

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATIC, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

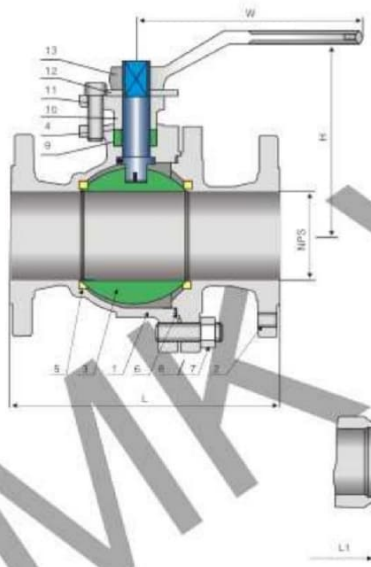
Design descriptions:

- FULL PORT DESIGN
- BG BOLTED BONNET, SPLIT BODY
- FLOATING BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE DURABLE CONSTRUCTION
- ANTI STATIC DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR

Materials of Parts

No	Part Name	Carbon Steel	Stainless Steel	Low Temperature Carbon Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat Ring		R,PTFE	
6	Bonnet Gasket	Graphite+304 ²⁾	PTFE	Graphite+304 ²⁾
7	Bonnet stud	A193-B7	A193-B8	A320-L7
8	Bonnet Stud Nut	A194-2H	A194-B	A194-4
9	Packing		PTFE	
10	Gland Flange	A216-WCB	A351-CF8M	A352-LCB
11	Gland Bolt	A193-B7	A193-B8	A193-L7
12	Stop Plate	Carbon Steel	Carbon steel+Zn	Carbon Steel
13	Handle		Carbon Steel	

Note 1)A182-F304 optional
2)Special wound construction



Dimensional datas of ANSI Class 150Lb

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	in
	15	20	25	40	50	65	80	100	150	200	250	300	mm
L (RF)	4.25	4.62	5.00	6.50	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	in
	108	117	127	165	178	190	203	229	394	457	533	610	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	in
	140	152	165	190	216	241	283	305	457	521	559	635	mm
H	2.12	2.12	2.75	3.50	4.12	6.12	7.25	8.00	10.00	11.00	13.50	16.50	in
	55	55	70	90	105	155	185	205	255	280	345	420	mm
W	5	5	6	8	14	16	20	20	24	32	32	32	in
	130	130	160	200	350	400	500	500	600	800	800	800	mm
wt(kg)	2.3	3	4.5	7	9.5	15	19	33	93	160	200	280	
	1.8	2.8	3.7	6.2	8.5	14	21	35	98	170	225	295	BW

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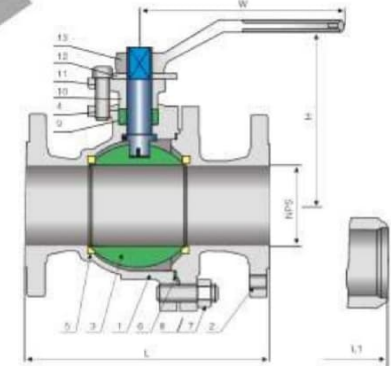
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2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Ball	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾
4	Stem	A276-304	A276-316	A276-304
5	Seat Ring		R,PTFE	
6	Bonnet Gasket	Graphite+304 ²⁾	PTFE	Graphite+304 ²⁾
7	Bonnet stud	A193-B7	A193-B8	A320-L7
8	Bonnet Stud Nut	A194-2H	A194-B	A194-4
9	Packing		PTFE	
10	Gland Flange	A216-WCB	A351-CF8M	A352-LCB
11	Gland Bolt	A193-B7	A193-B8	A193-B7
12	Stop Plate	Carbon Steel	Carbon steel+Zn	Carbon Steel
13	Handle		Carbon Steel	

