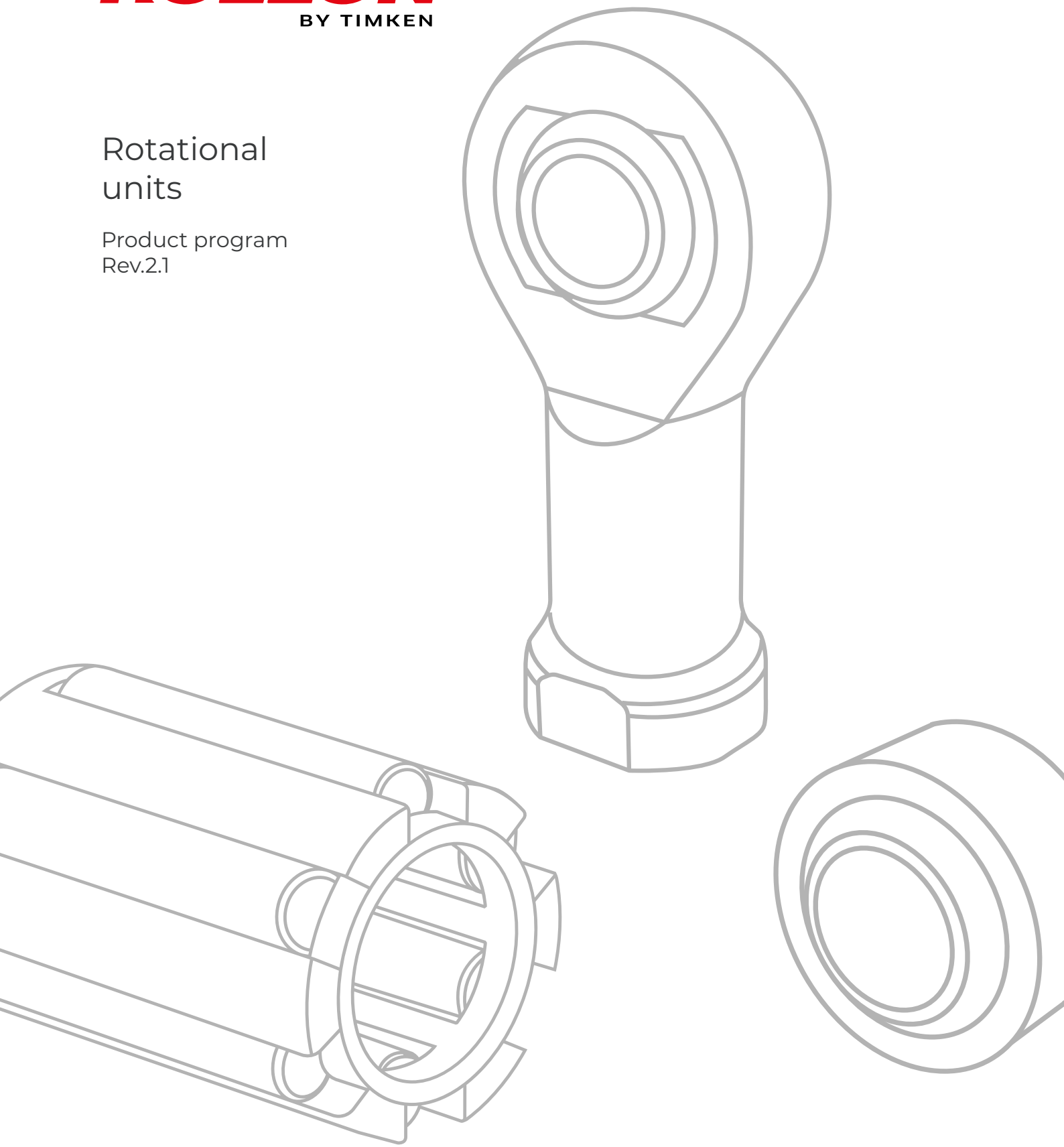
ROLLON®
BY TIMKEN

Rotational units

Product program
Rev.2.1



ROLLON BY TIMKEN · NADELLA · SHUTON IPIRANGA · durbal · chiavette unificate · ROSA SISTEMI

Who we are

Founded in 1975 in Milan, Italy, Rollon designs and manufactures linear components, actuators and systems for industrial motion, with a special focus on tailored solutions aimed at innovating and meeting the evolving needs of the market.

Rollon's solutions are globally adopted in industrial automation, aerospace, medical equipment, material handling, and other sectors where product performance, efficiency and reliability are essential.

In 2018, Rollon was acquired by The Timken Company and became the flagship brand for linear motion within the Industrial Motion segment of Timken.

In 2023, Timken acquired Nadella, Chiavette Unificate, Durbal, Shuton-Ipiranga, and Rosa Sistemi, scaling Rollon's portfolio and promoting new operational synergies and geographical expansion opportunities.

Thanks to that, Rollon is now able to offer an even more comprehensive product range: from linear components, actuators and systems to ball screws and rotational units.

Our portfolio

Rollon offers a comprehensive product range that includes linear guides, telescopic rails, ball screws, needle bearings, rod ends, actuators and systems, and robot transfer units.

Whether you find the perfect fit within our portfolio or you look for a solution tailored to your needs our engineering teams all around the world are ready to offer extensive technical competence and deep vertical industry knowledge.

Linear components

The linear components product range encompasses a wide range of linear, telescopic and curved guides.

Actuators and systems

The actuators and systems product range includes actuators, multi-axes, robot transfer unit and circular systems.

Ball screws

The ball screws product range includes a full range of high precision, high load and transport ball screws.

Rotational units

The rotational units portfolio features rod ends, spherical plain bearings and needle bearings.

360-degree support

We provide solutions that cater to individual application needs. This is why we support our customers at every stage of the development process, up to commissioning, through product customization, technical support and co-design services. Rollon also offers targeted product trainings, prototypes of customized products, 2D and 3D drawings, as well as on-site assistance to always ensure reliability and product performance.

myRollon

SCAN ME!

myRollon is Rollon's digital working platform designed to simplify the selection and configuration of linear and rotary motion solutions. It enables users to identify the most suitable motion system based on their specific application requirements, enhancing design precision and efficiency.

