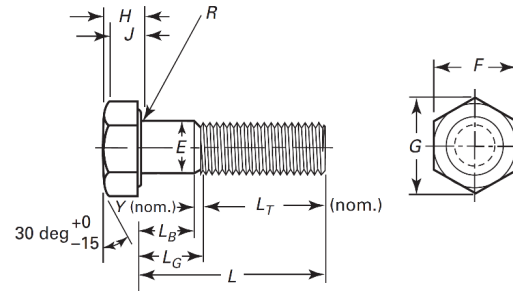




Hex Head Cap Screws



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ASME B18.2.1-2012

Nominal Size or Basic Product Diameter	E		F			G		H			J	Thread Length for Screw Lengths, L_T		Y	Maximum Total Runout of Bearing Surface FIM	
	Body Diameter		Width Across Flats			Width Across Corners		Head Height				Minimum Wrenching Height	6 in. & Shorter			Over 6 in.
	Max.	Min.	Basic	Max.	Min.	Max.	Min.	Basic	Max.	Min.						
1/4	0.2500	0.2500	0.2450	7/16	0.438	0.428	0.505	0.488	5/32	0.163	0.150	0.106	0.750	1.000	0.250	0.010
5/16	0.3125	0.3125	0.3065	1/2	0.500	0.489	0.577	0.557	13/64	0.211	0.195	0.140	0.875	1.125	0.278	0.011
3/8	0.3750	0.3750	0.3690	9/16	0.562	0.551	0.650	0.628	15/64	0.243	0.226	0.160	1.000	1.250	0.312	0.012
7/16	0.4375	0.4375	0.4305	5/8	0.625	0.612	0.722	0.698	9/32	0.291	0.272	0.195	1.125	1.375	0.357	0.013
1/2	0.5000	0.5000	0.4930	3/4	0.750	0.736	0.866	0.840	5/16	0.323	0.302	0.215	1.250	1.500	0.385	0.014
9/16	0.5625	0.5625	0.5545	13/16	0.812	0.798	0.938	0.910	23/64	0.371	0.348	0.250	1.375	1.625	0.417	0.015
5/8	0.6250	0.6250	0.6170	15/16	0.938	0.922	1.083	1.051	25/64	0.403	0.378	0.269	1.500	1.750	0.455	0.017
3/4	0.7500	0.7500	0.7410	1-1/8	1.125	1.100	1.299	1.254	15/32	0.483	0.455	0.324	1.750	2.000	0.500	0.020
7/8	0.8750	0.8750	0.8660	1-5/16	1.312	1.285	1.516	1.465	35/64	0.563	0.531	0.378	2.000	2.250	0.556	0.023
1	1.0000	1.0000	0.9900	1-1/2	1.500	1.469	1.732	1.675	39/64	0.627	0.591	0.416	2.250	2.500	0.625	0.026
1-1/8	1.1250	1.1250	1.1140	1-11/16	1.688	1.631	1.949	1.859	11/16	0.718	0.658	0.461	2.500	2.750	0.714	0.029
1-1/4	1.2500	1.2500	1.2390	1-7/8	1.875	1.812	2.165	2.066	25/32	0.813	0.749	0.530	2.750	3.000	0.714	0.033
1-3/8	1.3750	1.3750	1.3630	2-1/16	2.062	1.994	2.382	2.273	27/32	0.878	0.810	0.569	3.000	3.250	0.833	0.036
1-1/2	1.5000	1.5000	1.4880	2-1/4	2.250	2.175	2.598	2.480	15/16	0.974	0.902	0.640	3.250	3.500	0.833	0.039
1-5/8	1.6250	1.6250	1.6130	2-7/16	2.438	2.356	2.815	2.686	1	1.038	0.962	0.694	3.500	3.750	0.909	0.043
1-3/4	1.7500	1.7500	1.7380	2-5/8	2.625	2.538	3.031	2.893	1-3/32	1.134	1.054	0.748	3.750	4.000	1.000	0.046
1-7/8	1.8750	1.8750	1.8630	2-13/16	2.812	2.719	3.248	3.099	1-5/32	1.198	1.114	0.802	4.000	4.250	1.000	0.049
2	2.0000	2.0000	1.9880	3	3.000	2.900	3.464	3.306	1-7/32	1.263	1.175	0.825	4.250	4.500	1.111	0.052
2-1/4	2.2500	2.2500	2.2380	3-3/8	3.375	3.262	3.897	3.719	1-3/8	1.423	1.327	0.933	...	5.000	1.111	0.059
2-1/2	2.5000	2.5000	2.4880	3-3/4	3.750	3.625	4.330	4.133	1-17/32	1.583	1.479	1.042	...	5.500	1.250	0.065
2-3/4	2.7500	2.7500	2.7380	4-1/8	4.125	3.988	4.763	4.546	1-11/16	1.744	1.632	1.151	...	6.000	1.250	0.072
3	3.0000	3.0000	2.9880	4-1/2	4.500	4.350	5.196	4.959	1-7/8	1.935	1.815	1.290	...	6.500	1.250	0.079

Notes: (1) All Dimensions are in inches. (2) L is the nominal bolt length. For common nominal sizes, hex head cap screws 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. $L_{G \text{ Max}}$ is calculated by using $L_{G \text{ Max}} = L - L_T$. For more details, see ASME B18.2.1-2012.