

Gauging of hexagon sockets

The European Standard EN ISO 23429:2004 has the status of a British Standard

ICS 21.060.10

National foreword

This British Standard is the official English language version of EN ISO 23429:2004. It is identical with ISO 23429:2004. This standard partially supersedes BS EN ISO 10642:1998 and BS EN ISO 4762:1998. However, revisions of EN ISO 10642 and EN ISO 4762 are due for publication shortly, and will be published as identical British Standards.

The UK participation in its preparation was entrusted by Technical Committee FME/9, Nuts, bolts and accessories, to Subcommittee FME/9/8, Hexagon socket screws, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the BSI Electronic Catalogue or of British Standards Online.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii and iii, a blank page, pages 1 to 3, the Annex ZA page, an inside back cover and a back cover.

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Amendments issued since publication

Amd. No.	Date	Comments
15069	5 April 2004	Corrected EN ISO foreword and incorporation of Annex ZA page.
Corrigendum No.1		

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 22 January 2004

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ISBN 0 580 43307 2

ICS 21.060.10

English version

Gauging of hexagon sockets (ISO 23429:2004)

Calibrage des six pans creux (ISO 23429:2004)

Lehrung von Innensechskanten (ISO 23429:2004)

This European Standard was approved by CEN on 10 December 2003.

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CORRECTED 2004-03-03

Foreword

This document (EN ISO 23429:2004) has been prepared by Technical Committee ISO/TC 2 "Fasteners" in collaboration with Technical Committee CEN/TC 185 "Threaded and non-threaded mechanical fasteners and accessories", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2004, and conflicting national standards shall be withdrawn at the latest by July 2004.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 23429:2004 has been approved by CEN as EN ISO 23429:2004 without any modifications.

NOTE Normative references to International Standards are listed in Annex ZA (normative).

INTERNATIONAL STANDARD

**ISO
23429**

First edition
2004-01-15

Gauging of hexagon sockets

Calibrage des six pans creux



Reference number
ISO 23429:2004(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 23429 was prepared by Technical Committee ISO/TC 2, *Fasteners*.

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Gauging of hexagon sockets

1 Scope

This International Standard specifies gauges for hexagon sockets with tolerances as specified in ISO 4759-1.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4759-1, *Tolerances for fasteners — Part 1: Bolts, screws, studs and nuts — Product grades A, B and C*

3 Dimensions

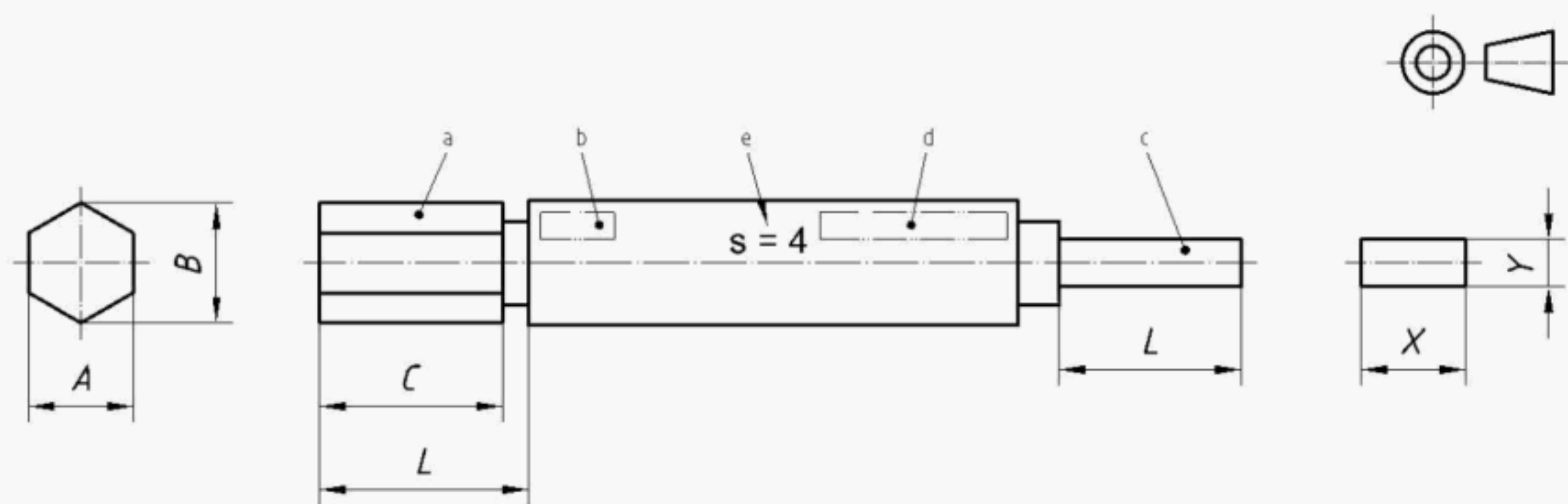
For gauge dimensions see Figure 1 and Table 2.

For design rules for gauge dimensions see Table 1.

