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NFB

滚动轴承 产品手册

Bearing Catalog

Newfoton
纽福特轴承有限公司

Newfoton Bearing Co., Ltd. specializes in supplying various high quality bearings and related products. NFB provides optimal solutions with advanced & applicable technology, consistent & reliable bearing products, and professional & comprehensive services to customers.

NFB products range covers spherical roller bearings, cylindrical roller bearings, tapered roller bearing, deep groove ball bearings, angular contact ball bearings and related parts. From primary metals, mining, off-high way, paper, to cement, crane and elevator, NFB brand has been well recognized by customers in these key industries all around China as well as many overseas regions.

Brand Promise:

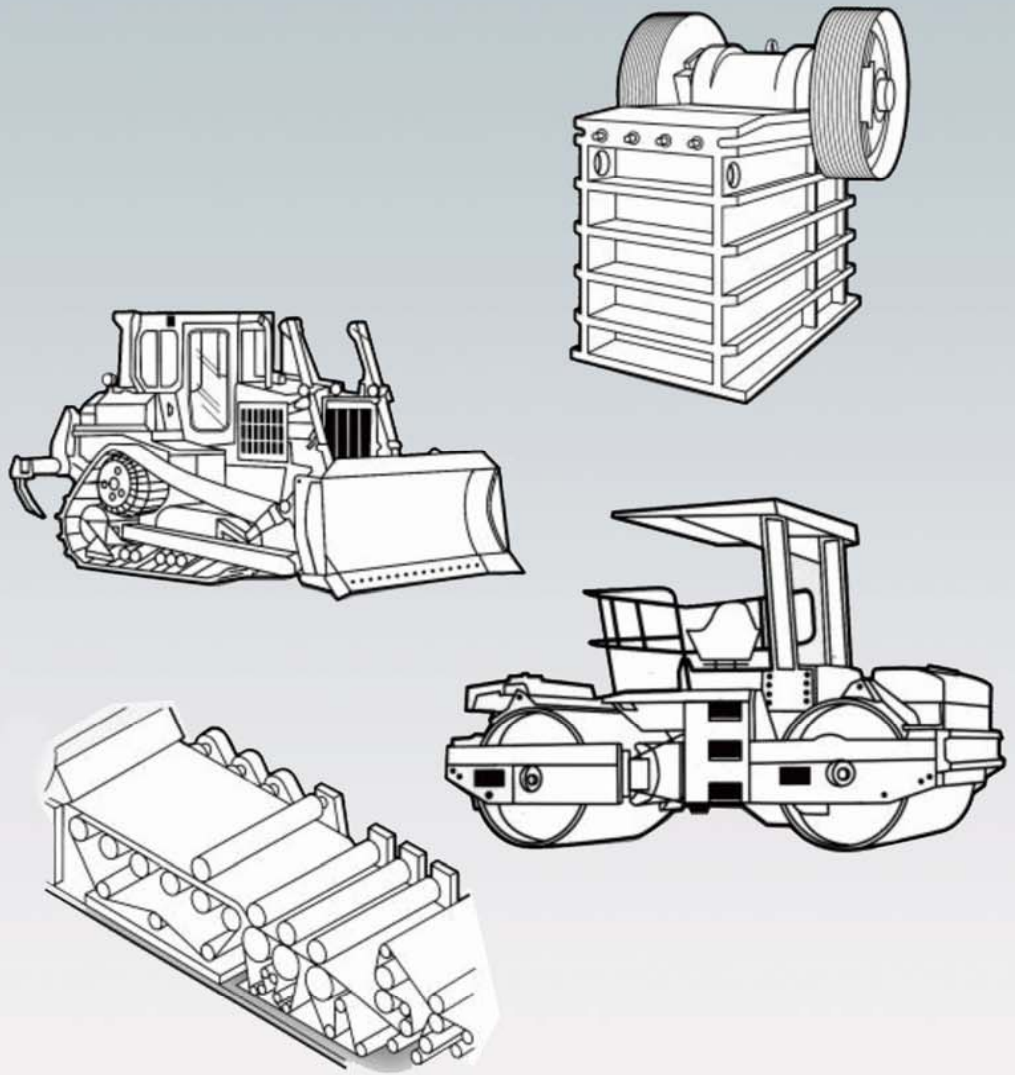
- Trustworthy and reliable
- Strict quality system
- Consistent reliable product
- Lean production, continuous improvement
- Responsiveness, short lead time
- Professional knowledge & application service
- Solution

纽福特轴承有限公司专业提供NFB品牌的高品质轴承及相关产品，以先进适用的技术、稳定可靠的产品和专业周到的服务为用户提供性价比更好的解决方案。

纽福特轴承主要产品包括调心滚子轴承、圆柱滚子轴承、圆锥滚子轴承、深沟球轴承、角接触球轴承以及相关零部件等。无论是冶金、矿山机械、工程机械、造纸行业，还是水泥、港口起重机械和电梯行业，NFB品牌都赢得了众多国内外客户的青睐。

品牌承诺：

- 诚信可靠
- 严谨的质量控制体系
- 产品品质稳定可靠
- 精益生产，持续改进
- 快速反应，交货期短
- 专业知识与应用服务
- 提供解决方案



Engineering

技术资料

Tolerances

Radial Ball, Spherical and Cylindrical Roller Bearings

Depending upon requirements, various degrees of bearing accuracy may be required.

Among the tolerance classes P0 applies to ball bearings for normal usage. The other classes P6, P5, P4, P2 apply to ball bearings of increased precision as required.

P0 applies to roller bearings for normal usage. P6 and P5 apply to roller bearings of increased precision as required.

公差

向心球、调心滚子和圆柱滚子轴承

不同的使用场合要求不同的轴承精度。

按公差等级，P0级适用于正常使用情况下的球轴承，其他P6、P5、P4、P2级适用于要求精度更高的球轴承。

P0级适用于正常使用情况下的滚子轴承，P6、P5级适用于要求精度更高的滚子轴承。

Tolerances Symbols-Inner Ring

$\triangle d_{mp}$ Single plane mean bore diameter deviation from basic bore diameter, i.e. bore tolerance for a basically tapered bore, $\triangle d_{mp}$ refers only to the theoretical small bore end of the bore.

K_{ia} Radial runout of assembled bearing inner ring, i.e., radial runout of raceway.

V_{Bs} Inner ring width variation, i.e. parallelism.

S_d Inner ring reference face runout with bore, i.e., squareness - bore to face.

S_{ia} Axial runout of assembled bearing inner ring, i. e., lateral (axial) runout of raceway.

$\triangle B_s$ Single inner ring width deviation from basic, i.e. width tolerance.

公差符号 – 内圈

$\triangle d_{mp}$ 单一平面平均内径的偏差（对于圆锥孔，$\triangle d_{mp}$仅指内孔的理论小端）

K_{ia} 成套轴承内圈的径向跳动

V_{Bs} 内圈宽度的变动量，即平行度

S_d 内圈基准面对内孔的跳动，即垂直度

S_{ia} 成套轴承内圈端面（背面）对滚道的跳动

$\triangle B_s$ 内圈单一宽度偏差，即宽度公差

Tolerances Symbols-Outer Ring

$\triangle D_{mp}$ Single plane mean outside diameter deviation from basic outside diameter, i.e.O.D. tolerance.

K_{ea} Radial runout of assembled bearing outer ring, i.e., radial runout of raceway.

V_{Cs} Outer ring width variation, i.e. parallelism.

S_D Outside cylindrical surface runout with outer ring reference face, i.e., squareness O.D. to face.

S_{ea} Axial runout of assembled bearing outer ring, i. e. lateral (axial) runout of raceway.

$\triangle C_s$ Outer ring width deviation from basic, i.e. width tolerance.

公差符号 – 外圈

$\triangle D_{mp}$ 单一平面内平均外径的偏差即外径公差

K_{ea} 成套轴承外圈的径向跳动

V_{Cs} 外圈宽度的变动量，即平行度

S_D 外t，即外径对端面的垂直度

S_{ea} 成套轴承外圈端面的轴向跳动，即滚道内部轴向跳动

$\triangle C_s$ 外圈单一宽度偏差，即宽度公差

Tolerances

Radial Ball, Spherical and Cylindrical Roller Bearings

Standard ISO Tolerances-Inner Ring

公差

向心球、调心滚子和圆柱滚子轴承

内圈公差

Bearing Bore 轴承内径 d		Bore Diameter[1] 内径[1] $\triangle d_{mp}$					Width Variation (Parallelism) 宽度变动量（平行度） V_{Bs}					Raceway Radial Runout 滚道径向跳动 K_{ia}					Face Runout With Bore (Squareness) 端面对内孔的跳动(垂直度) S_d			Raceway Axial Runout 滚道轴向跳动 S_{ia}			Width Inner & Outer Rings 内外圈宽度 $\triangle B_s$ & $\triangle C_s$	
over 超过	incl. 至	P0	P6	P5	P4	P2	P0	P6	P5	P4	P2	P0	P6	P5	P4	P2	P5	P4	P2	P5	P4	P2	P0,P6	P5,P4,P2
mm		μm					μm					μm					μm			μm			μm	
0	10	-8	-7	-5	-4	-2.5	15	15	5	2.5	1.5	10	6	4	2.5	1.5	7	3	1.5	7	3	1.5	-120	-40
10	18	-8	-7	-5	-4	-2.5	20	20	5	2.5	1.5	10	7	4	2.5	1.5	7	3	1.5	7	3	1.5	-120	-80
18	30	-10	-8	-6	-5	-2.5	20	20	5	2.5	1.5	13	8	4	3	2.5	8	4	1.5	8	4	2.5	-120	-120
30	50	-12	-10	-8	-6	-2.5	20	20	5	3	1.5	15	10	5	4	2.5	8	4	1.5	8	4	2.5	-120	-120
50	80	-15	-12	-9	-7	-4	25	25	6	4	1.5	20	10	5	4	2.5	8	5	1.5	8	5	2.5	-150	-150
80	120	-20	-15	-10	-8	-5	25	25	7	4	2.5	25	13	6	5	2.5	9	5	2.5	9	5	2.5	-200	-200
120	150	-25	-18	-13	-10	-7	30	30	8	5	2.5	30	18	8	6	2.5	10	6	2.5	10	7	2.5	-250	-250
150	180	-25	-18	-13	-10	-7	30	30	8	5	4	30	18	8	6	5	10	6	4	10	7	5	-250	-250
180	250	-30	-22	-15	-12	-8	30	30	10	6	5	40	20	10	8	5	11	7	5	13	8	5	-300	-300
250	315	-35	-25	-18	-	-	35	35	13	-	-	50	25	13	-	-	13	-	-	15	-	-	-350	-350
315	400	-40	-30	-23	-	-	40	40	15	-	-	60	30	15	-	-	15	-	-	20	-	-	-400	-400
400	500	-45	-35	-	-	-	50	45	-	-	-	65	35	-	-	-	-	-	-	-	-	-	-450	-
500	630	-50	-40	-	-	-	60	50	-	-	-	70	40	-	-	-	-	-	-	-	-	-	-500	-

The tolerances in this table are in conformity with GB/T 307. 1 -94 (equal to ISO 492-1986) radial bearing tolerance.

[1] d_{min} (the smallest single diameter of a bore) and d_{max} (the largest single diameter of a bore) may fall outside limits Shown $(d_{min}+d_{max})/2$ must be within outside diameter tabulated.

本表的公差适合于 GB/T 307.1-94(等同于ISO 492-1986)向心轴承公差。

[1] d_{min}(内径的最小值)和d_{max}(内径的最大值)可能超出范围，但$(d_{min}+d_{max})/2$必须符合要求。

Tolerances

Radial Ball, Spherical and Cylindrical Roller Bearings
Standard ISO Tolerances-Outer Ring

公差

向心球、调心滚子和圆柱滚子轴承
外圈公差

Bearing O.D. 轴承外径 D		Outside Diameter[1] 外径[1] ΔD_{mp}					Width Variation (Parallelism) 宽度变动量（平行度） V_{Cs}				Raceway Radial Runout 滚道径向跳动 K_{ea}					Raceway Axial Runout 滚道轴向跳动 S_{ea}			Outside Diameter Runout With Face (Squareness) 外径对端面的跳动(垂直度) S_D		
over 超过	incl. 至	P0	P6	P5	P4	P2	P0,P6	P5	P4	P2	P0	P6	P5	P4	P2	P5	P4	P2	P5	P4	P2
mm		μm					μm				μm					μm			μm		
18	30	-9	-8	-6	-5	-4	20	5	2.5	1.5	15	9	6	4	2.5	8	5	2.5	8	4	1.5
30	50	-11	-9	-7	-6	-4	20	5	2.5	1.5	20	10	7	5	2.5	8	5	2.5	8	4	1.5
50	80	-13	-11	-9	-7	-4	25	6	3	1.5	25	13	8	5	4	10	5	4	8	4	1.5
80	120	-15	-13	-10	-8	-5	25	8	4	2.5	35	18	10	6	5	11	6	5	9	5	2.5
120	150	-18	-15	-11	-9	-5	30	8	5	2.5	40	20	11	7	5	13	7	5	10	5	2.5
150	180	-25	-18	-13	-10	-7	30	8	5	2.5	45	23	13	8	5	14	8	5	10	5	2.5
180	250	-30	-20	-15	-11	-8	30	10	7	4	50	25	15	10	7	15	10	7	11	7	4
250	315	-35	-25	-18	-13	-8	35	11	7	5	60	30	18	11	7	18	10	7	13	8	5
315	400	-40	-28	-20	-15	-10	40	13	8	7	70	35	20	13	8	20	13	8	13	10	7
400	500	-45	-33	-23	-	-	45	15	-	-	80	40	23	-	-	23	-	-	15	-	-
500	630	-50	-38	-28	-	-	50	18	-	-	100	50	25	-	-	25	-	-	18	-	-

The tolerances in this table are in conformity with GB/T 307. 1 -94 (equal to ISO 492-1986) radial bearing tolerance.
[1] D_{min} (the smallest single diameter of an O.D.) and D_{max} (the largest single diameter of an O.D.) may fall outside limits Shown ($D_{min}+D_{max}$)/2 must be within outside diameter tabulated.

本表的公差适合于 GB/T 307.1-94(等同于ISO 492-1986)向心轴承公差。
[1] D_{min}(外径的最小值)和D_{max}(外径的最大值)可能超出范围，但($D_{min}+D_{max}$)/2必须符合要求。

Internal Clearances

The NFB radial clearance designations are the same as ISO symbols as follows:

C2 Snug fit; slight internal clearance; sometimes use to achieve a minimum of radial or axial play in an assembly. Example: 6208/C2

C0 Medium fit; internal clearance generally satisfactory with recommended shaft and housing fits shown on pages. Example: 6208

C3 Loose fit; considerable internal clearance required for applications involving press fits on both inner and outer rings, extra interference fits or temperature differentials. Example: 6208/C3

C4 Extra Loose fit; large amount of internal clearance for applications involving large interference fits or temperature differentials. Example: 6208/C4

C5 Extra-Extra Loose fit; extra large amount of internal clearance for applications with large temperature differential and interference fits on both rings. Example: 6208/C5

径向游隙

NFB径向游隙代号与ISO代号相同，说明如下：

C2 紧游隙，装配后得到的最小径向或轴向位移，如6208/C2

C0 基本游隙，一般能满足配合一节所推荐的与轴和座的配合，如6208

C3 松游隙，用于内圈和外圈都处于额外过盈配合或存在温差的场合，如6208/C3

C4 超松游隙，用于大过盈配合或大温差场合，如6208/C4

C5 特松游隙，用于内外圈都处于大过盈配合同时存在大温差场合，如6208/C5

Internal Clearances

Radial Spherical Roller Bearings

Radial Internal Clearance (RIC) is the radial play within a bearing. NFB RIC's allow a tight fit, with sufficient internal clearance after installation for normal operating conditions. Spherical Roller Bearings with tapered bore (K) require a slightly greater interference fit on the shaft than would a cylindrical bore bearing. The effect of this greater interference fit is a reduction of RIC. For tapered bore bearings, it is critical to select the RIC that allows for this reduction.

For example, bearing number 22328 K/C3 (140mm bore with C3 clearance) is to be mounted on a tapered shaft. By feeler gauging, RIC is found to be 0.178mm. The chart indicates that the proper fit will be obtained when RIC is reduced by 0.064 to 0.089mm. Clearance after mounting is computed; 0.178-0.076=0.102mm. The locknut should be tightened until RIC reaches 0.102mm.

Several factors influence RIC reduction. Inner rings pressed into solid steel shafts expand approximately 80% of the interference fit. Outer rings pressed into steel or cast iron housings reduce RIC by about 60%, of the interference fit. For RIC reduction on hollow shafts or non-steel materials consult NFB engineering dept.

NFB are supplied with NORMAL RIC, unless otherwise specified. The desired RIC code must be added to the bearing number, FOLLOWING ALL OTHER SUFFIXES. Min./max. values for each RIC are shown in the two adjacent columns directly beneath the selected RIC. Each single column represents a boundary between adjacent RIC's. For example, the minimum values shown for C5 are also the maximum values for C4; minimum values for C4 are also the maximum values for C3; etc.

径向游隙

调心滚子轴承

径向游隙（RIC）是轴承内部的径向游隙，NFB的径向游隙可以允许轴承在紧配合安装和正常运行条件下有足够的内部游隙。

调心滚子轴承如带有锥孔（K）则要求其配合时的过盈量比圆柱孔轴承的更大一点，更大的过盈量则引起RIC的减少，对于锥孔轴承，选择时要考虑到RIC的减少，这很重要。

例：22328K/C3轴承，（内径140mm，C3组游隙）是装在锥轴上的。用塞尺测量后，RIC为0.178mm。从表内查得在RIC减少0.064至0.089mm时可达到合适的配合。装配后的游隙（0.178–0.076=0.102mm），所以锁紧螺母必须旋至RIC达到0.102mm为止。

几种引起RIC减少的因素，内圈压入实心的钢轴上会引起内圈胀大约80%的过盈量。外圈压入钢或铸铁外壳上过盈配合会引起RIC减少约60%的过盈量，对于空心轴或非钢性的材料，RIC减少量请与我公司销售技术人员联系。

NFB轴承除特殊说明外，一般为正常的RIC，RIC代号应加在轴承基本代号后。

在相应的RIC下相邻两列内列出了RIC的最小、最大值。每一单列代表相邻RIC的界限。例如：C5最小值为C4最大值，C4最小值也是C3的最大值等。

Internal Clearances

Radial Spherical Roller Bearings

Radial Internal Clearance Limits

径向游隙

调心滚子轴承

径向游隙

Bore (nominal) 公称内径d		Cylindrical Bore 圆柱孔						Tapered Bore 圆锥孔							
			Normal (Standard) 基本组(标准)		C4				Normal (Standard) 基本组(标准)		C4			Recommended Reduction of RIC Due to Installation 建议安装中RIC的减少量	Recommended RIC after Installation[1] 建议安装后RIC[1]
			min. 最小	max. 最大	min. 最小	max. 最大			min. 最小	max. 最大	min. 最小	max. 最大			
over 超过	incl 至	C2 min. 最小	C2 max. 最大	C3 min. 最小	C3 max. 最大	C5 min. 最小	C5 max. 最大	C2 min. 最小	C2 max. 最大	C3 min. 最小	C3 max. 最大	C5 min. 最小	C5 max. 最大	min. 最小	max. 最大	min. 最小
mm		μm						μm						μm		μm
24	30	15	25	40	55	75	95	20	30	40	55	75	95	15	20	15
30	40	15	30	45	60	80	100	25	35	50	65	85	105	20	25	15
40	50	20	35	55	75	100	125	30	45	60	80	100	130	25	30	20
50	65	20	40	65	90	120	150	40	55	75	95	120	160	30	38	25
65	80	30	50	80	110	145	180	50	70	95	120	150	200	38	51	25
80	100	35	60	100	135	180	225	55	80	110	140	180	230	46	64	36
100	120	40	75	120	160	210	260	65	100	135	170	220	280	51	71	51
120	140	50	95	145	190	240	300	80	120	160	200	260	330	64	89	56
140	160	60	110	170	220	280	350	90	130	180	230	300	380	76	102	56
160	180	65	120	180	240	310	390	100	140	200	260	340	430	76	114	61
180	200	70	130	200	260	340	430	110	160	220	290	370	470	89	127	71
200	225	80	140	220	290	380	470	120	180	250	320	410	520	102	140	76
225	250	90	150	240	320	420	520	140	200	270	350	450	570	114	152	89
250	280	100	170	260	350	460	570	150	220	300	390	490	620	114	165	102
280	315	110	190	280	370	500	630	170	240	330	430	540	680	127	178	102
315	355	120	200	310	410	550	690	190	270	360	470	590	740	140	190	114
355	400	130	220	340	450	600	750	210	300	400	520	650	820	152	203	127
400	450	140	240	370	500	660	820	230	330	440	570	720	910	165	216	152
450	500	140	260	410	550	720	900	260	370	490	630	790	1,000	178	229	165
500	560	150	280	440	600	780	1,000	290	410	540	680	870	1,100	203	254	178
560	630	170	310	480	650	850	1,100	320	460	600	760	980	1,230	229	279	203
630	710	190	350	530	700	920	1,190	350	510	670	850	1,090	1,360	254	305	203
710	800	210	390	580	770	1,010	1,300	390	570	750	960	1,220	1,500	279	356	229
800	900	230	430	650	860	1,120	1,440	440	640	840	1,070	1,370	1,690	305	381	252
900	1,000	260	480	710	930	1,220	1,570	490	710	930	1,190	1,520	1,860	356	432	279

[1]For bearings with normal initial clearance

[1]为最初标准游隙轴承

Internal Clearances

Radial Ball Bearings

In the manufacture of ball bearings, it is standard practice to assemble rings and balls with a specified internal clearance. This characteristic is necessary to absorb the effect of press fitting the bearing rings at mounting.
Internal clearances sometimes are utilized to compensate for thermal expansion of bearings, shafts and housings or to provide a contact angle in the bearing after mounting. Internal clearance can be measured either by gauging radially or axially. Radial measurement is accepted as the more significant characteristic because it is more directly related to shaft and housing fits.

Radial Internal Clearance

The radial internal clearance of a radial contact ball bearing can be defined as the average outer ring raceway diameter minus the average inner ring raceway diameter minus twice the ball diameter. Radial internal clearance can be measured mechanically by moving the outer ring horizontally as pictured in Figure 1. The total movement of the outer ring when the balls are properly seated in the raceways determines the radial internal clearance. Several readings should be taken using different circumferential orientations of the rings in order to get a comprehensive average reading.

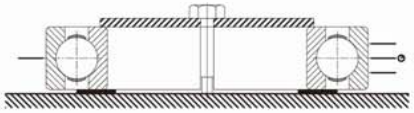


Figure1 图1

径向游隙

向心球轴承

在球轴承的制造过程中，球和内外圈之间是按一定的游隙来进行组合的。这个性能有助于减少轴承内外圈的挤压装配的影响。
游隙还可以用来补偿轴承、轴及外壳热膨胀的影响，也可用于使轴承装配后产生一个接触角。
可采用专用仪器测量轴承的径向和轴向游隙。
径向测量更富有参考价值，因为它与轴及外壳直接相关。

径向游隙

向心球轴承的径向游隙就是外圈滚道直径减去内圈滚道直径再减二倍的球径。
径向游隙的测量在机械上如图1所示，水平推动外圈，当钢球正确在滚道中到位后，外圈的总移动量就是径向游隙．可以在不同的圆周位置测几个点以得到一个平均读数。

Internal Clearances

Limits for Radial Internal Clearance of Single Row, Radial Contact Ball Bearings Under No Load
(Applies to Bearings of P0, P6, P5, P4, P2 Tolerances)

径向游隙

无负荷情况下单列向心球轴承径向游隙范围
（适用于P0, P6, P5, P4, P2级公差等级的轴承）

Basic Bore Diameter 公称内径d		Acceptance Limits 范围		Acceptance Limits 范围		Acceptance Limits 范围		Acceptance Limits 范围		Acceptance Limits 范围	
		C2		C0		C3		C4		C5	
over 超过	incl 至	min. 最小	max. 最大	min. 最小	max. 最大	min. 最小	max. 最大	min. 最小	max. 最大	min. 最小	max. 最大
mm		μm		μm		μm		μm		μm	
2.5	10	0	7	2	13	8	23	14	29	20	37
10	18	0	9	3	18	11	25	18	33	25	45
18	24	0	10	5	20	13	28	20	36	28	48
24	30	1	11	5	20	13	28	23	41	30	53
30	40	1	11	6	20	15	33	28	46	40	64
40	50	1	11	6	23	18	36	30	51	45	73
50	65	1	15	8	28	23	43	38	61	55	90
65	80	1	15	10	30	25	51	46	71	65	105
80	100	1	18	12	36	30	58	53	84	75	120
100	120	2	20	15	41	36	66	61	97	90	140
120	140	2	23	18	48	41	81	71	114	105	160
140	160	2	23	18	53	46	91	81	130	120	180
160	180	2	25	20	61	53	102	91	147	135	200
180	200	2	30	25	71	63	117	107	163	150	230
200	225	2	35	25	85	75	140	125	195	175	265
225	250	2	40	30	95	85	160	145	225	205	300
250	280	2	45	35	105	90	170	155	245	225	340
280	315	2	55	40	115	100	190	175	270	245	370
315	355	3	60	45	125	110	210	195	300	275	410
355	400	3	70	55	145	130	240	225	340	315	460
400	450	3	80	60	170	150	270	250	380	350	510
450	500	3	90	70	190	170	300	280	420	390	570
500	560	10	100	80	210	190	330	310	470	440	630
560	630	10	110	90	230	210	360	340	520	490	690
630	710	20	130	110	260	240	400	380	570	540	760
710	800	20	140	120	290	270	450	430	630	600	840
800	900	20	160	140	320	300	500	480	700	670	940
900	1000	20	170	150	350	330	550	530	770	740	1040
1000	1120	20	180	160	380	360	600	580	850	820	1150
1120	1250	20	190	170	410	390	650	630	920	890	1260

Internal Clearances

Cylindrical Roller Bearings Radial Internal Clearance Limits

径向游隙

圆柱滚子轴承径向游隙

Basic Bore Diameter 公称内径d		Acceptance Limits 范围		Acceptance Limits 范围		Acceptance Limits 范围		Acceptance Limits 范围		Acceptance Limits 范围	
		C2		C0		C3		C4		C5	
over 超过	incl 至	min. 最小	max. 最大	min. 最小	max. 最大	min. 最小	max. 最大	min. 最小	max. 最大	min. 最小	max. 最大
mm		μm		μm		μm		μm		μm	
-	10	0	25	20	45	35	60	50	75	-	-
10	24	0	25	20	45	35	60	50	75	65	90
24	30	0	25	20	45	35	60	50	75	70	95
30	40	5	30	25	50	45	70	60	85	80	105
40	50	5	35	30	60	50	80	70	100	95	125
50	65	10	40	40	70	60	90	80	110	110	140
65	80	10	45	40	75	65	100	90	125	130	165
80	100	15	50	50	85	75	110	105	140	155	190
100	120	15	55	50	90	85	125	125	165	180	220
120	140	15	60	60	105	100	145	145	190	200	245
140	160	20	70	70	120	115	165	165	215	225	275
160	180	25	75	75	125	120	170	170	220	250	300
180	200	35	90	90	145	140	195	195	250	275	330
200	225	45	105	105	165	160	220	220	280	305	365
225	250	45	110	110	175	170	235	235	300	330	395
250	280	55	125	125	195	190	260	260	330	370	440
280	315	55	130	130	205	200	275	275	350	410	485
315	355	65	145	145	225	225	305	305	385	455	535
355	400	100	190	190	280	280	370	370	460	510	600
400	450	110	210	210	310	310	410	410	510	565	665
450	500	110	220	220	330	330	440	440	550	625	735

Dynamic Load Ratings and Life Calculations

Rating Life

Life: For an individual rolling bearing, the number of revolutions which one of the bearing rings makes in relation to the other ring before the first evidence of fatigue develops in the material of one of the rings or rolling elements.

Basic rating life: For an individual rolling bearing, or a group of apparently identical rolling bearings, operating under the same conditions. the life associated with 90% reliability, with contemporary, commonly used material and manufacturing quality, and under conventional operating conditions. Basic rating life L_{10} can be calculated with following formulas:

For radial ball bearing $L_{10}=(Cr/Pr)^3$ in million revolutions

For radial roller bearing $L_{10}=(Cr/Pr)^{10/3}$ in million revolutions

Here Cr, is basic dynamic radial load rating. in newtons.

Pr, is dynamic equivalent radial load. in newtons.

Adjusted rating life: The rating life obtained by adjustment of basic rating life for a desired reliability level, special bearing properties and specific operating conditions. Adjusted rating life can be calculated with following formula: $L_{na}=a_1a_2a_3L_{10}$

Here a_1 is life adjustment factor for reliability. Its values are given in right table.

a_2 is life adjustment factor for special bearing properties. a_2=1 for the bearings commonly ordered from NFB. When the bearing with a_2>1 is desired, please specially order from NFB under guidance of the Sales Engineer.

a_3 is life adjustment factor for operating conditions. Operating conditions taken into account here include the adequacy of lubrication, presence of foreign matter, and conditions causing changes in material properties, for example, high temperature causing reduced hardness. Where the negative influence of above mentioned would not exist, a_3 could be equal to 1, otherwise values of a_3 less than 1 should be considered. Values of a_3 greater than 1 may be considered only where the lubrication conditions are so favorable that the probability of failure caused by surface distress is greatly reduced.

额定动负荷和寿命计算

额定寿命

寿命：在一套滚动轴承的套圈或滚动体的材料中出现的第一个疲劳扩展迹象之前，一个套圈相对于另一个套圈运行的转数。由于同样的轴承在同样的工作条件下的疲劳寿命具有离散性，所以应该用统计方法来定义轴承的寿命。

基本额定寿命：对于一套滚动轴承或一组在同一条件下运转的近于相同的滚动轴承，该寿命是与90%的可靠度，常用的材料和加工质量及常规的运转条件相关的寿命。基本额定寿命L_{10}按下式计算：

向心球轴承： $L_{10}=(Cr/Pr)^3$ 单位：百万转

向心滚子轴承：$L_{10}=(Cr/Pr)^{10/3}$ 单位：百万转

Cr——径向基本额定动负荷，单位：N

Pr——径向当量动负荷，单位：N

修正额定寿命：考虑所要求的可靠性水平、特殊的轴承性能和具体的工作条件，而对基本额定寿命进行修正所得到的额定寿命。修正额定寿命$L_{na}=a_1a_2a_3L_{10}$

上式中，a_1可靠性寿命修正系数，其数值列于下表

Reliability 可靠度%	90	95	96	97	98	99
a_1	1	0.62	0.53	0.44	0.33	0.21

a_2为特殊轴承性能寿命修正系数，对于从NFB一般订购的轴承，a_2取为1。若需要a_2>1，请联络技术部门特殊订货。

a_3特殊运行条件寿命修正系数。该系数考虑的运行条件包括润滑是否充分，外来有害物质及其他会引起材料性能改变的条件，如高温造成硬度降低等。无上述不利影响时，a_3=1。如有上述不利影响a_3<1。只有当润滑条件非常理想而大大降低表面引起的疲劳破坏概率时，才能考虑a_3值大于1。

Dynamic Load Ratings and Life Calculations

Basic Dynamic Load Rating

Basic dynamic radial load rating Cr: That constant stationary radial load which a rolling bearing could theoretically endure for a basic rating life of one million revolutions. In the case of a single row angular contact bearing, the radial load rating refers to the radial component of that load which causes a purely radial displacement of the bearing ring in relation to each other.

The basic dynamic radial load ratings of various bearings can be obtained from the catalog.
Basic dynamic radial load rating for bearing combinations. For two similar row radial ball or roller bearings mounted side by side on the same shaft such that they operate as a unit (paired mounting), the basic radial load rating of the pair is the basic radial load rating of the single bearing multiplied by 1.6 for ball bearing or by 1.7 for roller bearing.

Dynamic Equivalent Load

Dynamic equivalent radial load Pr: That constant stationary radial load under the influence of which a rolling bearing would have the same life as it will attain under the actual load conditions.
The dynamic equivalent radial load Pr, for radial ball bearing and spherical roller bearing, under constant radial and axial loads, is given by

$$Pr = X\,Fr + Y\,Fa$$

Here Fr is radial component of actual bearing load, in newtons.

Fa is axial component of actual bearing load, in newtons.

X is dynamic radial load factor

Y is dynamic axial load factor.

Values of X and Y for radial ball bearings are listed in Table3. For spherical roller bearing X and Y are variable on two different cinditions:

X=1, $Y=Y_1$, when $Fa/Fr \le e$

X=0.67, $Y=Y_2$. when $Fa/Fr > e$

Values of e, Y_1, Y_2 are given in the catalogue.
For cylindrical roller bearing, under radial load only Pr=Fr

Note: The ability of cylindrical roller bearing to support axial loads varies considerably with bearing design execution. The bearing user should therefore consult Technology Section of NFB for recommendations regarding the evaluation of equivalent load and life in case where cylindrical roller bearing is subjected to axial load.

额定动负荷和寿命计算

基本额定动负荷

径向基本额定负荷Cr指一套轴承假设能承受的径向负荷，在这负荷作用下的基本额定寿命为1百万转。对于单列角接触轴承，该负荷是指引起轴承套圈相互间产生纯径向位移的负荷的径向分量。各种轴承的径向基本额定动负荷可从本样本内查得。
轴承组配时的基本额定动负荷。
两套相同的单列径向球或滚子轴承并排安装在同一轴上，组成一个整体（成对安装），这一轴承组的径向基本额定负荷是单个这种轴承的基本额定负荷的1.6倍（对球轴承）或1.7倍（对滚子轴承）。

当量动负荷

径向当量动负荷Pr是指一恒定的径向负荷，在该负荷作用下轴承具有与实际负荷作用下相同的寿命。
对于向心球轴承和调心滚子轴承，在不变的径向和轴向载荷作用下，径向当量动负荷Pr=X Fr+Y Fa
Fr为轴承实际载荷的径向分量，单位：N
Fa为轴承实际载荷的轴向分量，单位：N
X为径向动载荷系数
Y为轴向动载荷系数
向心球轴承的X，Y值列于表3。
对调心滚子轴承：当$Fa/Fr \le e$时，X=1，$Y=Y_1$，
当$Fa/Fr > e$时，X=0.67，$Y=Y_2$，
e，Y_1，Y_2值在本样本中给出
对圆柱滚子轴承，只承受径向载荷时，径向当量动负荷
Pr=Fr

注：圆柱滚子轴承承受轴向载荷能力与轴承结构和工艺关系极大。圆柱滚子轴承需要承受轴向载荷时，用户可与NFB技术部门联系询问有关当量负荷和寿命的估计值。

Dynamic Load Ratings and Life Calculations

Dynamic Equivalent Load

Table3–Values of X and Y for radial ball bearings

额定动负荷和寿命计算

当量动负荷

表3：向心球轴承的X和Y值

Bearing Type 轴承类型		"Relative Axial Load" [1),2)] "相对轴向载荷" [1),2)]		Single Row Bearings 单列轴承				Double Row Bearings 双列轴承				e
				Fa/Fr≤e		Fa/Fr>e		Fa/Fr≤e		Fa/Fr>e		
				X	Y	X	Y	X	Y	X	Y	
Radial Contact Groove Ball Bearings 径向接触沟型球轴承		$\frac{f_0 Fa}{Cor}$ [3)]	$\frac{Fa}{iZD_w^2}$									
		0.172	0.172				2.3				2.3	0.19
		0.345	0.345				1.99				1.99	0.22
		0.689	0.689				1.71				1.71	0.26
		1.03	1.03				1.55				1.55	0.28
		1.38	1.38	1	0	0.56	1.45	1	0	0.56	1.45	0.3
		2.07	2.07				1.31				1.31	0.34
		3.45	3.45				1.15				1.15	0.38
		5.17	5.17				1.04				1.04	0.42
		6.89	6.89				1				1	0.44
Angular Contact Groove Ball Bearings 角接触沟型球轴承		$\frac{f_0 iFa}{Cor}$ [3)]	$\frac{Fa}{ZD_w^2}$									
	α=15°	0.178	0.172				1.47		1.65		2.39	0.38
		0.357	0.345				1.4		1.57		2.28	0.4
		0.714	0.689				1.3		1.46		2.11	0.43
		1.07	1.03				1.23		1.38		2	0.46
		1.43	0.38	1	0	0.44	1.19	1	1.34	0.72	1.93	0.47
		2.14	2.07				1.12		1.26		1.82	0.5
		3.57	3.45				1.02		1.14		1.66	0.55
		5.35	5.17				1		1.12		1.63	0.56
		7.14	6.89				1		1.12		1.63	0.56
	α=25°	-	-			0.41	0.87		0.92	0.67	1.41	0.68
	α=40°	-	-			0.35	0.57		0.55	0.57	0.93	1.14

[1)] Permissible maximum value depends on the bearing design (internal clearance and raceway groove depth). Use the first or second column depending on available information.
[2)] Values of X, Y and e for intermediate "Relative Axial Load" and/or contact angles are obtained by linear interpolation.
[3)] For values of f_0 see ISO 76.

[1)] 允许的最大值决定于轴承设计（游隙与滚道沟深度）。根据已知条件确定采用第一栏或第二栏的值。
[2)] 对于"相对轴向载荷"或接触角的中间值，X、Y和e值可由线性内插法求得。
[3)] f_0值参见GB/T4662(ISO 76)

Fits

Shaft and Housing Fits

Radial Ball, Spherical, Cylindrical Roller Bearings

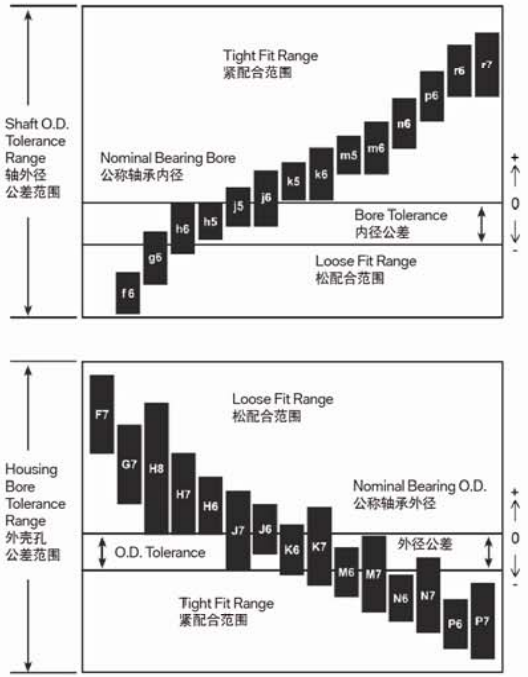
Below is a graphical representation of shaft and housing fit selection for these bearings conforming to ISO standard. The bars designated by g6, h6 etc represent shaft/housing diameter and tolerance ranges to achieve various loose and interference fits required for various load and ring rotation conditions.

