

## **CAST STEEL Gate Valves**

### **Bolted Bonnet**

**Size:** 2" up to 60"

**Applicable area:** Desalination, Oil & Gas, Power plant, Marine, Chemical, Petrochemical plants etc



#### **BODY**

The cast steel body is designed to insure a wall thickness which is greater at any point the minimum specified by API standard 600

Special care has been taken with the design of the class 150 valve body so that the elliptically shaped centre section is free from intensified stresses in the critical area.

The body of above class 300 are made circular in shape as much as possible to minimize distortion even under extreme operating condition. Inlet and outlet port dimensions conform with ASME B16.34 pipefitting.

The welded –in type seat ring is standard to insure interchangeability.

Except for class 150, the standard body-bonnet joint is male and female.

#### **BONNET**

The bonnet and the valve body have the same wall thickness.

The body-bonnet flange drilling is spot-faced to exactly meet stud-bolt nuts.

The bonnet back seat bushing guarantees packing replacement even when the valve is fully opened.

The stem packing dimensions of the stuffing box are in accordance with API specification

#### **FLEXIBLE WEDGE**

The standard disc of our valves is a one- piece flexible wedge.

Slots are machined on both sides of wedge to allow it to travel correctly in the integrally cast body guides.

The wedge seating surfaces have been accurately machined, grind and lapped to a micro finish to leakage and eliminate galling.

#### **SEAT RING**

Bottom seated type seat rings are welded or screwed into the Body.

The seating surface is finished by lapping.

They are forgings that have been heat treated to deliver the best mechanical properties and required hardness.

The difference in hardness between seats and wedge is accordance with API specification

Subject to alternation

We reserve the right to make any technical modification. We are not responsible for any error in printing.

## Nero bolted bonnet Gate Valves

### STEM

The machined forged stem comes with a T-shape head, which connects the slat of the wedge.  
The spherically shaped contacting surface of the head gives greater strength and durability.  
The stem dimensions are in accordance with API standard 600 specification.  
The heat-treated stem delivers adequate mechanical properties as well as excellent surface hardness.  
The difference in hardness between seats and wedge is accordance with API specifications.

### YOKE SLEVE

The upper portion of the yoke sleeve is hexagonally tapered to fix the handwheel.  
The standard material of the yoke sleeve is nodular NI- resist D2 with over 1150°C dissolution point in accordance with API standard specification

### BOLTING

The body-bonnet bolts are manufactured in accordance with API Standard 600 specification.  
The nuts also strictly confirm with ANSI B1.1  
The stud –bolt nuts, hexagonal, rigid and hot –forged, bear material notation as well as do the bolt nuts made according to ANSI B16.2.2

### Available Body Material

Material	Specification	Material	Specification
Carbon steel	A216 WCB	Alloy 825	UNS N00825
Low temperature Carbon	A352 LCB	Alloy 625	A494 CW6MC
Low temperature Carbon	A352 LCC	Hastelloy C276	A494 CW12MW
5% Cr Steel	A217 C5	Monel 400	A494 M351
9% Cr. Steel	A217 C12	Nickle AL- Bz	B148 C95800
Low temperature 13Cr 4n	A352 CA6NM	Inconel 625	A494 CW6MC
410 stainless steel	A217 CA15	Duplex SS Gr.1	A351 CD4MCu
304 stainless steel	A351 CF8	Duplex SS Gr.2	A890 CE8MN
316 stainless steel	A351 CF8M	Duplex SS Gr.3	A890 CD6MN
317 Stainless steel	A352 CG8M	Duplex SS Gr.5	A890 CE3MN
Alloy 20	A351 CN7M	254SMO	A351 CK3MCuN
Gray iron	A125CLB	940L SS	A351 CN2MCuN
Ductile Iron	A395	Titanium Gr.2	B381 F2

### Available Trim Material

Nominal Trim	Material Type	Nominal Trim	Material Type
F6	13Cr	F6 and Hard faced	13Cr Ni-Cr
304	18Cr-8Ni	Monel	Ni-Cu alloy
F310	25Cr-20Ni	316	18Cr-88Ni
Hard F6	Hard 13Cr	Monel and hard faced	Ni-Cu alloy; Trim 5 or 5A
Hard faced	Cu-Cr A	316 and hard faced	18Cr-8Ni; Trim 6 or 5A
Hard faced	Ni- Cr	Alloy 20	19Cr-29Ni
F6 and Hard F6	13 Cr Hard 13Cr	Alloy 20 and Hard faced	19Cr-29Ni; trim 5 or 5A

