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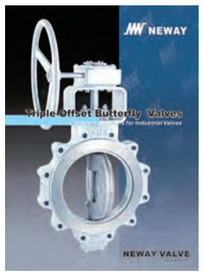
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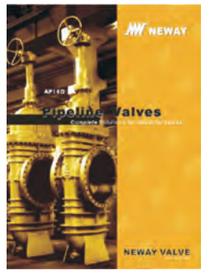
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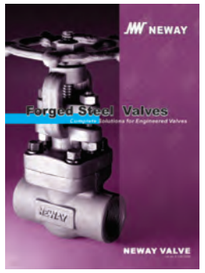
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Cat.no.:E-FSV



Cat.no.:E-DAV



Cat.no.:E-CPS



Cat.no.:E-AV



Cat.no.:E-PV

NEWAY

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NEWAY

Cryogenic Ball Valve

Complete Solutions for Industrial Valves

NEWAY VALVE

Cat.no.:E-CBV-2019

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Complete Solutions for Industrial Valves

As a global leader of valve manufacturing, Neway (SSE:603699) is dedicated to the production, research, and development of industrial valves. Neway is committed to providing complete valve solutions to all industries through advanced engineering and innovation.

Neway's product line includes Ball, Butterfly, Gate, Globe, Check, Nuclear, Control, Subsea, Safety valves. Our high quality standards and innovative ability are recognized by many global end users and EPCs. Neway valves are utilized in a wide variety of industries and working conditions such as Refining, Chemical, Coal Chemical, Offshore(including subsea), Air Separation, LNG, Nuclear Power, Power Generation, and Pipeline Transmission applications.

Facilities & Service

Neway has developed a sophisticated multi-plant management system operating one valve assembly plant, one API6A valve plant, three foundries, and one R&D center. Our largest assembly plant was expanded in 2013, and it now covers 230,000 square meters.

Advanced software (ANSYS, FE-Safe, CF-Design, Siemens PLM and NX) is applied here at Neway for the Research & Development of products. We use SAP to control the traceability and status of all products during the manufacturing process. In order to ensure the safety, eco-friendliness, and reliability of our products, we use the most advanced fire-safe, cryogenic, high pressure, and fugitive emission test equipment.

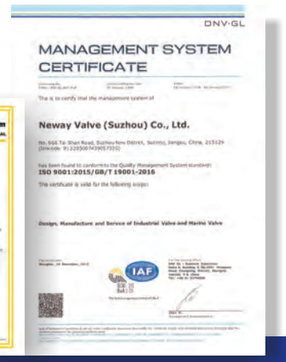
As part of Neway's global strategy, to provide better service to our customers, we have established our overseas subsidiaries in USA, Netherlands, Italy, Singapore and Dubai along with over 80 agents and distributors worldwide.

High Quality, High Value

Neway is dedicated to the pursuit of " Zero Defect ". We maintain a quality management system that encompasses our entire operation from order entry, to final inspection. Through Neway's continuous efforts, our products have achieved industrial certificates including ISO 9001, API 6A, API 6D, CE/PED, ASME N & NPT, TA-Luft, ABS, CU-TR and Fire-Safe approvals.

Quality Commitment

ISO 9001



API 6D



API 6A



CE/PED



TA Luft



ABS



AD2000



Fire Safe Test Certificate



Neway recognizes the importance of valve quality for the safety and protection of personnel health and property. It is our quality commitment to focus our resources to provide our customers with first class products at a competitive price, that are designed, manufactured, inspected and tested in accordance with our customer's specifications and that comply with all international standards.

With respect to the facts that the current industrial standards do not always take into consideration the likelihood and consequences of possible deterioration in service, related to specific service fluids or the external environment in which they operate. Our customers are requested to keep an open line of communication with our engineering department to identify and implement standards, that will provide valves with the possibility of deterioration in service, so as to ensure safety over the valves expected lifetime.

How to order

Example:

8	BSG	6	R	-	G	,	S41	/	8LX66
①	②	③	④		⑤		⑥		⑦

Neway part numbers are designed to cover essential features. When ordering, please show the part numbers and a detailed description to avoid misunderstanding of your requirements.

