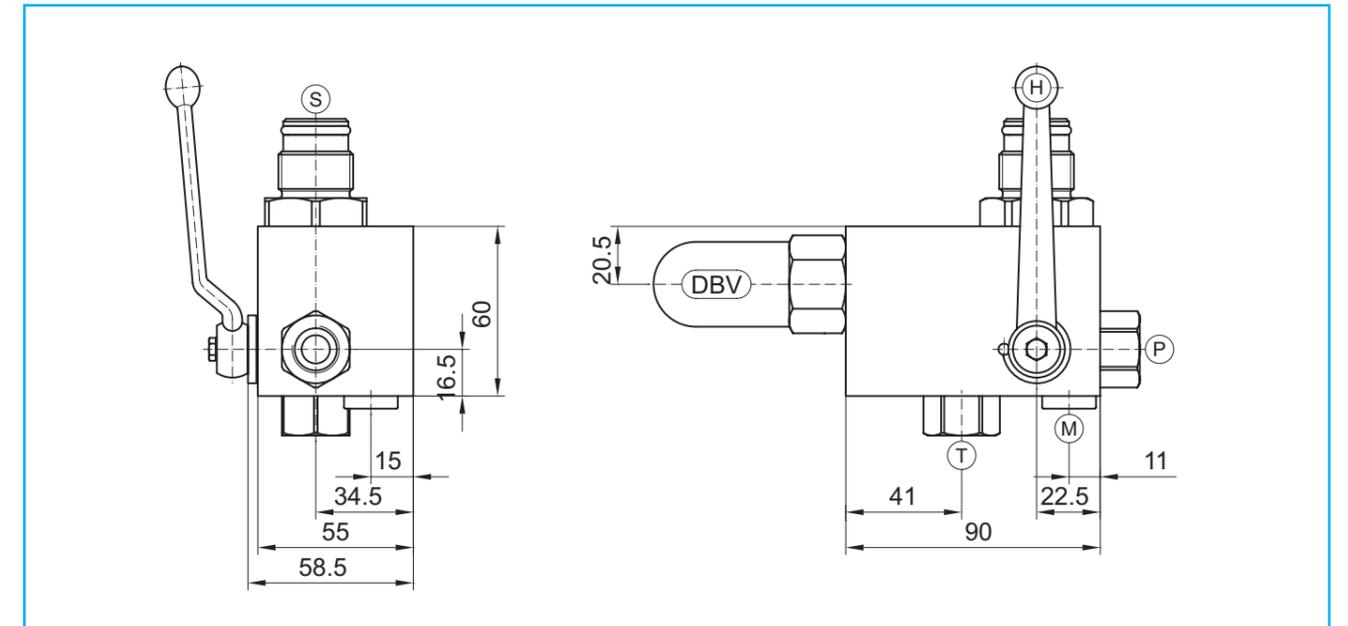
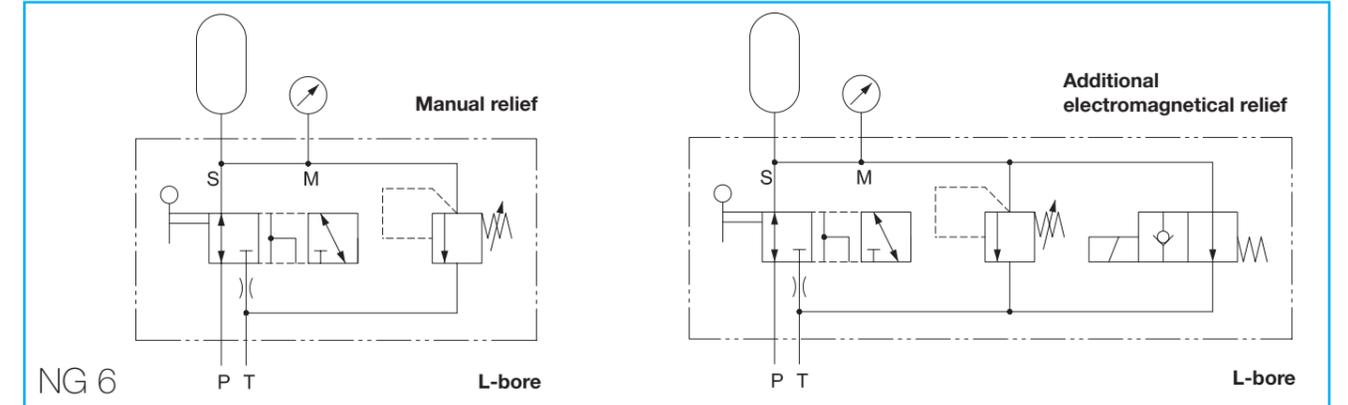
The modular design concept makes the connection block particularly economical and flexible to meet customer requirements. The body is assembled at the factory with adapter fittings in accordance with your order.

Applications/functions:

For liquid media as per the compatibility table in the technical data appendix

The accumulator safety blocks can be supplied with solenoid-operated relief valves if desired. Every body is equipped with the fittings required for retrofitting. When connected to large-volume accumulators the safety block can be ordered with a choke integrated into the bypass line.

Accumulator safety blocks · with integrated 3-way ball valve type RSK



All dimensions subject to change without notice

- P = Pump connection**
M-version 500 bar
E-version 350 bar
- T = Tank connection**
- S = Accumulator connection**
- M = Pressure gauge connection (closed)**
G 1/4 (DIN EN ISO 228-1)
- DBV = Pressure relief valve**
cavity-thread M28x1.5
assembly torque 50⁺⁵ Nm
- SV = 2-way Solenoid**
manifold mounting
drilling pattern ISO 4401-03-02-0-94
(DIN 24340-A6)
- H = Handle Code 13 (8kt8)**
refer to chapter "Attachments, accessories"

Adapter fittings for accumulator connection S



Fig. 1

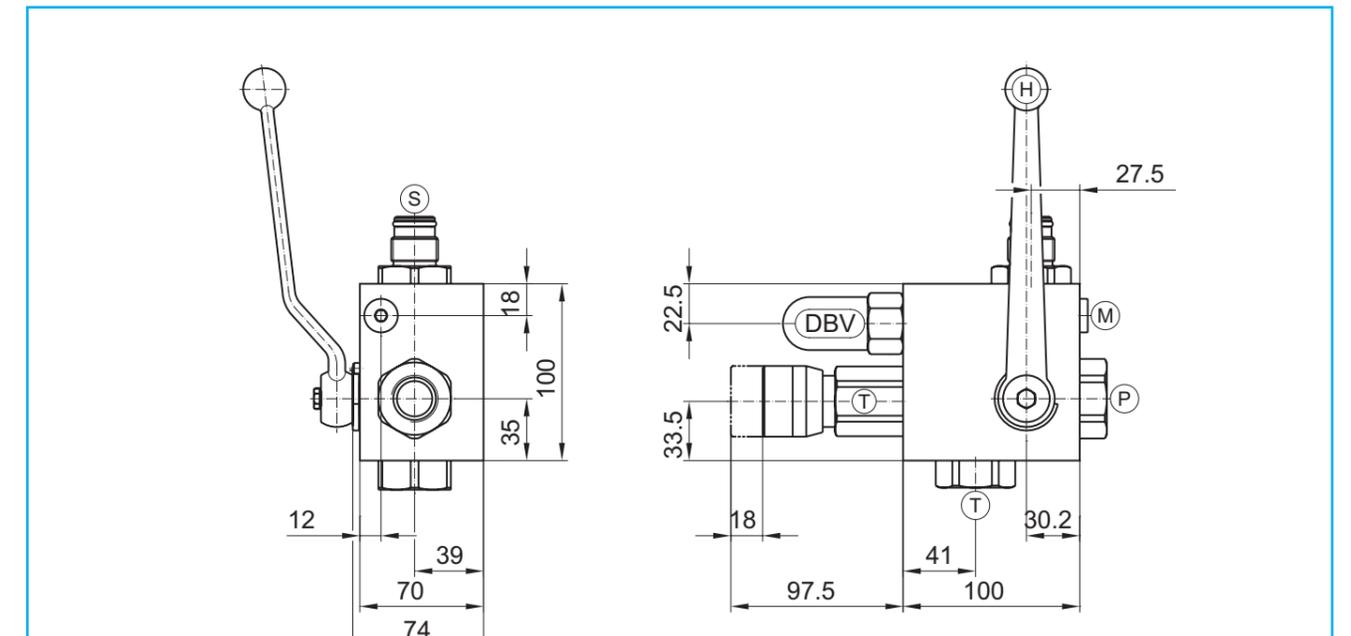
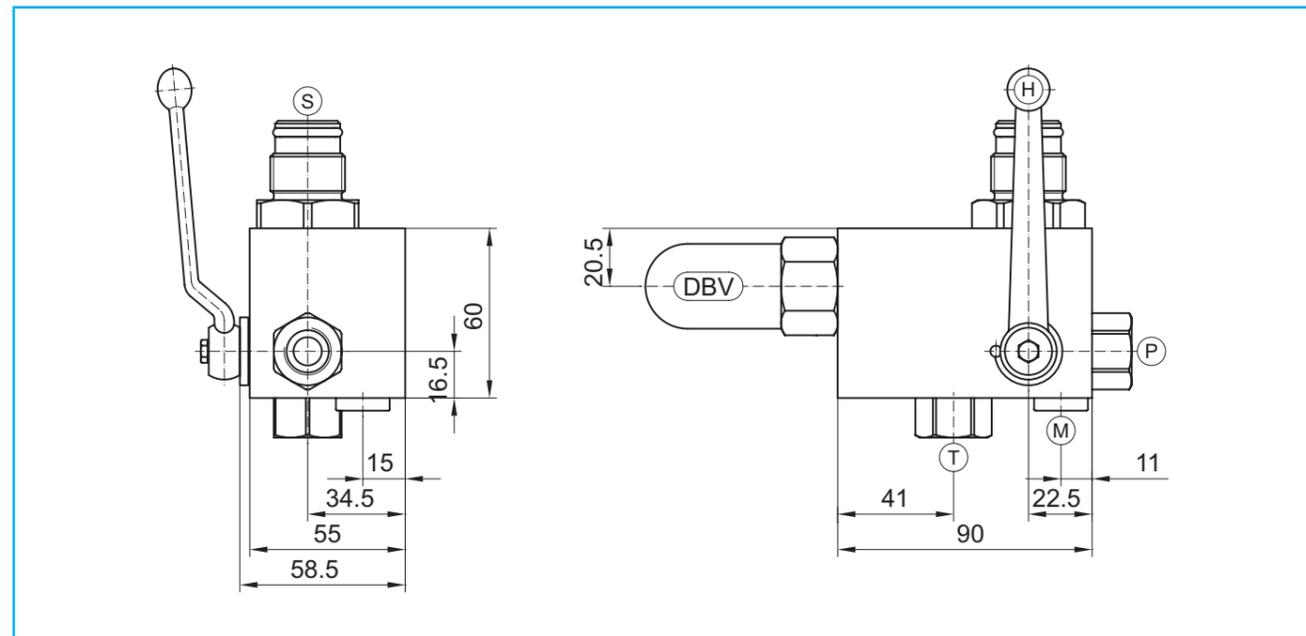
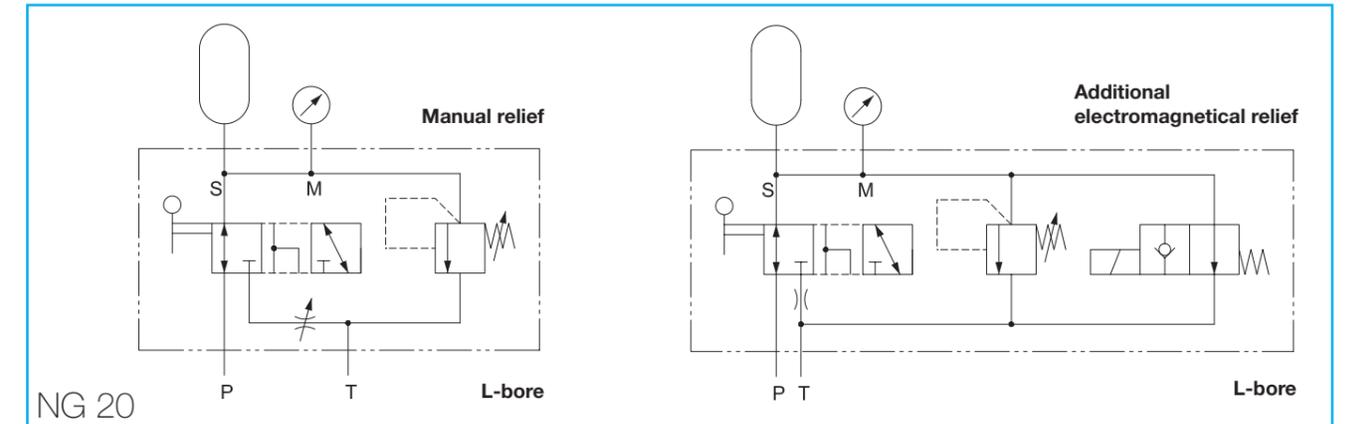
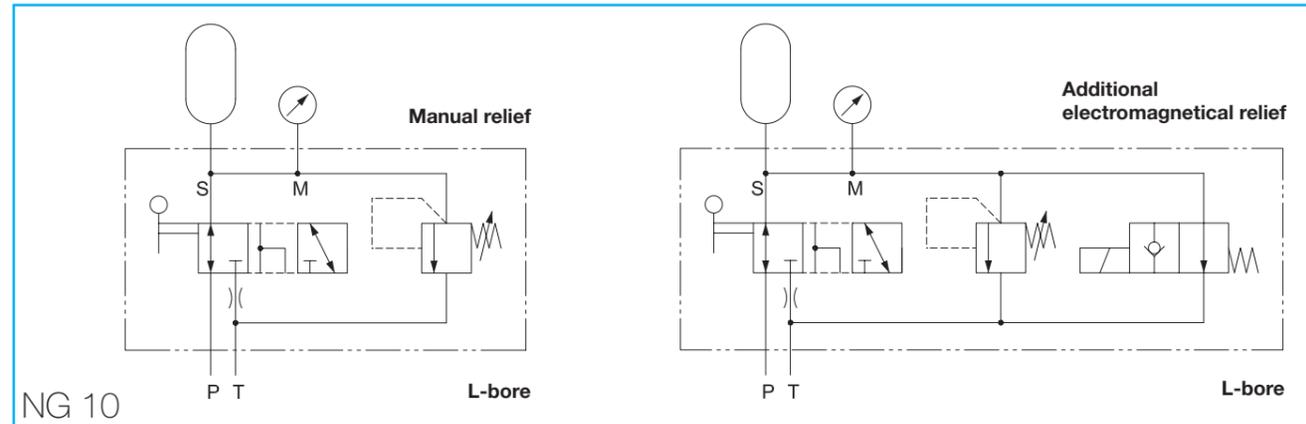
Fig. 2

Fig.	D ₁ Connection-thread	Adapter-fitting	K (SW)	L	L ₁	D ₂	O-Ring
1	G 3/4 A	S 500	36	38	28	-	17 x 3
	G 1 A	S 501	41	44	34	-	22 x 3
	G 1 1/4 A	S 502	46	47	37	-	30 x 3
2	G 2 A	S 503	65	54	44	-	48 x 3
	M 30 x 1,5	S 550	41	25	15	40	32 x 2
	M 40 x 1,5	S 551	55	30	20	54	43 x 3
	M 50 x 1,5	S 552	65	30	20	64	53 x 3

Also available with most other connections

Accumulator safety blocks · with integrated 3-way ball valve type RSK

Accumulator safety blocks · with integrated 3-way ball valve type RSK



All dimensions subject to change without notice

- P = Pump connection**
M-version 500 bar
E-version 350 bar
- T = Tank connection**
- S = Accumulator connection**
- M = Pressure gauge connection (closed)**
G 1/4 (DIN EN ISO 228-1)
- DBV = Pressure relief valve**
cavity-thread M35x1.5
assembly torque 80⁺⁵ Nm
- SV = 2-way-solenoid valve**
manifold mounting
drilling pattern ISO 4401-03-02-0-94
(DIN 24340-A6)
- H = Handle Code 13 (8kt8)**
refer to chapter "Attachments, accessories"

Adapter fittings for accumulator connection S

Fig.	D ₁ Connection-thread	Adapter-fitting	K (SW)	L	L ₁	D ₂	O-Ring
1	G 3/4 A	S 500	36	38	28	-	17 x 3
	G 1 A	S 501	41	44	34	-	22 x 3
	G 1 1/4 A	S 502	46	47	37	-	30 x 3
	G 2 A	S 503	65	54	44	-	48 x 3
2	M 30 x 1,5	S 550	41	25	15	40	32 x 2
	M 40 x 1,5	S 551	55	30	20	54	43 x 3
	M 50 x 1,5	S 552	65	30	20	64	53 x 3

Also available with most other connections

All dimensions subject to change without notice

- EV = Pressure relief valve**
(selectively manually electromagnetic)
- P = Pump connection**
M-version 315 bar
E-version 315 bar
- T = Tank connection**
- S = Accumulator connection**
- M = Pressure gauge connection (closed)**
G 1/4 (DIN EN ISO 228-1)
- DBV = Pressure relief valve**
cavity-thread M35x1.5
assembly torque 80⁺⁵ Nm
- SV = 2-way-solenoid valve**
manifold mounting
drilling pattern ISO 4401-03-02-0-94
(DIN 24340-A6)
- H = Handle Code 15 (8kt14)**
refer to chapter "Attachments, accessories"

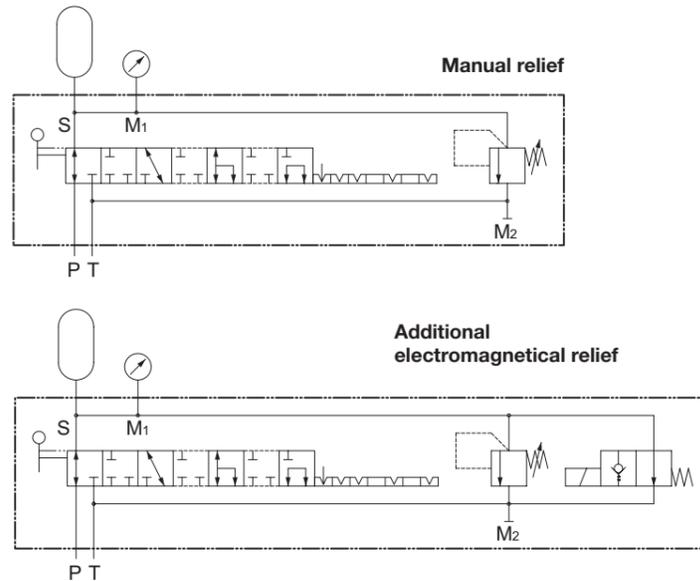
Adapter fittings for accumulator connection S

Fig.	D ₁ Connection-thread	Adapter-fitting	K (SW)	L	L ₁	D ₂	O-Ring
1	G 3/4 A	S 600	41	38	28	-	17 x 3
	G 1 A	S 601	41	44	34	-	22 x 3
	G 1 1/4 A	S 602	46	47	37	-	30 x 3
	G 2 A	S 603	65	54	44	-	48 x 3
2	M 30 x 1,5	S 650	41	25	15	40	32 x 2
	M 40 x 1,5	S 651	55	30	20	54	43 x 3
	M 50 x 1,5	S 652	65	30	20	64	53 x 3

Also available with most other connections

Ball valve-function systems

Accumulator safety blocks · with integrated 3-way ball valve type RSM Technical information



The multifunctional accumulator safety block RSM from Roetelmann unites all advantages of the already known 2- and 3-way pressure accumulator blocks and does provide additional functions, as well. The operation of the RSM accumulator safety block now is extraordinary simple, but still safe, as it is effected by just one handle and a respective detent. The T-bore avoids any pressure drop during the working position.

The following functions are provided:

- working position with a direct passage to the accumulator
- total closing of all ports, the pressure is kept in the accumulator
- relief of the accumulator to the tank
- total connection of all ports for filling the system
- depressurised circulation from the pump to the tank

Resulting from this great variety of functions, additional valves and ball valves are not necessary and therefore can be saved. As this principle was not known until now, the multifunctional accumulator safety block has been patented respectively.

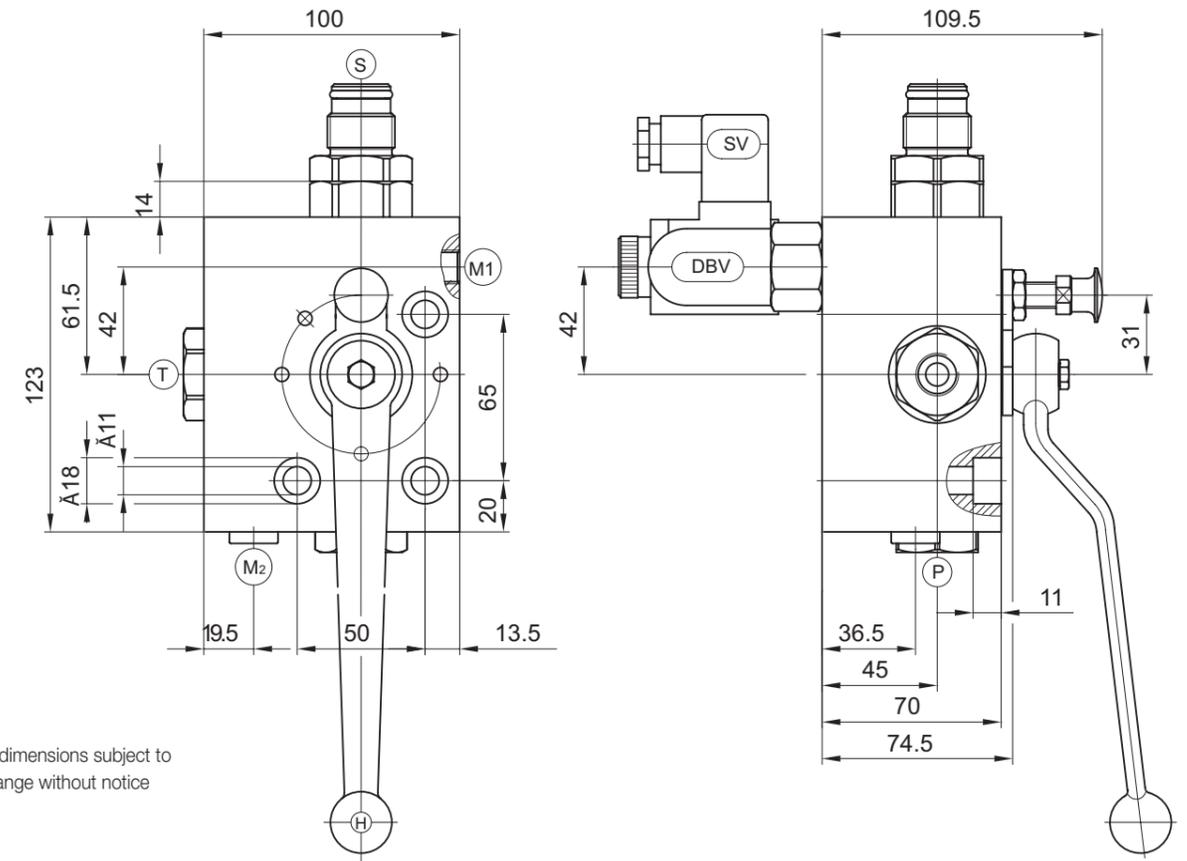
Custom orders on request

Locking device available

- Easy order guide: RSM 10 C C S500 1 1 N 250 E Y 1**
- Nominal size (NG) ball valve**
 10 = NG 10
 20 = NG 20 (on request)
 32 = NG 32 (on request)
- Connection thread pump (P)**
 A = M18x1.5 light series (ISO 8434-1)
 B = M22x1.5 heavy series (ISO 8434-1)
 C = G 3/8 (DIN EN ISO 228-1)
 D = 3/8 - 18 NPT (ANSI/ASME B1.20.1-1983)
 E = other thread
- Connection thread tank (T)**
 A = M18x1.5 light series (ISO 8434-1)
 B = M22x1.5 heavy series (ISO 8434-1)
 C = G 3/8 (DIN EN ISO 228-1)
 D = 3/8 - 18 NPT (ANSI/ASME B1.20.1-1983)
 H = other thread
- Adapter fitting for accumulator (S)**
 e.g. S500 = G 3/4A (DIN EN ISO 228 - 1) refer to table
- Body material**
 1 = Steel
 4 = other material
- Sealing material (elastomer)**
 1 = NBR
 2 = FKM
 3 = EPDM
 5 = other material
- Pressure relief valve (DBV)**
 N = without approval
 T = with TÜV-approval
 X = Delivered without pressure limiter valve
- opening pressure**
 250 = e.g. 250 bar
 000 = Delivered without pressure limiter valve
- Relief**
 M = manual
 E = manual and electromagnetical
 V = prepared for electromagnetical relief
- Solenoid valve design**
 X = Delivered without solenoid valve
 Y = open when de-energized
 Z = closed when de-energized
- Solenoid valve voltage**
 0 = Delivered without solenoid valve
 1 = 24 V DC
 2 = 230 V DC
 3 = other

Accumulator safety blocks · with integrated 3-way ball valve type RSM

NG 10



All dimensions subject to change without notice

- P = Pump connection**
 M-version 400 bar
 E-version 350 bar
- T = Tank connection**
- S = Accumulator connection**
- M₁ = Test gauge connection**
 G 1/4 (DIN EN ISO 228-1)
- M₂ = Pressure gauge connection (closed)**
 G 1/4 (DIN EN ISO 228-1)
- DBV = Pressure relief valve**
 cavity-thread M28x1.5
 assembly torque 50⁺⁵ Nm
- SV = 2-way-solenoid valve**
 cavity-thread M20x1.5
 assembly torque 25⁺⁵ Nm
- H = Handle Code 15 (8kt14)**
 refer to chapter "Attachments, accessories"

Adapter fittings for accumulator connection S



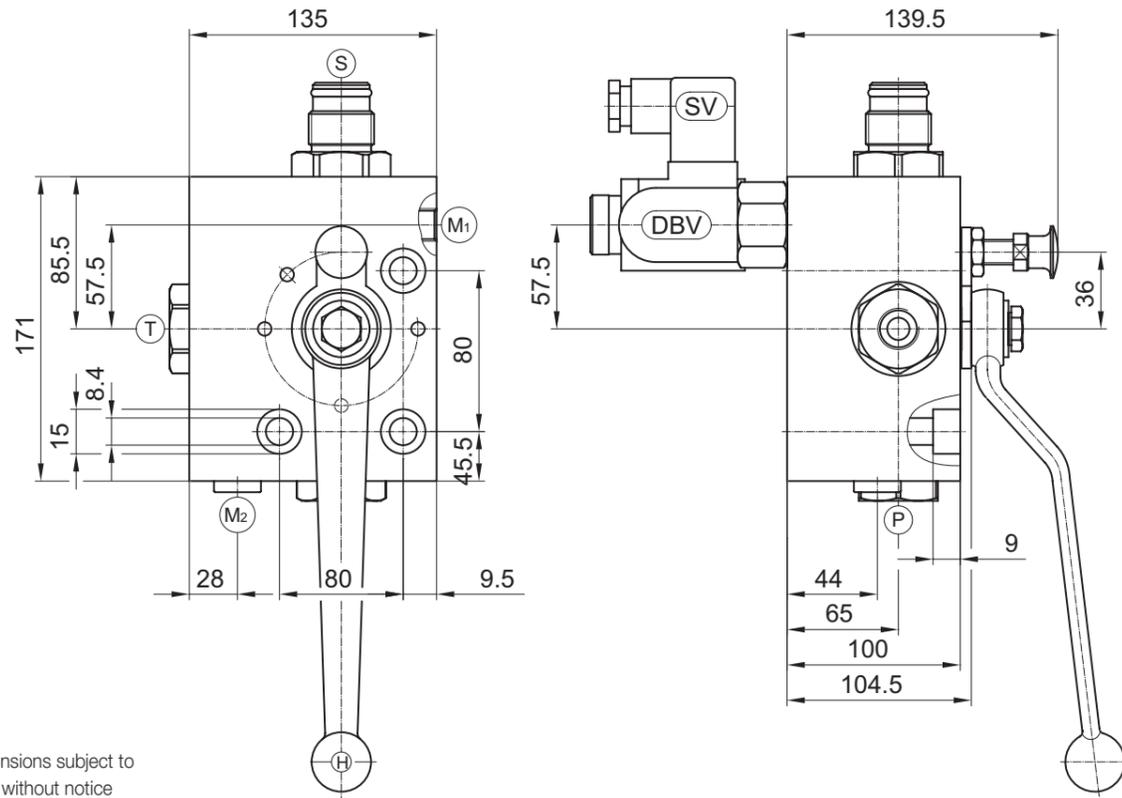
Fig. 1

Fig. 2

Fig.	D ₁ Connection-thread	Adapter-fitting	K (SW)	L	L ₁	D ₂	O-Ring
1	G 3/4 A	S 500	36	38	28	-	17 x 3
	G 1 A	S 501	41	44	34	-	22 x 3
	G 1 1/4 A	S 502	46	47	37	-	30 x 3
2	G 2 A	S 503	65	54	44	-	48 x 3
	M 30 x 1,5	S 550	41	25	15	40	32 x 2
	M 40 x 1,5	S 551	55	30	20	54	43 x 3
	M 50 x 1,5	S 552	65	30	20	64	53 x 3

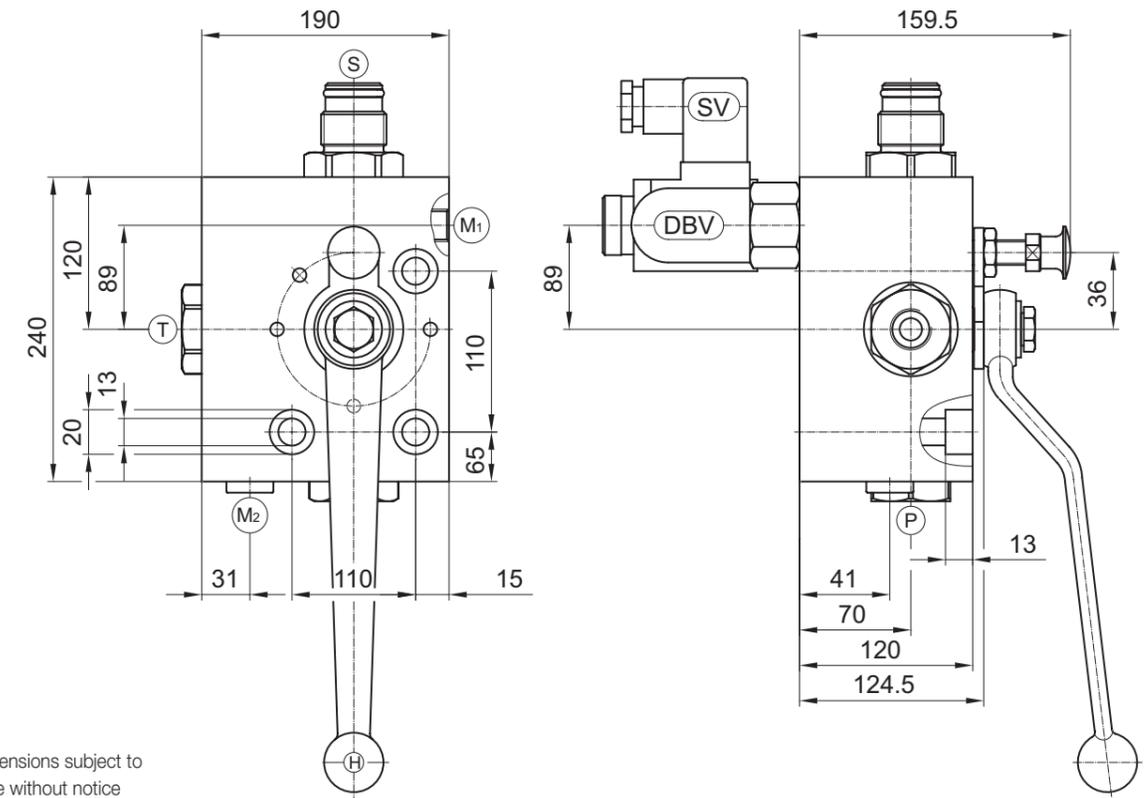
Also available with most other connections

NG 20



All dimensions subject to change without notice

NG 32



All dimensions subject to change without notice

NEW!

