



**NW** NEWAY

API 600

ASME B16.34

# Gate, Globe & Check Valves

*Complete Solutions for Engineered Valves*

**NEWAY VALVE**

Cat. No.: E-GGC-2012-WIP

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## Complete Solutions for Industrial Valves

As one of the leading valve manufacturers in the world, Newway specializes in the development of innovative designs through intensive research and development programs along with a commitment to excellence and engineering in manufacturing valve solutions for all industries.

Newway's main product lines include gate, globe, check, butterfly, and ball valves with quality innovative designs that are recognized by many global users and EPCs. These products have been installed throughout the world in gas, oil, refining, chemical, and marine, power generation, and pipeline transmission industrial applications.

## Newway's Facilities

Newway's management structure is based on multi-plant manufacturing. We currently operate one R&D center, two valve assembly plants, and four specialized foundries in China. Our newest assembly plant was recently expanded in 2013, and it now covers nearly 35,000 square meters. Additionally, we have opened two overseas assembly plants in Mexico and Saudi Arabia.

Newway runs the most advanced manufacturing and management systems available. Our R&D software includes ANSYS, fe-safe, CF-Design, and SolidWorks. We are one of the few valve manufacturers performing Enterprise Resource Planning (ERP) using SAP ERP software in addition to utilizing automatic inventory management systems. Our in-house testing capabilities include fire-safe, cryogenic, high pressure gas and fugitive emission testing. These processes ensure that our products are safe, reliable, and environmentally-friendly.

NEWAY's goal is to occupy leading market positions through collaboration with value-adding business partners worldwide. In the last few years, Newway successively established new subsidiaries in Brazil, Dubai, Europe, Singapore, and the USA along with nearly 80 distributors around the world.

## Quality Assurance

Newway is dedicated to the pursuit of having zero defect valves leave our facility. We perform active Six Sigma quality management to continually enhance process control management based on advanced statistical data analysis. Newway's industrial certificates include ISO 9001, CEIPED, TA-Luft, API 6A, API 6D, ABS, API Q1 and Fire Safe approvals.

# Quality Commitment

ISO 9001



API 6D



API 6A



Neway recognizes the important role a high quality valve plays in the safety and health of personnel as well as the protection of property. Neway concentrates its effort to provide customers with consistent products designed, manufactured, inspected, and tested in accordance with our customers' specifications at a competitive price in accordance with international standards.

CE/PED



TA Luft



ABS

Industry standards do not always consider all possible parameters when selecting valve products. Various decision making parameters such as special service fluids or external environments in which the valves operate are often not covered in standards and can negatively affect the valve's performance. Therefore, we recommend that our customers communicate with our engineering department about any specific question for their valve application. Using our experience in providing valves for various industries and media types, our valve optimization program continuously strives to provide valves that withstand deterioration in service and ensure proper valve selection that will remain operational during its intended commission lifetime.



API 591



Fire Safe Test

# Product Range

## Newway Cast Carbon Steel Gate, Globe & Check Valves

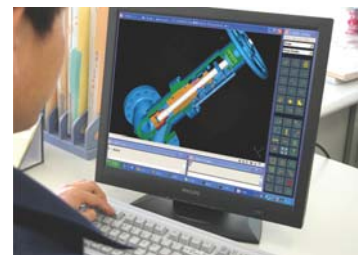
Valve Size		2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"	52"	54"	56"	60"	64"	66"	
API 600 & B16.34 Bolted Bonnet Valve	Gate Valve	150	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
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		600	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
		900	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
		1500	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
		2500	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
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	Check Valve	150	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
		300	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
		600	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
		900	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
		1500	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
		2500	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
API 600 & B16.34 Pressure Seal Valve	Gate Valve	600	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
		900	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
		1500	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
		2500	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
	Globe Valve	600	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
		900	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
		1500	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
		2500	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
	Check Valve	600	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
		900	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
		1500	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	
		2500	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	

- Note: 1. Face to face and end to end dimensions conform to BS 2080, ANSI B16.10 or ISO 5752  
 2. End flange dimensions conform to ANSI B16.5 for sizes 24" and below, and ANSI B16.47 for sizes 26" and above  
 3. BW end dimensions conform to ANSI B16.25  
 4. Inspection and tests completed in accordance with API 598 or BS EN 12266  
 5. Valves larger than 64" are available based on Newway standard design

Neway's technical research center utilizes the most advanced computer technology to improve existing product lines and develop new ones. A comprehensive internal computer network links the highly trained engineering team to manufacturing and administrative personnel so everyone can be updated instantly.

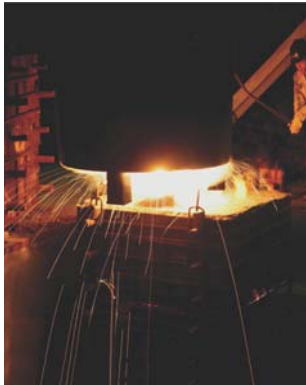
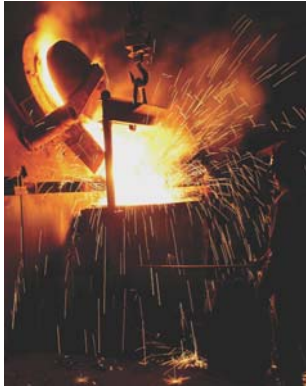


Neway's mission is to engineer safe and cost-effective valves. The latest AutoCAD and I-DEAS software is used by the product design and research team. The advanced finite element analysis feature enables virtual verification of new product designs prior to production. This dramatically reduces new product development time and ensures quality while controlling costs. All designs are rigorously tested in Neway's state-of-the-art flow loop to confirm and validate them. The end result is a final product that meets and exceeds international quality and safety standards sold at a competitive price.



Neway's technical personnel stands ready to support our customers, whether distributor, agent, or end user, with on-line and/or on-site technical support and training.

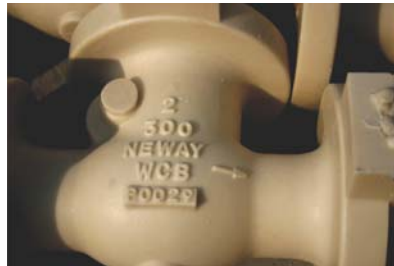
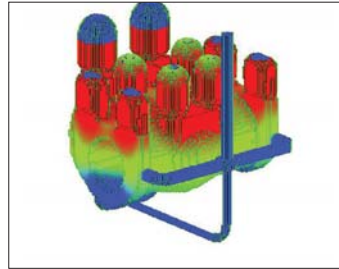
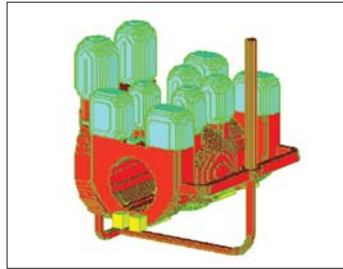
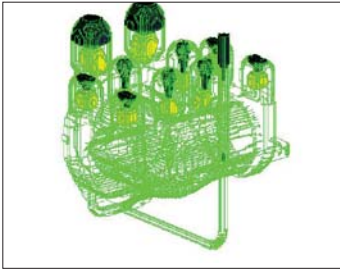
# Neway Owned Foundries



Neway understands that consistently producing high quality castings and forgings is the single most important factor in maintaining valve integrity and assuring a long operating life-cycle. Neway's valve castings have been certified by many end users as part of their quality assurance programs.

Whereas most other valve manufacturers outsource their valve casting, Neway has invested millions developing two state-of-the-art foundries to maintain stringent quality standards. Our Suzhou foundry specializes in large size sand castings using the organic ester water glass casting process, and our Dafeng foundry produces small sized investment castings using the lost wax casting method. Each foundry is equipped with a wide range of quality inspection equipment and instruments, including a spectrum analyzer, non-destructive testing equipment, and mechanical property testing equipment. Neway maintains stringent quality control throughout the entire valve foundry process to ensure that our stringent quality standards are maintained while providing our products at a competitive price. This extraordinary level of commitment to quality has made Neway the supplier of choice for many world class customers.





## Supply Range & Capacity

Plant Name	Dafeng Foundry	Suzhou Foundry
Process Technology	Loss wax investment casting	Organic ester water glass casting
Size Range (in)	1/2" ~ 10"	2" ~ 64"
Pressure Rating	ANSI Class 150~600	ANSI Class 150~2500
Weight (Kg)	1 ~ 150	100 ~ 11000
Material	WCB, WCC, LCB, LCC, WC6, WC9, C5, C12, C12A, CF8, CF8M, CF3, CF3M, CN7M, Monel, Inconel, Duplex Steel, 4A	
Monthly Capacity (Ton)	600	750
Quality Certifications	ISO 9001, CE/PED, AP W0	

# Advanced Manufacturing

The latest computer technologies are also widely applied in our manufacturing facilities at Neway, including a large number of computer numeric controlled (CNC) machining centers, horizontal and vertical lathes, and drilling machines. These machines directly tie into Neway's ERP management system, resulting in significantly improved machining quality and timely order processing. Neway internally machines all of the parts for its valves through the 60" ball valve size, ensuring consistent quality and just-in-time (JIT) deliveries.



The combination of these advanced tools and processes ensure consistent valve quality and just-in-time (JIT) deliveries.



# Quality Control



Neway houses its own extensive and advanced inspecting and testing department equipped with the latest equipment and instruments. Highly trained and certified technicians perform radiographic, ultrasonic, dye-penetrant, magnetic particle, PMI, impact, hardness, and tensile tests.

Neway also maintains state-of-the-art cryogenic, vacuum, fugitive emission, fire, and hydro testing facilities to ensure the highest product quality and performance.



Six-Sigma, zero defect policies, and continuous process improvements have allowed Neway to obtain numerous certifications such as ISO 9001 (issued by DNV), API 6A (no.6A-0716), API 6D (no.6D-0285), CE/PED (category IV, mode B+D, certificate under B.V.), ABS,TA-Luft, API591, and GOST.

Due to our extensive product portfolio, focus on quality, competitive delivery lead times, and economical pricing, Neway has earned many end user customer approvals, and is viewed as a world class manufacturer



# Typical Product View

1



2



3



5



6



# Typical Product View

- 1 20" 300 lb Gate Valve
- 2 42" 600 lb Gate Valve
- 3 52" 150 lb Gate Valve
- 4 18" 600 lb Cryogenic Gate Valve
- 5 32" Motor Actuated Gate Valve
- 6 24" 300 lb Pneumatic Actuated Gate Valve
- 7 24" 600 lb Gate Valve
- 8 16" 900 lb Pressure Seal Gate Valve
- 9 42" 150 lb Check Valve
- 10 A217 Gr. C12A Gate Valve



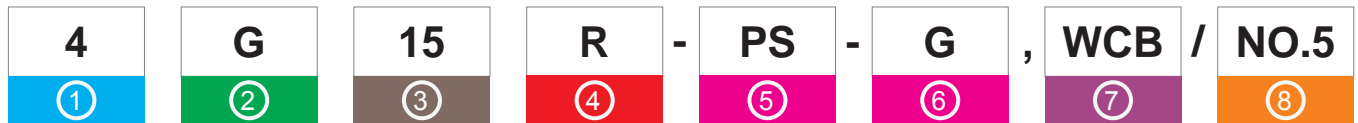
7

8

9

# How to Order

## Example:



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

## The following descriptions provide a basic guideline for valve specifications:

### ① Valve Size

### ② Valve Type

Valve Type	Gate Valve	Globe Valve	Swing Check
Symbol	G	GL	S

### ③ ANSI Class

Code	1	3	6	9	15	25
Class (LB)	150	300	600	900	1500	2500

### ④ End Connection

Symbol	End	Symbol	End
R	Raised face flanged end	S	Socket Welding end
J	RTJ flanged end	N	Screwed end
B	Butt-welding end	F	Flat face flanged end
W	Wafer		

### ⑤ ⑥ Actuator and Special Code

Symbol	Description	Symbol	Description
	Handwheel Operator	SC	Stop Check
G	Gear Operator	AN	Angle type globe
M	Electric Actuator	R	Reduced bore
P	Pneumatic Actuator	GL	Seat and Stem Injection
NRS	Non-rising stem	ASC	Angle type stop check
PS	Pressure Seal	BP	ByPass

### ⑦ Body Material\*

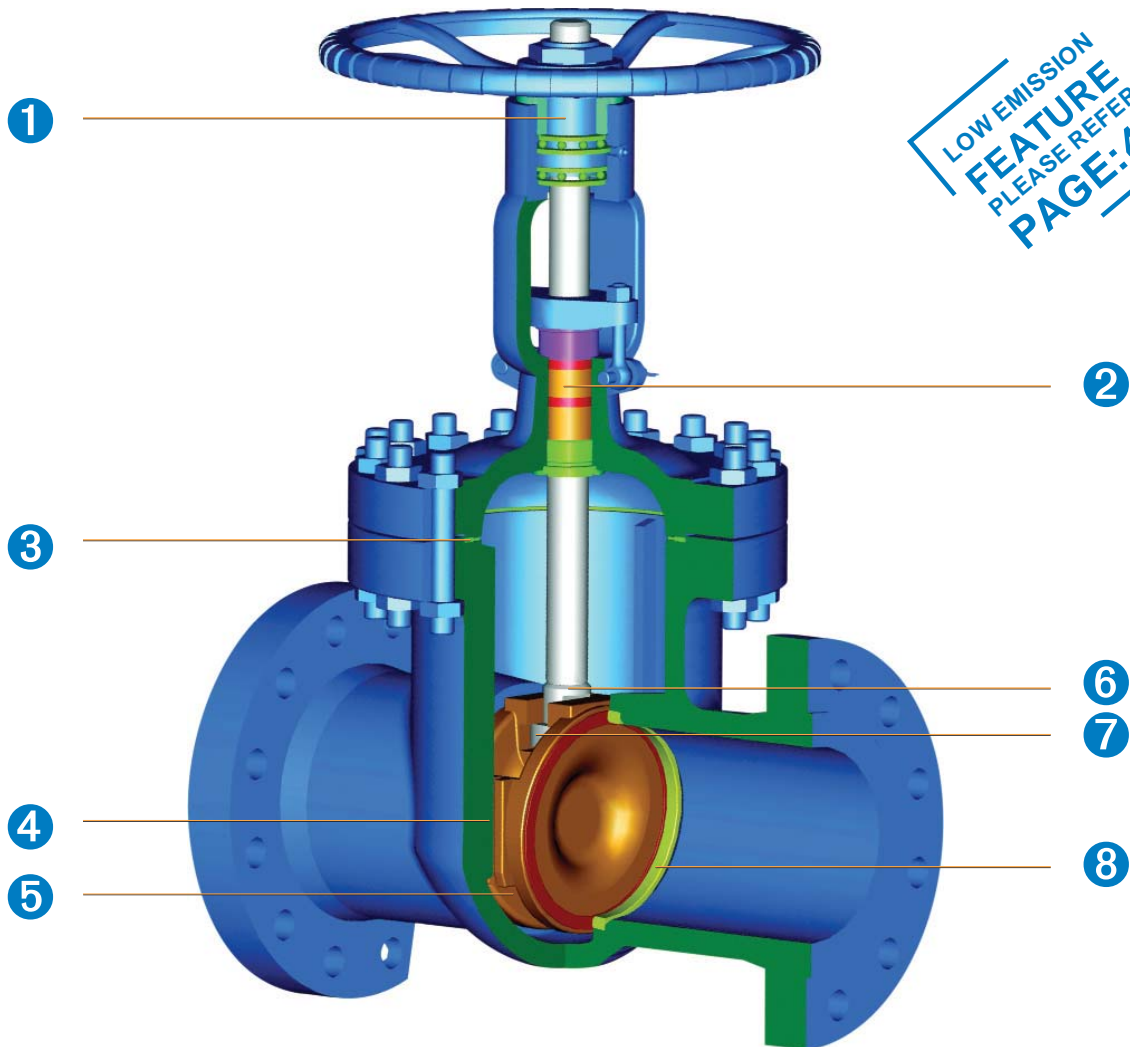
Material	WCB	LCB	LCC	WC6	WC9	C5	CF8	CF8M	CF3	CF3M	CD4MCuN
ASTM Ref	A216 Gr.WCB	A216 Gr.LCB	A216 Gr.LCC	A216 Gr.WC6	A216 Gr.WC9	A216 Gr.C5	A216 Gr.CF8	A216 Gr.CF8M	A216 Gr.CF3	A216 Gr.CF3M	A216 Gr.CD4MCuN

### ⑧ Trim Material

API Trim Number	Symbol	Disc Surface	Seat Surface	Stem Material
1	1	13% Cr	13% Cr	ASTM A276 Grade 410
2	2	18% Cr, 8% Ni	18% Cr, 8% Ni	ASTM A182 Grade F304
5	5	Stellite	Stellite	ASTM A276 Grade 410
8	8	13% Cr	Stellite	ASTM A276 Grade 410
9	9	Monel	Monel	Ni Cu Allow Monel
10	10	18% Cr, 8% Ni	18% Cr, 8% Ni	ASTM A182 Grade F316
12	12	18% Cr, 8% Ni	Stellite	ASTM A182 Grade F316
13	13	Alloy 20 19% Cr, 29% Ni	Alloy 20 19% Cr, 29% Ni	ASTM B473
	16	Stellite	Stellite	ASTM A182 Grade F316
	20	Bronze	Bronze	Bronze

Note: 1. Trim numbers 1 to 13 are the same as table 13 in API 600.  
2. Trim number 1 may be replaced by trim number 8 without notice.

\*Additional Materials listed on Page 47



- 1 Long thread stem nut provides long thread life and permits the removal of the hand wheel even when full open.
- 2 Spacer ring single packing set for 300 lb valves. 150 lb valves contain only a single packing set. Double packing can be provided upon customer request.
- 3 Corrugated steel gasket for 150 lb valves, spiral wound gasket for 300 lb & 600 lb valves, and ring joints for valves 900 lbs & above. Ring joints are also available as an option for 600 lb valves upon customer request.
- 4 Integral guide rig inside the body assures self-centering of the wedge during opening or closing.
- 5 Flexible wedge to compensate for seat face distortion and body deformation due to pipe stress.
- 6 Anti blow-out stem with collar
- 7 Stem & wedge connection stronger than the thread area of stem.
- 8 Renewable seal welded seats with stellite 6 are standard. Screwed-in seats are optional.

Part	Standard	Low Temperature Service	Stainless Steel	High Temperature Service	Sour Service
BODY	ASTM A216-WCB	ASTM A352-LCC	ASTM A351-CF8M	ASTM A217-WC9	ASTM A216-WCB
BONNET	ASTM A216-WCB	ASTM A352-LCC	ASTM A351-CF8M	ASTM A217-WC9	ASTM A216-WCB
WEDGE	ASTM A216-WCB/ CR13 OVERLAY ASTM A217-CA15(10"&Smaller)	ASTM A352-LCC /316 OVERLAY	ASTM A351-CF8M	ASTM 217-WC9 /STL. OVERLAY	ASTM A216-WCB/ CR13 OVERLAY ASTM A217- CA15(10"&Smaller)-NC
STEM NUT	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2
GLAND FLANGE	ASTM A216-WCB	ASTM A352-LCB	ASTM A351-CF8	ASTM A216-WCB	ASTM A216-WCB
HANDWHEEL	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON
SEAT RING	ASTM A105/STL. OVERLAY	ASTM A182-F316/STL. OVERLAY	ASTM A182-F316/STL. OVERLAY	ASTM A182-F22/STL. OVERLAY	ASTM A105/STL. OVERLAY
STEM	ASTM A182-F6a	ASTM A182-F316	ASTM A182-F316	ASTM A182-F6a	ASTM A182-F6a-NC
BACK SEAT	ASTM A276-420	ASTM A276-316	ASTM A276-316	ASTM A276-420	ASTM A276-420-NC
GLAND	ASTM A276-420	STAINLESS STEEL	ASTM A276-316	ASTM A276-420	ASTM A276-420-NC
GASKET	SPIRAL WOUND GRAPHITE	SPIRAL WOUND GRAPHITE	SPIRAL WOUND GRAPHITE	SPIRAL WOUND GRAPHITE	SPIRAL WOUND GRAPHITE
MIDDLE PACKING	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE
TOP/BOTTOM PACKING	316+GRAPHITE	316+GRAPHITE	316+GRAPHITE	316+GRAPHITE	316+GRAPHITE
RETAINING NUT	CARBON STEEL	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL
HANDWHEEL NUT	CARBON STEEL	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL
BONNET STUD	ASTM A193-B7	ASTM A320-L7M	ASTM A193-B8	ASTM A193-B16	ASTM A193-B7M
BONNET NUT	ASTM A194-2H	ASTM A194-7M	ASTM A194-8	ASTM A194-4	ASTM A194-2HM
EYE BOLT	ASTM A193-B7	ASTM A320-L7M	ASTM A193-B8	ASTM A193-B16	ASTM A193-B7M
GLAND NUT	ASTM A194-2H	ASTM A194-7M	ASTM A194-8	ASTM A194-4	ASTM A194-2HM
GREASE FITTING	CARBON STEEL	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL
EYE BOLT PIN	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	CARBON STEEL
RIVET	CARBON STEEL	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL
NAME PLATE	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

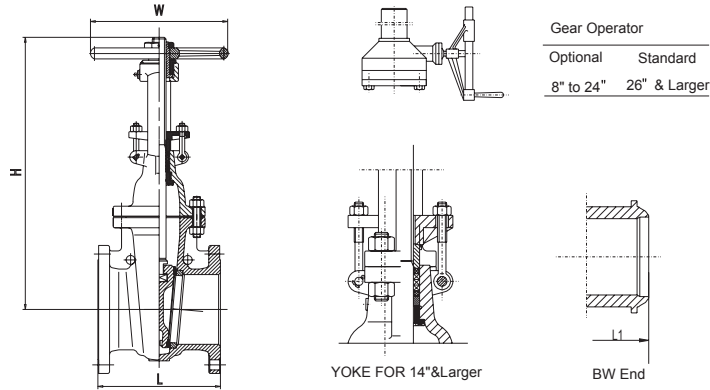
Note: The materials above are general. When ordering, please contact a Neway sales or technical team to confirm the details.

