

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ISO RECOMMENDATION

### R 733

HEXAGON BOLTS AND NUTS

METRIC SERIES

TOLERANCES ON WIDTHS ACROSS FLATS, WIDTHS ACROSS CORNERS

1st EDITION

May 1968

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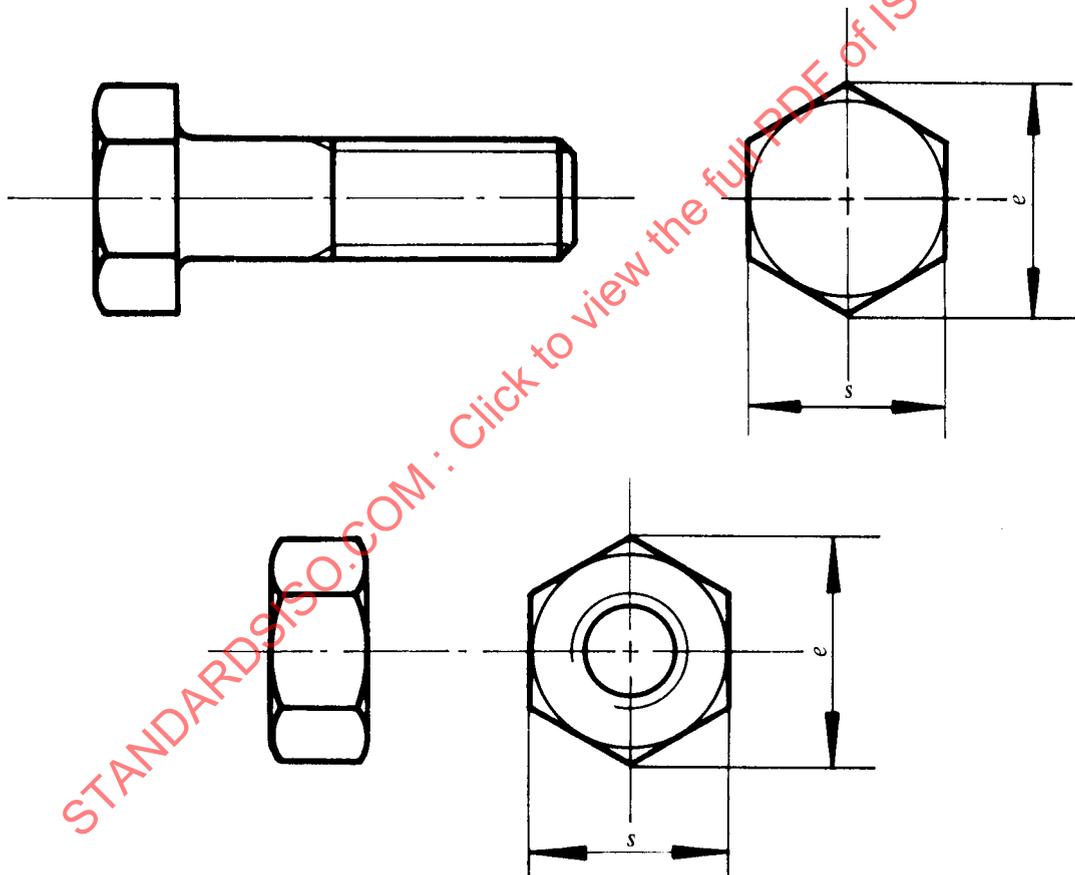
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HEXAGON BOLTS AND NUTS  
METRIC SERIES

TOLERANCES ON WIDTHS ACROSS FLATS, WIDTHS ACROSS CORNERS



Dimensions in millimetres

Width across flats $s$					Width across corners $e$				
Nominal value	max.	min.		min.					
		Finished products	Regular and semi-finished products	Finished products	Regular and semi-finished products				
			Tolerance zone	Tolerance zone					
3.2	3.2	3.08	h 12			3.48			
4	4	3.88					4.38		
5	5	4.88					5.51		
5.5	5.5	5.38					6.08		
7	7	6.85	h 13			7.74			
8	8	7.85					8.87	8.63	
10	10	9.78			7.64	h 14	11.05	10.89	
11	11	10.73			9.64			12.12	11.94
12	12	11.73			10.57			13.25	13.07
13	13	12.73			11.57			14.38	14.20
14	14	13.73			12.57		15.51	15.33	
17	17	16.73			13.57		18.90	18.72	
19	19	18.67			16.57		21.10	20.88	
22	22	21.67			18.48		24.49	23.91	
24	24	23.67		21.16		26.75	26.17		
27	27	26.67		23.16		30.14	29.56		
30	30	29.67		26.16		33.53	32.95		
32	32	31.61		29.16		35.72	35.03		
36	36	35.38		31.00		39.98	39.55		
41	41	40.38		35.00		45.63	45.20		
46	46	45.38		40.00		51.28	50.85		
50	50	49.38		45.00		55.80	55.37		
55	55	54.26		49.00		61.31	60.79		
60	60	59.26		53.80		66.96	66.44		
65	65	64.26		58.80		72.61	72.09		
70	70	69.26		63.80		78.26	77.74		
75	75	74.26		68.80		83.91	83.39		
80	80	79.26		73.80		89.56	89.04		
85	85	84.13		78.80		95.07	94.47		
90	90	89.13		83.60		100.72	100.12		
95	95	94.13		88.60	h 15	106.37	105.77		
100	100	99.13		93.60			112.02	111.42	
105	105	104.13	h 14	98.60			117.67	117.07	
110	110	109.13				103.60		123.32	122.72
115	115	114.13			108.60		128.97	128.37	
120	120	119.13			113.60		134.62	134.02	
130	130	129.00		118.60		145.77	145.09		
135	135	134.00		128.40		151.42	150.74		
145	145	144.00		133.40		162.72	162.04		
150	150	149.00		143.40		168.37	167.69		
155	155	154.00		148.40		174.02	173.34		
165	165	164.00		153.40		185.32	184.64		
170	170	169.00		163.40		190.97	190.29		
180	180	179.00		168.40		202.27	201.59		
185	185	183.85		178.40		207.75	206.96		
200	200	198.85		183.15		224.70	223.91		
210	210	208.85		198.15		236.00	235.21		

$$e_{\min.} = 1.13 \times s_{\min.}$$