- P = Pump connection**
M-version 400 bar
E-version 350 bar
- T = Tank connection**
- S = Accumulator connection**
- M₁ = Test gauge connection**
G 1/4 (DIN EN ISO 228-1)
- M₂ = Pressure gauge connection (closed)**
G 1/4 (DIN EN ISO 228-1)
- DBV = Pressure relief valve**
cavity-thread M35 x 1.5
assembly torque 80⁺⁵ Nm
- SV = 2-way-solenoid valve**
cavity-thread M20 x 1.5
assembly torque 25⁺⁵ Nm
- H = Handle Code 23 (8kt19)**
refer to chapter "Attachments, accessories"

Adapter fittings for accumulator connection S

Fig.	D ₁ Connection-thread	Adapter-fitting	K (SW)	L	L ₁	D ₂	O-Ring
1	G 1 1/4 A	S 701	50	47	37	-	30 x 3
	G 2 A	S 702	65	54	44	-	48 x 3
2	M 40 x 1,5	S 751	60	30	20	54	43 x 3
	M 50 x 1,5	S 752	70	30	20	64	53 x 3

Also available with most other connections

NEW!

- P = Pump connection**
GM-version 400 bar
E-version 350 bar
- T = Tank connection**
- S = Accumulator connection**
- M₁ = Test gauge connection**
G 1/4 (DIN EN ISO 228-1)
- M₂ = Pressure gauge connection (closed)**
G 1/4 (DIN EN ISO 228-1)
- DBV = Pressure relief valve**
cavity-thread M35 x 1.5
assembly torque 80⁺⁵ Nm
- SV = 2-way-solenoid valve**
cavity-thread M20 x 1.5
assembly torque 25⁺⁵ Nm
- H = Handle Code 23 (8kt19)**
refer to chapter "Attachments, accessories"

Adapter fittings for accumulator connection S

Fig.	D ₁ Connection-thread	Adapter-fitting	K (SW)	L	L ₁	D ₂	O-Ring
1	G 2 A	S 803	70	54	44	-	48 x 3
2	M 50 x 1,5	S 852	70	30	20	64	53 x 3

Also available with most other connections



2-way ball valves with test line connections (TK2)



Multi-way ball valves with floating ball for pressure gauges (TK4)



Directional ball valves for differential pressure transducers (TK5-TK7)

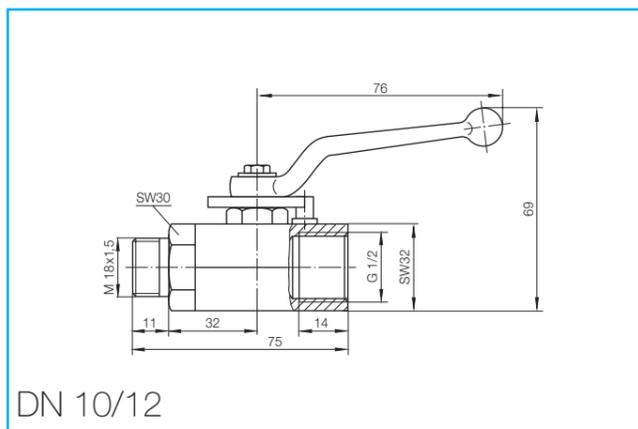


Test valves MBV 5000

Ball valves for instrumentation technology

2-way ball valves with test line connections (TK2)

Stainless steel · different connections



Stainless steel (1.4571 - or similar)
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Pressure in bar

Body:	stainless steel
Ball:	stainless steel
Stem:	stainless steel
Ball seals:	PTFE
Stem seals:	PTFE

Type of connection

M 18 x 1,5	DIN 2353 light series ISO 8434-1 (with cut (clamp) ring and nut)
G 1/2	BSP female thread DIN EN ISO 228-1

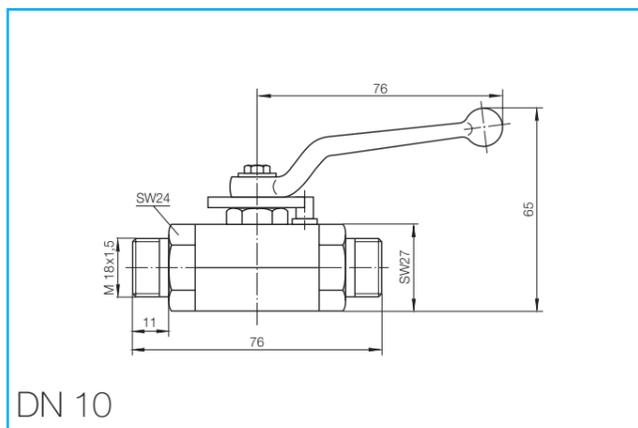
Connections

PN Article-No.

M 18 x 1,5 / G 1/2	100	101 028
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2-way ball valves with test line connections (TK2)

Stainless steel · identical connections



Type of connection

M 18 x 1,5	DIN 2353 light series SO 8434-1 (with cut (clamp) ring and nut)
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Connections

PN Article-No.

M 18 x 1,5	100	101 030
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Ball valves for instrumentation technology

Multi-way ball-valves with floating ball for pressure gauges (TK4)

Technical information



3-way ball valve for connecting both a manometer and verification gauge

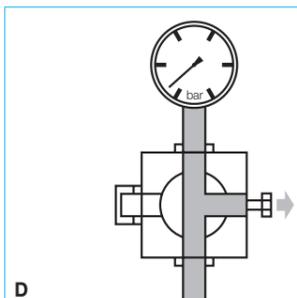
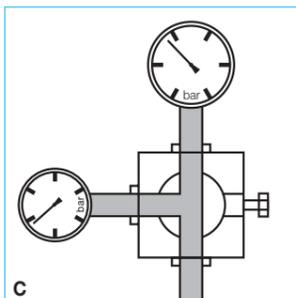
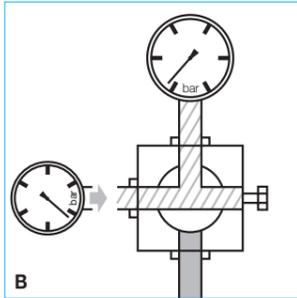
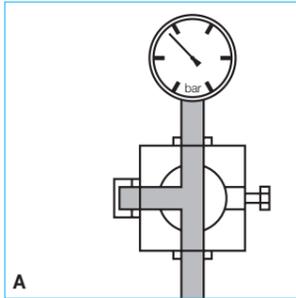


Advantages of the ball valve for the pressure gauge:

- highly visible operational position
- short cycle paths
- seats resistant to leakage over extended periods of time
- vibration-proof with DIN 16284 union nut (instead of coupling sleeve) used to mount the gauge
- no leakage in the normal operating position if the bleed screw is opened erroneously

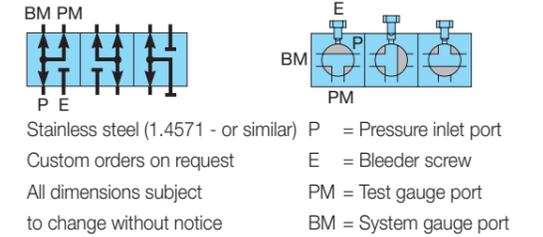
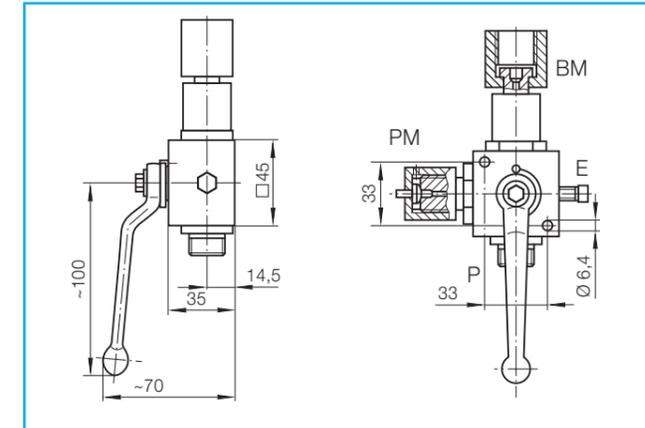
Operating functions:

- A Normal setting; system gauge is connected to the system
- B Bleeder position; system manometer can be checked for proper zeroing. A test gauge may be connected in addition.
- C Normal setting with test gauge connected.
- D Setting to vent the system and the pressure gauge to the atmosphere.



Multi-way ball-valves with floating ball for pressure gauges (TK4)

Stainless steel



Body:	stainless steel
Ball:	stainless steel
Stem:	stainless steel
Ball seals:	PTFE
Stem seals:	FKM

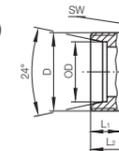
Connections

BM	PM	P
G 1/2	G 1/2	M 18 x 1,5
G 1/2	M 20 x 1,5	M 18 x 1,5
G 1/2	G 1/2	G 1/2
G 1/2	M 20 x 1,5	G 1/2

PN	Article-No.
100	101 072
100	101 074
100	101 076
100	101 078

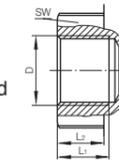
Connection

P
 For cut (clamp)
 ring tube
 fittings
 DIN 2353
 light series
 ISO 8434-1



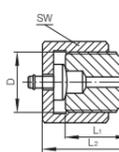
Thread D	OD	L1	L2	SW
M 18 x 1,5	12	11	15	24

P or PM
 BSP-female thread
 DIN EN ISO 228-1



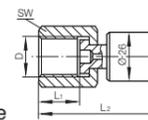
G 1/2	-	15	21	27
-------	---	----	----	----

PM
 Thread connection
 nipple with
 coupling sleeve
 meeting,
 DIN 16287-C



M 20 x 1,5	-	22	35	24
------------	---	----	----	----

BM
 Adapter with
 DIN 16284
 swivel nut
 connector
 nipple and
 spindle, for
 pressure gauge
 mounting
 bracket as per
 DIN 16271-B
 meter bracket
 DIN 16281



G 1/2	-	19	66	27
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Ball valves for instrumentation technology

Directional ball valves for differential pressure transducers (TK5 - TK7)

Technical information



Directional ball-valve for pressure differential measurement transducer with staple-lock connectors

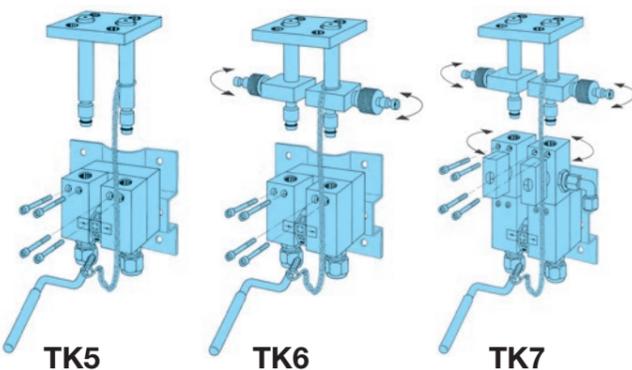


Modular design:

Directional ball valves with their modular system and staple-lock fittings offer great flexibility and trouble-free assembly. The advantages of these devices are tight seating, short actuation arcs, long service life and simple operation. All the ball valve switching functions - operational position, blocked position and zero-point test - are set with just a single operating lever.

Logical and clear schematic diagram symbols make it easy to identify the switching positions.

The TK5 basic unit comprises the divert unit and the connection flange to accept the measurement transducer. The TK6 features additional test connections and the TK7 has not only the test connections but additional blow-out ball valves.



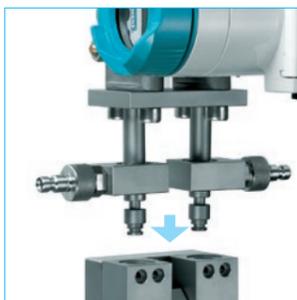
Installation is completed

The pressure gauge is first attached to the connector flange with just four screws. Then this preassembled unit slips into the ball valve body. This staple-lock joint not only saves time but is a real boon in tight spaces.

The connection flange and test connection form a unit in the TK6 and TK7 versions. The test connections are swivel-mounted, simple to use and designed for easy access. The TK7 ball valve features in addition a swivel-mounted blowout line for each of the process pressure lines.

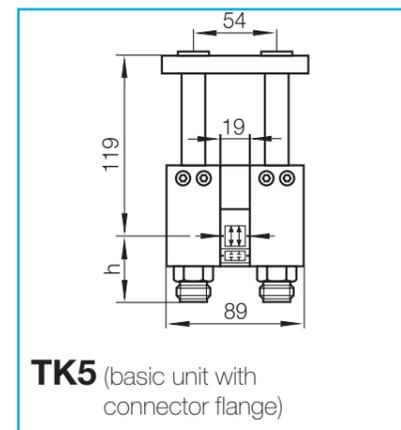
The sturdy bracket is used to mount the directional ball valve - either on a wall or on a pipe. This makes it possible to detach the gauge itself with the fitting remaining in the pipe circuit.

The valve unit is put in the "operational" position to prepare for cleaning; here the bores are aligned, giving clear passage all the way through the unit.

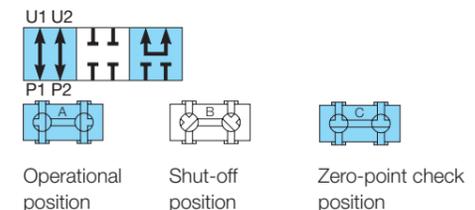


Directional ball valves for differential pressure transducers (TK5 - TK7)

Stainless steel



TK5 (basic unit with connector flange)

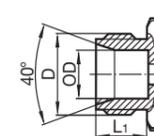


Stainless steel (material no. 1.4571 - or other stainless steels)
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Pressure in bar

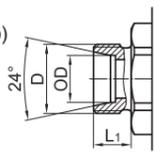
Body:	stainless steel	stainless steel
Ball:	stainless steel	stainless steel
Stem:	stainless steel	stainless steel
Ball seals:	PTFE	PTFE
Stem seals:	FKM	FKM

Connection P1/P2

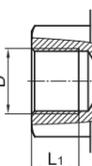
Swagelok pipe fitting



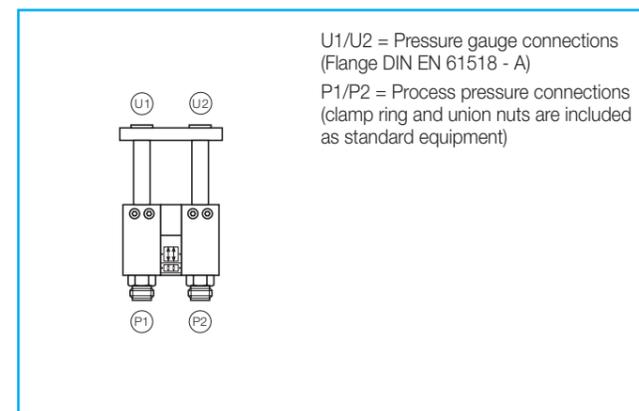
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1



BSP-female thread DIN EN ISO 228-1



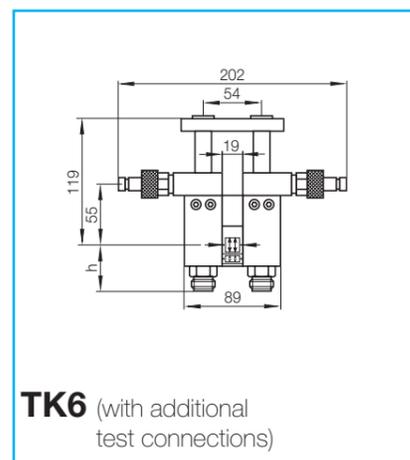
Thread D	OD	L1	h	PN	Article-No.	For oxygen PN	Article-No.
3/4 - 20 UNEF	12	12	58	100	101 234	40	101 235
M 18 x 1,5	12	11	37	100	101 236	40	101 237
G 1/4	-	12	37	100	101 242	40	101 243



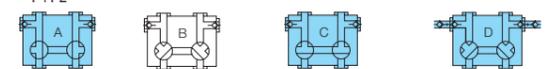
Ball valves for instrumentation technology

Directional ball valves for differential pressure transducers (TK5 - TK7)

Stainless steel



TK6 (with additional test connections)



Operating position Shut-off position Zero-point check position Check characteristic curve

Stainless steel (material no. 1.4571 - or other stainless steels)

Custom orders on request

All dimensions subject to change without notice

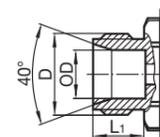
Dimensions in mm

Pressure in bar

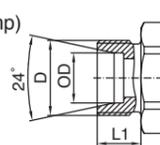
Body:	stainless steel	stainless steel
Ball:	stainless steel	stainless steel
Stem:	stainless steel	stainless steel
Ball seals:	PTFE	PTFE
Stem seals:	FKM	FKM

Connection P1/P2

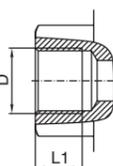
Swagelok pipe fitting



For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1



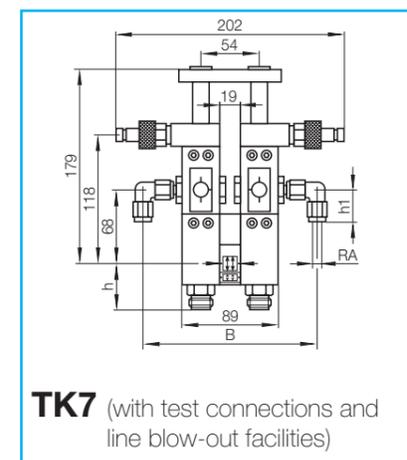
BSP-female thread DIN EN ISO 228-1



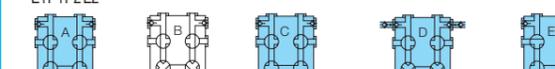
Thread D	OD	L1	h	PN Article-No.		For oxygen PN Article-No.	
				PN	Article-No.	PN	Article-No.
3/4 - 20 UNEF	12	12	58	100	101 228	40	101 229
M 18 x 1,5	12	11	37	100	101 238	40	101 239
G 1/4	-	12	37	100	101 244	40	101 245

Directional ball valves for differential pressure transducers (TK5 - TK7)

Stainless steel



TK7 (with test connections and line blow-out facilities)



Operating position Shut-off position Zero-point check position Check characteristic curve Blowing out the pressure lines

Stainless steel (material no. 1.4571 - or other stainless steels)

Custom orders on request

All dimensions subject to change without notice

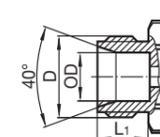
Dimensions in mm

Pressure in bar

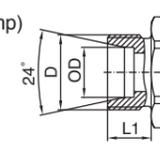
Body:	stainless steel	stainless steel
Ball:	stainless steel	stainless steel
Stem:	stainless steel	stainless steel
Ball seals:	PTFE	PTFE
Stem seals:	FKM	FKM

Connection P1/P2

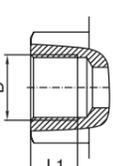
Swagelok pipe fitting



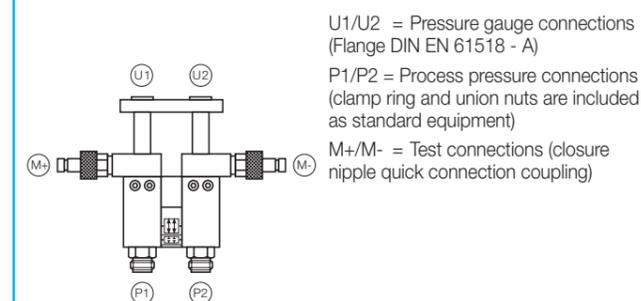
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1



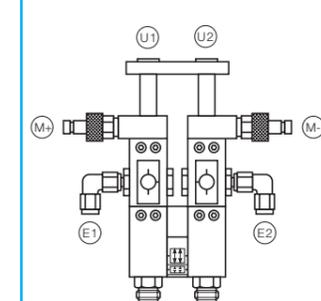
BSP-female thread DIN EN ISO 228-1



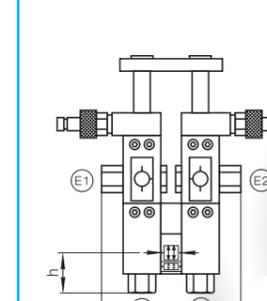
Thread D	OD P1/P2	OD E1/E2	L1	h	h1	B	PN Article-No.		For oxygen PN Article-No.	
							PN	Article-No.	PN	Article-No.
3/4 - 20 UNEF	12	8	12	58	29	161	100	101 232	40	101 233
M 18 x 1,5	12	8	11	37	29	164	100	101 240	40	101 241
G 1/4	-	-	12	37	-	-	100	101 246	40	101 247



U1/U2 = Pressure gauge connections (Flange DIN EN 61518 - A)
 P1/P2 = Process pressure connections (clamp ring and union nuts are included as standard equipment)
 M+/M- = Test connections (closure nipple quick connection coupling)



U1/U2 = Pressure gauge connections (Flange DIN EN 61518 - A)
 P1/P2 = Process pressure connections (clamp ring and union nuts are included as standard equipment)
 M+/M- = Test connections (closure nipple quick connection coupling)
 E1/E2 = Blow-out connections (clamp ring and union nuts are included as standard equipment)



Design with BSP-female thread DIN EN ISO 228-1 at connections P1/P2 and E1/E2
 Elbows not available for connections E1/E2

Ball valves for instrumentation technology

Test valves MBV 5000



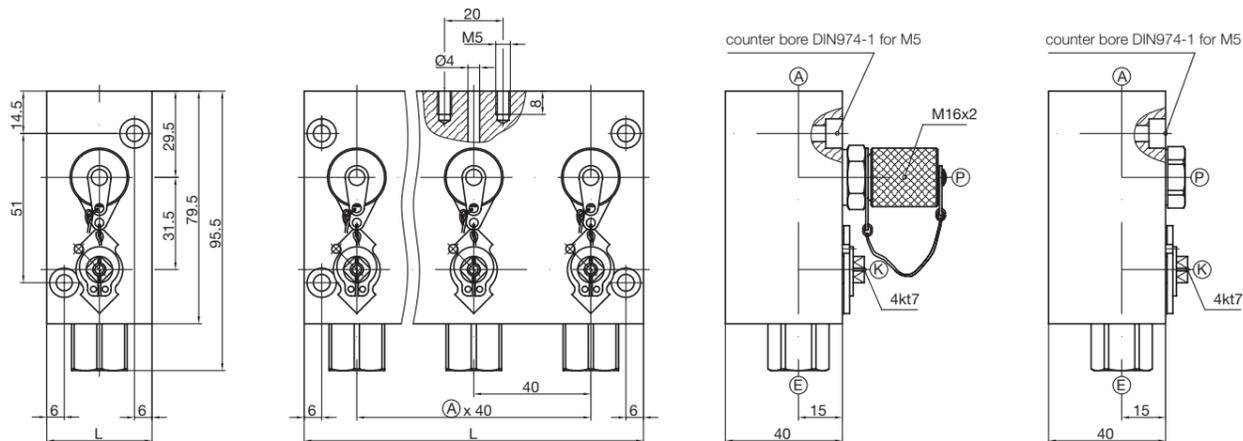
MBV 5000 is a block valve for applications mainly in maritime industrie, that has been designed in many different configurations.

Advantages:

- compact design
- light materials
- many configuration possibilities
- low installation costs
- fast and easy to operate

The valve meets the demands of fast installation, simple operation, easy connection to the test pressure as well as time-saving assembly. The block concept was developed to save space and weight and to reduce costs at the same time. The products are used in supervision, shut-down and diagnosis of engines, gear boxes, control elements, pumps, filters, compressors, and so on.

The concept is meeting the strict demands to maritime products and is according EU-directives.



