



NAVAL

Steel Ball Valves



NAVAL STEEL BALL VALVES

Naval ball valves are suitable for District Heating (CHP) installations, Heat Transfer piping, oil lines and oxygen-free water lines.

CONSTRUCTION

The valve has an all-welded body and is fitted with carbon-reinforced Teflon seals which are long-lasting against frequent operation, impurities and chemicals.

A ground and polished stainless steel ball gives easy turning and reliable operation over many years.

A floating ball construction is used. Bevel spring washers keep the seals pressed against the ball to ensure that the valve remains leak-tight regardless of pressure fluctuations.

The blow-out proof stem is sealed with 2 O-rings. In smaller valves, the upper one can be changed and in sizes 65 to 300mm both can be changed. The Teflon thrust washer between the stem shoulder and stem housing also acts as a seal.

Stem housings of 65mm valves and above are fitted with stainless steel bearings.

Naval ball valves are manufactured in accordance with European Pressure Equipment Directive 97/23/EY. Naval Oy applies Module H as conformity assessment procedure (=full quality assurance) controlled by Det Norske Veritas as notified body. Naval Oy has a certified quality system ISO 9001 and certified environmental management system ISO 14001.

CHARACTERISTICS

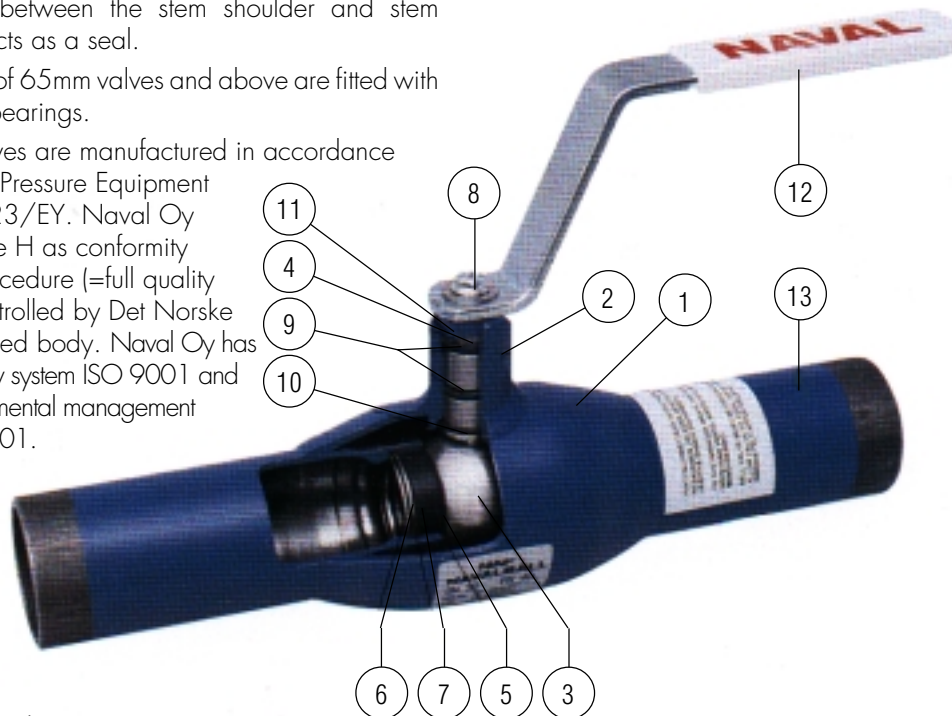
The valve needs no servicing - no adjustment or lubrication - and is easy to install, giving a long working life with low running costs.

It is easy to insulate because of the long, circular stem housing.

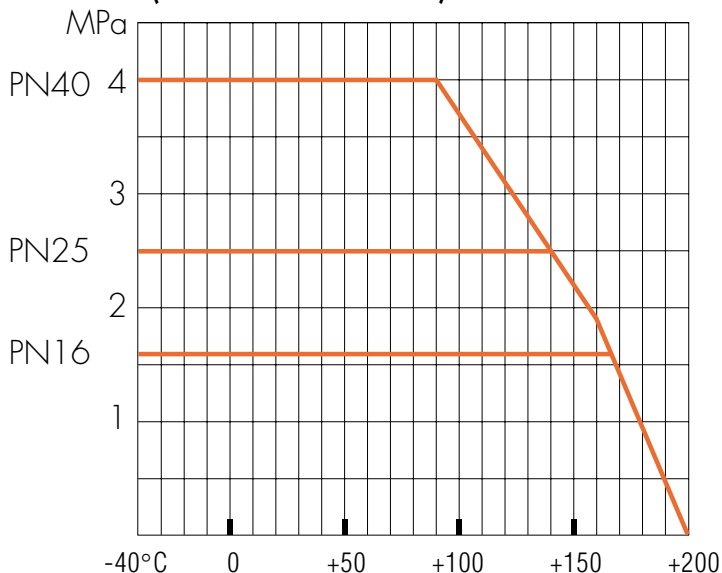
The operating lever is detachable and can be re-positioned at 180°.

