

Hydraulic fluid power valve mounting surfaces —

Part 2: Specification for four-port and five-port servo-valves

UDC [621.646.2:621.8.032] – 218

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- Association of British Mining Equipment Companies
- Association of Hydraulic Equipment Manufacturers
- British Compressed Air Society
- 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
- Health and Safety Executive
- Institution of Mechanical Engineers
- Machine Tool Industry Research Association
- Ministry of Defence
- National Coal Board

The following body was also represented in the drafting of the standard, through subcommittees and panels:

- Agricultural Engineers' Association

This British Standard, having been prepared under the direction of the Machinery and Components Standards Committee, was published under the authority of the Board of BSI and comes into effect on 30 April 1986

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The following BSI references relate to the work on this standard:
Committee reference MCE/18
Draft for comment 85/73011 DC

ISBN 0 580 15094 1

Amendments issued since publication

Amd. No.	Date of issue	Comments

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Foreword

This Part of BS 6494 has been prepared under the direction of the Machinery and Components Standards Committee and is one of a series of standards specifying dimensions and tolerances for subplate surfaces upon which hydraulic control valves are mounted.

It specifies requirements for the mounting surfaces of electrohydraulic servo-valves, has been prepared at the request of the Association of Hydraulic Equipment Manufacturers, and is based upon proposals initially prepared by them.

Because there is no clear distinction between servo-valves and certain proportional servo-control valves, in performance and/or application, an optional alternative mounting surface is that specified in BS 6494-1.

It is anticipated that further Parts of BS 6494 will be published in due course to reflect various International Standards which are at the present in preparation.

Similar British Standards specifying the dimensions of mounting surfaces for hydraulic stacking valves and dimensions of cavities for cartridge types of hydraulic valve are in preparation.

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 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 BS 6494 specifies requirements for the interchangeability dimensions, texture and flatness of the surface upon which fluid power electrohydraulic flow control servo-valves are mounted.

It is applicable to mounting surfaces for four port servo-valves and also to five port types, i.e. those in which the pilot stage is supplied with hydraulic fluid separately from the remaining stages.

The standard is also suitable for pressure-control servo-valves. If the servo-valve is used in a three port application either of the service ports may be omitted from the mounting surface.

Operating pressure limitations for subplates and manifold blocks bearing these mounting surfaces are not specified in this standard; these would be declared by the relevant manufacturer.

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

2 Symbols

For the purposes of this standard the following symbols apply.

- a)  to identify fluid ports, annotated thus
- | | |
|---------|---|
| A and B | service ports, |
| P | supply or pressure port, |
| T | return port, |
| X | auxiliary port, provided only when pilot stage is supplied with hydraulic fluid separately from other stages, |
- b)  to identify tapped holes for fixing bolts, annotated F₁, F₂, F₃ and F₄.
- c)  to identify location pin hole, annotated G.

3 Dimensions

The size and location of ports, locating pin and fixing bolt threads and also the dimensions of the minimum mounting surface profile shall be in accordance with the following figures and tables, as appropriate:

- for servo-valves with ϕ 3.8 mm max. ports, Figure 1 and Table 1;
- for servo-valves with ϕ 5.0 mm max. ports, Figure 2 and Table 2;
- for servo-valves with ϕ 6.6 mm max. ports, Figure 3 and Table 3;
- for servo-valves with ϕ 8.2 mm max. ports, Figure 4 and Table 4;
- for servo-valves with ϕ 16.0 mm max. ports, Figure 5 and Table 5.

The dimensions of thread lengths for fixing bolts shall be as given in Table 6.

4 Mounting surface

4.1 Surface texture

The surface texture of the mounting surface shall not exceed N 6 (0.8 μ m) when measured in accordance with BS 1134-1.

4.2 Surface flatness

The tolerance of flatness of the mounting surface shall be 0.025 mm as defined in 3.1.2 of BS 308-3:1972, i.e., the surface of the mounting shall lie between two parallel planes 0.025 mm apart.