**Class 150** Cast Carbon Steel Gate Valve

API 600 Design  
 Bolted Bonnet, OS&Y  
 Screwed-in Back seat, Rising Stem  
 Non-rising Handwheel  
 Flexible Wedge

Figure NO.:

G1R,WCB/NO.8  
 G1B,WCB/NO.8



NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"	50"	52"	54"	60"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200	1250	1300	1350	1500
L(RF)	in	7	7.5	8	9	10	10.5	11.5	13	14	15	16	17	18	20	22	24	24	26	28	30	31	34	36	38	40	50
	mm	178	190	203	229	254	267	292	330	356	381	406	432	457	508	559	610	610	660	711	762	787	864	914	965	1016	1270
L1(BW)	in	8.5	9.5	11.12	12	15	15.88	16.5	18	19.75	22.5	24	26	28	32	34	36	36	38	40	42	43	46				
	mm	216	241	282	305	381	403	419	457	502	572	610	660	711	813	864	914	914	965	1016	1067	1092	1168				
W	in	8	8	10	10	12	12	14	16	18	20	24	27	30	24	24	24	24	24	24	24	32	32	32	32	40	40
	mm	200	200	250	250	300	300	350	400	450	500	550	600	680	760	610	610	610	610	610	610	810	810	810	810	1000	1000
H	in	15.2	17.2	18.9	23	26.8	30.2	37.6	45.2	53.1	59.4	67	74.5	83.4	98.4	110	117	124	129	147	116	173	198	208	215	223	
	mm	387	437	480	585	681	767	956	1149	1350	1508	1703	1892	2119	2500	2786	2961	3146	3278	3742	4210	4382	5020	5280	5462	5674	
WT(RF)	Kg	20	26	33	49	64	81	125	190	282	390	510	666	872	1265	1670	1958	2285	2630	3634	4660	4940	6605	7540	*	*	*
WT(BW)	Kg	15	22	28	44	58	76	114	170	248	360	490	630	842	1210	1620	1900	2160	2500	3400	4430	4690	6200	7100	*	*	*

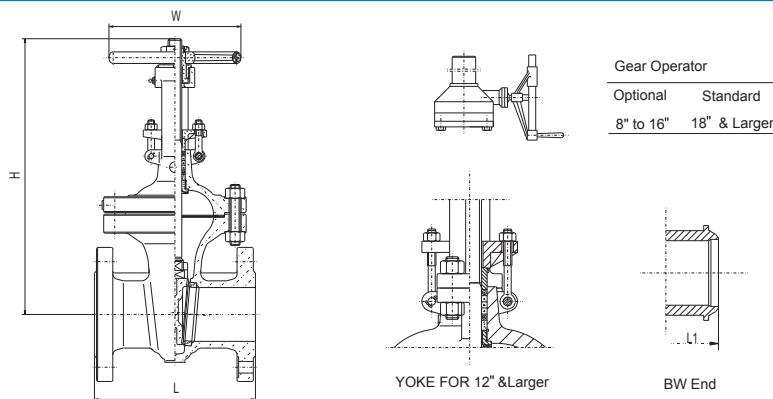
\*(1) For sizes larger than 48", please contact a Neway sales or engineering team for details.

**Class 300** Cast Carbon Steel Gate Valve

API 600 Design  
 Bolted Bonnet, OS&Y  
 Screwed-in Back seat, Rising Stem  
 Non-rising Handwheel  
 Flexible Wedge

Figure NO.:

G3R,WCB/NO.8  
 G3B,WCB/NO.8



NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L-L1 (RF-BW)	in	8.5	9.5	11.12	12	15	15.88	16.5	18	19.75	30	33	36	39	45	49	53	55	60	68	76	78	88
	mm	216	241	283	305	381	403	419	457	502	762	838	914	991	1143	1245	1346	1397	1524	1727	1930	1981	2235
W	in	8	8	10	10	12	14	16	18	20	22	24	24	24	24	24	24	24	32	40	40	40	40
	mm	200	200	250	250	300	350	400	450	500	550	600	610	610	610	610	610	610	810	1000	1000	1000	1000
H	in	16.1	17.8	20	24.1	27.8	31.7	39.6	47.6	55.7	62.2	67.9	76.4	85.6	101	113	117	126	142	150	173	178	201
	mm	410	453	509	612	705	805	1005	1209	1415	1581	1725	1940	2175	2570	2870	2972	3213	3610	3821	4393	4510	5093
WT(RF)	Kg	26	35	52	75	102	147	229	360	520	808	1105	1420	1705	2605	3090	3860	4948	5510	7700	10130	11270	16000
WT(BW)	Kg	17	26	39	55	84	113	178	302	485	642	873	980	1510	2160	2540	3604	4414	4820	6950	9660	10780	15310

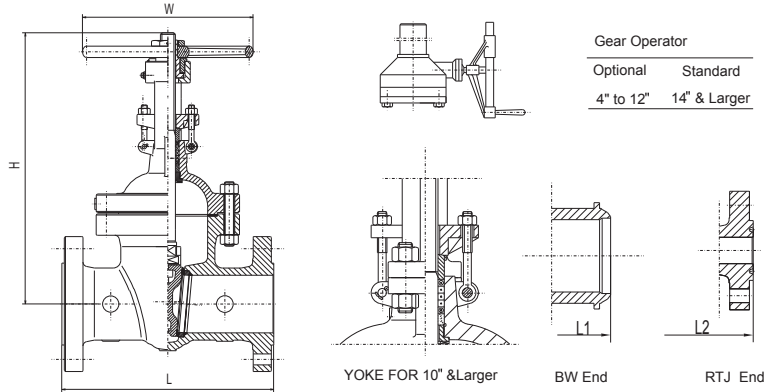
\*(1) For sizes larger than 48", please contact a Neway sales or engineering team for details.

## Class 600 Cast Carbon Steel Gate Valve

API 600 Design  
Bolted Bonnet, OS&Y  
Screwed-in Back seat, Rising Stem  
Non-rising Handwheel  
Flexible Wedge

Figure NO.:

G6R,WCB/NO.8  
G6j,WCB/NO.8  
G6B,WCB/NO.8



NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L-L1 (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39	43	47	55	57	61	65	70	82	90	96	100
	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651	1778	2082	2286	2438	2540
L2(RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.5	61.5	65.5	70.6	82.6	*	*	*
	mm	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	1461	1562	1664	1794	2098			
W	in	8	10	10	12	16	18	20	24	27	24	24	24	24	24	32	40	40	40	40	48	48	48
	mm	200	250	250	300	400	450	500	600	680	610	610	610	610	610	810	1000	1000	1000	1000	1200	1200	1200
H	in	16.5	18.7	20.4	25.4	30.3	33	40.3	48.4	57.1	62	70.7	76	86.9	102	124	133	140	150	168	184	194	231
	mm	418	476	518	646	770	839	1024	1229	1450	1574	1797	1931	2207	2582	3150	3362	3549	3811	4260	4670	4921	5876
WT(RF)	Kg	39	52	68	115	196	270	450	700	984	1245	1750	2175	3080	4450	*	6370	7200	8520	11890	*	16305	*
WT(BW)	Kg	30	35	55	88	160	204	350	586	728	1094	1495	1840	2513	3810	*	5660	6400	7700	10800	*	15120	*

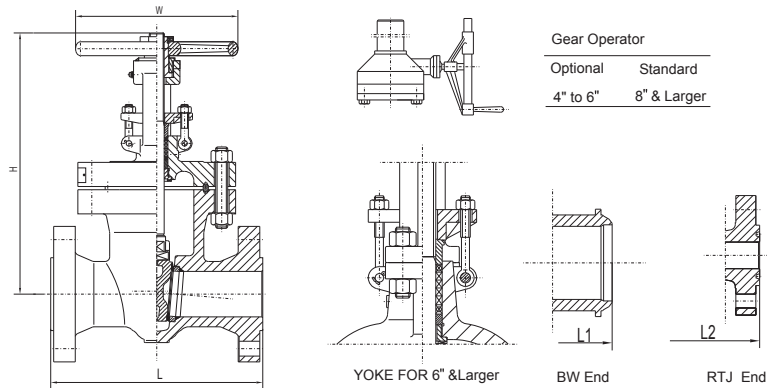
\*(1) For sizes larger than 48", please contact a Newway sales or engineering team for details.

## Class 900 Cast Carbon Steel Gate Valve

API 600 Design  
Bolted Bonnet, OS&Y  
Screwed-in Back seat, Rising Stem  
Non-rising Handwheel  
Flexible Wedge

Figure NO.:

G9R,WCB/NO.5  
G9J,WCB/NO.5  
G9B,WCB/NO.5



NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900
L-L1 (RF-BW)	in	14.5	16.5	15	18	22	24	29	33	38	40.5	44.5	48	52	61	65	70	74	78	87
	mm	368	419	381	457	559	610	737	838	965	1029	1130	1219	1321	1549	1664	1778	1892	2004	2232
L2(RTJ)	in	14.62	16.62	15.12	18.12	22.12	24.12	29.12	33.12	38.12	40.88	44.88	48.5	52.48	61.73					
	mm	371	422	384	460	562	613	740	841	968	1038	1140	1232	1333	1568					
W	in	10	10	12	14	18	20	24	24	24	24	24	32	40	40	40	40	48	48	48
	mm	250	250	300	350	450	500	600	610	610	610	610	810	1000	1000	1000	1000	1200	1200	1200
H	in	19.6	21.5	22.6	26.7	33.5	35.4	43.4	53	59.8	74.9	80.7	87	95	108.4	111.5	114.8	118	121.4	128
	mm	498	547	573	678	850	900	1103	1345	1520	1902	2051	2212	2417	2750	2833	2916	3000	3083	3250
WT(RF)	Kg	90	132	102	180	335	355	665	1076	143	1965	2690	3264	4425	6680	*	*	*	*	*
WT(BW)	Kg	74	110	95	162	258	292	528	884	1195	1726	2305	2785	4014	5780	*	*	*	*	*

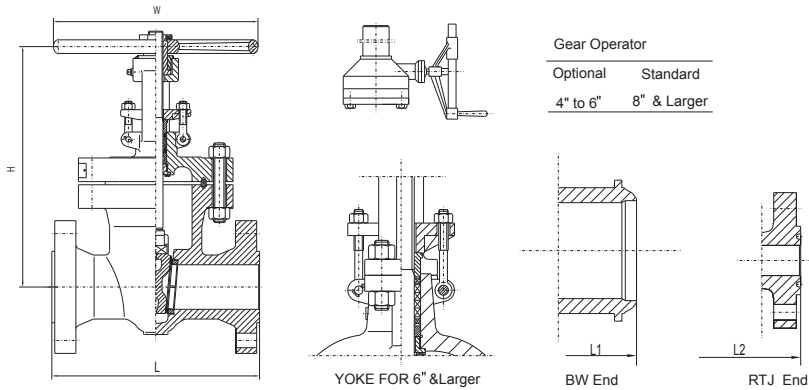


**Class 1500** Cast Carbon Steel Gate Valve

API 600 Design  
 Bolted Bonnet, OS&Y  
 Screwed-in Back seat, Rising Stem  
 Non-rising Handwheel  
 Flexible Wedge

Figure NO.:

G15R,WCB/NO.5  
 G15J,WCB/NO.5  
 G15B,WCB/NO.5



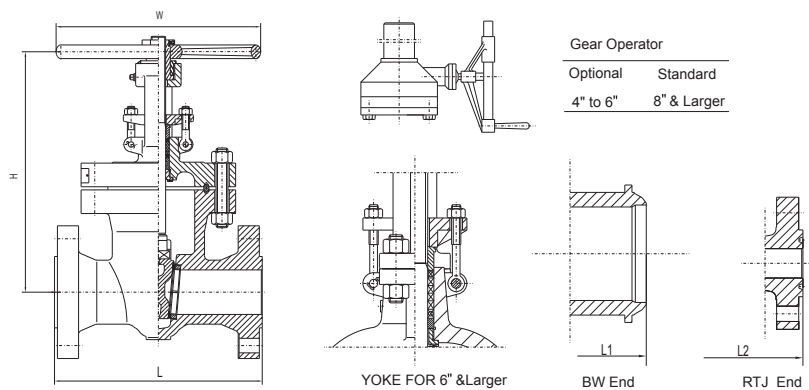
NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750
L -L1 (RF-BW)	in	14.5	16.5	18.5	21.5	26.5	27.75	32.75	39	44.5	49.5	54.5	60.5	65.5	76.5	82	87.5	93
	mm	368	419	470	546	673	705	832	991	1130	1257	1384	1537	1664	1943	2083	2222.5	2362
L2(RTJ)	in	14.62	16.62	18.62	21.62	26.61	28	33.13	39.38	45.12	50.25	55.38	61.4	66.4	77.6			
	mm	371	422	473	549	676	711	842	1000	1146	1276	1407	1559	1686	1972			
W	in	10	12	14	20	24	24	18	18	24	24	24	40	40	40	48	48	48
	mm	250	300	350	500	600	600	458	458	610	610	610	1000	1000	1000	1200	1200	1200
H	in	19.2	22.5	23.7	27.6	35.4	38.7	45.1	54	64.3	70.8	77.3	111	121	140.5	151	158	172
	mm	487	572	603	700	900	984	1146	1371	1633	1798	1963	2812	3078	3570	3836	4012	4368
WT(RF)	Kg	95	131	180	248	510	590	1086	1786	2766	3605	4410	6040	*	*	*	*	*
WT(BW)	Kg	76	105	125	205	420	505	910	1485	2386	2970	3665	5145	*	*	*	*	*

**Class 2500** Cast Carbon Steel Gate Valve

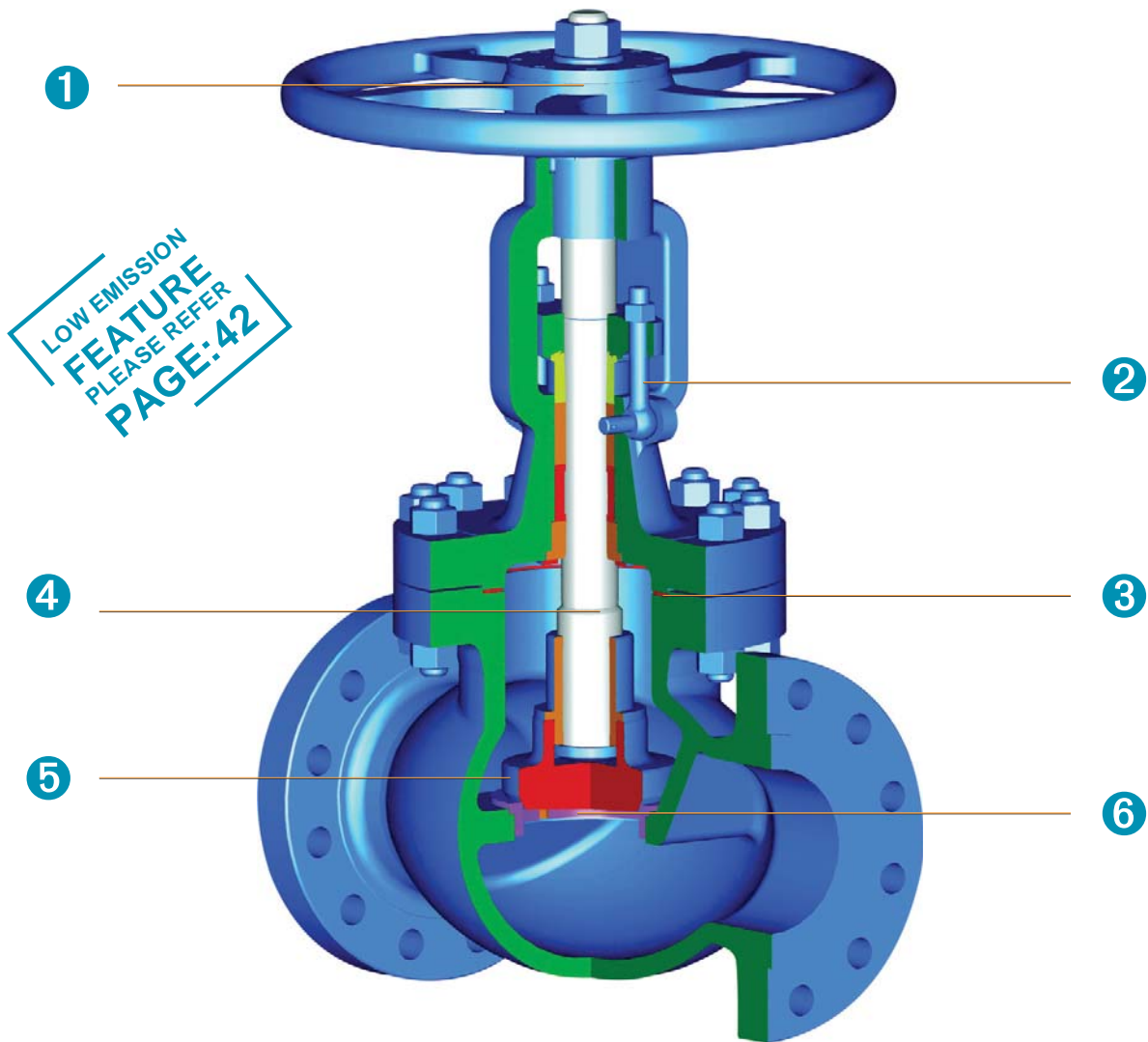
API 600 Design  
 Bolted Bonnet, OS&Y  
 Screwed-in Back seat, Rising Stem  
 Non-rising Handwheel  
 Flexible Wedge

Figure NO.:

G25R,WCB/NO.5  
 G25J,WCB/NO.5  
 G25B,WCB/NO.5



NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L -L1 (RF-BW)	in	17.75	20	22.75	26.5	31.26	36	40.25	50	56	62	68	74	80	92
	mm	451	508	578	673	794	914	1022	1270	1422	1575	1727	1879	2031	2335
L2(RTJ)	in	17.88	20.25	23	26.88	31.77	36.5	40.88	50.88	56.88					
	mm	454	514	584	683	807	927	1038	1292	1445					
W	in	14	18	18	20	24	24	24	24	24	32	32	40	40	40
	mm	350	450	450	500	610	610	610	610	610	810	810	1000	1000	1000
H	in	22.2	22.2	22.9	34.3	37.4	38.3	63.4	81.7	89.8	319.7	400	100.6	112.6	136.6
	mm	563	563	582	870	950	973	1610	2076	2281	1945	2250	2565	2860	3470
WT(RF)	Kg	145	200	279	305	*	1116	1860	3885	4925	*	*	*	*	*
WT(BW)	Kg	120	150	223	285	*	896	1552	3275	4110	*	*	*	*	*



- ① Impact handwheel supplied at manufacturer's option or on customer request.
- ② Gland eyebolts are mounted to aside in order to facilitate packing maintenance.
- ③ Male and female bonnet joins for valves between 150 and 600 lbs. Ring joints for valves 900 lbs & above or as an option for 600 lb valves on customer request.
- ④ Anti blow-out stem design with conical backseat surface to permit the repacking of the valve while in the fully open position.
- ⑤ Plug seat surface is the standard disc design. Spherical and flat seat surfaces are optional on customer request.
- ⑥ Seat face with stellite 6 is standard design.

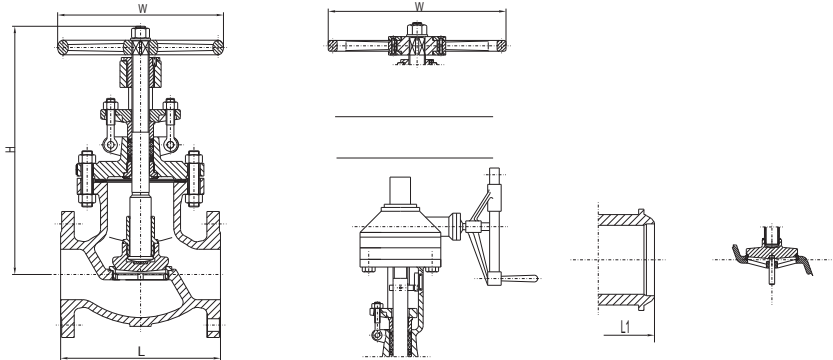
Part	Standard	Low Temperature Service	Stainless Steel	High Temperature Service	Sour Service
BODY	ASTM A216-WCB	ASTM A352-LCC	ASTM A351-CF8M	ASTM A217-WC9	ASTM A216-WCB
BONNET	ASTM A216-WCB	ASTM A352-LCC	ASTM A351-CF8M	ASTM A217-WC9	ASTM A216-WCB
DISC	ASTM A182-F6a ASTM A105/ER410 (FOR 4" & Larger)	ASTM A182-F316	ASTM A182-F316	ASTM A182-F22/STL. OVERLAY	ASTM A182-F6a-NC
STEM NUT	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2
GLAND FLANGE	ASTM A216-WCB	ASTM A352-LCB	ASTM A351-CF8M	ASTM 216-WCB	ASTM A216-WCB
HANDWHEEL	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON
IMPACT BLOCK	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL
RETAINER PLATE	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL
SEAT RING	ASTM A105/STL. OVERLAY	ASTM A182-F316/STL. OVERLAY	ASTM A182-F316/STL. OVERLAY	ASTM A182-F22/STL. OVERLAY	ASTM A105/STL. OVERLAY
STEM	ASTM A182-F6a	ASTM A182-F316	ASTM A182-F316	ASTM A182-F6a	ASTM A182-F6a-NC
BACK SEAT	ASTM A276-420	ASTM A276-316	ASTM A276-316	ASTM A276-420	ASTM A276-420-NC
GLAND	ASTM A276-420	ASTM A276-316	ASTM A276-316	ASTM A276-420	ASTM A276-420-NC
SPACE RING	ASTM A276-420	STAINLESS STEEL	ASTM A276-316	ASTM A276-420	ASTM A276-420-NC
DISC NUT	ASTM A276-420	ASTM A276-316	ASTM A276-316	ASTM A276-420	ASTM A276-420-NC
STEM WASHER	ASTM A276-430	N/A	N/A	ASTM A276-430	STAINLESS STEEL
HANDWHEEL WASHER	CARBON STEEL	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL
BONNET GASKET	SOFT STEEL	ASTM A276-316	ASTM A276-316	SOFT STEEL	SOFT STEEL
PACKING	316+GRAPHITE	316+GRAPHITE	316+GRAPHITE	316+GRAPHITE	316+GRAPHITE
PACKING	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE
BONNET STUD	ASTM A193-B7	ASTM A320-L7M	ASTM A193-B8	ASTM A193-B16	ASTM A193-B7M
BONNET NUT	ASTM A194-2H	ASTM A194-7M	ASTM A194-8	ASTM A194-4	ASTM A194-2HM
EYE BOLT	ASTM A193-B7	ASTM A320-L7M	ASTM A193-B8	ASTM A193-B16	ASTM A193-B7M
GLAND NUT	ASTM A194-2H	ASTM A194-7M	ASTM A194-8	ASTM A194-4	ASTM A194-2HM
HANDWHEEL NUT	CARBON STEEL	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL
EYE BOLT PIN	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	CARBON STEEL
RIVET	CARBON STEEL	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL
NAME PLATE	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

Note: The materials above are general. When ordering, please contact a Neway sales or technical team to confirm the details.

