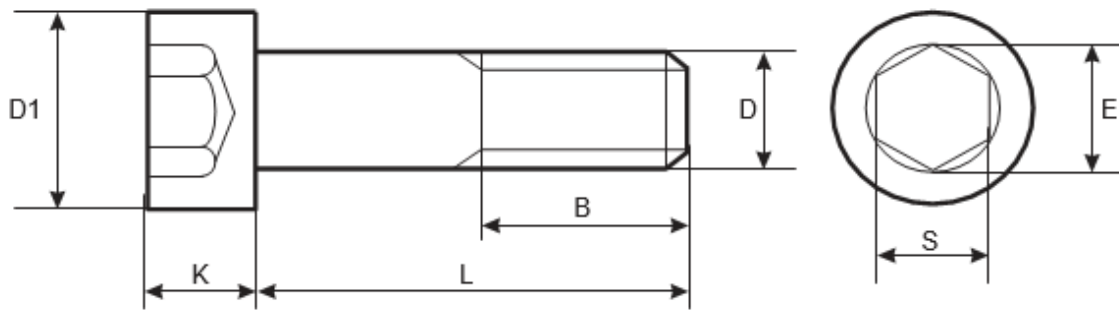


Metric DIN 912 Hexagon Socket Head Cap Screw

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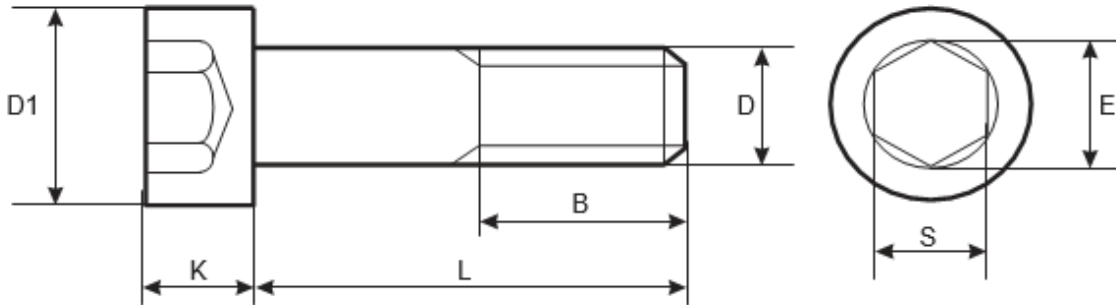
D	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
D1	5.5	7	8.5	10	13	16	18	21	24	27	30	33	36
K	3	4	5	6	6	10	1	14	16	18	20	2	24
S	2.5	3	4	5	6	8	10	12	14	14	17	17	19
B	18	20	22	24	28	32	36	40	44	48	52	56	60
L (mm)	Weight in kg(s) per 1000 pcs												
5	0.67												
6	0.71	1.5											
8	0.8	1.65											
10	0.88	1.8	2.7	4.7									
12	0.96	1.95	2.95	5.07									
16	1.16	2.25	3.45	5.75	12.1	20.9							
20	1.36	2.85	4.01	6.53	13.4	22.9	32.1						
25	1.61	3.15	4.78	7.59	15	25.9	35.7						
30	1.86	3.65	5.55	8.7	16.9	27.9	39.3	63	77.9				
35		4.15	6.32	9.91	18.9	31	42.9	58	84.4				
40		4.65	7.09	11	20.9	34.1	47.3	63	94	129	150		
45			7.88	12.1	22.9	37.2	51.7	69	97.6	137	161		

All measurements are in mm

Cont...

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Headquarters: Independence OH USA; Montreal QC Canada;
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...cont

D	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
D1	5.5	7	8.5	10	13	16	18	21	24	27	30	33	36
K	3	4	5	6	6	10	1	14	16	18	20	2	24
S	2.5	3	4	5	6	8	10	12	14	14	17	17	19
B	18	20	22	24	28	32	36	40	44	48	52	56	60
L (mm)	Weight in kg(s) per 1000 pcs												
50			8.63	13.2	24.9	0.3	56.1	75	108	147	172	250	300
55				14.3	25.9	43.4	60.5	81	114	157	183	263	316
60				15.4	28.9	46.5	64.9	87	122	167	195	276	330
65					31	46.9	69.3	93	130	177	207	291	345
70					33	52.7	73.7	9	138	187	220	306	363
75					35	55.8	78.1	105	146	197	232	321	381
80					37	58.9	82.5	111	154	207	244	338	399
90						65.1	91.3	123	170	227	269	366	436
100						71.3	100	135	186	247	294	396	471
110							109	1473	202	267	319	426	507
120							118	159	218	287	344	458	543
130									234	307	369	486	579
140									250	327	394	516	615
150									266	347	419	546	561
160											444	576	667
160											494	636	759
200												696	820

All measurements are in mm

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Metric DIN 912 hexagon socket head cap screws are cylindrical head screws with an internal hexagonal drive suited for a hex / Allen key or wrench. The internal drive is ideal for situations where externally wrenched screws are impractical such as in applications where limited space is available. Aspen Fasteners offers an extensive range of metric DIN 912 hexagon socket head cap screws as well other inch and metric industrial fasteners for immediate delivery from stock. The following sizes of metric DIN 912 hexagon socket head cap screws are available for immediate shipping from stock: Diameters ranging from M1.6 to M48, in coarse and fine thread in lengths up to 320mm, in steel and stainless steel A2 and A4. View parts by clicking on the following link: [DIN 912 hexagon socket head cap screws.](#)

DIN (Deutsches Institut für Normung - German Institute for Standardization) standards are issued for a variety of components including industrial fasteners as metric DIN 912 hexagon socket head cap screws. The DIN standards remain common in Germany, Europe and globally even though the transition to ISO standards is taking place. DIN standards continue to be used for parts which do not have ISO equivalents. The ISO equivalent for DIN 912 hexagon socket head cap screws is ISO 4762.

