

---

# International Standard



# 113/I

---

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

---

## Rolling bearing accessories — Part I : Tapered sleeves

*Accessoires de roulements — Partie I : Manchons coniques*

First edition — 1979-04-15

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[ISO 113-1:1979](https://standards.iteh.ai/catalog/standards/sist/883b905c-8788-40ff-979e-19be944b9891/iso-113-1-1979)

<https://standards.iteh.ai/catalog/standards/sist/883b905c-8788-40ff-979e-19be944b9891/iso-113-1-1979>

---

UDC 621.822.6/.8-771

Ref. No. ISO 113/I-1979 (E)

Descriptors : rolling bearings, accessories, clamping adapter sleeves, dimensions, diameters, taper.

Price based on 4 pages

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

International Standard ISO 113/1 was developed by Technical Committee ISO/TC 4, *Rolling bearings*.

It was submitted directly to the ISO Council, in accordance with clause 6.13.1 of the Directives for the technical work of ISO. It cancels and replaces clause 1 of ISO Recommendation R 113-1969, which had been approved by the member bodies of the following countries:

Australia	Hungary	Sweden
Austria	India	Switzerland
Brazil	Italy	Turkey
Canada	Japan	United Kingdom
Czechoslovakia	Netherlands	USA
Egypt, Arab Rep. of	Poland	Yugoslavia
France	Romania	
Germany, F.R.	Spain	

No member body had expressed disapproval of the document.

# Rolling bearing accessories — Part I : Tapered sleeves

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies :

- boundary dimensions of adapter sleeves and withdrawal sleeves for rolling bearings of a number of dimension series;
- the outside diameter of suitable locknuts.

Dimensions of locknuts and lockwashers for the adapter sleeves (except those locknuts covered by note 1 to table 1)

are given in ISO 2982. These locknuts are also recommended for the dismounting of the withdrawal sleeves.

## 2 REFERENCE

ISO 2982, *Rolling bearings — Locknuts, narrow series, and lockwashers with straight inner tab.*

## 3 SYMBOLS

See below.

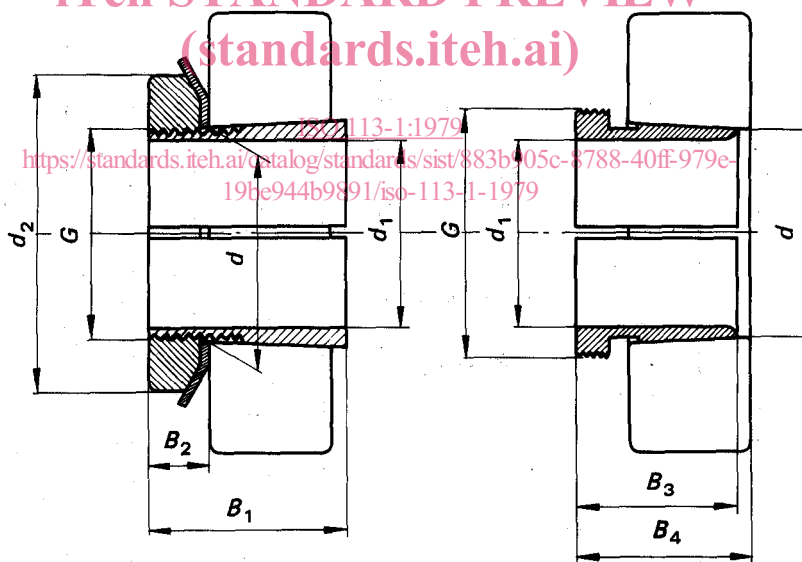


FIGURE 1 — Adapter sleeve

FIGURE 2 — Withdrawal sleeve

$d$  = Bearing bore diameter, nominal

$d_1$  = Sleeve bore diameter, nominal

$d_2$  = Nut outside diameter

$B_1$  = Length of adapter sleeve

$B_2$  = Adapter sleeve nominal projection beyond bearing small bore face

$B_3$  = Length of withdrawal sleeve

$B_4$  = Overall length of withdrawal sleeve and bearing ring

$G$  = Thread dimensions

4 ADAPTER SLEEVES WITH TAPER 1 : 12

TABLE 1 — Dimensions of adapter sleeves with taper 1 : 12

Dimensions in millimetres

d	d <sub>1</sub>	B <sub>2</sub>	d <sub>2</sub>	B <sub>1</sub>					G
				suitable for bearing dimension series					
				02	22 and 03	31	32	23	
15	12	6	25	19	22	—	—	25	M15X1
17	14	6	28	20	24	—	—	27	M17X1
20	17	7	32	24	28	—	—	31	M20X1
25	20	8	38	26	29	—	—	35	M25X1,5
30	25	8	45	27	31	—	—	38	M30X1,5
35	30	9	52	29	35	—	—	43	M35X1,5
40	35	10	58	31	36	—	—	46	M40X1,5
45	40	11	65	33	39	—	—	50	M45X1,5
50	45	12	70	35	42	—	—	55	M50X1,5
55	50	12	75	37	45	—	—	59	M55X2
60	55	13	80	38	47	—	—	62	M60X2
65	60	14	85	40	50	—	—	65	M65X2
70	60	14	92	41	52	—	—	68	M70X2
75	65	15	98	43	55	—	—	73	M75X2
80	70	17	105	46	59	—	—	78	M80X2
85	75	18	110	50	63	—	—	82	M85X2
90	80	18	120	52	65	—	86	86	M90X2
95	85	19	125	55	68	—	90	90	M95X2
100	90	20	130	58	71	76	97	97	M100X2
105	95	20	140	60	74	79	101	101	M105X2
110	100	21	145	63	77	81	105	105	M110X2
			d <sub>2</sub> <sup>1)</sup>	B <sub>1</sub>		d <sub>2</sub>	B <sub>1</sub>		
				suitable for bearing dimension series 30, 02 and 12			suitable for bearing dimension series 31, 22 03 and 13		32 and 23
120	110	22	145	72	155	88	112	M120X2	
130	115	23	155	80	165	92	121	M130X2	
140	125	24	165	82	180	97	131	M140X2	
150	135	26	180	87	195	111	139	M150X2	
160	140	28	190	93	210	119	147	M160X3	
170	150	29	200	101	220	122	154	M170X3	
180	160	30	210	109	230	131	161	M180X3	
190	170	31	220	112	240	141	169	M190X3	
200	180	32	240	120	250	150	176	M200X3	