BS 1873 Design  
Bolted Bonnet, OS&Y  
Screwed-in Back seat  
Rising Stem and Handwheel  
Swivel Disc

Figure NO.:

GL1R,WCB/NO.8  
GL1B,WCB/NO.8

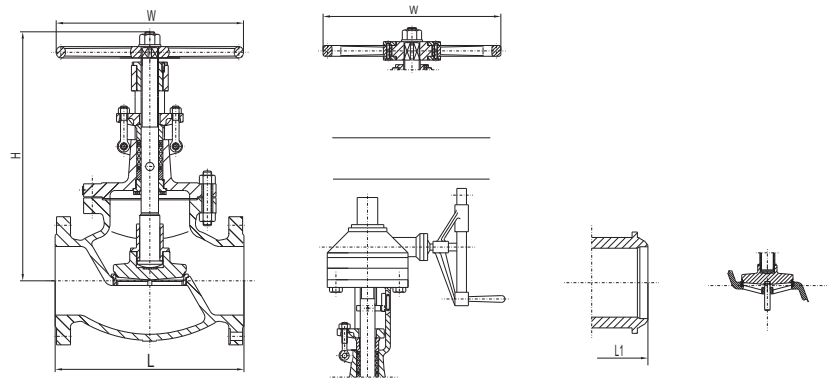


NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L-L1 (RF-BW)	in	8	8.5	9.5	11.5	14	16	19.5	24.5	27.5	31	36	38.5	38.5	51
	mm	203	216	241	292	356	406	495	622	699	787	914	978	978	1295
W	in	8	10	10	12	14	14	16	20	20	22	26	24	24	31.9
	mm	200	250	250	300	350	350	400	500	500	560	650	610	610	610
H	in	13.3	14.7	15.6	18.7	19.6	20.6	23.1	29.1	33.9	37.4	39.2	44.9	49.7	60
	mm	338	373	396	476	497	524	588	738	862	950	994	1140	1262	1524
WT(RF)	Kg	21	29	35	58	78	104	162	315	485	614	890	1034	1430	2345
WT(BW)	Kg	21	23	30	45	65	86	138	195	395	557	810	956	1277	2208

BS 1873 Design  
Bolted Bonnet, OS&Y  
Screwed-in Back seat  
Rising Stem and Handwheel  
Swivel Disc

Figure NO.:

GL3R,WCB/NO.8  
GL3B,WCB/NO.8

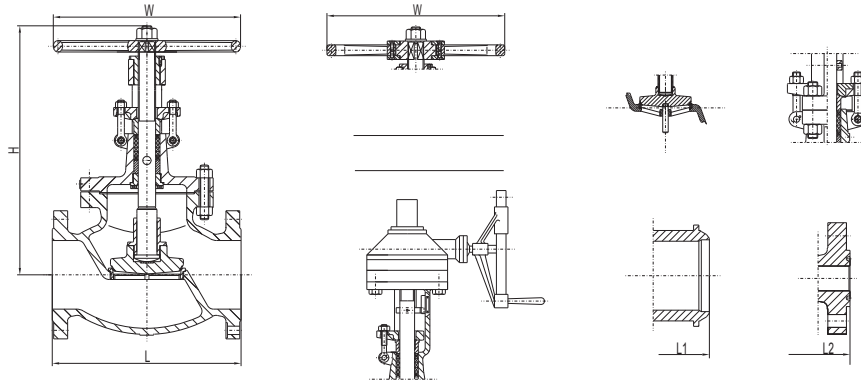


NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500
L-L1 (RF-BW)	in	10.5	11.5	12.5	14	15.75	17.5	22	24.5	28	33	34	38.5	40
	mm	267	292	318	356	400	445	559	622	711	838	864	978	1016
W	in	8	10	10	14	18	20	22	24	26	24	24	24	32
	mm	200	250	250	350	450	500	560	600	650	610	610	610	810
H	in	13.9	15.3	16.6	19.5	22.7	26.6	35.9	37.4	40.6	44.5	51.6	57.5	64.3
	mm	354	389	421	496	577	675	912	949	1032	1130	1310	1460	1632
WT(RF)	Kg	26	38	51	76	112	173	368	550	780	1140	1346	1885	2125
WT(BW)	Kg	21	26	38	59	80	144	302	456	698	1026	1240	1795	1907

BS 1873 Design  
 Bolted Bonnet, OS&Y  
 Screwed-in Back seat  
 Rising Stem and Handwheel  
 Swivel Disc

Figure NO.:

GL6R,WCB/NO.8  
 GL6B,WCB/NO.8

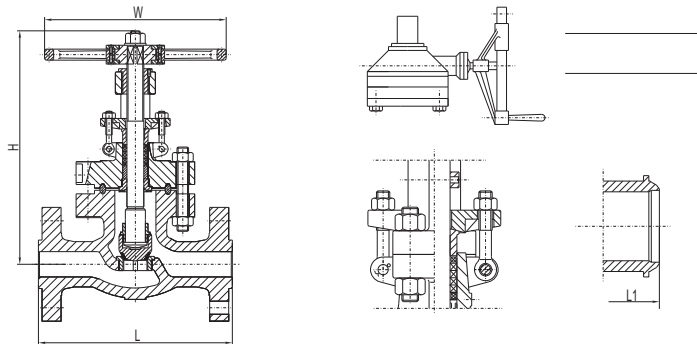


NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450
L-L1 (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39	43
	mm	292	330	356	432	508	559	660	787	838	889	991	1092
L2(RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12	43.1
	mm	295	333	359	435	511	562	663	790	841	892	994	1095
W	in	10	10	14	18	20	22	24	28	24	24	30	32
	mm	250	250	350	450	500	560	600	700	610	610	762	810
H	in	15.6	17.6	19.5	23.6	27.6	31.1	39.9	46.5	55	57.1	63.4	70.9
	mm	397	446	496	599	700	791	1014	1180	1397	1450	1610	1801
WT(RF)	Kg	37	48	67	150	220	350	616	946	1415	1750	2208	2980
WT(BW)	Kg	30	38	50	125	170	250	540	880	1260	1590	2020	2700

BS 1873 Design  
 Bolted Bonnet, OS&Y  
 Screwed-in Back seat  
 Rising Stem and Handwheel  
 Swivel Disc

Figure NO.:

GL9R,WCB/NO.5  
 GL9J,WCB/NO.5  
 GL9B,WCB/NO.5

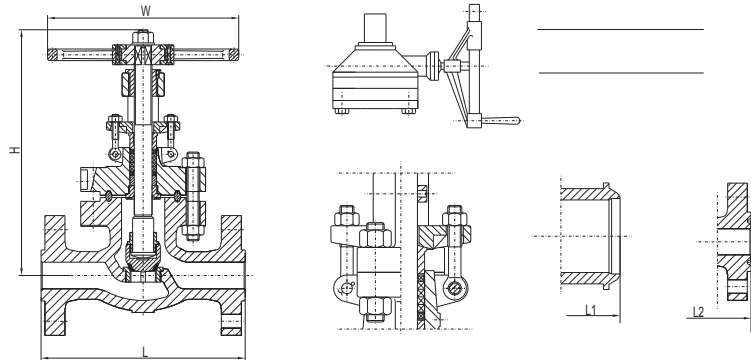


NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"
DN	mm	50	65	80	100	150	200	250	300	350	400
L-L1 (RF-BW)	in	14.5	16.5	15	18	24	29	33	38	40.5	44.5
	mm	368	419	381	457	610	737	838	965	1029	1130
L2(RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.1	38.1	40.9	44.9
	mm	371	422	384	460	613	740	841	968	1038	1140
W	in	14	14	18	20	24	24	24	32	32	32
	mm	350	350	450	500	610	610	610	810	810	810
H	in	23.2	26	27.5	31.3	43.6	46.6	58.2	69.1	76.1	87
	mm	590	660	699	795	1108	1184	1479	1755	1934	2210
WT(RF)	Kg	95	125	115	208	550	970	1254	1448	*	*
WT(BW)	Kg	75	100	90	185	474	597	1108	1245	*	*

BS 1873 Design  
 Bolted Bonnet, OS&Y  
 Screwed-in Back seat, Rising Stem  
 Non-rising Handwheel  
 Flexible Wedge

Figure NO.:

GL15R,WCB/NO.5  
 GL15J,WCB/NO.5  
 GL15B,WCB/NO.5

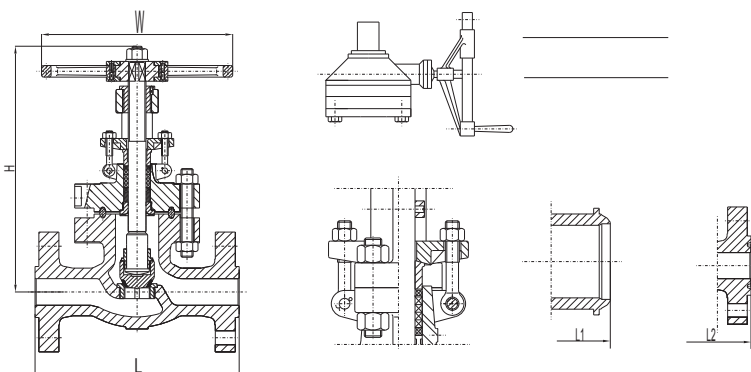


NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"
DN	mm	50	65	80	100	150	200	250	300
L-L1 (RF-BW)	in	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5
	mm	368	419	470	546	705	832	991	1130
L2(RTJ)	in	14.62	16.62	18.62	21.62	28	33.13	39.4	45.1
	mm	371	422	473	549	711	842	1000	1146
W	in	14	14	20	22	24	24	32	32
	mm	350	350	500	560	610	610	810	810
H	in	21.7	22.5	22.9	31.3	50.3	77.2	96.5	114.3
	mm	550	572	582	795	1278	1960	2450	2904
WT(RF)	Kg	85	138	185	302	878	1346	*	*
WT(BW)	Kg	75	112	156	260	783	1194	*	*

BS 1873 Design  
 Bolted Bonnet, OS&Y  
 Screwed-in Back seat, Rising Stem  
 Non-rising Handwheel  
 Flexible Wedge

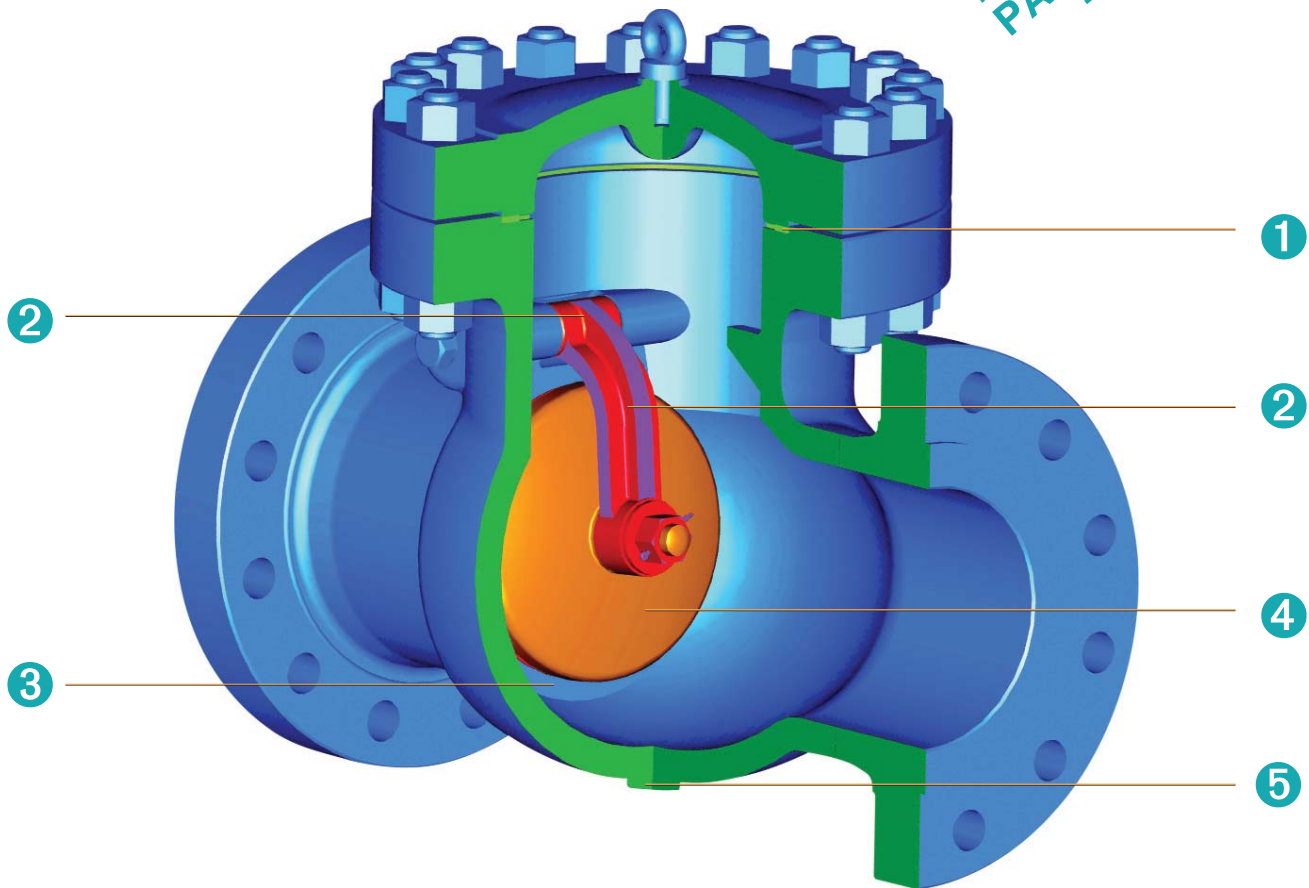
Figure NO.:

GL25R,WCB/NO.5  
 GL25J,WCB/NO.5  
 GL25B,WCB/NO.5



NPS	in	2"	2.5"	3"	4"	6"	8"	10"
DN	mm	50	65	80	100	150	200	250
L-L1 (RF-BW)	in	17.75	20	22.75	26.5	36	40.25	50
	mm	451	508	578	673	914	1022	1270
L2(RTJ)	in	17.88	20.25	23	26.88	36.5	40.88	50.9
	mm	454	514	584	683	927	1038	1292
W	in	16	20	22	24	24	24	32
	mm	400	500	560	610	610	610	810
H	in	28.3	31.5	34.8	49.6	75	97	122.4
	mm	720	800	885	1260	1905	2465	3108
WT(RF)	Kg	140	264	342	540	1535	*	*
WT(BW)	Kg	114	214	285	440	1400	*	*

LOW EMISSION  
FEATURE  
PLEASE REFER  
PAGE:42



- ① Corrugated steel gasket for 150 lb valves, spiral wound gasket for 300 lb & 600 lb valves, and ring joints for valves 900 lbs & above. Ring joints are also available for 600 lb valves upon customer request.
- ② A mounted hinge along with a hinge pin permit full movement of the disc.
- ③ Standard renewable seal welded seat with stellite 6 with optional screwed-in seat.
- ④ Standard swing disc type; used in horizontal position for liquid service applications.
- ⑤ Normal provision for a drain tapping at location G. Additional hoses are available upon customer request.

Part	Standard	Low Temperature Service	Stainless Steel	High Temperature Service	Sour Service
BODY	ASTM A216-WCB	ASTM A352-LCC	ASTM 351-CF8M	ASTM A217-WC9	ASTM A216-WCB
COVER	ASTM A216-WCB	ASTM A352-LCC	ASTM 351-CF8M	ASTM A217-WC9	ASTM A216-WCB
DISC	ASTM 217-CA15(4" & Smaller) & ASTM A216-WCB/ER410	ASTM A352-LCC/316 OVERLAY	ASTM 351-CF8M	ASTM A217-WC9/STL. OVERLAY	ASTM 217-CA15(4" & Smaller) & ASTM A216-WCB /ER410-NC
HINGE	ASTM A216-WCB	ASTM A352-LCC	ASTM 351-CF8M	ASTM A217-WC9	ASTM A216-WCB
SEAT RING	ASTM A105/STL. OVERLAY	ASTM A182-F316/STL. OVERLAY	ASTM A182-F316/STL. OVERLAY	ASTM A182-F22/STL. OVERLAY	ASTM A105/STL. OVERLAY
HINGE PIN	ASTM A276-410	ASTM A276-316	ASTM A276-316	ASTM A276-410	ASTM A276-410-NC
PLUG FOR HINGE PIN	CARBON STEEL	ASTM A276-316	ASTM A276-316	STAINLESS STEEL	CARBON STEEL
WASHER	STAINLESS STEEL	ASTM A276-316	ASTM A276-316	STAINLESS STEEL	STAINLESS STEEL
DISC NUT	ASTM A276-420	ASTM A276-316	ASTM A276-316	ASTM A276-420	STAINLESS STEEL
DISC WASHER	ASTM A276-420	ASTM A276-316	ASTM A276-316	ASTM A276-420	STAINLESS STEEL
DISC SPLIT PIN	ASTM A276-420	ASTM A276-316	ASTM A276-316	ASTM A276-420	STAINLESS STEEL
BONNET RING JOINT	SOFT STEEL	ASTM A276-316	ASTM A276-316	ASTM A276-304	SOFT STEEL
BONNET STUD	ASTM A193-B7	ASTM A320-L7M	ASTM A193-B8	ASTM A193-B16	ASTM A193-B7M
BONNET NUT	ASTM A194-2H	ASTM A194-7M	ASTM A194-8	ASTM A194-4	ASTM A194-2HM
RIVET	CARBON STEEL	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL
NAME PLATE	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
HOOK SCREW	CARBON STEEL	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL

Note: The materials above are general. When ordering, please contact a Newway sales or technical team to confirm the details.

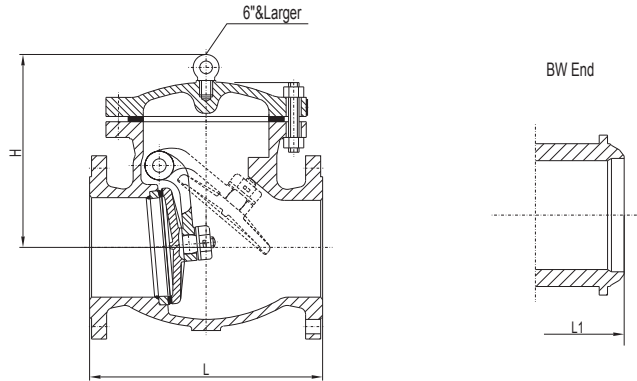


### Class 150 Cast Carbon Steel Check Valve

BS 1868 Design  
Bolted Cover  
Swing Type Disc

Figure NO.:

S1R,WCB/NO.8  
S1B,WCB/NO.8



NPS	in	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L-L1 (RF-BW)	in	8	8.5	9.5	11.5	13	14	19.5	24.5	27.5	31	34	38.5	38.5	51	51	57	60	68	77	85	89	101
	mm	203	216	241	292	330	356	495	622	699	787	864	978	978	1295	1295	1448	1524	1727	1956	2159	2261	2566
H	in	5.9	6.6	6.7	8	9.1	11.7	13.8	15.3	17.2	18.8	20.7	22.9	24.7	34.6	35.8	36.8	38.2	49.2	54.2	55.5	57.8	64.6
	mm	151	168	171	204	230	297	352	390	438	477	525	582	627	880	910	935	970	1250	1377	1410	1468	1642
WT(RF)	Kg	15	20	28	42	57	79	125	252	374	480	642	784	934	1336	1526	1936	2020	2430	3738	*	5910	*
WT(BW)	Kg	10	15.5	21.2	32	45	64	103	189	327	423	541	696	829	1276	1250	1680	1945	2062	3256	*	5246	*

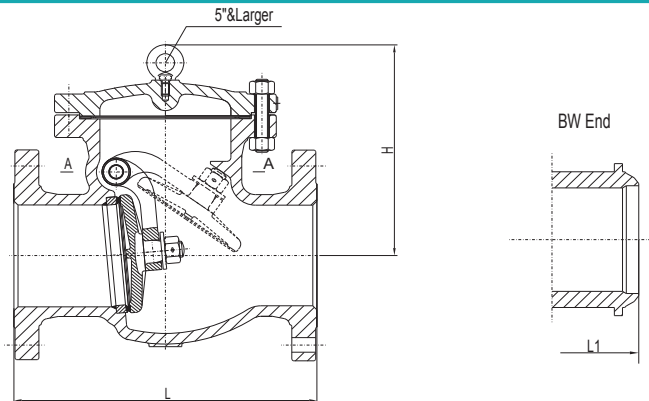
\*(1) For sizes larger than 48", please contact a Neway sales or engineering team for details.

### Class 300 Cast Carbon Steel Check Valve

BS 1868 Design  
Bolted Cover  
Swing Type Disc

Figure NO.:

S3R,WCB/NO.8  
S3B,WCB/NO.8



NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L-L1 (RF-BW)	in	10.5	11.5	12.5	14	15.75	17.5	21	24.5	28	33	34	38.5	40	53	53	59	62.75	68	82	96	103	124
	mm	267	292	318	356	400	445	533	622	711	838	864	978	1016	1346	1346	1499	1594	1727	2083	2438	2617	3151
H	in	6.9	7.3	8.5	10.2	12	12.5	15	17.1	20.1	22.1	23.5	26.6	28.7	33.9	36.6	45.8	50	50	59.4	68.9	73.6	87.8
	mm	176	185	216	259	304	317	380	434	511	561	596	675	730	860	930	1163	1270	1270	1510	1750	1870	2230
WT(RF)	Kg	20	26	40	65	82	118	223	310	494	702	882	1094	1382	2162	2375	2955	3680	*	6280	*	*	*
WT(BW)	Kg	14	23	30	48	60	92	170	245	360	520	565	850	1004	1842	1995	2495	2780	*	5514	*	*	*

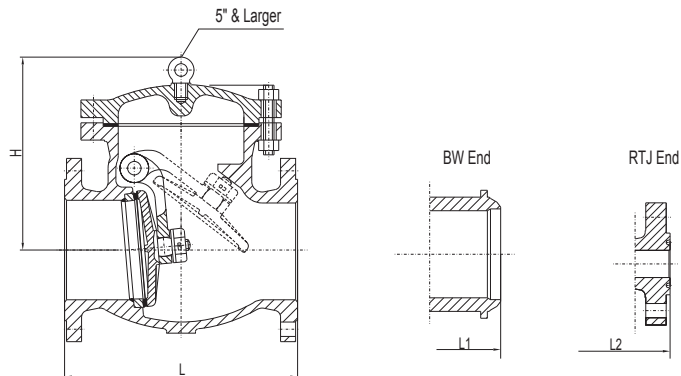
\*(1) For sizes larger than 48", please contact a Neway sales or engineering team for details.

