

Steel ball valves, reduced bore

104 series, welding / welding, EN (DIN), DN 100-500, reduced bore

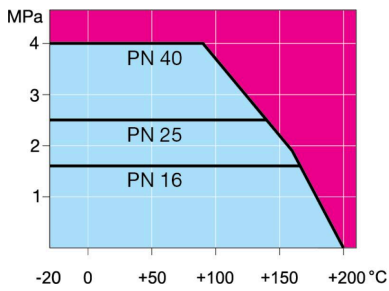
Body	DN 100-500 Steel, P235GH (1.0345)
Ball	DN 100-500 Stainless steel, X5CrNi18-10 (1.4301)
Ball seal	DN 100-500 PTFE+C
Stem	DN 100-500 Stainless steel, X8CrNiS18-9 (1.4305)
Stem seal	DN 100-500 FPM
Operation	DN 100-500 Valve is equipped with manual gear



Operation conditions

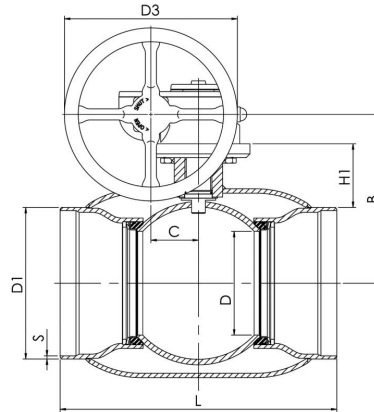
-20 °C – +200 °C
 Below -20 °C contact manufacturer
 Lowest allowed ambient temperature -40 °C

Leakage rate A (EN 12266-1)

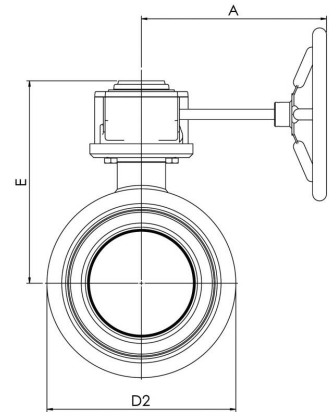


Not for steam

DN 100-500



DN 100-500



DN	PN	Product no.	A	B	C	D	D1	D2	D3	E	H	L	S	kg
100	25	104100	186	196	53	80	114.3	139.7	125.0	239	105	325	3,6	18.0
125	25	104125	224	216	53	100	139.7	177.8	200.0	259	112	325	4	20.0
150	25	104150	224	236	53	125	168.3	219.1	200.0	279	118	350	4,5	25.0
200	25	104200	268	244	69	150	219.1	273.0	250.0	293	92	400	4,5	49.0
250	25	104250	301	294	97	200	273.0	355.6	300.0	345	108	530	5	94.0
300	25	104300	363	343	117	250	323.9	457.0	500.0	412	132	550	5,6	152.0
350	25	104350	363	418	117	290	355.6	508.0	500.0	487	192	686	6,3	212.0
400	25	104400	444	500	138	340	406.4	610.0	500.0	573	242	762	7	293.0
500	25	104500	475	577	180	390	508.0	660.0	500.0	648	259	914	7	467.0

Vexve and Naval ball valves, maximum allowed operating torques

DN-size ¹⁾		Torque ²⁾					Max. pressure class ³⁾
Reduced Bore	Full Bore	[Nm]					
DN 10/15	DN 10	9	10	12	13	15	PN 40
DN 20	DN 15	10	12	15	16	18	
DN 25	DN 20	15	17	19	21	24	
DN 32	DN 25	21	23	25	27	30	
DN 40	DN 32	34	36	39	43	43	
DN 50	DN 40	42	45	50	55	60	
DN 65	DN 50	60	63	68	75		PN 25
DN 80	DN 65	80	85	98	110		
DN 100	DN 80	110	125	150	250		
DN 125	DN 100	150	200	270	390		
DN 150	DN 125	280	350	520	750		
DN 200	DN 150	300	600	900	1200		
DN 250	DN 200	800	1300	1900	2500		
DN 300	DN 250	2000	2500	3000	4000		
DN 350	DN 300	1000	2200	2800	4000		
DN 400	DN 350	1500	3000	4500	6500		
DN 500	DN 400	2000	6000	9000	12000		
DN 600	DN 500	2000	6000	9000	12000		
DN700	DN600	2500	7500	11250	15000	18000	PN 40
DN800	DN700	3900	11650	17500	23350	28000	
	DN800	5200	15650	23400	31250	37500	
		0	10	16	25	40	
Pressure difference ⁴⁾							
[bar]							

