



BALL SCREW SUPPORT BEARING 2014



Ball Screw Support Bearing



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GMT GLOBAL INC.

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GBK - 20 - S L B - J

Model	Size	Grade	Pre-loaded	Surface Finish	Bearing Category
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GBK	Model	GAK / GSW / GSWE : Fixed Side-Rectangle Design GFK / GRW / GRWE : Fixed Side-Flange Design GBK : Fixed Side-Two way Mounting Design GEK : Fixed Side-Protruding Design
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20	Size	GAK : 06~25 / GSW : 06~25 / GSWE : 10~25 GFK : 06~30 / GRW : 06~25 / GRWE : 10~25 GBK : 10~40 / GEK : 06~20
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Note : 1. Fixed Side sizes are referred to bearing nominal dimensions.

S	Grade	S : Standard(Integrated Angular Contact Ball Bearings) ER : Economic Type,high rigid assembly without axial play. (Integrated with deep-groove ball bearings) EG : Economic Type,universal assembly with axial play. (Integrated with deep-groove ball bearings)
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Note : ER and EG models are not specified with pre-loaded.

L	Pre-loaded	L : Light Pre-loaded M : Medium Pre-loaded H : Heavy Pre-loaded
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B	Surface Finish	B : Black Dyed N : Nickel Plating
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J	Bearing Category	J : Japanese series T : Taiwanese series
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GEF - 20 - S B - J

Model	Size	Grade	Surface Finish	Bearing Category
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GEF	Model	GAF : Support Side-Rectangle Design GFF / GUR / GTR : Support Side-Flange Design GBF : Support Side-Two way Mounting Design GEF / GUN / GTN : Support Side-Protruding Design
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20	Size	GAF : 06~25 / GUN : 06~25 / GTN : 06~25 GFF : 06~30 / GUR : 06~25 / GTR : 06~25 GBF : 10~40 / GEF : 06~20
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Note : 1. Support side size 06 and 15 ~ 40 are referred to bearing nominal dimensions.

2. Support side size:
- size 08 = bearing i.d. Ø6
 - size 10 = bearing i.d. Ø8
 - size 12 = bearing i.d. Ø10

S	Grade	S : Standard
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B	Surface Finish	B : Black Dyed N : Nickel Plating
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J	Bearing Category	J : Japanese series T : Taiwanese series
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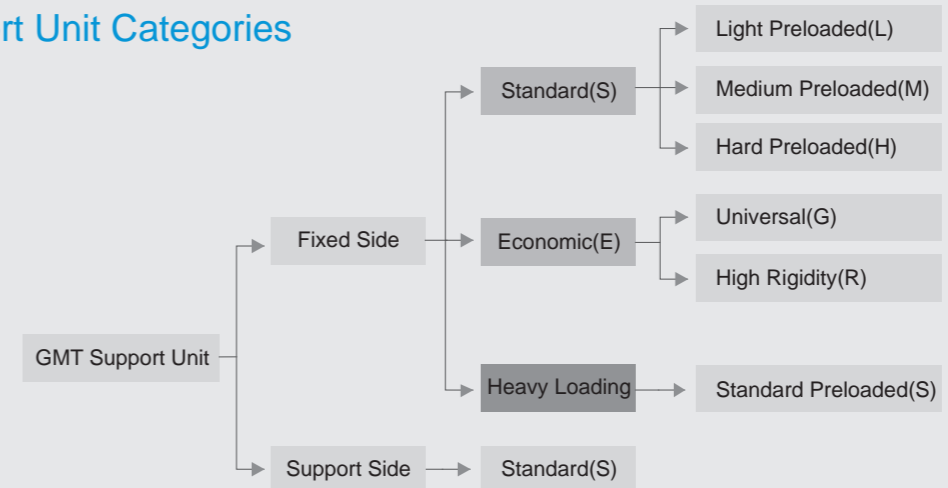
GWFF - 20 - B - DFD - J

Model	Size	Surface Finish	Bearing Combination	Bearing Category
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GWFF	Model	GWFF : Heavy Loading
20	Size	GWFF : 17~40
B	Surface Finish	B : Black Dyed N : Nickel plating
DFD	Bearing combination	DF : Face to face DFD: Face to back to face
J	Bearing category	J : Japanese series T : Taiwanese series

Notes : 1. Fixed side sizes are referred to bearing nominal dimensions.
 2. GWFF model is applied TAC series angular 60 degrees contact bearings.

Support Unit Categories



Differential points between GMT Standard & Economic category :

Standard type $\left\{ \begin{array}{l} \text{Fixed side : Applied angular contact bearings to perform pre-loaded} \\ \text{for three different usages - light preloaded, medium preloaded,} \\ \text{heavy preloaded.} \\ \text{Support side : Applied deep-groove bearings.} \end{array} \right.$

Economic type : Applied deep-groove bearings to rigid assembly and universal assembly types.

Heavy loading : Applied TAC series angular 60 degree contact bearing to perform heavy pre-loaded. Options of DF or DFD combination per application.

Preload selection and applications :

Preload	Machine Requirements	Application Examples
Light (L)	Equipments with small vibration and small thrust, load in one fixed direction. High accuracy is not required. Reduction of frictional force.	Laser welder, small CNCmill machine, cutter, welder, automatic tool changer, packing machine, material supply equipment.
Medium (M)	Equipments with load on a post. Equipments with a torque acting on it. Equipments working in one direction. Equipments with low load. Equipments with high accuracy.	Automated feeder, linear feeder, automated painting machine, precision slide table, Z-axis control on machines, PC board punch machine. Industrial robot, EDM machine, NC lathe.
Hard(H)	High rigidity, high vibration, high thrust equipments. High load, high torque equipments.	Machining center spindle, NC lathe, Z-axis spindle of the machinery, milling machine, grinding wheel feeding of grinding machine.

Pre-Loaded Description :

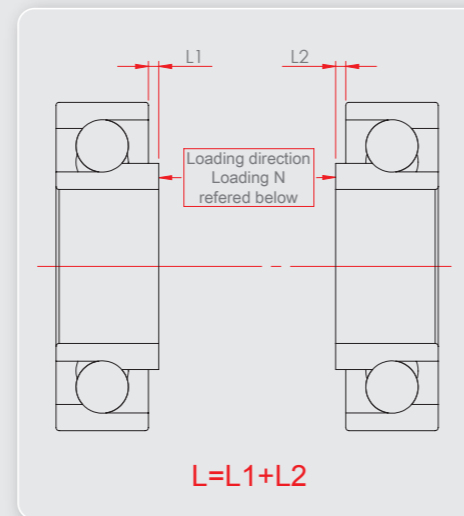
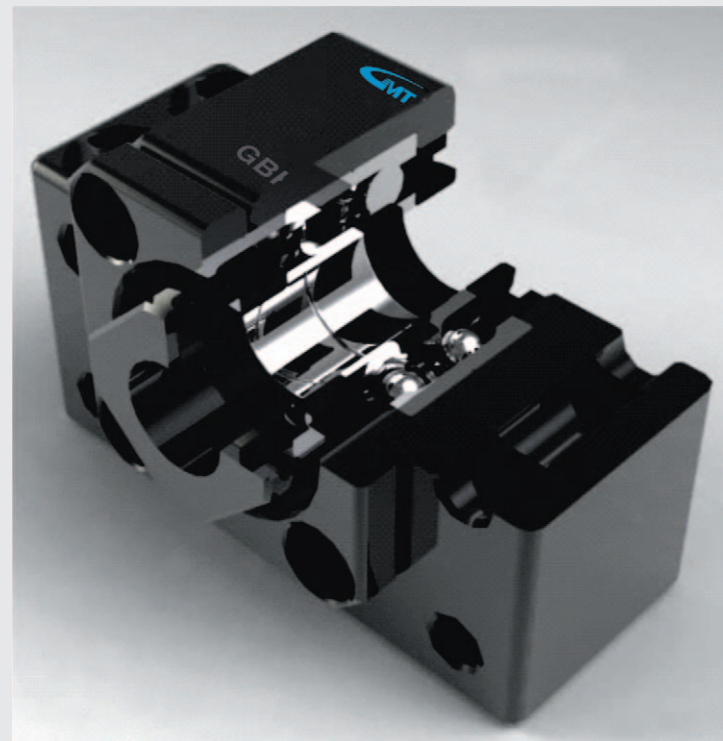
Purpose of Preloaded :

1. Increase the rotational accuracy of axle
2. Increase the rigidity of axle
3. Reduce unwanted clearance
4. Reduce vibration and noise while bearing stops.

What is bearing preload?

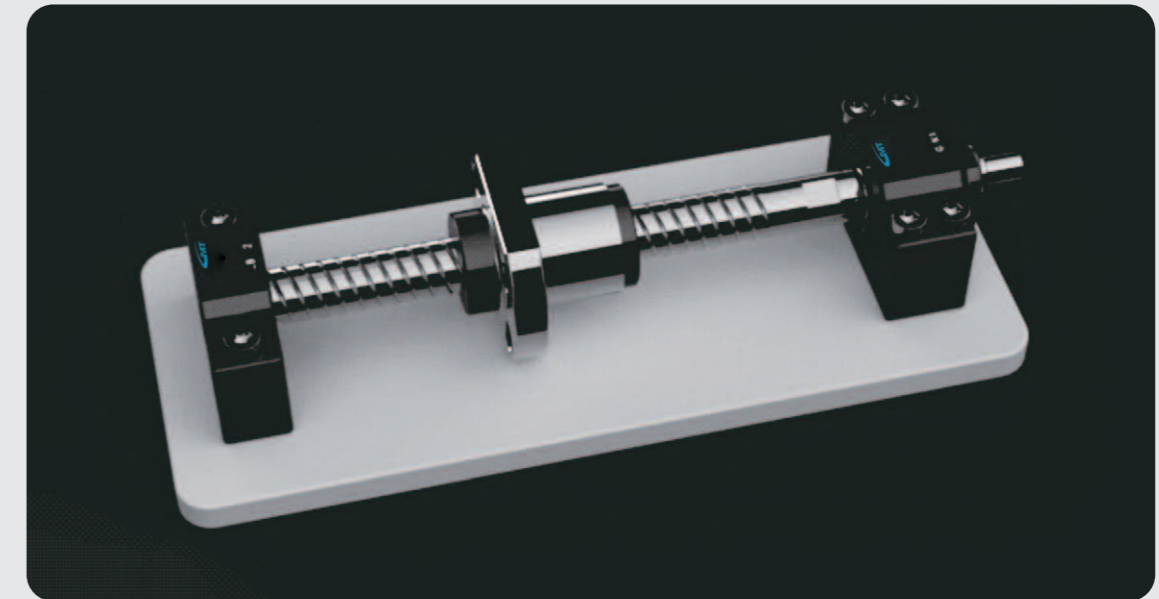
The preload describes the process wherein a permanent thrust load is applied to the bearing, so that the bearing is secure in the groove and has no axial clearance.

Apply normal force (N). Measure value of L of a pair of bearings. $L=L1+L2$. Press these pair of bearings on the covers to apply preload and bring these bearings together.



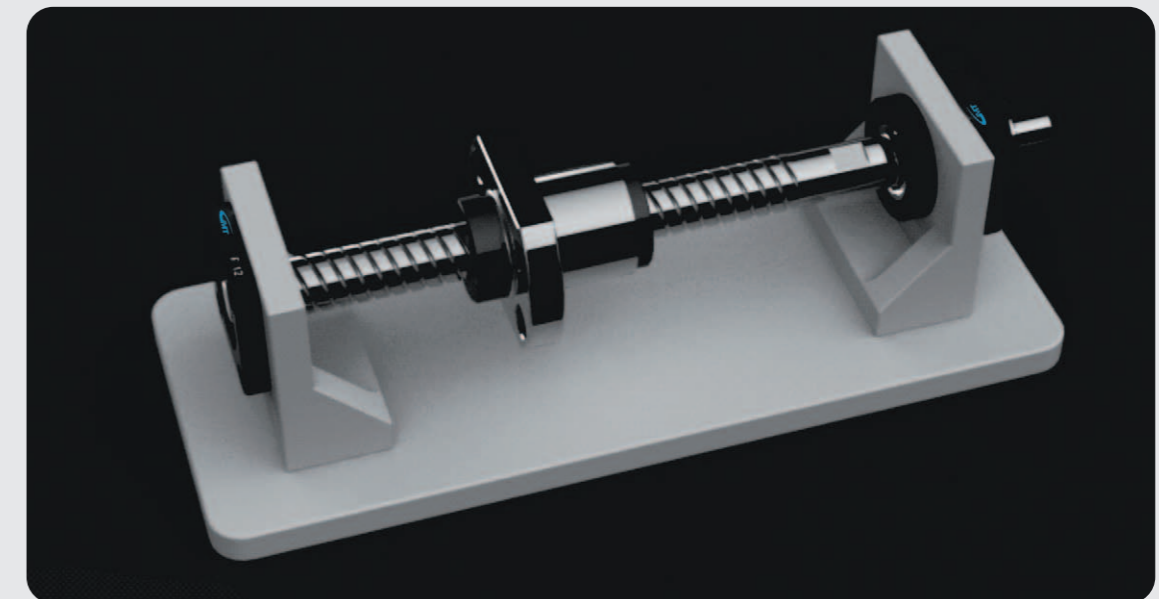
Assembly Models :

Rectangle Design



- ◆ Assembly features : The rectangle design is fitted to plane structure which is available for lower assembly required high rigidity applications.

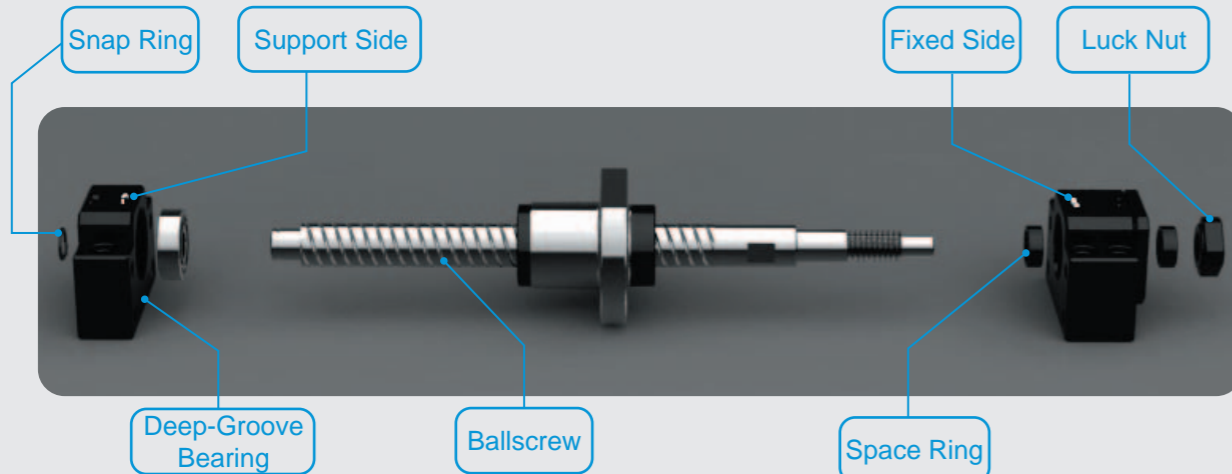
Flange Design



- ◆ Assembly features : The round design is fitted to suspension and spindle structure which is able to be assembled freely according to the equipment height.

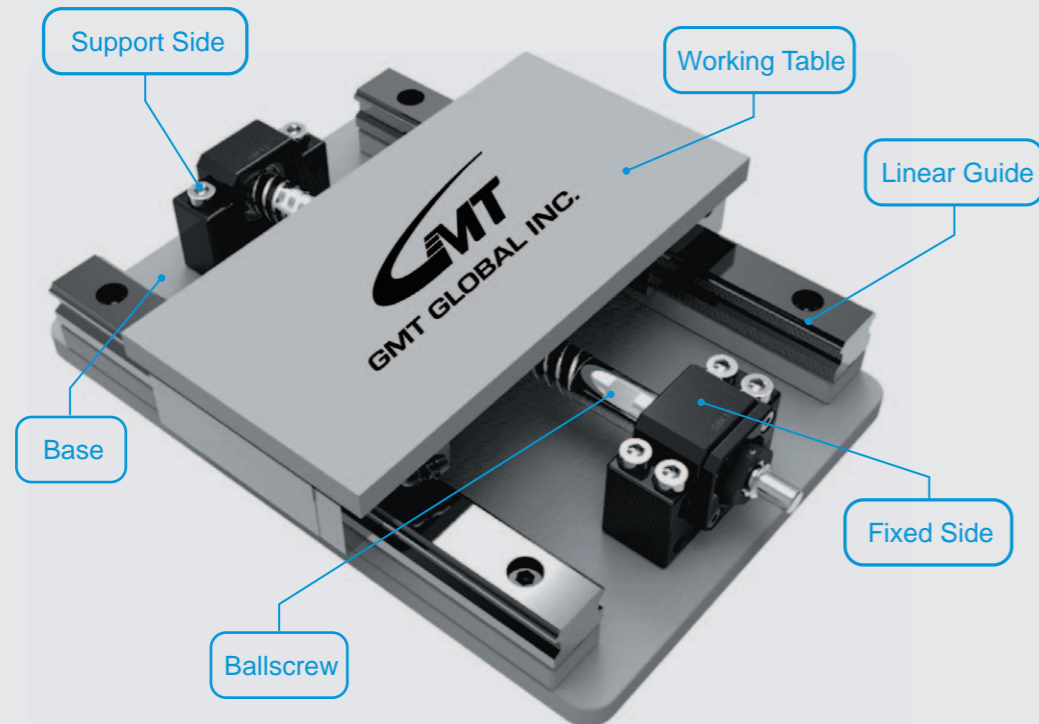
Assemble The Support Unit to Ballscrew

- (1) No disassembly to the support unit fixed side.
- (2) Install ballscrew to the fixed side with care not to scratch the external lip of the seal.
- (3) Assembly sequence : Install the first space ring to the ballscrew → Install ballscrew to the Fixed Side → Install the second space ring to the ballscrew → Install the Luck nut (tighten after installation) → Install the support side and deep-groove-bearings to the ballscrew → Buckle the snap ring.

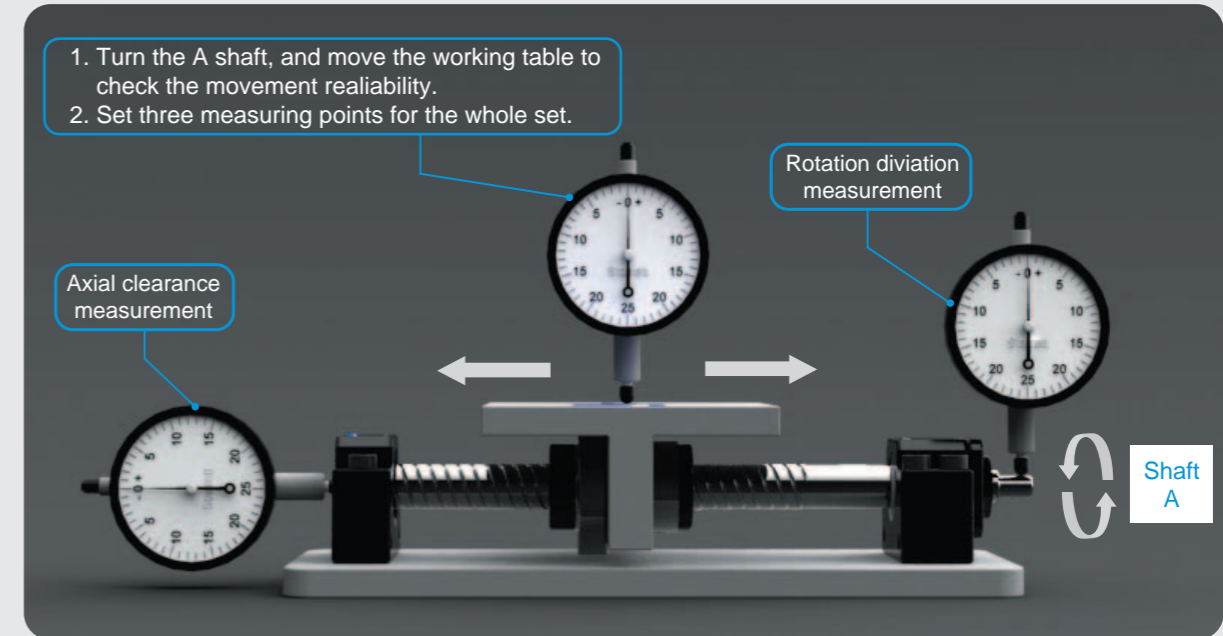


Assemble The Working Table and Base

- Combine ballscrew with the working table → Combine the fixed side with the base → Combine ballscrew with the fixed side → Combine support side and ballscrew → Combine the support side and the base.

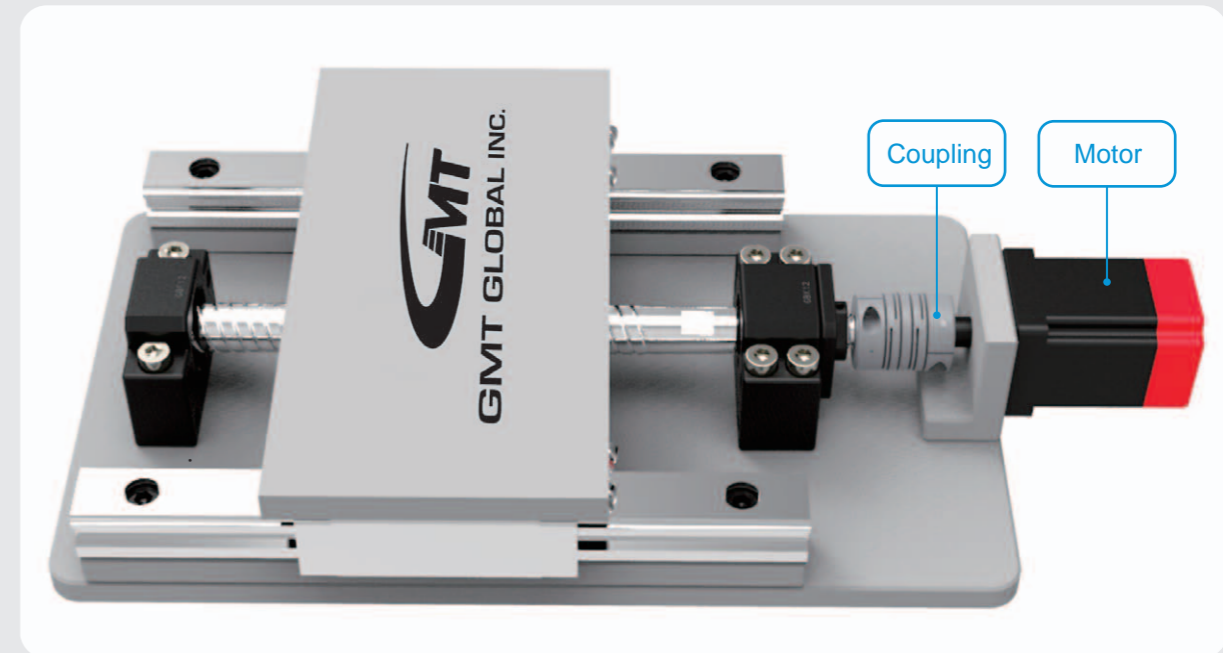


Calibration and Adjustment

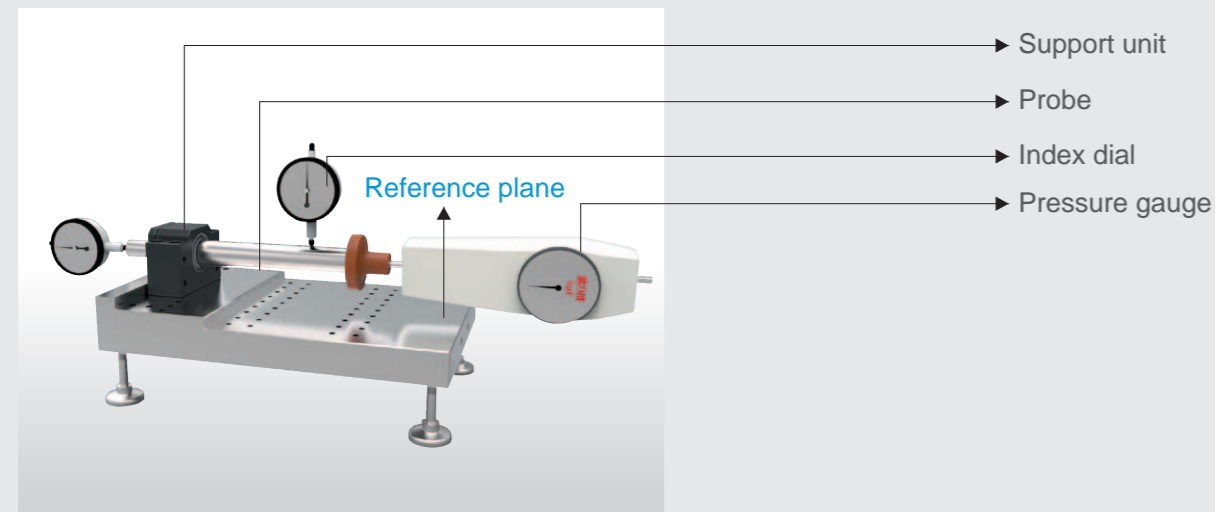


Assembly with motor

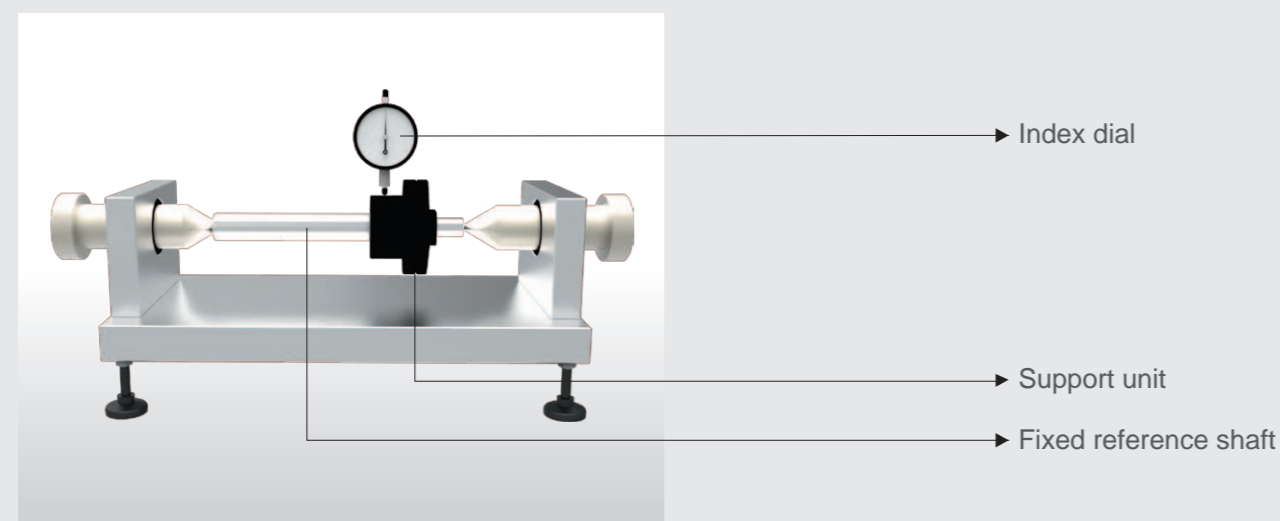
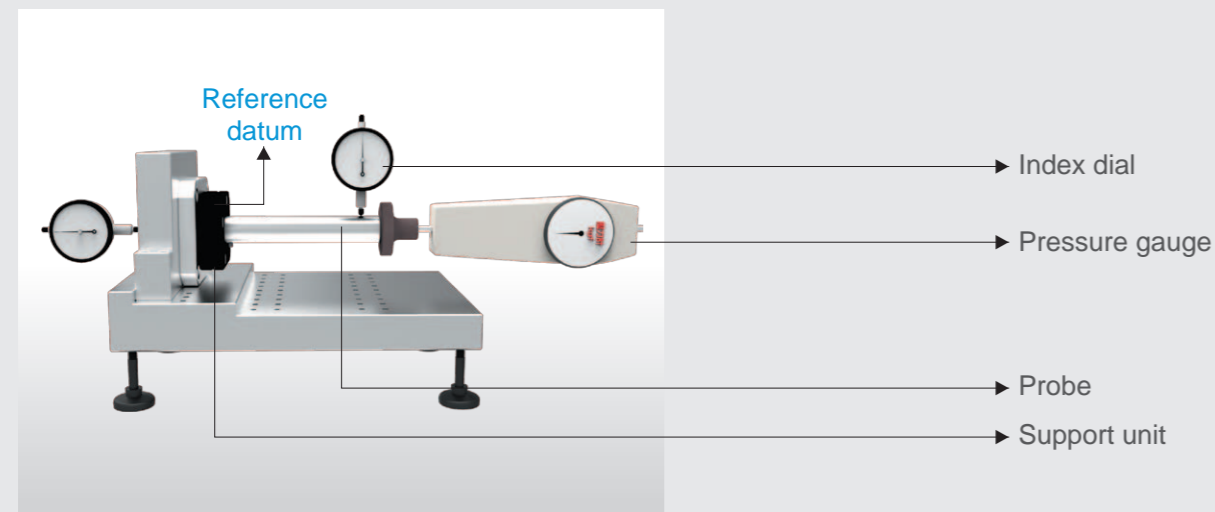
1. Combine the base with the motor bracket.
2. Install the coupling to the motor shaft with the bracket, and calibrate the assembly accuracy.
3. Make trial turning of the motor after installation.