**Rating:** ASME class 125 up to ASME class 2500

### End connection

RF: raised face flange / FF: Flat face flange / RTJ: ring joint type flange/ BW: Butt weld end

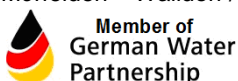
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### Nero Valves GmbH

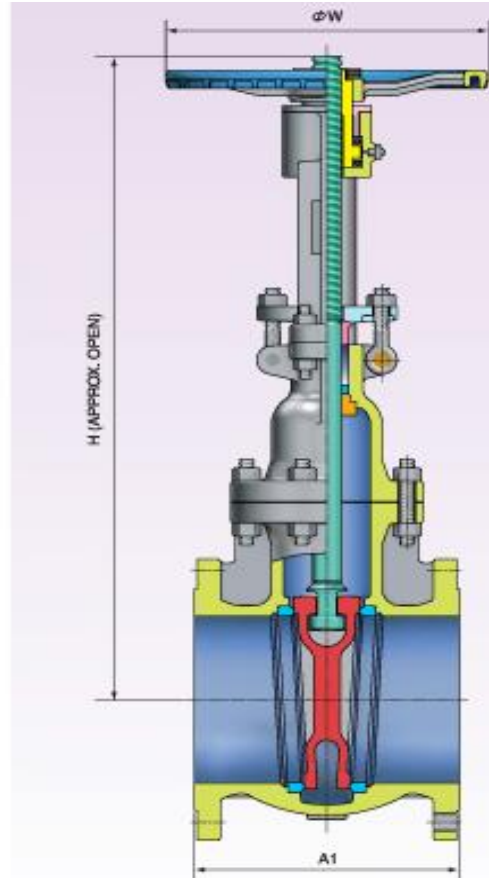
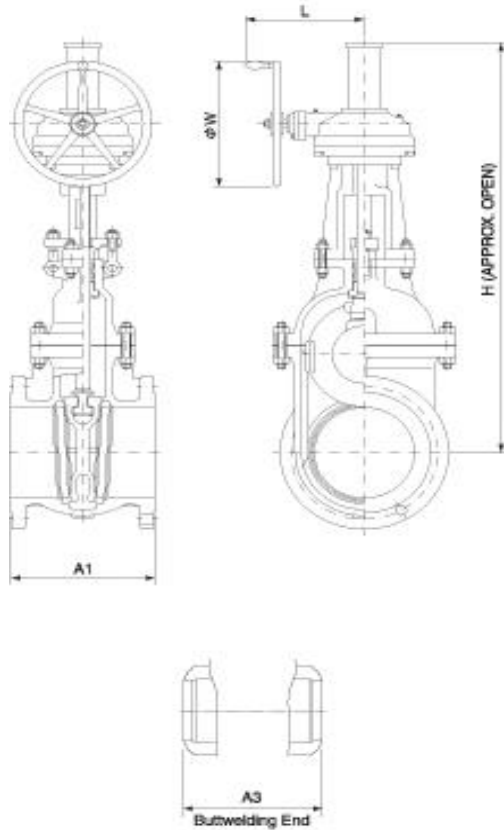
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**Gate Valves**  
Bolted Bonnet  
Class 150