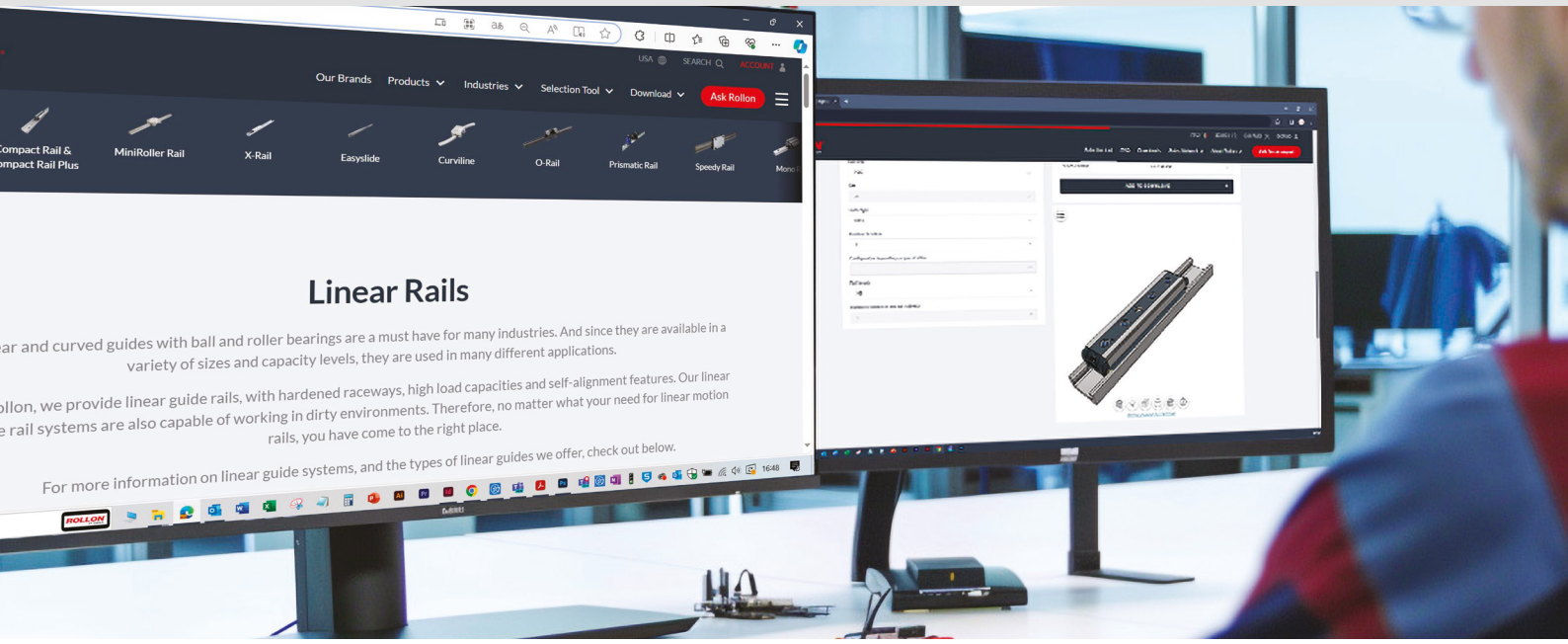
By centralizing essential tools and resources in a unified environment, myRollon empowers users to access all necessary services and information — saving time and boosting productivity in search of high-performance motion solutions.

Features

Selection Tool
Enter your application data and get your solutions

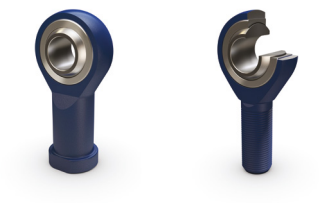
Configurator
Get your reference and be ready to order

Product Center
Explore all product & download assets

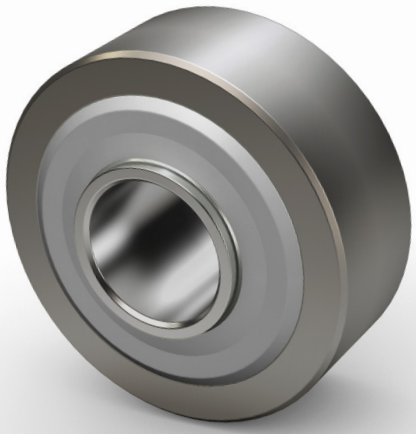


Rod ends

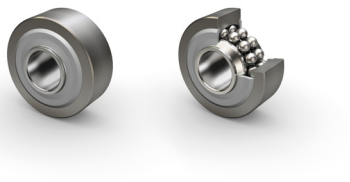
The rod ends are specifically designed for the efficient transmission of static and dynamic forces, along with enabling rotary, oscillatory, and tilting movements.

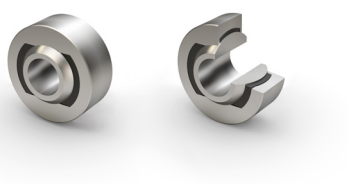


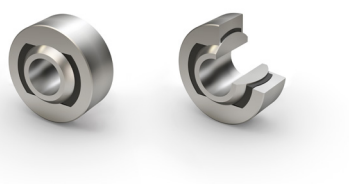
Spherical plain bearings

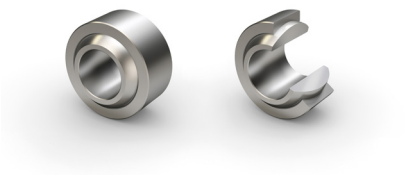


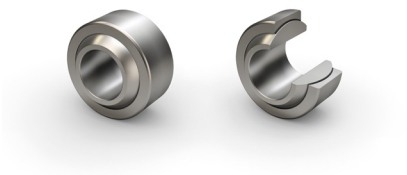
The spherical plain bearings are mechanical components designed to handle multidirectional or rotational movements between two parts.

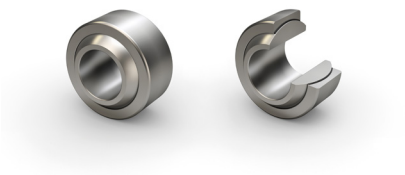


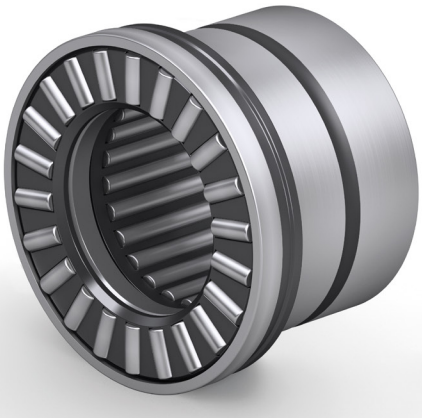






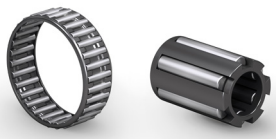


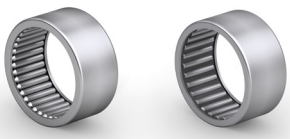


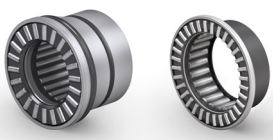


Needle roller bearings

High-precision components with needle rollers, especially suitable for high radial and/or axial load applications with limited space.

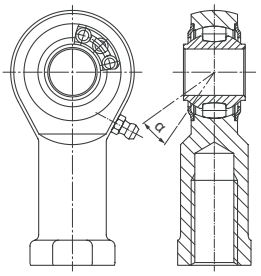






Premium Line

Heavy-duty ball or roller-bearing rod ends, engineered for high-speed applications, providing superior performance and durability under demanding conditions.



Components and materials

- **Housing**: 17Cr3 forged steel, hardened for wear resistance, galvanized, and CrVI-free.
- **Inner Ring**: 100Cr6 bearing steel, hardened and superfinished to minimize friction and extend longevity.
- **Rolling Elements**: available as uncaged double-row balls or rollers, with both caged and uncaged options for different applications.

