



DIN 933 Hex Bolt

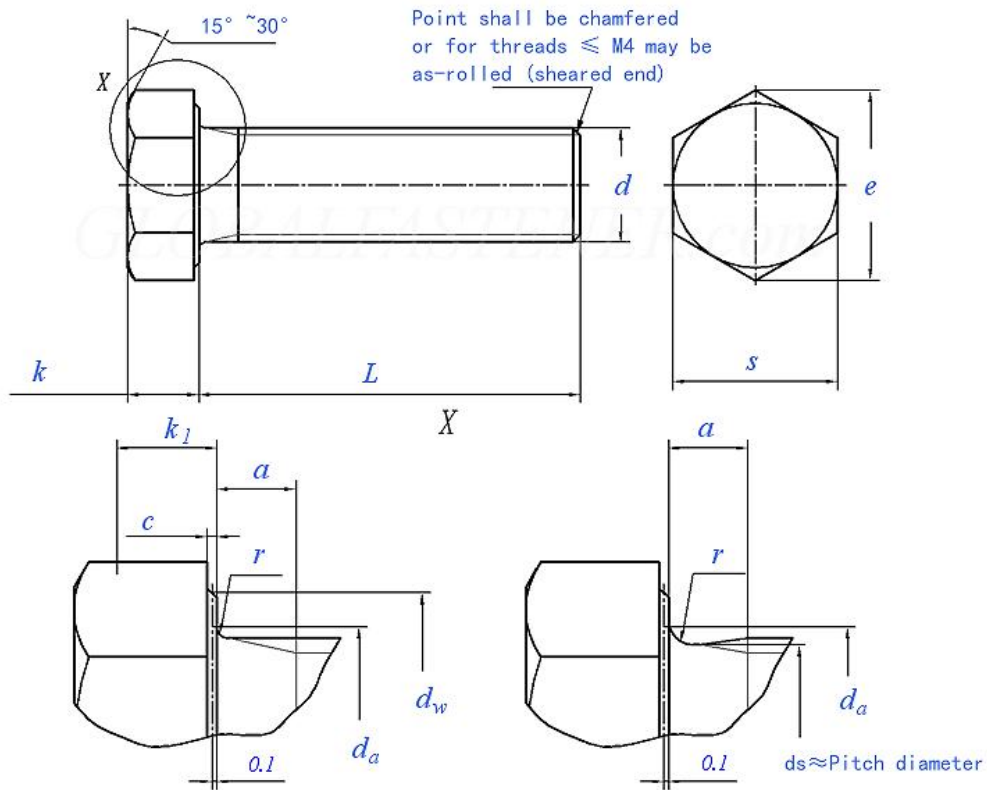
Leader-Fastener is a manufacturer and distributor of **DIN 933 Hex Bolt**. We have a complete line of service from having invested in production plants, export department and to having a quality control team and center to meet your requirements. We regard quality as the life of the company. We persist in good quality as the first policy and have established a set of quality control and inspection system according to the international standard. We have carried out ISO9001 Quality Guarantee System in every course of production, transportation and selling. We do hope we could be your partner in business by topping quality, knight service and competitive price in the near

future and be your friends as well.

DIN 933 - Hexagon head bolts with thread up to head

DIN 933 Hex Head Cap Screws are fully threaded, have external coarse machine screw threads and, like other hex head screws, are used with both tapped holes and nuts. Their dimensions are similar to ISO 4017 and are available in Class 8.8, 10.9 and 12.9 steel and Class 70 (A2-70, A4-70) stainless steel; less common stainless steel sizes may be Class 50. Zinc plating protects against corrosion while plain finish is unplated and can rust. A2 stainless steel is considered the same as 18-8 and A4 is essentially 316. Class 8.8 and 10.9 thread tolerance for plain finish is 6g and 6h for plated; stainless steel is 6g; right-hand threads are standard. Also known as hex head bolts and tap bolts, all lengths are fully threaded. Length is measured from under the head to the tip. **DIN 933 Hex Head Cap Screws** are similar to ISO 4017, JIS B1180 and ANSI B18.2.3.1M. In contrast, DIN 931 is partially threaded and DIN 961 has fine threads. (Note: Thread pitch, the distance between threads, is traditionally omitted for fasteners with coarse threads but is included here for reference.)

