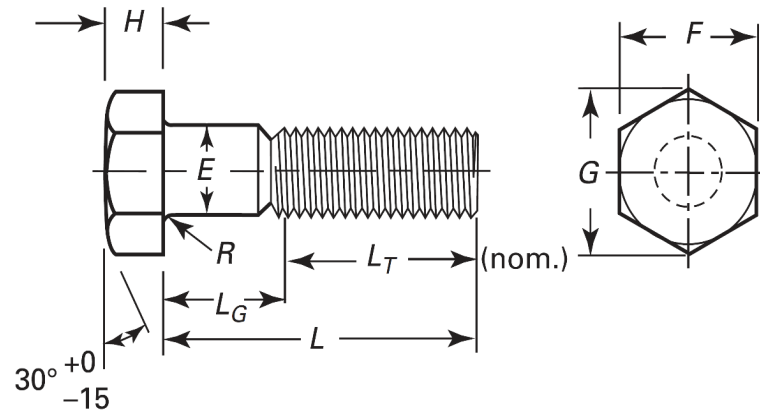




Hex Head Bolts



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ASME B18.2.1 - 2012

Nominal Size or Product Diameter	E		F			G		H			R		L _T		
	Full-size Body Diameter		Width Across Flats			Width Across Corners		Height			Radius of Fillet		Nominal Thread Length for Bolt Lengths		
	Max	Min	Basic	Max	Min	Max	Min	Basic	Max	Min	Max	Min	6 in & Shorter	Over 6 in.	
1/4	0.2500	0.260	0.237	7/16	0.438	0.425	0.505	0.484	11/64	0.188	0.150	0.03	0.01	0.750	1.000
5/16	0.3125	0.324	0.298	1/2	0.500	0.484	0.577	0.552	7/32	0.235	0.195	0.03	0.01	0.875	1.125
3/8	0.3750	0.388	0.360	9/16	0.562	0.544	0.650	0.620	1/4	0.268	0.226	0.03	0.01	1.000	1.250
7/16	0.4375	0.452	0.421	5/8	0.625	0.603	0.722	0.687	19/64	0.316	0.272	0.03	0.01	1.125	1.375
1/2	0.5000	0.515	0.482	3/4	0.750	0.725	0.866	0.826	11/32	0.364	0.302	0.03	0.01	1.250	1.500
5/8	0.6250	0.642	0.605	15/16	0.938	0.906	1.083	1.033	27/64	0.444	0.378	0.06	0.02	1.500	1.750
3/4	0.7500	0.768	0.729	1-1/8	1.125	1.088	1.299	1.240	1/2	0.524	0.455	0.06	0.02	1.750	2.000
7/8	0.8750	0.895	0.852	1-5/16	1.312	1.269	1.516	1.447	37/64	0.604	0.531	0.06	0.02	2.000	2.250
1	1.0000	1.022	0.976	1-1/2	1.500	1.450	1.732	1.653	43/64	0.700	0.591	0.09	0.03	2.250	2.500
1-1/8	1.1250	1.149	1.098	1-11/16	1.688	1.631	1.949	1.859	3/4	0.780	0.658	0.09	0.03	2.500	2.750
1-1/4	1.2500	1.277	1.223	1-7/8	1.875	1.812	2.165	2.066	27/32	0.876	0.749	0.09	0.03	2.750	3.000
1-3/8	1.3750	1.404	1.345	2-1/16	2.062	1.994	2.382	2.273	29/32	0.940	0.810	0.09	0.03	3.000	3.250
1-1/2	1.5000	1.531	1.470	2-1/4	2.250	2.175	2.598	2.480	1	1.036	0.902	0.09	0.03	3.250	3.500
1-5/8	1.6250	1.658	1.591	2-7/16	2.438	2.356	2.815	2.616	1-3/32	1.116	0.978	0.09	0.03	3.500	3.750
1-3/4	1.7500	1.785	1.716	2-5/8	2.625	2.538	3.031	2.893	1-5/32	1.196	1.054	0.12	0.04	3.750	4.000
1-7/8	1.8750	1.912	1.839	2-13/16	2.812	2.719	3.248	3.099	1-1/4	1.276	1.130	0.12	0.04	4.000	4.250
2	2.0000	2.039	1.964	3	3.000	2.900	3.464	3.306	1-11/32	1.388	1.175	0.12	0.04	4.250	4.500
2-1/4	2.2500	2.305	2.214	3-3/8	3.375	3.262	3.897	3.719	1-1/2	1.548	1.327	0.19	0.06	4.750	5.000
2-1/2	2.5000	2.559	2.461	3-3/4	3.750	3.625	4.330	4.133	1-21/32	1.708	1.479	0.19	0.06	5.250	5.500
2-3/4	2.7500	2.827	2.711	4-1/8	4.125	3.988	4.763	4.546	1-13/16	1.869	1.632	0.19	0.06	5.750	6.000
3	3.0000	3.081	2.961	4-1/2	4.500	4.350	5.196	4.959	2	2.060	1.815	0.19	0.06	6.250	6.500
3-1/4	3.2500	3.335	3.210	4-7/8	4.875	4.712	5.629	5.372	2-3/16	2.251	1.936	0.19	0.06	6.750	7.000
3-1/2	3.5000	3.589	3.461	5-1/4	5.250	5.075	6.062	5.786	2-5/16	2.380	2.057	0.19	0.06	7.250	7.500
3-3/4	3.7500	3.858	3.726	5-5/8	5.625	5.437	6.495	6.198	2-1/2	2.572	2.241	0.19	0.06	7.750	8.000
4	4.0000	4.111	3.975	6	6.000	5.800	6.928	6.612	2-11/16	2.764	2.424	0.19	0.06	8.250	8.500

Notes: (1) All Dimensions are in inches. (2) L is the nominal bolt length. For common nominal sizes, hex head bolts are typically stocked in 1/8" increments up to 1" long, in 1/4" increments from 1" to 6" long & in 1/2" increments from 6" to 10" long. (3) L_G is the grip gaging length. L_{G Max} is calculated by using L_{G Max} = L - L_T. For more details see ASME B18.2.1-2012.