Note: 1)A182-F304 optional
2)Special wound construction



Dimensional datas of ANSI Class 300Lb

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	in
	15	20	25	40	50	65	80	100	150	200	250	mm
L (RF)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.88	19.75	22.38	in
	140	152	165	190	216	241	283	305	403	502	568	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	in
	140	152	165	190	216	241	283	305	457	521	559	mm
H	2.12	2.12	2.75	3.50	4.12	6.12	7.25	8.00	10.00	11.00	13.50	in
	55	55	70	90	105	153	187	206	255	280	345	mm
W	5	5	6	8	14	16	20	20	24	32	32	in
	130	130	160	200	350	400	500	500	600	800	800	mm
wt(kg)	2.5	3.5	5.5	10.5	14.5	23.5	30	55	118	200	250	
	1.8	2	3.2	5.5	8.7	15	18	36	85	152	182	BW

Dimensional datas of ANSI Class 600Lb

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	in
	15	20	25	40	50	65	80	mm
L1.1 (RF/BW)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	in
	165	190	216	241	292	330	356	mm
L2 (RTJ)	-	-	-	-	11.62	13.12	14.12	in
	-	-	-	-	295	333	359	mm
H	2.38	2.38	3.00	4.00	4.75	6.88	8.38	in
	61.5	61.5	78	101	120	174	212	mm
W	5	6	8	14	16	20	24	in
	130	160	200	350	400	500	600	mm
wt(kg)	3.3	4.5	7.2	13.5	19	31	39	
	2.6	3.1	4.8	8	3	22	27	BW

Dimensional datas

Size inch	Class	Torque N.m	Flange Dimensions (mm)							ISO5211 Flange No.	Key Size Kxk mm	G mm	D mm	h mm	H mm
			A	B	C	f	t	n-d	P						
6	150	631	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	188
	300	854	150	125	85	3	18	4-13	10	F12	10x10	41	36	55	188
	600	1609	175	140	100	4	20	4-18	10	F14	12x12	51	45	65	208
	900	1927	210	165	130	5	22	4-22	12	F16	14x14	62	55	80	215
	1500	3512	210	165	130	5	24	4-22	14	F16	16x16	68	60	90	235
8	2500	5454	300	254	200	5	28	8-18	16	F25	16x16	73	65	95	270
	150	987	210	165	130	5	20	4-22	10	F16	12x12	51	45	60	233
	300	1562	210	165	130	5	20	4-22	10	F16	12x12	51	45	60	233
	600	2501	210	165	130	5	22	4-22	12	F16	14x14	62	55	80	249
	900	4012	210	165	130	5	22	4-22	14	F16	16x16	38	60	90	266
10	1500	6513	300	254	200	5	28	8-18	16	F25	18x18	79	70	105	285
	2500	8495	300	254	200	5	32	8-18	16	F25	18x18	84	75	110	355
	150	1321	210	165	130	5	20	4-22	12	F16	14x14	62	55	80	278
	300	2304	210	165	130	5	20	4-22	12	F16	14x14	62	55	80	278
	600	3450	210	165	130	5	24	4-22	14	F16	16x16	68	60	90	300
12	900	5017	300	254	200	5	25	8-18	16	F25	18x18	79	70	105	315
	1500	7996	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	345
	2500	13148	300	254	200	5	32	8-18	16	F25	20x20	95	85	125	412
	150	1650	210	165	130	5	24	4-22	14	F16	16x16	68	60	90	318
	300	3041	210	165	130	5	24	4-22	14	F16	16x16	68	60	90	320
14	600	4507	300	254	200	5	25	8-18	16	F25	18x18	79	70	105	345
	900	6512	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	360
	1500	10078	300	254	200	5	30	8-18	16	F25	20x20	95	85	125	408
	2500	18007	350	298	260	5	38	8-22	20	F30	24x24	107	95	140	478
	150	2415	300	254	200	5	26	8-18	16	F25	16x16	73	65	95	353
16	300	4019	300	254	200	5	26	8-18	16	F25	16x16	73	65	95	360
	600	6578	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	376
	900	9489	300	254	200	5	28	8-18	16	F25	20x20	95	85	125	388
	1500	14860	300	254	200	5	35	8-18	16	F25	24x24	107	95	140	448
	150	3314	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	393
18	300	5350	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	406
	600	9025	300	254	200	5	28	8-18	16	F25	20x20	95	85	125	414
	900	12877	300	254	200	5	30	8-18	16	F25	24x24	107	95	140	442
	1500	21857	350	298	230	5	35	8-22	20	F30	28x28	119	105	155	490
	150	5148	300	254	200	5	28	8-18	16	F25	18x18	84	75	110	435
20	300	8375	300	254	200	5	28	8-18	16	F25	20x20	95	85	125	448
	600	13493	300	254	200	5	30	8-18	16	F25	24x24	107	95	140	458
	900	18975	350	298	230	5	32	8-22	20	F30	28x28	119	105	165	487
	1500	29032	350	298	230	5	38	8-22	20	F30	32x32	136	120	180	545
	150	6425	300	254	200	5	30	8-18	16	F25	20x20	90	80	120	477
24	300	10987	300	254	200	5	30	8-18	16	F25	24x24	107	95	140	485
	600	18502	350	298	230	5	32	8-22	20	F30	28x28	119	105	165	510
	900	26048	350	298	230	5	38	8-22	20	F30	32x32	136	120	180	530
	1500	40907	415	356	260	5	42	8-33	28	F35	36x36	158	140	210	580
	150	12379	300	254	200	5	32	8-18	16	F25	24x24	102	90	135	562
24	300	19384	350	298	230	5	32	8-22	20	F30	28x28	124	110	165	565
	600	29546	350	298	230	5	38	8-22	20	F30	32x32	136	120	180	602
	900	42379	415	356	260	5	42	8-33	28	F35	36x36	158	140	210	630
1500	65223	475	406	300	8	48	8-39	28	F40	40x40	180	160	240	730	

