

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 355

PART V

ROLLING BEARINGS

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TAPERED ROLLER BEARINGS
BOUNDARY DIMENSIONS

SUB-UNITS ⁹⁷⁰

<https://standards.iteh.ai/standards/iso-r-355-5-1970>
METRIC SERIES

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BRIEF HISTORY

The ISO Recommendation R 355, Part V, *Rolling bearings – Tapered roller bearings – Boundary dimensions – Sub-units – Metric series*, was drawn up by Technical Committee ISO/TC 4, *Rolling bearings*, the Secretariat of which is held by the Sveriges Standardiseringskommission (SIS).

Work on this question led to the adoption of a Draft ISO Recommendation.

In May 1968, this Draft ISO Recommendation (No. 944) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Iran	Switzerland
Belgium	Israel	Turkey
Czechoslovakia	Italy	U.A.R.
Canada	Netherlands	United Kingdom
France	Poland	U.S.A.
Germany	Romania	Yugoslavia
Hungary	Spain	
India	Sweden	

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Two Member Bodies opposed the approval of the Draft :

Japan
U.S.S.R.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in September 1969, to accept it as an ISO RECOMMENDATION.

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ROLLING BEARINGS
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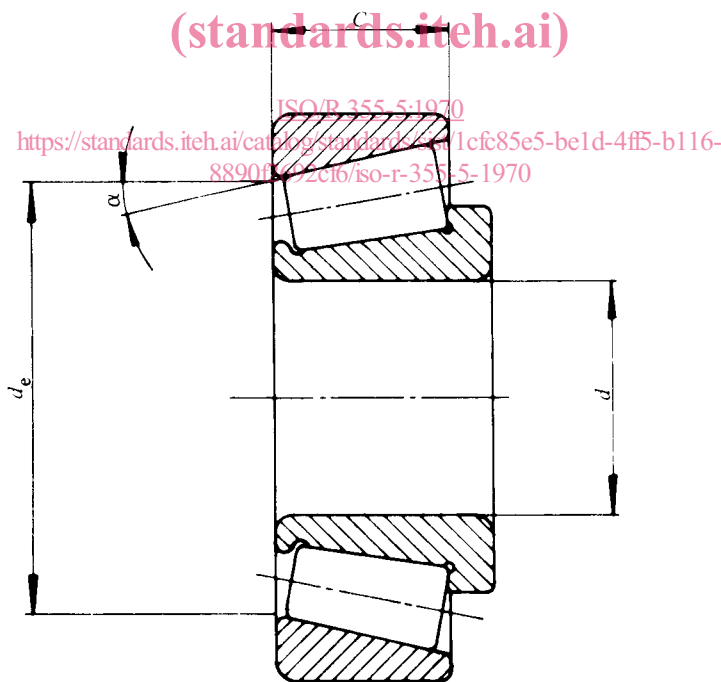
PART V
 SUB-UNITS
 METRIC SERIES

1. SCOPE

The sub-units of tapered roller bearings consist of outer ring (cup unit) and inner ring, roller and cage assembly (cone unit). The boundary dimensions and tolerances of the complete bearings are given in relevant ISO Recommendations.

In this ISO Recommendation only the additional sub-unit boundary dimensions are given with reference to the bearing bore diameter and dimension series.

2. SYMBOLS AND ABBREVIATIONS



- d = bearing bore diameter
- α = bearing angle of contact
- d_e = small inside diameter of outer ring
- C = outer ring width

Bearing type symbols are given in accordance with ISO Recommendation R 300, *ISO identification code for rolling bearings*. In addition the manufacturers' usual series numbers are indicated.

3. BOUNDARY DIMENSIONS

TABLE 1 – Bearing type code symbol KB.
Dimension series 20 (Manufacturers' series 320X)

Dimensions in millimetres

Bore diameter <i>d</i>	Dimension series 20		
	α	d_e	<i>C</i>
20	14°	32.781	12
22	14° 50'	34.708	11.5
25	16°	37.393	11.5
28	16°	41.991	12
30	16°	44.438	13
32	16° 50'	46.708	13
35	16° 50'	50.510	14
40	14° 10'	56.897	14.5
45	14° 40'	63.248	15.5
50	15° 45'	67.841	15.5
55	15° 10'	76.505	17.5
60	16°	80.634	17.5
65	17°	85.56770	17.5
70	16° 10'	93.633	19
75	17°	98.358	19
80	15° 45'	107.334	22
85	16° 25'	111.788	22
90	15° 45'	119.948	24
95	16° 25'	124.927	24
100	17°	129.269	24
105	16° 30'	137.685	26
110	16°	146.290	29
120	17°	155.239	29
130	16° 10'	172.043	34
140	17°	180.720	34
150	17°	193.674	36

TABLE 2 – Bearing type code symbol KB.