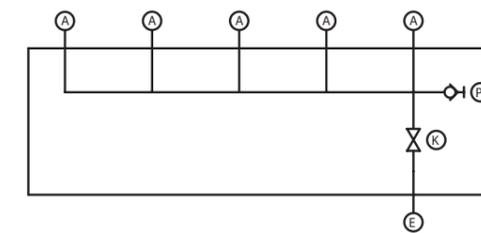
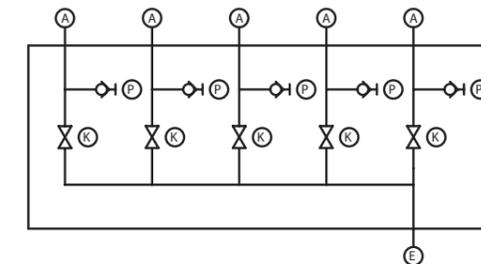
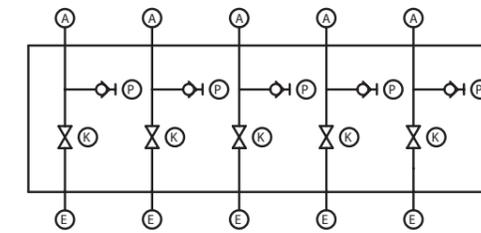
All dimensions subject to change without notice

Dimensions in mm

Weight in kg

Pressure in bar

Burst pressure:	250 bar
Operating pressure:	up to 120 bar
Operating temperature:	-20°C to 120°C
Ambient temperature:	-20°C to 120°C
Medium temperature:	-20°C to 120°C
Body:	aluminium
Connector:	aluminium
Ball:	1.4571
Sealing:	PEEK-FKM
Pressure connection:	inlet: G 1/4 outlet: flange - M5/8



Type	No. of outlets	Weight	L	Type-No.	Article-No.
1	1x	0,4	36	MBV5000-1111MK	206 201
				MBV5000-1101VS	206 202
1	2x	0,8	76	MBV5000-1211MK	206 203
				MBV5000-1201VS	206 204
1	3x	1,2	116	MBV5000-1311MK	206 205
				MBV5000-1301VS	206 206
1	4x	1,6	156	MBV5000-1411MK	206 207
				MBV5000-1401VS	206 208
1	5x	2,0	196	MBV5000-1511MK	206 209
				MBV5000-1501VS	206 210
2	2x	0,8	76	MBV5000-2211MK	206 211
				MBV5000-2201VS	206 212
2	3x	1,2	116	MBV5000-2311MK	206 213
				MBV5000-2301VS	206 214
2	4x	1,6	156	MBV5000-2411MK	206 215
				MBV5000-2401VS	206 216
2	5x	2,0	196	MBV5000-2511MK	206 217
				MBV5000-2501VS	206 218
3	2x	0,7	76	MBV5000-3211MK	206 219
				MBV5000-3201VS	206 220
3	3x	1,0	116	MBV5000-3311MK	206 221
				MBV5000-2301VS	206 222
3	4x	1,3	156	MBV5000-3411MK	206 223
				MBV5000-3401VS	206 224
3	5x	1,6	196	MBV5000-3511MK	206 225
				MBV5000-3501VS	206 226

MK= with test point, VS= with screw plug



Check valves

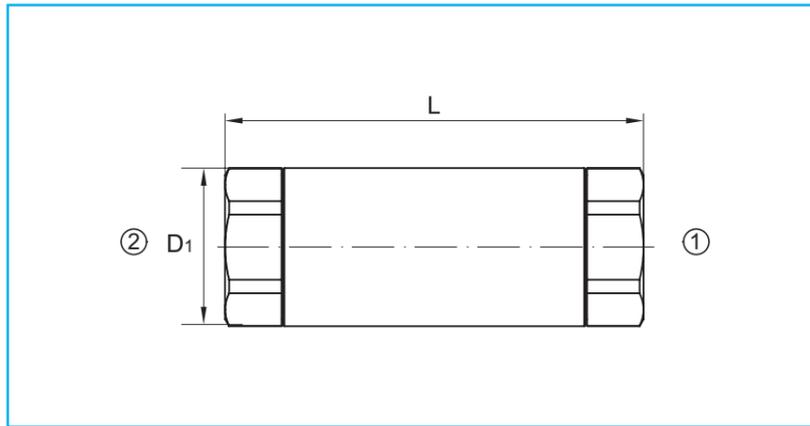


Needle valves

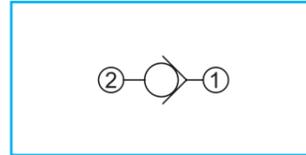


Flow control valves

Check valves with threaded connector · steel · DN 4 - DN 50



**Full flow,
no reduction!**

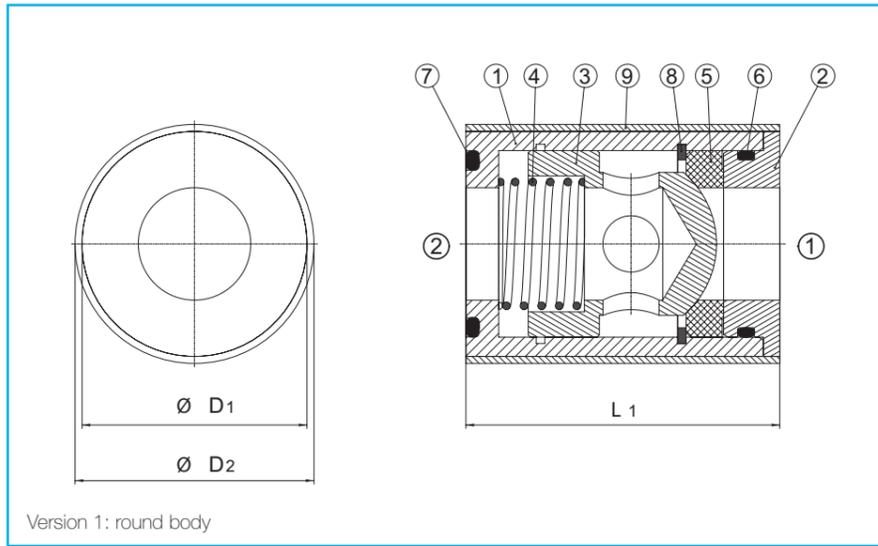


Please check pressure rating of the pipe fittings!
 Custom orders on request
 All dimensions subject to change without notice
 Also available with most other connections
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body: steel, zinc plated
 Seat: POM
 O-Rings: FKM

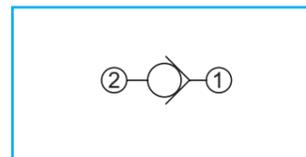
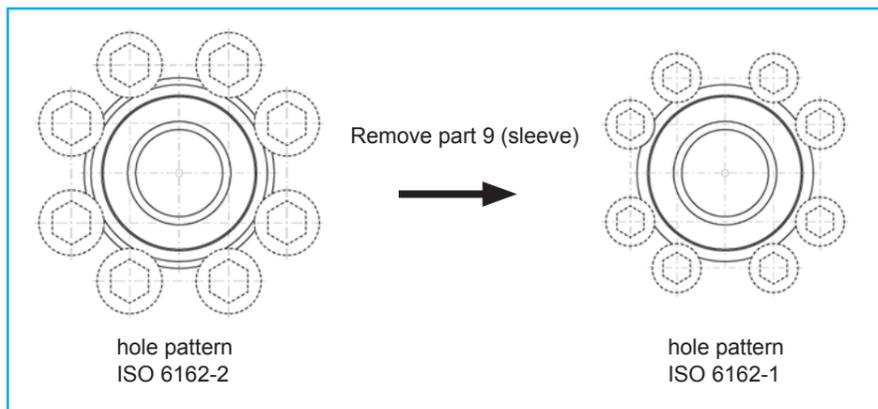
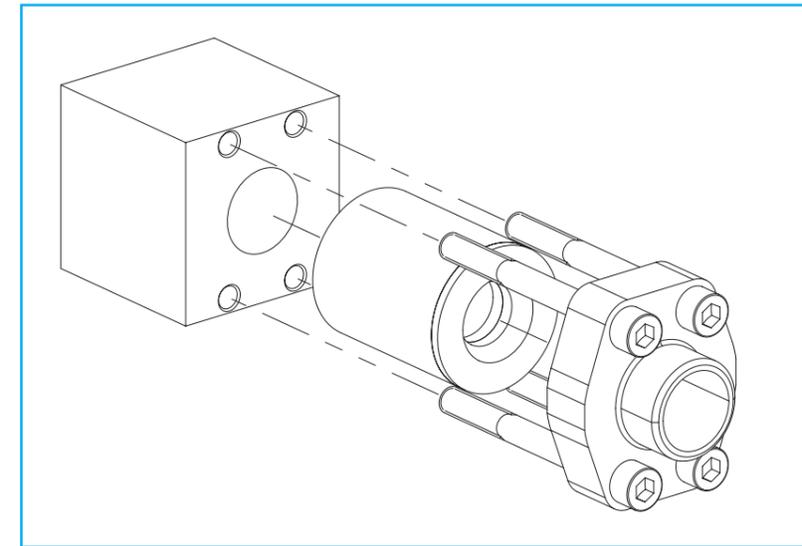
Connection	DN	Thread D	OD	L	L ₁	D ₁	SW	Opening-pressure	Weight	DN	PN	Article-No.
For cut (clamp) ring tube fittings DIN 2353 light series ISO 8434-1	4	M12 x 1,5	6	88,0	10	21,0	19	1,0	0,18	4	420	233 033
	6	M14 x 1,5	8	88,0	10	21,0	19	1,0	0,18	6	420	233 034
	8	M16 x 1,5	10	85,0	11	27,0	24	0,5	0,27	8	420	233 036
	10	M18 x 1,5	12	87,0	11	27,0	24	0,5	0,27	10	420	233 037
	12	M22 x 1,5	15	105,0	12	33,5	30	0,5	0,46	12	420	233 038
	16	M26 x 1,5	18	100,0	12	45,0	36	0,5	0,78	16	420	233 040
	20	M30 x 2	22	126,0	14	45,0	41	0,5	1,00	20	420	233 041
	25	M36 x 2	28	137,0	14	55,0	50	0,5	1,75	25	420	233 042
	32	M45 x 2	35	174,5	16	70,0	60	0,5	3,00	32	420	233 044
	40	M52 x 2	42	196,5	16	86,0	75	0,5	5,40	40	420	233 045
For cut (clamp) ring tube fittings DIN 2353 heavy series ISO 8434-1	4	M16 x 1,5	8	94,0	12	21,0	19	1,0	0,18	4	420	233 031
	6	M18 x 1,5	10	94,0	12	21,0	19	1,0	0,18	6	420	233 054
	8	M20 x 1,5	12	89,0	12	27,0	24	0,5	0,27	8	420	233 032
	10	M22 x 1,5	14	93,0	14	27,0	24	0,5	0,27	10	420	233 055
	12	M24 x 1,5	16	109,0	14	33,5	30	0,5	0,46	12	420	233 056
	16	M30 x 2	20	108,0	16	45,0	36	0,5	0,83	16	420	233 035
	20	M36 x 2	25	134,0	18	45,0	41	0,5	1,00	20	420	233 057
	25	M42 x 2	30	149,0	20	55,0	50	0,5	1,75	25	420	233 058
BSP-female thread DIN EN ISO 228-1	32	M52 x 2	38	185,5	22	70,0	60	0,5	3,20	32	420	233 053
	4	G 1/8	-	90,0	12	21,0	19	1,0	0,18	4	420	233 039
	6	G 1/4	-	90,0	12	21,0	19	1,0	0,18	6	420	233 059
	10	G 3/8	-	85,0	14	27,0	24	0,5	0,27	10	420	233 060
	12	G 1/2	-	104,0	15	33,5	30	0,5	0,46	12	420	233 061
	16	G 5/8	-	106,0	18	45,0	36	0,5	0,90	16	420	233 043
	20	G 3/4	-	120,0	18	45,0	41	0,5	1,00	20	420	233 062
	25	G 1	-	142,0	18	55,0	50	0,5	1,75	25	420	233 063
NPT-female thread ANSI/ASME B1.20.1-1983	32	G 1 1/4	-	151,5	20	70,0	60	0,5	2,90	32	420	233 046
	40	G 1 1/2	-	184,5	22	86,0	75	0,5	5,60	40	420	233 047
	50	G 2	-	225,0	24	106,0	95	0,5	10,00	50	420	233 048
	4	1/8 - 27 NPT	-	90,0	6,9	21,0	19	1,0	0,18	4	420	233 049
	6	1/4 - 18 NPT	-	90,0	10,0	21,0	19	1,0	0,18	6	420	233 064
	10	3/8 - 18 NPT	-	85,0	10,3	27,0	24	0,5	0,27	10	420	233 065
	12	1/2 - 14 NPT	-	104,0	13,6	33,5	30	0,5	0,46	12	420	233 066
	20	3/4 - 14 NPT	-	120,0	14,1	45,0	41	0,5	1,00	20	420	233 067
25	1 - 11 1/2 NPT	-	142,0	16,8	55,0	50	0,5	1,75	25	420	233 068	
32	1 1/4 - 11 1/2 NPT	-	151,5	17,3	70,0	60	0,5	2,85	32	420	233 050	
40	1 1/2 - 11 1/2 NPT	-	184,5	17,3	86,0	75	0,5	5,60	40	420	233 051	
50	2 - 11 1/2 NPT	-	225,0	17,7	106,0	95	0,5	10,00	50	420	233 052	

Check valves with ISO-flange connection (SAE) · steel · DN 13 - DN 51



Please check pressure rating acc. to ISO 6162
 Custom orders on request
 All dimensions subject to change without notice
To turn the direction of the flow switch part 3, 4, 5 and 8
Remove part 9 for ISO 6162-1
 Dimensions in mm
 Weight in kg
 Pressure in bar

- ① Body
- ② Cap
- ③ Piston
- ④ Spring
- ⑤ Seat
- ⑥ O-Ring
- ⑦ O-Ring
- ⑧ Inverted ring
- ⑨ Sleeve



Connection

ISO 6162-1/-2

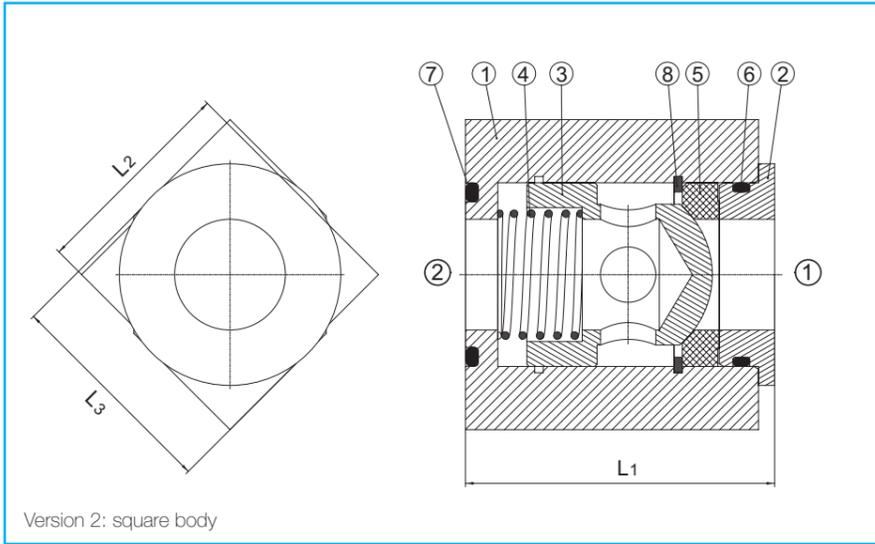
DN	L1	D1	D2	Opening-pressure	Weight
13	47,0	33,5	36,0	1	0,24
19	59,0	42,0	46,0	1	0,40
25	67,0	48,0	51,0	1	0,57
32/25	70,0	55,0	61,0	1	0,92
38/32	80,0	65,0	70,0	1	1,28
51/32	82,0	76,0	86,0	1	2,12

Steel, zinc plated/POM-FKM

PN	Article-No.
420	233 091
420	233 092
420	233 093
420	233 094
420	233 095
420	233 096



Check valves with ISO-flange connection (SAE) · steel · DN 13 - DN 51



Version 2: square body

Please check pressure rating acc. to ISO 6162
Custom orders on request

All dimensions subject to change without notice

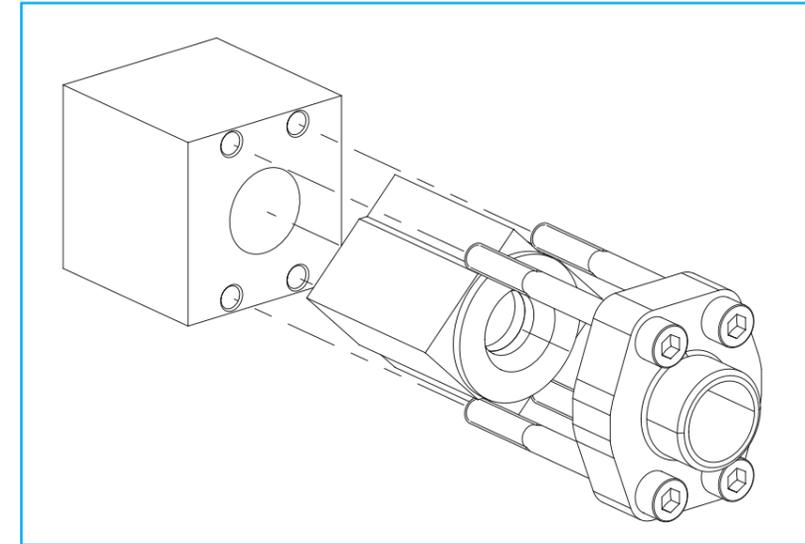
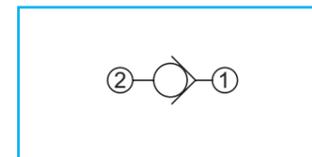
**To turn the direction of the flow switch
part 3, 4, 5 and 8**

Dimensions in mm

Weight in kg

Pressure in bar

- ① Body
- ② Cap
- ③ Piston
- ④ Spring
- ⑤ Seat
- ⑥ O-Ring
- ⑦ O-Ring
- ⑧ Inverted ring



Connection

ISO 6162-1/-2

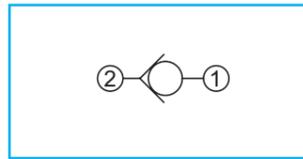
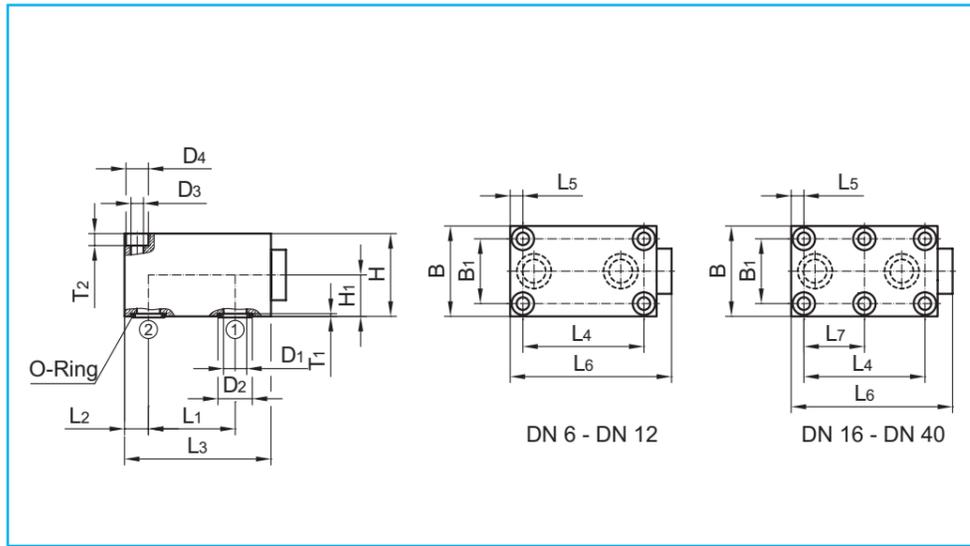
DN	L1	L2	L3	Opening-pressure	Weight
13	47,0	31,0	33,4	1	0,30
19	59,0	39,0	41,5	1	0,50
25	67,0	45,5	47,5	1	0,74
32/25	70,0	52,0	57,0	1	1,22
38/32	80,0	62,0	65,0	1	1,67
51/32	82,0	73,0	79,0	1	2,87

Steel/POM-FKM

PN	Article-No.
420	233 097
420	233 098
420	233 099
420	233 100
420	233 101
420	233 102



Check valves for manifold mounting · steel · DN 6 - DN 40



O-Rings included in delivery
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body: steel, zinc plated
 O-Rings: FKM

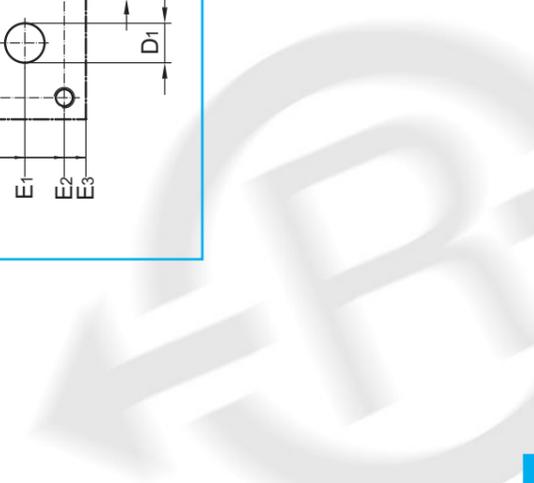
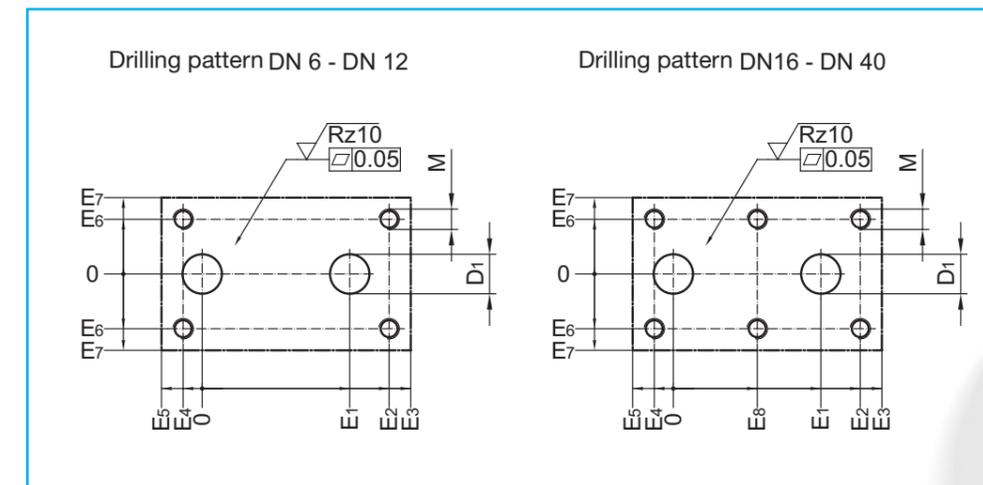
Connection	DN	L1	L2	L3	L4	L5	L6	L7	B	B1	H	H1
Body flange with O-Ring-sealing	6	16,0	8,0	39,0	19,0	6,4	43,0	-	41,5	28,5	16,0	8,0
	8	25,5	11,0	57,0	35,0	6,5	62,0	-	46,0	33,5	20,0	10,0
	10	25,5	13,0	60,0	33,5	9,0	65,0	-	51,0	38,0	25,0	12,5
	12	30,0	15,0	70,0	38,0	11,0	75,0	-	57,5	44,5	32,0	16,0
	16	54,0	21,4	104,0	76,0	10,0	109,0	38,0	70,0	54,0	45,0	22,5
	20	57,0	28,0	120,0	95,0	9,0	127,0	47,5	76,5	60,0	50,0	25,0
	25	79,5	32,6	152,0	120,0	12,0	158,0	60,0	100,0	76,0	55,0	27,5
	30	95,0	36,8	178,0	143,0	13,0	184,0	71,5	115,0	92,0	75,0	37,5
	40	89,0	39,5	170,0	133,5	14,0	178,0	67,0	140,0	111,0	100,0	50,0

DN	D1	D2	D3	D4	T1	T2	Weight	Opening- pressure	For cylinderhead screw DIN EN ISO 4762 (DIN 912)
6	5,0	9,7	6,4	10,5	1,3	6,8	0,2	0,5	M6 - 8.8
8	6,0	12,3	6,4	10,5	1,5	6,8	0,4	0,5	M6 - 8.8
10	8,0	15,7	6,4	10,5	1,5	6,8	0,5	0,5	M6 - 8.8
12	10,0	18,7	6,4	10,5	1,5	6,8	0,9	0,5	M6 - 8.8
16	12,0	23,6	8,4	13,5	1,9	9,0	2,2	0,5	M8 - 8.8
20	19,0	30,5	8,4	13,5	2,2	9,0	3,1	0,5	M8 - 8.8
25	25,0	37,5	10,5	18,0	2,2	11,0	5,2	0,5	M10 - 8.8
30	30,0	43,5	13,0	20,0	2,2	13,0	10,3	0,5	M12 - 8.8
40	40,0	57,5	13,0	20,0	2,2	13,0	15,8	0,5	M12 - 8.8

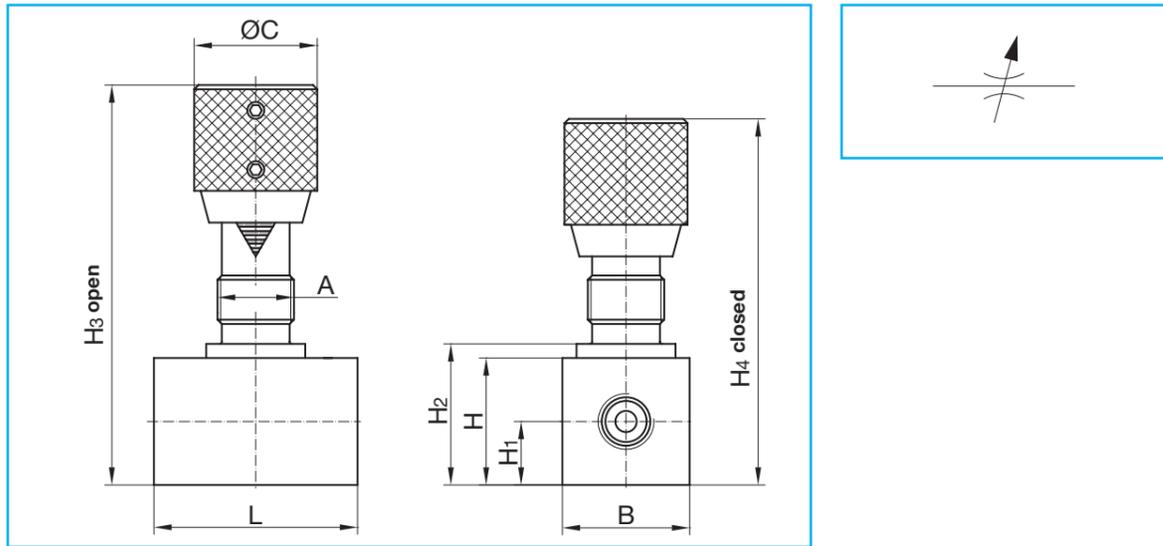
PN	Article-No.
350	233081
350	233082
350	233083
350	233084
350	233085
350	233086
350	233087
350	233088
350	233089

DN	D1	E1	E2	E3	E4	E5	E6	E7	E8	M	O-Ring
6	5,0	16,0	17,4	31,0	1,6	8,0	14,25	20,75	-	M6	6,30 x 1,80
8	6,0	25,5	30,5	46,0	4,5	11,0	16,75	23,00	-	M6	8,50 x 2,00
10	8,0	25,5	29,5	47,0	4,0	13,0	19,00	25,50	-	M6	12,00 x 2,00
12	10,0	30,0	34,0	55,0	4,0	15,0	22,25	28,75	-	M6	15,00 x 2,00
16	12,0	54,0	64,6	82,6	11,4	21,4	27,00	35,00	26,6	M8	19,00 x 2,50
20	19,0	57,0	76,0	92,0	19,0	28,0	30,00	38,25	28,5	M8	25,00 x 3,00
25	25,0	79,5	99,4	119,4	20,6	32,6	38,00	50,00	39,4	M10	32,00 x 3,00
30	30,0	95,0	119,2	141,2	23,8	36,8	46,00	57,50	47,7	M12	38,00 x 3,00
40	40,0	89,0	108,0	130,5	25,5	39,5	55,50	70,00	41,5	M12	52,00 x 3,00

General tolerances
 DIN ISO 2768
 Surfaces
 DIN EN ISO 4287



Needle valves with threaded connector · DN 4 - DN 50



Custom orders on request

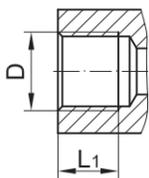
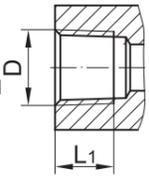
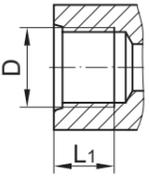
All dimensions subject to change without notice

Dimensions in mm

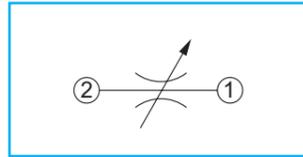
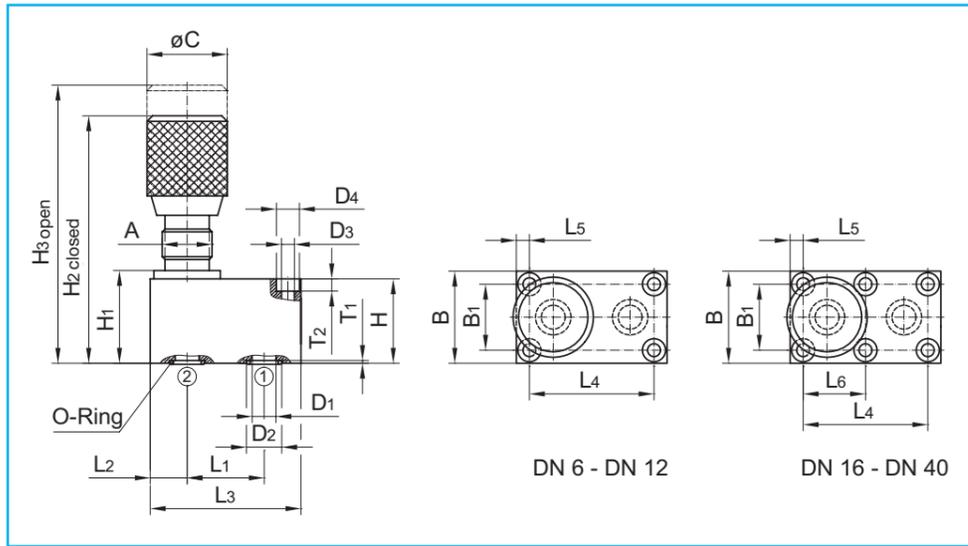
Weight in kg

Pressure in bar

Body:	steel, zinc plated	stainless steel
Spindle:	steel	stainless steel
Rotary knob:	aluminium	aluminium
O-Rings:	FKM	FKM

Connection	DN	Thread D	L	L1	A	B	C	H	H1	H2	H3	H4	Weight	DN	PN	Article-No.	PN	Article-No.
BSP-female thread DIN EN ISO 228-1 	4	G 1/8	38	10,0	M18x1,5	20	29	20	10,0	23	87	78	0,22	4	350	219 028	350	219 076
	6	G 1/4	48	12,0	M18x1,5	25	29	25	12,5	28	92	83	0,31	6	350	219 029	350	219 077
	10	G 3/8	58	14,0	M18x1,5	30	29	30	15,0	33	98	88	0,47	10	350	219 030	350	219 078
	12	G 1/2	68	15,0	M18x1,5	35	29	35	17,5	38	103	93	0,66	12	350	219 031	350	219 079
	16	G 5/8	78	16,0	M22x1,5	45	38	45	22,5	49	123	111	1,25	16	350	219 058	350	219 080
	20	G 3/4	78	16,0	M22x1,5	45	38	45	22,5	49	123	111	1,25	20	350	219 032	350	219 081
	25	G1	108	20,0	M22x1,5	50	38	50	25,0	54	128	116	1,95	25	350	219 033	350	219 082
	32	G1 1/4	108	20,0	M36x1,5	60	50	60	30,0	66	183	164	3,26	32	350	219 034	350	219 083
	40	G1 1/2	108	23,0	M36x1,5	70	50	70	35,0	76	193	174	4,20	40	350	219 035	350	219 084
	50	G2	130	24,5	M36x1,5	90	50	90	45,0	96	213	194	7,65	50	350	219 036	350	219 085
NPT-female thread ANSI/ASME B1.20.1-1983 	4	1/8 - 27 NPT	38	6,9	M18x1,5	20	29	20	10,0	23	87	78	0,22	4	350	219 037	350	219 086
	6	1/4 - 18 NPT	48	10,0	M18x1,5	25	29	25	12,5	28	92	83	0,31	6	350	219 038	350	219 087
	10	3/8 - 18 NPT	58	10,3	M18x1,5	30	29	30	15,0	33	98	88	0,47	10	350	219 039	350	219 088
	12	1/2 - 14 NPT	68	13,6	M18x1,5	35	29	35	17,5	38	103	93	0,66	12	350	219 040	350	219 089
	20	3/4 - 14 NPT	78	14,1	M22x1,5	45	38	45	22,5	49	123	111	1,25	20	350	219 041	350	219 090
	25	1 - 11 1/2 NPT	108	16,8	M22x1,5	50	38	50	25,0	54	128	116	1,95	25	350	219 042	350	219 091
	32	1 1/4 - 11 1/2 NPT	108	17,3	M36x1,5	60	50	60	30,0	66	183	164	3,26	32	350	219 043	350	219 092
	40	1 1/2 - 11 1/2 NPT	108	17,3	M36x1,5	70	50	70	35,0	76	193	174	4,20	40	350	219 044	350	219 093
	50	2 - 11 1/2 NPT	130	17,7	M36x1,5	90	50	90	45,0	96	213	194	7,65	50	350	219 045	350	219 094
	Female thread ISO 11926-1 	4	7/16 - 20 UNF-2B	42	6,9	M18x1,5	20	29	20	10,0	23	87	78	0,22	4	350	219 047	350
6		1/2 - 20 UNF-2B	48	10,0	M18x1,5	25	29	25	12,5	28	92	83	0,31	6	350	219 059	350	219 096
8		9/16 - 18 UNF-2B	58	12,7	M18x1,5	30	29	30	15,0	33	98	88	0,47	8	350	219 048	350	219 097
10		3/4 - 16 UNF-2B	60	14,3	M18x1,5	30	29	30	15,0	33	98	88	0,47	10	350	219 049	350	219 098
12		7/8 - 14 UNF-2B	72	16,7	M18x1,5	35	29	35	17,5	38	103	93	0,66	12	350	219 060	350	219 099
16		1 1/16 - 12 UN -2B	84	19,0	M22x1,5	45	38	45	22,5	49	123	111	1,25	16	350	219 050	350	219 100
20		1 5/16 - 12 UN -2B	108	19,0	M22x1,5	50	38	50	25,0	54	128	116	1,95	20	350	219 051	350	219 101
25		1 5/8 - 12 UN -2B	108	16,8	M22x1,5	60	50	60	30,0	66	183	164	3,26	25	350	219 052	350	219 102
32		1 7/8 - 12 UN -2B	108	19,0	M36x1,5	70	50	70	35,0	76	193	174	4,20	32	350	219 053	350	219 103
40		2 1/2 - 12 UN -2B	130	19,0	M36x1,5	90	50	90	45,0	96	213	194	7,65	40	350	219 054	350	219 104