配合

轴和外壳的配合

向心球、调心滚子、圆柱滚子轴承

下图是符合ISO标准的轴承与轴和外壳的配合选择。这些标有g6、h6等的块标表示在不同负荷和套圈旋转的情况下，为满足不同松和紧配合的要求，轴和外壳的直径和公差范围。



Fits

Shaft and Housing Fits

Radial Ball, Spherical, Cylindrical Roller Bearings

Tolerance and shaft diameters shown as variance from nominal bearing bore, using the symbols in the graph. All data except nominal dimensions are thousandths of a millimeter.For particular operating conditions of radial ball, spherical and cylindrical roller bearings, see pages from 23 to 26

配合

轴和外壳的配合

向心球、调心滚子、圆柱滚子轴承

表内所示的孔公差和各种公差符号下的轴直径是相对于公称轴承内径的偏差。配合一栏列出该种配合可能出现的最紧和最松状态下的数值，“L”代表松或间隙，“T”代表紧或过盈。除公称尺寸外，其余数据均以微米为单位。

有关向心球、调心滚子和圆柱滚子轴承在特定工作条件下的配合见23到26页。

Shaft 轴

Bearing Bore 轴承内径			f6			g6			h6			h5			j5			j6			k5			k6		
Nominal(max.) 公称(最大)		Tol. 公差	Shaft Dia. 轴直径		Fit 配合	Shaft Dia. 轴直径		Fit 配合	Shaft Dia. 轴直径		Fit 配合	Shaft Dia. 轴直径		Fit 配合	Shaft Dia. 轴直径		Fit 配合	Shaft Dia. 轴直径		Fit 配合	Shaft Dia. 轴直径		Fit 配合	Shaft Dia. 轴直径		Fit 配合
over 超过	incl 至	0 to 0 至	max. 最大	min. 最小		max. 最大	min. 最小		max. 最大	min. 最小		max. 最大	min. 最小		max. 最大	min. 最小		max. 最大	min. 最小		max. 最大	min. 最小		max. 最大	min. 最小	
mm		μm	μm			μm			μm			μm			μm			μm			μm			μm		
3	6	-8	-10	-18	18L 2L	-4	-12	12L 4T	0	-8	8L 8T	0	-5	5L 8T	+3	-2	2L 11T	+6	-2	2L 14T	+6	+1	1T 14T			
6	10	-8	-13	-22	22L 5L	-5	-14	14L 3T	0	-9	9L 8T	0	-6	6L 8T	+4	-2	2L 12T	+7	-2	2L 15T	+7	+1	1T 15T			
10	18	-8	-16	-27	27L 8L	-6	-17	17L 2T	0	-11	11L 8T	0	-8	8L 8T	+5	-3	3L 13T	+8	-3	3L 16T	+8	+1	1T 17T			
18	30	-10	-20	-33	33L 10L	-7	-20	20L 3T	0	-13	13L 10T				+5	-4	4L 15T	+9	-4	4L 19T	+11	+2	2T 21T			
30	50	-12	-25	-41	41L 13L	-9	-25	25L 3T	0	-16	16L 12T				+6	-5	5L 18T	+11	-5	5L 23T	+13	+2	2T 25T	+18	+2	2T 30T
50	80	-15	-30	-49	49L 15L	-10	-29	29L 5T	0	-19	19L 15T				+6	-7	7L 21T	+12	-7	7L 27T	+15	+2	2T 30T	+21	+2	2T 36T
80	120	-20	-36	-58	58L 16L	-12	-34	34L 8T	0	-22	22L 20T				+6	-9	9L 26T	+13	-9	9L 33T	+18	+3	3T 38T	+25	+3	3T 45T
120	180	-25	-43	-68	68L 18L	-14	-39	39L 11T	0	-25	25L 25T				+7	-11	11L 32T	+14	-11	11L 39T	+21	+3	3T 46T	+28	+3	3T 53T
180	200	-30	-50	-79	79L 20L	-15	-44	44L 15T	0	-29	29L 30T				+7	-13	13L 37T	+16	-13	13L 46T	+24	+4	4T 54T			
200	225	-30	-50	-79	79L 20L	-15	-44	44L 15T	0	-29	29L 30T				+7	-13	13L 37T	+16	-13	13L 46T	+24	+4	4T 54T			
225	250	-30	-50	-79	79L 20L	-15	-44	44L 15T	0	-29	29L 30T				+7	-13	13L 37T	+16	-13	13L 46T	+24	+4	4T 54T			
250	280	-35	-56	-88	88L 21L	-17	-49	49L 18T	0	-32	32L 35T				+7	-16	16L 42T	+16	-16	16L 51T	+27	+4	4T 62T			
280	315	-35	-56	-88	88L 21L	-17	-49	49L 18T	0	-32	32L 35T				+7	-16	16L 42T	+16	-16	16L 51T	+27	+4	4T 62T			

The tolerances in this table are in conformity with ISO standard

表中公差与ISO标准一致

Fits

Shaft and Housing Fits

Radial Ball, Spherical, Cylindrical Roller Bearings

Tolerance and shaft diameters shown as variance from nominal bearing bore, using the symbols in the graph. All data except nominal dimensions are thousandths of a millimeter. For particular operating conditions of radial ball, spherical and cylindrical roller bearings, see pages from 23 to 26

配合

轴和外壳的配合

向心球、调心滚子、圆柱滚子轴承

表内所示的孔公差和各种公差符号下的轴直径是相对于公称轴承内径的偏差。配合一栏列出该种配合可能出现的最紧和最松状态下的数值，“L”代表松或间隙，“T”代表紧或过盈。除公称尺寸外，其余数据均以微米为单位。有关向心球、调心滚子和圆柱滚子轴承在特定工作条件下的配合见23到26页。

Shaft 轴

Bearing Bore 轴承内径			m5		m6		n6		P6		r6		r7	
Nominal(max.) 公称(最大)		Tol. 公差	Shaft Dia. 轴直径	Fit 配合	Shaft Dia. 轴直径	Fit 配合	Shaft Dia. 轴直径	Fit 配合	Shaft Dia. 轴直径	Fit 配合	Shaft Dia. 轴直径	Fit 配合	Shaft Dia. 轴直径	Fit 配合
over 超过	incl 至	0 to 0 至	max. 最大 min. 最小		max. 最大 min. 最小		max. 最大 min. 最小		max. 最大 min. 最小		max. 最大 min. 最小		max. 最大 min. 最小	
mm		μm	μm		μm		μm		μm		μm		μm	
3	6	-8	+9 +4	4T 17T										
6	10	-8	+12 +6	6T 20T										
10	18	-8	+15 +7	7T 23T										
18	30	-10	+17 +8	8T 27T										
30	50	-12	+20 +9	9T 32T	+25 +9	9T 37T								
50	80	-15	+24 +11	11T 39T	+30 +11	11T 45T	+39 +20	20T 54T						
80	120	-20	+28 +13	13T 48T	+35 +13	13T 55T	+45 +23	23T 65T	+59 +37	37T 79T				
120	180	-25	+33 +15	15T 58T	+40 +15	15T 65T	+52 +27	27T 77T	+68 +43	43T 93T	+90 +65	65T 115T		
180	200	-30	+37 +17	17T 67T	+46 +17	17T 76T	+60 +31	31T 90T	+79 +50	50T 109T	+106 +77	77T 136T		
200	225	-30	+37 +17	17T 67T	+46 +17	17T 76T	+60 +31	31T 90T	+79 +50	50T 109T	+109 +80	80T 139T	+126 +80	80T 156T
225	250	-30	+37 +17	17T 67T	+46 +17	17T 76T	+60 +31	31T 90T	+79 +50	50T 109T	+113 +84	84T 143T	+130 +84	84T 160T
250	280	-35	+43 +20	20T 78T	+52 +20	20T 87T	+66 +34	34T 101T	+88 +56	56T 123T	+126 +94	94T 161T	+146 +94	94T 181T
280	315	-35	+43 +20	20T 78T	+52 +20	20T 87T	+66 +34	34T 101T	+88 +56	56T 123T	+130 +98	98T 165T	+150 +98	98T 185T

Fits

Shaft and Housing Fits

Radial Ball, Spherical, Cylindrical Roller Bearings

Tolerance and housing bore shown as variance from nominal bearing O.D. All data except nominal dimensions are thousandths of a millimeter. For particular operating conditions of radial ball, spherical and cylindrical roller bearings, see pages from 23 to 26

配合

轴和外壳的配合

向心球、调心滚子、圆柱滚子轴承

表内所示的外径公差和各种公差符号下的轴直径是相对于公称轴承内径的偏差。配合一栏列出该种配合可能出现的最紧和最松状态下的数值，“L”代表松或间隙，“T”代表紧或过盈。除公称尺寸外，其余数据均以微米为单位。有关向心球、调心滚子和圆柱滚子轴承在特定工作条件下的配合见23到26页。

Housing 外壳

Bearing Bore 轴承外径			F7		G7		H8		H7		H6		J6		J7		K6	
Nominal (max.) 公称(最大)		Tol. 公差	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合
over 超过	incl 至	0 to 0 至	min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大	
mm		μm	μm		μm		μm		μm		μm		μm		μm		μm	
10	18	-8	+16 +34	16L 42L	+6 +24	6L 32L	0 +27	0L 35L	0 +18	0L 26L	0 +11	0L 19L	-5 +6	5T 14L	-8 +10	8T 18L	-9 +2	9T 10L
18	30	-9	+20 +41	20L 50L	+7 +28	7L 37L	0 +33	0L 42L	0 +21	0L 30L	0 +13	0L 22L	-5 +8	5T 17L	-9 +12	9T 21L	-11 +2	11T 11L
30	50	-11	+25 +50	25L 61L	+9 +34	9L 45L	0 +39	0L 50L	0 +25	0L 36L	0 +16	0L 27L	-6 +10	6T 21L	-11 +14	11T 25L	-13 +3	13T 14L
50	80	-13	+30 +60	30L 73L	+10 +40	10L 53L	0 +46	0L 59L	0 +30	0L 43L	0 +19	0L 32L	-6 +13	6T 26L	-12 +18	12T 31L	-15 +4	15T 17L
80	120	-15	+36 +71	36L 86L	+12 +47	12L 62L	0 +54	0L 69L	0 +35	0L 50L	0 +22	0L 37L	-6 +16	6T 31L	-13 +22	13T 37L	-18 +4	18T 19L
120	150	-18	+43 +83	43L 101L	+14 +54	14L 72L	0 +63	0L 81L	0 +40	0L 58L	0 +25	0L 43L	-7 +18	7T 36L	-14 +26	14T 44L	-21 +4	21T 22L
150	180	-25	+43 +83	43L 108L	+14 +54	14L 79L	0 +63	0L 88L	0 +40	0L 65L	0 +25	0L 50L	-7 +18	7T 43L	-14 +26	14T 51L	-21 +4	21T 29L
180	250	-30	+50 +96	50L 126L	+15 +61	15L 91L	0 +72	0L 102L	0 +46	0L 76L	0 +29	0L 59L	-7 +22	7T 52L	-16 +30	16T 60L	-24 +5	24T 35L
250	315	-35	+56 +108	56L 143L	+17 +69	17L 104L	0 +81	0L 116L	0 +52	0L 87L	0 +32	0L 67L	-7 +25	7T 60L	-16 +36	16T 71L	-27 +5	27T 40L
315	400	-40	+62 +119	62L 159L	+18 +75	18L 115L	0 +89	0L 129L	0 +57	0L 97L	0 +36	0L 76L	-7 +29	7T 69L	-18 +39	18T 79L	-29 +7	29T 47L
400	500	-45	+68 +131	68L 176L	+20 +83	20L 128L	0 +97	0L 142L	0 +63	0L 108L	0 +40	0L 85L	-7 +33	7T 78L	-20 +43	20T 88L	-32 +8	32T 53L
500	630	-50	+76 +146	76L 196L	+22 +92	22L 142L	0 +110	0L 160L	0 +70	0L 120L	0 +44	0L 94L	-7 +37	7T 87L	-22 +48	22T 98L	-44 0	44T 50L
630	800	-75	+80 +160	80L 235L	+24 +104	24L 179L	0 +125	0L 200L	0 +80	0L 155L	0 +50	0L 125L	-10 +40	10T 115L	-24 +56	24T 131L	-50 0	50T 75L

Fits

Shaft and Housing Fits

Radial Ball, Spherical, Cylindrical Roller Bearings

Tolerance and housing bore shown as variance from nominal bearing O.D. All data except nominal dimensions are thousandths of a millimeter.

For particular operating conditions of radial ball, spherical and cylindrical roller bearings, see pages from 23 to 26

配合

轴和外壳的配合

向心球、调心滚子、圆柱滚子轴承

表内所示的孔公差和各种公差符号下的轴直径是相对于公称轴承内径的偏差。配合一栏列出该种配合可能出现的最紧和最松状态下的数值，“L”代表松或间隙，“T”代表紧或过盈。除公称尺寸外，其余数据均以微米为单位。

有关向心球、调心滚子和圆柱滚子轴承在特定工作条件下的配合见23到26页。

Housing 外壳

Bearing O.D. 轴承外径			K7		M6		M7		N6		N7		P6		P7	
Nominal (max.) 公称(最大)		Tol. 公差	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合	Housing Bore 外壳孔径	Fit 配合
over 超过	incl 至	0 to 0 至	min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大		min. 最小 max. 最大	
mm		μm	μm		μm		μm		μm		μm		μm		μm	
10	18	-8	-12 +6	12T 14L	-15 -4	15T 4L	-18 0	18T 8L	-20 -9	20T 1T	-23 -5	23T 3L	-26 -15	26T 7T	-29 -11	29T 3T
18	30	-9	-15 +6	15T 15L	-17 -4	17T 5L	-21 0	21T 9L	-24 -11	24T 2T	-28 -7	28T 2L	-31 -18	31T 9T	-35 -14	35T 5T
30	50	-11	-18 +7	18T 18L	-20 -4	20T 7L	-25 0	25T 11L	-28 -12	28T 1T	-33 -8	33T 3L	-37 -21	37T 10T	-42 -17	42T 6T
50	80	-13	-21 +9	21T 22L	-24 -5	24T 8L	-30 0	30T 13L	-33 -14	33T 1T	-39 -9	39T 4L	-45 -26	45T 13T	-51 -21	51T 8T
80	120	-15	-25 +10	25T 25L	-28 -6	28T 9L	-35 0	35T 15L	-38 -16	38T 1T	-45 -10	45T 5L	-52 -30	52T 15T	-59 -24	59T 9T
120	150	-18	-28 +12	28T 30L	-33 -8	33T 10L	-40 0	40T 18L	-45 -20	45T 2T	-52 -12	52T 6L	-61 -36	61T 18T	-68 -28	68T 10T
150	180	-25	-28 +12	28T 37L	-33 -8	33T 17L	-40 0	40T 25L	-45 -20	45T 5L	-52 -12	52T 13L	-61 -36	61T 11T	-68 -28	68T 3T
180	250	-30	-33 +13	33T 43L	-37 -8	37T 22L	-46 0	46T 30L	-51 -22	51T 8L	-60 -14	60T 16L	-70 -41	70T 11T	-79 -33	79T 3T
250	315	-35	-36 +16	36T 51L	-41 -9	41T 26L	-52 0	52T 35L	-57 -25	57T 10L	-66 -14	66T 21L	-79 -47	79T 12T	-88 -36	88T 1T
315	400	-40	-40 +17	40T 57L	-46 -10	46T 30L	-57 0	57T 40L	-62 -26	62T 14L	-73 -16	73T 24L	-87 -51	87T 11T	-98 -41	98T 1T
400	500	-45	-45 +18	45T 63L	-50 -10	50T 35L	-63 0	63T 45L	-67 -27	67T 18L	-80 -17	80T 28L	-95 -55	95T 10T	-108 -45	108T 0T
500	630	-50	-70 0	70T 50L	-70 -26	70T 24L	-96 -26	96T 24L	-88 -44	88T 6L	-114 -44	114T 6L	-122 -78	122T 28T	-148 -78	148T 28T
630	800	-75	-80 0	80T 75L	-80 -30	80T 45L	-110 -30	110T 45L	-100 -50	100T 25L	-130 -50	130T 25L	-138 -88	138T 13T	-168 -88	168T 13T

Fits

Specifying Shaft and Housing Fits

Radial Ball and Cylindrical Roller Bearings

配合

特定工作条件下轴和外壳的配合

向心球、圆柱滚子轴承

Shaft 轴

Ball Bearings (For all nominal diameters) 球轴承（对于所有公称直径）			Operating Conditions 运行条件	Examples 运行实例	Cylindrical Roller Bearings 圆柱滚子轴承			
Loads负荷		Shaft Tolerance Symbol 轴公差符号			Loads负荷		Shaft Diameter 轴直径 mm	Shaft Tolerance Symbol 轴公差符号
Lower Load Limit 下限	Upper Load Limit 上限				Lower Load Limit 下限	Upper Load Limit 上限		
INNER RING STATIONARY 内圈静止								
0	C[5]	g6	Inner ring to be easily displaced on shaft 内圈要在轴上容易位移	Wheels Non-rotating shafts 飞轮、不旋转的轴	0	C	All 全部	All 全部
0	C	h6	Inner ring does not need to be easily displaced 内圈不需容易位移	Tension pulleys 张紧轮	0	C	All 全部	All 全部
INNER RING ROTATING, OR INDETERMINATE 内圈旋转或方向不确定							over 超过 incl. 至	
0	0.07C	j6[1]	Light loads 轻负荷	Electrical apparatus, Machine tools, Pumps, Ventilators landustrial trucks 电器、机床、泵、换气风扇、工业卡车	0	0.08C	100 140 140 320 320 500 500 -	k6[3] m6[4] n6 p6
0.07C	0.15C	k5	Normal loads 一般负荷	Electrical motors, Turbines, Pumps, Combustion engines, Gear transmissions etc. 电机、涡轮、泵、内燃机、齿轮传动等	0.08C	0.18C	100 140 140 320 320 500 500 -	m6 n6 p6 r6
0.15C 0	C C	m5 j6[2]	Heavy loads Shock loads 重负荷，冲击负荷	Rail vehicles, Traction motors 铁路车辆、牵引马达	0.18C	C	100 140 140 320 320 500 500 -	n6[2] p6[2] r6[2] r7[2]
THRUST LOADS 轴向负荷								
			Pure thrust loads 纯轴向力	All 全部	Not recommended, consult NFB engineering dept. 不建议，请垂询NFB技术部门			

(1) Use j6 accurate applications
(2) Bearings with greater than nominal clearance must use
(3) Use k5 for accurate applications
(4) Use m5 for accurate applications
(5) C=Dynamic Load Rating

(1) j6用于更精确场合
(2) 游隙大基本组值的轴承一定要用
(3) k5用于更精确场合
(4) m5用于更精确场合
(5) C=额定动负荷

Fits
Specifying Shaft and Housing Fits
Radial Ball and Cylindrical Roller Bearings

配合
特定工作条件下轴和外壳的配合
向心球、圆柱滚子轴承

Housing 外壳

Operating Conditions 运行条件		Examples 运行实例	Housing Tolerance Symbol 外壳公差符号	Outer Ring Displaceable Axially 外圈轴向位移
OUTER RING ROTATING 外圈旋转				
Heavy loads with thin-wall housing 重负荷且外壳壁薄		Crane support wheels, Wheel hubs (roller bearings), Crank bearings 吊车支撑轮、车毂(滚子轴承) 曲柄轴承	P6	No 无需
Normal to heavy loads 一般到重负荷		Wheel hubs (ball bearings), Crank bearings 车毂(球轴承)、曲柄轴承	N6	No 无需
		Conveyor rollers, Rope sheaves, Tension pulleys 传输带托辊、滑轮、张紧轮	M6	No 无需
INDETERMINATE LOAD DIRECTION 外圈不确定负载方向				
Heavy shock loads 重冲击负荷		Electric traction motors 牵引电机	M7	No 无需
Normal to heavy loads axial displacement of outer ring not required 一般负荷到重负荷，外圈无需轴向位移		Electric motors, Pumps, Crankshaft main bearings 电机、泵、曲柄主轴承	K6	No, normally 一般不需要
Light to normal loads axial displacement of outer ring desired 轻负荷到一般负荷，外圈需轴向位移		Electric motors, Pumps, Crankshaft main bearings 电机、泵、曲柄主轴承	J6	Yes, normally 一般需要
OUTER RING STATIONARY 外圈静止				
Shock loads, temporary complete unloading 冲击负荷，暂时空载		Heavy rail vehicles 重型铁路车辆	J6	Yes, normally 一般需要
All loads 各种负荷	One-piece housing 一体的外壳	General applications, Heavy rail vehicles 重型铁路车辆、一般情况	H6	Easily 容易
	Radially split housing 径向分体的外壳	Transmission drives 传动驱动	H7	Easily 容易
Heat supplied through shaft 通过轴传输热量		Drier cylinders 干燥机缸	G7	Easily 容易

*Below this line, housing can either be one-piece or split; above this line, a split housing is not recommended.
*此线以下外壳可以是一体的，也可是分开的，此线以上不建议使用分开外壳。

Where wider tolerances are permissible, P7, N7, M7, K7, J7 and H7 values may be used in place of P6, M6, N6, K6, J6 and H6 values respectively.
当允许较大公差时，可用P7, N7, M7, K7, J7, H7去替换P6, M6, N6, K6, J6, H6

Fits
Specifying Shaft and Housing Fits
Radial Spherical Roller Bearings

配合
特定工作条件下轴和外壳的配合
调心滚子轴承

Shaft 轴

	Conditions 条件	Examples 运行实例	Shaft Diameter 轴直径 mm	Tolerance Symbol 公差符号	Remarks 备注
BEARINGS WITH STRAIGHT BORE 圆柱内孔					
Stationary inner ring load 静止的内圈负荷	Inner ring to be easily displaced on the shaft 内圈要在轴上容易位移	Two-bearing shaft mechanism 两轴承主轴结构	All diameters 所有的直径	f6	
		Wheel on non-rotating shaft 静止主轴上的轮子		g6	
	Inner ring not to be easily displaced on the shaft 内圈不需要在轴上位移	Tension pulleys and rope sheaves 张紧轮和滑轮		h6	
Rotating inner ring load or indeterminate load direction 旋转的内圈负荷或负荷方向无法判断	Light and variable loads P≤0.07C 轻负荷和可变负荷 P≤0.07C	Electrical apparatus, Machine tools, Pumps, Ventilators Industrial trucks 电器、机床、泵、换气风扇、工业卡车	over 18 超过 18 incl. 100 至 100 over 100 超过 100 incl. 200 至 200	k6 m6	In very accurate applications k5 and m5 are used instead of k6 and m6 respectively 在非常精确的情况下k5、m5分别用来代替k6、m6
	Normal and heavy loads P>0.07C P≤0.25C 普遍负荷和重负荷 P>0.07C P≤0.25C	Applications in general, Electrical motors, Turbines, Pumps, Combustion engines, Gear transmission, Wood-working machines 适用通用机械、电机、涡轮、泵、内燃机、齿轮传动、木工机械等	18 65 65 100 100 140 140 280 280 500 500 and up	m5 m6 n6 p6 r6 r7	
	Very heavy loads and shock loads P>0.25C 超重负荷和冲击负荷 P>0.25C	Journal boxes for locomotives and other heavy rail vehicles, traction motors 火车头及其他铁路用重型车辆的轴颈箱、牵引马达		m6 n6 p6 r6 r7	Bearings with greater clearance than normal 大于正常游隙
BEARINGS WITH TAPERED BORE AND ADAPTER SLEEVE 带锥孔及紧定套的轴承					
	All loads 各种负荷	Applications in general 通用情况	All diameters 所有的直径		See tables for Reduction of RIC on page 10 见10页上径向内部间隙减小值

Housing 外壳

Conditions 条件			Examples 运行实例		Tolerance Symbol 公差符号	Remarks 备注
One piece bearing housing 一体的外壳	Rotating outer ring load 旋转的外圈负荷	Variable load direction 可变负荷方向	Two-bearing eccentric shaft mechanism 双轴承偏心轴结构		P6	The outer ring is not displaceable axially 外圈不能轴向位移
		Heavy loads on bearings in thin walled housings 薄壁外壳、重负荷轴承	Supporting wheels in cranes, Wheel hubs, Crank bearings 吊车用支撑轮车毂、曲柄轴承		P7	
		Normal and heavy loads 普通负荷和可变负荷	Wheel hubs, Crank bearings 车毂、曲柄轴承		N7	
		Light and variable loads 轻负荷和可变负荷	Conveyor roller, Rope sheaves, Tension pulleys 传送辊、滑轮、张紧轮		M7	
	Indeterminate load direction 不确定的负荷方向	Heavy shock loads 重冲击负荷	Electrical traction motors 牵引电机			
Split or One piece bearing housing 分开或一体的外壳		Heavy and normal loads, axial displacement of the outer ring not required 重负荷、普通、外圈无需轴向位移	Electrical motors, Pumps, Crankshaft main bearings 电机、泵、曲轴主轴承		K7	The outer ring is as a rule not displaceable axially 外圈作为轴线的固定端
		Heavy and light loads, axial displacement of the outer ring desirable 重负荷、轻负荷、需轴向更换外圈	Electrical motors, Pumps, Crankshaft main bearings 电机、泵、曲轴主轴承		J7	The outer ring is as a rule displaceable axially 外圈作为轴线的浮动端
		Shock loads, temporarily complete unloading 冲击负荷、暂时完全空载	Journal boxes for rail vehicles 火车用轴颈箱			
	Stationary outer ring load 静止的外圈负荷	All loads 各种负荷	Bearing applications in general, Journal boxes for rail vehicles 通用，火车用轴颈箱		H7	The outer ring is easily displaceable axially 外圈可轻易地轴向位移
		Normal and light loads, loads under simple operating conditions 普通负荷或轻负荷，单一操作状态下的负荷	Line shaftings 传动轴条		H8	
		Heat supplied through the shaft 通过轴供热	Dryer cylinders 烘干机		G7	
One piece bearing housing 一体的外壳	Applications requiring particular accuracy 需特别精度的情况	Very accurate running and small deflections under variable loads 很精确的运行在不同负荷下变形小	For main spindles in machine tools 用于机床主轴	O.D. less than 125mm 外径小于125mm	M6	The outer ring is not displaceable axially 外圈不能轴向位移
				O.D.125 to250mm 外径125至250mm	N6	
				O.D. over 250mm 外径超过250mm	P6	
		Very accurate running under light loads, indeterminate load direction 在轻负荷或方向不确定负荷下很精确的运行	Held bearings in high speed centrifugal force compressors 高速离心压缩机中的定位轴承		K6	The outer ring is not displaceable axially 外圈不能轴向位移
		Very accurate running, axial displacement of outer ring desirable 很精确的运行，外圈需轴向位移	Floating bearings in high speed centrifugal force compressors 高速离心压缩机中的浮动端轴承		J6	The outer ring is easily displaceable axially 外圈可轻易地轴向位移

Bearing Mounting

Mounting Procedures

Depending on the size of the bearing and the application, there are different methods for mounting roller bearings. In all methods, however, certain basic rules must be followed.

Cleanliness

Choose a clean environment Work in an atmosphere free from dust or moisture. If this is not obtainable, and sometimes in the field it isn't, the installer should make every effort to insure cleanliness by use of protective screens, clean cloths. etc.

Plan The Work

Know in advance what you are going to do and have all the necessary tools at hand. This reduces the amount of time for the job and lessens the chance for dirt to get into the bearing.

Inspection and Preparation

All component parts of the machine should be on hand and thoroughly cleaned before proceeding Housings should be cleaned, including blowing out the oil holes. Do not use air hose on bearings. If blind holes are used, insert magnetic rod to remove metal chips that might have been lodged there during fabrication.
Shaft shoulders and spacer rings contacting the bearing should be square with the shaft axis. The shaft fillet must be small enough to clear the radius of the bearing. On original installations, all component parts should be checked against the detail specification prints for dimensional accuracy Shaft and housing should be carefully checked for size and roundness.

Shaft and Housing Finish

Shaft surfaces on which the bearing will be mounted must be clean and free from nicks and burrs. For an application with stationary housing and rotating shaft, it is suggested the bearing seat on the shaft be ground to Ra=1.6μm maximum. If it is impractical to use a ground finish, a machined finish of Ra=3.2μm is acceptable in many cases, but the amount of interference fit should be slightly increased. Consult our engineering department for recommendations
For a stationary outer ring which is required to float (i.e., slide axially in the housing), a housing finish of Ra=1.6μm maximum is suggested. Where the outer ring is not required to float, a surface finish of Ra=3.2μm maximum is generally satisfactory.

安装

安装程序

根据不同轴承尺寸和应用，可以采用不同的安装方法，然而必须遵循其基本规划。

清洁度

选择一个清洁的环境，在没有灰尘和水气的场合工作，如果不能达到该要求，装配人员尽最大努力使用保护屏罩和清洁布来保持清洁等。

工作计划

需知道先要做什么并准备好所需的全部工具，这可节省工作时间，减少轴承染上灰尘的机会。

检查和准备

准备好所需的机器零件，并在安装前彻底地清洗。外壳孔要清洗干净，油孔吹干净。不可在轴承上使用空气软管。如使用盲孔，要用磁辊将生产中残留的金属碎片清出掉。与轴承接触的轴台肩和衬套应与轴线垂直，轴与台肩相接处圆角必须小到不与轴承孔圆角的半径相接触。在最初安装时，要按图纸对所有零件的尺寸精度进行检查。对轴和外壳孔的尺寸和圆度应进行仔细的检查。

轴和外壳孔的表面粗糙度

安装轴承的轴表面必须干净无任何划痕和毛刺。对于在外壳固定而轴旋转的应用情况下，轴上安装轴承的外圆的粗糙度建议最大为Ra=1.6μm。如无法磨削加工，在许多情况下，可用精车达到表面粗糙度为Ra=3.2μm，但过盈配合的量略需增加。可向本公司技术部门咨询推荐值。
对于要求浮动固定的外圈（如在外壳孔内轴向滑动），建议外壳孔粗糙度最大为Ra=1.6μm，如果外圈不要求浮动，表面粗糙度最大Ra=3.2μm一般已令人满意了。

Don't remove the bearing from its wrapping until actually ready to mount it.
注意：当一切准备工作做好开始安装轴承时，才可拆掉包装

Bearing Mounting

安装

Roughness and Tolerance of Shaft and Housing

Roughness and tolerance of shaft and housing, that bearing is fitted to, will directly affect performance of bearing, e.g. wear-proof, anti-corrosion property and fit kind. Therefore proper roughness and tolerance of shaft and housing are essential for a steady fit kind and high connection strength of a interference fit. Roughness and tolerance of shaft and housing are specified in table 1, table 2 and figure 1.

配合表面的粗糙度和形位公差

配合表面的粗糙度和形位公差，直接影响产品的使用性能，如耐磨性，抗腐蚀性和配合性等。为此，合理规定轴和外壳孔的形位公差和提出配合表面的粗糙度要求，对于稳定配合性质，提高过盈配合的连接强度至关重要。轴和外壳孔的配合表面粗糙度及形位公差见表1，表2和图1。

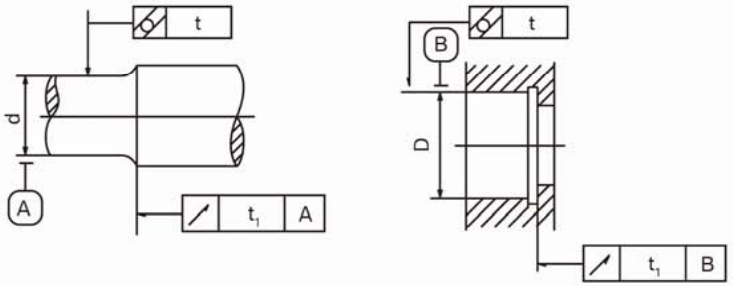


Figure 1 图1

Table 1 Roughness of Shaft and Housing 表1 配合表面的粗糙度

Fitting Surface 配合表面	Precision Grade of Bearing 轴承精度等级	Tolerance Grade of Fitting Surface 配合表面的尺寸公差等	Nominal Bore or O.D. 轴承公称内径或外径(mm)	
			-80	>80-500
			Ra(μm) (GB1031-95) 表面粗糙度参数Ra(μm)按GB1031-95	
Shaft 轴颈	P0	IT6	1	1.60
	P6	IT5	0.63	1
	P5		0.40	0.63
	P4		0.25	0.40
Housing 外壳孔	P0	IT7	1.60	2.50
	P6	IT6	1	1.60
	P5		0.63	1
	P4		0.40	0.63
Face of Shoulder 轴肩和外壳孔肩端面	P0		2	2.50
	P6		1.25	2
	P5		1	1.60
	P4		0.80	1.25

Table 2 Tolerance of Shaft and Housing 表2 轴和外壳孔的形位公差

Basic Dimension 基本尺寸 (mm)		Cylindricity 圆柱度t								Runout of Shoulder 端面圆跳动t_1							
		Shaft 轴颈				Housing 外壳孔				Shaft 轴肩				Housing 外壳孔肩			
		Precision Grade of Bearing 轴承精度等级															
		P0	P6	P5	P4	P0	P6	P5	P4	P0	P6	P5	P4	P0	P6	P5	P4
Over 超过	Incl. 至	Tolerance (μm) 公差值μm															
	6	2.5	1.5	1	0.6	4	2.5	1.5	1	5	3	2	1.2	8	5	3	2
6	10	2.5	1.5	1	0.6	4	2.5	1.5	1	6	4	2.5	1.5	10	6	4	2.5
10	18	3	2	1.2	0.8	5	3	2	1.2	8	5	3	2	12	8	5	3
18	30	4	2.5	1.5	1	6	4	2.5	1.5	10	6	4	2.5	15	10	6	4
30	50	4	2.5	1.5	1	7	4	2.5	1.5	12	8	5	3	20	12	8	5
50	80	5	3	2	1.2	8	5	3	2	15	10	6	4	25	15	10	6
80	120	6	4	2.5	1.5	10	6	4	2.5	15	10	6	4	25	15	10	6
120	180	8	5	3.5	2	12	8	5	3.5	20	12	8	5	30	20	12	8
180	250	10	7	4.5	3	14	10	7	4.5	20	12	8	5	30	20	12	8

注：轴承装在紧定套或退卸套上时，轴颈表面的粗糙度Ra不应大于2.5μm
Shaft Ra≤2.5 μm when the shaft is fitted on a sleeve

Bearing Mounting
Mounting Straight Bore Bearings

Heat Expansion Method

Most applications require a tight interference fit on the shaft. Mounting is simplified by heating the bearing to expand it sufficiently to slide easily onto the shaft. Two methods of heating are in common use:

1. Tank of heated oil.
2. Induction heating.

The first is accomplished by heating the bearing in a tank of oil having a high flash point. The oil temperature should not be allowed to exceed 121℃ . A temperature of 93℃ is sufficient for most applications. The bearing should be heated at this temperature, generally for 20 or 30 minutes, until it is expanded sufficiently to slide onto the shaft very easily.

The induction heating method is particularly suited for mounting small bearings in production line assembly. Induction heating is rapid and care must be taken to prevent bearing temperature from exceeding 93'C . Trial runs with the unit and bearing are usually necessary to obtain proper timing. Thermal crayons which melt at predetermined temperatures can be used to check the bearing temperature.

While the bearing is still hot, it should be positioned squarely against the shoulder. Lockwashers and locknuts, or clamping plates, are then installed to hold the bearing against the shoulder of the shaft. As the bearing cools, the locknut or clamping plate should be tightened. In cases of outer ring rotation, where the outer ring is a tight fit in the housing, the housing member can be expanded by heating as shown in Figure 2.

The bearing should not be in direct contact with the heat source. The usual arrangement is to have a screen 5cm off the bottom of the tank. Small support blocks separate the bearing from the screen. It is important to keep the bearing away from any localized high-heat source that may raise its temperature excessively, resulting in race hardness reduction.

Flame type burners are commonly used. An automatic device for temperature control is desirable. If safety regulations prevent the use of an open heated oil bath, a mixture of 15% soluble-oil in water may be used. This mixture may be heated to maximum of 93℃, without being flammable. The bath should be checked from time to time to insure its proper combination as the water evaporates. The bath leaves a thin film of oil on the bearing sufficient for temporary rust prevention, but normal lubrication should be applied to the bearing as soon as possible after installation. Be sure all of the soluble-oil in water solution has been drained away from the bearing.

安装
直孔轴承的安装

热膨胀法

绝大多数情况下，轴承需要在轴上采用紧过盈配合。将轴承加热，使其足够膨胀，以便可以容易地滑上轴，因此安装十分简便，下面是两种常见加热法：

1.油池加热
2.感应加热

第一种方法是将轴承放在装有高燃点油的油池中加热。油温不可超过121° C，大多数应用情况，93° C就足够了，通常轴承在油中停留时间为20或30分钟，使其充分膨胀，以便很容易地套上轴。

感应加热法特别适用于装配生产线上对小型轴承的安装，这种方法速度快，但必须小心。温度不可超过93° C。有必要通过试运行来获得准确的时间。可使用在预定温度下熔化的热电蜡笔来测量轴承温度。

当轴承还热的时候，将其垂直地靠在轴肩上，然后用锁紧垫圈，锁紧螺母或夹板来进行固定。轴承冷却后，应旋紧锁紧螺母或夹板。在外圈旋转的情况下，外圈与外壳孔为紧配合，此时，可对外壳进行加热。

轴承不可直接与热源相接触，一般是在离底部5cm的地方放上一个网板，并用小的支撑块将轴承和网板分开。将轴承和局部温度很高的热源分开是很重要的，不然，轴承温度过高会降低其硬度。

火焰燃烧器是常用的加热器，还需使用一个自动温度控制装置，如果安全规则不允许使用开式加热油池，可在水中混合15%的可溶油，但这种混合剂的最高可加热到93° C，而不会产生火焰。使用这种方法，必须经常检查油池，以确信水蒸发后的油水混合是否合适。这种油浴在轴承表面留下一层薄薄的可起到临时防锈功能的油膜，但在安装后，应尽早地进行正常润滑，并保证轴承内的可溶油都被排干净。

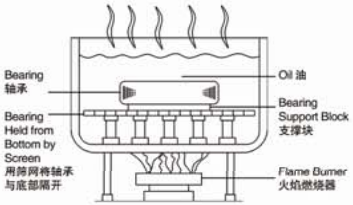


Figure 2：Heat Expansion Method
图2 油池加热

Bearing Mounting
Mounting Straight Bore Bearings

Arbor Press Method

The alternate method of mounting, generally used only on smaller sizes. is to press the bearing onto the shaft or into the housing . This can be done by using an arbor press and a mounting tube as shown in Figure 3. The tube can be of soft steel with inside diameter slightly larger than the shaft. The O. D. of the tube should not exceed the maximum shoulder height given in the tables of dimensions. The tube should be faced square at both ends, thoroughly clean inside and out, and long enough to clear the end of the shaft after the bearing is mounted.