Features

DIN ISO	**12240-4, K series**
Applications	**Complete rotations, even at high speed (1350 rpm max speed).**
Lubrication	**Maintenance required.**
Coupling	**Roller/Ball.**
Operating Temperature [°C]	**-45** to **+120**

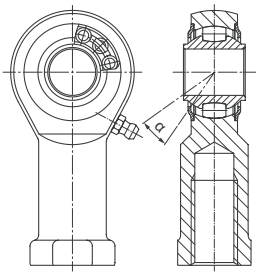
Technical data

Execution	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
Balls without cage	BRM / BRF	6 - 40	0.7 - 16.7	2.8 - 36.7	5 - 8.5	10 - 30	0.019 - 4.65
Rollers with cage	BRTM / BRTF	10 - 40	5.4 - 79.2	9.45 - 104.9	5 - 8	10 - 30	0.058 - 4.65
Rollers without cage	BRTM / BRTF VR	10 - 40	6.5 - 99	11.4 - 124	5 - 8.5	10 - 30	0.08 - 4.7

Deviations from the above mentioned data are possible, please contact our technical department.

Premium Line stainless steel

Heavy-duty ball or roller-bearing rod ends, specifically designed for corrosive environments, offering exceptional durability and performance in harsh conditions.



Components and materials

- **Housing**: AISI 304 forged stainless steel, hardened for wear resistance, electropolished for corrosion resistance.
- **Inner Ring**: AISI 440B Martensitic stainless steel, hardened and superfinished to reduce friction and enhance durability.
- **Rolling Elements**: available in uncaged double-row balls or rollers, optimizing performance based on application needs.

Features

DIN ISO	**12240-4, K series**
Applications	**Complete rotations, even at high speed (1350 rpm max speed).**
Lubrication	**Maintenance required.**
Coupling	**Roller/Ball.**
Operating Temperature [°C]	**-45** to **+120**

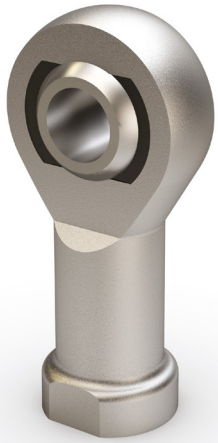
Technical data

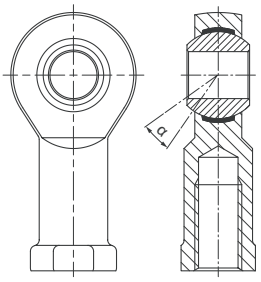
Execution	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
Balls without cage	BRM / BRF NIRO	6 - 30	0.5 - 5.25	1.9 - 9.94	5 - 8.5	10 - 30	0.024 - 0.98
Rollers with cage	BRTM / BRTF NIRO	10 - 30	3.8 - 17	6.7 - 22.75	5 - 8	10 - 30	0.06 - 1
Rollers without cage	BRTM / BRTF NIRO VR	10 - 30	4.6 - 24.6	8 - 29.5	5 - 8.5	10 - 30	0.08 - 1.05

Deviations from the above mentioned data are possible, please contact our technical department.

Classic Line

Heavy-duty, maintenance-free rod ends with sliding execution, designed for heavy-load applications, ensuring reliable performance and durability under extreme conditions.





Components and materials

- **Housing**: 17Cr3 (K-series) or C45 (E-Series) forged steel, tempered for toughness, galvanized, and CrVI-free.
- **Inner Ring**: 100Cr6 bearing steel, hardened, ground, and chromium-plated for wear and corrosion resistance.
- **Sliding Layer**: equipped with a Durbal Glide composite layer of Polyamide-PTFE-fiberglass.

Features

DIN ISO	**12240-4, K/E series**
Applications	**High-loads, frequent oscillations, and smooth movements are required.**
Lubrication	**Maintenance free.**
Coupling	**Steel/Injected polymer.**
Operating Temperature [°C]	**-30** to **+60**

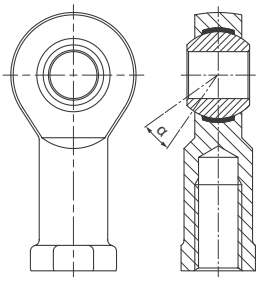
Technical data

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	BEM / BEF	5 - 30	5.6 - 149	3.9 - 55	13 - 17	0 - 10	0.014 - 1.08
E	EM / EF	6 - 60	6 - 526.6	2.5 - 208	6 - 15	0 - 10	0.014 - 7.3

Deviations from the above mentioned data are possible, please contact our technical department.

Classic Line stainless steel

Heavy-duty, maintenance-free rod ends with sliding execution, designed for optimal performance in corrosive environments, built for durability and reliability.



Components and materials

- **Housing**: AISI 304 forged stainless steel, electropolished for corrosion resistance and durability.
- **Inner Ring**: AISI 440B Martensitic stainless steel, hardened, ground, and polished for minimal friction and longevity.
- **Sliding Layer**: features a Durbal Glide composite layer of Polyamide-PTFE-fiberglass.

Features

DIN ISO	**12240-4, K/E series**
Applications	**High-loads, frequent oscillations, and smooth movements are required.**
Lubrication	**Maintenance free.**
Coupling	**Stainless steel/Injected polymer.**
Operating Temperature [°C]	**-30** to **+60**

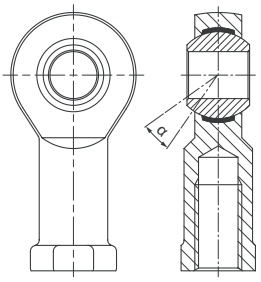
Technical data

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	BEM / BEF NIRO	5 - 30	3.2 - 103.3	3.9 - 55	13 - 17	0 - 10	0.014 - 1.08
E	EM / EF NIRO	6 - 60	4 - 376.2	2.5 - 208	6 - 15	0 - 10	0.014 - 7.3

Deviations from the above mentioned data are possible, please contact our technical department.

Classic Line aluminum

Maintenance-free rod ends with sliding execution, specifically designed for lightweight applications, without the need for regular maintenance.



Components and materials

- **Housing**: EN AW-7075 high-strength aluminum, anodized for corrosion resistance.
- **Inner Ring**: AISI 440B stainless steel, ground, and polished for durability and smooth operation.
- **Sliding Layer**: equipped with a Durbal Glide Polyamide-PTFE-fiberglass composite layer.

Features

DIN ISO	**12240-4, K/E series**
Applications	**High-loads, frequent oscillations, and smooth movements are required.**
Lubrication	**Maintenance free.**
Coupling	**Stainless steel/Injected polymer.**
Operating Temperature [°C]	**-30** to **+60**

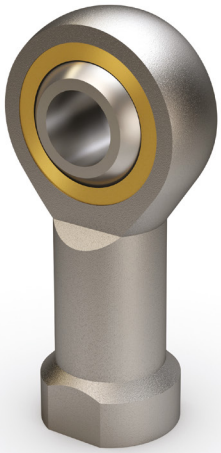
Technical data

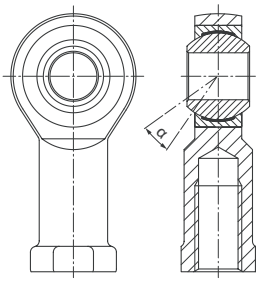
Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	BEMA / BEFA ALU	6 - 25	8.2 - 71.1	3.9 - 38.6	13 - 16	0 - 10	0.011 - 0.35
E	EMA / EFA ALU	6 - 25	3.9 - 43.7	2.1 - 25.4	8.5 - 15	0 - 10	0.006 - 0.288

Deviations from the above mentioned data are possible, please contact our technical department.