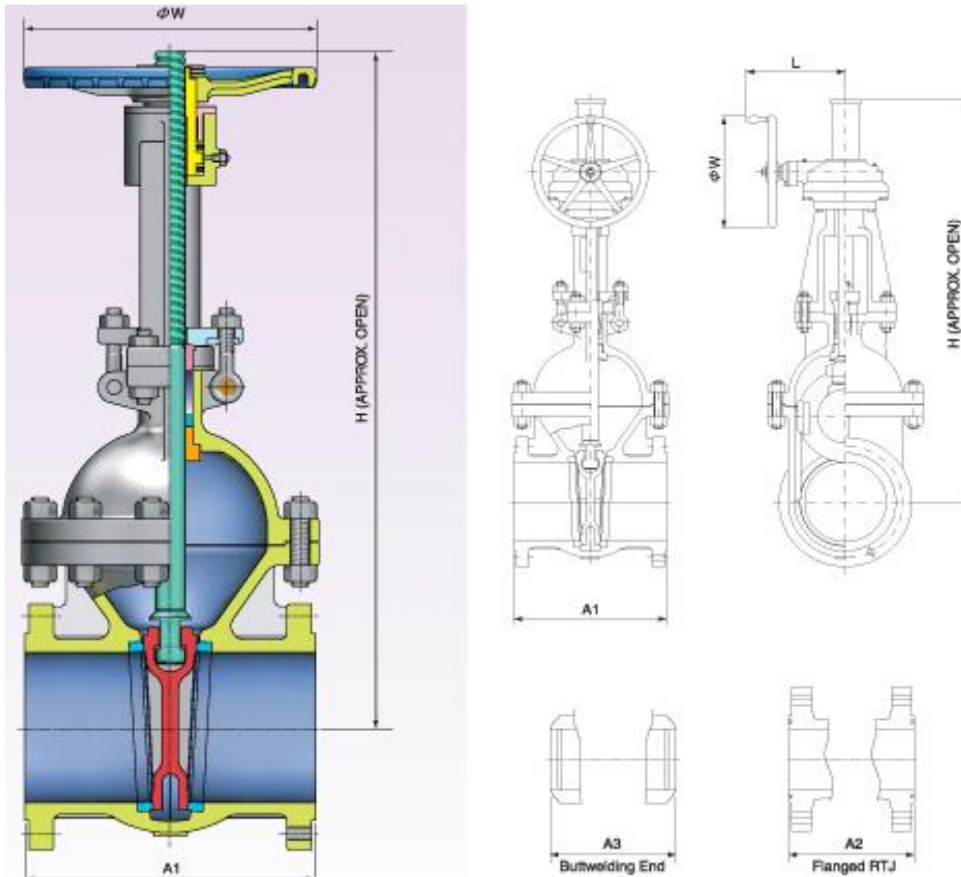
**Dimensions**

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36	48	42	48	52	
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900	1000	1050	1200	1300	
A1	in	7.0	7.5	8.0	9.0	10.5	11.5	13.0	14.0	15.0	16.0	17.0	18.0	20.0	24.0	24.0	26.0	30.0	32.0	34.0	36.0	
	mm	178	190	203	229	267	292	330	356	381	406	432	457	508	610	610	711	782	813	864	914	
A3	in	8.5	9.5	11.1	12.0	15.0	16.5	18.0	19.8	22.5	24.0	26.0	28.0	32.0	36.0	36.0	40.0	40.0	43.0	43.0	41.9	54.0
	mm	216	241	282	305	400	419	457	502	572	610	660	711	813	914	914	1016	1067	1092	1064	1372	
H	in	13.7	16.6	18.0	22.3	29.5	36.7	46.3	52.2	60.0	71.2	87.2	99.3	112.2	129.3	138.0	156.7	189.0	181.1	204.7	224.4	
	mm	347	422	457	566	749	931	1176	1326	1525	1800	2214	2522	2850	3284	3530	3980	4780	4600	5200	5700	
W	in	7.9	7.9	7.9	9.8	11.8	14.0	15.7	17.7	18.7	22.0	19.7	24.8	24.8	26.0	28.0	31.5	35.4	35.4	35.4	39.4	
	mm	200	200	200	250	300	355	400	450	500	560	500	630	630	710	710	800	900	900	900	1000	
L	in	-	-	-	-	-	-	-	-	-	13.5	15.3	15.3	16.0	16.0	18.1	19.1	19.1	19.1	20.8	23.2	
	mm	-	-	-	-	-	-	-	-	-	342	389	389	406	406	461	486	486	486	529	590	
WEIGHT	RF	lb	37.5	55.1	61.7	80.4	152.1	238.1	357.1	513.7	815.7	1177.3	1587.3	1851.9	3423.8	4817.1	5992.7	9740.0	10968.3	10445.5	15674.9	18738.3
		kg	17	25	28	41	69	106	162	239	370	534	720	840	1553	2185	2310	4418	4785	4738	7110	8500
	BW	lb	35.3	46.3	57.3	83.8	132.3	202.8	310.8	487.4	749.6	1111.1	1387.7	1611.6	3090.8	4634.1	4916.3	9438.0	8322.2	8878.1	14107.4	16865.4
		kg	16	21	26	38	60	92	141	212	340	504	634	731	1402	2102	2230	4281	4283	4526	6389	7650