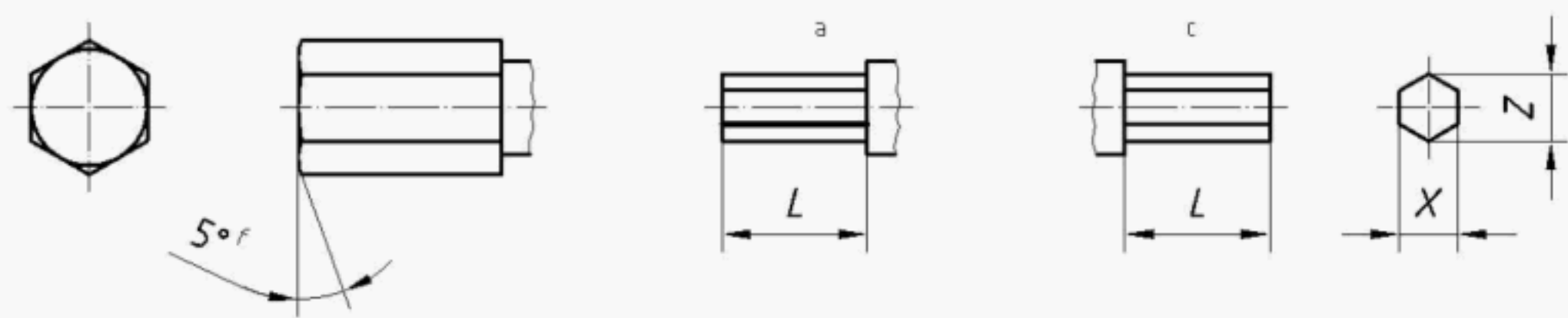
4 Designation

EXAMPLE A gauge for a hexagon socket with a width across flats of 10 mm is designated as follows:

Gauge ISO 23429 - 10



a) Regular construction



b) Optional constructions of GO members and NOT GO members for small sizes

- a GO member.
- b Panel for marking GO.
- c NOT GO member.
- d Panel for marking NOT GO.
- e Socket size (width across flats).
- f 5° chamfer optional.

Figure 1 — Gauge dimensions

Table 1 — Design rules for gauge dimensions

Dimensions in millimetres	
Gauge type	Dimensions
GO gauge for dimension ^a	
s	$A_{\max} = s_{\min} - 0,001$ $A_{\min} = A_{\max} - 0,003 (s \leq 2)$ $A_{\min} = A_{\max} - 0,005 (s > 2)$
GO gauge for dimension ^b	
e	$B_{\max} = e_{\min} - 0,005$ $B_{\min} = B_{\max} - 0,005$
NOT GO gauge for dimension s	$X_{\min} = s_{\max} + 0,001$ $X_{\max} = X_{\min} + 0,002 (s \leq 2)$ $X_{\max} = X_{\min} + 0,005 (s > 2)$
^a Width across flats of socket.	
^b Width across corners of socket.	

Table 2 — Gauge dimensions

Dimensions in millimetres

Nominal socket size, s			0,7	0,9	1,3	1,5	2	2,5	3	4	5	6	8
GO gauge: Width across flat	A	max.	0,709	0,886	1,274	1,519	2,019	2,519	3,019	4,019	5,019	6,019	8,024
		min.	0,706	0,883	1,271	1,516	2,016	2,514	3,014	4,014	5,014	6,014	8,019
GO gauge: Width across corners	B	max.	0,804	1,006	1,449	1,728	2,298	2,868	3,438	4,578	5,718	6,858	9,144
		min.	0,799	1,001	1,444	1,723	2,293	2,863	3,433	4,573	5,713	6,853	9,139
GO gauge: Length	C	min.	1,5	2,4	4,7	5	5	7	7	7	7	8	8
Usable gauge length	L	min.	1,5	2,4	4,7	5	5	7	7	7	7	12	16
NOT GO gauge: Width across flats	X	max.	0,727	0,916	1,303	1,583	2,083	2,586	3,086	4,101	5,146	6,146	8,181
		min.	0,725	0,914	1,301	1,581	2,081	2,581	3,081	4,096	5,141	6,141	8,176
NOT GO gauge: Thickness	Y	max.	—	—	—	—	—	—	—	1,80	2,30	2,80	3,80
		min.	—	—	—	—	—	—	—	1,75	2,25	2,75	3,75
NOT GO gauge: Width across corners	Z	max.	0,782	0,980	1,397	1,68	2,23	2,79	3,35	—	—	—	—
		min.	0,770	0,968	1,384	1,66	2,21	2,77	3,33	—	—	—	—

Nominal socket size, s			10	12	14	17	19	22	27	32	36	41	46
GO Gauge: Width across flat	A	max.	10,024	12,031	14,031	17,049	19,064	22,064	27,064	32,079	36,079	41,079	46,079
		min.	10,019	12,026	14,026	17,044	19,059	22,059	27,059	32,074	36,074	41,074	46,074
GO Gauge: Width across corners	B	max.	11,424	13,711	15,991	19,432	21,729	25,149	30,849	36,566	41,126	46,826	52,526
		min.	11,419	13,706	15,986	19,427	21,724	25,144	30,844	36,561	41,121	46,821	52,521
GO gauge: Length	C	min.	12	12	12	19	19	22	22	32	32	41	41
Usable gauge length	L	min.	20	24	28	34	38	44	54	64	72	82	82
NOT GO gauge: Width across flats	X	max.	10,181	12,218	14,218	17,236	19,281	22,281	27,281	32,336	36,336	41,336	46,336
		min.	10,176	12,213	14,213	17,231	19,276	22,276	27,276	32,331	36,331	41,331	46,331
NOT GO gauge: Thickness	Y	max.	4,80	5,75	6,75	8,10	9,10	10,50	12,90	15,30	17,20	19,60	22,00
		min.	4,75	5,70	6,70	8,05	9,05	10,45	12,85	15,25	17,15	19,55	21,95
NOT GO gauge: Width across corners	Z	max.	—	—	—	—	—	—	—	—	—	—	—
		min.	—	—	—	—	—	—	—	—	—	—	—

Annex ZA
(normative)

Normative references to international publications
with their relevant European publications

Annex ZA (normative)

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE Where an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 4759-1	2000	Tolerances for fasteners - Part 1: Bolts, screws, studs and nuts - Product grades A, B and C	EN ISO 4759-1	2000

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