



Spherical Plain Bearing Tolerances

Spherical Plain Bearing tolerances apply to outer ring **without** surface treatment or splitting. Some bearings receive a phosphate coating and/or a MoS₂ coating, both of which will add to the bearing's OD dimension.

The outer rings become slightly out-of-round due to splitting. The roundness of the outer ring is restored once it is fitted in a housing bore produced in accordance with the specifications.

Please note that measurements taken of the outside diameter of the unfitted, split bearing cannot be used as the original actual values for the outside diameter.

Below are the various tolerances for inner and outer rings of spherical plain bearings supplied by AST Bearings and are organized by product series:

Tolerances for all AST Radial Spherical Plain Bearings (Except for Series GEBK-S, GEBJ-S, GEBJ-C, GEFZ-S, GEFZ-C, GEFZ-T, GEK-XS-2RS)

Inner Ring Tolerances

d (mm)		Δ dmp (μm)		Δ dmp* (μm)		Vdp (μm)	Vdmp (μm)	Vdp* (μm)	Vdmp* (μm)	Δ Bs (μm)		Δ Bs* (μm)	
over	incl.	max	min	max	min	max	max	max	max	max	min	max	min
—	18	0	-8	18	0	8	6	18	14	0	-120	0	-180
18	30	0	-10	21	0	10	8	21	16	0	-120	0	-210
30	50	0	-12	25	0	12	9	25	19	0	-120	0	-250
50	80	0	-15	30	0	15	11	30	22	0	-150	0	-300
80	120	0	-20	35	0	20	15	35	26	0	-200	0	-350
120	180	0	-25	40	0	25	19	40	30	0	-250	0	-400
180	250	0	-30	46	0	30	23	46	35	0	-300	0	-460
250	315	0	-35	52	0	35	26	52	39	0	-350	0	-520
315	400	0	-40	57	0	40	30	57	43	0	-400	0	-570
400	500	0	-45	—	—	45	34	—	—	0	-450	—	—
500	630	0	-50	—	—	50	38	—	—	0	-500	—	—
630	800	0	-75	—	—	75	56	—	—	0	-750	—	—

*Tolerances apply to the GEEW-ES series only

Outer Ring Tolerances

D (mm)		ΔD_{mp} (μm)		V_{Dp} (μm)	V_{Dmp} (μm)	ΔC_s (μm)	
over	incl.	max	min	max	max	max	min
—	18	0	-8	10	6	0	-240
18	30	0	-9	12	7	0	-240
30	50	0	-11	15	8	0	-240
50	80	0	-13	17	10	0	-300
80	120	0	-15	20	11	0	-400
120	150	0	-18	24	14	0	-500
150	180	0	-25	33	19	0	-500
180	250	0	-30	40	23	0	-600
250	315	0	-35	47	26	0	-700
315	400	0	-40	53	30	0	-800
400	500	0	-45	60	34	0	-900
500	630	0	-50	67	38	0	-1000
630	800	0	-75	100	56	0	-1100
800	1000	0	-100	135	75	0	-1200
1000	1250	0	-125	190	125	0	-1300

Tolerances for AST Series GEBK-S

Inner Ring Tolerances

d (mm)		Δd_{mp} (μm)		ΔB_s (μm)	
over	incl.	max	min	max	min
—	6	12	0	0	-100
6	10	15	0	0	-100
10	18	18	0	0	-100
18	30	21	0	0	-100

Outer Ring Tolerances

D (mm)		ΔD_{mp} (μm)		ΔC_s (μm)	
over	incl.	max	min	max	min
10	18	0	-11	100	-100
18	30	0	-13	100	-100
30	50	0	-16	100	-100
50	80	0	-19	100	-100

Tolerances for AST Series GEBJ-S, GEBJ-C

Inner Ring Tolerances

d (mm)		A dmp (μm)		A Bs (μm)	
over	incl.	max	min	max	min
—	6	12	0	0	-100
6	10	15	0	0	-100
10	18	18	0	0	-100
18	30	21	0	0	-100

Outer Ring Tolerances

D (mm)		Δ Dmp (μm)		Δ Cs (μm)	
over	incl.	max	min	max	min
10	18	0	-11	0	-240
18	30	0	-13	0	-240
30	50	0	-16	0	-240
50	80	0	-19	0	-300

Tolerances for AST Series GEZ-S, GEFZ-C

Inner Ring Tolerances

d (mm)		Δ dmp (μm)		Δ Bs (μm)	
over	incl.	max	min	max	min
—	6	38	-13	130	-130
6	10	38	-13	130	-130
10	18	38	-13	130	-130
18	30	38	-13	130	-130

Outer Ring Tolerances

D (mm)		Δ Dmp (μm)		Δ Cs (μm)	
over	incl.	max	min	max	min
10	18	0	-18	130	-130
18	30	0	-18	130	-130
30	50	0	-18	130	-130

Tolerances for AST Series GEK-XS-2RS

Inner Ring Tolerances

d (mm)		Δ dmp (μ m)		Δ Bs (μ m)	
over	incl.	max	min	max	min
18	30	33	0	50	-110
30	50	39	0	50	-110
50	60	46	0	50	-140

Outer Ring Tolerances

D (mm)		Δ Dmp (μ m)		Δ Cs (μ m)	
over	incl.	max	min	max	min
50	80	30	11	0	-130
80	120	35	13	0	-130
120	150	40	15	0	-130

Key for Tolerance Tables

d	Bearing bore diameter, nominal
Δdmp	Single plane mean bore diameter deviation
Vdp	Bore diameter variation in a single radial plane
Vdmp	Mean bore diameter deviation
ΔBs	Deviation of a single width of the inner ring
B	Width of the inner ring, nominal
D	Bearing outside diameter, nominal
ΔDmp	Single plane mean outside diameter deviation
VDp	Outside diameter variation in a single radial plane
VDmp	Mean outside diameter variation
ΔCs	Deviation of a single width of the outer ring
C	Width of outer ring, nominal