### Class 600 Cast Carbon Steel Check Valve

BS 1868 Design  
Bolted Cover  
Swing Type Disc

Figure NO.:

S6R,WCB/NO.8  
S6B,WCB/NO.8



NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L - L1 (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39	43	47	55	57	63	65	70	82	90	96	100
	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1448	1600	1651	1778	2083	2286	2438	2540
L2(RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.5	63.5	65.5	70.6	82.6			
	mm	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	1461	1613	1664	1794	2099			
H	in	7.2	8.3	9.1	10.4	11.6	14.7	16.8	20.4	22.4	24.5	26.8	29.6	38.4	43.7	43.7	46.9	52.1	53.8	60.7	67	70.9	85.5
	mm	184	210	232	263	295	374	426	517	569	622	680	752	975	1111	1110	1192	1324	1367	1542	1702	1800	2171
WT(RF)	Kg	30	43	55	94	155	228	396	530	730	1000	1430	1510	2258	3440	4255	5075	6130	*	9905	*	*	*
WT(BW)	Kg	23	35	43	85	120	160	233	455	616	840	1030	1365	1888	2950	3619	4360	5338	*	8895	*	*	*

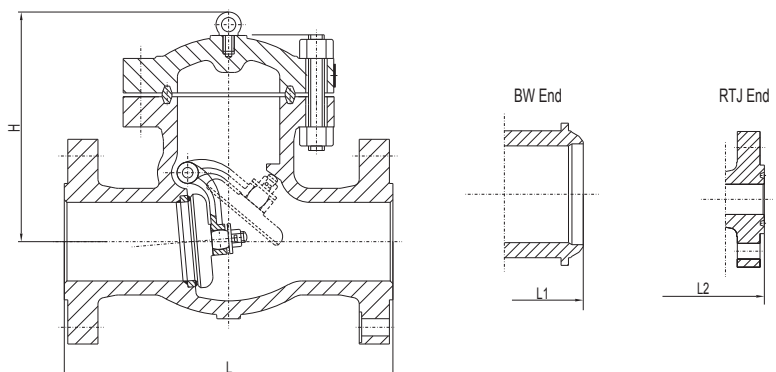
\*(1) For sizes larger than 48", please contact a Newway sales or engineering team for details.

### Class 900 Cast Carbon Steel Check Valve

BS 1868 Design  
Bolted Cover  
Swing Type Disc

Figure NO.:

S9R,WCB/NO.8  
S9B,WCB/NO.8  
S9J,WCB/NO.8



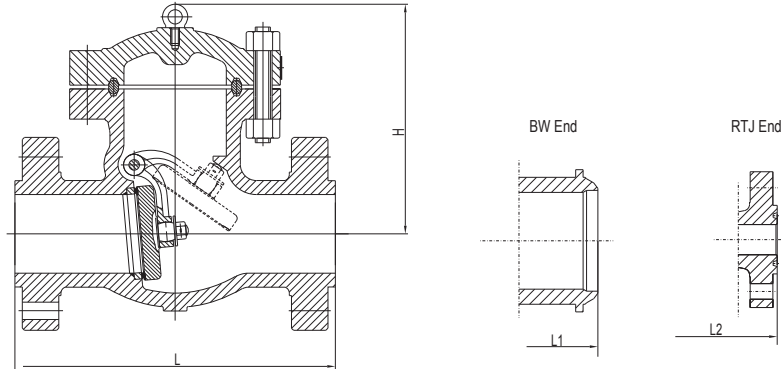
NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900
L - L1 (RF-BW)	in	14.5	16.5	15	18	24	29	33	38	40.5	44.5	48	52	61	65	69	73	77	84.9
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	1651	1753	1854	1956	2156
L2(RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.5	52.5	61.7	65.9	69.9	73.9		
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1333	1568	1673	1775	1876		
H	in	11.7	11.8	11.8	12.9	17.4	19.8	26.1	30.5	30.8	33	33	36.7	36.4	44.1	54	59.9	65.8	71.7
	mm	296	300	300	327	441	502	664	775	782	838	839	932	924	1121	1372	1521	1671	1821
WT(RF)	Kg	70	100	96	150	286	542	815	1125	1310	1845	2320	3500	5200	6600	*	*	*	*
WT(BW)	Kg	60	86	80	115	210	404	600	922	1084	1528	1945	3035	4650	5630	*	*	*	*

### Class 1500 Cast Carbon Steel Check Valve

BS 1868 Design  
Bolted Cover  
Swing Type Disc

Figure NO.:

S15R,WCB/NO.8  
S15B,WCB/NO.8  
S15J,WCB/NO.8



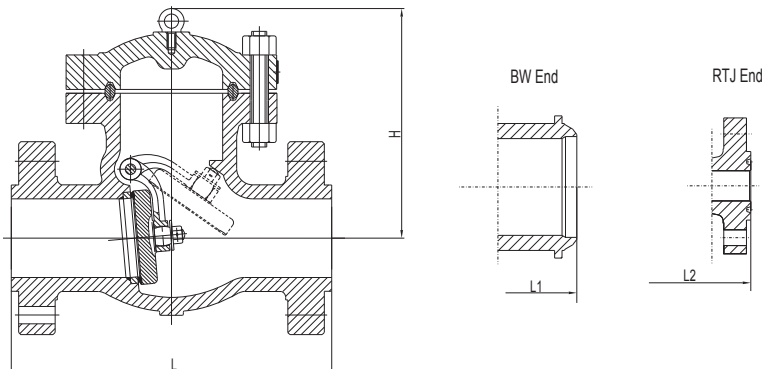
NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750
L -L1 (RF-BW)	in	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5	49.5	54.5	60.5	65.5	76.5	82	87.5	83
	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943	2083	2222.5	2362
L2(RTJ)	in	14.62	16.62	18.62	21.62	28	33.13	39.38	45.12	50.25	55.38	61.4	66.4	77.6			
	mm	371	422	473	549	711	842	1000	1146	1276	1407	1559	1686	1972			
H	in	11.7	11.8	13.4	16.2	20.1	26.8	29.8	33.7	37.4	40.1	45.2	50.6	60.6	70.6	80.7	90.7
	mm	296	300	341	412	511	680	756	857	950	1020	1147	1284	1539	1794	2049	2304
WT(RF)	Kg	70	100	135	216	500	818	1560	2015	2780	3880	5110	6200	*	*	*	*
WT(BW)	Kg	56	68	75	150	406	670	1245	1639	2150	3140	4220	5430	*	*	*	*

### Class 2500 Cast Carbon Steel Check Valve

BS 1868 Design  
Bolted Cover  
Swing Type Disc

Figure NO.:

S25R,WCB/NO.8  
S25B,WCB/NO.8  
S25J,WCB/NO.8



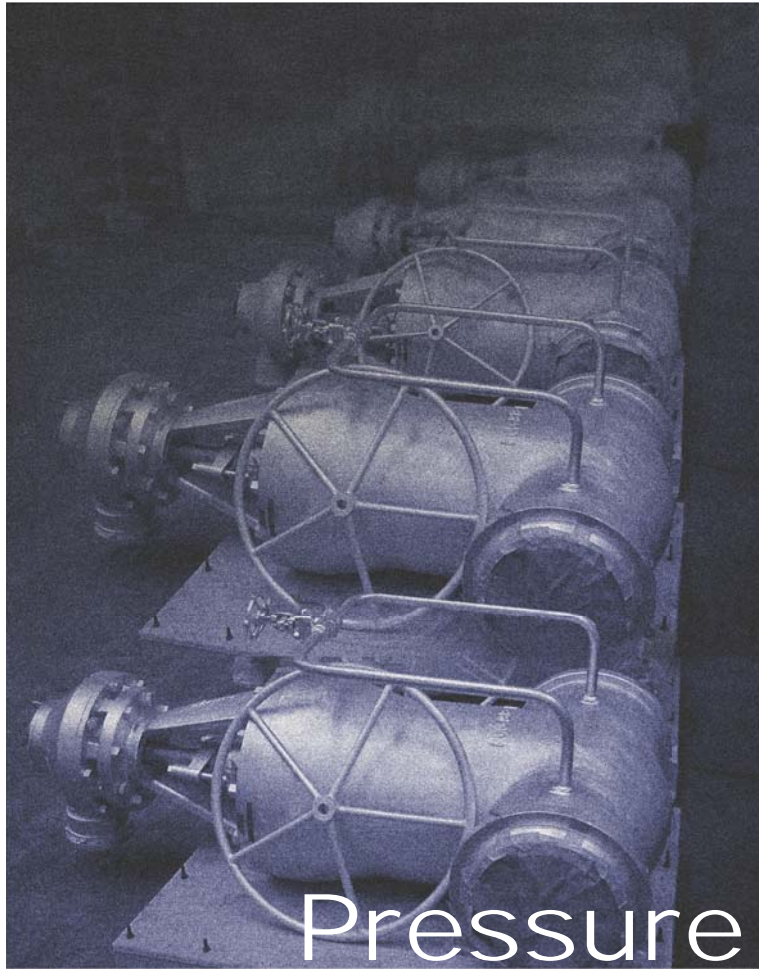
NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L -L1 (RF-BW)	in	17.75	20	22.75	26.5	36	40.25	50	56	62	68	73.9	79.9	91.9
	mm	451	508	578	673	914	1022	1270	1422	1575	1727	1877	2029	2334
L2(RTJ)	in	17.87	20.25	23	26.88	36.5	40.87	50.88	56.88					
	mm	454	514	584	683	927	1038	1292	1445					
H	in	16.4	16.5	17.4	18.9	20.1	28	33.5	39.4	47.2	51.2	55.1	59.1	63
	mm	416	419	441	479	511	711	851	1000	1200	1300	1400	1500	1600
WT(RF)	Kg	145	210	224	365	806	1525	2295	*	*	*	*	*	*
WT(BW)	Kg	110	160	170	330	665	1216	1697	*	*	*	*	*	*



Neway valves are mainly produced in two specialized plants. One produces gate, globe, and check valves with capacity of 22000 pieces/month, and the other produces butterfly and ball valves with 12000 pieces/month. Both plants produce valves ranging in size between 1/2" ~ 65" with pressure ratings between ANSI Class 150~2500.

Before painting, all Neway valves are pressure tested with zero leakage acceptance criteria in accordance with API 598 or BS 6755. Neway can also conduct special tests upon customer request, including high pressure gas (up to 17MPa), cryogenic, temperature (high & low), fire safe, vacuum, and low emission tests.





# Pressure Seal Valve

A stronger and tighter sealing valve with less weight and bulk. It requires minimum maintenance, and is specifically designed for high temperature and pressure applications encountered in nuclear and fossil fuel power plants.

## Cast Alloy Steel A217 Grade C12A

### Neway has developed Gate, Glove & Check valves for high pressure and temperature applications in power plants

In order to meet the needs of high pressure and temperature applications, Neway has successfully developed cast alloy steel A217 Gr. C12A. This alloy exhibits excellent high-temperature properties due to the formation of a particular microstructure containing submicroscopic carbides. The alloy is much more resistant to thermal fatigue than the austenitic stainless steel because of its lower thermal expansion rating and higher thermal conductivity. Table 1 shows the allowable stresses (MPa) for several ASTM materials widely used in high temperature industries. The chemical composition of C12A is shown in table 2 below.

Table 1

Unit: Mpa

Temperature		Castings			Forgings		
°C	°F	WC9	C12	C12A	F22	F9	F91
38	100	138	177.2	146.9	147.6	167.5	167.5
260	500	133	169.6	133	141.3	160.7	166.2
343	650	131.7	164.8	126.9	139.3	155.8	161.3
482	900	109	113	111	108.9	113	131.7
538	1050	35.2	34.5	78.6	35.2	34.5	96.5
593	1100	22	22.8	60.7	22	22.8	71

Table 1: ASME code section II allowable stresses

Note: Alloy C12A or F91 provide much higher allowable stresses in temperatures ranging from 482~593 °C (900-1100°F).

Table 2

Grade	Basic Element											
	C	Si	Mn	S	P	Cr	V	N	Nb	Mo	Ni	Al
ASTM A217 C12A	0.08-0.12	0.20-0.50	0.30-0.60	≤0.01	≤0.03	8.00	9.50	0.18-0.25	0.06-0.10	0.85-1.05	≤0.40	≤0.04

A number of metallurgical processes must be properly executed to create the special microstructure required to obtain these high temperature properties. They include deoxidation, heat-treatment, proper welding, and post welding

heat treatment (PWHT). Only then does the microstructure form. Figures 1, 2 & 3 below show the formation of the microstructures during the separate steps of the casting process.



Figure 1: Acceptable microstructure after casting (100X)



Figure 2: Acceptable microstructure after welding (100X)

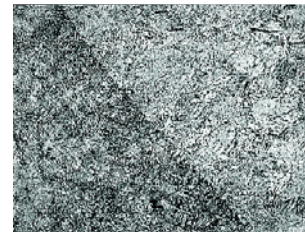


Figure 3: Acceptable microstructure in the heat affected zone (100X)

## 1. Deoxidization

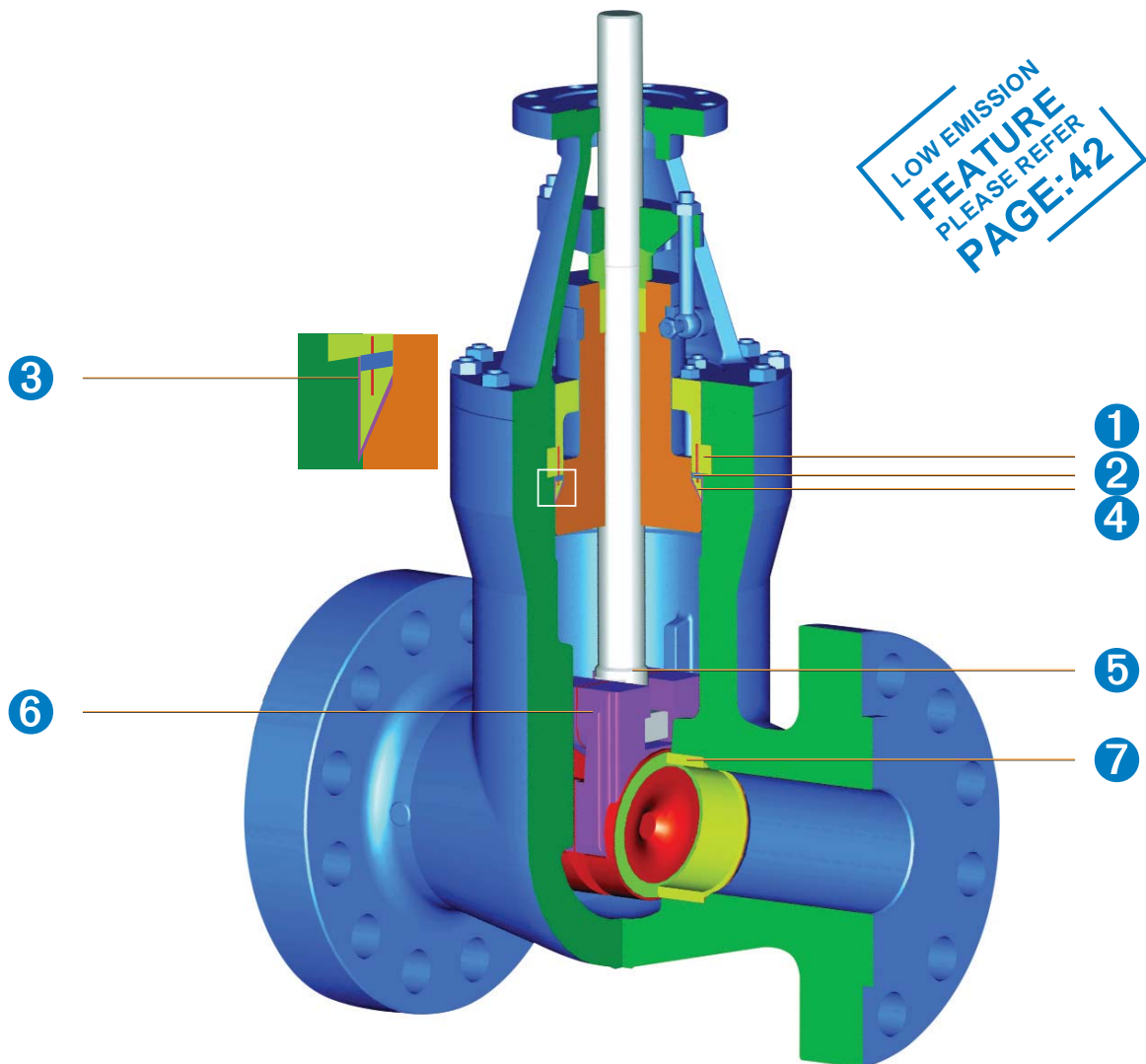
Small quantities of deoxidizers, materials with a high affinity for oxygen, are added into the melted metal to remove dissolved oxygen prior to pouring the castings. They combine with the oxygen to form solid oxygen inclusion particles. The most common deoxidizers used are manganese, silicon, and aluminum. This is a critical process to ensure that the acceptable microstructure is obtained (see Fig 1) in order to achieve high temperature creep strength.

## 2. Heat treatment

We perform strict heat treatment procedures. Proper temperature control during the heating and cooling periods is critical to the formation of the microstructures.

## 3. Welding & Post-weld heat treatment

We use special welding & PWHT procedures to achieve the proper creep resistance and toughness for the high chrome alloy. Particular attention is given to PWHT. All processes are controlled precisely to allow the formation of martensite in the weld and the heat affected zone (HAZ). Figures 2 & 3 show the acceptable microstructure in the weld area and the HAZ.



- ① Segmented thrust rings absorb the thrust applied by the internal pressure
- ② Thrust rings provide surface bearing and prevent deformation of the gaskets
- ③ Stainless steel inlay to ensure soundness and corrosion resistance in the critical body sealing zone for carbon and alloy steel valves
- ④ Soft steel gasket seal provides a large contact area for perfect sealing
- ⑤ Anti blow-out stem design with collar
- ⑥ Flexible wedge to compensate for seat face distortion and body deformation due to pipe stress
- ⑦ Seat ring with stellite 6 overlay is standard design



Part	STANDARD	STAINLESS STEEL	HIGH TEMPERATURE SERVICE		
BODY	ASTM A216-WCB	ASTM A351-CF8M	ASTM A217-WC6	ASTM A217-WC9	ASTM A217-C12A
BONNET	ASTM A105	ASTM A182-F316	ASTM A182-F11	ASTM A182-F22	ASTM A217-C12A
WEDGE	ASTM A216-WCB/ ER410 & ASTM A217-CA15	ASTM A351-CF8M/ STL. OVERLAY	ASTM A217-WC6/ ER410 & ASTM A217- CA15	ASTM A217-WC9/ ER410 & ASTM A217- CA15	ASTM A217-C12A/ ER410
STEM NUT	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2
GLAND FLANGE	ASTM A216-WCB	ASTM A351-CF8	ASTM A216-WCB	ASTM A216-WCB	ASTM A216-WCB
HANDWHEEL	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON
SEAT RING	ASTM A105/STL. OVERLAY	ASTM A182-F316/ STL. OVERLAY	ASTM A182-F11/STL. OVERLAY	ASTM A182-F22/STL. OVERLAY	ASTM A182-F6a/STL. OVERLAY
STEM	ASTM A182-F6a	ASTM A182-F316	ASTM A182-F6a	ASTM A182-F6a	ASTM A182-F6a
BONNET SEAL RING	ASTM A182-F304 (4" &Smaller GRAPHITE)	ASTM A182-F316L (4" &Smaller GRAPHITE)	ASTM A182-F304 (4" &Smaller GRAPHITE)	ASTM A182-F304 (4" &Smaller GRAPHITE)	ASTM A182-F304 (4" &Smaller GRAPHITE)
GLAND	ASTM A276-420	ASTM A276-316	ASTM A276-420	ASTM A276-420	ASTM A276-420
RETAINING NUT FOR STEM NUT	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL
YOKE	ASTM A216-WCB	ASTM A351-CF8	ASTM A216-WCB & ASTM A217-WC6	ASTM A216-WCB & ASTM A217-WC6	ASTM A216-WCB
PACKING	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE
BONNET SEPARATE RING	CARBON STEEL	ASTM A276-420	ANSI 4140	ANSI 4140	ANSI 4140
CLIPPING RING	ASTM A216-WCB	ASTM A351-CF8	ASTM A217-WC6	ASTM A217-WC6	ASTM A276-420
HANDWHEEL NUT	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL
BONNET STUD	ASTM A193-B7	ASTM A193-B8	ASTM A193-B16	ASTM A193-B16	ASTM A193-B16
BONNET NUT	ASTM A194-2H	ASTM A194-8	ASTM A194-4	ASTM A194-4	ASTM A194-4
YOKE STUD	ASTM A193-B7	ASTM A193-B8	ASTM A193-B16	ASTM A193-B16	ASTM A193-B16
YOKE NUT	ASTM A194-2H	ASTM A194-8	ASTM A194-4	ASTM A194-4	ASTM A194-4
GLAND EYE BOLT	ASTM A193-B7	ASTM A193-B8	ASTM A193-B16	ASTM A193-B16	ASTM A193-B16
GLAND NUT	ASTM A194-2H	ASTM A194-8	ASTM A194-4	ASTM A194-4	ASTM A194-4
BONNET THRUST RING	CARBON STEEL	ASTM A276-420	AISI 4140	AISI 4140	ANSI 4140
SUPPORTING COVER	ASTM A105	ASTM A276-420	AISI 4140	AISI 4140	ANSI 4140
CLIPPING RING BOLT	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
RIVET	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL	STAINLESS STEEL
NAME PLATE	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

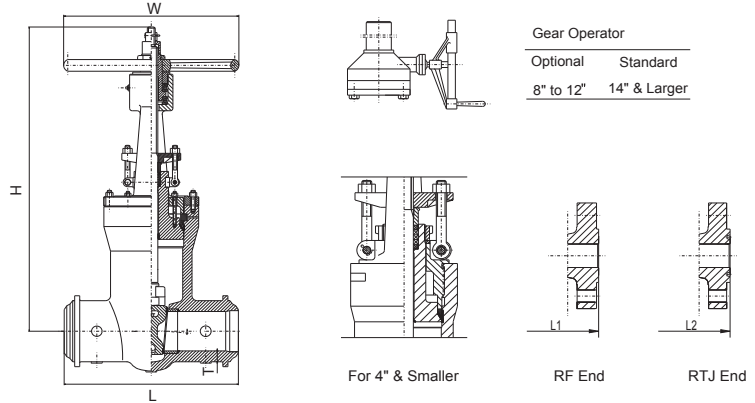
Note: The materials above are general. When ordering, please contact a Neway sales or technical team to confirm the details.

