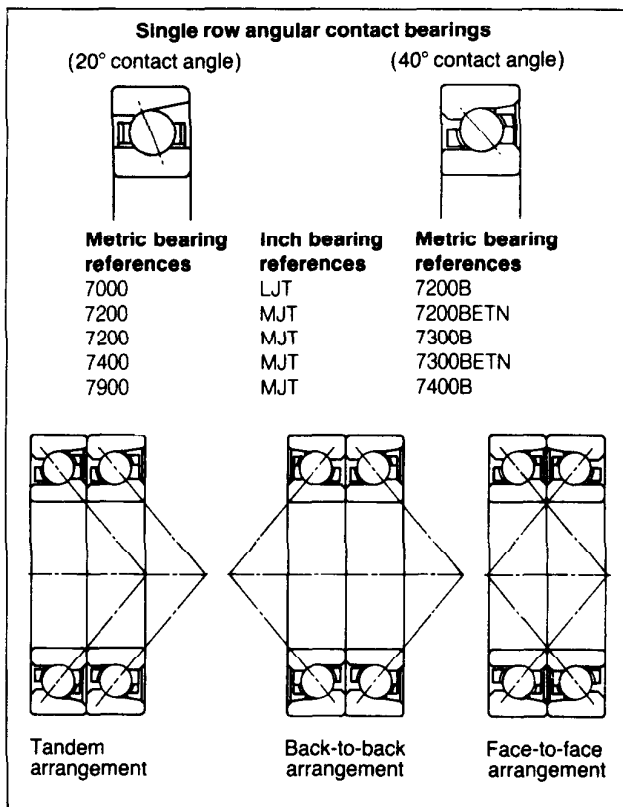


Single row angular contact ball bearings (including magneto type)

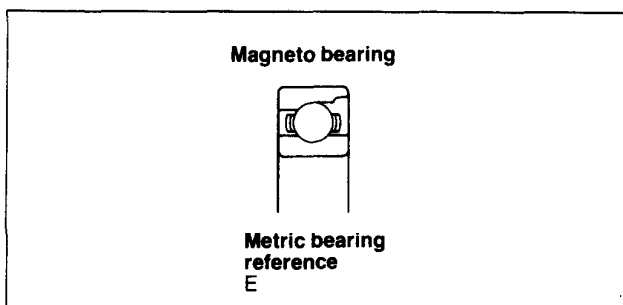
RHP *bearings*

These are single row radial ball bearings designed to give maximum thrust capability as required in machine tools, pumps, gearboxes, etc. They are single direction thrust bearings and, therefore, are usually found with an opposing bearing unless the axial load is always in one direction. They are most commonly used in pairs which are supplied as matched sets by the manufacturer. When assembled the axial play can be controlled even to the point of preloading the bearings and removing axial play.

It should be noted that different applications need different thrust angles of contact, the two most popular of which are 20° and 40°. RHP adds a suffix B to denote the 40° series. Single row angular contact bearings are also made to high precision limits suitable for machine tools, see page 206.



The Magneto type is identical except that the outer ring can be separated from the other components.



Suffixes

- A*/*** Special total axial clearance for a pair of bearings where */* represents the min/max values in micrometres.
- B** 40° angle of contact.
- DB** Back to back matched pair of angular contact bearings.
- DF** Face to face matched pair of angular contact bearings.
- DT** Tandem matched pair of angular contact bearings.
- DU** Universally faced matched pair of angular contact bearings.
- E** Inch bearings of 4 inches bore and over—not now used.
- E** High capacity metric bearings.
- H** Standard heavy axial interference (preload). Suffix always follows pairing suffix.
- J** Pressed steel cage.
- JB** Pressed steel cage located on the inner ring outside diameter.
- L** Standard light axial interference (preload). Suffix always follows pairing suffix.
- M** Machined brass cage located on the rolling elements.
- MB** Machined brass cage located on the inner ring outside diameter.
- P*/*** Special axial interference where */* represents the min/max values in micrometres.
- Q**** Special features where ** is the specification number.
- S** Standard axial clearance. Suffix always follows pairing suffix.
- S*** Special heat stabilised bearing where * gives the specification number.
- TB** Laminated phenolic resin cage located on the inner ring outside diameter.
- TN** Polyamide cage, ball located.
- TUEP** Super precision bearing—refer to page 206.
- U** Universally faced single bearing.
- V** Full complement of rolling elements—no cage.
- X2** 15° contact angle.
- X4** 30° contact angle.