Basic Line

Maintenance-free rod ends with sliding execution, ideal for precision movements in demanding thermal conditions.





Components and materials

- **Housing**: C45 steel, galvanized for corrosion resistance, CrVI-free.
- **Inner Ring**: 100Cr6 bearing steel, hardened, ground, and polished for optimal performance.
- **Outer Ring**: brass-lined with a bronze/PTFE self-lubricating layer.

Features

DIN ISO	**12240-4, K series**
Applications	**Medium loads, small oscillations, and high-temperature applications with dynamic load peaks.**
Lubrication	**Maintenance free.**
Coupling	**Steel/PTFE layer.**
Operating Temperature [°C]	**-40** to **+200**

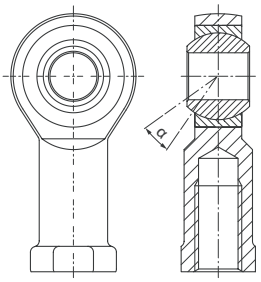
Technical data

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	DSA / DSI T / K	5 - 50	4.3 - 291.6	8.3 - 544.5	12 - 17	0 - 60	0.013 - 5
E	DGAR / DGIR_UK	6 - 80	6.6 - 600	5.1 - 724.5	6 - 15	0 - 72	0.017 - 12

Deviations from the above mentioned data are possible, please contact our technical department.

Tescubal® TOP

Rod ends with sliding execution, featuring low and constant clearance, designed for wide swiveling and high rotational speeds.



Components and materials

- **Housing**: 11SMnPb30 automatic steel for sizes up to 12; C40 carbon steel for sizes 14 and up, galvanized and CrVI-free.
- **Inner Ring**: 100Cr6 bearing steel, hardened, ground, and polished for durability.
- **Outer Ring**: sintered bronze, impregnated with high-efficiency lubricant for reduced friction.

Features

DIN ISO	**12240-4, K series**
Applications	**Medium-load and high-speed applications, with low and costant clearance.**
Lubrication	**Maintenance free.**
Coupling	**Steel/Sintered bronze.**
Operating Temperature [°C]	**-30** to **+120**

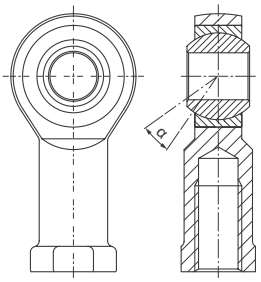
Technical data

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	CM / CF TOP	5 - 35	4.1 - 129	4.3 - 110	13 - 19	5 - 112	0.015 - 1.64

Deviations from the above mentioned data are possible, please contact our technical department.

Tescubal® OK

Maintenance-free rod ends ensuring smooth, reliable performance, offering durability and precision in demanding high-load applications.



Components and materials

- **Housing**: 11SMnPb30 automatic steel up to size 12; C40 carbon steel from size 14 onward, galvanized and CrVI-free.
- **Inner Ring**: 100Cr6 bearing steel, hardened, ground, and polished.
- **Outer Ring**: sintered steel, impregnated with lubricating fluid for self-lubrication and wear resistance.

Features

DIN ISO	**12240-4, K series**
Applications	**High-load and high-speed applications, low and constant clearance.**
Lubrication	**Maintenance free.**
Coupling	**Steel/Sintered steel.**
Operating Temperature [°C]	**-30** to **+120**

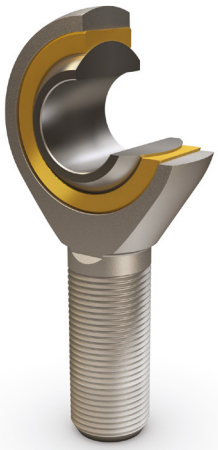
Technical data

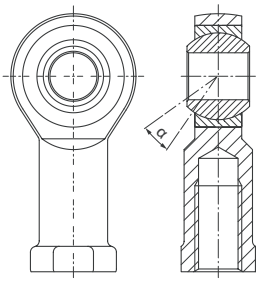
Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	CM / CF OK	6 - 16	5.7 - 38.4	7.1 - 37.3	13 - 15	5 - 75	0.021 - 0.22

Deviations from the above mentioned data are possible, please contact our technical department.

Tescubal® stainless steel

Maintenance-free rod ends, specifically engineered for corrosive environments, ensuring long-lasting, smooth performance and durability in challenging conditions.





Components and materials

- **Housing**: AISI 304 stainless steel for corrosion-resistant applications.
- **Inner Ring**: AISI 420 stainless steel, hardened, ground and polished for reduced friction and wear.
- **Outer Ring**: sintered bronze, impregnated with high-efficiency lubricant for constant lubrication.

Features

DIN ISO	**12240-4, K series**
Applications	**Medium-load and high-speed applications, low and constant clearance, corrosive environments.**
Lubrication	**Maintenance free.**
Coupling	**Stainless steel/Sintered bronze.**
Operating Temperature [°C]	**-30** to **+120**

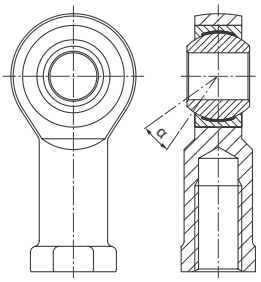
Technical data

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	CMX / CFX	5 - 20	3.2 - 41.8	4.3 - 42.8	13 - 15	5 - 92	0.015 - 0.406

Deviations from the above mentioned data are possible, please contact our technical department.

Tesno® standard

Maintenance-free sliding execution, specifically designed for small oscillations and high-temperature applications.



Components and materials

- **Housing**: C45 steel, galvanized for corrosion protection.
- **Inner Ring**: 100Cr6 bearing steel, hardened, ground, and polished for smooth operation.
- **Outer Ring**: brass-lined with a bronze/PTFE self-lubricating layer.

Features

DIN ISO	**12240-4, K series**
Applications	**Medium loads, small oscillations, and high-temperature applications with dynamic load peaks.**
Lubrication	**Maintenance free.**
Coupling	**Steel/PTFE.**
Operating Temperature [°C]	**-40** to **+200**

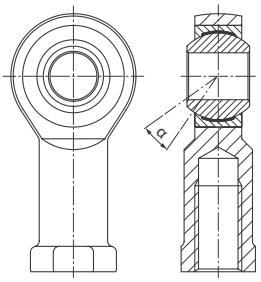
Technical data

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	CMP/ CFP	5 - 50	4.1 - 291.6	8.3 - 544.5	13 - 19	0 - 50	0.013 - 5

Deviations from the above mentioned data are possible, please contact our technical department.

Tesno® stainless steel

Maintenance-free with sliding execution, ensuring reliable performance and longevity, making it ideal for applications where corrosion resistance and low friction are essential.