1) DN-size of the valve

2) Max. torque needed to open/close the valve

3) Max. pressure class of the valve available

4) Pressure difference across the valve Δp :

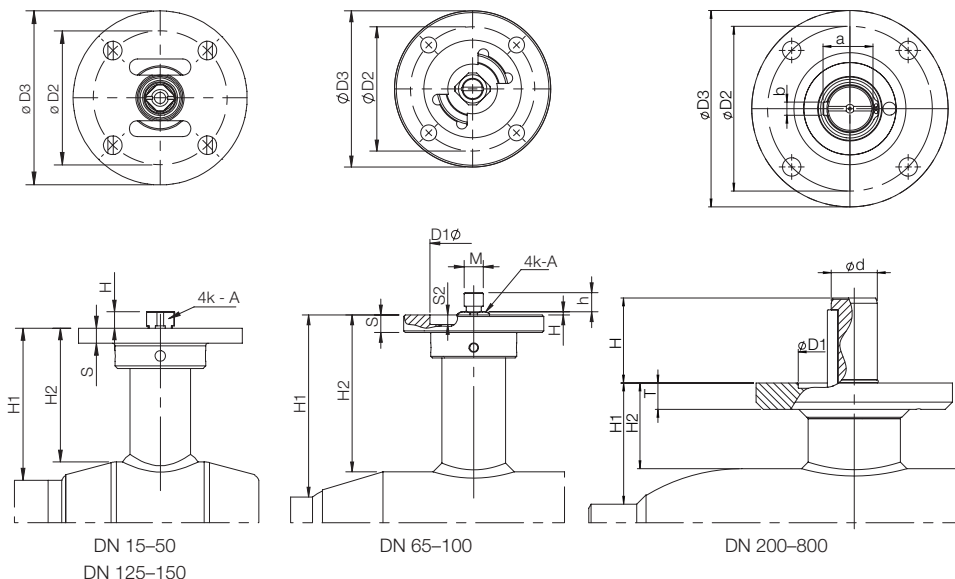
where

$$\Delta p = p_1 - p_2,$$

p_1 = pressure before the valve

p_2 = pressure after the valve

Coupling dimensions, reduced bore ball valves DN 15–800 with actuators

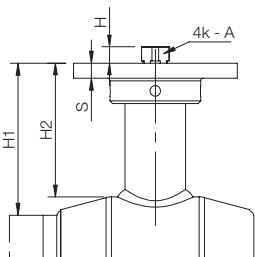
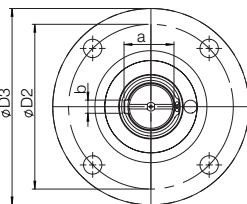
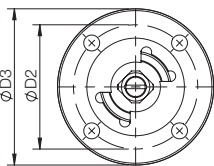
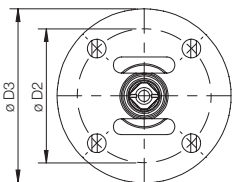


DN	H	h	S	S2	A	M	Ød	T	H1	H2	a	b	D1	D2	D3	Bolts	Key	Flange ISO5211
10	4,5		6		7				29	21				50	64	4xM6		F05
15	4,5		6		7				27	21				50	64	4xM6		F05
20	4,5		6		7				27	21				50	64	4xM6		F05
25	4,5		6		9				39	32				50	65	4xM6		F05
32	4,5		6		9				38	29				50	65	4xM6		F05
40	5		8		11				49	38				70	100	4xM8		F07
50	5		8		11				50	36				70	100	4xM8		F07
Toler.					-0.1													