Following descriptions provide a basic guideline in valve specification:

① Nominal Diameter

Cryogenic Floating Ball Valve Series

Item	Class	Size
1	Class 150, 300	3/8"-8"
2	Class 600	3/8"-3"
3	Class 900, 1500	3/8"-2"

Cryogenic TM Ball Valve Series

Item	Class	Size
1	Class 150, 300	1/2"-40"
2	Class 600, 900	1/2"-24"
3	Class 1500	1/2"-16"

② Valve Types

Cryogenic Floating Ball Valve Series

Code	Type	Remark
BBG	2PC Forging Cryogenic Floating Ball Valve	Class 600 & above or size below 2"
BG	2PC Casting Cryogenic Flaoating Ball Valve	
BDG	Top Entry Cryogenic Floating Ball Valve	

Cryogenic TM Ball Valve Series

Code	Type	Remark
BSG	Forging Side Entry Cryogenic TM Ball Valve	
BEG	Top Entry Cryogenic TM Ball Valve	

③ ASME Class

Code	1	3	6	9	15
Class (LB)	150	300	600	900	1500

④ End Connection

Symbol	End	Symbol	End
R	Raised face flanged end	S	Socket weld end
J	RTJ flanged end	N	Screwed end
B	Butt-weld end		

⑤ Operator

Symbol	Description	Symbol	Description
	Lever	M	Electric actuator
G	Gear operator	P	Pneumatic actuator

NEWAY reserves the right to change design, materials or specifications without notice and is free of obligation to furnish or install such changes on products previouly sold.

⑥ Body Material

Code	S00	S01	S02	S03	S40
Material	CF8	CF8M	CF3	CF3M	F304
ASTM Ref	A351 Gr.CF8	A351 Gr.CF8M	A351 Gr.CF3	A351 Gr.CF3M	A182 Gr.F304

Code	S41	S42	S43	L02	L40
Material	F316	F304L	F316L	LC3	LF3
ASTM Ref	A182 Gr.F316	A182 Gr.F304L	A182 Gr.F316L	A352 Gr.LC3	A350 Gr.LF3

⑦ Trim Code

Cryogenic Floating Ball Valve

Seat		O-ring		Stem		Ball		Packing	
Code	Material	Code	Material	Code	Material	Code	Material	Code	Material
8	PCTFE	N	No O-rings	2	F304	2	F304	X	Low emission stuffing (GRAPHITE)
I	RPTFE			6	F316	6	F316		
3	PEEK			7	F304L	7	F304L		
G	VESPEL			8	F316L	8	F316L		
K	PAI			X	XM-19	X	XM-19		