Heavy and unreliable cast components are not used in the construction of the valve body.

It is easy to retrofit actuating equipment.



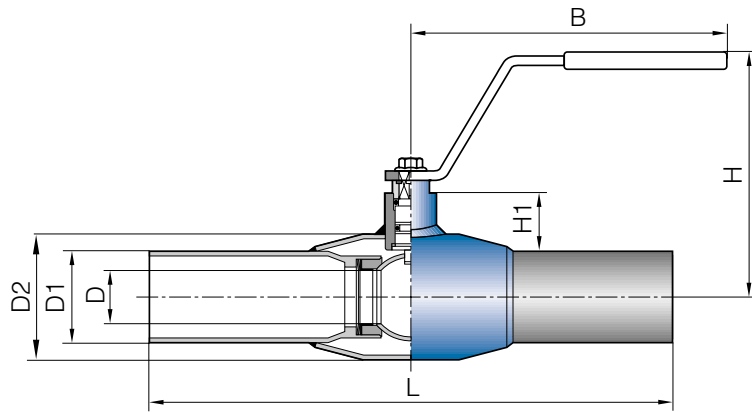
Pressure/temperature curves
(Do not use for steam)



For temperatures below -20°C, please mention separately when ordering.

MATERIAL SPECIFICATION

ITEM	DESCRIPTION	MATERIAL		DN500-600
1.	Body	Carbon steel	St 37.8	SS 1330
2.	Stem Housing	Carbon steel	Fe 52 EP	SS 1430
3.	Ball	Stainless steel	AISI 304	SS 2333
4.	Stem	Stainless steel	AISI 303	SS 2324
5.	Seal	Teflon	PTFE+C	PTFE+C
6.	Bevel washer	Spring steel		Steel
7.	Support ring	Stainless steel		Steel
8.	Screw	Steel		
9.	O-ring	Viton	FPM	EPDM
10.	Thrust washer	Teflon	PTFE	PTFE
11.	Stop	Casted steel	AISI 304	
12.	Handle	Zinc-plated steel		
13.	End pipe	Carbon steel	St 37.8	ASTM, GWCC



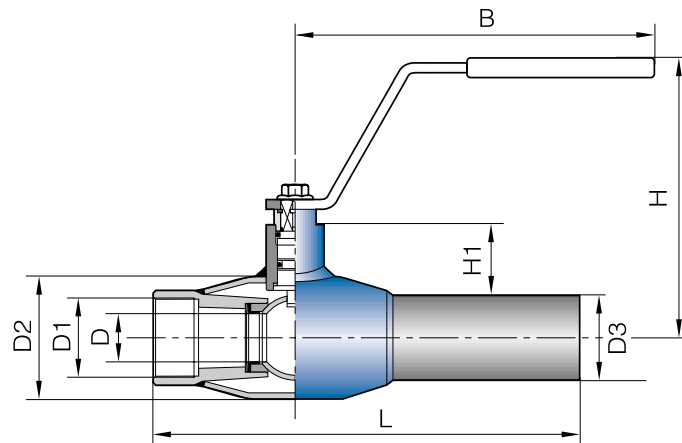
WITH BUTT WELD CONNECTIONS

DN	PN	NAVAL No	L	D	D1	D2	H	B	H1	Weight (kg)
10	40	284 402	230	10	17,2	33,7	98	145	22	0,5
15	40	284 403	230	10	21,3	33,7	98	145	22	0,5
20	40	284 405	230	15	26,9	42,4	103	145	23	0,7
25	40	284 406	230	20	33,7	48,3	118	145	34	1,0
32	40	284 407	260	25	42,4	60,3	121	145	33	1,4
40	40	284 408	260	32	48,3	70,0	120	190	43	1,8
50	40	284 409	300	40	60,3	88,9	127	190	44	2,6