Components and materials

- **Housing**: AISI 304 stainless steel, corrosion resistant and durable.
- **Inner Ring**: AISI 440C stainless steel, hardened, ground and polished for friction reduction.
- **Outer Ring**: AISI 304 stainless steel, lined with a bronze/PTFE self-lubricating layer.

Features

DIN ISO	**12240-4, K series**
Applications	**Medium load, small oscillations, high-temperature applications with dynamic load peaks, and corrosive environments.**
Lubrication	**Maintenance free.**
Coupling	**Stainless steel/PTFE.**
Operating Temperature [°C]	**-40** to **+200**

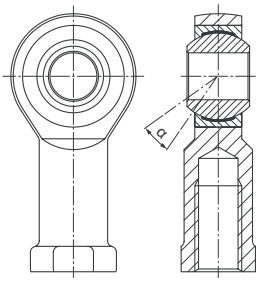
Technical data

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	CMPX / CFPX	5 - 35	3.2 - 116.9	8.3 - 231.5	13 - 17	0 - 50	0.015 - 1.59

Deviations from the above mentioned data are possible, please contact our technical department.

Tesno® ergal

Maintenance-free rod ends with sliding execution, ideal for small oscillations, high-temperature applications, and lightweight applications.



Components and materials

- **Housing**: EN AW-7076 T6 high-strength aluminum, anodized in blue or purple for corrosion resistance.
- **Inner Ring**: 100Cr6 bearing steel, hardened, ground, and polished.
- **Outer Ring**: C45 steel with a bronze/PTFE self-lubricating layer for maintenance-free operation.

Features

DIN ISO	**12240-4, K series**
Applications	**Lightweight, small oscillations, dynamic load peaks, and high-temperature applications.**
Lubrication	**Maintenance free.**
Coupling	**Steel/PTFE.**
Operating Temperature [°C]	**-40** to **+200**

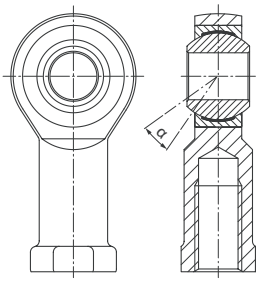
Technical data

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	CME / CFE	6 - 12	6.4 - 25.9	11 - 36.7	13 - 14	0 - 40	0.013 - 0.098

Deviations from the above mentioned data are possible, please contact our technical department.

Tesno® ergal stainless steel

Rod ends ensure reliable, smooth performance with no need for maintenance, making them ideal for challenging conditions where corrosion resistance and durability are essential.



Components and materials

- **Housing**: EN AW-7076 T6 high-strength aluminum, anodized in blue or purple for corrosion protection.
- **Inner Ring**: AISI 440C stainless steel, hardened, ground and polished for minimal friction.
- **Outer Ring**: AISI 304 stainless steel lined with a bronze/ PTFE self-lubricating layer for maintenance-free performance.

Features

DIN ISO	**12240-4, K series**
Applications	**Lightweight, small oscillations, dynamic load peaks, high-temperature, and corrosive environments.**
Lubrication	**Maintenance free.**
Coupling	**Stainless steel/PTFE.**
Operating Temperature [°C]	**-40** to **+200**

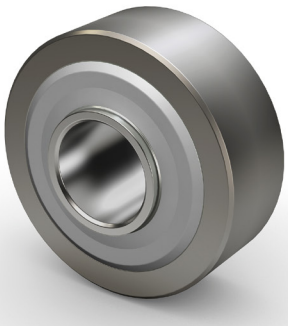
Technical data

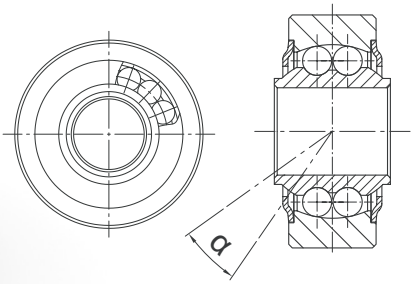
Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	CMEX / CFEX	6 - 12	6.4 - 25.9	11 - 36.7	13 - 14	0 - 40	0.013 - 0.098

Deviations from the above mentioned data are possible, please contact our technical department.

Premium Line

Heavy-duty ball or roller-bearing spherical plain bearings, engineered for high-speed applications, providing superior performance and durability under demanding conditions.





Components and materials

- **Housing**: 100Cr6 bearing steel, hardened, with a runway that is superfinished.
- **Inner Ring**: 100Cr6 bearing steel, hardened and superfinished to minimize friction and extend longevity.
- **Rolling Elements**: Available as uncaged double-row balls or rollers, with both caged and uncaged options for different applications.

Features

DIN ISO	**12240-1, K series**
Applications	**Complete rotations, even at high-speed (1350 rpm max speed).**
Lubrication	**Maintenance required.**
Coupling	**Roller/Ball.**
Operating Temperature [°C]	**-45** to **+120**

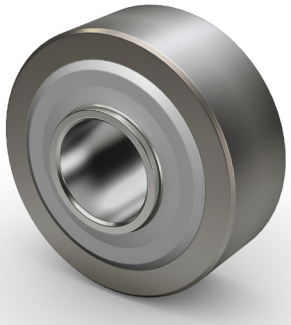
Technical data

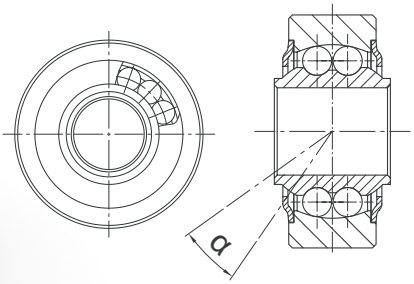
Execution	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
Balls without cage	WLK	6 - 40	0.7 - 16.7	2.8 - 36.7	5 - 8.5	10 - 30	0.02 - 3.20
Rollers with cage	WLT	10 - 40	5.4 - 79.2	9.5 - 104.9	5 - 8	10 - 30	0.04 - 3.05
Rollers without cage	WLT VR	10 - 40	5.4 - 99	9.5 - 124	5 - 8.5	10 - 30	0.04 - 3.11

Deviations from the above mentioned data are possible, please contact our technical department.

Premium Line stainless steel

Heavy-duty ball or roller-bearing spherical plain bearings specifically designed for corrosive environments, offering exceptional durability and performance in harsh conditions.





Components and materials

- **Housing**: AISI 440B Martensitic stainless steel, hardened, with a runway that is superfinished.
- **Inner Ring**: AISI 440B Martensitic stainless steel, hardened and superfinished to reduce friction and enhance durability.
- **Rolling Elements**: Available in uncaged double-row balls or rollers, optimizing performance based on application needs.