Needle valves for manifold mounting · steel · DN 6 - DN 40

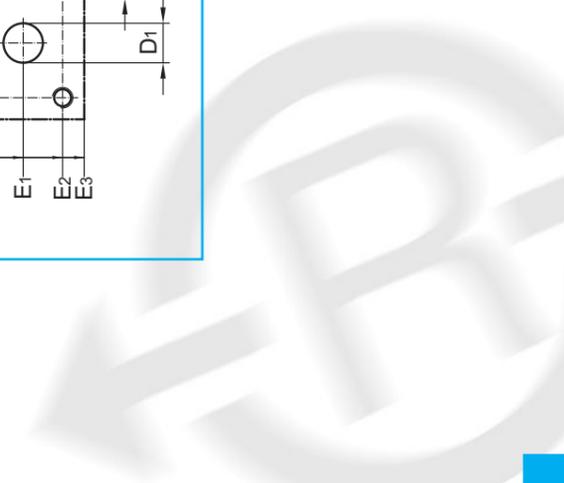
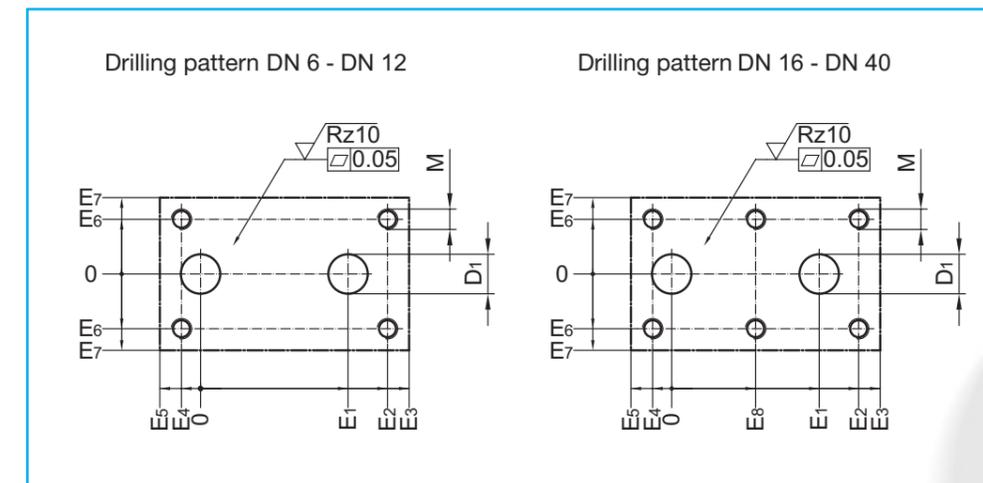


O-Rings included in delivery
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

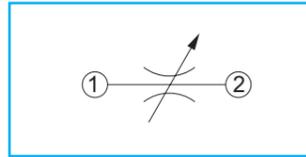
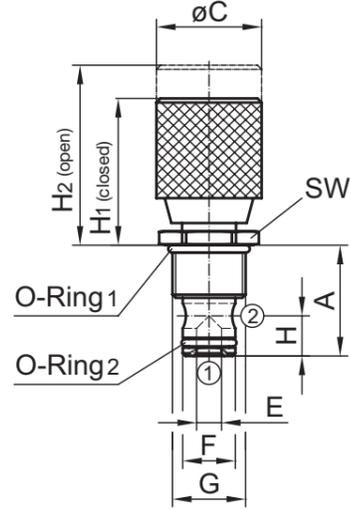
Body: steel, zinc plated
 O-Rings: FKM

Connection	DN	L1	L2	L3	L4	L5	L6	B	B1	øC	H	H1	H2	H3	A	DN	D1	D2	D3	D4	T1	T2	Weight	For cylinderhead screw DIN EN ISO 4762 (DIN 912)		PN	Article-No.
																								M	M		
Body flange with O-Ring-sealing	6	16,0	9,5	35,0	19,0	8,0	-	41,5	28,5	29	16	19	74	84	M18 x 1,5	6	5,0	9,7	6,4	10,5	1,3	6,8	0,2	M6 - 8.8	350	219061	
	8	25,5	11,0	48,0	35,0	6,5	-	46,0	33,5	29	20	23	78	88	M18 x 1,5	8	7,0	12,3	6,4	10,5	1,5	6,8	0,4	M6 - 8.8	350	219062	
	10	25,5	12,7	51,0	33,5	8,5	-	50,0	38,0	29	24	27	82	92	M18 x 1,5	10	10,0	15,7	6,4	10,5	1,5	6,8	0,6	M6 - 8.8	350	219063	
	12	30,0	22,5	75,0	38,0	18,5	-	57,5	44,5	29	25	28	83	93	M18 x 1,5	12	13,0	18,7	6,4	10,5	1,5	6,8	1,0	M6 - 8.8	350	219064	
	16	54,5	19,5	93,5	76,0	8,5	38,0	70,0	54,0	38	30	34	96	108	M22 x 1,5	16	17,0	23,7	8,4	14,0	1,9	9,0	1,6	M8 - 8.8	350	219065	
	20	57,0	27,0	111,0	95,0	8,0	47,5	76,5	60,0	38	45	49	111	123	M22 x 1,5	20	22,0	30,5	8,4	14,0	2,3	9,0	3,5	M8 - 8.8	350	219066	
	25	79,5	32,0	143,0	120,5	11,0	60,0	100,0	76,0	38	45	49	111	123	M22 x 1,5	25	28,5	37,5	10,5	17,0	2,3	11,0	5,2	M10 - 8.8	350	219067	
	30	95,0	37,0	169,0	143,0	13,0	71,5	115,0	92,0	50	50	56	154	173	M36 x 1,5	30	35,0	43,5	13,0	20,0	2,3	13,0	7,5	M12 - 8.8	350	219068	
	40	89,0	39,5	163,0	133,5	14,0	67,0	140,0	111,0	50	50	56	154	173	M36 x 1,5	40	47,5	57,5	13,0	20,0	2,3	13,0	7,0	M12 - 8.8	350	219069	

General tolerances DIN ISO 2768 Surfaces DIN EN ISO 4287	DN	D1	E1	E2	E3	E4	E5	E6	E7	E8	M	O-Ring	
												Ø	W
	6	5,0	16,0	17,5	25,5	1,5	9,5	14,25	20,75	-	M6	6,30	x 1,80
	8	7,0	25,5	30,5	37,0	4,5	11,0	16,75	23,00	-	M6	8,50	x 2,00
	10	10,0	25,5	29,3	38,3	4,2	12,7	19,00	25,00	-	M6	12,00	x 2,00
	12	13,0	30,0	34,0	52,5	4,0	22,5	22,25	28,75	-	M6	15,00	x 2,00
	16	17,0	54,5	65,0	74,0	11,0	19,5	27,00	35,00	27,0	M8	19,00	x 2,50
	20	22,0	57,0	76,0	84,0	19,0	27,0	30,00	38,25	28,5	M8	25,00	x 3,00
	25	28,5	79,5	99,5	111,0	21,0	32,0	38,00	50,00	39,0	M10	32,00	x 3,00
	30	35,0	95,0	119,0	132,0	24,0	37,0	46,00	57,50	47,5	M12	38,00	x 3,00
	40	47,5	89,0	108,0	123,5	25,5	39,5	55,50	70,00	41,5	M12	52,00	x 3,00



Needle valves for manifold insertion as cartridge type · steel · DN 8 - DN 16



O-Rings included in delivery
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body: steel, zinc plated
 O-Rings: FKM

Connection	DN	A	C	E	F	G	H	H ₁	H ₂	SW
Screw-in threaded DIN EN ISO 228-1	8	28	29	5	14	G $\frac{1}{2}$ A	12,0	45	55	27
	10	31	29	6	16	G $\frac{1}{2}$ A	14,5	44	53	27
	12	40	38	8	19	G $\frac{3}{4}$ A	17,5	53	64	32
	16	44	38	8	27	G1 A	21,1	52	63	41

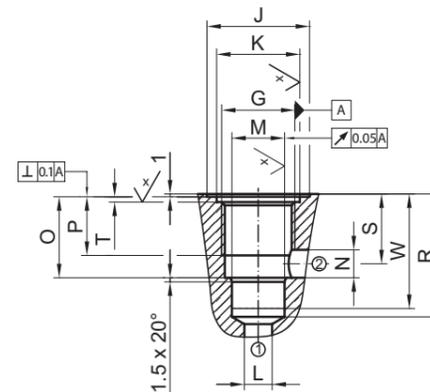
DN	O-Ring 1	O-Ring 2	Assembly torque [Nm]	Weight
8	18,72 x 2,62	11,10 x 1,78	30 ⁺⁵	0,2
10	18,72 x 2,62	13,29 x 1,78	40 ⁺⁵	0,3
12	23,47 x 2,62	13,94 x 2,62	50 ⁺⁵	0,5
16	29,82 x 2,62	21,89 x 2,62	75 ⁺⁵	0,7

PN	Article-No.
350	219071
350	219072
350	219073
350	219074

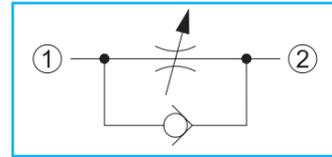
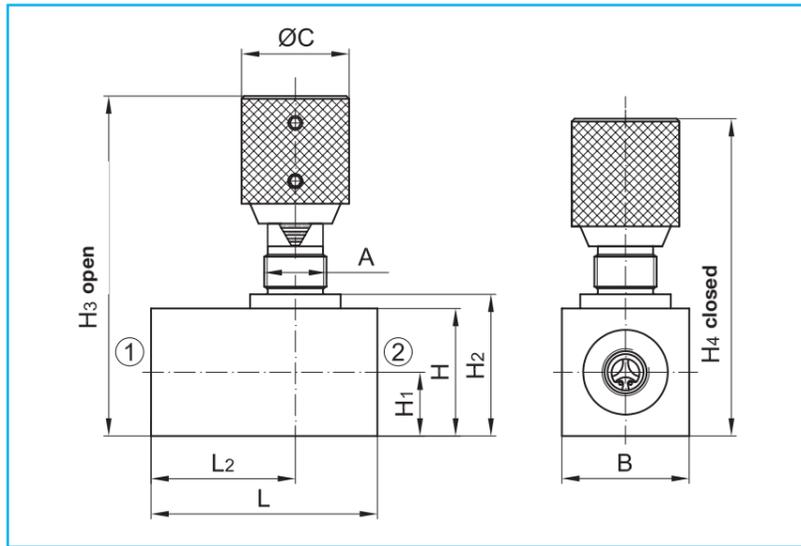
DN	G	J	K +0.1	L max.	M H ₈	N max.	O	P min.	R +1	S	T +0.1	W min.
8	G $\frac{1}{2}$	32	24	5	14	5	17,5	14	29	15	1,9	28
10	G $\frac{1}{2}$	32	24	8	16	8	20,5	14	33	17	1,9	32
12	G $\frac{3}{4}$	37	30	10	19	11	29,0	21	43	24	1,9	41
16	G1	47	36	12	27	12	30,0	21	47	24	1,9	45

General tolerances
 DIN ISO 2768
 Surfaces
 DIN EN ISO 4287

Drilling pattern DN 8 - DN 16



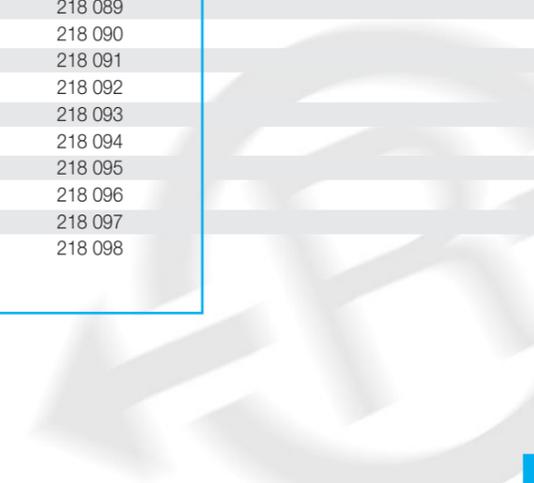
Flow control valves with threaded connector · DN 4 - DN 50



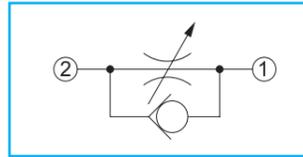
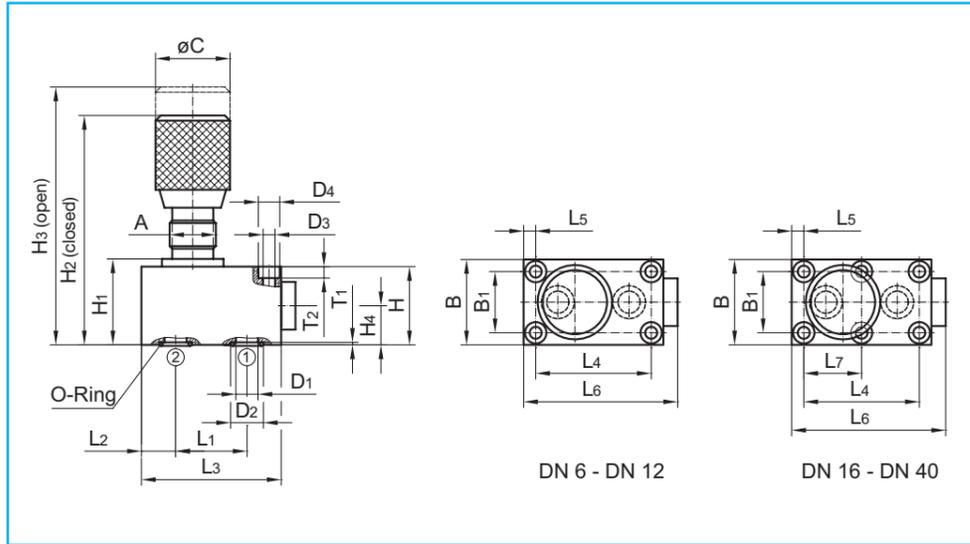
Opening pressure: 0,5
 Custom orders on request
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body:	steel, zinc plated	stainless steel
Spindle:	steel	stainless steel
Rotary knob:	aluminium	aluminium
O-Rings:	FKM	FKM

Connection	DN	Thread	D	L	L1	L2	A	B	C	H	H1	H2	H3	H4	Weight	DN	PN	Article-No.	PN	Article-No.
BSP-female thread DIN EN ISO 228-1	4	G 1/8		45	10,0	28	M18x1,5	20	29	20	10,0	23	87	78	0,25	4	350	218 028	350	218 071
	6	G 1/4		55	12,0	35	M18x1,5	25	29	25	12,5	28	92	83	0,36	6	350	218 029	350	218 072
	10	G 3/8		65	14,0	41	M18x1,5	30	29	30	15,0	33	98	88	0,52	10	350	218 030	350	218 073
	12	G 1/2		73	15,0	48	M18x1,5	35	29	35	17,5	38	103	93	0,68	12	350	218 031	350	218 074
	20	G 3/4		88	16,0	57	M22x1,5	45	38	45	22,5	49	123	111	1,37	20	350	218 032	350	218 075
	25	G1		127	20,0	77	M22x1,5	50	38	50	25,0	54	128	116	2,17	25	350	218 033	350	218 076
	32	G1 1/4		143	20,0	93	M36x1,5	60	50	60	30,0	66	183	164	3,96	32	350	218 034	350	218 077
NPT-female thread ANSI/ASME B1.20.1-1983	4	1/8 - 27	NPT	45	6,9	28	M18x1,5	20	29	20	10,0	23	87	78	0,25	4	350	218 037	350	218 080
	6	1/4 - 18	NPT	55	10,0	35	M18x1,5	25	29	25	12,5	28	92	83	0,36	6	350	218 038	350	218 081
	10	3/8 - 18	NPT	65	10,3	41	M18x1,5	30	29	30	15,0	33	98	88	0,52	10	350	218 039	350	218 082
	12	1/2 - 14	NPT	73	13,6	48	M18x1,5	35	29	35	17,5	38	103	93	0,68	12	350	218 040	350	218 083
	20	3/4 - 14	NPT	88	14,1	57	M22x1,5	45	38	45	22,5	49	123	111	1,37	20	350	218 041	350	218 084
	25	1 - 11 1/2	NPT	127	16,8	77	M22x1,5	50	38	50	25,0	54	128	116	2,17	25	350	218 042	350	218 085
	32	1 1/4 - 11 1/2	NPT	143	17,3	93	M36x1,5	60	50	60	30,0	66	183	164	3,86	32	350	218 043	350	218 086
Female thread ISO 11926-1	40	1 1/2 - 11 1/2	NPT	143	17,3	98	M36x1,5	70	50	70	35,0	76	193	174	5,03	40	350	218 044	350	218 087
	50	2 - 11 1/2	NPT	165	17,7	111	M36x1,5	90	50	90	45,0	96	213	194	9,10	50	350	218 045	350	218 088
	4	7/16 -20	UNF-2B	49	11,5	28,0	M18x1,5	20	29	20	10,0	23	87	78	0,25	4	350	218 047	350	218 089
	6	1/2 -20	UNF-2B	55	11,5	33,5	M18x1,5	25	29	25	12,5	28	92	83	0,38	6	350	218 057	350	218 090
	8	9/16 -18	UNF-2B	67	12,7	42,0	M18x1,5	30	29	30	15,0	33	98	88	0,52	8	350	218 048	350	218 091
	10	3/4 -16	UNF-2B	67	14,3	42,0	M18x1,5	30	29	30	15,0	33	98	88	0,52	10	350	218 049	350	218 092
	12	7/8 -14	UNF-2B	77	16,7	50,0	M18x1,5	35	29	35	17,5	38	103	93	0,68	12	350	218 058	350	218 093
16	1 1/16 -12	UN -2B	94	19,0	60,0	M22x1,5	45	38	45	22,5	49	123	111	1,37	16	350	218 050	350	218 094	
20	1 5/16 -12	UN -2B	127	19,0	77,0	M22x1,5	50	38	50	25,0	54	128	116	2,17	20	350	218 051	350	218 095	
25	1 5/8 -12	UN -2B	143	19,0	93,0	M22x1,5	60	50	60	30,0	66	183	164	3,96	25	350	218 052	350	218 096	
32	1 7/8 -12	UN -2B	143	19,0	98,0	M36x1,5	70	50	70	35,0	76	193	174	5,03	32	350	218 053	350	218 097	
40	2 1/2 -12	UN -2B	165	19,0	111,0	M36x1,5	90	50	90	45,0	96	213	194	9,10	40	350	218 054	350	218 098	



Flow control valves for manifold mounting · steel · DN 6 - DN 40

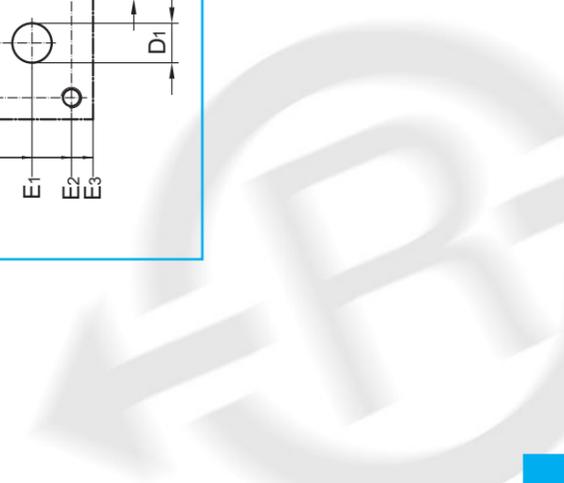
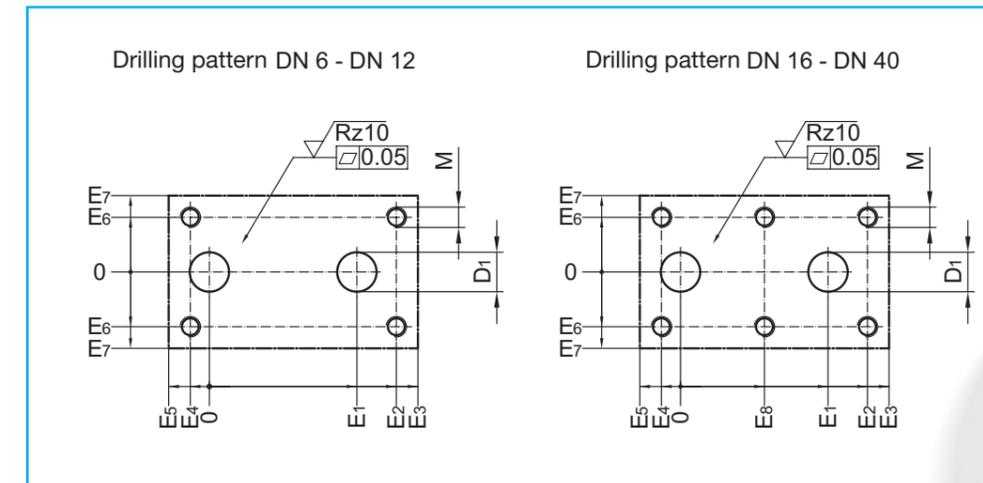


O-Rings included in delivery
 Opening pressure: 0,5
 All dimensions subject to change without notice
 Dimensions in mm
 Weight in kg
 Pressure in bar

Body: steel, zinc plated
 O-Rings: FKM

Connection	DN	L1	L2	L3	L4	L5	L6	L7	B	B1	øC	H	H1	H2	H3	H4	A	DN	D1	D2	D3	D4	T1	T2	Weight	For cylinderhead screw DIN EN ISO 4762 (DIN 912)		PN	Article-No.
																										M	M		
Body flange with O-Ring-sealing	6	16,0	8,0	41,5	19,0	6,4	41,5	-	41,5	28,5	29	16	19	74	84	8,0	M18 x 1,5	6	5,0	9,7	6,5	10,5	1,3	6,8	0,3	M6 - 8.8	350	218061	
	8	25,5	18,7	63,5	35,0	14,2	68,5	-	46,0	33,5	29	20	23	78	87	10,0	M18 x 1,5	8	7,0	12,3	6,5	10,5	1,5	6,8	0,5	M6 - 8.8	350	218062	
	10	25,5	22,0	70,0	33,5	18,0	75,0	-	51,0	38,0	29	25	28	83	93	12,5	M18 x 1,5	10	10,0	15,7	6,5	10,5	1,5	6,8	0,8	M6 - 8.8	350	218063	
	12	30,0	25,0	80,0	38,0	21,0	85,0	-	57,5	44,5	29	32	35	90	100	16,0	M18 x 1,5	12	13,0	18,7	6,5	10,5	1,5	6,8	1,2	M6 - 8.8	350	218064	
	16	54,0	21,4	104,0	76,0	10,0	111,0	38,0	70,0	54,0	38	45	49	111	123	22,5	M22 x 1,5	16	17,0	23,7	8,4	14,0	2,0	9,0	2,5	M8 - 8.8	350	218065	
	20	57,0	35,0	127,0	95,0	16,0	133,0	47,5	80,0	60,0	38	49	53	115	127	24,5	M22 x 1,5	20	22,0	30,5	8,4	14,0	2,3	9,0	4,0	M8 - 8.8	350	218066	
	25	79,5	35,6	165,0	120,0	15,0	165,0	60,0	100,0	76,0	38	55	59	121	133	27,5	M22 x 1,5	25	28,5	37,5	10,5	17,0	2,3	11,0	6,7	M10 - 8.8	350	218067	
	30	95,0	38,8	186,0	143,0	15,0	192,0	71,5	120,0	92,0	50	75	81	179	198	37,5	M36 x 1,5	30	35,0	43,5	13,0	19,0	2,3	13,0	11,5	M12 - 8.8	350	218068	
	40	89,0	39,5	170,0	133,5	14,0	178,0	67,0	140,0	111,0	50	100	106	204	223	50,0	M36 x 1,5	40	40,0	57,5	13,0	20,0	2,3	13,0	16,5	M12 - 8.8	350	218069	

General tolerances DIN ISO 2768 Surfaces DIN EN ISO 4287	DN	D1	E1	E2	E3	E4	E5	E6	E7	E8	M	O-Ring
		6	5,0	16,0	17,4	33,5	1,6	8,0	14,25	20,75	-	M6
	8	7,0	25,5	30,5	44,8	4,5	18,7	16,75	23,00	-	M6	8,50 x 2,00
	10	10,0	25,5	29,5	48,0	4,0	22,0	19,00	25,50	-	M6	12,00 x 2,00
	12	13,0	30,0	34,0	55,0	4,0	25,0	22,25	28,75	-	M6	15,00 x 2,00
	16	17,0	54,0	64,6	82,6	11,4	21,4	27,00	35,00	26,6	M8	19,00 x 2,50
	20	22,0	57,0	76,0	92,0	19,0	35,0	30,00	40,00	28,5	M8	25,00 x 3,00
	25	28,5	79,5	99,4	129,4	20,6	35,6	38,00	50,00	39,4	M10	32,00 x 3,00
	30	35,0	95,0	119,2	147,2	23,8	38,8	46,00	60,00	47,7	M12	38,00 x 3,00
	40	40,0	89,0	108,0	130,5	25,5	39,5	55,50	70,00	41,5	M12	52,00 x 3,00

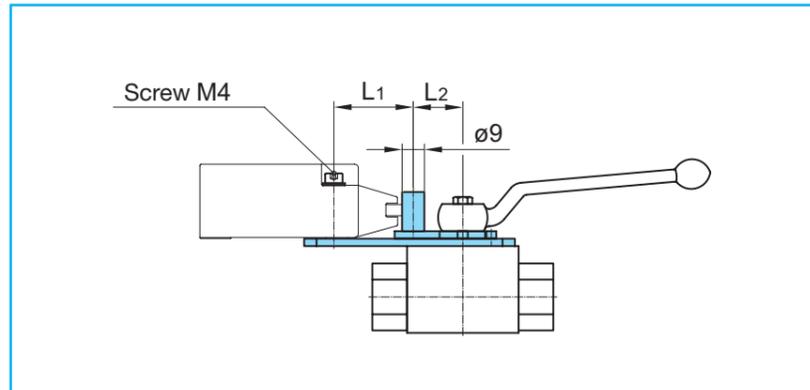


Product overview

- Mounting kits for limit switches
- Mounting kits for proximity switches
- Locking devices
- Actuators
- Detents
- Handles

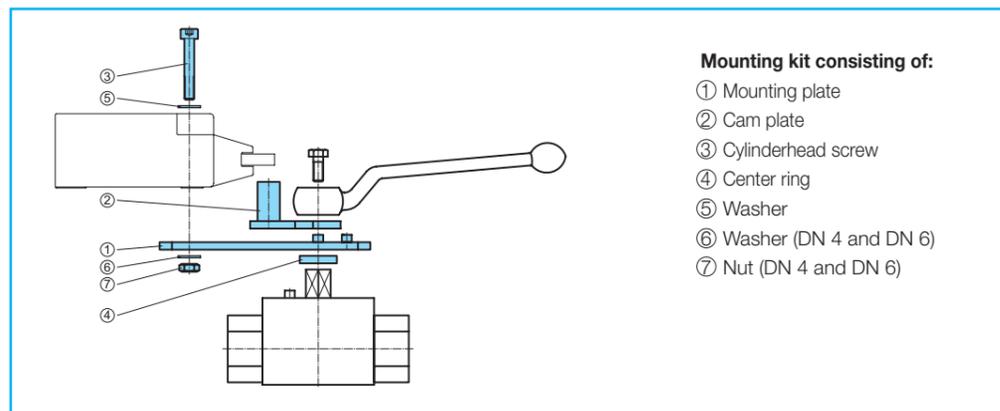


Mounting kits for limit switches

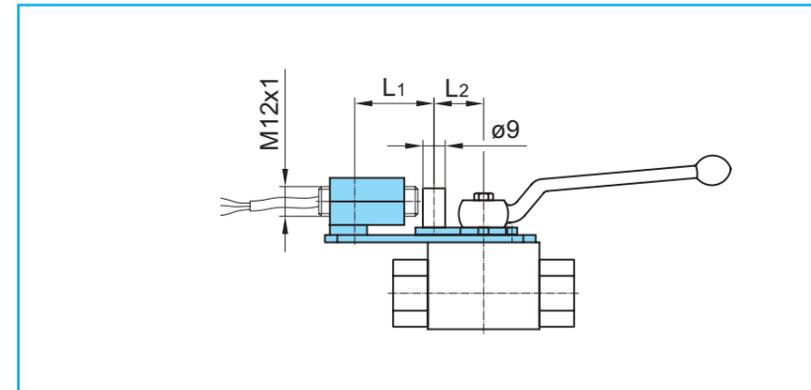


For dimensions and article-numbers for ball valve bodies refer to the respective chapter.
 Mounting kits for other types of ball valves on request
 All dimensions subject to change without notice
Also completely assembled available