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**Gate Valves**  
Bolted Bonnet  
Class 300



**Dimensions**

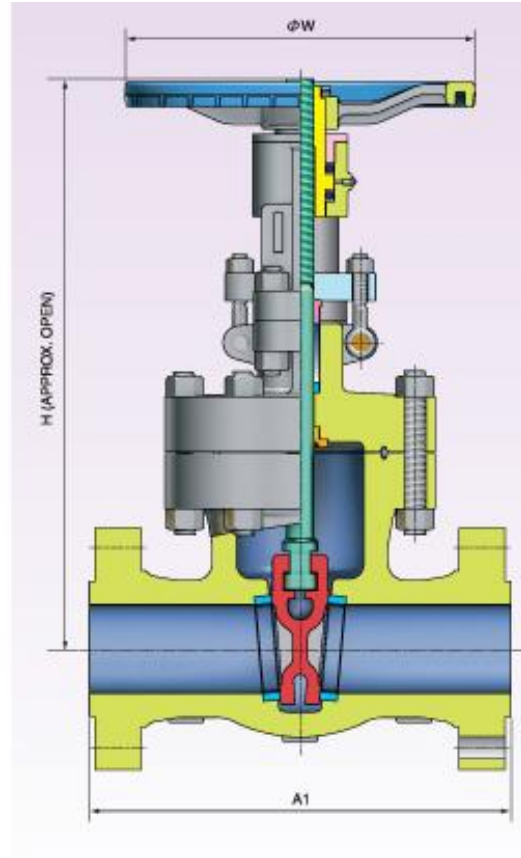
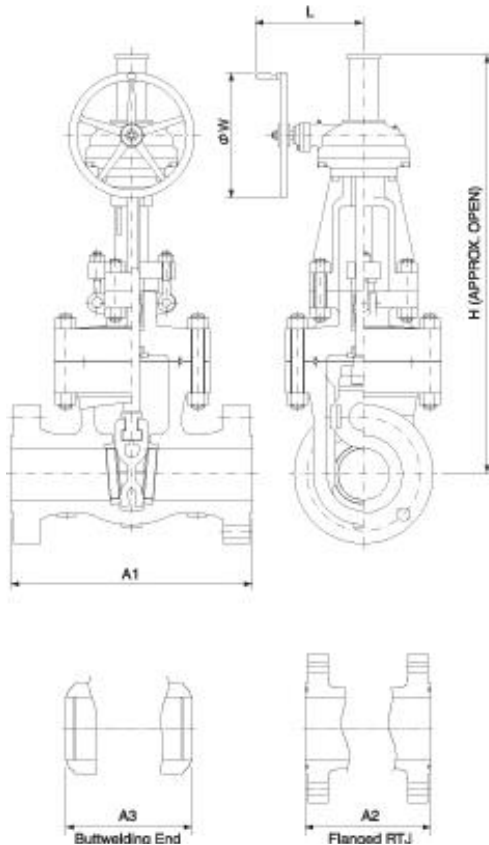
VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36	40	42	48	
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900	1000	1050	1200	
A1 & A3	in	8.5	9.5	11.1	12.0	15.8	16.5	18.0	19.8	30.0	33.0	36.0	38.0	45.0	53.0	55.0	68.0	76.0	78.0	87.2	
	mm	216	241	282	305	403	419	457	502	782	838	914	991	1143	1346	1397	1727	1930	1981	2215	
A2	in	9.1	10.1	11.7	12.6	16.5	17.1	18.6	20.4	30.6	33.6	36.6	39.8	45.9	54.0	56.0	69.1	-	-	-	
	mm	232	257	298	321	419	435	473	518	778	864	930	1010	1165	1372	1422	1756	-	-	-	
H	in	14.8	18.0	18.7	23.1	30.6	37.8	46.4	55.8	68.1	77.0	88.3	95.0	109.6	136.2	137.8	156.4	188.6	174.4	217.4	
	mm	375	456	475	586	776	963	1170	1417	1730	1955	2267	2414	2785	3490	3501	3973	4791	4430	5522	
W	in	7.9	7.8	8.9	9.8	14.0	15.7	17.7	18.7	19.7	24.8	24.8	31.5	35.4	35.4	35.4	35.4	39.4	39.4	39.4	
	mm	200	200	225	250	355	400	450	500	500	630	630	800	900	900	900	900	1000	1000	1000	
L	in	-	-	-	-	-	-	-	13.5	13.5	15.3	15.3	18.1	19.1	19.1	19.1	20.8	23.2	23.2	23.2	
	mm	-	-	-	-	-	-	-	342	342	369	389	461	486	486	486	529	580	580	580	
WEIGHT	RF	lb	50.7	63.8	88.2	134.5	269.0	412.3	604.1	1005.3	1568.9	2392.0	3082.1	3518.6	5304.3	6069.9	9678.3	15101.7	18651.1	20943.9	27337.3
		kg	23	38	40	61	122	187	274	456	723	1065	1398	1526	2406	2990	4300	6850	8480	9500	12408
	BW	lb	46.3	70.5	77.2	92.6	260.1	300.7	460.6	602.5	1210.3	1907.0	2638.9	2985.1	4440.1	6065.2	8842.7	13098.6	13580.5	14991.4	19641.8
		kg	21	32	35	42	118	150	218	264	548	865	1197	1354	2014	2714	4011	5827	6160	6800	9000