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Screw Thread d		M1.6	M2	M2.5	M3	(M3.5)	M4	M5	M6	(M7)	M8	M10	M12	(M14)	M16	
P	Pitch	0.35	0.4	0.45	0.5	0.6	0.7	0.8	1	1	1.25	1.5	1.75	2	2	
a	max	1.05	1.2	1.35	1.5	1.8	2.1	2.4	3	3	3.75	4.5	5.25	6	6	
c	min	0.1	0.1	0.1	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.2	
	max	0.25	0.25	0.25	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.8	
da	max	2	2.6	3.1	3.6	4.1	4.7	5.7	6.8	7.8	9.2	11.2	13.7	15.7	17.7	
dw	Grade A	min	2.4	3.2	4.1	4.6	5.1	5.9	6.9	8.9	9.6	11.6	15.6	17.4	20.5	22.5
	Grade B	min	-	-	-	-	-	5.7	6.7	8.7	9.4	11.4	15.4	17.2	20.1	22
e	Grade A	min	3.41	4.32	5.45	6.01	6.58	7.66	8.79	11.05	12.12	14.38	18.9	21.1	24.49	26.75
	Grade B	min	-	-	-	-	-	7.5	8.63	10.89	11.94	14.2	18.72	20.88	23.91	26.17
k	Nominal Size		1.1	1.4	1.7	2	2.4	2.8	3.5	4	4.8	5.3	6.4	7.5	8.8	10
	Grade A	min	0.98	1.28	1.58	1.88	2.28	2.68	3.35	3.85	4.65	5.15	6.22	7.32	8.62	9.82
		max	1.22	1.52	1.82	2.12	2.52	2.92	3.65	4.15	4.95	5.45	6.56	7.68	8.98	10.18
	Grade B	min	-	-	-	-	-	2.6	3.26	3.76	4.56	5.06	6.11	7.21	8.51	9.71
max		-	-	-	-	-	3	3.74	4.24	5.04	5.54	6.69	7.79	9.09	10.29	

k ₁	min	0.7	0.9	1.1	1.3	1.6	1.9	2.28	2.63	3.19	3.54	4.28	5.05	5.96	6.8	
r	min	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.25	0.25	0.4	0.4	0.6	0.6	0.6	
s	max=nominal size	3.2	4	5	5.5	6	7	8	10	11	13	17	19	22	24	
	Grade A	min	3.02	3.82	4.82	5.32	5.82	6.78	7.78	9.78	10.73	12.73	16.73	18.67	21.67	23.67
	Grade B	min	-	-	-	-	-	6.64	7.64	9.64	10.57	12.57	16.57	18.48	21.16	23.16
Weight of per 1000 steel products(≈kg)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Screw Thread d		(M18)	M20	(M22)	M24	(M27)	M30	(M33)	M36	(M39)	M42	(M45)	M48	(M52)	
P	Pitch	2.5	2.5	2.5	3	3	3.5	3.5	4	4	4.5	4.5	5	5	
a	max	7.5	7.5	7.5	9	9	10.5	10.5	12	12	13.5	13.5	15	15	
c	min	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	
	max	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1	1	1	1	1	
d _a	max	20.2	22.4	24.4	26.4	30.4	33.4	36.4	39.4	42.4	45.6	48.6	52.6	56.6	
d _w	Grade A	min	25.3	28.2	30	33.6	-	-	-	-	-	-	-	-	
	Grade B	min	24.8	27.7	29.5	33.2	38	42.7	46.5	51.1	55.9	59.9	64.7	69.4	74.2
e	Grade A	min	30.14	33.53	35.72	39.98	-	-	-	-	-	-	-	-	
	Grade B	min	29.56	32.95	35.03	39.55	45.2	50.85	55.37	60.79	66.44	71.3	76.95	82.6	88.25
k	Nominal Size	11.5	12.5	14	15	17	18.7	21	22.5	25	26	28	30	33	
	Grade A	min	11.28	12.28	13.78	14.78	-	-	-	-	-	-	-	-	-
		max	11.72	12.72	14.22	15.22	-	-	-	-	-	-	-	-	-
	Grade B	min	11.15	12.15	13.65	14.65	16.65	18.28	20.58	22.08	24.58	25.58	27.58	29.58	32.5
max		11.85	12.85	14.35	15.35	17.35	19.12	21.42	22.92	25.42	26.42	28.42	30.42	33.5	
k ₁	min	7.8	8.5	9.6	10.3	11.7	12.8	14.4	15.5	17.2	17.9	19.3	20.9	22.8	
r	min	0.6	0.8	0.8	0.8	1	1	1	1	1	1.2	1.2	1.6	1.6	
s	max=nominal size	27	30	32	36	41	46	50	55	60	65	70	75	80	
	Grade A	min	26.67	29.67	31.61	35.38	-	-	-	-	-	-	-	-	
	Grade B	min	26.15	29.16	31	35	40	45	49	53.8	58.8	63.1	68.1	73.1	78.1
Weight of per 1000 steel products(≈kg)		-	-	-	-	-	-	-	-	-	-	-	-	-	

①, This standard specifies requirements for M1,6 to M52 hexagon head screws threaded up to the head, assigned to product grade A, for sizes up to M24 and lengths not exceeding 10d or 150 mm, and to product grade B for sizes greater than M24 or lengths exceeding 10 d or 150 mm.

②, For thread sizes not greater than M4, also permitted without chamfered end.