TIMKEN

TIMKEN® ADAPT™ BEARING

A BETTER OPTION FOR HANDLING MISALIGNMENT AND AXIAL FLOAT

Sometimes you need the self-aligning ability of a spherical roller bearing and the axial freedom of a cylindrical bearing, and that is why Timken designed one bearing for both requirements. From paper dryers to shaker screens and blowers and fans, ADAPT bearings outperform in tough environments.

Timken ADAPT bearings combine a cylindrical inner ring with a proprietary profiled outer ring and rollers. This unique three-point contact design geometry provides simultaneous misalignment and axial displacement performance, optimizes contact stress distribution and helps promote roller stability. The result is a more dynamic, more reliable bearing.

Design Validation

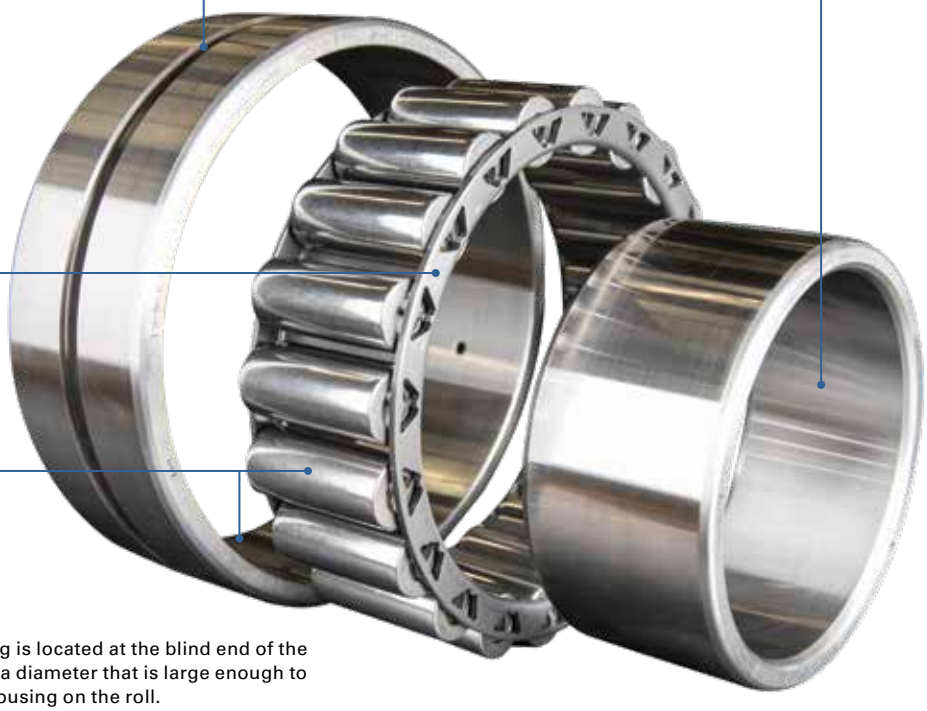
To further demonstrate the superior performance of ADAPT bearings, Timken conducted extensive in-house testing against equivalent-size toroidal bearings from leading brands. Results confirm ADAPT bearings offer:

HIGHER LOAD RATING UP TO	LOWER OPERATING TEMPERATURES	LESS RUNNING TORQUE BETWEEN	LONGER SERVICE LIFE UP TO
7%	5°-10°C COOLER	5-10%	30%

Including 21 heat generation and bearing life tests conducted on 170 ADAPT and 50 competitor bearings; over 70,000 testing hours and over 8 years; bearings manufactured to ISO 2212 boundary dimensions (60 & 110 x 28 mm); speeds ranging from 1200 to 4800 RPM; loads between 10 and 50 percent of ISO calculated C1 rating

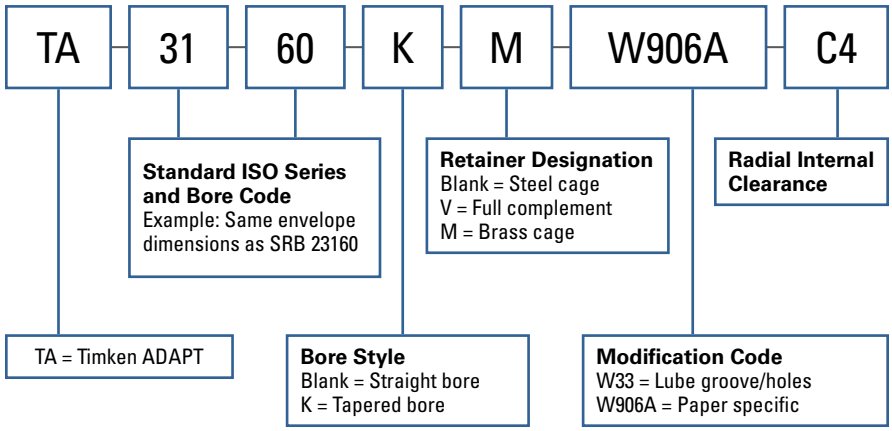
ADAPT bearings combine the axial float performance of a cylindrical bearing and the misalignment performance of a spherical roller bearing to deliver:

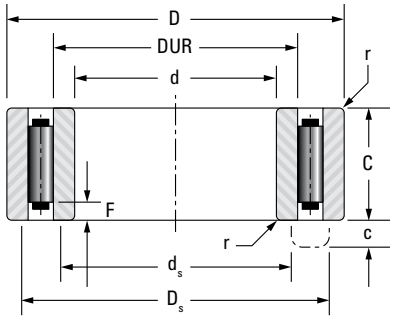
LOWER OPERATING TEMPERATURES
LESS RUNNING TORQUE
LONGER LIFE



NOTE: For standard mounting, when the ADAPT bearing is located at the blind end of the shaft, the shaft end plate or bearing locknut must have a diameter that is large enough to retain the bearing outer ring and roller assembly and housing on the roll.

ADAPT Bearing Nomenclature





ADAPT bearings are interchangeable with ISO toroidal and spherical roller bearings.

ADAPT bearings have a misalignment capability of +/-0.5 degrees (8.7 millirads).

For additional sizes and designs, consult your Timken sales representative.

Expanded Offering ADAPT Bearing Parts List

	d	D	C	DUR	C0	C	F	r	d_s	D_s	c					
Timken PN	Bore (mm)	OD (mm)	Width (mm)	DUR (mm)	Static Capacity (kN)	Dynamic Capacity (kN)	Float (mm)	Fillet (mm)	Shoulder (mm)	Shoulder (mm)	Retainer Clearance (mm)	Weight (kg)	Maximum Operating Temperatures		Thermal Speed Ratings* RPMs	
													C	F	Oil	Grease
TA2220	100	180	46	120.17	478	424	5.5	2.0	117.1	164.0	6	5.0	121°	250°	2600	2200
TA2222	110	200	53	131.89	640	509	6.0	2.0	128.5	182.0	7	6.9	121°	250°	2300	2000
TA2238	190	340	92	227.42	1820	1330	11.0	3.0	221.1	309.0	9	35.5	121°	250°	1300	1200
TA2322M	110	240	80	139.90	1050	908	7.5	2.5	135.9	212.9	8	17.6	121°	250°	2000	1800
TA2322	110	240	80	139.90	1050	908	7.5	2.5	135.9	212.9	8	17.0	121°	250°	2000	1800
TA3036	180	280	74	205.05	1330	953	17.3	2.0	200.2	261.0	7	15.7	121°	250°	1400	1200
TA3040	200	310	82	228.39	1710	1070	8.5	2.0	223.5	285.7	8	21.7	121°	250°	1200	1100
TA3044	220	340	90	250.73	2000	1364	10.5	2.5	245.0	316.0	8	28.2	121°	250°	1000	920
TA3048M	240	360	92	270.89	2180	1300	11.0	2.5	265.2	337.0	7	31.6	121°	250°	940	840
TA3048	240	360	92	270.89	2180	1300	11.0	2.5	265.1	337.0	7	29.3	121°	250°	940	840
TA3136	180	300	96	210.44	1800	1190	10.0	2.5	204.7	275.5	8	25.1	121°	250°	1300	1100
TA3140	200	340	112	235.21	2370	1730	11.0	2.5	229.0	311.0	8	39.5	121°	250°	1100	980
TA3144	220	370	120	257.00	2860	1870	12.5	3.0	249.9	341.0	9	49.6	121°	250°	930	850
TA3148	240	400	128	280.58	3450	2390	12.0	3.0	273.7	367.0	10	62.9	121°	250°	800	740
TA3152	260	440	144	304.90	4150	2630	14.0	3.0	296.9	404.0	11	86.0	121°	250°	710	660
TA3160M	300	500	160	350.68	5140	3180	15.0	4.0	342.7	455.8	12	126.4	121°	250°	600	550

*This criteria is based on industry standard reference conditions outlined in ISO 15312: 2003.

NOTE: ADAPT bearing installation and mounting requirements should be reviewed by Timken Engineering.

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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