		Steel			Steel		
Switching positions	DN	2-way- and multi-way ball valves with floating ball		Multi-way ball valves with trunnion ball			
		Article-No.	L1	L2	Article-No.	L1	L2
open	4/6	204 001	50,5	20	204 031	58,0	27,5
	8/10	204 002	50,5	20	204 032	61,5	31,0
	12	204 003	61,5	31	204 032	61,5	31,0
	16	204 003	61,5	31	204 032	61,5	31,0
	20/25	204 005	61,5	31	204 033	64,5	34,0
	32	204 006	64,5	34	204 033	64,5	34,0
closed	4/6	204 011	50,5	20	204 041	58,0	27,5
	8/10	204 012	50,5	20	204 042	61,5	31,0
	12	204 013	61,5	31	204 042	61,5	31,0
	16	204 013	61,5	31	204 042	61,5	31,0
	20/25	204 015	61,5	31	204 043	64,5	34,0
	32	204 016	64,5	34	204 043	64,5	34,0
open and closed	4/6	204 021	50,5	20	204 051	58,0	27,5
	8/10	204 022	50,5	20	204 052	61,5	31,0
	12	204 023	61,5	31	204 052	61,5	31,0
	16	204 023	61,5	31	204 052	61,5	31,0
	20/25	204 025	61,5	31	204 053	64,5	34,0
	32	204 026	64,5	34	204 053	64,5	34,0
	40	204 026	64,5	34	204 054	64,5	34,0
	50	204 026	64,5	34	-		

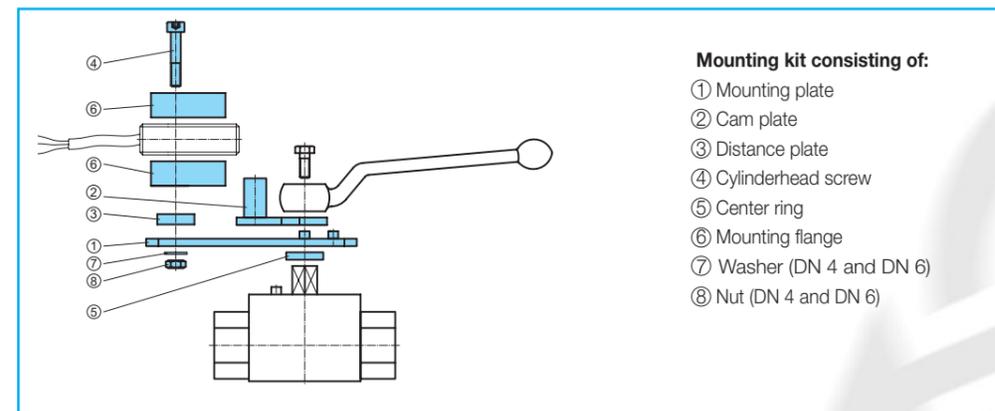


Mounting kits for proximity switches



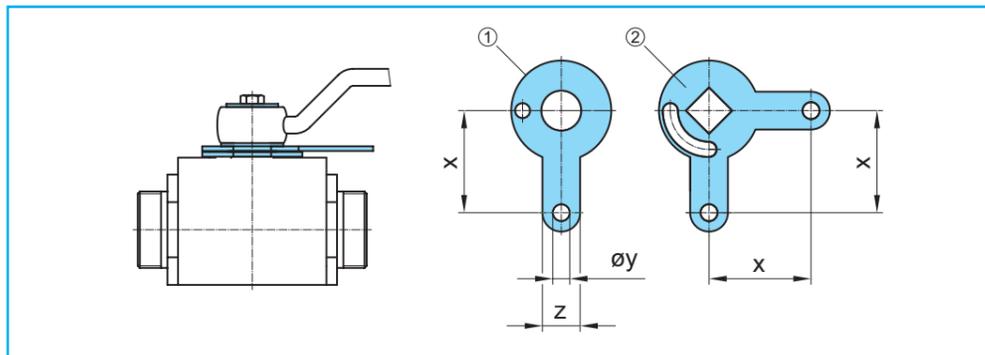
For dimensions and article-numbers for ball valve bodies refer to the respective chapter.
 Mounting kits for other types of ball valves on request
 All dimensions subject to change without notice
Also completely assembled available

		Steel			Steel		
Switching positions	DN	2-way- and multi-way ball valves with floating ball		Multi-way ball valves with trunnion ball			
		Article-No.	L1	L2	Article-No.	L1	L2
open	4/6	204 061			204 091		
	8/10	204 062			204 092		
	12	204 063			204 092		
	16	204 063			204 092		
	20/25	204 065			204 093		
	32	204 066			204 093		
closed	4/6	204 071			204 101		
	8/10	204 072			204 102		
	12	204 073			204 102		
	16	204 073			204 102		
	20/25	204 075			204 103		
	32	204 076			204 103		
open and closed	4/6	204 081			204 111		
	8/10	204 082			204 112		
	12	204 083			204 112		
	16	204 083			204 112		
	20/25	204 085			204 113		
	32	204 086			204 113		
	40	204 086			204 114		
	50	204 086			-		



Attachments, accessories

Locking devices for 2- and multi-way ball valves with floating ball · Steel and stainless steel



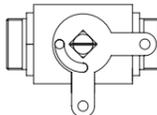
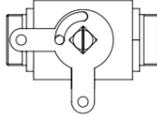
For dimensions and article-numbers for ball valve bodies refer to the respective chapter.

Locking devices for other types of ball valves on request

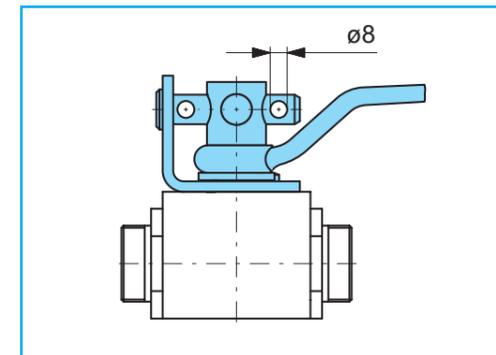
All dimensions subject to change without notice

Also completely assembled available

Material: stainless steel

Switching position	DN	t	x	y	z	Article-No.
	4/6	0,80	18	9	20	100 836
	8/10	1,20	21	9	20	100 837
	12	1,20	29	9	20	100 838
	16	1,20	29	9	20	100 838*
	20/25	1,50	34	9	20	100 840
	32/40/50	1,75	54	9	20	100 841

* DN 16 stainless steel 100840

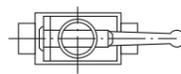
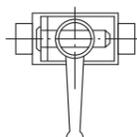


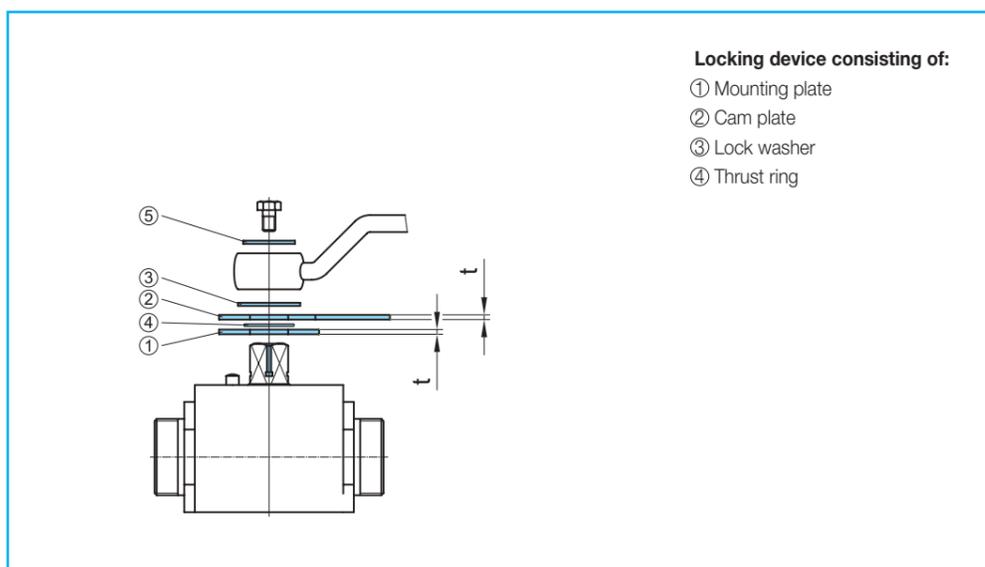
For dimensions and article-numbers for ball valve bodies refer to the respective chapter.

Locking devices for other types of ball valves on request

All dimensions subject to change without notice

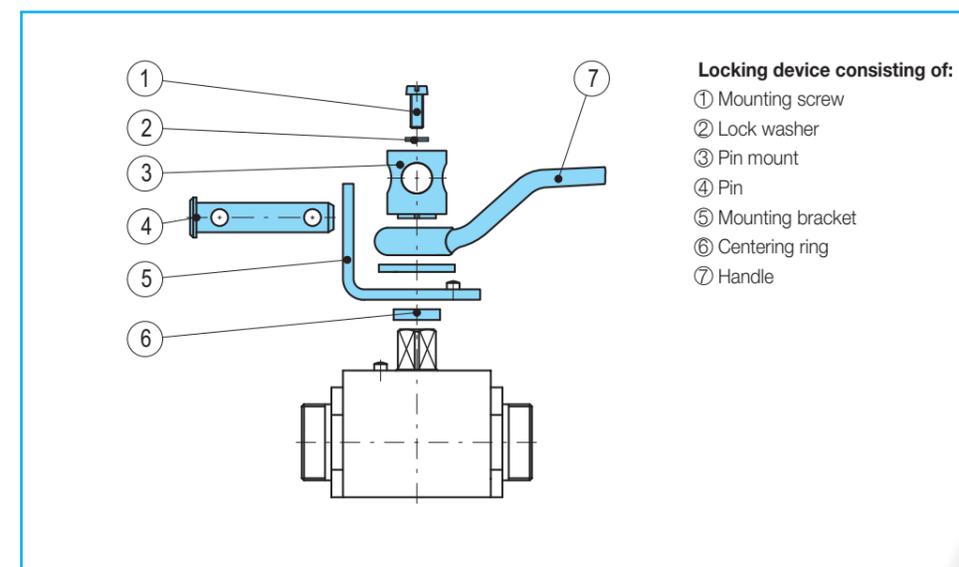
Also completely assembled available

Switching position	DN	Steel	Stainless steel
		Article-No.	Article-No.
open 	4/6	100 821	100 831
	8/10	100 822	100 832
	12	100 823	100 833
	16	100 823	100 834
	20	100 825	100 834
	25	100 825	100 834
closed 	32	100 826	100 835
	40	100 826	100 835
	50	100 826	100 835



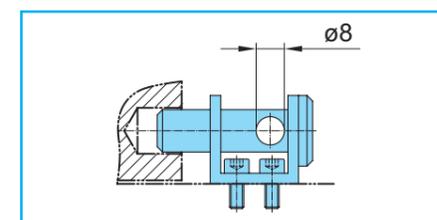
Locking device consisting of:

- ① Mounting plate
- ② Cam plate
- ③ Lock washer
- ④ Thrust ring



Locking device consisting of:

- ① Mounting screw
- ② Lock washer
- ③ Pin mount
- ④ Pin
- ⑤ Mounting bracket
- ⑥ Centering ring
- ⑦ Handle

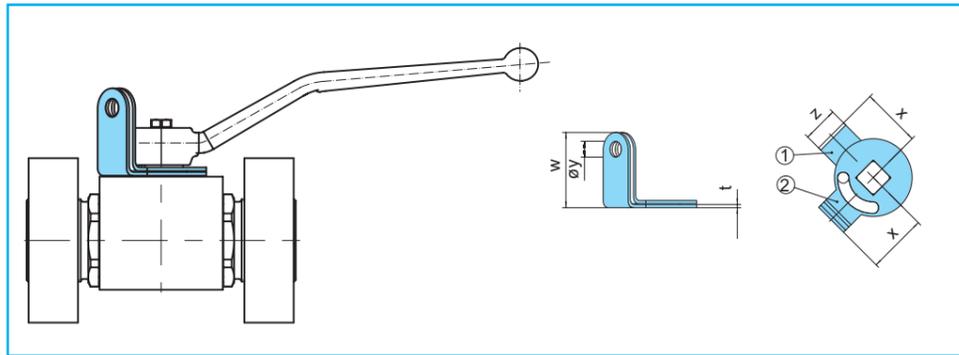


DN	Article-No.
76/102/127	100 830

NEW!

Attachments, accessories

Locking devices for 2- and multi-way ball valves with floating ball · Steel and stainless steel



NEW!

For dimensions and article-numbers for ball valve bodies refer to the respective chapter.

Locking devices for other types of ball valves on request

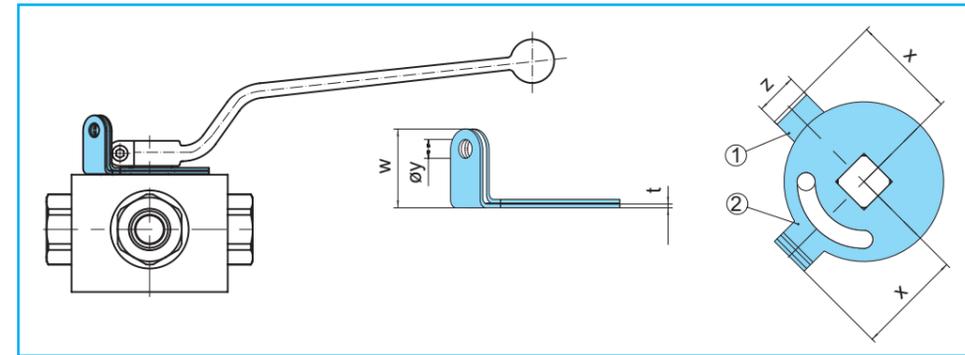
All dimensions subject to change without notice

Also completely assembled available

Material: stainless steel

Switching position	DN	t	w	x	y	z	Article-No.
	4/6	1,25	28,0	18,5	9	20	100 980
	8/10	1,25	30,0	20,5	9	20	100 981
	12/16	1,25	32,0	28,0	9	20	100 982
	20/25	1,75	42,5	34,0	9	20	100 983
	32/40/50	1,75	29,0	46,0	9	20	100 984

Locking devices for 2- and multi-way ball valves with trunning ball · Steel and stainless steel



NEW!

For dimensions and article-numbers for ball valve bodies refer to the respective chapter.

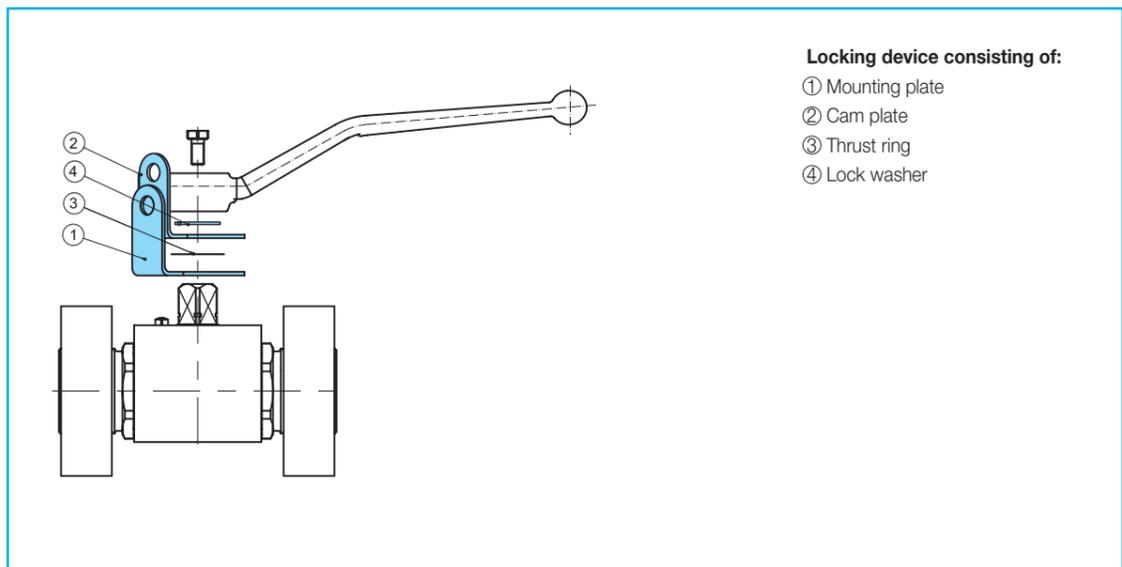
Locking devices for other types of ball valves on request

All dimensions subject to change without notice

Also completely assembled available

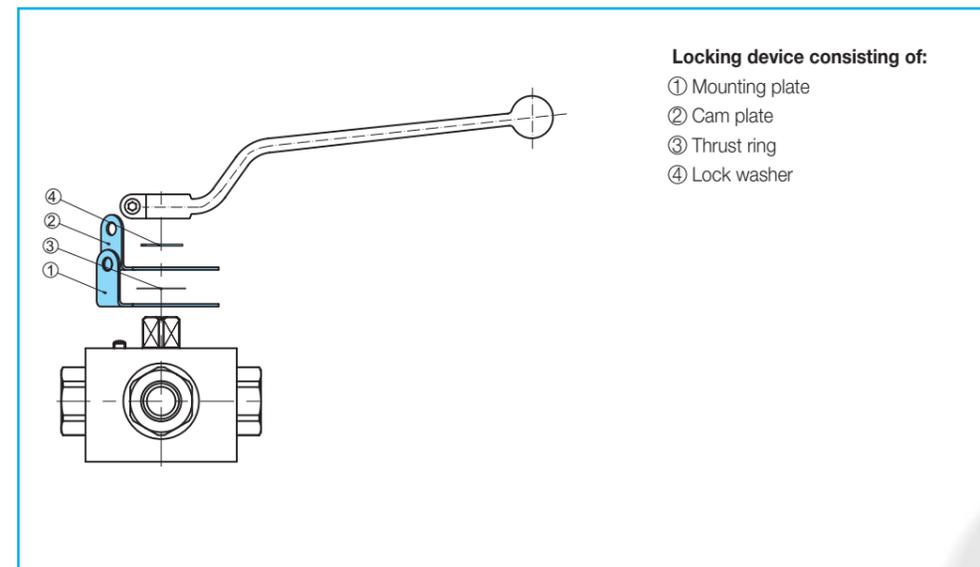
Material: stainless steel

Switching position	DN	t	w	x	y	z	Article-No.
	4/6	1,75	37,5	35,00	9	20	203 905
	8/10/12	1,75	37,5	37,00	9	20	203 906
	20/25/32/40	1,75	37,5	50,25	9	20	203 907



Locking device consisting of:

- ① Mounting plate
- ② Cam plate
- ③ Thrust ring
- ④ Lock washer



Locking device consisting of:

- ① Mounting plate
- ② Cam plate
- ③ Thrust ring
- ④ Lock washer



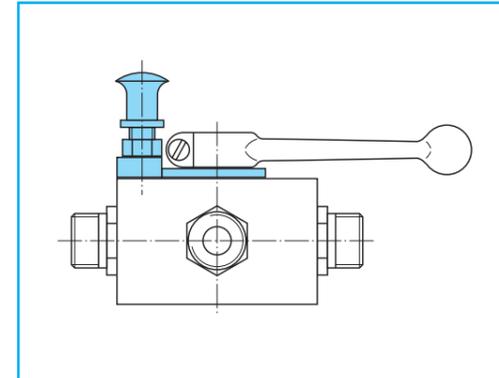
Actuators



Actuators

Most available pneumatic, hydraulic and electrical actuators can be attached, here only an example is given. Solenoid valves can be mounted as well or the system can be integrated into bus technology.

Detents for multi-way ball valves with trunnion ball
Steel and stainless steel



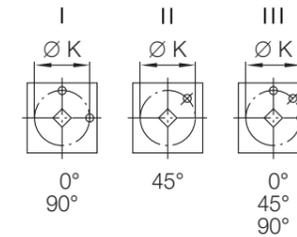
For dimensions and article-numbers for ball valve bodies refer to the respective chapter.

Detents for other types of ball valves on request

All dimensions subject to change without notice

Also completely assembled available

Common detent position at:



DN	K
4/6	52
8/10	62
12	62
16/12	62
20	68
25	68
32	68
40	68

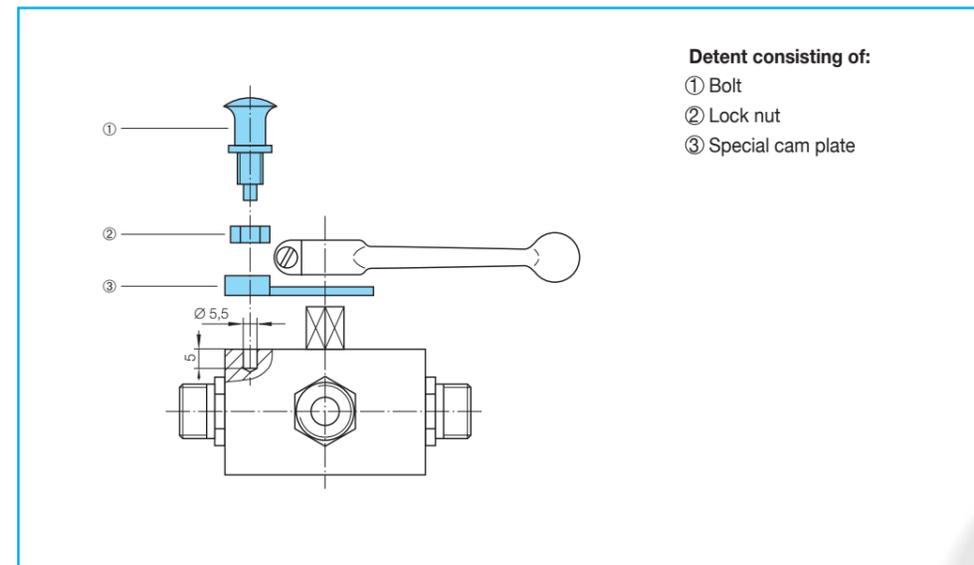
Steel

Stainless steel

Article-No.

Article-No.

203 897	203 901
203 898	203 902
203 898	203 902
203 898	203 902
203 899	203 903
203 899	203 903
203 899	203 903
203 900	203 904



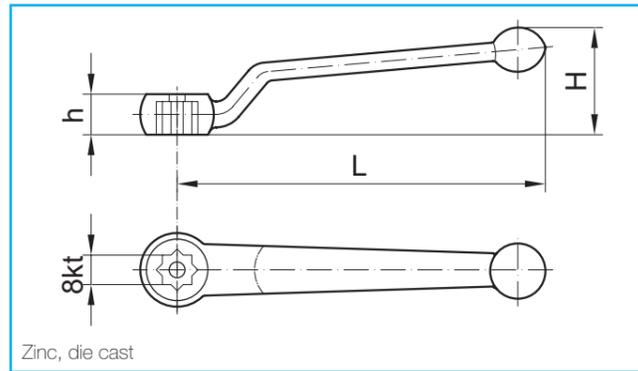
Detent consisting of:

- ① Bolt
- ② Lock nut
- ③ Special cam plate



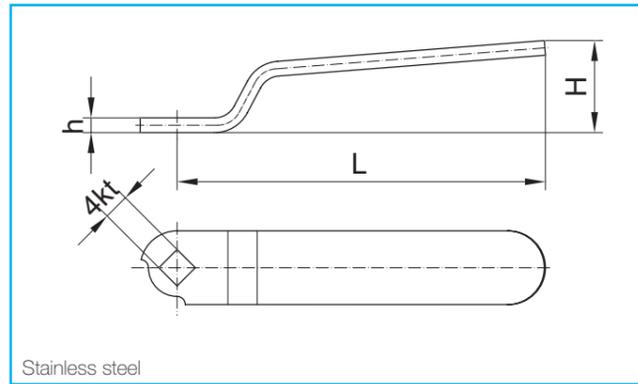
Attachments, accessories

Handles

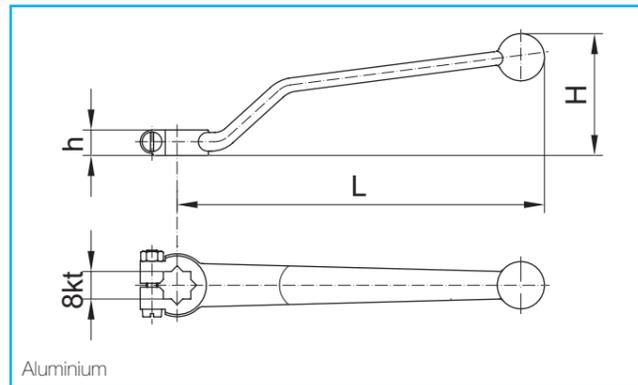


All dimensions subject to change without notice
Dimensions in mm

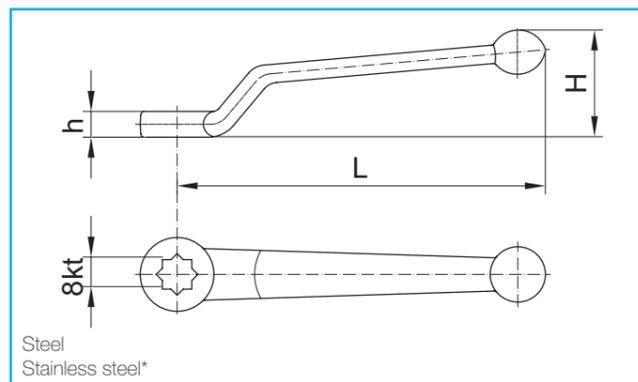
8kt	Code	L	H	h	Art.-No.
7	12	76	27	8,5	903709
8	13	100	29	11,0	903708
10	14	113	54	14,0	903706
14	15	184	57	18,0	903694



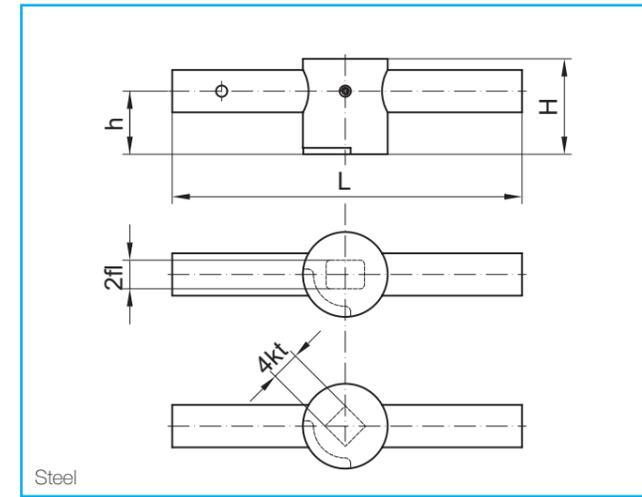
4kt	Code	L	H	h	Art.-No.
7	32	76,0	23	4	903749
8	33	130,0	40	4	903750
10	34	130,0	40	4	903751
14	35	185,0	45	5	903752



8kt	Code	L	H	h	Art.-No.
8	4	91	24	9,0	903020
9	54	130	47	11,0	903636
12	7	187	54	13,0	903009
14	8	187	62	13,0	903004
17	9	227	70	14,0	903027
19	10	259	81	16,5	903028
22	11	361	68	18,0	903610

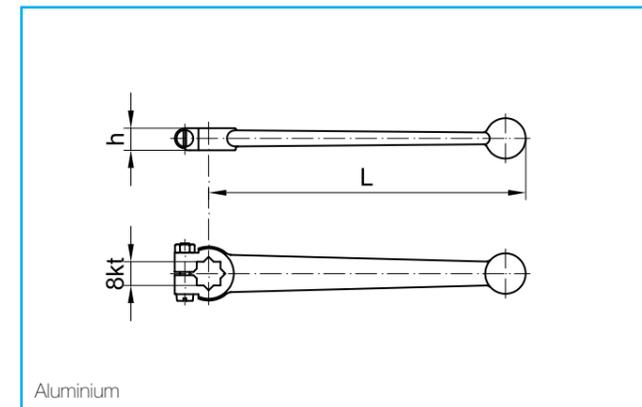


8kt	Code	L	H	h	Art.-No.
7	16	96	40	9,0	903804
8	17	96	40	9,0	903803
10	19	116	48	12,5	903414
14	20	187	54	13,0	903634
17	21	211	66	14,0	903440
17*	37	211	66	14,0	903758
17	22	320	76	17,0	903539
17*	38	320	76	17,0	903759
19	23	320	76	17,0	903548



All dimensions subject to change without notice
Dimensions in mm

2fl	Code	L	H	h	Art.-No.
27	57	1000	90	59,5	903755

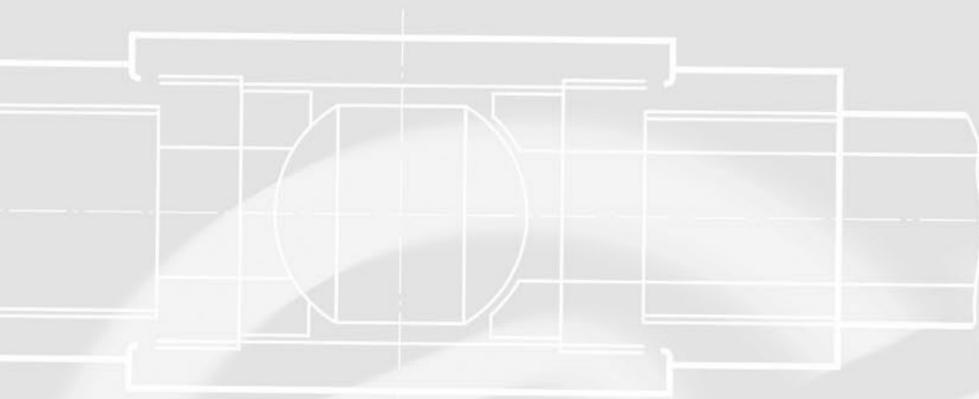


4kt	Code	L	H	h	Art.-No.
19	58	600	80	53,0	903754

8kt	Code	L	h	Art.-No.
11	41	176	12	903029
12	42	200	14	903030
14	43	200	13	903031
17	44	240	14	903005
19	45	279	16	903032
22	46	321	19	903620
24	47	321	19	903010

