

BALL SCREWS AND BALLSCREW ACTUATOR

GUIDE BOOK

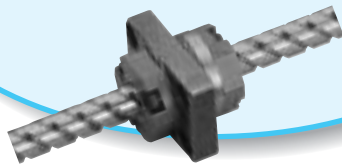


KURODA BALL SCREWS

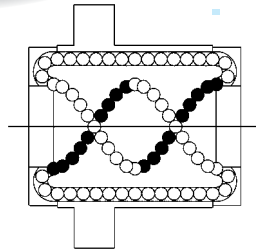
Compact and High Speed!!

Standard Ground Ball Screw H series

HG : C5 Accuracy
End Cap Method with Multi-Start Threads
High Speed Application
Shaft : $\phi 6 - \phi 32$

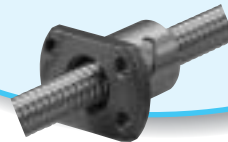


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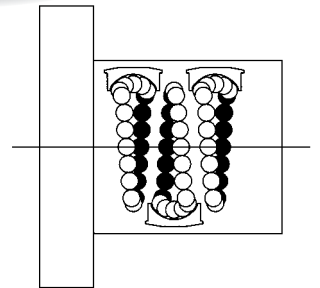


Standard Ground Ball Screw D series

DP : C3 Accuracy
Deflector Method
Compact Nut Diameter
Shaft : $\phi 6 - \phi 14$

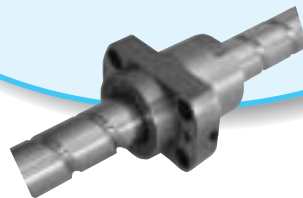


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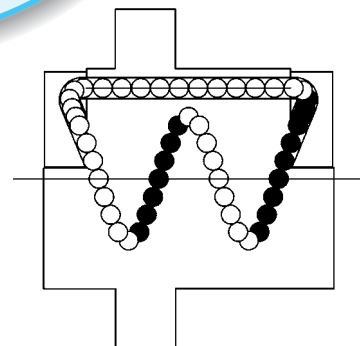


High-Speed and Ultra-Quiet Ball Screw F Series

Innovative End Deflector Method
Ultra Quiet and MAX.5000r.p.m. (in $\phi 25$ screw shaft)
 $\phi 20$ & 25 in C5 & C7 as standard
 $\phi 20-40$ in C3 & C5 as customized



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Abundant Variety of Ball Screws

Standard Ground Ball Screw

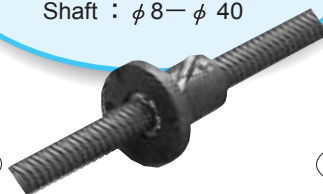
G series
 GE : C7, GG : C5, GP : C3
 Shaft : $\phi 8 - \phi 32$



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Standard Rolled Ball Screw

G series
 GY : C10, GW : C7
 Shaft : $\phi 8 - \phi 40$



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Customized Ground Ball Screw

G series
 GR, GD, FR, GM, GZ : C0 - C10
 Shaft : $\phi 8 - \phi 125$

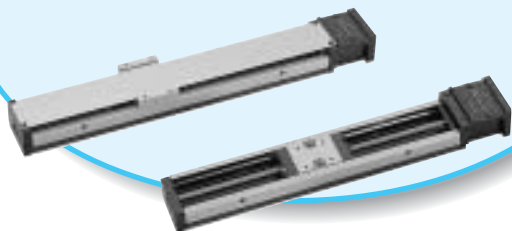


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Space, Designing & Ass'y time saving

Ballscrew Actuator

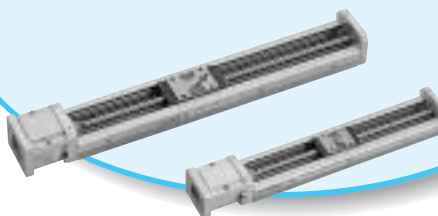
SE series
 High Rigidity
 with Rolled Ball Screw
 Ball Screw Dia. : $\phi 8, 10, 15$



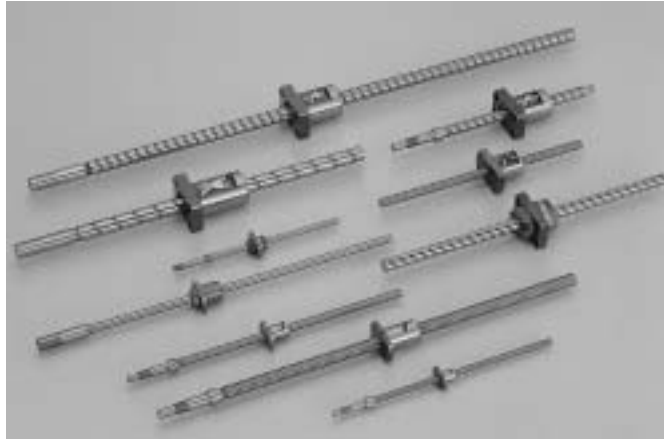
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Ballscrew Actuator

SG series
 High Accuracy and Rigidity
 with Ground Ball Screw
 Ball Screw Dia. : $\phi 6-20$



BALL SCREW RANGE



ORDERING NUMBER

Without end machining

GE 1504DS-BALR-0600A

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

With end machining

GE 1504DS-BALR-1100 X 0600-C7M

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭

① Series

- Ground ball screw
- GE: JIS C7 grade
- GG: JIS C5 grade
- GP: JIS C3 grade
- DP: JIS C3 grade
- HG: JIS C5 grade high lead
- FE: JIS C7 grade
- FG: JIS C5 grade
- FR: Order for nut with exact same dimensions as our catalogue
- GR: Order for nut with exact same dimensions as our catalogue
- GD: Order for nut with exact same dimensions as our catalogue
- GM: Order for nut with different flange dimensions from our catalog
- GZ: Customized ball screw
- Rolled ball screw
- GY: JIS C10 grade
- GW: JIS C7 grade
- GT: Customized for Rolled Ball Screw

② Shaft diameter (mm)

③ Lead (mm)

④ Number of circuits

- A: 1.5 turns 1 circuit
- B: 1.5 turns 2 circuits
- C: 1.5 turns 3 circuits
- D: 2.5 turns 1 circuit
- E: 2.5 turns 2 circuits
- F: 2.5 turns 3 circuits
- G: 3.5 turns 1 circuit
- R: 3.5 turns 2 circuits
- H: 1 turn 2 circuits
- J: 1 turn 3 circuits
- K: 1 turn 4 circuits
- L: 1 turn 5 circuits
- M: 1 turn 6 circuits
- Q: End cap type
- Z: Customized (including shaft only)
- P: End deflector type

⑤ Nut type

- A: Single nut
- T: Integral nut
- D: Double nut (Pin type)
- Z: Customized (including shaft only)

⑥ Flange type

- A~E, H
- N: Without flange
- Z: Customized (including shaft only)

⑦ Ball return system

- A: Tube method (Round type)
- T: Tube method (Standard type)
- U: Tube method (Inlaid type)
- K: Tube method (Square type)
- D: Deflector method
- G: Guide plate method
- E: End cap method
- Z: Customized (including shaft only)
- P: End deflector method

⑧ Wiper material

- P: Plastic
- L: Lip seal
- F: Felt
- B: Brush
- S: LUBSEAL
- N: No wiper

⑨ Thread direction

- R: Right hand thread
- L: Left hand thread
- Z: Others (including shaft only)

⑩ Overall length of screw shaft (mm)

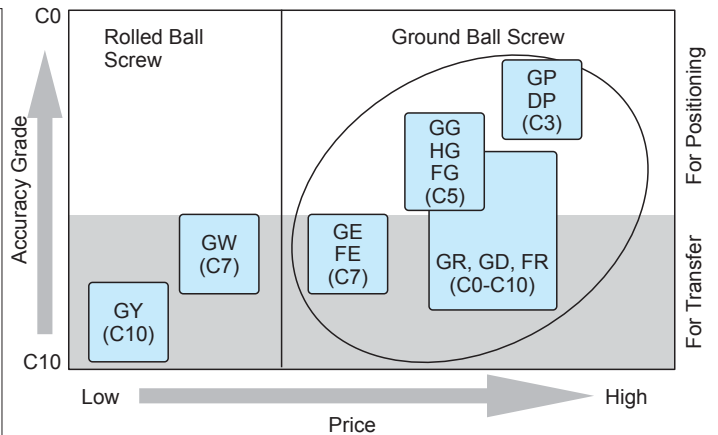
- ⑪ Shaft end configuration
- A: Without end machining
- B: One shaft end machining as per your drawing
- X: End machining as per your drawing
- Y: End machining as per your drawing for rolled screw shaft