Notes:

- The above table is for TF, TW&TT series valves, which are with ISO 5211 mounting flange and adaptability for all types actuators mounting.
- The torque is for valves with PTFE seat or Nylon seat as per different size/class selection.
- The torque value showed in above table is the valve torque at normal temperature. For customer's sizing actuator:
 - If medium temperature is -10°C~40°C, the output torque of actuator should be 1.5 time the valve torque;
 - If medium temperature is -10°C, the output torque of actuator should be 2 or 2.5 time the valve torque;

Specification for Seat Materials

	PTFE	RPTFE	Molon(Nylon+MoS2)	PEEK
Tensile Strength(MPa)	24.8	25.4	75-100	91
Compressive Strength(MPa)	35	52	100-140	137
Elongation(%)	250	120	10-30	50
Hardness(SH.A)	56	60	78	82
Water Absorption(%)	<0.01	<0.01	0.7	0.12
Specific Gravity(G/cm3)	2.2	2.2	1.2	1.35
Temperature Range(°F)	-300-400	-150-425	-40-300	-150-500
Pressure Rating(Class)	150-600	150-600	150-1500	150-1500
Service Application	Chemical & Cryogenic	Chemical & Cryogenic	HighPressure & LowTemperature	HighPressure & LowTemperature
	Nylon1010	Nylon12	DevlonV	Delrin
Tensile Strength(MPa)	55	60	80	68
Compressive Strength(MPa)	70	79	140	110
Elongation(%)	150	200	5.37	220
Hardness(SH.A)	70	75	78	78
Water Absorption(%)	0.3	0.2	0.1	0.2
Specific Gravity(G/cm3)	1.01	1.01	1.14	1.41
Temperature Range(°F)	-40-200	-58-250	-150-300	-58-230
Pressure Rating(Class)	600-1500	600-1500	150-1500	150-1500
Service Application	HighPressure & LowTemperature	HighPressure & LowTemperature	HighPressure & LowTemperature	HighPressure & LowTemperature