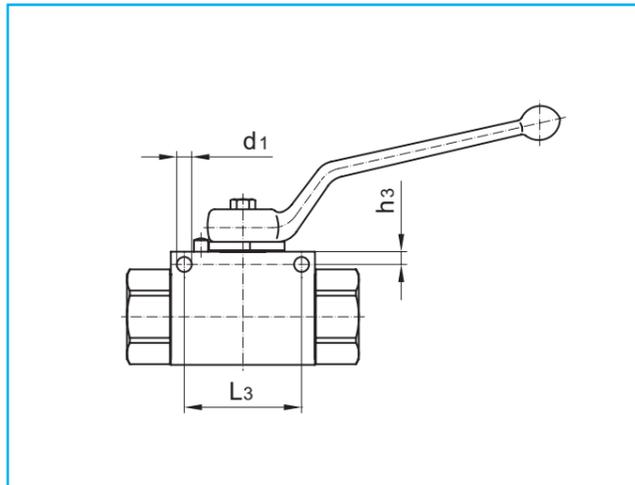


- Mounting holes
- Design principle of ball valves
- Seals of ball valves
- Sealing materials
- Compatibility table
- Ball valve size selection
- Pressure/temperature-diagram
- Δp -characteristics



Technical information

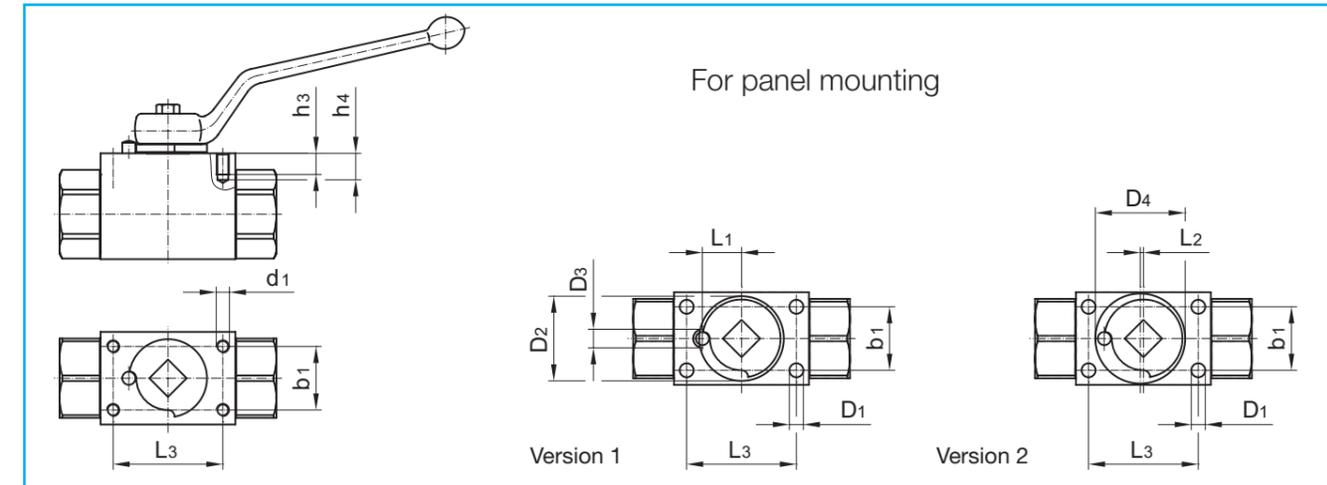
Mounting holes for 2-way and multi-way ball valves with floating ball Steel and stainless steel · DN 4 - DN 25



For wall mounting and stack design

For dimensions and article-numbers for ball valve bodies refer to the respective chapter.
All dimensions subject to change without notice

DN	L3	h3	d1
4	27,5	3,5	4,5
6	27,5	3,5	4,5
8	35,0	4,5	5,3
10	35,0	4,5	5,3
12	41,5	4,5	5,3
16	41,5	4,5	5,3
20	46,5	6,0	5,3
25	46,5	6,0	5,3



For panel mounting

For dimensions and article-numbers for ball valve bodies refer to the respective chapter.
All dimensions subject to change without notice

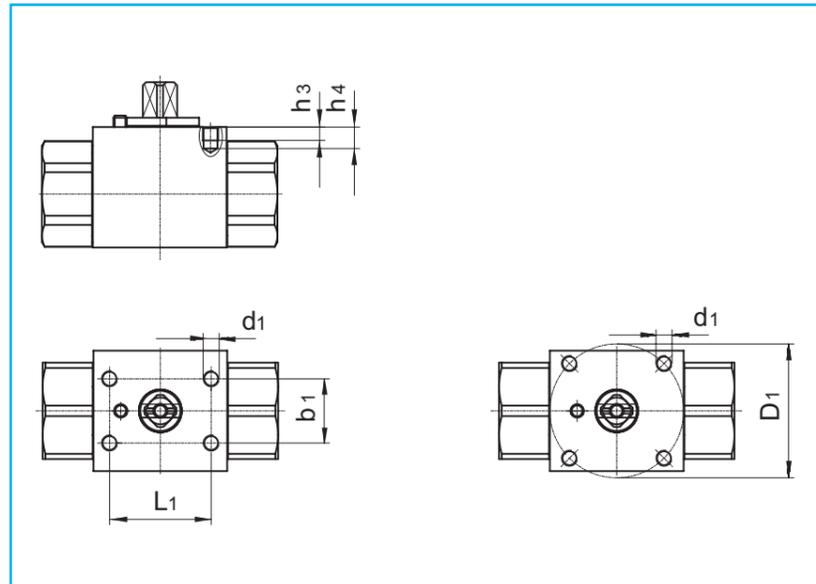
DN	L3	b1	d1	h3	h4	D1	D2	D3	D4	L1	L2
4	27,5	12,0	M4	5	6	4,3	21,5	5,0	22,5	10,0	0,7
6	27,5	12,0	M4	5	6	4,3	21,5	5,0	22,5	10,0	0,7
8	35,0	22,0	M5	6	8	5,3	26,0	6,0	27,0	11,5	0,8
10	35,0	22,0	M5	6	8	5,3	26,0	6,0	27,0	11,5	0,8
12	41,5	24,0	M5	8	10	5,3	32,0	7,0	34,0	14,8	1,2
16*	39,0	28,0	M5	8	10	5,3	32,0	7,0	34,0	14,8	1,2
20	48,0	33,0	M6	9	12	6,4	38,0	8,0	40,0	17,0	1,0
25	54,0	40,0	M6	9	12	6,4	38,0	8,0	40,0	17,0	1,0

* Body stainless steel DN 16 similar to DN 20



Technical information

Mounting holes for 2-way and multi-way ball valves with floating ball Steel and stainless steel · DN 4 - DN 25

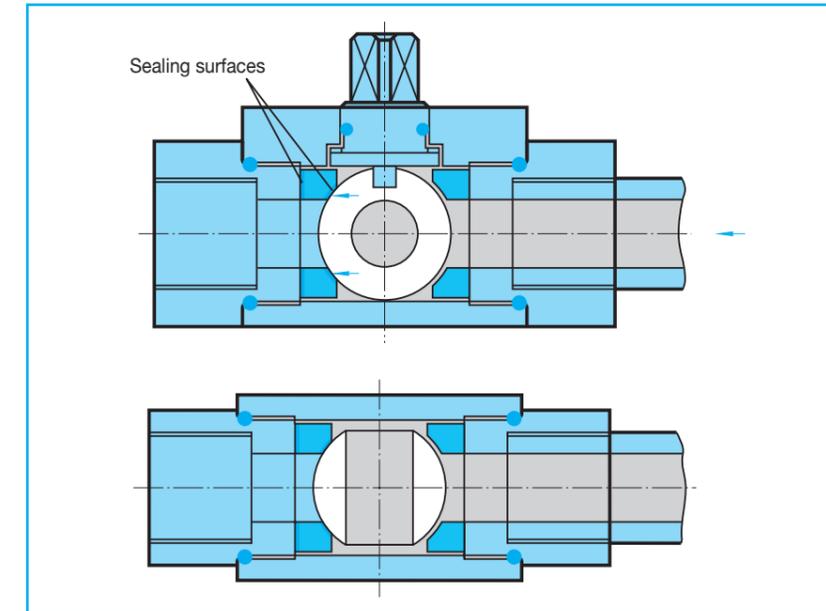


For installation of actuators

For dimensions and article-numbers for ball valve bodies refer to the respective chapter.
All dimensions subject to change without notice

DN	D1	L1	b1	d1	h3	h4
4	-	27,5	11	M4	5	6
6	-	27,5	11	M4	5	6
8	-	27,5	11	M4	5	6
10	-	27,5	11	M4	5	6
12	Ø36	-	-	M5	6	8
16	Ø50	-	-	M6	6	8
20	Ø50	-	-	M6	6	8
25	Ø50	-	-	M6	6	8

Design principle of 2-way ball valves with floating ball



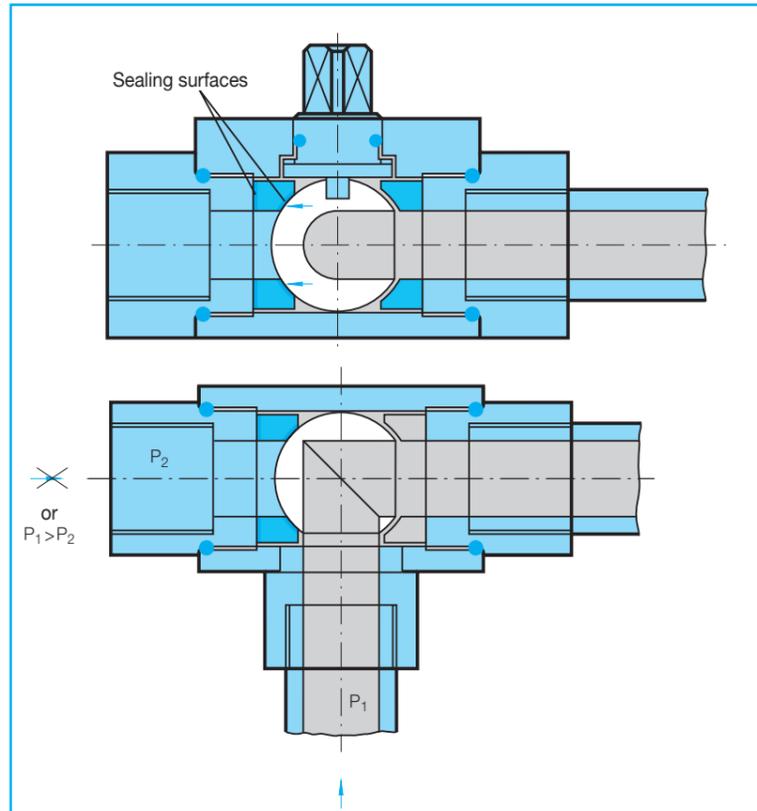
Bearing:
The seats also serve as the bearings for the floating ball.

Sealing:
Medium pressure will force the ball into the seat on the downstream side, forming a tight seal.

Leakage rate:
A - DIN EN 12266-1



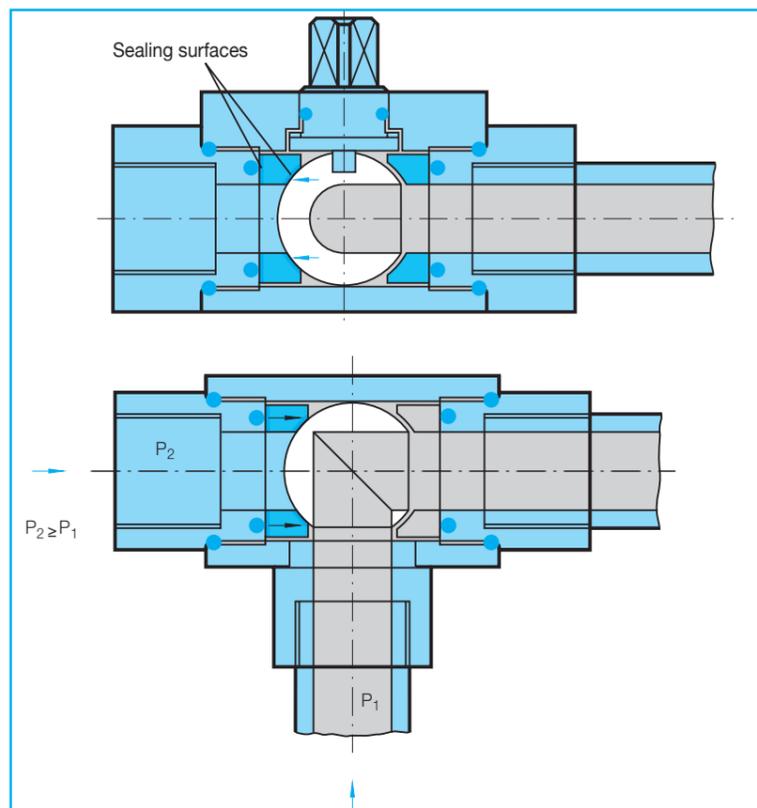
Design principle of multi-way ball valves with floating ball



Bearing:
The seats also serve as the bearings for the floating ball.

Sealing:
Medium pressure will force the ball into the seat on the downstream side, forming a tight seal, provided the pressure in the lines which are joined is greater than the pressure in the line which is closed off. Leakage will be encountered if the pressure in the closed line is equal to or greater than that in the other lines.

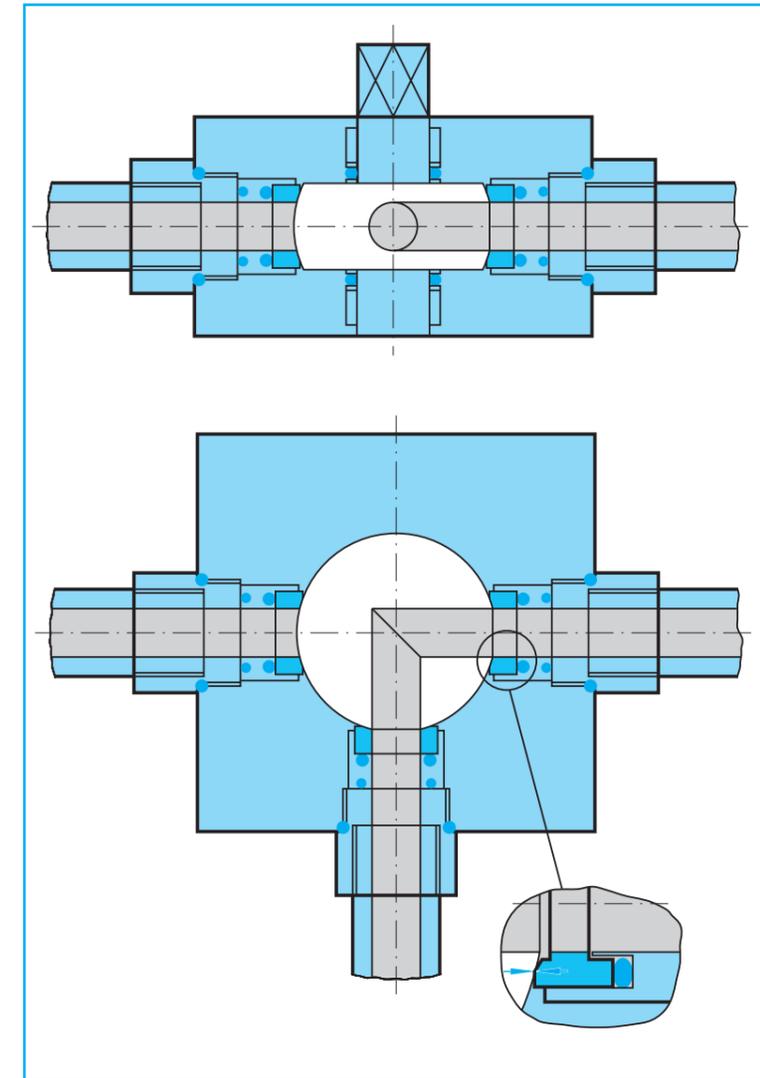
Leakage:
A - DIN EN 12266-1



A.D.-VERSION:
If the pressure from the closed port is higher or equal, the seat at the closed port is pressed against the ball and is sealing tightly.

Leakage:
A - DIN EN 12266-1

Design principle of multi-way ball valves with trunnion ball



Bearing:
The seats also serve as the bearings for the floating ball.

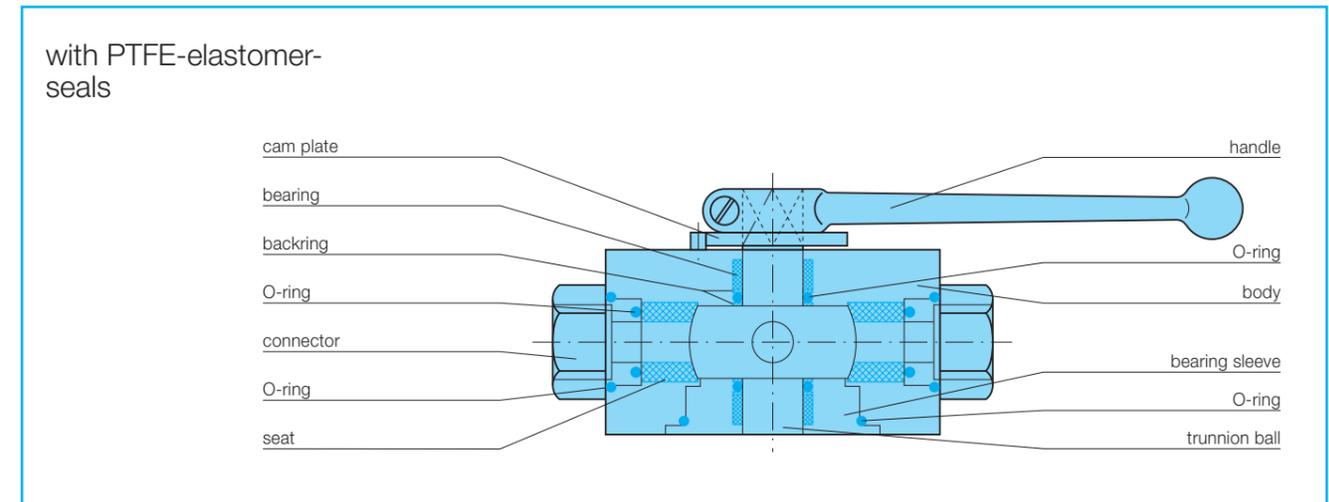
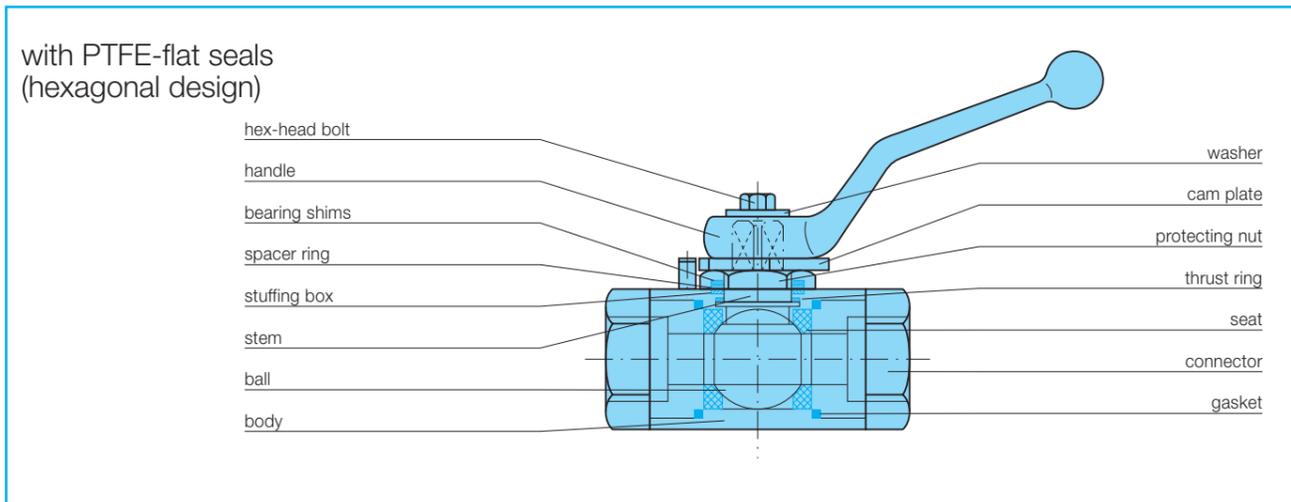
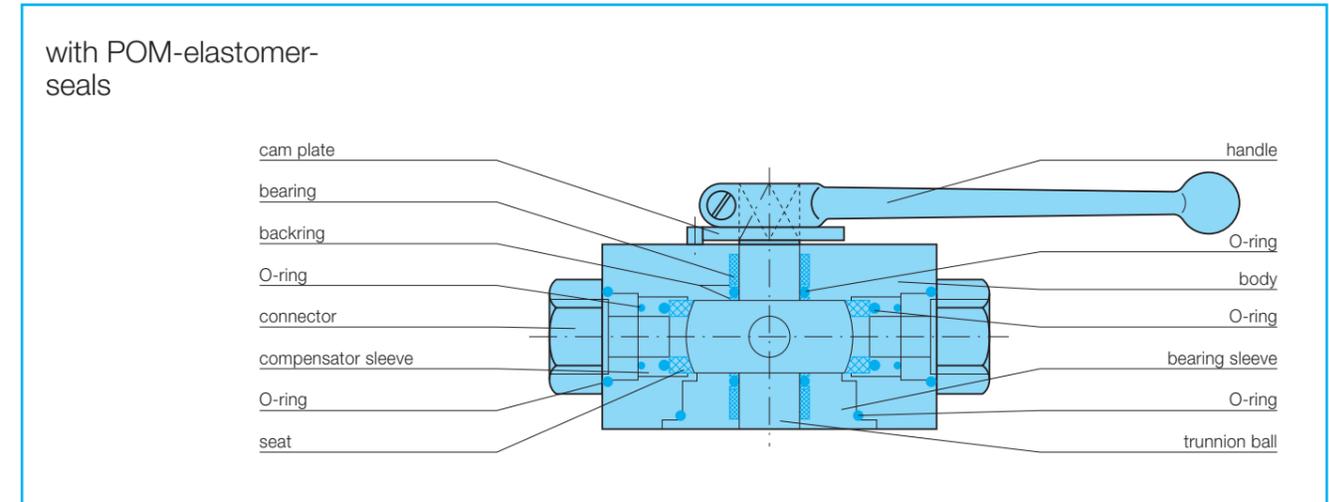
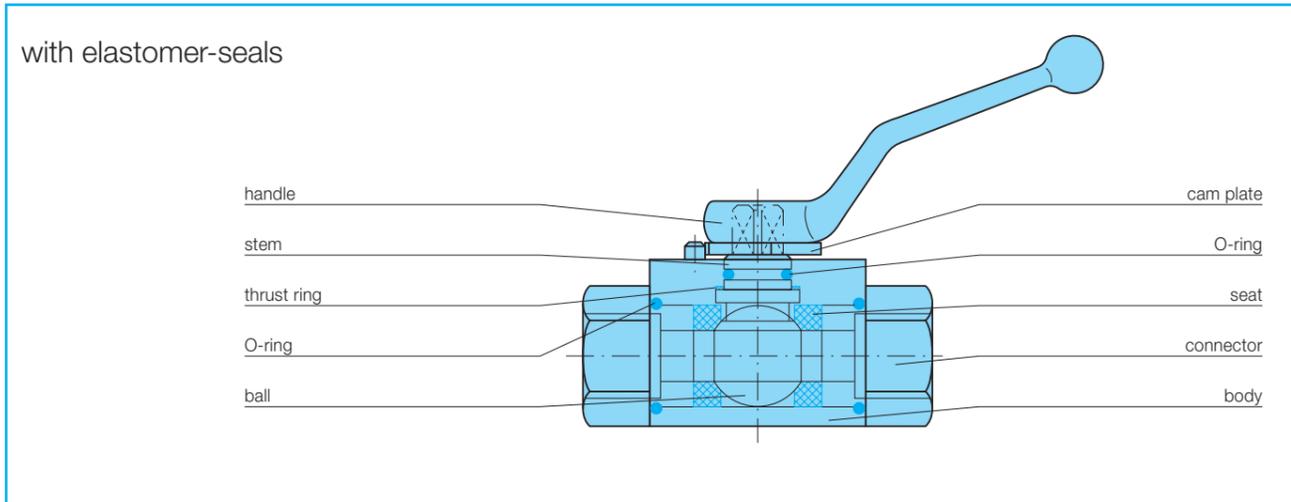
Sealing:
Tight seal at the trunnion ball due to pressure equalized Rötelmann telescopic seal.

Leakage:
A - DIN EN 12266-1



Seals in ball valves with floating ball

Seals in multi-way ball valves with trunnion ball



Sealing materials

Abbreviation (DIN ISO 1629)	Generic designation	Trade name (registered Trademarks)	Plastic properties	Abbreviation (DIN ISO 1629)	Applications	Temperature range (check pressure/ temperature diagram)	Special properties
PTFE	Polytetrafluorethylene	Teflon Hostaflon Fluon	Thermoplastic	PTFE	Ball seal	-200°C to +260°C	High chemical and temperature resistance; good slip properties. Modifying the crosskage can extend the application range to 250°C or 315 bar.
PVDF	Polyvinylidene fluoride	Solef Dyflor	Thermoplastic	PVDF	Ball seal	-40°C to +150°C	Mechanical properties similar to PTFE; greater stiffness than PTFE. Thermal loading capabilities lower than PTFE
PCTFE	Polychlorotrifluorethylene	Kel-F Neoflon Aclar	Thermoplastic	PCTFE	Ball seal	-240°C to +150°C	Mechanical properties similar to PTFE; greater stiffness than PTFE. Thermal loading capabilities lower than PTFE
POM	Polyoxymethylene/Polyacetal	Delrin Hostaform C Ultraform	Thermoplastic	POM	Ball seal	-40°C to +100°C	High strength and stiffness, good creep strength, low humidity absorption, hydrolytic resistance (up to 60°C)
PEEK	Polyether-ether-ketone	Victrex Hostatec	Thermoplastic	PEEK	Ball seal	-60°C to +260°C	Excellent chemical and hydrolytic resistance, good creep strength even at higher temperature, very good resistance to wear under varying operating conditions
PAI	Polyamide	Torlon	Thermoplastic	PAI	Ball seal	-190°C to +260°C	Excellent retention of mechanical stability, stiffness and creep strength at broad temperature range, excellent friction and abrasion performance, excellent UV-resistance
PI	Polyimide	VespeI Kapton	Thermoplastic	PI	Ball seal	-273°C to +255°C	High mechanical strength, stiffness and creep strength even at higher temperature, good abrasion performance
NBR	Nitrile rubber	Perbunan Chemigum Hycar Elaprim Krynac JSR-N	Elastomer	NBR	Body- and stem-seal	-30°C to +100°C*	High density, low deformation under pressure
HNBR	Hydrogenated nitrile rubber	Therban Zetpol	Elastomer	HNBR	Body- and stem-seal	-35°C to +150°C	Excellent physical properties and good abrasion resistance even at higher temperature, low deformation under pressure, good resistance against steam, oxygen and ozone
EPDM	Ethylene propylene diene rubber	Buna AP Vistalon Dutral Keltan	Elastomer	EPDM	Body- and stem-seal	-40°C to +140°C*	Excellent swelling resistance with heating-circuit water and steam, very good ozone-, aging- and atmospheric condition resistance
FKM	Fluor rubber	Viton Tecnoflon Fluorel	Elastomer	FKM	Body- and stem-seal	-15°C to +200°C*	Good chemical stability and high temperature resistance, excellent tightness and low deformation under pressure
FFKM	Perfluor rubber	Kalrez Chemraz Parofluor Isolast Simriz	Elastomer	FFKM	Body- and stem-seal	-15°C to +300°C	Elasticity and sealing properties aligned with chemical inertness and thermal stability, high temperature stress- and chemical resistance
VMQ	Silicone rubber	Silopren Silastic Blensil	Elastomer	VMQ	Body- and stem-seal	-60°C to +180°C	Stable mechanical properties throughout the entire temperature, good resistance against heat, ozone and aging

* Temperature range: DIN 3771-3
More significant compounds on request

Compatibility table

This compatibility table is for information only and without responsibility. The data presented are guidelines and recommendations based on common practice. The resistance of the materials might be affected through specific, on the location prevailing operating conditions as pressure, temperature, static or dynamic strain, but also through modified concentrations of the media exposed to the material. All information referring to room temperature (23°C)