⑫ Thread length (mm)

- ⑬ Accuracy grade
- C0, C1, C2, C3, C4, C5, C7, CA(=C10)

⑭ Axial clearance

- S: 0 (Preloaded)
- F: 0.005mm max
- H: 0.010mm max.
- M: 0.030mm max
- L: 0.200mm max
- Y: Axial play for rolled ball screw
- Z: Others



— MATERIAL & HARDENING — GROUND BALL SCREW

	MATERIAL	HEAT TREATMENT	HARDNESS
NUT	SCM420	Carburizing	58-62HRC
SHAFT	SCM415 SCM420	Carburizing	58-62HRC
	AISI4150HV	Induction hardening	58-62HRC
STEEL BALL	SUJ2	Hardening	60HRC or higher

ROLLED BALL SCREW

	MATERIAL	HEAT TREATMENT	HARDNESS
NUT	SCM420	Carburizing	56-62HRC
SHAFT	S45C S55C	Induction hardening	58-62HRC
STEEL BALL	SUJ2	Hardening	60HRC or higher

Screw Shaft Dia. & Lead Combination Standard Ball Screw (For Transfer)

		Lead (mm)																	
		1.5	2	2.5	4	5	6	8	10	15	16	20	25	32	40				
Screw shaft dia. (mm)	8	E	E YW		E Y	Y		Y											
	10		E Y	E YW	E YW	Y			E YW _y										
	12		E	E	E YW	E		Y	E YW _y			E							
	15		E		E	E YW			E YW _y	E		YW	E YW						
	16											E						YW	
	20				E	E YW			E YW				E YW _y						YW
	25					E YW _y			E YW				E	E YW _y					
	28						Y												
	32					E			E Y										Y
	36									Y				Y					
	40									Y				Y					Y

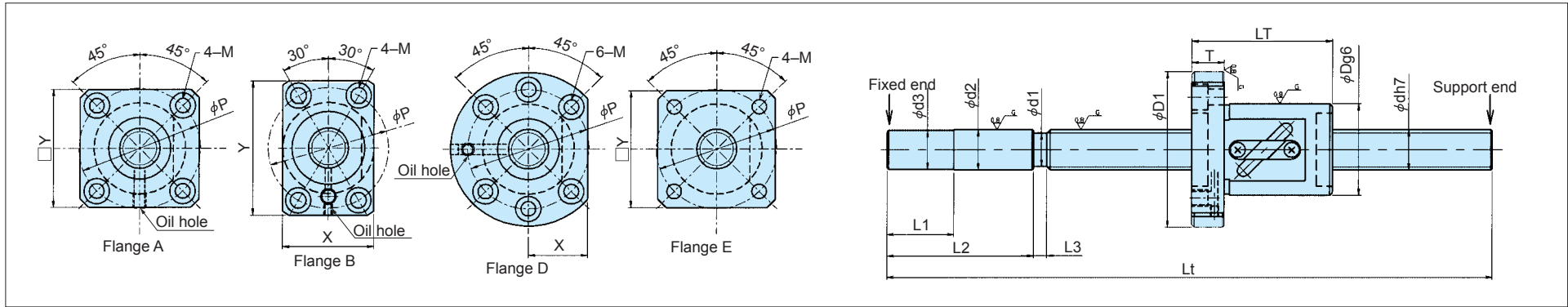
GE series:E GY series:Y GW series:W
FE series:F GY high load series:y

Standard Ball Screw (For Positioning)

		Lead (mm)																			
		1	1.5	2	2.5	3	4	5	6	10	12	15	16	20	25	30	32	40	50	60	64
Screw shaft dia. (mm)	φ6	D						H													
	φ8	D	G P	G PD			G			H											
	φ10			G PD	G P		G			G											
	φ12			G PD		D	G P	G P		G				G		H					
	φ14						D														
	φ15			G P			G P	G P		G		G		G H	H			H			
	φ16												G				H				
	φ20						G P	G P		G F				G F H		H		H		H	
	φ25							G F		G F				G	G F H				H		
	φ32							G		G											H

GG series:G GP series:P HG series:H
FG series:F DP series:D

G series - Tube Method GE(C7 Accuracy)/GG(C5 Accuracy)



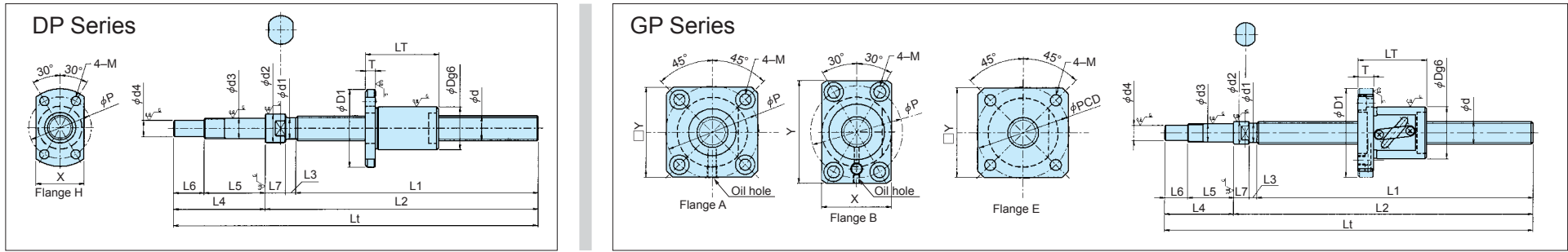
(Unit:mm)

Model No.	Shaft dia. d	Lead	Root dia. d1	Circuit & Turn	Axial clearance	Basic Dynamic Load Rating (N)C	Basic Static Load Rating (N)Cs	Shaft Dimensions					Nut Dimensions																						
								d2	d3	L1	L2	L3	Lt	Nut		Flange						Screw	Flange	Wiper	Oil Hole										
														D	Lt	T	D1	Y	X	P															
GE/GG081FDS-AANR-□□□□A	8	1.5	7.1	2.5×1	M:GE F:GG	850	1900	12	11.7	20	45	3	215	16	24	5	32	25	—	23	M3	A	N	N/A											
0802DS-AANR-□□□□A		2	6.6			20	20							30	36		28	—	27	B		F													
0804DS-BAFR-□□□□A		4	6.3			20	22							29	38		34	24	29	E		N													
1002DS-EANR-□□□□A		2	8.6			10	2.5×1							2250	3300		10	9.7	20	45		3	250,320		23	27	5	40	31	—	31	M4	A	F	N/A
102FDS-AAFR-□□□□A	2.5	8.3	24	35	32			43	33	—	32	B	P																						
1004DS-BAPR-□□□□A	4	8.1	24	37	36			46	42	28	36	M4	A	P																					
1010AS-BAPR-□□□□A	10		28	40	30			36	47	45					30																				
1202DS-AAPR-□□□□A	12	2	10.6	2.5×1	M:GE F:GG	2450	4100	12	11.7	20	50	3	300,455	25	35	8	44	34	—	33	M4	A	P	N/A											
122FDS-AAPR-□□□□A		2.5	10.3			26	34							34	45		35	—	34	M4		A	P												
1204DS-AALR-□□□□A		4	10.1			26	41							41	54		41	—	41						M5	B	L								
1205DS-BALR-□□□□A		5	9.5			30	44							44	50		45	—	40	M4		B	L												
1210AS-BALR-□□□□A		10				41	41							41	41		41	41	41						M5	B	L								
1220AS-BALR-□□□□A		20				43	43							43	43		43	43	43	M5		B	L												
1502DS-BAPR-□□□□A		2				13.6	15							2.5×1	2700		5500	15	14.5						25	55	5	300,600	30	37	10	54	48	32	41
1504DS-BALR-□□□□A		4	13.1			32									41		44			56		48	32						43	M5		B	L		
1505DS-BA*R-□□□□A	5	12.5	34	44	44	56		48	32	43	M5	B	L																						
1510AS-BA*R-□□□□A	10		44	44	44	44		44	44	44					M5	B	L/S																		
1510DS-BA*R-□□□□A	15		1.5×1	44	44	44	44	44	44	44	M5	B	L/S																						
1515AS-BA*R-□□□□A	20			44	44	44	44	44	44	44				M5	B	L/S																			
1520AS-BA*R-□□□□A	16	16	13.5	1.5×1	4750	8300	16	15.5	25	55	5	600,900,1100,1300	34				54	12	58	50	34	45	M5	B	L	M6									
1616AS-BTLR-□□□□A	20	4	18.1	2.5×2	8600	23400	20	19.5	25	75	5	605,1005	40	49	10	64	49	—	51	M5	A	L	M6												
2004ES-AALR-□□□□A		5	17.5	2.5×1	8350	17500							40	48	12	68	60	40	53		M6	B		L/S											
2005DS-BA*R-□□□□A		10	16	1.5×1	13500	25100							46	65	15	74	66	46	59																
2010DS-BA*R-□□□□A		20	15.9	2.5×2	9200	16200							46	70							57	—		60	M6	A	L								
2020AS-BA*R-□□□□A	5	22.5	2.5×2	9400	22200	47	48	12	74	57	—	60	M6	A	L																				
2505DS-AA*R-□□□□A	25	10	21	1.5×1	16100	33400	25	24.5	25	100	8	1020,1520,2220				52	65	15	86	78	52	68	M8	B	L/S	M6									
2510DS-BA*R-□□□□A		20			70	88							70	70																					
2520AS-BA*R-□□□□A		25			77	88							70	70																					
2525AS-BA*R-□□□□A		5			29.5	2.5×2							19000	57200	58	58	12										85	—	32	71	M6	D	L	M6	
3205ES-DALR-□□□□A	32	10	27.2	2.5×1	25800	55600	32	31.5	25	200	10	1000,1600,2000	74	68	15	108	—	41	90	M8	D	L	M6												
3210DS-DALR-□□□□A		10	27.2	2.5×1	25800	55600	32	31.5	25	200	10	1000,1600,2000	74	68	15	108	—	41	90	M8	D	L	M6												