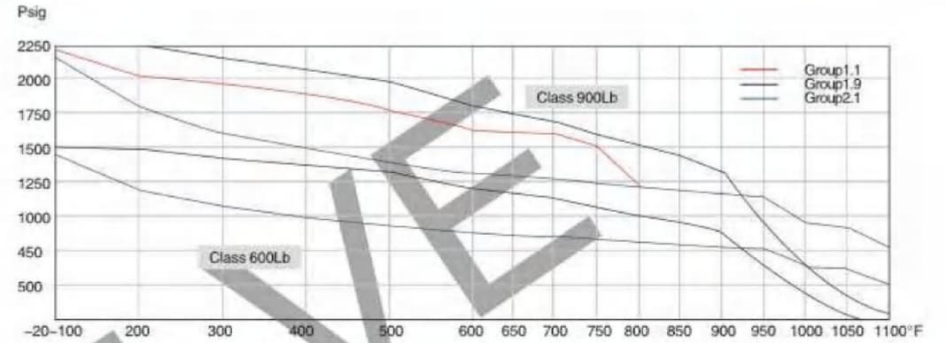
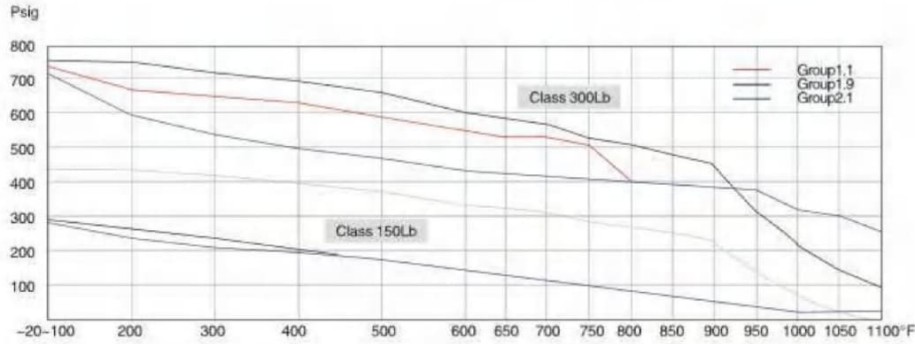
Specification for Seat Materials

	VitonA	NBR	VitonB	NBR(HSN)	Viton AED
Temperature Range(°F)	-20-400	-20-400	-20-400	-40-320	-20-480
Hardness(SH.A)	70	70	70	80	90
Specific Gravity(G/cm3)	1.85	1.85	1.85	1.33	1.9
Service Application	PetroleumOils, Gasoline, TransmissionFluid	PetroleumOils, Water, HydraulicOils	MineralAcid, Steam, MTBE	PetroleumOils, H2S&C O2 Anti-Explosive Decompression	PetroleumOils, H2S&C O2 Anti-Explosive Decompression

Specification for Seat Materials

	Flexible Graphite	SpiralWound 316+Graphite	PTFE	SpiralWound Monel+P TFE
Temperature Range(°F)	-300-800	-300-800	-300-400	-300-400
PH	0-14	0-14	0-14	0-14
Service Application	Fire-safe	Fire-safe	Cryogenic, HighCorrosive	HighCorrosive

*Due to quick develop, we reserve the right to institute changes in material, design and specifications for all GMK designed valves without prior notice.



ASME B16.34 Maximum Allowable Non-Shock Pressure

Psig

TEMPERATURE		ASTM MATERIALS															
		ANSI Class 150Lb							ANSI Class 300Lb								
°F	°C	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2
-20-100	-20-38	285	290	265	290	290	290	275	275	740	750	695	750	750	750	720	720
200	93	260	260	250	230	260	260	230	235	670	750	655	750	750	745	600	620
300	149	230	230	230	230	230	230	205	215	655	730	640	720	720	715	540	560
400	204	200	200	200	200	200	200	190	195	635	705	620	695	695	705	495	515
500	260	170	170	170	170	170	170	170	170	600	665	585	665	665	665	465	480
600	316	140	140	140	140	140	140	140	140	550	605	535	605	605	605	435	450
650	343	125	125	125	125	125	125	125	125	535	590	525	590	590	590	430	445
700	371	110	110	110	110	110	110	110	110	535	570	500	570	570	570	425	430
750	399	95	95	95	95	95	95	95	95	505	505	430	530	530	530	415	425
800	427	80	80	80	80	80	80	80	80	410	410	340	510	510	510	405	420
850	454				65	65	65	65	65				485	485	485	395	420
900	482				50	50	50	50	50				450	450	370	390	415
950	510				35	35	35	35	35				320	375	275	380	385
1000	538				20	20	20	20	20				215	260	200	320	350
1050	566				20	20	20	20	20				145	175	145	310	345
1100	593				20 ^f	20 ^f	20 ^f	20 ^f	20 ^f				95	110	100	255	305

