

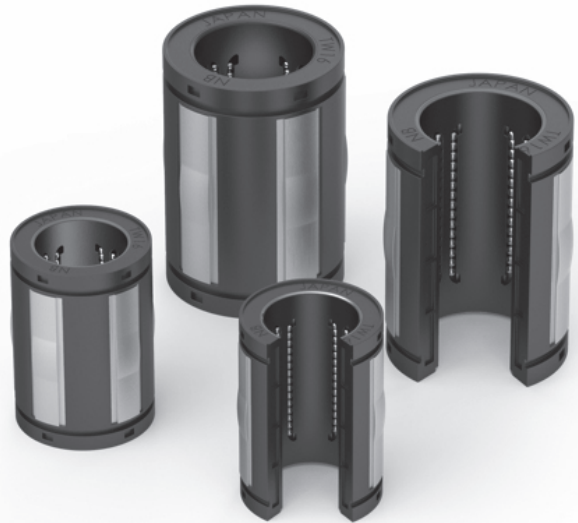
TOPBALL® Ultimate

The Ultra High Performance Addition To Our TOPBALL® Series

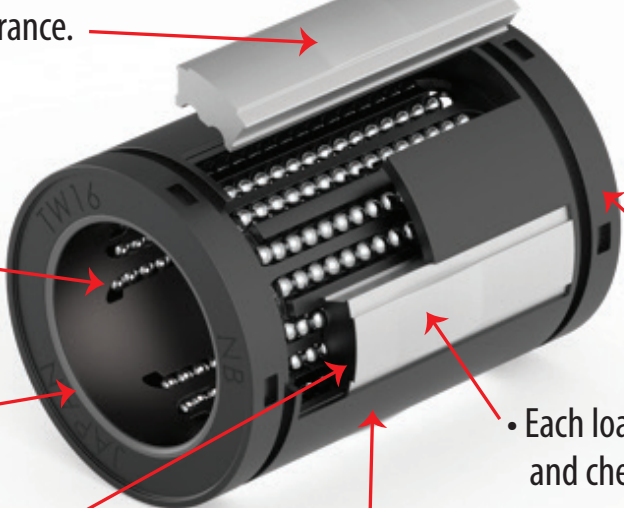
TOPBALL® Ultimate's Advantages

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 three sizes (12,16 and 20) 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.

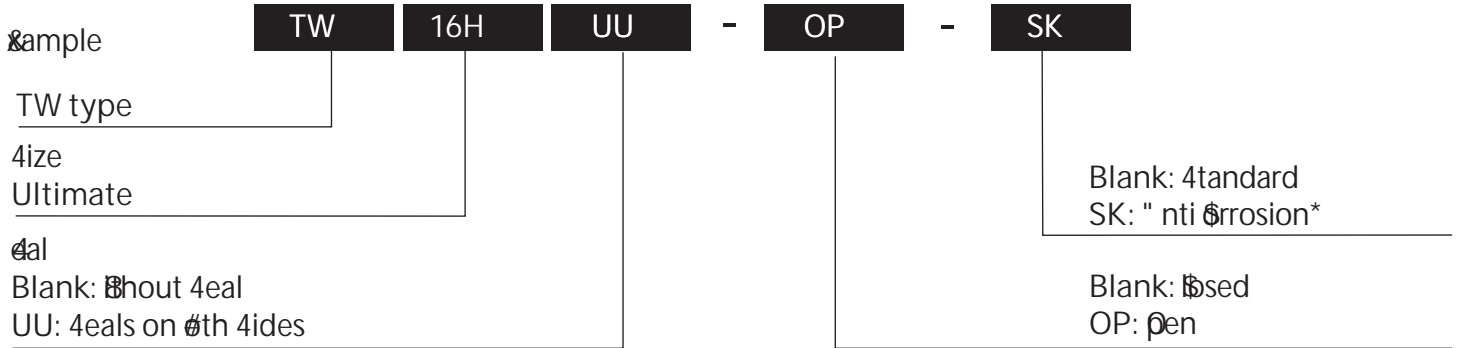
...And We Outperform The Competition

The TOPBALL Ultimate is currently available in inch sizes 12,16 and 20. Below, see how the TOPBALL Ultimate outperforms NB's conventional TOPBALL bearings and other self-aligning bearings in the market.

