SLOVENSKI STANDARD
SIST ISO 8131:1998

01-december-1998

Fluidna tehnika - Hidravlika - Valji z enostransko batnico kompaktne vrste 16 MPa (160 barov) - Tolerance

Hydraulic fluid power -- Single rod cylinders, 16 MPa (160 bar) compact series -- Tolerances

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Transmissions hydrauliques -- Vérins 16 MPa (160 bar) à simple tige, série compacte -- Tolérances

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Ta slovenski standard je istoveten z: **ISO 8131:1992**

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INTERNATIONAL STANDARD

ISO
8131

Second edition
1992-08-01

Hydraulic fluid power — Single rod cylinders, 16 MPa (160 bar) compact series — Tolerances

Transmissions hydrauliques — Vérins 16 MPa (160 bar) à simple tige, série compacte — Tolérances

Reference number
ISO 8131:1992(E)

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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. 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 8131 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Sub-Committee SC 3, *Cylinders*.

This second edition cancels and replaces the first edition (ISO 8131:1986), tables 1 to 3 of which have been technically revised.

Annex A of this International Standard is for information only.

Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within an enclosed circuit.

One component of such systems is the fluid power cylinder. This is a device which converts power into linear mechanical force and motion. It consists of a movable element, i.e. a piston and piston rod, operating within a cylindrical bore.

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INTERNATIONAL STANDARD

ISO 8131:1992(E)

Hydraulic fluid power — Single rod cylinders, 16 MPa (160 bar) compact series — Tolerances

1 Scope

This International Standard specifies dimensional tolerances for 16 MPa [160 bar[1)]] compact series cylinders in accordance with ISO 6020-2 as required for interchangeability of commonly used hydraulic cylinders.

2 Normative references

The following standards contain provisions which, through reference in 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 6020-2:1991, *Hydraulic fluid power — Mounting dimensions for single rod cylinders, 16 MPa (160 bar) series — Part 2: Compact series.*

ISO 6099:1985, *Fluid power systems and components — Cylinders — Identification code for mounting dimensions and mounting types.*

3 Definitions

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

3.1 cylinder: A device which converts fluid power into linear mechanical force and motion.

3.2 cylinder bore: The internal diameter of the cylinder.

3.3 piston rod: The element transmitting mechanical force and motion from the piston.

4 Tolerances

4.1 Stroke tolerances

The stroke tolerance shall be $^{+2}_{0}$ mm on all strokes up to 1 250 mm.

For longer strokes, select tolerances from national standards or by agreement between the manufacturer and user.

4.2 Tolerances for mounting dimensions

See table 1 for tolerances which are dependent on stroke, and table 2 for tolerances which are independent of stroke.

5 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:

"Tolerances selected in accordance with ISO 8131:1992, *Hydraulic fluid power — Single rod cylinders, 16 MPa (160 bar) compact series — Tolerances.*"

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1) 1 bar = 0,1 MPa = 10^5 Pa; 1 MPa = 1 N/mm²

1

ISO 8131:1992(E)

Table 1 — Tolerances which are dependent on stroke

Values in millimetres

Code for mounting style[1]	Code for mounting dimensions[1]	Nominal stroke up to 1 250 mm	above 1 250 mm	Table in ISO 6020-2:1991
		Tolerances		
Positions of ports	Y	± 2		1
	PJ	± 1,25		
ME5	ZB	max.		2
ME6	ZJ [2]	± 1		3
MP1 MP3	XC [2]	± 1,25		4 and 5
MP5	XO [2]	± 1,25		6
MS2	XS [2]	± 2		7
	ZB	max.		
	SS [2]	± 1,25		
MT1	XG [2]	± 2		8
	ZB	max.	[2]	
MT2	XJ [2]	± 1,25		9
	ZB	max.		
MT4	XV [2]	± 2		10
	ZB	max.		
MX1 MX2 MX3	BB	$^{+3}_{0}$		11 to 13
MX3	ZB	max.		13
MX1 MX3	WH [2]	± 2		11 and 13
MX1 MX2 MX3	ZJ [2]	± 1		11 to 13

1) See ISO 6099.

2) The tolerances referred to apply to strokes up to and including 1 250 mm. For longer strokes, select tolerances from national standards or by agreement between the manufacturer and user.

Table 2 — Tolerances which are independent of stroke

Table in ISO 6020-2:1991 — 2; Code for mounting style: ME5 (Basic dimensions, mm)

Code for mounting dimensions	A	E	WF	VL	VE	UO	TO	RD	R	FB	F	B	H
tol.	max.	±1,5 (Bore 25 to 80); ±2 (Bore 100 to 200)	±2	min.	max.	max.	js13	f8	js13	H13	max.	max.	min.

3; ME6

Code for mounting dimensions	FB	R	TO	UO
tol.	H13	js13	js13	max.

4; MP1

Code for mounting dimensions	CB	CD	L	MR
tol.	A16	H9	min.	max.

Table in ISO 6020-2:1991 — 5; Code for mounting style: MP3

Code for mounting dimensions	CD	EW	L	MR
tol.	H9	h14	min.	max.

6; MP5

Code for mounting dimensions	CX	EP	H	EX	LT	MS	Z
tol.	2)	h15	min.	2)	min.	max.	min.

7; MS2

Code for mounting dimensions	SB	LH	TS
tol.	H13	h10	js13

8 and 9; MT1 MT2

Code for mounting dimensions	TC	TD	UT
tol.	h14	f8	h15

10; MT4

Code for mounting dimensions	TD	UM	UW
tol.	h14	h15	max.

11 to 13; MX1 MX2 MX3

Code for mounting dimensions	TG
tol.	js13

11 and 13; MX1 MX3

Code for mounting dimensions	B	VD
tol.	f9	min.

1) See ISO 6099.

2) See table 6 of ISO 6020-2:1991.