TEST PRESSURE BY API 598

Hydrostatic shell test	450	450	400	450	450	450	425	425	1125	1125	1050	1125	1125	1125	1100	1100
Hydrostatic seal test	315	320	295	320	320	320	305	305	815	825	765	825	825	825	795	795
Air seat test	80 ± 20															

Metric conversions by API STD 2504 pressure: 1 pound per square inch (psi) = 0.06894757 bar = 0.06894757 MPa temperature: °C = (5/9)(°F - 32)

ASME B16.34 Materials Group			
Group 1.1	A105 ^{a)}	A216-WCB ^{b)}	
Group 1.2	A216-WCC ^{c)}	A352-LCC ^{d)}	
Group 1.3	A352-LCB ^{e)}		
Group 1.9	A217-WC6 ^{f)}		
Group 1.10	A217-WC9 ^{f)}		
Group 1.13	A217-C5		
Group 2.1	A182-F304	A351-CF8	A351-CF3 ^{g)}
Group 2.2	A182-F316	A352-CF8M	A351-CF3M ^{g)}

- a) Not to be used over 650°F (343°C).
- b) Not to be used over 650°F (427°C).
- c) Not to be used over 650°F (538°C).
- d) Not to be used over 650°F (593°C).
- e) Permissible, but not recommended for prolonged use above 800°F (427°C).
- f) For welding end valve only, flanged end rating terminates at 1000°F (538°C).

ASME B16.34 Maximum Allowable Non-Shock Pressure

Psig

TEMPERATURE		ASTM MATERIALS															
		ANSI Class 600Lb								ANSI Class 900Lb							
°F	°C	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2
-20-100	-20-38	1480	1500	1390	1500	1500	1490	1200	1240	2220	2250	2085	2250	2250	2235	1800	1860
200	93	1350	1500	1315	1500	1500	1430	1080	1120	1970	2185	1915	2165	2185	2150	1620	1680
300	149	1315	1455	1275	1445	1455	1430	1080	1120	1970	2185	1915	2165	2185	2150	1620	1680
400	204	1270	1410	1235	1385	1410	1410	995	1025	1900	2115	1850	2080	2115	2115	1490	1540
500	260	1200	1330	1165	1330	1330	1330	930	955	1795	1995	1745	1995	1995	1995	1395	1435
600	316	1095	1210	1065	1210	1210	1210	875	1640	1640	1815	1600	1815	1815	1815	1310	1355
650	343	1075	1175	1045	1175	1175	1175	860	1610	1610	1765	1570	1765	1765	1290	1330	
700	371	1065	1135	1015	1135	1135	1135	850	1600	1600	1705	1570	1705	1705	1275	1305	
750	399	1010	1010	905	1065	1065	1055	830	1510	1510	1510	1510	1595	1595	1585	1245	1280
800	427	825	825	745	1015	1015	1015	805	1235	1235	1235	1235	1525	1525	1525	1210	1265
850	454				975	975	965	790					1460	1460	1450	1190	1255
900	482				900	900	740	780					1350	1350	1110	1165	1245
950	510				640	755	550	765					955	1130	825	1145	1160
1000	538				430	520	400	640					650	790	595	965	1050
1050	566				290	350	290	615					430	525	430	925	1030
1100	593				190	220	200	515					290	330	300	770	915

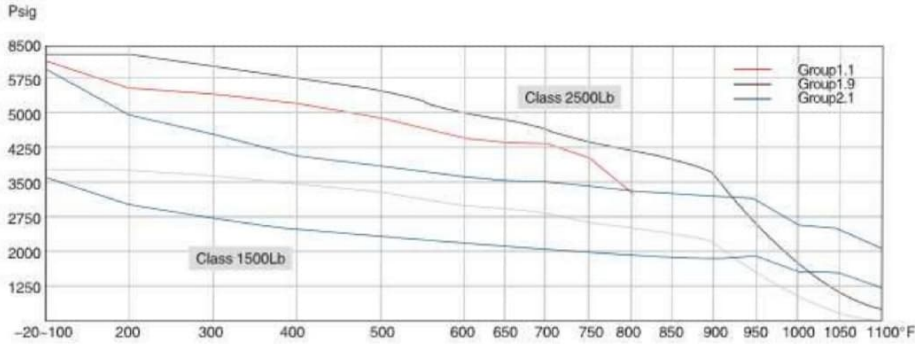
TEST PRESSURE BY API 598

Hydrostatic shell test	2225	2250	2100	2250	2250	2250	2175	3350	3350	3375	3150	3375	3375	3250	3250	3250
Hydrostatic seal test	1630	1650	1530	1650	1650	1650	1585	2445	2445	2475	2295	2475	2475	2380	2380	2380
Air seat test	80 ± 20															

