



BRODER METALS GROUP Flange Dimensions

The correct flange to use for a particular application is determined by the combination of the size of pipe to be connected and the pressure (class rating) the assembly will need to cater for.

Most of these dimensions have been standardized and published as ASME, MSS, API or other specifications, so that flanges can be used with reliability. However, there are still occasions when particular applications require bespoke flanges outside of those standards – Alloy Flanges & Fittings can provide both standard and non-standard flanges as required.

The most common dimension standard we are asked to supply to is ASME/ANSI B16.5, which provides dimensions and tolerances for flanges in pipe sizes from 1/2" through 24" and in classes ranging 150 lb through 2500 lb.

Below please find the dimension values reproduced (by pipe size within class ratings):

Nominal Pipe Size NPS (inches)	Class 150 lb			
	Diameter of Flange (inches)	No. of Bolts	Diameter of Bolts (inches)	Bolt Circle (inches)
1/4	3-3/8	4	1/2	2-1/4
1/2	3-1/2	4	1/2	2-3/8
3/4	3-7/8	4	1/2	2-3/4
1	4-1/4	4	1/2	3-1/8
1-1/4	4-5/8	4	1/2	3-1/2
1-1/2	5	4	1/2	3-7/8
2	6	4	5/8	4-3/4
2-1/2	7	4	5/8	5-1/2
3	7-1/2	4	5/8	6
3-1/2	8-1/2	8	5/8	7
4	9	8	5/8	7-1/2
5	10	8	3/4	8-1/2
6	11	8	3/4	9-1/2
8	13-1/2	8	3/4	11-3/4
10	16	12	7/8	14-1/4
12	19	12	7/8	17
14	21	12	1	18-3/4
16	23-1/2	16	1	21-1/4
18	25	16	1-1/8	22-3/4
20	27-1/2	20	1-1/8	25
24	32	20	1-1/4	29-1/2

Continued overleaf



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Nominal Pipe Size (inches)	Class 300 lb			
	Dia of Flange (inches)	No. of Bolts	Dia of Bolts (inches)	Bolt Circle (inches)
42826	39510	4	42767	37988
42767	38049	4	42767	39570
42828	39572	4	42952	37989
1	39633	4	42952	37259
37987	37991	4	42952	39632
37257	39453	4	42828	37260
2	37262	8	42952	5
37258	37263	8	42828	39634
3	37994	8	42828	39574
37259	9	8	42828	37993
4	10	8	42828	39636
5	11	8	42828	37995
6	37268	12	42828	39578
8	15	12	42954	13
10	37273	16	1	38001
12	37276	16	39448	38063
14	23	20	39448	38006
16	37281	20	37987	37278
18	28	24	37987	38070
20	37286	24	37987	27
24	36	24	37257	32
Class 400 lb				
42826	39510	4	42767	37988
42767	38049	4	42767	39570
42828	39572	4	42952	37989
1	39633	4	42952	37259
37987	37991	4	42952	39632
37257	39453	4	42828	37260
2	37262	8	42952	5
37258	37263	8	42828	39634
3	37994	8	42828	39574
37259	9	8	42954	37993
4	10	8	42954	39636
5	11	8	42954	37995
6	37268	12	42954	39578
8	15	12	1	13
10	37273	16	39448	38001
12	37276	16	37987	38063
14	23	20	37987	38006
16	37281	20	39508	37278
18	28	24	39508	38070
20	37286	24	37257	27
24	36	24	38047	32



BRODER METALS GROUP Flange Dimensions

Nominal Pipe Size (inches)	Class 600 lb			
	Diameter of Flange (inches)	No. of Bolts	Diameter of Bolts (inches)	Bolt Circle (inches)
42826	39510	4	42767	37988
42767	38049	4	42767	39570
42828	39572	4	42952	37989
1	39633	4	42952	37259
37987	37991	4	42952	39632
37257	39453	4	42828	37260
2	37262	8	42952	5
37258	37263	8	42828	39634
3	37994	8	42828	39574
37259	9	8	42954	37993
4	38056	8	42954	37264
5	13	8	1	37266
6	14	12	1	37267
8	37272	12	39448	38059
10	20	16	37987	17
12	22	20	37987	38005
14	38069	20	39508	38066
16	27	20	37257	38069
18	38015	20	39569	38071
20	32	24	39569	37284
24	37	24	39630	33
Class 900 lb				
42767	38050	4	42828	37989
42828	39452	4	42828	37259
1	39634	4	42954	4
37987	37992	4	42954	39511
37257	7	4	1	39633
2	37264	8	42954	37262
37258	39577	8	1	37263
3	37265	8	42954	37263
4	37267	8	39448	37995
5	38059	8	37987	11
6	15	12	39448	37268
8	37274	12	39508	37271
10	37277	16	39508	37274
12	24	20	39508	21
14	38011	20	37257	22
16	38073	20	39569	37280
18	31	20	39630	27
20	33-3/4	20	2	37285
24	41	20	37258	35-1/2



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Nominal Pipe Size	Class 1500 lb			
	Diameter of Flange (inches)	No. of Bolts	Diameter of Bolts (inches)	Bolt Circle (inches)
42767	38050	4	42828	37989
42828	39452	4	42828	37259
1	39634	4	42954	4
37987	37992	4	42954	39511
37257	7	4	1	39633
2	37264	8	42954	37262
37258	39577	8	1	37263
3	37266	8	39448	8
4	37998	8	37987	37265
5	38060	8	37257	37267
6	37271	12	39508	37268
8	19	12	39569	37271
10	23	12	39630	19
12	37282	16	2	37278
14	37285	16	37988	25
16	32-1/2	16	37258	38073
18	36	16	38048	37286
20	38-3/4	16	3	32-3/4
24	46	16	37259	39
Class 2500 lb				
42767	37991	4	42828	37259
42828	37261	4	42828	38049
1	37992	4	42954	37990
37987	37993	4	1	39452
37257	8	4	39448	38051
2	37995	8	1	38052
37258	37266	8	39448	38053
3	12	8	37987	9
4	14	8	37257	38056
5	37272	8	38047	38058
6	19	8	2	37270
8	38067	12	2	38003
10	37282	12	37258	38007
12	30	12	38048	39531

For more information, contact us

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