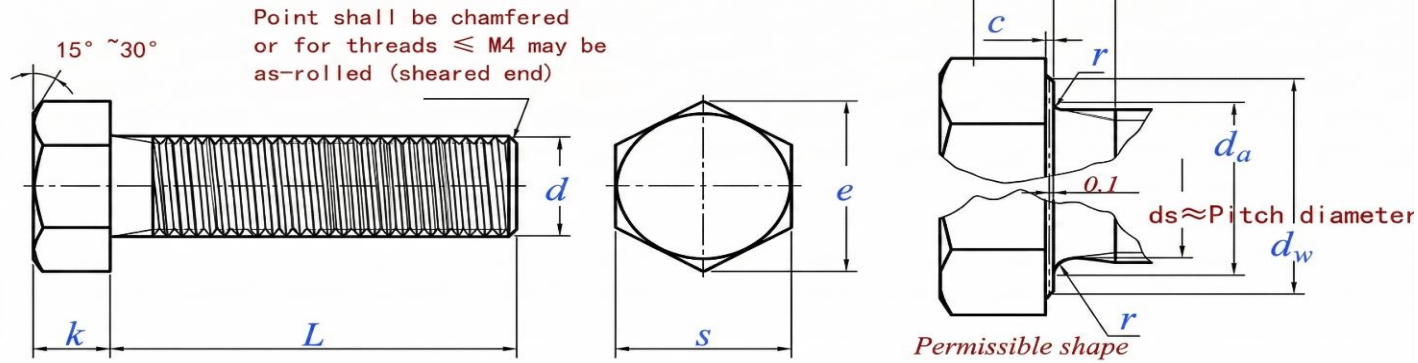


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Dimensions of Hex Head Bolts

Thread Size d			M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
P	Pitch		0.5	0.7	0.8	1	1.25	1.5	1.75	2	2	2.5	2.5	2.5	3
a	max		1.5	2.1	2.4	3	3.75	4.5	5.25	6	6	7.5	7.5	7.5	9
	min		-	-	-	-	-	-	-	2	-	2.5	-	2.5	-
c	max		0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.8
	min		0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.2	0.2	0.2	0.2	0.2
da	max		3.6	4.7	5.7	6.8	9.2	11.2	13.7	15.7	17.7	20.2	22.4	24.4	26.4
dw	Grade A	min	4.6	5.9	6.9	8.9	11.6	14.6	16.6	19.6	22.5	25.3	28.2	31.7	33.6
	Grade B	min	-	-	6.7	8.7	11.4	14.4	16.4	19.2	22	24.8	27.7	31.4	33.2
e	Grade A	min	6.07	7.66	8.79	11.05	14.38	17.77	20.03	23.35	26.75	30.14	33.53	37.72	39.98
	Grade B	min	-	-	8.63	10.89	14.2	17.59	19.85	22.78	26.17	29.56	32.95	37.29	39.55
k	Nominal Size		2	2.8	3.5	4	5.3	6.4	7.5	8.8	10	11.5	12.5	14	15
	Grade A	min	1.88	2.68	3.35	3.85	5.15	6.22	7.32	8.62	9.82	11.28	12.28	13.78	14.78
		max	2.12	2.92	3.65	4.15	5.45	6.58	7.68	8.98	10.18	11.72	12.72	14.22	15.22
	Grade B	min	-	-	3.26	3.76	5.06	6.11	7.21	8.51	9.71	11.15	12.15	13.65	14.65
max		-	-	3.74	4.24	5.54	6.69	7.79	9.09	10.29	11.85	12.85	14.35	15.35	
k1	Grade A	min	1.3	1.9	2.35	2.7	3.6	4.35	5.12	6	6.9	7.9	8.6	9.6	10.35
	Grade B	min	-	-	2.28	2.63	3.54	4.28	5.05	6	6.8	7.8	8.5	9.5	10.3
r	min		0.1	0.2	0.2	0.25	0.4	0.4	0.6	0.6	0.6	0.6	0.8	1	0.8
	max=nominal size		5.5	7	8	10	13	16	18	21	24	27	30	34	36
s	Grade A	min	5.32	6.78	7.78	9.78	12.73	15.73	17.73	20.67	23.67	26.67	29.67	33.38	35.38
	min		-	-	7.64	9.64	12.57	15.57	17.57	20.16	23.16	26.76	29.16	33	35

NOTE: ALL DIMENSIONS ARE IN MM.



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Dimensions of Hex Head Bolts

Thread Size d			(M27)	M30	(M33)	M36	(M39)	M42	(M45)	M48	(M52)	M56	(M60)	M64	
P	Pitch		3	3.5	3.5	4	4	4.5	4.5	5	5	5.5	5.5	6	
		a	9	10.5	10.5	12	12	13.5	13.5	15	15	16.5	16.5	18	
c	max		3	-	3.5	-	4	4.5	4.5	5	5	5.5	5.5	6	
		min	0.8	0.8	0.8	0.8	1	1	1	1	1	1	1	1	
da	max		0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
		min	30.4	33.4	36.4	39.4	42.4	48.6	48.6	56.6	56.6	67	67	75	
dw	Grade A	min	-	-	-	-	-	-	-	-	-	-	-	-	
		min	38	42.7	46.6	51.1	55.9	60.6	64.7	69.4	74.2	78.7	83.41	88.2	
e	Grade A	min	-	-	-	-	-	-	-	-	-	-	-	-	
		min	45.2	50.85	55.37	60.79	66.44	72.02	76.95	82.6	88.25	93.56	99.21	104.86	
k	Nominal Size		17	18.7	21	22.5	25	26	28	30	33	35	38	40	
		Grade A	min	-	-	-	-	-	-	-	-	-	-	-	-
			max	-	-	-	-	-	-	-	-	-	-	-	-
		Grade B	min	16.65	18.28	20.58	22.08	24.58	24.75	27.58	28.95	32.5	33.75	37.5	38.75
max	17.35		19.12	21.42	22.92	25.42	27.05	28.42	31.05	33.5	36.25	38.5	41.25		
k1	Grade A	min	-	-	-	-	-	-	-	-	-	-	-	-	
		min	11.7	12.8	14.4	15.5	17.2	17.5	19.3	20.1	22.8	23.6	26.2	27.1	
r	min		1	1	1	1	1	1.2	1.2	1.6	1.6	2	2	2	
		max=nominal size	41	46	50	55	60	65	70	75	80	85	90	95	
s	Grade A	min	-	-	-	-	-	-	-	-	-	-	-	-	
		min	40	45	49	53.8	58.8	63.8	68.1	73.1	78.1	82.8	87.8	92.8	

NOTE: ALL DIMENSIONS ARE IN MM.