

# Screwing dies and dienuts —

## Part 5: Specification for dimensions of hexagonal dienuts

UDC 621.992.31

## Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Machine, Engineers and Hand Tools Standards Policy Committee (MTE/-) to Technical Committee MTE/4, upon which the following bodies were represented:

Advanced Manufacturing Technology Research Institute  
 British Electrical Systems Association (BEAMA Ltd.)  
 Federation of British Engineers' Tool Manufacturers  
 Gauge and Tool Makers' Association  
 Institution of Production Engineers  
 Screw Thread Tool Manufacturers' Association  
 Society of British Aerospace Companies Limited  
 Twist Drill and Reamer Association

This British Standard, having been prepared under the direction of the Machine, Engineers and Hand Tools Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on 29 June 1990

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First published November 1943  
 First revision June 1950  
 Second revision September 1974  
 Second edition June 1990

The following BSI references relate to the work on this standard:  
 Committee reference MTE/4  
 Draft for comment 87/72648 DC

ISBN 0 580 18565 6

### Amendments issued since publication

Amd. No.	Date of issue	Comments

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## National foreword

This Part of BS 1127 has been prepared under the direction of the Machine, Engineers and Hand Tools Standards Policy Committee. It is identical with ISO 7226:1988 "*Hexagonal dies*" published by the International Organization for Standardization (ISO).

This Part of BS 1127 together with Parts 1, 2, 3 and 4 supersedes BS 1127:1974 which is withdrawn. BS 1127 comprises the following Parts.

- *Part 1: Specification for hand- and machine-operated circular screwing dies and hand-operated die stocks;*
- *Part 2: Specification for hand- and machine-operated circular screwing dies for taper pipe threads; R series;*
- *Part 3: Specification for hand- and machine-operated circular screwing dies for parallel pipe threads; G series;*
- *Part 4: Terminology for circular screwing dies;*
- *Part 5: Specification for dimensions of hexagonal dies.*

BS 1127 was first published in 1943 as a war emergency standard and revised in 1950 to include hexagonal dies and again in 1974 to incorporate the change from inch to metric dimensions. The purpose of this present revision is to take account of changes made to related ISO standards since 1974 and the requirement of the United Kingdom as a CEN member to give European Standards EN 22568, EN 24230, EN 24231 and EN 25968 the status of national standards. ISO 7726:1988, which was not adopted by CEN, is included for completeness of the screwing die series of standards.

### Cross-references

International Standard	Corresponding British Standard
ISO 7-1:1982	BS 21:1985 <i>Specification for pipe threads for tubes and fittings where pressure-tight joints are made on the threads (metric dimensions)</i> (Technically equivalent)
ISO 68:1973	BS 3643: <i>ISO metric screw threads</i> Part 1:1981 <i>Principles and basic data</i> (Technically equivalent)
ISO 228-1:1982	BS 2779:1986 <i>Specification for pipe threads for tubes and fittings where pressure-tight joints are not made on the threads (metric dimensions)</i> (Technically equivalent)
ISO 261:1973	BS 3643 <i>ISO metric screw threads</i> Part 1:1981 <i>Principles and basic data</i> (Technically equivalent)
ISO 263:1973	BS 1580 <i>Specification for Unified screw threads</i> Parts 1 & 2:1962 (1985) <i>Diameters ¼ in and larger</i> Part 3:1965 (1985) <i>Diameters below ¼ in</i> (Technically equivalent)
ISO 2568:1988	BS 1127 <i>Screwing dies and dies</i> Part 1:1990 <i>Specification for hand- and machine-operated circular screwing dies and hand-operated die stocks</i> (Identical)
ISO 4230:1987	Part 2:1990 <i>Specification for hand- and machine-operated circular screwing dies for taper pipe threads; R series</i> (Identical)

<b>International Standard</b>	<b>Corresponding British Standard</b>
ISO 4231:1987	Part 3:1990 <i>Specification for hand- and machine-operated circular screwing dies for parallel pipe threads; G series</i> (Identical)

A related British Standard to ISO 68 is BS 1580 "*Specification for unified screw threads*" Part 3:1965 "*Diameters below ¼ in*".

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### **Summary of pages**

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 and 2, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.



## 0 Introduction

Circular screwing dies are specified for certain thread forms in ISO 2568, ISO 4230 and ISO 4231. For certain sizes of these threads, it is convenient for some purposes to use hexagonal dienuts instead of circular dies and, for purposes connected with their manufacture and use, it is desirable that certain dimensions of these dienuts should be standardized.

## 1 Scope and field of application

This International Standard specifies the general dimensions of hexagonal dienuts for certain sizes of ISO metric threads (coarse and fine pitch series — see ISO 68 and ISO 261), ISO inch threads (UNC and UNF series — see ISO 68 and ISO 263), and pipe threads (G and R series — see ISO 7-1 and ISO 228-1), as well as the non-preferred thread series BSW, BSF and BA.

## 2 References

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Designation, dimensions and tolerances.*

ISO 68, *ISO general purpose screw threads — Basic profile.*

ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Designation, dimensions and tolerances.*

ISO 261, *ISO general purpose metric screw threads — General plan.*

ISO 263, *ISO inch screw threads — General plan and selection for screws, bolts and nuts — Diameter range 0,06 to 6 in.*

ISO 2568, *Hand- and machine-operated circular screwing dies and hand-operated die stocks.*

ISO 4230, *Hand- and machine-operated circular screwing dies for taper pipe threads — R series.*

ISO 4231, *Hand- and machine-operated circular screwing dies for parallel pipe threads — G series.*

## 3 Dimensions and tolerances

See the Figure, and Table 1 and Table 2.