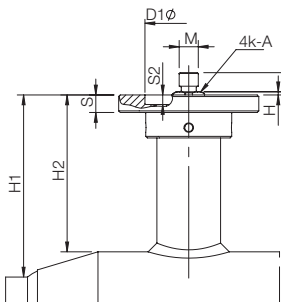
65	5,5	13	11	2	14	M12			69	56			55	70	88	4xM8		F07
80	5,5	13	11	2	14	M12			75	59			55	70	88	4xM8		F07
100	2	12	11	6	16	M12			114	99			55	70	88	4xM8		F07
125	19		11	4	20				112	93			70	102	125	4xM10		F10
150	19		11	4	20				118	93			70	102	125	4xM10		F10
Toler.					-0.1													

200	65						35	20	92	65	38	10	85	125	149	4xM12	A-10x8 - 63	F12
250	79						40	20	108	67	43	12	100	140	179	4xM16	A-12x8 - 80	F14
300	88						50	20	133	67	53.5	14	130	165	209	4xM20	A-14x9 - 90	F16
350	80						50	20	192	116	53.5	14	130	165	209	4xM20	A-14x9 - 80	F16
400	110						70	25	242	141	74.5	20	200	254	300	8xM16	A-20x12 - 100	F25
500	115						90	40	259	183	95	25	230	298	350	8xM20	A-25x14 - 100	F30
600	115						90	40	274	173	95	25	230	298	350	8xM20	A-25x14 - 100	F30
700	167						100	40	336	210	105	28	260	356	415	8xM30	A-28x16 - 160	F35
800	167						120	40	365	210	127	32	260	356	415	8xM30	A-32x18 - 160	F35
Toler.					-0.1													

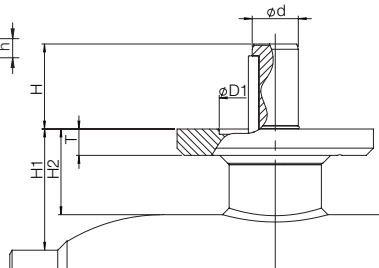
Coupling dimensions, full bore ball valves DN 10–800 with actuators



DN 10-40
DN 100-125



DN 50-80



DN 150-800

DN	H	h	S	S2	A	M	ϕd	T	H1	H2	a	b	D1	D2	D3	Bolts	Key	Flange ISO5211
15	4,5		6		7				31	21				50	64	4xM6		F05
20	4,5		6		9				43	32				50	65	4xM6		F05
25	4,5		6		9				43	29				50	65	4xM6		F05
32	5		8		11				52	38				70	100	4xM8		F07
40	5		8		11				56	36				70	100	4xM8		F07
Toler.					-0.1													

50	5,5	13	11	2	14	M12			76	56			55	70	88	4xM8		F07
65	5,5	13	11	2	14	M12			81	59			55	70	88	4xM8		F07
80	2	12	11	6	16	M12			127	99			55	70	88	4xM8		F07
100	19		11	4	20				125	93			70	102	125	4xM10		F10
125	19		11	4	20				132	93			70	102	125	4xM10		F10
Toler.					-0.1													

150	65						35	20	118	65	38	10	85	125	149	4xM12	A-10x8 - 63	F12
200	79						40	20	135	67	43	12	100	140	179	4xM16	A-12x8 - 80	F14
250	88						50	20	158	67	53.5	14	130	165	209	4xM20	A-14x9 - 90	F16
300	80						50	20	208	116	53.5	14	130	165	209	4xM20	A-14x9 - 80	F16
350	110						70	25	267	141	74.5	20	200	254	300	8xM16	A-20x12 - 100	F25
400	115						90	40	309	183	95	25	230	298	350	8xM20	A-25x14 - 100	F30
500	115						90	40	325	173	95	25	230	298	350	8xM20	A-25x14 - 100	F30
600	167						100	40	387	210	105	28	260	356	415	8xM30	A-28x16 - 160	F35
700	167						120	40	417	210	127	32	260	356	415	8xM30	A-32x18 - 160	F35
800	220						140	40	449	210	148	36	325	406	475	8xM36	A-36x20 - 200	F40
Toler.							-0.1											

