综合样本
General Catalogue

KMR®

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ShanDong Camelry bearings science & technology Co., Ltd

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前　言
Foreword

承蒙各界用户对KMR产品的厚爱，在此表示衷心的感谢。

当今国内外市场对于各种使用滚动轴承的机械设备提出了日益高性能、多品种的需求。因此，被列为关键机械基础件的滚动轴承也在高可靠、免维护、外型小、质量轻、高速度、特殊环境等诸多性能方面，不断赋予新的要求。对此，KMR不断进行着技术开发。

KMR的轴承产品涵盖了全部类型的标准轴承和非标、英制轴承，且绝大多数轴承产品均采用加强型内部设计，使轴承的额定载荷提高了25%~35%，轴承的寿命提高了2.0~3.5倍，各项性能均达到国际标准。

本样本用轴承型号及内径尺寸范围简化了轴承尺寸表，并在其之前补充说明了该类型特有的技术内容，方便各位根据不同应用场合选择轴承型号。

Thanks for your great kindness to KMR bearings.

Now the market both in domestic and international proposed high performance and various variety requirements to machines which using bearings , So , the bearings as the key mechanical components will be given more requirements, like high reliability,Maintenance-free,small appearance , light quality,high speed and so on. KMR is researching and developing all the time.

KMR products cover all kinds of standard, non-standard bearings and bearings in inch sizes,most of them are adopted the modified internal construction design,so the basic load ratings is improved 25-35%, the life of bearings is prolonged 2.0 to 3.5 times, every specifications of bearings can achieve international standard.

The bearings numbers and range of inner diameter stipulated in this catalogue simplifies the dimension table, KMR also make the supplementary instruction for the special technical knowledge for the bearings, it is convenient for everyone to choose the right bearing no.at different applications.

目　录
Directory

深沟球轴承

特性 深沟球轴承是由实体内外圈、保持架和钢球组成的不可分离轴承，用途非常广泛。其设计简单、可靠耐用且易于维护，适用于要求高转速、低噪音、低振动的场合。

径向和轴向承载能力 位于内、外圈上的深沟形滚道，其截面半径略大于球半径，使单列深沟球轴承在高速运转时即能承受径向载荷外，还可承受双向的轴向载荷。

角度不对中补偿 单列深沟球轴承的不对中补偿能力有限，所以轴承必须准确定位。不对中将导致滚动体处于不利的滚动状态，轴承内部应力增加，从而缩短轴承工作寿命。为了将轴承的附加应力限制在较低范围内，对于单列深沟球轴承仅允许很小的倾斜角（取决于载荷大小）。
由于其内部结构特点，双列深沟球轴承没有不对中补偿能力。在使用此类轴承时，不允许出现倾斜角。

载荷和允许倾斜角 单列深沟球轴承

系列	允许倾斜角	
	轻载荷	重载荷
62、622、63、623、64	5 '到 10 '	8 '到 16 '
618、619、160、60	2 ' 到 6 '	5 '到 10 '

标准的设计变型 KMR 单列深沟球轴承的标准设计分为开式和密封式设计。
开式轴承适用于高速和超高速运转现场。
型号后缀为 2Z 表示双侧间隙式密封，适用于高速运转现场。
轴承的后缀 2RSR 表示双侧唇式密封，采用带钢骨架的丁腈橡胶 NBR 密封圈 ，适用于中速。

润滑 开式轴承可用脂润滑或油润滑。双侧带间隙式密封或唇式密封的深沟球轴承加注了高质量油脂，用于终生润滑。

Deep groove ball bearings

Characters Single row Deep groove ball bearings consist of inner ring , outer ring, cage and steel ball. Single row Deep groove ball bearing are particularly versatile.they are simple in design, non-separable, suitable for high and even very high speeds and are robust in operation, requiring little maintenance.

Radial and Axial carrying capacity Deep groove raceway and the close conformity between raceway grooves and the balls enable deep groove ball bearings to accommodate axial loads in both directions, in addition to radial loads, even at high speeds.

Misalignment Single row deep groove ball bearings have only limited ability to accommodate misalignment. So the bearings must be located exactly. Misalignment will lead the rolling body to a disadvantage state.Bearing internal stress will increased, then the bearings' service life will be decreased. In order to control the additional stress, The angle of inclination of single row deep groove ball bearings will be small(depended on load).
Because the structure is different, double row deep groove ball bearings did not have misalignment capacity,so when you use this kind of bearings, The angel of inclination will not appear.

Load and allowable slant angle

Series	allowable slant angel	
	light load	heavy load
62、622、63、623、64	5 ' to 10 '	8 ' to 16 '
618、619、160、60	2 ' to 6 '	5 ' to 10 '

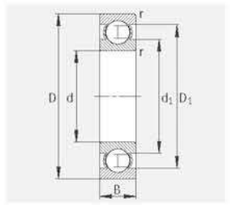
Super high design deformation KMR single row deep groove ball bearings have open and seal design. The open bearings is suitable for high speed and supper speed situation.
The suffix 2Z is shield on both sides of the bearing, suitable for high speed situation, 2RSR contact seal on both sides of the bearing, suitable for middle speed

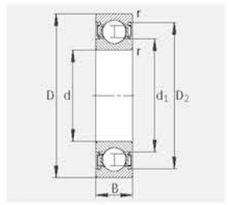
Lubrication Open bearings can be lubricated by grease lubrication and oil lubrication. The bearings with shields or seals on both sides are lubricated for life and are maintenance-free.

现有设计的后缀

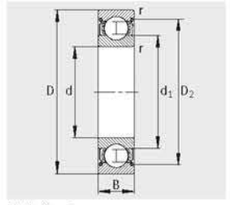
后缀	说明	设计
B	改进的内部设计	标准设计
M	实体黄铜保持架，钢球导引	
DB	○ 型配置的两个深沟球轴承，配对使用游隙为零	如有需求，也提供特殊设计
DF	X 型配置的两个深沟球球轴承，配对使用游隙为零	
DT	串联配置的两个深沟球球轴承，配对使用游隙为零	
2RSR	两侧唇式密封	标准设计
RSR	单侧唇式密封	如有需求，也提供特殊设计
BRS	迷宫式密封	
TVH	玻璃纤维增强尼龙实体保持架	
Y	冲压黄铜板保持架	
2Z	两侧间隙式密封	
Z	单侧唇密封	

深沟球轴承 Deep groove ball bearings
单列 Single row
开式或密封 Open type of sealed type





密封 2RSR



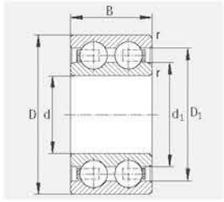
防尘盖 2Z

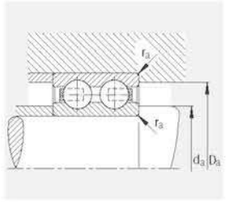
型号范围 The model range	内径范围 Diameter range （mm）
607~ 6072	Φ7~Φ360
623~6256	Φ3~Φ280
634~6348	Φ4~Φ240
61800~618/850	Φ10~Φ850
61900~61916	Φ10~Φ80

Available designs

Suffix	Instructions	Design
B	Modified inner design	Standard design
M	Solid brass cage, guided by ball	
DB	Two Deep groove ball bearings of O type design, Pairs using clearance is 0	If there is demand, Also provide special design
DF	Two Deep groove ball bearings of X type design, Pairs using clearance is 0	
DT	Two single row deep groove ball bearings matched for paired mounting in a tandem arrangement,Pairs using clearance is 0	
2RSR	Lip’s seal on both sides	Standard design
RSR	Lip’s seal on one side	If there is demand, Also provide special design
BRS	labyrinth seal	
TVH	Glass fiber reinforced nylon retainer	
Y	stamping brass cage	
2Z	clearance seal on both sides	
Z	clearance seal on one side	

深沟球轴承 Deep groove ball bearings
双列 Double row





安装尺寸

型号范围 The model range	内径范围 Diameter range （mm）
4200~ 4218	Φ10~Φ90

圆锥滚子轴承

特性 圆锥滚子轴承由内圈、外圈、窗式保持架、圆锥滚子组成，带有滚子与保持架组件的内圈和外圈能够分开安装。
KMR 可提供公制与英制轴承，型号中带字母 K 的为英制轴承。在新设计中，优先选用公制的圆锥滚子轴承。