Dimension series 02 and 22 (Manufacturers' series 302 and 322)

Dimensions in millimetres

Bore diameter <i>d</i>	Dimension series 02			Dimension series 22		
	α	d_e	<i>C</i>	α	d_e	<i>C</i>
17	12° 57' 10"	31.408	11			
20	12° 57' 10"	37.304	12			
25	14° 2' 10"	41.135	13			
30	14° 2' 10"	49.990	14	14° 2' 10"	48.982	17
35	14° 2' 10"	58.844	15	14° 2' 10"	57.087	19
40	14° 2' 10"	65.730	16	14° 2' 10"	64.715	19
40	15° 6' 34"	70.440	16	15° 6' 34"	69.610	19
50	15° 38' 32"	75.078	17	15° 38' 32"	74.226	19
55	15° 6' 34"	84.197	18	15° 6' 34"	82.837	21
60	15° 6' 34"	91.876	19	15° 6' 34"	90.236	24
65	15° 6' 34"	101.934	20	15° 6' 34"	99.484	27
70	15° 38' 32"	105.748	21	15° 38' 32"	103.765	27
75	16° 10' 20"	110.408	22	16° 10' 20"	108.932	27
80	15° 38' 32"	119.169	22	15° 38' 32"	117.466	28
85	15° 38' 32"	126.685	24	15° 38' 32"	124.970	30
90	15° 38' 32"	134.901	26	15° 38' 32"	132.615	34
95	15° 38' 32"	143.385	27	15° 38' 32"	140.259	37
100	15° 38' 32"	151.310	29	15° 38' 32"	148.184	39
105	15° 38' 32"	159.795	30	15° 38' 32"	155.269	43
110	15° 38' 32"	168.548	32	15° 38' 32"	164.022	46
120	16° 10' 20"	181.257	34	16° 10' 20"	174.825	50

TABLE 3 - Bearing type code symbol KB.

Dimension series 03 and 23 (Manufacturers' series 303 and 323)

Dimensions in millimetres

Bore diameter <i>d</i>	Dimension series 03			Dimension series 23		
	α	d_e	<i>C</i>	α	d_e	<i>C</i>
15	10° 45' 29"	33.272	11			
17	10° 45' 29"	37.420	12			
20	11° 18' 36"	41.318	13	11° 18' 36"	39.518	18
25	11° 18' 36"	50.637	15	11° 18' 36"	48.637	20
30	11° 51' 35"	58.287	16	11° 51' 35"	55.767	23
35	11° 51' 35"	65.769	18	11° 51' 35"	62.829	25
40	12° 57' 10"	72.703	20	12° 57' 10"	69.253	27
45	12° 57' 10"	81.780	22	12° 57' 10"	78.330	30
50	12° 57' 10"	90.633	23	12° 57' 10"	86.263	33
55	12° 57' 10"	99.146	25	12° 57' 10"	94.316	35
60	12° 57' 10"	107.769	26	12° 57' 10"	102.939	37
65	12° 57' 10"	116.846	28	12° 57' 10"	111.786	39
70	12° 57' 10"	125.244	30	12° 57' 10"	119.724	42
75	12° 57' 10"	134.097	31	12° 57' 10"	127.887	45
80	12° 57' 10"	143.174	33	12° 57' 10"	136.504	48
85	12° 57' 10"	150.433	34	12° 57' 10"	144.223	49
90	12° 57' 10"	159.061	36	12° 57' 10"	151.701	53
95	12° 57' 10"	165.861	38	12° 57' 10"	160.318	55
100	12° 57' 10"	178.578	39	12° 57' 10"	171.650	60
105	12° 57' 10"	186.752	41	12° 57' 10"	179.359	63
110	12° 57' 10"	199.925	42	12° 57' 10"	192.071	65
120	12° 57' 10"	214.892	46	12° 57' 10"	207.039	69

TABLE 4 - Bearing type code symbol KD.

Dimension series 03 (Manufacturers' series 313)

Dimensions in millimetres

Bore diameter <i>d</i>	Dimension series 03		
	α	d_e	<i>C</i>
25	28° 48' 39"	44.130	13
30	28° 48' 39"	51.771	14
35	28° 48' 39"	58.861	15
40	28° 48' 39"	66.984	17
45	28° 48' 39"	75.107	18
50	28° 48' 39"	82.747	19
55	28° 48' 39"	89.563	21
60	28° 48' 39"	98.236	22
65	28° 48' 39"	106.359	23
70	28° 48' 39"	113.449	25
75	28° 48' 39"	122.122	26
80	28° 48' 39"	129.213	27
85	28° 48' 39"	137.403	28
90	28° 48' 39"	145.527	30