Features

DIN ISO	**12240-1, K series**
Applications	**Complete rotations, even at high-speed (1350 rpm max speed).**
Lubrication	**Maintenance required.**
Coupling	**Roller/Ball.**
Operating Temperature [°C]	**-45** to **+120**

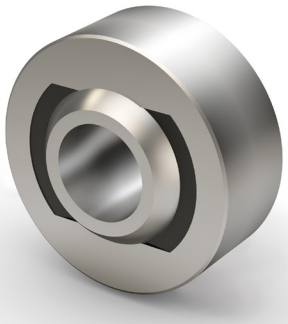
Technical data

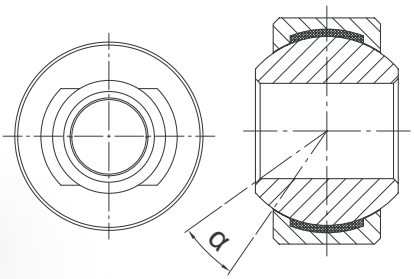
Execution	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
Balls without cage	WLK NIRO	6 - 30	0.5 - 5.25	1.9 - 9.94	5 - 8.5	10 - 30	0.02 - 0.69
Rollers with cage	WLT NIRO	10 - 30	3.8 - 17	6.7 - 22.75	5 - 8	10 - 30	0.04 - 0.6
Rollers without cage	WLT NIRO VR	10 - 30	4.6 - 24.6	8 - 29.5	5 - 8.5	10 - 30	0.04 - 0.65

Deviations from the above mentioned data are possible, please contact our technical department.

Classic Line

Heavy-duty, maintenance-free spherical plain bearings with sliding execution, designed for heavy-load applications, ensuring reliable performance and durability under extreme conditions.





Features

- **Components and materials**
  - **Housing**: C45 carbon steel.
  - **Inner Ring**: 100Cr6 bearing steel, hardened, ground, and chromium-plated for wear and corrosion resistance.
  - **Sliding Layer**: Equipped with a Durbal Glide composite layer of Polyamide-PTFE-fiberglass.

DIN ISO	**12240-1, K/E/G series**
Applications	**High-loads and frequent oscillations in applications where smooth movements are required.**
Lubrication	**Maintenance free.**
Coupling	**Steel/Injected polymer.**
Operating Temperature [°C]	**-30** to **+60**

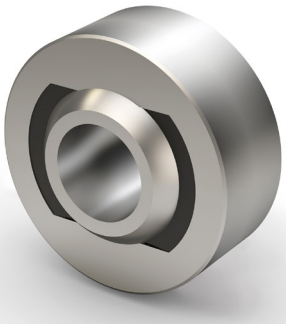
- **Technical data**

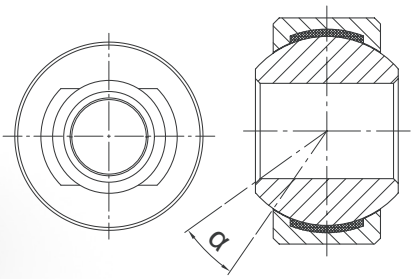
Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	GLK / GLKS	6 - 30	7.6 - 119.5	4.6 - 55	13 - 17	0 - 10	0.01 - 0.61
E	GLE	6 - 60	3.3 - 271.1	2.5 - 208	6 - 15	0 - 10	0.002 - 0.82
G	GLG	6 - 50	4 - 189.3	4.2 - 208	15 - 21	0 - 10	0.008 - 1.40

Deviations from the above mentioned data are possible, please contact our technical department.

Classic Line stainless steel

Heavy-duty, maintenance-free spherical plain bearings with sliding execution, designed for optimal performance in corrosive environments, built for durability and reliability.





Components and materials

- **Housing**: AISI 303 stainless steel, for corrosion resistance and durability.
- **Inner Ring**: AISI 440C Martensitic stainless steel, hardened, ground, and polished for minimal friction and longevity.
- **Sliding Layer**: Equipped with a Durbal Glide composite layer of Polyamide-PTFE-fiberglass.

Features

DIN ISO	**12240-1, K/E series**
Applications	**High-loads and frequent oscillations in applications where smooth movements are required.**
Lubrication	**Maintenance free.**
Coupling	**Stainless steel/Injected polymer.**
Operating Temperature [°C]	**-30** to **+60**

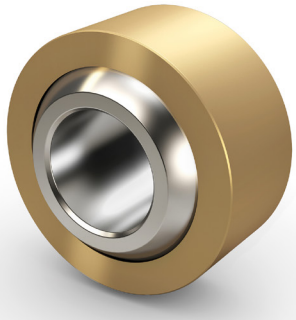
Technical data

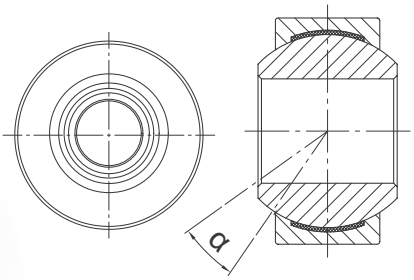
Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	GLK / GLKS NIRO	6 - 30	7.6 - 119.5	4.6 - 55	13 - 17	0 - 10	0.01 - 0.61
E	GLE NIRO	6 - 60	3.3 - 271.1	2.5 - 208	6 - 15	0 - 10	0.002 - 0.82

Deviations from the above mentioned data are possible, please contact our technical department.

Basic Line

Maintenance-free spherical plain bearings with sliding execution, ideal for precision movements in demanding thermal conditions.





Components and materials

- **Outer ring**: Brass lined with a bronze/PTFE self-lubricating layer (K series), heat-treated steel lined with a bronze/PTFE self-lubricating layer (E and G series).
- **Inner Ring**: 100Cr6 bearing steel, hardened, ground, and polished for optimal performance.

Features

DIN ISO	**12240-1, K/E/G series**
Applications	**Medium loads, small oscillations, and high-temperature applications with dynamic load peaks.**
Lubrication	**Maintenance free*.**
Coupling	**Steel/PTFE layer.**
Operating Temperature [°C]	**-40** to **+200**

*Maintenance-required sperical plain bearings are also available. Please check the complete range on myRollon.

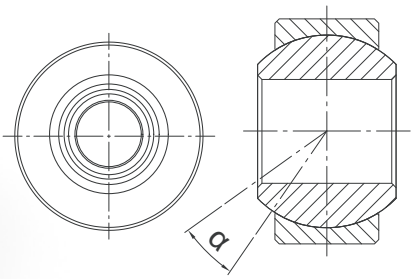
Technical data

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	DG_PW	5 - 50	14.9 - 975	8.3 - 544.5	12 - 17	4 - 75	0.007 - 1.64
E	DGE_UK	4 - 30	9.1 - 166	3.6 - 109.9	6 - 15	4 - 44	0.003 - 0.163
G	DGE_FW	6 - 30	14 - 212	5.8 - 83	16 - 21	4 - 44	0.008 - 0.304

Deviations from the above mentioned data are possible, please contact our technical department.

Tescubal® TOP

Spherical plain bearing with sliding execution, featuring low and constant clearance, designed for wide swiveling and high rotational speeds.



Features

- **Components and materials**
  - **Outer ring**: Sintered steel, impregnated with high-efficiency lubricant for reduced friction.
  - **Inner Ring**: 100Cr6 bearing steel, hardened, ground, and polished for durability.