径向和轴向承载能力 圆锥滚子轴承能够承受单方向的轴向载荷和高的径向载荷。通常两个圆锥滚子轴承采用对称布置配对使用。

接触角 轴向承载能力取决于接触角，即接触角越大，轴承所能承受的轴向载荷越大。

角度不对中补偿 圆锥滚子和内、外圈滚道间改进的接触线优化了接触点处的应力分布，防止产生边缘应力并允许轴承不对中补偿。
载荷比 P/Cr ≤ 0.2 时，轴承内、外圈相对倾斜角度不能超过 4 '。

配对轴承 带后缀 N11CA 的圆锥滚子轴承是 X 型配对轴承，能够承受大的双向轴向载荷和力矩载荷。
配对轴承的内部轴向游隙由两外圈之间的隔圈设定，并在后缀中表示出来。
根据客户需求我们也提供 O 型布置的配对轴承 (N11CB)。
订购轴承时，必须要说明轴承的数量，而非轴承对的数量。

润滑 标准设计和配对的圆锥滚子轴承可以采用油或脂润滑。

工作温度 圆锥滚子轴承适用的工作温度范围为 −30 ℃ 到 +120 ℃ 。

保持架 圆锥滚子轴承采用冲压钢板保持架。

Tapered roller bearings

Characters Tapered roller bearings comprises solid inner and outer rings with tapered raceways and tapered rollers with cages made from pressed sheet steel.The bearings are not self-retaining.As a result, the inner ring with the rollers and the cage can be fitted separately from the out ring.
KMR can supply tapered roller bearings in metric and inch sizes. Bearings with a K in the designation are inch sizes.For new designs, bearings in metric sizes should be used in preference.

Radial and Axial carrying capacity Tapered roller bearings can support axial forces in one direction and high radial forces.They must normally be axially adjusted against a second bearing fitted in a mirror image arrangement.

Contact angle The axial load carrying capacity is dependent on the contact angle,i.e.the larger the angle,the higher the axial load to which the bearing can be subject

Compensation of angular misalignments Tapered roller and the inner, outer ring raceway contact line improved the stress at the point of contact Distribution, prevent the generation of edge stress and allows compensation for bearing misalignment.The load ratio P/Cr ≤ 0.2, bearings, relative inclination of not more than 4'.

Matched bearings Tapered roller bearings with suffix N11CA are matched in pairs in an X arrangement and can therefore support high axial forces in both directions and moments loads.
The axial internal clearance of the bearing pair is defined by a ring between the two outer rings and is indicated in the suffix,
We can supply matched bearing in an O arrangement(N11CB)
When ordering matched bearings,please state the number of bearings not the number of bearing pairs.

Lubrication The standard and matched tapered roller bearings can be lubricated using oil or grease.

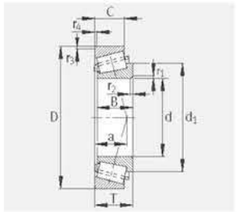
Operating temperature Tapered roller bearing can be used at operating temperature from -30 ℃ to +120. ℃

Cages Tapered roller bearings have pressed cages made from sheet steel.

现有设计

后缀	说明	设计
A	改进的内部设计	标准设计
N11CA–A..	外圈之间有隔圈的两个 X 型布置的圆锥滚子轴承 轴向内部游隙 μm	
B	加大的接触角	
X	外部尺寸与国际标准一致	
P5	更高的精度	特殊设计 某些系列可协议供货

圆锥滚子轴承 单列 Tapered roller bearings Single row

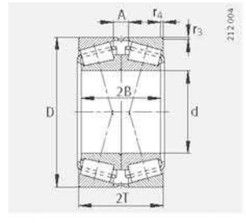


型号范围 The model range	内径范围 Diameter range （mm）
30202~ 30232	Φ15~Φ160
30302~30332	Φ15~Φ160
31305~31330	Φ25~Φ150
32004~32064	Φ20~Φ320
32203~32264	Φ17~Φ320
32303~32330	Φ17~Φ150
33005~33030	Φ25~Φ150
33205~33217	Φ25~Φ85
32914~32972	Φ70~Φ360

Available designs

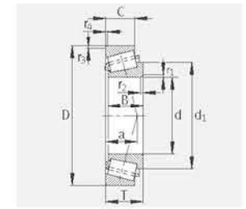
Suffix	Instructions	Design
A	Modified internal construction	Standard design
N11CA-A..	Two tapered roller bearings matched in an X arrangement,with an intermediate ring between the other rings. Axial internal clearance in μm	
B	Increased contact angle	
X	Outer dimensions matched to international standards	
P5	Increased accuracy	Special design Available by agreement and in certain series only

圆锥滚子轴承 配对 Tapered roller bearings Matched pairs



型号范围 The model range	内径范围 Diameter range （mm）
31306~ 31330	Φ30~Φ150
32016~32048	Φ80~Φ240
32222~32244	Φ110~Φ220
32944~32968	Φ220~Φ340

圆锥滚子轴承 英制 Tapered roller bearings Inch sizes



型号范围 The model range	内径范围 Diameter range （mm）
(KLM11749- LM11710)~(KLL481448- LL481411)	Φ17.462~Φ673.1

调心滚子轴承

特性 调心滚子轴承是双列不可分离轴承
包括有球面滚道的实体外圈、实体内圈和带保持架的鼓形滚子。内圈有圆柱孔或圆锥孔。

径向和轴向承载能力 调心滚子轴承能够承受双向轴向力和高径向力。
它们为高承载能力而设计，因为它们拥有尽可能多而且长的鼓形滚子，调心滚子轴承也适用于极重载荷。
滚子和滚道间优化的密合度保证了轴承内均匀的应力分布。

角度不对中补偿 调心滚子轴承可以补偿角度不对中。允许的调心角对应的载荷为 $P < 0.1 \cdot Cr$，请见下表。
这些调心角是允许的，如果：
- 角度不对中是恒定的（静态角度不对中）
- 内圈为旋转部件。

带紧定套或退卸套的轴承 圆锥孔的调心滚子轴承可以带有紧定套、锁紧螺母和调整垫圈或退卸套。
紧定套或退卸套需要单独订购。

密封 通过协商我们能够提供带密封的加脂轴承。

调心角

系列	调心角 $P < 0.1 \cdot Cr$
213..-E1、222、222..-E1、230、230..-E1 (E1A)、239、240、240..-E1、241..-E1	1.5
223、223..-E1、231、231..-E1 (E1A)、232、232..-E1 (E1A)、233..-A、241	2

Self-aligning roller bearings

Features Self-aligning roller bearings are double row,self-retaining units comprising solid outer rings with a concave raceway, solid inner rings and barrel rollers with cages.The inner rings have cylindrical or tapered bores.

Radial and axial load capacity Self-aligning bearings can support axial forces in both directions and high radial forces. They are designed for very high load carrying capacity and,since they have the maximum possible number of large and particularly long barrel rollers, are also suitable for the heaviest loads. Due to the narrow osculation between the rollers and raceways, uniform stress distribution is achieved in the bearing.

Compensation of angular misalignments Self-aligning roller bearings compensate for angular misalignments. The permissible adjustment angle is given in the table for loads $P<0,1 \cdot Cr$
The adjustment angles are permissible under the following conditions:
- Constant angular deviation (static angular misalignment)
- Rotating inner ring

With adapter sleeve or extraction sleeve Self-aligning roller bearings with a tapered bore are also available with an adapter sleeve, locknut and tab washer. Adapter and extraction sleeves must be ordered in addition to the bearing.

Seal We can provide sealed bearings with grease for our customers.Tapered roller bearings have pressed cages made from sheet steel.