## 4 Marking

Dienuts having dimensions in accordance with those given in Table 1 shall be marked with the relevant thread designation specified in ISO 2568.

Dienuts having dimensions in accordance with those given in Table 2 shall be marked with the letter R immediately followed by the designation of the thread.

*Example:*

A hexagonal dienut for R series pipe threads with designation 1/8 shall be marked as follows:

**R 1/8**

Where tools comply in all respects with the relevant International Standards, the symbol ISO may be appended to the mark at the discretion of the manufacturer.

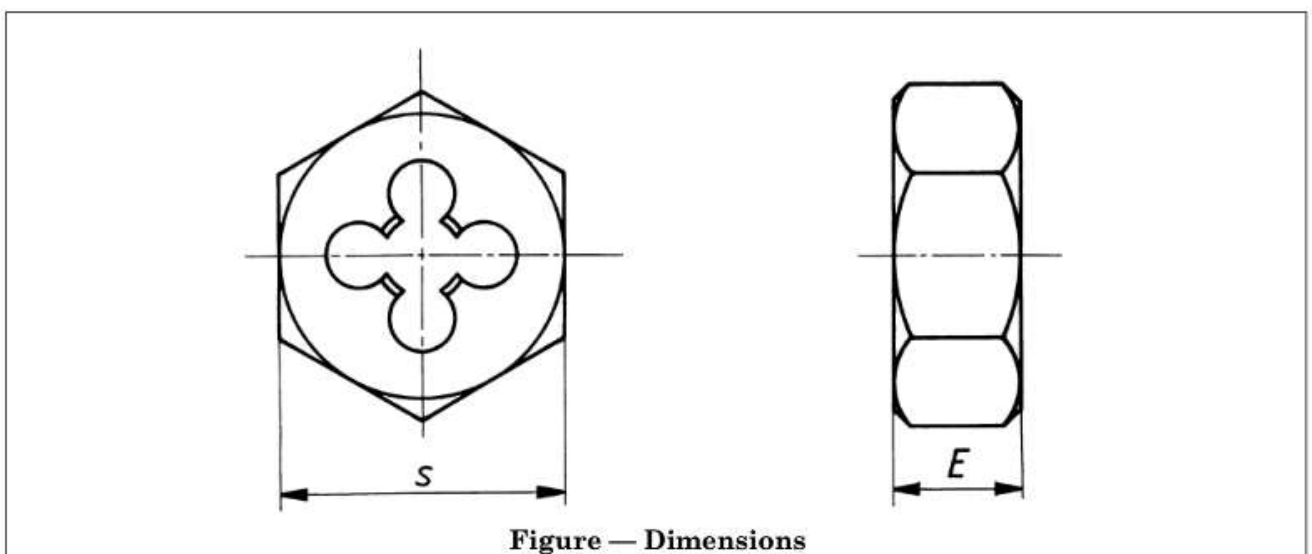


Figure — Dimensions

**Table 1 — General table of dimensional characteristics of hexagonal die nuts for metric and inch threads (except R series pipe threads)**

Range of thread diameter, <i>d</i>				<i>s</i> h13 mm	Metric pitches												
mm		in			0,35 0,7	0,73 0,81	0,9 1	1,25	1,5	1,75	2	2,5	3	3,5	4 4,5	5 5,5	
Over	Up to and including	Over	Up to and including		Number of threads per inch												
				48 40	36 32	28 24	22 18	16	14	13 12	11 10	9 8	7	6	5 4 1/2		
				Cutting width, <i>E</i> (mm) js13													
2,65	4	0,104 3	0,157 5	18	5 <sup>a</sup>	7											
4	6,35	0,157 5	0,25		7	7	7										
6,35	9	0,25	0,354 3	21	9	9	9										
9	11,2	0,354 3	0,440 9	27		11	11	11	11								
11,2	15	0,440 9	0,590 6	36			10 <sup>a</sup>	10 <sup>a</sup>	14	14							
15	21,2	0,590 6	0,834 6	41			14 <sup>a</sup>	14 <sup>a</sup>	14 <sup>a</sup>	18	18						
21,2	26,5	0,834 6	1,043 3	50				16 <sup>a</sup>	16 <sup>a</sup>	16 <sup>a</sup>	22	22					
26,5	37,5	1,043 3	1,476 4	60				18 <sup>a</sup>	18 <sup>a</sup>	18 <sup>a</sup>	18 <sup>a</sup>	25	25	25			
37,5	42,5	1,476 4	1,673 2	70				20 <sup>a</sup>		20 <sup>a</sup>	20 <sup>a</sup>	30		30			
42,5	53	1,673 2	2,086 6	85				22 <sup>a</sup>		22 <sup>a</sup>	22 <sup>a</sup>	36	36	36	36		
53	63	2,086 6	2,480 3	100				22 <sup>a</sup>		22 <sup>a</sup>	22 <sup>a</sup>	36		36	36		

<sup>a</sup> These cutting widths, which are the lower of the two values specified for each range of thread diameter, may be increased to the higher value given in the table at the discretion of the manufacturer.

**Table 2 — Table of dimensional characteristics of hexagonal die nuts for R series pipe threads**

Designation	Basic diameter mm	Approximate pitch mm	<i>s</i> h13 mm	Cutting width, <i>E</i> js13 mm
1/16	7,723	0,907	21	10
1/8	9,728	0,907	27	10
1/4	13,157	1,337	36	14
3/8	16,662	1,337	41	15
1/2	20,955	1,814	50	19
3/4	26,441	1,814	60	20
1	33,249	2,309	60	24
1 1/4	41,91	2,309	85	26
1 1/2	47,803	2,309	85	26
2	59,614	2,309	100	31



## Publications referred to

See national foreword.

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