If the outer ring is being pressed into the housing, the O.D. of the mounting tube should be slightly smaller than the housing bore. and the I.D. should not be less than the recommended housing shoulder diameter in the tables of dimensions.

Coat the shaft with a light machine oil to reduce the force needed for a press fit. Carefully place the bearing on the shaft making sure it is square with the shaft axis. Apply steady pressure from the arbor ram to drive the bearing firmly against the shoulder.

Never attempt a press fit on a shaft by applying pressure to the outer ring, or a press fit in a housing be applying pressure to the inner ring.

安装
直孔轴承的安装

心棒压力法

对于小尺寸的轴承，另一种可选择的安装法是使用一台图3所示的心棒压力机和安装管将轴承压到轴上或压入轴承座孔中，安装管可用软钢制成，内径比主轴稍大一些，外径不应超过表中规定的最大台肩，管子两端应与管子轴承垂直，内外需干净，并具有足够的长度以保证轴承安装后，主轴端不露出。

如果外圈被压入到外壳孔中，安装管的外径应比外壳孔稍小些，且内径不应小于规定的轴承座台肩的直径。在轴上涂上一些轻机油以减少压配合所需要的力。小心将轴承放置于轴上，保证它与主轴轴线垂直。

切不可当轴承于轴为紧配合时，对外圈施加压力，或当轴承与外壳孔为紧配合时，对内圈施加压力。

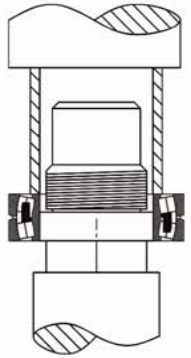


Figure 3：Arbor Press Method
图3 心棒压力法

Bearing Mounting

Shaft Mounting Tapered Bore

Spherical Roller Bearings

Although the fit of a tapered bore spherical roller bearing can be determined by measuring the distance the bearing is forced onto the tapered seat, it is more practical to measure the reduction of radial internal clearance caused by the expansion of the inner ring. This procedure requires determining the initial RIC before mounting, and checking the RIC during mounting until the proper reduction of RIC has been accomplished.

To determine initial RIC, the following procedure should be observed. A feller gauge with the thinnest blade of 0.04mm is used. Place the bearing in an upright position with the inner and outer ring faces parallel. Place the thumbs on inner ring bore and oscillate inner ring two or three times. Pressing down firmly. This “seats” the inner ring and rolling elements. Position the individual roller assemblies so that a roller is at the top of the inner ring-on both sides of the bearing. Press the top two rollers inward to assure proper contact with the inner ring raceways. With the rollers in correct position, insert a thin blade of the feeler gage between the rollers. Move it carefully along the top roller, between the roller and the outer ring raceway. Repeat this procedure, using thicker feeler gauge blades. Until one is found that will not go through. The blade thickness that proceeded the "no-go" blade is a measure of radial internal clearance (RIC) before installation.

Determine the target value of the reduction of RIC following the procedure outlined in the example following. Start the mounting procedure by lubricating the tapered shaft with a light coat of machine oil. Slide the bearing onto the shaft as far as it will go. As the locknut is tightened, the interference fit builds up resulting in expansion of the inner ring.

Periodically measure the RIC to keep track of the reduction in RIC. Continue the procedure until the proper amount of reduction is obtained-do not exceed recommended amount of reduction. As a final check, make sure that the remaining RIC equals or exceeds the minimum mounted clearance.

During mounting, the RIC should be checked at the unloaded roller. If this happens to be at the bottom, make sure that the roller is raised to seat firmly at the inboard position of the inner race.

When the recommended amount of reduction of RIC has been accomplished, the bearing is properly fitted. Complete the procedure by peening the lockwasher tang into the locknut slot, or securing the lockplate.

安装

锥孔调心滚子轴承在轴上的安装

尽管我们可以通过测量轴承装配到圆锥轴上的距离来决定锥孔调心滚子轴承的配合，但更实用的方法是测量由于内圈的受力膨胀而减少的径向游隙。这需要确定安装前的起始径向游隙，并在安装时不断测量直至降低到合适的径向游隙。

为了确定起始径向游隙，可采用下列程序。使用最薄到0.04毫米的塞尺。先将轴承竖起，使内外圈端面平行。将大拇指按住内圈并摆动2~3次。向下按紧，使内圈和滚动体定位入座。定位各滚子位置，使在内圈滚道顶部两边各有一个滚子，将两个顶部滚子向内推，以保证它们和内圈滚道保持合适的接触，当滚子处于正确位置时，塞入一个薄塞尺，沿着顶部的滚子慢慢地在滚子和外圈滚道间移动，然后换上一个厚一些的塞片重复一遍，直至厚到无法移动为止。最大能通过的塞尺厚度就是安装前的径向游隙。

安装时，先在主轴锥体上涂上一层稀机油。将轴承尽可能深地滑移到主轴上去。当锁紧螺母上紧后，内圈的膨胀就达到了过盈配合。定期地测量径向游隙，以获得它的减少量。重复此操作，直到获得了合适的减少量（不可超过推荐的减少量），做最后一次检查时，要保证残留的径向游隙等于或超过下表所示的最小安装游隙。

安装时，应检查无负荷滚子的径向游隙，如果无负荷滚子是在底部，检查时要确保滚子被抬起并可靠地坐定在内圈滚道内。

当达到推荐的径向游隙时，轴承就会合适地配合好了。然后，将锁紧垫圈齿卡入锁紧螺母的槽中，或固紧夹板。

Bearing Mounting

Shaft Mounting Tapered Bore

Spherical Roller Bearings

The following chart indicates the recommended reduction of RIC to be used in mounting tapered bore spherical roller bearings on shafts or adapter sleeves.

安装

锥孔调心滚子轴承在轴上的安装

下表为锥孔调心滚子轴承安装到轴或接头套上时的推荐径向游隙。

Recommended Reduction of RIC 推荐的径向游隙减小值

Bearing Bore 轴承内径 d		Recommended Reduction of RIC 推荐的径向游隙减小值		Minimum RIC after mounting Bearings with Initial Clearance 具有起始游隙的轴承安装后最小径向游隙		
over 超过	inch. 至	min. 最小	max. 最大	Normal (Standard) 一般 (标准)	C3	C4
mm		μm	μm	μm	μm	μm
30	40	20	25	15	25	41
40	50	25	30	20	30	51
50	65	30	36	25	36	64
65	80	38	51	25	43	76
80	100	46	64	36	51	76
100	120	51	71	51	64	102
120	140	64	89	56	76	114
140	160	76	102	56	76	127
160	180	76	114	61	89	152
180	200	89	127	71	102	165
200	225	102	140	76	114	176
225	250	114	152	89	114	203
250	280	114	165	102	140	229
280	315	127	178	102	152	254
315	355	140	190	114	165	279
355	400	152	203	127	191	330
400	450	165	216	152	229	356
450	500	178	229	165	267	406
500	560	203	254	178	292	445
560	630	229	279	203	318	508
630	710	254	305	203	368	546
710	800	279	356	229	394	610
800	900	305	381	254	457	686
900	1000	356	432	279	495	762
1000	1120	406	483	279	546	813
1120	1250	432	508	330	610	914

Bearing Mounting

Shaft Mounting Tapered Bore
Spherical Roller Bearings

Example: Bearing 22328 K/C3(140mm bore with a C3 clearance pattern) is being mounted on a tapered shaft

a. By measuring with feeler gauge, initial RIC is established to be 0.178mm.

b. Reference to chart above indicates proper fit is obtained when RIC is reduced by 0.064mm to 0.089mm. or approximately 0.076mm.

Initial clearance	0.178mm
Reduction of RIC	- 0.076mm
	0.102mm

c. Locknut is tightened until RIC reaches 0.102mm. Final check against minimum RIC after mounting shows this value to be safe.

Note: Tapered bore bearings must have the proper amount of radial internal clearance before installation to provide for the required reduction of RIC during mounting and to compensate for any further internal reduction from abnormal temperature conditions. For special applications, send complete operating data to NFB engineering department for recommendations on radial internal clearance.

安装

锥孔调心滚子轴承在轴上的安装

例：22328K/C3轴承（内径140mm，C3组游隙）装配到锥形轴上。

a. 用塞尺测到起始径向游隙为0.178mm。从上表查出当径向游隙下降

b. 0.064~0.089mm或约为0.076mm，就获得合适的配合。

起始游隙	0.178mm
径向游隙减少量	− 0.076mm
	0.102mm

c. 上紧锁紧螺母，使径向游隙达到0.102mm，最后检查安装后的最小径向游隙，表明此值安全。

注：锥孔调心滚子轴承在安装前必须要有合适的径向游隙，以便在安装时提供所需的径向游隙减少量，以及补偿在异常温度情况下，径向游隙的减少。对于特殊的应用，可向我公司技术部门垂询推荐的径向游隙。

Lubrication

In order to help maintain a rolling bearing's anti-friction characteristics, lubrication is needed to minimize rolling resistance and sliding friction. Modern lubricants do this very effectively, although in many applications the means by which they accomplish this are extremely complex and not completely understood.

NFB Bearings Grease

In order to increase working life of bearing and to enable equipment to run in high efficiency without any additional cost, a series of bearing greases suitable for various working conditions have been specially supplied by NFB.

For detail information and expertise, please contact with our sales engineers.

润滑

为维持滚动轴承的减摩特性，需要用润滑剂来减少滚动阻力和滑动摩擦。现代润滑材料能非常有效地达到此目的，尽管在许多场合它们工作机理非常复杂且尚未完全清楚。

NFB轴承润滑脂

为了有效地提高轴承寿命，使设备高效运转，而又不增加用户的额外成本负担，NFB专业提供适用于不同工况的轴承润滑脂。

如需详细信息，请与我公司销售员联系，将有专业的工程应用人员为您服务。

Lubrication

Lubrication Selection

The wide range of bearing types and operating conditions precludes any simple, all inclusive statement or guideline allowing the selection of the proper lubricant. At the design level, the first consideration is whether oil or grease is the best for the particular operation. The advantages of oil and grease are outlined in the Table. Where heat must be carried away for the bearing, oil must be used, and it is nearly always preferred for very high speed applications.

Oil	Grease
Carries heat away from the bearings	Simplifies seal design and acts as a sealant
Carries away moisture and particular matter	Permits prelubrication of sealed or shielded bearings
Easily controlled lubrication	Generally requires less frequent lubrication

Oil Lubrication

Oils used for bearing lubrication should be high quality, non-oxidizing mineral oils. Selection of the proper type of Oils depends onbearing speed, load, operating temperature, and method of lubrication. Oil may be introduced to the bearing housing in many ways. The most common systems are:

(1) Oil Bath Generally, the oil level should be no higher than the center point of the lowest rolling element. If speed is high, lower oil levels should be used to reduce churning.

(2) Circulating System A typical circulating oil system consists of an oil reservoir, pump, piping, and filter. A cooler may be required.

(3) Oil-Mist Lubrication Oil-Mist lubrication systems are used in high speed, continuous operation applications. This system permits close control of the amount of lubricant reaching the bearings. Control of this type of lubrication system is accomplished by monitoring the operating temperatures of the bearings being lubricated.

Grease Lubrication

Lubricating grease is a solid to semi-fluid product of the dispersion of a thickening agent in a liquid lubricant; other ingredients imparting special properties may be included. At this time there is no known universal anti-friction bearing grease. Each individual grease has certain limiting properties and characteristics. The successful use of lubricating grease in roller bearings depends on the physical and chemical properties of the lubricant as they pertain to the bearing, its application, installation and general environment factors.

润滑

润滑剂的选择

轴承类型和工作条件的复杂性决定了不可能有任何简单的选择合适润滑剂的包罗万象的指南。在设计阶段，首先要考虑的是对某种特定条件下最合适的是采用润滑油还是润滑脂，两者的优点概括在下表。若轴承的热量需不断带走，应该用润滑油。对于很高速度的应用场合，几乎是首先使用润滑油。

润滑油	润滑脂
从轴承中带走热量	简化密封设计，本身有密封作用
带走湿气和异常物质	可以给密封预润滑
容易控制	一般很少需要频繁加脂

润滑油

用于轴承的润滑油应是高质量的不易氧化的矿物性油。应根据轴承的转速、负荷、工作温度和润滑方式来选择合适的润滑油。

润滑油可用多种方式引入轴承，通常有

(1)油池：通常油位应不高于最低的滚动体中心，如果速度很高，油位应控制得较低以减少搅拌发热。

(2)循环系统：典型的系统包括油箱、油泵、管路系统、过滤器，可能还有冷却器。

(3)油雾润滑：油雾润滑系统用于高速、连续工作的应用场合。这种系统可以精确控制达到轴承润滑油的量，通过监视轴承工作温度来控制该系统。

润滑脂

润滑脂是一种固体到半流体产品，其中主要是在液体润滑剂中掺混着离散分布的增稠剂，还可能包含形成某种特殊物质的其他成分。目前还没有一种已知的万能的轴承润滑脂。各种润滑脂都有某些有限的性能和特性。润滑脂在滚动轴承内的成功使用取决于润滑脂的物理化学性能，它们应适用于这种轴承，以及轴承的应用场合、安装条件和综合环境因素。

Lubrication

Low Temperatures

Starting torque in a grease lubricated ball bearing at low temperatures can be critical. Some greases may function adequately as long as the bearing is operating, but resistance to initial movement is such that the starting torque is excessive. In certain smaller machines. starting is an impossibility when very cold. Under such operating circumstances the greases containing low temperature characteristic oils are generally required.

High Temperatures

The high temperature limit for modern grease is generally a function of the thermal and oxidation stability of the fluid and the effectiveness of the oxidation inhibitors. A rule of thumb, developed from years of testing grease lubricated bearings, indicates that grease life is halved for every 14℃ increase in temperature.

In non-relubricatable applications highly refined mineral oils or chemically stable synthetic fluids are required as the oil component of greases for operation at temperatures above 121 ℃.

Wet Conditions

Water and moisture can be particularly conducive to bearing failure. Lubricating greases may provide a measure of protection from this contamination. Certain greases, the calcium, lithium and non-soap type, for example, are highly water resistant.

Grease Lubrication for Bearing/Housing Assemblies

The grease must be carefully selected with regard to its consistency at operating temperature. It should not exhibit thickening, separation of oil, acid formation or hardening to any marked degree. It should be smooth, non-fibrous, and entirely free from chemically active ingredients. Its melting point should be considerably higher than the operating temperature.

Frictional torque is influenced by the quantity and the quality of lubricant present. Excessive quantities of grease cause churning. This results in excessive temperatures, separation of the grease components, and break down in lubrication values. On normal speed applications the housings should be kept approximately 1/3 to 1/2 full. Re-lubricate at regular intervals to prevent damage to the bearing.

润滑

低温

在低温条件下脂润滑的球轴承的启动力矩是很关键的，有些润滑脂在轴承运转中能正常发挥作用，但在开始运转时启动力矩过大。某些小型机械在寒冷时不能启动。在这种工作条件下一般要求润滑脂含有低温特性油成分。

高温

现代润滑脂的高温限制一般是流体的热稳定性和氧化稳定性及抗氧化能力。

从多年对脂润滑的轴承试验所得出的经验规律表明，每增加摄氏14度润滑脂寿命减少一半。在不可能重新加脂场合，工作在摄氏121度的轴承需要高度精炼的矿物油或化学性质稳定的合成流体作为润滑脂内的油成分。

潮湿条件

水和湿气特别能引起轴承失效。润滑脂能提供一种防止这种污染的方法。某些润滑脂，如钙基、锂基和非皂类润滑脂都是高度防水的。

轴承和轴承箱组件的脂润滑

应该根据在工作温度下润滑脂的稠度小心地选择润滑脂，它不应该出现任何明显的稠化，油的分离、酸化或变硬，它应该是非常细腻、无纤维、完全无活泼化学元素，它的滴点应相当多地超过工作温度。

摩擦力矩受到所加的润滑脂的品质和数量的影响。过量的润滑脂会引起搅拌发热，导致高温，脂成分分离和失去润滑作用。对于通常速度的应用场合，轴承内应大约保持1/3到1/2空间的润滑脂填充量。应定期重新加脂以防止轴承损坏。

Limiting Speeds

Radial Ball and Roller Bearings

There is no precise method for determining the maximum speed at which a ball or roller bearing may operate. Bearing characteristics and features of surrounding parts, shafts, housings and other components, as well as basic service conditions, are all variables which are dependent upon each other for continued satisfactory high-speed performance.

The safe operating speed of a ball bearing is often limited by the temperature within the bearing, which in turn, is dependent upon the temperature surrounding the application, accuracy of bearings, shaft and housing, auxiliary parts, etc. and the type and amount of lubricant. Radial bearings with proper internal refinements will operate at high speeds for long periods if properly installed and lubricated. Tolerance grade, cage design, and lubricant are bearing characteristics which affect speed limitations.

Bearing with normal tolerances are generally satisfactory for normal speeds with grease or oil lubrication.

Ball bearings with P5 tolerances or better and ring piloted composition cages lubricated with an efficient, non-churning, cooling oil mist systems have exceptional high-speed ability.

In the case of duplex mountings, as frequently used in high-speed machine tool spindles, bearing preload and contact angle affect the permissible speeds.

The Limiting Speeds of various bearings listed in the catalog are defined as grease or oil bath lubrication were used respectively, besides on following conditions:

- P0 tolerance class
- Pure radial load for radial or radial-thrust bearings
- The load P≤0.1C (C is the basic dynamic load rating)
- Rigid shaft and housing
- Normal lubrication and cooling
- Normal clearance at running time
- Rotating inner ring

For conditions other than above. please consult Technology Section of NFB.

极限转速

向心球及滚子轴承

目前还没有一种用来测定球和滚子轴承运行的最高转速的精确方法。轴承持续良好的高速运转性能取决于轴承自身性能和其附件、轴、外壳和其它部件以及工作条件的特性。

轴承的可靠转速需受轴承运转温度所限制，而轴承的运转温度又取决于工作环境温度、轴承精度、轴、外壳、附件等等以及润滑剂的种类和用量。

内部设计合理的向心轴承如果安装正确，正常润滑就可以在高速下运行很长一段时间。公差等级，保持架的设计及润滑剂都是影响轴承转速的因素。

公差为标准公差，带脂或油润滑的轴承通常具有良好的额定转速。

公差等级为P5或以上的轴承并使用套圈引导的塑料保持架加上一种有效的、非搅拌的冷却油雾系统，可以得到更高的转速。

在成对安装的情况下，就像高速机床的主轴上常见的，轴承的预负荷和接触角就会影响其允许转速。

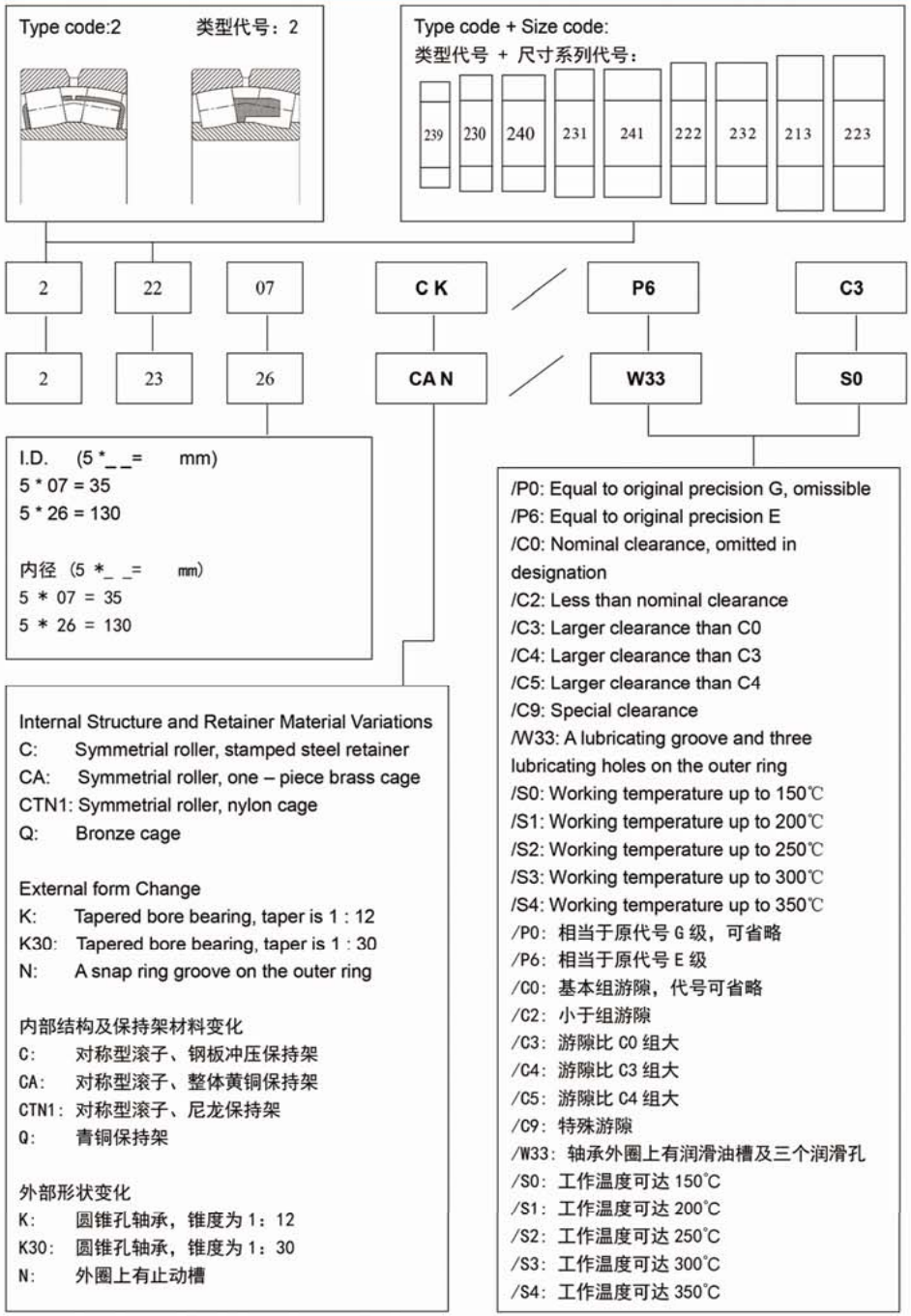
列于本样本内的各型号轴承的极限转速分别是下列条件下采用脂润滑和油浴润滑时的极限转速：

- P0级公差轴承
- 向心轴承和向心推力轴承仅承受径向载荷
- 轴承载荷P≤0.1C（C为基本额定动负荷）
- 刚性的轴和轴承座
- 润滑和冷却条件正常
- 轴承工作游隙正常
- 内圈旋转

不同于上述条件下的轴承的极限转速，请垂询NFB技术部门。

Spherical Roller Bearings

调心滚子轴承



Spherical Roller Bearing Designs

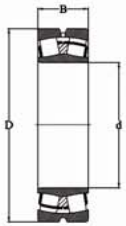
C Features a stamped steel cage and strengthened symmetric roller. As a second generation design, these bearing designs are optimized to offer considerably higher load ratings than conventional designs for a broad range of applications and long service life.

CA The alternative design of the second generation, these bearings feature a precision-machined brass cage and strengthened symmetric roller and are equivalent to C design in load ratings. They are used to exchange with C design, particularly for large sizes.

调心滚子轴承的不同设计

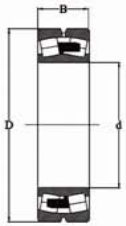
C 第二代设计，其特征为采用钢板冲压保持架，加强型对称滚子，经优化设计，具有比传统产品高得多的额定负荷，应用范围广泛。使用寿命长。

CA 第二代设计另一种结构，其特征为采用精密加工的黄铜保持架，加强型对称滚子，额定负荷与C型设计相同．可以与C型设计通用．尤其是大尺寸型号。



20000 C(W33)

Cylindrical Bore
圆柱孔



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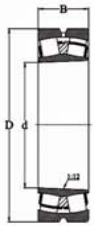
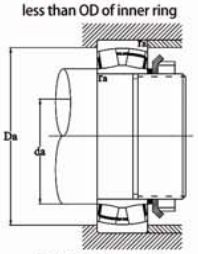
Tapered Bore
圆锥孔



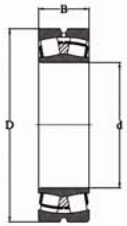
20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



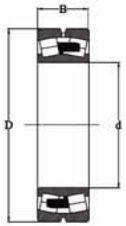
da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
25	52	18	42.1	43.5	8100	11000	0.186	30	47	1	0.35	1.92	2.86	1.88	22205 CA
25	52	18	42.1	43.5	8100	11000	0.186	30	47	1	0.35	1.92	2.86	1.88	22205 C
25	52	18	42.1	43.5	8100	11000	0.186	30	47	1	0.35	1.92	2.86	1.88	22205CTN1
25	62	17	44.9	43.7	5600	7400	0.267	31	56	1.1	0.3	2.26	3.37	2.21	21305 CA
30	62	20	51.7	55	6800	9100	0.294	36	56	1	0.33	2.03	3.02	1.98	22206 CA
30	62	20	51.7	55	6800	9100	0.294	36	56	1	0.33	2.03	3.02	1.98	22206 C
30	72	19	58.3	60	4700	6300	0.406	37	65	1.1	0.28	2.37	3.53	2.32	21306 CA
35	72	23	67	73.9	5900	7800	0.447	42	65	1	0.33	2.03	3.02	1.98	22207 CA
35	72	23	67	73.9	5900	7800	0.447	42	65	1	0.33	2.03	3.02	1.98	22207 C
35	80	21	70.7	73.3	4200	5600	0.547	42	73	1.5	0.28	2.4	3.58	2.35	21307 CA
40	80	23	76.9	85	5200	6900	0.536	47	73	1	0.29	2.35	3.5	2.3	22208 CA
40	80	23	76.9	85	5200	6900	0.536	47	73	1	0.29	2.35	3.5	2.3	22208 C
40	90	23	87.6	92	3700	5000	0.751	48	82	1.5	0.27	2.49	3.7	2.43	21308 CA
40	90	33	115	127	4000	5300	1.03	48	82	1.5	0.39	1.75	2.61	1.71	22308 CA
40	90	33	115	127	4000	5300	1.03	48	82	1.5	0.39	1.75	2.61	1.71	22308 C
45	85	23	80.5	91.9	4900	6500	0.597	52	78	1	0.27	2.5	3.72	2.44	22209 CA
45	85	23	80.5	91.9	4900	6500	0.597	52	78	1	0.27	2.5	3.72	2.44	22209 C
45	100	25	105	112	3300	4400	1.01	53	92	1.5	0.26	2.55	3.8	2.5	21309 CA
45	100	36	146	168	3600	4800	1.43	53	92	1.5	0.39	1.71	2.54	1.67	22309 CA
45	100	36	146	168	3600	4800	1.43	53	92	1.5	0.39	1.71	2.54	1.67	22309 C
50	90	23	83.1	97.8	4500	6000	0.641	57	83	1	0.25	2.71	4.04	2.65	22210 CA
50	90	23	83.1	97.8	4500	6000	0.641	57	83	1	0.25	2.71	4.04	2.65	22210 C
50	110	27	121	129	3000	4000	1.3	59	101	2	0.26	2.61	3.88	2.55	21310 CA
50	110	40	181	208	3200	4300	1.87	59	101	2	0.38	1.78	2.65	1.74	22310 CA
50	110	40	181	208	3200	4300	1.87	59	101	2	0.38	1.78	2.65	1.74	22310 C
55	100	25	102	119	4100	5400	0.849	63	92	1.5	0.26	2.64	3.93	2.58	22211 CA
55	100	25	102	119	4100	5400	0.849	63	92	1.5	0.26	2.64	3.93	2.58	22211 C
55	120	29	141	152	2800	3700	1.66	65	110	2	0.25	2.65	3.95	2.59	21311 CA
55	120	43	213	248	3000	3900	2.43	65	110	2	0.37	1.8	2.69	1.76	22311 CA
55	120	43	213	248	3000	3900	2.43	65	110	2	0.37	1.8	2.69	1.76	22311 C



20000 C(W33)

Cylindrical Bore
圆柱孔



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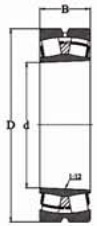
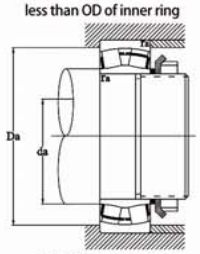
Tapered Bore
圆锥孔



20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



da尺寸应小于内圈外径

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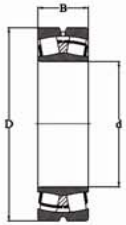
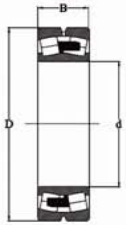
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
60	110	28	127	154	3700	4900	1.2	68	102	1.5	0.25	2.71	4.04	2.65	22212 CA
60	110	28	127	154	3700	4900	1.2	68	102	1.5	0.25	2.71	4.04	2.65	22212 C
60	130	31	165	175	2500	3400	1.99	70	120	2.1	0.26	2.64	3.93	2.58	21312 CA
60	130	46	243	284	2700	3600	3.01	70	120	2.1	0.37	1.8	2.69	1.76	22312 CA
60	130	46	243	284	2700	3600	3.01	70	120	2.1	0.37	1.8	2.69	1.76	22312 C
65	120	31	151	188	3400	4600	1.61	74	111	1.5	0.27	2.49	3.71	2.43	22213 CA
65	120	31	151	188	3400	4600	1.61	74	111	1.5	0.27	2.49	3.71	2.43	22213 C
65	140	33	186	197	2300	3100	2.45	76	129	2.1	0.25	2.69	4	2.63	21313 CA
65	140	48	251	291	2500	3400	3.53	76	129	2.1	0.35	1.92	2.86	1.88	22313 CA
65	140	48	251	291	2500	3400	3.53	76	129	2.1	0.35	1.92	2.86	1.88	22313 C
70	125	31	155	193	3200	4300	1.68	79	116	1.5	0.24	2.83	4.21	2.77	22214 CA
70	125	31	155	193	3200	4300	1.68	79	116	1.5	0.24	2.83	4.21	2.77	22214 C
70	150	35	206	223	2200	2900	2.98	81	139	2.1	0.25	2.74	4.08	2.68	21314 CA
70	150	51	300	362	2400	3100	4.37	81	139	2.1	0.35	1.95	2.91	1.91	22314 CA
70	150	51	300	362	2400	3100	4.37	81	139	2.1	0.35	1.95	2.91	1.91	22314 C
75	130	31	161	204	3100	4100	1.77	84	121	1.5	0.25	2.74	4.08	2.68	22215 CA
75	130	31	161	204	3100	4100	1.77	84	121	1.5	0.25	2.74	4.08	2.68	22215 C
75	160	37	249	270	2100	2700	3.63	87	148	2.1	0.24	2.84	4.23	2.78	21315 CA
75	160	55	351	437	2200	2900	5.5	87	148	2.1	0.36	1.87	2.79	1.83	22315 CA
75	160	55	351	437	2200	2900	5.5	87	148	2.1	0.36	1.87	2.79	1.83	22315 C
80	140	33	174	225	2900	3800	2.2	90	130	2	0.22	3.01	4.48	2.94	22216 CA
80	140	33	174	225	2900	3800	2.2	90	130	2	0.22	3.01	4.48	2.94	22216C
80	170	39	272	306	1900	2600	4.29	92	158	2.1	0.24	2.84	4.23	2.78	21316 CA
80	170	58	395	496	2100	2800	6.54	92	158	2.1	0.36	1.87	2.79	1.83	22316CA
80	170	58	395	496	2100	2800	6.54	92	158	2.1	0.36	1.87	2.79	1.83	22316 C
85	150	36	216	277	2700	3600	2.73	95	140	2	0.23	2.95	4.4	2.89	22217 CA
85	150	36	216	277	2700	3600	2.73	95	140	2	0.23	2.95	4.4	2.89	22217 C
85	180	41	297	351	1800	2400	5.19	97	168	3	0.24	2.79	4.15	2.73	21317CA
85	180	60	431	539	2000	2600	7.42	97	168	3	0.34	2.01	3	1.97	22317 CA
85	180	60	431	539	2000	2600	7.42	97	168	3	0.34	2.01	3	1.97	22317C



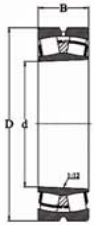
20000 C(W33)

Cylindrical Bore
圆柱孔



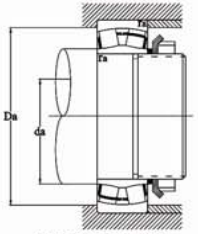
20000 CA(W33)

Tapered Bore
圆锥孔



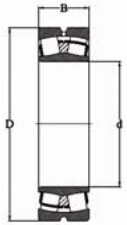
20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



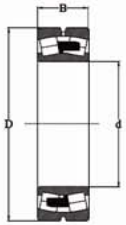
da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
90	140	50	229	386	1600	2200	2.89	99	131	1.5	0.32	2.09	3.11	2.04	24018 CA
90	140	50	229	386	1600	2200	2.89	99	131	1.5	0.32	2.09	3.11	2.04	24018 C
90	150	60	326	524	1400	1900	4.26	100	140	2	0.39	1.72	2.56	1.68	24118 CA
90	150	60	326	524	1400	1900	4.26	100	140	2	0.39	1.72	2.56	1.68	24118 C
90	160	40	252	332	2500	3300	3.47	101	149	2	0.23	2.9	4.31	2.83	22218 CA
90	160	40	252	332	2500	3300	3.47	101	149	2	0.23	2.9	4.31	2.83	22218 C
90	160	52.4	316	453	1600	2200	4.64	101	149	2	0.33	2.07	3.09	2.03	23218 CA
90	160	52.4	316	453	1600	2200	4.64	101	149	2	0.33	2.07	3.09	2.03	23218 C
90	190	43	320	387	1700	2300	6.09	103	177	3	0.24	2.84	4.23	2.78	21318 CA
90	190	64	486	623	1900	2500	8.87	103	177	3	0.34	1.98	2.94	1.93	22318 CA
90	190	64	486	623	1900	2500	8.87	103	177	3	0.34	1.98	2.94	1.93	22318 C
95	170	43	273	359	2400	3200	4.32	106	159	2.1	0.26	2.64	3.93	2.58	22219 CA
95	170	43	273	359	2400	3200	4.32	106	159	2.1	0.26	2.64	3.93	2.58	22219 C
95	200	45	351	444	1700	2200	7.09	109	186	2.5	0.23	2.9	4.3	2.8	21319 CA
95	200	67	534	686	1800	2300	10.4	108	187	3	0.35	1.92	2.86	1.88	22319 CA
95	200	67	534	686	1800	2300	10.4	108	187	3	0.35	1.92	2.86	1.88	22319 C
100	140	30	173	278	2600	3500	1.39	108	132	1.1	0.2	3.45	5.13	3.37	23920 CA
100	150	50	242	425	1500	2000	3.15	109	141	1.5	0.3	2.23	3.32	2.18	24020 CA
100	150	50	242	425	1500	2000	3.15	109	141	1.5	0.3	2.23	3.32	2.18	24020 C
100	165	65	389	632	1300	1700	5.54	111	154	2	0.38	1.77	2.64	1.73	24120 CA
100	165	65	389	632	1300	1700	5.54	111	154	2	0.38	1.77	2.64	1.73	24120 C
100	165	52	326	490	1700	2200	4.39	111	154	2	0.31	2.21	3.29	2.16	23120 CA
100	165	52	326	490	1700	2200	4.39	111	154	2	0.31	2.21	3.29	2.16	23120 C
100	180	46	317	423	2200	3000	5.1	112	168	2.1	0.26	2.55	3.8	2.5	22220 CA
100	180	46	317	423	2200	3000	5.1	112	168	2.1	0.26	2.55	3.8	2.5	22220 C
100	180	60.3	405	589	1500	1900	6.81	112	168	2.1	0.33	2.03	3.02	1.98	23220 CA
100	180	60.3	405	589	1500	1900	6.81	112	168	2.1	0.33	2.03	3.02	1.98	23220 C
100	215	47	382	446	1600	2000	8.44	114	201	2.5	0.22	3	4.5	3	21320 CA
100	215	73	613	799	1600	2200	13.3	114	201	3	0.35	1.91	2.85	1.87	22320 CA
100	215	73	613	799	1600	2200	13.3	114	201	3	0.35	1.91	2.85	1.87	22320 C



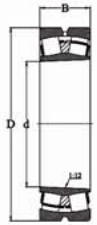
20000 C(W33)

Cylindrical Bore
圆柱孔



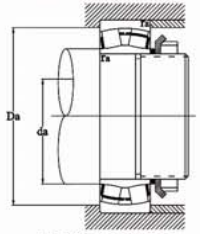
20000 CA(W33)

Tapered Bore
圆锥孔



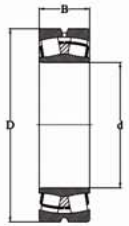
20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



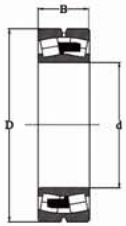
da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
110	150	30	182	303	2400	3300	1.5	118	142	1.1	0.18	3.73	5.56	3.65	23922 CA
110	170	45	304	489	1900	2500	3.79	120	160	2	0.25	2.67	3.97	2.61	23022 CA
110	170	45	304	489	1900	2500	3.79	120	160	2	0.25	2.67	3.97	2.61	23022 C
110	170	60	294	506	1300	1800	5.04	120	160	2	0.32	2.12	3.15	2.07	24022 CA
110	170	60	294	506	1300	1800	5.04	120	160	2	0.32	2.12	3.15	2.07	24022 C
110	180	56	382	596	1500	2000	5.72	121	169	2	0.29	2.32	3.45	2.26	23122 CA
110	180	56	382	596	1500	2000	5.72	121	169	2	0.29	2.32	3.45	2.26	23122 C
110	180	69	462	758	1200	1500	7.15	121	169	2	0.36	1.89	2.81	1.84	24122 CA
110	180	69	462	758	1200	1500	7.15	121	169	2	0.36	1.89	2.81	1.84	24122 C
110	200	53	414	574	2000	2700	7.69	123	187	2.1	0.26	2.55	3.8	2.5	22222 CA
110	200	53	414	574	2000	2700	7.69	123	187	2.1	0.26	2.55	3.8	2.5	22222 C
110	200	69.8	528	786	1300	1800	9.79	123	187	2.1	0.34	2	2.97	1.95	23222 CA
110	200	69.8	528	786	1300	1800	9.79	123	187	2.1	0.34	2	2.97	1.95	23222 C
110	240	50	471	611	1400	1800	11.8	124	226	2.5	0.22	3.1	4.7	3.1	21322 CA
110	240	80	724	915	1500	2000	18.3	125	225	3	0.35	1.91	2.85	1.87	22322 CA
110	240	80	724	915	1500	2000	18.3	125	225	3	0.35	1.91	2.85	1.87	22322 C
120	165	34	226	383	2200	3000	2.12	129	156	1.1	0.19	3.62	5.39	3.54	23924 CA
120	180	46	317	514	1700	2300	4.1	131	169	2	0.24	2.79	4.15	2.73	23024 CA
120	180	46	317	514	1700	2300	4.1	131	169	2	0.24	2.79	4.15	2.73	23024 C
120	180	60	386	673	1200	1700	5.4	131	169	2	0.3	2.26	3.37	2.21	24024 CA
120	180	60	386	673	1200	1700	5.4	131	169	2	0.3	2.26	3.37	2.21	24024 C
120	200	62	468	726	1400	1900	8.01	132	188	2	0.3	2.25	3.34	2.2	23124 CA
120	200	62	468	726	1400	1900	8.01	132	188	2	0.3	2.25	3.34	2.2	23124 C
120	200	80	601	994	1100	1400	10.2	132	188	2	0.39	1.74	2.59	1.7	24124 CA
120	200	80	601	994	1100	1400	10.2	132	188	2	0.39	1.74	2.59	1.7	24124 C
120	215	58	488	666	1900	2500	9.06	133	202	2.1	0.27	2.49	3.71	2.43	22224 CA
120	215	58	488	666	1900	2500	9.06	133	202	2.1	0.27	2.49	3.71	2.43	22224 C
120	215	76	592	904	1200	1600	12.1	133	202	2.1	0.34	1.98	2.94	1.93	23224 CA
120	215	76	592	904	1200	1600	12.1	133	202	2.1	0.34	1.98	2.94	1.93	23224 C
120	260	86	848	1130	1400	1800	23.4	136	244	3	0.34	1.96	2.92	1.92	22324 CA