Model No. □□□□: Overall length Axial clearance M:0.030mm F:0.005mm Wiper material N:No wiper F:Felt P:Plastic L:Lip seal S:LUBSEAL *Please select L or S when your order. N/A:Not applicable

D Series - Deflector Method/G Series - Tube Method DP(C3 Accuracy)/GP(C3 Accuracy)

Standard Ground Ball Screws



DP Series

GP Series

Model No.	Shaft dia. d	Lead	Root dia. d1	Circuit & Turn	Axial clearance	Basic Dynamic Load Rating (N/C)	Basic Static Load Rating (N/C)	Shoulder	Shaft Dimensions											Nut Dimensions								Wiper	Oil Hole
									d2	L7	L1	L2	Lt	L3	L4	L5	d3	L6	d4	Nut		Flange							
																				D	LT	T	D1	Y	X	P	Screw		
DP0601JS-HDNR-0130B-C3F/S	6	1	—	1X3	F/S	550	1150	9.5	7	90	100	130	3	30	22.5	6	7.5	4.5	10	14.5	3.5	22	—	14	16	M3	H	N	N/A
DP0601JS-HDNR-0210B-C3F/S	6	1	7.3	1X3		650	1600	12	8	170	180	210	3	30	22.5	6	7.5	4.5	10	14.5	3.5	22	—	14	16	M3	H	N	N/A
DP0801JS-HDNR-0180B-C3F/S	8	1	7.3	1X3	F/S	1350	2300	12	8	132	143	180	3	37	27	8	10	6	12	15	4	25	—	16	19	M3	H	N	N/A
DP0801JS-HDNR-0260B-C3F/S		2	7	1X3						212	223	260							14	21	4	27	—	17	21				
DP1002JS-HDNR-0320B-C3F/S	10	2	9	1X3	F/S	1550	3000	12	8	172	183	220	3	37	27	8	10	6	16	22	5	33	—	21	25	M4	H	N	N/A
DP1002JS-HDNR-0220B-C3F/S	2	11	1X3	272						283	320	18							22	5	35	—	22	27					
DP1202JS-HDNR-0400B-C3F/S	12	2	11	1X3	F/S	1650	3600	14	10	242	255	300	3	45	30	10	15	8	18	22	5	35	—	22	27	M4	H	N	N/A
DP1202JS-HDNR-0300B-C3F/S		3	10.3	1X3						342	355	400							21	36	5	38	—	23	30				
DP1203JS-HDPR-0400B-C3F/S	14	4	12.1	1X3	F/S	3450	6100	14	10	240	255	300	5	45	30	12	15	10	21	36	10	38	—	23	30	M4	H	P	N/A
DP1404JS-HDPR-0530B-C3F/S										4	12.1	1X3							340	355	400	26	40	10	45				

Asterisked () model No. has the following shaft overall length (Lt) in addition 530mm: 230, 280, 330 and 430mm.

GP Series

Model No.	Shaft dia. d	Lead	Root dia. d1	Circuit & Turn	Axial clearance	Basic Dynamic Load Rating (N/C)	Basic Static Load Rating (N/C)	Shoulder	Shaft Dimensions											Nut Dimensions								Wiper	Oil Hole
									d2	L7	L1	L2	Lt	L3	L4	L5	d3	L6	d4	Nut		Flange							
																				D	LT	T	D1	Y	X	P	Screw		
GP081FDS-AAFR-0170B-C3F/S	8	1.5	7.1	2.5X1	F/S	850	1900	11.5	8	122	133	170	3	37	27	8	10	6	16	24	5	32	25	—	23	M3	A	F	N/A
GP081FDS-AAFR-0250B-C3F/S		2	6.6			1950	2600			122	133	170							20	30	5	36	28	—	27				
GP0802DS-AAFR-0170B-C3F/S	10	2	8.6	2.5X1	F/S	2250	3300	11.5	8	162	173	210	3	37	27	8	10	6	23	30	5	40	31	—	31	M4	E	F	N/A
GP1002DS-EAFA-0210B-C3F/S		2.5	8.3			272	283			320	24	35							8	43	33	—	32						
GP1002DS-EAFA-0320B-C3F/S	12	2	10.6	2.5X1	F/S	2450	4100	14	10	242	255	300	3	45	30	10	15	8	25	35	8	44	34	—	33	M4	A	P	N/A
GP1002DS-EAFA-0210B-C3F/S		2.5	10.3			271	283			320	26	34							8	45	35	—	34						
GP1204DS-AAFR-0400B-C3F/S	15	4	10.1	2.5X1	F/S	3600	6750	15	10	340	355	400	5	45	30	12	15	10	26	34	10	54	41	—	41	M5	B	L	M6
GP1204DS-AAFR-0300B-C3F/S		5	9.5			390	405			450	30	37							10	54	48	32	41						
GP1202DS-AAFR-0400B-C3F/S	20	2	13.6	2.5X1	F/S	2700	5500	20	15	242	255	300	3	45	30	12	15	10	30	37	10	54	48	32	41	M5	B	L	M6
GP1502DS-BA*R-0600B-C3F/S		4	13.1			542	555			600	32	41							10	56	48	32	43						
GP1504DS-BALR-0400B-C3F/S	15	5	12.5	2.5X1	F/S	4100	8500	15	10	340	355	400	5	45	30	12	15	10	34	44	10	58	50	34	45	M5	B	L/S	M6
GP1504DS-BALR-0600B-C3F/S		4	13.1			540	555			600	32	41							10	56	48	32	43						
GP2004ES-AALR-0605B-C3F/S	20	4	18.1	2.5X2	F/S	8600	23400	20	15	525	545	605	5	60	40	15	20	12	40	49	10	64	49	—	51	M5	A	L	M6
GP2004ES-AALR-1005B-C3F/S		5	17.5			925	945			1005	48	12							68	60	40	53	M6	B	L/S				
GP2005DS-BA*R-0605B-C3F/S	20	4	18.1	2.5X2	F/S	8350	17500	20	15	525	545	605	5	60	40	15	20	12	40	49	10	64	49	—	51	M5	A	L	M6
GP2005DS-BA*R-1005B-C3F/S		5	17.5			925	945			1005	48	12							68	60	40	53	M6	B	L/S				