Adjustment angle

Series	Self-aligning Angle $P < 0.1 \cdot Cr$
213..-E1、222、222..-E1、230、230..-E1 (E1A)、239、240、240..-E1、241..-E1	1.5
223、223..-E1、231、231..-E1 (E1A)、232、232..-E1 (E1A)、233..-A、241	2

现有设计

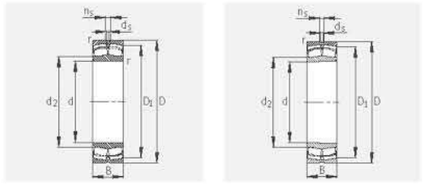
后缀	说明	设计
A	改进的内部结构	标准设计
B	改进的内部结构	
E1	加强型设计	
K	圆锥孔，锥度 1：12	
K30	圆锥孔，锥度 1：30	
M	实体黄铜保持架，滚子引导	
MA	实体黄铜保持架，外圈引导	
MB	实体黄铜保持架，内圈引导	
S	外圈带润滑槽和润滑孔	
T41A	适合振动载荷，直径公差带变窄，内部径向游隙 C4	
T41D	适合振动载荷，直径公差带变窄，内部径向游隙 C4，内孔具有薄铬层	
TVPB	玻璃纤维增强尼龙实体窗式保持架，内圈引导	

Available designs

Suffix	Instructions	design
A	Modified internal construction	Standard design
B	Modified internal construction	
E1	Increased capacity design	
K	Tapered bore, taper 1:12	
K30	Tapered bore, taper 1:30	
M	Solid brass cage, guided by rollers	
MA	Solid brass cage, guidance on outer ring	
MB	Solid brass cage, guidance on inner ring	
S	Lubrication groove and lubrication holes in outer ring	
T41A	For oscillating load with restricted diameter tolerances, radial internal clearance C4	
T41D	For oscillating load with restricted diameter tolerances, radial internal clearance C4, inner bore have the thin chromium layer	
TVPB	Solid window cage made from glass fibre reinforced polyamide, guidance on inner ring	

调心滚子轴承 圆柱孔 或圆锥孔

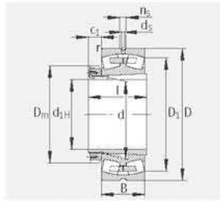
Self-aligning roller bearings
Cylindrical bore or conical bore



型号范围 The model range	内径范围 Diameter range （mm）
21304~ 21322	Φ20~Φ110
22205~22264	Φ25~Φ320
22308~22356	Φ40~Φ280
23218~23296	Φ90~Φ480
23120~231/600	Φ100~Φ600
23022~230/800	Φ110~Φ800
24122~241/710	Φ110~Φ710
23322~23332	Φ110~Φ160
23936~239/900	Φ180~Φ900
24024~240/850	Φ120~Φ850

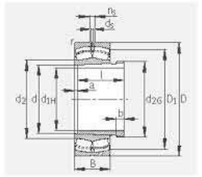
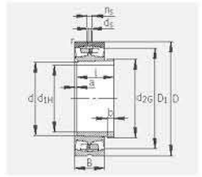
调心滚子轴承 带紧定套

Self-aligning roller bearings
With adapter sleeve



型号范围 The model range	内径范围 Diameter range （mm）
22216~ 22264	Φ80~Φ320
21316~21322	Φ80~Φ110
22316~22356	Φ80~Φ280
23120~23/600	Φ100~Φ600
23220~23296	Φ100~Φ480
23024~230/800	Φ120~Φ800
23940~239/900	Φ200~Φ900

调心滚子轴承
带退卸套

型号范围	内径范围
22208~ 22264	Φ40~Φ320
21308~21322	Φ40~Φ110
22308~22356	Φ40~Φ280
23218~23296	Φ90~Φ480
23120~231/600	Φ100~Φ600
24122~241/710	Φ110~Φ710
23940~239/900	Φ200~Φ900
24024~240/850	Φ120~Φ850

球面滚子轴承

特性 球面滚子轴承是双列不可分离轴承—包括有球面滚道的实体外圈、实体外圈和带保持架的鼓形滚子。内圈有圆柱孔和圆锥孔。

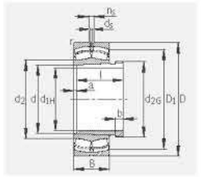
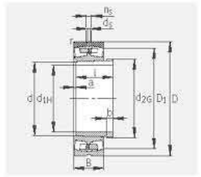
球面滚子轴承提供：E 型设计、CC 型设计、CA 型设计。

E 型结构示意图：由对称的滚子和通过位于两列滚子之间的浮动式引导环、内圈无挡边、两个硬化冲压钢保持架组成。该类轴承是 KMR 的专利产品，它的额定动载荷平均提高了 25% 到 35%，因而在同等条件下轴承的额定寿命是同型号的传统结构轴承额定寿命的 2.0–3.5 倍。

CC 型结构示意图：由对称的滚子、两个冲压钢保持架、内圈无挡边、位于两列滚子之间的浮动式引导环组成。

CA 型结构示意图：由对称的滚子、叉型机削黄铜或钢保持架和两侧有挡边的内圈组成。

Spherical roller bearings
With withdrawal sleeve

The model range	Diameter range （mm）
22208~ 22264	Φ40~Φ320
21308~21322	Φ40~Φ110
22308~22356	Φ40~Φ280
23218~23296	Φ90~Φ480
23120~231/600	Φ100~Φ600
24122~241/710	Φ110~Φ710
23940~239/900	Φ200~Φ900
24024~240/850	Φ120~Φ850

Self-aligning roller bearings

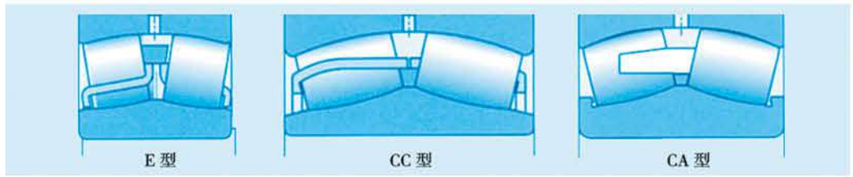
Features Self-aligning roller bearings are double row,self-retaining units comprising solid outer rings with a concave raceway, solid inner rings and barrel rollers with cages.The inner rings have cylindrical or tapered bores.

Spherical roller bearings including , E type design, CC type design, CA type design.

E type structure sketch map, including symmetrical rollers, floating guide ring through the double row rollers, inner ring without ribs, two sheet steel cages, this kind of bearing is KMR patented products. The basic dynamic load rating is prolonged about from 25% to 35%. So at the same conditions, the service life of E-type is prolonged 2.5 to 3.5 times than old design structure.

CC type structure sketch map, including symmetrical rollers, two pieces of sheet steel cages,inner ring without rib, the floating through two row rollers.

CA type figure,comprising symmetrical rollers,brass or steel cages and inner rings with ribs on both sides



径向和轴向承载能力 球面滚子轴承能够承受双向轴向力和高径向力。
它们为高承载力而设计，因为它们拥有尽可能多而且长的鼓形滚子，球面滚子轴承也适用于极重载荷。
滚子和滚道间优化的密合度保证了轴承内均匀的应力分布。

角度不对中补偿 球面滚子轴承可以补偿角度不对中。允许的调心角对应的载荷为 P ＜ 0.1.Cr，请见下表。
这些调心角是允许的，如果：
- 角度不对中是恒定的（静态角度不对中）
- 内圈为旋转部件。

调心角

系列	调心角 P ＜ 0.1· Cr
213、222、230、239、240、241	1.5
223、231、232、233	2

圆柱孔轴承 所有系列的球面滚子轴承内圈均有圆柱孔设计。

圆锥孔轴承 其它球面滚子轴承内圈均有圆锥孔设计。
轴承后缀 K 表示内孔锥度 1：12，轴承系列 240 和 241 有内孔锥度 1：30 的设计，后缀 K30.

密封 KMR 具有密封系列球面滚子轴承。

振动机械用调心滚子轴承 对于本身要求有偏心运动的机器，例如振动筛和夯土机，KMR 公司开发了适用于振动场合下应用的标准型球面滚子轴承系列。该类轴承为 223 系列，带有圆柱形孔或圆锥形孔，轴径在 40 至 240 毫米范围内。标准的内部径向游隙为 C4。
根据规格的不同，适用于振动场合下应用的 KMR 球面滚子轴承，采用以下的内部设计结构之一：
E/VA405 型：由对称的滚子、两个在内圈上定心的高硬度窗式钢保持架和

Radial and axial load capacity Self-aligning bearings can support axial forces in both directions and high radial forces. They are designed for very high load carrying capacity and,since they have the maximum possible number of large and particularly long barrel rollers, are also suitable for the heaviest loads. Due to the narrow osculation between the rollers and raceways, uniform stress distribution is achieved in the bearing.

Compensation of angular misalignments Self-aligning roller bearings compensate for angular misalignments. The permissible adjustment angle is given in the table for loads P<0,1 · Cr
The adjustment angles are permissible under the following conditions:
- Constant angular deviation (static angular misalignment)
- Rotating inner ring

Self–aligning Angle

Series	Aligning angle P ＜ 0.1· Cr
213、222、230、239、240、241	1.5
223、231、232、233	2

With Cylindrical bore Spherical roller bearings of all series are available with inner rings having a cylindrical bore.

With tapered bore Spherical roller bearings are also available with inner rings having a tapered bore.Bearings with the suffix K have a bore taper1:12, bearings of series 240 and 241 have a bore taper 1:30 and the suffix K 30.

