

TIMKEN

Where You Turn



Timken® Spherical Roller Bearings

Providing a full line of high-performance bearings for industry throughout the world.



For More Than A Century, Our Standards Have Set The Standard.

Around the world, companies turn to Timken for value and innovation, enabling them to reach peak performance. With expertise in materials science and precision manufacturing, we leverage more than 100 years of experience to help our customers solve their toughest technical problems in some of the world's most demanding applications.

There Is A Difference.

Leveraging more than 60 years of design and application engineering expertise, Timken® spherical roller bearings feature all of the characteristics that have made Timken renowned – superior design, reliable performance and comprehensive technical support. Our spherical bearings are designed to manage high radial loads, even when misalignment, marginal lubrication, contamination, extreme speeds or critical application stresses are present. And through expertly designed critical dimensions such as roller and raceway contact geometry and topography, we're improving our customers' performance by helping reduce downtime, extend maintenance cycles and increase productivity. That's why industries such as power generation, oilfield, steel, aggregate, cement, mining and power transmission have turned to Timken for more than

60 years of design and application engineering solutions for spherical roller bearings.

Global Consistency.

We go beyond industry standards in maintaining our reputation for superior quality and performance. Our Timken Worldwide Quality Standards are implemented in every plant to ensure quality in design, and manufacture of Timken bearings is consistent, no matter where in the world they are produced. Our manufacturing facilities are not allowed to produce Timken-branded product until their quality and performance meet our global standards. It's that unwavering commitment to quality that preserves the integrity of the Timken brand ... and reinforces the confidence we've built among customers in providing consistently reliable spherical roller bearings.

Product Breadth.

We offer a complete line of spherical roller bearing designs ranging from 25 millimeter bore to 1,500 millimeter bore (0.98 inch to 59.06 inches). Included in this broad portfolio are two fundamental designs: the Type CJ style and Type YM/YMB design.

Available in 25 millimeter bore to 200 millimeter bore (0.98 inch to 7.87 inches), Type CJ-style bearings offer higher load ratings for longer life and incorporate a stamped steel window-type cage. Similar to all spherical roller bearings, the CJ design compensates for dynamic and static misalignment and allows customers to use weldments for housing frames instead of complex castings.



Type YM bearings feature precision-machined, roller-riding brass cages and are designed for harsh industrial environments. These bearings offer higher load ratings for longer life. And for larger bore sizes, the Type YMB design incorporates an inner-ring, land-riding cage. The YM/YMB design is produced in sizes ranging from 30 millimeter bore to 1,500 millimeter bore (1.18 inches to 59.06 inches).



In addition to the CJ and YM/YMB designs, Timken spherical roller bearings can be ordered with several



enhancements and modifications to extend life and improve performance in specific applications. For example, large-bore spherical bearings sometimes operate below the bearing's published speed rating, causing the cage to push a non-rotating roller across the raceways. This sliding action breaks down lubrication film and can ultimately damage the bearing. To help protect the bearing components, our engineered surfaces coating minimizes skidding and sliding damage while withstanding small-particle contamination. In some cases, engineered surfaces can extend bearing life by up to five times standard designs, especially in demanding applications like paper and rolling mills.

Turn to the next page to see Timken's list of common modification codes available for spherical roller bearings. For more information, contact your Timken sales engineer.

A Total Friction Management Solutions Approach.

As customers' needs change and advanced motion control systems evolve, we continue to leverage our knowledge to offer a broader array of bearings, related products and integrated services to the industrial marketplace. This approach provides customers with cost-effective solutions, while also helping them achieve specific friction management objectives.

At Timken, we integrate bearings, lubrication, seals, repair services, maintenance practices, gears, condition monitoring and training to address a wide variety of customer needs. These value-added products, services and programs help keep overall systems running more efficiently so performance and productivity gains can be achieved.

Call On Timken Today.

Our sales and service engineers are available to host on-site seminars, assist with product design needs and conduct damage analysis for virtually any spherical bearing application. To learn more, contact your Timken sales engineer or visit timken.com/spherical.