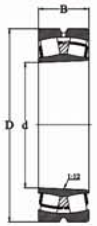
20000 C(W33)

Cylindrical Bore
圆柱孔



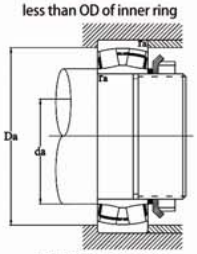
20000 CA(W33)

Tapered Bore
圆锥孔



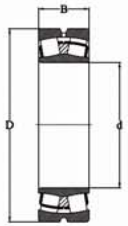
20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



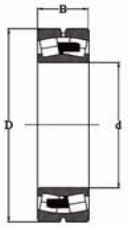
da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
120	260	86	848	1130	1400	1800	23.4	136	244	3	0.34	1.96	2.92	1.92	22342 C
130	180	37	270	455	2000	2700	2.76	140	170	1.5	0.19	3.61	5.38	3.53	23926 CA
130	200	52	401	660	1600	2100	6.02	142	188	2	0.25	2.71	4.04	2.65	23026 CA
130	200	52	401	660	1600	2100	6.02	142	188	2	0.25	2.71	4.04	2.65	23026 C
130	200	69	484	841	1100	1500	8.16	142	188	2	0.31	2.15	3.2	2.1	24026 CA
130	200	69	484	841	1100	1500	8.16	142	188	2	0.31	2.15	3.2	2.1	24026 C
130	210	64	512	798	1300	1800	8.75	142	198	2	0.28	2.4	3.58	2.35	23126 CA
130	210	64	512	798	1300	1800	8.75	142	198	2	0.28	2.4	3.58	2.35	23126 C
130	210	80	597	1020	980	1300	11.1	142	198	2	0.35	1.94	2.88	1.89	24126 CA
130	210	80	597	1020	980	1300	11.1	142	198	2	0.35	1.94	2.88	1.89	24126 C
130	230	64	579	804	1800	2300	11.2	144	216	3	0.28	2.43	3.61	2.37	22226 CA
130	230	64	579	804	1800	2300	11.2	144	216	3	0.28	2.43	3.61	2.37	22226 C
130	230	80	670	1020	1100	1500	14.3	144	216	3	0.34	1.99	2.96	1.94	23226 CA
130	230	80	670	1020	1100	1500	14.3	144	216	3	0.34	1.99	2.96	1.94	23226 C
130	280	93	978	1320	1300	1700	28.5	147	263	4	0.35	1.95	2.9	1.91	22326 CA
130	280	93	978	1320	1300	1700	28.5	147	263	4	0.35	1.95	2.9	1.91	22326 C
140	190	37	280	490	1900	2600	2.95	150	180	1.5	0.18	3.85	5.73	3.76	23928 CA
140	210	53	415	689	1500	2000	6.43	152	198	2	0.24	2.81	4.19	2.75	23028 CA
140	210	53	415	689	1500	2000	6.43	152	198	2	0.24	2.81	4.19	2.75	23028 C
140	210	69	495	865	1100	1400	8.42	152	198	2	0.29	2.3	3.42	2.25	24028 CA
140	210	69	495	865	1100	1400	8.42	152	198	2	0.29	2.3	3.42	2.25	24028 C
140	225	68	546	876	1200	1600	10.7	153	212	2.1	0.28	2.39	3.56	2.34	23128 CA
140	225	68	546	876	1200	1600	10.7	153	212	2.1	0.28	2.39	3.56	2.34	23128 C
140	225	85	634	1100	920	1200	13.1	153	212	2.1	0.35	1.94	2.88	1.89	24128 CA
140	225	85	634	1100	920	1200	13.1	153	212	2.1	0.35	1.94	2.88	1.89	24128 C
140	250	68	656	920	1600	2200	14.3	155	235	3	0.27	2.49	3.71	2.43	22228 CA
140	250	68	656	920	1600	2200	14.3	155	235	3	0.27	2.49	3.71	2.43	22228 C
140	250	88	818	1230	1000	1400	18.9	155	235	3	0.35	1.92	2.85	1.87	23228 CA
140	250	88	818	1230	1000	1400	18.9	155	235	3	0.35	1.92	2.85	1.87	23228 C
140	300	102	1140	1550	1200	1600	35.9	158	282	4	0.35	1.91	2.85	1.87	22328 CA



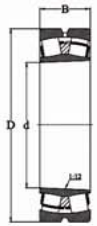
20000 C(W33)

Cylindrical Bore
圆柱孔



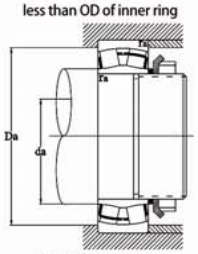
20000 CA(W33)

Tapered Bore
圆锥孔



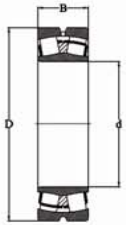
20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



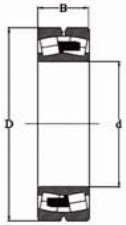
da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
140	300	102	1140	1550	1200	1600	35.9	158	282	4	0.35	1.91	2.85	1.87	22328 CA
140	300	118	1260	1790	1000	1400	39.6	158	282	4	0.41	1.63	2.43	1.6	23328 CA
150	210	45	321	569	1800	2300	4.88	161	199	2	0.2	3.38	5.03	3.3	23930 CA
150	225	56	467	789	1400	1900	7.81	162	213	2.1	0.24	2.84	4.23	2.78	23030 CA
150	225	56	467	789	1400	1900	7.81	162	213	2.1	0.24	2.84	4.23	2.78	23030 C
150	225	75	564	1010	990	1300	10.5	162	213	2.1	0.3	2.26	3.37	2.21	24030 CA
150	225	75	564	1010	990	1300	10.5	162	213	2.1	0.3	2.26	3.37	2.21	24030 C
150	250	80	716	1150	1100	1500	16.2	164	236	2.1	0.31	2.16	3.22	2.12	23130 CA
150	250	80	716	1150	1100	1500	16.2	164	236	2.1	0.31	2.16	3.22	2.12	23130 C
150	250	100	891	1520	840	1100	20.2	164	236	2.1	0.37	1.83	2.72	1.79	24130 CA
150	250	100	891	1520	840	1100	20.2	164	236	2.1	0.37	1.83	2.72	1.79	24130 C
150	270	73	750	1060	1500	2000	18.1	165	255	3	0.27	2.49	3.71	2.43	22230 CA
150	270	73	750	1060	1500	2000	18.1	165	255	3	0.27	2.49	3.71	2.43	22230 C
150	270	96	925	1450	980	1300	24.3	165	255	3	0.36	1.87	2.79	1.83	23230 CA
150	270	96	925	1450	980	1300	24.3	165	255	3	0.36	1.87	2.79	1.83	23230 C
150	320	108	1270	1750	1100	1500	43.7	168	302	4	0.35	1.92	2.86	1.88	22330 CA
150	320	108	1270	1750	1100	1500	43.7	168	302	4	0.35	1.92	2.86	1.88	22330 C
160	220	45	334	611	1700	2200	5.16	171	209	2	0.19	3.54	5.27	3.46	23932 CA
160	240	60	538	917	1300	1700	9.56	173	227	2.1	0.24	2.84	4.23	2.78	23032 CA
160	240	60	538	917	1300	1700	9.56	173	227	2.1	0.24	2.84	4.23	2.78	23032 C
160	240	80	655	1180	930	1200	13	173	227	2.1	0.3	2.26	3.37	2.21	24032 CA
160	240	80	655	1180	930	1200	13	173	227	2.1	0.3	2.26	3.37	2.21	24032 C
160	270	86	841	1370	1000	1400	20.8	175	255	2.1	0.31	2.16	3.22	2.12	23132 CA
160	270	86	841	1370	1000	1400	20.8	175	255	2.1	0.31	2.16	3.22	2.12	23132 C
160	270	109	1050	1810	780	1000	26.1	175	255	2.1	0.39	1.74	2.59	1.7	24132 CA
160	270	109	1050	1810	780	1000	26.1	175	255	2.1	0.39	1.74	2.59	1.7	24132 C
160	290	80	879	1220	1400	1900	22.8	176	274	3	0.28	2.43	3.61	2.37	22232 CA
160	290	80	879	1220	1400	1900	22.8	176	274	3	0.28	2.43	3.61	2.37	22232 C
160	290	104	1050	1670	910	1200	30.6	176	274	3	0.36	1.87	2.79	1.83	23232 CA
160	290	104	1050	1670	910	1200	30.6	176	274	3	0.36	1.87	2.79	1.83	23232 C



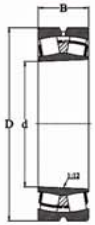
20000 C(W33)

Cylindrical Bore
圆柱孔



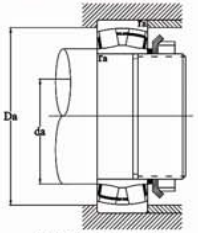
20000 CA(W33)

Tapered Bore
圆锥孔



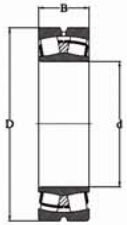
20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



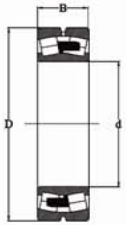
da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
160	340	114	1350	1860	1000	1400	51.9	179	321	4	0.35	1.91	2.85	1.87	22332 CA
160	340	114	1350	1860	1000	1400	51.9	179	321	4	0.35	1.91	2.85	1.87	22332 C
170	230	45	339	633	1600	2100	5.4	181	219	2	0.18	3.71	5.52	3.63	23934 CA
170	260	67	652	1110	1200	1600	13	184	246	2.1	0.25	2.74	4.08	2.68	23034 CA
170	260	67	652	1110	1200	1600	13	184	246	2.1	0.25	2.74	4.08	2.68	23034 C
170	260	90	800	1470	860	1200	17.6	184	246	2.1	0.32	2.12	3.15	2.07	24034 CA
170	260	90	800	1470	860	1200	17.6	184	246	2.1	0.32	2.12	3.15	2.07	24034 C
170	280	88	887	1490	990	1300	22.2	185	265	2.1	0.31	2.21	3.29	2.16	23134 CA
170	280	88	887	1490	990	1300	22.2	185	265	2.1	0.31	2.21	3.29	2.16	23134 C
170	280	109	1080	1870	740	990	27.2	185	265	2.1	0.37	1.8	2.69	1.76	24134 CA
170	280	109	1080	1870	740	990	27.2	185	265	2.1	0.37	1.8	2.69	1.76	24134 C
170	310	86	983	1380	1300	1800	29.2	187	293	4	0.28	2.41	3.59	2.35	22234 CA
170	310	86	983	1380	1300	1800	29.2	187	293	4	0.28	2.41	3.59	2.35	22234 C
170	310	110	1230	1970	840	1100	37.4	187	293	4	0.34	1.99	2.96	1.94	23234 CA
170	310	110	1230	1970	840	1100	37.4	187	293	4	0.34	1.99	2.96	1.94	23234 C
170	360	120	1500	2090	980	1300	61.1	190	340	4	0.35	1.91	2.85	1.87	22334 CA
170	360	120	1500	2090	980	1300	61.1	190	340	4	0.35	1.91	2.85	1.87	22334 C
180	250	52	447	849	1500	2000	7.98	192	238	2	0.19	3.5	5.21	3.42	23936 CA
180	280	74	702	1170	1100	1500	17.3	195	265	2.1	0.24	2.76	4.11	2.7	23036 CA
180	280	74	702	1170	1100	1500	17.3	195	265	2.1	0.24	2.76	4.11	2.7	23036 C
180	280	100	936	1710	810	1100	23.5	195	265	2.1	0.33	2.03	3.02	1.98	24036 CA
180	280	100	936	1710	810	1100	23.5	195	265	2.1	0.33	2.03	3.02	1.98	24036 C
180	300	96	999	1650	930	1200	28	196	284	3	0.32	2.13	3.17	2.08	23136 CA
180	300	96	999	1650	930	1200	28	196	284	3	0.32	2.13	3.17	2.08	23136 C
180	300	118	1240	2180	700	930	33.5	196	284	3	0.38	1.77	2.64	1.73	24136 CA
180	300	118	1240	2180	700	930	33.5	196	284	3	0.38	1.77	2.64	1.73	24136 C
180	320	86	1040	1490	1300	1700	30	197	303	4	0.27	2.51	3.74	2.45	22236 CA
180	320	86	1040	1490	1300	1700	30	197	303	4	0.27	2.51	3.74	2.45	22236 C
180	320	112	1270	2050	820	1100	39.5	197	303	4	0.35	1.94	2.88	1.89	23236 CA
180	320	112	1270	2050	820	1100	39.5	197	303	4	0.35	1.94	2.88	1.89	23236 C



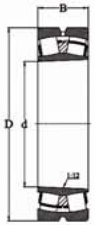
20000 C(W33)

Cylindrical Bore
圆柱孔



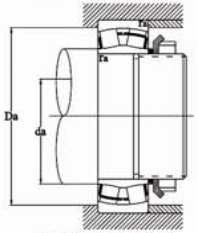
20000 CA(W33)

Tapered Bore
圆锥孔



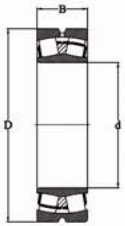
20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



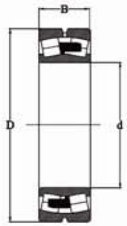
da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
180	380	126	1640	2290	930	1200	71.4	201	359	4	0.35	1.92	2.86	1.88	22336 CA
190	260	52	466	871	1400	1900	8.25	202	248	2	0.19	3.62	5.39	3.54	23938 CA
190	290	75	781	1360	1100	1400	18.2	205	275	2.1	0.24	2.76	4.11	2.7	23038 CA
190	290	75	781	1360	1100	1400	18.2	205	275	2.1	0.24	2.76	4.11	2.7	23038 C
190	290	100	931	1800	780	1000	23.8	205	275	2.1	0.31	2.18	3.24	2.13	24038 CA
190	290	100	931	1800	780	1000	23.8	205	275	2.1	0.31	2.18	3.24	2.13	24038 C
190	320	104	1170	1960	870	1200	34.9	207	303	3	0.32	2.12	3.15	2.07	23138 CA
190	320	104	1170	1960	870	1200	34.9	207	303	3	0.32	2.12	3.15	2.07	23138 C
190	320	128	1330	2340	650	870	42.3	207	303	3	0.37	1.82	2.71	1.78	24138 CA
190	340	92	1150	1700	1200	1600	37.3	208	322	4	0.27	2.49	3.71	2.43	22238 CA
190	340	92	1150	1700	1200	1600	37.3	208	322	4	0.27	2.49	3.71	2.43	22238 C
190	340	120	1420	2340	760	1000	48	208	322	4	0.33	2.03	3.03	1.99	23238 CA
190	340	120	1420	2340	760	1000	48	208	322	4	0.33	2.03	3.03	1.99	23238 C
190	400	132	1810	2540	880	1200	82.7	211	379	5	0.35	1.94	2.88	1.89	22338 CA
200	280	60	537	1030	1300	1800	11.7	213	267	2.1	0.2	3.42	5.09	3.34	23940 CA
200	310	82	867	1470	1000	1400	23.3	216	294	2.1	0.24	2.76	4.11	2.7	23040 CA
200	310	82	867	1470	1000	1400	23.3	216	294	2.1	0.24	2.76	4.11	2.7	23040 C
200	310	109	1170	2170	730	970	31.4	216	294	2.1	0.33	2.07	3.09	2.03	24040 CA
200	310	109	1170	2170	730	970	31.4	216	294	2.1	0.33	2.07	3.09	2.03	24040 C
200	340	112	1370	2310	830	1100	43.1	218	322	3	0.32	2.09	3.11	2.04	23140 CA
200	340	112	1370	2310	830	1100	43.1	218	322	3	0.32	2.09	3.11	2.04	23140 C
200	340	140	1590	2790	620	830	53.3	218	322	3	0.4	1.68	2.5	1.64	24140 CA
200	340	140	1590	2790	620	830	53.3	218	322	3	0.4	1.68	2.5	1.64	24140 C
200	360	98	1290	1910	1100	1500	43.2	219	341	4	0.27	2.47	3.67	2.41	22240 CA
200	360	98	1290	1910	1100	1500	43.2	219	341	4	0.27	2.47	3.67	2.41	22240 C
200	360	128	1580	2620	730	970	57.8	219	341	4	0.36	1.9	2.83	1.86	23240 CA
200	360	128	1580	2620	730	970	57.8	219	341	4	0.36	1.9	2.83	1.86	23240 C
200	420	138	1990	2800	840	1100	95.2	222	398	5	0.35	1.95	2.9	1.91	22340 CA
220	300	60	578	1120	1200	1600	12.6	234	286	2.1	0.19	3.58	5.33	3.5	23944 CA
220	340	90	1030	1790	930	1200	31	237	323	3	0.24	2.79	4.15	2.73	23044 CA



20000 C(W33)

Cylindrical Bore
圆柱孔

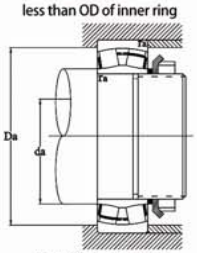


20000 CA(W33)

Tapered Bore
圆锥孔

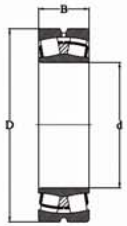
20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



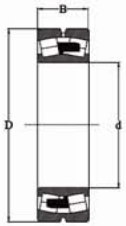
da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
220	340	90	1030	1790	930	1200	31	237	323	3	0.24	2.79	4.15	2.73	23044 C
220	340	118	1370	2550	660	880	40.5	237	323	3	0.32	2.09	3.11	2.04	24044 CA
220	340	118	1370	2550	660	880	40.5	237	323	3	0.32	2.09	3.11	2.04	24044 C
220	370	120	1500	2570	760	1000	54.1	239	351	4	0.31	2.21	3.29	2.16	23144 CA
220	370	150	1870	3390	570	750	65.6	239	351	4	0.39	1.74	2.59	1.7	24144 CA
220	400	108	1560	2260	1000	1400	59.5	240	380	4	0.26	2.55	3.8	2.5	22244 CA
220	400	144	1960	3270	660	880	81.5	240	380	4	0.36	1.87	2.79	1.83	23244 CA
220	460	145	2290	3250	760	1000	121	243	437	5	0.33	2.03	3.02	1.98	22344 CA
240	320	60	677	1330	1100	1500	13.5	254	306	2.1	0.17	3.95	5.88	3.86	23948 CA
240	360	92	1130	2080	870	1200	34.3	257	343	3	0.24	2.81	4.19	2.75	23048 CA
240	360	92	1130	2080	870	1200	34.3	257	343	3	0.24	2.81	4.19	2.75	23048 C
240	360	118	1400	2680	620	830	43.6	257	343	3	0.3	2.26	3.37	2.21	24048 CA
240	360	118	1400	2680	620	830	43.6	257	343	3	0.3	2.26	3.37	2.21	24048 C
240	400	128	1680	3060	700	930	66.3	259	381	4	0.32	2.13	3.17	2.08	23148 CA
240	400	160	2110	3880	520	700	83.2	259	381	4	0.38	1.77	2.64	1.73	24148 CA
240	440	120	1970	2870	750	950	80.7	258	422	3	0.28	2.4	3.6	2.4	22248 CA
240	440	160	2450	4110	600	800	111	262	418	4	0.37	1.84	2.74	1.8	23248 CA
240	500	155	2690	3850	700	940	152	265	475	5	0.33	2.07	3.09	2.03	22348 CA
260	360	75	835	1620	1000	1400	23.4	276	344	2.1	0.19	3.5	5.21	3.42	23952 CA
260	400	104	1420	2520	870	1200	49.8	278	382	4	0.25	2.69	4	2.63	23052 CA
260	400	140	1650	3340	560	750	66	278	382	4	0.33	2.07	3.09	2.03	24052 CA
260	440	144	2140	3660	640	850	92.1	281	419	4	0.32	2.12	3.15	2.07	23152 CA
260	440	180	2650	4940	480	640	115	281	419	4	0.39	1.74	2.59	1.7	24152 CA
260	480	130	2230	3350	670	850	107	282	458	4	0.27	2.5	3.7	2.4	22252 CA
260	480	174	2760	4600	550	740	144	283	457	5	0.37	1.84	2.74	1.8	23252 CA
260	540	165	2980	4330	650	870	188	286	514	6	0.32	2.1	3.13	2.06	22352 CA
280	380	75	1010	1950	960	1300	24.3	296	364	2.1	0.18	3.8	5.65	3.71	23956 CA
280	420	106	1480	2710	870	1200	53.8	299	401	4	0.24	2.79	4.15	2.73	23056 CA
280	420	140	1940	3940	530	710	69.4	299	401	4	0.31	2.16	3.22	2.12	24056 CA
280	460	146	2240	3950	600	800	98.1	301	439	5	0.31	2.18	3.24	2.13	23156 CA



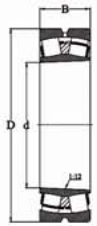
20000 C(W33)

Cylindrical Bore
圆柱孔



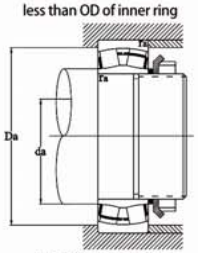
20000 CA(W33)

Tapered Bore
圆锥孔



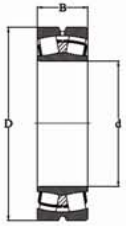
20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



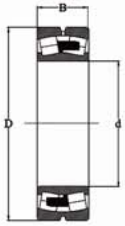
da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
280	460	180	2730	5220	450	600	120	301	439	5	0.38	1.77	2.64	1.73	24156 CA
280	500	130	2320	3590	810	1100	113	303	477	5	0.26	2.6	3.87	2.54	22256 CA
280	500	176	2930	5030	530	700	153	303	477	5	0.35	1.92	2.85	1.87	23256 CA
280	580	175	3430	5020	600	810	230	307	553	6	0.32	2.13	3.17	2.08	22356 CA
300	420	90	1330	2510	880	1200	38	318	402	3	0.2	3.45	5.13	3.37	23960 CA
300	460	118	1810	3280	870	1200	74.5	320	440	4	0.25	2.74	4.08	2.68	23060 CA
300	460	160	2430	4990	490	650	98.8	320	440	4	0.33	2.06	3.06	2.01	24060 CA
300	500	160	2750	4720	560	740	129	323	477	5	0.31	2.16	3.22	2.12	23160 CA
300	500	200	3120	6280	420	560	161	323	477	5	0.39	1.73	2.58	1.69	24160 CA
300	540	140	2650	3980	750	1000	141	325	515	5	0.26	2.6	3.87	2.54	22260 CA
300	540	192	3390	5920	490	650	197	325	515	5	0.36	1.89	2.82	1.85	23260 CA
300	620	185	3950	5900	400	520	264	350	572	6	0.31	2.2	3.3	2.2	22360 CA
320	440	90	1370	2690	830	1100	40.3	338	422	3	0.19	3.64	5.43	3.56	23964 CA
320	480	121	1980	3680	630	800	77.8	338	462	3	0.24	2.8	4.2	2.8	23064 CA
320	480	160	2460	5170	470	620	103	341	459	4	0.31	2.16	3.22	2.11	24064 CA
320	540	176	3120	5680	520	690	169	344	516	5	0.32	2.12	3.15	2.07	23164 CA
320	540	218	3650	7430	390	520	208	344	516	5	0.4	1.71	2.54	1.67	24164 CA
320	580	150	3000	4580	700	940	174	346	554	5	0.26	2.6	3.87	2.54	22264 CA
320	580	208	3910	6920	450	610	248	346	554	5	0.36	1.88	2.79	1.83	23264 CA
320	670	200	4250	6550	400	530	356	342	478	4	0.33	2.1	3.1	2	22364 CA
340	460	90	1280	2610	670	850	42.9	354	446	2.5	0.18	3.8	5.7	3.7	23968 CA
340	520	133	2380	4290	610	810	102	362	498	5	0.24	2.79	4.15	2.73	23068 CA
340	520	180	2950	6180	430	580	141	362	498	5	0.33	2.07	3.08	2.02	24068 CA
340	580	190	3620	6460	490	650	212	365	555	5	0.32	2.09	3.11	2.05	23168 CA
340	580	243	4280	8880	360	480	269	365	555	5	0.41	1.64	2.44	1.6	24168 CA
340	620	224	4460	7990	430	570	307	367	593	6	0.36	1.86	2.77	1.82	23268 CA
340	710	212	5000	7800	360	480	422	368	682	5	0.33	2.1	3.1	2	22368 CA
360	480	90	1470	3030	760	1000	44.6	378	462	3	0.17	4.03	6	3.94	23972 CA
360	540	134	2490	4590	580	770	108	382	518	5	0.23	2.9	4.31	2.83	23072 CA
360	540	180	3050	6510	410	550	148	382	518	5	0.31	2.16	3.22	2.11	24072 CA



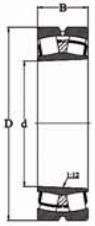
20000 C(W33)

Cylindrical Bore
圆柱孔



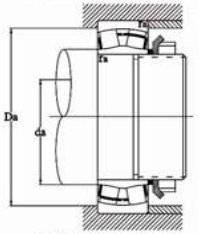
20000 CA(W33)

Tapered Bore
圆锥孔



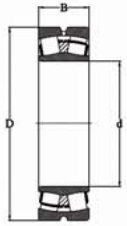
20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring



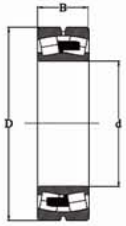
da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
360	600	192	3760	6920	470	620	224	386	574	5	0.31	2.16	3.22	2.11	23172 CA
360	600	243	4410	9360	350	460	282	386	574	5	0.39	1.71	2.55	1.68	24172 CA
360	650	232	4830	8690	400	540	346	388	622	6	0.36	1.89	2.81	1.84	23272 CA
360	750	224	5500	8650	360	480	503	388	718	5	0.33	2.1	3.1	2	22372 CA
380	520	106	1880	3780	710	940	65.4	400	500	4	0.18	3.66	5.45	3.58	23976 CA
380	560	135	2580	4880	560	740	114	402	538	5	0.22	3	4.47	2.94	23076 CA
380	560	180	3150	6860	400	530	154	402	538	5	0.3	2.26	3.36	2.21	24076 CA
380	620	194	3910	7390	450	600	236	406	594	5	0.3	2.23	3.32	2.18	23176 CA
380	620	243	4800	9650	390	590	292	402	598	4	0.39	1.73	2.58	1.69	24176 CA
380	680	240	5250	9460	390	520	388	409	651	6	0.35	1.91	2.84	1.87	23276 CA
380	780	230	5850	9300	340	450	554	412	748	6	0.32	2.1	3.2	2.1	22376 CA
400	540	106	1930	3960	680	900	68.2	420	520	4	0.18	3.82	5.69	3.74	23980 CA
400	600	148	2890	5650	520	690	150	424	576	5	0.23	2.92	4.35	2.86	23080 CA
400	600	200	3720	8080	370	500	202	424	576	5	0.31	2.16	3.22	2.11	24080 CA
400	650	200	4220	8000	430	570	265	427	623	6	0.3	2.27	3.38	2.22	23180 CA
400	650	250	4800	9700	360	560	333	428	692	5	0.4	1.7	2.53	1.66	24180 CA
400	720	185	4550	7650	360	450	343	428	692	5	0.26	2.6	3.8	2.5	22280 CA
400	720	256	5850	10600	340	520	457	428	692	5	0.37	1.81	2.69	1.77	23280 CA
400	820	243	6232	9880	360	450	650	436	784	6	0.3	2.3	3.4	2.2	22380 CA
420	560	106	1980	4200	650	860	71.4	440	540	4	0.17	3.99	5.94	3.9	23984 CA
420	620	150	3130	5980	500	670	154	444	596	5	0.23	2.99	4.45	2.92	23084 CA
420	620	200	3750	8100	380	480	199	442	598	4	0.31	2.2	3.2	2.1	24084 CA
420	700	224	4680	9200	360	450	253	448	672	5	0.3	2.3	3.4	2.2	23184 CA
420	700	280	6000	12000	340	450	421	448	672	5	0.38	1.8	2.6	1.7	24184 CA
420	760	272	6110	11900	320	400	549	456	724	6	0.35	1.9	2.9	1.8	23284 CA
440	600	118	2370	4820	610	810	96.1	462	578	4	0.18	3.8	5.65	3.71	23988 CA
440	650	157	3390	6560	480	640	178	465	625	6	0.23	3	4.46	2.93	23088 CA
440	650	212	4150	9100	360	450	237	468	622	5	0.31	2.1	3.2	2.1	24088 CA
440	720	226	4950	10000	340	430	377	468	692	5	0.3	2.3	3.4	2.2	23188 CA
440	720	280	6000	12100	320	430	433	468	692	5	0.37	1.8	2.7	1.8	24188 CA



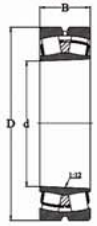
20000 C(W33)

Cylindrical Bore
圆柱孔



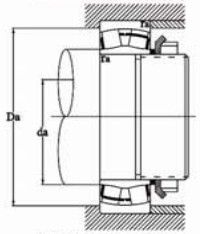
20000 CA(W33)

Tapered Bore
圆锥孔



20000 CK(CAK)(W33)

da dimension should be less than OD of inner ring

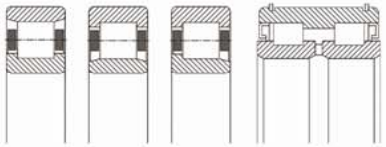


da尺寸应小于内圈外径

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Calculation Factors 计算系数				Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	e	Y_1	Y_2	Y_0	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm					
440	790	280	6900	12800	300	400	594	476	754	6	0.35	1.9	2.9	1.9	23288 CA
460	620	118	2420	5020	590	780	99.7	482	598	4	0.17	3.94	5.87	3.86	23992 CA
460	680	163	3390	6840	460	610	206	488	652	5	0.22	3.07	4.57	3	23092 CA
460	680	218	4500	9950	340	430	266	488	652	5	0.29	2.3	3.4	2.3	24092 CA
460	760	240	5500	10000	320	400	457	496	724	6	0.3	2.3	3.4	2.2	23192 CA
460	760	300	6300	12400	300	400	512	496	724	6	0.39	1.7	2.6	1.7	24192 CA
460	830	296	7050	14500	290	440	700	496	794	6	0.36	1.87	2.78	1.83	23292 CA
480	650	128	2750	5780	560	750	121	503	627	5	0.18	3.8	5.66	3.72	23996 CA
480	700	165	3550	7640	360	550	218	508	672	5	0.23	2.94	4.83	2.88	23096 CA
480	700	218	4600	10200	320	430	270	508	672	5	0.3	2.3	3.4	2.2	24096 CA
480	790	248	6100	12000	300	380	516	516	754	6	0.3	2.3	3.4	2.2	23196 CA
480	790	308	7150	14600	300	380	567	516	754	6	0.39	1.7	2.6	1.7	24196 CA
480	870	310	7750	15200	260	340	853	516	834	6	0.35	1.9	2.9	1.8	23296 CA
500	720	167	3150	7650	380	480	228	522	648	4	0.21	3.2	4.8	3.1	230/500 CA
500	830	264	6850	13400	280	360	570	536	794	6	0.31	2.2	3.2	2.1	231/500 CA
500	920	336	9460	18600	280	360	985	536	884	6	0.35	1.9	2.9	1.8	232/500 CA
530	780	185	3900	9650	340	430	313	558	752	5	0.22	3.1	4.6	3.0	230/530 CA
560	820	195	4300	10500	320	410	365	588	792	5	0.22	3.0	4.5	2.9	230/560 CA
560	920	280	7590	15700	240	320	756	596	884	6	0.3	2.3	3.4	2.2	231/560 CA
560	920	355	10000	20100	120	160	953	596	884	6	0.35	1.9	2.9	1.8	241/560 CA
600	870	200	4700	11600	300	380	417	628	842	5	0.21	3.3	4.8	3.2	230/600 CA
600	980	375	10000	21600	110	150	1140	636	944	6	0.36	1.9	2.8	1.9	241/600 CA
630	920	212	5150	12800	260	340	417	666	884	6	0.22	3.1	4.7	3.1	230/630 CA

Cylindrical Roller Bearings
圆柱滚子轴承

Type code: 类型代号：



N NU NJ SL04

I.D. (5 *_ _= mm)
5 * 12 = 60
5 * 20 = 100
5 * 36 = 180

内径（5 *_ _= mm）
5 * 12 = 60
5 * 20 = 100
5 * 36 = 180

N	23	12	M
NU	0	20	L1 / C4
NJ	3	36	E

Size Designation:
1 0 : N 1000
(0) 2 : N 200
2 2 : N 2200
(0) 3 : N300
2 3 : N2300
(0) 4 : N400

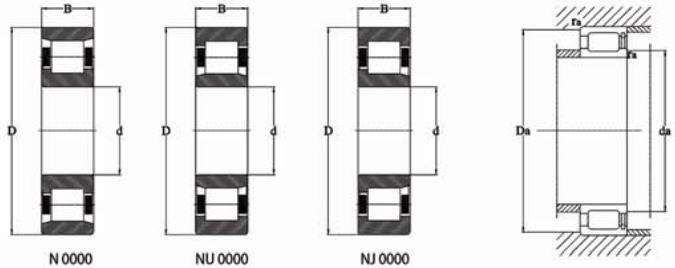
尺寸系列代号：
1 0 ： 例 N 1000
(0) 2 ： 例 N 200
2 2 ： 例 N 2200
(0) 3 ： 例 N300
2 3 ： 例 N2300
(0) 4 ： 例 N400

Internal Structure And Retainer Material Modifiation
E: reinforced structure
M: brass retainer
L: aluminum alloy retainer
Q: bronze retainer

内部结构及保持架材料改变
E：加强型结构
M：黄铜保持架
L：铝合金保持架
Q：青铜保持架

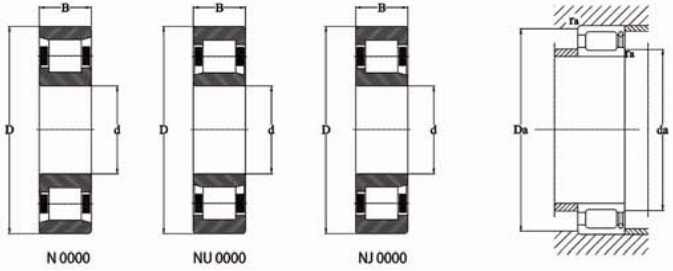
C0，C2，C3，C4，C5 clearance code，reference to page 11-14 for detail data
P0，P6，P5，P4，P2 means the same precision grade as that of Deep Groove Ball Bearings
S0，S1，S2，S3，S4 means the same working temperature as that of Spherical Roller Bearings

C0，C2，C3，C4，C5 游隙代号，详细数据参见第 11-14 页
P0，P6，P5，P4，P2 公差等级代号的含义与深沟球轴承相同
S0，S1，S2，S3，S4 的工作温度的含义与调心滚子轴承相同



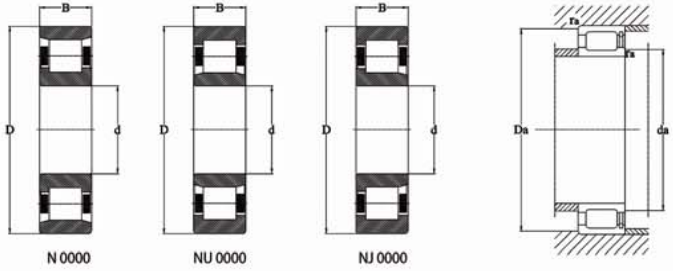
N 0000 NU 0000 NJ 0000

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号		
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	NU0000	NJ0000	N0000
17	40	12	8	5.5	14000	18000	0.066	19	36	0.6	NU203	NJ203	N203
20	47	14	25.1	22	13000	16000	0.114	25	42	1	NU204	NJ204	N204
20	47	18	29.7	27.5	13000	16000	0.145	25	42	1	NU2204	NJ2204	N2204
20	52	15	30.8	26	12000	14000	0.152	26.5	45.5	1	NU304	NJ304	N304
20	52	21	41.3	38	11000	14000	0.212	26.5	45.5	1	NU2304	NJ2304	N2304
25	52	15	28.6	27	11000	14000	0.136	30	47	1	NU205	NJ205	N205
25	52	18	34.1	34	11000	14000	0.163	30	47	1	NU2205	NJ2205	N2205
25	62	17	40.2	36.5	9500	12000	0.246	31.5	55.5	1	NU305	NJ305	N305
25	62	24	56.1	55	9000	12000	0.347	31.5	55.5	1	NU2305	NJ2305	N2305
30	62	16	38	36.5	9500	12000	0.208	35	57	1	NU206	NJ206	N206
30	62	20	48.4	49	9500	12000	0.262	35	57	1	NU2206	NJ2206	N2206
30	72	19	51.2	48	9000	11000	0.368	36.5	65.5	1	NU306	NJ306	N306
30	72	27	73.7	75	8000	11000	0.526	36.5	65.5	1	NU2306	NJ2306	N2306
35	72	17	48.45	48	8000	10000	0.305	41.5	65.5	1	NU207	NJ207	N207
35	72	23	59.4	63	8500	10000	0.403	41.5	65.5	1	NU2207	NJ2207	N2207
35	80	21	64.4	41.5	8000	9500	0.479	43	72	1.5	NU307	NJ307	N307
35	80	31	91.3	98	7000	8500	0.723	43	72	1.5	NU2307	NJ2307	N2307
40	80	18	53.9	53	7500	9000	0.383	46.5	73.5	1	NU208	NJ208	N208
40	80	23	70.4	75	7500	9000	0.494	46.5	73.5	1	NU2208	NJ2208	N2208
40	90	23	80.9	78	6700	8000	0.631	48	82	1.5	NU308	NJ308	N308
40	90	33	112	120	6300	7500	0.951	48	82	1.5	NU2308	NJ2308	N2308
45	85	19	60.5	64	6700	8000	0.44	51.5	78.5	1	NU209	NJ209	N209
45	85	23	73.7	81.5	6300	8000	0.534	51.5	78.5	1	NU2209	NJ2209	N2209
45	100	25	99	100	6300	7500	0.909	53	92	1.5	NU309	NJ309	N309
45	*100*	*36*	*138*	*153*	*5600*	*6700*	*1.31*	*53*	*92*	*1.5*	*NU2309*	*NJ2309*	*N2309*
50	90	20	61.2	69.2	6000	7500	0.5	57	83	1.1	NU210	NJ210	N210
50	90	23	74.2	88.8	6000	7500	0.59	57	83	1.1	NU2210	NJ2210	N2210



