
International Standard 8132

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

Hydraulic fluid power — Single rod cylinders, 160 bar (16 MPa) medium and 250 bar (25 MPa) series — Mounting dimensions for accessories

Transmissions hydrauliques — Vérins 160 bar (16 MPa) série moyenne et 250 bar (25 MPa), à simple tige — Dimensions d'interchangeabilité des accessoires

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[ISO 8132:1986](https://standards.iteh.ai/catalog/standards/sist/13acc725-986f-41fb-9480-b8331fbc0ab0/iso-8132-1986)

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UDC 62-222 : 621.8.032

Ref. No. ISO 8132-1986 (E)

Descriptors : hydraulic fluid power, hydraulic cylinders, dimensions, accessories, interchangeability.

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 8132 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.

Hydraulic fluid power — Single rod cylinders, 160 bar (16 MPa) medium and 250 bar (25 MPa) series — Mounting dimensions for accessories

0 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.

1 Scope and field of application

This International Standard lays down the mounting dimensions required for the interchangeability of accessories for 160 bar¹⁾ (16 MPa) medium series cylinders in accordance with ISO 6020/1 and 250 bar (25 MPa) series cylinders in accordance with ISO 6022. The accessories have been designed specifically for use with cylinders manufactured in accordance with ISO 6020/1 and ISO 6022, but this does not limit their application.

This International Standard covers the following accessories:

- rod clevis (see figure 1 and table 1);
- rod flanges (see figure 2 and table 2);
- clevis bracket, form A (see figure 3 and table 3);
- clevis bracket, form B (see figure 4 and table 4);
- trunnion bracket (see figure 5 and table 5);
- pivot pin (see figure 6 and table 6).

These accessories are used on hydraulic cylinders for mechanically transmitting the cylinder force. The design of

these accessories is based on the maximum forces resulting from the specified internal diameters of the cylinders and pressures according to ISO 3320 and ISO 3322.

This International Standard only applies to the dimensional criteria of products manufactured in conformity with this International Standard; it does not apply to their functional characteristics.

2 References

ISO 286, *ISO system of limits and fits*.²⁾

ISO 3320, *Fluid power systems and components — Cylinder bores and piston rod diameters — Metric series*.

ISO 3322, *Fluid power systems and components — Cylinders — Nominal pressures*.

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

ISO 6020/1, *Hydraulic fluid power — Single rod cylinders — Mounting dimensions — 160 bar (16 000 kPa) series — Part 1: Medium series*.

ISO 6022, *Hydraulic fluid power — Single rod cylinders — Mounting dimensions — 250 bar (25 000 kPa) series*.

3 Definitions

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

1) 1 bar = 0,1 MPa = 10⁵ Pa; 1 MPa = 1 N/mm²

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

4 Mounting dimensions

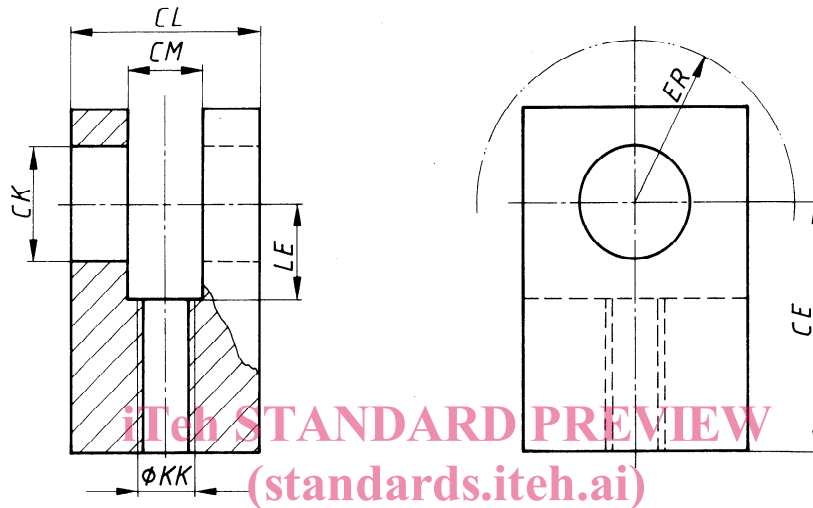
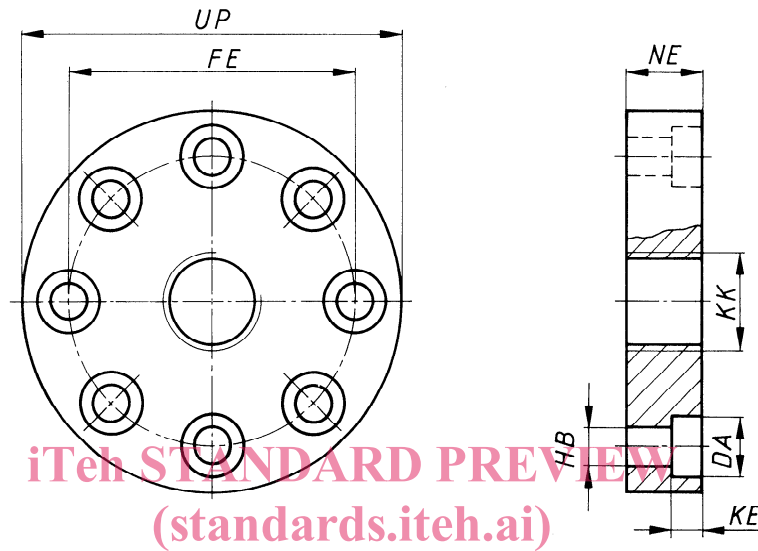


