



## ■ BPIV VALVE COMPANION FLANGE TORQUE

Size		Flange Rating		Number of Studs	Diam. Of Studs	Flexitallic® CGI Stud Torque (Flanged Seal Retainer Rings ONLY)			Flexitallic® "LS" Stud Torque		Compressed Fiber Stud Torque	
in	mm	ANSI	Series		in	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m	
2	50	150	-	4	0.625	90	122	50	68	51	69	
		300		8	0.625	90	122	50	68	52	70	
		600		8	0.625	90	122	50	68	76	103	
		900		8	0.875	240	325	133	180	248	336	
3	125	150	-	4	0.625	90	122	50	68	60	82	
		300		8	0.75	150	203	83	112	95	129	
		600		8	0.75	150	203	83	112	142	192	
		900		8	0.875	240	325	133	180	305	414	
4	100	150	-	8	0.625	90	122	50	68	51	70	
		300		8	0.75	150	203	83	112	112	152	
		600		8	0.875	240	325	133	180	249	338	
		900		8	1.125	533	722	296	400	561	761	
6	150	150	-	8	0.75	150	203	83	112	85	115	
		300		12	0.75	150	203	83	112	120	162	
		600		12	1	368	498	204	276	335	454	
		900		12	1.125	533	722	296	400	589	798	
8	200	150	-	8	0.75	150	203	83	112	97	132	
		300		12	0.875	240	325	133	180	191	259	
		600		12	1.125	533	722	296	400	494	670	
		900		12	1.375	1020	1383	567	769	1054	1429	
10	250	150	-	12	0.875	240	325	133	180	127	173	
		300		16	1	368	498	204	276	240	325	
		600		16	1.25	750	1017	417	565	630	854	
		900		16	1.375	1020	1383	567	769	1105	1498	
12	300	150	-	12	0.875	240	325	133	180	145	197	
		300		16	1.125	533	722	296	400	351	475	
		600		20	1.375	750	1017	417	565	623	845	
		900		20	1.5	1020	1383	567	769	1179	1598	
14	350	150	-	12	1	368	498	204	276	206	280	
		300		20	1.125	533	722	296	400	361	490	
		600		20	1.375	1020	1383	567	769	801	1068	
		900		20	1.5	1200	1627	540	732	1550	2102	
16	400	150	-	16	1	368	498	204	276	200	272	
		300		20	1.25	750	1017	417	565	486	659	
		600		20	1.5	1200	1627	540	732	1095	1484	
		900		20	1.625	1650	2237	733	944	1993	2702	
18	450	150	-	16	1.125	533	722	296	400	273	370	
		300		24	1.25	750	1017	417	565	481	652	
		600		20	1.625	1650	2237	733	994	1367	1853	
		900		20	1.875	3000	4067	1333	1807	2813	3714	
20	500	150	-	20	1.125	533	722	296	400	268	363	
		300		24	1.25	750	1017	417	565	519	704	
		600		24	1.625	1650	2237	733	944	1374	1862	
		900		20	2	300	4474	1467	1989	3370	4568	
24	600	150	-	20	1.25	750	1017	417	565	379	514	
		300		24	1.5	1200	1627	540	732	883	1197	
		600		24	1.875	3000	4067	1333	1807	2070	2806	
		900		20	2.5	6600	8948	2933	3977	6080	8244	