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## Gate Valves

Bolted Bonnet  
Class 600



### Dimensions

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36	40	42	
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900	1000	1050	
A1 & A3	in	11.5	13.0	14.0	17.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0	61.0	65.0	82.0	94.0	96.0	
	mm	292	330	366	432	559	660	787	838	889	991	1092	1194	1397	1549	1651	2063	2387	2438	
A2	in	11.6	13.1	14.1	17.1	22.1	26.1	31.1	33.1	35.1	39.1	43.1	47.2	55.4	61.5	65.5	82.6	-	-	
	mm	293	333	359	435	562	663	792	841	892	994	1095	1200	1407	1562	1663	2066	-	-	
H	in	18.5	19.4	22.0	26.9	37.4	42.6	49.8	66.9	73.0	84.3	103.0	108.2	111.1	128.8	138.6	179.5	207.6	240.1	
	mm	471	494	558	682	951	1081	1264	1690	1855	2140	2616	2740	2823	3272	3521	4560	5273	6098	
W	in	8.8	8.8	9.8	11.8	17.7	19.7	24.8	24.8	24.8	28.0	31.5	31.5	35.4	35.4	39.4	39.4	39.4	39.4	
	mm	224	224	250	300	450	500	630	630	630	710	800	800	900	900	1000	1000	1000	1000	
L	in	-	-	-	-	-	-	15.3	15.3	16.0	18.1	18.1	18.1	19.1	20.8	23.2	23.2	23.2	24.4	
	mm	-	-	-	-	-	-	389	389	405	461	461	461	486	529	590	590	590	619	
WEIGHT	RF	lb	94.8	132.3	154.3	295.4	628.3	987.7	1499.1	2398.6	2892.5	4146.9	5216.1	7060.4	10472.0	13340.2	15311.1	21473.0	23258.8	24140.
		kg	43	60	70	134	285	448	680	1068	1312	1881	2366	3198	4750	6051	6045	9740	10550	10950
	BW	lb	61.7	99.2	132.3	229.3	451.9	690.0	1179.5	2151.7	2471.4	3558.3	4499.6	6139.9	9171.2	12202.6	13276.2	17945.6	18627.5	21536.
		kg	28	45	60	104	205	313	535	976	1121	1614	2041	2785	4160	5635	6022	8140	8540	9770.