## Class 600 Cast Carbon Steel Gate Valve

ASME B16.34,  
Pressure Seal, OS&Y, Rising Stem  
Non-rising Handwheel  
Flexible Wedge

Figure NO.:

G6R-PS,WCB/NO.5  
G6B-PS,WCB/NO.5  
G6J-PS,WCB/NO.5



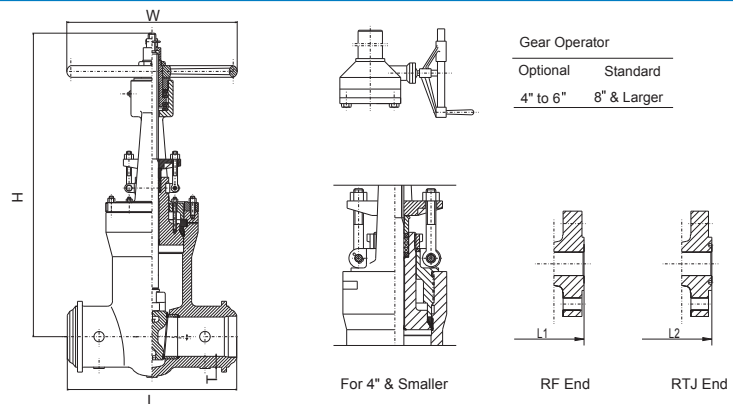
NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750
L - L1 (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39	43	47	55	57	61	65
	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651
L2(RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12	43.13	47.25	55.38	57.5	61.5	65.5
	mm	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	1461	1562	1664
W	in	7.9	9.8	9.8	13.8	15.7	17.7	19.7	23.6	26.8	24	24	24	24	32	32	40	40
	mm	200	250	250	350	400	450	500	600	610	610	610	610	610	800	800	1000	1000
H	in	23.2	24.8	26.3	36	39.4	42.5	49.9	59.5	70.5	73.1	85.1	88.63	97.25	118.13	128	137.9	149
	mm	590	629	667	914	1000	1080	1267	1511	1791	1857	2162	2251	2470	3000	3251	3502	3785
WT(RF)	Kg	47	55	60	110	208	250	412	730	960	1100	1500	*	*	*	*	*	*
WT(BW)	Kg	24	42	48	84	150	210	336	605	818	980	1300	*	*	*	*	*	*

## Class 900 Cast Carbon Steel Gate Valve

ASME B16.34,  
Pressure Seal, OS&Y, Rising Stem  
Non-rising Handwheel  
Flexible Wedge

Figure NO.:

G9R-PS,WCB/NO.5  
G9B-PS,WCB/NO.5  
G9J-PS,WCB/NO.5



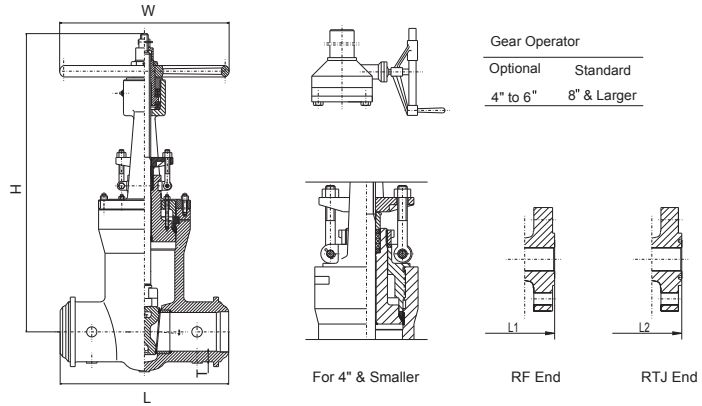
NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750
L(BW)	in	8.5	10	12	14	20	26	31	36	39	43	48	52	61	64.5	68	71.5
	mm	216	254	305	356	508	660	787	914	991	1092	1219	1321	1549	1638	1727	1816
L1(RF)	in	14.5	16.5	15	18	24	29	33	38	40.5	44.5	48	52	61			
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549			
L2(RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.5	52.5	61.75			
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1333	1568			
W	in	10	10	12	14	20	24	24	24	24	24	30.5	30.5	40	40	40	48
	mm	250	250	300	350	500	600	610	610	610	610	800	800	1000	1000	1000	1200
H	in	23	30	30	34	40	50	61	70	80	89	97.25	108.3	127.6	138.3	149	159.5
	mm	594	753	756	864	1013	1276	1543	1781	2026	2261	2470	2750	3242	3512	3785	4051
WT(RF)	Kg	60	99	95	142	345	640	1020	1490	1785	2750	3380	4884	6500			
WT(BW)	Kg	40	67	70	106	268	520	850	1230	1880	2485	3000	3860	5665	*	*	*

### Class 1500 Cast Carbon Steel Gate Valve

ASME B16.34,  
Pressure Seal, OS&Y, Rising Stem  
Non-rising Handwheel  
Flexible Wedge

Figure NO.:

G15R-PS,WCB/NO.5  
G15B-PS,WCB/NO.5  
G15J-PS,WCB/NO.5



NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L(BW)	in	8.5	10	12	16	22	28	34	39	42	47	53	58	66
	mm	216	254	305	406	559	711	864	991	1067	1194	1346	1473	1676
L1(RF)	in	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5	49.5	54.5	60.5	65.5	76.5
	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943
L2(RTJ)	in	14.62	16.62	18.62	21.62	28	33.13	39.38	45.12	50.25	55.38	61.38	66.38	77.63
	mm	371	422	473	549	711	842	1000	1146	1276	1407	1559	1686	1972
W	in	10	12	14	20	24	18	18	24	24	24	40	48	36
	mm	250	300	350	500	600	460	460	610	610	610	1000	1200	900
H	in	23	30	30	34	39	53	58.3	73.6	87	92	111.2	122.2	148.3
	mm	294	753	756	864	994	1349	1480	1870	2216	2331	2823	3102	3766
WT(RF)	Kg	65	99	135	205	475	865	1530	2356	2696	4050	5184	6586	*
WT(BW)	Kg	38	80	90	150	400	705	1160	1894	2360	3750	4300	5885	*

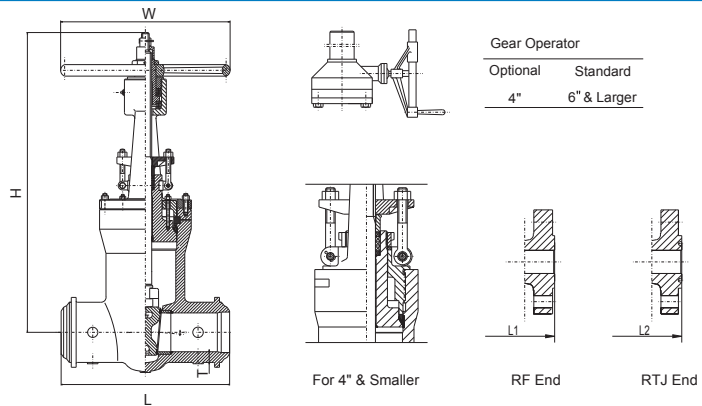
\*(1) For sizes larger than 48", please contact a Neway sales or engineering team for details.

### Class 2500 Cast Carbon Steel Gate Valve

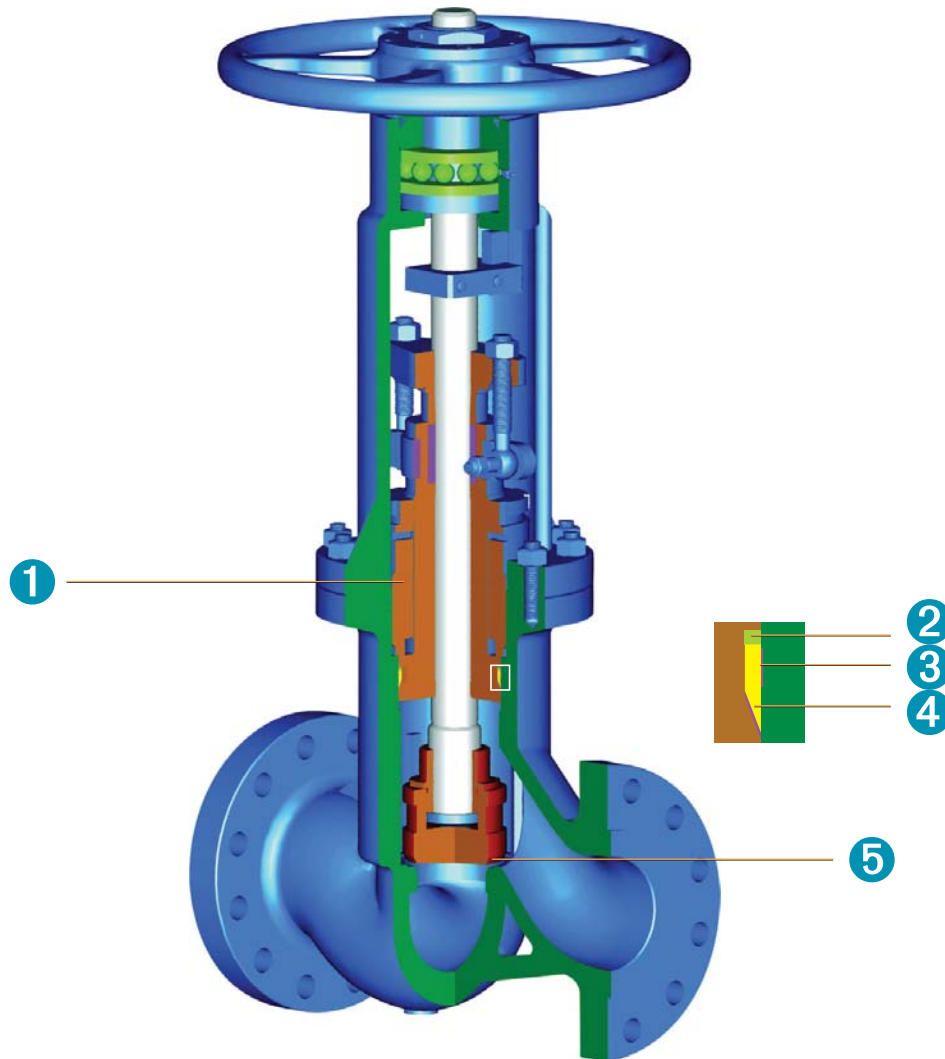
ASME B16.34,  
Pressure Seal, OS&Y, Rising Stem  
Non-rising Handwheel  
Flexible Wedge

Figure NO.:

G25R-PS,WCB/NO.5  
G25B-PS,WCB/NO.5  
G25J-PS,WCB/NO.5



NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L(BW)	in	11	13	14.5	18	24	30	36	41	44	49	55	61	68
	mm	279	330	368	457	610	762	914	1041	1118	1245	1397	1549	1727
L1(RF)	in	17.75	20	22.75	26.5	36	40.25	60	56					
	mm	451	508	578	673	914	1022	1270	1422					
L2(RTJ)	in	17.88	20.25	23	26.88	36.5	40.88	50.88	56.88					
	mm	454	514	584	683	927	1038	1292	1445					
W	in	14	18	18	20	24	24	24	24	24	24	31.5	31.5	40
	mm	350	450	450	500	610	610	610	610	610	610	800	800	1000
H	in	23	30	30	34	44	55	69	74	94.13	97.25	116.2	128.8	153.7
	mm	594	753	756	870	1129	1389	1748	1873	2291	2470	2950	3270	3902
WT(RF)	Kg	75	98	120	220	631	1046	2205	3495					
WT(BW)	Kg	70	80	85	295	492	850	1815	2400	3360	4310	*	*	*



- ① Thrust ring nut absorbs the thrust applied by the internal pressure
- ② Thrust ring provides surface bearing and prevents deformation of the gaskets
- ③ Stainless steel inlay to ensure soundness and corrosion resistance in the critical body sealing zone for carbon and alloy steel valves
- ④ Soft steel gasket seal provides a large contact area for perfect sealing
- ⑤ Seat ring with stellite 6 overlay is standard design

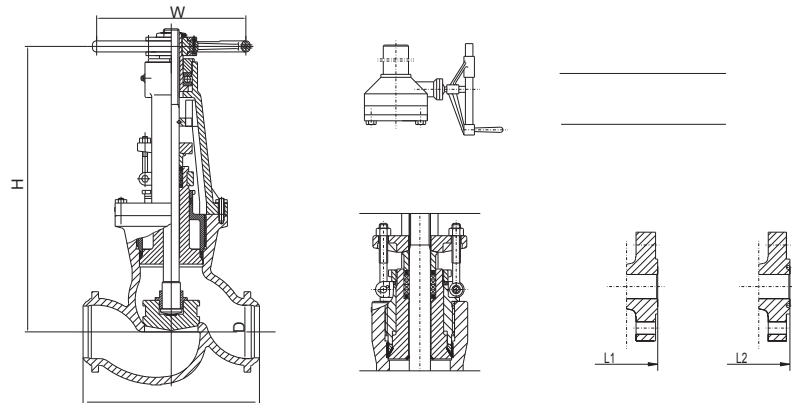
Part	STANDARD	STAINLESS STEEL	HIGH TEMPERATURE SERVICE		
			ASTM A217-WC6/STL. OVERLAY	ASTM A217-WC9/STL. OVERLAY	ASTM A216-C12A/STL. OVERLAY
BODY	ASTM A216-WCB/STL. OVERLAY	ASTM A351-CF8M/STL. OVERLAY	ASTM A217-WC6/STL. OVERLAY	ASTM A217-WC9/STL. OVERLAY	ASTM A216-C12A/STL. OVERLAY
BONNET	ASTM A105	ASTM A182-F316	ASTM A182-F11	ASTM A182-F22	ASTM A217-C12A
DISC	ASTM A182-F6a & ASTM A105/ER410	ASTM A182-F316	ASTM A182-F6a & ASTM A182-F11/ER410	ASTM A182-F6a & ASTM A182-F22/ER410	ASTM A182-F6a
STEM NUT	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2	ASTM A439 D-2
GLAND FLANGE	ASTM A216-WCB	ASTM A351-CF8	ASTM A216-WCB	ASTM A216-WCB	ASTM A216-WCB
HANDWHEEL	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON
BONNET SEAL RING	ASTM A182-F304(4" & Smaller GRAPHITE)	ASTM A182-F316L(4" & Smaller GRAPHITE)	ASTM A182-F304(4" & Smaller GRAPHITE)	ASTM A182-F304(4" & Smaller GRAPHITE)	ASTM A182-F304(4" & Smaller GRAPHITE)
STEM	ASTM A182-F6a	ASTM A182-F316	ASTM A182-F6a	ASTM A182-F6a	ASTM A182-F6a
RETAINING NUT FOR STEM NUT	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL
GLAND	ASTM A276-420	ASTM A182-F316	ASTM A276-420	ASTM A276-420	ASTM A276-420
HANDWHEEL NUT	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL
DISC NUT	ASTM A276-420	ASTM A182-F316	ASTM A276-420	ASTM A276-420	ASTM A276-420
STEM WASHER	ASTM A276-430	N/A	ASTM A276-430	ASTM A276-430	ASTM A276-430
THRUST RING	CARBON STEEL	ASTM A276-420	AISI 4140	AISI 4140	AISI 4140
PACKING	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE
CLIPPING RING	ASTM A216-WCB	ASTM A351-CF8	ASTM A217-WC6	ASTM A217-WC6	ASTM A276-420
YOKE STUD	ASTM A193-B7	ASTM A193-B8	ASTM A193-B16	ASTM A193-B16	ASTM A193-B16
YOKE NUT	ASTM A194-2H	ASTM A194-8	ASTM A194-4	ASTM A194-4	ASTM A194-4
GLAND EYE BOLT	ASTM A193-B7	ASTM A193-B8	ASTM A193-B16	ASTM A193-B16	ASTM A193-B16
GLAND NUT	ASTM A194-2H	ASTM A194-8	ASTM A194-4	ASTM A194-4	ASTM A194-4
BONNET NUT 1	CARBON STEEL	ASTM A276-420	AISI 4140	AISI 4140	AISI 4140
CLIPPING RINGBOLT	CARBON STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
BONNET NUT 2	CARBON STEEL	ASTM A276-420	AISI 4140	AISI 4140	AISI 4140
ORIENTED BLOCK	CARBON STEEL	ASTM A276-420	CARBON STEEL	CARBON STEEL	CARBON STEEL
YOKE	ASTM A216-WCB	ASTM A351-CF8	ASTM A216-WCB & ASTM A217-WC6	ASTM A216-WCB & ASTM A217-WC6	ASTM A217-C12A
RIVET	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL	STAINLESS STEEL
NAME PLATE	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

Note: The materials above are general. When ordering, please contact a Neway sales or technical team to confirm the details.

ASME B16.34,  
Pressure Seal, OS&Y,  
Rising Stem and Handwheel,  
Swivel Disc

Figure NO.:

GL6R-PS,WCB/NO.5  
GL6B-PS,WCB/NO.5  
GL6J-PS,WCB/No.5

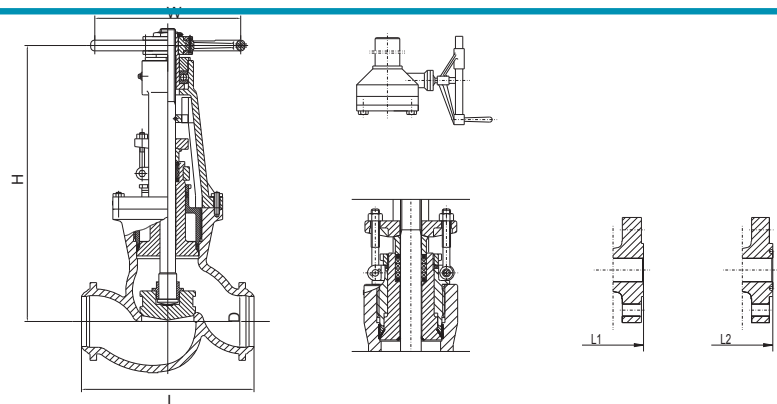


NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"
DN	mm	50	65	80	100	125	150	200	250	300	350	400
L-L1 (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39
	mm	292	330	356	432	508	559	660	787	838	889	991
L2(RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12
	mm	295	333	359	435	511	562	663	790	841	892	994
W	in	9.8	11.8	13.8	17.7	19.7	22	23.6	27.6	24	24	30
	mm	250	300	350	450	500	560	600	700	610	610	760
H	in	21.7	24.8	26.8	29.5	39.4	45.3	49.2	55.1	61	70.9	85
	mm	550	630	680	750	1000	1150	1250	1400	1550	1800	2160
WT(RF)	Kg	46	55	79	99	190	336	620	*	*	*	*
WT(BW)	Kg	28	42	46	76	150	320	540	*	*	*	*

ASME B16.34,  
Pressure Seal, OS&Y,  
Rising Stem and Handwheel,  
Swivel Disc

Figure NO.:

GL9R-PS,WCB/NO.5  
GL9B-PS,WCB/NO.5  
GL9J-PS,WCB/No.5

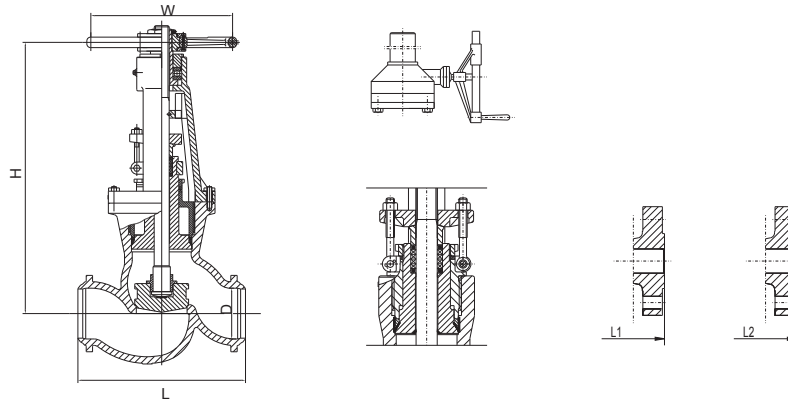


NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"
DN	mm	50	65	80	100	150	200	250	300	350	400
L-L1 (RF-BW)	in	14.5	16.5	15	18	24	29	33	38	40.5	44.5
	mm	368	419	381	457	610	737	838	965	1029	1130
L2(RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.13	38.13	40.88	44.88
	mm	371	422	384	460	613	740	841	968	1038	1140
W	in	14	14	18	20	24	24	24	40	40	48
	mm	350	350	450	500	610	610	610	1000	1000	1200
H	in	24.4	25.2	28.4	33.5	48.2	53.1	61	68.9	78.8	91
	mm	619	641	721	850	1225	1350	1550	1750	2000	2310
WT(RF)	Kg	96	110	120	165	330	934	1285	1747	2500	2633
WT(BW)	Kg	53	74	90	145	330	819	1120	1625	2300	2520

ASME B16.34,  
Pressure Seal, OS&Y,  
Rising Stem and Handwheel,  
Swivel Disc

Figure NO.:

GL15R-PS,WCB/NO.5  
GL15B-PS,WCB/NO.5  
GL15J-PS,WCB/No.5

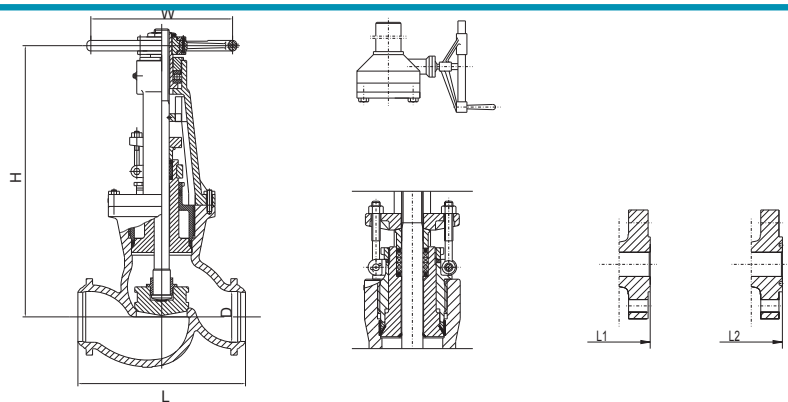


NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"
DN	mm	50	65	80	100	150	200	250	300	350
L -L1 (RF-BW)	in	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5	49.5
	mm	368	419	470	546	705	832	991	1130	1257
L2(RTJ)	in	14.62	16.62	18.62	21.62	28	33.13	39.38	45.13	50.25
	mm	371	422	473	549	711	842	1000	1146	1276
W	in	14	14	20	22	24	24	40	40	48
	mm	350	350	500	560	610	610	1000	1000	1200
H	in	24.4	25.2	32.9	33.7	48.4	70.9	78.8	91	106
	mm	619	641	835	857	1230	1800	2000	2311	2692
WT(RF)	Kg	84	116	184	303	825	1189	1936	3400	*
WT(BW)	Kg	54	97	152	285	680	1008	1624	2830	*

