

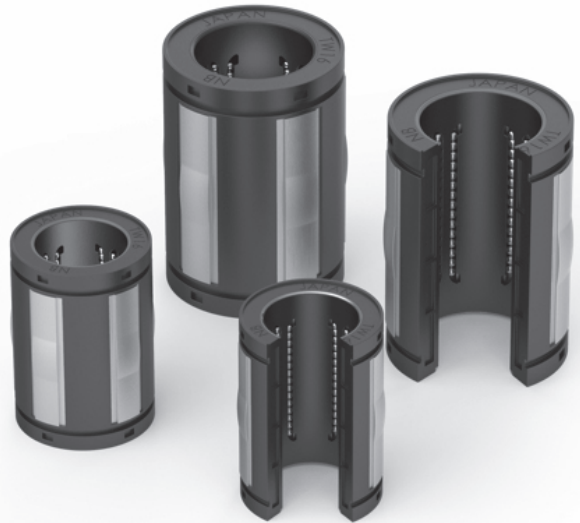
TOPBALL® Ultimate

The Ultra High Performance Addition To Our TOPBALL® Series

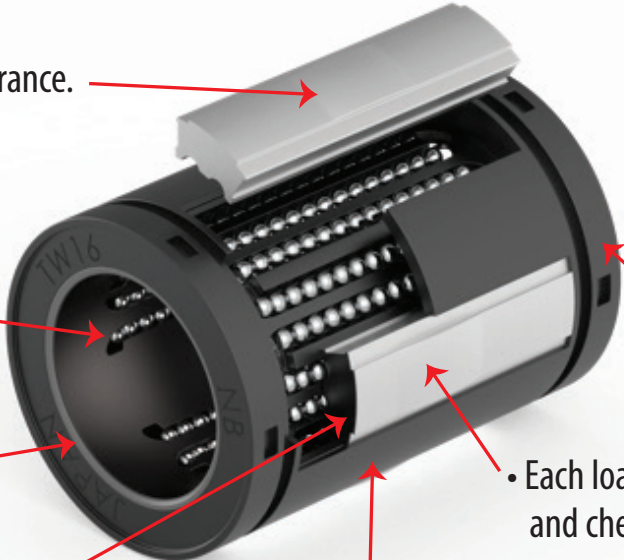
TOPBALL® Ultimate's Advantages

NB's standard TOPBALL® TW type is the forerunner of the TOPBALL Ultimate and it is available in a wide range of sizes. TOPBALL has 3 times the load capacity and 27 times more travel life than conventional bushings. Because it is self-aligning, it speeds manufacturing and assembly. It is a popular motion control linear bushing in machinery and factory automation, optical and measuring equipment.

The TOPBALL® Ultimate, TW-H type, builds on the achievements of TOPBALL® TW type. TOPBALL® Ultimate is unrivaled in its class with a 4 times higher load rating and 64 times longer travel life compared to standard slide bush types. The TW-H type, comes in two sizes (12 and 16) has a new optimized load plate, outer cylinder structure and double the ball circuits of the standard TW type.



4 Times The Load – 64 Times The Life

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- Floating load plate adjusts clearance.
 - Greater ball contact in ground circular arch triples load capacity.
 - Floating raceway wiper seal allows unrestricted self-alignment.
 - Load plate ends are thinner making center a fulcrum for self-alignment.
 - Our raceways are ground - not stamped - affording precision tolerances.
 - Light weight components for energy reduction.
 - Each load plate is precision-ground and checked for consistency - unlike competitions' stamped plates.
 - Unibody construction for quieter operation.

...And We Outperform The Competition

The TOPBALL Ultimate is currently available in inch sizes 12 and 16. Below, see how the TOPBALL Ultimate outperforms NB's conventional TOPBALL bearings and other self-aligning bearings in the market.