Figure 1 — Rod clevis
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Table 1 — Dimensions of rod clevis

Dimensions in millimetres

Type	Nominal force N	CK H9	CL h16	CM A12	CE Js12	KK	LE min.	ER max.
12	8 000	12	28	12	38	M12 × 1,25	18	16
16	12 500	16	36	16	44	M14 × 1,5	22	20
20	20 000	20	45	20	52	M16 × 1,5	27	25
25	32 000	25	56	25	65	M20 × 1,5	34	32
32	50 000	32	70	32	80	M27 × 2	42	40
40	80 000	40	90	40	97	M33 × 2	52	50
50	125 000	50	110	50	120	M42 × 2	64	63
63	200 000	63	140	63	140	M48 × 2	75	71
80	320 000	80	170	80	180	M64 × 3	94	90



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Figure 2 — Rod flanges
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Table 2 — Dimensions of rod flanges

Dimensions in millimetres

Type	Nominal force N	KK	FE Js13	Number of holes	HB H13	NE h13	UP max.	DA H13	KE $+0,4$ 0
12	8 000	M12 × 1,25	40	4	6,6	17	56	11	6,8
16	12 500	M14 × 1,5	45	4	9	19	63	14,5	9
20	20 000	M16 × 1,5	54	6	9	23	72	14,5	9
25	32 000	M20 × 1,5	63	6	9	29	82	14,5	9
32	50 000	M27 × 2	78	6	11	37	100	17,5	11
40	80 000	M33 × 2	95	8	13,5	46	120	20	13
50	125 000	M42 × 2	120	8	17,5	57	150	26	17,5
63	200 000	M48 × 2	150	8	22	64	190	33	21,5
80	320 000	M64 × 3	180	8	26	86	230	39	25,5

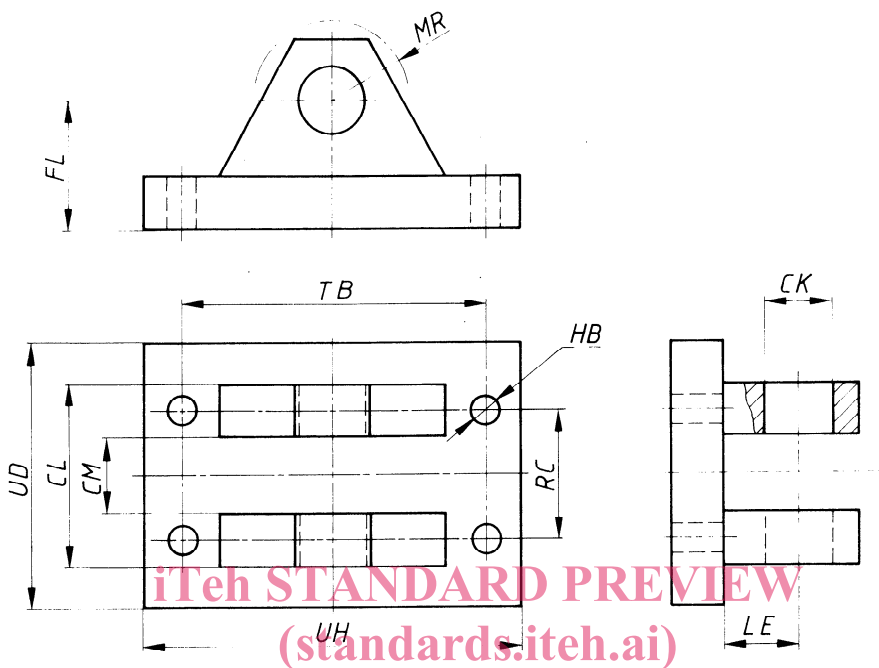


Figure 3 – Clevis bracket, form A

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Table 3 – Dimensions of clevis bracket, form A

