



ENGINEERING

BEARING TOLERANCE

Tolerance Symbols

Δd_{mp} : Single plane mean bore diameter deviation
 Δd_s : Deviation of single bore diameter
 V_{dp} : Bore diameter variation in a single radial plane
 V_{dmp} : Mean bore diameter variation
 K_{ia} : Radial runout of assembled bearing inner ring
 S_{ia} : Side face runout with reference to raceway of assembled bearing inner ring
 S_d : Side face runout with reference to bore of inner ring
 ΔB_s : Deviation of a single width of the inner ring
 V_{bs} : Inner ring width variation

ΔD_{mp} : Single plane mean outside diameter deviation
 ΔD_s : Deviation of a single outside diameter
 V_{dp} : Outside diameter variation in a single radial plane
 V_{Dmp} : Mean outside diameter variation
 K_{ea} : Radial runout of assembled bearing outer ring
 S_{ea} : Side face runout with reference to raceway of assembled bearing outer ring
 S_D : Variation in inclination of outside cylindrical surface to outer ring side face
 ΔC_s : Deviation of a single width of the outer ring
 V_{cs} : Outer ring width variation

■ Class 0 tolerances for radial bearings (except tapered roller bearings)

Inner ring

Unit : μm

d (mm)		Δd_{mp}		Vdp Diameter Series			Vdmp	ΔB_s		ΔB_{1s}		VBS	Kia
				8,9	0,1	2, 3, 4							
over	incl.	high	low	max	max	max	max	high	low	high	low	max	max
2.5	10	0	-8	10	8	6	6	0	-120	0	-250	15	10
10	18	0	-8	10	8	6	6	0	-120	0	-250	20	10
18	30	0	-10	13	10	8	8	0	-120	0	-250	20	13
30	50	0	-12	15	12	9	9	0	-120	0	-250	20	15
50	80	0	-15	19	19	11	11	0	-150	0	-380	25	20
80	120	0	-20	25	25	15	15	0	-200	0	-380	25	25
120	180		-25	31	31	19	19	0	-250	0	-500	30	30
180	250	0	-30	38	38	23	23	0	-300	0	-500	30	40
250	315	0	-35	44	44	26	26	0	-350	0	-500	35	50

Outer ring

Unit : μm

D (mm)		ΔD_{mp}		Vdp Diameter Series			Bearings with shields or seals	VDmp	ΔC_s ΔC_{1s} Vcs			Kea
				8,9	0,1	2, 3, 4						
over	incl.	high	low	max	max	max	max	max				max
6	18	0	-8	10	8	6	10	6				15
18	30	0	-9	12	9	7	12	7				15
30	50	0	-11	14	11	8	16	8				20
50	80	0	-13	16	13	10	20	10	Values are identical to those for inner ring of same bearing. (ΔB_s ΔB_{1s} VBS)			25
80	120	0	-15	19	19	11	26	11				35
120	150	0	-18	23	23	14	30	14				40
150	180	0	-25	31	31	19	38	19				45
180	250	0	-30	38	38	23	-	23				50
250	315	0	-35	44	44	26	-	26				60
315	400	0	-40	50	50	30	-	30				70