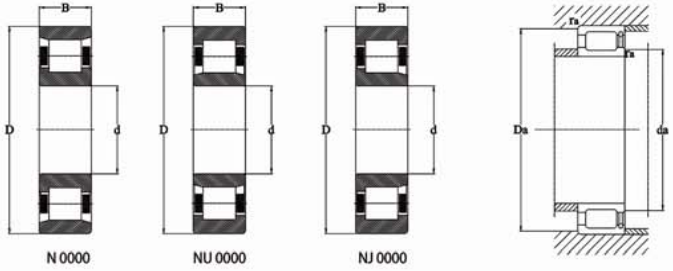
N 0000 NU 0000 NJ 0000

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号		
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	NU0000	NJ0000	N0000
50	110	27	105	112	5300	6700	1.2	58	102	2	NU310	NJ310	N310
50	110	40	155	185	5300	6700	1.2	58	102	2	NU2310	NJ2310	N2310
50	130	31	129	124	4700	5500	2.02	61	119	2.1	NU410	NJ410	N410
55	100	21	80.2	95.2	5300	6700	0.68	62	93	1.1	NU211	NJ211	N211
55	100	25	94.8	118	5300	6700	0.81	62	93	1.1	NU2211	NJ2211	N2211
55	120	29	139	144	4800	6000	1.53	64	111	2	NU311	NJ311	N311
55	120	43	190	228	4800	6000	2.28	64	111	2	NU2311	NJ2311	N2311
60	110	22	89.8	102	5000	6300	0.86	68	102	1.5	NU212	NJ212	N212
60	110	28	122	152	5000	6300	1.12	68	102	1.5	NU2212	NJ2212	N2212
60	130	31	153	162	4500	5600	1.87	69	121	2.1	NU312	NJ312	N312
60	130	46	212	260	4500	5600	2.81	69	121	2.1	NU2312	NJ2312	N2312
60	150	35	167	168	3900	4600	2.98	71	139	2.1	NU412	NJ412	N412
65	120	23	102	118	4500	5600	1.08	73	112	1.5	NU213	NJ213	N213
65	120	31	142	180	4500	5600	1.48	73	112	1.5	NU2213	NJ2213	N2213
65	140	33	170	188	4000	5000	2.31	74	131	2.1	NU313	NJ313	N313
65	140	48	235	285	4000	5000	3.34	74	131	2.1	NU2313	NJ2313	N2313
65	160	37	182	186	3600	4300	3.6	76	149	2.1	NU413	NJ413	N413
70	125	24	105	122	4300	5300	1.2	78	117	1.5	NU214	NJ214	N214
70	125	31	148	192	4300	5300	1.56	78	117	1.5	NU2214	NJ2214	N2214
70	150	35	219	243	3800	4800	2.86	80	140	2.1	NU314	NJ314	N314
70	150	51	260	320	3800	4800	4.1	80	140	2.1	NU2314	NJ2314	N2314
70	180	42	228	236	3400	4000	5.24	83	167	3	NU414	NJ414	N414
75	130	25	119	140	4000	5000	1.32	83	122	1.5	NU215	NJ215	N215
75	130	31	155	205	4000	5000	1.64	83	122	1.5	NU2215	NJ2215	N2215
75	160	37	243	267	3600	4500	3.43	85	150	2.1	NU315	NJ315	N315
75	160	55	318	377	3600	4500	5.4	85	150	2.1	NU2315	NJ2315	N2315
75	190	45	300	326	3200	4000	7.37	85	180	2.1	NU415	NJ415	N415



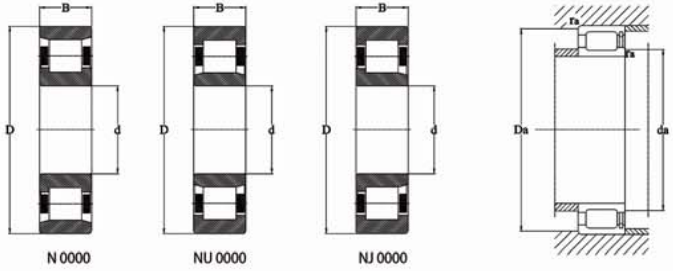
N 0000 NU 0000 NJ 0000

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号		
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	NU0000	NJ0000	N0000
80	140	26	1132	165	3800	4800	1.58	89	131	2	NU216	NJ216	N216
80	140	33	178	242	3800	4800	2.05	89	131	2	NU2216	NJ2216	N2216
80	170	39	277	314	3400	4300	4.05	91	159	2.1	NU316	NJ316	N316
80	170	58	351	425	3400	4300	6.13	91	159	2.1	NU2316	NJ2316	N2316
80	200	48	323	348	3000	3800	8.28	92	188	3	NU416	NJ416	N416
85	150	28	158	192	3600	4500	2	94	141	2	NU217	NJ217	N217
85	150	36	205	272	3600	4500	2.58	94	141	2	NU2217	NJ2217	N2217
85	180	41	280	315	3200	4000	4.82	96	169	3	NU317	NJ317	N317
85	180	60	399	496	3200	4000	7.4	96	169	3	NU2317	NJ2317	N2317
90	160	30	172	215	3400	4300	2.44	100	150	2	NU218	NJ218	N218
90	160	40	230	312	3400	4300	3.26	100	150	2	NU2218	NJ2218	N2218
90	190	43	320	360	3000	3800	5.59	102	178	3	NU318	NJ318	N318
90	190	64	310	395	3000	3800	8.4	102	178	3	NU2318	NJ2318	N2318
95	170	32	208	262	3200	4000	2.96	105	160	2.1	NU219	NJ219	N219
95	170	43	275	368	3200	4000	3.97	105	160	2.1	NU2219	NJ2219	N2219
95	200	45	338	392	2800	3600	6.52	107	188	3	NU319	NJ319	N319
95	200	67	464	589	2800	3600	10.4	107	188	3	NU2319	NJ2319	N2319
100	150	24	92	125	3800	4500	1.5	108	142	1.5	NU1020	NJ1020	N1020
100	180	34	250	317	3000	3800	3.58	111	169	2.1	NU220	NJ220	N220
100	180	46	337	450	3000	3800	4.86	111	169	2.1	NU2220	NJ2220	N2220
100	215	47	412	473	2600	3200	7.89	113	202	3	NU320	NJ320	N320
100	215	73	464	596	2600	3200	13.9	113	202	3	NU2320	NJ2320	N2320
105	190	36	266	318	3400	4000	4.59	116	179	2	NU221	NJ221	N221
105	225	49	330	360	2500	3000	9.2	118	212	3	NU321	NJ321	N321
110	*170*	*28*	*130*	*175*	*3400*	*4000*	*2.3*	*119*	*161*	*2*	*NU1022*	*NJ1022*	*N1022*
110	200	38	278	360	2600	3400	5.02	121	189	2.1	NU222	NJ222	N222
110	200	53	312	445	2600	3400	7.5	121	189	2.1	NU2222	NJ2222	N2222



N 0000 NU 0000 NJ 0000

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号		
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	NU0000	NJ0000	N0000
110	240	50	462	541	2000	2800	11	124	226	3	NU322	NJ322	N322
110	240	80	610	769	2000	2800	17.5	124	226	3	NU2322	NJ2322	N2322
120	180	28	178	211	3400	4300	2.58	129	171	2	NU1024	NJ1024	N1024
120	215	40	322	422	2200	3000	6.11	132	203	2.1	NU224	NJ224	N224
120	215	58	460	632	2200	3000	9.5	132	203	2.1	NU2224	NJ2224	N2224
120	260	55	550	656	1900	2600	14	134	246	3	NU324	NJ324	N324
120	260	86	830	1107	1900	2600	24.9	134	246	3	NU2324	NJ2324	N2324
120	310	72	686	789	1600	2200	30.4	134	296	3	NU424	NJ424	N424
130	200	33	148	152	2400	3200	3.7	140	190	2	NU1026	NJ1026	N1026
130	230	40	258	352	2000	2800	7	142	218	3	NU226	NJ226	N226
130	230	64	365	530	2100	2800	11	142	218	3	NU2226	NJ2226	
130	280	58	536	633	1700	2300	17.3	142	268	3	NU326	NJ326	N326
130	280	93	826	1070	1700	2300	30.7	142	268	3	NU2326	NJ2326	N2326
140	210	33	150	220	2000	2800	4	151	199	2	NU1028	NJ1028	N1028
140	258	42	302	415	1800	2400	9.1	153	237	3	NU228	NJ228	N228
140	150	68	644	925	1800	2400	15.4	153	237	3	NU2228	NJ2228	N2228
140	300	62	677	818	1500	2100	22.4	153	287	3	NU328	NJ328	N328
140	300	102	920	1200	1700	2300	34	156	284	4	NU2328	NJ2328	
150	225	35	205	298	1900	2600	5.1	161	214	2.1	NU1030	NJ1030	N1030
150	270	45	360	490	1700	2200	11	164	256	3	NU230	NJ230	N230
150	270	73	490	700	1800	2500	17	164	256	3	NU2230	NJ2230	
160	240	38	235	340	1800	2500	5.9	172	228	2.1	NU1032	NJ1032	N1032
160	290	48	420	550	1600	2100	15	175	275	3	NU232	NJ232	N232
160	290	80	620	930	1700	2300	22	175	275	3	NU2232	NJ2232	
160	340	68	690	870	1500	2200	32	177	323	4	NU332	NJ332	N332
160	340	114	1060	1510	1500	2100	51	177	323	4	NU2332	NJ2332	
170	260	42	276	390	1700	2300	7.8	182	248	2.1	NU1034	NJ1034	N1034



N 0000 NU 0000 NJ 0000

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号		
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	NU0000	NJ0000	N0000
170	310	52	460	620	1500	2000	18	185	295	4	NU234	NJ234	N234
170	310	86	710	1050	1600	2200	27	185	295	4	NU2234	NJ2234	
170	310	86	1230	1800	1400	1700	63	186	344	3	NU2334	NJ2334	
170	360	72	780	950	1400	2100	38	188	342	4	NU334	NJ334	
180	280	46	336	475	2000	2600	10.5	202	269	2	NU1036	NJ1036	N1036
180	320	52	485	660	1400	1900	19	196	304	4	NU236	NJ236	N236
180	320	86	740	1130	1500	2100	29	196	304	4	NU2236	NJ2236	
180	380	75	913	1180	1500	1800	42.5	196	364	3	NU336	NJ336	N336
180	380	126	1400	2040	1300	1600	73	196	364	3	NU2336	NJ2336	N2336
190	290	46	347	505	1500	2000	10.8	203	277	2.1	NU1038	NJ1038	N1038
190	340	55	693	965	1600	1900	23.5	206	324	3	NU238	NJ238	N238
190	340	92	820	1280	1450	2000	34	206	324	3	NU2238	NJ2238	
190	400	78	1140	1500	1200	1500	50	210	380	4	NU338	NJ338	N338
190	400	132	1830	2550	1200	1500	82.5	210	380	4	NU2338		
200	310	51	471	707	1400	1800	14.3	214	296	2.1	NU1040	NJ1040	N1040
200	360	58	605	845	1200	1700	26	217	343	4	NU240	NJ240	N240
200	360	98	920	1350	1400	1900	42	217	343	4	NU2240	NJ2240	
200	420	138	1620	2640	1200	1500	94.5	220	400	4	N2340		
200	420	165	1950	3540	1200	1500	118	220	400	4	NU3340		
220	340	56	500	750	1300	1700	18.3	235	325	3	NU1044	NJ1044	N1044
220	400	65	760	1220	1500	1800	37.6	236	384	3	NU244	NJ244	N244
240	360	56	525	815	1250	1600	19.8	255	345	3	NU1048	NJ1048	N1048
260	400	65	640	980	1200	1500	29.2	277	383	4	NU1052	NJ1052	N1052
260	400	82	985	1880	1300	1700	40.4	276	384	3	NU2052		
280	*420*	*65*	*640*	*1140*	*1400*	*1700*	*32.2*	*296*	*404*	*3*		*NJ1056*	

附注：如需要此样本中未标明的其他型号圆柱滚子轴承，如NUP型，NF型，NH型等可直接与NFB技术部门联系。
Note: if other bearings not listed in the catalogue are desired, for example, the type code of bearing is NUP, NF, NH,etc, please contact with the Technology Section of NFB.

Double Row Full Complement Cylindrical Roller Bearings

NFB SL04 series double row full complement cylindrical roller bearings mainly used to sheave, as it has large radius load capacity and shock-proof ability as well as axial load capacity in both directions.

Comprising one outer ring and two inner rings, the bearing in assembled as a unit by an internal locking structure. The width of the outer ring is less than total width of two inner rings by 1 mm, two snap rings are fitted on the outer ring, oil grooves and holes are made at contact face of two inner rings, therefore the bearing application design is simplified.

On both sides of the bearing mounted are steel seals, or optional rubber seals or nylon seals. All outside surfaces of the bearing components are phosphated to ensure the bearing able to work in the open air.

双列满装圆柱滚子轴承

NFB SL04 系列双列满装圆柱滚子轴承，具有极高的径向承载能力和抗冲击能力，而且可承受双向轴向载荷，主要用于滑轮的支承。

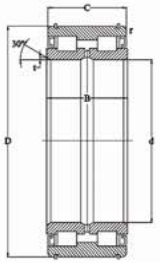
该系列轴承具有一个外圈、两个内圈，装配后由内部锁止结构保持轴承成一整体。轴承外圈宽度比两内圈总宽度小1mm,外圈装有止动环，两内圈结合处有油孔和油槽，从而简化了应用部位的设计。

轴承两侧装有钢板冲压密封圈（也可选接触式橡胶或尼龙密封圈）。轴承零件表面可磷化处理，以保证轴承适应露天环境的应用。

Internal clearance 径向游隙

公称轴承内径 d(mm)		CN		C3		C4	
Over 超过	incl 到	min 最小	max 最大	min 最小	max 最大	min 最小	max 最大
mm	mm	μm	μm	μm	μm	μm	μm
30	50	20	75	40	95	55	110
50	80	30	90	55	115	75	135
80	120	35	105	80	150	105	175
120	180	60	150	110	200	105	240
180	250	90	190	155	255	205	305
250	315	110	225	195	310	255	370
315	400	140	265	245	370	320	445
400	500	180	320	300	440	395	535

*At installation of the bearings the inner rings should be pressed together and fixed in both axial directions by shaft shoulder and locating washer.
*轴承安装须保证内圈轴向两方向由轴肩和垫圈压紧固定



Principal Dimensions 基本尺寸						Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速	Weight 重量	Bearing Number 轴承代号
d	D	B	C	t	r	Cr	Cor	Grease 脂	wt ≈	
mm	mm	mm	mm	mm	mm	kN	kN	r/min	kg	
40	68	38	37	0.8	1	79.5	116	2500	0.552	SL04-5008NR
45	75	40	39	0.8	1	95.5	144	2200	0.688	SL04-5009NR
50	80	40	39	0.8	1	100	158	2000	0.752	SL04-5010NR
55	90	46	45	1	1	118	193	1800	1.12	SL04-5011NR
60	95	46	45	1	1	123	208	1700	1.2	SL04-5012NR
65	100	46	45	1	1	128	224	1500	1.27	SL04-5013NR
70	110	54	53	1	1	171	285	1400	1.87	SL04-5014NR
75	115	54	53	1	1	197	325	1300	1.97	SL04-5015NR
80	125	60	59	1	1	205	350	1300	2.66	SL04-5016NR
85	130	60	59	1	1	214	380	1200	2.79	SL04-5017NR
90	140	67	66	1.5	1	305	540	1100	3.71	SL04-5018NR
95	145	67	66	1.5	1	310	560	1100	3.87	SL04-5019NR
100	150	67	66	1.5	1	330	580	1000	4.03	SL04-5020NR
110	170	80	79	1.8	1.5	385	695	910	7	SL04-5022NR
120	180	80	79	1.8	1.5	400	750	830	7.5	SL04-5024NR
130	200	95	94	1.8	1.5	535	1000	770	11.4	SL04-5026NR
140	210	95	94	1.8	1.5	600	1120	710	12.1	SL04-5028NR
150	225	100	99	2	1.5	690	1290	670	14.6	SL04-5030NR
160	240	109	108	2	2	720	1390	630	18.2	SL04-5032NR
170	260	122	121	2	2	925	1790	590	24.6	SL04-5034NR
180	280	136	135	2	2	1090	2140	560	32.3	SL04-5036NR
190	290	136	135	2	2	1120	2230	530	33.7	SL04-5038NR
200	310	150	149	2	2	1310	2650	500	43.5	SL04-5040NR

Taper Roller Bearings
圆锥滚子轴承

Bearing Code 轴承代号

3	2	2	20
Type code 类型代号	Width code 宽度系列代号	Dia code 直径系列代号	Bore code 内径代号

Type Code: 3 类型代号：3

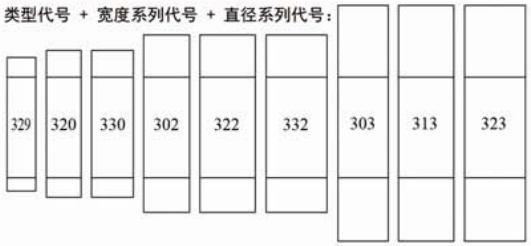
Bore Code 内径代号

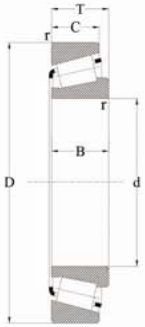
When ID ≥ 20mm and ≤ 500mm. Bore code =ID/5

当内径大于 20mm 并小于 500mm 时，内径代号 = 内径/5

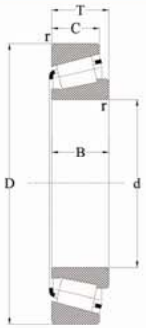
Type Code + Width code + Dia code:

类型代号 + 宽度系列代号 + 直径系列代号：

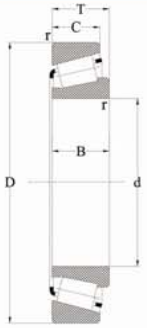




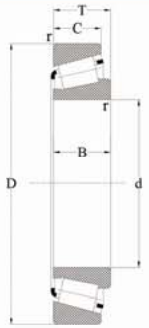
Dimensions 外形尺寸							Load Ratings 额定负荷		Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN	r/min	r/min	kg	
17	40	12	11	13.25	1	1	19.7	21.9	9000	13000	0.075	30203
17	40	16	14	17.3	1	1	35.3	36.3	9500	13000	0.1	32203
17	47	14	12	15.25	1	1	28.3	27.2	8500	12000	0.13	30303
17	47	19	16	20.3	1	1	40	33.5	8500	11000	0.18	32303
20	47	14	12	15.25	1	1	26.9	30.6	8000	11000	0.123	30204
20	47	14	12	15.25	1	1	24.3	28.6	6700	9000	0.12	30204BE
20	47	18	15	19.25	1	1	34.4	41.3	8000	10000	0.159	32204
20	52	15	13	16.25	1.5	1.5	33.1	33.2	7500	10000	0.17	30304
20	52	21	18	22.3	1.5	1.5	42.7	46.3	8000	11000	0.24	32304
25	47	15	11.5	15	0.6	0.6	25.1	33.5	8000	11000	0.126	32005
25	47	15	11.5	15	3.4	0.6	25.1	33.5	8000	11000	0.122	2007105EK
25	52	15	13	16.25	1	1	32.1	39.3	7500	11000	0.15	30205
25	52	18	16	19.25	1	1	38.9	48.5	7000	9000	0.184	32205
25	52	22	18	22	1	1	47.5	56.5	7500	10000	0.22	33205
25	62	17	13	18.25	1.5	1.5	48	47	9000	13000	0.25	30305
25	62	17	13	18.25	1.5	1.5	42.2	43.6	5600	7500	0.26	31305
25	62	17	15	18.25	4	1.5	41.16	29.3	6700	9000	0.26	JXC25689/Y30305
25	62	24	20	25.25	1.5	1.5	63	66	6000	7100	0.422	32305
30	47	12	9	12	0.3	0.3	17.6	24.4	7500	10000	0.074	32906
30	55	17	13	17	1	1	42.8	60.8	6700	9000	0.175	32006
30	55	20	16	20	1	1	42	54	6700	9000	0.208	33006
30	62	16	14	17.25	1	1	41.2	50.5	6300	8500	0.227	30206
30	62	20	17	21.25	1	1	48.3	61.9	6300	8500	0.288	32206
30	62	25	19.5	25	1	1	70.5	75	5600	7500	0.343	33206
30	72	19	16	20.75	1.5	1.5	61.5	63	5600	7500	0.39	30306
30	72	19	14	20.75	1.5	1.5	53.2	57.3	5000	6700	0.38	31306
30	72	23	16.5	24	0.3	1.5	50.8	57.1	5600	7500	0.443	STA3072



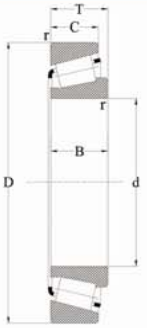
Dimensions 外形尺寸							Load Ratings 额定负荷		Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN	r/min	r/min	kg	
30	72	27	23	28.75	1.5	1.5	77	84	5300	7000	0.554	32306
33.02	49.225	-	11	12.4	-	1.1	15.9	17.8	7200	9200	0.081	LR306/33.02
33.02	58	-	17	17.88	-	-	15.9	17.8	7200	9200	0.284	LR306A/33.02
35	55	14	11.5	14	0.6	0.6	27.4	39	6300	8500	0.123	32907
35	62	18	14	18	1	1	41	58.2	6000	8000	0.221	32007
35	62	21	17	21	1	1	49	65	5600	8000	0.267	33007
35	72	17	1	18.25	1.5	1.5	51.6	63.5	5300	7000	0.325	30207
35	72	23	19	24.25	1.5	1.5	67.2	89.5	5300	7000	0.44	32207
35	72	28	22	28	1.5	1.5	87.5	106	4800	6300	0.519	33207
35	80	21	18	22.75	2	1.5	68.5	65	5000	6700	0.515	30307
35	80	21	15	22.75	2	1.5	68	76	4500	6000	0.515	31307
35	80	285	22	29.25	2	2	82.4	106.8	4800	6300	0.699	TR070803C
35	80	31	25	32.75	2	1.5	90.5	94	4800	6300	0.755	32307
35	89	38	27.5	38	1	1.5	106.8	148.4	5000	6700	1.207	TR070904
40	62	15	12	15	0.6	0.6	34	47	5600	7500	0.16	32908
40	68	19	14.5	19	1	1	46.4	69.5	5300	7000	0.268	32008
40	68	22	18	22	1	1	59	81.5	5300	7100	0.32	33008
40	80	18	16	19.75	1.5	1.5	59.6	73.4	4800	6300	0.411	30208
40	80	23	19	24.75	1.5	1.5	73.9	96.6	4800	6300	0.519	32208
40	80	32	25	32	1.5	1.5	113	126	4300	5600	0.701	33208
40	90	23	20	25.25	2	1.5	95.5	102	4500	6000	0.734	30308
40	90	23	17	25.25	2	1.5	71.5	77	4000	5300	0.731	31308
40	90	33	27	35.25	2	1.5	117	140	4000	5300	1.08	32308
45	68	15	12	15	0.6	0.6	34.5	50.5	5000	6700	0.187	32909
45	75	20	15.5	20	1	1	56.3	91	4800	6300	0.338	32009
45	75	24	19	24	1	1	69	99	4800	6300	0.414	33009
45	85	19	16	20.75	1.5	1.5	64.3	83	4500	6000	0.467	30209



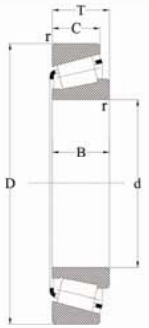
Dimensions 外形尺寸							Load Ratings 额定负荷		Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN	r/min	r/min	kg	
45	85	23	19	24.75	1.5	1.5	79.7	109.3	4500	6000	0.576	32209
45	85	23	19	24.75	1.5	1.5	83	104	4500	6000	0.569	32209JR
45	85	23.5	20	25	1.5	1.5	64	90.3	4500	6000	0.594	127509
45	85	32	25	32	1.5	1.5	115	150	4000	5300	0.789	33209
45	100	25	22	27.25	2	1.5	103	107	4000	5300	0.987	30309
45	100	25	18	27.25	2	1.5	86	93	3600	4800	0.977	31309
45	100	36	30	38.25	2	1.5	153	174	3600	4800	1.44	32309
46.673	72	-	14	17.2	-	1.3	31	40.8	5000	6400	0.252	LR306/46.673
47	100	43	37	43	1.8	1.8	145	205	5300	6700	1.661	306/47
50	72	15	12	15	0.6	0.6	36	54	4500	6300	0.193	32910
50	80	20	15.5	20	1	1	56.3	91	4500	6000	0.375	32010
50	80	20	15.5	20	3.5	1	56.3	91	4500	6000	0.357	2007110EK
50	80	24	19	24	1	1	70.5	104	4300	6000	0.452	33010
50	83	20.5	15.5	20.5	3.5	1	61.9	86.3	4300	5600	0.397	TR100802
50	90	20	17	21.75	1.5	1.5	72	96.4	4300	5600	0.526	30210
50	90	23	19	24.75	1.5	1.5	84.7	118.9	4300	5600	0.627	32210
50	90	32	24.5	32	1.5	1.5	119	160	3800	5000	1.17	33210
50	100	35	30	36	2.5	2.5	131.8	192.7	4000	5300	1.276	T2ED050
50	110	27	23	29.25	2.5	2.5	132	150	3600	4800	1.26	30310
50	110	27	19	29.25	2.5	2	110	124	3200	4300	1.25	31310
50	110	40	33	42.25	2.5	2	173	214	3600	4800	1.26	32310
55	80	17	14	17	1	1	45.5	74.5	4300	5600	0.282	32911
55	90	23	17.5	23	1.5	1.5	73.8	118.9	4000	5300	0.552	32011
55	90	27	21	27	1.5	1.5	91.5	138	3800	5300	0.657	33011
55	100	21	18	22.75	2	1.5	83.6	109	3800	5000	0.687	30211
55	100	25	21	26.75	2	1.5	69.5	85.4	3800	5000	0.839	32211
55	100	25	21	26.75	5.5	1.5	69.5	85.4	3800	5000	0.828	7511EK



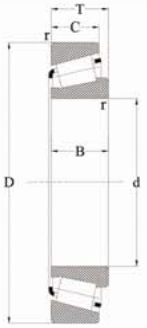
Dimensions 外形尺寸							Load Ratings 额定负荷		Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN	r/min	r/min	kg	
55	100	35	27	35	2	1.5	143	196	3400	4500	1.17	33211
55	120	29	25	31.5	2.5	2	153	178	3200	4300	1.65	30311
55	120	29	21	31.5	2.5	2	155	166	2800	3800	1.78	31311
55	120	43	35	45.5	2.5	2	218	280	3000	4000	2.43	32311
60	85	17	14	17	1	1	49	84.5	3800	5300	0.306	32912
60	95	23	17.5	23	1.5	1.5	75	124	3800	5000	0.589	32012
60	95	27	21	27	1.5	1.5	96	150	3600	5000	0.713	33012
60	110	22	19	23.75	2	1.5	98	129.4	3400	4500	0.888	30212
60	110	28	24	29.75	2	1.5	126.1	179	3400	4500	1.148	32212
60	130	31	26	33.5	3	2.5	163	185	3000	4000	1.96	30312
60	130	31	22	33.5	3	2.5	138	155	2600	3600	1.92	31312
60	130	46	37	48.5	3	2.5	229	289	2600	3600	2.9	32312
65	90	17	14	17	1	1	49	86.5	3600	5000	0.323	32913
65	100	23	17.5	23	1.5	1.5	78.4	134.2	3400	4500	0.626	32013
65	100	27	21	27	1.5	1.5	97.5	156	3400	4500	0.76	33013
65	110	30	24	30.5	3	2	115.3	185.6	4000	5000	1.129	33113X2
65	110	38	29	38	2	1.5	168	235	3000	4000	1.51	33213
65	120	23	20	24.75	2	1.5	113.2	149.8	3000	4000	1.118	30213
65	120	31	27	32.75	2	1.5	151.8	219	3000	4000	1.525	32213
65	120	41	32	41	2	1.5	183	280	2800	3800	2.02	33213
65	140	33	28	36	3	2.5	188	216	2600	3600	2.49	30313
65	140	33	23	36	3	2.5	171	198	2800	3800	2.46	31313
65	140	48	39	51	3	2.5	264	335	2400	3400	3.68	32313
70	100	20	16	20	1	1	70	113	3200	4500	0.49	32914
70	110	25	19	25	1.5	1.5	92.5	154.8	3200	4300	0.853	32014
70	110	31	25.5	31	1.5	1.5	127	204	3000	4300	1.11	33014
70	125	24	21	26.25	2	1.5	124	170.7	3000	4000	1.238	30214



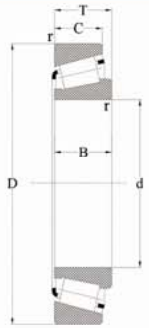
Dimensions 外形尺寸							Load Ratings 额定负荷		Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN	r/min	r/min	kg	
70	125	31	27	33.25	2	1.5	158.4	234.3	2800	3800	1.62	32214
70	150	35	30	38	3	2.5	223	262	2400	3400	3.08	30314
70	150	35	25	38	3	2.5	192	226	2400	3400	2.87	31314
70	150	51	42	54	3	2.5	305	390	2200	3200	4.38	32314
75	105	20	16	20	1	1	72.5	120	3200	4300	0.53	32915
75	115	25	19	25	1.5	1.5	97	167.5	3000	4000	0.913	32015
75	115	31	25.5	31	1.5	1.5	133	220	3000	4000	1.18	33015
75	130	25	22	27.25	2	1.5	129.8	182.2	2800	3800	1.332	30215
75	130	31	27	33.25	2	1.5	160.3	239.1	2600	3600	1.709	32215
75	130	41	31	41	2	1.5	190.9	315.2	2400	3400	2.215	33215
75	135	45	36.5	44.5	2	2	218	346.8	3000	3800	2.69	30615
75	160	37	31	40	3	2.5	259	285	2200	3200	3.71	30315
75	160	37	26	40	3	2.5	229	276	2200	3200	3.4	31315
75	160	55	45	58	3	2.5	345	455	2000	3000	5.35	32315
80	110	20	16	20	1	1	75	128	3000	4000	0.56	32916
80	125	29	22	29	1.5	1.5	127	217.6	2600	3600	1.271	32016
80	125	36	29.5	36	1.5	1.5	172	282	2800	3600	1.66	33016
80	140	26	22	28.25	2.5	2	150.5	209.7	2400	3400	1.637	30216
80	140	33	28	35.25	2.5	2	198	263	2400	3400	2.19	32216
80	140	45	36.5	45	3	2.5	213.9	345.1	2900	3600	2.761	30616
80	140	45	36.5	45	2.5	2	213.9	345.1	2900	3600	2.74	33216X2
80	140	46	35	46	2.5	2	256	385	2600	3400	2.93	33216
80	170	39	33	42.5	3	2.5	273	320	2000	3000	4.32	30316
80	170	39	27	42.5	3	2.5	235	283	2000	2800	4.07	31316
80	170	58	48	61.5	3	2.5	390	510	1900	2800	6.43	32316
85	120	23	18	23	1.5	1.5	93.5	157	2800	3800	0.8	32917
85	130	29	22	29	1.5	1.5	129.8	226.4	2400	3400	1.33	32017



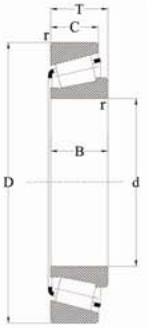
Dimensions 外形尺寸							Load Ratings 额定负荷		Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN	r/min	r/min	kg	
85	130	36	29.5	36	1.5	1.5	180	305	2600	3600	1.75	33017
85	150	28	24	30.5	2.5	2	169.3	238.2	2200	3200	2.04	30217
85	150	36	30	38.5	2.5	2	230	315	2200	3200	2.7	32217
85	150	49	37	49	2.5	2	281	415	2400	3200	3.57	33217
85	180	41	34	44.5	4	3	299	355	1900	2800	5.39	30317
85	180	41	28	44.5	4	3	261	315	1900	2600	4.88	31317
85	180	60	49	63.5	4	3	410	535	2000	2800	7.31	32317
90	125	23	18	23	1.5	1.5	97	167	2600	3600	0.838	32918
90	140	32	24	32	2	1.5	153	265.5	2200	3200	1.718	32018
90	140	39	32.5	39	2	1.5	220	360	2400	3200	2.21	33018
90	160	30	26	32.5	2.5	2	188.6	267.2	2000	3000	2.473	30218
90	160	40	34	42.5	2.5	2	274	280	2000	3000	3.61	32218
90	190	43	36	46.5	4	3	335	410	1800	2600	5.76	30318
90	190	43	30	46.5	4	3	264	315	1800	2400	5.52	31318
90	190	64	53	67.5	4	3	450	590	2000	2600	8.6	32318
95	130	23	18	23	1.5	1.5	98	172	2400	3400	0.877	32919
95	145	32	24	32	2	1.5	156.5	276.3	2200	3200	1.78	32019
95	145	39	32.5	39	2	1.5	231	389.9	3000	3800	2.26	33019
95	170	32	27	34.5	3	2.5	213.7	306.6	1900	2800	2.999	30219
95	170	43	37	45.5	3	2.5	298	415	1900	2800	4.34	32219
95	200	45	38	49.5	4	3	365	445	1800	2600	6.91	30319
95	200	45	32	49.5	4	3	310	375	1700	2400	6.64	31319
95	200	67	55	71.5	4	3	525	710	1900	2600	10.4	32319
100	140	25	20	25	1.5	1.5	117	205	2200	3200	1.18	32920
100	150	32	24	32	2	1.5	159.5	286.9	2000	3000	1.882	32020
100	150	39	32.5	39	2	1.5	229.2	391.2	2200	3000	2.4	33020
100	180	34	29	37	3	2.5	238	344.8	1900	2800	3.688	30220



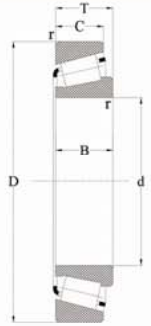
Dimensions 外形尺寸							Load Ratings 额定负荷		Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN	r/min	r/min	kg	
100	180	46	39	49	3	2.5	345	490	1800	2600	5.31	32220
100	180	63	48	63	3	2.5	410	635	2000	2600	6.76	33220
100	215	47	39	51.5	4	3	405	495	1700	2400	8.09	30320
100	215	51	35	56.5	4	3	385	505	1500	2200	9.02	31320
100	215	73	60	77.5	4	3	565	755	1700	2400	12.7	32320
105	145	25	20	25	1.5	1.5	119	212	2200	3000	1.23	32921
105	160	35	26	35	2.5	2	176.8	312.1	1900	2800	2.377	32021
105	160	43	34	43	2.5	2	256	435	2000	2800	3.03	33021
105	190	36	30	39	3	2.5	269.3	395.8	1800	2600	4.393	30221
105	190	50	43	53	3	2.5	385	555	1800	2600	6.34	32221
105	225	49	41	53.5	4	3	430	530	1600	2200	9.38	30321
105	225	53	36	58	4	3	415	540	1500	2000	10	31321
105	225	77	63	81.5	4	3	670	925	1700	2200	14.9	32321
110	150	25	20	25	1.5	1.5	123	224	2200	2800	1.29	32922
110	170	38	29	38	2.5	2	213	379.1	1800	2600	2.985	32022
110	200	38	32	41	3	2.5	297.3	440.7	1700	2400	5.222	30222
110	200	53	46	56	3	2.5	465	695	1700	2400	7.62	32222
110	240	50	42	54.5	4	3	470	580	1600	2200	11.1	30322
110	240	57	38	63	4	3	470	605	1400	1900	12.3	31322
110	240	80	65	84.5	4	3	675	910	1500	2000	17.1	32322
120	165	29	23	29	1.5	1.5	161	291	1900	2600	1.8	32924
120	180	38	29	38	2.5	2	216.1	394.7	1700	2400	3.171	32024
120	180	48	38	48	2.5	2	3000	540	1800	2600	4.2	33024
120	215	40	34	43.5	3	2.5	320.8	483.4	1600	2200	6.195	30224
120	215	58	50	61.5	3	2.5	480	720	1600	2200	9.6	32224
120	260	55	46	59.5	4	3	565	710	1500	2000	14.2	30324
120	260	62	42	68	4	3	560	730	1300	1800	15.6	31324



Dimensions 外形尺寸							Load Ratings 额定负荷		Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN	r/min	r/min	kg	
120	260	86	69	90.5	4	3	770	1060	1400	1900	21.8	32324
130	180	30	26	32	2	1.5	167	281	1800	2400	2.25	32926
130	200	45	34	45	2.5	2	287.2	527.9	1600	2200	4.87	32026
130	200	55	43	55	2.5	2	395	715	1700	2200	6.25	33026
130	230	64	54	67.75	4	3	555	845	1500	2000	11.8	32226
130	280	58	49	63.75	5	4	645	815	1300	1800	17.4	30326
130	280	66	44	72	5	4	625	820	1200	1700	18.8	31326
130	280	93	78	98.75	5	4	830	1150	1300	1800	26.6	32326
140	190	32	25	32	2	1.5	206	390	1600	2200	2.55	32928
140	210	45	34	45	2.5	2	292.4	549.3	1600	2200	5.14	32028
140	210	56	44	56	2.5	2	410	770	1600	2200	6.74	33028
140	250	68	58	71.75	4	3	650	1000	1400	1900	14.7	32228
140	300	62	53	67.75	5	4	740	945	1200	1700	21.2	30328
140	300	70	47	77	5	4	695	955	1100	1500	28.5	31328
140	300	102	85	107.75	5	4	985	1440	1200	1600	33.9	32328
150	210	38	30	38	2.5	2	261	510.4	1500	2000	3.8	32930
150	225	48.5	36	18	3	2.5	343	619	1500	2000	6.47	32030
150	225	59	46	59	3	2.5	435	805	1400	2000	8.07	33030
150	270	45	38	49	4	3	451.2	645.9	1300	1800	11.2	30230
150	270	73	60	77	4	3	735	1140	1200	1700	18.4	32230
150	320	65	55	72	5	4	815	1050	1100	1600	25.5	30330
150	320	75	50	82	5	4	790	1100	1000	1400	28.5	31330
150	320	108	90	114	5	4	1120	1700	1100	1500	41.4	32330
160	220	36	31	38	2.5	2	262.8	525.4	1400	1900	4.3	32932
160	240	51.5	38	51	3	2.5	376	686	1300	1800	7.69	32032
160	290	48	40	52	4	3	511.8	738.8	1200	1600	13.7	30232
160	290	80	67	84	4	3	925	1490	1100	1600	23.3	32232