GMT Support Unit Inspection - Rectangle & Protruding Design



GMT Support Unit Inspection - Round Design





GAK : Fixed Side <small>Standard P.14-P.15 Economic P.22-P.23</small>		GBK : Fixed Side <small>Standard P.16-P.17 Economic P.24-P.25</small>	
GAK - B Black Dyed	GAK - N Ni-Plating	GBK - B Black Dyed	GBK - N Ni-Plating

GEK : Fixed Side <small>Standard P.18-P.19 Economic P.26-P.27</small>		GFK : Fixed Side <small>Standard P.20-P.21 Economic P.28-P.29</small>	
GEK - B Black Dyed	GEK - N Ni-Plating	GFK - B Black Dyed	GFK - N Ni-Plating

GAF : Support Side <small>Standard P.30-P.31</small>		GBF : Support Side <small>Standard P.32-P.33</small>	
GAF - B Black Dyed	GAF - N Ni-Plating	GBF - B Black Dyed	GBF - N Ni-Plating

GEF : Support Side <small>Standard P.34-P.35</small>		GFF : Support Side <small>Standard P.36-P.37</small>	
GEF - B Black Dyed	GEF - N Ni-Plating	GFF - B Black Dyed	GFF - N Ni-Plating

GWFF : Fixed Side Heavy Loadingt P.38~P.39	
GWFF - B - DF Black Dyed	GWFF - N - DF Ni-Plating
	

GSW : Fixed Side Standard P.40~P.41		GSWE : Fixed Side Standard P.42~P.43	
GSW - B Black Dyed	GSW - N Ni-Plating	GSWE - B Black Dyed	GSWE - N Ni-Plating
			

GRW : Fixed Side Standard P.44~P.45		GRWE : Fixed Side Standard P.46~P.47	
GRW - B Black Dyed	GRW - N Ni-Plating	GRWE - B Black Dyed	GRWE - N Ni-Plating
			

GUN : Support Side Standard P.48~P.49		GTN : Support Side Standard P.50~P.51	
GUN - B Black Dyed	GUN - N Ni-Plating	GTN - B Black Dyed	GTN - N Ni-Plating
			

GUR : Support Side Standard P.52~P.53		GTR : Support Side Standard P.54~P.55	
GUR - B Black Dyed	GUR - N Ni-Plating	GTR - B Black Dyed	GTR - N Ni-Plating
			

GRLN : Lock Nut/Light Loading P.56		GCLN : Lock Nut/Heavy Loading P.57		GSR : Space Ring P.57	
GRLN - B Black Dyed	GRLN - N Ni-Plating	GCLN - B Black Dyed	GCLN - N Ni-Plating	GSR - B Black Dyed	GSR - N Ni-Plating
					

Selection Notes (Refer to Page 2, 3, 4)

- [Model] : Pick up the model according to assembly method.
- Assembly : 1.Plane mounting : GAK \ GBK \ GEK \ GAF \ GBF \ GEF \ GSW
GSWE \ GUN \ GTN.
- 2.Suspension and spindle mount : GFK \ GRW \ GRWE \ GFF
GUR \ GTR ◦

[Size] : Decide the size according to the ballscrew shaft O.D., and the center height.

[Grade] : Standard and economic types for options.

[Pre-loaded] : Decide pre-loaded of the bearing per needs.

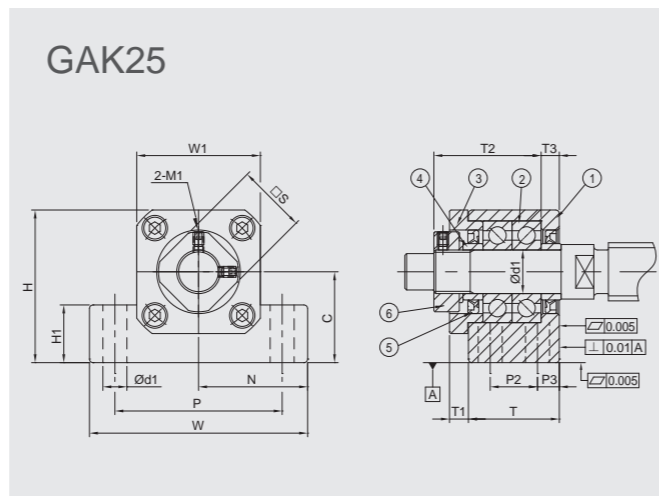
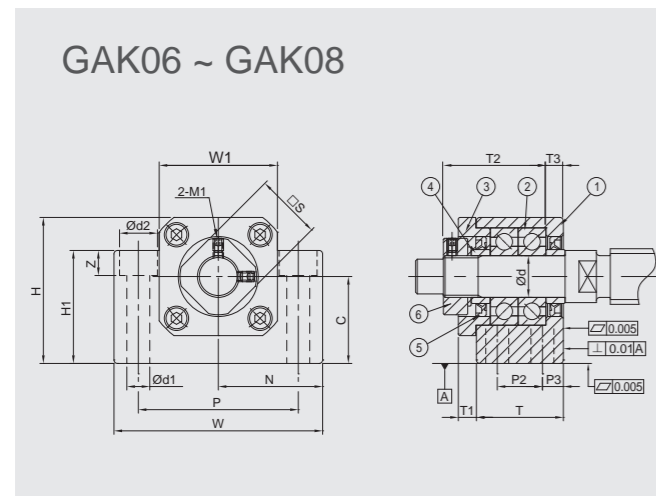
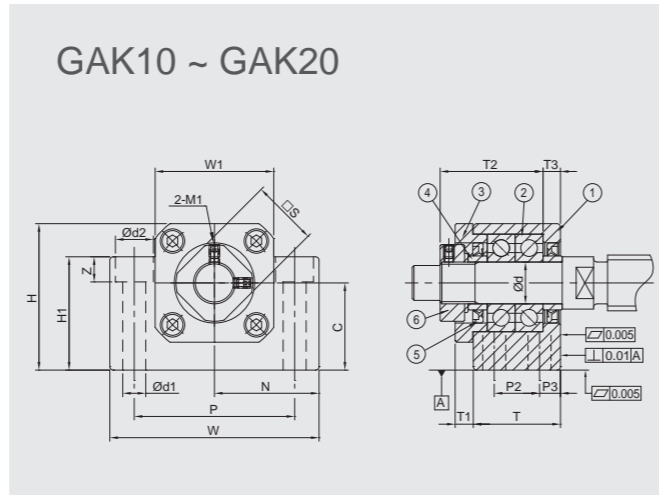
[Surface Finish] : Black dyed - Regular environment use, low humidity.
Nickel plating - Clean room use.

[Bearing category] : Available Japanese series and Taiwanese series.

GAK

GAK

Model No.	Parts no. ① ③ ④ ⑥	
GAK □ □ - S □ B	Material	Surface Finish
GAK □ □ - S □ N	S50C	Black Dyed Ni-Plating



Specification

Standard Type			Dimensions														
Light pre-loaded	Medium pre-loaded	Hard pre-loaded	Ød	T	T1	T2	T3	W	W1	H	H1	N±0.02	C	P	P2	P3	Ød1
GAK06-SL □	GAK06-SM □	GAK06-SH □	6	20	5.5	22	3.5	42	18	25	20	21	13 ^{0.02}	30	-	-	5.5
GAK08-SL □	GAK08-SM □	GAK08-SH □	8	23	7	26	4	52	25	32	26	26	17 ^{0.02}	38	-	-	6
GAK10-SL □	GAK10-SM □	GAK10-SH □	10	24	6	29.5	6	70	36	43	35	35	25 ^{0.02}	52	-	-	8.7
GAK12-SL □	GAK12-SM □	GAK12-SH □	12	24	6	29.5	6	70	36	43	35	35	25 ^{0.02}	52	-	-	8.7
GAK15-SL □	GAK15-SM □	GAK15-SH □	15	25	6	32	5	80	40	50	40	40	30 ^{0.02}	60	-	-	10.7
GAK20-SL □	GAK20-SM □	GAK20-SH □	20	42	10	50	10	95	56	58	45	47.5	30 ^{0.02}	75	22	10	10.7
GAK25-SL □	GAK25-SM □	GAK25-SH □	25	48	13	60	14	105	66	68	25	52.5	35 ^{0.02}	85	30	9	11

Ordering Example: GAK Model No. - 10 Shaft Dia. - SL Grade/Pre-loaded - N Surface finish - J Bearing category

GAK

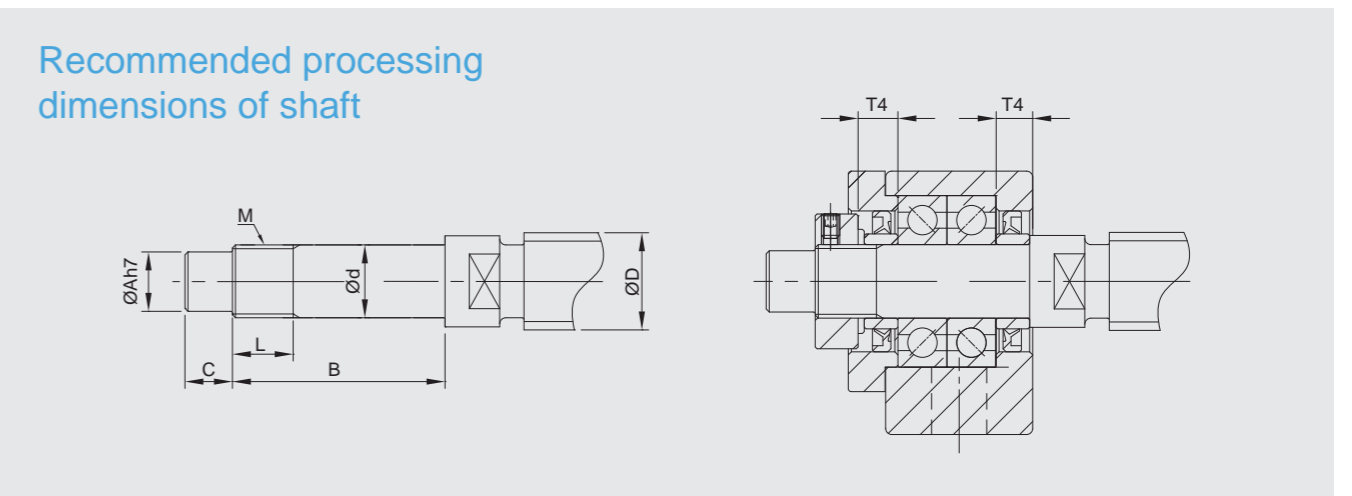
GAK



Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (<Ø8 one seal only)	NBR	2
⑥	Lucknut	S50C	1

- ① ② ③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.



				Recommended processing dimensions of shaft							
Ød2	Z	M1	□S	Ball Screw Shaft O. D.	Shaft End Diameter	Processing sizes of shaft			Nominal thread		Space ring length
				ØD	Ød	ØA	B	C	M	L	T4
9.5	7	M3	12	8 / 10	6 ^{-0.005/-0.012}	5	27	8	M6*P0.75	6	5
11	12	M3	14	10 / 12	8 ^{-0.005/-0.012}	6.5	31.5	7.5	M8*P1.0	7	5.5
14	11	M3	16	12 / 14 / 15	10 ^{-0.005/-0.012}	8	36	15	M10*P1.0	11	5.5
14	11	M3	19	14 / 15 / 16	12 ^{-0.005/-0.012}	10	36	15	M12*P1.0	11	5.5
17	15	M3	22	18 / 20	15 ^{-0.005/-0.014}	12	47	20	M15*P1.0	13	6
17	15	M4	30	25 / 28 / 30	20 ^{-0.005/-0.014}	17	62	25	M20*P1.0	17	11
-	-	M5	35	28 / 30 / 32	25 ^{-0.005/-0.014}	22	75	18	M25*P1.5	20	15

• Supported side spec refer to P.30~P.31

GBK

GBK

GBK

Model No.	Parts no. ① ③ ④ ⑥	
	Material	Surface Finish
GBK □ □ - S □ B	S50C	Black Dyed
GBK □ □ - S □ N		Ni-Plating



GBK-B

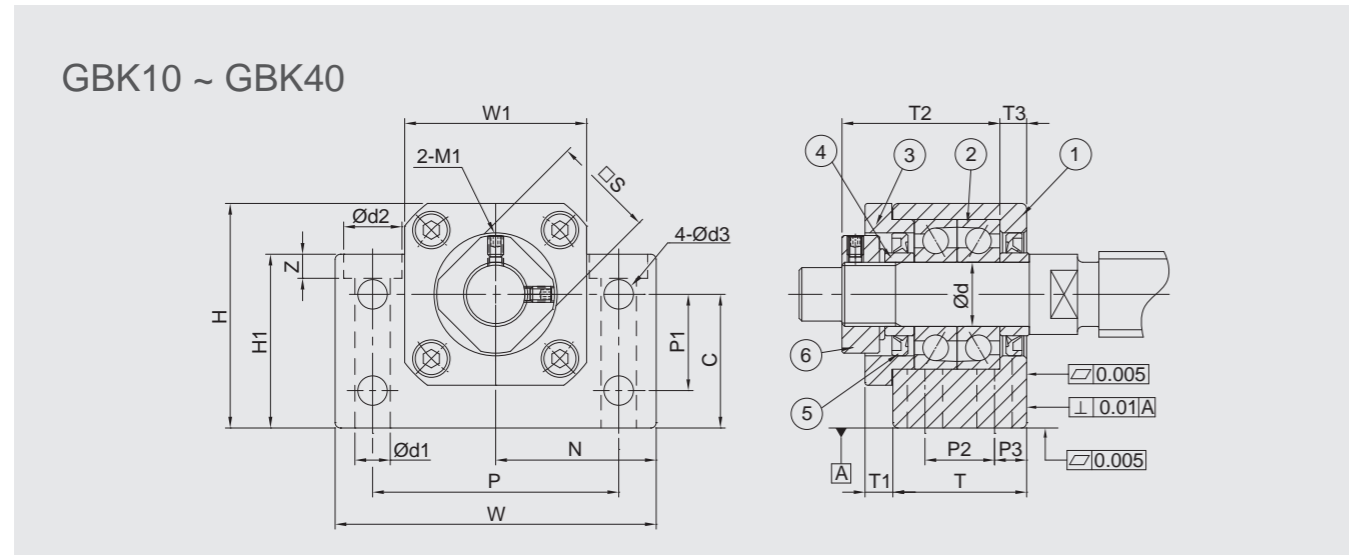


GBK-N

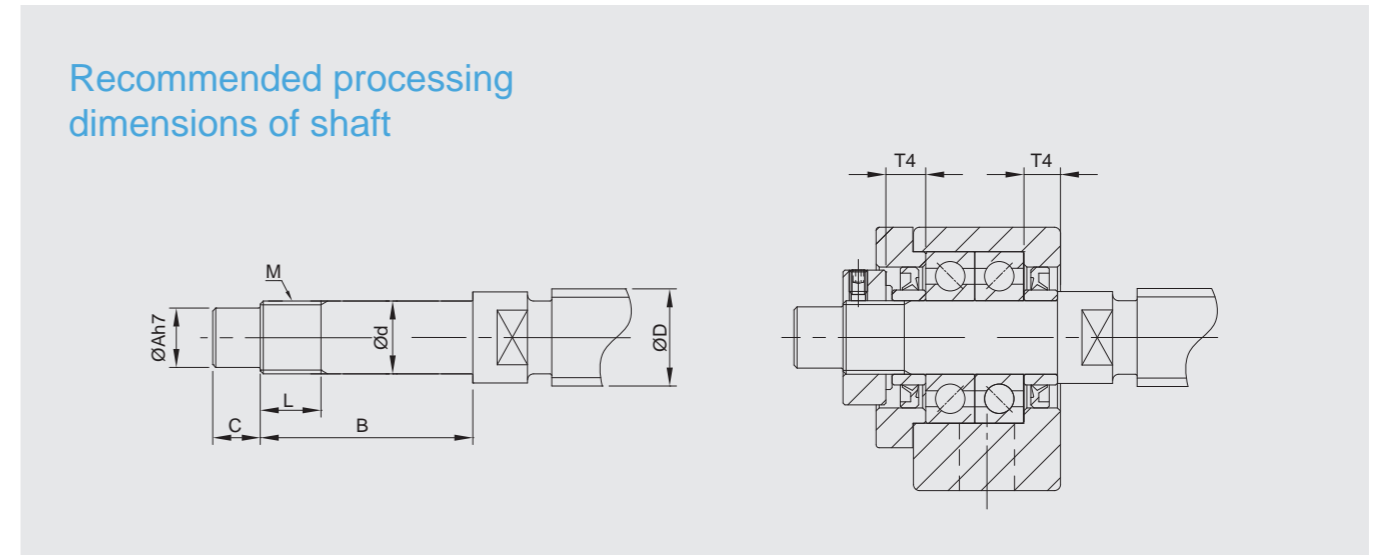
Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal ($\varnothing 8$ one seal only)	NBR	2
⑥	Lucknut	S50C	1

- ① ② ③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.



GBK10 ~ GBK40



Recommended processing dimensions of shaft

Specification

Standard Type			Dimensions														
Light pre-loaded	Medium pre-loaded	Hard pre-loaded	Ød	T	T1	T2	T3	W	W1	H	H1	N±0.02	C	P	P1	P2	P3
GBK10-SL □	GBK10-SM □	GBK10-SH □	10	25	5	29.5	5	60	34	39	32.5	30	22 ^{0.002}	46	15	13	6
GBK12-SL □	GBK12-SM □	GBK12-SH □	12	25	5	29.5	5	60	34	42	32.5	30	25 ^{0.002}	46	18	13	6
GBK15-SL □	GBK15-SM □	GBK15-SH □	15	27	6	32	6	70	38	47	38	35	28 ^{0.002}	54	18	15	6
GBK17-SL □	GBK17-SM □	GBK17-SH □	17	35	9	44	7	86	48	63	55	43	39 ^{0.002}	68	28	19	8
GBK20-SL □	GBK20-SM □	GBK20-SH □	20	35	8	43	8	88	50	59	50	44	34 ^{0.002}	70	22	19	8
GBK25-SL □	GBK25-SM □	GBK25-SH □	25	42	12	54	9	106	62	79	70	53	48 ^{0.002}	85	33	22	10
GBK30-SL □	GBK30-SM □	GBK30-SH □	30	45	14	61	9	128	74	88	78	64	51 ^{0.002}	102	33	23	11
GBK35-SL □	GBK35-SM □	GBK35-SH □	35	50	14	67	12	140	86	95	79	70	52 ^{0.002}	114	35	26	12
GBK40-SL □	GBK40-SM □	GBK40-SH □	40	61	18	76	15	160	98	109	90	80	60 ^{0.002}	130	37	33	14

Ordering Example	GBK	10	SL	N	J
	Model No.	Shaft Dia.	Grade/Pre-loaded	Surface finish	Bearing category

Unit : mm

						Recommended processing dimensions of shaft							
						Ball Screw Shaft O. D.		Shaft End Diameter		Processing sizes of shaft		Nominal thread	
Ød1	Ød2	Z	Ød3	M1	□S	ØD	Ød	ØA	B	C	M	L	T4
6.3	10.5	6.5	5.5	M3	16	12 / 14 / 15	10 ^{-0.005/-0.012}	8	36	15	M10*P1.0	16	5.5
6.3	10.5	1.5	5.5	M3	19	14 / 15 / 16	12 ^{-0.005/-0.012}	10	36	15	M12*P1.0	14	5.5
6.3	10.5	6.5	5.5	M3	22	18 / 20	15 ^{-0.005/-0.014}	12	40	20	M15*P1.0	12	6
8.7	14	8.6	6.6	M4	24	20 / 25	17 ^{-0.005/-0.014}	15	53	23	M17*P1.0	17	7
8.7	14	8.5	6.6	M4	30	25 / 28	20 ^{-0.005/-0.014}	17	53	25	M20*P1.0	15	8
10.7	17.5	10.8	9	M5	35	32 / 36	25 ^{-0.005/-0.014}	20	65	30	M25*P1.5	18	9
13.7	20	13	11	M6	40	36 / 40	30 ^{-0.005/-0.015}	25	72	38	M30*P1.5	25	9
13.7	20	13	11	M8	50	45	35 ^{-0.005/-0.015}	30	81	45	M35*P1.5	28	12
17.7	26	17.5	14	M8	50	50	40 ^{-0.005/-0.015}	35	93	50	M40*P1.5	35	15

• Supported side spec refer to P.32~P.33

Model No.	Parts no. ①③④⑥	
	Material	Surface Finish
GEK □□ - S □ B	S50C	Black Dyed
GEK □□ - S □ N		Ni-Plating



GEK-B

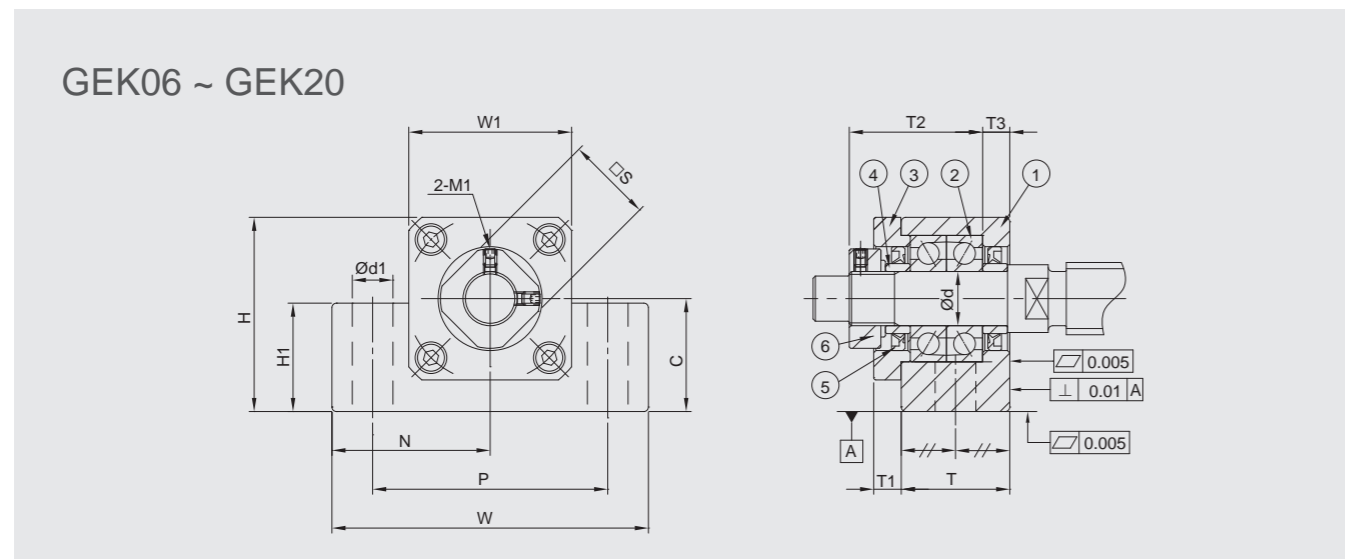


GEK-N

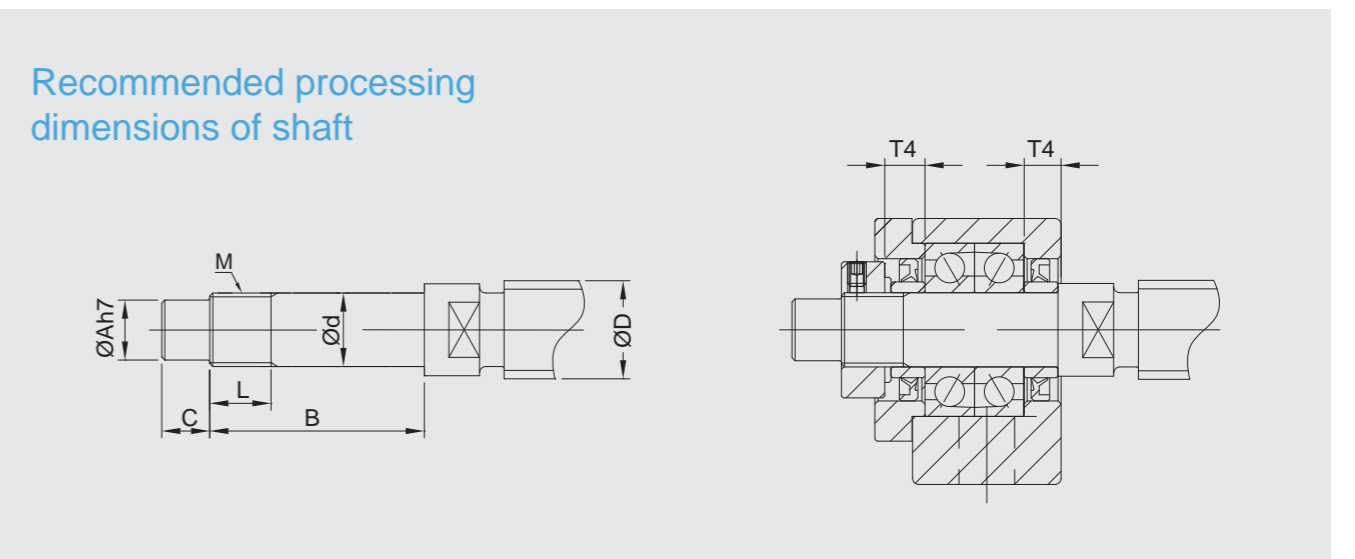
Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (<Ø8 one seal only)	NBR	2
⑥	Lucknut	S50C	1

- ①②③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.



