International Standard 7790

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Hydraulic fluid power — Four-port modular stack valves and four-port directional control valves, sizes 03 and 05 — Clamping dimensions

Transmissions hydrauliques — Appareils empilables et distributeurs à quatre orifices, de tailles 03 et 05 — Dimensions de montage

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7790 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Hydraulic fluid power — Four-port modular stack valves and four-port directional control valves, sizes 03 and 05 — Clamping dimensions

0 Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit. Typical components found in such systems are hydraulic valves and hydraulic modular stack valves. These devices control flow direction, pressure or flow rate of liquids in the enclosed circuit.

1 Scope and field of application

1.1 This International Standard specifies clamping dimensions of four-port modular stack valves and four-port directional control valves, sizes 03 and 05, on mounting surfaces. The dimensions and sizes conform to ISO 4401 so as to ensure interchangeability of these valves and to reduce the number of fixing devices to be used.

1.2 This International Standard applies to clamping dimensions of four-port modular stack valves and four-port directional control valves which represent current practice. They are generally applicable to industrial equipment.

2 References

ISO 4401, *Hydraulic fluid power — Four-port directional control valves — Mounting surfaces.*

ISO 5598, *Fluid power systems and components — Vocabulary.*

ISO 5783, *Hydraulic fluid power — Code for identification of valve mounting surfaces.*

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 5598 apply.

4 Symbols

For the purposes of this International Standard, the following letter symbols apply:

a) H_1 identifies clamping length for the fixing devices on directional control valves;

b) H_2 identifies overall heights of modular stack valves.

5 Tolerances

For tolerances and other data relating to the side of a modular stack valve on which another modular stack valve or a directional control valve is mounted, see ISO 4401.

6 Dimensions

Clamping dimensions for modular stack valves and directional control valves, sizes 03 and 05, in accordance with ISO 5783, with four service ports, shall be selected from the table and the figure. The mounting surface shall be in accordance with ISO 4401.

7 Working pressure

For an indication of the maximum limit of the working pressure, see footnote 4 overleaf.

8 Identification statement (Reference to this International Standard)

Use the following statement in test reports, catalogues and sales literature when electing to comply with this International Standard:

"Modular stack valve and directional control valve clamping dimensions conform to ISO 7790, *Hydraulic fluid power — Four-port modular stack valves and four-port directional control valves, sizes 03 and 05 — Clamping dimensions.*"

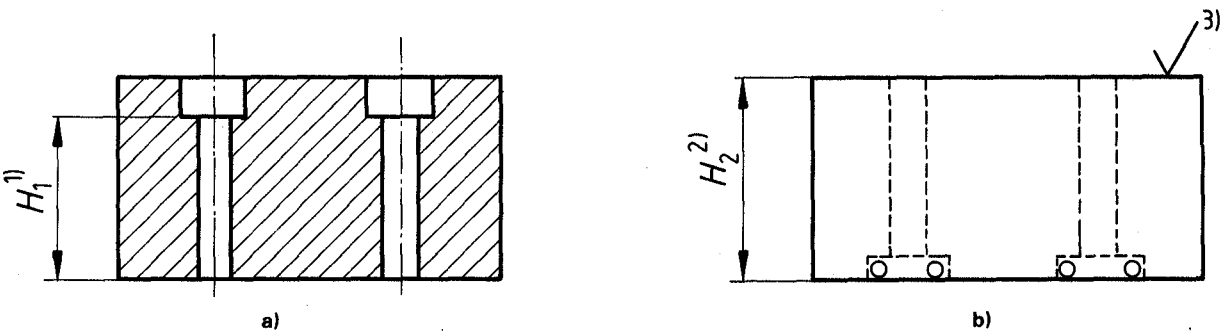

Figure — Clamping dimensions for directional control valves and modular stack valves, sizes 03 and 05 (mounting surface in accordance with ISO 4401)

Table — Clamping dimensions for directional control valves and modular stack valves, sizes 03 and 05 (mounting surface in accordance with ISO 4401) [4]

Dimensions in millimetres

Valve type	Dimension	Size 03	Size 05
Directional control valve	H_1	$22\ ^{0}_{-2}$ or $42\ ^{0}_{-2}$	$30\ ^{0}_{-2}$ or $50\ ^{0}_{-2}$
Modular stack valve	H_2 [5]	$40\ ^{0}_{-0,3}$	$50\ ^{0}_{-0,3}$

Bibliography

The following documents served as references in the preparation of this International Standard and will be helpful when using it:

ISO 129, *Technical drawings — Dimensioning — General principles, definitions, methods of execution and special indications.*

ISO 286, *ISO system for limits and fits.* [6]

ISO 468, *Surface roughness — Parameters, their values and general rules for specifying requirements.*

ISO 965/1, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data.*

ISO 1101, *Technical drawings — Geometrical tolerancing — Tolerancing of form, orientation, location and run-out — Generalities, definitions, symbols, indications on drawings.*

ISO 1302, *Technical drawings — Method of indicating surface texture on drawings.*

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1) Dimension H_1 is understood as being the mounting height clamping length for fixing bolts where fixing bolts with head are used. Where studs are used, consult valve heights in sales literature before determining the length of these studs.

2) Dimension H_2 is understood as being the overall mounting height of a modular stack valve, including O-ring plate height, if obvious.

3) Machined surface as another modular stack valve or a directional control valve may be mounted on this side.

4) The supplier shall establish the maximum working pressure for valves, subplates and manifold blocks.

5) When dimension H_2 is not acceptable for design reasons, it shall be in increments of 10 mm.

6) At present at the stage of draft. (Revision of ISO/R 286-1962.)