



角接触球轴承

Angular Contact Ball Bearings



单列角接触球轴承的钢球与内外圈接触点相连的直线与径向方向的直线形成的角度就是接触角。既可以同时承受径向负荷和轴向负荷，也可以承受单向轴向负荷，极限转速较高。接触角越大，承受轴向负荷的能力越大。

单列角接触球轴承的接触角分别为 15° 、 25° 、 40° 三种。在承受径向负荷时，会引起附加轴向力，必须施加相应的反向轴向负荷来抵消它，因此一般需要成对使用。成对安装的轴承按其外圈不同端面的组合分为三种类型：背对背方式配置、面对面方式配置和串联方式配置。能承受以径向负荷为主的径向、轴向联合负荷，也可以承受单向径向负荷，除串联方式配置外，其它配置方式均可承受任一方向的轴向负荷。

双列角接触球轴承能承受以径向负荷为主的径向、轴向联合负荷和力矩负荷，接触角为 45° ，主要用于限制轴或外壳双向轴向位移的部件中。

四点接触球轴承为可分离型轴承，具有双半内圈或双半外圈型，其接触角为 35° 。在无负荷和单向径向负荷作用时，钢球与套圈呈四点接触；在单向轴向负荷作用下，钢球与套圈为两点接触。该类轴承可承受径向负荷和任一方向的轴向负荷或径向、轴向联合负荷，兼有单列和双列角接触球轴承的功能，负荷能力大，极限转速高。

角接触球轴承适用于高速旋转及要求高旋转精度的场合。主要应用于机床主轴、高频马达、燃气轮机、油泵、空气压缩机、印刷机械及其它装置。

Angular Contact Ball Bearings

The single row angular contact ball bearings are designed in such a way that the connecting line of its ball-contacted points with the raceway creates with the perpendicular line to the bearing axis an acute angle. The acute angle is called contact angle. These bearings can accommodate both radial & axial loads simultaneously, and axial loads in one direction, with limit rotational speeds higher. The greater the contact angle, the higher the axial load carrying capacity of the bearings.

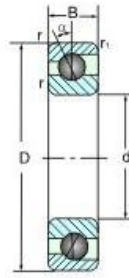
The standard angles of single row angular contact ball bearings are 15° , 25° , 40° . When the bearing is carrying radial load, there will be a component of force in the axial direction, which has to be counterbalanced by an equal axial load in opposite direction with the force. Therefore it is suggested that two of these bearings are applied in pairs. Pair mounted bearings are classified by duplex forms of outer ring faces into 3 types: back-to-back, face-to-face and tandem arrangements. The paired bearings can accommodate radial-axial combined loads among which reply mainly on radial capacity, and also can carry radial load in one direction. Except tandem form, the bearings in other 2 arrangements can carry axial loads in any direction.

Double row angular contact ball bearings, with contact angles 45° , can accommodate radial-axial combined loads among which give first place to radial load, and also can carry torque load. These bearings are mainly applied to the construction parts that limit the axis or housing axial displacement in double directions.

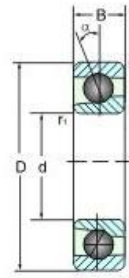
Four-point contact ball bearings are separable formed bearings with the structures of two half-inner-rings or two half-outer-rings, their contact angles are 35° . When the bearings carry zero load or radial load in one direction, their balls and rings have four contact points; or have two contact points while carrying axial load in one direction. These bearings can accommodate radial load and axial load in any direction or radial-axial combined loads. They have both single and double row angular contact ball bearings' functions, also have larger load carrying capacity and higher limit rotational speed.

Angular contact ball bearings are applied for the conditions where high-speed rotation and higher rotating precision are required. These bearings are mainly applied to machine tool spindles, high-frequency motors, gas turbines, oil pumps, air compressors, printing machines and other installations.