1) Mechanical properties of stainless steel for metric DIN 912 hexagon socket head cap screws

Stainless steels can be divided into three groups of steel - austenitic, ferritic and martensitic. Austenitic steel is by far the most common type (>90% of commercial fasteners). The steel groups and strength classes are designated by a four-digit sequence of letters and numbers (eg A2-70) as shown in the following table. DIN EN ISO 3506 governs screws and nuts made from stainless steel.

Steel group	Steel grade	Strength class	Screws, Nuts and Bolts			
			Tensile strength N/mm ²	Tensile strength PSI	Dia range	Nut Load N/mm ²
Austenitic	A2 and A4	50	500	70.000	<=M39	500
		70	700	100.000	<=M20	700
		80	800	118.000	<=M20	800

The tensile stress is calculated with reference to the tensile stress area (see DIN EN ISO 3506-1979). Nuts to be paired with same grade of stainless steel screws

Steel group	Property Strength class	Made From	Characteristics
Austenitic	50	A1, A2	Soft; cold worked, turned and soft pressed fasteners
	70	A2, A4	Cold worked, normal strength formed fasteners
	80	A2, A4	Extreme cold worked, high strength, special applications

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2) Chemical composition of stainless steel metric DIN 912 hexagon socket head cap screws

Grade	USA Grade	Material designation	Material no.	C %	Si ≤ %	Mn ≤ %	Cr %	Mo %	Ni %
A 2	304	X 5Cr Ni 1810	1.4301	≤ 0.07	1.0	2.0	17.5 to 19.5	-	8.0 to 10.5
		X 2 Cr Ni 1811	1.4306	≤ 0.03	1.0	2.0	18.0 to 20.0	-	10 to 12.0
		X 8 Cr Ni 19/10	1.4303	≤ 0.07	1.0	2.0	17.0 to 19.0	-	11.0 to 13.0
A 4	316	X 5 Cr Ni Mo 1712	1.4401	≤ 0.07	1.0	2.0	16.5 to 18.5	2.0 to 2.5	10.0 to 13.0
		X 2 Cr Ni Mo 1712	1.4404	≤ 0.03	1.0	2.0	16.5 to 18.5	2.0 to 2.5	10 to 13

3) Chemical composition of steel metric DIN 912 hexagon socket head cap screws

PROPERTY CLASS	MATERIAL AND TREATMENT	CHEMICAL COMPOSITION LIMITS %				TEMPERING TEMP °C MIN.
		C		P	S	
		min.	max.	max.	max.	
4.6. 4.8. 5.8. 6.8	Low or medium carbon steel	-	0.55	0.05	0.06	-
8.8	Medium carbon steel quenched. tempered	0.25	0.55	0.04	0.05	425
9.8	Medium carbon steel quenched. tempered	0.25	0.55	0.04	0.05	425
10.9	Medium carbon steel additives e.g. boron. Mn. Cr or Alloy steel - quenched. tempered	0.20	0.55	0.04	0.05	425
12.9	Alloy steel - quenched. tempered	0.20	0.50	0.035	0.035	380

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4) Mechanical properties of steel for metric DIN 912 hexagon socket head cap screws

MECHANICAL PROPERTY		PROPERTY CLASS									
		4.8	5.6	5.8	6.8	8.8		9.8	10.9	12.9	
						Up to M 16	Over M 16				
Tensile Strength (Rm. N/mm ²)	nom.	400	500		600	800		900	1000	1200	
	min.	420	500	520	600	800	830	900	1040	1220	
Vickers Hardness	min.	130	155	160	190	250	255	290	320	385	
	max.	250				320	336	360	380	435	
Brinell Hardness	min.	124	147	152	181	319	242	266	295	353	
	max.	238				385	319	342	363	412	
Rockwell Hardness	min. HR	71	79	82	89	-					
	HRC	-	-	-	-	20	23	28	32	39	
	HR	95				99	-				
	max. HRC	-	-	-	-	32	34	37	39	44	
Yield Stress ReL. N/mm ²	nom.	320	300	400	480	-					
	min.	340	300	420	480	-					
Stress at permanent set limit N/mm ²	nom.	-				640		720	900	1080	
	min.	-				640	660	720	940	1100	

Disclaimer

Dimensional data and technical information for metric DIN 912 hexagon socket head cap screws was obtained from publicly available sources and not acquired through standards agencies. It has been completed and compiled for reference purposes only; where discrepancies are found they are subject to change without notice. Aspen Fasteners makes no warranties or representations regarding the accuracy and validity of the compiled information and data. Contact the relevant standards authorities for accurate and detailed information.