GEK06 ~ GEK20



Recommended processing dimensions of shaft

Specification

Standard Type			Dimensions											
Light pre-loaded	Medium pre-loaded	Hard pre-loaded	Ød	T	T1	T2	T3	W	W1	H	H1	N±0.02	C	P
GEK06-SL □	GEK06-SM □	GEK06-SH □	6	20	5.5	22	3.5	42	20	25	12	21	13 ⁰ _{-0.02}	30
GEK08-SL □	GEK08-SM □	GEK08-SH □	8	23	7	26	4	52	27	32	16	26	17 ⁰ _{-0.02}	38
GEK10-SL □	GEK10-SM □	GEK10-SH □	10	24	6	29.5	6	70	36	43	24	35	25 ⁰ _{-0.02}	52
GEK12-SL □	GEK12-SM □	GEK12-SH □	12	24	6	29.5	6	70	36	43	24	35	25 ⁰ _{-0.02}	52
GEK15-SL □	GEK15-SM □	GEK15-SH □	15	25	6	32	5	80	40	50	25	40	30 ⁰ _{-0.02}	60
GEK20-SL □	GEK20-SM □	GEK20-SH □	20	42	10	50	10	95	56	58	25	47.5	30 ⁰ _{-0.02}	75

Unit : mm

			Recommended processing dimensions of shaft							
Ød1	M1	□S	Ball Screw Shaft O. D.	Shaft End Diameter	Processing sizes of shaft			Nominal thread		Space ring length
			ØD	Ød	ØA	B	C	M	L	T4
5.2	M3	12	5	6 ^{-0.005} _{-0.012}	4	28	8	M6*P0.75	8	5
6.3	M3	14	10 / 12	8 ^{-0.005} _{-0.012}	6	32	9	M8*P1.0	10	5.5
9	M3	16	12 / 14 / 15	10 ^{-0.005} _{-0.012}	8	36	15	M10*P1.0	11	5.5
9	M3	19	14 / 15 / 16	12 ^{-0.005} _{-0.012}	10	36	15	M12*P1.0	11	5.5
11	M3	22	18 / 20	15 ^{-0.005} _{-0.014}	12	47	20	M15*P1.0	13	6
11	M4	30	25 / 28 / 30	20 ^{-0.005} _{-0.014}	17	62	25	M20*P1.0	17	11

• Supported side spec refer to P.34~P.35

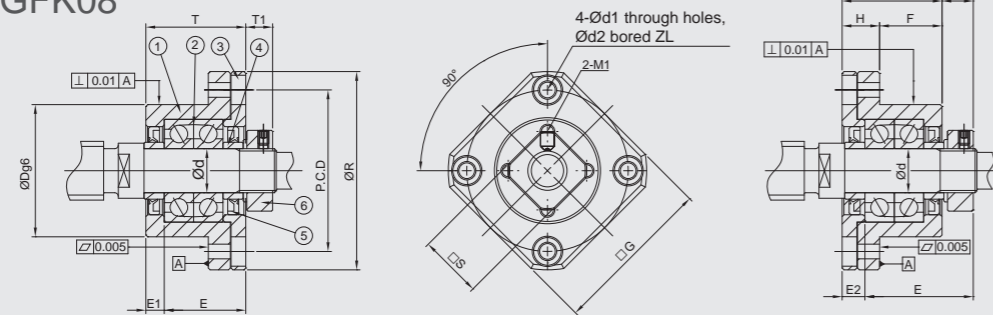
Ordering Example	GEK	10	SL	N	J
	Model No.	Shaft Dia.	Grade/Pre-loaded	Surface finish	Bearing category

Model No.	Parts no. ① ③ ④ ⑥	
	Material	Surface Finish
GFK □□ - S □ B	S50C	Black Dyed
GFK □□ - S □ N		Ni-Plating

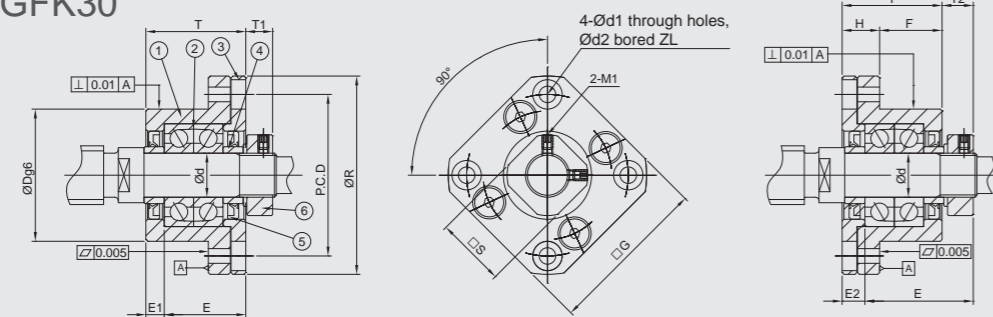
GFK-B



GFK06 ~ GFK08



GFK10 ~ GFK30



Specification

Standard Type			Dimensions												
Light pre-loaded	Medium pre-loaded	Hard pre-loaded	Ød	ØR	□G	T	H	F	ØDg6	E	Installation (A)		Installation (B)		PCD
											T1	E1	T2	E2	
GFK06-SL □	GFK06-SM □	GFK06-SH □	6	36	28	20	7	13	22 ^{-0.007} _{-0.020}	22	5.5	3.5	6.5	4.5	28
GFK08-SL □	GFK08-SM □	GFK08-SH □	8	43	35	23	9	14	28 ^{-0.007} _{-0.020}	26	7	4	8	5	35
GFK10-SL □	GFK10-SM □	GFK10-SH □	10	52	42	27	10	17	34 ^{-0.008} _{-0.025}	29.5	7.3	5	8.5	6	42
GFK12-SL □	GFK12-SM □	GFK12-SH □	12	54	44	27	10	17	36 ^{-0.008} _{-0.025}	29.5	7.3	5	8.5	6	44
GFK15-SL □	GFK15-SM □	GFK15-SH □	15	63	52	32	15	17	40 ^{-0.008} _{-0.025}	36	9.8	6	12	8	50
GFK17-SL □	GFK17-SM □	GFK17-SH □	17	77	61	45	22	23	50 ^{-0.008} _{-0.025}	47	11	9	14	12	62
GFK20-SL □	GFK20-SM □	GFK20-SH □	20	85	68	52	22	30	57 ^{-0.010} _{-0.028}	50	7.8	10	12	14	70
GFK25-SL □	GFK25-SM □	GFK25-SH □	25	98	79	57	27	30	63 ^{-0.010} _{-0.028}	60	12.8	10	20	17	80
GFK30-SL □	GFK30-SM □	GFK30-SH □	30	117	93	62	30	32	75 ^{-0.010} _{-0.028}	61	10.8	12	17	18	95

Ordering Example	GFK	10	SL	N	J
	Model No.	Shaft Dia.	Grade/Pre-loaded	Surface finish	Bearing category

GFK-N

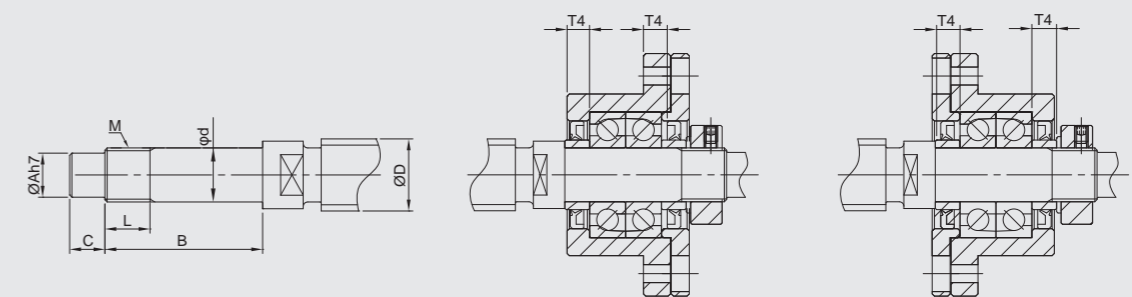


Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (<Ø8 one seal only)	NBR	2
⑥	Lucknut	S50C	1

- ① ② ③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.

Recommended processing dimensions of shaft



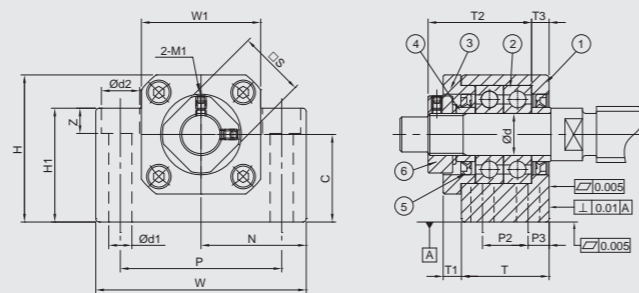
Unit : mm

					Recommended processing dimensions of shaft							
					Ball Screw Shaft O. D.		Shaft End Diameter		Processing sizes of shaft		Nominal thread	
Ød1	Ød2	Z	M1	□S	ØD	Ød	ØA	B	C	M	L	T4
3.4	6	3.3	M3	12	8	6 ^{-0.005} _{-0.012}	4	28	8	M6*P0.75	8	5
3.4	6	3.3	M3	14	10 / 12	8 ^{-0.005} _{-0.012}	6	32	9	M8*P1.0	10	5.5
4.5	8	4	M3	16	12 / 14 / 15	10 ^{-0.005} _{-0.012}	8	36	15	M10*P1.0	11	5.5
4.5	8	4	M3	19	14 / 15 / 16	12 ^{-0.005} _{-0.012}	10	36	15	M12*P1.0	11	5.5
5.5	9.5	6	M3	22	18 / 20	15 ^{-0.005} _{-0.014}	12	47	20	M15*P1.0	13	10
6.6	11	10	M4	24	20 / 25	17 ^{-0.005} _{-0.014}	15	53	23	M17*P1.0	17	7
6.5	11	10	M4	30	25 / 28 / 30	20 ^{-0.005} _{-0.014}	17	62	25	M20*P1.0	17	11
9	15	13	M5	35	30 / 32 / 36	25 ^{-0.005} _{-0.014}	20	76	30	M25*P1.5	20	15
11	17.5	15	M6	40	36 / 40	30 ^{-0.005} _{-0.014}	25	72	38	M30*P1.5	25	9

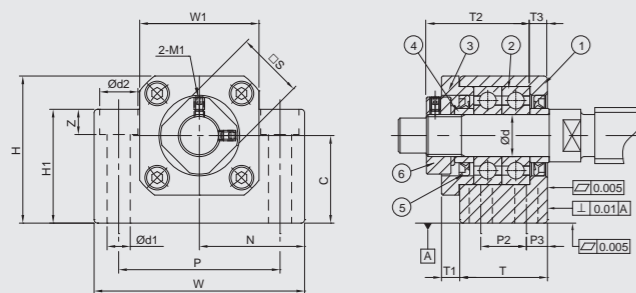
• Supported side spec refer to P.36~P.37

Model No.	Parts no. ① ③ ④ ⑥	
GAK □ □ - E □ B	Material	Surface Finish
GAK □ □ - E □ N	S50C	Black Dyed Ni-Plating

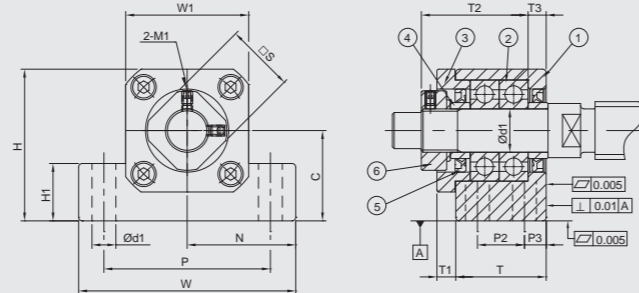
GAK10 ~ GAK15



GAK06 ~ GAK08



GAK20



Specification

Economic Type		Dimensions															
High Rigidity	Universal	Ød	T	T1	T2	T3	W	W1	H	H1	N±0.02	C	P	P2	P3	Ød1	Ød2
GAK06-ER □	GAK06-EG □	6	20	5.5	22	3.5	42	18	25	20	21	13 ⁰ _{-0.04}	30	-	-	5.5	9.5
GAK08-ER □	GAK08-EG □	8	23	7	26	4	52	25	32	26	26	17 ⁰ _{-0.04}	38	-	-	6	11
GAK10-ER □	GAK10-EG □	10	24	6	29.5	6	70	36	43	35	35	25 ⁰ _{-0.04}	52	-	-	8.7	14
GAK12-ER □	GAK12-EG □	12	24	6	29.5	6	70	36	43	35	35	25 ⁰ _{-0.04}	52	-	-	8.7	14
GAK15-ER □	GAK15-EG □	15	25	6	32	5	80	40	50	40	40	30 ⁰ _{-0.04}	60	-	-	10.7	17
GAK20-ER □	GAK20-EG □	20	42	10	50	10	95	56	58	45	47.5	30 ⁰ _{-0.04}	75	22	10	10.7	17

Ordering Example	GAK	10	ER	N	J
	Model No.	Shaft Dia.	Grade	Surface finish	Bearing category

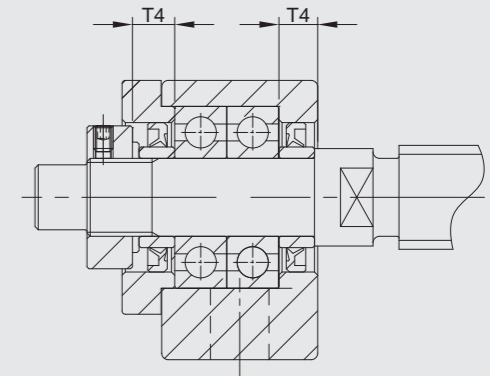
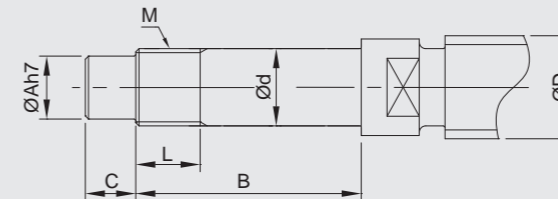


Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (<Ø8 one seal only)	NBR	2
⑥	Lucknut	S50C	1

- ① ② ③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.

Recommended processing dimensions of shaft



Unit : mm

			Recommended processing dimensions of shaft							
Z	M1	□S	Ball Screw Shaft O. D.	Shaft End Diameter	Processing sizes of shaft			Nominal thread		Space ring length
			ØD	Ød	ØA	B	C	M	L	T4
7	M3	12	8 / 10	6 ^{-0.005} _{-0.012}	5	27	8	M6*P0.75	6	5
12	M3	14	10 / 12	8 ^{-0.005} _{-0.012}	6.5	31.5	7.5	M8*P1.0	7	5.5
11	M3	16	12 / 14 / 15	10 ^{-0.005} _{-0.012}	8	36	15	M10*P1.0	11	5.5
11	M3	19	14 / 15 / 16	12 ^{-0.005} _{-0.012}	10	36	15	M12*P1.0	11	5.5
15	M3	22	18 / 20	15 ^{-0.005} _{-0.014}	12	47	20	M15*P1.0	13	6
15	M4	30	25 / 28 / 30	20 ^{-0.005} _{-0.014}	17	62	25	M20*P1.0	17	11

• Supported side spec refer to P.30~P.31

Model No.	Parts no. ①③④⑥	
	Material	Surface Finish
GBK □□ - E □ B	S50C	Black Dyed
GBK □□ - E □ N		Ni-Plating



GBK-B

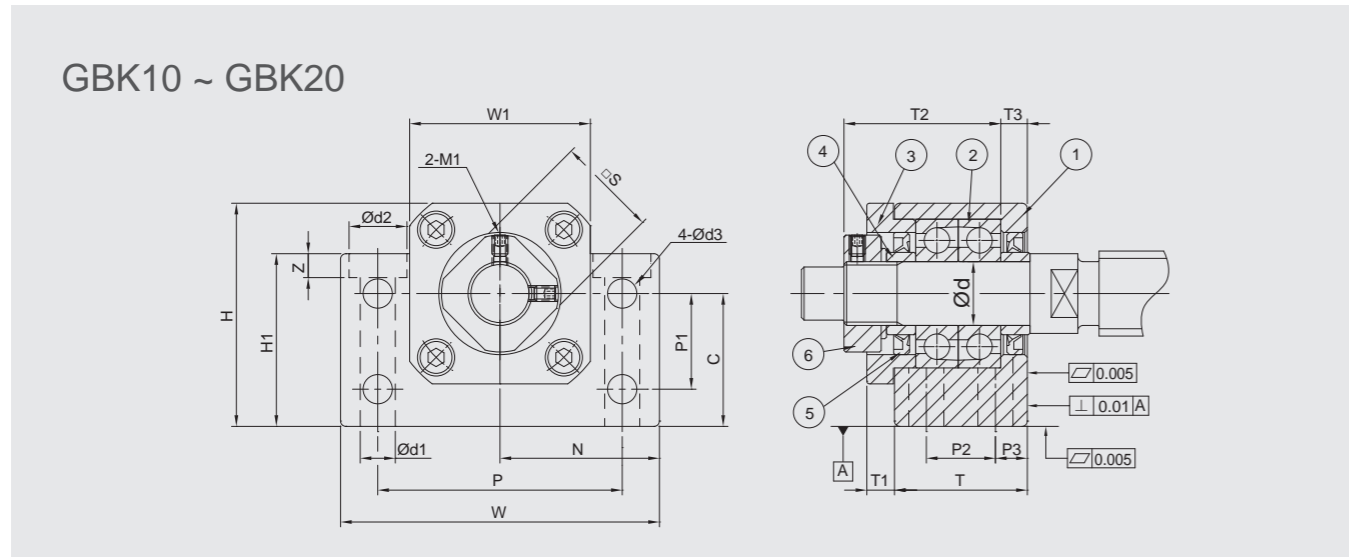


GBK-N

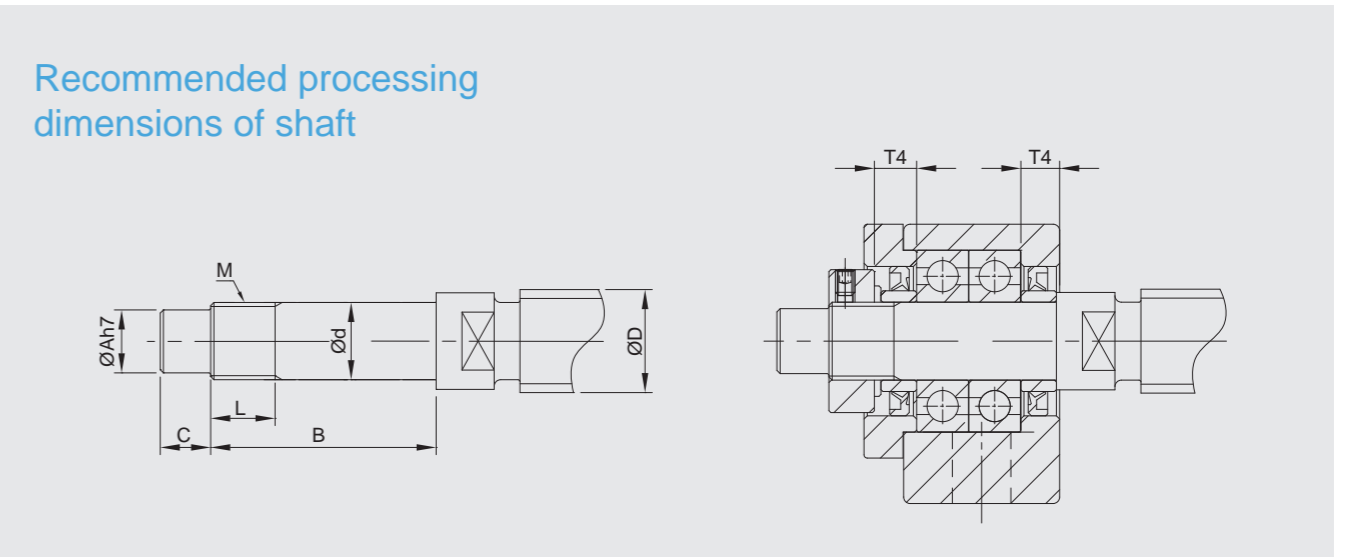
Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal ($\varnothing 8$ one seal only)	NBR	2
⑥	Lucknut	S50C	1

- ①②③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.



GBK10 ~ GBK20



Recommended processing dimensions of shaft

Specification

Economic Type		Dimensions															
High Rigidity	Universal	$\varnothing d$	T	T1	T2	T3	W	W1	H	H1	$N_{\pm 0.02}$	C	P	P1	P2	P3	$\varnothing d1$
GBK10-ER □	GBK10-EG □	10	25	5	29.5	5	60	34	39	32.5	30	$22_{-0.04}^0$	46	15	13	6	6.3
GBK12-ER □	GBK12-EG □	12	25	5	29.5	5	60	34	42	32.5	30	$25_{-0.04}^0$	46	18	13	6	6.3
GBK15-ER □	GBK15-EG □	15	27	6	32	6	70	38	47	38	35	$28_{-0.04}^0$	54	18	15	6	6.3
GBK17-ER □	GBK17-EG □	17	35	9	44	7	86	48	63	55	43	$39_{-0.04}^0$	68	28	19	8	8.7
GBK20-ER □	GBK20-EG □	20	35	8	43	8	88	50	59	50	44	$34_{-0.04}^0$	70	22	19	8	8.7

Unit : mm

						Recommended processing dimensions of shaft						
$\varnothing d2$	Z	$\varnothing d3$	M1	□ S	Ball Screw Shaft O. D.	Shaft End Diameter	Processing sizes of shaft			Nominal thread		Space ring length
$\varnothing d2$	Z	$\varnothing d3$	M1	□ S	$\varnothing D$	$\varnothing d$	$\varnothing A$	B	C	M	L	T4
10.5	6.5	5.5	M3	16	12 / 14 / 15	$10_{-0.005}^0$	8	36	15	M10*P1.0	16	5.5
10.5	1.5	5.5	M3	19	14 / 15 / 16	$12_{-0.005}^0$	10	36	15	M12*P1.0	14	5.5
10.5	6.5	5.5	M3	22	18 / 20	$15_{-0.005}^0$	12	40	20	M15*P1.0	12	6
14	8.6	6.6	M4	24	20 / 25	$17_{-0.014}^0$	15	53	23	M17*P1.0	17	7
14	8.5	6.6	M4	30	25 / 28	$20_{-0.005}^0$	17	53	25	M20*P1.0	15	8

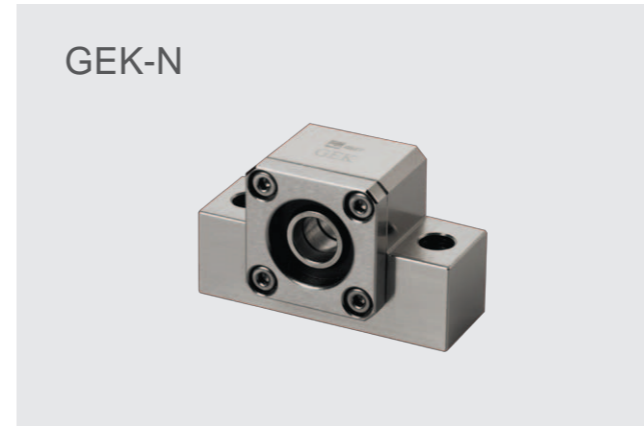
• Supported side spec refer to P.32~P.33

Ordering Example	GBK	10	ER	N	J
	Model No.	Shaft Dia.	Grade	Surface finish	Bearing category

Model No.	Parts no. ①③④⑥	
	Material	Surface Finish
GEK □□ - E □ B	S50C	Black Dyed
GEK □□ - E □ N		Ni-Plating



GEK-B

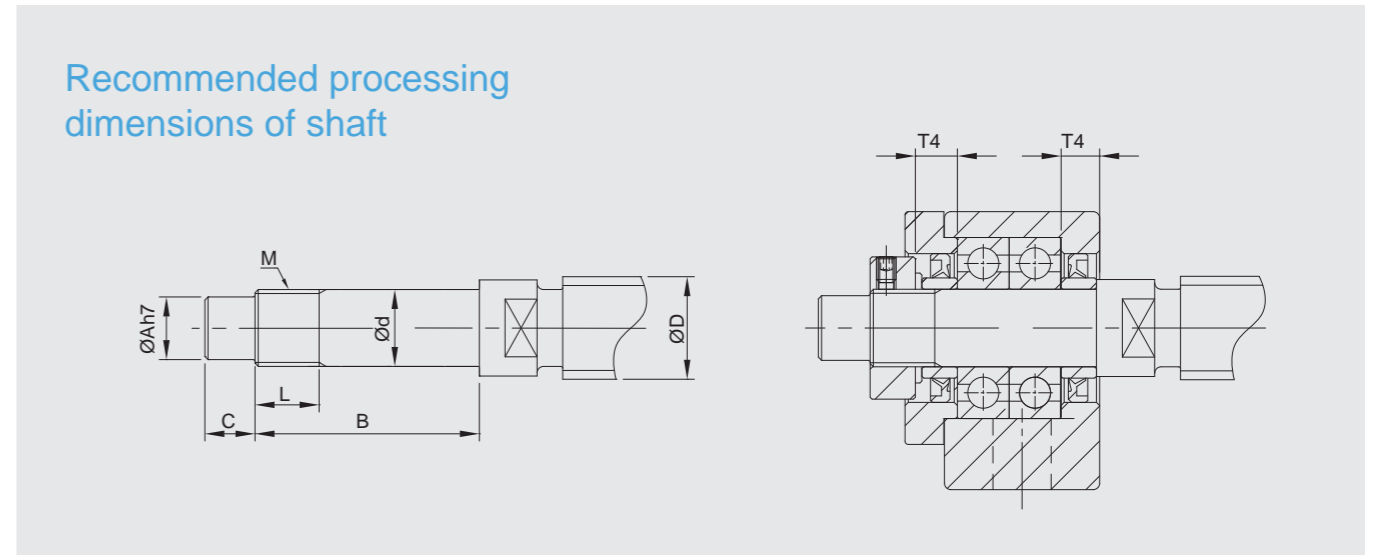
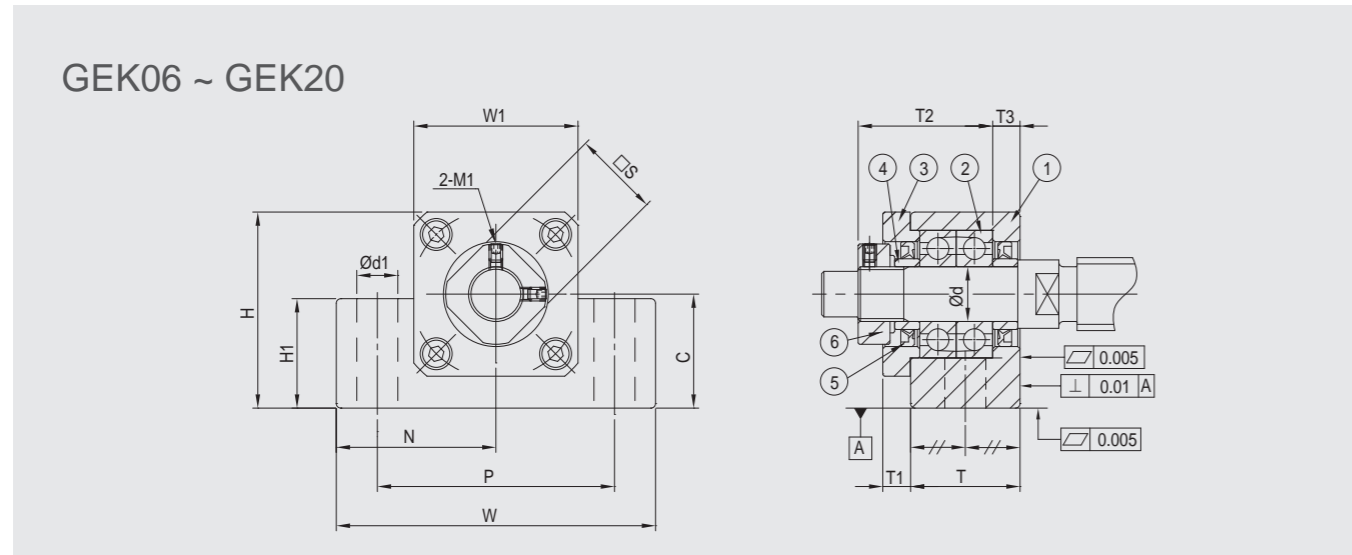


GEK-N

Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (\varnothing one seal only)	NBR	2
⑥	Lucknut	S50C	1

- ①②③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.



