

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ISO RECOMMENDATION R 733

HEXAGON BOLTS AND NUTS

**iTeh STANDARD PREVIEW**  
METRIC SERIES  
**(standards.iteh.ai)**

TOLERANCES ON WIDTHS ACROSS FLATS, WIDTHS ACROSS CORNERS

ISO/R 733:1968

<https://standards.iteh.ai/catalog/standards/sist/15b607ba-fl dc-4b0c-949-a1d068552e0c/iso-r-733-1968>

1st EDITION

May 1968

*Replaced by ISO 4759-1 : 1978*

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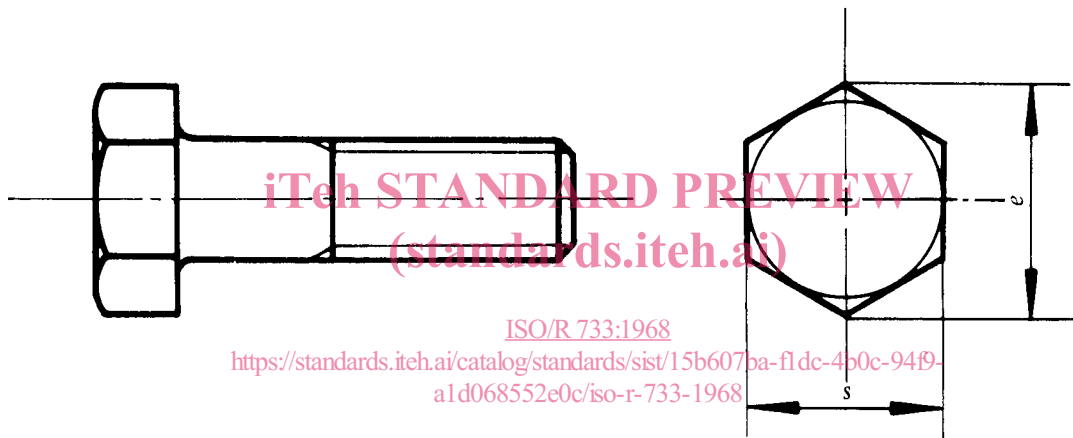
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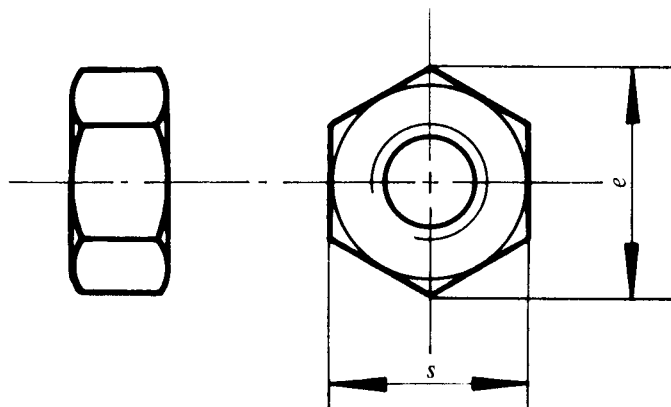
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ISO/R 733:1968

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Dimensions in millimetres

		Width across flats <i>s</i>				Width across corners <i>e</i>		
Nominal value	max.	min.		min.		min.		
		Finished products	Regular and semi-finished products	Finished products	Regular and semi-finished products	Finished products	Regular and semi-finished products	
		Tolerance zone		Tolerance zone				
3.2	3.2	3.08				3.48		
4	4	3.88	h 12			4.38		
5	5	4.88				5.51		
5.5	5.5	5.38				6.08		
7	7	6.85				7.74		
8	8	7.85		7.64	h 14	8.87	8.63	
10	10	9.78		9.64		11.05	10.89	
11	11	10.73		10.57		12.12	11.94	
12	12	11.73		11.57		13.25	13.07	
13	13	12.73	h 13	12.57	h 14	14.38	14.20	
14	14	13.73				13.57	15.51	15.33
17	17	16.73				16.57	18.90	18.72
19	19	18.67				18.48	21.10	20.88
22	22	21.67		21.16	h 15	24.49	23.91	
24	24	23.67		23.16		26.75	26.17	
27	27	26.67		26.16		30.14	29.56	
30	30	29.67		29.16		33.53	32.95	
32	32	31.61		31.00	35.72	35.03		
36	36	35.38		35.00	39.98	39.55		
41	41	40.38		40.00	45.63	45.20		
46	46	45.38		45.00	51.28	50.85		
50	50	49.38		49.00	55.80	55.37		
55	55	54.26		53.80	61.31	60.79		
60	60	59.26		58.80	66.96	66.44		
65	65	64.26		63.80	72.61	72.09		
70	70	69.26		68.80	78.26	77.74		
75	75	74.26		73.80	83.91	83.39		
80	80	79.26		78.80	89.56	89.04		
85	85	84.13		83.60	95.07	94.47		
90	90	89.13		88.60	100.72	100.12		
95	95	94.13		93.60	106.37	105.77		
100	100	99.13	h 14	98.60	h 15	112.02	111.42	
105	105	104.13				103.60	117.67	117.07
110	110	109.13				108.60	123.32	122.72
115	115	114.13				113.60	128.97	128.37
120	120	119.13		118.60	134.62	134.02		
130	130	129.00		128.40	145.77	145.09		
135	135	134.00		133.40	151.42	150.74		
145	145	144.00		143.40	162.72	162.04		
150	150	149.00		148.40	168.37	167.69		
155	155	154.00		153.40	174.02	173.34		
165	165	164.00		163.40	185.32	184.64		
170	170	169.00		168.40	190.97	190.29		
180	180	179.00		178.40	202.27	201.59		
185	185	183.85		183.15	207.75	206.96		
200	200	198.85		198.15	224.70	223.91		
210	210	208.85		208.15	236.00	235.21		

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

## BRIEF HISTORY

The ISO Recommendation R 733, *Hexagon bolts and nuts – Metric series – Tolerances on widths across flats – Widths across corners*, was drawn up by Technical Committee ISO/TC 2, *Bolts, nuts and accessories*, the Secretariat of which is held by the Deutscher Normenausschuss (DNA).

Work on this question by the Technical Committee began in 1959 and led, in 1965, to the adoption of a Draft ISO Recommendation.

In May 1966, this Draft ISO Recommendation (No. 952) was circulated to all the ISO Member Bodies for inquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Argentina	Hungary	South Africa
Belgium	India	Rep. of
Brazil	Ireland	Spain
Bulgaria	Israel	Sweden
Chile	Italy	Switzerland
Czechoslovakia	Korea, Rep. of	Turkey
Denmark	Netherlands	U.A.R.
Finland	New Zealand	United Kingdom
France	Norway	U.S.S.R.
Germany	Poland	Yugoslavia
Greece	Romania	

Three Member Bodies opposed the approval of the Draft :

Canada  
Japan  
U.S.A.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council which decided, in May 1968, to accept it as an ISO RECOMMENDATION.