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R 199 II

ROLLING BEARINGS

THRUST BALL BEARINGS WITH FLAT SEATS

TOLERANCES

PART 2

TOLERANCE CLASSES 6, 5 AND 4

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ROLLING BEARINGS

THRUST BALL BEARINGS WITH FLAT SEATS

TOLERANCES

PART 2

TOLERANCE CLASSES 6, 5 AND 4

1. SCOPE

1.1 This ISO Recommendation applies to the tolerances of thrust ball bearings with flat seats

- tolerance classes 6 and 5 for bore diameters up to and including 1250 mm, given in Table 1, and
- tolerance class 4 for bore diameters up to and including 800 mm, given in Table 2.

1.2 The housing washer outside diameter tolerances are those given for the normal tolerance class in ISO Recommendation R 199, *Rolling bearings – Thrust ball bearings with flat seats – Normal tolerances.*

1.3 The cylindrical bore diameter "not go side" tolerance limit does not necessarily apply within a distance of twice the nominal washer chamfer dimension from the washer face.

2. SYMBOL

The following symbol is used in the Tables :

d = bore diameter of shaft washer of single and double direction thrust ball bearings.

3. TOLERANCES

TABLE 1 – Tolerance classes 6 and 5

Deviations in microns

Bore diameter *d* nominal millimetres		Shaft washer		All washers	
		Deviations from nominal bore diameter*		Raceway run-out with seat face of washer**	
				Class 6	Class 5
over	incl.	high	low	maximum	maximum
–	18	0	– 8	5	3
(18)	30	0	– 10	5	3
(30)	50	0	– 12	6	3
(50)	80	0	– 15	7	4
(80)	120	0	– 20	8	4
(120)	180	0	– 25	9	5
(180)	250	0	– 30	10	5
(250)	315	0	– 35	13	7
(315)	400	0	– 40	15	7
(400)	500	0	– 45	18	9
(500)	630	0	– 50	21	11
(630)	800	0	– 75	25	13
(800)	1000	0	– 100	30	15
(1000)	1250	0	– 125	35	18

* These deviations are valid for two-point measurements only.

** The run-out values for double direction bearings refer to the nominal bore diameter of corresponding single direction bearings.

TABLE 2 – Tolerance class 4

Deviations in microns

Bore diameter *d* nominal millimetres		Shaft washer		All washers
		Deviations from nominal bore diameter*		Raceway run-out with seat face of washer**
				Class 4
over	incl.	high	low	maximum
–	18	0	– 7	2
(18)	30	0	– 8	2
(30)	50	0	– 10	2
(50)	80	0	– 12	3
(80)	120	0	– 15	3
(120)	180	0	– 18	4
(180)	250	0	– 22	4
(250)	315	0	– 25	5
(315)	400	0	– 30	5
(400)	500	0	– 35	6
(500)	630	0	– 40	7
(630)	800	0	– 50	8

* These deviations are valid for two-point measurements only.

** The run-out values for double direction bearings refer to the nominal bore diameter of corresponding single direction bearings.