Special designations

A BAC.... reference is used for a special design of single row angular contact ball bearing. In the past RHP has used other designations to identify special bearings of this type and these are listed on pages 6–8.

Normally, a special bearing should not be replaced by a standard bearing. Where advice is needed contact RHP or your local RI IP distributor.

Temperature range

–40°C to +125°C (+150°C peak).

Misalignment range

Single row angular contact bearings 0 to 0,0004 radians. Magneto bearings 0 to 0,0005 radians.

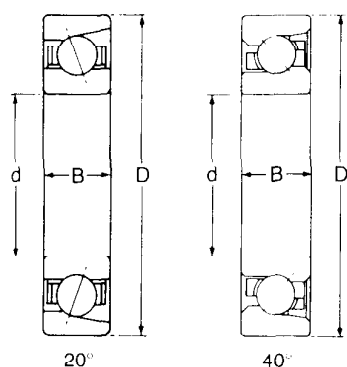
Cages—material options

Brass, steel or polyamide 6-6.

Single row angular contact ball bearings

d 10–30 mm

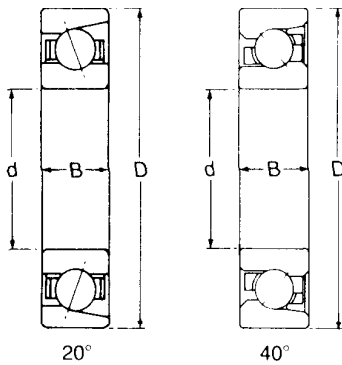
RHP bearings



Primary dimensions			Basic bearing	Basic load ratings		Limiting speeds		Mass
d	D	B		dynamic C _r	static C _{0r}	grease	oil	
mm				N		rev/min	kg	
10	26	8	7000	5 450	2 420	12 900	25 500	0,014
	30	9	7200	7 200	3 330	11 900	23 500	0,027
	30	9	7200B	6 350	2 720	11 900	23 500	0,03
	35	11	7300	10 100	4 510	10 800	21 500	0,059
	35	11	7300B	3 840	3 840	10 800	21 500	0,06
12	28	8	7001	5 950	2 870	11 900	23 500	0,018
	32	10	7201	8 200	3 840	11 000	22 000	0,041
	32	10	7201BETN	8 050	3 740	17 500	23 500	0,03
	37	12	7301	12 000	5 450	10 100	20 000	0,073
	37	12	7301BETN	10 900	4 960	16 000	22 000	0,06
15	32	9	7002	6 750	3 620	10 400	21 000	0,027
	35	11	7202	8 950	4 510	9 900	20 000	0,054
	35	11	7202BETN	8 700	4 360	16 000	21 500	0,04
	42	13	7302	12 400	6 930	8 900	18 000	0,095
	42	13	7302BETN	13 100	6 100	14 200	19 000	0,08
17	35	10	7003	7 100	4 070	9 600	19 000	0,036
	40	12	7203	12 200	6 280	8 900	18 000	0,073
	40	12	7203BETN	10 700	5 550	14 200	19 000	0,06
	47	14	7303	15 900	8 730	8 100	16 000	0,136
	47	14	7303BETN	16 600	8 300	12 900	17 500	0,11
20	42	12	7004	10 700	5 900	8 300	16 000	0,059
	47	14	7204	16 500	8 730	7 800	15 500	0,122
	47	14	7204BETN	15 400	8 200	12 400	17 000	0,10
	52	15	7304	18 900	9 740	7 300	14 600	0,177
	52	15	7304BETN	19 300	9 900	11 700	16 000	0,15
25	47	12	7005	12 500	7 890	7 300	14 600	0,073
	52	15	7205	16 900	10 100	6 900	13 800	0,150
	52	15	7205BETN	16 400	9 350	11 000	14 900	0,12
	62	17	7305	27 000	16 200	6 200	12 300	0,263
	62	17	7305BETN	25 000	13 400	9 900	13 300	0,22
	80	21	7405B	38 300	21 400	4 000	10 000	0,599
30	55	13	7006	16 100	10 700	6 300	12 600	0,104
	62	16	7206	25 300	15 500	5 900	11 700	0,231
	62	16	7206BETN	23 400	14 300	9 400	12 700	0,19
	72	19	7306	36 800	22 000	5 300	10 700	0,395
	72	19	7306BETN	33 700	19 400	8 500	11 500	0,33
	90	23	7406	51 500	29 400	4 500	9 900	0,793
	90	23	7406B	45 800	26 200	3 600	9 900	0,802