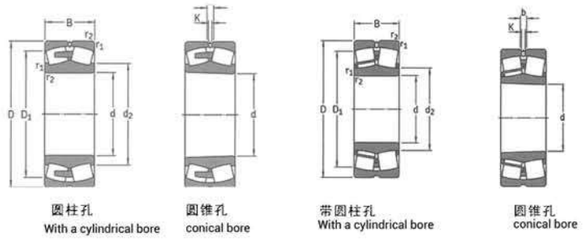
Seal KMR have sealing series bearings.

Self–aligning roller bearings for vibrating machines If the machine have eccentric motion, like vibrating screen, rammer. KMR developed the standard Spherical roller bearings series, which can be used in Vibration occasions. This is 223 series, this kind of bearings have cylindrical bore and tapered bore design, the diameter of axial is from 40mm to 240mm. The standard internal radial clearance is C4.
KMR Spherical roller bearings have the following design according to the

一个位于保持架外的浮动式导环组成；
EJA/VA405 型：由对称的滚子和通过两列滚子之间的浮动式导环、在外圈滚道上定心的两个高硬度窗式钢保持架组成；
CCJA/W33VA405 型：由对称的滚子和通过两列滚子之间的浮动式导环、在外圈滚道上定心的两个高硬度窗式钢保持架组成；
现有的振动机械用轴承经过试验验证，证明其可大大降低温度，延长机器的使用寿命。振动机械用 KMR 球面滚子轴承具有以下几大优势：
在各类振动机械内的应用，表现出卓越的性能；
KMR 轴承的性能允许设计更多更紧凑的布置；
即使在有污染的环境中也具有很高的耐磨性能。

振动机械用 KMR 球面滚子轴承设计结构
Vibrating machine should use Spherical roller bearings

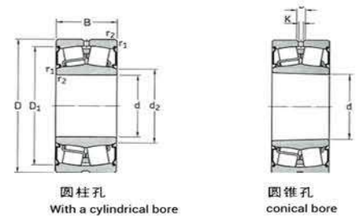
球面滚子轴承
Spherical roller bearings



型号范围 The model range	内径范围 Diameter range （mm）
21308E~21322E	Φ40~Φ110
22208E~22226E	Φ40~Φ130
22308E~22324E	Φ40~Φ120
22228~22272	Φ140~Φ360
22324~22380	Φ120~Φ400
23218~232/750	Φ90~Φ750
24013~240/750	Φ65~Φ750
23120~231/750	Φ100~Φ750
24120~241/750	Φ100~Φ750
23022~230/750	Φ110~Φ750
23936~239/750	Φ180~Φ750

different specification.
E/VA405 including the symmetrical rollers, high rigid window steel cages which was centered on inner ring, the floating guide ring which located in the outside of cage.
EJA/VA405 including the symmetrical rollers, floating guide ring through double row rollers and two high rigid window cages which centered on outer raceway.
CCJA/W33 VA405 including the symmetrical rollers, floating guide ring through double row rollers and two high rigid window cages which centered on outer raceway.
After testing, it proved that the KMR spherical roller bearings can decrease the working temperature greatly, prolong the life of machine. KMR spherical roller bearings for vibrating machine have the following advantages:
During various applications of vibrating machines, it has excellent performance;
The performance of KMR bearings allow more compact layout;
High abrasive resistance even at the polluted conditions.

密封球面滚子轴承
Seal Spherical roller bearing



型号范围 The model range	内径范围 Diameter range （mm）
（BS2-2205）~（BS2-2224）	Φ25~Φ120
（BS2-2308）~（BS2-2315）	Φ40~Φ75
24013~24036	Φ65~Φ180
23120~23122	Φ100~Φ110
23220~23240	Φ100~Φ200
23022~23026	Φ110~Φ130
24122~24140	Φ110~Φ200

振动机械用球面滚子轴承
Spherical roller bearings for vibrating machines

型号范围 The model range	内径范围 Diameter range （mm）
22308~ 22348	Φ40~Φ240

现有设计

后缀	说明	设计
C2	径向游隙小于普通组	标准设计
C3	径向游隙小于普通组	
C4	径向游隙大于 C3	
C5	径向游隙大于 C4	
2CS	轴承两侧带具有钢骨架的丁腈橡胶（NBR）接触式密封 。注入 25% 至 35% 的锂基润滑脂。外圈带润滑槽和三个润滑孔。	
2CS2	轴承两侧带具有钢骨架的氟橡胶（FKM）接触式密封 。注入 70% 至 100% 的耐高温的聚脲基润滑脂。外圈带润滑槽和三个润滑孔。	
2CS5	轴承两侧带具有钢骨架的氢化丁腈橡胶（HNBR）接触式密封 。注入 70% 至 100% 的耐高温的聚脲基润滑脂。外圈带润滑槽和三个润滑孔。	
HA3	表面硬化的内圈	
K	锥形孔，锥度 1：12	
K30	锥形孔，锥度 1：30	
P5	尺寸精度和旋转精度符合 ISO 公差等级 5	
P6	尺寸精度和旋转精度符合 ISO 公差等级 6	
P62	P6+C2	
VA405	振动性机械用轴承	
VA406	振动性机械用轴承，内孔带聚四氟乙烯（PTFE）涂层。	
VE552(E)	外圈一侧带三个平均分布的螺纹孔以连接起重装置；E 表示轴承配备吊环螺栓。	
VE553(E)	外圈两侧带三个平均分布的螺纹孔以连接起重装置；E 表示轴承配备吊环螺栓。	
VG114	表面硬化的冲压钢制保持架	
VT143	注入 25% 至 35% 的锂基润滑脂。	
W	外圈无润滑槽和润滑孔	
W20	外圈带三个润滑孔	
W26	内圈带六个润滑孔	
W33	外圈带润滑槽和三个润滑孔。	
W64	注有固态油的轴承	
W77	与 W33 相同，但润滑孔连塞子。	
W513	W26+W33	
235220	表面硬化的内圈，内孔带螺旋槽。	

Available designs

Suffix	Instructions	design
C2	The radial clearance is smaller than CN	Standard design
C3	The radial clearance is larger than CN	
C4	The radial clearance is larger than C3	
C5	The radial clearance is larger than C4	
2CS	Bearings with steel NBR contact sealings on both sides,injected 25%--35% lithium base grease. There is lubrication groove and three lubrication holes on outer ring.	
2CS2	Bearings with steel skeleton FKM contact sealing on both sides, then inject heat resisting Polturea-based grease about from 70% to 100% , There is lubrication groove and three lubrication holes on inner ring.	
2CS5	Bearings with steel skeleton HNBR contact sealing on both sides, then inject heat resisting Polturea-based grease about from 70% to 100% , There is lubrication groove and three lubrication holes on inner ring.	
HA3	Case hardening inner rings	
K	Tapered bore, taper 1:12	
K30	Tapered bore, taper 1:30	
P5	Dimensional and rotational accuracy conform to tolerance class ISO 5 grade	
P6	Dimensional and rotational accuracy conform to tolerance class ISO 6 grade	
P62	P6+C2	
VA405	Vibration machinery bearings	
VA406	Vibration machinery bearings, inner bore have PTFE coating	
VE552(E)	There are three threaded hole on one side of outer ring to Connect weights E bearings have eyebolt	
VE553(E)	There are three threaded hole on both sides of outer ring to Connect weights E bearings have eyebolt	
VG114	Case hardening sheet steel cage	
VT143	inject lithium base grease about from 25% to 35%,	
W	There is no lubrication groove and lubrication holes on outer ring,	
W20	There are three lubrication holes on outer ring	
W26	There are six lubrication holes on inner ring	
W33	There is lubrication groove and three lubrication holes on outer ring	
W64	Bearings with solid-state oil	
W77	Same with W33, but Lubrication holes connect the stopper.	
W513	W26+W33	
235220	case-hardened inner ring, inner ring has spiral groove.	