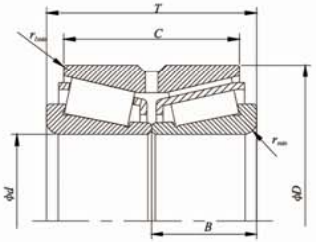


Dimensions 外形尺寸							Load Ratings 额定负荷		Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN	r/min	r/min	kg	
160	340	68	58	75	5	4	915	1180	1000	1500	29.5	30332
160	340	114	95	121	5	4	1210	1770	1000	1400	48.3	32332
170	230	38	30	38	2.5	2	280	560	1400	1900	4.51	32934
170	260	57	43	57	3	2.5	520	870	1200	1700	10.6	32034
170	310	52	43	57	5	4	562.6	746.1	1100	1500	17.1	30234
170	310	86	71	91	5	4	1010	1630	1000	1500	30	32234
170	360	120	100	127	5	4	1370	2050	1000	1300	57	32334
180	250	42	36	45	2.5	2	341.4	707	1300	1700	6.56	32936
180	280	60	52	64.5	3	2.5	640.6	1151.3	1200	1600	14.3	32036
180	320	52	43	57	5	4	610	911.9	1100	1400	17.8	30236
180	320	86	71	91	5	4	1020	1670	950	1400	32.3	32236
180	380	75	64	83	5	4	1086.8	1497.8	900	1300	39.3	30336
180	380	126	106	134	5	4	1520	2290	950	1300	66.8	32336
190	260	42	36	45	2.5	2	359.2	741.3	1200	1600	6.83	32938
190	290	60	52	64.5	3	2.5	660	1200	1100	1500	14.9	32038
190	340	55	46	60	5	4	696.5	1028.8	1000	1300	21.4	30238
190	340	92	75	97	5	4	1100	1080	950	1300	36.1	32238
190	400	132	109	140	6	5	1660	2580	850	1200	78.9	32338
200	280	48	41	51.5	3	2.5	748	1370	1000	1400	18.9	32040
200	280	51	39	51	3	2.5	459.9	946.1	1100	1500	9.26	32940
200	360	58	48	64	5	4	765.2	1137	950	1300	25.1	30240
200	360	98	82	104	5	4	1350	2144	900	1300	42.6	32240
200	420	138	115	146	6	5	1820	2870	800	1100	90.9	32340
220	300	51	39	51	3	2.5	471.2	978.2	1000	1400	10.3	32944
220	340	72	62	76.5	4	3	897	1660	950	1300	74.4	32044
220	400	65	54	72	5	4	990	1400	850	1100	33.6	30244
220	400	108	90	114	5	4	1340	2210	850	1100	57.4	32244

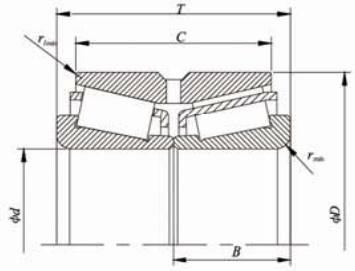


Dimensions 外形尺寸							Load Ratings 额定负荷		Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN	r/min	r/min	kg	
220	460	145	122	154	6	5	2020	3200	750	1000	114	32344
240	320	51	39	51	3	2.5	519.6	1064.7	950	1300	11.1	32948
240	360	72	62	76.5	4	3	935	1800	850	1200	26.2	32048
240	440	72	60	79	5	4	990	1400	750	1000	45.2	30248
240	440	120	100	127	5	4	1630	2730	750	1000	78	32248
260	360	63.5	48	63.5	3	2.5	687.3	1469.8	850	1100	18.6	32952
260	400	82	71	87.7	5	4	1170	2200	800	1100	38.5	32052
260	480	80	67	89	6	5	1190	1700	670	900	60.7	30252
260	480	130	106	137	6	5	1900	3300	670	950	103	32252
260	540	102	85	113	6	6	2120	3050	630	850	114	30352
260	540	165	136	176	6	6	2910	4800	630	850	188	32352
280	380	63.5	48	63.5	3	2.5	746.4	1578.6	800	1100	20	32956
280	420	82	71	87.7	5	4	1210	2360	710	1000	40.6	32056
280	500	80	67	89	6	5	1240	1900	630	850	66.3	30256
280	500	130	106	137	6	5	1950	3450	630	850	109	32256
280	580	175	145	187	6	6	3300	5400	560	800	224	32356
300	420	72	57	74.5	4	3	1019.2	2199.7	710	950	30.5	32960
300	460	100.7	74	100	5	4	1540	3000	670	900	56.6	32060
300	540	85	71	96	6	5	1440	2100	600	800	80.6	30260
300	540	140	115	149	6	5	2220	3700	600	800	132	32260
320	440	76	57	76	4	3	1045.7	2317.2	970	900	32	32964
320	480	100.7	74	100	5	4	1540	3100	630	850	60	32064
340	460	76	57	76	4	3	1050.1	2376.5	630	850	33.6	32968
360	460	76	57	76	4	3	1056.5	2432.8	600	800	35.8	32972

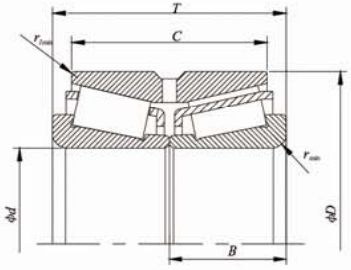
Double Row Taper Roller Bearings
双列圆锥滚子轴承



Dimensions 外形尺寸							Load Ratings 额定负荷		Calculating Coefficient 计算系数				Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	e	Y_1	Y_2	Y_0	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN					r/min	r/min	kg	
80	110	20	38	46	1.0	0.2	186	258	0.35	1.93	2.86	1.86	2600	3600	1.14	352916
80	125	29	52	66	1.5	0.6	684	478	0.42	1.61	2.39	1.57	2300	3100	1.28	352016
80	140	-	51.5	64	2.5	0.6	256	364	0.42	1.61	2.39	1.57	2200	2900	3.91	350216
80	140	33	63.5	78	2.5	0.6	321	488	0.42	1.61	2.39	1.57	2200	2900	3.91	352216
80	170	-	73	92	3.0	1.0	456	622	0.35	1.96	2.91	1.91	1800	2500	9.57	350316
80	170	39	63	94	3.0	1.0	384	530	0.83	0.81	1.21	0.8	1600	2400	9.44	351316
80	170	-	104	131	3.0	1.0	595	881	0.35	1.96	2.91	1.91	1900	2500	13.6	352316
85	130	29	53	67	1.5	0.6	257	468	0.44	1.53	2.28	1.5	2400	3200	4.78	352017
85	150	-	57	70	2.5	0.6	289	416	0.42	1.61	2.39	1.57	2000	2700	4.94	350217
85	150	36	69	86	2.5	0.6	368	567	0.42	1.61	2.39	1.57	2000	2700	6.07	352217
85	180	-	77	98	4.0	1.0	491	671	0.35	1.96	2.91	1.91	1700	2300	11.4	350317
85	180	41	66	99	4.0	1.0	520	730	0.83	0.81	1.21	0.8	1600	2400	10.72	351317
85	180	-	108	137	4.0	1.0	680	1030	0.35	1.96	2.91	1.91	1800	2400	15.9	352317
90	140	32	57	73	2.0	0.6	305	552	0.42	1.61	2.39	1.57	2100	2800	4.08	352018
90	160	-	61	74	2.5	0.6	324	470	0.42	1.61	2.39	1.57	1900	2500	5.99	350218
90	160	-	77	94	2.5	0.6	417	651	0.42	1.61	2.39	1.57	1900	2500	7.61	352218
90	190	-	81	102	4.0	1.0	536	736	0.35	1.96	2.91	1.91	1600	2200	13.2	350318
90	190	-	115	144	4.0	1.0	715	1070	0.35	1.96	2.91	1.91	1700	2200	18.6	352318
90	190	43	70	103	4.0	1.0	453	630	0.83	0.81	1.21	0.8	1700	2200	13.75	351318
95	145	32	57	73	2.0	0.6	312	574	0.44	1.53	2.28	1.5	2100	2800	4.19	352019
95	170	43	83	100	3.0	1.0	533	878	0.42	1.61	2.39	1.57	1900	2600	9.44	352219
95	200	45	74	109	4.0	1.0	501	710	0.83	0.81	1.21	0.8	1450	2100	16.2	351319
100	140	25	47	57	1.5	0.2	217	437	0.33	2.05	3.05	2.38	2000	2800	2.31	352920
100	150	32	57	73	2.0	0.6	317	596	0.46	1.48	2.36	1.44	2000	2700	4.43	352020
100	180	46	87	107	3.0	1.0	409	608	0.42	1.61	2.39	1.57	1700	2200	8.64	352220
100	215	-	87	112	4.0	1.0	655	912	0.35	1.96	2.91	1.91	1500	1900	18.8	350320
100	215	51	81	124	4.0	1.0	641	930	0.83	0.81	1.21	0.8	1400	1900	20.0	351320



Dimensions 外形尺寸							Load Ratings 额定负荷		Calculating Coefficient 计算系数				Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	e	Y_1	Y_2	Y_0	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN					r/min	r/min	kg	
100	215	-	127	162	4.0	1.0	892	1360	0.35	1.96	2.91	1.91	1500	2000	27.1	352320
105	160	35	62	80	2.5	0.6	369	688	0.44	1.52	2.26	1.48	1900	2600	5.6	352021
105	190	50	95	115	3.0	1.0	672	1134	0.42	1.61	2.39	1.57	1700	2300	13.98	352221
105	225	53	83	127	4.0	1.0	689	1000	0.83	0.81	1.21	0.8	1300	1700	22.5	351321
110	170	38	68	86	2.5	0.6	425	790	0.43	1.57	3.24	1.54	1800	2400	16.54	352022
110	180	42	76	95	2.0	0.6	-	-	-	-	-	-	1600	2100	-	352122
110	200	-	74	92	3.0	1.0	513	781	0.42	1.61	2.39	1.57	1500	2000	11.9	350222
110	200	53	101	121	3.0	1.0	693	1150	0.42	1.61	2.39	1.57	1500	2000	15.6	352222
110	240	-	93	118	4.0	1.0	746	1030	0.35	1.96	2.91	1.91	1300	1700	24.8	350322
110	240	-	142	181	4.0	1.0	1060	1630	0.35	1.96	2.91	1.91	1300	1700	38.1	352322
110	240	57	87	137	4.0	1.0	783	1170	0.83	0.81	1.21	0.8	1200	1600	27.96	351322
120	180	38	70	88	2.5	0.6	442	854	0.46	1.48	2.19	1.44	1500	2100	7.57	352024
120	200	48	90	110	2.0	0.6	-	-	-	-	-	-	1400	1900	-	352124
120	215	-	78	97	3.0	1.0	550	851	0.44	1.55	2.31	1.52	1400	1800	14.3	350224
120	215	58	109	132	3.0	1.0	742	1240	0.44	1.55	2.31	1.52	1400	1900	19.4	352224
120	260	-	101	128	4.0	1.0	883	1250	0.35	1.96	2.91	1.91	1200	1600	37.9	350324
120	260	-	145	188	4.0	1.0	1230	1920	0.35	1.96	2.91	1.91	1200	1600	46.2	352324
120	260	62	96	148	4.0	1.0	924	1390	0.83	0.81	1.21	0.8	1000	1450	36.11	351324
130	200	45	80	102	2.5	0.6	583	1126	0.43	1.56	2.32	1.52	1400	1900	11.54	352026
130	210	48	90	110	2.0	0.6	-	-	-	-	-	-	1400	1800	-	352126
130	230	-	78.5	98	4.0	1.0	596	9178	0.44	1.55	2.31	1.52	1300	1700	16.3	350226
130	230	64	117.5	145	4.0	1.0	873	1490	0.44	1.55	2.31	1.52	1300	1700	24.1	352226
130	280	-	107.5	137	5.0	1.5	1020	1460	0.35	1.96	2.91	1.91	1100	1400	39	350326
130	280	-	163.5	205	5.0	1.5	1450	2290	0.35	1.96	2.91	1.91	1100	1400	58.3	352326
130	280	66	100	156	5.0	1.1	1337	1560	0.83	0.81	1.21	0.8	950	1400	43.1	351326
140	210	45	82	104	2.5	0.6	593	1170	0.46	1.48	2.19	1.44	1300	1900	12.23	352028
140	225	50	90	115	2.5	1.0	-	-	-	-	-	-	1200	1700	-	352128



Dimensions 外形尺寸							Load Ratings 额定负荷		Calculating Coefficient 计算系数				Limiting Speeds 极限转速		Weight 重量	Bearing Number 轴承代号
d	D	B	C	T	r_{min}	r_{1min}	Cr	Cor	e	Y_1	Y_2	Y_0	Grease 脂	Oil 油	wt ≈	New 新代号
mm							kN	kN					r/min	r/min	kg	
140	250	-	82.5	102	4.0	1.0	665	1030	0.44	1.55	2.31	1.52	1200	1500	20.2	350228
140	250	68	125.5	153	4.0	1.0	1000	1720	0.44	1.55	2.31	1.52	1200	1600	30.3	352228
140	300	-	115.5	145	5.0	1.5	1160	1680	0.35	1.96	2.91	1.91	1000	1300	47.2	350328
140	300	-	177.5	223	5.0	1.5	1690	2710	0.35	1.96	2.91	1.91	1000	1300	72.6	352328
140	300	70	108	168	5.0	1.1	1188	1800	0.83	0.81	1.21	0.8	850	1300	57.1	351328
150	225	48	86	110	3.0	1.0	670	1336	0.46	1.48	2.19	1.44	1300	1700	-	352030
150	250	60	112	138	2.5	1.0	-	-	-	-	-	-	1100	1600	-	352130
150	270	-	87	109	4.0	1.0	764	1200	0.44	1.55	2.31	1.52	1100	1400	25.4	350230
150	270	73	130	164	4.0	1.0	1050	1760	0.44	1.55	2.31	1.52	1100	1400	38.2	352230
150	320	-	120	154	5.0	1.5	1300	1890	0.35	1.96	2.91	1.91	930	1200	56.9	350330
150	320	75	114	178	5.0	1.1	1340	2040	0.83	0.81	1.21	0.8	800	1200	68.7	351330

Type code:6 类型代号：6

I.D. (5 *_ _= mm)
5 * 22 = 110
5 * 08 = 40

内径 (5 *_ _= mm)
5 * 22 = 110
5 * 08 = 40

6	2	22	2RS	Z2
6	0	08	Z N	P5

Size Designation:

(1) 0: Width series number 1 is omitted which equals 100 in original designation
(0) 2: Width series number 0 is omitted which equals 200 in original designation
(0) 3: Width series number 0 is omitted which equals 300 in original designation
(0) 4: Width series number 0 is omitted which equals 400 in original designation

尺寸系列代号：

(1) 0：宽度系列号 1 省略，相当于原代号 100
(0) 2：宽度系列号 0 省略，相当于原代号 200
(0) 3：宽度系列号 0 省略，相当于原代号 300
(0) 4：宽度系列号 0 省略，相当于原代号 400

-RS: One contact seal
-2RS: Two contact seals
-RZ: One non-contact seal
-2RZ: Two non-contact seals
-Z: One shield
-2Z: Two shields
N: Snap ring groove one the outer ring
M: Solid brass retainer

-RS：一面带接触式橡胶密封圈
-2RS：二面带接触式橡胶密封圈
-RZ：一面带非接触式橡胶密封圈
-2RZ：二面带非接触式橡胶密封圈
-Z：一面带防尘盖
-2Z：二面带防尘盖
N：外圈上有止动槽
M：实体黄铜保持架

/Z: Maximum vibration acceleration
/Z1: Adhere to vibration value of Z1
/Z2: Adhere to vibration value of Z2
/Z3: Adhere to vibration value of Z3

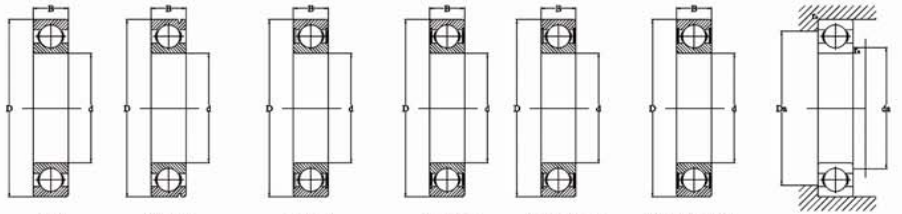
Tolerance Grade

/P0: Equals to original precision G，omittable
/P6: Equals to original precision E
/P5: Equals to original precision D
/P4: Equals to original precision C
/P2: Equals to original precision B
C0，C2，C3，C4，C5 clearance code，reference to page 11-14 for detail data
S0，S1，S2，S3，S4 means the same working temperature as that of Self-aligning Roller Bearings

/Z：轴承的振动值加速度极值
/Z1：振动值符合标准规定的 Z1 组
/Z2：振动值符合标准规定的 Z2 组
/Z3：振动值符合标准规定的 Z3 组

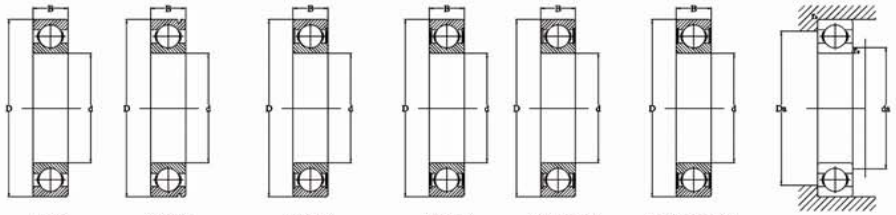
轴承公差等级

/P0：相当于原代号 G 级，可省略
/P6：相当于原代号 E 级
/P5：相当于原代号 D 级
/P4：相当于原代号 C 级
/P2：相当于原代号 B 级
C0，C2，C3，C4，C5 游隙代号，详细数据参见第 11-14 页
S0，S1，S2，S3，S4 的工作温度的含义与调心滚子轴承相同



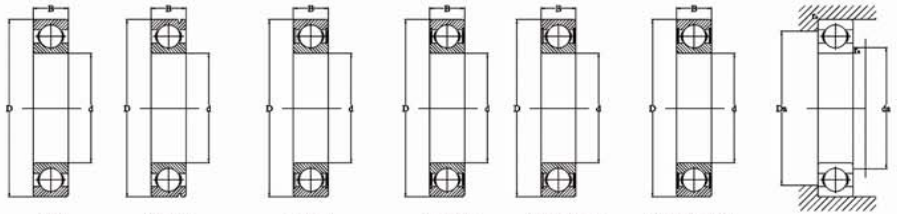
6000 6000 N 6000 Z 6000 2Z 6000 RS(RZ) 6000 2RS(2RZ)

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号						
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号	RS	2RS	Z	2Z	M	N
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm							
10	26	8	4.58	1.98	29000	35000	0.019	13	23	0.3	6000	6000-RS	6000-2RS	6000-Z	6000-2Z		6000N
10	30	9	5.11	2.4	24000	29000	0.0327	14	26	0.6	6200	6200-RS	6200-2RS	6200-Z	6200-2Z		6200N
10	35	11	7.65	3.48	21000	26000	0.0547	14	31	0.6	6300	6300-RS	6300-2RS	6300-Z	6300-2Z		6300N
12	28	8	5.11	2.4	26000	32000	0.0209	16	24	0.3	6001	6001-RS	6001-2RS	6001-Z	6001-2Z		6001N
12	32	10	6.82	3.07	21000	26000	0.0368	16	28	0.6	6201	6201-RS	6201-2RS	6201-Z	6201-2Z		6201N
12	37	12	9.71	4.2	19000	24000	0.0592	16	33	1	6301	6301-RS	6301-2RS	6301-Z	6301-2Z		6301N
15	32	9	5.59	2.84	22000	27000	0.0303	19	28	0.3	6002	6002-RS	6002-2RS	6002-Z	6002-2Z		6002N
15	35	11	7.64	3.74	19000	23000	0.0463	19	31	0.6	6202	6202-RS	6202-2RS	6202-Z	6202-2Z		6202N
15	42	13	11.4	5.45	16000	20000	0.0827	20	37	1	6302	6302-RS	6302-2RS	6302-Z	6302-2Z		6302N
17	35	10	6	3.27	20000	24000	0.040	21	31	0.3	6003	6003-RS	6003-2RS	6003-Z	6003-2Z		6003N
17	40	12	9.57	4.81	16000	20000	0.0665	22	35	0.6	6203	6203-RS	6203-2RS	6203-Z	6203-2Z		6203N
17	47	14	13.6	6.6	15000	18000	0.113	22	42	1	6303	6303-RS	6303-2RS	6303-Z	6303-2Z		6303N
17	62	17	22.7	10.8	12000	15000	0.300	23	56	1.1	6403						
20	42	12	9.38	5.04	17000	20000	0.0702	25	37	0.6	6004	6004-RS	6004-2RS	6004-Z	6004-2Z		6004N
20	47	14	12.8	6.69	14000	17000	0.106	25	42	1	6204	6204-RS	6204-2RS	6204-Z	6204-2Z		6204N
20	52	15	15.9	7.91	13000	16000	0.147	26	46	1.1	6304	6304-RS	6304-2RS	6304-Z	6304-2Z		6304N
20	72	19	30.9	15.2	10000	13000	0.435	27	65	1.1	6404						
25	47	12	10.1	5.87	14000	18000	0.0811	30	42	0.6	6005	6005-RS	6005-2RS	6005-Z	6005-2Z		6005N
25	52	15	14	7.88	12000	15000	0.124	30	47	1	6205	6205-RS	6205-2RS	6205-Z	6205-2Z		6205N
25	62	17	22.4	11.6	11000	13000	0.228	31	56	1.1	6305	6305-RS	6305-2RS	6305-Z	6305-2Z		6305N
25	80	21	38.2	19.3	9000	11000	0.571	33	72	1.5	6405						
30	55	13	13.2	8.32	12000	15000	0.116	35	50	1	6006	6006-RS	6006-2RS	6006-Z	6006-2Z		6006N
30	62	16	19.5	11.3	10000	13000	0.205	36	56	1	6206	6206-RS	6206-2RS	6206-Z	6206-2Z		6206N
30	72	19	28.2	15.9	9200	11000	0.352	37	65	1.1	6306	6306-RS	6306-2RS	6306-Z	6306-2Z		6306N
30	90	23	47.3	24.5	7800	9700	0.743	38	82	1.5	6406	6406-RS	6406-2RS	6406-Z	6406-2Z		6406N



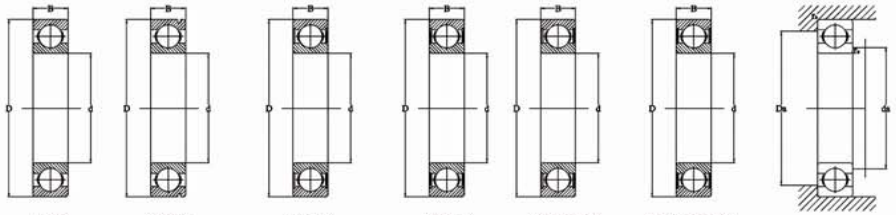
6000 6000 N 6000 Z 6000 2Z 6000 RS(RZ) 6000 2RS(2RZ)

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号						
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号	RS	2RS	Z	2Z	M	N
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm							
35	62	14	16.2	10.4	11000	13000	0.152	41	56	1	6007	6007-RS	6007-2RS	6007-Z	6007-2Z		6007N
35	72	17	25.7	15.4	8800	11000	0.291	42	65	1.1	6207	6207-RS	6207-2RS	6207-Z	6207-2Z		6207N
35	80	21	33.4	19.3	8200	10000	0.459	42	73	1.5	6307	6307-RS	6307-2RS	6307-Z	6307-2Z		6307N
35	100	25	56.9	30.1	7000	8600	0.952	44	91	1.5	6407						
40	68	15	17	11.7	9600	12000	0.190	46	62	1	6008	6008-RS	6008-2RS	6008-Z	6008-2Z		6008N
40	80	18	30.9	19	7800	9700	0.366	47	73	1.1	6208	6208-RS	6208-2RS	6208-Z	6208-2Z		6208N
40	90	23	40.8	24.2	7200	8900	0.646	48	82	1.5	6308	6308-RS	6308-2RS	6308-Z	6308-2Z		6308N
40	110	27	63.8	36.8	6300	7700	1.250	49	101	2	6408	6408-RS	6408-2RS	6408-Z	6408-2Z		6408N
45	75	16	21.1	14.8	8700	11000	0.236	51	69	1	6009	6009-RS	6009-2RS	6009-Z	6009-2Z		6009N
45	85	19	30.9	19.4	7200	8900	0.413	52	78	1.1	6209	6209-RS	6209-2RS	6209-Z	6209-2Z		6209N
45	100	25	52.9	32	6500	8000	0.842	53	92	1.5	6309	6309-RS	6309-2RS	6309-Z	6309-2Z		6309N
45	120	29	77.4	45.5	5700	7000	1.540	55	110	2	6409						
50	80	16	23.3	16.6	8000	9700	0.249	56	74	1	6010	6010-RS	6010-2RS	6010-Z	6010-2Z		6010N
50	90	20	35.1	23.3	6700	8300	0.467	57	83	1.1	6210	6210-RS	6210-2RS	6210-Z	6210-2Z		6210N
50	110	27	61.8	38	5900	7300	1.100	59	101	2	6310	6310-RS	6310-2RS	6310-Z	6310-2Z		6310N
50	130	31	92.3	55.2	5200	6400	1.860	60	120	2.1	6410	6410-RS	6410-2RS	6410-Z	6410-2Z		6410N
55	90	18	30.3	22	7200	8700	0.510	62	83	1.1	6011	6011-RS	6011-2RS	6011-Z	6011-2Z		6011N
55	100	21	43.4	29.3	6100	7500	0.608	63	92	1.5	6211	6211-RS	6211-2RS	6211-Z	6211-2Z		6211N
55	120	29	71.6	45	5400	6600	1.380	65	110	2	6311	6311-RS	6311-2RS	6311-Z	6311-2Z		6311N
55	140	33	100	62.1	4800	5900	2.340	66	129	2.1	6411						6411N
60	95	18	30.7	22.8	6700	8100	0.383	67	88	1.1	6012	6012-RS	6012-2RS	6012-Z	6012-2Z		6012N
60	110	22	47.8	33.1	5500	6800	0.798	68	102	1.5	6212	6212-RS	6212-2RS	6212-Z	6212-2Z		6212N
60	130	31	81.8	52.1	4900	6100	1.730	70	120	2.1	6312	6312-RS	6312-2RS	6312-Z	6312-2Z		6312N
60	150	35	109	70.2	4500	5500	2.800	71	139	2.1	6412						6412N
65	100	18	32.1	25	6300	7600	0.408	72	93	1.1	6013	6013-RS	6013-2RS	6013-Z	6013-2Z		6013N



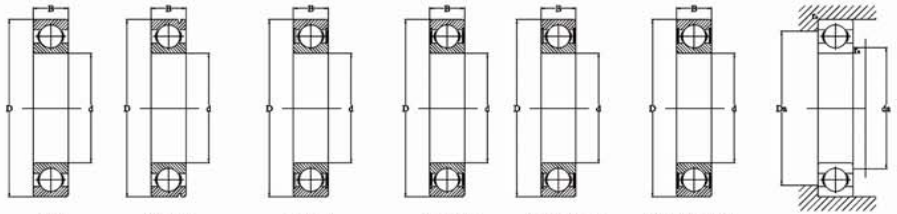
6000 6000 N 6000 Z 6000 2Z 6000 RS(RZ) 6000 2RS(2RZ)

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号						
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号	RS	2RS	Z	2Z	M	N
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm							
65	120	23	57.2	40.2	5100	6300	0.974	74	111	1.5	6213	6213-RS	6213-2RS	6213-Z	6213-2Z		6213N
65	140	33	92.6	60	4600	5700	2.110	76	129	2.1	6313	6313-RS	6313-2RS	6313-Z	6313-2Z		6313N
65	160	37	118	78.8	4200	5200	3.300	77	148	2.1	6413						6413N
70	110	20	38.6	30.5	5800	7000	0.574	78	102	1.1	6014	6014-RS	6014-2RS	6014-Z	6014-2Z		6014N
70	125	24	60.8	45.1	4800	5900	1.110	79	116	1.5	6214	6214-RS	6214-2RS	6214-Z	6214-2Z		6214N
70	150	35	104	68.4	4300	5300	2.460	81	139	2.1	6314	6314-RS	6314-2RS	6314-Z	6314-2Z		6314N
70	180	42	143	103	3800	4600	4.790	83	167	3	6414						6414N
75	115	20	40.2	33.3	5500	6600	0.608	83	107	1.1	6015	6015-RS	6015-2RS	6015-Z	6015-2Z		6015N
75	130	25	66.1	49.6	4600	5700	1.170	84	121	1.5	6215	6215-RS	6215-2RS	6215-Z	6215-2Z		6215N
75	160	37	113	77.4	4000	4900	2.950	87	148	2.1	6315	6315-RS	6315-2RS	6315-Z	6315-2Z		6315N
75	190	45	154	115	3500	4400	5.580	88	177	3	6415						6415N
80	125	22	47.5	40	5100	6100	0.840	88	117	1.1	6016	6016-RS	6016-2RS	6016-Z	6016-2Z		6016N
80	140	26	72.7	53.1	4300	5300	1.370	90	130	2	6216	6216-RS	6216-2RS	6216-Z	6216-2Z		6216N
80	170	39	123	87	3800	4600	3.500	92	158	2.1	6316	6316-RS	6316-2RS	6316-Z	6316-2Z		6316N
80	200	48	163	125	3400	4100	6.540	94	186	3	6416						6416N
85	130	22	47.3	40.2	4800	5900	0.878	94	121	1.1	6017	6017-RS	6017-2RS	6017-Z	6017-2Z		6017N
85	150	28	83.3	63.9	4000	4900	1.770	95	140	2	6217	6217-RS	6217-2RS	6217-Z	6217-2Z		6217N
85	180	41	133	97.1	3500	4400	4.140	97	168	3	6317	6317-RS	6317-2RS	6317-Z	6317-2Z		6317N
90	140	24	58.2	49.8	4500	5500	1.140	99	131	1.5	6018	6018- RS	6018-2RS	6018-Z	6018-2Z		6018N
90	160	30	96	71.8	3800	4600	2.110	101	149	2	6218	6218- RS	6218-2RS	6218-Z	6218-2Z		6218N
90	190	43	143	108	3400	4100	4.810	103	177	3	6318	6318- RS	6318-2RS	6318-Z	6318-2Z	6218M	6318N
95	145	24	57.8	50.3	4300	5300	1.180	104	136	1.5	6019	6019-RS	6019-2RS	6019-Z	6019-2Z		6019N
95	170	32	109	82.1	3500	4400	2.550	106	159	2.1	6219	6219-RS	6219-2RS	6219-Z	6219-2Z		6219N
95	200	45	153	119	3200	3900	5.530	108	187	3	6319	6319-RS	6319-2RS	6319-Z	6319-2Z		6319N
100	150	24	60.1	54.3	4200	5000	1.230	109	141	1.5	6020	6020-RS	6020-2RS	6020-Z	6020-2Z		6020N



6000 6000 N 6000 Z 6000 2Z 6000 RS(RZ) 6000 2RS(2RZ)

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号						
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号	RS	2RS	Z	2Z	M	N
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm							
100	180	34	116	91.9	3400	4100	3.190	112	168	2.1	6220	6220-RS	6220-2RS	6220-Z	6220-2Z	6220M	6220N
100	215	47	173	141	3000	3700	6.820	114	201	3	6320	6320-RS	6320-2RS	6320-Z	6320-2Z	6320M	6320N
105	160	26	65.9	60.2	3900	4800	1.560	115	150	2	6021	6021-RS	6021-2RS	6021-Z	6021-2Z		6021N
105	190	36	133	105	3200	3900	3.680	117	178	2.1	6221	6221-RS	6221-2RS	6221-Z	6221-2Z		6221N
105	225	49	184	154	2800	3500	7.740	120	210	3	6321		6321-2RS	6321-Z	6321-2Z		
110	170	28	81.8	73.3	3700	4500	1.950	120	160	2	6022	6022-RS	6022-2RS	6022-Z	6022-2Z		6022N
110	200	38	144	117	3000	3700	4.320	123	187	2.1	6222	6222-RS	6222-2RS	6222-Z	6222-2Z		6222N
110	240	50	205	179	2700	3300	9.170	125	225	3	6322	6322-RS	6322-2RS	6322-Z	6322-2Z	6322M	6322N
120	180	28	84.9	79.4	3500	4200	2.040	131	169	2	6024	6024-RS	6024-2RS	6024--Z	6024--2Z		
120	215	40	155	132	2800	3500	5.140	133	202	2.1	6224	6224-RS	6224-2RS	6224--Z	6224--2Z		
120	260	55	217	197	2500	3100	14.800	136	244	3	6324	6324-RS	6324-2RS	6324--Z	6324--2Z	6324M	
130	200	33	102	94.2	3200	3800	3.100	142	188	2	6026	6026-RS	6026-2RS	6026-Z	6026-2Z		
130	230	40	155	134	2600	3200	5.860	144	216	3	6226	6226-RS	6226-2RS	6226-Z	6226-2Z		
130	280	58	229	215	2300	2800	14.400	147	263	4	6326	6326-RS	6326-2RS	6326-Z	6326-2Z	6326M	
140	210	33	105	102	3000	3600	3.390	152	198	2	6028	6028-RS	6028-2RS	6028-Z	6028-2Z		
140	250	42	177	165	2400	3000	7.840	155	235	3	6228	6228-RS	6228-2RS	6228-Z	6228-2Z	6228M	
140	300	62	272	270	2100	2600	17.400	158	282	4	6328	6328-RS	6328-2RS	6328-Z	6328-2Z	6328M	
150	225	35	132	125	2800	3400	4.070	162	213	2.1	6030	6030-RS	6030-2RS	6030-Z	6030-2Z		
150	270	45	135	169	2000	2600	11.8	165	255	1.5	6230		6230-2RS		6230-2Z	6230M	
150	320	65	277	280	1800	2200	26	168	302	3	6330					6330M	
160	240	38	148	142	2400	2800	4.96	171	229	2	6032		6032-2RS		6032-2Z	6032M	
160	290	48	154	201	1900	2400	14.4	176	274	2.5	6232					6232M	
160	340	68	238	327	1800	2200	31.3	179	321	3	6332					6332M	
170	260	42	131	171	2200	2800	8.23	184	246	2	6034					6034M	
170	310	52	175	240	1900	2400	18.4	187	293	3	6234					6234M	

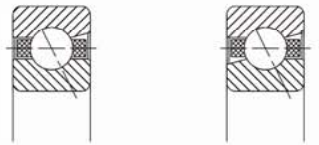


6000 6000 N 6000 Z 6000 2Z 6000 RS(RZ) 6000 2RS(2RZ)

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号						
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号	RS	2RS	Z	2Z	M	N
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm							
180	280	46	173	180	2200	2600	10.7	195	265	2	6036						6036M
180	320	52	197	279	1800	2600	17.8	197	303	3	6236						
190	290	46	180	195	2000	2600	11.11	205	275	2	6038						6038M
190	340	55	205	300	1700	2000	23.2	208	322	3	6238						
200	280	51	171	245	1900	2400	14.3	213	267	2	6040						6040M
220	340	56	245	293	1800	2200	18.8	237	323	2.5	6044						6044M
240	360	56	255	315	1700	2000	20.4	257	343	2.5	6048						6048M
240	440	72	358	475	1300	1600	53.9	262	418	3	6248						6248M
260	400	65	294	375	1500	1800	28.8	278	382	3	6052						6052M
280	420	65	302	405	1400	1700	32.1	299	401	3	6056						6056M
300	460	74	358	500	1200	1500	42.8	320	440	3	6060						
320	480	82	371	540	1100	1400	48.4	341	459	3	6064						6064M
420	620	90	507	880	900	1100	97	444	596	4	6084						6084M

Angular Contact Ball Bearings
角接触球轴承

Type code: 7 类型代号：7



I.D. (5 *_ _= mm)
5 * 10 = 50
5 * 22 = 110
5 * 12 = 60

内径 (5 *_ _= mm)
5 * 10 = 50
5 * 22 = 110
5 * 12 = 60

7	0	10	C	P5
7	2	22	AC	
7	3	12	B M	P6 DT

Size Designation:

(1) 0: Width series number 1 is omitted which equals 100 in original designation
(0) 2: Width series number 0 is omitted which equals 200 in original designation
(0) 3: Width series number 0 is omitted which equals 300 in original designation
(0) 4: Width series number 0 is omitted which equals 400 in original designation

尺寸系列代号：

(1) 0：宽度系列号 1 省略，相当于原代号 100
(0) 2：宽度系列号 0 省略，相当于原代号 200
(0) 3：宽度系列号 0 省略，相当于原代号 300
(0) 4：宽度系列号 0 省略，相当于原代号 400

Intenal Structure and Retainer Material Modification

C: nominal contact angle α=15°
AC: nominal contact angle α=25°
B: nominal contact angle α=45°
M: solid brass retainer

内部结构或保持架材料改变

C：轴承公称接触角 α=15°
AC：轴承公称接触角 α=25°
B：轴承公称接触角 α=45°
M：实体黄铜保持架

Mounting

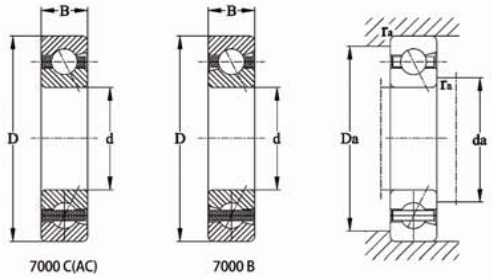
/DB: mount in duplex, back to back
/DF: mount in duplex, face to face
/DT: mount in duplex, tandem

