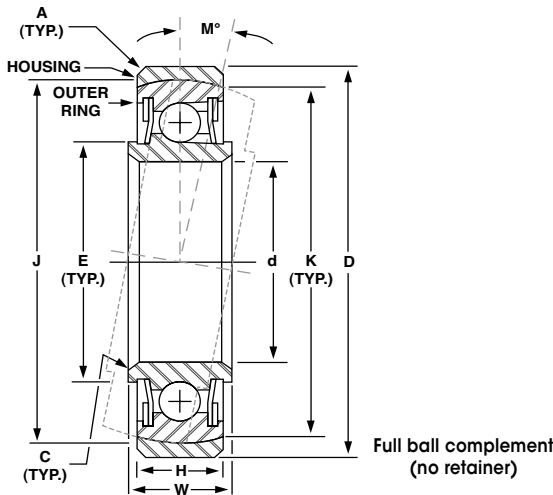




KP--BS (AS27648) / MKP--BS Series



Notes:

1. Rings and balls are manufactured from premium quality AISI 52100 chrome steel.
2. Operating temperature range: -65 to +250 °F.
3. All bearings include removable PTFE seals.
4. Bearings are lubricated with MIL-PRF-81322 grease, 80% minimum fill, unless otherwise specified.
5. External surfaces (except bore) are cadmium plated per AMS-QQ-P-416. All dimensions apply after plating.
6. Custom sizes, materials, tolerances, radial internal clearances, lubrication, plating, etc., are available upon request.
7. See "Airframe Part Numbering System" on page 5 for correct NHBB nomenclature.
8. All dimensions are in inches, unless otherwise specified.

Refer to the Qualifications and Manufacturing Schedule for a current list of the Precision Division's AS7949 qualifications and manufacturing capabilities.

KP--BS (AS27648) — Qualified to SAE AS7949

NHBB BASIC P/N	MS27648 DASH NO.	BORE d	O.D. D	RING WIDTH		MIS-ALIGNMENT ANGLE M°	SPHERICAL DIA. J	BALL COMPLEMENT		RING SHOULDER DIAMETER		RING CHAMFER X 45°		LOAD RATINGS (LBS.)				APPROX. WEIGHT	MAX. STARTING TORQUE [^]
				OUTER H*	INNER W			NO.	DIA.	INNER E	HOUSING K†	OUTER A	INNER C	STATIC		DYNAMIC RADIAL+ RING ROTATION			
														RADIAL LIMIT	AXIAL LIMIT	INNER	OUTER		
		+0.0000 -0.0010	+0.0000 -0.0010	+0.000 -0.005	+0.000 -0.005		REF.			REF.	REF.	+0.015 -0.000	+0.015 -0.000	RADIAL LIMIT	AXIAL LIMIT			LBS.	OZ.-IN.
KP16BS	-16	1.0000 ⁽¹⁾	1.9375	.375	.437	±7.42	1.742	23	3/16	1.186	1.724	.024	.024	8085	1600	4260	3960	.18	5.0
KP21BS	-21	1.3130	2.2500	.375	.437	±6.50	2.054	28	3/16	1.509	2.021	.024	.024	9840	2000	4590	4290	.20	7.0
KP23BS	-23	1.4380	2.3750	.375	.437	±6.00	2.179	30	3/16	1.621	2.168	.024	.024	10500	2200	4650	4360	.22	9.0
KP25BS	-25	1.5630	2.5000	.375	.437	±5.75	2.307	32	3/16	1.740	2.295	.024	.024	11300	2300	4680	4420	.25	9.0
KP29BS	-29	1.8130	2.7500	.375	.437	±5.00	2.554	36	3/16	1.980	2.548	.024	.024	12700	2600	4760	4530	.27	14.0
KP33BS	-33	2.0630	3.0000	.375	.437	±5.00	2.804	41	3/16	2.278	2.799	.024	.024	14400	2900	4820	4630	.30	14.0
KP37BS	-37	2.3130	3.2500	.375	.437	±4.50	3.054	45	3/16	2.516	3.051	.024	.024	15800	3200	4880	4690	.33	20.0
KP47BS	-47	2.9380	4.1250	.469	.531	±4.50	3.867	45	15/64	3.149	3.861	.039	.039	24700	5000	6600	6390	.64	30.0
KP48BS	-48	3.0000	4.2500	.469	.531	±4.00	3.991	44	1/4	3.262	3.986	.039	.039	27500	5500	8150	7840	.69	30.0
KP49BS	-49	3.0630	4.2500	.469	.531	±4.00	3.991	44	1/4	3.262	3.986	.039	.039	27500	5500	8150	7840	.69	32.0

Radial internal clearance: .0003 to .0010 (Does not include the radial looseness between the self-aligning outer ring and the housing.)