WITH BUTT WELD CONNECTIONS

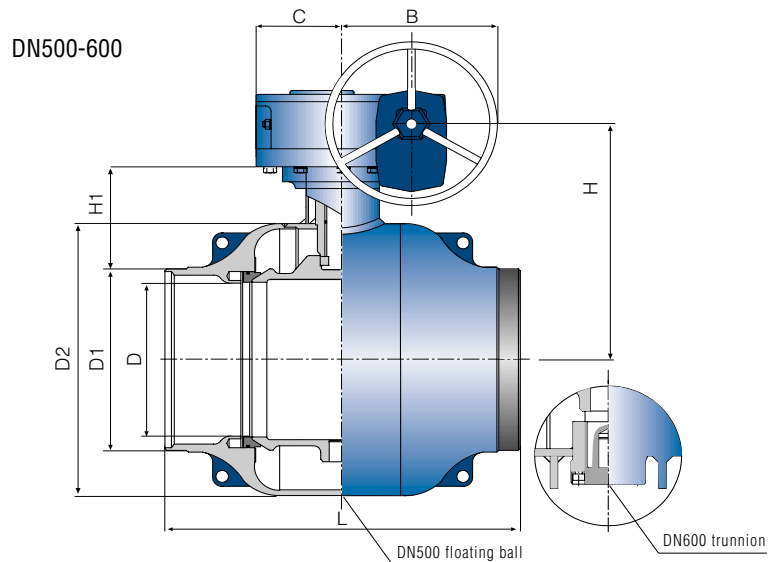
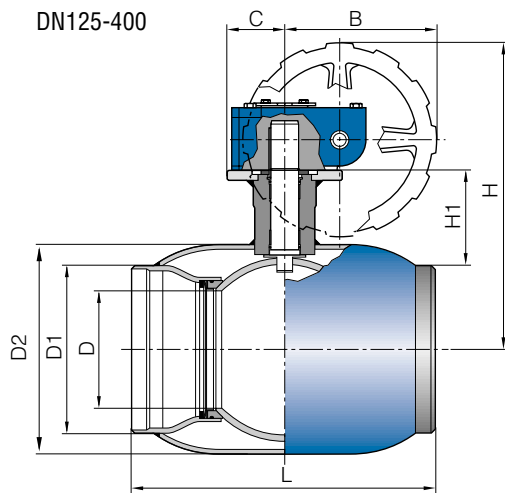
65	25	284 410	300	50	76,1	101,6	159	280	62	4,4
80	25	284 411	300	65	88,9	121,0	171	280	68	5,6
100	25	284 412	325	80	114,3	146,0	218	280	101	8,4
125	16	284 413	325	100	139,7	177,8	252	400	101	13,4
150	16	284 414	350	125	168,3	219,1	272	600	107	18,0
200	16	284 416	390	150	219,1	273	300	900	123	36,3
250	16	284 417	520	200	273	355,6	345	1200	122	72,0
125	25	284 453	325	100	139,7	177,8	252	400	101	13,4
150	25	284 454	350	125	168,3	219,1	272	600	107	18,0
200	25	284 456	390	150	219,1	273	300	900	123	36,3
250	25	284 457	520	200	273	355,6	345	1200	122	72,0

We recommend gear operation for valves \geq DN 125 and larger.



WITH BUTT WELD CONNECTION/FEMALE PIPE THREADS

DN	PN	NAVAL No	L	D	D1	D2	D3	H	B	H1	Weight (kg)
10	40	284 002	153	10	R 3/8	33,7	17,2	98	145	22	0,5
15	40	284 003	158	10	R 1/2	33,7	21,3	98	145	22	0,5
20	40	284 005	168	15	R 3/4	42,4	26,9	103	145	23	0,6
25	40	284 006	172	20	R 1	48,3	33,7	118	145	34	0,9
32	40	284 007	195	25	R 1 1/4	60,3	42,4	121	145	33	1,2
40	40	284 008	205	32	R 1 1/2	70,0	48,3	120	190	43	1,7
50	40	284 009	240	40	R 2	88,9	60,3	127	190	44	2,3

