

ROLLWAY®



# UNIVERSAL MATCHING ANGULAR CONTACT BALL BEARING

**REGAL**®

**UNIVERSAL MATCHING ANGULAR CONTACT BALL BEARINGS**

Angular contact ball bearings (ACBB) are designed to accommodate combined loads. A combined load consists of a radial and a thrust load acting together on the bearing. When combined loads are acting on the bearing, the contact points between balls and raceways act under an angle other than 0°. Therefore, the raceway profile is asymmetric: one shoulder is higher than the opposite shoulder. Bearings with contact angles of 15°, 25°, and 40° are available to fulfill a wide variety of applications. Rollway® bearings' standard contact angle is 40° - suffix B.

ACBB's are often mounted in pairs on a single shaft, with the shaft in between or side by side (paired). Bearing arrangement can be Face to Face (DF), Back to Back (DB) or in Tandem (DT).

Critical for a long bearing life is the end play setting (end play or axial clearance). For a normal ACBB, the end play must be set up during the mounting process by means of shims or machined rings. This is a time-consuming and cost-ineffective process.

To address this issue, two solutions are proposed:

- a double row ACBB which is a single application/bearing solution.
- universal matching bearing which is a flexible solution: 1 bearing for more applications which leads to complexity and stock reduction.

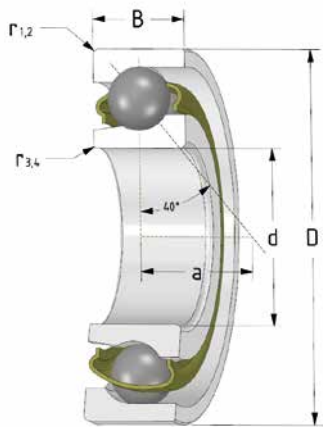
A universal matching ACBB bearing is a single row bearing with accurately ground ring faces. This provides the proper end play in any paired bearing arrangement, DF/DB/DT, without an additional end play set-up process. Rollway universal matching ACBB bearings with a normal end play are standard stock. Bearings with a different end play or preload are available on demand.

**NOMENCLATURE**

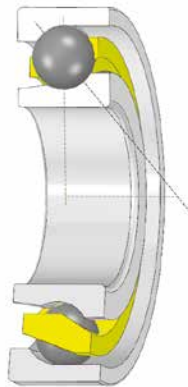
**NOMENCLATURE**

Nomenclature for Rollway® Universal Matching Angular Contact Ball Bearings								
Series	Contact Angle	Universal Matching						Cage material
		Preload			Axial clearance			
		Light	Med.	Heavy	Smaller	Med.	Large	
7200 7300	B: 40°	GA lighter preload than GB	GB standard/ normal preload	GC Heavier preload than GB	CA Smaller clearance than CB	CB standard/ normal clearance	CC Large clearance that CB	() : Steel M : Brass TN : Polyamide

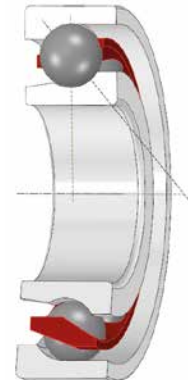
**DESIGN - Boundary dimensions per ISO 15:2011**



**Steel Cage**  
Standard (no suffix)

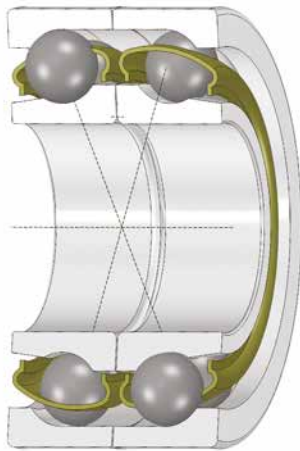


**Brass Cage**  
Suffix MB

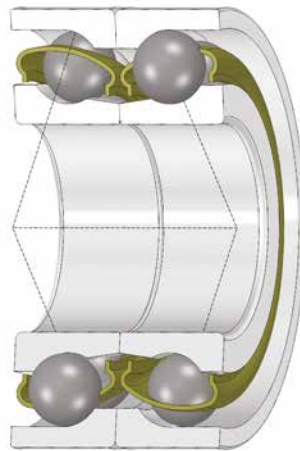


**Polyamide Cage**  
Suffix TN

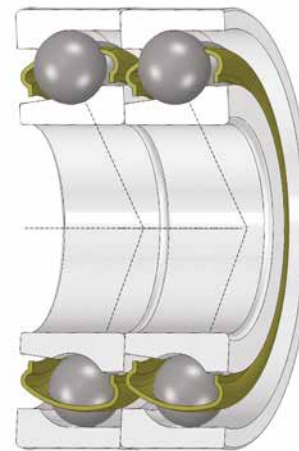
**BEARING ARRANGEMENTS**



**DF**



**DB**



**DT**

**DF** allows a limited amount of misalignment.  
**DB** is applied when a more rigid arrangement is required.  
**DT** is used when the thrust is very high.