ASME B16.34,  
Pressure Seal, OS&Y,  
Rising Stem and Handwheel,  
Swivel Disc

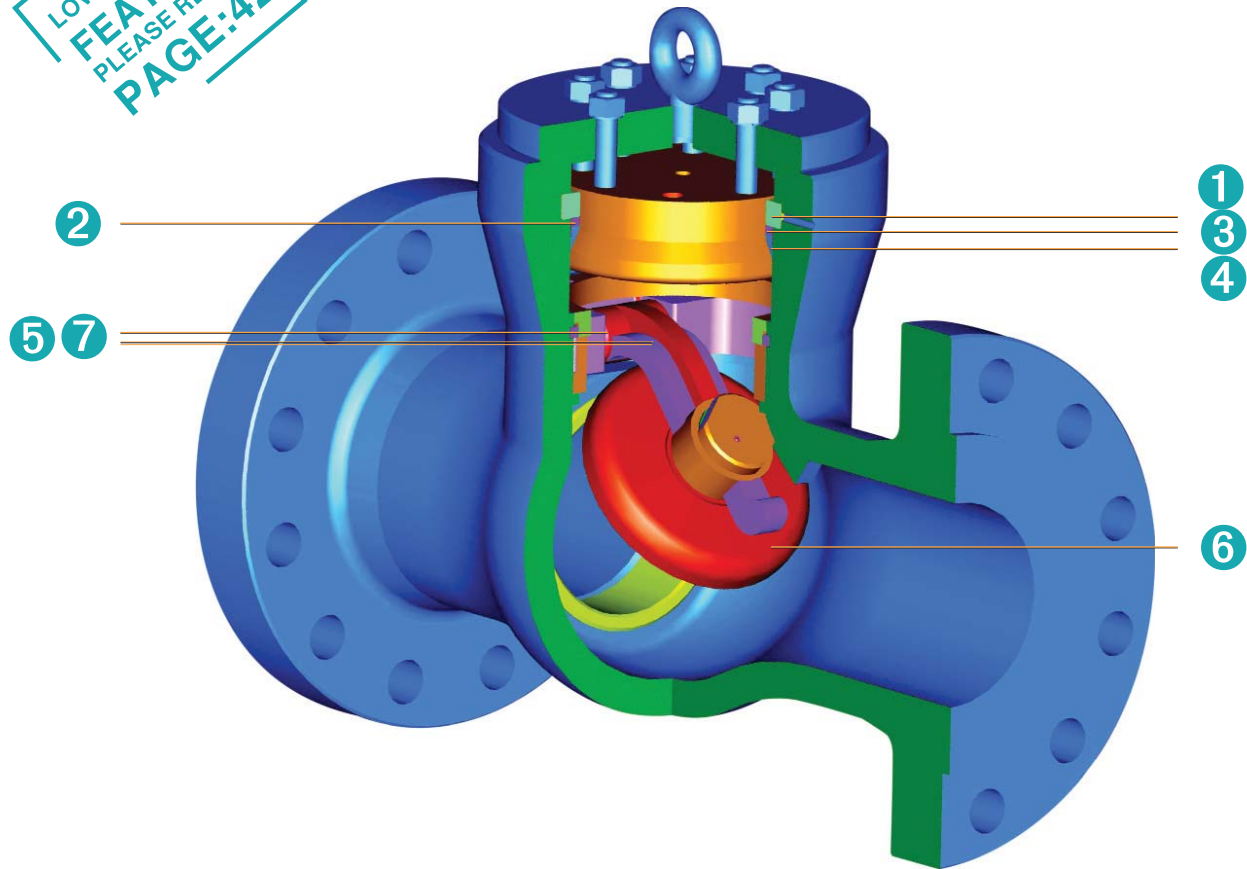
Figure NO.:

GL25R-PS,WCB/NO.5  
GL25B-PS,WCB/NO.5  
GL25J-PS,WCB/No.5



NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"
DN	mm	50	65	80	100	150	200	250	300
L -L1 (RF-BW)	in	17.75	20	22.75	26.5	36	40.25	50	56
	mm	451	508	578	673	914	1022	1270	1422
L2(RTJ)	in	17.88	20.25	23	26.88	36.5	40.88	50.88	56.88
	mm	454	511	584	683	927	1038	1292	1445
W	in	16	20	22	24	24	24	40	40
	mm	400	500	560	610	610	610	1000	1000
H	in	24.3	30.7	31.5	51.2	53.9	85	100	106
	mm	616	781	800	1300	1370	2160	2540	2692
WT(RF)	Kg	115	132	189	384	1071	2063	*	*
WT(BW)	Kg	92	115	154	340	960	1905	*	*

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- ① Segmented thrust rings absorb the thrust applied by the internal pressure
- ② Thrust rings provide surface bearing and prevent deformation of the gaskets
- ③ Soft steel gasket seal provides a large contact area for perfect sealing
- ④ Stainless steel inlay to ensure soundness and corrosion resistance in the critical body sealing zone for carbon and alloy steel valves
- ⑤ No pressure boundary intrusion hinge pin design
- ⑥ Standard swing disc type used in the horizontal position for liquid service applications
- ⑦ Hinge and pin designs permit full movement of the disc



Part	STANDARD	STAINLESS STEEL	HIGH TEMPERATURE SERVICE		
			ASTM A217-WC6	ASTM A217-WC9	ASTM A217-C12A
BODY	ASTM A216-WCB	ASTM A351-CF8M	ASTM A217-WC6	ASTM A217-WC9	ASTM A217-C12A
BONNET	ASTM A216-WC-B(4" & Smaller ASTM A105)	ASTM A351-CF8M(4" & Smaller ASTM A182-F316)	ASTM A217-WC6(4" & Smaller ASTM A182-F11)	ASTM A217-WC9(4" & Smaller ASTM A182-F22)	ASTM A217-C12A(4" & Smaller ASTM A182-F91)
DISC	ASTM A217-CA15&ASTM A216-WCB/ER410	ASTM A351-CF8M/ STL. OVERLAY	ASTM A217-CA15&ASTM A217-WC6/ER410	ASTM A217-CA15&ASTM A217-WC9/ER410	ASTM A217-CA15
HINGE	ASTM A105	ASTM A351-CF8M	ASTM A217-WC6	ASTM A217-WC9	ASTM A217-C12A
HINGE PIN	ASTM A182-F6a	ASTM A276-316	ASTM A182-F6a	ASTM A182-F6a	ASTM A182-F6a
DISC NUT	ASTM A276-420	ASTM A276-316	ASTM A276-420	ASTM A276-420	ASTM A276-420
BONNET SEAL RING	ASTM A182-F304 (4" & Smaller GRAPHITE)	ASTM A182-F316L (4" & Smaller GRAPHITE)	ASTM A182-F304 (4" & Smaller GRAPHITE)	ASTM A182-F304 (4" & Smaller GRAPHITE)	ASTM A182-F304 (4" & Smaller GRAPHITE)
HOOK SCREW	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL	CARBON STEEL
COVER STUD	ASTM A193-B7	ASTM A193-B8	ASTM A193-B16	ASTM A193-B16	ASTM A193-B16
COVER NUT	ASTM A194-2H	ASTM A194-8	ASTM A194-4	ASTM A194-4	ASTM A194-4
SET RING	ASTM A105/STL. OVERLAY	ASTM A182-F316/ STL. OVERLAY	ASTM A182-F11/STL. OVERLAY	ASTM A182-F22/STL. OVERLAY	ASTM A182-F6a/STL. OVERLAY
SEPARATE RING COVER	CARBON STEEL	ASTM A276-420	AISI 4140	AISI 4140	AISI 4140
THRUST RING COVER	CARBON STEEL	ASTM A276-420	AISI 4140	AISI 4140	AISI 4140
SUPPORTING COVER	ASTM A105	ASTM A276-420	AISI 4140	AISI 4140	AISI 4140
STOP RING	ASTM A276-420	ASTM A276-316	ASTM A276-420	ASTM A276-420	ASTM A276-420
YOKE	ASTM A216-WCB	ASTM A276-316	ASTM A216-WCB & ASTM A217-WC6	ASTM A216-WCB & ASTM A217-WC6	ASTM A217-C12A
SEPARATE RING FOR STOP RING	ASTM A276-420	ASTM A276-316	ASTM A276-420	ASTM A276-420	ASTM A276-420
SPLIT PIN	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
STOP RING SCREW	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
RIVET	CARBON STEEL	STAINLESS STEEL	CARBON STEEL	CARBON STEEL	STAINLESS STEEL
NAME PLATE	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

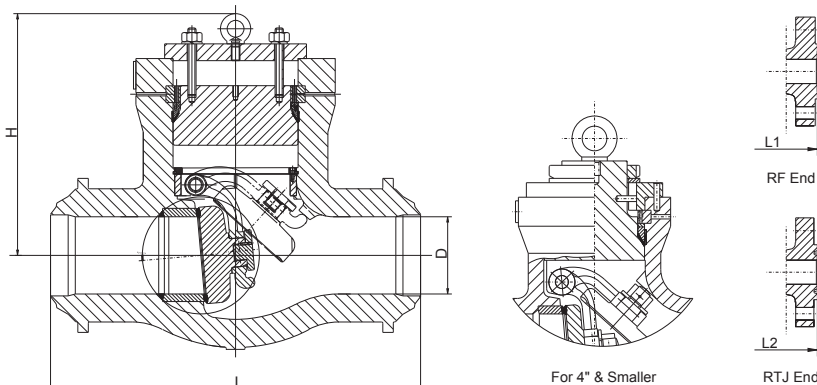
Note: The materials above are general. When ordering, please contact a Neway sales or technical team to confirm the details.

## Class 600 Cast Carbon Steel Check Valve

ASME B16.34  
Pressure Seal Swing Disc Type

Figure NO.:

S6R-PS,WCB/NO.5  
S6R-PS,WCB/NO.5  
S6R-PS,WCB/NO.5



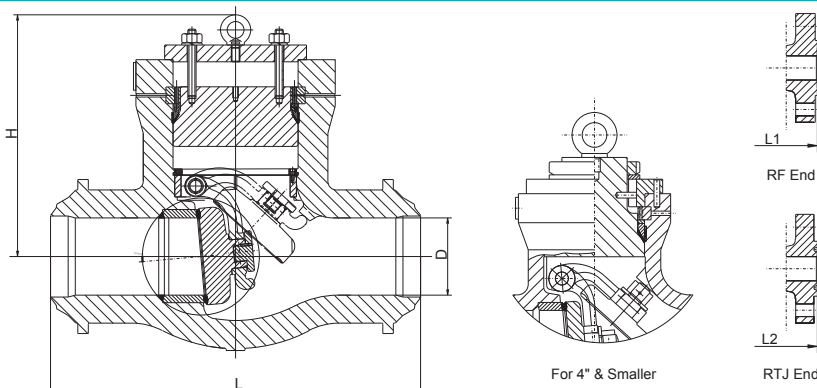
NPS	in	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750
L (RF-BW)	in	11.5	13	14	17	20	22	26	31	33	35	39	43	47	55	57	63	65
	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1448	1600	1651
L2(RTJ)	in	11.62	13.12	14.12	17.12	20.12	22.12	26.12	31.12	33.12	35.12	39.12	43.13	47.25	55.38	57.5	63.5	65.5
	mm	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	1461	1613	1664
H	in	9.5	10.4	10.6	12.5	15.7	15.7	23.1	23.9	27.4	29.5	28.7	28.8	32.3	37.4	39.4	43.3	47.3
	mm	241	264	270	318	400	400	587	606	695	749	730	730	819	949	1000	1099	1200
WT(RF)	Kg	31	50	61	85	135	190	350	500	682	880	1150	*	*	4046	*	*	*
WT(BW)	Kg	25	42	49	76	85	130	260	370	568	660	850	*	*	3556	*	*	*

## Class 900 Cast Carbon Steel Check Valve

ASME B16.34  
Pressure Seal Swing Disc Type

Figure NO.:

S9R-PS,WCB/NO.5  
S9R-PS,WCB/NO.5  
S9R-PS,WCB/NO.5



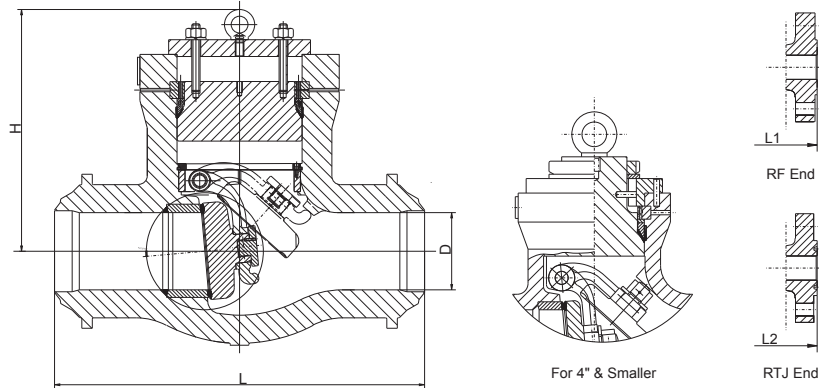
NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750
L(BW)	in	8.5	10	12	14	20	26	31	36	39	43	48	52	61	63	67	71
	mm	216	254	305	356	508	660	787	914	991	1092	1219	1321	1549	1600	1702	1803
L1(RF)	in	14.5	16.5	15	18	24	29	33	38	40.5	44.5	48	52	61	65	69	73
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	1651	1753	1854
L2(RTJ)	in	14.6	16.1	15.1	18.1	24.1	29.1	33.1	38.1	40.9	44.9	48.5	52.5	61.75	65.88	69.88	73.88
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1333	1568	1673	1775	1876
H	in	9.5	10.4	10.6	12.5	15.7	23.1	23.9	27.4	29.5	28.7	33.5	34	37.8	39.4	45.3	55.13
	mm	241	264	270	318	400	587	606	695	749	730	851	864	959	1000	1149	1400
WT(RF)	Kg	42	55	61	110	250	450	825	995	1628	1733	2300	*	*	*	*	*
WT(BW)	Kg	22	32	45	75	148	312	725	875	1281	1418	1850	*	*	*	*	*

### Class 1500 Cast Carbon Steel Check Valve

ASME B16.34  
Pressure Seal Swing Disc Type

Figure NO.:

- S15R-PS,WCB/NO.5
- S15R-PS,WCB/NO.5
- S15R-PS,WCB/NO.5



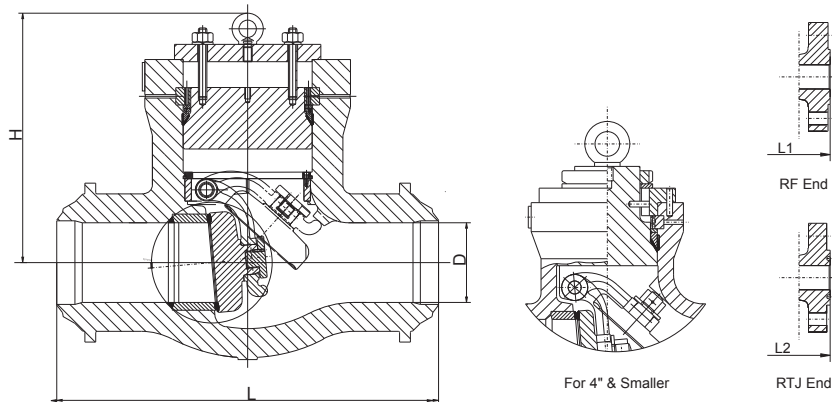
NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L(BW)	in	8.5	10	12	16	22	28	34	39	42	47	60.5	65.5	76.5
	mm	216	254	305	406	559	711	864	991	1067	1194	1537	1664	1943
L1(RF)	in	14.5	16.5	18.5	21.5	27.8	32.8	39	44.5	49.5	54.4	60.5	65.5	76.5
	mm	368	419	470	546	705	732	991	1130	1257	1384	1537	1664	1943
L2(RTJ)	in	14.6	16.6	18.6	21.6	28	33.1	39.4	45.1	50.3	55.4	61.38	66.38	77.63
	mm	371	422	473	549	711	842	1000	1146	1276	1407	1559	1686	1972
H	in	9.5	10.4	10.8	12.5	16.6	18.9	23.3	25.4	28	29.5	34.63	37.38	43.25
	mm	241	264	274	318	422	479	591	645	711	749	880	949	1099
WT(RF)	Kg	30	58	62	113	345	551	858	1628	1811	2539	3306	*	*
WT(BW)	Kg	20	34	50	94	270	454	695	1155	1475	2110	3266	*	*

### Class 2500 Cast Carbon Steel Check Valve

ASME B16.34  
Pressure Seal Swing Disc Type

Figure NO.:

- S25R-PS,WCB/NO.5
- S25R-PS,WCB/NO.5
- S25R-PS,WCB/NO.5



NPS	in	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L(BW)	in	11	13	14.5	18	24	30	36	41	44	49	55	61	68
	mm	279	330	368	457	610	762	914	1041	1118	1245	1397	1549	1727
L1(RF)	in	17.8	20	22.8	26.5	36	40.3	50	56					
	mm	451	508	578	673	914	1022	1270	1422					
L2(RTJ)	in	17.9	20.3	23	26.9	36.5	40.9	50.9	56.9	60.88				
	mm	454	514	584	683	927	1038	1292	1445	1546				
H	in	9.6	10.4	10.6	12.5	17.8	22	22.7	25.8	33.88	35.38	39.38	45.25	55.13
	mm	245	264	270	318	451	559	576	656	860	899	1000	1149	1400
WT(RF)	Kg	74	124	156	299	437	736	1718	2700	3350				
WT(BW)	Kg	30	74	89	142	298	540	820	1480	2450	*	*	*	*

# Torque & Thrust

## Gate Valve

Class	Size	2"					2.5"					3"			
150	Pressure rating	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	
	Number of turns	14					18					20			
	Thrust (KN)	6.9	7.2	7.8	8.4	9.01	7.55	7.96	8.66	9.33	10.04	8.96	9.46	10.33	
	Torque(N*M)	13.2	13.9	15	16.1	17.3	14.5	15.3	16.6	17.9	19.3	19.4	20.4	22.3	
300	Pressure rating	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	
	Number of turns	14					18					20			
	Thrust (KN)	7.83	9.01	10.16	11.34	12.63	8.66	10.04	11.38	12.76	14.27	10.33	12.03	13.69	
	Torque(N*M)	15	17.3	19.5	21.8	24.3	16.6	19.3	21.9	25.4	27.4	22.3	226	29.6	
600	Pressure rating	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	
	Number of turns	14					18					17			
	Thrust (KN)	12.17	14.53	16.28	18.04	20.62	13.39	16.15	18.2	20.25	23.27	16.9	20.54	23.36	
	Torque(N*M)	23.4	27.9	31.3	34.6	39.6	25.7	31	35	38.9	44.7	42.4	51.3	58.3	
900	Pressure rating	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	
	Number of turns	13					13					18			
	Thrust (KN)	17.98	22.37	25.033	29.72	33.11	23.88	29.45	33.16	38.73	43	26.35	32.82	37.13	
	Torque(N*M)	30.8	38.4	43.4	51	56.8	46.6	57.5	64.8	75.6	84	37.5	64.1	72.5	
1500	Pressure rating	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	
	Number of turns	12					13					17			
	Thrust (KN)	21.12	28.47	35.79	43.13	51.18	28.35	37.63	46.91	56.19	66.43	32.39	43.71	55.73	
	Torque(N*M)	52.7	71.1	89.4	107.7	127.8	77.6	103	128.3	153.7	181.8	96.4	130	165.8	
2500	Pressure rating	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	
	Number of turns	10										14			
	Thrust (KN)	27.99	41.11	54.23	63.42	70.62	39.32	57.45	75.62	88.31	98.3	43.7	64.51	85.37	
	Torque(N*M)	69.9	102.6	135.4	158.3	176.3	107.6	157.2	206.9	241.6	268.9	130	191.9	254	

Class	Size	8"					10"					12"			
150	Pressure rating	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	
	Number of turns	43					42					51			
	Thrust (KN)	21.07	22.6	24.94	27.28	33.07	26.34	28.22	31.2	37.53	47.06	33.9	36.07	39.99	
	Torque(N*M)	62.7	67.2	74.2	81.2	98.4	88.5	94.8	104.9	126.1	158.1	122	129.8	143.9	
300	Pressure rating	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	
	Number of turns	35					43					51			
	Thrust (KN)	26.17	34.53	47.33	60.12	74.2	34.47	50.59	69.91	89.24	110.5	40.72	67	94.23	
	Torque(N*M)	87.9	116	159	202	249.3	124.1	182.1	251.6	321.2	397.7	156.3	257.1	361.7	
600	Pressure rating	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	
	Number of turns	34					42					50			
	Thrust (KN)	57.43	83.19	102.51	121.83	150.16	75.3	113.58	142.28	170.98	213.08	106.71	160.57	200.97	
	Torque(N*M)	220.4	319.3	393.4	467.6	576.3	325	490.1	614	737.9	919.5	486	731.3	915.2	
900	Pressure rating	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	
	Number of turns	34					31					36			
	Thrust (KN)	84.52	122.34	147.56	185.38	214.38	133.4	189.76	227.33	283.69	326.89	171.55	248.65	300.04	
	Torque(N*M)	364.7	528	636.8	800	925.1	672.1	956.1	1145.4	1429.3	1647	905.3	1312.1	1583.3	
1500	Pressure rating	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	
	Number of turns	24					29					35			
	Thrust (KN)	106.18	166.3	226.41	286.53	352.66	143.64	232.84	322.04	411.24	509.36	176.01	293.4	410.8	
	Torque(N*M)	535	837.9	1140.8	1443.7	1776.9	826.5	1339.8	1853.1	2366.4	2931.1	1096.8	1828.3	2559.9	
2500	Pressure rating	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	
	Number of turns	19					16					19			
	Thrust (KN)	154.82	252.22	349.61	417.79	471.36	229.17	377.8	526.43	630.08	712.5	291.75	491.9	692.04	
	Torque(N*M)	854	1391.2	1928.4	2304.4	2599.9	1594.9	2629.4	3663.8	4389.8	4958.7	2239.5	3775.9	5312.3	

Note: 1. All data shown above is based on Single Head thread

2. Torques shown in these tables are to be used as a guide actuator selection. A safety factor of 1.25~1.5 is recommended for actuator sizing.