Dimensions in millimetres

Type	Nominal force N	CK H9	CL h16	CM A12	FL Js12	HB H13	LE min.	MR max.	RC Js14	TB Js14	UD max.	UH max.
12	8 000	12	28	12	34	9	22	12	20	50	40	70
16	12 500	16	36	16	40	11	27	16	26	65	50	90
20	20 000	20	45	20	45	11	30	20	32	75	58	98
25	32 000	25	56	25	55	13,5	37	25	40	85	70	113
32	50 000	32	70	32	65	17,5	43	32	50	110	85	143
40	80 000	40	90	40	76	22	52	40	65	130	108	170
50	125 000	50	110	50	95	26	65	50	80	170	130	220
63	200 000	63	140	63	112	33	75	63	100	210	160	270
80	320 000	80	170	80	140	39	95	80	125	250	210	320

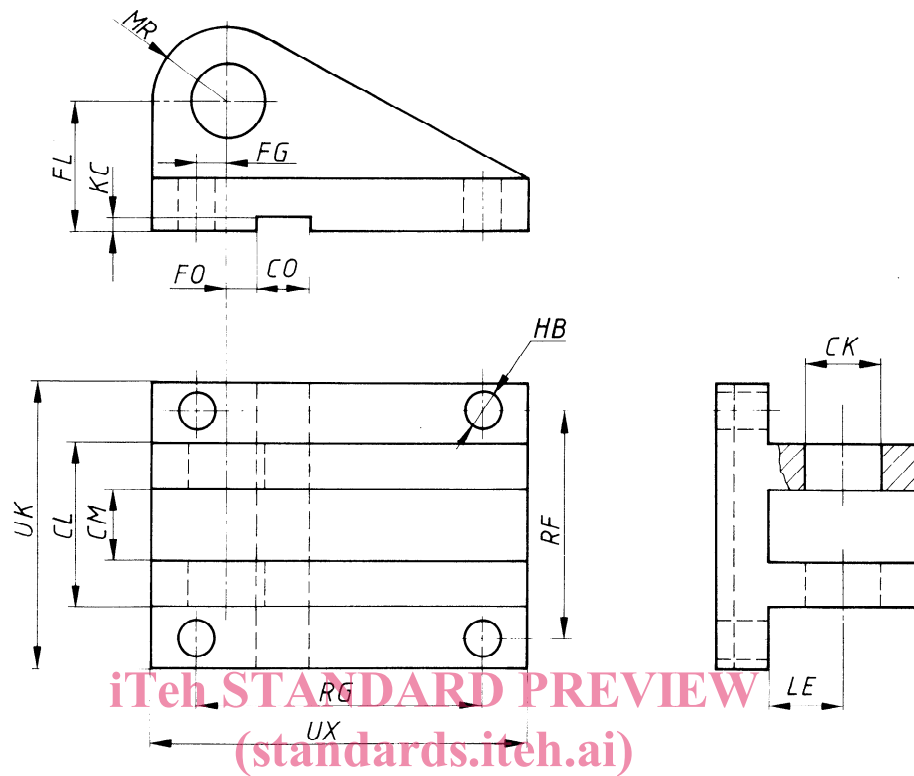


Figure 4 — Clevis bracket, form B

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Table 4 — Dimensions of clevis bracket, form B

Dimensions in millimetres

Type	Nominal force N	CK H9	CL h16	CM A12	FL Js12	HB H13	CO N9	LE min.	MR max.	RG Js14	RF Js14	UX max.	UK max.	FG Js14	KC $+0,3$ 0	FO Js14
12	8 000	12	28	12	34	9	10	22	12	45	52	65	72	2	3,3	10
16	12 500	16	36	16	40	11	16	27	16	55	65	80	90	3,5	4,3	10
20	20 000	20	45	20	45	11	16	30	20	70	75	95	100	7,5	4,3	10
25	32 000	25	56	25	55	13,5	25	37	25	85	90	115	120	10	5,4	10
32	50 000	32	70	32	65	17,5	25	43	32	110	110	145	145	14,5	5,4	6
40	80 000	40	90	40	76	22	36	52	40	125	140	170	185	17,5	8,4	6
50	125 000	50	110	50	95	26	36	65	50	150	165	200	215	25	8,4	—
63	200 000	63	140	63	112	33	50	75	63	170	210	230	270	33	11,4	—
80	320 000	80	170	80	140	39	50	95	80	210	250	280	320	45	11,4	—