1) Corresponding nuts are not standardized by ISO.

5 WITHDRAWAL SLEEVES WITH TAPER 1 : 12

TABLE 2 — Dimensions of withdrawal sleeves with taper 1 : 12

Dimensions in millimetres

d	d <sub>1</sub>	B <sub>4</sub>							G
		suitable for bearing dimension series							
		02	30	03 and 13	22	31	32	23	
40	35	27	—	32	32	—	—	43	M45X1,5
45	40	29	—	34	34	—	—	47	M50X1,5
50	45	31	—	38	38	—	—	53	M55X2
55	50	32	—	40	40	—	—	57	M60X2
60	55	35	—	43	43	—	—	61	M65X2
65	60	36	—	45	45	—	—	64	M75X2
70	65	37	—	47	47	—	—	68	M80X2
75	70	38	—	49	49	—	—	72	M85X2
80	75	39	—	52	52	—	—	75	M90X2
85	80	42	—	56	56	—	—	78	M95X2
90	85	44	—	57	57	—	67	83	M100X2
95	90	47	—	61	61	—	71	89	M105X2
100	95	49	—	63	63	68	77	94	M110X2
105	100	51	—	66	66	72	82	—	M115X2
105	100	—	—	66	66	72	82	98	M120X2
110	105	54	—	67	72	72	—	—	M120X2
110	105	—	—	—	—	—	86	102	M125X2
120	115	57	64	73	79	79	—	—	M130X2
120	115	—	—	—	—	—	94	109	M135X2
130	125	57	71	78	82	82	—	—	M140X2
130	125	—	—	—	—	—	102	119	M145X2
140	135	61	73	82	88	88	—	—	M150X2
140	135	—	—	—	—	—	109	130	M155X3
150	145	65	77	—	—	—	—	—	M160X3
150	145	—	—	88	101	101	119	140	M165X3
160	150	69	82	—	—	—	—	—	M170X3
160	150	—	—	93	108	108	130	146	M180X3
170	160	74	90	—	—	—	—	—	M180X3
170	160	—	—	98	109	109	140	152	M190X3
180	170	74	98	—	—	—	—	—	M190X3
180	170	—	—	—	110	122	146	160	M200X3
190	180	78	102	—	—	—	—	—	Tr205X4
190	180	—	—	—	117	131	152	167	Tr210X4

TABLE 2 — Dimensions of withdrawal sleeves with taper 1 :12 (concluded)

Dimensions in millimetres

$d$	$d_1$	$B_4$							$G$
		suitable for bearing dimension series							
		02	30	03 and 13	22	31	32	23	
200	190	82	108	—	—	—	—	—	Tr215X4
200	190	—	—	—	123	140	160	177	Tr220X4
220	200	91	117	—	—	—	—	—	Tr235X4
220	200	—	—	—	136	151	189	189	Tr240X4
240	220	102	123	—	150	161	197	197	Tr260X4
260	240	111	135	—	—	—	—	—	Tr280X4
260	240	—	—	—	161	179	213	213	Tr290X4
280	260	113	139	—	—	—	—	—	Tr300X4
280	260	—	—	—	163	183	220	220	Tr310X5
300	280	—	153	—	—	—	—	—	Tr320X5
300	280	—	—	—	178	200	236	—	Tr330X5
320	300	—	157	—	—	—	—	—	Tr345X5
320	300	—	—	—	190	217	254	—	Tr350X5
340	320	—	171	—	—	—	—	—	Tr365X5
340	320	—	—	—	—	234	273	—	Tr370X5
360	340	—	176	—	—	—	—	—	Tr385X5
360	340	—	—	—	—	238	283	—	Tr400X5
380	360	—	180	—	—	—	—	—	Tr410X5
380	360	—	—	—	—	242	294	—	Tr420X5
400	380	—	193	—	—	—	—	—	Tr430X5
400	380	—	—	—	—	250	312	—	Tr440X5
420	400	—	196	—	—	—	—	—	Tr450X5
420	400	—	—	—	—	276	331	—	Tr460X5
440	420	—	205	—	—	—	—	—	Tr470X5
440	420	—	—	—	—	281	341	—	Tr480X5
460	440	—	213	—	—	—	—	—	Tr490X5
460	440	—	—	—	—	296	360	—	Tr510X6
480	460	—	217	—	—	—	—	—	Tr520X6
480	460	—	—	—	—	307	376	—	Tr530X6
500	480	—	221	—	—	—	—	—	Tr540X6
500	480	—	—	—	—	325	405	—	Tr550X6

The length of the withdrawal sleeve,  $B_3$ , is not specified but should not be larger than  $B_4$ .