圆柱滚子轴承——带保持架的圆柱滚子轴承

特性 带保持架的单列圆柱滚子轴承由内圈、外圈、圆柱滚子及保持架组件构成。外圈两侧带有刚性挡边或没有挡边，内圈带有一个或两个刚性挡边或没有挡边。保持架防止滚子在滚动过程中相互接触。

带保持的圆柱滚子轴承具有良好的刚性，可以承受高的径向载荷，并且因为带有保持架，与满装设计的轴承相比，此类轴承更适用于高速场合。

带后缀 E 的轴承经过优化承载能力更高，因而适于更高载荷的工况。

此类轴承的一个套圈可拆分，便于安装和拆卸。内、外圈均可紧配合。

带保持架的单列圆柱滚子轴承可用作非定位、半定位及定位轴承。

与标准轴承相比， KMR 轴承的滚道具有更小的表面粗糙度 Ra 和更高的几何精度。因此，相同尺寸的轴承中 KMR 轴承具有更高的承载能力和更长的寿命。在某些应用中，这就意味着可以使用尺寸更小的轴承。

容许的倾斜角度 如果内、外圈相对倾斜角度不超过下列值，轴承的额定寿命不会显著降低：10、19、2、3、4 系列的轴承为 4 ' 、22、23 系列的轴承为 3 '。

图 1 圆柱滚子轴承 M1 型
Figure 1 Cylindrical roller bearing M1

图 2 圆柱滚子轴承 M 型
Figure 2 Cylindrical roller bearing M

Cylindrical roller bearings
Cylindrical roller bearings with cages

Features Single row cylindrical roller bearings with cages are units comprising solid inner and outer rings and cylindrical roller and cage assemblies. The outer rings have rigid ribs or are designed without ribs. The cage prevents the cylindrical rollers from coming into contact with each other during rolling.

The cylindrical roller bearings have high rigidity, high radial load carrying capacity and due to the cage,a re suitable for higher speeds compared to full complement design. Bearings with the suffix E have a higher capacity roller set and are thus designed for very high load carrying capacity.

The bearings are separable and are therefore easier to fit and dismantle. Both bearing rings can be given a tight fit by this process.

Single row cylindrical roller bearings with cage are available as non-locating, semi-locating and locating bearings.

Compared with standard bearings, KME Bearings have lower roughness Ra and higher geometrical accuracy of the raceways. As a result, these bearings have higher load carrying capacity and longer life for the same dimensioning, In certain applications, this mean that a smaller bearing arrangement can be designed.

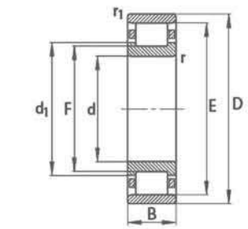
Allowable incline angle If the inner and outer rings relative inclination angle does not exceed the following values, The bearings rated life will not reduced greatly, 10,19,2,3,4 series bearings are 4’ , 22,23 series bearings are 3’ .

现有设计

后缀	说明	设计
C3	内部径向游隙大于 CN 组	标准设计
C4	内部径向游隙大于 C3 组	
E or EC	加强型设计	
EX	加强型设计，根据标准设计变更 （ 轴承部件不能与同尺寸的 E 型设计的轴承互换 ）	
M1 or M	实体黄铜保持架，双片、滚子引导	
TVP2	玻璃纤维增强尼龙 66 实体窗式保持架	
M1A or MA	实体黄铜保持架，双片、外圈挡边引导	
M1B or MB	实体黄铜保持架，双片、内圈挡边引导	
C2	径向游隙小于普通组	
C5	适合振动载荷，直径公差带变窄， 径向游隙大于 C4	

注释：KMR 可提供两种“实体黄铜，双片、滚子引导”类型的保持架，后缀分别为 M1、M，请见前页图1、图2。应用“M”型保持架的圆柱滚子轴承具有更高的保持架加工精度及更优的保持架平衡设计，如有需要“M”型保持架，请与 KMR 联系 .

带保持架的圆柱滚子轴承 Cylindrical roller bearings with cages



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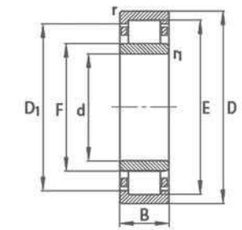


NU

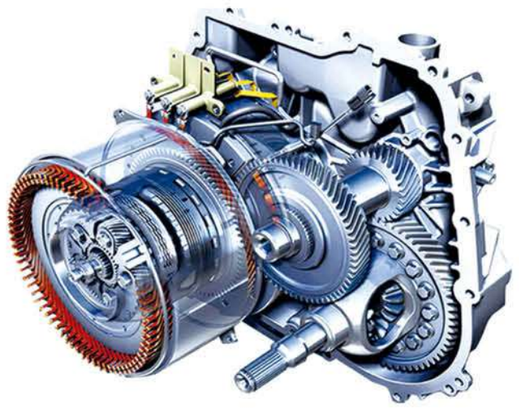
轴向位移“s”
N 型与 NU 型

型号范围 The model range	内径范围 Diameter range （mm）	派生结构
NU202~NU264	Φ20~Φ110	N、NJ、NUP
NU2203~NU2276	Φ25~Φ320	NJ、NUP
NU303~NU356	Φ40~Φ280	N、NJ、NUP
NU2304~NU2356	Φ90~Φ480	NJ、NUP
NU1005~NU10/560	Φ100~Φ600	N
NU406~NU424	Φ110~Φ800	NJ
NU1992~NU19/710	Φ110~Φ710	

Available designs

Suffix	Instructions	design
C3	The radial clearance is greater than normal	Standard design
C4	The radial clearance is greater than C3	
E or EC	Reinforced design	
EX	reinforced design, According to the standard design change, bearing parts can not with the same size of the bearing on the design of E swaps	
M1 or M	entity brass cages , two pieces, leading by rollers	
TVP2	Glass fiber reinforced nylon 66 entity window retainer	
M1A or MA	entity brass cages , two pieces, leading by outer flange	
M1B or MB	entity brass cages , two pieces, leading by inner flange	
C2	The radial clearance is less than normal	
C5	The radial clearance is greater than C4	

KMR can provide two kinds of cages, including entity brass, two pieces, leading by rollers, the suffix is M1, M, Page 24-25, Picture 1 and picture 2. Cylindrical roller bearings with M shape cages has high precision and high design cages. If you need M type cages, please contact with KMR.



圆柱滚子轴承——高承载力圆柱滚子轴承

特性 满滚子轴承未配备将滚子隔开的保持架，因此，满滚子轴承可以安装最多的滚子。
与配备了保持架的桶尺寸轴承相比，满滚子轴承的优势在于其能够承受更高的负荷。
但是，满滚子轴承中滚子和滚子之间的接触增大了摩擦、发热和磨损的风险。所以，为降低此类风险，允许的转速不得不下降。在极其恶劣的工况下，这些缺点就会大大缩短轴承的使用寿命。
为同时实现满滚子轴承的最大载荷能力
以及带保持架轴承的卓越性能，KMR 开发了高承载力圆柱滚子轴承。该类轴承同时兼备这两种轴承的优点。专门为工业齿轮箱、风机齿轮箱或采矿设备等应用场合设计开发。
新型 KMR 高承载力圆柱滚子轴承配备了比 EC 设计圆柱滚子轴承更多的滚子，不仅保持了原有的 ISO 基本尺寸，而且还保持了 EC 设计的内部几何形状，从而增加了动态和静态载荷能力并延长了轴承的使用寿命。

滚子滑动的风险降低 KMR 高承载力圆柱滚子轴承专为满足风力发电机的要求以及需要高载荷能力的应用场合而设计。在这些应用场合中，轴承须经常在低于所需最小负荷的工况下运行。在这些情况下，滚子和保持架之间的惯性力以及润滑剂的摩擦可能对轴承的滚动条件具有决定性影响，并可能导致滚子和滚道之间发生损坏性的滑动。
KMR 的内圈引导保持架的高承载力圆柱滚子轴承可降低这种风险。当轴承在低于推荐的最小径向负荷下运行时，与相同尺寸的配备了保持架的传统圆柱滚子轴承相比，配备了内圈引导保持架的轴承的滑动率大大降低。对于 22 尺寸系列的轴承而言，滑动损坏的风险比 23 系列轴承更低。22 系列轴承横截面更小、滚子更小，所以惯性力也更低。对滚子进行发黑处理，能进一步降低初始启动时轴承内部滑动损坏的风险。

Cylindrical roller bearings
High carrying capacity Cylindrical roller bearings

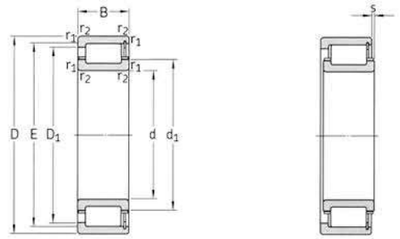
Features Full complement bearings don’ t have the cage which separated rollers, so, the most rollers are fitted to the bearing.
So,compared with the same size bearings which have cage,the advantage of full complement bearings is high load carrying capacity.
But,the direct contact of rollers of full complement bearings increases the risk of friction ,heating and wearing.In order to reduce the risk of these, the allowable speed have to be decreased. Under the extremely worst working conditions,these disadvantages can shorten the servicing life of bearings.
In order to realize the highest load carrying capacity of full complement bearings and excellent performance of bearings with cage,KMR studied and developed high load carrying capacity cylindrical roller bearings, these bearings have the advantages of two types bearing.
The new KMR high load carrying capacity have more rollers than EC design,it not only retains the original ISO basic dimensions but also have the internal geometrical shape of EC design,so the dynamic and static load carrying capacity is enhanced and servicing life was prolonged.