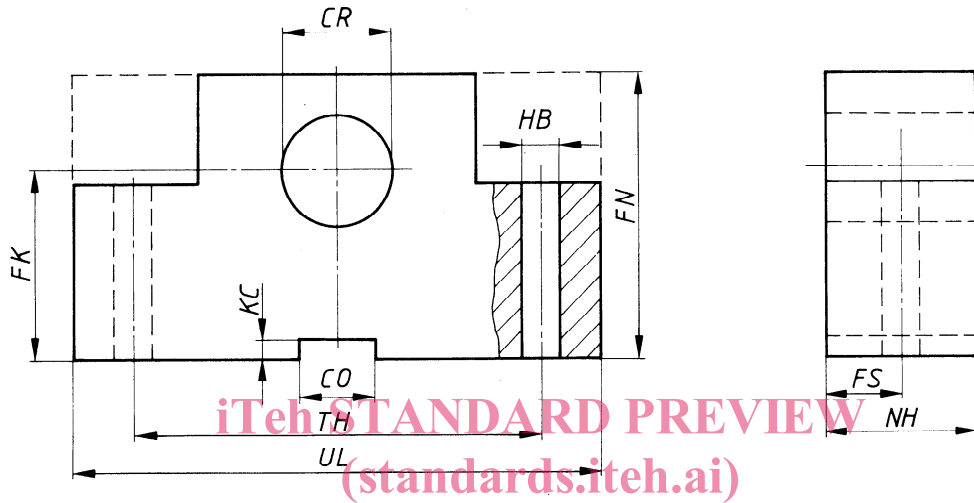


Figure 5 – Trunnion bracket

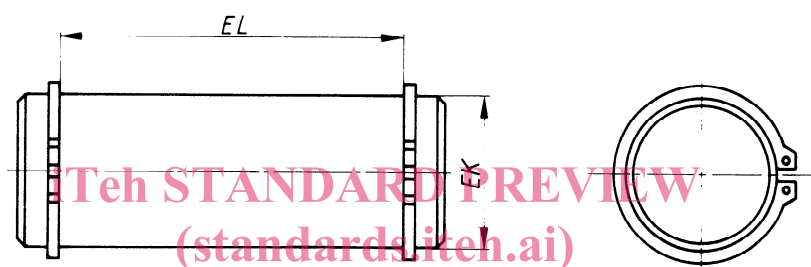
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Table 5 – Dimensions of trunnion bracket

Dimensions in millimetres

Type	Nominal force N	CR H7	FK Js12	FN max.	HB H13	NH max.	TH Js14	UL max.	CO N9	KC $+0,3$ 0	FS Js14
12	8 000	12	34	50	9	17	40	63	10	3,3	8
16	12 500	16	40	60	11	21	50	80	16	4,3	10
20	20 000	20	45	70	11	21	60	90	16	4,3	10
25	32 000	25	55	80	13,5	26	80	110	25	5,4	12
32	50 000	32	65	100	17,5	33	110	150	25	5,4	15
40	80 000	40	76	120	22	41	125	170	36	8,4	16
50	125 000	50	95	140	26	51	160	210	36	8,4	20
63	200 000	63	112	180	33	61	200	265	50	11,4	25
80	320 000	80	140	220	39	81	250	325	50	11,4	31

NOTE — These dimensions are valid for operation at 160 bar (16 MPa) of cylinders with bores of 25 mm up to and including 160 mm; they are also valid for operation at 250 bar (25 MPa) of cylinders with bores of 50 mm up to and including 125 mm.



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Figure 6 — Pivot pin
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Table 6 — Dimensions of pivot pin

Dimensions in millimetres

Type	Nominal force N	$EK^{1)}$ f8	EL H16
12	8 000	12	29
16	12 500	16	37
20	20 000	20	46
25	32 000	25	57
32	50 000	32	72
40	80 000	40	92
50	125 000	50	112
63	200 000	63	142
80	320 000	80	172

1) Tolerance m6 for spherical bearings.