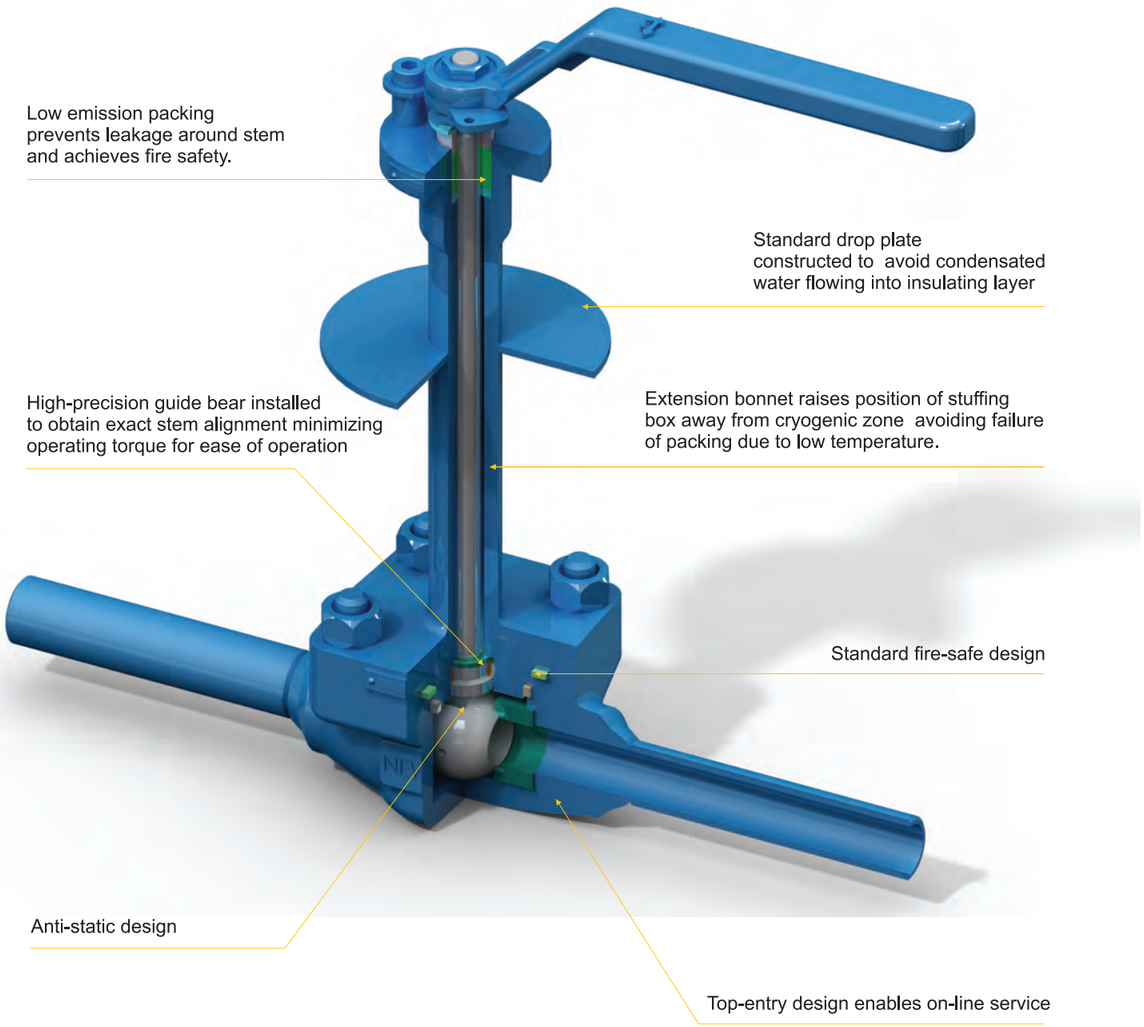
Cryogenic TM Ball Valve

Seat		Seal ring		Stem		Ball		Seat retainer	
Code	Material	Code	Material	Code	Material	Code	Material	Code	Material
8	PCTFE	L	Spring seal structure	2	F304	2	F304	2	F304
3	PEEK			6	F316	6	F316	6	F316
I	RPTFE			7	F304L	7	F304L	7	F304L
				8	F316L	8	F316L	8	F316L
				X	XM-19	X	XM-19		

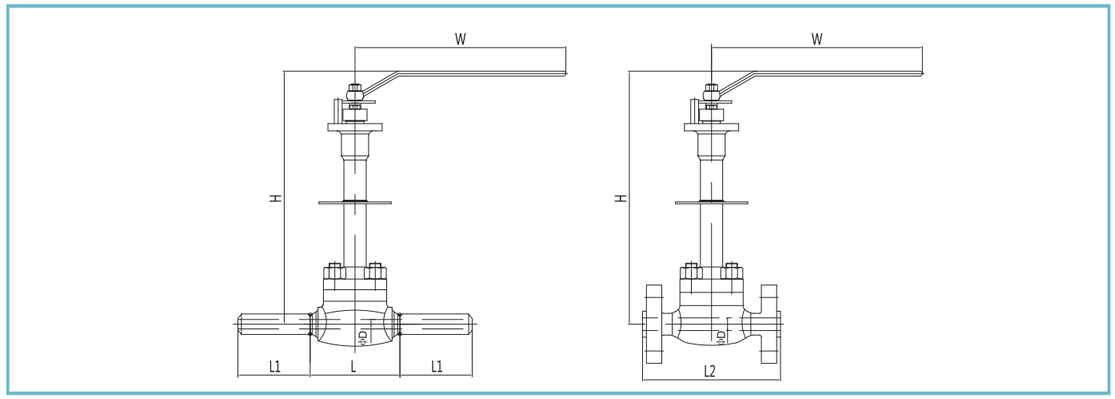
Note: Other materials upon request.

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Design Features



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Class 150/300/600

Size		D		L		L1		L2		H		W		Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
1/2	15	0.51	13	5.51	140	3.94	100	4.25/5.51/6.50	108/140/165	12.99	330	473.99	215	18.74	8.5
3/4	20	0.79	20	5.51	140	3.94	100	4.61/5.98/7.52	117/152/191	12.99	330	473.99	215	18.74	8.5
1	25	0.98	25	5.98	152	3.94	100	5.00/6.50/8.50	127/165/216	13.78	350	771.62	350	26.46	12.0
1-1/2	40	1.50	38	6.34	161	3.94	100	6.50/7.52/9.49	165/191/241	16.93	430	771.62	350	61.73	28.0
2	50	2.01	51	8.50	216	3.94	100	7.01/8.50/11.50	178/216/292	17.32	440	16.93	430	94.80	43.0
3	80	2.99	76	11.14	283	3.94	100	7.99/11.14/14.02	203/283/356	21.65	550	11.81	300*		

Note: L2 dimension refer to Class 150, Class 300, Class 600 separately standard.

