

Specification for

Dimensions and identification code for mounting flanges and shaft ends for hydraulic fluid power pumps and motors

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- British Compressed Air Society
- British Fluid Power Association
- British Hydromechanics Research Association
- British Steel Corporation
- British Telecommunications plc
- Department of Trade and Industry (National Engineering Laboratory)
- Electricity Supply Industry in England and Wales
- Federation of Manufacturers of Construction Equipment and Cranes
- Institution of Mechanical Engineers
- Machine Tool Industry Research Association
- Ministry of Defence

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- Bath University Library
- British Railways Board
- Institution of Production Engineers
- Society of Motor Manufacturers and Traders Limited

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Foreword

This British Standard has been prepared under the direction of the Machinery and Components Standards Committee and is a revision of BS 6276:1982, which is withdrawn. It is technically equivalent to ISO 3019-2:1986 and ISO 3019-3:1981, published by the International Organization for Standardization (ISO).

It specifies interchangeability dimensions for mounting flanges and associated drive shaft ends. The oval, square and rectangular flanges relate mainly to pumps and motors on construction and industrial machinery for which it is possible to define specific spigot and shaft diameter relationships. The polygonal and circular flanges, however, relate to certain types of hydraulic motor for which it is not possible to lay down such a relationship because of design limitations.

This revision includes dimensions and associated changes related to cylindrical shaft ends with involute spline and an additional smaller size of rectangular mounting flange (Table 3).

Appendix A provides details of non-preferred flanges having intermediate dimensions. It also describes additional features that may be incorporated by agreement between manufacturer and purchaser.

Appendix B makes recommendations for the use of existing castings formerly used for the manufacture of flanges in accordance with earlier industrial inch standards.

Appendix C provides examples of methods for sealing mounting flanges and their mating surfaces.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 14, 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.

1 Scope

This British Standard specifies dimensions and an identification code for positive displacement rotary hydraulic fluid power pump and motor mounting flanges of the following types (including short and long spigot options):

- two-hole oval flanges;
- four-hole square flanges;
- four-hole rectangular flanges;
- multi-hole polygonal or circular flanges.

The standard also specifies dimensions and an identification code for the related shaft ends of these pumps and motor mounting flanges, i.e. for the following:

- cylindrical shaft ends with parallel key;
- conical shaft ends with key and external thread;
- cylindrical shaft ends with involute spline.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Dimensions

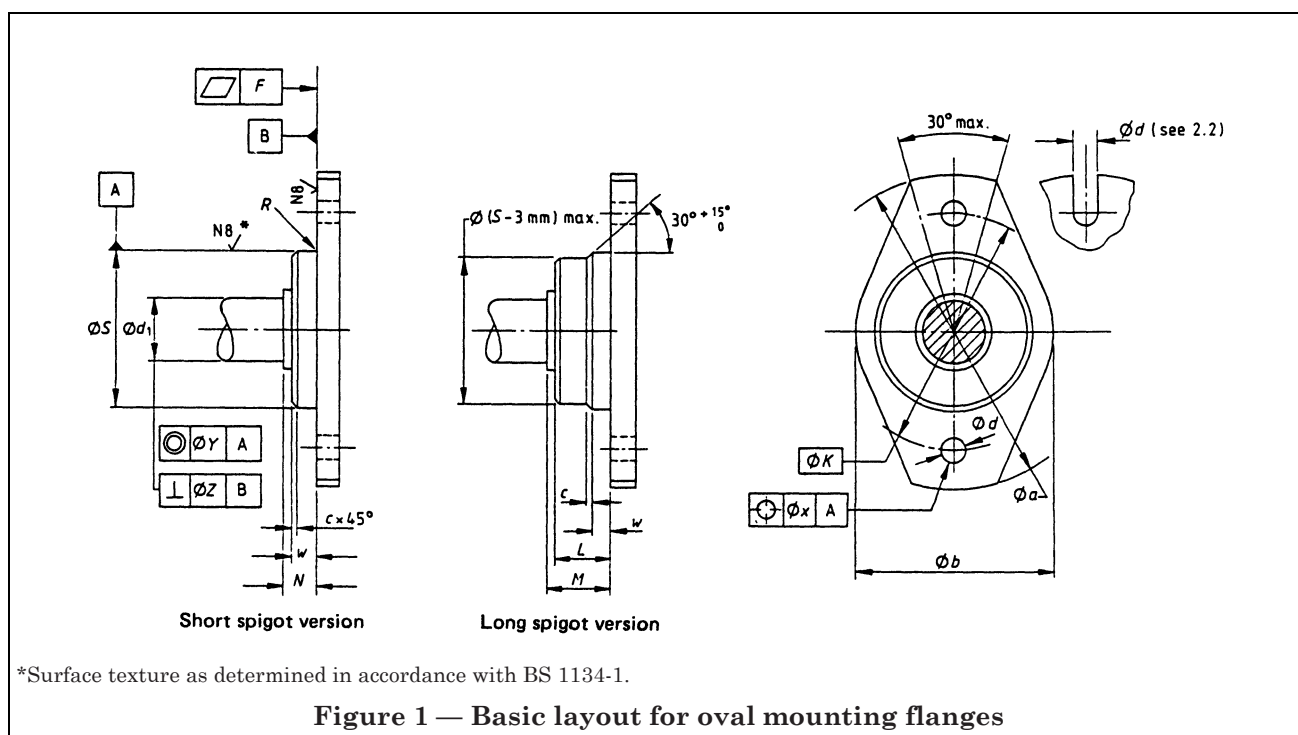
2.1 Mounting flanges

The dimensions of flanges shall be as follows:

- oval mounting flanges: in accordance with Figure 1 and Table 1;
- square mounting flanges: in accordance with Figure 2 and Table 2;
- rectangular mounting flanges: in accordance with Figure 3 and Table 3;
- polygonal or circular mounting flanges: in accordance with Figure 4 and Table 4.