/P0，/P6，/P5，/P4，/P2 means the same precision grade as Deep Groove Ball Bearings

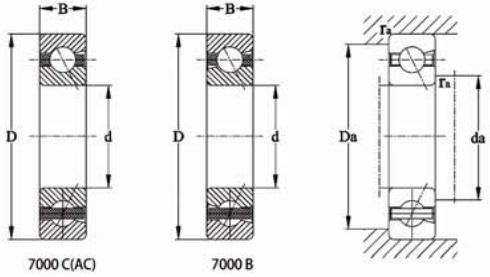
配置组中轴承排列

/DB：成对轴承背对背安装
/DF：成对轴承面对面安装
/DT：成对轴承串联安装

/P0，/P6，/P5，/P4，/P2 公差等级代号的含义与深沟球轴承相同

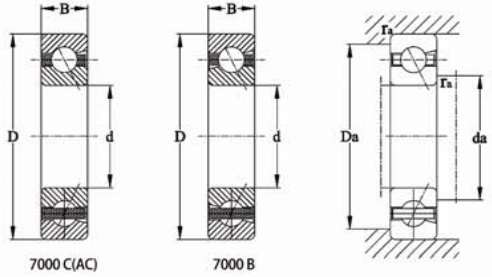


Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	
10	26	8	4.9	2.1	24000	32000	0.019	13	23	0.3	7000 C
10	26	8	4.7	2.1	24000	32000	0.019	13	23	0.3	7000 AC
10	30	9	5.8	2.9	22000	28000	0.032	14	26	0.6	7200 C
10	30	9	5.5	2.8	22000	28000	0.032	14	26	0.6	7200 AC
10	30	9	5.3	2.7	19000	27000	0.03	14	26	0.6	7200 B
12	28	8	5.4	2.6	22000	28000	0.021	16	24	0.3	7001 C
12	28	8	5.1	2.4	22000	28000	0.021	16	24	0.3	7001 AC
12	32	10	7.9	3.8	20000	25000	0.037	16	28	0.6	7201C
12	32	10	7.6	3.6	20000	25000	0.037	16	28	0.6	7201 AC
12	32	10	6.9	3.2	18000	24000	0.036	16	28	0.6	7201 B
12	37	12	11.3	6.58	38000	51000	0.068	16	33	1	7301 C
12	37	12	10.8	6.17	36000	48000	0.068	16	33	1	7301 AC
12	37	12	10.6	5	17000	22000	0.073	16	33	1	7301 B
15	32	9	6.2	3.3	19000	25000	0.03	19	28	0.3	7002 C
15	32	9	5.9	3.2	19000	25000	0.03	19	28	0.3	7002 AC
15	35	11	9.2	4.9	17000	22000	0.045	19	31	0.6	7202 C
15	35	11	8.9	4.8	17000	22000	0.045	19	31	0.6	7202 AC
15	35	11	7.9	4.2	16000	22000	0.045	19	31	0.6	7202 B
15	42	13	13.9	7.34	33000	44000	0.083	20	37	1	7302 C
15	42	13	13.3	6.89	31000	41000	0.083	20	37	1	7302 AC
15	42	13	13	6.7	14000	19000	0.087	20	37	1	7302 B
17	35	10	6.6	3.6	16000	22000	0.04	21	31	0.3	7003 C
17	35	10	6.3	3.6	16000	22000	0.04	21	31	0.3	7003 AC
17	40	12	10.8	5.8	15000	20000	0.062	22	35	0.6	7203 C
17	40	12	10.4	5.6	15000	20000	0.062	22	35	0.6	7203 AC
17	40	12	9.9	5.5	14000	19000	0.065	22	35	0.6	7203 B
17	47	14	15.7	8.2	13000	19000	0.16	22	42	1	7303 C
17	47	14	15	7.7	13000	19000	0.06	22	42	1	7303 AC



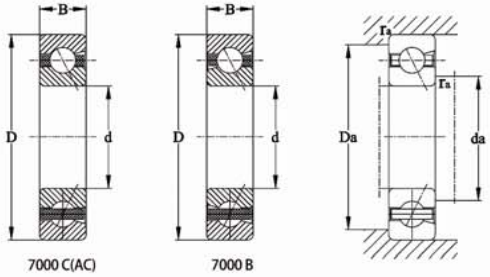
7000 C(AC) 7000 B

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	
17	47	14	14.1	8.1	13000	17000	0.16	22	42	1	7303 B
20	42	12	10.5	6.02	17000	20000	0.067	25	37	0.6	7004 C
20	42	12	10	5.77	17000	20000	0.067	25	37	0.6	7004 AC
20	42	12	8.85	5.11	15000	18000	0.077	25	37	0.6	7004 B
20	47	14	14.6	8.2	14000	17000	0.1	25	42	1	7204 C
20	47	14	14	7.88	14000	17000	0.1	25	42	1	7204 AC
20	47	14	12.5	7.03	13000	15000	0.117	25	42	1	7204 B
20	52	15	18.5	9.99	13000	16000	0.141	26	46	1.1	7304 C
20	52	15	17.9	9.65	13000	16000	0.141	26	46	1.1	7304 AC
20	52	15	16.2	8.72	12000	14000	0.163	26	46	1.1	7304 B
25	47	12	11.7	7.45	14000	18000	0.078	30	42	0.6	7005 C
25	47	12	11.1	7.11	14000	18000	0.078	30	42	0.6	7005 AC
25	47	12	9.72	6.25	13000	16000	0.089	30	42	0.6	7005 B
25	52	15	16.6	10.3	12000	15000	0.12	30	47	1	7205 C
25	52	15	15.9	9.84	12000	15000	0.12	30	47	1	7205 AC
25	52	15	14	8.72	11000	14000	0.146	30	47	1	7205 B
25	62	17	27.9	16.2	11000	13000	0.226	31	56	1.1	7305 C
25	62	17	27	15.7	11000	13000	0.226	31	56	1.1	7305 AC
25	62	17	24.4	14.1	10000	12000	0.258	31	56	1.1	7305 B
30	55	13	15.1	10.3	12000	15000	0.113	35	50	1	7006 C
30	55	13	14.4	9.83	12000	15000	0.113	35	50	1	7006 AC
30	55	13	12.5	8.62	11000	14000	0.13	35	50	1	7006 B
30	62	16	23	14.7	10000	13000	0.198	36	56	1	7206 C
30	62	16	22.1	14.1	10000	13000	0.198	36	56	1	7206 AC
30	62	16	19.5	12.5	9000	11700	0.222	36	56	1	7206 B
30	72	19	34.1	21.4	9200	11000	0.347	37	65	1.1	7306 C
30	72	19	32.8	20.6	9200	11000	0.346	37	65	1.1	7306 AC
30	72	19	29.3	18.4	8300	9900	0.391	37	65	1.1	7306 B

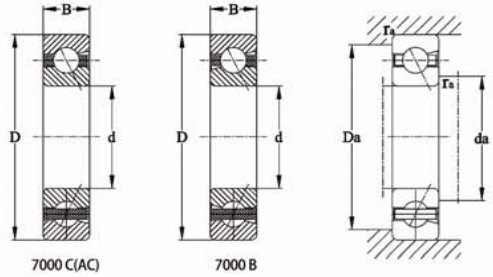


7000 C(AC) 7000 B

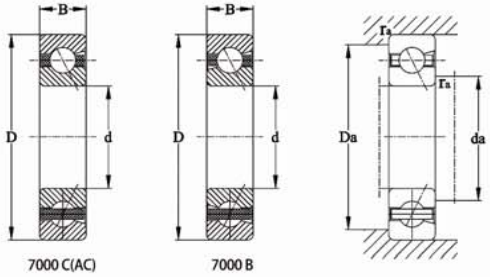
Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	
30	90	23	56.7	32.2	7800	9700	0.684	38	82	1.5	7406 C
30	90	23	55.4	31.4	7800	9700	0.678	38	82	1.5	7406 AC
30	90	23	51.1	28.8	7000	8700	0.76	38	82	1.5	7406 B
35	62	14	19.4	13.9	11000	13000	0.15	41	56	1	7007 C
35	62	14	18.5	13.2	11000	13000	0.15	41	56	1	7007 AC
35	62	14	16.1	11.6	10000	12000	0.173	41	56	1	7007 B
35	72	17	30.4	20	8800	11000	0.284	42	65	1.1	7207 C
35	72	17	29.1	19.2	8800	11000	0.284	42	65	1.1	7207 AC
35	72	17	25.7	17	7900	9900	0.318	42	65	1.1	7207 B
35	80	21	40.4	26	8200	10000	0.455	42	73	1.5	7307 C
35	80	21	38.8	25	8200	10000	0.454	42	73	1.5	7307 AC
35	80	21	34.6	22.3	7400	9000	0.515	42	73	1.5	7307 B
40	68	15	20.9	16.1	9600	12000	0.189	46	62	1	7008 C
40	68	15	19.8	15.4	9600	12000	0.189	46	62	1	7008 AC
40	68	15	17.1	13.4	8600	10800	0.215	46	62	1	7008 B
40	80	18	38.5	26.8	7800	9700	0.366	47	73	1.1	7208 C
40	80	18	36.8	25.6	7800	9700	0.365	47	73	1.1	7208 AC
40	80	18	32.5	22.7	7000	8700	0.406	47	73	1.1	7208 B
40	90	23	52.3	35.5	7200	8900	0.641	48	82	1.5	7308 C
40	90	23	50.3	34.1	7200	8900	0.641	48	82	1.5	7308 AC
40	90	23	44.7	30.5	6500	8000	0.717	48	82	1.5	7308 B
40	110	27	69.7	45.2	5700	6900	1.34	49	101	2	7408 B
45	75	16	25.9	20.4	8700	11000	0.237	51	69	1	7009 C
45	75	16	24.5	19.4	8700	11000	0.237	51	69	1	7009 AC
45	75	16	21.2	16.9	7800	9900	0.271	51	69	1	7009 B
45	85	19	40.5	29.5	7200	8900	0.418	52	78	1.1	7209 C
45	85	19	38.6	28.2	7200	8900	0.418	52	78	1.1	7209 AC
45	85	19	33.9	24.9	6500	8000	0.467	52	78	1.1	7209 B



Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	
45	100	25	64.1	43.2	6500	8000	0.826	53	92	1.5	7309 C
45	100	25	61.7	41.6	6500	8000	0.825	53	92	1.5	7309 AC
45	100	25	55	37.2	5900	7200	0.936	53	92	1.5	7309 B
45	120	29	84.6	55.9	5100	6300	1.67	55	110	2	7409 B
50	80	16	28.6	22.9	8000	9700	0.25	56	74	1	7010 C
50	80	16	27.1	21.8	8000	9700	0.249	56	74	1	7010 AC
50	80	16	23.4	19	7200	8700	0.288	56	74	1	7010 B
50	90	20	42.8	31.8	6700	8300	0.462	57	83	1.1	7210 C
50	90	20	40.8	30.4	6700	8300	0.461	57	83	1.1	7210 AC
50	90	20	35.7	26.7	6000	7500	0.521	57	83	1.1	7210 B
50	110	27	74.9	51.2	5900	7300	1.09	59	101	2	7310 C
50	110	27	72.1	49.3	5900	7300	1.09	59	101	2	7310 AC
50	110	27	64.4	44.1	5300	6600	1.22	59	101	2	7310 B
50	130	31	101	68	4700	5800	2.05	60	120	2.1	7410 B
55	90	18	37.2	30.4	7200	8700	0.4	62	83	1.1	7011 C
55	90	18	35.2	28.9	7200	8700	0.4	62	83	1.1	7011 AC
55	90	18	30.5	25.2	6500	7800	0.427	62	83	1.1	7011 B
55	100	21	52.9	40.1	6100	7500	0.609	63	92	1.5	7211 C
55	100	21	50.5	38.3	6100	7500	0.609	63	92	1.5	7211 AC
55	100	21	44.2	33.7	5500	6800	0.682	63	92	1.5	7211 B
55	120	29	91.9	66.1	5400	6600	1.4	65	110	2	7311 C
55	120	29	88.4	63.6	5400	6600	1.4	65	110	2	7311 AC
55	120	29	78.7	56.8	4900	5900	1.56	65	110	2	7311 B
55	140	33	110	76.5	4300	5300	2.54	66	129	2.1	7411 B
60	95	18	39	33.2	6700	8100	0.389	67	88	1.1	7012 C
60	95	18	37	31.6	6700	8100	0.389	67	88	1.1	7012 AC
60	95	18	32	27.5	6000	7300	0.457	67	88	1.1	7012 B
60	110	22	61	48.4	5500	6800	0.805	68	102	1.5	7212 C

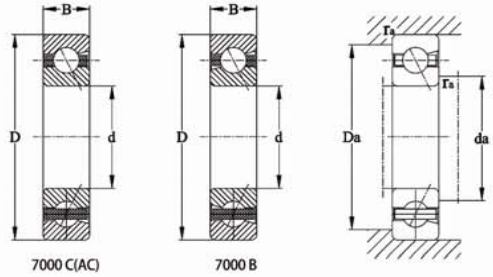


Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	
60	110	22	58.2	46.2	5500	6800	0.804	68	102	1.5	7212 AC
60	110	22	50.8	40.6	5000	6100	0.891	68	102	1.5	7212 B
60	130	31	99.1	70.2	4900	6100	1.72	70	120	2.1	7312 C
60	130	31	95.3	67.5	4900	6100	1.72	70	120	2.1	7312 AC
60	130	31	84.9	60.3	4400	5500	1.94	70	120	2.1	7312 B
60	150	35	119	86.3	4100	5000	3.07	71	139	2.1	7412 B
65	100	18	40.1	35.5	6300	7600	0.412	72	93	1.1	7013 C
65	100	18	38	33.7	6300	7600	0.412	72	93	1.1	7013 AC
65	100	18	32.7	29.3	5700	6800	0.485	72	93	1.1	7013 B
65	120	23	73.1	58.9	5100	6300	1.01	74	111	1.5	7213 C
65	120	23	69.7	56.2	5100	6300	1.01	74	111	1.5	7213 AC
65	120	23	60.9	49.4	4600	5700	1.11	74	111	1.5	7213 B
65	140	33	112	80.8	4600	5700	2.12	76	129	2.1	7313 C
65	140	33	108	77.7	4600	5700	2.11	76	129	2.1	7313AC
65	140	33	96.1	69.4	4100	5100	2.38	76	129	2.1	7313 B
65	160	37	129	96.7	3800	4700	3.67	77	148	2.1	7413 B
70	110	20	48.3	43.4	5800	7000	0.585	78	102	1.1	7014 C
70	110	20	45.7	41.3	5800	7000	0.584	78	102	1.1	7014 AC
70	110	20	39.4	35.9	5200	6300	0.682	78	102	1.1	7014 B
70	125	24	76.1	64	4800	5900	1.11	79	116	1.5	7214 C
70	125	24	72.4	61	4800	5900	1.11	79	116	1.5	7214 AC
70	125	24	63	53.5	4300	5300	1.22	79	116	1.5	7214 B
70	150	35	134	101	4300	5300	2.56	81	139	2.1	7314 C
70	150	35	129	96.7	4300	5300	2.56	81	139	2.1	7314 AC
70	150	35	114	86.3	3900	4800	2.93	81	139	2.1	7314 B
70	180	42	147	115	3400	4100	5.33	83	167	3	7414 B
75	115	20	49.6	46.2	5500	6600	0.617	83	107	1.1	7015 C
75	115	20	46.9	43.9	5500	6600	0.617	83	107	1.1	7015 AC



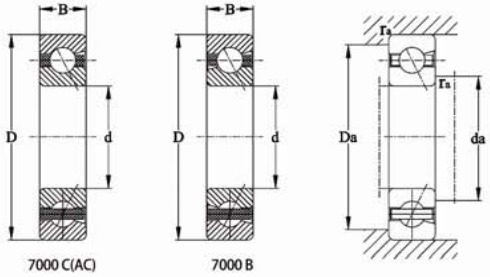
7000 C(AC) 7000 B

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	
75	115	20	40.3	38.1	5000	5900	0.719	83	107	1.1	7015 B
75	130	25	82.7	70.3	4600	5700	1.18	84	121	1.5	7215 C
75	130	25	78.7	67.1	4600	5700	1.18	84	121	1.5	7215 AC
75	130	25	68.4	58.8	4100	5100	1.32	84	121	1.5	7215 B
75	160	37	146	114	4000	4900	3.09	87	148	2.1	7315 C
75	160	37	140	109	4000	4900	3.09	87	148	2.1	7315 AC
75	160	37	124	97.6	3600	4400	3.54	87	148	2.1	7315 B
75	190	45	168	141	3200	4000	6.36	88	177	3	7415 B
80	125	22	60.5	58.3	5100	6100	0.854	88	117	1.1	7016 C
80	125	22	57.3	55.4	5100	6100	0.853	88	117	1.1	7016 AC
80	125	22	49.2	48.1	4600	5500	0.973	88	117	1.1	7016 B
80	140	26	96.9	82.9	4300	5300	1.43	90	130	2	7216 C
80	140	26	92.3	79.1	4300	5300	1.43	90	130	2	7216 AC
80	140	26	80.5	69.5	3900	4800	1.62	90	130	2	7216 B
80	170	39	158	128	3800	4600	3.65	92	158	2.1	7316 C
80	170	39	152	123	3800	4600	3.64	92	158	2.1	7316 AC
80	170	39	135	110	3400	4100	4.21	92	158	2.1	7316 B
80	200	48	178	153	3100	3700	7.54	94	186	3	7416 B
85	130	22	60.2	58.7	4800	5900	0.878	94	121	1.1	7017 C
85	130	22	56.9	55.7	4800	5900	0.877	94	121	1.1	7017 AC
85	130	22	48.9	48.2	4300	5300	1.02	94	121	1.1	7017 B
85	150	28	95.3	79.3	4000	4900	1.74	95	140	2	7217 C
85	150	28	90.7	75.6	4000	4900	1.74	95	140	2	7217 AC
85	150	28	78.9	66.3	3600	4400	2.02	95	140	2	7217 B
85	180	41	170	143	3500	4400	4.29	97	168	3	7317 C
85	180	41	164	137	3500	4400	4.28	97	168	3	7317 AC
85	180	41	145	122	3200	4000	4.93	97	168	3	7317 B
90	140	24	74	72.7	4500	5500	1.15	99	131	1.5	7018 C



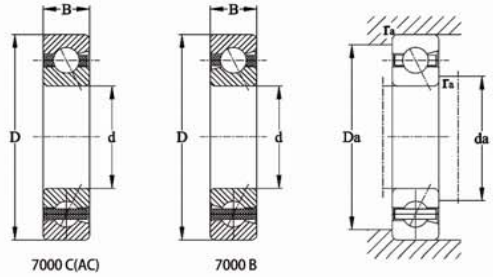
7000 C(AC) 7000 B

Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	
90	140	24	70.1	69	4500	5500	1.15	99	131	1.5	7018 AC
90	140	24	60.3	60	4100	5000	1.33	99	131	1.5	7018 B
90	160	30	123	105	3800	4600	2.18	101	149	2	7218 C
90	160	30	117	100	3800	4600	2.18	101	149	2	7218 AC
90	160	30	102	88.2	3400	4100	2.49	101	149	2	7218 B
90	190	43	183	158	3400	4100	5.02	103	177	3	7318 C
90	190	43	176	152	3400	4100	5.02	103	177	3	7318 AC
90	190	43	156	136	3100	3700	5.76	103	177	3	7318 B
95	145	24	75.8	76.8	4300	5300	1.2	104	136	1.5	7019 C
95	145	24	71.7	72.9	4300	5300	1.2	104	136	1.5	7019 AC
95	145	24	61.6	63	3900	4800	1.39	104	136	1.5	7019 B
95	170	32	139	120	3500	4400	2.64	106	159	2.1	7219 C
95	170	32	132	115	3500	4400	2.64	106	159	2.1	7219 AC
95	170	32	116	101	3200	4000	3.01	106	159	2.1	7219 B
95	200	45	196	175	3200	3900	5.78	108	187	3	7319 C
95	200	45	188	168	3200	3900	5.77	108	187	3	7319 AC
95	200	45	167	150	2900	3500	6.63	108	187	3	7319 B
100	150	24	70.7	70.3	4200	5000	1.22	109	141	1.5	7020 C
100	150	24	66.8	66.7	4200	5000	1.21	109	141	1.5	7020 AC
100	150	24	57.4	57.4	3800	4500	1.43	109	141	1.5	7020 B
100	180	34	145	130	3400	4100	3.22	112	168	2.1	7220 C
100	180	34	138	124	3400	4100	3.22	112	168	2.1	7220 AC
100	180	34	120	109	3100	3700	3.67	112	168	2.1	7220 B
100	215	47	210	190	3000	3700	7.02	114	201	3	7320 C
100	215	47	202	183	3000	3700	7.01	114	201	3	7320 AC
100	215	47	179	163	2700	3300	8.05	114	201	3	7320 B
105	160	26	85	89.7	3900	4800	1.59	115	150	2	7021 C
105	160	26	80.3	85.1	3900	4800	1.59	115	150	2	7021 AC



7000 C(AC) 7000 B

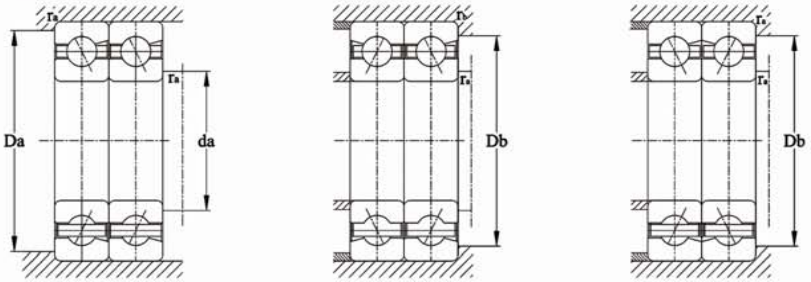
Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	
105	160	26	68.9	73.2	3500	4300	1.84	115	150	2	7021 B
105	190	36	170	154	3200	3900	3.78	117	178	2.1	7221 C
105	190	36	162	147	3200	3900	3.78	117	178	2.1	7221 AC
105	190	36	142	129	2900	3500	4.3	117	178	2.1	7221 B
105	225	49	236	226	2800	3500	8.18	120	210	3	7321 C
105	225	49	227	218	2800	3500	8.17	120	210	3	7321 AC
105	225	49	202	194	2500	3200	9.26	120	210	3	7321 B
110	170	28	104	107	3700	4500	1.97	120	160	2	7022 C
110	170	28	98.5	101	3700	4500	1.97	120	160	2	7022 AC
110	170	28	84.7	88	3300	4100	2.26	120	160	2	7022 B
110	200	38	184	172	3000	3700	4.46	123	187	2.1	7222 C
110	200	38	176	164	3000	3700	4.46	123	187	2.1	7222 AC
110	200	38	154	145	2700	3300	5.05	123	187	2.1	7222 B
110	240	50	248	241	2700	3300	9.55	125	225	3	7322 C
110	240	50	239	232	2700	3300	9.54	125	225	3	7322 AC
110	240	50	213	208	2400	3000	10.8	125	225	3	7322 B
120	180	28	106	113	3500	4200	2.09	131	169	2	7024 C
120	180	28	101	107	3500	4200	2.09	131	169	2	7024 AC
120	180	28	86.4	92.5	3200	3800	2.43	131	169	2	7024 B
120	215	40	198	193	2800	3500	5.33	133	202	2.1	7224 C
120	215	40	189	184	2800	3500	5.32	133	202	2.1	7224 AC
120	215	40	165	162	2500	3200	6.07	133	202	2.1	7224 B
120	260	55	279	289	2500	3100	12.5	136	244	3	7324 C
120	260	55	268	278	2500	3100	12.5	136	244	3	7324 AC
120	260	55	238	247	2300	2800	14.1	136	244	3	7324 B
130	200	33	133	144	3200	3800	3.23	142	188	2	7026 C
130	200	33	126	137	3200	3800	3.23	142	188	2	7026 AC
130	200	33	108	118	2900	3400	3.72	142	188	2	7026 B



7000 C(AC) 7000 B

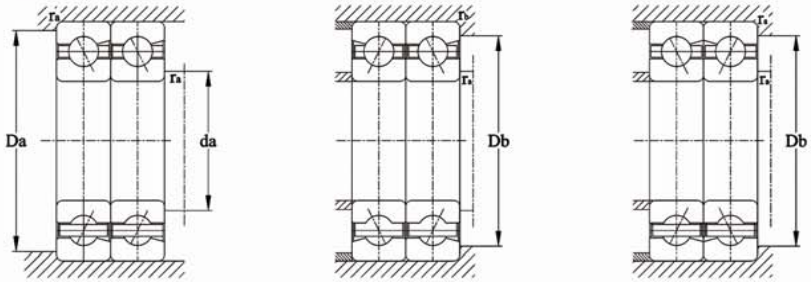
Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸			Bearing Number 轴承代号
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	ra max	New 新代号
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	
130	230	40	206	210	2600	3200	6.14	144	216	3	7226 C
130	230	40	197	200	2600	3200	6.14	144	216	3	7226 AC
130	230	40	171	175	2300	2900	6.94	144	216	3	7226 B
130	280	58	294	315	2300	2800	15.2	147	263	4	7326 C
130	280	58	282	303	2300	2800	15.2	147	263	4	7326 AC
130	280	58	250	269	2100	2500	17.2	147	263	4	7326 B
140	210	33	136	152	3000	3600	3.45	152	198	2	7028 C
140	210	33	128	144	3000	3600	3.45	152	198	2	7028 AC
140	210	33	110	124	2700	3200	3.95	152	198	2	7028 B
140	250	42	231	249	2400	3000	8.1	155	235	3	7228 C
140	250	42	219	237	2400	3000	8.09	155	235	3	7228 AC
140	250	42	190	208	2200	2700	8.82	155	235	3	7228 B
140	300	62	349	397	2100	2600	18.6	158	282	4	7328 C
140	300	62	336	382	2100	2600	18.6	158	282	4	7328 AC
140	300	62	298	341	1900	2300	20.8	158	282	4	7328 B
150	225	35	168	182	2800	3400	4.11	162	213	2.1	7030 C
150	225	35	159	173	2800	3400	4.11	162	213	2.1	7030 AC
150	225	35	136	150	2500	3100	4.69	162	213	2.1	7030 B
150	270	45	247	213	3200	4200	8.12	164	256	2.5	7230 C
150	270	45	236	200	3600	5000	8.12	164	256	2.5	7230 AC
150	270	45	225	254	1700	2400	11.2	164	256	2.5	7230 B
150	320	65	368	432	1600	2200	26.0	168	302	3	7330 C
150	320	65	353	416	1600	2200	26.0	168	302	3	7330 AC
150	320	65	313	370	1500	2100	26.7	168	302	3	7330 B

Duplex 成对安装



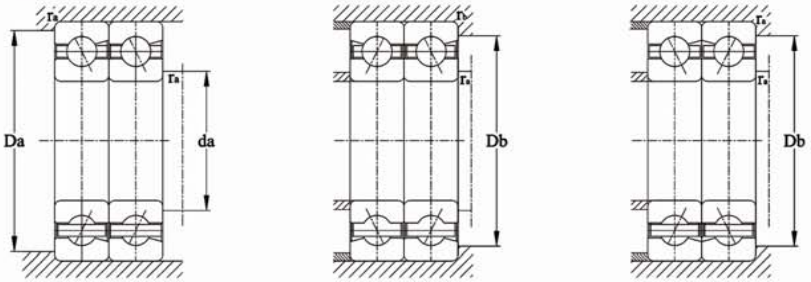
Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸					Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	Db max	ra max	rb max	Tandem 面对面	Back to Back 背对背	Face to Face 面对面
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	mm	mm			
20	42	12	17.1	12	14000	16000	0.134	25	37	40	0.6	0.15	7004 C/DT	7004 C/DB	7004 C/DF
20	42	12	16.3	11.5	14000	16000	0.134	25	37	40	0.6	0.15	7004 AC/DT	7004 AC/DB	7004 AC/DF
20	42	12	14.4	10.2	12000	14000	0.154	25	37	40	0.6	0.15	7004 B/DT	7004 B/DB	7004 B/DF
20	47	14	23.7	16.4	11000	14000	0.2	25	42	45	1.0	0.3	7204 C/DT	7204 C/DB	7204 C/DF
20	47	14	22.8	15.8	11000	14000	0.2	25	42	45	1.0	0.3	7204 AC/DT	7204 AC/DB	7204 AC/DF
20	47	14	20.3	14.1	10000	12000	0.234	25	42	45	1.0	0.3	7204 B/DT	7204 B/DB	7204 B/DF
20	52	15	30.1	20	10000	13000	0.282	26	46	50	1.1	0.6	7304 C/DT	7304 C/DB	7304 C/DF
20	52	15	29.1	19.3	10000	13000	0.282	26	46	50	1.1	0.6	7304 AC/DT	7304 AC/DB	7304 AC/DF
20	52	15	26.3	17.4	10000	11000	0.326	26	46	50	1.1	0.6	7304 B/DT	7304 B/DB	7304 B/DF
20	72	19	60.3	40.2	8000	10000	0.772	27	65	69	1.1	0.6	7404 C/DT	7404 C/DB	7404 C/DF
20	72	19	59	39	8000	10000	0.764	27	65	69	1.1	0.6	7404 AC/DT	7404 AC/DB	7404 AC/DF
20	72	19	54.4	36	7000	10000	0.848	27	65	69	1.1	0.6	7404 B/DT	7404 B/DB	7404 B/DF
25	47	12	19	14.9	11000	14000	0.156	30	42	45	0.6	0.15	7005 C/DT	7005 C/DB	7005 C/DF
25	47	12	18	14.2	11000	14000	0.156	30	42	45	0.6	0.15	7005 AC/DT	7005 AC/DB	7005 AC/DF
25	47	12	15.8	12.5	10000	13000	0.178	30	42	45	0.6	0.15	7005 B/DT	7005 B/DB	7005 B/DF
25	52	15	27	20.6	10000	12000	0.24	30	47	50	1.0	0.3	7205 C/DT	7205 C/DB	7205 C/DF
25	52	15	25.8	19.7	10000	12000	0.24	30	47	50	1.0	0.3	7205 AC/DT	7205 AC/DB	7205 AC/DF
25	52	15	22.8	17.4	9000	11000	0.292	30	47	50	1.0	0.3	7205 B/DT	7205 B/DB	7205 B/DF
25	62	17	45.3	32.4	9000	10000	0.452	31	56	60	1.1	0.6	7305 C/DT	7305 C/DB	7305 C/DF
25	62	17	43.9	31.4	9000	10000	0.452	31	56	60	1.1	0.6	7305 AC/DT	7305 AC/DB	7305 AC/DF
25	62	17	39.7	28.2	8000	10000	0.516	31	56	60	1.1	0.6	7305 B/DT	7305 B/DB	7305 B/DF
30	55	13	24.5	20.6	10000	12000	0.226	35	50	53	1.0	0.3	7006 C/DT	7006 C/DB	7006 C/DF
30	55	13	23.4	19.7	10000	12000	0.226	35	50	53	1.0	0.3	7006 AC/DT	7006 AC/DB	7006 AC/DF
30	55	13	20.3	17.2	9000	11000	0.26	35	50	53	1.0	0.3	7006 B/DT	7006 B/DB	7006 B/DF
30	62	16	37.4	29.4	8000	10000	0.396	36	56	60	1.0	0.3	7206 C/DT	7206 C/DB	7206 C/DF
30	62	16	35.9	28.2	8000	10000	0.396	36	56	60	1.0	0.3	7206 AC/DT	7206 AC/DB	7206 AC/DF
30	62	16	31.7	25	7200	9400	0.444	36	56	60	1.0	0.3	7206 B/DT	7206 B/DB	7206 B/DF

Duplex 成对安装



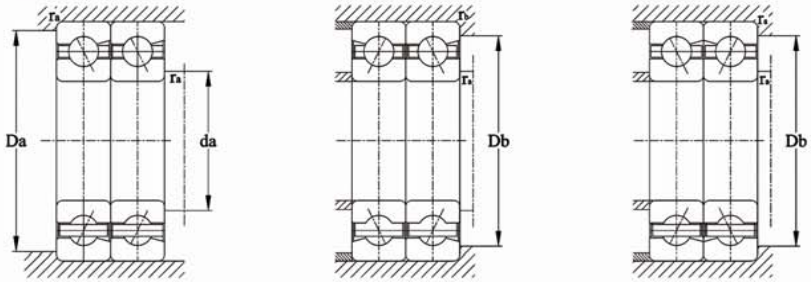
Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸					Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	Db max	ra max	rb max	Tandem 面对面	Back to Back 背对背	Face to Face 面对面
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	mm	mm			
30	72	19	55.4	42.8	7400	8800	0.694	37	65	69	1.1	0.6	7306 C/DT	7306 C/DB	7306 C/DF
30	72	19	53.3	41.2	7400	8800	0.692	37	65	69	1.1	0.6	7306 AC/DT	7306 AC/DB	7306 AC/DF
30	72	19	47.6	36.8	6600	7900	0.782	37	65	69	1.1	0.6	7306 B/DT	7306 B/DB	7306 B/DF
35	62	14	31.5	27.8	8800	10000	0.3	41	56	60	1.0	0.3	7007 C/DT	7007 C/DB	7007 C/DF
35	62	14	30.1	26.4	8800	10000	0.3	41	56	60	1.0	0.3	7007 AC/DT	7007 AC/DB	7007 AC/DF
35	62	14	26.2	23.2	8000	10000	0.346	41	56	60	1.0	0.3	7007 B/DT	7007 B/DB	7007 B/DF
35	72	17	49.4	40	7000	8800	0.568	42	65	69	1.1	0.6	7207 C/DT	7207 C/DB	7207 C/DF
35	72	17	47.3	38.4	7000	8800	0.568	42	65	69	1.1	0.6	7207 AC/DT	7207 AC/DB	7207 AC/DF
35	72	17	41.8	34	6300	7900	0.636	42	65	69	1.1	0.6	7207 B/DT	7207 B/DB	7207 B/DF
35	80	21	65.7	52	6600	8000	0.91	42	73	77	1.5	0.6	7307 C/DT	7307 C/DB	7307 C/DF
35	80	21	63.1	50	6600	8000	0.908	42	73	77	1.5	0.6	7307 AC/DT	7307 AC/DB	7307 AC/DF
35	80	21	56.2	44.6	5900	7200	1.03	42	73	77	1.5	0.6	7307 B/DT	7307 B/DB	7307 B/DF
40	68	15	34	32.2	7700	10000	0.378	46	62	66	1.0	0.3	7008 C/DT	7008 C/DB	7008 C/DF
40	68	15	32.2	30.8	7700	10000	0.378	46	62	66	1.0	0.3	7008 AC/DT	7008 AC/DB	7008 AC/DF
40	68	15	27.8	26.8	6900	8600	0.43	46	62	66	1.0	0.3	7008 B/DT	7008 B/DB	7008 B/DF
40	80	18	62.6	53.6	6200	7800	0.732	47	73	77	1.1	0.6	7208 C/DT	7208 C/DB	7208 C/DF
40	80	18	59.8	51.2	6200	7800	0.73	47	73	77	1.1	0.6	7208 AC/DT	7208 AC/DB	7208 AC/DF
40	80	18	52.8	45.4	5600	7000	0.812	47	73	77	1.1	0.6	7208 B/DT	7208 B/DB	7208 B/DF
40	90	23	85	71	5800	7100	1.282	48	82	87	1.5	0.6	7308 C/DT	7308 C/DB	7308 C/DF
40	90	23	81.7	68.2	5800	7100	1.282	48	82	87	1.5	0.6	7308 AC/DT	7308 AC/DB	7308 AC/DF
40	90	23	72.6	61	5200	5600	1.434	48	82	87	1.5	0.6	7308 B/DT	7308 B/DB	7308 B/DF
45	75	16	42.1	40.8	7000	8800	0.474	51	69	73	1.0	0.3	7009 C/DT	7009 C/DB	7009 C/DF
45	75	16	39.8	38.8	7000	8800	0.474	51	69	73	1.0	0.3	7009 AC/DT	7009 AC/DB	7009 AC/DF
45	75	16	34.5	33.8	6200	7900	0.542	51	69	73	1.0	0.3	7009 B/DT	7009 B/DB	7009 B/DF
45	85	19	65.8	59	5800	7100	0.836	52	78	82	1.1	0.6	7209 C/DT	7209 C/DB	7209 C/DF
45	85	19	62.7	56.4	5800	7100	0.836	52	78	82	1.1	0.6	7209 AC/DT	7209 AC/DB	7209 AC/DF
45	85	19	55.1	49.8	5200	6400	0.934	52	78	82	1.1	0.6	7209 B/DT	7209 B/DB	7209 B/DF