Specification

Economic Type		Dimensions												
High Rigidity	Universal	Ød	T	T1	T2	T3	W	W1	H	H1	N±0.02	C	P	Ød1
GEK06-ER □	GEK06-EG □	6	20	5.5	22	3.5	42	20	25	12	21	13 ⁰ _{-0.04}	30	5.2
GEK08-ER □	GEK08-EG □	8	23	7	26	4	52	27	32	16	26	17 ⁰ _{-0.04}	38	6.3
GEK10-ER □	GEK10-EG □	10	24	6	29.5	6	70	36	43	24	35	25 ⁰ _{-0.04}	52	9
GEK12-ER □	GEK12-EG □	12	24	6	29.5	6	70	36	43	24	35	25 ⁰ _{-0.04}	52	9
GEK15-ER □	GEK15-EG □	15	25	6	32	5	80	40	50	25	40	30 ⁰ _{-0.04}	60	11
GEK20-ER □	GEK20-EG □	20	42	10	50	10	95	56	58	25	47.5	30 ⁰ _{-0.04}	75	11

Unit : mm

		Recommended processing dimensions of shaft							
		Ball Screw Shaft O. D.	Shaft End Diameter	Processing sizes of shaft			Nominal thread		Space ring length
M	□S	ØD	Ød	ØA	B	C	M	L	T4
M3	12	8	6 ^{-0.005} _{-0.012}	4	28	8	M6*P0.75	8	5
M3	14	10 / 12	8 ^{-0.005} _{-0.012}	6	32	9	M8*P1.0	10	5.5
M3	16	12 / 14 / 15	10 ^{-0.005} _{-0.012}	8	36	15	M10*P1.0	11	5.5
M3	19	14 / 15 / 16	12 ^{-0.005} _{-0.012}	10	36	15	M12*P1.0	11	5.5
M3	22	18 / 20	15 ^{-0.005} _{-0.014}	12	47	20	M15*P1.0	13	6
M4	30	25 / 28 / 30	20 ^{-0.005} _{-0.014}	17	62	25	M20*P1.0	17	11

• Supported side spec refer to P.34~P.35

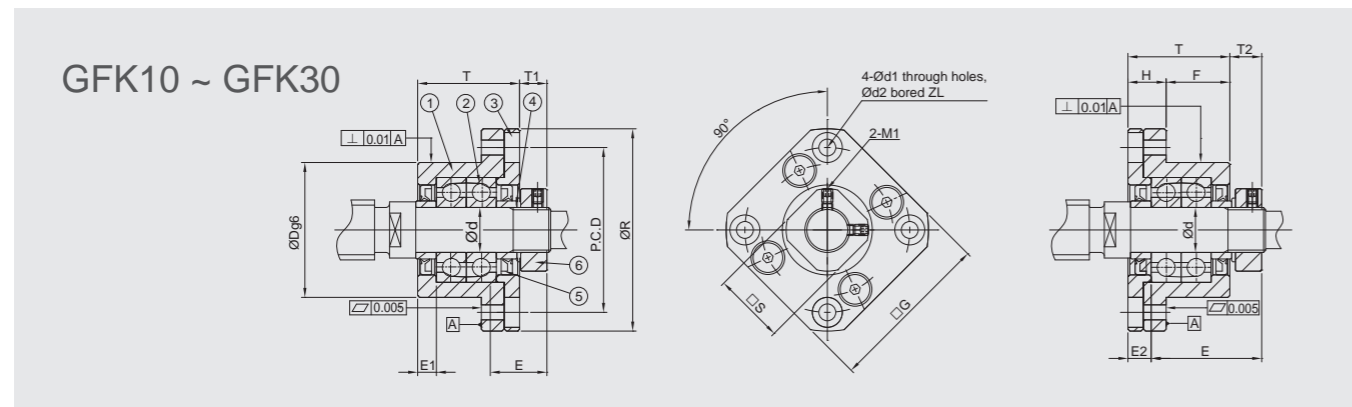
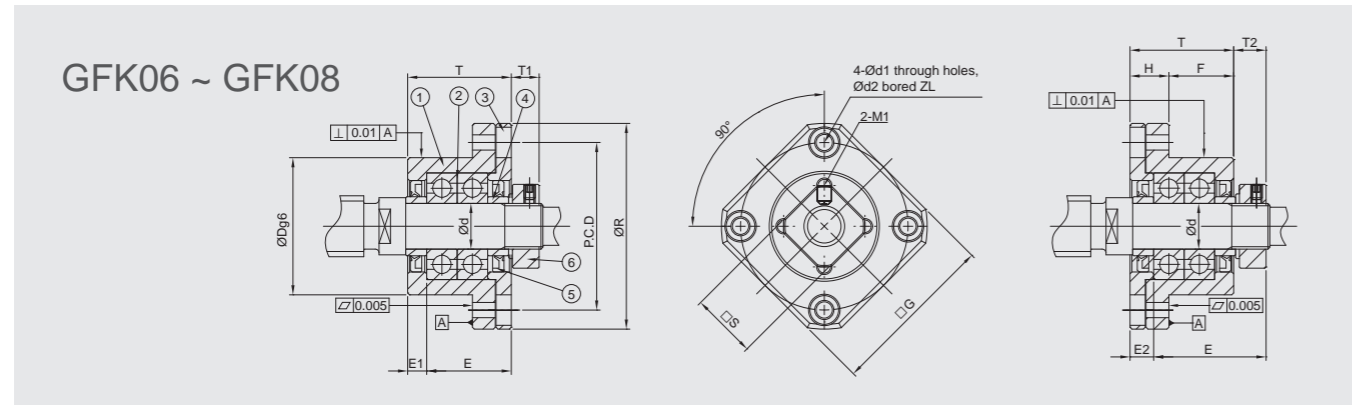
Ordering Example	GEK	10	ER	N	J
	Model No.	Shaft Dia.	Grade	Surface finish	Bearing category

GFK

GFK

GFK

Model No.	Parts no. ① ③ ④ ⑥	
	Material	Surface Finish
GFK □□ - E □ B	S50C	Black Dyed
GFK □□ - E □ N		Ni-Plating



Specification

Economic Type		Dimensions													
High Rigidity	Universal	Ød	ØR	□G	T	H	F	ØDg6	E	Installation (A)		Installation (B)		PCD	Ød1
										T1	E1	T2	E2		
GFK06-ER □	GFK06-EG □	6	36	28	20	7	13	22 ^{-0.007}	22	5.5	3.5	6.5	4.5	28	3.4
GFK08-ER □	GFK08-EG □	8	43	35	23	9	14	28 ^{-0.007}	26	7	4	8	5	35	3.4
GFK10-ER □	GFK10-EG □	10	52	42	27	10	17	34 ^{-0.008}	29.5	7.3	5	8.5	6	42	4.5
GFK12-ER □	GFK12-EG □	12	54	44	27	10	17	36 ^{-0.008}	29.5	7.3	5	8.5	6	44	4.5
GFK15-ER □	GFK15-EG □	15	63	52	32	15	17	40 ^{-0.008}	36	9.8	6	12	8	50	5.5
GFK17-ER □	GFK17-EG □	17	77	61	45	22	23	50 ^{-0.009}	47	11	9	14	12	62	6.6
GFK20-ER □	GFK20-EG □	20	85	68	52	22	30	57 ^{-0.010}	50	7.8	10	12	14	70	6.6
GFK25-ER □	GFK25-EG □	25	98	79	57	27	30	63 ^{-0.009}	59	13	10	20	17	80	9
GFK30-ER □	GFK30-EG □	30	117	93	62	30	32	75 ^{-0.010}	61	11	12	17	18	95	11

Ordering Example

GFK	10	ER	N	J
Model No.	Shaft Dia.	Grade	Surface finish	Bearing category

GFK

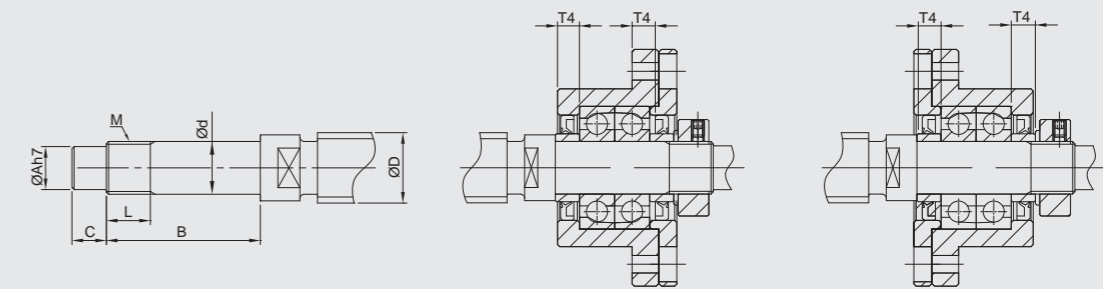


Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (<Ø8 one seal only)	NBR	2
⑥	Lucknut	S50C	1

- ① ② ③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.

Recommended processing dimensions of shaft



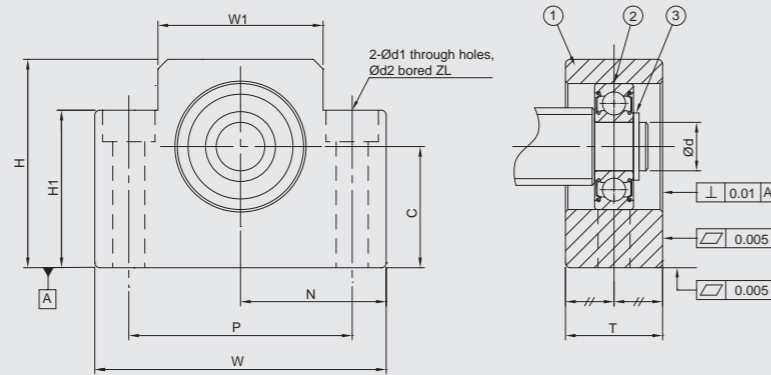
Unit : mm

Recommended processing dimensions of shaft												
				Ball Screw Shaft O. D.	Shaft End Diameter	Processing sizes of shaft			Nominal thread		Space ring length	
Ød2	Z	M1	□S	ØD	Ød	ØA	B	C	M	L	T4	
6	3.3	M3	12	8	6 ^{-0.005}	4	28	8	M6*P0.75	8	5	
6	3.3	M3	14	10 / 12	8 ^{-0.005}	6	32	9	M8*P1.0	10	5.5	
8	4	M3	16	12 / 14 / 15	10 ^{-0.005}	8	36	15	M10*P1.0	11	5.5	
8	4	M3	19	14 / 15 / 16	12 ^{-0.005}	10	36	15	M12*P1.0	11	5.5	
9.5	6	M3	22	18 / 20	15 ^{-0.005}	12	47	20	M15*P1.0	13	10	
11	10	M4	24	20 / 25	17 ^{-0.005}	15	53	23	M17*P1.0	17	7	
11	10	M4	30	25 / 28 / 30	20 ^{-0.005}	17	62	25	M20*P1.0	17	11	
15	13	M5	35	28 / 30 / 32	25 ^{-0.005}	22	75	18	M25*P1.5	20	15	
17.5	15	M6	40	36 / 40	30 ^{-0.005}	25	72	38	M30*P1.5	25	9	

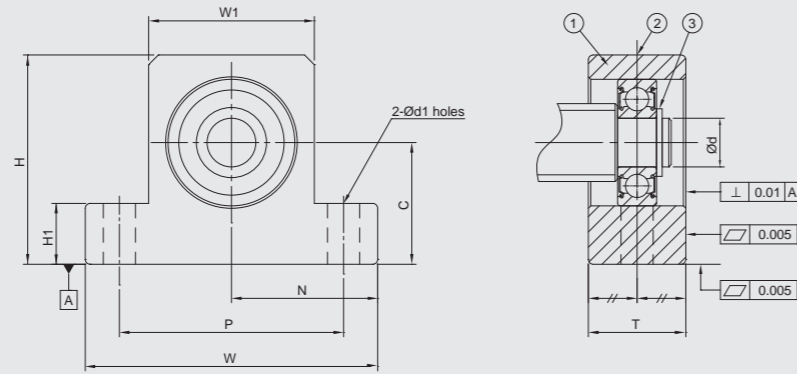
• Supported side spec refer to P.36~P.37

Model No.	Parts no. ①	
	Material	Surface Finish
GAF □□ - SB	S50C	Black Dyed
GAF □□ - SN		Ni-Plating

GAF06 ~ GAF20



GAF25



Specification

Standard Type	Dimensions									
	Ød	T	W	W1	H	H1	P	Ød1	Ød2	Z
GAF06-S□	6	12	42	18	25	20	30	5.2	9.5	7
GAF08-S□	6	15	52	25	32	26	38	6.3	11	12
GAF10-S□	8	20	70	36	43	35	52	8.7	14	11
GAF12-S□	10	20	70	36	43	35	52	8.7	14	11
GAF15-S□	15	20	80	41	50	40	60	8.7	14	11
GAF20-S□	20	26	95	56	58	45	75	10.7	17	15
GAF25-S□	25	30	105	66	68	25	85	11	-	-

Ordering Example	GAF	10	S	N	J
	Model No.	Shaft Dia.	Grade	Surface finish	Bearing category

GAF-B



GAF-N

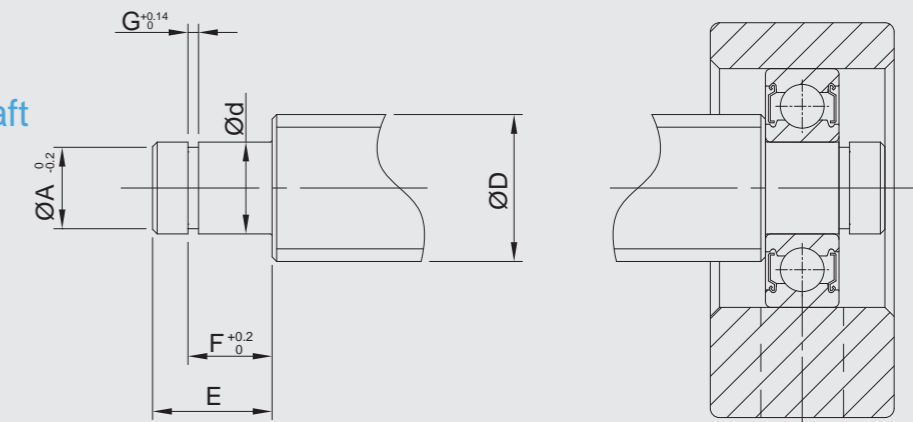


Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1
③	Snap ring	SWB	1

- Bearing filled with proper lithium soap lubricant maintenance free.
- Bearing with two steel covers in black dyed.
- Bearing with two touch-type plastic covers in Ni-plating.

Recommended processing dimensions of shaft



Unit : mm

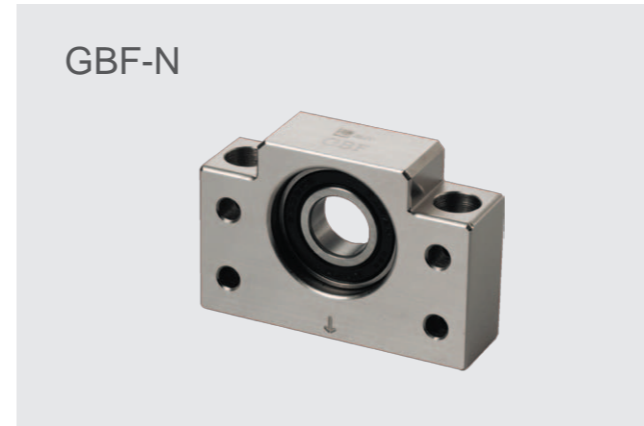
N±0.02	C	Recommended processing dimensions of shaft						Snap ring
		Ball Screw Shaft O. D.	Shaft End Diameter	Groove sizes machined for snap ring				
		ØD	Ød	ØA	E	F	G	
21	13 ⁰ _{-0.04}	8	6 ^{-0.005} _{-0.012}	6	9	6.7	0.8	S 06
26	17 ⁰ _{-0.04}	8 / 10	6 ^{-0.005} _{-0.012}	6	9	6.7	0.8	S 06
35	25 ⁰ _{-0.04}	12 / 14 / 15	8 ^{-0.005} _{-0.012}	7.6	10	7.9	0.9	S 08
35	25 ⁰ _{-0.02}	14 / 15 / 16	10 ^{-0.005} _{-0.012}	9.6	11	9.15	1.15	S 10
40	30 ⁰ _{-0.02}	18 / 20	15 ^{-0.005} _{-0.014}	14.3	13	10.15	1.15	S 15
47.5	30 ⁰ _{-0.02}	25 / 28 / 30	20 ^{-0.005} _{-0.014}	19	19	15.35	1.35	S 20
52.5	35 ⁰ _{-0.02}	28 / 30 / 32	25 ^{-0.005} _{-0.014}	25	21	16.35	1.35	S 25

• Fixed Side spec please refer to P.14~15 and P.22~23

Model No.	Parts no. ①	
	Material	Surface Finish
GBF □□ - SB	S50C	Black Dyed
GBF □□ - SN		Ni-Plating



GBF-B

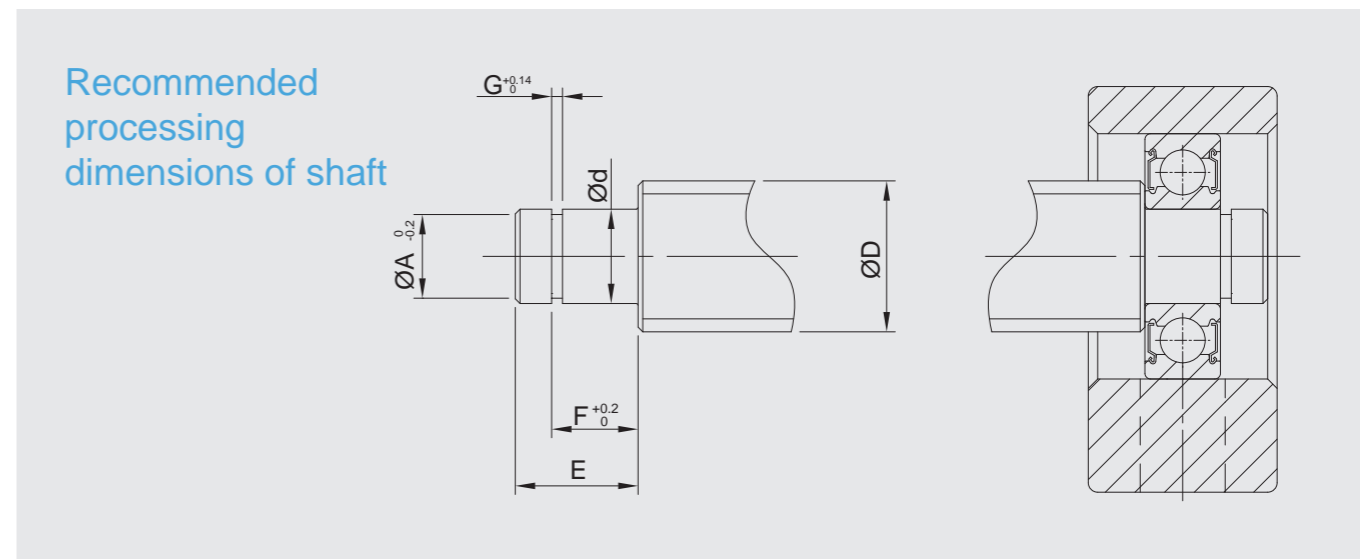
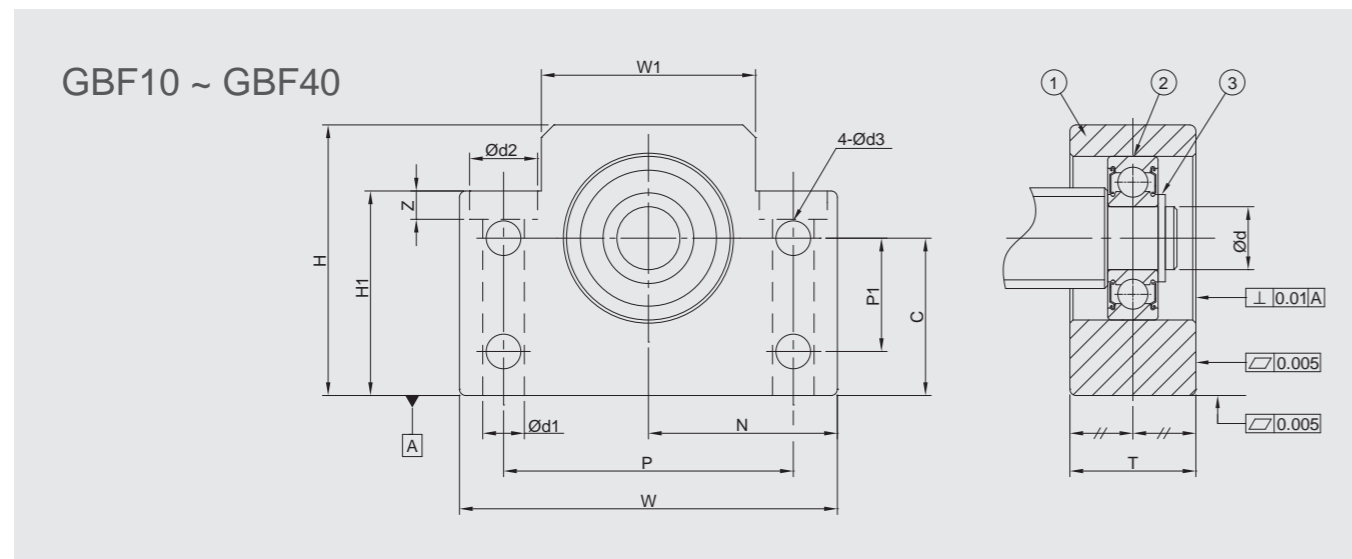


GBF-N

Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1
③	Snap ring	SWB	1

- Bearing filled with proper lithium soap lubricant maintenance free.
- Bearing with two steel covers in black dyed.
- Bearing with two touch-type plastic covers in Ni-plating.