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in	mm	ANSI	Series		in	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m
26	650	150	A	24	1.25	750	1017	417	565	373	506
			B	36	0.75	150	203	83	112	91	123
		300	A	28	1.625	1650	2237	733	994	1038	1407
			B	32	1.25	750	1017	417	565	495	671
		600	A	28	1.875	3000	4067	1333	1807	2091	2835
			B	28	1.625	1650	2237	733	994	1279	1734
		900	A	20	2.75	8880	12,040	3947	5351	6846	9281
			B	20	2.5	6600	8948	2933	3977	5294	7178
28	700	150	A	28	1.25	750	1017	417	565	369	500
			B	40	0.75	150	203	83	112	91	123
		300	A	28	1.625	1650	2237	733	994	1082	1467
			B	32	1.25	750	1017	417	565	494	669
		600	A	28	2	3300	4474	1467	1989	2477	3359
			B	28	1.75	2250	3051	1000	1356	1604	2175
		900	A	20	3	11580	157005147	6978	8668	8668	11,753
			B	20	2.75	8880	12,040	3947	5351	6837	9270
30	750	150	A	28	1.25	750	1017	417	565	381	517
			B	44	0.75	150	203	83	112	91	124
		300	A	28	1.75	2250	3051	1000	1356	1354	1836
			B	36	1.375	1020	1383	567	769	645	875
		600	A	28	2	3300	4474	1467	1989	2626	3651
			B	28	1.875	3000	4067	1333	1807	1976	2679
		900	A	20	3	11,580	15,700	5147	6978	9229	12,512
			B	20	3	11,580	15,700	5147	6978	8580	11,633
32	800	150	A	28	1.5	1200	1627	540	732	626	849
			B	48	0.875	240	325	133	180	147	199
		300	A	28	1.875	3000	4067	1333	1807	1699	2303
			B	32	1.5	1200	1627	540	732	856	1160
		600	A	28	2.25	4770	6467	2120	2874	3601	4882
			B	28	2.25	4770	6467	2120	2874	3495	4739
		900	A	20	3.5	18,750	25,422	8333	11,299	13,943	18,904
			B	20	3.25	15,000	20,337	6667	9039	11,129	15,090
34	850	150	A	32	1.5	1200	1627	540	732	617	837
			B	40	0.875	240	325	133	180	147	199
		300	A	28	1.875	3000	4067	1333	1807	1699	2303
			B	36	1.5	1200	1627	540	732	856	1160
		600	A	28	2.25	4770	6467	2120	2874	3601	4882
			B	24	2.25	4770	6467	2120	2874	3495	4739
		900	A	20	3.5	18,750	25,422	8333	11,299	13,943	18,904
			B	20	3.25	15,000	20,337	6667	9039	11,129	15,090
36	900	150	A	32	1.5	1200	1627	540	732	636	862
			B	44	0.875	240	325	133	180	147	199
		300	A	32	2	3300	4474	1467	1989	1930	2616
			B	32	1.625	1650	2237	733	994	1104	1497
		600	A	28	2.5	6600	8948	2933	3977	4660	6318
			B	28	2.25	4770	6467	2120	2874	3364	4561
		900	A	20	3.5	18,750	25,422	8333	11,299	14,697	19,926
			B	24	3	11,580	15,700	5147	6978	8971	12,164



