

For micro-linear actuator

Extra small ball screw / Miniature thrust angular-contact ball bearing "CROXY"

NSK

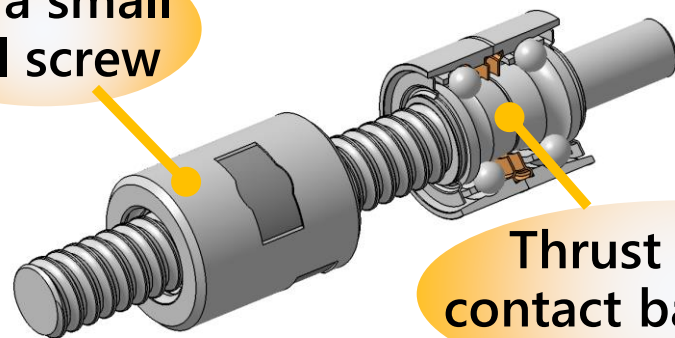
Contribution to size reduction for actuator

Delivering Smooth, Powerful Motion through Advanced Motion & Control Technology

Mass production



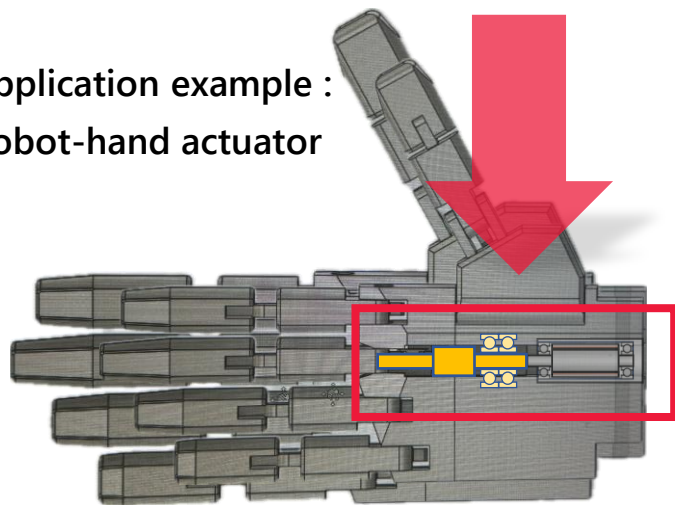
Extra small
ball screw



Thrust angular
contact ball bearing

CROXY

Application example :
Robot-hand actuator



Features

- Extra small ball screw
 - * Shaft diameter $\Phi 4$ or further are in mass production
 - * Shaft diameter $\Phi 3$ in mass-production preparation
- ✓ Industry leading compact design
- ✓ High efficiently transmitting motor torque with smooth motion
- Miniature thrust angular-contact ball bearing
 - ✓ Optimized lineup for micro-linear actuator
 - ✓ Approx. 3 Times higher rigidity compared with general ball bearings

Why NSK ?

- ✓ Compactly Integrated technologies refined across industries
- ✓ Offering a complete solution with ball screws and ball bearing as a package

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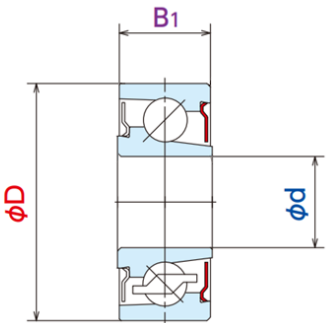
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Miniature thrust angular contact ball bearing lineup



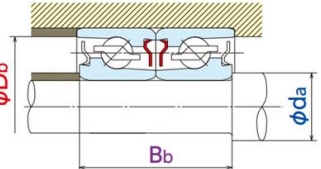
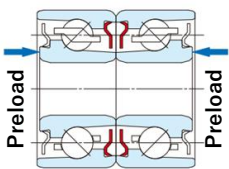
CROXY

Boundary dimensions

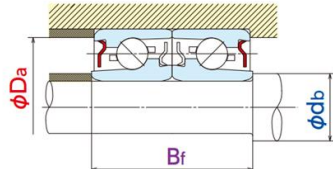
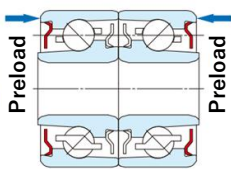


Part Number	Boundary Dimensions(mm)			Basic Load Ratings(N)								Permissible Axial Load (N)
				Axial				Radial				
	d	D	Outer Width B1	Dynamic Load Ratings Ca		Static Load Ratings Cor		Dynamic Load Ratings Ca		Static Load Ratings Cor		
				SUJ2	Stainless	SUJ2	Stainless	SUJ2	Stainless	SUJ2	Stainless	
MTA02-06	2	6	3	555	470	450	360	288	245	92	75	87
MTA03-08	3	8	4	960	820	840	670	480	410	172	138	164
MTA04-11	4	11	4.5	1470	1250	1410	1130	745	635	282	227	464
MTA05-13	5	13	5	2090	1777	2170	1740	1080	915	440	355	549
MTA06-15	6	15	5.5	2760	2350	2950	2360	1390	1180	580	465	854
MTA08-19	8	19	6.5	4000	3400	4350	3480	2030	1730	870	700	1520

DB Combination



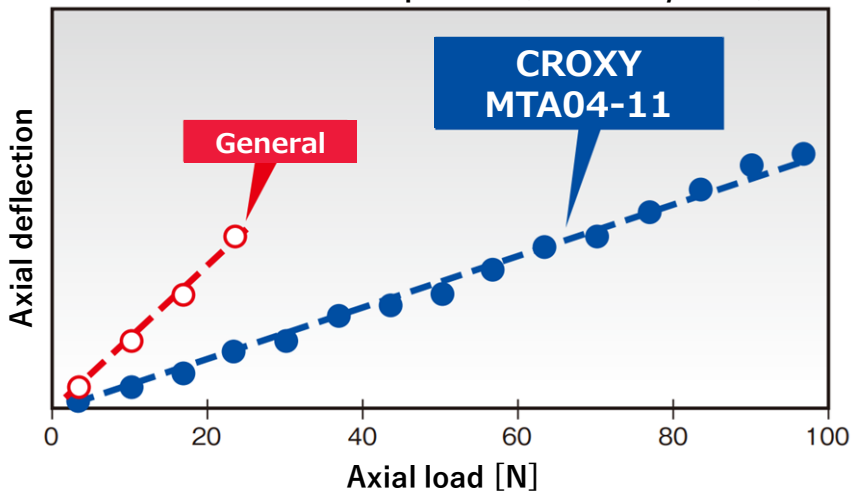
DF Combination



Part Number	Combinations								
	DB Combination (mm)			DF Combination (mm)			Axial Rigidity (N/μm)	Radial Rigidity (N/μm)	Mass (approx) (g)
	Shaft and Housing		Inner Width Bb	Shaft and Housing		Inner Width Bf			
	Φda min.	ΦDb max.		Φdb min.	ΦDa max.				
MTA02-06	3.0	5.3	5.80	2.8	5	6.20	21	12	0.8
MTA03-08	4.4	7.2	7.72	3.9	6.7	8.28	28	16	1.7
MTA04-11	6.2	9.5	8.60	5.1	8.9	9.40	39	22	3.7
MTA05-13	7.2	11.3	9.60	6.1	10.8	10.40	52	29	5.5
MTA06-15	8.6	13.2	10.50	7.2	1.5	11.50	60	32	7.7
MTA08-19	11.4	16.8	12.36	9.4	15.8	13.64	76	39	14.0

Approx. 3 Times higher rigidity compared with general ball bearings (In-house product comparison)

Axial deflection comparison (Bore dia. φ 4mm)



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