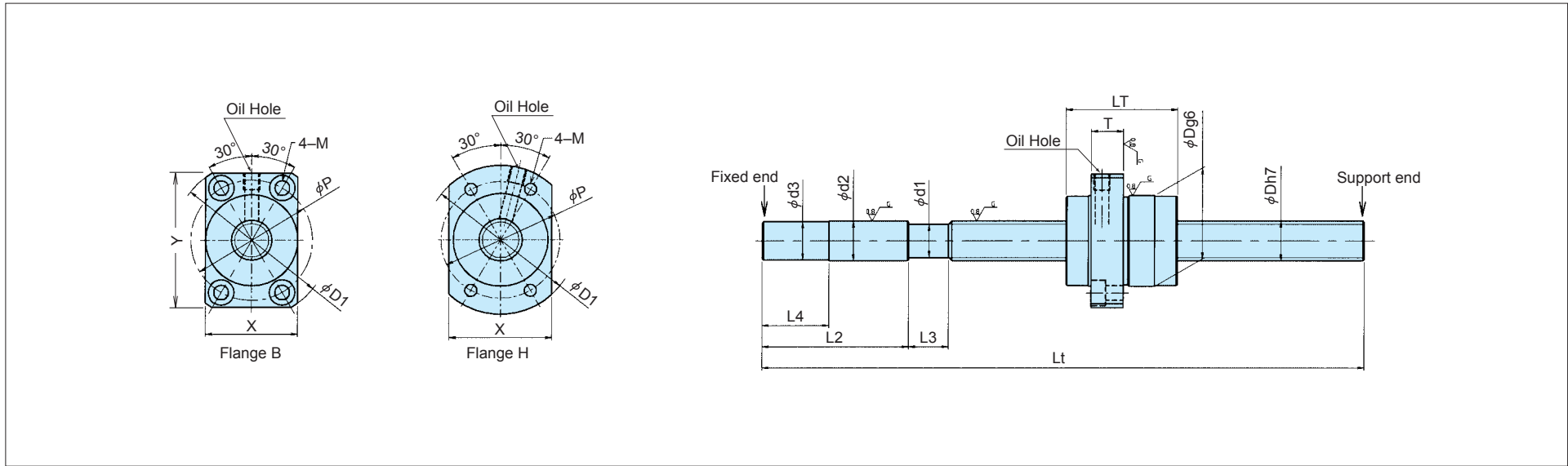
Axial clearance S:0 F:0.005mm Wiper material N:No wiper P:Plastic F:Felt L:Lip seal S:LUBSEAL *Please select L or S when your order. Load rating value inside of () shows S (Axial clearance 0). N/A:Not applicable

DP/GP:C3

KURODA

NEW*

H Series-End Cap Method HG(C5 Accuracy) For High Speed Application

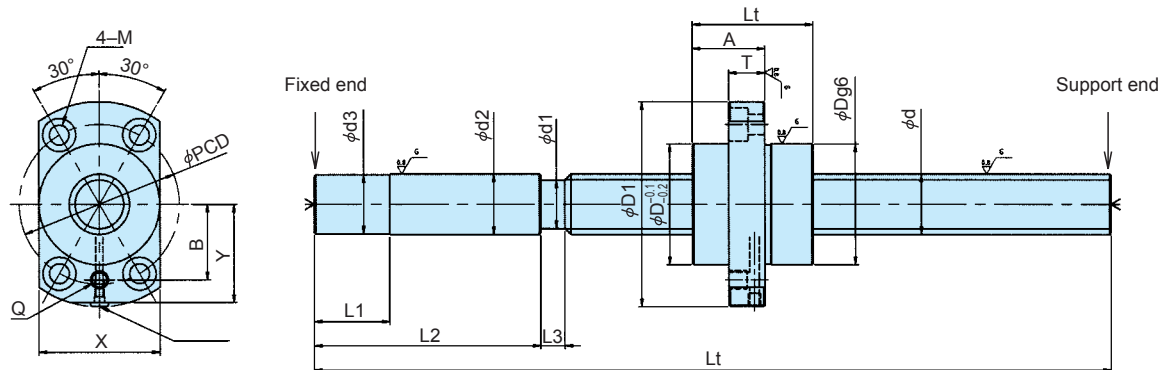


(Unit:mm)

Model No.	Shaft dia. d	Lead	Root dia. d1	Circuit & Turn	Axial clearance	Basic Dynamic Load Rating (N)C	Basic Static Load Rating (N)Co	Shaft Dimensions						Nut Dimensions																		
								d2	d3	L4	L2	L3	Lt	Nut		Flange								wiper	Oil hole							
														D	LT	T	D1	Y	X	PCD P	Screw	Flange										
HG0606QS-HEZR-□□□□A	6	6	—	1.5 X2	H	760	1140	9.5	9.2	18	40	8	210	14	16.5	4	27	27	17	21	M3	H	Z	N/A								
HG0812QS-HEZR-□□□□A	8	12	—	1.67X2	H	2490	3460	12	11.7	20	45	12	340	18	27	4	31	31	20	25	M3	H	Z	N/A								
HG1230QS-BEZR-□□□□A	12	30	9.5	0.67X3	H	4800	6650	12	11.7	20	55	15	500,800	32	35	10	56	48	32	43	M5	B	Z	M6								
HG1520QS-HEZR-□□□□A	15	20	12.5	1.67X2	F	8740	17550	15	14.5	25	55	10	600,1100,1500	34	47.3	10	55	55	34	45	M5	H	Z									
HG1525QS-HEZR-□□□□A		25		0.67X4	F	7220	14050								15							600,1100	32		10	55	55	34	45	M5	H	Z
HG1540QS-BEZR-□□□□A		40		0.67X3	H	5600	8600																15		600,1100	41.7	12	58	50	34	45	M5
HG1632QS-HEZR-□□□□A	16	32	13.5	0.67X3	F	6100	9100	16	15.5	25	55	15	600,1100,1500	35	36.3	10	56	56	38	44	M4	H	Z									
HG2020QS-HEZR-□□□□A	20	20	17.5	1.67X2	F	18280	36000	20	19.5	25	75	5	1000,1500	39	47.3	10	62	62	39	50	M5	H	Z									
HG2030QS-HEZR-□□□□A		30				10690	23330								15										44.7	44						
HG2040QS-HEZR-□□□□A		40		6800	12100	20	58								12										56	40						
HG2060QS-BEZR-□□□□A		60		0.67X3	H	6800	12100								20										58	12	56	40				
HG2525QS-HEZR-□□□□A	25	25	21.6	1.67X4	F	29220	72010	25	24.5	25	100	8	1000,1500,2000	47	57.6	10	74	74	47	60	M6	H	Z									
HG2550QS-HEFR-□□□□A		50	22.2	0.67X3		10200	19300								15	1015,1715,2015	50	71	12	76			76	54	62	F						
HG3264QS-HEFR-□□□□A		32	64	21.6		0.67X3	F								17200	31900	32	31.5	25	120			15	1200,1700,2200	60	85	15	94	94	66	76	M8

Model No. □□□□: Overall length Axial clearance H:0.010mm F:0.005mm Wiper material Z:Lip of end cap serves as a wiper F:Felt N/A:Not applicable

F series-End Deflector Method FE(C7 Accuracy)/FG(C5 Accuracy)



(Unit:mm)

Model No.	Shaft dia. d	Lead L	Root dia. d1	Circuit & Turn	Axial clearance	Basic Dynamic Load Rating (N) C	Basic Static Load Rating (N) Co	Shaft Dimensions					Nut Dimensions																		
								d2	d3	L1	L2	L3	Lt	Nut			Flange				Mounting Hole M	Oil hole Q									
														D	Lt	A	T	D1	X	Y			PCD P	B							
FE/FG2010PS-HP*R-□□□□A	20	10	16	2.7×1	M:FE F:FG	18000	33900	20	19.5	25	75	8	605,1005,1505,1805		40	38	23	12	68	40	32.5	53	25	4-6.6 drilled hole 11 spot facing depth 6.5	M6						
FE/FG2020PS-HP*R-□□□□A	20	20	15.9	1.7×1		11600	20600						1005,1505,1805			48	11														
FE/FG2505PS-HP*R-□□□□A	25	5	22.5	3.7×1		13100	31800	25	24.5	100	8	600,1000,1505,1805		40	30	20	12	68	40	32.5	53	25									
FE/FG2510PS-HP*R-□□□□A	25	10	21	2.7×1		20400	42600					1020,1520,2220			45	37							25			15	74	45	35.5	59	28
FE/FG2525PS-HP*R-□□□□A	25	25		1.7×1		13100	25900					1020,1520,2020				58							12								

Model No. □□□□:Overall length Axial clearance M:0.030m F:0.005mm Wiper material N:No wiper S:LUBSEAL *Please select N or S when your order

Customized Ground Ball Screws

GR/GD/FR

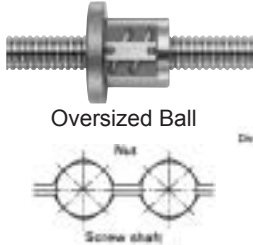
Standard ground ball screws "GR Series (tube method)", "GD Series (deflector method)" and "FR Series (end deflector method)" are standardized, and lineups of various nut types are also available.