Single row angular contact ball bearings

d 35-100 mm



Primary dimensions			Basic bearing	Basic load ratings		Limiting speeds		Mass
d	D	B		dynamic C_r	static C_{or}	grease	oil	
mm				N		rev/min	kg	
35	62	14	7007	19 500	13 400	5 600	11 200	0,168
	72	17	7207	32 700	21 300	5 100	10 200	0,318
	72	17	7207BETN	30 300	19 100	8 200	11 000	0,26
	80	21	7307	43 700	27 700	4 800	9 500	0,517
	80	21	7307BETN	37 400	22 200	7 600	10 300	0,43
	100	25	7407	70 400	45 000	3 800	7 500	1,10
40	68	15	7008	20 900	15 500	5 100	10 100	0,209
	80	18	7208	41 600	27 600	4 600	9 100	0,417
	80	18	7208BETN	35 500	23 000	7 300	9 900	0,35
	90	23	7308	55 000	34 500	4 200	8 500	0,717
	90	23	7308BETN	49 300	29 900	6 800	9 100	0,60
	110	27	7408	81 200	50 200	3 600	7 300	1,40
45	75	16	7009	25 700	19 900	4 600	9 100	0,263
	85	19	7209	43 700	30 400	4 200	8 500	0,481
	85	19	7209BETN	37 200	25 400	6 800	9 100	0,40
	100	25	7309	65 500	42 000	3 800	7 600	0,971
	100	25	7309BETN	60 500	38 800	6 100	8 200	0,81
	120	29	7409	88 000	56 000	3 300	6 600	1,77
50	80	16	7010	25 500	20 300	4 200	8 500	0,286
	90	20	7210	45 700	33 400	3 900	7 900	0,531
	90	20	7210BETN	38 800	27 800	6 300	8 500	0,44
	110	27	7310	76 500	50 200	3 400	6 900	1,27
	110	27	7310BETN	72 000	47 100	5 500	7 400	1,05
	130	31	7410	107 000	75 400	2 900	5 000	2,10
55	90	18	7011	34 700	28 000	3 800	7 600	0,417
	100	21	7211	56 500	42 000	3 600	7 100	0,703
	100	21	7211BETN	45 900	33 700	5 700	7 700	0,58
	120	29	7311	88 500	59 200	3 100	6 300	1,61
	120	29	7311BETN	77 000	51 500	5 000	6 800	1,34
	140	33	7411	121 000	82 000	2 700	5 500	2,63
60	95	18	7012	36 800	31 500	3 600	7 100	0,449
	110	22	7212	65 500	48 200	3 200	6 500	0,912
	110	22	7212BETN	55 500	41 500	5 200	7 000	0,76
	130	31	7312	107 000	75 400	2 900	5 800	2,03
	130	31	7312BETN	94 000	64 000	4 600	6 200	1,68
	150	35	7412	137 000	98 700	2 500	4 900	3,24
65	100	18	7013	36 500	31 900	3 300	6 700	0,472
	120	23	7213	71 000	53 800	3 000	5 900	1,14
	120	23	7213BETN	66 000	50 000	4 700	6 400	0,95