Specification

Standard Type	Dimensions											
	Ød	T	W	W1	H	H1	P	P1	Ød1	Ød2	Z	Ød3
GBF10-S □	8	20	60	34	39	32.5	46	15	6.3	10.8	5	5.5
GBF12-S □	10	20	60	34	43	32.5	46	18	6.3	10.8	1.5	5.5
GBF15-S □	15	20	70	40	48	38	54	18	6.3	11	6.5	5.5
GBF17-S □	17	23	86	50	64	55	68	28	8.7	14	8.6	6.6
GBF20-S □	20	26	88	52	60	50	70	22	8.7	14	8.6	6.6
GBF25-S □	25	30	106	64	80	70	85	33	10.7	17.5	11	9
GBF30-S □	30	32	128	76	89	78	102	33	13.7	20	13	11
GBF35-S □	35	32	140	88	96	79	114	35	13.7	20	13	11
GBF40-S □	40	37	160	100	110	90	130	37	17.7	26	17.5	14

Ordering Example	GBF	10	S	N	J
	Model No.	Shaft Dia.	Grade	Surface finish	Bearing category

Unit : mm

N±0.02	C	Recommended processing dimensions of shaft						Snap ring
		Ball Screw Shaft O. D.		Shaft End Diameter	Groove sizes machined for snap ring			
		ØD	Ød	ØA	E	F	G	
30	22 ⁰ _{-0.04}	12 / 14 / 15	8 ^{-0.005} _{-0.012}	7.6	10	7.9	0.9	S 08
30	25 ⁰ _{-0.02}	14 / 15 / 16	10 ^{-0.005} _{-0.012}	9.6	11	9.15	1.15	S 10
35	28 ⁰ _{-0.02}	18 / 20	15 ^{-0.005} _{-0.014}	14.3	13	10.15	1.15	S 15
43	39 ⁰ _{-0.02}	20 / 25	17 ^{-0.005} _{-0.014}	16.2	16	13.15	1.15	S 17
44	34 ⁰ _{-0.02}	25 / 28 / 30	20 ^{-0.005} _{-0.014}	19	19	15.35	1.35	S 20
53	48 ⁰ _{-0.02}	30 / 32 / 36	25 ^{-0.005} _{-0.014}	23.9	20	16.35	1.35	S 25
64	51 ⁰ _{-0.02}	36 / 40	30 ^{-0.005} _{-0.015}	28.6	21	17.75	1.75	S 30
70	52 ⁰ _{-0.02}	40 / 45	35 ^{-0.005} _{-0.015}	33	22	18.75	1.75	S 35
80	60 ⁰ _{-0.02}	50	40 ^{-0.005} _{-0.015}	38	23	19.95	1.95	S 40

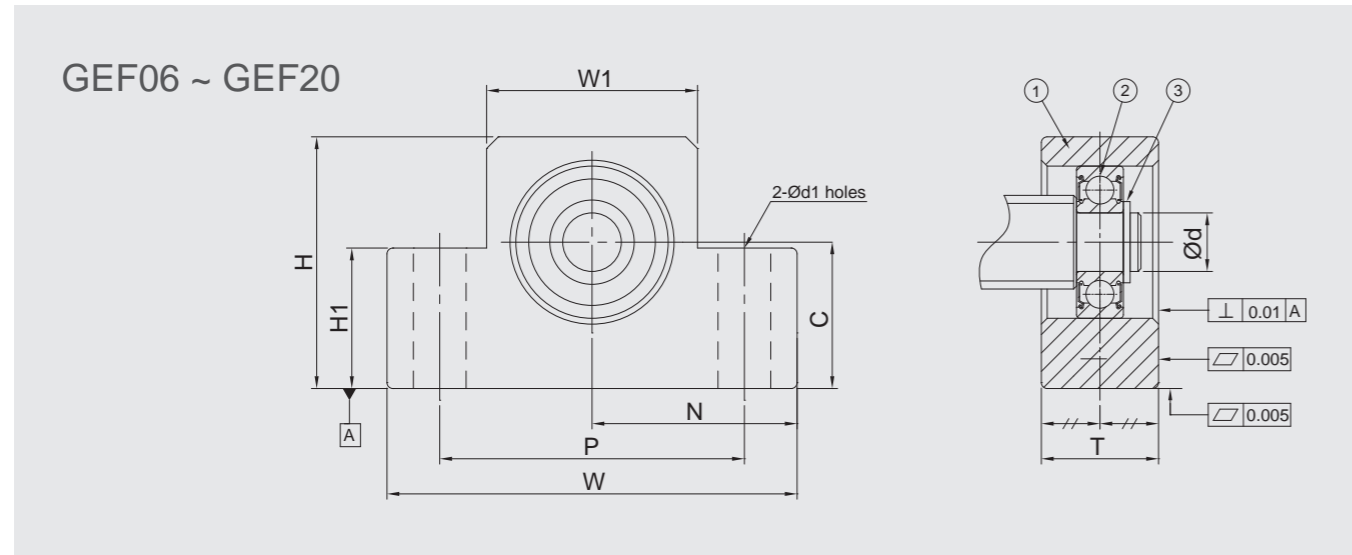
• Fixed Side spec please refer to P.16~P.17 and P.24~P.25

GEF

Model No.	Parts no. ①	
	Material	Surface Finish
GEF □□ - SB	S50C	Black Dyed
GEF □□ - SN		Ni-Plating



GEF-B



Specification

Standard Type	Dimensions							
	Ød	T	W	W1	H	H1	P	Ød1
GEF06-S □	6	12	42	20	25	12	30	5.2
GEF08-S □	6	14	52	27	32	16	38	6.3
GEF10-S □	8	20	70	36	43	24	52	9
GEF12-S □	10	20	70	36	43	24	52	9
GEF15-S □	15	20	80	41	49	25	60	9
GEF20-S □	20	26	95	56	58	25	75	11

Ordering Example	GEF	10	S	N	J
	Model No.	Shaft Dia.	Grade	Surface finish	Bearing category

GEF

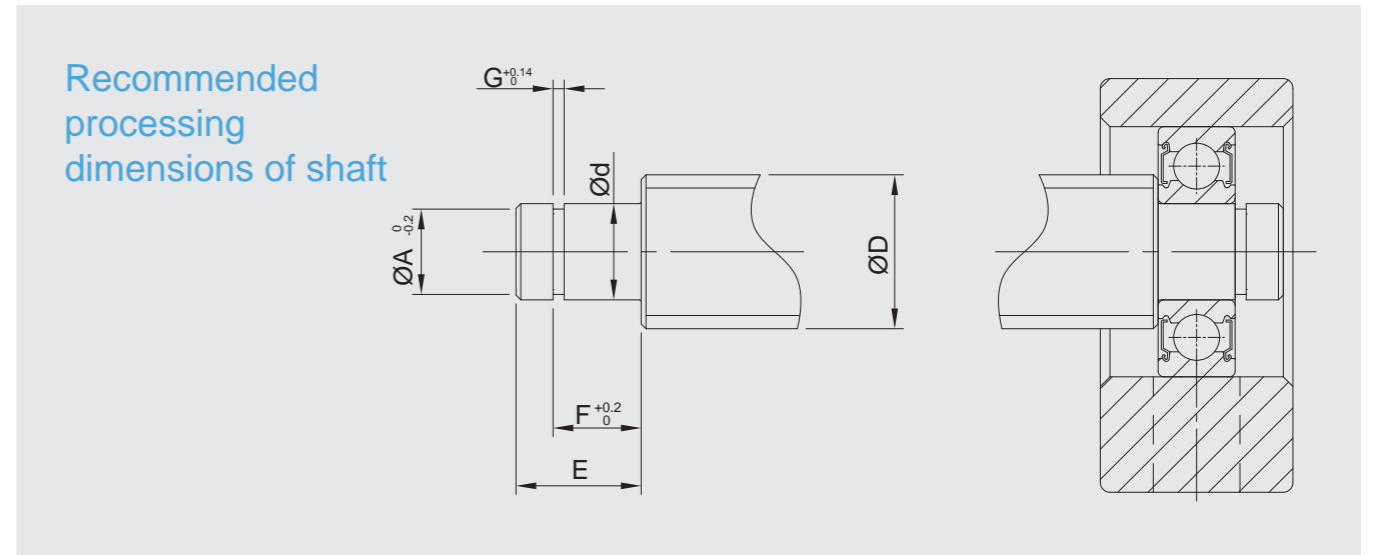


GEF-N

Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1
③	Snap ring	SWB	1

- Bearing filled with proper lithium soap lubricant maintenance free.
- Bearing with two steel covers in black dyed.
- Bearing with two touch-type plastic covers in Ni-plating.



Recommended processing dimensions of shaft

N ± 0.02	C	Recommended processing dimensions of shaft						Snap ring
		Ball Screw Shaft O. D.	Shaft End Diameter	Groove sizes machined for snap ring			Snap ring	
				ØD	Ød	ØA		
21	13 $\frac{0}{-0.04}$	8	6 $\frac{-0.005}{-0.012}$	5.7	9	6.8	0.8	S 06
26	17 $\frac{0}{-0.04}$	10	6 $\frac{-0.005}{-0.012}$	5.7	9	6.8	0.8	S 06
35	25 $\frac{0}{-0.04}$	12 / 14 / 15	8 $\frac{-0.005}{-0.012}$	7.6	10	7.9	0.9	S 08
35	25 $\frac{0}{-0.02}$	14 / 15 / 16	10 $\frac{-0.005}{-0.012}$	9.6	11	9.15	1.15	S 10
40	30 $\frac{0}{-0.02}$	18 / 20	15 $\frac{-0.005}{-0.014}$	14.3	13	10.15	1.15	S 15
47.5	30 $\frac{0}{-0.02}$	25 / 28 / 30	20 $\frac{-0.005}{-0.014}$	19	19	15.35	1.35	S 20

• Fixed Side spec please refer to P.18~P.19 and P.26~P.27

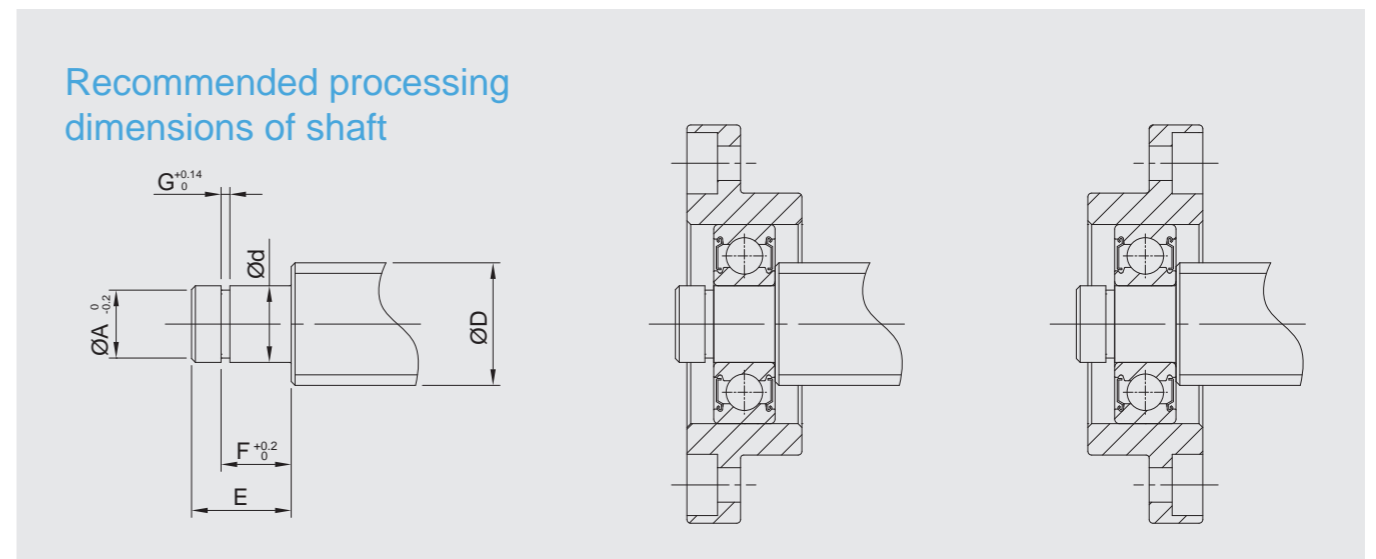
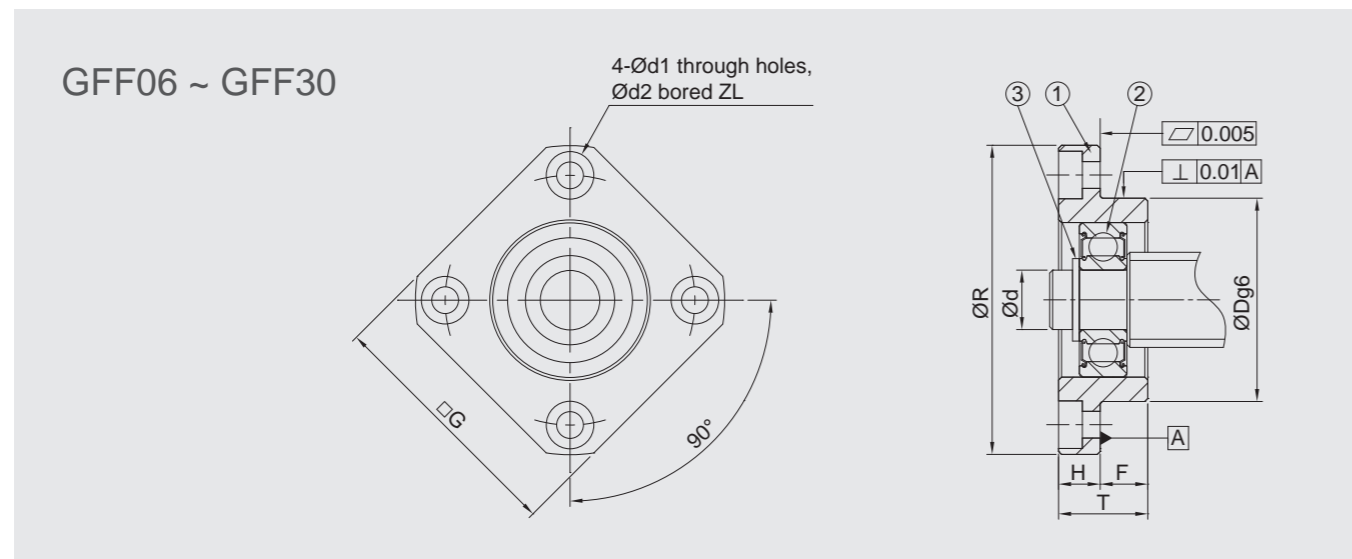
Model No.	Parts no. ①	
	Material	Surface Finish
GFF □□ - □	S50C	Black Dyed
GFF □□ - □		Ni-Plating



Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1
③	Snap ring	SWB	1

- Bearing filled with proper lithium soap lubricant maintenance free.
- Bearing with two steel covers in black dyed.
- Bearing with two touch-type plastic covers in Ni-plating.



Specification

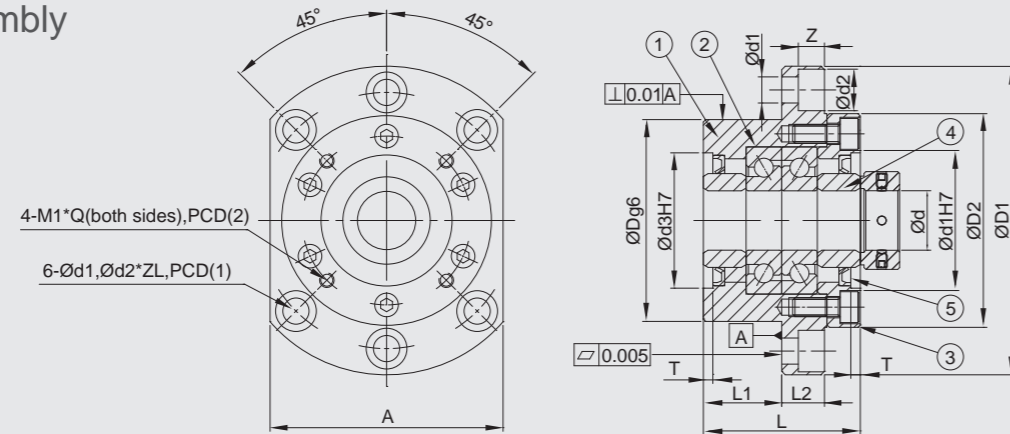
Standard Type	Dimensions									
	Ød	ØR	□G	T	H	F	ØDg6	PCD	Ød1	Ød2
GFF06- □	6	36	28	10	6	4	22 ^{-0.007} _{-0.020}	28	3.4	6
GFF10- □	8	43	35	12	7	5	28 ^{-0.007} _{-0.020}	35	3.4	6
GFF12- □	10	52	42	15	7	8	34 ^{-0.009} _{-0.025}	42	4.2	8
GFF15- □	15	63	52	17	9	8	40 ^{-0.009} _{-0.025}	50	5.2	9.5
GFF17- □	17	77	61	20	11	9	50 ^{-0.009} _{-0.025}	62	6.6	11
GFF20- □	20	85	68	20	11	9	57 ^{-0.010} _{-0.029}	70	6.3	11
GFF25- □	25	98	79	24	14	10	63 ^{-0.010} _{-0.029}	80	8.7	14
GFF30- □	30	117	93	27	18	9	75 ^{-0.010} _{-0.029}	95	10.7	17.5

Ordering Example	GFF	10	N	J
	Model No.	Shaft Dia.	Surface finish	Bearing category

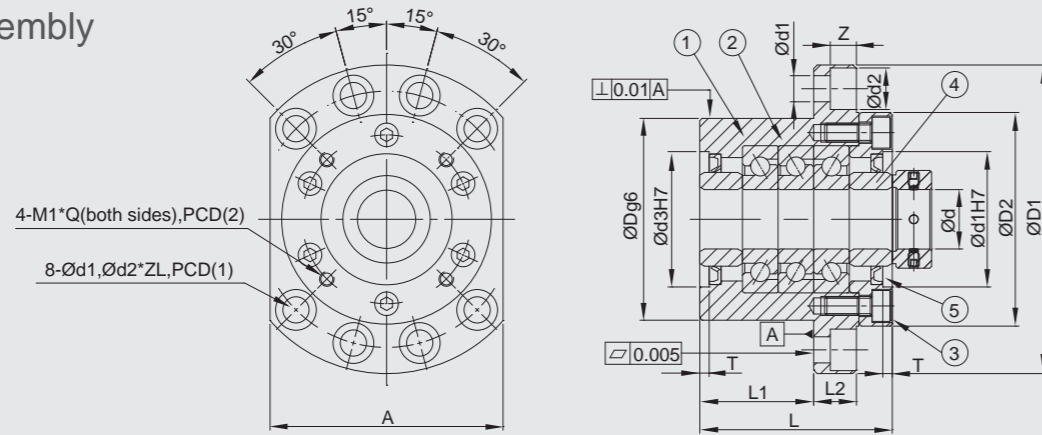
Z	Recommended processing dimensions of shaft						Snap ring
	Ball Screw Shaft O. D.	Shaft End Diameter	Groove sizes machined for snap ring				
	ØD	Ød	ØA	E	F	G	
3.3	8	6 ^{-0.005} _{-0.012}	5.7	9	6.8	0.8	S 06
3.3	12 / 14 / 15	8 ^{-0.005} _{-0.012}	7.6	10	7.9	0.9	S 08
4.4	14 / 15 / 16	10 ^{-0.005} _{-0.012}	9.6	11	9.15	1.15	S 10
5.4	18 / 20	15 ^{-0.005} _{-0.014}	14.3	13	10.15	1.15	S 15
8.6	20 / 25	17 ^{-0.005} _{-0.014}	16.2	16	13.15	1.15	S 17
6.5	25 / 28 / 30	20 ^{-0.005} _{-0.014}	19	19	15.35	1.35	S 20
8.6	30 / 32 / 36	25 ^{-0.005} _{-0.014}	23.9	20	16.35	1.35	S 25
10.8	36 / 40	30 ^{-0.005} _{-0.015}	28.6	21	17.75	1.75	S 30

• Fixed Side spec please refer to P.28~P.29

DF Assembly



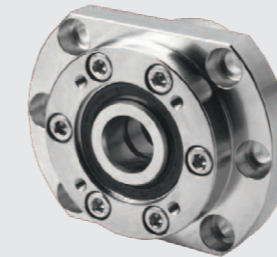
DFD Assembly



GWFF-B-DF



GWFF-N-DF

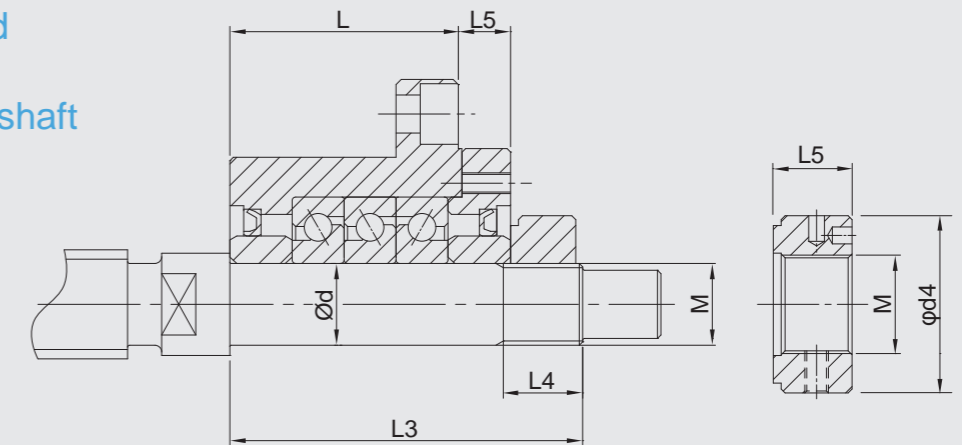


Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (<Ø8 one seal only)	NBR	2
⑥	Locknut	S50C	1

- ① ② ③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.

Recommended processing dimensions of shaft



Specification

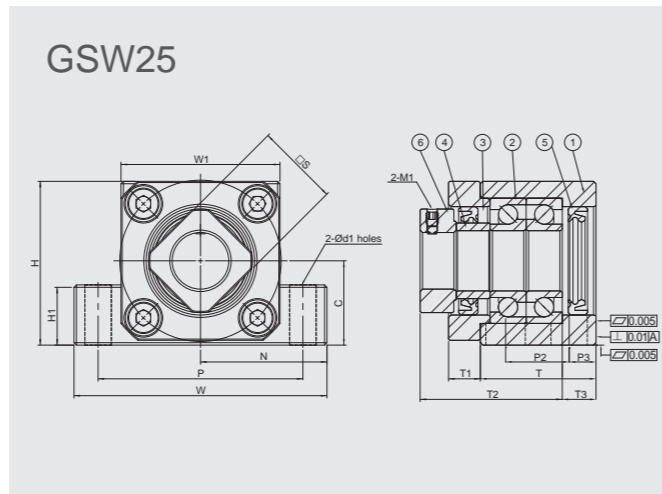
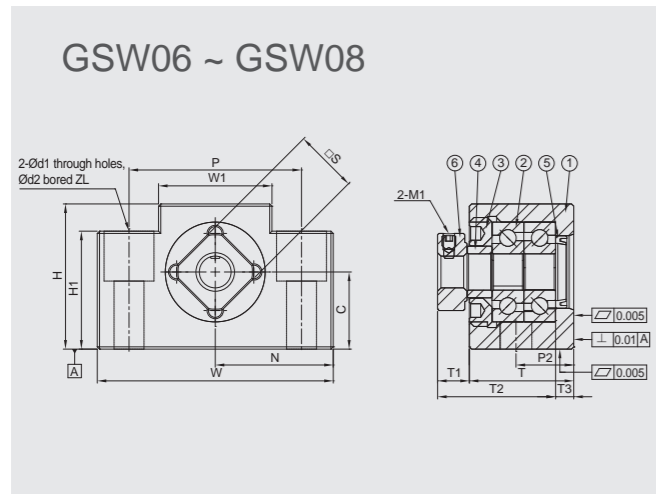
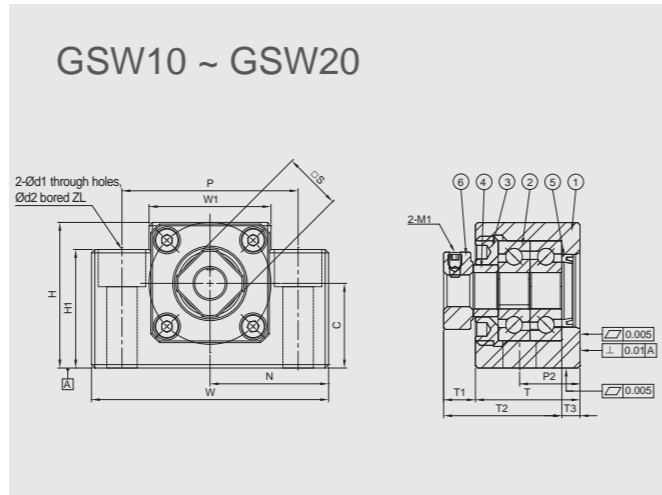
Model No.		Dimensions													
Black Dyed	Ni Plating	Ød	ØD	ØD1	ØD2	Ød3	L	L1	L2	A	PCD (1)	PCD (2)	Ød1	Ød2	Z
GWFF17B-DF	GWFF17N-DF	17	70	106	72	45	60	32	15	80	88	58	8.7	14	8.5
GWFF20B-DF	GWFF20N-DF	20	70	106	72	45	60	32	15	80	88	58	8.7	14	8.5
GWFF25B-DF	GWFF25N-DF	25	85	130	90	57	66	33	18	100	110	70	10.7	17.5	11
GWFF25B-DFD	GWFF25N-DFD	25	85	130	90	57	81	48	18	100	110	70	10.7	17.5	11
GWFF30B-DF	GWFF30N-DF	30	85	130	90	57	66	33	18	100	110	70	10.7	17.5	11
GWFF30B-DFD	GWFF30N-DFD	30	85	130	90	57	81	48	18	100	110	70	10.7	17.5	11
GWFF35B-DF	GWFF35N-DF	35	95	142	102	69	66	33	18	106	121	80	10.7	17.5	11
GWFF35B-DFD	GWFF35N-DFD	35	95	142	102	69	81	48	18	106	121	80	10.7	17.5	11
GWFF40B-DF	GWFF40N-DF	40	95	142	102	69	66	33	18	106	121	80	10.7	17.5	11
GWFF40B-DFD	GWFF40N-DFD	40	95	142	102	69	81	48	18	106	121	80	10.7	17.5	11

Ordering Example	GWFF	20	N	DFD	J
	Model No.	Shaft Dia.	Surface finish	Bearing Assembly	Bearing category

Unit : mm

T	M1	Q	Basic dynamic load(C) (N)	Limited load (N)	Pre-load (N)	Axial rigidity (N/um)	Start torque (N-cm)	Shaft dimensions			Lock nut			Weight (kg)
								Ød	L3	L4	M	Ød4	L5	
3	M5	10	21900	26600	2150	750	14	17	81	23	M17*P1.0	37	18	1.9
3	M5	10	21900	26600	2150	750	14	20	81	23	M20*P1.0	40	18	1.9
4	M6	14	28500	40500	3150	1000	23	25	89	26	M25*P1.5	45	20	3.1
4	M6	14	46500	81500	4300	1470	31	25	104	26	M25*P1.5	45	20	3.4
4	M6	14	29200	43000	3350	1030	24	30	89	26	M30*P1.5	50	20	3.0
4	M6	14	47500	86000	4500	1520	33	30	104	26	M30*P1.5	50	20	3.3
4	M6	14	31000	50000	3800	1180	28	35	92	30	M35*P1.5	55	22	3.4
4	M6	14	50500	100000	5200	1710	37	35	107	30	M35*P1.5	55	22	4.3
4	M6	14	31500	52000	3900	1230	28	40	92	30	M40*P1.5	60	22	3.6
4	M6	14	51500	104000	5300	1810	38	40	107	30	M40*P1.5	60	22	4.2

Model No.	Parts no. ①③④⑥	Material	Surface Finish
GSW □□ - S □ B		S50C	Black Dyed
GSW □□ - S □ N			Ni-Plating