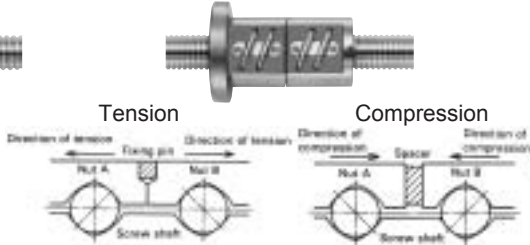
COMBINATION OF ACCURACY AND AXIAL CLEARANCE

- Single nut, Preloaded:C0S-C5S
- Single nut, Axial clearance 0.005mm or less:C1F-C5F
- Single nut, Axial clearance 0.030mm or less:C4M,C5M, C7M
- Single nut, Axial clearance 0.20mm or less:C7L,C10L
- Double nut, Preloaded:C0S-C5S
- Integral nut, Preloaded:C0S-C5S

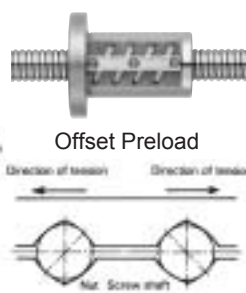
●Single Nut Preloaded



●Double Nut Preloaded



●Integral Nut Preloaded



●Others

Contact KURODA for any customized Ball screw as below.
Stainless steel ball screw.
Right and left handed ball screw.
Surface treatment.
Special grease,
and so on

●Accuracy Grade And Manufacturable Length of Screw Shaft

Accuracy grade	Length of Screw shaft								
	C0	C1	C2	C3	C4	C5	C7	C10	
Screw shaft Dia. (mm)	φ5	90	120	120	140	140	140	—	—
	φ6	160	180	180	210	210	210	—	—
	φ8	240	280	280	340	340	340	340	—
	φ10	340	400	400	480	480	500	500	—
	φ12	420	500	500	600	600	700	700	—
	φ15	500	600	600	700	800	1500	1500	1500
	φ16	500	600	600	700	800	1500	1500	1500
	φ20	800	900	1100	1400	1400	1600	1800	1800
	φ25	1100	1300	1600	1800	1800	2000	2300	2300
	φ28	1200	1500	1800	2000	2000	2200	2600	2600
	φ32	1600	1800	2200	2500	2500	2800	3200	3600
	φ36	1800	2000	2500	2800	2800	3100	3600	4000
	φ40	2000	2200	2800	3200	3200	3600	4600	4600
	φ45	2000	2300	3000	3600	3600	4100	5000	5200
	φ50	2000	2800	3600	4000	4000	4500	5700	5700
	φ55	2000	3000	4000	5000	5000	5700	5700	5700
φ63	2000	3000	4500	5200	5200	5700	5700	5700	
φ70	—	3000	4500	5500	5500	5700	5700	5700	
φ80	—	3000	4500	5500	5500	5700	5700	5700	
φ100	—	3000	4500	5500	5500	5700	5700	5700	
φ125	—	3000	4500	5500	5500	5700	5700	5700	

When the lead is larger than the screw shaft diameter, the manufacturable accuracy grade is C2-C10.

●Screw Shaft Dia. & Lead Combination

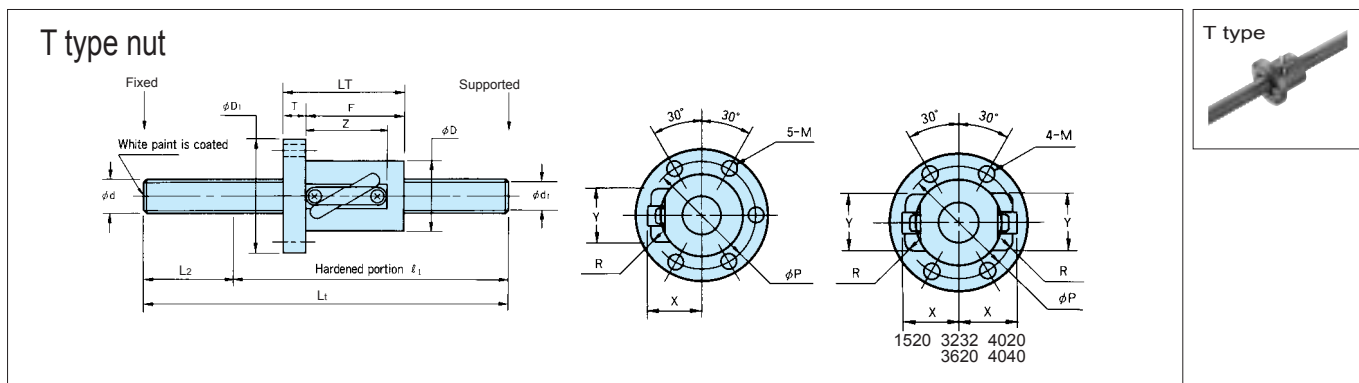
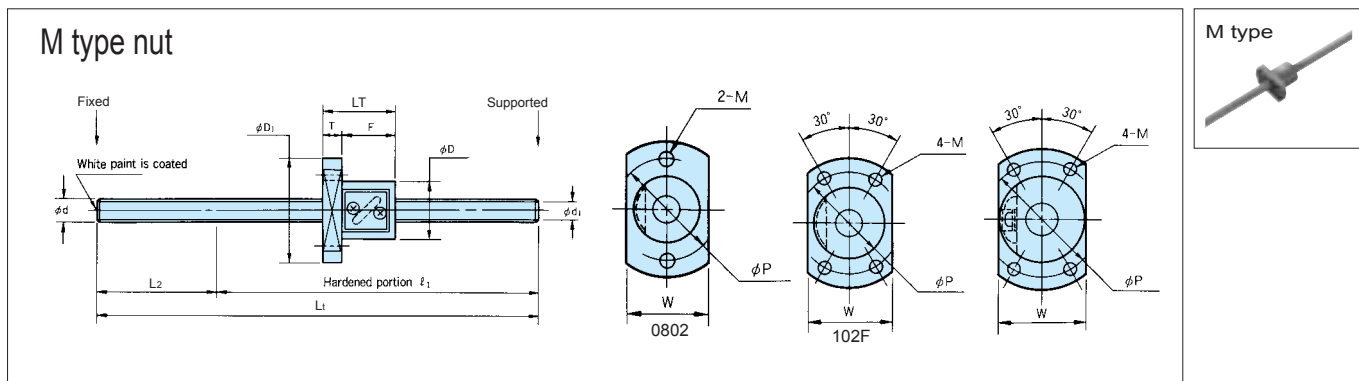
Screw shaft Dia. (mm)	Lead(mm)																			
	1	1.5	2	2.5	3	4	5	6	8	10	12	15	16	20	24	25	32	40	50	
5	○																			
6	*		*				*	*												
8	△	○	○	○	○	○	*	○	○											
10	*	○	○	○	○	○	○	*	*	○			*							
12		○	○	○	○	○	○	○	*	*				○						
14			*		*	*	*	*	*	*										
15		○	○	○	○	○	○	○	○	○		*	○	○						○
16		*	*		*	○	○	○	○	*			○	*						
20		*	○	*	*	○	○	○	*	○	*		*		○					○
25		*	*	*	*	○	○	○	*	○	*	*	*	*	○	◇				○
28				*	*	○	○	○	*	○	*	*	*	*	○	◇				○
32				*	○	○	○	○	○	○	○	○	*	*	○	◇				○
36					○	○	○	○	○	○	○	○	*	*	○	◇	*			○
40					○	○	○	○	○	○	○	○	○	○	○	*				○
45					○	○	○	○	○	○	○	○	○	○	○	*				○
50					○	○	○	○	○	○	○	○	○	○	○	○	*			○
55					○	○	○	○	○	○	○	○	○	○	○	○	○			○
63					○	○	○	○	○	○	○	○	○	○	○	○	○			○
70					○	○	○	○	○	○	○	○	○	○	○	○	○			○
80					○	○	○	○	○	○	○	○	○	○	○	○	○			○
100					○	○	○	○	○	○	○	○	○	○	○	○	○			○
125					○	○	○	○	○	○	○	○	○	○	○	○	○			○

○:GR series(Single nut) ●:GR series(Integral nut) ◎:GR series(Double nut)
 △:GD series(Single nut) ▼:GD series(Integral nut) ◇:FR series(Single nut) *:Made to order
 ①:Tube method, Single nut ④:Deflector method, Single nut
 ②:Tube method, Double nut ⑤:Deflector method, Integral nut
 ③:Tube method, Integral nut ⑥:End deflector method, Single nut

G Series - Rolled Ball Screw GW(C7 Accuracy)/GY(C10 Accuracy)

Contact KURODA for No-backlash rolled ball screw.