		4"					5"					6"				
1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa
		22					27					33				
11.16	12.03	11.15	11.88	13.03	14.18	15.33	12.63	13.32	14.45	15.58	16.71	16.85	17.93	19.68	21.44	23.19
24.1	26	27.9	29.7	32.5	35.4	38.3	34.5	36.4	39.5	42.6	45.7	46.1	49	53	58.7	63.5
4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa
		22					28					33				
15.39	17.26	13.03	15.33	17.62	20.01	24.08	17.86	20.93	24.1	29.66	35.77	20.28	23.9	30.85	38.49	46.89
33.2	37.3	32.5	38.3	44	50	60.1	48.9	57.3	66	81.1	97.9	60.3	71.1	91.8	114.5	139.5
8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa
		23					22					26				
26.94	32.19	24.14	30.61	36.45	42.28	50.84	31.11	42.9	51.75	60.59	73.56	42.31	58.58	70.78	82.99	100.88
67.3	80.4	66.1	83.8	99.7	115.7	139.1	104.5	144.2	173.9	203.6	247.2	152.3	210.8	254	298.7	363.1
13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa
		23										26				
43.62	49.36	32.13	42.56	50.22	61.71	70.53						58.35	82.08	97.9	121.63	139.83
85.2	96.4	95.6	126.6	179.4	183.6	209.8						223.9	315	375.8	466.8	536.7
20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa
		17										24				
68.75	83.07	39.27	56.23	74.97	93.71	114.32	66.38	103.94	141.5	179.06	220.38	66.38	103.94	141.5	179.06	220.38
204.5	247.1	132	189	251.9	314.9	384.2	270.6	423.7	576.9	730	898.4	270.6	423.7	576.9	730	898.4
37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa	42.5MPa
		14										20				
99.93	111.39	54.77	82.79	110.81	130.37	145.79						94.37	154.38	214.39	256.4	289.4
297.3	331.4	184.1	278.2	372.3	438.1	489.9						407.3	666.2	925.2	1106.5	1248.9

		14"					16"					18"				
1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa
		55					64					73				
52.57	66.12	30.01	33.56	38.17	53.79	69.6	43.34	46.5	55.17	75.9	96.62	49.54	52.81	67.13	93.54	119.95
189.2	238	119	128.8	146.5	206.5	267.3	176.7	189.6	224.9	309.4	393.9	213.8	227.9	289.7	403.7	517.6
4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa
		56					64					71				
121.47	151.43	45.93	77.7	109.69	141.67	176.86	55.93	97.54	139.15	180.77	226.54	72.55	124.35	176.16	227.97	284.96
466.2	581.2	187.2	316.8	447.2	577.6	721	241.4	420.9	600.5	780.1	977.6	330.4	566.3	802.2	1038.2	1297.7
8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa
		41					47					53				
241.37	300.61	124.56	187.65	234.98	282.3	351.71	151.59	232.71	293.55	354.39	443.62	164.34	252.3	318.27	384.24	480.99
1099.2	1369	652.3	990.3	1240	1489	1856	836.1	1283.6	1619.2	1954.7	2446.9	945.7	1451.8	1831.4	2211	2767.8
13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa
		41					47									
377.13	436.24	201.24	296.14	359.4	454.31	527.06	217.45	319.93	388.24	490.72	569.28	281.08	410.93	497.49	627.34	726.89
1990.2	2302.1	1110	1633.4	1982.4	2505.8	2907.2	1251.3	1841	2234.1	2823.8	3275.9	2023.3	2958.1	3581.2	4515.9	5232.6
20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa
							29									
528.19	657.32	219.25	362.67	506.29	649.91	807.89	232.91	390.36	547.86	705.33	878.56	322.17	525.33	728.48	931.63	1155.1
3291.4	4096.1	1576.9	2610.7	3644.5	4678.4	5815.6	1676.2	2810.2	3943.8	5077.4	6324.3	2780.6	4534	6287.4	8040.8	9969.5
37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa	42.5MPa
832.15	942.23	365.69	602.52	839.35	1005.13	1135.38	451.81	746.11	1041.04	1246.44	1408.3					
6387.7	7232.7	2981.7	4912.7	6843.7	8195.4	9257.5	4115.1	6795.6	9472.6	11352.6	12826.9					

# Torque & Thrust

## Gate Valve

Class	Size	20"					22"					24"			
150	Pressure rating	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	
	Number of turns	81										74			
	Thrust (KN)	61.08	65.64	86.24	118.99	151.74	69.52	74.36	101.53	141.33	181.13	79.49	85.4	119.2	
	Torque(N*M)	278.2	298.9	392.7	541.9	691	350.3	374.7	511.6	712.1	912.6	419.5	450.7	629.1	
300	Pressure rating	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	
	Number of turns	61										65			
	Thrust (KN)	77.8	133.6	189.5	245.3	306.7	90	156	222	288	348	107.31	188.7	270.09	
	Torque(N*M)	391.9	673.2	954.6	1235.9	1545.4	474.6	822.9	1171.3	1519.6	1836.2	617.5	1085.9	1544.2	
600	Pressure rating	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	
	Number of turns	59										46			
	Thrust (KN)	195.85	303.16	383.64	464.11	582.15						253.88	408.17	523.88	
	Torque(N*M)	1220.4	1889.1	2390.6	2892.1	3627.7						1827.6	2938.2	3771.2	
900	Pressure rating	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	
	Number of turns														
	Thrust (KN)	328.82	489.03	595.84	756.04	878.87						467.56	690.11	838.47	
	Torque(N*M)	2524.1	3753.9	4573.8	5803.5	6746.4						3812.3	5626.9	6836.6	
1500	Pressure rating	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	
	Number of turns														
	Thrust (KN)	394.53	651.25	907.97	1164.7	1447.09						534.15	905.44	1276.72	
	Torque(N*M)	3593.4	5931.6	8269.9	10608.1	13180.1						5884.1	9974	14063.9	
2500	Pressure rating														
	Number of turns														
	Thrust (KN)														
	Torque(N*M)														

Class	Size	32"					36"				
150	Pressure rating	«0.2MPa			0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa		
	Number of turns	97									
	Thrust (KN)	98.39			105.23	171.05	242.62	314.18	112.5		
	Torque(N*M)	613.1			655.7	1065.9	1511.9	1957.8	782.9		
300	Pressure rating	1MPa		2MPa	3MPa	4MPa	5.1MPa	1MPa			
	Number of turns										
	Thrust (KN)	184.35		330.54	476.73	622.92	783.72				
	Torque(N*M)	1415.1		2537.3	3659.5	4781.6	6016				
600	Pressure rating	3MPa		5MPa	6.5MPa	8MPa	10.2MPa	3MPa			
	Number of turns										
	Thrust (KN)	485.8		758.7	963.3	1168	1468.2	540.59			
	Torque(N*M)	4310.7		6731.6	8547.3	10363	13026	4932.7			
900	Pressure rating	5MPa		8MPa	10MPa	13MPa	15.3MPa	5MPa			
	Number of turns										
	Thrust (KN)										
	Torque(N*M)										

Class	Size	40"					42"				
150	Pressure rating	«0.2MPa		0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa
	Number of turns	79					82				
	Thrust (KN)	136.94		149.91	261.66	373.4	485.15	162.02	176.29	298.89	421.48
	Torque(N*M)	1051.2		1150.8	2008.5	2866.3	3724.1	1321	1437.4	2437	3436.6

Note: 1. All data shown above is based on Single Head thread  
 2. Torques shown in these tables are to be used as a guide actuator selection. A safety factor of 1.25~1.5 is recommended for actuator sizing.

		26"					28"					30"				
1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa
		80					88					93				
166.86	214.5	80.76	87.06	123.44	172.19	220.95	75.55	81.59	126.26	182.9	239.55	95.07	101.64	158.13	223.24	288.35
880.5	1131.9	464.7	501	710.3	990.9	1271.4	434.4	469.5	726.5	1052.5	1378.5	592.4	633.4	985.4	1391.1	1796.9
4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa
		79					87					61				
351.48	441.01	124.45	220.98	317.51	414.04	520.22	140.25	252.59	364.93	477.26	600.83	176.7	300	430.88	561.79	705.78
2022.6	2537.7	775.5	1377	1978.5	2580.1	3241.8	874	1574	2274	2974.1	3744.1	1356.4	2302.7	3307.5	4312.4	5417.7
8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa
							54					57				
639.59	809.31						385.79	595.75	753.21	910.68	1141.64	430.63	670.49	850.38	1030.27	1294.12
4604.1	5825.8						3329.7	5141.8	6500.9	7860	9853.4	3716.7	5786.9	7339.5	8892.2	11169.4
13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa
							54					57				
1061.02	1231.64															
8651.1	10042.3															
20MPa	25.5MPa															
1648	2056.41															
18153.8	22652.7															

34"				36"				
0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa
				72				
120.4	196.87	278.47	360.07	122.12	131.18	216.95	307.47	397.98
838.2	1370.1	1938	2505.9	879.1	944.3	1561.7	2213.3	2864.9
2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa
				236.98	420.26	603.54	786.82	988.44
				1932.2	3426.6	4921.1	6415.5	8059.3
5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa
				65				
846.3	1075.58	1304.86	1641.14	616.7	966.8	1229.4	1492	1877.2
7708.1	9796.4	11884.7	14947.6	6503.2	10195.1	12964	15732.8	19793.8
8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa
				69				
				65				
				69				

48"						52"				
2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa
						101				
554.08	191.43	216.58	376.48	536.39	696.28	216.73	255.45	445.27	635.09	824.92
4436.2	1652.2	1869.3	3249.3	4629.4	6009.5	1973.9	2326.6	4055.6	5784.5	7513.4

# Torque & Thrust

## Globe Valve

Class	Size	2"					2.5"					3"			
150	Pressure rating	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa
	Number of turns	5					6					6			
	Thrust (KN)		2.97	5.055	7.125	9.195		5.25	8.385	11.52	14.655	2.145	4.905	9.495	14.1
	Torque(N*M)		5.85	9.9	13.95	18.15		11.55	18.45	25.35	32.25		12.45	24.3	36
300	Pressure rating	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa
	Number of turns	5					6					6			
	Thrust (KN)	5.055	9.195	13.335	17.49	22.05	8.385	14.655	20.94	27.21	34.11	9.495	18.705	27.9	37.095
	Torque(N*M)	9.9	18.15	26.25	34.35	43.35	18.45	32.25	46.2	60	75.15	24.3	47.7	71.1	94.65
600	Pressure rating	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa
	Number of turns	4					5					6			
	Thrust (KN)	12.81	21.105	27.315	33.54	42.66	19.29	31.845	41.25	50.67	64.47	28.065	46.455	60.255	74.055
	Torque(N*M)	32.7	53.85	69.75	85.5	108.9	58.35	96.3	124.8	153.3	195	84.9	140.55	182.25	223.95
900	Pressure rating	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa
	Number of turns	4										4			
	Thrust (KN)	19.245	30.39	37.83	48.975	57.525						42.39	67.425	84.105	109.14
	Torque(N*M)	58.2	91.95	114.45	148.2	174						145.2	230.85	288	373.8
1500	Pressure rating	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa
	Number of turns	5										4			
	Thrust (KN)	19.365	37.935	56.52	75.105	95.535	28.305	55.83	83.355	110.88	141.165	46.17	91.395	136.62	181.845
	Torque(N*M)	58.5	114.75	171	227.1	288.9	85.65	168.9	252.15	335.4	426.9	191.1	378.15	565.35	752.55
2500	Pressure rating	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa
	Number of turns	4										5			
	Thrust (KN)	25.995	51.09	76.2	93.765	107.58	25.425	49.95	74.475	91.65	105.135	79.425	157.77	236.115	290.97
	Torque(N*M)	89.1	175.05	261	321.15	368.4	87	171.15	255.15	313.95	360.15	347.55	690.45	1033.2	1273.2

Class	Size	8"					10"					12"					
150	Pressure rating	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa	0.5MPa	1MPa	1.5MPa	2MPa	«0.2MPa
	Number of turns	8					12					14					
	Thrust (KN)		30.045	59.715	89.385	119.055		46.02	91.605	137.19	182.76		66	130.8	195.6	260.4	
	Torque(N*M)		102.9	204.45	306.15	407.7		190.5	379.05	567.75	756.3		304.35	603.15	901.95	1200.9	
300	Pressure rating	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa	2MPa	3MPa	4MPa	5.1MPa	1MPa
	Number of turns	8					9					11					
	Thrust (KN)	60.54	119.88	179.22	238.56	303.825	92.355	183.51	274.68	365.835	466.11	130.8	260.4	389.985	519.585	662.145	155.43
	Torque(N*M)	279.15	552.9	826.5	1100.1	1401.15	494.85	983.25	1471.65	1960.05	2497.35	763.05	1519.2	2275.35	3031.5	3863.25	981.15
600	Pressure rating	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa	5MPa	6.5MPa	8MPa	10.2MPa	3MPa
	Number of turns	6					12					14					
	Thrust (KN)	179.52	298.2	387.21	476.22	606.765	268.425	446.385	579.84	713.31	909.06	381.105	633.51	822.795	1012.095	1289.715	405.99
	Torque(N*M)	961.8	1597.65	2074.5	2551.5	3250.95	1693.65	2816.55	3658.65	4500.75	5735.85	2791.05	4639.5	6025.8	7412.1	9445.35	3360.3
900	Pressure rating	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	5MPa	8MPa	10MPa	13MPa	15.3MPa	
	Number of turns	7					7					8					
	Thrust (KN)	271.38	433.125	540.96	702.72	826.725	423.105	674.775	842.565	1094.25	1287.195	512.715	817.44	1020.6	1325.325	1558.95	
	Torque(N*M)	1712.25	2732.85	3413.25	4433.85	5216.25	3098.7	4941.9	6170.55	8013.75	9426.9	3754.95	5986.65	7474.5	9706.2	11417.1	
1500	Pressure rating	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa	5MPa	10MPa	15MPa	20MPa	25.5MPa	
	Number of turns	6															
	Thrust (KN)	243.17	482.09	721	959.94	1222.76	382.69	760.32	1137.94	1515.56	1930.94	456.81	906.12	1355.415	1804.71	2298.945	
	Torque(N*M)	1896.3	3759.6	5622.9	7486.2	9535.8	3349.2	6654	9958.8	13263.6	16898.85	4431.75	8790.6	13149.45	17508.3	22302.9	
2500	Pressure rating	10MPa	20MPa	30MPa	37MPa	42.5MPa	10MPa	20MPa	30MPa	37MPa	42.5MPa						
	Number of turns	5															
	Thrust (KN)	343	680.2	1017.5	1253.5	1308.6	458.45	909.16	1359.87	1675.37	1923.27						
	Torque(N*M)	3001.8	5953	8904	10970	11452.8	4228.5	8385.6	12542.7	15452.7	17739.15						

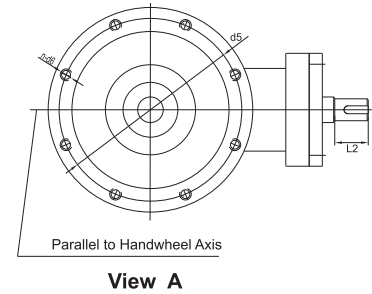
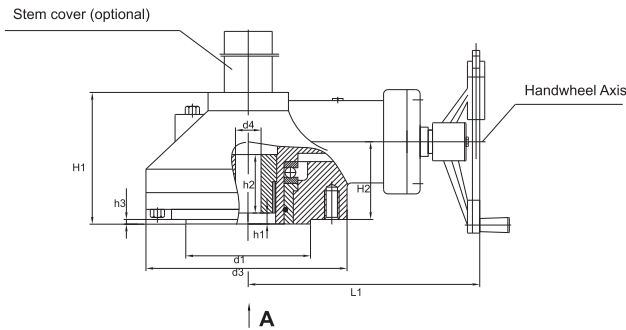
Note: 1. All data shown above is based on Single Head thread  
 2. Torques shown in these tables are to be used as a guide actuator selection. A safety factor of 1.25~1.5 is recommended for actuator sizing.



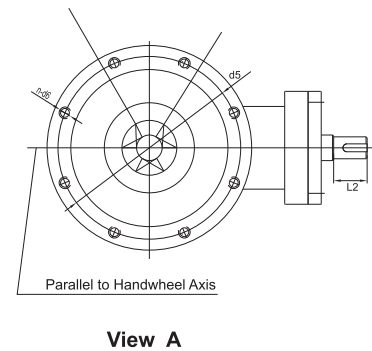
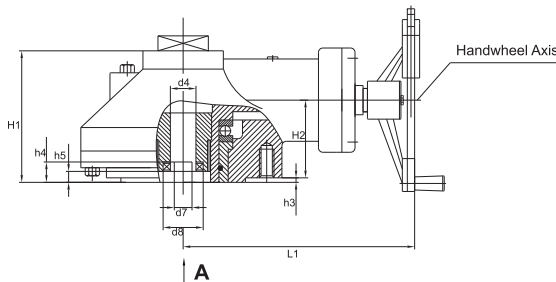


# Gear Operators

## SZ Series for Gate & Globe Valves



## SZ-Y Series for Globe Valves



## 1. Main Material

Part	Housing	Bevel Gear	Output Shaft	Stem Nut
Material	ASTM A216-WCB	AISI 1045 & 5140	AISI 1045	ASTM A439-D2
Material	ASTM A352-LCB	AISI 1045 & 5140	AISI 1045	ASTM A439-D2

## 2. Technical parameters:

Item	Type								
	SZ000	SZ00	SZ0	SZ1	SZ2	SZX3	SZX4	SZX5	SZX6
Allowable Torque(N*m)	200	400	750	1500	3000	6000(9000)	10000(15000)	22100	32000
Allowable Thrust(KN)	40	100	150	200	350	840	1400	2400	2745
Reduction Ratio	4:1	3:1	3:1	4.1:1	6:1	58:1(86:1)	86:1(104:1)	104:1(128:1)	125:1
Allowable Stem Diameter (mm)	25	42	55	62	75	115	125	125	150
Handwheel Diameter(mm)	305	305	305	460	610	810	1000	1200	1200

Note: The letter "X" in SZX3, SZX4, SZX5, and SZX6 indicates that a planetary gear reduction drive is used  
The allowable torque and the ratio parameter in the brackets will be selected by the manufacturer

## 3. Flange Type and Dimensions (mm)

Code Type	L1	L2	H1	H2	d1	d2	d3	d4 (max)	d5	n-d6	d7	d8	h1	h2	h3	h4	h5	Flange Type
SZ000	200	45	100	59	60(f8)		146	25	102	4-M10	40	51	1	42	3	8	4	F10
SZ00	210	60	122	76	100(f8)		178	42	140	4-M16	50	64.5	1	60	4	10	5	F14
SZ0	232	60	135	84	130(f8)		210	55	165	4-M20	63	79	1	70	5	15	5	F16
SZ1	283	60	160	95	200(f8)		289	62	254	8-M16	70	89	1	75	5	15	5	F25
SZ2	370	60	220	140	240(f8)		346	75	298	8-M20	95	119	15	110	5	18	5	F30
SZX3	610	60	330	328	260(f8)	428	510	115	356	8-M30	128	166	30	168	5	18	5	F35
SZX4	668	110	360	410	300(f8)	475	620	125	406	8-M36	138	188	35	180	8	25	5	F40
SZX5	668	110	360	410	370	544	690	125	483	12-M36	150	210	35	180	8	32	5	F48
SZX6	1020	60	500	282	470	686	810	150	603	20-M36	178	240	40	230	8	40	5	F60

Due to increasing ecological awareness, environmental protection is becoming a more pressing issue in present global development. Many nations are passing new laws and regulations relating to environmental protection in different fields, including modern process industries.

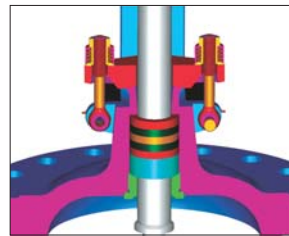
Industrial valves are one of the main sources of pollution in modern process industries because of fugitive emission. In order to minimize the risk of process media leaking through valves into the environment, Neway has developed low emission technology for all valves in our product line. These features provide the essential function of effectively controlling the fugitive emission leakage of various media using emission defense material and special structural design. These valves are measured and tested in accordance with ISO 15848 or Shell SPE 77/312.



## Design Features

### Emission Defense Packing

Our low emission packing set combines a parallel and vertical layer of sealing elements made of graphite. These die-formed graphite rings feature heat resistance, low creep and less relaxation from stress. This structure means low friction on rotary and rising stems, providing stabilized seal performance and long valve life cycle.



### Stuffing box and stem finish

Neway controls the finish of the stem's surface to be between Ra0.4 and Ra0.8 which ensures that the graphite packing will migrate into any stem microscratches, functioning as a lubricant to reduce stem torque. The surface of the stuffing box is controlled to be no more than Ra3.2. This rougher finish holds the packing ring in place, resulting in better sealing performance.

### Optional Live-loaded Gland Bolts

Live-loaded gland bolts are available upon customer request. The special structural design can maintain permanent packing stress through two sets of Belleville springs. Neway standard Belleville springs are protected by a weatherproof cap to keep them from environmental contamination so as to ensure a long, continual, and stable life cycle.