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**Nero Valves GmbH**

Mörfelden – Walldorf / Germany

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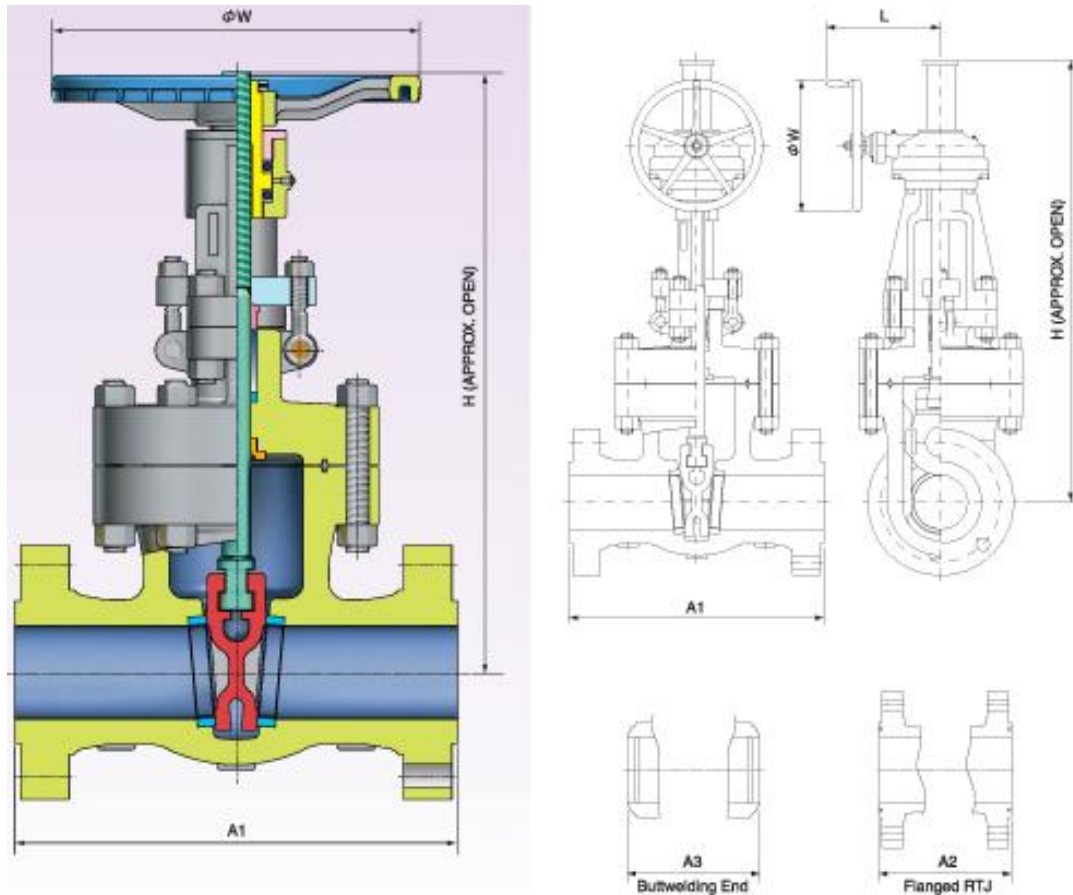
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## Gate Valves

Bolted Bonnet  
Class 900



### Dimensions

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	
	mm		50	65	80	100	150	200	250	300	350	400	450	500	600
A1 & A3	in		14.5	16.5	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5	48.0	52.0	61.0
	mm		368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
A2	in		14.6	16.6	15.1	18.1	24.1	29.1	33.1	38.1	40.9	44.9	48.5	52.5	61.7
	mm		371	422	384	460	613	740	841	968	1038	1140	1232	1334	1568
H	in		21.0	26.4	26.6	30.8	35.0	48.8	71.2	75.7	72.0	80.2	86.4	110.2	124.0
	mm		534	671	676	783	888	1239	1808	1923	1830	2036	2195	2800	3150
W	in		11.8	11.8	14.0	15.7	22.0	19.7	24.8	28.0	28.0	31.5	35.4	35.4	39.4
	mm		300	300	355	400	560	500	630	710	710	800	900	900	1000
L	in		-	-	-	-	-	13.5	15.3	16.0	16.0	18.1	19.1	23.2	23.2
	mm		-	-	-	-	-	342	389	406	406	461	486	590	590
WEIGHT	RF	lb	180.8	341.7	363.8	383.6	998.7	1829.8	3042.4	3398.5	4894.3	6613.9	8531.9	10714.5	16063.7
		kg	82	155	165	174	453	830	1380	1542	2220	3000	3870	4860	7300
	BW	lb	130.1	286.6	291.0	295.4	822.3	1536.6	2627.9	2844.0	4166.7	5881.9	7275.3	8928.7	13492.3
		kg	59	130	132	134	373	697	1192	1290	1890	2668	3300	4050	6120