For more detailed dimensions of shaft and nut, please refer to our Ball Screw Catalogue or visit our web site at «www.kuroda-precision.com».



M NUT

(Unit:mm)

Model No.	Shaft dia. d	Lead	Root dia. d1	Circuits & Turns	Basic Dynamic Load Rating (N) C	Basic Static Load Rating (N) C0	Shaft Dimensions		
							Overall Length Lt	L2	
GW/ GY 0802GS - HGNR - □□□□ A	8	2	6.6	3.5×1	1800	3200	200,400	55	
GY 0804DS - HANR - □□□□ A		4	6.3	2.5×1	1900	3100			
GY 0808DS - HANR - □□□□ A		8			1200	1800			
GY 1002DS - HANR - □□□□ A	10	2	8.4	2.5×1	1700	3000	400,600	60	
GW/ GY 102FGS - HGNR - □□□□ A		2.5	8.2	3.5×1	2600	5200			
GW/ GY 1004DS - HANR - □□□□ A		4	7.8	2.5×1	2300	4800			
GW/ GY 1010AS - HANR - □□□□ A		10			1.5×1	1850			3200
GY 1010BS - HANR - □□□□ A		10			1.5×2	3360			6400
GW/ GY 1204DS - HANR - □□□□ A	12	4	10	2.5×1	2600	5800	400,800		
GY 1208DS - HANR - □□□□ A		8			3800	6700			

Model No. □□□□ : Overall length Wiper material N: No wiper

T NUT

(Unit:mm)

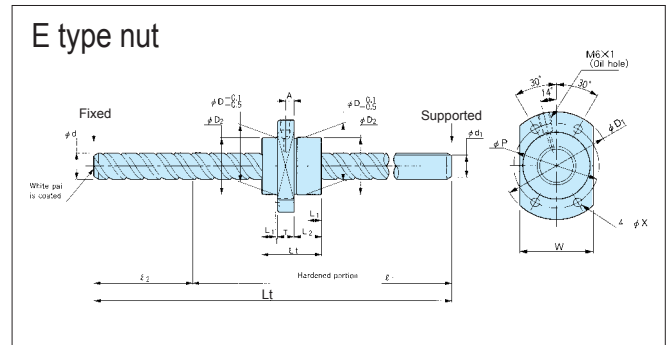
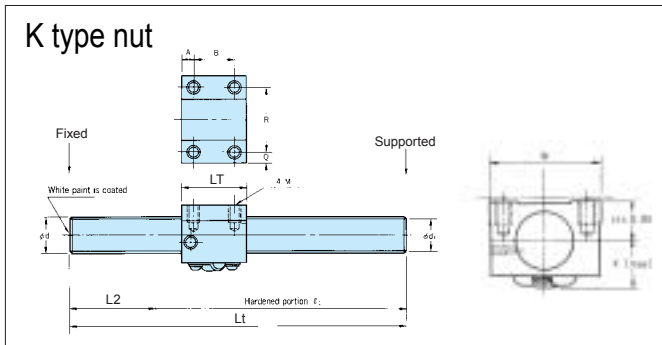
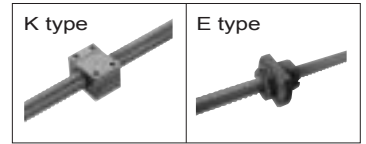
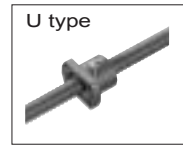
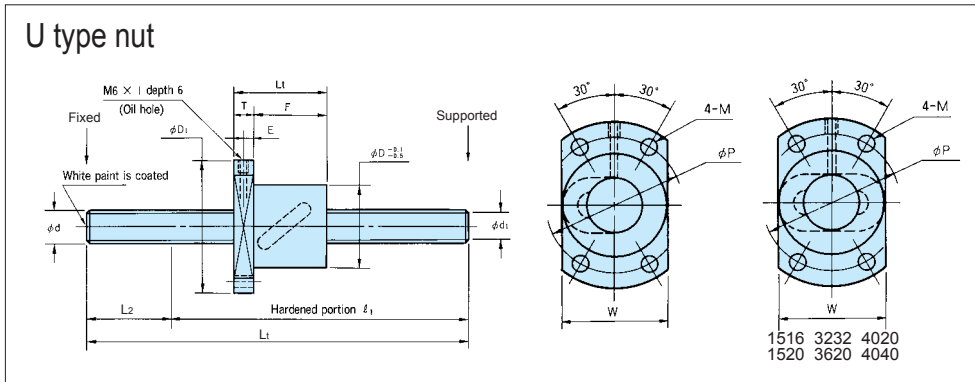
Model No.	Shaft dia. d	Lead	Root dia. d1	Circuits & Turns	Basic Dynamic Load Rating (N) C	Basic Static Load Rating (N) C0	Shaft Dimensions			
							Overall Length Lt	L2		
GY 1505DS - CT*R - □□□□ A	15	5	12.5	2.5×1	5100	10500	600,1200	60		
GY 1510DS - CT*R - □□□□ A		10			5100	10500				
GY 1520BS - CT*R - □□□□ A		20		1.5×2	5800	13300				
GY 2005DS - CT*R - □□□□ A	20	5	17.5	2.5×1	6200	14700	600,1200,2000	80		
GY 2010DS - CT*R - □□□□ A		10			10600	22700				
GY 2020DS - CT*R - □□□□ A		20			6200	14700				
GY 2505DS - CT*R - □□□□ A	25	5	21.8	2.5×1	11900	37300	1000,2000,2500	110		
GY 2510ES - CT*R - □□□□ A		10			20.3	2.5×2			27500	76300
GY 2525DS - CT*R - □□□□ A		25			21.5	2.5×1			9300	22700
GY 2806ES - CTBR - □□□□ A	28	6	25.6	2.5×2	12100	42300	1000,2000,3000			
GY 3210ES - CTBR - □□□□ A		10			27.2	2.5×1			32800	86700
GY 3232BS - CTBR - □□□□ A	32	32	27.8	1.5×2	14600	38900	1000,2000,3000			
GY 3610ES - CTBR - □□□□ A		10			31.1	2.5×2			35100	98200
GY 3620ES - CTBR - □□□□ A	36	20	35100	98200			1000,2000,3000			
GY 4010RS - CTBR - □□□□ A		10			35.1	3.5×2			49600	153700
GY 4020ES - CTBR - □□□□ A	40	20	37100	105600			2000,3000,4000	200		
GY 4040BS - CTBR - □□□□ A		40							1.5×2	23900

Model No. □□□□ : Overall length Wiper material N: No wiper L: Lip seal B: Brush S: LUBSEAL *: Please select L or S when your order.

G Series - Rolled Ball Screw GW(C7 Accuracy)/GY(C10 Accuracy)

Contact KURODA for Preloaded rolled ball screw.

For more detailed dimensions of shaft and nut, please refer to our Ball Screw Catalogue or visit our web site at «www.kuroda-precision.com».



U NUT

(Unit:mm)