2.2 Mounting holes

Each flange shall be provided with either clearance holes of diameter d for fixing bolts in accordance with the relevant figures and tables given in 2.1 or slots¹⁾.



¹⁾ Holes are normally provided.

Table 1 — Dimensions for oval mounting flanges (in mm)

Short and long spigot versions													Short spigot version	Long spigot version									
<i>S</i> (h8 ^a)	<i>K</i>	Fixings				<i>a</i> max.	<i>b</i> max.	<i>w</i> +0.5 0	<i>c</i> max.	<i>R</i> max. (<i>R</i> min. = 0)	<i>y</i> ^c	<i>Z</i> ^c mm/mm	<i>F</i>	<i>N</i> , +1 0	<i>M</i>	<i>L</i> max.							
		Number	Bolts, nominal diameter ^b	Clearance holes (slots)																			
				<i>d</i> (H13 ^a)	<i>x</i>																		
32	56	2	M6	6.6	0.3	75	50	7	1.5	0.5	0.20	0.0015	0.08	8	16 ⁺¹ ₀	15.5							
40	63					80	56																
50	80					M8	9										0.5	106	65	20 ⁺¹ ₀	19.5		
63	100		125	80																			
80	109		M10	11	140								100										
100	140		1	M12	14	1	177						125		9	2.0	1.6	0.35	0.0020	0.10	10	25 ⁺¹ ₀	24.5
125	180			M16	18		224						150									32 ⁺¹ ₀	31.5
160	224			M20	22		280						200									40 ⁺¹ ₀	39.5
200	280			M24	26		335						236									50 ^{+1.2} ₀	49.5

^a For tolerance values, see BS 4500-1.
^b Threads selected from BS 3643-1.
^c Tolerances stated are for the unladen condition. (Rigid couplings may require closer tolerances.)

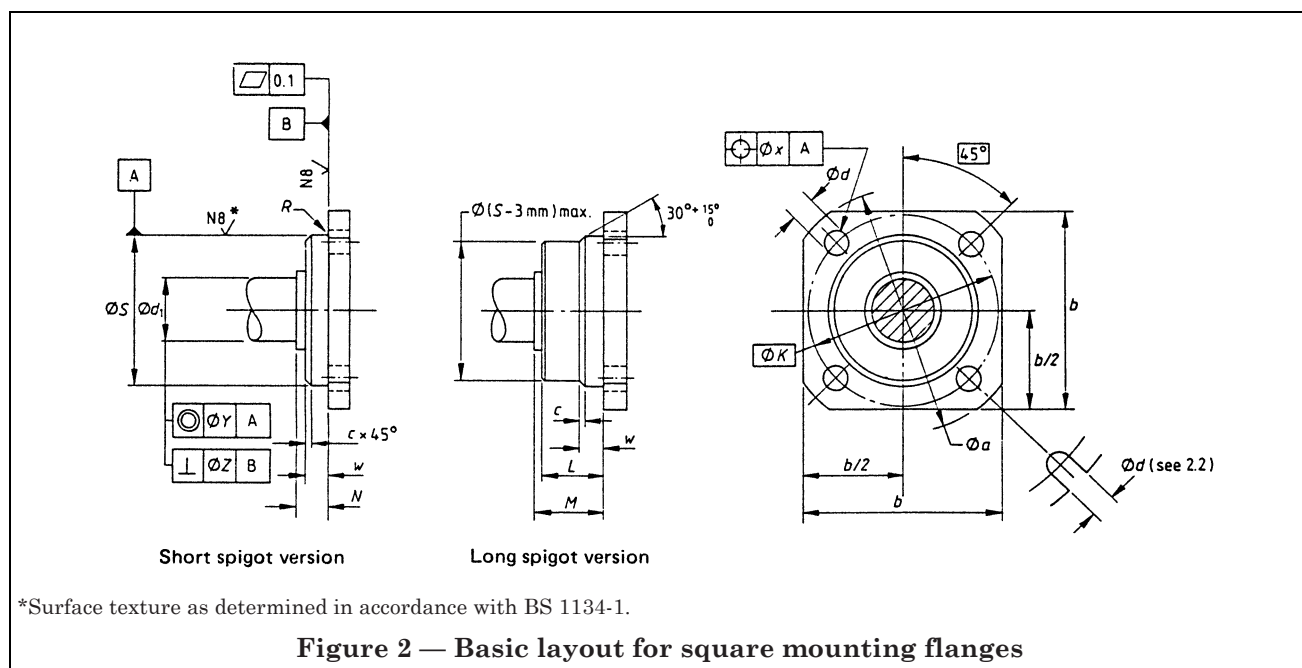
^a For tolerance values, see BS 4500-1.^b Threads selected from BS 3643-1.^c Tolerances stated are for the unladen condition. (Rigid couplings may require closer tolerances.)

Figure 2 — Basic layout for square mounting flanges