Metric conversions by API STD 2504 pressure: 1 pound per square inch (psi) = 0.06894757 bar = 0.06894757 MPa temperature: °C = (5/9)(°F - 32)

ASME B16.34 Materials Group			
Group 1.1	A105 ^{a)}	A216-WCB ^{b)}	
Group 1.2	A216-WCC ^{c)}	A352-LCC ^{d)}	
Group 1.3	A352-LCB ^{e)}		
Group 1.9	A217-WC6 ^{f)}		
Group 1.10	A217-WC9 ^{f)}		
Group 1.13	A217-C5		
Group 2.1	A182-F304	A351-CF8	A351-CF3 ^{g)}
Group 2.2	A182-F316	A352-CF8M	A351-CF3M ^{g)}

- a) Not to be used over 650°F (343°C).
- b) Not to be used over 650°F (427°C).
- c) Not to be used over 650°F (538°C).
- d) Not to be used over 650°F (593°C).
- e) Permissible, but not recommended for prolonged use above 800°F (427°C).



ASME B16.34 Maximum Allowable Non-Shock Pressure Psig

TEMPERATURE		ASTM MATERIALS															
		ANSI Class 1500Lb								ANSI Class 2500Lb							
F	°C	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2
-20-100	-20-38	3705	3750	3470	3750	3750	3750	3600	3600	6170	6250	5785	6250	6250	6250	6000	6000
200	93	3375	3750	3280	3750	3750	3725	3000	3095	5625	5625	5470	6250	6250	6205	5000	5160
300	149	3280	3640	3190	3610	3640	3580	2700	2795	5470	6070	5315	6015	6070	5965	4500	4660
400	204	3170	3530	3085	3465	3530	3530	2485	2570	5280	5880	5145	5775	5880	5880	4140	4280
500	260	2995	3325	2910	3325	3325	3325	2330	2390	4990	5540	4850	5540	5540	5540	3880	3980
600	316	2735	3025	2665	3025	3025	3025	2185	2255	4560	5040	4440	5040	5040	5040	3640	3760
650	343	2685	2940	2615	2940	2940	2940	2150	2220	4475	4905	4355	4905	4905	4905	3580	3700
700	371	2665	2840		2840	2840	2840	2125	2170	4440	4730		4730	4730	4730	3540	3620
750	399	2520	2520		2660	2660	2640	2075	2135	4200	4200		4430	4430	4400	3460	3560
800	427	2060	2060		2540	2540	2540	2015	2110	3430	3430		4230	4230	4230	3360	3520
850	454				2435	2435	2415	1980	2090				4060	4060	4030	3300	3480
900	482				2245	2245	1850	1945	2075				3745	3745	3085	3240	3460
950	510				1595	1885	1370	1910	1930				2655	3145	2285	3180	3220
1000	538				1080	1305	995	1605	1750				1800	2170	1655	2675	2915
1050	566				720	875	720	1545	1720				1200	1455	1200	2570	2865
1100	593				480	550	495	1285	1525				800	915	830	2145	2545

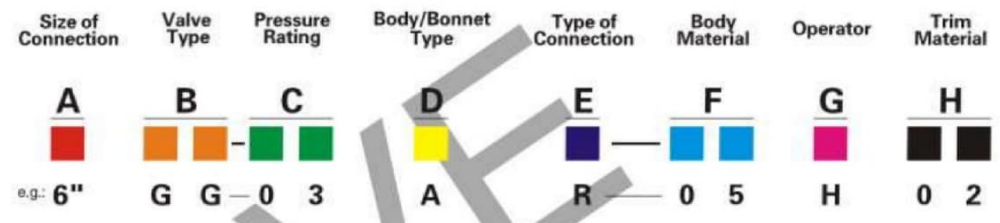
TEST PRESSURE BY API 598

Hydrostatic shell test	5575	5625	5225	5625	5625	5625	5400	5400	9275	9375	8700	9375	9375	9375	9375	9000	9000
Hydrostatic seal test	4080	4125	3820	4125	4125	4125	2960	3960	6790	6875	6365	6875	6875	6875	6600	6600	
Air seat test	80 ± 20																