DIN ISO	**12240-1, K series**
Applications	**Medium-load and high-speed applications, with low and constant clearance.**
Lubrication	**Maintenance free.**
Coupling	**Steel/Sintered steel.**
Operating Temperature [°C]	**-30** to **+120**

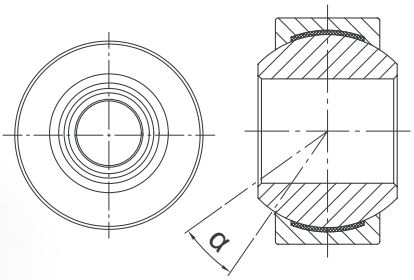
- **Technical data**

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	SB TOP	6 - 35	16.5 - 327.3	7.1 - 141.4	13 - 19	30 - 100	0.009 - 0.490

Deviations from the above mentioned data are possible, please contact our technical department.

Tesno® standard

Maintenance-free sliding execution, specifically designed for small oscillations and high-temperature applications.



Components and materials

- **Outer ring**: C45 steel, lined with a bronze/PTFE self-lubricating layer.
- **Inner Ring**: 100Cr6 bearing steel, hardened, ground, and polished for smooth operation.

Features

DIN ISO	**12240-1, K series**
Applications	**Medium-load and high-speed applications, with low and constant clearance.**
Lubrication	**Maintenance free.**
Coupling	**Steel/PTFE.**
Operating Temperature [°C]	**-40** to **+200**

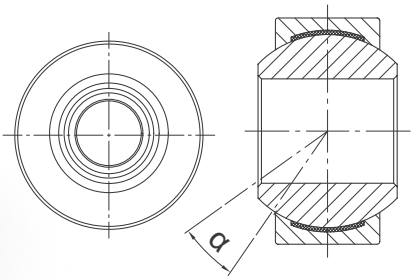
Technical data

Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	SPK	5 - 50	14.9 - 975	8.3 - 544.5	13 - 19	20 - 60	0.006 - 1.6

Deviations from the above mentioned data are possible, please contact our technical department.

Tesno® stainless steel

Maintenance-free with sliding execution, ensuring reliable performance and longevity, making it ideal for applications where corrosion resistance and low friction are essential.



Components and materials

- **Outer ring**: AISI 304 stainless steel, lined with a bronze/PTFE self-lubricating layer.
- **Inner Ring**: AISI 440C stainless steel, hardened, ground and polished for friction reduction.

Features

DIN ISO	**12240-1, K series**
Applications	**Medium-load, small oscillations, high-temperature applications with dynamic load peaks, and corrosive environments**
Lubrication	**Maintenance free.**
Coupling	**Stainless steel/PTFE.**
Operating Temperature [°C]	**-40** to **+200**

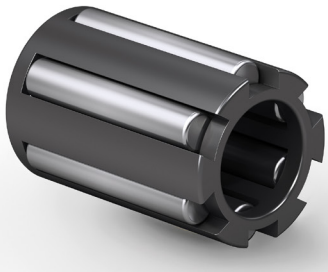
Technical data

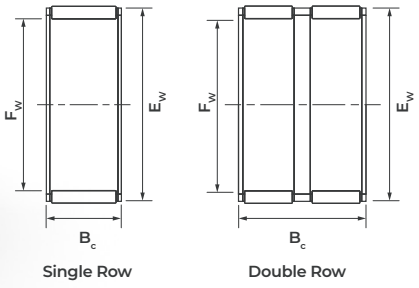
Series	Type	Dimension range [mm]	Static load range C0 rad [kN]	Dynamic load range C [kN]	α° tilt angle min - max	Radial clearance min - max	Weight range [kg]
K	SPKX	5 - 35	14.9 - 414.5	83. - 231.5	13 - 17	20 - 60	0.006 - 0.49

Deviations from the above mentioned data are possible, please contact our technical department.

Needle Cages

Radial needle roller and cage assemblies have a steel or polymer cage that provides both inward and outward retention for the needle rollers. The designs provide maximum cage strength consistent with the inherent high load ratings of needle roller bearings. Accurate guidance of the needle rollers by the cage bars allows for operation at high speeds. Needle roller and cage assemblies have either one or two rows of needle rollers.





Components and materials

- **Cage Design**: available in steel with optimized needle retention or as a one-piece glass-fiber reinforced polymer (suffix TN) for temperatures up to 120°C.
- **Needle Rollers**: made of high-carbon chrome steel, through-hardened, ground, and lapped for precision in diameter and roundness.
- **Customization**: special dimensions or configurations available on request.
- **Coating Options**: special coatings or platings enhance performance under marginal lubrication and high forces.

Features

Rolling Element	**Needles.**
Technology	**Steel or Polymer cage.**
Lubrication	**Grease/Oil.**
Max Operating Temperature [°C]	**150**

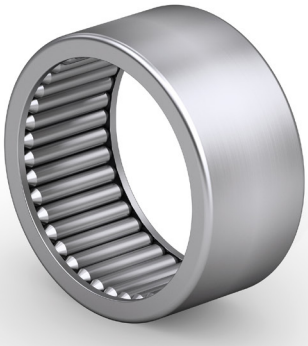
Technical data

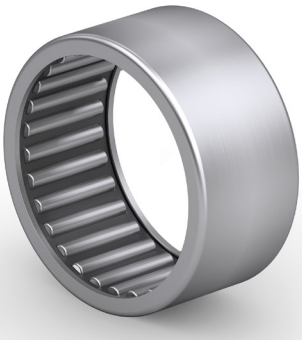
Series	Type	Dimension range	Bore diameter Fw [mm]	Outer diameter Ew [mm]	Width Bc [mm]	Dynamic load C [kN]	Static load C0 [kN]	Max. speed [rpm]
K-	Single row	4 - 110	4	7	7	1.32	1.83	52000
			110	118	30	75.3	207	3800
K-ZW	Double row	15 - 70	15	19	22	12.2	17	28000
			70	78	46	78.4	187	6000

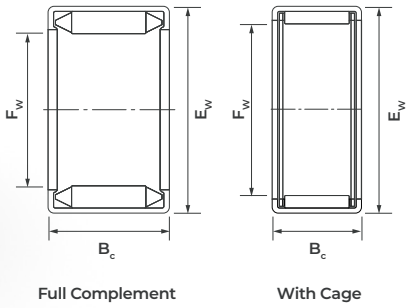
Deviations from the above mentioned data are possible, please contact our technical department.

Needle Bushes

Needle bushes consist of a thin, heat treated outer ring formed from accurately controlled sheet steel that encases a set of needles. Bushes may have a full complement of needles retained in the outer ring by their ends or by grease; others have the needles retained in a cage which is prevented from moving laterally in the outer ring. These bearings which occupy very little radial space are particularly economical to use and possess a high load capacity, relative to their size.







Full Complement | With Cage

Components and materials

- **Outer Ring**: cup-shaped, accurately drawn with no additional machining. Series HK and DL have open ends, while BK and DLF are closed at one end for shaft-end mounting.
- **Inner Rings**: hardened inner rings are available, eliminating the need to harden shafts while maintaining full load capacity.
- **Seal Options**: HK...RS and HK...2RS versions include one or two integrated seals.