Common Spherical Roller Bearing Modifications

TIMKEN	SKF	FAG	NSK	TIMKEN GENERAL DEFINITION
CJ	CC, CJ	J	C, CD	Spherical with stamped steel cage
YM	M2	M	CAM, M	One-piece roller-riding machined brass cage
YMB	MC	MB	—	One-piece inner-riding piloted machined brass cage
C02	C02	T52BE	P53	Inner ring with P5 running accuracy, W4 (SKF does not include W4)
C02 C3	C023	C3.T52BE	—	Inner ring with P5 running accuracy, C3 RIC
C02 C4	C024	C4.T52BE	—	Inner ring with P5 running accuracy, C4 RIC
C04	C04	T52BN	P52	Outer ring with P5 running accuracy, W4 (SKF does not include W4)
C04 C3	C043	C3.T52BN	—	Outer ring with P5 running accuracy, C3 RIC
C04 C4	C044	C4.T52BN	—	Outer ring with P5 running accuracy, C4 RIC
C08	C08	T52BW C02	P55	P5 running accuracy (C02 and C04)
C08 C3	C083	C3.T52BW	—	P5 running accuracy (C02 and C04), C3 RIC
C08 C4	C084	C4.T52BW	—	P5 running accuracy (C02 and C04), C4 RIC
C6	C6	—	—	Special RIC nonspecific
K	K	K	K	Tapered bore (1:12 on diameter 22, 23, 30, 31, 32, 33, 39 series)
K	K30	K30	—	Tapered bore (1:30 on diameter 40, 41, 42 series)
W4	W4	J26A	—	Mark high and low points of eccentricity on face of rings
W6R	—	—	—	Engineered coating on rollers to combat low lube or abrasive contamination
W8	—	—	—	Rings and rollers Timken® TDC™-coated
W20	W20	SY	E3	Outer ring with standard lubrication holes
W22	W22	700855	—	Special reduced OD tolerance on outer rings
W25	W73	—	—	Outer ring with counterdrilled lubrication hole
W31	W31	—	U22	Bearing inspected to certain quality control requirements
W33	W33	S	E4	Standard lubrication holes and groove in outer ring (FAG drops S from number for sizes larger than 315mm OD)
W33 W4	W503	S + J26A	—	Timken and FAG drop W33 W4 in conjunction with C08, W507
W33 W22 W31	W512 (W22 + W31 + W33)	S + 700855	—	Timken and FAG drop W31 in conjunction with C02, C04 and C08
W33 W94	W513 (W26 + W33)	S + H40A	E7	See other component descriptions
W37	—	—	—	Special surface finish
W40I	ECB (Prefix)	W209B	G3	Inner ring only made of carburizing-grade steel
W40R	—	—	—	Rollers only made of carburizing-grade steel
W45A	W61	—	—	Tapped lifting holes in face of outer ring
W47	—	—	—	Inner ring with oversize bore
W84	W77	H44S (H40)*	E42	Outer ring with standard lubrication holes plugged
W88	—	—	—	Special reduced bore tolerance on inner ring
W93	—	—	—	Inner ring with keyway in bore
W94	W26	H40A	E5	Inner ring lubrication holes and retainer face grooves
W502	W502 (W22 + W33)	S + 700855	—	W22, W33 and W45A (where feasible)
W507	W507 (W4 + W31 + W33)	S +	E4P53	W31, W33 and W45A (where feasible)
W509	W509 (W26 + W31 + W33)	S.H40A + ...	E7U22	W31, W33, W94 and W45A (where feasible)
W525	W525 (W31 + W77)	S.H44S (H40)*	—	W31, W33, W84 and W45A (where feasible)
W534	W534 (C08 + W507)	—	—	W507 and C08
W800	VA405	T41A	—	W22 + W88 + radial internal clearance in upper two-thirds of specified range (shaker screen modification)
W841	—	—	—	W31 + plain OD (continuous caster modification)
W886A	—	—	—	W33X + W37 + W45A (slow-speed, high-load applications)
W886B	—	—	—	W886 with metric tapped holes (slow-speed, high-load applications)
W906A	—	—	—	C02 + C04 + W31 + W33 + W40I + W40R (offered on tapered bore product; supercedes W507A, W534A)

*FAG uses H40, which is a plain OD.

Although all data in this chart has been compiled to make the information as complete as possible, Timken cannot assume any responsibility for errors, omissions or accuracy of the published data.

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Bearings • Steel •
Precision Components • Lubrication •
Seals • Remanufacture and Repair •
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