Metric conversions by API STD 2564 pressure (pound per square inch)(psig) = 0.06894757 bar = 0.006894757 MPa temperature (°C) = (°F) - 32

ASME B16.34 Materials Group			
Group 1.1	A105 ^{a)}	A216-WCB ^{a)}	
Group 1.2	A216-WCC ^{a)}	A352-LCC ^{a)}	
Group 1.3	A352-LCB ^{a)}		
Group 1.9	A217-WC9 ^{b)}		
Group 1.10	A217-WC9 ^{b)}		
Group 1.13	A217-C5		
Group 2.1	A182-F304	A351-CF8	A351-CF3 ^{b)}
Group 2.2	A182-F316	A352-CF8M	A351-CF3M ^{b)}

- a) Not to be used over 650°F(343°C).
- b) Not to be used over 650°F(427°C).
- c) Not to be used over 650°F(538°C).
- b) Not to be used over 650°F(538°C).
- e) Permissible, but not recommended for prolonged use above 800°F(427°C).



Example: Flanged 6" class 300 cast stainless steel full bore gate valve with trim 02.

The figure numbers shown on this key are designed to cover essential features of GMK valves. Please use figure numbers to ensure prompt and accurate processing of your order. A detailed description must accompany any special orders.

A Size of Connection	2"(50mm)	8"(200mm)	20"(500mm)	32"(800mm)	
	2 1/2"(65mm)	10"(250mm)	22"(550mm)	34"(850mm)	
	3"(80mm)	12"(300mm)	24"(600mm)	36"(900mm)	
	4"(100mm)	14"(350mm)	26"(650mm)	40"(950mm)	
	5"(125mm)	16"(400mm)	28"(700mm)	42"(1050mm)	
	6"(150mm)	18"(450mm)	30"(750mm)	48"(1200mm)	
B Valve Type	GG-Gate Valve GL-Globe Valve YG-Y-Globe Valve				
	BG-Bellows Globe Valve		SC-Swing Check Valve		
	LC-Lift Check Valve		WC-Water Check Valve		
C Pressure Rating	01-ANSI 150	03-ANSI 300	06-ANSI 600		
	09-ANSI 900	15-ANSI 1500	25-ANSI 2500		
D Body/Bonnet Style	A-Bolted bonnet(cast)		B-Extended bonnet		
	C-Cast bolted bonnet bellows seal				
	D-Pressure seal bonnet				
E Type of Connection	B-but welding end		F-flat face flange end		
	J-ring joint flange end		N-screwed end		
	R-raised face flange end		S-socket welding end		
	w-water				
F Body Material	01-WCB	02-WC6	03-WC9	04-C5	05-CF8
	06-CF8M	07-CF3	08-CF3M	09-CG8M	10-CG3M
	11-LCB	12-LCC	13-Monel	14-Hastelloy C	
	15-Alloy 20	16-Tiannium		17-Special	

G Operator	H-Handwheel	G-Gear operator	P-Pneumatic actuator	
	E-Electric actuator	S-Special		
H Trim material	Trim No.	Seat Ring or Surface	Wedge/Disc or Surface	Stem
	01	13Cr	13Cr	ASTM A 182 F6a
	02	18Cr-8Ni	18Cr-8Ni	ASTM A 182 F304
	03	Stellite	18Cr-8Ni	ASTM A 182 F304
	04	Stellite	13Cr	ASTM A 182 F6a
	05	Stellite	Stellite	ASTM A 182 F6a
	06	18Cr-8Ni-Mo	18Cr-8Ni-Mo	ASTM A 182 F316
	07	Stellite	18Cr-8Ni-Mo	ASTM A 182 F316
	08	Stellite	Stellite	ASTM A 182 F316
	09	Monel	Monel	Ni Cu Alloy Monel
	10	Alloy 20	Alloy 20	ASTM B473
	11	Special	Special	Special