Model No.	Shaft dia. d	Lead	Root dia. d1	Circuits & Turns	Basic Dynamic Load Rating (N) C	Basic Static Load Rating (N) C0	Shaft Dimensions	
							Overall Length Lt	L2
NEW GY 0805DS - HUNR - □□□□ A	8	5	6.4	2.5×1	1900	3100	200,400	55
GW/ GY 1004DS - HUNR - □□□□ A	10	4	7.7	2.5×1	2300	4800	400,600	60
NEW GY 1005DS - HUNR - □□□□ A		5						
NEW GY 1208DS - HULR - □□□□ A	12	8	9.6	1.5×1	3800	6700	400,800	60
GW/ GY 1210AS - HULR - □□□□ A		10						
NEW GY 1210BS - HULR - □□□□ A		10						
GW/ GY 1505DS - HU*R - □□□□ A	15	6	12.5	2.5×1	5100	10500	600,1200	60
NEW GY 1510DS - HU*R - □□□□ A		10						
NEW GY 1510ES - HU*R - □□□□ A		10						
GW/ GY 1516BS - HULR - □□□□ A	20	16	12.7	1.5×2	4300	10200	600,1200,2000	80
GW/ GY 1520BS - HU*R - □□□□ A		20						
GW/ GY 2005DS - HU*R - □□□□ A		5						
GW/ GY 2010DS - HU*R - □□□□ A	20	10	16.3	2.5×1	10600	22700	600,1200,2000	80
NEW GY 2020DS - HU*R - □□□□ A		20						
NEW GY 2020ES - HU*R - □□□□ A		20						
GW/ GY 2505DS - HU*R - □□□□ A	25	5	21.8	2.5×1	11900	37300	1000,2000,2500	110
NEW GY 2505ES - HU*R - □□□□ A		5						
GW/ GY 2510ES - HU*R - □□□□ A		10						
GW/ GY 2525DS - HU*R - □□□□ A	25	25	21.5	2.5×1	9300	22700	1000,2000,2500	110
NEW GY 2525ES - HU*R - □□□□ A		25						
GW/ GY 2806ES - HUBR - □□□□ A		6						
GW/ GY 3210ES - HUBR - □□□□ A	32	10	27.2	2.5×1	32800	86700	1000,2000,3000	150
GW/ GY 3232BS - HUBR - □□□□ A		32						
GW/ GY 3610ES - HUBR - □□□□ A		10						
GW/ GY 3620ES - HUBR - □□□□ A	36	20	31.1	2.5×2	35100	98200	1000,2000,3000	200
GW/ GY 4010ES - HUBR - □□□□ A		10						
GW/ GY 4020ES - HUBR - □□□□ A		20						
GW/ GY 4040BS - HUBR - □□□□ A	40	40	35.1	1.5×2	23900	66900	2000,3000,4000	200

Model No.□□□□:Overall length W:Wiper material N:No wiper L:Lip seal B:Brush S:LUBSEAL *:Please select L or S when your order.

E NUT

(Unit:mm)

Model No.	Shaft dia. d	Lead	Root dia. d1	Circuits & Turns	Basic Dynamic Load Rating (N) C	Basic Static Load Rating (N) C0	Shaft Dimensions	
							Overall Length Lt	L2
GW/ GY 1632QS - HEZR - □□□□ A	16	32	13.5	0.67×3	4200	7700	600,1200	60
GW/ GY 2040QS - HEZR - □□□□ A	20	40	17.5		4700	10300	600,1200,2000	80

Model No.□□□□:Overall length W:Wiper material Z:Lip of end cap serves as a wiper.

K NUT

(Unit:mm)

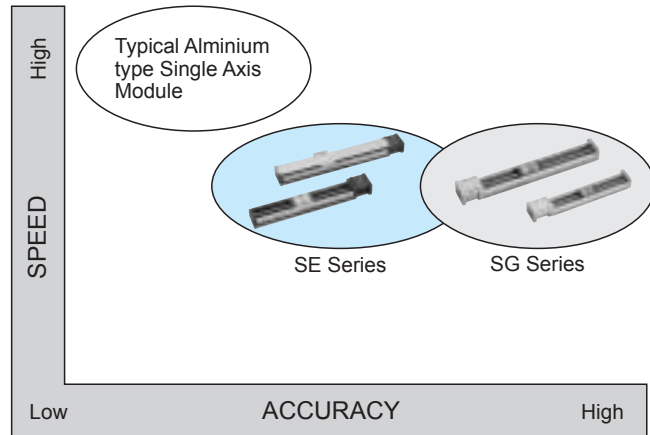
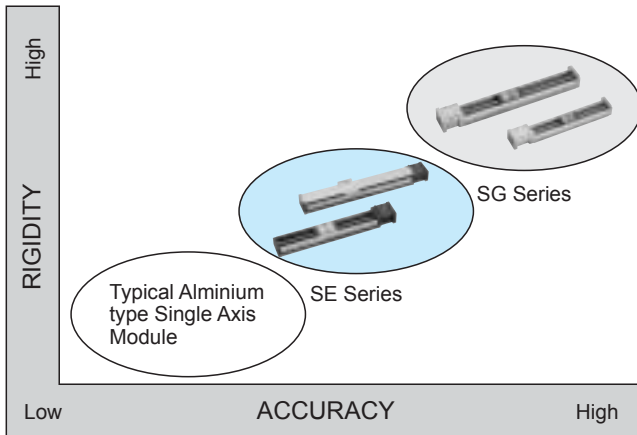
Model No.	Shaft dia. d	Lead	Root dia. d1	Circuits & Turns	Basic Dynamic Load Rating (N) C	Basic Static Load Rating (N) C0	Shaft Dimensions	
							Overall Length Lt	L2
GW/ GY 1505DS - NKLR - □□□□ A	15	5	12.5	2.5×1	5100	10500	600,1200	60
GW/ GY 1510DS - NKLR - □□□□ A		10						
GW/ GY 2005DS - NKLR - □□□□ A	20	5	17.5	2.5×1	6200	14700	600,1200,2000	80
GW/ GY 2010DS - NKLR - □□□□ A		10						
GW/ GY 2505DS - NKLR - □□□□ A		5						
GW/ GY 2510ES - NKLR - □□□□ A	25	10	20.3	2.5×2	27500	76300	1000,2000,2500	110
GW/ GY 3210ES - NKBR - □□□□ A		10						
GW/ GY 3210ES - NKBR - □□□□ A	32	10	27.2	2.5×2	32800	86700	1000,2000,3000	150

Model No.□□□□:Overall length W:Wiper material L:Lip seal B:Brush

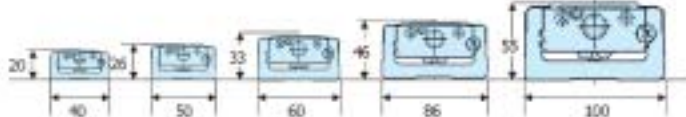
Linear Guide & Ballscrew Integrated Actuator

High accuracy, rigidity and compactness
 Most suitable positioning unit can be configured according to applications.

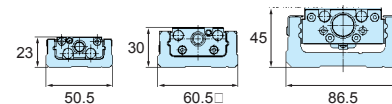
- Type of ball screw : High and Precision in Accuracy grade
- Width of guide rail :
 SG Series : 40, 50, 60, 86 and 100mm
 SE Series : 50.5, 60.5 and 86.5mm
- Table Height :
 SG Series : 20, 26, 33, 46 and 55mm
 SE Series : 23, 30 and 45mm
- Types of Slide Block : Short Block & Long Block
- Quantity of Slide Block : 1 or 2
- Intermediate Flanges For Different Motor Brackets Available
- Dustproof Cover And Sensor Available (Option)
- Multi-points Precise Positioning
- Excellent Repeatability



SG Series



SE Series



SG33 05 A—150 P—A1 C C—L C—PS

- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Product Series
 SG20, SG26, SG33, SG46, SG55
 SE23, SE30

② Lead of Ball Screw

	Lead	SG20	SG26	SG33	SG46	SG55	SE23	SE30	SE45
01	1mm	○	—	—	—	—	—	—	—
02	2mm	—	○	—	—	—	○	—	—
04	4mm	—	—	—	—	—	—	○	—
05	5mm	○	○	○	—	—	○	○	○
10	10mm	—	—	○	○	—	—	○	○
20	20mm	—	—	—	○	○	—	—	○

③ Slide Block

A	With 1 long block
B	With 2 long blocks
C	With 1 short block
D	With 2 short blocks

④ Guide Rail Length (mm)

Series	Guide Rail Length(mm)									
SG20	100	150	200	—	—	—	—	—	—	—
SG26	150	200	250	300	—	—	—	—	—	—
SG33	150	200	300	400	500	*600	—	—	—	—
SG46	340	440	540	640	740	*840	*940	*1040	*1140	*1240
SG55	980	1080	1180	*1280	*1380	—	—	—	—	—
SE23	150	200	250	300	—	—	—	—	—	—
SE30	150	200	300	400	500	600	700	750	—	—
SE45	540	640	740	840	940	—	—	—	—	—

Note) • Asterisked length (*) is compatible with high accuracy-grade items only.
 • Consult KURODA for longer guide rail length.

⑤ Ball Screw Accuracy Grade
 SG Series

H : High Grade
 P : Precision Grade

SE Series

W : Rolled Ball Screw C7 Accuracy Axial play 0.020 or less
 U : Rolled Ball Screw C7 Accuracy Preloaded

⑥ Motor Bracket Type
 (reference to SG/SE complete catalog for details)

⑦ Dustproof Cover
 N : Without dustproof cover
 C : With dustproof cover

⑧ Sensor
 N : Without sensor
 S : With photo-micro sensor
 K : With proximity sensor
 C : With photo-micro sensor
 H : With photo-micro sensor

⑨ Anti corrosive black coating
 N : Without coating
 L : Anti corrosive black coating

⑩ Grease
 N : ALVANIA grease S2 (Standard)
 C : C Grease

⑪ Dowel hole
 PS : Dowel hole provided.
 No symbol : Not provided.