**BEARING AXIAL CLEARANCE / END PLAY**

<b>BORE</b> d (mm)	<b>over</b>	-	18	30	50	80	120	180	250
	<b>up to</b>	18	30	50	80	120	180	250	315
<b>Series</b> 72/73	<b>Min</b>	15	18	22	26	32	35	45	52
	<b>Max</b>	23	26	30	38	44	47	61	68

Axial clearance in  $\mu\text{m}$

BEARING TYPE	Cage	PRINCIPAL DIMENSIONS			LOAD RATINGS		SPEED RATINGS		WEIGHT (kg)	RADIUS		DIMENSION (mm)
		BORE (mm)	OUTER (mm)	WIDTH (mm)	DYNAMIC (KN)	STATIC (KN)	GREASE (RPM)	OIL (RPM)		(mm)	(mm)	
		d	D	B	Cr	Cor	ng	no		G	rsm	
7201	BCB	12	32	10	7,4	3,75	17000	24000	0,045	0,6	0,3	14
7202	BCB	15	35	11	7,45	3,9	16000	22000	0,048	0,6	0,3	16
7203	BCB	17	40	12	9,9	5,5	14000	19000	0,065	0,6	0,3	18
7204	BCB	20	47	14	14,1	8,4	11000	16000	0,11	1	0,6	21
7304	BCB	20	52	15	17,3	9,7	10000	15000	0,15	1,1	0,6	23
7205	BCB	25	52	15	15,5	10,1	9500	14000	0,13	1	0,6	24
7305	BCB	25	62	17	24,4	14,6	8500	12000	0,25	1,1	0,6	27
7206	BCB	30	62	16	20,5	13,6	8500	12000	0,21	1	0,6	27
7206	BCBM	30	62	16	20,5	13,6	8500	12000	0,21	1	0,6	27
7306	BCB	30	72	19	29,3	19	7500	10000	0,37	1,1	0,6	31
7207	BCB	35	72	17	28,5	19,8	7500	10000	0,3	1,1	0,6	31
7307	BCB	35	80	21	36,7	24,3	7000	9500	0,51	1,5	1	35
7208	BCB	40	80	18	32,1	23	6700	9000	0,39	1,1	0,6	34
7308	BCB	40	90	23	44,8	30,3	6300	8500	0,67	1,5	1	39
7209	BCB	45	85	19	36,1	26,2	6300	8500	0,44	1,1	0,6	37
7309	BCB	45	100	25	58,3	40,1	5600	7500	0,9	1,5	1	43
7210	BCB	50	90	20	37,4	28,6	5600	7500	0,49	1,1	0,6	39
7310	BCB	50	110	27	68,2	47,9	5000	6700	1,15	2	1	47
7211	BCB	55	100	21	46,2	36,2	5300	7000	0,65	1,5	1	43
7311	BCB	55	120	29	78,8	56,4	4500	6000	1,45	2	1	51
7212	BCB	60	110	22	56,3	44,7	4800	6300	0,84	1,5	1	47
7312	BCB	60	130	31	90	65,5	4300	5600	1,85	2,1	1,1	56
7213	BCB	65	120	23	63,6	52,5	4300	5600	1,05	1,5	1	50
7313	BCB	65	140	33	101	75,3	4000	5300	2,25	2,1	1,1	60
7214	BCBM	70	125	24	69,1	57,8	4300	5600	1,15	1,5	1	53
7214	BCB	70	125	24	69,1	57,8	4300	5600	1,15	1,5	1	53
7314	BCB	70	150	35	114	86	3800	5000	2,75	2,1	1,1	64
7215	BCB	75	130	25	74,8	63,2	4000	5300	1,3	1,5	1	56
7315	BCB	75	160	37	125	97,5	3400	4500	3,3	2,1	1,1	68
7216	BCB	80	140	26	80,5	69,3	3800	5000	1,55	2	1	59
7316	BCB	80	170	39	135	109	3200	4300	3,9	2,1	1,1	72
7217	BCB	85	150	28	93,1	81,1	3400	4500	1,95	2	1	64
7317	BCB	85	180	41	145	122	3000	4000	4,6	3	1,1	76
7218	BCB	90	160	30	107	93,8	3200	4300	2,4	2	1	67
7218	BCBM	90	160	30	107	93,8	3200	4300	2,4	2	1	67
7318	BCB	90	190	43	156	135	2800	3800	5,4	3	1,1	80
7219	BCB	95	170	32	116	101	3000	4000	2,9	2,1	1,1	71
7319	BCBM	95	200	45	168	150	2600	3600	6,25	3	1,1	84
7220	BCBM	100	180	34	129	116	2800	3800	3,45	2,1	1,1	76
7320	BCBM	100	215	47	190	178	2400	3400	7,75	3	1,1	90
7222	BCBM	110	200	38	153	145	2400	3400	4,8	2,1	1,1	84
7322	BCBM	110	240	50	248	229	2000	3000	10,5	3	1,1	99
7324	BCBM	120	260	55	210	240	1750	3600	13,7	3	1,5	107

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#### APPLICATION CONSIDERATIONS

The proper selection and application of power transmission products and components, including the related area of product safety, is the responsibility of the customer. Operating and performance requirements and potential associated issues will vary appreciably depending upon the use and application of such products and components. The scope of the technical and application information included in this publication is necessarily limited. Unusual operating environments and conditions, lubrication requirements, loading supports, and other factors can materially affect the application and operating results of the products and components and the customer should carefully review its requirements. Any technical advice or review furnished by Regal Beloit America, Inc. and/or its affiliates ("Regal") with respect to the use of products and components is given in good faith and without charge, and Regal assumes no obligation or liability for the advice given, or results obtained, all such advice and review being given and accepted at customer's risk.

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