## Fugitive Emission Valve Test

Neway full series low emission gate, globe and check valves have been certified as per TA-Luft. The prototype tests and the product tests were carried out by a third party at Neway China plant in 2003. The table below shows the typical test parameters:

Test Standard	ISO 15848	Neway Acceptable Level	
Test Medium	97% Helium	Stem Seal Leakage Rate	ISO 15848 class B 1.78x10 <sup>-7</sup> Pa.m <sup>3</sup> /s (Per mm Stem diameter)
Test Pressure	Valve body pressure At the selected test Temperature as ASME B16.34	Mechanical Cycles	100
Test Equipment	Helium Spectrometer	Temperature	196° ~ 450°C

## Additional Body Materials

ASTM A216 WCC	ASTM A217 WC6	ASTM A494 M30C	ASTM A351 CF8M
1.0619	ASTM A217 WC9	ASTM A494 M35-1	ASTM A351 CF3
ZG230-450	ASTM A217 C5	ASTM A494 CY40	ASTM A351 CF3M
GP240GH	ASTM A217 C12	ASTM A494 CU5MCuC	ASTM A351 CF8C
ASTM A890 4A	ASTM A217 C12A	ASTM A351 CN7M	ASTM A351 CF10
ASTM A890 6A	ASTM A217 WC5	ASTM A494 CY40(2)	ASTM A351 CG8M
ASTM A995 4A	ASTM A352 LC1	ASTM A494 M35-2	ASTM A351 CG3M
ASTM A995 6A	ASTM A352 LC2	A494 CW6MC	ASTM A351 CF10M
ASTM A995 1B	ASTM A352 LC3	ASTM A990 CN3MCU	ASTM A351 CK3MCuN
ASTM A890 1B	A352 CA6NM	A494 CW-12MW	ASTM A351 CN3MN
ASTM A890 5A	ASTM A352 LCB	ASTM A494 CW-6M	1.4308
ASTM A995 5A	ASTM A352 LCC	ASTM A351 CF8	1.4408
ASTM A217 WC1			

# NACE Introduction Special Design Features

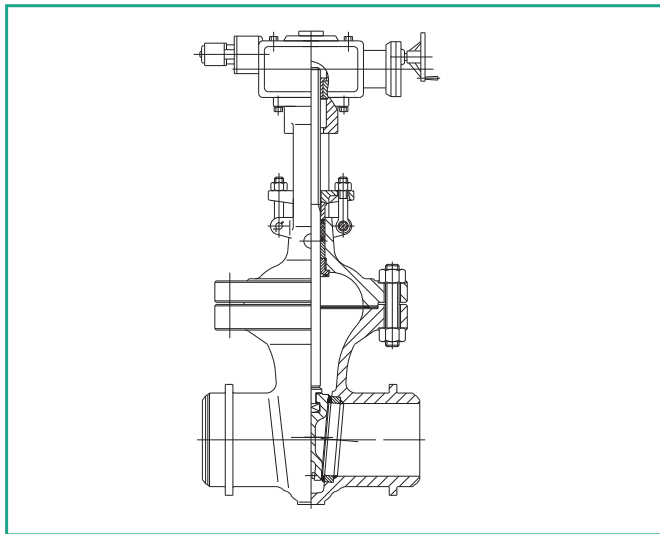
For servicing H<sub>2</sub>S-containing environments in oil and gas production, Neway offer NACE valves made of specially heat-treated and hardness-controlled component metal materials. They are manufactured in compliance with NACE standard MR0175 so as to resist all mechanisms

of cracking that can be caused by H<sub>2</sub>S including sulfide stress cracking (SSC), stress corrosion cracking (SCC), and other hydrogen-induced cracking. The table below shows the typical NACE material configuration for Neway cast steel gate valves:

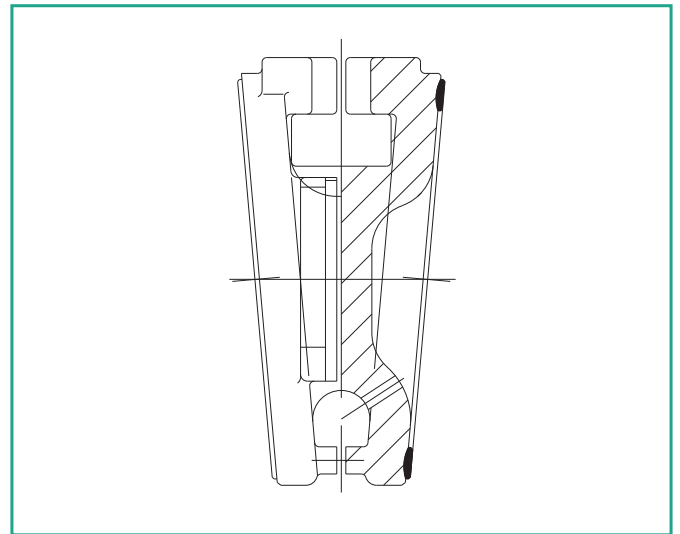
## NACE Valves Compared to API 600 Valves

Valve Parts	ASTM Specification	API 600 Valves	NACE Valves
Body/Bonnet	A216 Gr. WCB	≤ 22HRC	≤ 22HRC
Wedge	A216 Gr. WCB or A217 CA15	Quenching + High Temperature Tempering 25~30HRC	Quenching + Double Tempering ≤ 22HRC
Seat Ring	A105 + Stellite 6 Overlayed	Stress Relieving Tempering Overlay hardness ≥ 38HRC	Stress Relieving Tempering Overlay hardness 38HRC
Stem	A182 F6a	Quenching + High Temperature Tempering 17~22HRC	Quenching + Double Tempering ≤ 22HRC
Gland	ANSI 420	Quenching + High Temperature Tempering 31~35HRC	Quenching + Double Tempering ≤ 22HRC
Backseat Bushing	ANSI 420	Quenching + High Temperature Tempering 31~35HRC	Quenching + Double Tempering ≤ 22HRC
Body/Bonnet Studs		ASTM A193 Grade B7	ASTM A193 Grade B7M
Body/Bonnet Nuts		ASTM A194 Grade 2H	ASTM A194 Grade 2HM

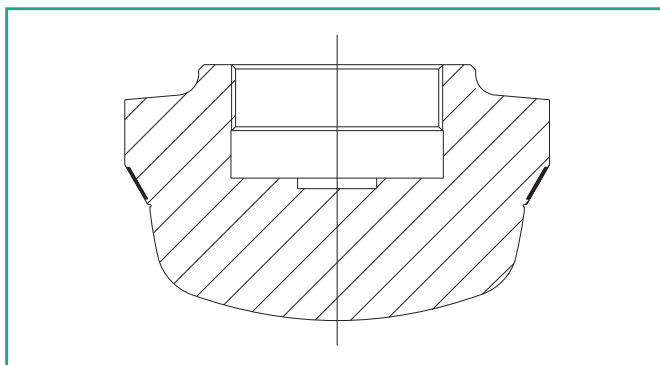
## Special Design Features



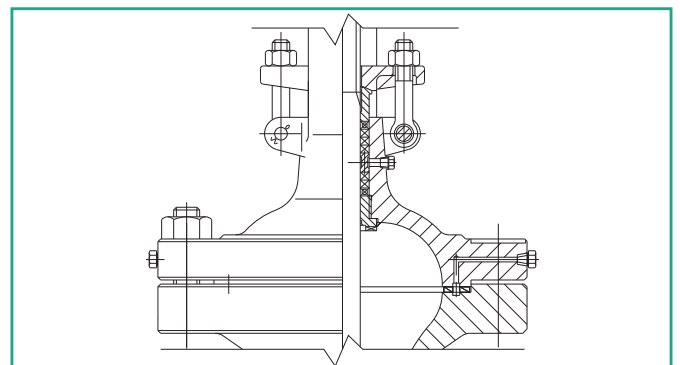
All gate and globe valves can be equipped with an electric, pneumatic or hydraulic actuators upon customer request.



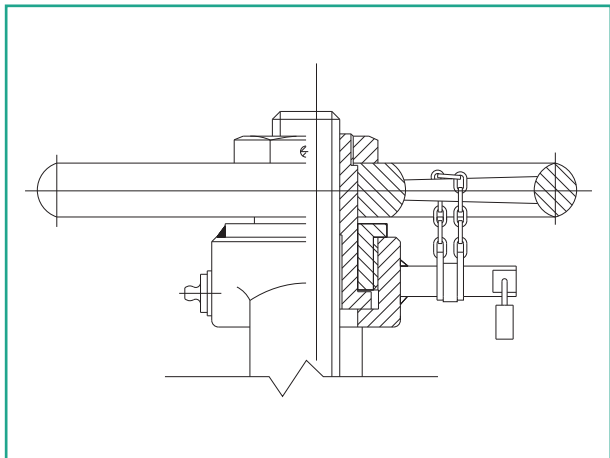
Relief Provision



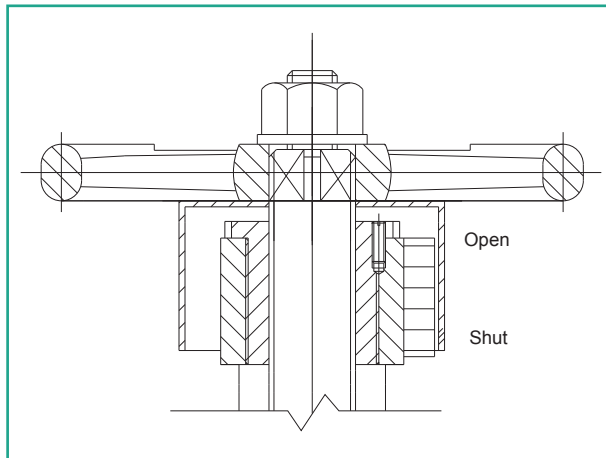
Parabola Disc



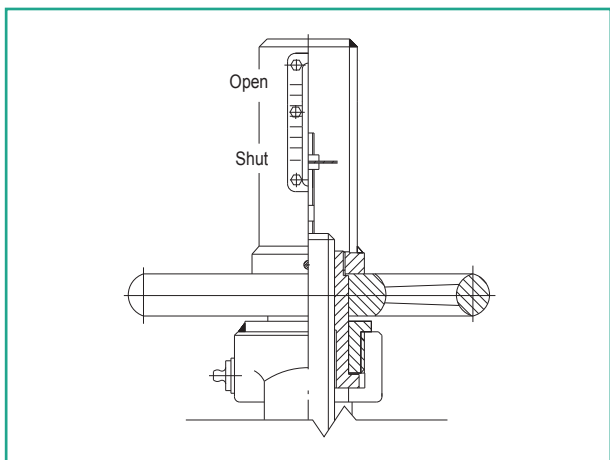
Leak Detector



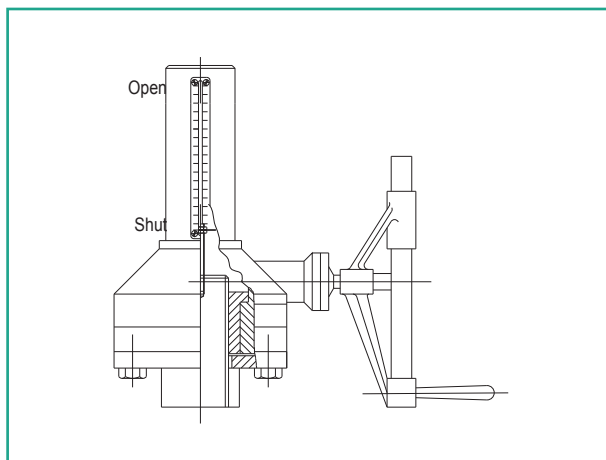
**Handwheel Locking Device**



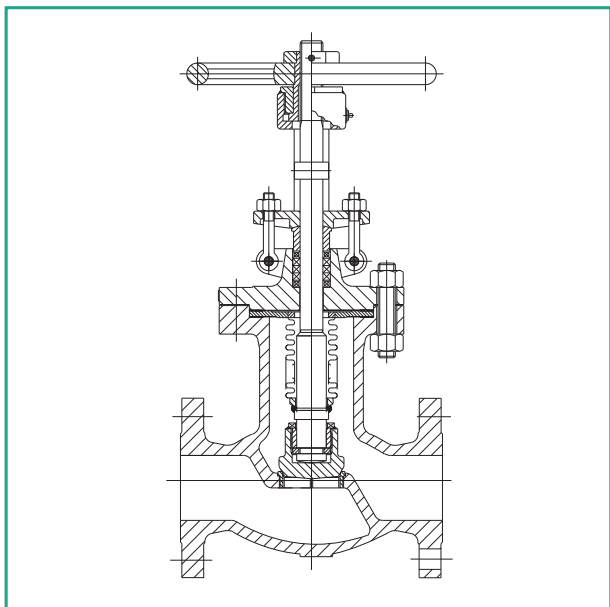
**Globe Valve Position Indicator**



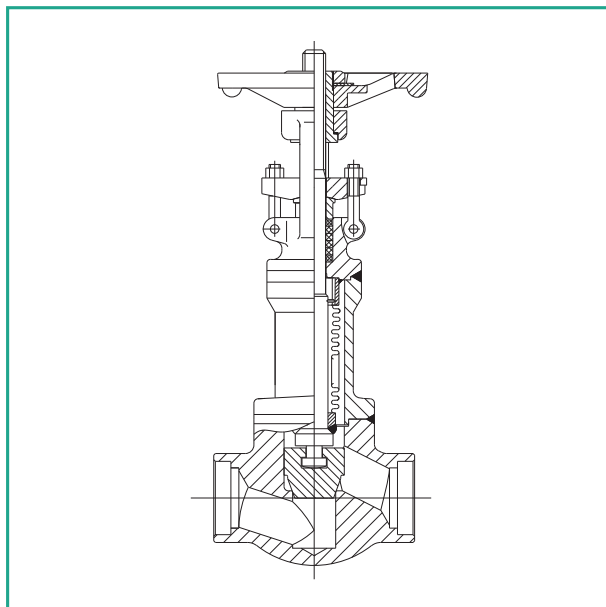
**Gate Valve Position Indicator**



**Gear Box Position Indicator**

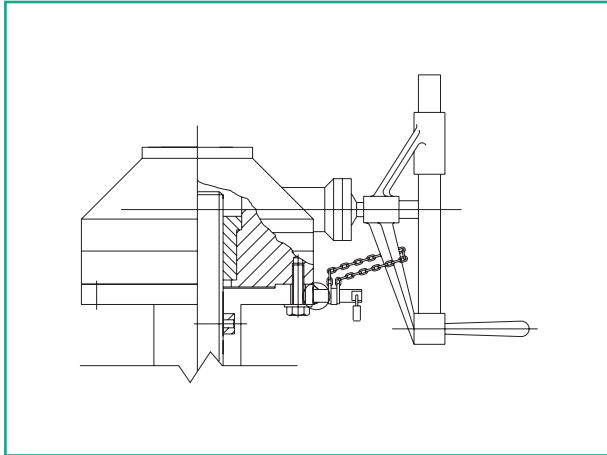


**Casting Steel Bellows Seal Valves**

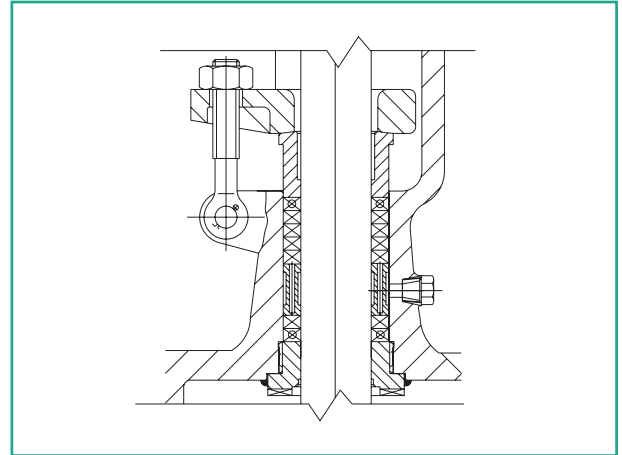


**Forging Steel Bellows Seal Valves**

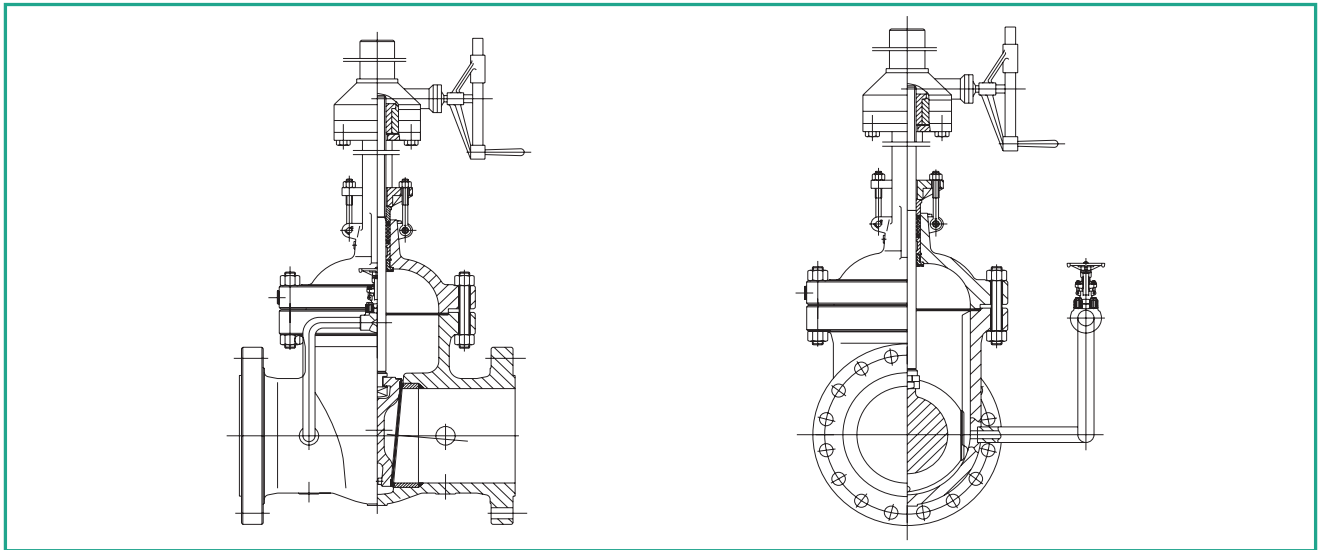
# Special Design Features



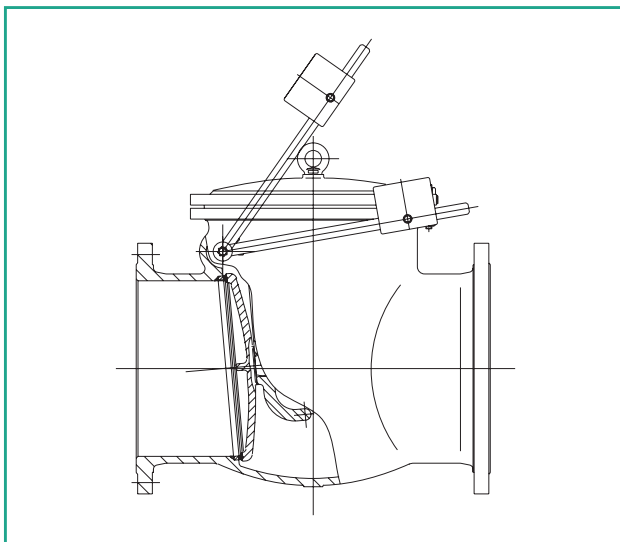
**Gearbox Locking Device**



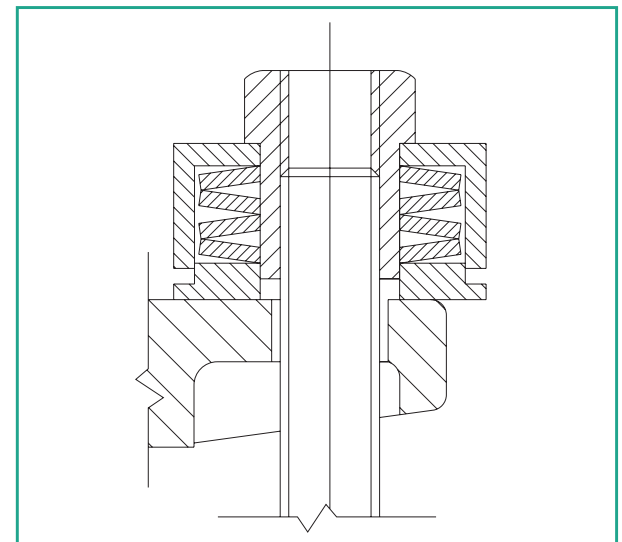
**Lantern on Gate and Globe Valves**



**Special By-Pass Application**



**Damping Box and Equilibrium Hammers for Check Valves**



**Live-loaded Gland Flange**

## Product Warranty

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Seller will replace without charge or refund the purchase price of products which prove to be defective in material or workmanship; provided that the product is properly installed and is used in the service for which the Seller recommends it and that the 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 any repairs or 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 the Buyer's exclusive remedy and seller's exclusive liability.



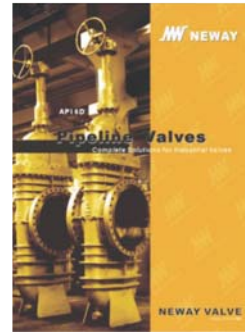
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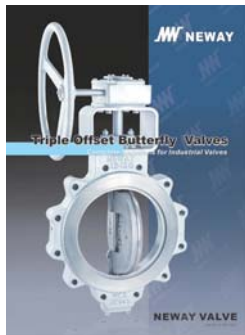
Cat.no.:E-FBV



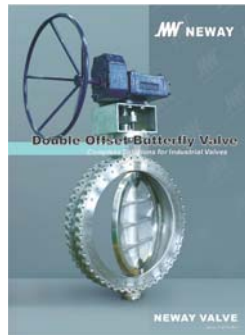
Cat.no.:E-TMB V



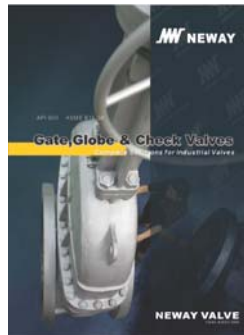
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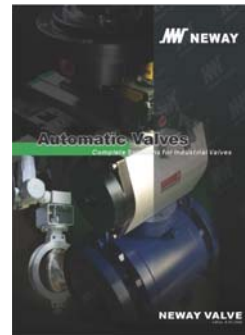
Cat.no.:E-T OV



Cat.no.:E-DOV



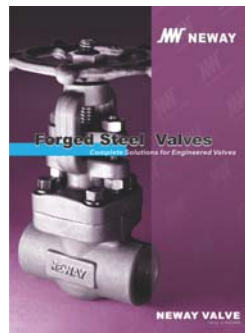
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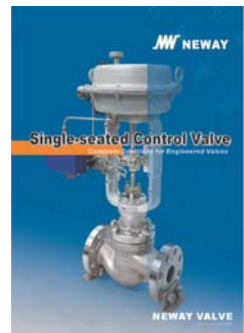
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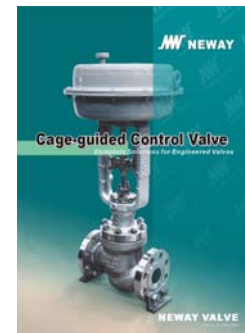
Cat.no.:E-HPC V



Cat.no.:E-FSV



Cat.no.:E-CSS



Cat.no.:E-CSC

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