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in	mm	ANSI	Series		in	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m
38	950	150	A	32	1.5	1200	1627	540	732	659	894
			B	40	1	368	498	204	276	213	286
		300	A	32	1.5	1200	1627	540	732	921	1249
			B	36	1.625	1650	2237	733	994	1103	1495
		600	A	28	2.25	4770	6467	2120	2874	3538	4797
		900	A	20	3.5	18,750	25,422	8333	11,299	14,363	19,474
40	1000	150	A	36	1.5	1200	1627	540	732	614	833
			B	44	1	368	498	204	276	212	287
		300	A	32	1.625	1650	2237	733	994	1152	1562
			B	40	1.625	1650	2237	733	994	1085	1471
		600	A	32	2.25	4770	6467	2120	2874	3426	4644
		900	A	24	3.5	18,750	25,422	8333	11,299	13,487	18,287
42	1050	150	A	36	1.5	1200	1627	540	732	633	858
			B	48	1	368	498	204	276	211	286
		300	A	32	1.625	1650	2237	733	994	1196	1621
			B	36	1.75	2250	3051	1000	1356	1385	1878
		600	A	28	2.5	6600	8948	2933	3977	4796	6502
		900	A	24	3.5	18,750	25,422	8333	11,299	13,956	18,922
44	1100	150	A	40	1.5	1200	1627	540	732	628	851
			B	52	1	368	498	204	276	210	285
		300	A	32	1.75	2250	3051	1000	1356	1454	1971
			B	40	1.75	2250	3051	1000	1356	1361	1846
		600	A	32	2.5	6600	8948	2933	3977	4632	6280
		900	A	24	3.75	23,100	31,319	10,267	13,920	16,801	22,779
46	1150	150	A	40	1.5	1200	1627	540	732	643	872
			B	40	1.125	533	722	296	400	323	438
		300	A	28	1.875	3000	4067	1333	1807	1870	2535
			B	36	1.875	3000	4067	1333	1807	1747	2369
		600	A	32	2.5	6600	8948	2933	3977	4832	6552
		900	A	24	4	28,136	38,148	12,505	16,955	20,024	27,148
48	1200	150	A	44	1.5	1200	1627	540	732	638	865
			B	44	1.125	533	722	296	400	319	433
		300	A	32	1.875	3000	4067	1333	1807	1807	2450
			B	40	1.875	3000	4067	1333	1807	1711	2319
		600	A	32	2.75	8880	12,040	3947	5351	6143	8329
		900	A	24	4	28,136	38,148	12,505	16,955	20,625	27,964
50	1250	150	A	44	1.75	2250	3051	1000	1356	1012	1373
			B	48	1.125	533	722	296	400	316	428
		300	A	32	2	3300	4474	1467	1989	2145	2908
			B	44	1.875	3000	4067	1333	1807	1683	2282
		600	A	28	3	11,580	15,700	5147	6978	8149	11,048
		52	1300	150	A	44	1.75	2250	3051	1000	1356
B	52				1.125	533	722	296	400	313	425
300	A			32	2	3300	4474	1467	1989	2211	2998
	B			48	1.875	3000	4067	1333	1807	1662	2253
600	A			32	3	11,580	15,700	5147	6978	7842	10,632



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in	mm	ANSI	Series		in	ft-lbs	N-m	ft-lbs	N-m	ft-lbs	N-m
54	1350	150	A	44	1.75	2250	3051	1000	1356	1056	1431
			B	56	1.125	533	722	296	400	313	425
		300	A	28	2.25	4770	6467	2120	2874	3159	4283
			B	48	1.875	3000	4067	1333	1807	1767	2396
		600	A	32	3	11,580	15,700	5147	6978	8114	11,002
56	1400	150	A	48	1.75	2250	3051	1000	1356	1050	1423
			B	60	1.125	533	722	296	400	312	423
		300	A	28	2.25	4770	6467	2120	2874	3253	4411
			B	36	2.25	4770	6467	2120	2874	3034	4113
		600	A	32	3.25	15,000	20,337	6667	9039	9887	13,406
58	1450	150	A	48	1.75	2250	3051	1000	1356	1071	1452
			B	48	1.25	750	1017	417	565	452	612
		300	A	32	2.25	4770	6467	2120	2874	3130	4244
			B	40	2.25	4770	6467	2120	2874	3034	4113
		600	A	32	3.25	15,000	20,337	6667	9039	10,146	13,756
60	1500	150	A	52	1.75	2250	3051	1000	1356	1061	1439
			B	52	1.25	750	1017	417	565	446	605
		300	A	32	2.25	4770	6467	2120	2874	3215	4359
			B	40	2.25	4770	6467	2120	2874	3057	4145
		600	A	28	3.5	18,750	25,422	8333	11,299	13,024	17,658

**NOTES:** Torque values are based on the use of gaskets shown. Consult BS&B Pressure Safety Management, L.L.C. for flanges in other materials when suppliers recommend torque values higher than the BS&B Pressure Safety Management, L.L.C. recommended torque values and if gasket type differs from BS&B Pressure Safety Management, L.L.C. recommendation.

2" to 24" valve sizes are derived from ASME B16.5. Sizes 26" and above are derived from ASME B16.47.

Recommended CGI stud torques are based on a design stress of 45,000 psi. These torque values to be used with the flanged retainer ring design only. If the applied torques are to exceed 50,000 psi stud stress, contact BS&B Pressure Safety Management, L.L.C. for engineering verification.

Recommended LS stud torques are based on a design stress of 20,000 psi to 25,000 psi.

Recommended compressed fiber stud torques are derived from Klingsil® recommended gasket values for the ASME Section VIII Div 1, Mandatory Appendix 2 calculation.

