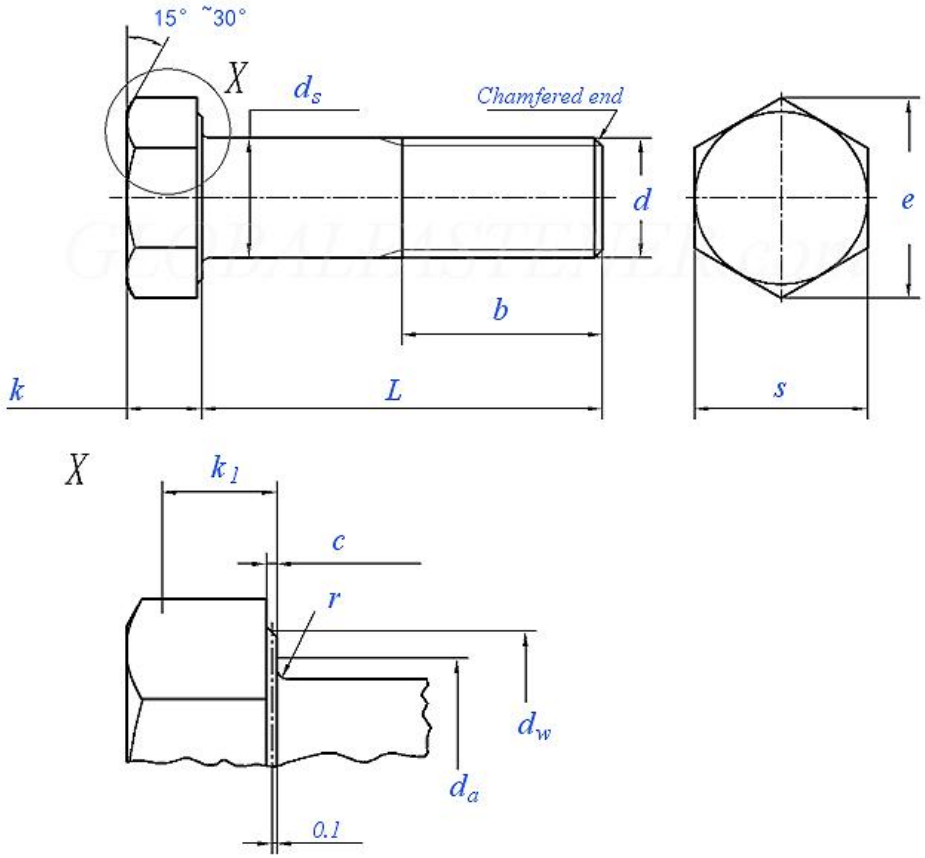
DIN 960 Hex Bolt

Leader-Fastener is a manufacturer and distributor of **DIN 960 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 960 - Partially Threaded Hex Cap Screw (Fine Thread)

DIN 960 Hex Head Bolts are partially threaded bolts with fine and extra fine external machine screw threads (the space between fine and extra fine threads is less than coarse, wider-spaced threads). Mated with internally threaded holes and nuts, they are similar to ISO 8765 except for some dimensional differences. Available in Class 8.8 and 10.9 steel, zinc plating inhibits the formation of rust while plain finish does not have any corrosion protection. Thread tolerance for Class 8.8 and 10.9 is 6g for plain finish and 6h for plated; right-hand threads are standard. Also called hex head cap screws, the bolt diameter and bolt length determine the minimum threaded length. The bolt's length is measured from under the head to the tip. **DIN 960 Hex Head Bolts** are similar to ISO 8765 and JIS B1180. Use DIN 961 instead when fully threaded is required and DIN 931 for partially threaded coarse threads.

DIN 960 - 1990 Hexagon head bolts with fine pitch thread—Product grades A and B



Screw Thread			M8	M10	M12	(M14)	M16	(M18)	M20	(M22)	M24	(M27)	M30	(M33)	M36	(M39)
P	Pitch	Fine thread-1	1	1	1.5	1.5	1.5	2	1.5	2	2	2	2	2	3	3
		Fine thread-2	-	1.25	1.25	-	-	1.5	2	1.5	1.5	-	-	-	-	-
b	L≤125		22	26	30	34	38	42	46	50	54	60	66	72	78	84
	125＜L≤200		28	32	36	40	44	48	52	56	60	66	72	78	84	90
	L＞200		41	45	49	53	57	61	65	69	73	79	85	91	97	103
c	min		0.15	0.15	0.15	0.15	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
	max		0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1
d_a	max		9.2	11.2	13.7	15.7	17.7	20.2	22.4	24.4	26.4	30.4	33.4	36.4	39.4	42.4
d_s	max		8	10	12	14	16	18	20	22	24	27	30	33	36	39