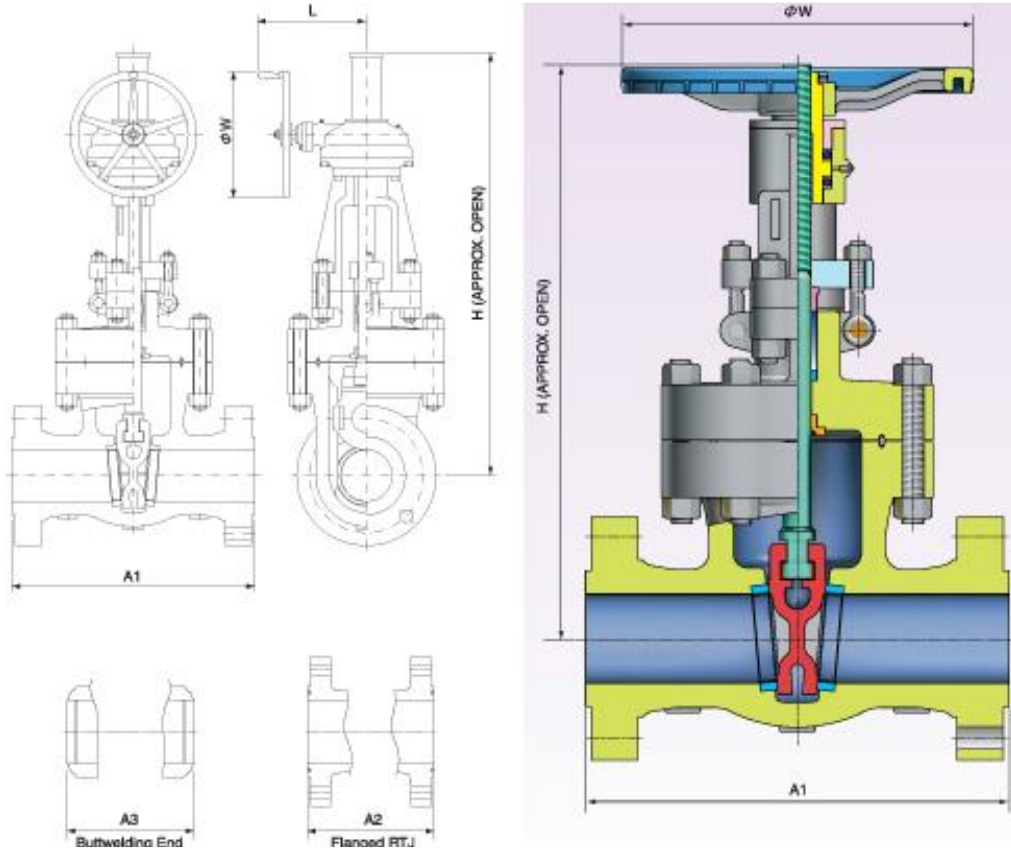
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## Gate Valves

Bolted Bonnet  
Class 1500



### Dimensions

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	
A1 & A3	in	14.5	16.5	18.5	21.5	27.8	32.8	39.0	44.5	49.5	54.5	60.5	65.5	76.5	
	mm	368	418	470	546	706	832	991	1130	1257	1384	1537	1664	1943	
A2	in	14.6	16.6	18.6	21.6	28.0	33.1	39.4	45.1	50.2	55.4	61.4	66.4	77.6	
	mm	371	422	473	549	711	842	1000	1146	1276	1406	1559	1686	1971	
H	in	21.0	26.4	29.1	30.8	51.9	63.0	66.4	82.3	86.1	97.9	108.7	122.1	146.5	
	mm	534	671	738	783	1318	1600	1686	2090	2162	2486	2762	3102	3721	
W	in	11.8	11.8	15.7	19.7	19.7	28.0	28.0	35.4	36.4	35.4	39.4	39.4	39.4	
	mm	300	300	400	500	500	710	710	900	900	900	1000	1000	1000	
L	in	-	-	-	-	13.5	18.0	16.0	19.1	20.8	20.8	23.2	23.2	24.4	
	mm	-	-	-	-	342	406	406	486	529	529	590	590	619	
WEIGHT	HF	lb	180.8	341.7	370.4	573.2	1360.3	3284.9	4411.4	8412.8	9072.0	15322.1	19841.6	24537.4	35866.2
		kg	82	155	168	260	617	1490	2001	3816	4115	6950	9000	11130	16270
	BW	lb	130.1	286.6	286.6	352.7	874.4	2755.8	3540.6	7079.0	7054.8	13227.7	17063.8	21076.2	30357.6
		kg	59	130	130	160	442	1250	1606	3211	3200	6000	7740	9560	13770