Features

Rolling Element	**Needles.**
Technology	**Steel cage or full complement, with drawn cup outer ring.**
Lubrication	**Grease/Oil.**
Max Operating Temperature [°C]	**150**

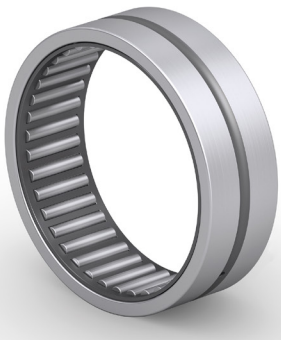
Technical data

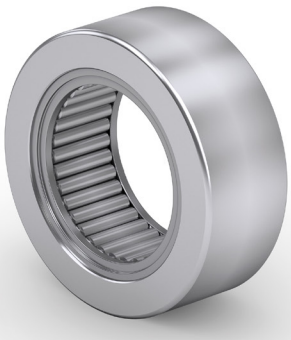
Series	Type	Dimension range	Bore diameter Fw [mm]	Outer diameter Ew [mm]	Width Bc [mm]	Dynamic load C [kN]	Static load C0 [kN]	Max. speed [rpm]
HK- / BK-	With cage	3 - 60	3	6.5	6	1.2	0.78	46000
			60	68	20	35.6	79.5	5200
DL- / DLF-	Full complement	6 - 55	6	12	10	2.9	3.8	50000
			55	63	20	39.5	102	5500

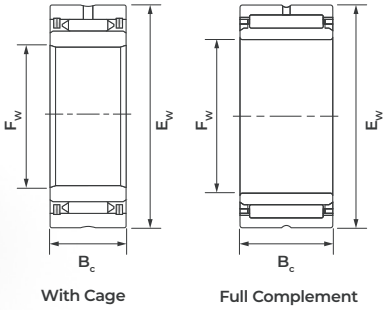
Deviations from the above mentioned data are possible, please contact our technical department. *Excluding sealed versions.

Needle Bearings

Caged needle bearings possess an outer ring made of through-hardened bearing steel. The cage guides the needles and retains them in the outer ring.







Components and materials

- **Outer Ring**: through-hardened for rigidity and durability.
- **Design Variants**: available in both caged (higher speed) and full complement (higher load capacity) designs.
- **Inner Rings**: made of high-quality bearing steel, heat-treated and through-hardened to avoid shaft heat treatment.

Features

Rolling Element	**Needles.**
Technology	**Steel cage or full complement, with massive outer ring.**
Lubrication	**Grease/Oil.**
Max Operating Temperature [°C]	**150**

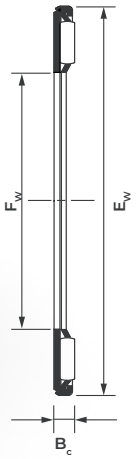
Technical data

Series	Type	Dimension range	Bore diameter Fw [mm]	Outer diameter Ew [mm]	Width Bc [mm]	Dynamic load C [kN]	Static load C0 [kN]	Max. speed [rpm]
NK / NKJ	With cage	5 - 110	5	15	12	4.57	4.89	41000
			110	130	40	132	301	3800
NA / RNA	Full complement	12 - 281.9	12	28	15	11	16.5	22000
			281.9	325	64	520	1800	1300

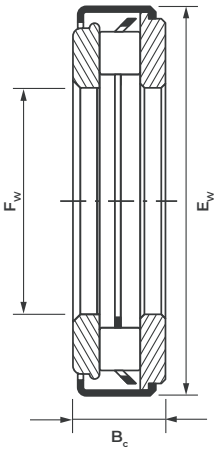
Deviations from the above mentioned data are possible, please contact our technical department.

Needle Thrust

The rolling elements of a thrust bearing are retained and guided in radial pockets within the cage. The cage itself is retained in relation to the plate by means of a steel ring. This assembly of parts is easy to handle and install, and provides high axial load capacity while occupying minimal space. Needle (AX) and roller (ARZ) versions are available to bear higher loads within different envelope dimensions, depending on the application requirements.



Needle



Roller

Components and materials

- **Raceways**: Incorporates a hardened bearing steel plate as a raceway; opposing raceway usually provided by a separate thrust plate.
- **Retention System**: protects against dirt and metal particles while aiding lubrication retention.
- **Design Variants**: available in thin and thick series for optimized space and stiffness.
- **Lubrication**: oil is preferred; ample oil flow is necessary for high speeds or high loads.

Features

Rolling Element	**Needles or rollers.**
Technology	**Steel cage with retention feature.**
Lubrication	**Grease/Oil.**
Max Operating Temperature [°C]	**150**

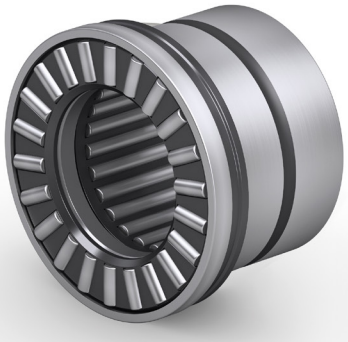
Technical data

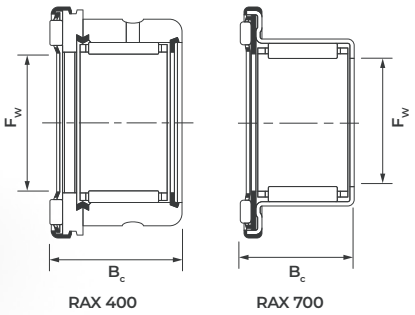
Series	Type	Dimension range	Bore diameter Fw [mm]	Outer diameter Ew [mm]	Width Bc [mm]	Dynamic load C [kN]	Static load C0 [kN]	Max. speed [rpm]
AX	Needle	5 - 240	5	13	2.3	3	5.7	25000
			240	300	15	280	2240	900
ARZ	Roller	10 - 80	10	22.4	6.5	12.7	29.5	13000
			80	106	14	82	330	2700

Deviations from the above mentioned data are possible, please contact our technical department.

Combined Bearings

They comprise a needle thrust bearing and a needle cage retained in a common outer ring. These bearings form one integral unit permitting easy storage, handling and fitting. Their high radial and axial load capacities and small space requirement enable cost-effective solutions to be achieved. The independent operation of the thrust bearing and the needle cage precludes any interaction harmful to precise axial and radial rotation.





RAX 400 RAX 700

Components and materials

- **Outer Ring**: RAX 700 series has a one-piece, thin sheet steel outer ring; RAX 400 series features a solid outer ring for greater stiffness and precision.
- **Axial & Radial Support**: RAXPZ 400 includes a retained thrust plate for better dust and particle protection, ideal for drilling machine spindles.

Features

Rolling Element	**Needles.**
Technology	**One single assembly with retention features.**
Lubrication	**Grease/Oil.**
Max Operating Temperature [°C]	**150**

Technical data

Series	Dimension range	Bore diameter Fw [mm]	Width Bc [mm]	Radial static load C [kN]	Radial static load C0 [kN]	Axial dynamic load C [kN]	Axial dynamic load C0 [kN]	Max. speed [rpm]
RAX700	5 - 45	5	11	2.15	1.95	3.15	6.35	25000
		45	22.2	24.8	55	21.8	109	4500
RAX400	10 - 70	10	19	5.90	7.16	5	10.9	15500
		70	32	36.1	84.7	34.5	295	3000

Deviations from the above mentioned data are possible, please contact our technical department.

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