Reduce the risk of roller sliding KMR high load carrying capacity cylindrical roller bearings are designed for satisfying the requirement of wind generators and applications of high load carrying capacity.During these applications, the bearings have to be worked in the conditions under the minimum load ratings.
The inertial force between the rollers and cages and friction of lubricants have the key influences to the rolling conditions,further leads to destructive slippage between the rollers and raceway.
KMR cylindrical roller bearings whose cages are guided by rollers can reduce these risk. When bearings work in the conditions under the minimum radial forces,compared with the traditional same size cylindrical roller bearings with cage, the sliding ratio reduce greatly of cylindrical roller bearings whose cage guided by rollers. To the bearings series 22..., the sliding damage is lower than the series 23..... The cross section is smaller and rollers are smaller of series 22..., so the inertial force is smaller too.
The black treatment of rollers can further reduces the risk of internal sliding damage when starting.

现有设计

后缀	说明	设计
EC	整体式窗式钢保持架，内圈引导	标准设计
JB	整体式窗式钢保持架，内圈引导	
JA	整体式窗式钢保持架，内圈引导	
L4B	套圈及滚子经发黑处理	
L5B	滚子经发黑处理	
L7B	滚子和内圈经发黑处理	
PEX	KMR 加强型轴承，仅当相同尺寸的传统轴承和 KMR 加强型轴承均有供货时使用。	
DR	由两个配对轴承组成的轴承组	
TR	由三个配对轴承组成的轴承组	
QR	由四个配对轴承组成的轴承组	

高承载力 圆柱滚子轴承

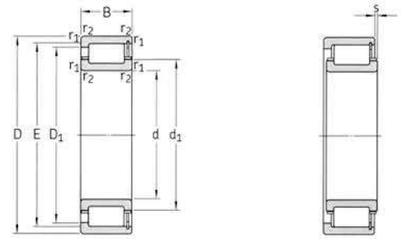


型号范围	内径范围
NCF2326~NCF2348	Φ130~Φ240
NCF2228~NCF2244	Φ140~Φ220

Available designs

Suffix	Description	Design
EC	Integral window type steel cage, inner guidance	Standard Design
JB	Integral window type steel cage, inner guidance	
JA	Integral window type steel cage, inner guidance	
L4B	Rings and rollers by blackening	
L5B	Roller after blackening treatment	
L7B	Roller and an inner ring by blackening	
PEX	KMR reinforced bearings, it can be used when both the same size traditional bearings and KMR reinforced bearings have stock.	
DR	Bearing group consists of two pairs of bearings	
TR	Bearing group consists of three pairs of bearings	
QR	Bearing group consists of four pairs of bearings	

High carrying capacity Cylindrical roller bearings



The model range	Diameter range （mm）
NCF2326~NCF2348	Φ130~Φ240
NCF2228~NCF2244	Φ140~Φ220

圆柱滚子轴承——单列满装圆柱滚子轴承

特性 单列满装圆柱滚子轴承由内圈、外圈以及挡边引导的圆柱滚子组成。由于具有尽可能多的滚动体，因此该轴承具有极高的径向承载能力和刚性，特别适用于紧凑的结构设计。然而受运动学条件的限制，这类轴承无法达到带保持架的圆柱滚子轴承那样高的极限转速。

单列满装圆柱滚子轴承为半定位轴承。

与标准轴承相比，KMR 轴承的滚道具有更小的表面粗糙度 Ra 和更高的几何精度。因此，相同尺寸的轴承中 KMR 轴承具有更高的承载能力和更长的寿命。

容许的倾斜角度 如果内、外圈相对倾斜角度不超过下列值，轴承的额定寿命不会显著降低：SL1818 系列的轴承为 4 ' 、SL1923、SL1822、SL1829 和 SL1830 系列的轴承为 3 '。

轴向承载能力 半定位向心圆柱滚子轴承可以承受径向力和单向轴向力。

轴向承载能力取决于：

- 挡边与滚子端面间的滑动接触表面的尺寸
- 挡边处的滑动速度
- 接触表面的润滑
- 轴承的倾斜。

载荷比 Fa/Fr 不应超过 0.4。对于 TB 设计的轴承，不应超过 0.6。

不允许轴承在没有径向载荷的情况下承受持续的轴向载荷。

Cylindrical roller bearings
Single row full complement cylindrical roller bearing

Features Single row full complement cylindrical roller bearing consist of inner ring, outside ring and roller guided by wall .

Because of the rolling elements as much, so that the radial bearing has a high load capacity and rigidity, especially suitable for compact design. However, subject to conditions designed kinematics, These bearings can not reach high limit speed as cylindrical roller bearings with cage .

Single row full complement cylindrical roller bearing is semic-locating bearing.

Compared with standard bearing ,the raceway of KMR bearing has little surface roughness Ra and higher geometric precision .Therefore, the same size KMR bearings have higher load carrying capacity and longer life.

Allowable incline angle If the inner and outer rings relative inclination angle does not exceed the following values, bearing not significantly reduce the rated life: SL1818 series bearings is 4 'SL1923,SL1822,SL1829 and SL 1830 series bearing is 3 ' .

Axial loading capacity Semi-locating centripetal cylindrical roller bearings can withstand radial and axial forces.Axial load capacity depends on sliding contact surface size between the roller end and the wall ,the wall sliding speed,the contract surface lubrication ,the incline of bearing. Load ratio Fa / Fr not more than 0.4 For the TB design bearings, not more than 0.6., shouldn ' t withstand axial load bearing continuous without radial load.

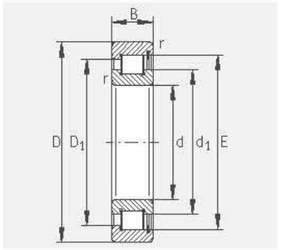
现有设计

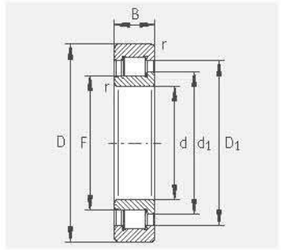
后缀	说明	设计
C3	内部径向游隙大于 CN 组	协议供货
C4	内部径向游隙大于 C3 组	
C5	内部径向游隙大于 C4 组	
E	加强型设计	标准，与轴承系列有关。
TB	提高了轴向承载能力的轴承	标准，与轴承系列有关。

Available designs

Suffix	Description	Design
C3	Internal radial clearance is greater than CN group	Supply agreement
C4	Internal radial clearance is greater than C3 group	
C5	Internal radial clearance is greater than C4 group	
E	Enhanced design	Standard, related to bearing series
TB	Improved axial load bearing capacity	Standard, related to bearing series

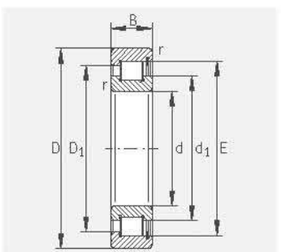
单列满装圆柱滚子轴承
半定位轴承

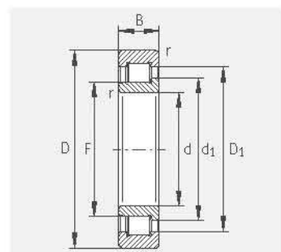




型号范围 The model range	内径范围 Diameter range （mm）
SL183004~ SL183080	Φ20~Φ400
SL182204~SL182240	Φ20~Φ200
SL192305~SL192360	Φ80~Φ300
SL182912~SL1829/500	Φ60~Φ500
SL181840~SL1818/1120	Φ200~Φ1120

Single row full complement cylindrical roller bearing
Semic-locating bearing





The model range	Diameter range （mm）
SL183004~ SL183080	Φ20~Φ400
SL182204~SL182240	Φ20~Φ200
SL192305~SL192360	Φ80~Φ300
SL182912~SL1829/500	Φ60~Φ500
SL181840~SL1818/1120	Φ200~Φ1120