CAS number: unique numeral identifier to every chemical substance

+ = resistant - = not resistant o = not specified

Medium	Chem. formula	CAS no.	Steel	1.4571	Has-telloy	Br	Al	POM	PCTFE	PEEK	PTFE	PVDF	HNBR	NBR	EPDM	FKM	FFKM	VMQ
A																		
acetic acid	C ₂ H ₄ O ₂	000064-19-7	-	+	+	-	-	-	+	+	+	+	-	-	-	-	+	-
acetone	C ₃ H ₆ O	000067-64-1	+	+	+	+	+	+	+	+	+	-	-	-	+	-	+	o
acetylene	C ₂ H ₂	000074-86-2	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	o
acrylonitrile	C ₃ H ₃ N	000107-13-1	+	+	+	+	+	-	o	+	+	-	-	-	-	-	+	o
air	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
aluminium chloride	AlCl ₃	007446-70-0	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	o
ammonia	NH ₃	007664-41-7	+	+	+	-	-	+	+	+	+	+	-	-	+	-	+	o
argon	Ar	007440-37-1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
B																		
blast furnace gas	-	-	-	+	+	+	-	-	-	+	+	+	-	-	-	+	+	+
boric acid	H ₃ BO ₃	010043-35-3	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
bromine	Br ₂	007726-95-6	-	-	+	-	-	-	+	-	+	+	-	-	-	-	+	-
butadiene	C ₄ H ₆	000106-99-0	-	+	+	+	-	+	+	+	+	+	-	-	-	-	+	-
butane	C ₄ H ₁₀	000106-97-8	+	+	+	+	-	+	+	+	+	+	-	-	-	+	+	-
butylene	C ₄ H ₈	000106-98-9	+	+	+	+	+	-	o	o	+	+	+	+	-	+	+	-
C																		
calcium chloride	CaCl ₂	010043-52-4	-	+	+	-	-	-	+	+	+	+	+	+	+	+	+	+
calcium hydroxide	CaH ₂ O ₂	001305-62-0	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
carbon dioxide	CO ₂	000124-38-9	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	-
carbon disulfide	CS ₂	000075-15-0	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	-
chlorine	Cl ₂	007782-50-5	-	o	o	-	-	-	-	-	+	+	-	-	-	-	+	-
chloroforme	CHCl ₃	000067-66-3	-	+	+	+	-	-	-	+	+	+	-	-	-	+	+	-
citric acid	C ₆ H ₈ O ₇	000077-92-9	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
copper(II) chloride	CuCl ₂	007447-39-4	-	-	+	-	-	+	+	+	+	+	+	+	+	+	+	+
copper(II) nitrate	CuN ₂ O ₆	003251-23-8	-	+	+	-	-	+	-	+	+	+	-	-	+	+	+	-
copper(II) sulfate	CuSO ₄	007758-98-7	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
chromic acid	CrO ₃	001333-82-0	-	+	+	-	+	-	+	-	+	+	-	-	-	+	+	-
D																		
diesel fuel	-	068476-36-6	+	+	+	+	+	-	+	+	+	+	+	+	-	+	+	-
E																		
ethane	C ₂ H ₆	000074-84-0	+	+	+	+	+	-	o	+	+	-	+	-	-	+	+	o
ethanol	C ₂ H ₆ O	000064-17-5	+	+	+	+	-	+	o	+	+	+	+	+	-	+	+	o
ethylene	C ₂ H ₄	000074-85-1	+	+	+	+	-	-	o	+	+	+	+	-	-	+	+	-
ethyleneglycol	C ₂ H ₆ O ₂	000107-21-1	-	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
ethylenetrichloride	C ₂ HCl ₃	000079-01-6	-	+	+	-	-	-	+	+	+	+	-	-	+	+	+	-
F																		
fluorine	F ₂	007782-41-4	-	-	+	-	-	-	+	-	+	-	-	-	-	-	+	-
formaldehyde	CH ₂ O	000050-00-0	-	+	+	-	+	-	-	+	+	+	-	-	+	-	+	o
formic acid	CH ₂ O ₂	000064-18-6	-	+	+	-	+	-	-	+	+	+	-	-	+	-	+	o
fuel	-	008006-61-9	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-
fuel oil, light	-	068476-30-2	+	+	+	o	+	-	+	+	+	+	+	+	-	+	+	-
fuel oil, heavy	-	068476-33-5	+	+	+	o	o	-	+	+	+	+	-	-	-	+	+	-
G																		
glucose	C ₆ H ₁₂ O ₆	000050-99-7	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
glycerine	C ₃ H ₈ O ₃	000058-81-5	-	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
glycol	C ₂ H ₆ O ₂	000107-21-1	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+

Medium	Chem. formula	CAS no.	Steel	1.4571	Has-telloy	Br	Al	POM	PCTFE	PEEK	PTFE	PVDF	HNBR	NBR	EPDM	FKM	FFKM	VMQ
H																		
HEES hydraulic fluid	-	-	o	+	+	o	-	+	+	+	+	+	+	+	-	+	+	o
helium	He	007440-59-7	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
HEPG hydraulic fluid	-	-	o	+	+	o	-	+	+	+	+	+	+	+	-	+	+	o
HEPR hydraulic fluid	-	-	o	+	+	o	-	+	+	+	+	+	o	+	-	+	+	o
heptane	C ₇ H ₁₆	000142-82-5	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-
HETG hydraulic fluid	-	-	o	+	+	o	-	+	+	+	+	+	+	+	-	+	+	o
hexane	C ₆ H ₁₄	000110-54-3	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-
HFA hydraulic fluid	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	o
HFB hydraulic fluid	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	o
HFC hydraulic fluid	-	-	o	+	+	o	+	+	+	+	+	+	+	+	+	o	+	o
HFD-R hydraulic fluid	-	-	+	+	+	-	-	o	o	o	+	-	-	-	-	+	+	-
HFD-S hydraulic fluid	-	-	o	+	+	o	-	+	+	+	+	+	-	-	+	+	+	o
HFD-U hydraulic fluid	-	-	+	+	+	o	-	+	o	+	+	+	+	+	-	+	+	-
hydraulic oils	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	o
hydrochloric acid	HCl	007647-01-0	-	-	+	-	-	-	+	-	+	+	-	-	-	+	+	-
hydrogen	H ₂	001333-74-0	o	+	+	+	+	+	o	+	+	+	+	+	+	+	+	-
hydrogen peroxide	H ₂ O ₂	007722-84-1	-	+	+	-	-	-	o	+	+	+	-	-	-	-	-	-
hydrogen sulfide	H ₂ S	007783-06-4	-	+	+	-	-	-	+	+	+	+	-	-	-	-	-	-
I																		
ink	-	-	-	+	+	-	-	+	o	+	+	+	+	+	+	+	+	+
isobutyl alcohol	C ₄ H ₁₀ O	000078-83-1	+	+	+	+	+	+	o	+	+	+	-	-	+	-	+	+
isocyanate	C ₁₅ H ₁₀ N ₂ O ₂	009016-87-9	+	+	+	-	-	-	o	o	+	-	-	-	+	-	+	-
isooctane	C ₈ H ₁₈	026635-64-3	+	+	+	+	+	+	o	+	+	+	+	+	-	+	+	-
isopropylalcohol	C ₃ H ₈ O	000067-63-0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
iron(II)-chloride	FeCl ₂	007758-94-3	-	+	+	o	-	-	+	o	+	+	+	+	+	+	+	o
iron(II)-sulfate	FeSO ₄	007720-78-7	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
K																		
kerosene	-	008008-20-6	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-
L																		
lacquers	-	-	o	+	+	-	+	+	+	+	+	+	o	o	-	o	+	o
lactose	C ₁₂ H ₂₂ O ₁₁	000063-42-3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
M																		
magn. chloride	MgCl ₂	007786-30-3	-	+	+	-	-	+	o	+	+	+	+	+	+	+	+	+
magn. hydroxide	MgO ₂ H ₂	001309-42-8	+	+	+	-	-	+	o	+	+	+	-	-	+	-	+	-
magn. nitrate	MgN ₂ O ₆	010377-60-3	-	+	+	-	-	+	o	+	+	+	-	-	+	+	+	-
magn. sulphate	MgSO ₄	007487-88-9	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
mercury	Hg	007439-97-6	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
mercury(II) chloride	HgCl ₂	007487-94-7	-	+	+	-	-	+	-	+	+	+	+	+	+	+	+	+
mercury(II) cyanide	C ₂ HgN ₂	000592-04-1	+	+	+	-	-	o	o	o	+	+	-	-	+	+	+	-
mercury(II) nitrate	HgN ₂ O ₆	010045-94-0	+	+	+	-	-	o	o	o	+	+	-	-	+	+	+	-
methane	CH ₄	000074-82-8	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-
methanol	CH ₄ O	000067-56-1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
methyl acetate	C ₃ H ₆ O ₂	000079-20-9	+	+	+	+	+	+	+	+	+	+	-	-	+	-	+	-
methyl alcohol	CH ₃ O	000067-56-1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
methyl chloride	CH ₃ Cl	000074-87-3	-	+	+	+	o	-	o	+	+	+	-	-	+	+	+	-
metoxyethanol	C ₃ H ₈ O ₂	000109-86-4	+	+	+	+	+	-	+	o	+	+	-	-	-	-	+	-
mineral oil	-	008012-95-1	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-

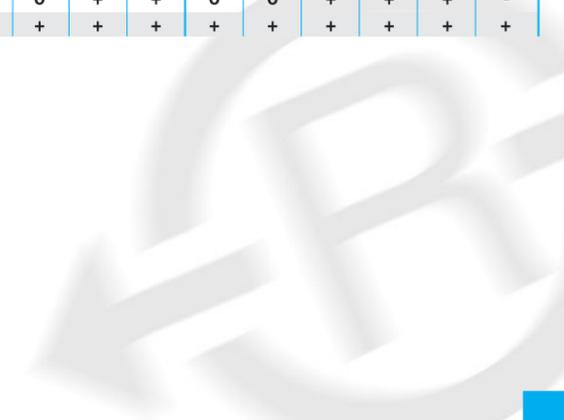
Compatibility table

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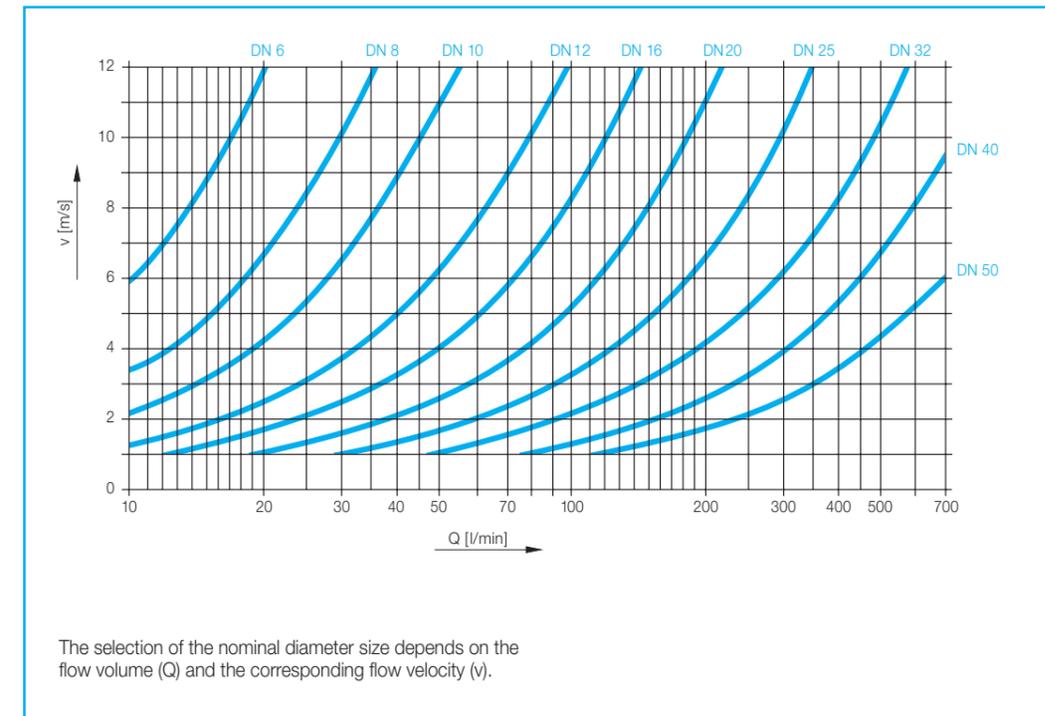
CAS number: unique numeral identifier to every chemical substance
 + = resistant - = not resistant o = not specified

Medium	Chem. formula	CAS no.	Steel	1.4571	Has-telloy	Br	Al	POM	PCTFE	PEEK	PTFE	PVDF	HNBR	NBR	EPDM	FKM	FFKM	VMQ
N																		
naphthalene	C ₁₀ H ₈	000091-20-3	+	+	+	+	o	+	+	+	+	+	-	-	-	+	+	-
natural gas	-	008006-14-2	+	+	+	+	-	+	+	+	+	+	+	+	-	+	+	+
neon	Ne	007440-01-9	+	+	+	+	+	o	+	+	+	+	+	+	+	+	+	+
nickel(II)-chloride	NiCl ₂	007718-54-9	-	+	+	-	-	+	o	+	+	+	+	+	+	+	+	+
nickel(II)-nitrate	NiN ₂ O ₆	013138-45-9	-	+	+	-	-	+	o	+	+	+	+	+	+	+	+	+
nickel(II)-sulfate	NiSO ₄	007786-81-4	-	+	+	-	-	+	o	+	+	+	+	+	+	-	+	+
nitrogen	N ₂	007727-37-9	+	+	+	+	+	-	o	+	+	+	-	+	+	+	+	+
nitric acid	HNO ₃	007697-37-2	-	+	+	-	-	-	+	o	+	+	-	-	-	-	+	-
nitrobenzene	C ₆ H ₅ NO ₂	000098-95-3	+	+	+	+	+	-	+	o	+	+	-	-	-	-	+	-
nitrous oxide	N ₂ O	010024-97-2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
O																		
octane	C ₈ H ₁₈	000111-65-9	-	+	+	o	o	o	o	o	+	+	-	-	-	+	+	-
oxalic acid	C ₂ H ₂ O ₄	000144-62-7	-	+	+	-	-	-	+	+	+	+	-	-	+	+	+	-
oxygen	O ₂	007782-44-7	-	+	+	+	+	+	+	+	+	+	o	o	o	o	+	-
ozone	O ₃	010028-15-6	+	+	+	-	-	-	+	o	+	+	-	-	+	+	+	+
P																		
palmitic acid	C ₁₆ H ₃₂ O ₂	000057-10-3	+	+	+	-	+	-	o	o	+	+	+	+	-	+	+	-
paraffin	-	008012-95-1	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-
pentane	C ₅ H ₁₂	000109-66-0	o	+	+	o	+	+	o	+	+	+	+	+	-	+	+	-
pentanol, 2-	C ₅ H ₁₂ O	006032-29-7	+	+	+	+	+	+	o	+	+	+	-	-	+	-	+	-
petroleum	-	008002-05-9	+	+	+	o	+	+	+	+	+	+	+	+	-	+	+	-
phenol	C ₆ H ₆ O	000108-95-2	-	+	+	-	+	-	+	o	+	+	-	-	+	+	+	-
phosphonic acid	H ₃ PO ₄	007664-38-2	-	+	+	-	-	-	+	+	+	+	-	-	-	+	+	-
picric acid	C ₆ H ₃ N ₃ O ₇	000088-89-1	+	+	+	+	o	-	o	+	+	+	-	-	-	+	+	-
potassium carbonate	K ₂ CO ₃	000584-08-7	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
potassium hydroxide	KOH	001310-58-3	-	+	+	-	-	-	+	+	+	+	-	-	+	-	+	-
potassium nitrate	KNO ₃	007757-79-1	+	+	+	+	+	+	o	+	+	+	+	+	+	+	+	+
potassium sulphate	K ₂ SO ₄	007778-80-5	+	+	+	-	+	o	o	+	+	+	+	+	+	+	+	-
propane	C ₃ H ₈	000074-98-6	+	+	+	+	o	+	o	+	+	+	+	+	-	+	+	-
propionic acid	C ₃ H ₆ O ₂	000079-09-4	-	+	+	-	-	-	+	o	+	+	+	+	-	+	+	-
propylene	C ₃ H ₆	000115-07-1	+	+	+	o	+	o	o	o	+	+	-	-	-	+	+	-
propylen glycol, 1,2-	C ₃ H ₈ O ₂	000057-55-6	+	+	+	+	+	+	o	+	+	+	+	+	+	+	+	-

Medium	Chem. formula	CAS no.	Steel	1.4571	Has-telloy	Br	Al	POM	PCTFE	PEEK	PTFE	PVDF	HNBR	NBR	EPDM	FKM	FFKM	VMQ
S																		
salicylic acid	C ₇ H ₆ O ₃	000069-72-7	+	+	+	-	+	-	+	o	+	+	-	-	+	+	+	-
sea water	-	-	-	+	+	-	-	+	+	+	+	+	+	+	+	+	+	o
silicone oil	-	063148-62-9	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+
silver nitrate	AgNO ₃	007761-88-8	-	+	+	-	-	-	o	+	+	+	-	-	+	+	+	+
skydrol	-	-	+	+	+	o	+	+	o	+	+	o	-	-	+	-	+	-
sodium silicate	Na ₂ Si ₃ O ₇	001344-09-8	+	+	+	o	+	o	o	o	+	+	+	+	+	+	+	-
solvents	-	-	o	+	+	-	+	o	+	+	+	+	o	+	-	+	+	o
sulfur	S ₈	007704-34-9	+	+	+	o	+	+	+	+	+	+	-	-	+	+	+	-
sulfur dioxide	SO ₂	007446-09-5	-	+	+	-	-	-	+	+	+	+	-	-	+	-	+	-
sulfur trioxide	SO ₃	007446-11-9	-	+	+	-	-	-	o	-	+	-	-	-	-	+	+	-
sulfuric acid	H ₂ SO ₄	007664-93-9	-	+	+	-	-	-	+	-	+	+	-	-	-	+	+	-
T																		
tannic acid	C ₇₆ H ₅₂ O ₄₆	001401-55-4	-	+	+	-	-	-	+	o	+	+	-	-	-	+	+	-
tetrachloro-methane	CCl ₄	000056-23-5	-	+	+	-	-	+	-	+	+	+	-	-	-	+	+	-
thermo oil	-	-	+	+	+	-	-	-	-	+	-	-	-	-	-	-	+	-
tin(II) chloride	SnCl ₂	007772-99-8	-	o	+	-	-	o	+	+	+	+	o	+	+	+	+	-
transformer oil	-	-	+	+	+	+	+	+	o	+	+	+	o	o	-	+	+	o
transmission lubricant	-	-	+	+	+	+	+	+	o	+	+	+	+	+	-	+	+	-
trichloroethylene	C ₂ HCl ₃	000079-01-6	-	+	+	-	-	-	-	+	+	+	-	-	+	+	+	-
triethylene glycol	C ₆ H ₁₄ O ₄	000112-27-6	-	+	+	o	+	+	o	o	+	+	-	-	+	+	+	o
U																		
urea	CH ₄ N ₂ O	000057-13-6	-	+	+	-	-	+	o	+	+	+	+	+	+	+	+	+
V																		
vaseline	-	-	o	+	+	o	+	+	o	+	+	+	+	+	-	+	+	-
vinyl chloride	C ₂ H ₃ Cl	000075-01-4	-	+	+	-	-	-	o	o	+	+	-	-	-	+	+	-
W																		
water	H ₂ O	007732-18-5	o	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
X																		
xenon	Xe	007440-63-3	+	+	+	+	o	o	o	+	+	+	+	+	+	+	+	+
xylene	C ₈ H ₁₀	001330-20-7	+	+	+	+	+	+	-	+	+	+	-	-	-	+	+	-
Z																		
zinc chloride	ZnCl ₂	007646-85-7	-	+	+	-	-	-	o	+	+	+	+	+	+	+	+	+
zinc nitrate	ZnN ₂ O ₆	007779-88-6	o	+	+	o	-	o	o	o	+	+	o	o	+	+	+	-
zinc sulphate	ZnSO ₄	007733-02-0	-	+	+	-	-	o	+	+	+	+	+	+	+	+	+	+

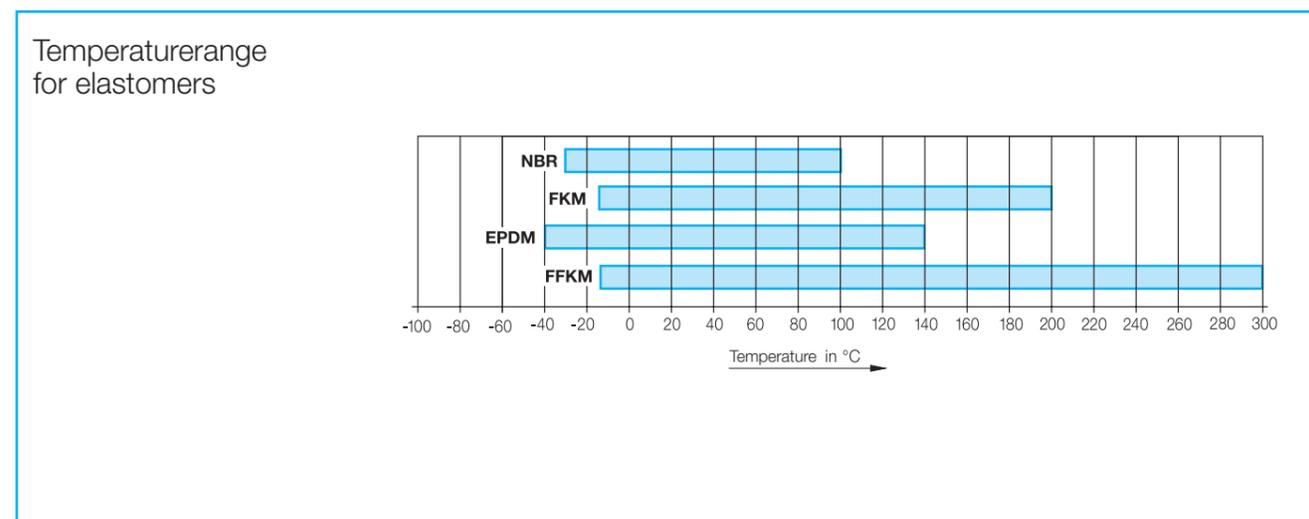
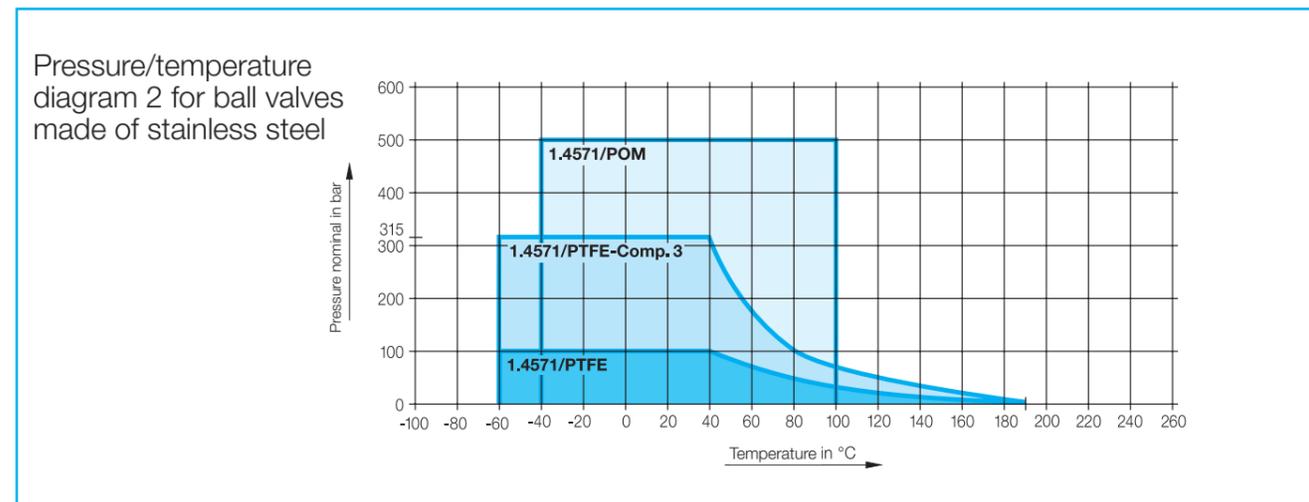
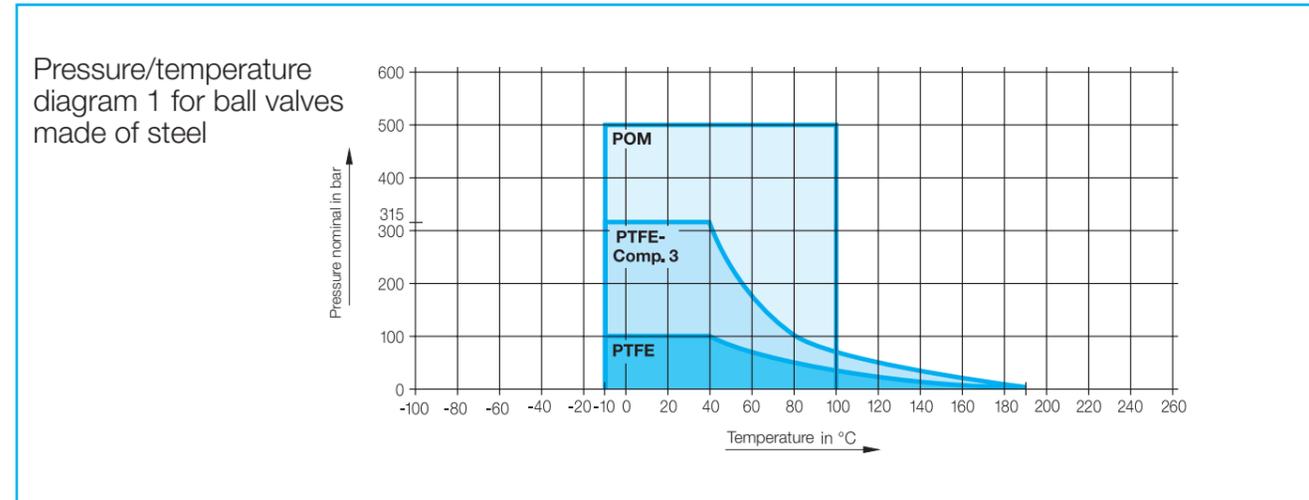


Ball valves size selection

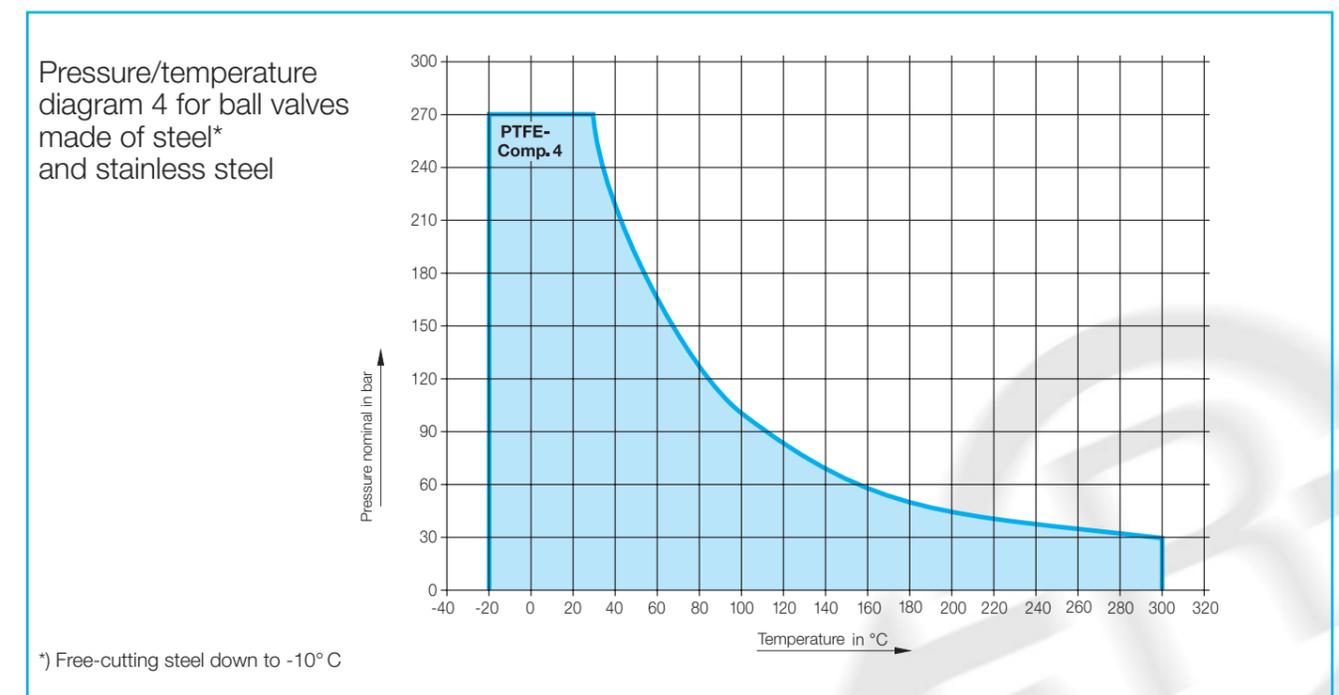
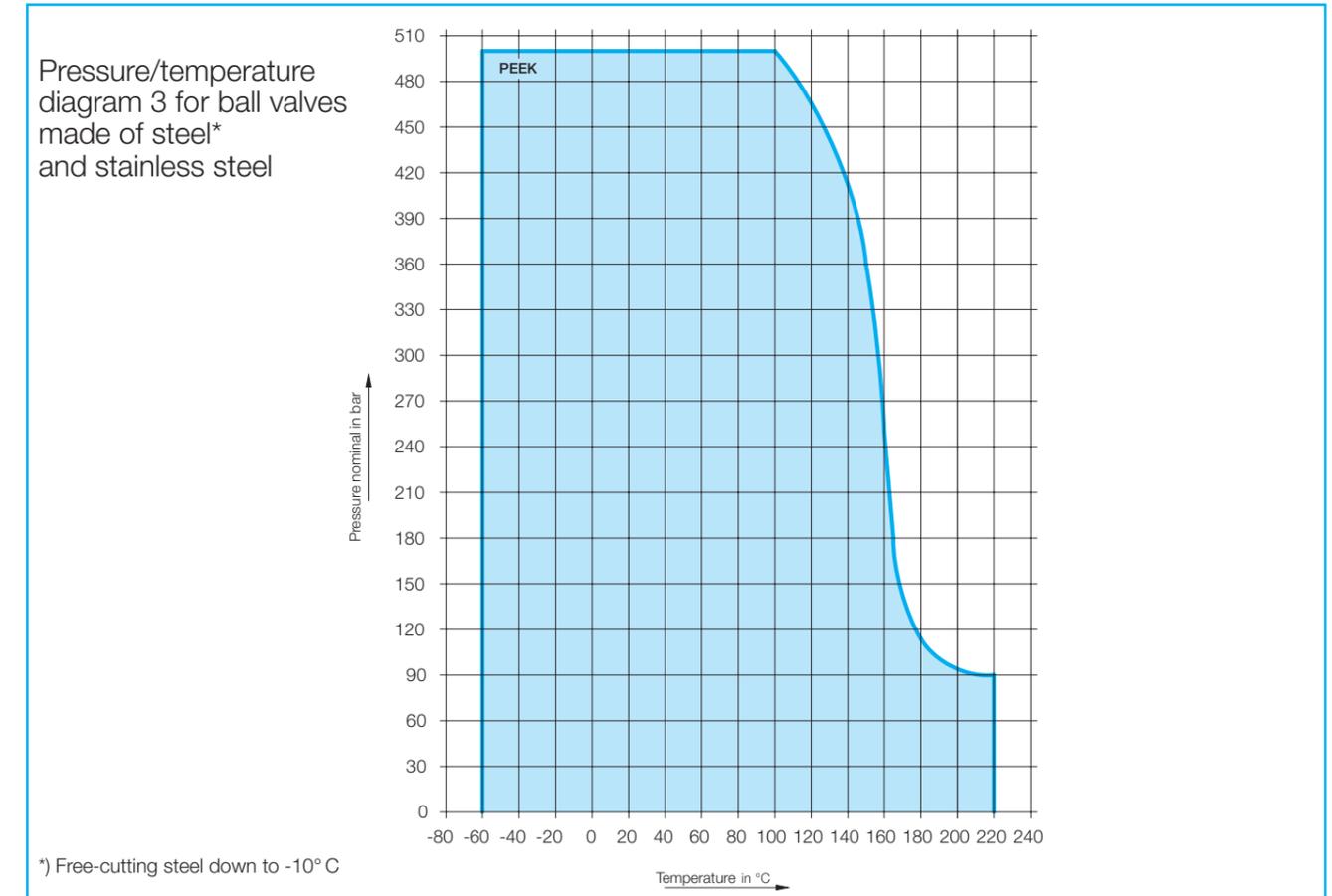


Pressure/temperature diagrams

Please observe max. pressure of ball valves!