TW 12H

			TW12H		Competitor	
			(N)	(lbf)	(N)	(lbf)
Number of Ball Circuits			10		10	
MAX Basic Load Rating	Dynamic	C ₁₀₀	1850	416	1810	407
		C ₅₀	2340	526	2280	512
	Static	C ₀	2060	463	2020	454
MIN Basic Load Rating	Dynamic	C ₁₀₀	1650	371	1610	362
		C ₅₀	2080	467	2030	456
	Static	C ₀	1710	384	1670	375

TW 16H

			TW16H		Competitor	
			(N)	(lbf)	(N)	(lbf)
Number of Ball Circuits			10		10	
MAX Basic Load Rating	Dynamic	C ₁₀₀	3670	825	3370	757
		C ₅₀	4630	1041	4250	955
	Static	C ₀	4060	912	3620	814
MIN Basic Load Rating	Dynamic	C ₁₀₀	3250	730	2990	672
		C ₅₀	4100	921	3770	847
	Static	C ₀	3340	751	2980	870

* Rated load values above are based on ISO calculation method.
(Rated load for other manufacturers are calculated based on actual measurements.)

Part Number Structure

Example



TW type

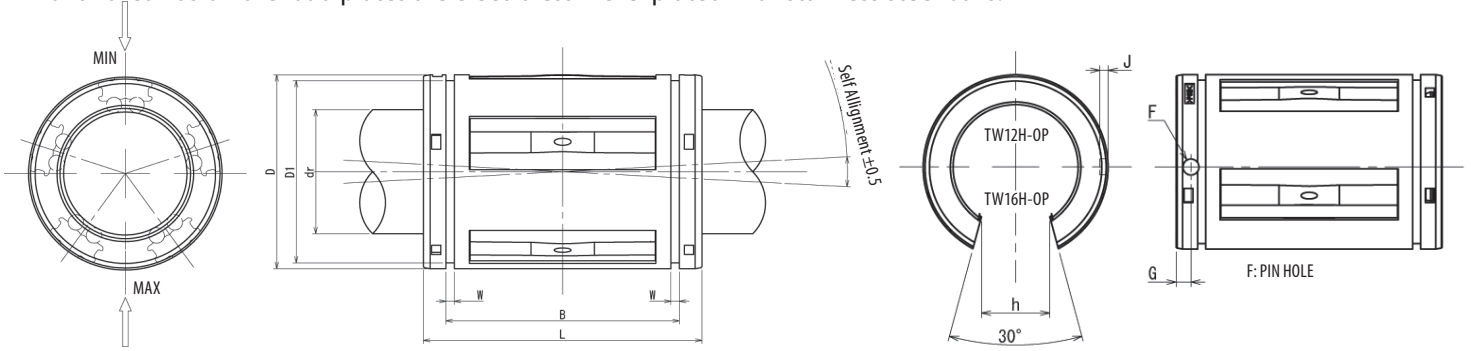
Size
Ultimate

Seal
Blank: Without Seal
UU: Seals on Both Sides

Blank: Standard
SK: Anti Corrosion*

Blank: Closed
OP: Open

*For anti-corrosion the load plates are electroless nickel plated with stainless steel balls.



Part Number					Major Dimensions												Basic Load Ratings			Shaft Diameter Inch
Closed Type		Open Type			dr*	D	L	B	W	D ₁	h	Open Type			Dynamic C ₁₀₀ MAX (C ₁₀₀ min) lbf	Static C ₀ MAX (C ₀ min) lbf				
Number of Ball Circuits	Mass lbs	Number of Ball Circuits	Mass lbs	F								G	J							
TW12H	10	0.130	TW12H-OP	8	0.106	0.7500	1.2500	1.625	1.272	0.0559	1.1760	0.438	0.136	0.1250	0.0591	418 (372)	464 (386)	3/4		
TW16H	10	0.280	TW16H-OP	8	0.227	1.000	1.5625	2.250	1.886	0.0681	1.4687	0.563	0.136	0.1250	0.0472	827 (733)	913 (752)	1		

*Based on Nominal Housing Bore

1 inch=25.4mm
1 lbs≈0.454kg
1lbf≈4.448N



NIPPON BEARING

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