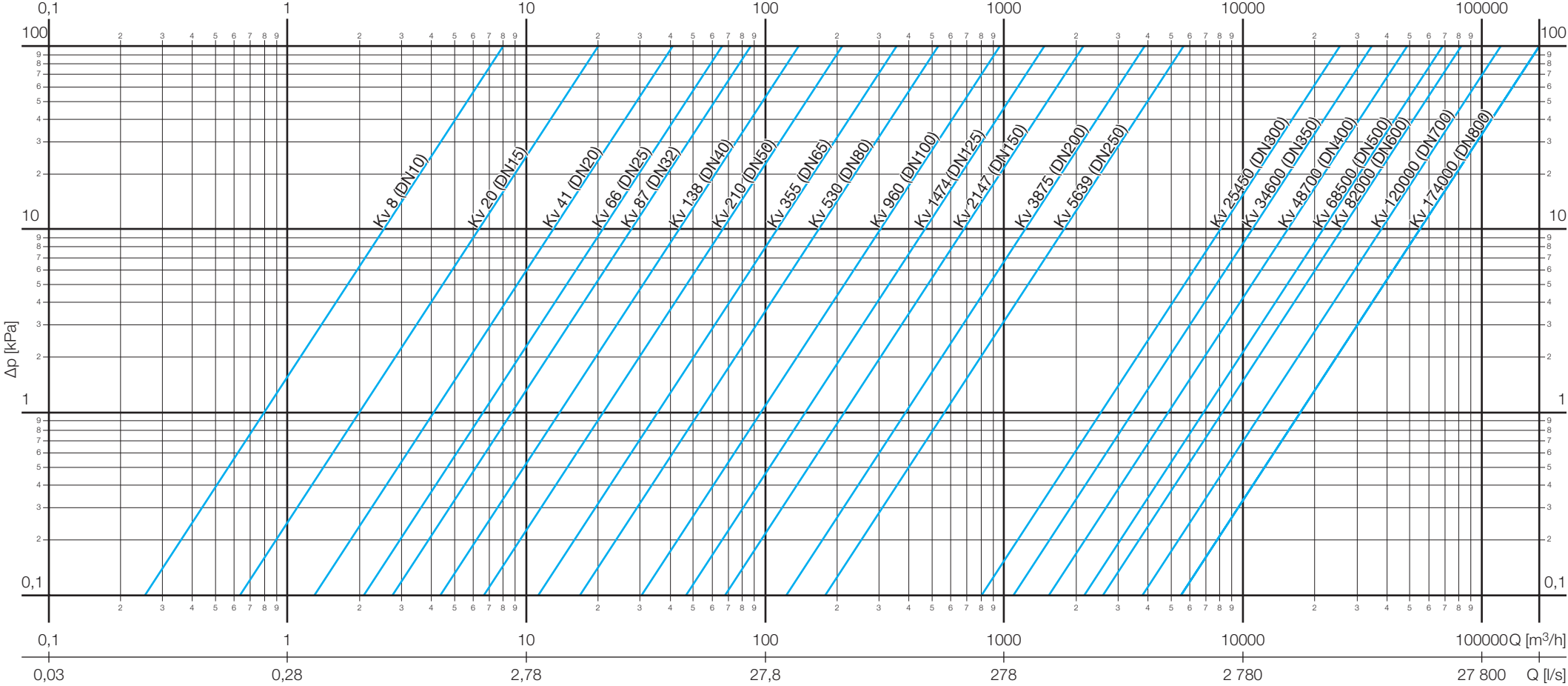
Kv-value chart of Vexve and Naval ball valves

DN size	KV value	
	Reduced bore	Full bore
10		8
15	8	20
20	14	41
25	25	66
32	41	87
40	67	138
50	105	210
65	182	355
80	315	530
100	470	960
125	830	1474
150	1150	2147
200	1750	3875
250	3200	5639
300	4600	25450
350	9600	34600
400	13300	48700
500	18700	68500
600	32000	82000
700	42000	120000
800	55000	174000



NOTE! Kv values for water

Pressure loss diagram of Vexve and Naval full bore ball valves DN 10–800



Pressure loss diagram of Vexve and Naval reduced bore ball valves DN 15–800