Specification

Standard Type			Dimensions														
Light pre-loaded	Medium pre-loaded	Hard pre-loaded	Ød	T	T1	T2	T3	W	W1	H	H1	N±0.02	C	P	P2	P3	Ød1
GSW06-SL □	GSW06-SM □	GSW06-SH □	6	20	5.5	22.5	3.5	42	18	25	20	21	13 ⁰ _{0.04}	30	-	-	5.5
GSW08-SL □	GSW08-SM □	GSW08-SH □	8	23	7	23	4	52	25	32	26	26	17 ⁰ _{0.04}	38	-	-	6.6
GSW10-SL □	GSW10-SM □	GSW10-SH □	10	24	6	29.5	6	70	36	43	35	35	25 ⁰ _{0.04}	52	-	-	9
GSW12-SL □	GSW12-SM □	GSW12-SH □	12	24	6	29.5	6	70	36	43	35	35	25 ⁰ _{0.04}	52	-	-	9
GSW15-SL □	GSW15-SM □	GSW15-SH □	15	25	6	38	5	80	41	50	40	40	30 ⁰ _{0.04}	60	-	-	11
GSW20-SL □	GSW20-SM □	GSW20-SH □	20	42	10	52	10	95	56	58	45	47.5	30 ⁰ _{0.04}	75	22	10	11
GSW25-SL □	GSW25-SM □	GSW25-SH □	25	48	13	59	14	105	66	68	25	52.5	35 ⁰ _{0.04}	85	30	9	11

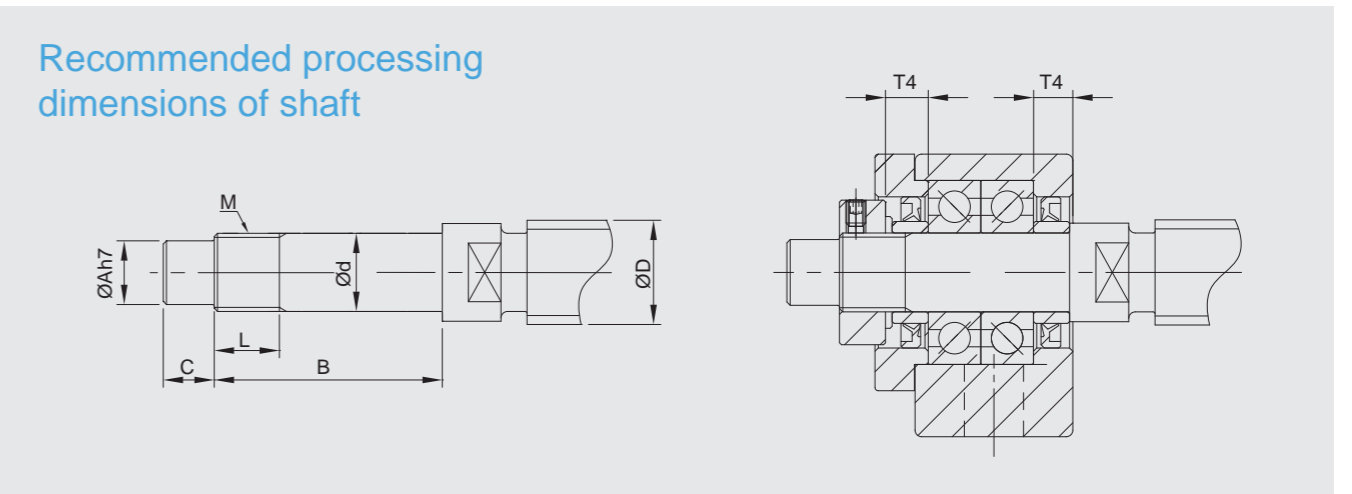
Ordering Example	GSW	10	SL	N	J
	Model No.	Shaft Dia.	Grade/Pre-loaded	Surface finish	Bearing category



Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (<Ø8 one seal only)	NBR	2
⑥	Lucknut	S50C	1

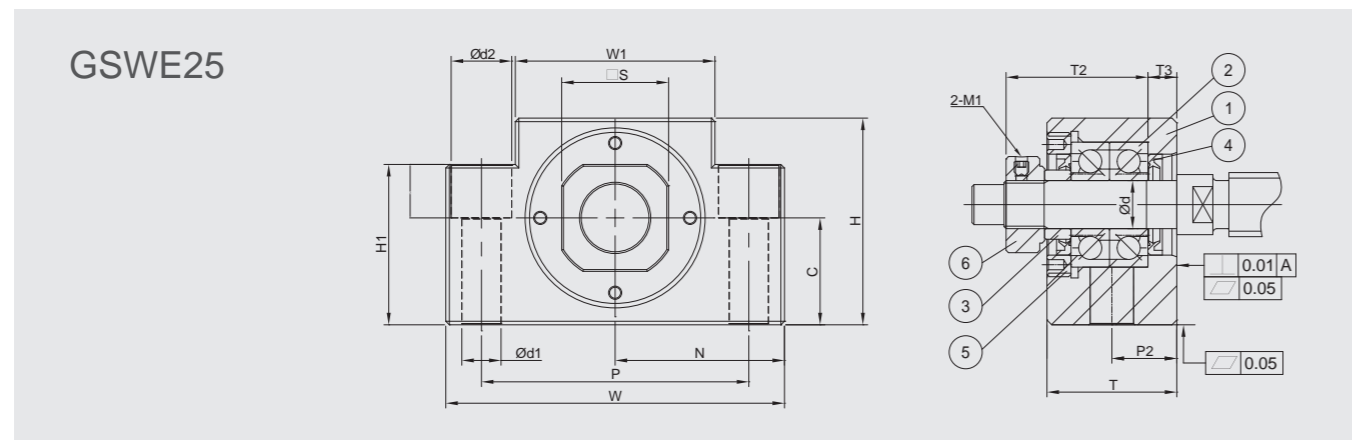
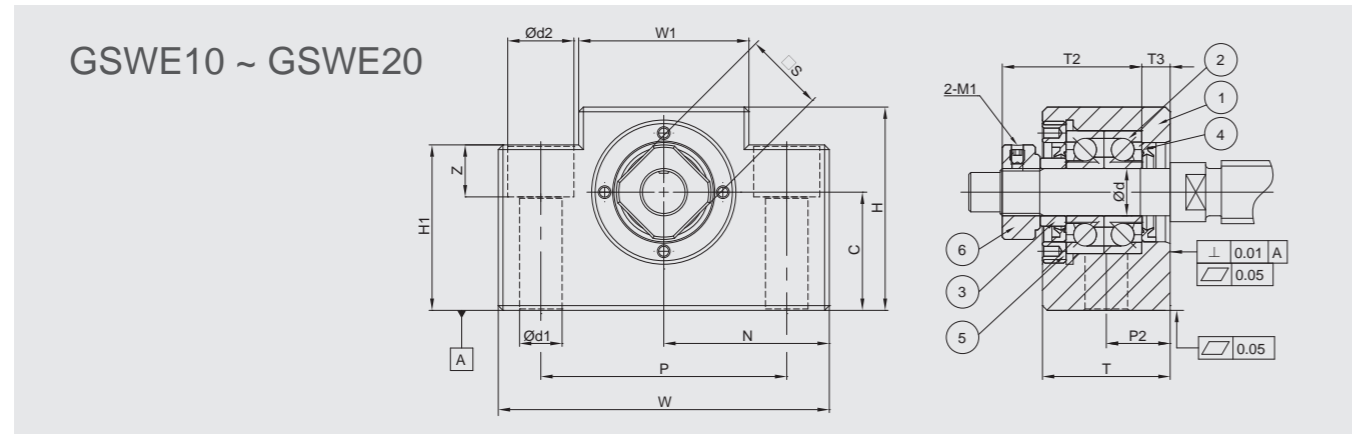
- ① ② ③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.



			Recommended processing dimensions of shaft							
			Ball Screw Shaft O. D.		Shaft End Diameter	Processing sizes of shaft			Nominal thread	Space ring length
Ød2	Z	□S	ØD	Ød	ØA	B	C	M	L	T4
9.5	11	12	8	6 ^{-0.005} _{-0.012}	4	28	8	M6*P0.75	8	5
11	11	14	10 / 12	8 ^{-0.005} _{-0.012}	6	32	9	M8*P1.0	10	5.5
14	11	16	12 / 14 / 15	10 ^{-0.005} _{-0.012}	8	36	15	M10*P1.0	11	5.5
14	11	19	14 / 15 / 16	12 ^{-0.005} _{-0.012}	10	36	15	M12*P1.0	11	5.5
17	15	22	18 / 20	15 ^{-0.005} _{-0.014}	12	47	20	M15*P1.0	13	6
17	15	30	25 / 28 / 30	20 ^{-0.005} _{-0.014}	17	62	25	M20*P1.0	17	11
-	-	35	30 / 32 / 36	25 ^{-0.005} _{-0.014}	20	75	30	M25*P1.5	20	15

• Supported side spec refer to P.48~P.49

Model No.	Parts no. ① ③ ④ ⑥	
	Material	Surface Finish
GSWE □ □ - S □ B	S50C	Black Dyed
GSWE □ □ - S □ N		Ni-Plating



Specification

Standard Type			Dimensions														
Light pre-loaded	Medium pre-loaded	Hard pre-loaded	Ød	T	T1	T2	T3	W	W1	H	H1	N±0.02	C	P	P2	P3	Ød1
GSWE10-SL □	GSWE10-SM □	GSWE10-SH □	10	27	8.5	29.5	6	70	36	43	35	35	25 ^{0.04}	52	-	-	9
GSWE12-SL □	GSWE12-SM □	GSWE12-SH □	12	27	8.5	29.5	6	70	36	43	35	35	25 ^{0.04}	52	-	-	9
GSWE15-SL □	GSWE15-SM □	GSWE15-SH □	15	29	14	38	5	80	41	50	40	40	30 ^{0.04}	60	-	-	11
GSWE20-SL □	GSWE20-SM □	GSWE20-SH □	20	48	14	52	10	95	56	58	45	47.5	30 ^{0.04}	75	22	13	11
GSWE25-SL □	GSWE25-SM □	GSWE25-SH □	25	58	15	59	14	105	66	68	25	52.5	35 ^{0.04}	85	30	14	11

Ordering Example	GSWE	10	SL	N	J
	Model No.	Shaft Dia.	Grade/Pre-loaded	Surface finish	Bearing category

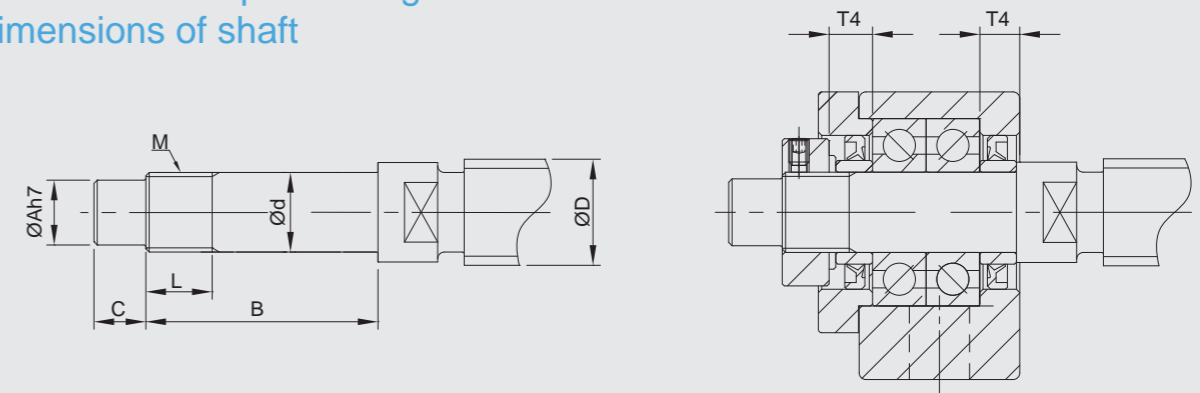


Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (<Ø8 one seal only)	NBR	2
⑥	Lucknut	S50C	1

- ① ② ③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.

Recommended processing dimensions of shaft



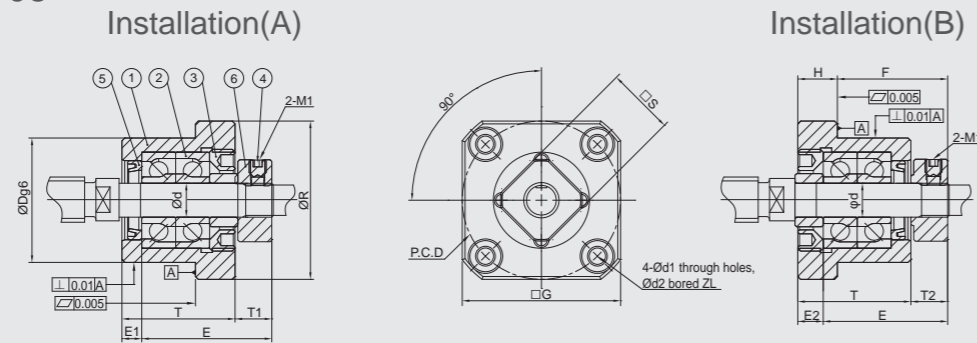
Unit : mm

			Recommended processing dimensions of shaft							
			Ball Screw Shaft O. D.	Shaft End Diameter	Processing sizes of shaft			Nominal thread	Space ring length	
Ød2	Z	□S	ØD	Ød	ØA	B	C	M	L	T4
14	11	16	12 / 14 / 15	10 ^{-0.006} / _{-0.012}	8	36	15	M10*P1.0	11	5.5
14	11	19	14 / 15 / 16	12 ^{-0.006} / _{-0.012}	10	36	15	M12*P1.0	11	5.5
17	15	22	18 / 20	15 ^{-0.006} / _{-0.014}	12	47	20	M15*P1.0	13	6
17	15	30	25 / 28 / 30	20 ^{-0.006} / _{-0.014}	17	62	25	M20*P1.0	17	11
-	-	35	30 / 32 / 36	25 ^{-0.006} / _{-0.014}	20	75	30	M25*P1.5	20	15

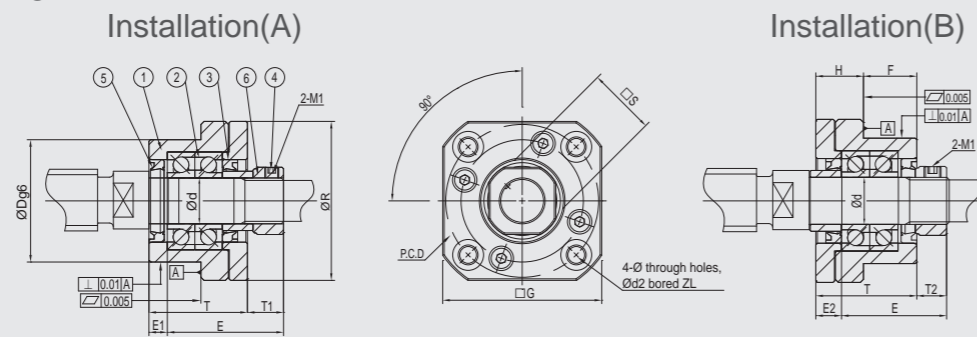
• Supported side spec refer to P.50~P.51

Model No.	Parts no. ① ③ ④ ⑥	
	Material	Surface Finish
GRW □□ - S □ B	S50C	Black Dyed
GRW □□ - S □ N		Ni-Plating

GRW06 ~ GRW08



GRW10 ~ GRW25



Specification

Standard Type			Dimensions												
Light pre-loaded	Medium pre-loaded	Hard pre-loaded	Ød	ØR	□G	T	H	F	ØDg6	E	Installation(A)		Installation(B)		PCD
											T1	E1	T2	E2	
GRW06-SL □	GRW06-SM □	GRW06-SH □	6	36	28	20	7	13	22 ^{-0.007} _{-0.020}	22.5	5.5	3.5	6.5	4.5	28
GRW08-SL □	GRW08-SM □	GRW08-SH □	8	43	35	23	9	14	28 ^{-0.007} _{-0.020}	26	7	4	8	5	35
GRW10-SL □	GRW10-SM □	GRW10-SH □	10	52	42	29	13	16	34 ^{-0.009} _{-0.025}	29.5	5.5	5	8.5	8	42
GRW12-SL □	GRW12-SM □	GRW12-SH □	12	54	44	29	13	16	36 ^{-0.009} _{-0.025}	29.5	5.5	5	8.5	8	44
GRW15-SL □	GRW15-SM □	GRW15-SH □	15	63	52	32	15	17	40 ^{-0.009} _{-0.025}	38	12	6	14	8	50
GRW20-SL □	GRW20-SM □	GRW20-SH □	20	85	68	52	22	30	57 ^{-0.010} _{-0.025}	52	10	10	14	14	70
GRW25-SL □	GRW25-SM □	GRW25-SH □	25	98	79	57	27	30	63 ^{-0.009} _{-0.025}	59	13	10	20	17	80

Ordering Example	GRW	10	SL	N	J
	Model No.	Shaft Dia.	Grade/Pre-loaded	Surface finish	Bearing category

Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (<Ø8 one seal only)	NBR	2
⑥	Lucknut	S50C	1

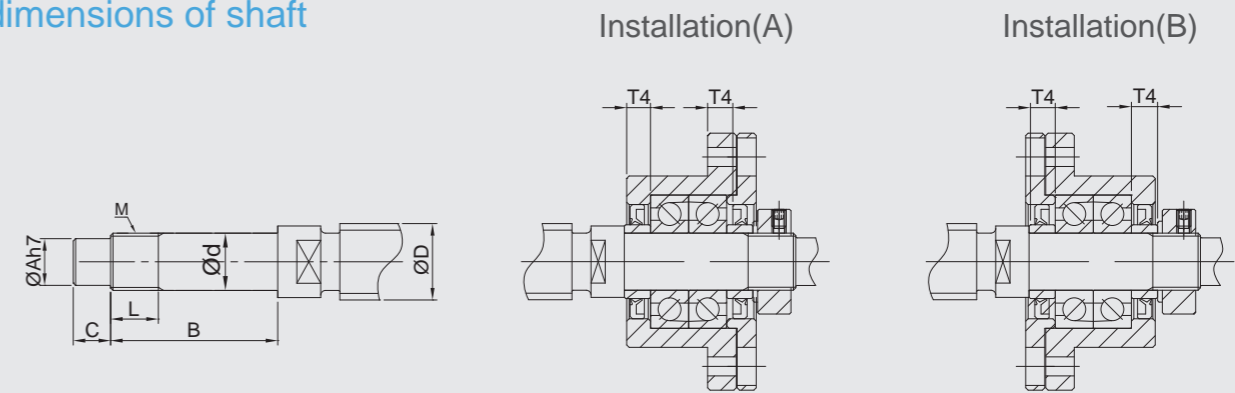
- ①②③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.

GRW-B

GRW-N



Recommended processing dimensions of shaft



Unit : mm

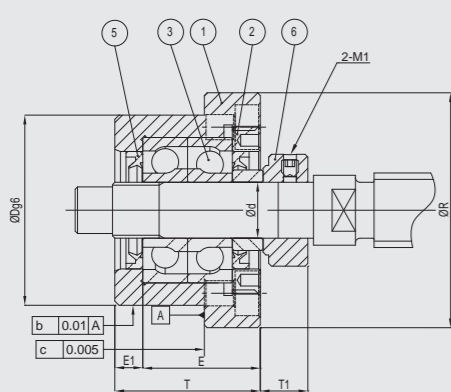
				Recommended processing dimensions of shaft							
				Ball Screw Shaft O. D.		Shaft End Diameter	Processing sizes of shaft		Nominal thread		Space ring length
Ød1	Ød2	Z	□S	ØD	Ød	ØA	B	C	M	L	T4
2.9	5.5	3.5	12	8	6 ^{-0.005} _{-0.012}	4	28	8	M6*P0.75	8	5
3.4	6.5	4	14	10 / 12	8 ^{-0.005} _{-0.012}	6	32	9	M8*P1.0	10	5.5
4.5	8	6	16	12 / 14 / 15	10 ^{-0.005} _{-0.012}	8	36	15	M10*P1.0	11	5.5
4.5	8	6	19	14 / 15 / 16	12 ^{-0.005} _{-0.012}	10	36	15	M12*P1.0	11	5.5
5.5	9.5	6	22	18 / 20	15 ^{-0.005} _{-0.014}	12	47	20	M15*P1.0	13	10
6.6	11	10	30	25 / 28 / 30	20 ^{-0.005} _{-0.014}	17	62	25	M20*P1.0	17	11
9	15	13	35	30 / 32 / 36	25 ^{-0.005} _{-0.014}	20	76	30	M25*P1.5	20	15

• Supported side spec refer to P.52~P.53

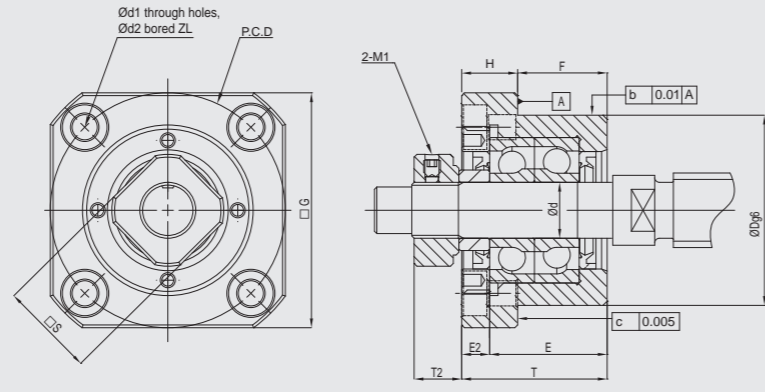
Model No.	Parts no. ①③④⑥	
	Material	Surface Finish
GRWE □□ -S □B	S50C	Black Dyed
GRWE □□ -S □N		Ni-Plating

GRWE10 ~ GRWE25

Installation(A)



Installation(B)



Specification

Standard Type			Dimensions												
Light pre-loaded	Medium pre-loaded	Hard pre-loaded	Ød	ØR	□G	T	H	F	ØDg6	E	Installation(A)		Installation(B)		PCD
											T1	E1	T2	E2	
GRWE10-SL □	GRWE10-SM □	GRWE10-SH □	10	52	42	26	10	16	34 ^{-0.009} _{-0.025}	29.5	5.5	5	8.5	8	42
GRWE12-SL □	GRWE12-SM □	GRWE12-SH □	12	54	44	26	10	16	36 ^{-0.009} _{-0.025}	29.5	5.5	5	8.5	8	44
GRWE15-SL □	GRWE15-SM □	GRWE15-SH □	15	63	52	30	13	17	40 ^{-0.009} _{-0.025}	38	12	6	14	8	50
GRWE20-SL □	GRWE20-SM □	GRWE20-SH □	20	85	68	48	18	30	57 ^{-0.010} _{-0.029}	52	10	10	14	14	70
GRWE25-SL □	GRWE25-SM □	GRWE25-SH □	25	98	79	54	24	30	63 ^{-0.009} _{-0.025}	59	13	10	20	17	80

Ordering Example	GRWE	10	SL	N	J
	Model No.	Shaft Dia.	Grade/Pre-loaded	Surface finish	Bearing category

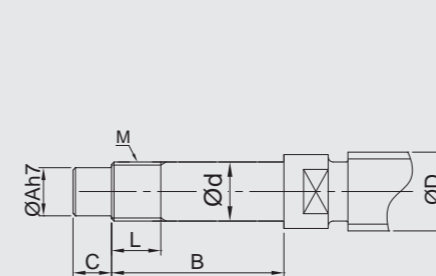


Components

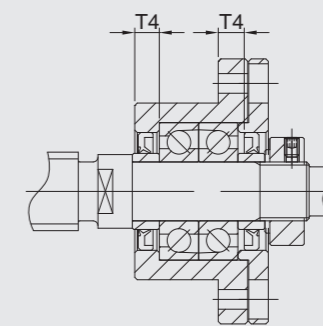
No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1 pair
③	Cover	S50C	1
④	Space ring	S50C	2
⑤	Seal (<Ø8 one seal only)	NBR	2
⑥	Lucknut	S50C	1

- ①②③ are in one unit. No disassemble for accuracy concern.
- Bearing filled with proper lithium soap lubricant and sealed.