⁽¹⁾ Bore (d) tolerance: +.0000 / -.0005

MKP--BS Precision Series

NHBB BASIC P/N	BORE d	O.D. D	RING WIDTH		MIS-ALIGNMENT ANGLE M°	SPHERICAL DIA. J	BALL COMPLEMENT		RING SHOULDER DIAMETER		RING CHAMFER X 45°		LOAD RATINGS (LBS.)				APPROX. WEIGHT	MAX. STARTING TORQUE [^]
			OUTER H*	INNER W			NO.	DIA.	INNER E	HOUSING K†	OUTER A	INNER C	STATIC		DYNAMIC RADIAL+ RING ROTATION			
													RADIAL LIMIT	AXIAL LIMIT	INNER	OUTER		
	+0.0000 -0.0005	+0.0000 -0.0010	+0.000 -0.005	+0.000 -0.0025		REF.			REF.	REF.	+0.015 -0.000	+0.015 -0.000	RADIAL LIMIT	AXIAL LIMIT			LBS.	OZ.-IN.
MKP16BS	1.0000	1.9375	.375	.4370	±7.42	1.742	23	3/16	1.186	1.724	.024	.024	8085	1600	4260	3960	.18	5.0
MKP21BS	1.3125	2.2500	.375	.4370	±6.50	2.054	28	3/16	1.509	2.021	.024	.024	9840	2000	4590	4290	.20	7.0
MKP23BS	1.4375	2.3750	.375	.4370	±6.00	2.179	30	3/16	1.621	2.168	.024	.024	10500	2200	4650	4360	.22	9.0
MKP25BS	1.5625	2.5000	.375	.4370	±5.75	2.307	32	3/16	1.740	2.295	.024	.024	11300	2300	4680	4420	.25	9.0
MKP29BS	1.8125	2.7500	.375	.4370	±5.00	2.554	36	3/16	1.980	2.548	.024	.024	12700	2600	4760	4530	.27	14.0
MKP33BS	2.0625	3.0000	.375	.4370	±5.00	2.804	41	3/16	2.278	2.799	.024	.024	14400	2900	4820	4630	.30	14.0
MKP37BS	2.3125	3.2500	.375	.4370	±4.50	3.054	45	3/16	2.516	3.051	.024	.024	15800	3200	4880	4690	.33	20.0
MKP47BS	2.9375	4.1250	.469	.5310	±4.50	3.867	45	15/64	3.149	3.861	.039	.039	24700	5000	6600	6390	.64	30.0
MKP48BS	3.0000	4.2500	.469	.5310	±4.00	3.991	44	1/4	3.262	3.986	.039	.039	27500	5500	8150	7840	.69	30.0
MKP49BS	3.0625	4.2500	.469	.5310	±4.00	3.991	44	1/4	3.262	3.986	.039	.039	27500	5500	8150	7840	.69	32.0

Radial internal clearance: .0001 to .0005 (Does not include the radial looseness between the self-aligning outer ring and the housing.)

*Housing (outermost ring) width same as outer ring.

†Housing (outermost ring) I.D. chamfer-face breakout diameter. For design reference only. When installed in the application, the misalignment angle should not exceed the stated limiting values in either direction.

+Dynamic radial load ratings are for operation up to 250 °F. Reduce load ratings by 20% for 250 to 350 °F operation. Dynamic radial load ratings are based on an average life of 10,000 complete 90° cycles.

[^]Torque limits are for bearings lubricated with MIL-PRF-81322 grease. For bearings lubricated with MIL-PRF-23827, multiply torque limits by a factor of 1.2.