	Grade A	min	7.78	9.78	11.73	13.73	15.73	17.73	19.67	21.67	23.67	-	-	-	-	-
	Grade B	min	7.64	9.64	11.57	13.57	15.57	17.57	19.48	21.48	23.48	26.48	29.48	32.38	35.38	38.38
d_w	Grade A	min	11.6	15.6	17.4	20.5	22.5	25.3	28.2	30	33.6	-	-	-	-	-
	Grade B	min	11.4	15.4	17.2	20.1	22	24.8	27.7	29.5	33.2	38	42.7	46.6	51.1	55.9
e	Grade A	min	14.38	18.9	21.1	24.49	26.75	30.14	33.53	35.72	39.98	-	-	-	-	-
	Grade B	min	14.2	18.72	20.88	23.91	26.17	29.56	32.95	35.03	39.55	45.2	50.85	55.37	60.79	66.44
k	Nominal Size		5.3	6.4	7.5	8.8	10	11.5	12.5	14	15	17	18.7	21	22.5	25
	Grade A	min	5.15	6.22	7.32	8.62	9.82	11.28	12.28	13.78	14.78	-	-	-	-	-
		max	5.45	6.58	7.68	8.98	10.18	11.72	12.72	14.22	15.22	-	-	-	-	-
	Grade B	min	5.06	6.11	7.21	8.51	9.71	11.15	12.15	13.65	14.65	16.65	18.28	20.58	22.08	24.58
		max	5.54	6.69	7.79	9.09	10.29	11.85	12.85	14.35	15.35	17.35	19.12	21.42	22.92	25.42
k_1	min		3.54	4.28	5.05	5.96	6.8	7.8	8.5	9.6	10.3	11.7	12.8	14.4	15.5	17.2
r	min		0.4	0.4	0.6	0.6	0.6	0.6	0.8	0.8	0.8	1	1	1	1	1
s	max=nominal size		13	17	19	22	24	27	30	32	36	41	46	50	55	60
	Grade A	min	12.73	16.73	18.67	21.67	23.67	26.67	29.67	31.61	35.38	-	-	-	-	-
	Grade B	min	12.57	16.57	18.48	21.16	23.16	26.16	29.16	31	35	40	45	49	53.8	58.8
Weight of per 1000 steel products(≈kg)			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Length of Thread b			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Screw Thread d			M42	(M45)	M48	(M52)	M56	(M60)	M64	(M68)	M72	(M76)	M80	M90	M100
P	Pitch	Fine thread-	3	3	3	3	4	4	4	4	4	4	4	4	4

		1													
		Fine thread-2	-	-	-	-	-	-	-	-	-	-	-	-	-
b	L≤125		90	96	102	-	-	-	-	-	-	-	-	-	-
	125＜L≤200		96	102	108	116	124	132	140	148	158	164	172	192	-
	L＞200		109	115	121	129	137	145	153	161	169	177	185	205	225
c	min		0.3	0.3	0.3	0.3	-	-	-	-	-	-	-	-	-
	max		1	1	1	1	1	1	1	1	1	1	2	2	2
d_a	max		45.6	48.6	52.6	56.6	63	67	71	75	79	83	87	97	108
d_s	max		42	45	48	52	56	60	64	68	72	76	80	90	100
	Grade A	min	-	-	-	-	-	-	-	-	-	-	-	-	-
	Grade B	min	41.38	44.38	47.38	51.26	55.26	59.26	63.26	67.26	71.26	75.26	79.26	89.13	99.13
d_w	Grade A	min	-	-	-	-	-	-	-	-	-	-	-	-	-
	Grade B	min	59.9	64.7	69.4	74.2	78.7	83.4	88.2	92.9	97.7	102.4	107.2	121.1	135.4
e	Grade A	min	-	-	-	-	-	-	-	-	-	-	-	-	-
	Grade B	min	71.3	76.95	82.6	88.25	93.56	99.21	104.86	110.51	116.16	121.81	127.46	144.08	161.03
k	Nominal Size		26	28	30	33	35	38	40	43	45	48	50	57	63
	Grade A	min	-	-	-	-	-	-	-	-	-	-	-	-	-
		max	-	-	-	-	-	-	-	-	-	-	-	-	-
	Grade B	min	25.58	27.58	29.58	32.5	34.5	37.5	39.5	42.5	44.5	47.5	49.5	56.4	62.4
		max	26.42	28.42	30.42	33.5	35.5	38.5	40.5	43.5	45.5	48.5	50.5	57.6	63.6
k_1	min		17.9	19.3	20.9	22.8	24.2	26.2	27.6	29.8	31.2	33.2	34.6	39.5	43.7
r	min		1.2	1.2	1.6	1.6	2	2	2	2	2	2	2	2.5	2.5
s	max=nominal size		65	70	75	80	85	90	95	100	105	110	115	130	145
	Grade A	min	-	-	-	-	-	-	-	-	-	-	-	-	-
	Grad	min	63.1	68.1	73.1	78.1	82.8	87.8	92.8	97.8	102.8	107.8	112.8	127.5	142.5

e B														
Weight of per 1000 steel products(≈kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Length of Thread b	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Material:

a)Steel, Property class (material): ≤M39：5.6,8.8,10.9; for larger sizes: subject to agreement. Standard ISO 898-1

b)Stainless steel, Property class (material): ≤M20：A2-70，A4-70; > M20 ≤M39: A2-50, A4-50; > M39: subject to agreement. Standard DIN 267-11

c)Non-ferrous metal, Property class (material): subject to agreement. Standard DIN 267-18

Note:

The symbols used to denote property class as specified in ISO 898-1 and DIN 267-11 may also be used for sizes above M39 provided that the finished product has all the properties assigned to the particular symbol.