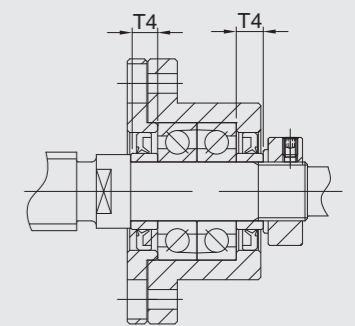
Recommended processing dimensions of shaft



Installation(A)



Installation(B)



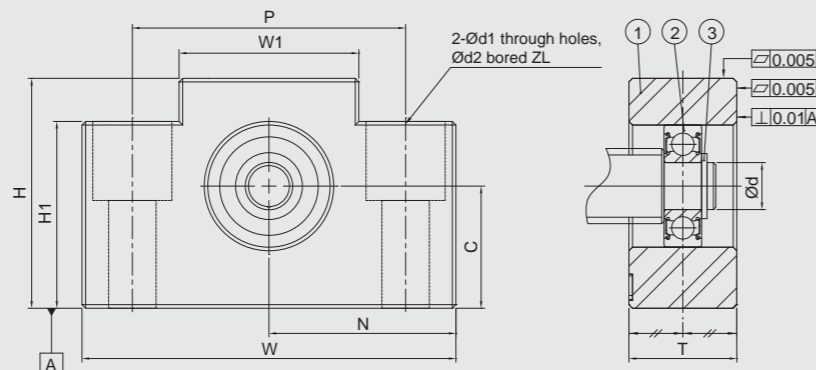
Unit : mm

				Recommended processing dimensions of shaft							
				Ball Screw Shaft O. D.		Shaft End Diameter	Processing sizes of shaft		Nominal thread		Space ring length
Ød1	Ød2	Z	□S	ØD	Ød	ØA	B	C	M	L	T4
4.5	8	4.5	16	12 / 14 / 15	10 ^{-0.005} _{-0.012}	8	36	15	M10*P1.0	11	5.5
4.5	8	4.5	19	14 / 15 / 16	12 ^{-0.005} _{-0.012}	10	36	15	M12*P1.0	11	5.5
5.5	9.5	5.5	22	18 / 20	15 ^{-0.005} _{-0.014}	12	47	20	M15*P1.0	13	10
6.6	11	6.5	30	25 / 28 / 30	20 ^{-0.005} _{-0.014}	17	62	25	M20*P1.0	17	11
9	15	8.5	35	30 / 32 / 36	25 ^{-0.005} _{-0.014}	20	76	30	M25*P1.5	20	15

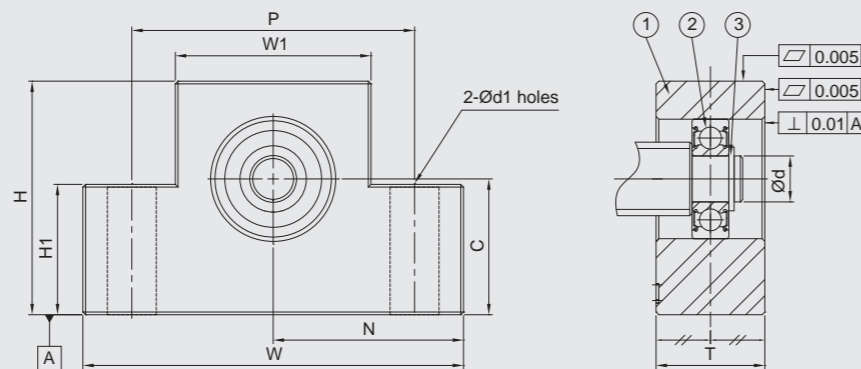
• Supported side spec refer to P.54~P.55

Model No.	Parts no. ①	
	Material	Surface Finish
GUN □□ - SB	S50C	Black Dyed
GUN □□ - SN		Ni-Plating

GUN06 ~ GUN08



GUN10 ~ GUN25



Specification

Standard Type	Dimensions									
	Ød	T	W	W1	H	H1	P	Ød1	Ød2	Z
GUN06-S □	6	12	42	18	25	20	30	5.5	9.5	11
GUN08-S □	6	15	52	25	32	26	38	6.6	11	11
GUN10-S □	8	20	70	36	43	24	52	9	-	-
GUN12-S □	10	20	70	36	43	24	52	9	-	-
GUN15-S □	15	20	80	41	50	25	60	11	-	-
GUN20-S □	20	26	95	56	58	30	75	11	-	-
GUN25-S □	25	30	105	66	68	25	85	11	-	-

Ordering Example	GUN	10	S	N	J
	Model No.	Shaft Dia.	Grade	Surface finish	Bearing category

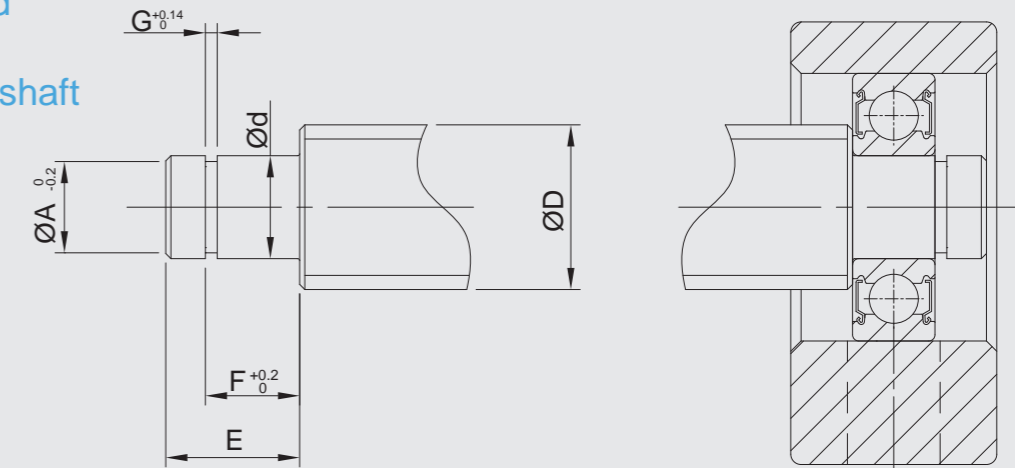


Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1
③	Snap ring	SWB	1

- Bearing filled with proper lithium soap lubricant maintenance free.
- Bearing with two steel covers in black dyed.
- Bearing with two touch-type plastic covers in Ni-plating.

Recommended processing dimensions of shaft

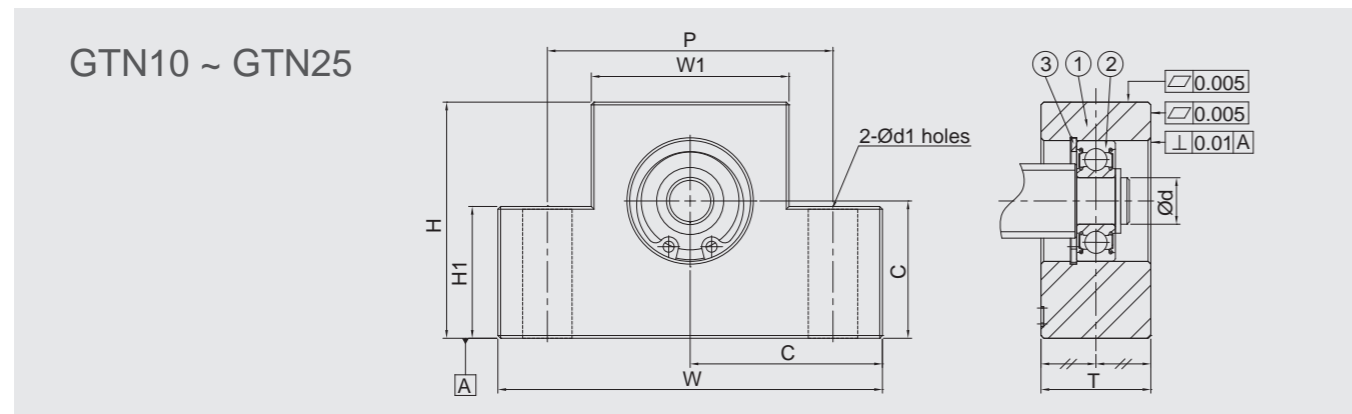
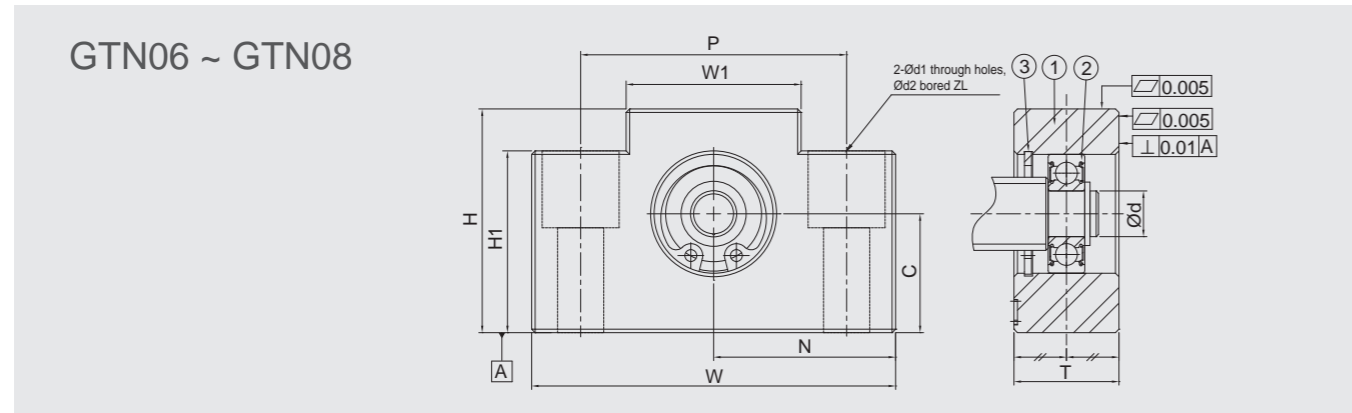


Unit : mm

N±0.02	C	Recommended processing dimensions of shaft						Snap ring
		Ball Screw Shaft O. D.	Shaft End Diameter	Groove sizes machined for snap ring				
		ØD	Ød	ØA	E	F	G	
21	13 ^{0.04}	8	6 ^{-0.005/-0.012}	6	9	6.7	0.8	S 06
26	17 ^{0.04}	8 / 10	6 ^{-0.005/-0.012}	6	9	6.7	0.8	S 06
35	25 ^{0.04}	12 / 14 / 15	8 ^{-0.005/-0.012}	7.6	10	7.9	0.9	S 08
35	25 ^{0.04}	14 / 15 / 16	10 ^{-0.005/-0.012}	9.6	11	9.15	1.15	S 10
40	30 ^{0.04}	18 / 20	15 ^{-0.005/-0.014}	14.3	13	10.15	1.15	S 15
47.5	30 ^{0.04}	25 / 28 / 30	20 ^{-0.005/-0.014}	19	19	15.35	1.35	S 20
52.5	35 ^{0.04}	28 / 30 / 32	25 ^{-0.005/-0.014}	25	21	16.5	1.35	S 25

• Fixed Side spec please refer to P.40~P.41

Model No.	Parts no. ①	
	Material	Surface Finish
GTN □□ - SB	S50C	Black Dyed
GTN □□ - SN		Ni-Plating



Specification

Standard Type	Dimensions									
	Ød	T	W	W1	H	H1	P	Ød1	Ød2	Z
GTN06-S □	6	12	42	18	25	20	30	5.5	9.5	11
GTN08-S □	6	15	52	25	32	26	38	6.6	11	11
GTN10-S □	8	20	70	36	43	24	52	9	-	-
GTN12-S □	10	20	70	36	43	24	52	9	-	-
GTN15-S □	15	20	80	41	50	25	60	11	-	-
GTN20-S □	20	26	95	56	58	30	75	11	-	-
GTN25-S □	25	30	105	66	68	25	85	11	-	-

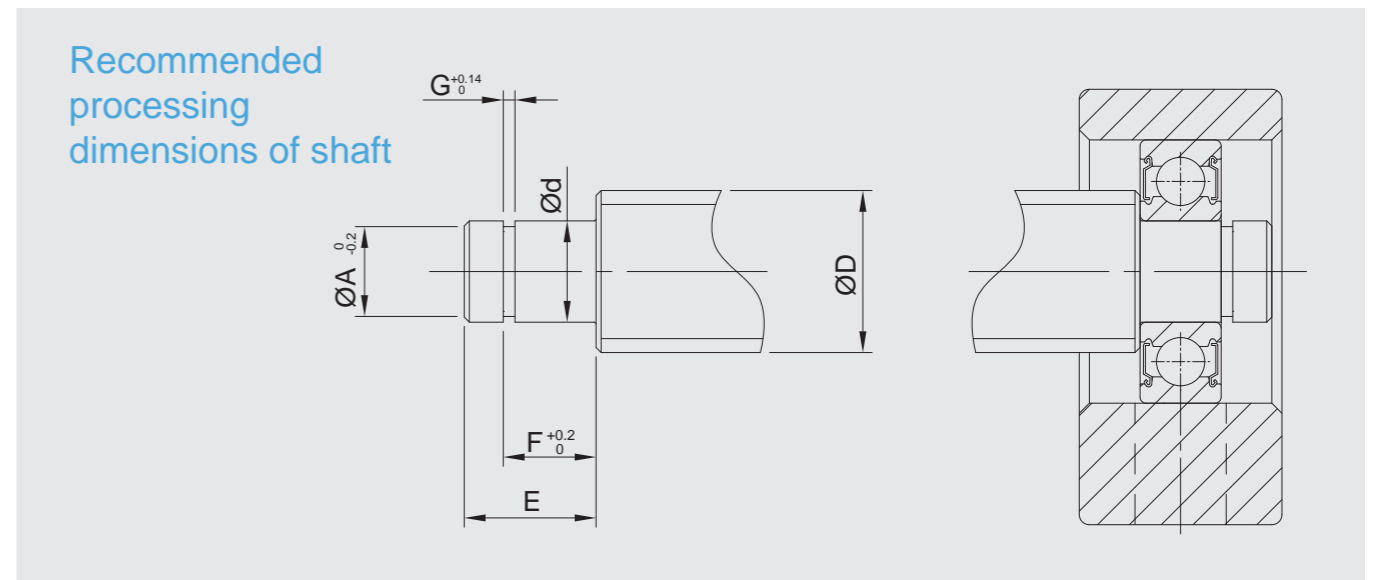
Ordering Example	GTN	10	S	N	J
	Model No.	Shaft Dia.	Grade	Surface finish	Bearing category



Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1
③	Snap ring	SWB	1

- Bearing filled with proper lithium soap lubricant maintenance free.
- Bearing with two steel covers in black dyed.
- Bearing with two touch-type plastic covers in Ni-plating.

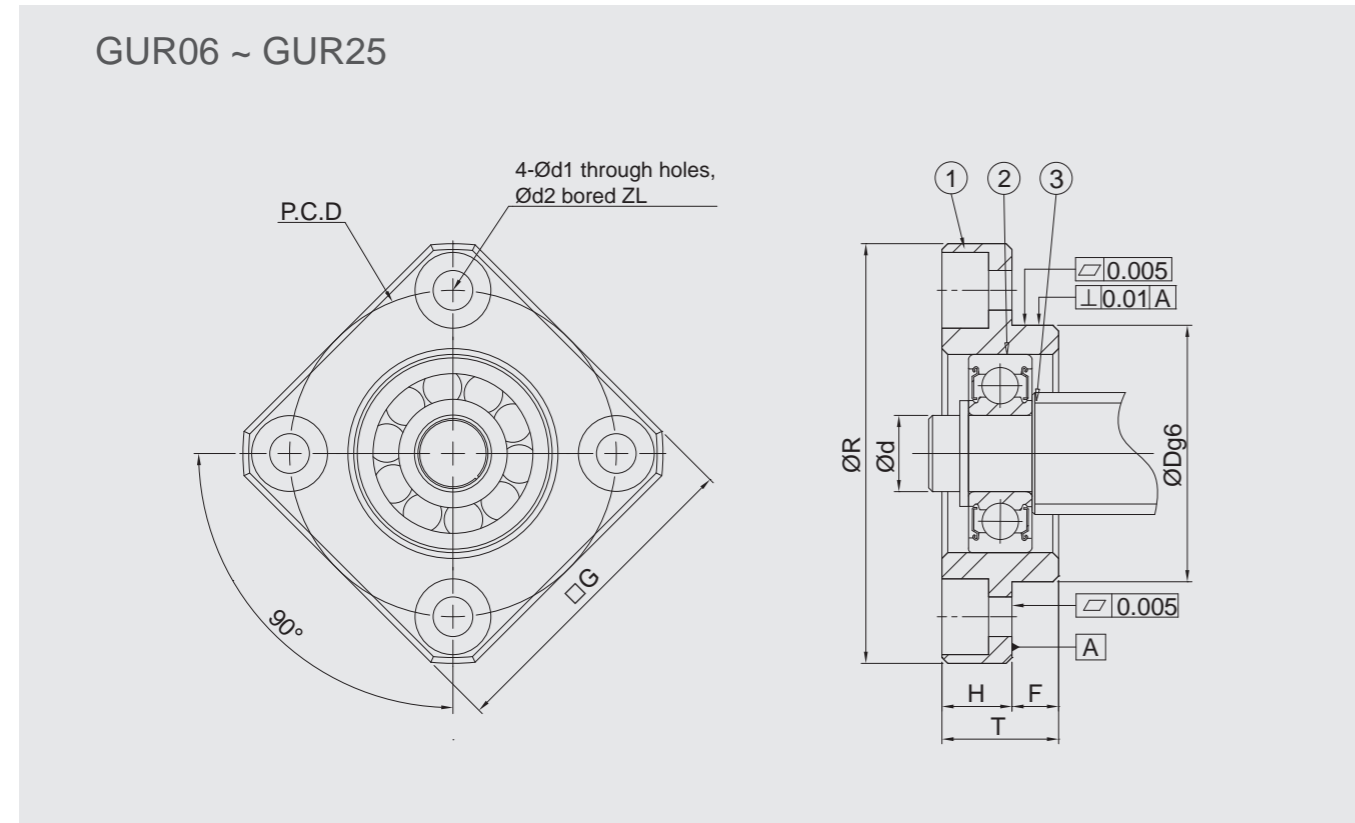


Unit : mm

N±0.02	C	Recommended processing dimensions of shaft						Snap ring
		Ball Screw Shaft O. D.	Shaft End Diameter	Groove sizes machined for snap ring				
		ØD	Ød	ØA	E	F	G	
21	13 ⁰ / _{0.04}	8	6 ^{-0.005} / _{0.012}	6	9	6.7	0.8	S 06
26	17 ⁰ / _{0.04}	8 / 10	6 ^{-0.005} / _{0.012}	6	9	6.7	0.8	S 06
35	25 ⁰ / _{0.04}	12 / 14 / 15	8 ^{-0.005} / _{0.012}	7.6	10	7.9	0.9	S 08
35	25 ⁰ / _{0.04}	14 / 15 / 16	10 ^{-0.005} / _{0.012}	9.6	11	9.15	1.15	S 10
40	30 ⁰ / _{0.04}	18 / 20	15 ^{-0.005} / _{0.014}	14.3	13	10.15	1.15	S 15
47.5	30 ⁰ / _{0.04}	25 / 28 / 30	20 ^{-0.005} / _{0.014}	19	19	15.35	1.35	S 20
52.5	35 ⁰ / _{0.04}	28 / 30 / 32	25 ^{-0.005} / _{0.014}	25	21	16.5	1.35	S 25

• Fixed Side spec please refer to P.42~P.43

Model No.	Parts no. ①	
	Material	Surface Finish
GUR □ □ -B	S50C	Black Dyed
GUR □ □ -N		Ni-Plating



Specification

Standard Type	Dimensions									
	Ød	ØR	□G	T	H	F	ØDg6	PCD	Ød1	Ød2
GUR06- □	6	36	28	10	6	4	22 ^{-0.007} / _{-0.020}	28	3.4	6.5
GUR10- □	10	43	35	12	7	5	28 ^{-0.007} / _{-0.020}	35	3.4	6.5
GUR12- □	12	52	42	15	7	8	34 ^{-0.009} / _{-0.025}	42	4.5	8
GUR15- □	15	63	52	17	9	8	40 ^{-0.009} / _{-0.025}	50	5.5	9.5
GUR20- □	20	85	68	20	11	9	57 ^{-0.010} / _{-0.029}	70	6.6	11
GUR25- □	25	98	79	24	14	10	63 ^{-0.010} / _{-0.029}	80	9	14

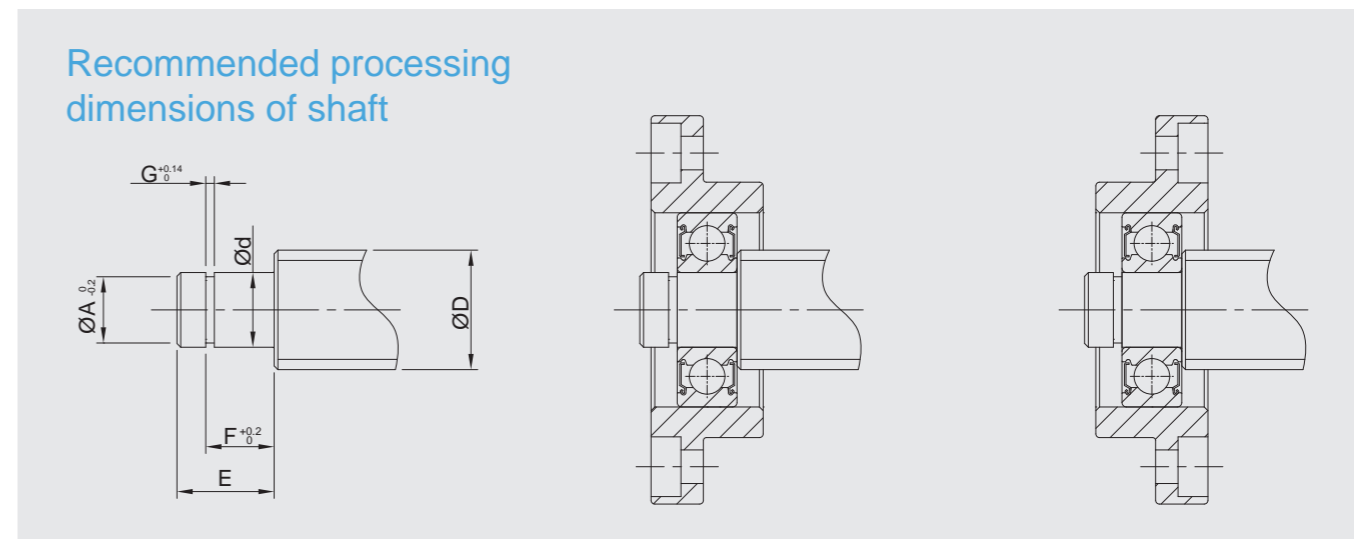
Ordering Example	GUR	10	N	J
	Model No.	Shaft Dia.	Surface finish	Bearing category



Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1
③	Snap ring	SWB	1

- Bearing filled with proper lithium soap lubricant maintenance free.
- Bearing with two steel covers in black dyed.
- Bearing with two touch-type plastic covers in Ni-plating.

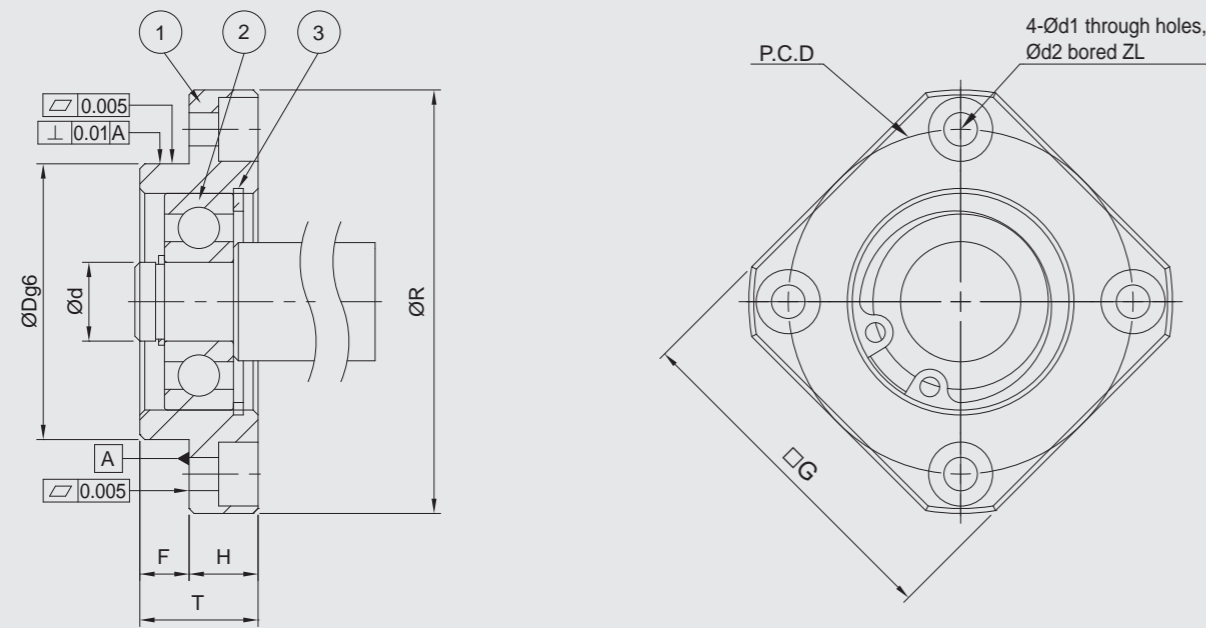


Z	Recommended processing dimensions of shaft						Snap ring
	Ball Screw Shaft O. D.	Shaft End Diameter	Groove sizes machined for snap ring				
	ØD	Ød	ØA	E	F	G	
4	8	6 ^{-0.005} / _{-0.012}	5.7	9	6.8	0.8	S 06
4	12 / 14 / 15	8 ^{-0.005} / _{-0.012}	7.6	10	7.9	0.9	S 08
4	14 / 15	10 ^{-0.005} / _{-0.012}	9.6	11	9.15	1.15	S 10
5.5	18 / 20	15 ^{-0.005} / _{-0.014}	14.3	13	10.15	1.15	S 15
6.5	25 / 28 / 30	20 ^{-0.005} / _{-0.014}	19	19	15.35	1.35	S 20
8.5	30 / 32 / 36	25 ^{-0.005} / _{-0.014}	23.9	20	16.35	1.35	S 25

• Fixed Side spec please refer to P.44~P.45

Model No.	Parts no. ①	
	Material	Surface Finish
GTR □□ -B	S50C	Black Dyed
GTR □□ -N		Ni-Plating

GTR06 ~ GTR25



Specification

Standard Type	Dimensions									
	$\varnothing d$	$\varnothing R$	$\square G$	T	H	F	$\varnothing Dg6$	P.C.D.	$\varnothing d1$	$\varnothing d2$
GTR06-□	6	36	28	10	6	4	22 ^{+0.007} / _{-0.020}	28	3.4	6.5
GTR10-□	10	43	35	12	7	5	28 ^{+0.007} / _{-0.020}	35	3.4	6.5
GTR12-□	12	52	42	15	7	8	34 ^{+0.009} / _{-0.025}	42	4.5	8
GTR15-□	15	63	52	17	9	8	40 ^{+0.009} / _{-0.025}	50	5.5	9.5
GTR20-□	20	85	68	20	11	9	57 ^{+0.010} / _{-0.020}	70	6.6	11
GTR25-□	25	98	79	24	14	10	63 ^{+0.010} / _{-0.020}	80	9	14

Ordering Example	GTR	10	N	J
	Model No.	Shaft Dia.	Surface finish	Bearing category

GTR-B

GTR-N

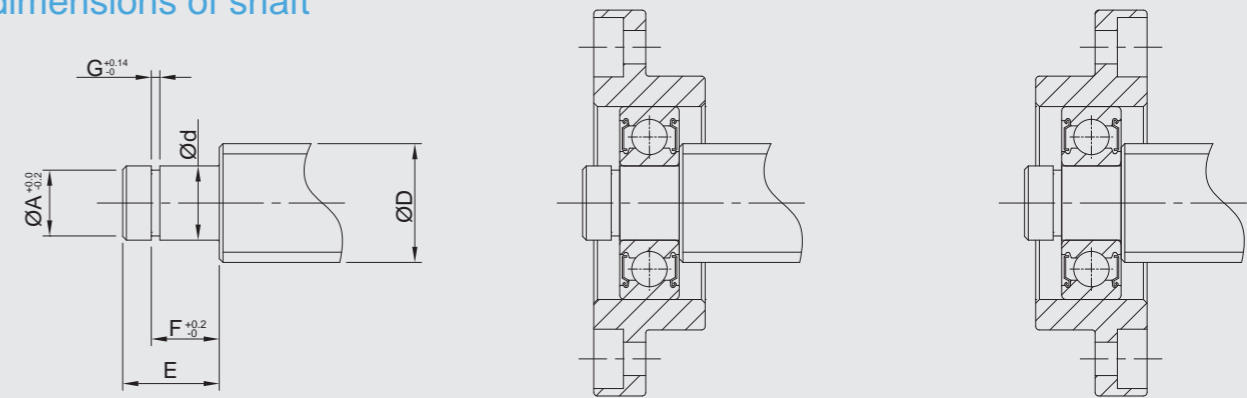


Components

No.	Parts	Material	Q'ty
①	Main housing	S50C	1
②	Bearing	SUJ2	1
③	Snap ring	SWB	1

- Bearing filled with proper lithium soap lubricant maintenance free.
- Bearing with two steel covers in black dyed.
- Bearing with two touch-type plastic covers in Ni-plating.