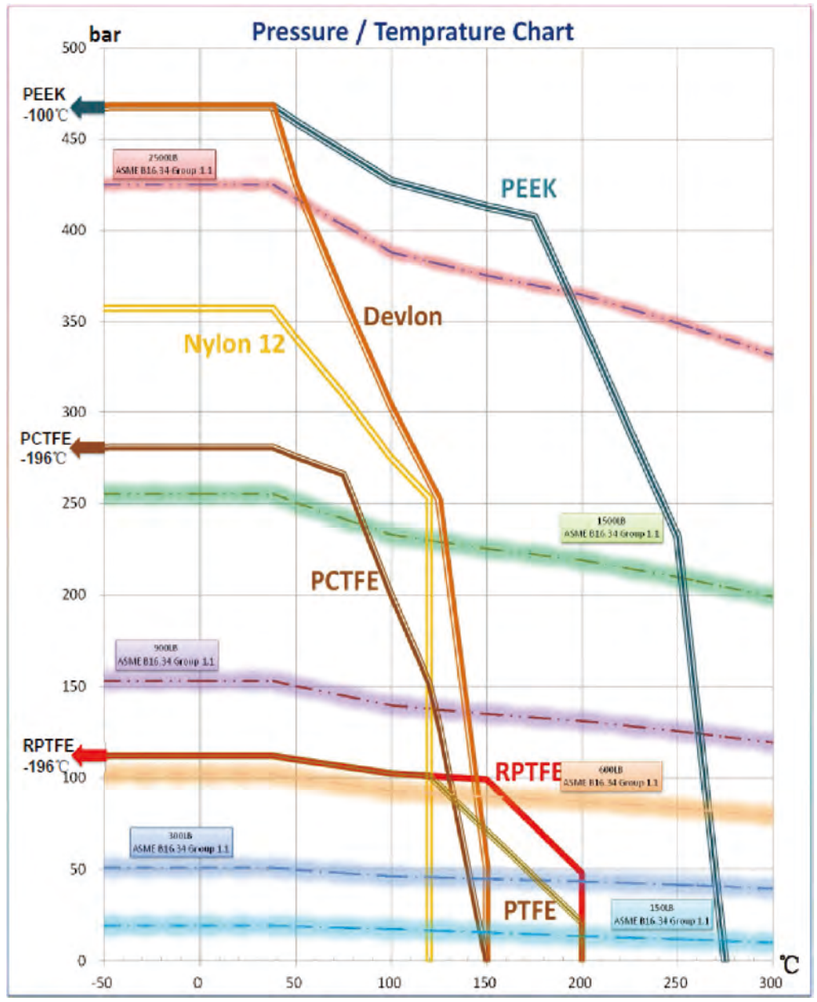
Class 900/1500

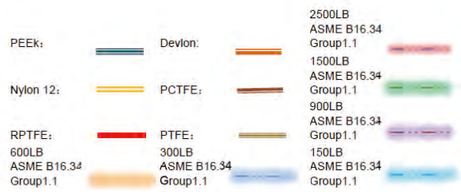
Size		D		L		L1		L2		H		W		Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
1/2	15	0.51	13	5.87	149	3.94	100	8.50	216	17.13	435	13.78	350	37.48	17
3/4	20	0.79	20	5.87	149	3.94	100	9.02	229	17.13	435	13.78	350	37.48	17
1	25	0.98	25	7.87	200	3.94	100	10.00	254	19.90	480	31.50	800	61.73	28
1-1/2	40	1.50	38	9.06	230	3.94	100	12.01	305	20.08	510	15.75	400*	101.41	46
2	50	2.01	51	14.49	368	3.94	100	14.49	368	17.71	450	11.81	300*		

Note: * represents the valve is gear operated, the listed value is the handwheel diameter of gearbox.

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Pressure Temperature Chart





Note: Other materials are available upon request.
If the operating condition is beyond the range above, please contact NEWAY's technical team.
NEWAY reserves the right to update without notice.

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Seat

Properties		PCTFE	PTFE	PEEK
Temperature Range °F		-328~302	-328~392	-148~500
Temperature Range °C		-200~150	-200~200	-100~260
Pressure Rating--LB		150~1500	150~600	150~2500
Mechanical Property	Hardness (D)	75~85	55~60	≥82
	Tensile Strength(MPa)	31.4~37.2	28~40	≥95
	Tensile Elongation(Break,%)	50~200	>350	≥55
Physical Property	Specific Gravity (g/cm3)	2.11~2.16	2.16~2.18	1.3~1.4
	Water Absorption 24hrs(%)	0.00	0.00	0.2
	Water Absorption Saturation	<0.01	<0.01	0.5
Service Application		Cryogenic & Low Temperature	Chemical & Low Temperature	High Pressure & Temperature