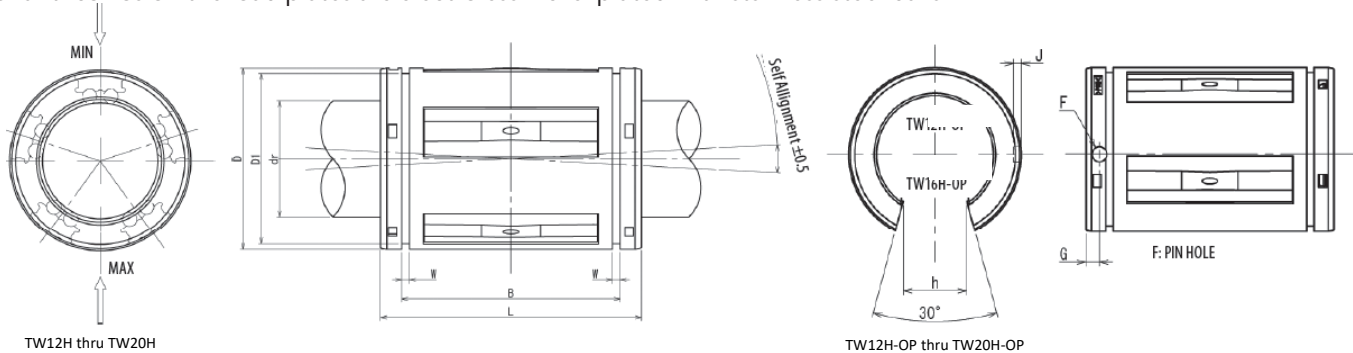
			Size 12				Size 16				Size 20			
			TW12H		Competitor		TW16H		Competitor		TW20H		Competitor	
			(N)	(lbf)	(N)	(lbf)	(N)	(lbf)	(N)	(lbf)	(N)	(lbf)	(N)	(lbf)
Number of Ball Circuits			10		10		10		10		10		10	
MAX Basic Load Rating	Dynamic	C ₁₀₀	1850	416	1810	407	3670	825	3370	757	5140	1155	5110	1148
		C ₅₀	2340	526	2280	512	4630	1041	4250	955	6480	1456	6440	1447
	Static	C ₀	2060	463	2020	454	4060	912	3620	814	5190	1166	5190	1166
MIN Basic Load Rating	Dynamic	C ₁₀₀	1650	371	1610	362	3250	730	2990	672	4560	1025	4490	1009
		C ₅₀	2080	467	2030	456	4100	921	3770	847	5740	1290	5660	1272
	Static	C ₀	1710	384	1670	375	3340	751	2980	670	4270	960	4210	946

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

Part Number Structure



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



Size	Ball Circuits	Dynamic C ₁₀₀	Dynamic C ₅₀	Static C ₀	Dynamic C ₁₀₀	Dynamic C ₅₀	Static C ₀	Dynamic C ₁₀₀	Dynamic C ₅₀	Static C ₀	Dynamic C ₁₀₀	Dynamic C ₅₀	Static C ₀	Dynamic C ₁₀₀	Dynamic C ₅₀	Static C ₀	Dynamic C ₁₀₀	Dynamic C ₅₀	Static C ₀	Ball Count
TW12H	10	0.130	0.106	0.7500	0	1.2500	1.625	0	1.272	0	0.0559	1.1760	0.438	0.136	0.1250	0.059	417 (371)	464 (385)		3/4
TW16H	10	0.280	0.227	1.000	-0.0005	1.5625	2.250	-0.020	1.886	-0.020	0.0681	1.4687	0.563	0.136	0.1250	0.047	826 (732)	912 (752)		1
TW20H	10	0.529	0.432	1.2500	-0.0006	2.0000	2.625	-0.025	2.011	-0.025	0.0681	1.8859	0.625	0.201	0.1875	0.090	1150 (1020)	1160 (961)		1 1/4

*Based on nominal housing bore

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



NIPPON BEARING

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