圆柱滚子轴承——双列满装圆柱滚子轴承

特性 这类轴承包括外圈、内圈及挡边引导的圆柱滚子。由于具有最多数量的滚动体，这类轴承具有极高的径向承载能力和刚性，特别适用于紧凑结构的设计。然而受运动学条件的限制，这类轴承无法达到带保持架的圆柱滚子轴承那样高的极限转速。

双列满装圆柱滚子轴承包括非定位、半定位及定位轴承。内、外圈不允许发生相对偏转。

与标准轴承相比， KMR 轴承的滚道具有更小的表面粗糙度 Ra 和更高的几何精度。因此，相同尺寸的 KMR 轴承具有更高的承载能力和更长的寿命。

索轮轴承 索轮轴承（外圈带止动槽的圆柱滚子轴承）为定位轴承。

这类轴承的刚性非常好，可承受很高的径向力和中等大小的双向轴向力。

轴承包括带挡边的内圈和外圈、由挡边引导的圆柱滚子以及密封圈。

外圈带有止动槽，用于安装止动环。内圈为轴向剖分式结构，并通过刚性件联接在一起，轴承的内圈比外圈宽 1mm。

外圈带止动槽的圆柱滚子轴承包括 SL04..-PP 的轻系列轴承和 SL0450.-PP 的 50 尺寸系列的轴承。

密封 索轮轴承两侧的密封可防止外界污染物与水气进入轴承内部。

润滑 对于无密封的定位轴承，可以通过外圈上的润滑油槽和润滑油孔进行油润滑和脂润滑。

索轮轴承带有复合锂基润滑脂，并能通过外圈或内圈进行再润滑。

Cylindrical roller bearings
Double row full complement cylindrical roller bearing

Features Full complement cylindrical roller bearings have solid outer and inner rings and rib-guided cylindrical rollers, Since they have the maximum possible number of rolling elements, these bearings have extremely high redial load carrying capacity and high rigidity and are suitable for particularly compact designs. Due to the kinematic conditions, however, they do not achieve the high speeds that are possible when using cylindrical roller bearings with cage.

Full complement cylindrical roller bearings are available as non-locating semi-locating and locating bearings as well as in single and double row designs.

Compared with standard bearings, KMR bearings have lower roughness Ra and higher geometrical accuracy of raceways. As a result, they have higher load carrying capacity and linger life for the same dimension.

Cable wheel bearing Cylindrical roller bearings with snap ring grooves are locating bearings, These bearings are very rigid and can support axial forces in both directions as well as high radial forces.

Cylindrical roller bearings with snap ring grooves are full complement, double row units comprising solid outer and inner rings with ribs, rib-guided cylindrical rollers and sealing rings.

The outer tings have grooves for retaining rings,

The inner rings are axially split, 1 mm wider than the outer rings ans held together by a rolled-in steel strip.

The bearings are available as a light series SL04..PP and in the dimension series 50 as SL0450..PP.

Seal Sealing tings on both sides protect the running system against contamination and moisture.

Lubrication For locating bearing without sealing ring, the bearings can be lubricated by oil groove and oil hole.

Sauron bearing have lithium grease by itself, so the bearings can be lubricated again through inner ring or outer ring.

现有设计

后缀	说明	设计
BR	黑色氧化涂层	协议供货
C3	内部径向游隙大于 CN 组	
C4	内部径向游隙大于 C3 组	
C5	内部径向游隙大于 C4 组	
TB	提高了轴向承载能力的轴承	

索轮轴承的现有设计

后缀	说明	设计
C3	内部径向游隙大于 CN 组	协议供货
C4	内部径向游隙大于 C3 组	
C5	内部径向游隙大于 C4 组	
RR	防腐蚀设计，带 Corrotect 涂层	
2NR	索轮轴承带有两个散装的止动环 WRE	
–	不带密封	
P	单侧密封	
PP	双侧密封，用于索轮轴承	标准设计

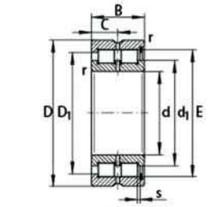
Available designs

Suffix	Explanation	Design
BR	Black oxide layer	Supply agreemen
C3	Internal radial clearance is greater than CN group	
C4	Internal radial clearanceis greater than C3 group	
C5	Internal radial clearanceis greater than C4 group	
TB	Improved axial load bearing capacity	

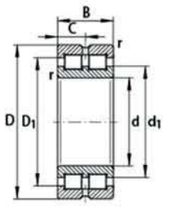
Existing cable wheel bearing design

Suffix	Explanation	Design
C3	Internal radial clearance than CN group	Supply agreemen
C4	Internal radial clearance than C3 group	
C5	Internal radial clearance than C4 group	
RR	Corrosion resistant design with corrotect	
2NR	Cable wheel bearing with two snap ring	
-	Without seal	
P	Seal with single side	
PP	Both side seal for Cable Wheel bearings	Standard Design

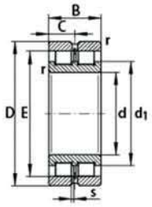
双列满装 圆柱滚子轴承 半定位轴承、定位轴承和浮动轴承



SL1850 SL1850
半定位轴承



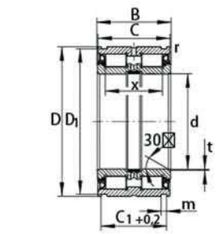
SL0148、SL0149 SL0148、SL0149
定位轴承



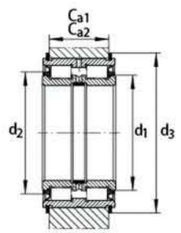
SL0248、SL0249 SL0248、SL0249
浮动轴承

型号范围	内径范围
SL185004~ SL185076	Φ20~Φ380
SL045004~SL045060	Φ20~Φ300
SL04130~SL04300	Φ130~Φ300
SL185004~SL185076	Φ20~Φ380

索轮轴承 带止动槽的圆柱滚子轴承满装、带密封、定位轴承



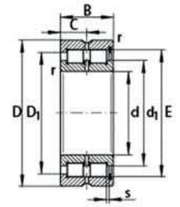
SL0450..-PP
SL04..-PP



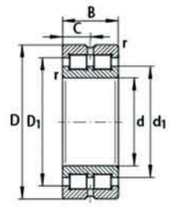
安装尺寸

型号范围	内径范围
SL045004~SL045060	Φ20~Φ300
SL04130~SL04300	Φ130~Φ300

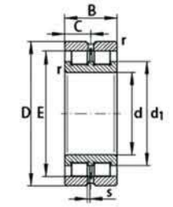
Double row full complement cylindrical roller bearing
Semic-locating bearing 、 position bearing floating bearing



SL1850 SL1850
Half a locating bearing



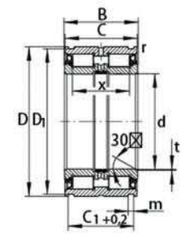
SL0148、SL0149 SL0148、SL0149
locating bearing



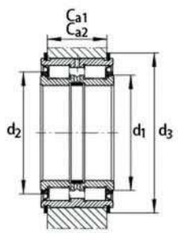
SL0248、SL0249 SL0248、SL0249
floating bearings

The model range	Diameter range （mm）
SL185004~ SL185076	Φ20~Φ380
SL045004~SL045060	Φ20~Φ300
SL04130~SL04300	Φ130~Φ300
SL185004~SL185076	Φ20~Φ380

Cylindrical roller bearings with snap ring groove
Full complement , seal ring , position bearing



SL0450..-PP
SL04..-PP



installation size

The model range	Diameter range （mm）
SL045004~SL045060	Φ20~Φ300
SL04130~SL04300	Φ130~Φ300

滚针轴承——带挡边滚针轴承

特性 单列或双列带挡边滚针轴承由带挡边的机加工外圈、滚针和保持架组件以及可分离内圈组成。
带有挡边的滚针轴承有优化的滚道表面。因此它的承载能力更高和额定寿命更长。

无内圈滚针轴承 无内圈滚针轴承无内圈滚针轴承有特别紧凑的径向尺寸。然而，它们要求轴的滚道要经过淬硬和磨削。
该类轴承有单列设计，也有双列设计 RNA69。

带内圈滚针轴承 如果轴不能作为滚动轴承的滚道，要用带内圈的轴承。
该类轴承有单列设计，也有双列设计 NA69 。

密封 RNA49..-RSR 和 NA49..-RSR 系列是单侧密封。
RNA49..-2RSR 和 NA49..-2RSR 系列在两侧是接触式密封。

润滑 轴承使用复合锂基脂润滑。为此，外圈有润滑沟槽和润滑孔。

密封圈和宽内圈 为防止外界的影响，轴承密封可使用密封圈系列与宽内圈 IR 的组合。密封圈和内圈与滚针轴承要匹配。内圈的外表面能用作密封唇的滑动面。

工作温度 开式轴承的工作温度范围为 −20℃ 到 +120℃。
受润滑脂和密封材料的限制，带密封滚针轴承的工作温度范围为 −20℃ 到 +100℃。

Needle roller bearings
Needle roller bearings with ribs

Features Needle roller bearings with ribs are single or double row units comprising machined outer rings with ribs, needle roller and cage assemblies and removable inner rings.
The bearings are available in open and sealed designs.
Needle roller bearings with ribs are X-life bearings, In these bearings, the raceways have optimized roughness and geometrical accuracy.This gives higher load carrying capacity and longer life.