Duplex 成对安装



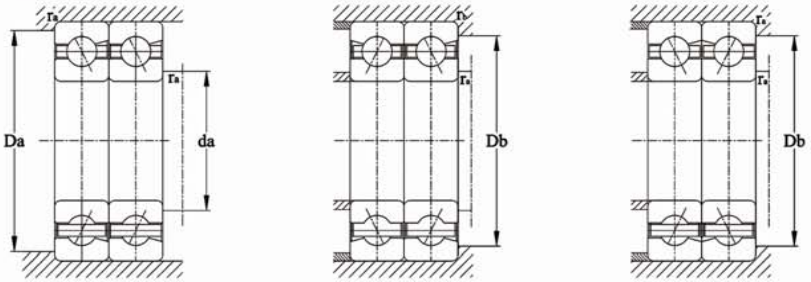
Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸					Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	Db max	ra max	rb max	Tandem 面对面	Back to Back 背对背	Face to Face 面对面
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	mm	mm			
45	100	25	104	86.4	5200	6500	1.652	53	92	97	1.5	0.6	7309 C/DT	7309 C/DB	7309 C/DF
45	100	25	100	83.2	5200	6500	1.65	53	92	97	1.5	0.6	7309 AC/DT	7309 AC/DB	7309 AC/DF
45	100	25	89.4	74.4	4700	5800	1.872	53	92	97	1.5	0.6	7309 B/DT	7309 B/DB	7309 B/DF
50	80	16	46.5	45.8	6400	7800	0.5	56	74	77	1.0	0.3	7010 C/DT	7010 C/DB	7010 C/DF
50	80	16	44	43.6	6400	7800	0.498	56	74	77	1.0	0.3	7010 AC/DT	7010 AC/DB	7010 AC/DF
50	80	16	38	38	5800	7000	0.576	56	74	77	1.0	0.3	7010 B/DT	7010 B/DB	7010 B/DF
50	90	20	69.6	63.6	5400	6600	0.924	57	83	87	1.1	0.6	7210 C/DT	7210 C/DB	7210 C/DF
50	90	20	66.3	60.8	5400	6600	0.922	57	83	87	1.1	0.6	7210 AC/DT	7210 AC/DB	7210 AC/DF
50	90	20	58	53.4	4800	6000	1.042	57	83	87	1.1	0.6	7210 B/DT	7210 B/DB	7210 B/DF
50	110	27	121	102	4700	5800	2.18	59	101	106	2.0	1	7310 C/DT	7310 C/DB	7310 C/DF
50	110	27	117	98.6	4700	5800	2.18	59	101	106	2.0	1	7310 AC/DT	7310 AC/DB	7310 AC/DF
50	110	27	104	88.2	4700	5300	2.44	59	101	106	2.0	1	7310 B/DT	7310 B/DB	7310 B/DF
55	90	18	60.5	60.8	5800	7000	0.8	62	83	87	1.1	0.6	7011 C/DT	7011 C/DB	7011 C/DF
55	90	18	57.2	57.8	5800	7000	0.8	62	83	87	1.1	0.6	7011 AC/DT	7011 AC/DB	7011 AC/DF
55	90	18	49.6	50.4	5200	6200	0.854	62	83	87	1.1	0.6	7011 B/DT	7011 B/DB	7011 B/DF
55	100	21	86	80.2	4900	6000	1.218	63	92	97	1.5	0.6	7211 C/DT	7211 C/DB	7211 C/DF
55	100	21	82.1	76.6	4900	6000	1.218	63	92	97	1.5	0.6	7211 AC/DT	7211 AC/DB	7211 AC/DF
55	100	21	71.8	67.4	4400	5400	1.364	63	92	97	1.5	0.6	7211 B/DT	7211 B/DB	7211 B/DF
55	120	29	149	132	4300	5300	2.8	65	110	116	2.0	1	7311 C/DT	7311 C/DB	7311 C/DF
55	120	29	144	127	4300	5300	2.8	65	110	116	2.0	1	7311 AC/DT	7311 AC/DB	7311 AC/DF
55	120	29	128	114	3900	4700	3.12	65	110	116	2.0	1	7311 B/DT	7311 B/DB	7311 B/DF
60	95	18	63	66	5400	6500	0.778	67	88	92	1.1	0.6	7012 C/DT	7012 C/DB	7012 C/DF
60	95	18	60	63	5400	6500	0.778	67	88	92	1.1	0.6	7012 AC/DT	7012 AC/DB	7012 AC/DF
60	95	18	52	55	4800	5800	0.914	67	88	92	1.1	0.6	7012 B/DT	7012 B/DB	7012 B/DF
60	110	22	99	97	4400	5400	1.61	68	102	107	1.5	0.6	7212 C/DT	7212 C/DB	7212 C/DF
60	110	22	95	92	4400	5400	1.608	68	102	107	1.5	0.6	7212 AC/DT	7212 AC/DB	7212 AC/DF
60	110	22	83	81	4000	4900	1.782	68	102	107	1.5	0.6	7212 B/DT	7212 B/DB	7212 B/DF

Duplex 成对安装



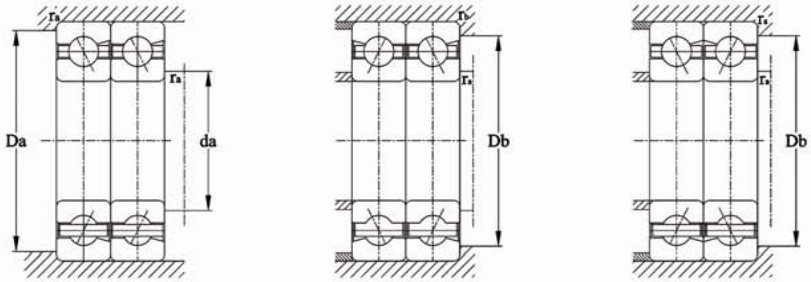
Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸					Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	Db max	ra max	rb max	Tandem 面对面	Back to Back 背对背	Face to Face 面对面
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	mm	mm			
60	130	31	161	140	3900	4900	3.44	70	120	126	2.1	1.1	7312 C/DT	7312 C/DB	7312 C/DF
60	130	31	155	135	3900	4900	3.44	70	120	126	2.1	1.1	7312 AC/DT	7312 AC/DB	7312 AC/DF
60	130	31	138	121	3500	4400	3.88	70	120	126	2.1	1.1	7312 B/DT	7312 B/DB	7312 B/DF
65	100	18	65	71	5000	6100	0.824	72	93	97	1.1	0.6	7013 C/DT	7013 C/DB	7013 C/DF
65	100	18	62	67	5000	6100	0.824	72	93	97	1.1	0.6	7013 AC/DT	7013 AC/DB	7013 AC/DF
65	100	18	53	59	4600	5400	0.97	72	93	97	1.1	0.6	7013 B/DT	7013 B/DB	7013 B/DF
65	120	23	119	118	4100	5000	2.02	74	111	116	1.5	0.6	7213 C/DT	7213 C/DB	7213 C/DF
65	120	23	113	112	4100	5000	2.02	74	111	116	1.5	0.6	7213 AC/DT	7213 AC/DB	7213 AC/DF
65	120	23	99	99	3700	4600	2.22	74	111	116	1.5	0.6	7213 B/DT	7213 B/DB	7213 B/DF
65	140	33	182	162	3700	4600	4.24	76	129	136	2.1	1.1	7313 C/DT	7313 C/DB	7313 C/DF
65	140	33	176	155	3700	4600	4.22	76	129	136	2.1	1.1	7313 AC/DT	7313 AC/DB	7313 AC/DF
65	140	33	156	139	3300	4100	4.76	76	129	136	2.1	1.1	7313 B/DT	7313 B/DB	7313 B/DF
70	110	20	78	87	4600	5600	1.17	78	102	107	1.1	0.6	7014 C/DT	7014 C/DB	7014 C/DF
70	110	20	74	83	4600	5600	1.168	78	102	107	1.1	0.6	7014 AC/DT	7014 AC/DB	7014 AC/DF
70	110	20	64	72	4200	5000	1.364	78	102	107	1.1	0.6	7014 B/DT	7014 B/DB	7014 B/DF
70	125	24	124	128	3800	4700	2.22	79	116	121	1.5	0.6	7214 C/DT	7214 C/DB	7214 C/DF
70	125	24	118	122	3800	4700	2.22	79	116	121	1.5	0.6	7214 AC/DT	7214 AC/DB	7214 AC/DF
70	125	24	102	107	3400	4200	2.44	79	116	121	1.5	0.6	7214 B/DT	7214 B/DB	7214 B/DF
70	150	35	218	202	3400	4200	5.12	81	139	146	2.1	1.1	7314 C/DT	7314 C/DB	7314 C/DF
70	150	35	210	193	3400	4200	5.12	81	139	146	2.1	1.1	7314 AC/DT	7314 AC/DB	7314 AC/DF
70	150	35	185	173	3100	3800	5.86	81	139	146	2.1	1.1	7314 B/DT	7314 B/DB	7314 B/DF
75	115	20	81	92	4400	5300	1.234	83	107	112	1.1	0.6	7015 C/DT	7015 C/DB	7015 C/DF
75	115	20	76	88	4400	5300	1.234	83	107	112	1.1	0.6	7015 AC/DT	7015 AC/DB	7015 AC/DF
75	115	20	65	76	4000	4700	1.438	83	107	112	1.1	0.6	7015 B/DT	7015 B/DB	7015 B/DF
75	130	25	134	141	3700	4600	2.36	84	121	126	1.5	0.6	7215 C/DT	7215 C/DB	7215 C/DF
75	130	25	128	134	3700	4600	2.36	84	121	126	1.5	0.6	7215 AC/DT	7215 AC/DB	7215 AC/DF
75	130	25	111	118	3300	4100	2.64	84	121	126	1.5	0.6	7215 B/DT	7215 B/DB	7215 B/DF

Duplex 成对安装



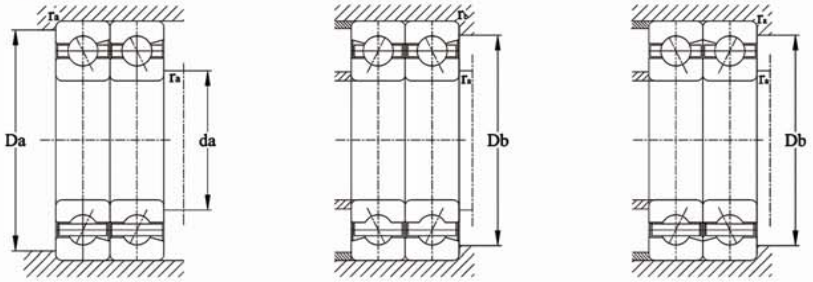
Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸					Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	Db max	ra max	rb max	Tandem 面对面	Back to Back 背对背	Face to Face 面对面
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	mm	mm			
75	160	37	237	228	3200	3900	6.18	87	148	155	2.1	1.1	7315 C/DT	7315 C/DB	7315 C/DF
75	160	37	228	218	3200	3900	6.18	87	148	155	2.1	1.1	7315 AC/DT	7315 AC/DB	7315 AC/DF
75	160	37	202	195	2900	3500	7.08	87	148	155	2.1	1.1	7315 B/DT	7315 B/DB	7315 B/DF
80	125	22	98	117	4100	4900	1.708	88	117	122	1.1	0.6	7016 C/DT	7016 C/DB	7016 C/DF
80	125	22	93	111	4100	4900	1.706	88	117	122	1.1	0.6	7016 AC/DT	7016 AC/DB	7016 AC/DF
80	125	22	80	96	3700	4400	1.946	88	117	122	1.1	0.6	7016 B/DT	7016 B/DB	7016 B/DF
80	140	26	157	166	3400	4200	2.86	90	130	136	2	1	7216 C/DT	7216 C/DB	7216 C/DF
80	140	26	150	158	3400	4200	2.86	90	130	136	2	1	7216 AC/DT	7216 AC/DB	7216 AC/DF
80	140	26	131	139	3100	3800	3.24	90	130	136	2	1	7216 B/DT	7216 B/DB	7216 B/DF
80	170	39	257	256	3000	3700	7.3	92	158	165	2.1	1.1	7316 C/DT	7316 C/DB	7316 C/DF
80	170	39	247	246	3000	3700	7.28	92	158	165	2.1	1.1	7316 AC/DT	7316 AC/DB	7316 AC/DF
80	170	39	219	220	2700	3300	8.42	92	158	165	2.1	1.1	7316 B/DT	7316 B/DB	7316 B/DF
85	130	22	98	117	3800	4700	1.756	94	121	127	1.1	0.6	7017 C/DT	7017 C/DB	7017 C/DF
85	130	22	92	111	3800	4700	1.754	94	121	127	1.1	0.6	7017 AC/DT	7017 AC/DB	7017 AC/DF
85	130	22	79	96	3400	4200	2.04	94	121	127	1.1	0.6	7017 B/DT	7017 B/DB	7017 B/DF
85	150	28	155	159	3200	3900	3.48	95	140	146	2	1	7217 C/DT	7217 C/DB	7217 C/DF
85	150	28	147	151	3200	3900	3.48	95	140	146	2	1	7217 AC/DT	7217 AC/DB	7217 AC/DF
85	150	28	128	133	2900	3500	4.04	95	140	146	2	1	7217 B/DT	7217 B/DB	7217 B/DF
85	180	41	276	286	2800	3500	8.58	97	168	175	3	1.1	7317 C/DT	7317 C/DB	7317 C/DF
85	180	41	267	274	2800	3500	8.56	97	168	175	3	1.1	7317 AC/DT	7317 AC/DB	7317 AC/DF
85	180	41	236	244	2600	3200	9.86	97	168	175	3	1.1	7317 B/DT	7317 B/DB	7317 B/DF
90	140	24	120	145	3600	4400	2.3	99	131	136	1.5	0.6	7018 C/DT	7018 C/DB	7018 C/DF
90	140	24	114	138	3600	4400	2.3	99	131	136	1.5	0.6	7018 AC/DT	7018 AC/DB	7018 AC/DF
90	140	24	98	120	3300	4000	2.66	99	131	136	1.5	0.6	7018 B/DT	7018 B/DB	7018 B/DF
90	160	30	200	210	3000	3700	4.36	101	149	156	2	1	7218 C/DT	7218 C/DB	7218 C/DF
90	160	30	190	200	3000	3700	4.36	101	149	156	2	1	7218 AC/DT	7218 AC/DB	7218 AC/DF
90	160	30	166	176	2700	3300	4.98	101	149	156	2	1	7218 B/DT	7218 B-DB	7218 B/DF

Duplex 成对安装



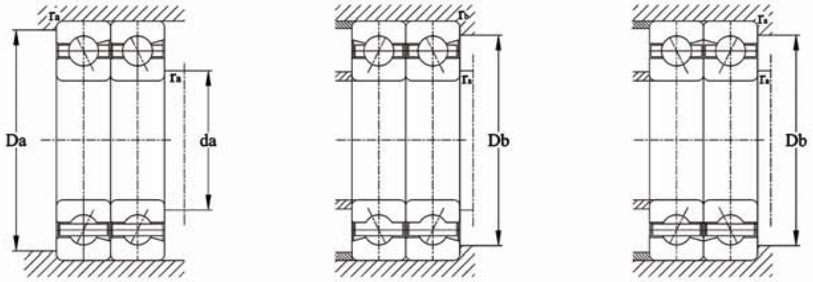
Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸					Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	Db max	ra max	rb max	Tandem 面对面	Back to Back 背对背	Face to Face 面对面
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	mm	mm			
90	190	43	297	316	2700	3300	10.04	103	177	185	3	1.1	7318 C/DT	7318 C/DB	7318 C/DF
90	190	43	286	304	2700	3300	10.04	103	177	185	3	1.1	7318 AC/DT	7318 AC/DB	7318 AC/DF
90	190	43	254	272	2500	3000	11.52	103	177	185	3	1.1	7318 B/DT	7318 B/DB	7318 B/DF
95	145	24	123	154	3400	4200	2.4	104	136	141	1.5	0.6	7019 C/DT	7019 C/DB	7019 C/DF
95	145	24	117	146	3400	4200	2.4	104	136	141	1.5	0.6	7019 AC/DT	7019 AC/DB	7019 AC/DF
95	145	24	100	126	3100	3800	2.78	104	136	141	1.5	0.6	7019 B/DT	7019 B/DB	7019 B/DF
95	170	32	226	240	2800	3500	5.28	106	159	165	2.1	1.1	7219 C/DT	7219 C/DB	7219 C/DF
95	170	32	215	230	2800	3500	5.28	106	159	165	2.1	1.1	7219 AC/DT	7219 AC/DB	7219 AC/DF
95	170	32	189	202	2600	3200	6.02	106	159	165	2.1	1.1	7219 B/DT	7219 B/DB	7219 B/DF
95	200	45	319	350	2600	3100	11.56	108	187	195	3	1.1	7319 C/DT	7319 C/DB	7319 C/DF
95	200	45	306	336	2600	3100	11.54	108	187	195	3	1.1	7319 AC/DT	7319 AC/DB	7319 AC/DF
95	200	45	271	300	2300	2800	13.26	108	187	195	3	1.1	7319 B/DT	7319 B/DB	7319 B/DF
100	150	24	115	141	3400	4000	2.44	109	141	146	1.5	0.6	7020 C/DT	7020 C/DB	7020 C/DF
100	150	24	109	133	3400	4000	2.42	109	141	146	1.5	0.6	7020 AC/DT	7020 AC/DB	7020 AC/DF
100	150	24	93	115	3000	3600	2.86	109	141	146	1.5	0.6	7020 B/DT	7020 B/DB	7020 B/DF
100	180	34	236	260	2700	3300	6.44	112	168	175	2.1	1.1	7220 C/DT	7220 C/DB	7220 C/DF
100	180	34	224	248	2700	3300	6.44	112	168	175	2.1	1.1	7220 AC/DT	7220 AC/DB	7220 AC/DF
100	180	34	195	218	2500	3000	7.34	112	168	175	2.1	1.1	7220 B/DT	7220 B/DB	7220 B/DF
100	215	47	341	380	2400	3000	14.04	114	201	209	3	1.1	7320 C/DT	7320 C/DB	7320 C/DF
100	215	47	328	366	2400	3000	14.02	114	201	209	3	1.1	7320 AC/DT	7320 AC/DB	7320 AC/DF
100	215	47	291	326	2200	2600	16.1	114	201	209	3	1.1	7320 B/DT	7320 B/DB	7320 B/DF
105	160	26	138	179	3100	3800	3.18	115	150	156	2	1	7021 C/DT	7021 C/DB	7021 C/DF
105	160	26	130	170	3100	3800	3.18	115	150	156	2	1	7021 AC/DT	7021 AC/DB	7021 AC/DF
105	160	26	112	146	2700	3400	3.68	115	150	156	2	1	7021 B/DT	7021 B/DB	7021 B/DF
105	190	36	276	308	2600	3100	7.56	117	178	185	2.1	1.1	7221 C/DT	7221 C/DB	7221 C/DF
105	190	36	263	294	2600	3100	7.56	117	178	185	2.1	1.1	7221 AC/DT	7221 AC/DB	7221 AC/DF
105	190	36	231	258	2300	2800	8.6	117	178	185	2.1	1.1	7221 B/DT	7221 B/DB	7221 B/DF

Duplex 成对安装



Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸					Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	Db max	ra max	rb max	Tandem 面对面	Back to Back 背对背	Face to Face 面对面
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	mm	mm			
105	225	49	384	452	2200	2800	16.36	120	210	219	3	1.1	7321 C/DT	7321 C/DB	7321 C/DF
105	225	49	369	436	2200	2800	16.34	120	210	219	3	1.1	7321 AC/DT	7321 AC/DB	7321 AC/DF
105	225	49	328	388	2000	2600	18.52	120	210	219	3	1.1	7321 B/DT	7321 B/DB	7321 B/DF
110	170	28	169	214	3000	3600	3.94	120	160	166	2	1	7022 C/DT	7022 C/DB	7022 C/DF
110	170	28	160	202	3000	3600	3.94	120	160	166	2	1	7022 AC/DT	7022 AC/DB	7022 AC/DF
110	170	28	138	176	2600	3300	4.52	120	160	166	2	1	7022 B/DT	7022 B/DB	7022 B/DF
110	200	38	299	344	2400	3000	8.92	123	187	195	2.1	1.1	7222 C/DT	7222 C/DB	7222 C/DF
110	200	38	286	328	2400	3000	8.92	123	187	195	2.1	1.1	7222 AC/DT	7222 AC/DB	7222 AC/DF
110	200	38	250	290	2200	2600	10.1	123	187	195	2.1	1.1	7222 B/DT	7222 B/DB	7222 B/DF
110	240	50	403	482	2200	2600	19.1	125	225	234	3	1.1	7322 C/DT	7322 C/DB	7322 C/DF
110	240	50	388	464	2200	2600	19.08	125	225	234	3	1.1	7322 AC/DT	7322 AC/DB	7322 AC/DF
110	240	50	346	416	1900	2400	21.6	125	225	234	3	1.1	7322 B/DT	7322 B/DB	7322 B/DF
120	180	28	172	226	2800	3400	4.18	131	169	176	2	1	7024 C/DT	7024 C/DB	7024 C/DF
120	180	28	164	214	2800	3400	4.18	131	169	176	2	1	7024 AC/DT	7024 AC/DB	7024 AC/DF
120	180	28	140	185	2600	3000	4.86	131	169	176	2	1	7024 B/DT	7024 B/DB	7024 B/DF
120	215	40	322	386	2200	2800	10.66	133	202	210	2.1	1.1	7224 C/DT	7224 C/DB	7224 C/DF
120	215	40	307	368	2200	2800	10.64	133	202	210	2.1	1.1	7224 AC/DT	7224 AC/DB	7224 AC/DF
120	215	40	268	324	2000	2600	12.14	133	202	210	2.1	1.1	7224 B/DT	7224 B/DB	7224 B/DF
120	260	55	453	578	2000	2500	25	136	244	254	3	1.1	7324 C/DT	7324 C/DB	7324 C/DF
120	260	55	436	556	2000	2500	25	136	244	254	3	1.1	7324 AC/DT	7324 AC/DB	7324 AC/DF
120	260	55	387	494	1800	2200	28.2	136	244	254	3	1.1	7324 B/DT	7324 B/DB	7324 B/DF
130	200	33	216	288	2600	3000	6.46	142	188	195	2	1	7026 C/DT	7026 C/DB	7026 C/DF
130	200	33	205	274	2600	3000	6.46	142	188	195	2	1	7026 AC/DT	7026 AC/DB	7026 AC/DF
130	200	33	176	236	2300	2700	7.44	142	188	195	2	1	7026 B/DT	7026 B/DB	7026 B/DF
130	230	40	335	420	2100	2600	12.28	144	216	224	3	1.1	7226 C/DT	7226 C/DB	7226 C/DF
130	230	40	320	400	2100	2600	12.28	144	216	224	3	1.1	7226 AC/DT	7226 AC/DB	7226 AC/DF
130	230	40	278	350	1800	2300	13.88	144	216	224	3	1.1	7226 B/DT	7226 B/DB	7226 B/DF

Duplex 成对安装

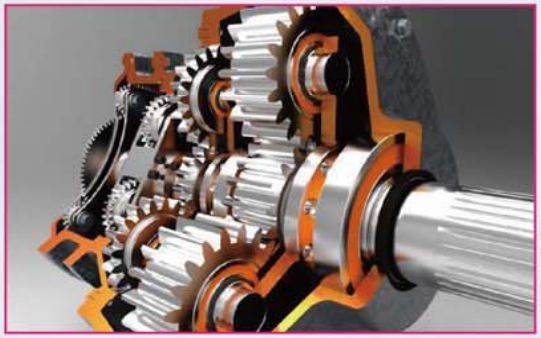


Principal Dimensions 基本尺寸			Basic Load Ratings 基本额定负荷		Limiting Speeds 极限转速		Weight 重量	Shoulder Dia. 安装尺寸					Bearing Number 轴承代号		
d	D	B	Cr	Cor	Grease 脂	Oil 油	wt ≈	da min	Da max	Db max	ra max	rb max	Tandem 面对面	Back to Back 背对背	Face to Face 面对面
mm	mm	mm	kN	kN	r/min	r/min	kg	mm	mm	mm	mm	mm			
130	280	58	478	630	1800	2200	30.4	147	263	273	4	1.5	7326 C/DT	7326 C/DB	7326 C/DF
130	280	58	458	606	1800	2200	30.4	147	263	273	4	1.5	7326 AC/DT	7326 AC/DB	7326 AC/DF
130	280	58	406	538	1700	2200	30.4	147	263	273	4	1.5	7326 B/DT	7326 B/DB	7326 B/DF
140	210	33	221	304	2400	2900	6.9	152	198	205	2	1	7028 C/DT	7028 C/DB	7028 C/DF
140	210	33	208	288	2400	2900	6.9	152	198	205	2	1	7028 AC/DT	7028 AC/DB	7028 AC/DF
140	210	33	179	248	2200	2600	7.9	152	198	205	2	1	7028 B/DT	7028 B/DB	7028 B/DF
140	250	42	375	498	1900	2400	16.2	155	235	244	3	1.1	7228 C/DT	7228 C/DB	7228 C/DF
140	250	42	356	474	1900	2400	16.18	155	235	244	3	1.1	7228 AC/DT	7228 AC/DB	7228 AC/DF
140	250	42	309	416	1800	2200	17.64	155	235	244	3	1.1	7228 B/DT	7228 B/DB	7228 B/DF
140	300	62	567	794	1700	2100	37.2	158	282	293	4	1.5	7328 C/DT	7328 C/DB	7328 C/DF
140	300	62	546	764	1700	2100	37.2	158	282	293	4	1.5	7328 AC/DT	7328 AC/DB	7328 AC/DF
140	300	62	484	682	1500	1800	41.6	158	282	293	4	1.5	7328 B/DT	7328 B/DB	7328 B/DF
150	225	35	273	364	2300	2700	8.22	162	213	220	2.1	1.1	7030 C/DT	7030 C/DB	7030 C/DF
150	225	35	258	346	2300	2700	8.22	162	213	220	2.1	1.1	7030 AC/DT	7030 AC/DB	7030 AC/DF
150	225	35	221	300	2000	2500	9.38	162	213	220	2.1	1.1	7030 B/DT	7030 B/DB	7030 B/DF
150	270	45	429	582	3200	4200	8.12	164	256	263	2.5	1.0	7230 C/DT	7230 C/DB	7230 C/DF
150	270	45	409	564	3600	5000	8.12	164	256	263	2.5	1.0	7230 AC/DT	7230 AC/DB	7230 AC/DF
150	270	45	356	494	1700	2400	11.2	164	256	256	2.5	1.5	7230 B/DT	7230 B/DB	7230 B/DF
150	320	65	596	864	1600	2200	26.0	168	302	311	3	1.5	7330 C/DT	7330 C/DB	7330 C/DF
150	320	65	571	832	1600	2200	26.0	168	302	311	3	1.5	7330 AC/DT	7330 AC/DB	7330 AC/DF
150	320	65	507	740	1500	2100	26.7	168	302	311	3	1.5	7330 B/DT	7330 B/DB	7330 B/DF

Product Applications
产品应用

It is necessary for the mineral bearings to work continuously under high load and heavy dust due to tough working environments. Most frequently causes the bearings damaged. NFB has developed bearings exclusively for mining, which enable the mining equipments high reliability to continuously work, reduce the miantenances and save the repair cost.

矿山机械恶劣的工作环境，要求轴承在高负载、多粉尘的条件下连续工作，其振动对轴承最具破坏性。NFB研发了矿机专用轴承，帮助矿山机械设备提高连续运行的可靠性，减少用户维护和修理成本。



Power Transmission
动力传动装置的应用

Off-highway
工程机械应用

Paper Machinery
造纸机械应用

Coal Mining Machinery
煤矿机械行业应用

Fluid Machinery
流体机械应用

Conversion Tables 转换表

Inches to Millimeters – units 英寸至毫米

inches	英寸	0	1	2	3	4	5	6	7	8	9
0	0.0000	0.000	25.400	50.800	76.200	101.600	127.000	152.400	177.800	203.200	228.600
1/16	0.0625	1.588	26.988	52.388	77.788	103.188	128.588	153.988	179.388	204.788	230.188
1/8	0.1250	3.175	28.575	53.975	79.375	104.775	130.175	155.575	180.975	206.375	231.775
3/16	0.1875	4.763	30.162	55.562	80.962	106.362	131.762	157.162	182.562	207.962	233.362
1/4	0.2500	6.350	31.750	57.150	82.500	107.950	133.350	158.750	184.150	209.550	234.950
5/16	0.3125	7.938	33.338	58.738	84.138	109.538	134.938	160.338	185.735	211.138	236.538
3/8	0.3750	9.525	34.925	60.325	85.725	111.125	136.525	161.925	187.325	212.725	238.125
7/16	0.4375	11.112	36.512	61.912	87.312	112.712	138.112	163.512	188.912	214.312	239.712
1/2	0.5000	12.700	38.100	63.500	88.900	114.300	139.700	165.100	190.500	215.900	241.300
9/16	0.5625	14.288	39.688	65.088	90.488	115.888	141.288	166.688	192.088	217.488	242.888
5/8	0.6250	15.875	41.275	66.675	92.075	117.475	142.875	168.275	193.675	219.075	244.475
11/16	0.6875	17.462	42.862	68.262	93.662	119.062	144.462	169.862	195.262	220.662	246.062
3/4	0.7500	19.050	44.450	69.850	95.250	120.650	146.050	171.450	196.850	222.250	247.650
13/16	0.8125	20.638	46.038	71.438	96.838	122.238	147.638	173.038	198.438	223.838	249.238
7/8	0.8750	22.225	47.625	73.025	98.425	123.825	149.225	174.625	200.025	225.425	250.825
15/16	0.9375	23.812	49.212	74.612	100.012	125.412	150.812	176.212	201.612	227.012	252.412

inches	英寸	10	11	12	13	14	15
0	0.0000	254.000	279.400	304.800	330.200	355.600	381.000
1/16	0.0625	255.588	280.988	306.388	331.788	357.188	382.588
1/8	0.1250	257.175	282.575	307.975	333.375	358.775	384.175
3/16	0.1875	258.762	284.162	309.562	334.962	360.362	385.762
1/4	0.2500	260.350	285.750	311.150	336.550	361.950	387.350
5/16	0.3125	261.938	287.338	312.738	338.138	363.538	388.938
3/8	0.3750	263.525	288.925	314.325	339.725	365.125	390.525
7/16	0.4375	265.112	290.512	315.912	314.312	366.712	392.112
1/2	0.5000	266.700	292.100	317.500	342.900	368.300	393.700
9/16	0.5625	268.288	293.688	319.088	344.488	369.888	395.288
5/8	0.6250	269.875	295.275	320.675	346.075	371.475	396.875
11/16	0.6875	271.462	296.862	322.262	347.662	373.062	398.462
3/4	0.7500	273.050	298.450	323.850	349.250	374.650	400.050
13/16	0.8125	274.638	300.038	325.438	350.838	376.238	401.638
7/8	0.8750	276.225	301.625	327.025	352.425	377.825	403.225
15/16	0.9375	277.812	303.212	328.612	354.012	379.412	404.812

Norm No. 350 英国标准
Norm No. B48.1 美国标准
} 1 英寸=25.400 毫米

德国标准 4890, 1 毫米 = $\frac{1}{25.4}$ 英寸

B. S. I. Norm No. 350
A. S. A. Norm No. B48.1
} 1 inch = 25.400mm(exact)

DIN 4890, 1mm = $\frac{1}{25.4}$ inches

Units 单位

inches	10	
0	–	254
1	25.4	279.4
2	50.8	304.8
3	76.2	330.2
4	101.6	355.6
5	127	381
6	152.4	406.4
7	177.8	431.8
8	203.2	457.2
9	228.6	482.6

Fractions 分数

1/10"		1/100"		1/1000"		1/10000"	
inches	mm	inches	mm	inches	mm	inches	mm
0.1	2.54	0.01	0.254	0.001	0.0254	0.0001	0.00254
0.2	5.08	0.02	0.508	0.002	0.0508	0.0002	0.00508
0.3	7.62	0.03	0.762	0.003	0.0762	0.0003	0.00762
0.4	10.16	0.04	1.016	0.004	0.1016	0.0004	0.01016
0.5	12.70	0.05	1.270	0.005	0.1270	0.0005	0.01270
0.6	15.24	0.06	1.524	0.006	0.1524	0.0006	0.01524
0.7	17.78	0.07	1.778	0.007	0.1778	0.0007	0.01778
0.8	20.32	0.08	2.032	0.008	0.2032	0.0008	0.02032
0.9	22.86	0.09	2.286	0.009	0.2286	0.0009	0.02286

Millimeters to Inches – units 毫米至英寸

mm		10	20	30	40	50	60	70	80	90
0	–	0.39370	0.78740	1.18110	1.57480	1.96850	2.36220	2.75591	3.14961	3.54331
1	0.03937	0.43307	0.082677	1.22047	1.61417	2.00787	2.40157	2.79528	3.18898	3.58268
2	0.07874	0.47244	0.86614	1.25984	1.65354	2.04724	2.44094	2.83465	3.22835	3.62205
3	0.11811	0.51181	0.90551	1.29921	1.69291	2.08661	2.48031	2.87402	3.26772	3.66142
4	0.15748	0.55118	0.94488	1.33858	1.73228	2.12598	2.51969	2.91339	3.30709	3.70079
5	0.19685	0.59055	0.98425	1.37795	1.77165	2.16535	2.55906	2.95276	3.34646	3.74016
6	0.23622	0.62992	1.02362	1.41732	1.71102	2.20472	2.59843	2.99213	3.38583	3.77953
7	0.27559	0.66929	1.06299	1.45669	1.85039	2.24409	2.63780	3.03150	3.42520	3.81890
8	0.31496	0.70866	1.10236	1.49606	1.88976	2.28346	2.67717	3.07087	3.46457	3.85827
9	0.35433	0.74803	1.14173	1.53543	1.92913	2.32283	2.71654	3.11024	3.50394	3.89764

mm		100	200	300
0	–	3.93701	7.87402	11.81100
10	0.39370	4.33071	8.26772	12.20470
20	0.78740	4.72441	8.66142	12.59840
30	1.18110	5.11811	9.05512	12.99210
40	1.57480	5.51181	9.44882	13.38580
50	1.96850	5.90551	9.84252	13.77950
60	2.36220	6.29921	10.23620	14.17320
70	2.75591	6.69291	10.62990	14.56690
80	3.14961	7.08661	11.02360	14.96060
90	3.54331	7.48031	11.41730	15.35430

Fractions 分数

1/10mm		1/100mm		1/1000mm	
mm	inches	mm	inches	mm	inches
0.1	0.00394	0.01	0.00039	0.001	0.000039
0.2	0.00787	0.02	0.00079	0.002	0.000079
0.3	0.01181	0.03	0.00118	0.003	0.000118
0.4	0.01575	0.04	0.00157	0.004	0.000157
0.5	0.01969	0.05	0.00197	0.005	0.000197
0.6	0.02362	0.06	0.00236	0.006	0.000236
0.7	0.02756	0.07	0.00276	0.007	0.000276
0.8	0.03150	0.08	0.00315	0.008	0.000315
0.9	0.03543	0.09	0.00354	0.009	0.000354

Conversion Tables 转换表

Approx. Hardness Conversion Numbers for Steel, Based on Rockwell C

依据洛氏硬度测试值转换成的其它硬度规范的对应值

Rockwell C-Scale Hardness Number 洛氏 C 硬度值	HV Diamond Pyramid Hardness Number Vickers 金刚钻压头的维氏硬度值	Brinell Hardness Number 10mm ball 布氏硬度 3000kg load （10 毫米钢球, 3000 公斤负荷）			Rockwell Hardness Number 洛氏硬度			Rockwell Superficial Hardness Number Superficial Brale Penertrator 洛氏表面硬度			Shore Scleroscope Harderness Number 肖氏硬度	Tensile Strength (aprox.) 1000psi 抗拉强度（近似值）1000 磅/寸²	Rockwell C-scale Hardness Number 洛氏 C 硬度值
		Standard Ball 标准钢球	Hultgren Ball 赫氏球	Tungsten Carbide 硬质合金球	A-Scale 60kg load Brale Penetrator A-刻度 60 公斤负荷 布氏压头	B- Scale 100kg load 1/16" Dia Ball B-刻度 100 公斤负荷 1/16" 直径钢球	D- Scale 100kg Brale Penetrator D-刻度 100 公斤负荷 布氏压头	15-N Scale 15kg load 15-N 刻度 15 公斤负荷	30-N Scale 30kg load 30-N 刻度 30 公斤负荷	45-N Scale 45kg load 45-N 刻度 45 公斤负荷			
68	940	–	–	–	85.6	–	76.9	93.2	84.4	75.4	97	–	68
67	900	–	–	–	85	–	76.1	92.9	83.6	74.2	95	–	67
66	865	–	–	–	84.5	–	75.4	92.5	82.8	73.3	92	–	66
65	832	–	–	739	83.9	–	74.5	92.2	81.9	72	91	–	65
64	800	–	–	722	83.4	–	73.8	91.8	81.1	71	88	–	64
63	772	–	–	705	82.8	–	73	91.4	80.1	69.9	87	–	63
62	746	–	–	688	82.3	–	72.2	91.1	79.3	68.8	85	–	62
61	720	–	–	670	81.8	–	71.5	90.7	78.4	67.7	83	–	61
60	697	–	613	654	81.2	–	70.7	90.2	77.5	66.6	81	–	60
59	674	–	599	634	80.7	–	69.9	89.8	76.6	65.5	80	326	59
58	653	–	587	615	80.1	–	69.2	89.3	75.7	64.3	78	315	58
57	633	–	575	595	79.6	–	68.5	88.9	74.8	63.2	76	305	57
56	613	–	561	577	79	–	67.7	88.3	73.9	62	75	295	56
55	595	–	546	560	78.5	–	66.9	87.9	73	60.9	74	287	55
54	577	–	534	543	78	–	66.1	87.4	72	59.8	72	278	54
53	560	–	519	525	77.4	–	65.4	86.9	71.2	58.6	71	269	53
52	544	500	508	512	76.8	–	64.6	86.4	70.2	57.4	69	262	52
51	528	487	494	496	76.3	–	63.8	85.9	69.4	56.1	68	253	51
50	513	475	481	481	75.9	–	63.1	85.5	68.5	55	67	245	50
49	498	464	469	469	75.2	–	62.1	85	67.6	53.8	66	239	49
48	484	451	455	455	74.7	–	61.4	84.5	66.7	52.5	64	232	48
47	471	442	443	443	74.1	–	60.8	83.9	65.8	51.4	63	225	47
46	458	432	432	432	73.6	–	60	83.5	64.8	50.3	62	219	46
45	446	421	421	421	73.1	–	59.2	83	64	49	60	212	45
44	434	409	409	409	72.5	–	58.5	82.5	63.1	47.8	58	206	44
43	423	400	400	400	72	–	57.7	82	62.2	46.7	57	201	43
42	412	390	390	390	71.5	–	56.9	81.5	61.3	45.5	56	196	42
41	402	381	381	381	70.9	–	56.2	80.9	60.4	44.3	55	191	41
40	392	371	371	371	70.4	–	55.4	80.4	59.5	43.1	54	186	40
39	382	362	362	362	69.9	–	54.6	79.9	58.6	41.9	52	181	39
38	372	353	353	353	69.4	–	53.8	79.4	57.7	40.8	51	176	38
37	363	344	344	344	68.9	–	53.1	78.8	56.8	39.6	50	172	37
36	354	336	336	336	68.4	(109)	52.3	78.3	55.9	38.4	49	168	36
35	345	327	327	327	67.9	(108.5)	51.5	77.7	55	37.2	48	163	35
34	336	319	319	319	67.4	(108)	50.8	77.2	54.2	36.1	47	159	34
33	327	311	311	311	66.8	(107.5)	50	76.6	53.3	34.9	46	154	33
32	318	301	301	301	66.3	(107)	49.2	76.1	52.1	33.7	44	150	32
31	310	294	294	294	65.8	(106)	48.4	75.6	51.3	32.5	43	146	31
30	302	286	286	286	65.3	(105.5)	47.7	75	50.4	31.3	42	142	30
29	294	279	279	279	64.7	(104.5)	47	74.5	49.5	30.1	41	138	29
28	286	271	271	271	64.3	(104)	46.1	73.9	48.6	28.9	41	134	28
27	279	264	264	264	63.8	(103)	45.2	73.3	47.7	27.8	40	131	27
26	272	258	258	258	63.3	(102.5)	44.6	72.8	46.8	26.7	38	127	26
25	266	253	253	253	62.8	(101.5)	43.8	72.2	45.9	25.5	38	124	25
24	260	247	247	247	62.4	(101)	43.1	71.6	45	24.3	37	121	24
23	254	243	243	243	62	100	42.1	71	44	23.1	36	118	23
22	248	237	237	237	61.5	99	41.6	70.5	43.2	22	35	115	22
21	243	231	231	231	61	98.5	40.9	69.9	42.3	20.7	35	113	21
20	238	226	226	226	60.5	97.8	40.1	69.4	41.5	19.6	34	110	20

※Source ASTM

美国材料学会提供数据