单列角接触球轴承



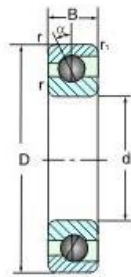
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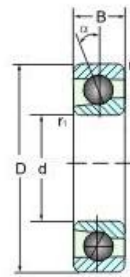
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轴承型号 Bearing Designations		主要尺寸 Principal Dimensions (mm)					额定负荷 Rated Loads (kN)		极限转速 Limiting Speed (r/min)		质量 Mass
旧型号 GPZ	新型号 SKF	d	D	B	r _{12min}	r _{34min}	动负荷 Dynamic C _r	静负荷 Static C _{0r}	脂 Grease	油 Oil	(=kg)
46118	7018ACM	90	140	24	1.5	0.6	52	66	4800	6700	1.39
66118	7018BM		140	24	1.5	0.6	45	57	4300	6200	1.43
36218	7218CM		160	30	2	1	94	105	6300	9000	2.47
36218J	7218C		160	30	2	1	94	105	6300	9000	2.09
46218	7218ACM		160	30	2	1	90	100	4500	6000	2.35
46218K	7218ACJ		160	30	2	1	90	100	3600	4800	2.16
46218J	7218AC		160	30	2	1	90	100	4500	6000	2.11
66218	7218BM		160	30	2	1	79	88	3200	4300	3.38
36318	7318CM		190	43	3	1.1	141	158	5200	6300	5.79
46318	7318ACM		190	43	3	1.1	135	152	3200	4300	6.18
66318	7318BM		190	43	3	1.1	120	135	2800	3800	5.26
136318	B7318C		190	43	3	1.1	132	145	4200	8800	4.90
66318F	7318B		190	43	3	1.1	120	135	2200	3000	4.94
46418	7418ACM		225	54	4	1.5	179	214	2900	4000	11.5
36219	7219CM	95	170	32	2.1	1.1	107	120	6000	8500	3.20
36219K	7219CJ		170	32	2.1	1.1	107	120	4800	6800	2.76
46219	7219ACM		170	32	2.1	1.1	102	114	4300	5600	2.97
46219K	7219ACJ		170	32	2.1	1.1	102	114	3400	4500	2.76
66219F	7219B		170	32	2.1	1.1	89	101	3000	4000	3.00
36319	7319CM		200	45	3	1.1	151	174	5000	6000	6.67
46319	7319ACM		200	45	3	1.1	145	167	3000	4000	6.67
46120J	7020AC	100	150	24	1.5	0.6	59	77	4500	6000	1.25
36220	7220CM		180	34	2.1	1.1	120	136	5600	8000	3.71
46220	7220ACM		180	34	2.1	1.1	114	130	4000	5300	3.74
66220	7220BM		180	34	2.1	1.1	100	114	2800	3800	4.00
46220J	7220AC		180	34	2.1	1.1	114	130	4000	5300	3.25

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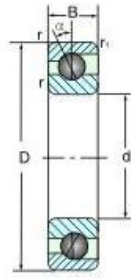
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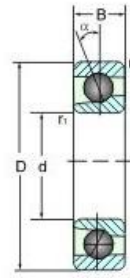
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旧型号 GPZ	新型号 SKF	d	D	B	r _{12min}	r _{34min}	动负荷 Dynamic Cr	静负荷 Static Cor	脂 Grease	油 Oil	(=kg)
46320	7320ACM		215	47	3	1.1	164	199	2800	3800	9.61
66320	7320BM		215	47	3	1.1	146	177	2400	3400	8.41
66320K	7320B		215	47	3	1.1	146	177	1900	2700	7.29
66320J	7320BT		215	47	3	1.1	146	177	1900	2700	7.58
66321	7321BM	105	225	49	3	1.1	155	193	2400	3200	9.51
46122K	7022ACJ	110	170	28	2	1	76	101	3200	4200	1.90
146122J	B7022AC		170	28	2	1	76	101	3200	4200	2.03
46122	7022ACM		170	28	2	1	76	101	4000	5300	2.41
46122J	7022AC		170	28	2	1	76	101	4000	5300	2.16
46722K	46722K		175	30	1.1	0.7	79	104	3200	4200	2.38
36222	7222CM		200	38	2.1	1.1	142	171	5000	7100	5.03
36222K	7222CJ		200	38	2.1	1.1	142	171	4000	5700	4.14
36222J	7222C		200	38	2.1	1.1	142	171	5000	7100	4.07
46222	7222ACM		200	38	2.1	1.1	135	164	3600	4800	4.81
46222J	7222AC		200	38	2.1	1.1	135	164	3600	4800	4.07
46222K	7222ACJ		200	38	2.1	1.1	135	164	2900	3800	4.14
66222	7222BM		200	38	2.1	1.1	118	144	2600	3400	3.95
46322	7322ACM		240	50	3	1.1	184	231	2600	3400	9.97
66322	7322BM		240	50	3	1.1	164	212	2200	3000	11.5
66322K	7322B		240	50	3	1.1	164	212	1800	2400	9.84
166322Q	B7322BQ1		240	50	3	1.1	164	212	1800	2400	11.4
46124	7024ACM	120	180	28	2	1	77	107	3600	5000	2.62
46124J	7024AC		180	28	2	1	77	107	3600	5000	2.31
46224	7224ACM		215	40	2.1	1.1	146	184	3200	4500	6.04
146224QT	B7224ACQ1/HASO		215	40	2.1	1.3	190	184	2600	3600	6.45
66324	7324B		260	55	3	1.1	193	262	1600	2200	14.6

