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Hydraulic fluid power — Two-, three-and four-port screw-in cartridge valves — Cavities with ISO 725 (UN and UNF) threads

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Dimensions **1**
5 Tolerances **2**
6 Cavity usage and identification and marking of valve function **2**
6.1 General 2
6.2 Current and past cavity usage 2
6.3 Identification and marking of valve function 2
7 Identification statement (reference to this Technical Report) **2**
Annex A (informative) **Block mounting** **11**
Bibliography **12**

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Foreword

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The committee responsible for this document is ISO/TC 131, *Fluid power systems*, Subcommittee SC 5, *Control products and components*.

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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 of liquids in the enclosed circuit.

Screw-in cartridge valves are becoming increasingly popular in hydraulic fluid power applications worldwide. The number of manufacturers of these products has grown substantially in recent years. The application of these products requires the use of a valve cavity prepared by machining. The specifications for the machined cavity can come from a source other than the manufacturer of the cartridge valve to be used. An ISO document for these cavities was needed to ensure interchangeability.

In recognition of this need, an International Standard, ISO 7789:1998, for screw-in cartridge valve cavities with metric threads was developed. The aim of ISO 7789 was a new range of cavities for which a full range of valve functions and sizes are not yet available.

The purpose of this ISO Technical Report is to provide a series of cavities and sizes with ISO 725 UN and UNF threads and sizes that match the fit requirements of the majority of cartridge valves produced and applied worldwide today.

It is not proposed that this Technical Report replace ISO 7789. It is needed to enhance uniform interchangeability in the use of existing products which use ports with UN and UNF (inch) threads, are in worldwide use today and continue to be produced in ever-increasing quantities and valve functions. This Technical Report uses the port form and thread in the existing ISO 11926-1.

This Technical Report fulfils the following five points, which are the priorities agreed upon by ISO/TC 131.

— The Technical Report is needed to ensure functionality in fluid power applications of cartridge valves. Currently, the user has no assurance that a cartridge valve of the same basic size actually fits properly into a cavity of the same basic size if it was made to a different manufacturer's specification.

— The ability of screw-in cartridge valves to fit into customized applications is an important factor in choosing fluid power over other means of motion control.

— A Technical Report for the screw-in cartridge valve cavities currently in use allows users to make performance comparisons in selecting valves.

— A Technical Report for the screw-in cartridge valve cavities currently in use simplifies selection and application of valves.

— A Technical Report for the screw-in cartridge valve cavities currently in use can result in less variety of non-standard cavities. It can also simplify tooling selection in the manufacture of manifold systems.

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