

Groove radial ball bearings – inch

GRW designation	Main dimensions in [mm] [inch]		Bearing without closure in [mm] [inch]				Bearing with closure in [mm] [inch]				Chamfer in [mm] [inch]	Modification dimensions acc. to ANSI/AFBMA Std. 12.2 in [mm] [inch]		Load ratings acc. to DIN ISO (2) (max)		Closure variants (3)		Max. limiting speed (5) [mm ⁻¹]	
	d	D	B	B ₁	Flange dimensions without closure		B ₂	B ₃	Flange dimensions with closure			r _{s min} (1)	d _{a min}	D _{a max}	C [N]	C _{0r} [N]	Shield(4)	Packing(4)	with closure or with shield
Basic symbols					Flange diameter FD	Flange width FB			Flange diameter FD ₁	Flange width FB ₁									
1016	1.016 .0400	3.175 .1250	1.191 .0469	–	–	–	–	–	–	–	0.08 .003	1.50 .059	2.65 .104	106	28	–	–	150,000	–
1191	1.191 .0469	3.967 .1562	1.588 .0625	2.381 .0937	5.156 .2030	0.330 .0130	–	–	–	–	0.08 .003	1.80 .071	3.35 .132	163	44	–	–	129,000	–
1397	1.397 .0550	4.763 .1875	1.984 .0781	–	–	–	2.779 .1094	–	5.944 .2340	0.787 .03100	0.08 .003	2.00 .079	4.15 .163	239	67	X	–	114,000	–
5/64	1.984 .0781	6.350 .2500	2.380 .0937	3.175 .1250	7.518 .2960	0.584 .0230	3.571 .1406	4.366 .1719	7.518 .2960	0.787 .0310	0.08 .003	2.60 .102	5.75 .226	286	90	X	–	95,000	–
2380	2.380 .0937	4.763 .1875	1.588 .0625	2.380 .0937	5.944 .2340	0.457 .0180	2.380 .0937	3.175 .1250	5.944 .2340	0.787 .0310	0.08 .003	2.90 .114	4.25 .167	192	59	X	–	94,000	–
3175/0002	2.380 .0937	6.350 .2500	2.779 .1094	–	7.518 .2960	0.787 .0310	2.779 .1094	–	7.518 .2960	0.787 .0310	0.08 .003	2.95 .116	5.75 .226	292	97	X	–	82,000	–
3/32	2.380 .0937	7.938 .3125	2.779 .1094	3.571 .1406	9.119 .3590	0.584 .0230	3.571 .1406	4.366 .1719	9.119 .3590	0.787 .0310	0.08 .003	3.10 .122	7.25 .285	644	215	X	X	62,000	51,000
3175/002	3.175 .1250	6.350 .2500	–	–	–	–	2.380 .0937	–	7.518 .2960	0.584 .0230	0.08 .003	3.75 .148	5.75 .226	311	109	X	–	80,000	–
3175	3.175 .1250	6.350 .2500	2.380 .0937	3.175 .1250	7.518 .2960	0.584 .0230	2.779 .1094	3.571 .1406	7.518 .2960	0.787 .0310	0.08 .003	3.75 .148	5.75 .226	292	97	X	X	80,000	53,000
3175A	3.175 .1250	6.350 .2500	2.380 .0937	–	7.518 .2960	0.584 .0230	2.779 .1094	–	7.518 .2960	0.787 .0310	0.08 .003	3.75 .148	5.75 .226	311	109	X	–	80,000	–
1/8A	3.175 .1250	7.938 .3125	2.779 .1094	3.571 .1406	9.119 .3590	0.584 .0230	3.571 .1406	4.366 .1719	9.119 .3590	0.787 .0310	0.08 .003	3.90 .154	7.20 .283	644	215	X	X	65,000	51,000
3175/061	3.175 .1250	9.525 .3750	2.779 .1094	–	–	–	2.779 .1094	–	–	–	0.08 .003	3.90 .154	8.80 .346	292	97	X	–	80,000	–
3175/6	3.175 .1250	9.525 .3750	–	–	–	–	2.779 .1094	–	–	–	0.08 .003	3.90 .154	8.80 .346	292	97	X	–	80,000	–
1/8A/6	3.175 .1250	9.525 .3750	–	–	–	–	3.571 .1406	4.366 .1719	10.719 .4220	0.787 .0310	0.08 .003	3.90 .154	8.80 .346	644	215	X	X	82,000	51,000
1/8B	3.175 .1250	9.525 .3750	3.967 .1562	4.763 .1875	11.176 .4400	0.762 .0300	3.967 .1562	4.763 .1875	11.176 .4400	0.762 .0300	0.30 .012	4.55 .179	8.25 .325	720	260	X	X	61,000	44,000
3175/552	3.175 .1250	10.414 .4100	–	–	–	–	2.380 .0937	–	–	–	0.08 .003	3.75 .148	8.40 .331	292	97	X	–	80,000	–
3175/8	3.175 .1250	12.700 .5000	–	–	–	–	2.779 .1094	3.571 .1406	–	–	0.08 .003	4.55 .179	11.35 .447	292	97	X	–	80,000	–
1/8B/083	3.175 .1250	12.700 .5000	4.366 .1719	–	–	–	4.366 .1719	–	–	–	0.30 .012	4.55 .179	11.35 .447	725	265	X	–	74,000	–

