

Mounting dimensions of single rod double acting hydraulic cylinders —

Part 1: Specification for 160 bar medium series

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Foreword

This British Standard has been prepared under the direction of the Mechanical Engineering Standards Committee and is the first Part of a series specifying mounting dimensions of single rod double acting hydraulic cylinders and related features.

The standard implements the technical requirements of International Standard ISO 6020-1 and relates to a medium series of hydraulic cylinders the design of which will permit the use of larger ports and longer cushions that are particularly suitable for applications requiring higher piston velocities and rapid decelerations. It also reflects the European Oil-hydraulic and Pneumatic Committee's (CETOP) Recommended Practice RP58H "Hydraulic cylinders, 160 bar medium series — Mounting dimensions, Bores 25–500 mm". The codes used in this standard to identify the mounting types and mounting dimensions are in accordance with ISO 6099.

The Technical Committee have however found it necessary to include further additional maximum envelope dimensions which are not specified in ISO 6020-1; these dimensions have been identified in the text.

Other Parts of this British Standard are:

- *Part 2: Specification for 160 bar compact series;*
- *Part 3: Specification for 250 bar series.*

It is anticipated that further Parts will be published in due course to specify the mounting dimensions of 63 bar compact cylinders and also to specify requirements for mounting accessories such as piston rod eye ends and fork ends, clevis brackets etc.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, 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 Part of this British Standard specifies interchangeability dimensions for eleven mounting styles of a medium series of single rod double acting hydraulic round or square headed cylinders with 25 mm to 500 mm nominal bore working at pressures up to 160 bar¹⁾. It also specifies alternative piston rod diameters and threads for each nominal bore.

The standard relates primarily to external dimensions and is not intended to restrict the internal design of cylinders.

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

2 Definitions

For the purposes of this Part of this British Standard the definitions given in BS 5755 apply, together with the following.

mounting

that part of the cylinder assembly that enables the cylinder to be fixed to a structure and transfers to the structure the load reaction forces acting upon the cylinder

3 Dimensions

3.1 Basic cylinder. The dimensions of the features which are common to all the following mounting styles shall be as stated in Table 1 and illustrated in Figure 1.

3.2 Mountings. The dimensions for the various mounting styles shall be as follows.

Mounting style	Description of mounting	In accordance with table
MF1	rectangular flange, on head	2
MF2	rectangular flange, on cap	2
MF3	circular flange, on head	3
MF4	circular flange, on cap	3
MP3	fixed plain eye, on cap	4
MP4	detachable plain eye, on cap	4
MP5	fixed spherical bearing eye, on cap	4
MP6	detachable spherical bearing eye, on cap	4
MT1	male trunnion, integral with head	5
MT2	male trunnion, integral with cap	5
MT4	male trunnion, fixed or movable in intermediate position	5

3.3 Cylinder ports. The sizes of the entry ports and the associated threads shall be in accordance with Table 1.

3.4 Piston rod thread. The piston rod thread shall be the short type of shouldered male thread specified in Table 1.

NOTE Other types of piston rod thread are specified in BS 5755.

4 Identification

Every cylinder shall be identified²⁾ in accordance with the recommendations of BS 4575-1.

¹⁾ 1 bar = 10⁵ N/m² = 100 kPa

²⁾ Marking BS 6331-1 on or in relation to a product is a claim by the manufacturer that the product has been manufactured to the requirements of the standard. The accuracy of such a claim is therefore solely the manufacturer's responsibility. Enquiries as to the availability of third party certification to support such claims should be addressed to the Director, Quality Assurance Division, BSI, Maylands Avenue, Hemel Hempstead, Herts HP2 4SQ for certification marks administered by BSI or to the appropriate authority for other certification marks.