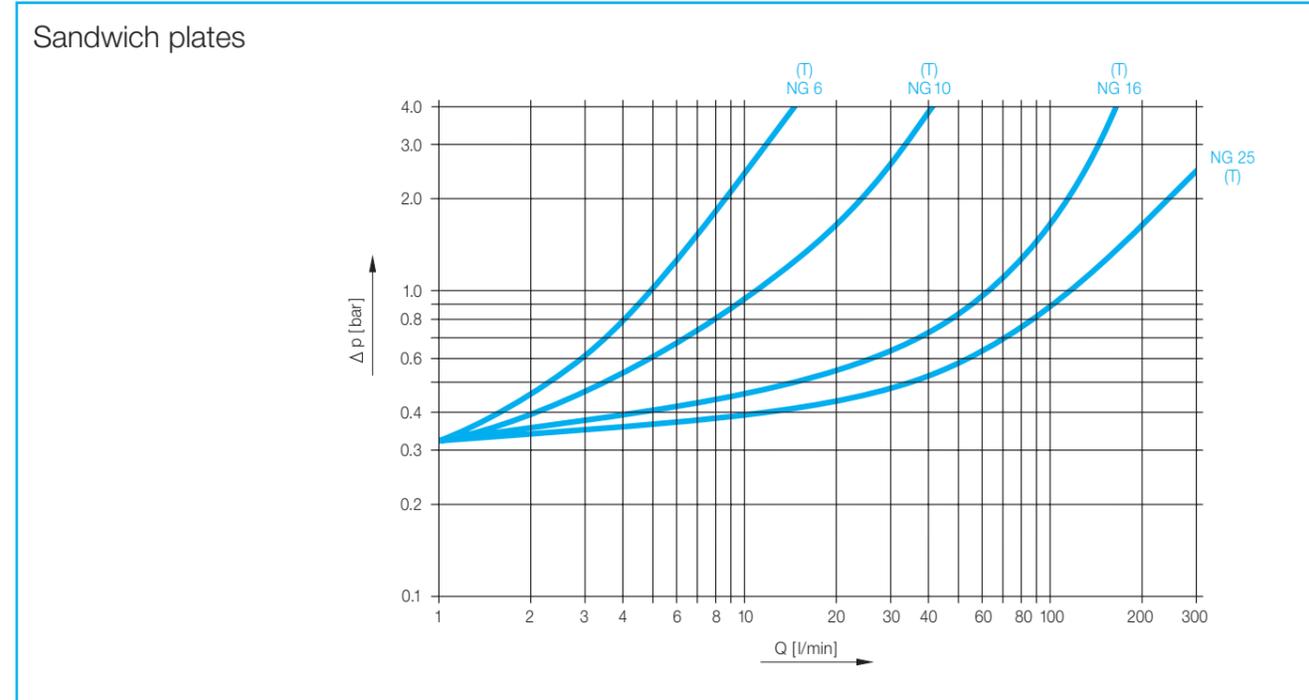


Please observe max. pressure of ball valves!

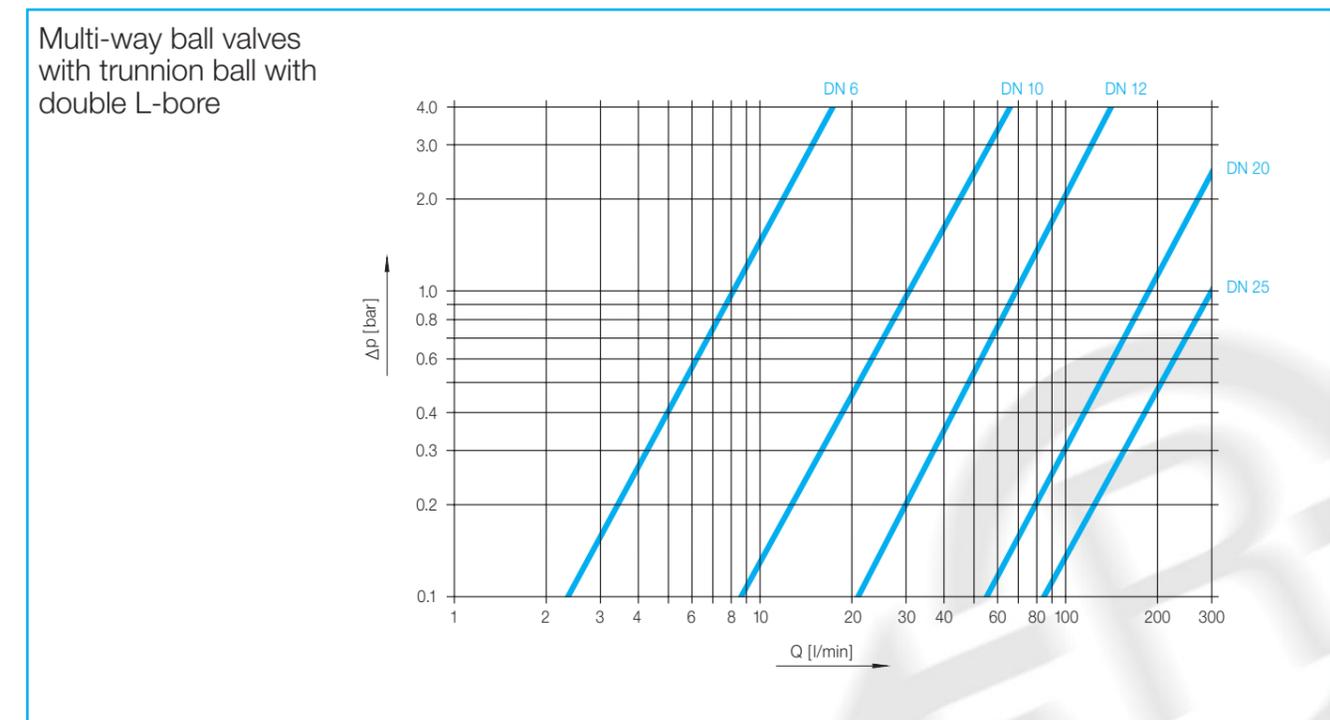
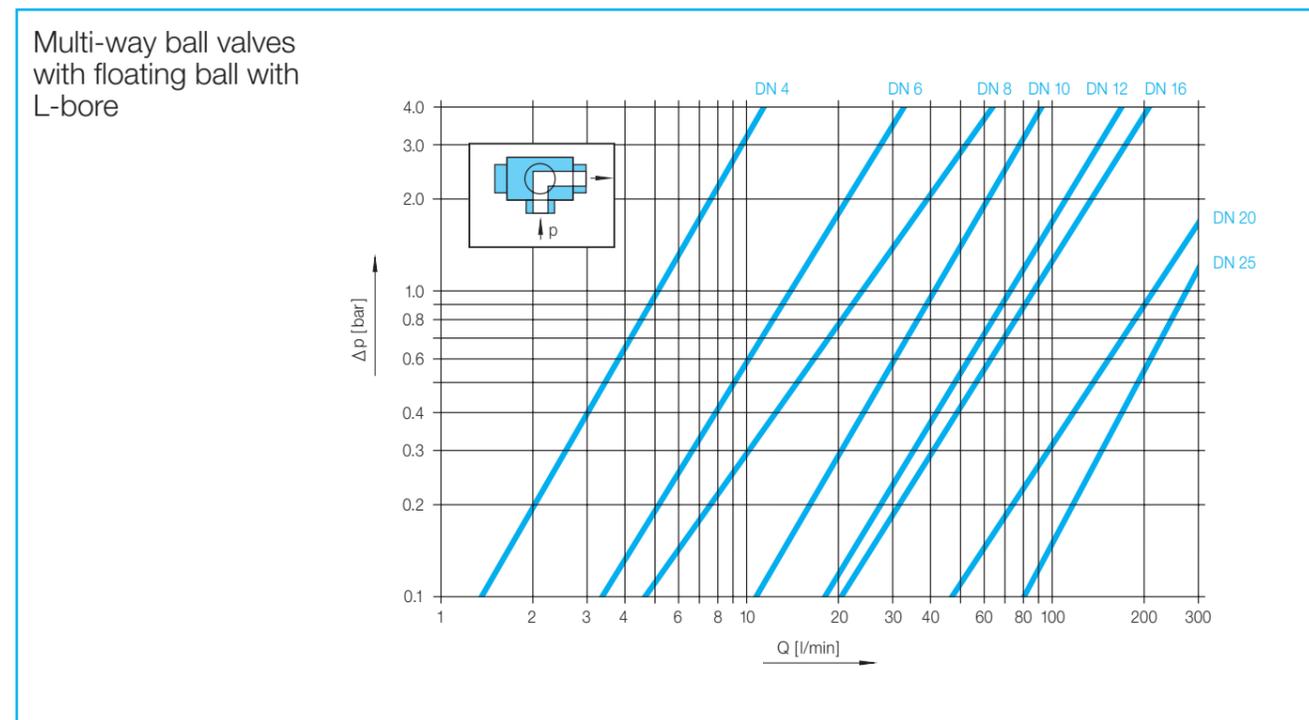
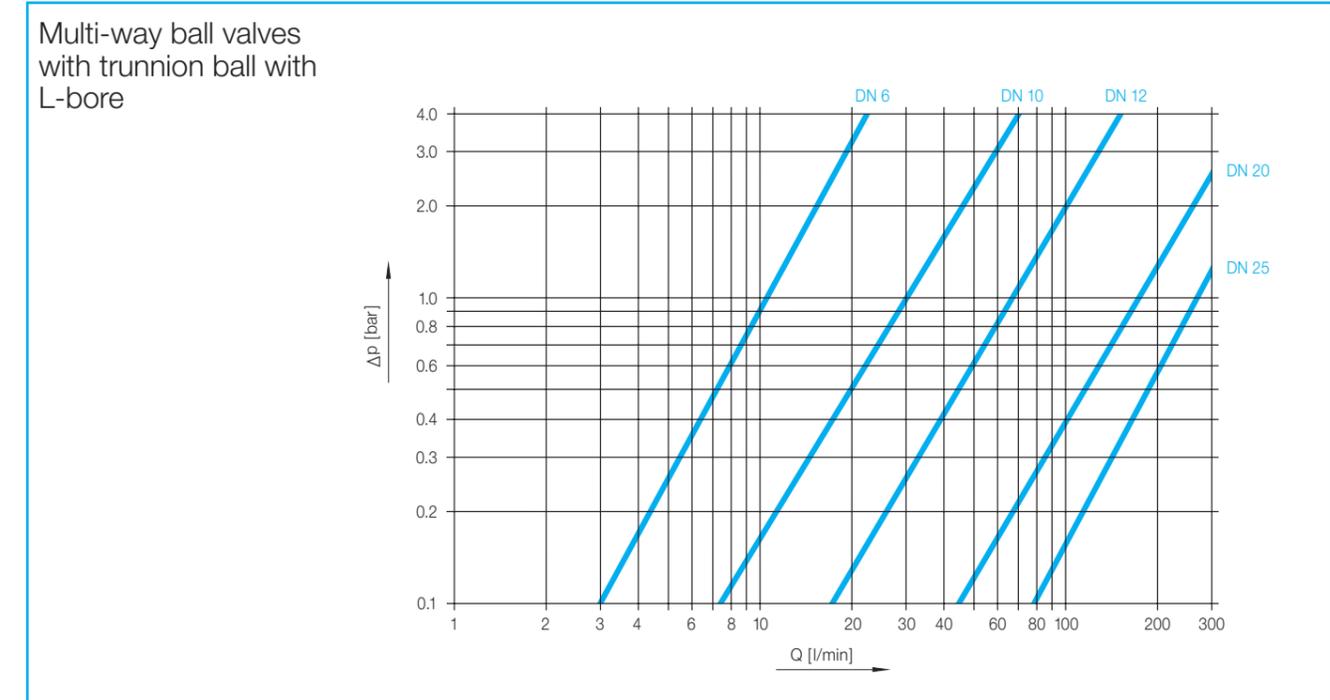


Δp -characteristics

Test medium : hydraulic oil
 Viscosity : 33 mm²/s (cSt)

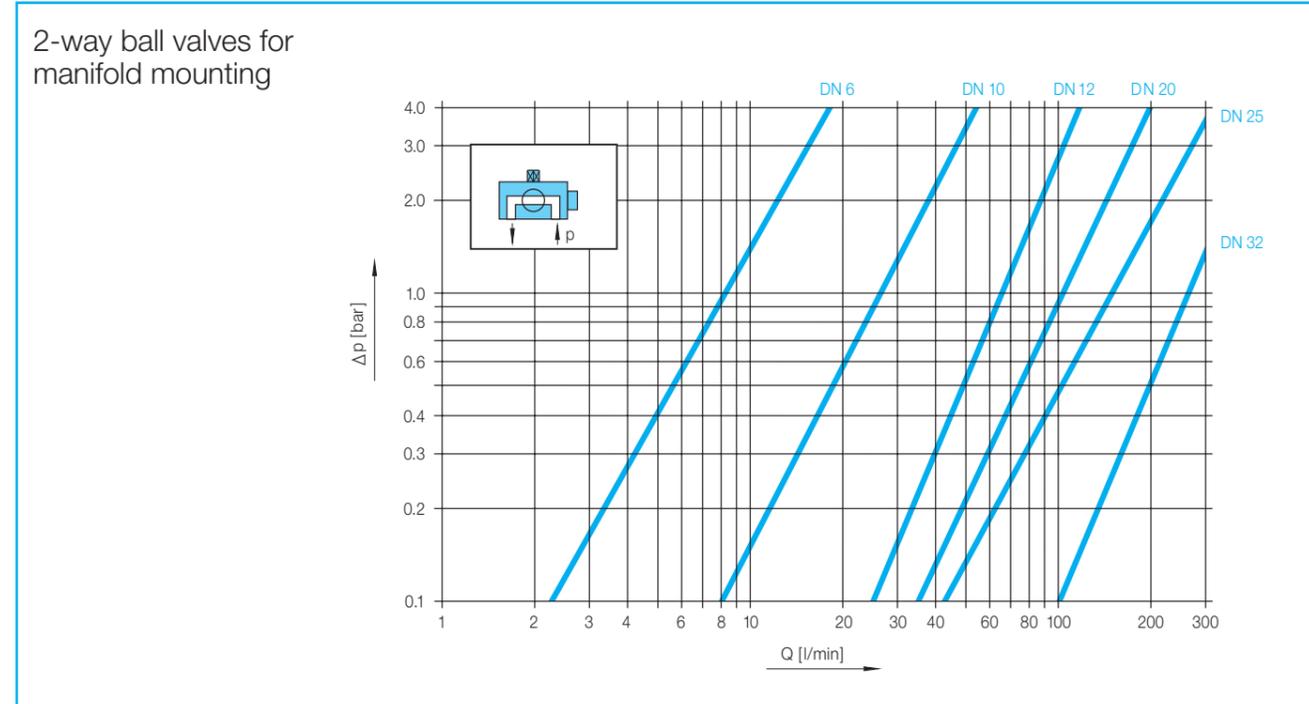


Test medium : hydraulic oil
 Viscosity : 33 mm²/s (cSt)

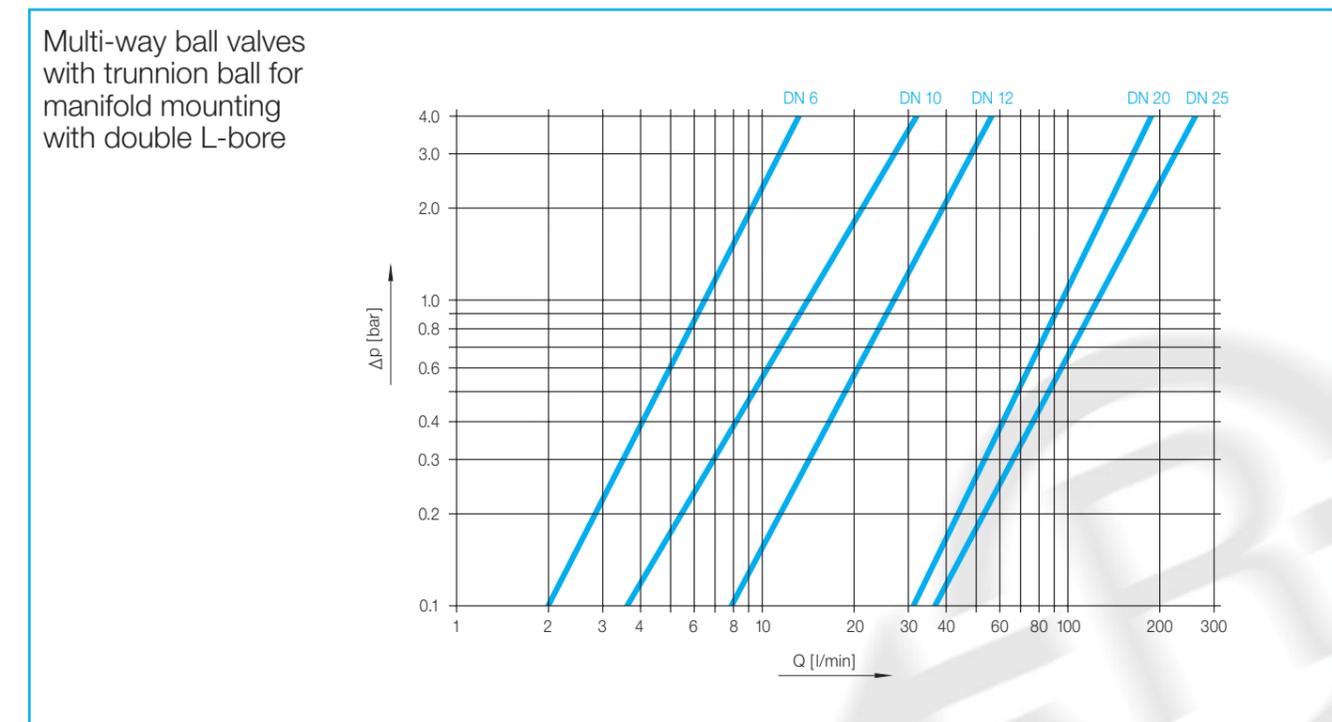
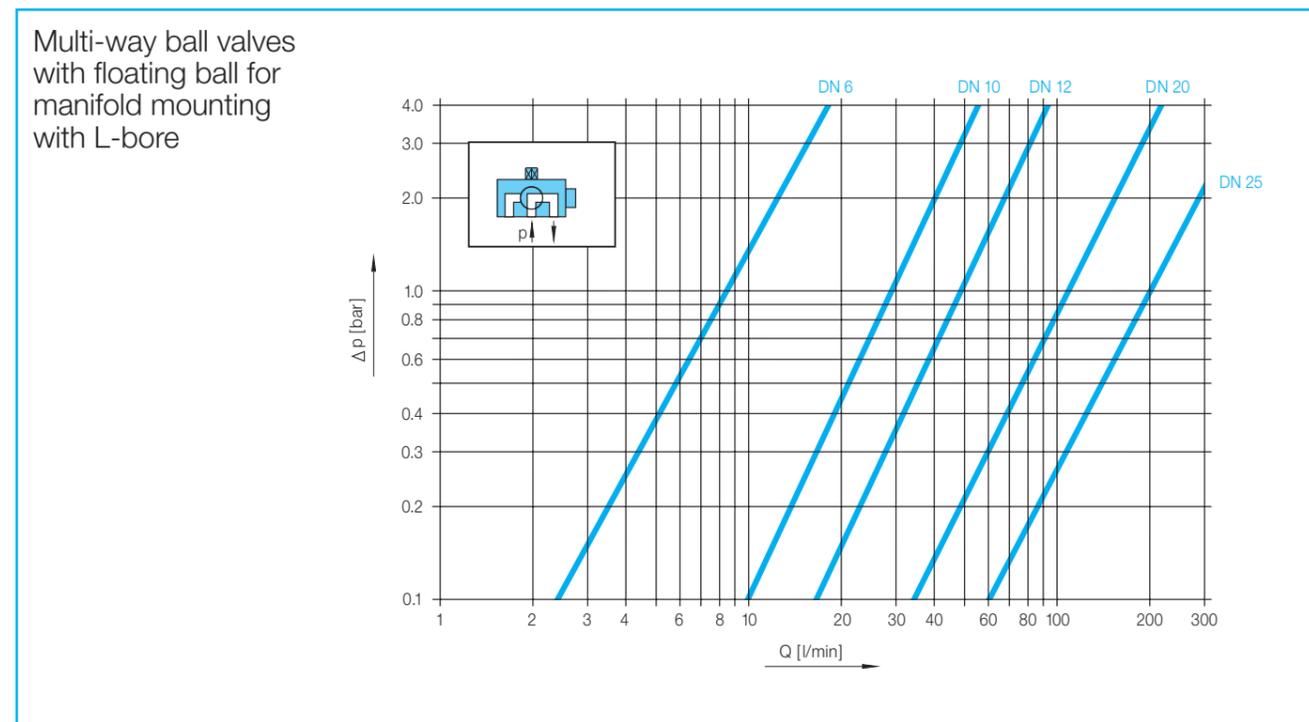
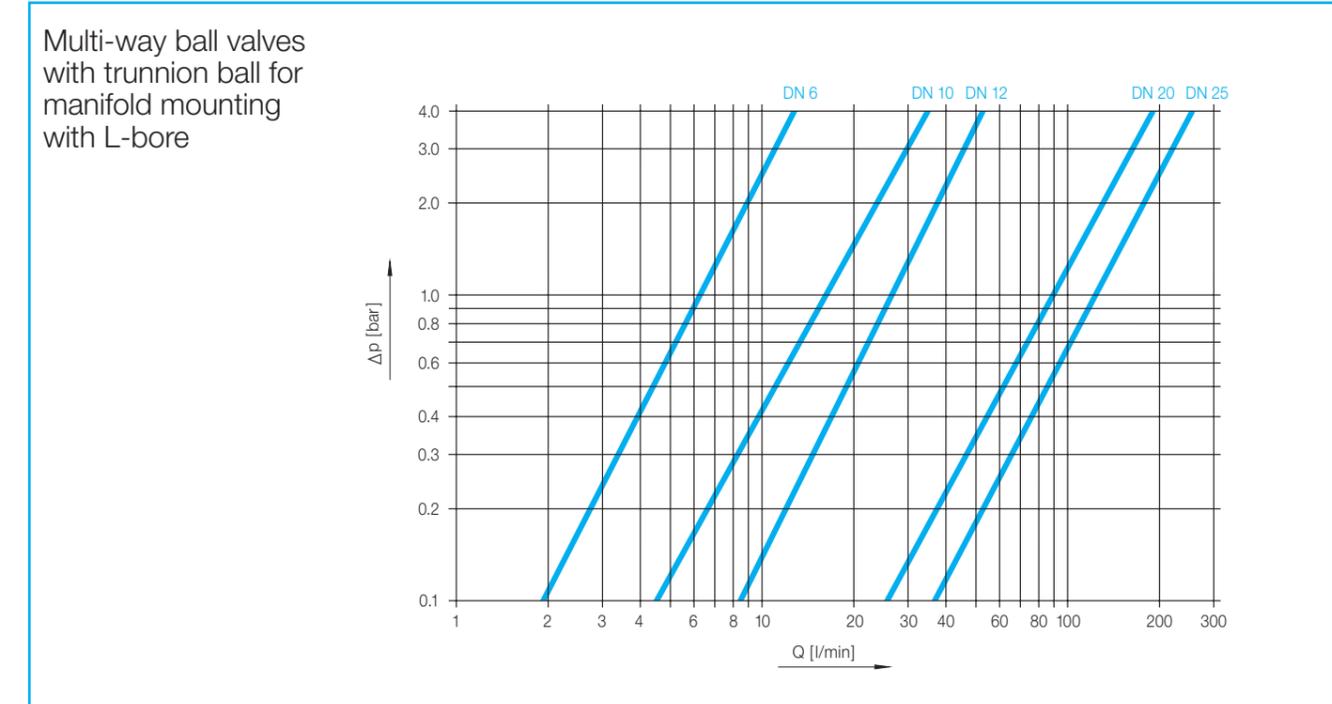


Δp-characteristics

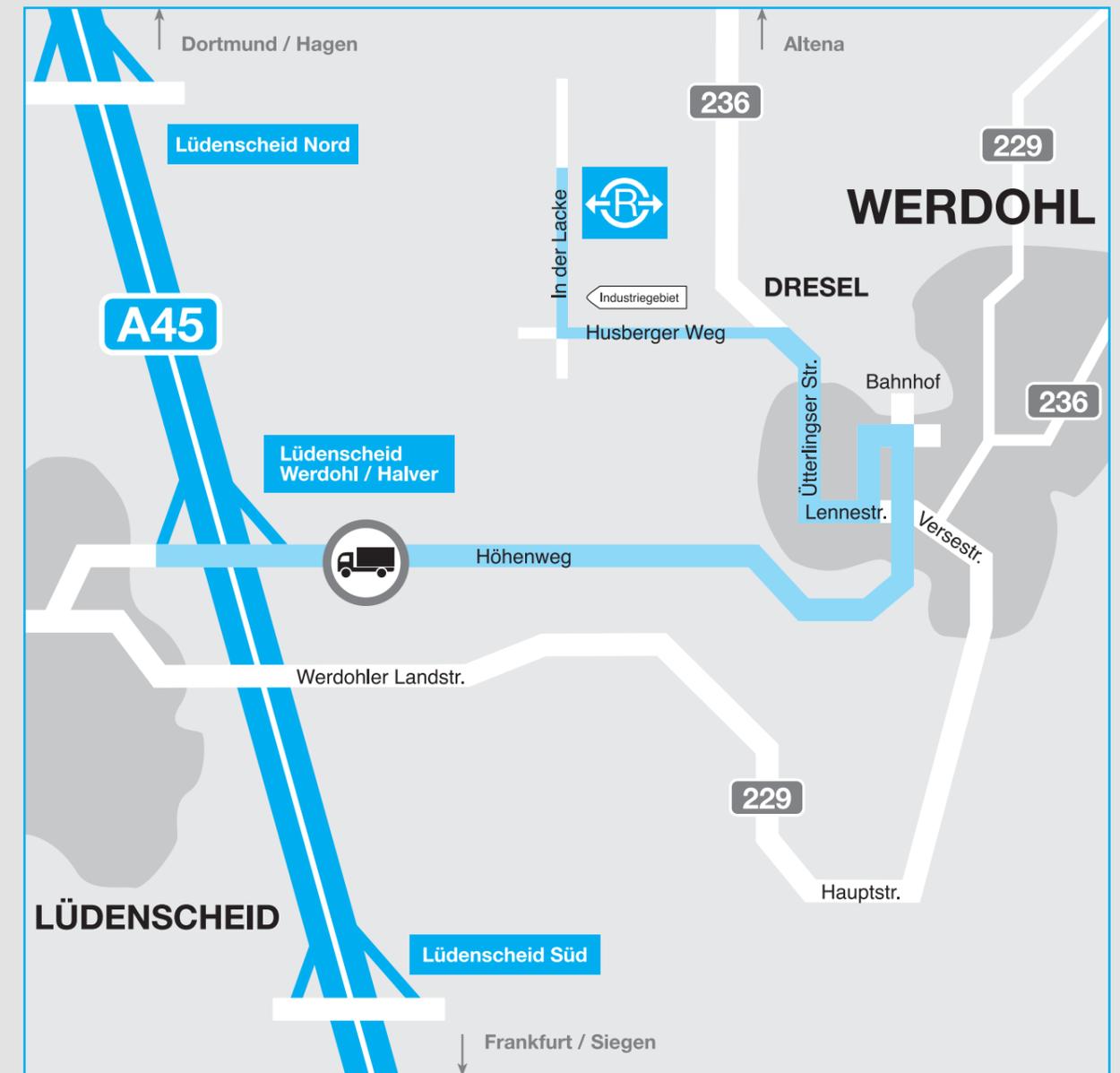
Test medium : hydraulic oil
 Viscosity : 33 mm²/s (cSt)

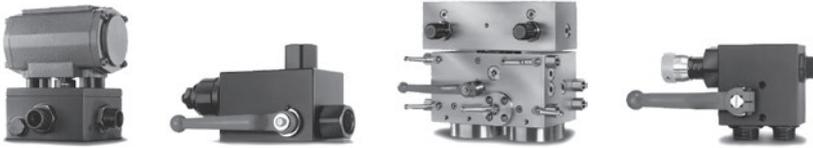


Test medium : hydraulic oil
 Viscosity : 33 mm²/s (cSt)



Highway A 45, exit Lüdenscheid Werdohl Halver, turn left into direction Werdohl, after approximately 10 km you reach Werdohl. At the traffic light turn left, at the second traffic light turn right on the federal road B 236 into direction Altena. After approximately 5 km turn left into the industrial area Werdohl-Dresel, at the first crossing turn right and then it's only 500 m to go.





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