Note:

(1) r_{s min} = minimum single bearing chamfer or maximum permissible shaft or housing fillet radius.

(2) Other load ratings are possible due to different ball sets with use of a non standard retainer

(3) Different shields or seals available.

(4) Bearings also available with 1 or 2 shields/seals.

(5) Limiting speed also depends on seal material and the respective ball set.

• Ball bearings without shields or packings are also available with recesses.

• Please discuss your desired design in terms of flange, extended inner ring width, shield, packing, and material with our Technical Application Consultants to find out about availability.

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	d	D	Width without closure	Width with extended inner ring without closure	Flange dimensions without closure		Width with closure	Width with extended inner ring with closure	Flange dimensions with closure			r _{s min} ⁽¹⁾	Shaft diameter d _{a min}	Housing diameter D _{a max}	C _r [N]	C _{0r} [N]	Shield ⁽⁴⁾	Packing ⁽⁴⁾	with closure or with shield
Basic symbols			B	B ₁	Flange diameter FD	Flange width FB	B ₂	B ₃	Flange diameter FD ₁	Flange width FB ₁									
3967/002	3.967 .1562	7.938 .3125	–	–	–	–	2.779 .1094	–	–	–	0.08 .003	4.55 .179	7.30 .287	391	165	X	–	65,000	–
3967	3.967 .1562	7.938 .3125	2.779 .1094	3.571 .1406	9.119 .3590	0.584 .0230	3.175 .1250	3.967 .1562	9.119 .3590	0.914 .0360	0.08 .003	4.55 .179	7.30 .287	391	165	X	X	68,000	42,000
4763A/002	4.763 .1875	7.938 .3125	–	–	–	–	2.779 .1094	–	–	–	0.08 .003	5.35 .211	7.30 .287	391	165	X	–	61,000	–
4763A	4.763 .1875	7.938 .3125	2.779 .1094	3.571 .1406	9.119 .3590	0.584 .0230	3.175 .1250	3.967 .1562	9.119 .3590	0.914 .0360	0.08 .003	5.35 .211	7.30 .287	391	165	X	X	65,000	42,000
4763A/062	4.763 .1875	9.525 .3750	2.779 .1094	–	–	–	2.779 .1094	–	–	–	0.08 .003	5.35 .211	7.30 .287	391	165	X	X	65,000	42,000
4763B	4.763 .1875	9.525 .3750	3.175 .1250	3.967 .1562	10.719 .4220	0.584 .0230	3.175 .1250	3.967 .1562	10.719 .4220	0.787 .0310	0.08 .003	5.50 .217	8.80 .346	730	271	X	X	56,000	41,000
4763A/082	4.763 .1875	12.700 .5000	–	–	–	–	2.779 .1094	3.571 .1406	–	–	0.08 .003	5.35 .211	8.80 .346	391	165	X	–	70,000	–
4763B/083	4.763 .1875	12.700 .5000	3.967 .1562	–	–	–	3.967 .1562	–	–	–	0.08 .003	6.20 .244	11.35 .447	730	271	X	–	56,000	–
3/16/002	4.763 .1875	12.700 .5000	–	–	–	–	3.967 .1562	–	–	–	0.30 .012	6.20 .244	11.35 .447	1339	488	X	–	50,000	–
3/16	4.763 .1875	12.700 .5000	3.967 .1562	4.763 .1875	14.351 .5000	1.067 .0420	4.978 .1960	5.771 .2272	14.351 .5000	1.067 .0420	0.30 .012	6.20 .244	11.35 .447	1339	488	X	X	50,000	37,000
4763B/084	4.763 .1875	12.700 .5000	2.779 .1094	–	–	–	5.558 .2188	–	–	–	0.30 .012	6.20 .244	11.35 .447	730	271	–	–	43,000	–
1/4A/0001	4.763 .1875	15.875 .6250	4.978 .1960	–	17.526 .6900	1.067 .0420	4.978 .196	–	17.526 .6900	1.067 .0420	0.30 .012	6.20 .244	14.35 .565	1651	670	X	X	41,000	31,000
6350A	6.350 .2500	9.525 .3750	3.175 .1250	3.967 .1562	10.719 .4220	0.584 .02300	3.175 .1250	3.967 .1562	10.719 .4220	0.914 .0360	0.08 .003	6.90 .272	8.95 .352	391	165	X	X	54,000	35,000
6350B	6.350 .2500	12.700 .5000	3.175 .1250	3.967 .1562	13.894 .5000	0.584 .02300	4.763 .1875	5.558 .2188	13.894 .5000	1.143 .0450	0.13 .005	7.20 .283	11.85 .467	730	271	X	X	38,000	33,000
1/4A	6.350 .2500	15.875 .6250	4.978 .1960	5.771 .2272	17.526 .6900	1.067 .0420	4.978 .1960	5.771 .2272	17.526 .6900	1.067 .0420	0.30 .012	7.85 .309	14.35 .565	1651	670	X	X	43,000	31,000
1/4/002	6.350 .2500	19.050 .7500	–	–	–	–	5.558 .2188	–	–	–	0.41 .016	8.20 .323	17.20 .677	2522	1057	X	X	35,000	28,000
1/4	6.350 .2500	19.050 .7500	5.558 .2188	–	–	–	7.142 .2812	–	–	–	0.41 .016	8.20 .323	17.20 .677	2522	1057	X	X	35,000	28,000
7938	7.938 .3125	12.700 .5000	3.967 .1562	4.763 .1875	13.894 .5000	0.787 .03100	3.967 .1562	4.763 .1875	13.894 .5000	0.787 .0310	0.13 .005	8.80 .346	11.85 .467	539	279	X	X	45,000	30,000