Needle roller bearings without inner ring Needle roller bearings without inner ring Bearings without inner ring have particularly compact radial dimensions.However, they require a shaft raceway that is hardened and ground.
Bearings RNA69 are double row units with Fw ⩾ 40mm.

Needle roller bearings with inner ring Bearings with inner ring are used if the shaft cannot be configured as a rolling bearing raceway. Bearings NA69 are double row units with d ⩾ 32mm.

Sealing Bearings RNA49..RSR are sealed on one side and bearings RNA49..2RSR on booth sides by contact seals.

Lubricant They are greased using a lithium complex soap grease to and can be lubricated.

Sealing rings of series and SD are Matched to the bearing dimensions and can be combined with wider inner rings IR. The outer surface of the inner rings can be used as the sliding surface for seal lips.

Operating temperature Unsealed bearings can be used at operating temperatures from -20℃ to 120℃ .
Caution! Sealed needle roller bearings are suitable for operating temperature from -20℃ to +100℃ , restricted by the grease and seal material.

现有设计

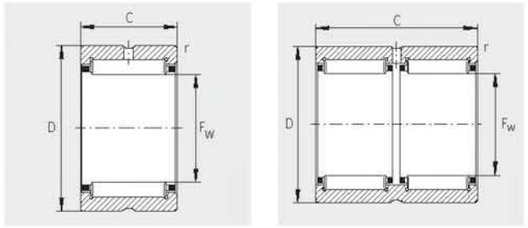
后缀	说明	设计
C3	内部径向游隙大于普通组	特殊设计 协议供货
P5	尺寸和几何精度高	
RSR	一端接触式密封	标准设计
TV	轴承的保持架由玻璃纤维增强尼龙 66 制成	
ZW	双列设计，与尺寸有关	
2RSR	两端接触密封	

Available designs

Suffix	Description	Design
C3	Radial internal clearance lager than normal	Special design Supply agreement
P5	High dimensional and geometrical accuracy	
RSR	Contact seal on one side Standard	Standard design
TV	Cage made from glass fibre reinforced polyamide 66	
ZW	Double row	
2RSR	Contact seals on both sides	

带挡边的滚针轴承
无内圈

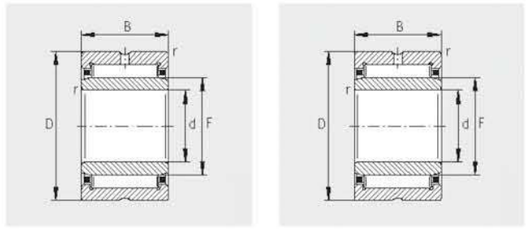
Needle roller bearings with ribs
Without inner ring



型号范围 The model range	滚道直径范围 Diameter range （mm）
NK5/10~ NK110/40	Φ5~Φ110
RNA4920~RNA4928	Φ115~Φ160
RNA4928~RNA4876	Φ120~Φ415

带挡边的滚针轴承
带内圈

Needle roller bearings with ribs
With inner ring



型号范围 The model range	内径范围 Diameter range （mm）
NKI15/12~ NKI100/40	Φ5~Φ100
NA4900~NA4928	Φ10~Φ140
NA6901~NA6919	Φ12~Φ95
NKIS15~NKIS65	Φ15~Φ65
NA4822~NA4876	Φ110~Φ380

滚针轴承——内圈

特性 内圈由淬硬的轴承钢制成，具有精加工或磨削的滚道。

应用场合：

■ 轴不能用作轴承滚道。轴承类型包括滚针和保持架组件、开式或闭式冲压外圈滚针轴承和机加工滚针轴承

■ 为了保证轴相对于轴承座可以有较大的位移，滚针轴承必须与宽内圈配对使用

■ 唇密封要求对运行表面进行优化。

精加工滚道 内圈 IR 有精加工滚道。

端面的倒角使内圈容易安装到轴承内，并且可防止密封唇损坏。

有带润滑孔和不带润滑孔的两种内圈。

带润滑孔的套圈，其后缀为 IS1。

磨削滚道 内圈 LR 有磨削滚道。端面经过车削并且尖锐的边角已被去掉。

这种内圈比 IR 类型的公差大。因此它们适于应用在宽度公差大，和对轴向跳动要求小的场合。

轴承布置设计 轴向定位 为了防止轴承套圈出现侧向爬行，必须通过机械锁紧方式将其定位。

相邻挡肩（轴、轴承座）应该足够高，并且与轴承轴线垂直。

轴承配合面与相邻档肩的过渡圆角。

卡环与轴承套圈端面的接触区域要足够大。

Needle roller bearings Inner ring

Features Inner rings are made from hardened rolling bearing steel and have precision machined or ground raceways, They are used where:

The shaft cannot be used as a raceway for needle roller and cage assemblies, drawn cup needle roller bearings with open ends or with closed and needle roller bearings

Needle roller bearings must be combined with wider inner rings, in order to allow larger axial displacements of the shaft in relation to the housing

Optimum running surfaces are required for seal lips.

Precision machined Inner ring IR have a precision machined raceway,

Chamfers on the end faces allow easy insertion into the bearings and prevent damage to the seal lips of the bearing.

Inner rings are available with and without a lubrication hole, Rings with a lubrication hole in the inner ring have the suffix IS1.

Ground Inner rings LR have a ground raceway, the end faces are turnes and the edges are broken,

These rings have larger tolerances than the rings IR, They are thus suitable for applications that allow larger width tolerances and less demanding requirements for axial runout.

The layout design of bearing Axial positioning Axial location In order to prevent lateral creep of the bearing rings, they must be located by means of physical locking

The abutting shoulders on the shafts should be sufficiently high and perpendicular to the bearings axis.

The transition from the bearings seating to the abutting shoulder must be designed with rounding.

The overlap between the snap rings and the end faces of the bearings rings must be sufficiently large

现有设计

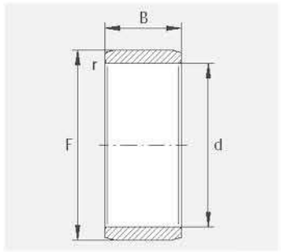
后缀	说明	设计
C3、C4	内部径向游隙大于普通组	特殊设计 协议供货
C2	内部径向游隙小于普通组	
EG5	DIN 3 760 和DIN 3 761，磨削表面无螺纹痕迹，符合转动轴上密封要求	
IS1	带润滑孔	

Available designs

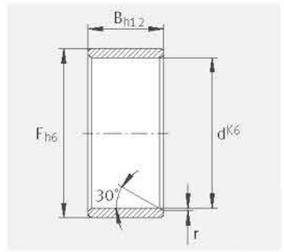
Suffix	Description	Design
C3 、C4	Radial internal clearance lager than normal	Special design Supply agreement
C2	Radial internal clearance smaller than normal	
EG5	Surface ground free from spiral marks for rotary shaft seals to DIN 3760 and DIN 3761	
IS1	With one lubrication hole	

滚针轴承
内圈—无润滑孔

Needle roller bearings
Inner rings without lubrication hole



IR

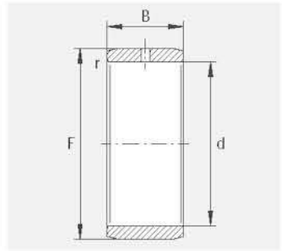


LR

型号范围 The model range	内径范围 Diameter range （mm）
IR5×8×12~IR380×415×100	Φ5~Φ380
LR7×10×10.5~LR50×55×20.5	Φ7~Φ50

滚针轴承
内圈—带润滑孔

Needle roller bearings
Inner rings with lubrication hole



IR..-IS1

型号范围 The model range	内径范围 Diameter range （mm）
IR6×10×10~ IR50×60×20	Φ6~Φ50

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