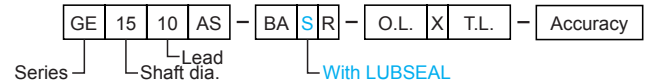
Can be equipped inside of G series nut completely.

- Good for Environment & clean.
- Prolong maintenance service period

For G Series Ball Screw



ORDERING NUMBER

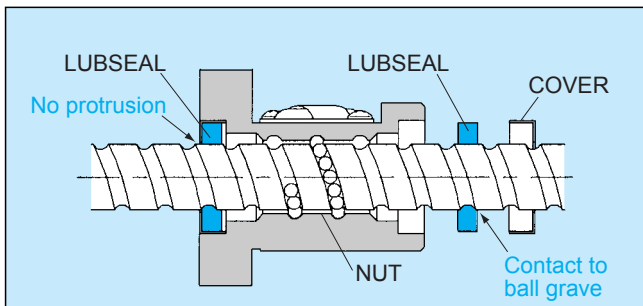


O.L. : Overall Length (mm)
T.L. : Thread Length (mm)

Shaft Dia. (mm)	Lead (mm)	Applicable Series Screws
15	5	GP/GG/GE/GW/GY
	10	GG/GE/GW/GY
	15	GG/GE
	20	GG/GE/GW/GY
20	5	GP/GG/GE/GW/GY
	10	GG/GE/GW/GY
	20	GG/GE/GW/GY
25	5	GG/GE/GW/GY
	10	GG/GE/GW/GY
	20	GG/GE
	25	GG/GE/GW/GY

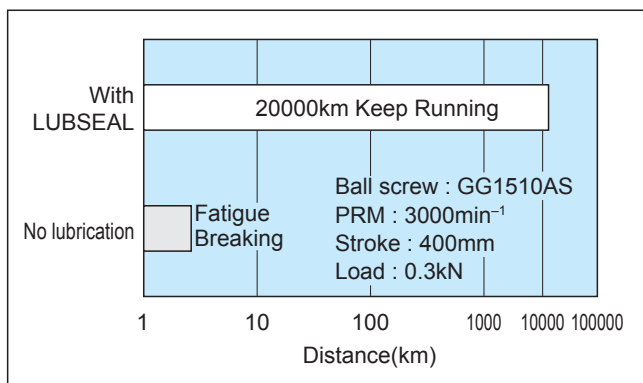
- Other Shaft Dia. & lead, please consult KURODA.
- Shaft end machining should be made by KURODA.

STRUCTURE



- Slight drag torque increase by LUBSEAL may occur.
- Accuracy, axial clearance, preload, external dimensions are same as standard G series ball screw.

ENDURANCE TEST



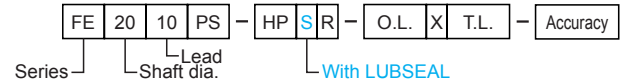
REMARKS

- The same oil as ALVANIA grease S2 which is applied inside the nut is impregnated in LUBSEAL.
- LUBSEAL for any other ball screw excluding G series, please consult KURODA.
- When GY series ball screw is equipped with LUBSEAL, no surface treatment is made on the screw shaft.
- Maximum ambient temperature is 50°C (122°F)
- Organic solvent/kerosene should not be applied.

For F Series Ball Screw



ORDERING NUMBER

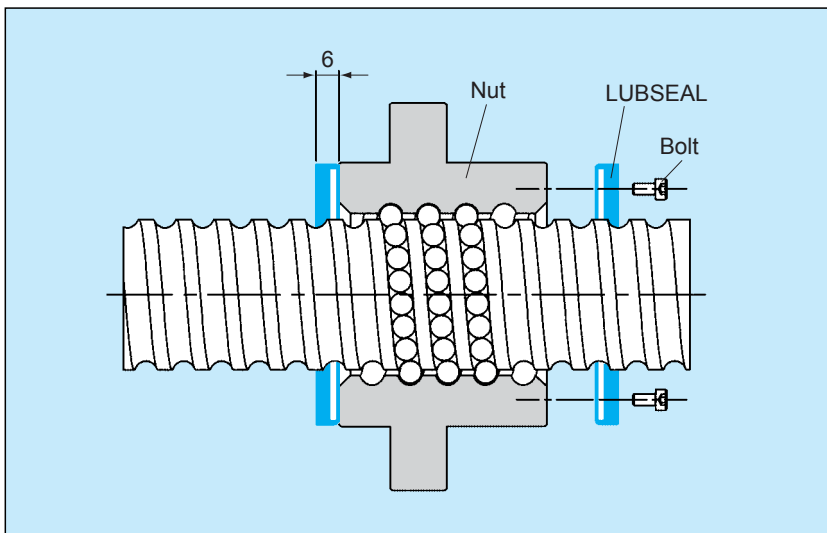


O.L. : Overall Length(mm)
T.L. : Thread Length(mm)

Shaft Dia. (mm)	Lead (mm)	Applicable F Series Ball Screw Number
20	10	FE/FG2010PS-HPSR-****A
	20	FE/FG2020PS-HPSR-****A
25	5	FE/FG2505PS-HPSR-****A
	10	FE/FG2510PS-HPSR-****A
	25	FE/FG2525PS-HPSR-****A

- Other Shaft Dia. & Lead, please consult KURODA.
- Shaft end machining should be made by KURODA.

STRUCTURE



- When F series is equipped with lubrication unit LUBSEAL, overall length of nut is longer than usual by 12mm (6mm on one side). There is no protrusion of bolt head fitted with LUBSEAL.

SUPPORT UNITS / BUK, BUM, BUT

- Applicable to 6–32mm Dia. Ball Screw
- Accurate center height
- Preload adjusted angular bearing DF
(Face-to-Face) combination as standard.
DB(Back-to-Back) combination is also available
on your request when higher rigidity is required.
- Special surface treatment, special grease
etc. consult KURODA.
- Affordable price, Quick Delivery.



ORDERING NUMBER

BUK—10A

① ② ③

① Series

BUK : Direct mount(Rectangle) Support Unit
BUM : Circle Flange Support Unit
BUT : Support unit for machine tool

② Bearing journal diameter(mm)

③ Combination

A : Set of fixed and supported end units

F : Fixed end unit

S : Supported end unit

No mark : Fixed end unit and supported end bearing

BUK Series			BUM Series				BUT Series
Set	Fixed-end unit	Supported-end unit	Set	Fixed-end unit	Supported-end bearing	Supported-end unit	Fixed-end unit
BUK-6	BUK-6	—	BUM-6	BUM-6F	606ZZ	—	—
BUK-8A	BUK-8F	BUK-6S	BUM-8	BUM-8F	606ZZ	BUM-6S	—
BUK-10A	BUK-10F	BUK-8S	BUM-10	BUM-10F	608ZZ	BUM-8S	—
BUK-12A	BUK-12F	BUK-10S	BUM-12	BUM-12F	6000ZZ	BUM-10S	—
BUK-15A	BUK-15F	BUK-15S	BUM-15	BUM-15F	6002ZZ	BUM-15S	—
BUK-20A	BUK-20F	BUK-20S	BUM-20	BUM-20F	6204ZZ	BUM-20S	BUT-20
BUK-25A	BUK-25F	BUK-25S	BUM-25	BUM-25F	6205ZZ	—	BUT-25
—	—	—	—	—	—	—	BUT-30
—	—	—	—	—	—	—	BUT-35
—	—	—	—	—	—	—	BUT-40

C GREASE

Clean Grease for ball screw



50cc 1kg



C1-080G-J (80g)
C1-400G-J (400g)

The superb quality of C GREASE meets the need for cleanliness in the environment of actuators used in semiconductor manufacturing machines and related parts. KURODA "C GREASE" features cleanliness, stable torque characteristics, high lubricating performance and excellent rust-preventive performance not available from usual fluorine grease.

RESIN NUT LEAD SCREW

PY/PW series



- Lower price & more compact than Ball Screw.
- ACCURACY
PY : C10(±0.21mm/300mm)
PW : C7(±0.05mm/300mm)
- MATERIALS
SCREW SHAFT : S45C or SUS303 on your choice.
NUT : ENGINEERING PLASTIC(PPS)
- SHAFT DIA. × LEAD
10×4, 10×10, 12×4, 12×10

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