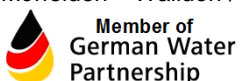
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**Nero Valves GmbH**

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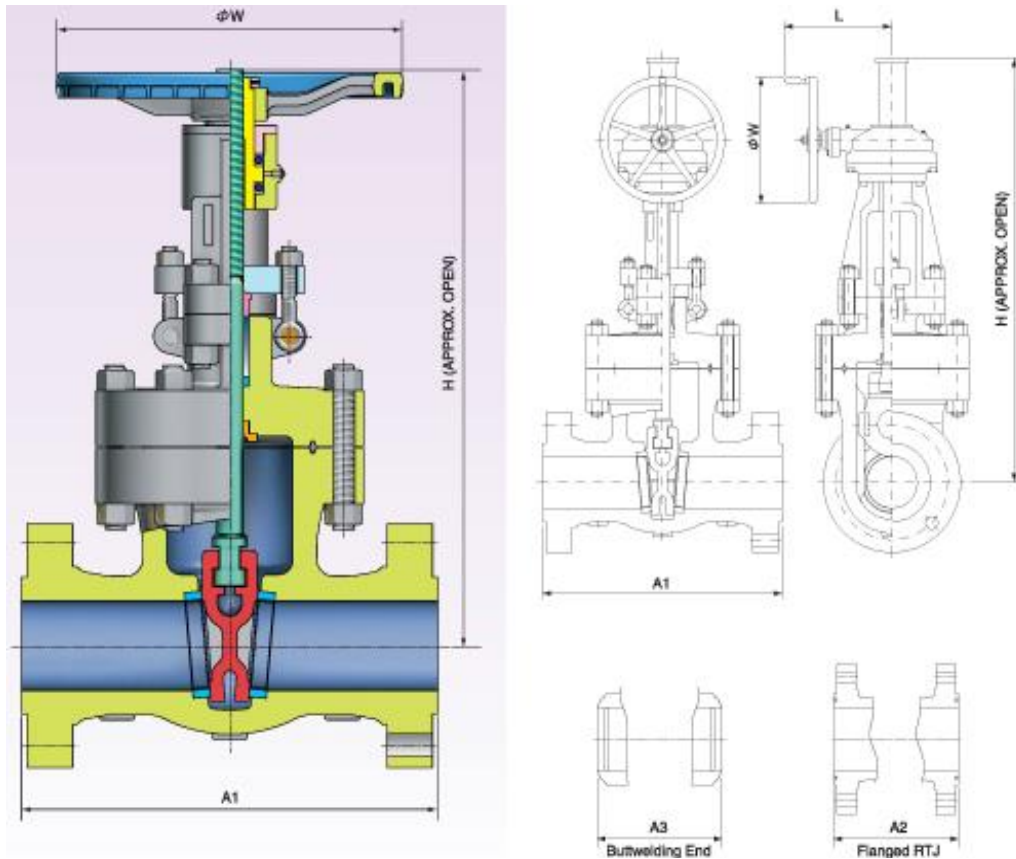
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## Gate Valves

Bolted Bonnet  
Class 2500



### Dimensions

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	
	mm		50	65	80	100	150	200	250	300
A1 & A3	in	17.8	20.0	22.8	26.5	36.0	40.2	50.0	56.0	
	mm	451	508	578	673	914	1022	1270	1422	
A2	in	17.9	20.2	23.0	26.9	36.5	40.9	50.9	56.9	
	mm	454	514	584	683	927	1038	1292	1444	
H	in	24.4	31.9	31.9	42.3	57.1	63.0	82.5	90.2	
	mm	619	809	809	1074	1451	1600	2096	2292	
W	in	11.8	17.7	17.7	24.8	24.8	28.0	31.5	35.4	
	mm	300	450	450	630	630	710	800	900	
L	in	-	-	-	-	15.3	16.0	18.1	20.8	
	mm	-	-	-	-	389	406	461	529	
WEIGHT	RF	lb	205.0	330.7	443.1	1336.0	3506.3	5379.3	10083.9	15829.2
		kg	93	150	201	606	1590	2440	4574	7180
	BW	lb	127.8	220.5	288.8	1082.5	2866.0	4409.2	8377.6	13227.7
		kg	58	100	131	491	1300	2000	3800	6000

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**Nero Valves GmbH**

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