Seal Ring

Type	Spring Seal Structure
Temperature Range °F	-425~600
Temperature Range °C	-254~316
Pressure Rating--LB	150~1500
Size--inch	1/2"~78"

Flow Coefficient (Cv Value)

Size (inch)	Class 150	Class 300	Class 600	Class 900	Class 1500
1/2	17	15	14	12	12
3/4	43	38	34	31	31
1	86	76	66	61	61
1-1/2	227	211	187	167	167
2	423	384	330	294	294
3	1139	965	860	832	749
4	2416	2093	1759	1710	1564
6	5241	5183	4400	4212	3918
8	10471	9991	8713	8245	6921
10	17709	17154	14573	14123	11376
12	26241	25460	22389	20864	16835
14	32857	31176	28863	24483	20967
16	44474	42409	38998	33741	27901
18	57002	55420	50703	44491	35761
20	73076	70180	63936	55915	45445
22	88907	85757	78750	—	—
24	113639	109796	99314	—	—

Notes:
1.All the sizes are of full port.
2.Pressure Ratings are according to B 16.34.
3.Method of Calculating Flow
The Flow Coefficient Cv of a value is the flow rate of water (gallons/minute) through a fully opened valve, with a pressure drop of 1 psi across the valve. To find the flow of liquid through the valve from the Cv, use the following formulas:

Liquid Flow:

$$QL = Cv\ (P/G)^{1/2}$$

QL = Flow rate of liquid (gal. /min.)
P = differential pressure across the valve
G = specific gravity of liquid (for water, G=1)

Gas Flow:

$$Qg = 61Cv\ (P_2P/g)^{1/2}$$

(For non-critical flow, P/P<1.0)
Qg = Flow rate of gas (CFH at STP)
P_2 = outlet pressure (psia)
g = specific gravity of gas (for air, g=1.0)

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Operating Torque

Floating Ball Operating Torque

inch	Class 150		Class 300		Class 600		Class 900		Class 1500	
	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft
3/8	20	14.76	30	22.14	40	29.52	50	36.90	65	47.97
1/2	20	14.76	30	22.14	40	29.52	50	36.90	65	47.97
3/4	35	25.82	45	33.21	60	44.26	119	87.83	192	141.71
1	45	33.21	65	47.97	120	88.57	173	127.68	277	204.44
1-1/2	80	59.04	130	95.95	280	206.52	347	256.11	556	410.36
2	120	88.57	225	166.06	490	361.41	581	428.81	928	684.92
3	245	180.83	320	236.02	830	612.18				
4	450	331.91	705	519.99						
6	1350	995.71	2100	1548.88						
8	2240	1652.14	5100	3761.57						

Note:
The seat material is PCTFE
This torque is the max. operating torque in the cryogenic condition.

Trunnion-mounted Ball Valve Operating Torque

inch	Class 150		Class 300		Class 600		Class 900	
	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft	N.m	lbf.ft
2	162	119.57	219	161.64	308	227.32	420	309.99
3	604	445.79	732	540.26	1061	783.08	1355	999.79
4	686	506.31	904	667.21	1379	1017.79	1884	1390.22
6	1466	1082.00	1989	1468.01	3082	2274.71	4269	3150.76
8	2738	2020.81	4257	3141.93	7129	5261.64	10518	7763.28
10	3836	2831.21	6007	4433.54	10438	7703.89	15624	11531.61
12	5800	4280.76	9287	6854.38	15672	11566.91	23612	17426.86
14	6579	4855.71	11120	8207.25	21777	16072.77	32053	23657.44
16	9788	7224.15	15907	11740.35	28411	20969.08	42408	31299.98
18	13185	9731.48	19285	14233.52	33750	24909.59		
20	14481	10688.23	26600	19632.45	40000	29522.47		
22	17037	12574.39	32900	24282.23	43750	32290.21		
24	21000	15499.30	43050	31773.56	48750	35980.52		

Note:
The seat material is PCTFE
This torque is the max. operating torque in the cryogenic condition.

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Product Warranty

Seller will replace without charge or refund the purchase price of products provided by Seller which prove to be defective in material or workmanship, provided in each case that the product is properly installed and is used in the service for which Seller recommends it and that written claim, specifying the alleged defect, is presented to the Seller within 18 months from the date of shipment or 12 months after installation, whichever occurs first. Seller shall in no event bear any labor, equipment, engineering or other costs incurred in connection with repair of replacement. The warranty stated in this paragraph is in lieu of all other warranties, either expressed or implied. With respect to warranties, this paragraph states Buyer's exclusive remedy and seller's exclusive liability.