

Hydraulic fluid power — Two-, three- and four-port screw-in cartridge valves — Cavities

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ISO title page, pages ii to iv, pages 1 to 20, an inside back cover and a back cover.

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Contents

	Page
National foreword	Inside front cover
Foreword	iii
Text of ISO 7789	1

INTERNATIONAL STANDARD

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Hydraulic fluid power — Two-, three- and four-port screw-in cartridge valves — Cavities

*Transmissions hydrauliques — Distributeurs à cartouche à visser à deux,
trois et quatre orifices — Logements*



Contents

	Page
Foreword	iii
Introduction	1
1 Scope	1
2 Normative references	1
3 Definitions	1
4 Dimensions	1
5 Tolerances	1
6 Ports usage and identification	2
7 Identification statement	2
Annex A (normative) Block-mounting	20
Annex B (informative) Bibliography	20
Figure 1 — Cavities for two-port valves (to excluding main system pressure relief valves) with 5 mm to 20,5 mm maximum port diameter	2
Figure 2 — Cavities for two-port main system pressure relief valves with 5 mm to 20,5 mm maximum port diameter and with flow direction from port 1 to port 2	4
Figure 3 — Cavities for two-port main system pressure relief valves with 6 mm to 20,5 mm maximum port diameter and with flow direction from port 2 to port 1	5
Figure 4 — Cavities for three-port valves with 6 mm to 20,5 mm maximum port diameter	7
Figure 5 — Cavities for four-port valves with 6 mm to 20,5 mm maximum port diameter	9
Figure 6 — Cavities for two-port valves (excluding main system pressure relief valves) with 10,5 mm to 20,5 mm maximum main port diameter and one pilot port	11
Figure 7 — Cavities for two-port main system pressure relief valves with 10,5 mm to 20,5 mm maximum port diameter, one pilot port and flow direction from port 1 to port 2	13
Figure 8 — Cavities for two-port main system pressure relief valves with 10,5 mm to 20,5 mm maximum main port diameter, one pilot port and flow direction from port 2 to port 1	15
Figure 9 — Cavities for three-port valves with 10,5 mm to 20,5 mm maximum port diameter and one pilot port	17
Table 1a) — Dimensions	3
Table 1b) — Symbols for valves entering the cavities shown in Figure 1	3
Table 2a) — Dimensions	4
Table 2b) — Symbol for valves entering the cavities shown in Figure 2	5
Table 3a) — Dimensions	6
Table 3b) — Symbol for valves entering the cavities shown in Figure 3	6
Table 4a) — Dimensions	8
Table 4b) — Symbols for valves entering the cavities shown in Figure 4	8
Table 5a) — Dimensions	10
Table 5b) — Symbols for valves entering the cavities shown in Figure 5	10
Table 6a) — Dimensions	12
Table 6b) — Symbols for valves entering the cavities shown in Figure 6	12
Table 7a) — Dimensions	14
Table 7b) — Symbol for valves entering the cavities shown in Figure 7	14
Table 8a) — Dimensions	16
Table 8b) — Symbol for valves entering the cavities shown in Figure 8	16
Table 9a) — Dimensions	18
Table 9b) — Symbol for valves entering the cavities shown in Figure 9	18

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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 7789 was prepared by technical committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 5, *Control products and components*.

Annex A forms an integral part of this International Standard. Annex B is for information only.

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 include hydraulic valves. These devices control flow direction, pressure or flow rate liquids in the enclosed circuit.

1 Scope

This International Standard specifies the dimensions and provides other data relating to cavities in which two-, three- and four-port, screw-in cartridge valves are mounted in order to ensure interchangeability.

It is applicable to two-, three- and four-port screw-in cartridge valves generally used in industrial, agricultural, mining and mobile equipment.

2 Normative references

The following standards contain provisions which, through reference of this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5598:1985, *Fluid power systems and components — Vocabulary*.

ISO 5783:1995, *Hydraulic fluid power — Code for identification of valve mounting surfaces and cartridge cavities*.

ISO 6149-1:1993, *Connections for fluid power and general use — Ports and stud ends with ISO 261 thread and O-ring sealing — Part 1: Ports with O-ring seal in truncated housing*.

ISO 9461:1992, *Hydraulic fluid power — Identification of valve ports, subplates, control devices and solenoids*.

3 Definitions

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

4 Dimensions

4.1 The dimensions of cavities for hydraulic screw-in cartridge valves with two-, three- and four-port shall be selected from the tables specified in **4.2** to **4.10**.

4.2 The dimensions of cavities for two-port valves (excluding main system pressure relief valves) with 5 mm to 20,5 mm maximum port diameter are shown in Figure 1 and given in Table 1a).

4.3 The dimensions of cavities for two-port main system pressure relief valves with 5 mm to 20,5 mm maximum port diameter and with flow direction from port 1 to port 2, are shown in Figure 2 and given in Table 2a).

4.4 The dimensions of cavities for two-port main system pressure relief valves with 6 mm to 20,5 mm maximum port diameter and with flow direction from port 2 to port 1, are shown in Figure 3 and given in Table 3a).

4.5 The dimensions of cavities for three-port valves with 6 mm to 20,5 mm maximum port diameter are shown in Figure 4 and given in Table 4a).

4.6 The dimensions of cavities for four-port valves with 6 mm to 20,5 mm maximum port diameter are shown in Figure 5 and given in Table 5a).

4.7 The dimensions of cavities for two-port valves (excluding main system pressure relief valves) with 10,5 mm to 20,5 mm maximum main port diameter and one pilot port are shown in Figure 6 and given in Table 6a).

4.8 The dimensions of cavities for two-port main system pressure relief valves with 10,5 mm to 20,5 mm maximum main port diameter, one pilot port and with flow direction from port 1 to port 2 are shown in Figure 7 and given in Table 7a).

4.9 The dimensions of cavities for two-port main system pressure relief valves with 10,5 mm to 20,5 mm maximum main port diameter, one pilot port and with flow direction from port 2 to port 1 are shown in Figure 8 and given in Table 8a).

4.10 The dimensions of cavities for three-port valves with 10,5 mm to 20,5 mm maximum main port diameter and one pilot port are shown in Figure 9 and given in Table 9a).

5 Tolerances

Tolerances values for all dimensions and surface roughnesses are given in Figure 1 to Figure 9 and in Table 1a), Table 2a), Table 3a), Table 4a), Table 5a), Table 6a), Table 7a), Table 8a) and Table 9a), in accordance with ISO 1101 and ISO 1302.