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 5ºC 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.

Visit our online bearing search tool to find the right spherical roller bearing for you

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

MODIFICATION CODES

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.

TIMKEN

The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets bearings, gear drives, automated lubrication systems, belts, brakes, clutches, chain, couplings, linear motion products and related industrial motion rebuild and repair services.

Stronger. By Design.

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