TIMKEN

EXPERIENCE A LOWER TOTAL COST OF OWNERSHIP

Timken® Spherical Roller Bearings are engineered to give you more of what you need.

Lower Operating Temperatures

Rollers are guided by cage pockets—not a center guide ring—eliminating a friction point and resulting in **4–10% less rotational torque and 5°C lower operating temperatures.***

Less rotational torque leads to **improved efficiency, lower energy consumption and more savings.** Lower temperatures **reduce the oil oxidation rate by 50% to extend lubricant life.**

Tougher Protection

Hardened steel cages deliver greater fatigue strength, increased wear resistance and **tougher protection against shock and acceleration.**

Optimized Uptime

Unique slots in the cage face improve oil flow and purge more contaminants from the bearing to help **extend equipment uptime.**

Minimized Wear

Improved profiles reduce internal stresses and **optimize load distribution to minimize wear.**

Improved Lube Film

Enhanced surface finishes avoid metal-to-metal contact to **reduce friction and result in improved lube film.**

Higher Loads

Longer rollers result in **4–8% higher load ratings** or **14–29% longer predicted bearing life.** Higher load ratings enable you to carry heavier loads.

Brass Cages

Available in all sizes; ready when you need extra strength and durability in the most unrelenting conditions, including extreme shock and vibration, high acceleration forces, and minimal lubrication.

Increase your operational efficiencies and extend maintenance intervals. **Starting now.**
Visit **Timken.com/spherical** to find out more.

**All results are from head-to-head testing against multiple competitors.*

MODIFICATION CODES

TIMKEN

TIMKEN[1]	Timken Definition	SKF[2]	FAG[3]	NSK[4]
EJ[5]	**Stamped nitrided steel cage – High Performance**	E, EJA, C, CC, CCJA, EC, ECC	E1	EA, C, CD
EM[5]	**One-piece, roller-riding, machined-brass cage – High Performance**	CA, E CA, CAMA	M	CA
EMB	**One-piece, inner-ring-piloted, machined-brass cage – High Performance**	CA, ECA, CAMA	MB	CA
YMB	**One-piece, inner-ring-piloted, machined-brass cage**	CA, ECA, CAMA	MB	CA
YMD	**Two-piece, inner-ring-piloted, machined-brass cage**			
C2	**Bearing radial internal clearance (RIC) smaller than normal**	C2	C2	C2
C3	**Bearing radial internal clearance (RIC) greater than normal**	C3	C3	C3
C4	**Bearing radial internal clearance (RIC) greater than C3**	C4	C4	C4
C5	**Bearing radial internal clearance (RIC) greater than C4**	C5	C5	C5
C6	**Specific RIC designed to bearing size**	C6	C6	CGxx, SLxx
S1[6]	**Bearing rings dimensionally stabilized for use at operating temperatures up to 200° C (392° F)**	S1	S1	S11
S2	**Bearing rings dimensionally stabilized for use at operating temperatures up to 250° C (482° F)**	S2	S2	
S3	**Bearing rings dimensionally stabilized for use at operating temperatures up to 300° C (572° F)**	S3	S3	
S4	**Bearing rings dimensionally stabilized for use at operating temperatures up to 350° C (662° F)**	S4	S4	
C02	**Inner ring with P5 running accuracy, high point of eccentricity marked (SKF does not mark)**	C02	T52BE	P5B, P53
C04	**Outer ring with P5 running accuracy, high point of eccentricity marked (SKF does not mark)**	C04	T52BN	P5C, P52
C08	**P5 running accuracy (C02 + C04)**	C08	T52BW	P55
C08C3	**P5 running accuracy (C02 + C04), C3 RIC**	C083	C3, T52BW	P55, C3
C08C4	**P5 running accuracy (C02 + C04), C4 RIC**	C084	C4, T52BW	P55, C4
K	**Tapered bore (1:12 on diameter 13, 22, 23, 30, 31, 32, 33, 38, 39 series)**	K	K	K
K	**Tapered bore (1:30 on diameter 40, 41, 42 series)**	K30	K30	K30
W4	**Inner ring or sleeve marked to show high point of eccentricity**	W4	J26A	
W20	**Outer ring with lubrication holes**	W20	SY	E3
W22	**Special reduced O.D. tolerance on outer rings**	W22	T50H	S (a, b)
W25	**Outer ring counter-drilled lubrication holes**	W73		
W31	**Bearing inspected to certain quality control requirements**	W31		U22
W33	**Standard lubrication holes and groove in outer ring**	W33	S	E4
W40	**Bearing made of carburizing-grade steel**	ECD-	W209	g
W40I	**Inner ring only made of carburizing-grade steel**	HA3, ECB-	W209B	g3
W40R	**Roller only made of carburizing-grade steel**			g1
W40E	**Outer ring only made of carburizing-grade steel**			g2
W45A	**Tapped lifting holes in face of outer ring to facilitate lifting and handling**	VE 553		
W47	**Inner ring with oversize bore**	VA414 (incl W800 & W47)	T41B (incl W22 & W47)	
W84	**Outer ring with standard lubrication holes plugged**	W77	H44SA, H40	E42
W841	**Outer ring with no lubrication hole**	W	H40	
W88	**Special reduced bore tolerance on inner ring**			
W89	**Inner ring with lubrication holes and lubrication groove**			
W94	**Inner ring lubrication holes**	W26	H40AB	E5
W507	**W31 + W33 + W45A**	W507	J26A	E4U22, E4P53
W509	**W31 + W33 + W94 + W45A (where feasible)**	W509 (W26 + W31 + W33)	S.H40A	E7U22
W525	**W31 + W33 + W84 + W45A (where feasible)**	W525 (W31 + W77)	S.H44S	
W534	**W507 + C08**			
W800	**Shaker screen modification (W22 + W88 + radial internal clearance in upper 2/3 of range specified)**	VA405	T41A	U15, VS
W906A	**C08 + W31 +W33 + W40I + W40R – Modification mainly used in paper industry**	C083HA3	T52BW.W209B	TL-series

(1) Timken offers differentiated solutions for many applications. This is only a partial list of common modification codes.
(2) SKF Explorer is available in some sizes. Timken® High Performance EJ, EM and EMB Spherical Roller Bearings are interchangeable with SKF Explorer.
(3) FAG X-life is available in some sizes. Timken® High Performance EJ, EM and EMB Spherical Roller Bearings are interchangeable with FAG X-life.
(4) NSK HPS is available in some sizes. Timken® High Performance EJ, EM and EMB Spherical Roller Bearings are interchangeable with NSK HPS.
(5) CJ superseded by EJ. YM superseded by EM.
(6) Standard for all Timken® Spherical Roller Bearings.

- *Every reasonable effort has been made to ensure the accuracy of the information contained in this chart, but no liability is accepted for errors, omissions or for any other reason.*
- *SKF Explorer bearing, FAG X-life bearing and NSK HPS are registered trademarks of their respective companies.*

Stronger. By Design.

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