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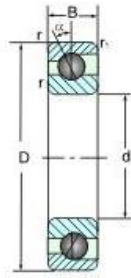
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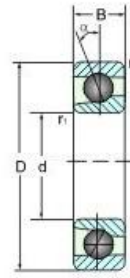
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旧型号 GPZ	新型号 SKF	d	D	B	r _{12 min}	r _{34 min}	动负荷 Dynamic C _r	静负荷 Static C _{0r}	脂 Grease	油 Oil	
136324	B7324CM		260	55	3	1.1	214	288	3400	4000	14.2
146324	B7324ACM		260	55	3	1.1	206	277	1800	2400	14.2
146324Q	B7324ACQ1		260	55	3	1.1	206	277	1800	2400	14.0
46324J	7324AC		260	55	3	1.1	204	269	2200	3000	13.7
36126J	7026C	130	200	33	2	1	99	137	5400	6500	3.33
36226	7226CM		230	40	3	1.1	159	209	4400	5200	7.28
46226	7226ACM		230	40	3	1.1	151	200	2400	3200	7.26
46226K	7226ACJ		230	40	3	1.1	151	200	1900	2600	6.23
66226	7226BM		230	40	3	1.1	131	175	2200	3000	7.56
66326F	7326B		280	58	4	1.5	192	268	1800	2400	17.9
46128J	7028AC	140	210	33	2	1	96	137	3200	4300	3.46
46128	7028ACM		210	33	2	1	96	137	3200	4300	4.14
36228	7228CM		250	42	3	1.1	178	243	4200	5000	8.83
46228	7228ACM		250	42	3	1.1	169	237	2200	3000	8.71
146228Q	B7228ACYQ1		250	42	3	1.1	167	235	2200	3000	8.70
66228	7228BM		250	42	3	1.1	147	207	2000	2800	8.59
66328	7328B		300	62	4	1.5	212	308	1600	2200	21.2
46130	7030ACM	150	225	35	2.1	1.1	118	170	2400	3000	4.80
46230	7230AC		270	45	3	1.1	186	268	2000	2800	12.1
146230	B7230AC		270	45	3	1.1	174	254	1600	2200	10.6
46330	7330AC		320	65	4	1.5	276	429	1800	2400	25.8
66330F	7330B		320	65	4	1.5	244	380	2300	2000	26.2
146132Q	B7032ACQ1	160	240	38	2.1	1.1	124	183	1800	2200	5.74
146132	B7032ACM		240	38	2.1	1.1	124	183	1800	2200	5.81
46132	7032ACM		240	38	2.1	1.1	124	183	1800	2200	5.95
36232	7232C		290	48	3	1.1	202	304	2900	3600	14.5

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轴承型号 Bearing Designations		主要尺寸 Principal Dimensions (mm)					额定负荷 Rated Loads (kN)		极限转速 Limiting Speed (r/min)		质量 Mass
旧型号 GPZ	新型号 SKF	d	D	B	r _{12min}	r _{34min}	动负荷 Dynamic Cr	静负荷 Static Cor	脂 Grease	油 Oil	(≈ kg)
46232	7232AC		290	48	3	1.1	192	289	1900	2600	14.5
66332F	7332B		340	68	4	1.5	259	409	1200	1600	30.8
46134Q	7034ACQ1	170	260	42	2.1	1.1	153	227	2000	2600	8.27
46134	7034AC		260	42	2.1	1.1	153	227	2000	2600	7.98
36234	7234C		310	52	4	1.5	247	389	2800	3400	17.2
46234	7234AC		310	52	4	1.5	235	371	1800	2400	17.2
146234	B7234AC		310	52	4	1.5	217	343	1500	1900	17.4
36236	7236C	180	320	52	4	1.5	256	418	2700	3200	17.9
46236	7236AC		320	52	4	1.5	244	399	1700	2200	17.9
66336	7336B		380	75	4	1.5	311	536	1300	1800	37.0
46138	7038AC	190	290	46	2.1	1.1	165	263	1800	2400	10.7
46140	7040AC	200	310	51	2.1	1.1	203	331	1700	2200	14.9
	7040ACN1		310	51	2.1	1.1	203	331	1700	2200	14.8
36240	7240C		360	58	4	1.5	279	487	2500	3000	25.2
46240	7240AC		360	58	4	1.5	265	462	1500	2000	25.2
66240	7240B		360	58	4	1.5	238	417	1300	1800	25.8
46244	7244AC	220	400	65	4	1.5	325	605	1100	1600	36.1
2046948	72948AC	240	320	48	2.1	1.1	142	250	1000	1500	10.0
66248	7248B		440	72	4	1.5	322	626	1000	1500	50.9
	71952AC	260	360	46	2.1	1.1	200	380	900	1400	13.8
	71956AC	280	380	46	2.1	1.1	206	405	800	1300	15.7
	B71957Y	285	380	46	2.1	1.1	188	366	800	1200	14.7
36172	7072CF3	360	540	82	5	1.3	409	965	600	1000	65.3
	71976B	380	520	65	4	1.5	273	630	500	800	42.1