Note:

⁽¹⁾ r_{s min} = minimum single bearing chamfer or maximum permissible shaft or housing fillet radius.

⁽²⁾ Other load ratings are possible due to different ball sets with use of a non standard retainer

⁽³⁾ Different shields or seals available.

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			Width without closure	Width with extended inner ring without closure	Flange dimensions without closure		Width with closure	Width with extended inner ring with closure	Flange dimensions with closure			Shaft diameter	Housing diameter	C _r [N]	C _{0r} [N]	Shield ⁽⁴⁾	Packing ⁽⁴⁾	with closure or with shield	shield
Basic symbols	d	D	B	B ₁	Flange diameter FD	Flange width FB	B ₂	B ₃	Flange diameter FD ₁	Flange width FB ₁	r _{s min} ⁽¹⁾	d _{a min}	D _{a max}	C _r [N]	C _{0r} [N]	Shield ⁽⁴⁾	Packing ⁽⁴⁾	with closure or with shield	shield
9525	9.525 .3750	15.875 .6250	3.967 .1562	–	–	–	3.967 .1562	–	–	–	0.25 .010	11.05 .435	14.35 .565	856	435	X	–	35,000	–
3/8/002	9.525 .3750	22.225 .8750	–	–	–	–	5.558 .2188	–	–	–	0.41 .016	11.45 .451	20.30 .799	2555	1129	X	–	30,000	–
3/8	9.525 .3750	22.225 .8750	5.558 .2188	–	24.613 .9690	1.575 .0620	7.142 .2812	–	24.613 .9690	1.575 .0620	0.41 .016	11.45 .451	20.30 .799	2555	1129	X	X	30,000	24,000
12700A/002	12.700 .5000	19.050 .7500	–	–	–	–	3.967 .1562	–	–	–	0.25 .010	14.20 .500	17.55 .691	918	542	X	X	28,000	20,000
12700B	12.700 .5000	22.225 .8750	7.142 .2812	–	–	–	7.142 .2812	–	–	–	0.41 .016	14.20 .500	20.30 .799	1972	1144	X	–	28,000	–
1/2	12.700 .5000	28.575 1.1250	6.350 .2500	–	31.115 1.2250	1.575 .0620	7.938 .3125	–	31.115 1.2250	1.575 .0620	0.41 .016	15.90 .626	26.05 1.026	5108	2413	X	X	32,000	21,000
15875A	15.875 .6250	22.225 .8750	3.967 .1562	–	–	–	3.967 .1562	–	–	–	0.25 .010	19.05 .750	20.30 .799	1133	801	X	–	25,000	–
5/8	15.875 .6250	34.925 1.3750	7.142 .2812	–	–	–	8.733 .3438	–	37.846 1.4900	1.745 .0687	0.80 .031	19.05 .750	31.75 1.250	5999	3265	X	–	25,000	–

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