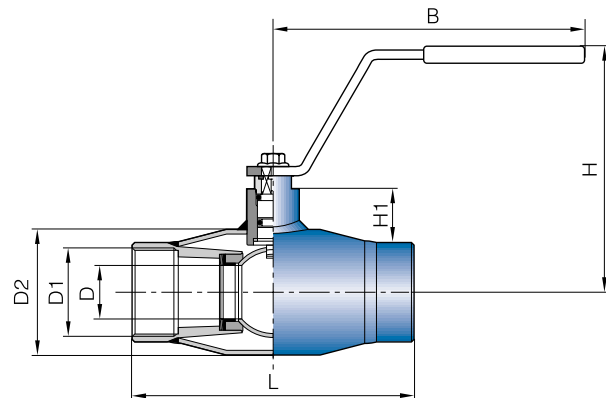


GEAR-OPERATED

DN	PN	NAVAL No	L	D	D1	D2	H	B	C	H1	Weight (kg)
125	16	284 433	325	100	139,7	177,8	309	145	50	101	18
150	16	284 434	350	125	168,3	219,1	330	145	50	107	23
200	16	284 436	390	150	219,1	273	398	196	75	123	46
250	16	284 437	520	200	273	355	451	236	100	122	87
300	16	284 438	635	250	323,9	455	572	280	193	155	193
350	16	284 498	686	300	355,6	508	658	231	155	187	351
400	16	284 439	762	350	406,4	610	757	325	150	221	504
125	25	284 473	325	100	139,7	177,8	309	145	50	101	19
150	25	284 474	350	125	168,3	219,1	330	145	50	107	24
200	25	284 476	390	150	219,1	273	398	196	75	123	48
250	25	284 477	520	200	273	355	451	236	100	122	90
300	25	284 478	635	250	323,9	455	572	280	193	155	193
350	25	284 495	686	300	355,6	508	697	325	150	187	385
400	25	284 479	762	350	406,4	610	764	466	175	221	567

GEAR-OPERATED DN500-600

DN	PN	NAVAL No	L	D	D1	D2	H	B	C	H1	Weight (kg)
500	16	284 440	914	400	508	680	810	466	175	211	746
600	16	284 441	1067	500	610	830	966	325	150	259	1507
500	25	284 480	914	400	508	680	810	466	175	211	746
600	25	284 481	1067	500	610	830	973	466	175	259	1568



WITH FEMALE PIPE THREADS

DN	PN	NAVAL No	L	D	D1	D2	H	B	H1	Weight (kg)
10	40	284 152	75	10	R 3/8	33,7	98	145	22	0,5
15	40	284 153	85	10	R 1/2	33,7	98	145	22	0,5
20	40	284 155	100	15	R 3/4	42,4	103	145	23	0,5
25	40	284 156	115	20	R 1	48,3	118	145	34	0,7
32	40	284 157	130	25	R 1 1/4	60,3	121	145	33	0,9
40	40	284 158	150	32	R 1 1/2	70,0	120	190	43	1,5
50	40	284 159	180	40	R 2	88,9	127	190	44	2,1

SELECTION TABLE OF ACTUATORS

DN	PN	Pneumatic, spring return RC	Pneumatic, double acting RC	Electric actuator Auma	Electric actuator Bernard
10	40	RC210-SR	RC205-DA	SG03-11	OA3
15	40	RC210-SR	RC205-DA	SG03-11	OA3
20	40	RC210-SR	RC210-DA	SG03-11	OA3
25	40	RC220-SR	RC210-DA	SG03-11	OA3
32	40	RC220-SR	RC210-DA	SG03-11	OA3
40	40	RC230-SR	RC220-DA	SG04-11	OA6
50	40	RC230-SR	RC220-DA	SG04-11	OA6
65	25	RC240-SR	RC230-DA	SG05-11	OA8
80	25	RC240-SR	RC230-DA	SG05-11	OA8
100	25	RC250-SR	RC240-DA	SG07-22	AS18
125	16	RC260-SR	RC250-DA	SG07-22	AS50
150	16	RC270-SR	RC260-DA	SG10-45	AS50
200	16	RC270-SR	RC260-DA	SG12-63	AS100
250	16	RC280-SR	RC270-DA	SA07.1-GSM100.3/VZ4.3	AS200
300	16		RC280-DA	SA07.5-GSM125.3/VZ4.4	ASM1+RS600
350	16			SA07.5-GS160/GZ14	ASM2+RS1825
400	16			SA07.5-GS200/GZ16	ASM2+RS1825G
500	16			SA10.1-GS250/GZ25	ASM2+RS1825G
600	16			SA07.5-GS200/GZ16	ASM2+RS1825G

Electric actuators are available with one or three phase motors.



DN25 + Bernard OA3



DN80 + RC230-DA



DN200 + Auma SG12-63



DN500 + Bernard ASM2+RS1825 G

KV-VALUE TABLE

Size	DN																	
	10-15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500	600
Kv-value	6	14	26	41	67	105	182	315	420	650	1070	1420	2620	4280	6320	8630	11180	16970



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