Recommended processing dimensions of shaft



Unit : mm

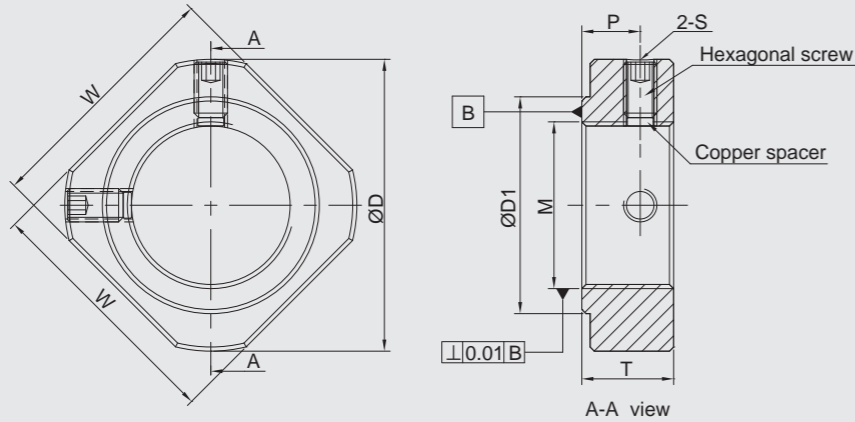
Z	Recommended processing dimensions of shaft						Snap ring
	Ball Screw Shaft O. D.	Shaft End Diameter	Groove sizes machined for snap ring				
Z	$\varnothing D$	$\varnothing d$	$\varnothing A$	E	F	G	
4	8	6 ^{-0.005} / _{-0.012}	5.7	9	6.8	0.8	S 06
4	12 / 14 / 15	8 ^{-0.005} / _{-0.012}	7.6	10	7.9	0.9	S 08
4	14 / 15 / 16	10 ^{-0.005} / _{-0.012}	9.6	11	9.15	1.15	S 10
5.5	18 / 20	15 ^{-0.005} / _{-0.014}	14.3	13	10.15	1.15	S 15
6.5	25 / 28 / 30	20 ^{-0.005} / _{-0.014}	19	19	15.35	1.35	S 20
8.5	30 / 32 / 36	25 ^{-0.005} / _{-0.014}	23.9	20	16.35	1.35	S 25

• Fixed Side spec please refer to P.46~P.47

GRLN-B



GRLN-N

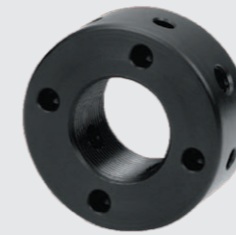


Specification (Material : S50C)

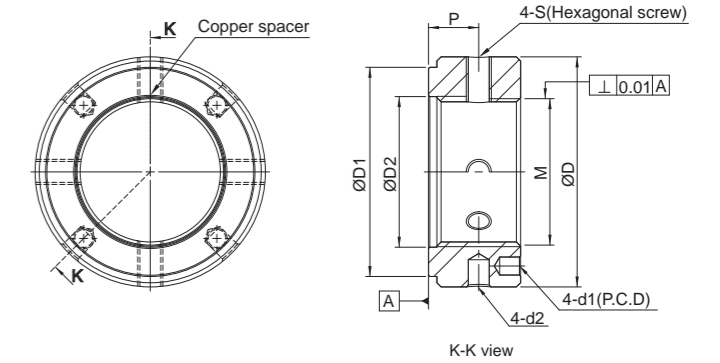
Unit : mm

Model No.		M	W	T	ØD	ØD1	P	S
Black Dyed	Ni Plating							
GRLN06-B	GRLN06-N	M6*P0.75	12	5	14.5	9	2.7	M3
GRLN08-B	GRLN08-N	M8*P1.0	14	6.5	17	13	4	
GRLN10-B	GRLN10-N	M10*P1.0	16	8	19	14	5.5	
GRLN12-B	GRLN12-N	M12*P1.0	19	8	22	17	5.5	
GRLN15-B	GRLN15-N	M15*P1.0	22	8	25	21	4.5	
GRLN17-B	GRLN17-N	M17*P1.0	24	13	30	25	9.5	M4
GRLN20-B	GRLN20-N	M20*P1.0	30	11	35	26	7	
GRLN25-B	GRLN25-N	M25*P1.5	35	15	43	33	10	M5
GRLN30-B	GRLN30-N	M30*P1.5	40	20	48	39	14	M6
GRLN35-B	GRLN35-N	M35*P1.5	50	21	60	46	14	M8
GRLN40-B	GRLN40-N	M40*P1.5	50	25	63	50	18	

GCLN-B



GCLN-N



Specification (Material : S50C)

Unit : mm

Model No.		M	T	ØD	ØD1	ØD2	P.C.D	Ød1	Ød2	P	S	Wrench torque (N.cm)
Black Dyed	Ni Plating											
GCLN17-B	GCLN17-N	M17*P1.0	18	37	27	/	27	4.3	4	10	M6	5400
GCLN20-B	GCLN20-N	M20*P1.0	18	40	30	21	30		4	10		7350
GCLN25-B	GCLN25-N	M25*P1.5	20	45	40	26	35		4	12		13200
GCLN30-B	GCLN30-N	M30*P1.5	20	50	40	31	40		5	11		19600
GCLN35-B	GCLN35-N	M35*P1.5	22	55	50	36	45		5	12		29400
GCLN40-B	GCLN40-N	M40*P1.5	22	60	50	41	50		5	12		39200

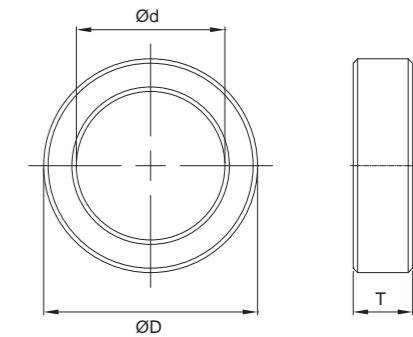
• Copper space integrated to the set screen.

Space Ring

GSR-B



GSR-N



Specification (Material : S50C)

Unit : mm

Model No.		Ød	ØD	T	Model No.		Ød	ØD	T
Black Dyed	Ni Plating				Black Dyed	Ni Plating			
GSR06-B	GSR06-N	6	9.4	5	GSR20-2-B	GSR20-2-N	20	29.4	15
GSR08-B	GSR08-N	8	11.4	5.5	GSR25-B	GSR25-N	25	31.4	9
GSR10-B	GSR10-N	10	14.4	5.5	GSR25-1-B	GSR25-1-N	25	31.4	15
GSR12-B	GSR12-N	12	15.4	5.5	GSR25-2-B	GSR25-2-N	25	39.4	18
GSR12-1-B	GSR12-1-N	12	14.4	5.5	GSR30-B	GSR30-N	30	39.4	9
GSR15-B	GSR15-N	15	19.4	6	GSR30-1-B	GSR30-1-N	30	39.4	18
GSR15-1-B	GSR15-1-N	15	19.4	10	GSR35-B	GSR35-N	35	44.4	12
GSR17-B	GSR17-N	17	24.4	7	GSR35-1-B	GSR35-1-N	35	48.4	18
GSR17-1-B	GSR17-1-N	17	29.4	15	GSR40-B	GSR40-N	40	48.4	15
GSR17-2-B	GSR17-2-N	17	24.4	10					
GSR20-B	GSR20-N	20	25.4	8					
GSR20-1-B	GSR20-1-N	20	25.4	11					

Bearing Reference data

Bearing Reference data

Technical Information
Bearing Reference Data

GMT Model Size & Bearing No.

Fixed Side (Standard)			Fixed Side (Economic)			Fixed Side (Heavy Loading)			Support Side (Standard)															
GMT model	Size	Ball bearing no.	GMT model	Size	Ball bearing no.	GMT model	Size	Ball bearing no.	GMT model	Size	Ball bearing no.	GMT model	Size	Ball bearing no.	GMT model	Size	Ball bearing no.	GMT model	Size	Ball bearing no.	GMT model	Size	Ball bearing no.	
GAK06	06	706	GAK06	06	606				GAF06	06	606	GFF06	06	606	GUN06	06	606	GUR06	06	606				
GAK08	08	708	GAK08	08	608				GAF08	06	606	GFF08	06	606	GUN08	06	606	GUR08	06	606				
GAK10	10	7000	GAK10	10	6000				GAF10	08	608	GFF10	08	608	GUN10	08	608	GUR10	08	608				
GAK12	12	7001	GAK12	12	6001				GAF12	10	6000	GFF12	10	6000	GUN12	10	6000	GUR12	10	6000				
GAK15	15	7002	GAK15	15	6002				GAF15	15	6002	GFF15	15	6002	GUN15	15	6002	GUR15	15	6002				
GAK20	20	7204	GAK20	20	6204				GAF20	20	6204	GFF17	17	6203	GUN20	20	6204	GUR20	20	6204				
GAK25	25	7205	GAK25	25	6204				GAF25	25	6205	GFF20	20	6204	GUN25	25	6205	GUR25	25	6205				
											GFF25	25	6205											
											GFF30	30	6206											
GBK10	10	7000	GBK10	10	6000				GBF10	8	608				GTN06	06	606	GTR06	06	606				
GBK12	12	7001	GBK12	12	6001				GBF12	10	6000				GTN08	06	606	GTR08	06	606				
GBK15	15	7002	GBK15	15	6002				GBF15	15	6002				GTN10	08	608	GTR10	08	608				
GBK17	17	7203	GBK17	17	6203				GBF17	17	6203				GTN12	10	6000	GTR12	10	6000				
GBK20	20	7004	GBK20	20	6004				GBF20	20	6004				GTN15	15	6002	GTR15	15	6002				
GBK25	25	7205	GBK25	25	6004				GBF25	25	6205				GTN20	20	6204	GTR20	20	6204				
									GBF30	30	6206				GTN25	25	6205	GTR25	25	6205				
									GBF35	35	6207													
									GBF40	40	6208													
GEK06	06	706	GEK06	06	606																			
GEK08	08	708	GEK08	08	608																			
GEK10	10	7000	GEK10	10	6000																			
GEK12	12	7001	GEK12	12	6001																			
GEK15	15	7002	GEK15	15	6002																			
GEK20	20	7204	GEK20	20	6204																			

Angular Contact Ball Bearing Types

Code	Contact Angle
C	15°
AC	25°
A	30°
B	40°
TAC	60°

Ball Bearing Accuracy Reference

Code	Accuracy Grade	Description
P2	★★★★★★	ISO Grade 2
P3	★★★★★	Special Accuracy (Dimension Accuracy ISO Grade 4 Rotation Accuracy ISO Grade 2)
P4	★★★★	ISO Grade 4
P5	★★★	ISO Grade 5
P6	★★	ISO Grade 6
P0	★	ISO Grade 0

Ballscrew Grade and Recommended Bearing Reference

Ball Screw Grade	Recommended Pre-Loaded	Recommended Ball Bearing Grade
C0	Medium / Heavy Pre-Loaded	P2 ~ P3
C1	Medium / Heavy Pre-Loaded	P3 ~ P4
C3	Medium / Heavy Pre-Loaded	P4 ~ P5
C5	Light / Medium Pre-Loaded	P5 , P6 , P0
C7	Light Pre-Loaded	P0
C7 C9 C10	Light Pre-Loaded	Code 6 series

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Technical Information
Bearing Reference Data

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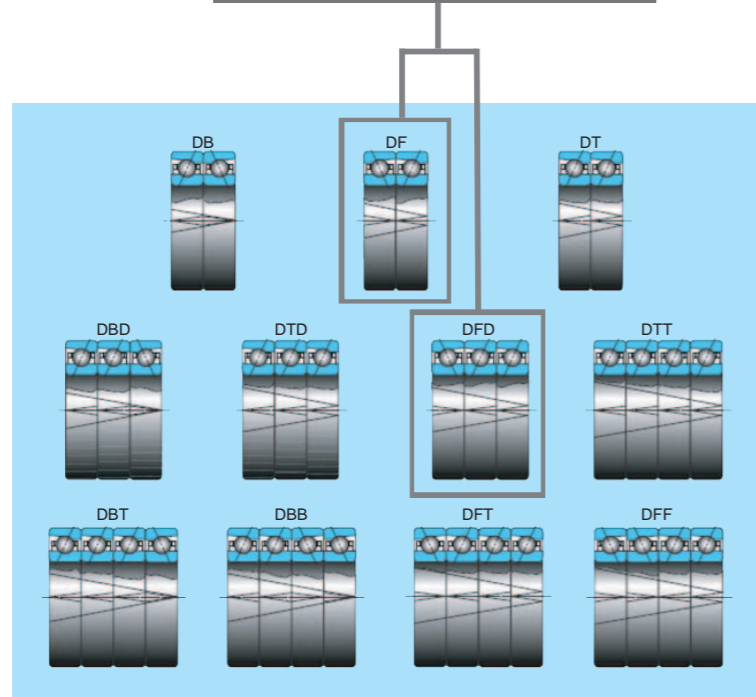
Angular Contact Ball Bearing Assembly Types

Type	Number of Bearings	Description	Type	Number of Bearings	Description
DF	2	Face to Face	DTT	4	4-in-one kit
DB	2	Back to Back	DBT	4	
DT	2	Parallel	DBB	4	
DBD	3	3-in-one kit	DFT	4	
DTD	3		DFF	4	
DFD	3				

Angular Contact Ball Bearing Assembly Characters :

1. GMT uses DF and DFD Assembly Types. All bearing assemblies are preloaded precisely to Customer's specifications before shipping. These bearing assemblies are suitable for negative clearance applications. It is not necessary to adjust the preload on customer's site.
2. DF (Face to Face) assembly is suitable for single loading direction applications due to its feature to restrain increased internal loading occurred from mis-assembly, as an advantage, however the conversed concern is its bad loading ability in the very short time.
3. DB (Back to Back) assembly is able to bear radial loading and two-direction of axial loading to produce high rigidity in the very short time. But, the earlier peeled off problem to the bearings will be happened in case of couple situations such as failed accuracy of support unit, and mis-installation.
4. 3-in-one kit (DBD, DTD, DFD) assembly is able to bear radial and two-direction of axial loading, however, due to disproportionate pre-loaded spreaded, the single bearing is normally bear double loading compared to the other paired-bearing during high speed rotation and cause damages to the bearing. Thus, this assembly is not suggested to be applied for high-speed rotation.

GMT use DF and DFD assembly



Angular Contact Bearing applied to Fixed Side - RPM & Pre-loaded Reference

Japanese Series Ball Bearing (DF, DB Assembly) Rated RPM Reference										
Ball Bearing No.	Ball Bearing Grade	Size	Angular A (30°) Rated RPM	Angular B (40°) Rated RPM	Light Preload (L) Angular Contact A Rated RPM	Light Preload (L) Angular Contact B Rated RPM	Light Preload (M) Angular Contact A Rated RPM	Light Preload (M) Angular Contact B Rated RPM	Light Preload (H) Angular Contact A Rated RPM	Light Preload (H) Angular Contact B Rated RPM
706	P5	6	58000		46400		37700		31900	
708	P5	8	44000		35200		28600		24200	
7000	P5	10	36800	25300	29440	20240	23920	16445	20240	13915
7001	P5	12	32200	23000	25760	18400	20930	14950	17710	12650
7002	P5	15	27600	19550	22080	15640	17940	12708	15180	10753
7203	P5	17	23000	16100	18400	12880	14950	10465	12650	8855
7004	P5	20	20700	14950	16560	11960	13455	9718	11385	8223
7204	P5	20	19550	13800	15640	11040	12708	8970	10753	7590
7205	P5	25	17250	11500	13800	9200	11213	7475	9488	6325
7206	P5	30	13800	9775	11040	7820	8970	6354	7590	5376
7207	P5	35	12075	8050	9660	6440	7849	5233	6641	4428
7208	P5	40	11040	7475	8832	5980	7176	4859	6072	4111

Ball Bearing No.	Ball Bearing Grade	Size	Angular A (30°) Rated RPM	Angular B (40°) Rated RPM	Light Preload (L) Angular Contact A Rated RPM	Light Preload (L) Angular Contact B Rated RPM	Light Preload (M) Angular Contact A Rated RPM	Light Preload (M) Angular Contact B Rated RPM	Light Preload (H) Angular Contact A Rated RPM	Light Preload (H) Angular Contact B Rated RPM
7000	P0	10	32000	22000	25600	17600	20800	14300	17600	12100
7001	P0	12	28000	20000	22400	16000	18200	13000	15400	11000
7002	P0	15	24000	17000	19200	13600	15600	11050	13200	9350
7203	P0	17	20000	14000	16000	11200	13000	9100	11000	7700
7004	P0	20	18000	13000	14400	10400	11700	8450	9900	7150
7204	P0	20	17000	12000	13600	9600	11050	7800	9350	6600
7205	P0	25	15000	10000	12000	8000	9750	6500	8250	5500
7206	P0	30	12000	8500	9600	6800	7800	5525	6600	4675
7207	P0	35	10500	7000	8400	5600	6825	4550	5775	3850
7208	P0	40	9600	6500	7680	5200	6240	4225	5280	3575

Japanese Series Heavy Loading Angular Bearing (DF, DFD Assembly) Rated RPM Reference				
Ball Bearing No.	Size	TAC angle(60°) Rated RPM	DF Assembly TAC Angle Rated RPM	DFD Assembly TAC Angle Rated RPM
17TAC47B	17	6000	5100	4800
20TAC47B	20	6000	5100	4800
25TAC62B	25	4500	3825	3600
30TAC62B	30	4300	3655	3440
35TAC72B	35	3600	3060	2880
40TAC72B	40	3600	3060	2880

Taiwan Series Ball Bearing (Nominal) Rotation Speed										
Ball Bearing No.	Ball Bearing Grade	Size	Angular AC(25°) Rated RPM	Angular C (15°) Rated RPM	Light Preload (L) Angular Contact AC (25°) Rated RPM	Light Preload (L) Angular Contact C (15°) Rated RPM	Light Preload (M) Angular Contact AC (25°) Rated RPM	Light Preload (M) Angular Contact C (15°) Rated RPM	Light Preload (H) Angular Contact AC (25°) Rated RPM	Light Preload (H) Angular Contact C (15°) Rated RPM
708	P5	08	31500	35000	20475	22750	17325	19250	14175	15750
7000	P5	10	33500	30000	21775	19500	18425	16500	15075	13500
7001	P5	12	30000	28000	19500	18200	16500	15400	13500	12600
7002	P5	15	25000	22500	16250	14625	13750	12375	11250	10125
7203	P5	17	20000	19000	13000	12350	11000	10450	9000	8550
7004	P5	20	19000	17000	12350	11050	10450	9350	8550	7650
7204	P5	20	17000	15000	11050	9750	9350	8250	7650	6750
7205	P5	25	15000	13000	9750	8450	8250	7150	6750	5850
7206	P5	30	12000	10000	7800	6500	6600	5500	5400	4500
7207	P5	35	8500	9000	5525	5850	4675	4950	3825	4050
7208	P5	40	7500	8500	4875	5525	4125	4675	3375	3825

Ball Bearing No.	Ball Bearing Grade	Size	Angular A(30°) Rated RPM	Light Preload (L) Angular Contact A (30°) Rated RPM	Medium Preload (M) Angular Contact A (30°) Rated RPM	Heavy Preload (H) Angular Contact A (30°) Rated RPM
7000	P5	10	48200	31330	26510	21690
7001	P5	12	26000	16900	14300	11700
7002	P5	15	23000	14950	12650	10350

Taiwanese Series Heavy Loading Angular Bearing (DF, DFD Assembly) Rated RPM Reference				
Ball Bearing No.	Size	TAC angle(60°) Rated RPM	DF Assembly TAC Angle Rated RPM	DFD Assembly TAC Angle Rated RPM
17TAC47B	17	5400	4590	4320
20TAC47B	20	5400	4590	4320
25TAC62B	25	4050	3443	3240
30TAC62B	30	3870	3290	3096
35TAC72B	35	3240	2754	2592
40TAC72B	40	3240	2754	2592

Please refer to the motor driver and ballscrew grade before choosing a proper fixed side model.

Angular Contact Bearing (DF, DB, DT Assembly) Rated Loading Reference

Japanese Series Balling Bearing				Taiwan Series Ball Bearing			
Model	Contact angle	Dynamic load in KN	Static load inKN	Model	Contact angle	Dynamic load in KN	Static load inKN
706A	30°	3.28	1.59	708C	15°	4.86	3.20
708A	30°	5.42	2.90	7000C	15°	6.48	4.80
7000A	30°	8.10	4.68	7001C	15°	8.10	6.00
7001A	30°	8.74	5.42	7002C	15°	8.58	6.60
7002A	30°	9.39	6.30	7203C	15°	18.30	14.80
7203A	30°	16.36	10.90	7004C	15°	15.55	12.60
7004A	30°	16.68	12.20	7204C	15°	21.22	19.20
7204A	30°	22.03	15.10	7205C	15°	27.21	26.20
7205A	30°	24.94	18.90	7206C	15°	37.90	37.60
7206A	30°	34.50	27.20	7207C	15°	41.79	45.80
7207A	30°	45.68	37.00	7208C	15°	55.24	61.80
7208A	30°	54.27	46.60				
Model	Contact angle	Dynamic load in KN	Static load inKN	Model	Contact angle	Dynamic load in KN	Static load inKN
7000B	40°	7.50	4.40	708AC	25°	4.53	3.00
7001B	40°	8.10	5.00	7000AC	25°	6.15	4.60
7002B	40°	8.50	5.70	7001AC	25°	7.77	5.60
7203B	40°	16.20	11.10	7002AC	25°	8.26	6.20
7004B	40°	15.20	11.10	7203AC	25°	17.65	14.20
7204B	40°	21.70	15.30	7004AC	25°	14.90	12.00
7205B	40°	24.00	18.80	7204AC	25°	20.41	18.40
7206B	40°	33.30	27.10	7205AC	25°	26.08	25.00
7207B	40°	59.38	48.10	7206AC	25°	36.12	36.00
7208B	40°	70.55	60.58	7207AC	25°	39.69	43.80
				7208AC	25°	52.65	59.00
Model	Contact angle	Dynamic load in KN	Static load inKN				
7000A	30°	7.29	4.21				
7001A	30°	7.87	4.88				
7002A	30°	8.45	5.67				

Heany Loading Angular Bearing (DF, DB, DT Assembly) Rated Loading Reference

Japanese Series Balling Bearing					
Model	Contact angle	DF Dynamic load in KN	DF Static load inKN	DFD Dynamic load in KN	DFD Static load inKN
17TAC47B	60°	38.31	59.40	50.84	89.10
20TAC47B	60°	34.39	55.00	45.64	82.50
25TAC62B	60°	50.79	91.30	67.40	136.95
30TAC62B	60°	46.33	85.80	61.49	128.70
35TAC72B	60°	55.24	118.80	73.32	178.20
40TAC72B	60°	53.46	110.00	70.95	165.00
Taiwan Series Ball Bearing					
Model	Contact angle	DF Dynamic load in KN	DF Static load inKN	DFD Dynamic load in KN	DFD Static load inKN
17TAC47B	60°	34.83	54	46.22	81.00
20TAC47B	60°	31.26	50	41.49	75.00
25TAC62B	60°	46.17	83	61.27	124.50
30TAC62B	60°	42.12	78	55.90	117.00
35TAC72B	60°	50.22	108	66.65	162.00
40TAC72B	60°	48.60	100	64.50	150.00

Fixde Side

Rectangle Design

GMT	THK	NSK
GAK06	AK06	/
GAK08	AK08	/
GAK10	AK10	WBK10-01A
GAK12	AK12	WBK12-01A
GAK15	AK15	WBK15-01A
GAK20	AK20	WBK20-01A
GAK25	AK25	WBK25-01A

Protruding Design

GMT	THK	NSK
GEK06	EK06	WBK06-01A
GEK08	EK08	WBK08-01A
GEK10	EK10	/
GEK12	EK12	/
GEK15	EK15	/
GEK20	EK20	/

Rectangle Design

GMT	KURODA
GSW06	GSWE06 BUK-6
GSW08	GSWE08 BUK-8
GSW10	GSWE10 BUK-10
GSW12	GSWE12 BUK-12
GSW15	GSWE15 BUK-15
GSW20	GSWE20 BUK-20
GSW25	GSWE25 BUK-25

Two-Way Mounting Design

GMT	THK
GBK10	BK10
GBK12	BK12
GBK15	BK15
GBK17	BK17
GBK20	BK20
GBK25	BK25
GBK30	BK30
GBK35	BK35
GBK40	BK40

Round Design

GMT	THK	NSK
GFK06	FK06	WBK06-01A
GFK08	FK08	WBK08-01A
GFK10	FK10	WBK10-01A
GFK12	FK12	WBK12-01A
GFK15	FK15	WBK15-01A
GFK17	FK17	WBK17-01A
GFK20	FK20	WBK20-01A
GFK25	FK25	WBK25-01A
GFK30	FK30	/

Round Design

GMT	KURODA
GRW06	GRWE06 BUM-6
GRW08	GRWE08 BUM-8
GRW10	GRWE10 BUM-10
GRW12	GRWE12 BUM-12
GRW15	GRWE15 BUM-15
GRW20	GRWE20 BUM-20
GRW25	GRWE25 BUM-25

Support Side

Rectangle Design

GMT	THK	NSK
GAF06	AF06	/
GAF08	AF08	/
GAF10	AF10	WBK10S-01
GAF12	AF12	WBK12S-01
GAF15	AF15	WBK15S-01
GAF20	AF20	WBK20S-01
GAF25	AF25	WBK25S-01

Protruding Design

GMT	THK	NSK
GEF06	EF06	/
GEF08	EF08	WBK08S-01
GEF10	EF10	/
GEF12	EF12	/
GEF15	EF15	/
GEF20	EF20	/

Rectangle Design

GMT	KURODA
GUN06	GUN06 BUK-6S
GUN08	GUN08 BUK-8S
GUN10	GUN10 BUK-10S
GUN12	GUN12 BUK-12S
GUN15	GUN15 BUK-15S
GUN20	GUN20 BUK-20S
GUN25	GUN25 BUK-25S

Two-Way Mounting Design

GMT	THK
GBF10	BF10
GBF12	BF12
GBF15	BF15
GBF17	BF17
GBF20	BF20
GBF25	BF25
GBF30	BF30
GBF35	BF35
GBF40	BF40

Round Design

GMT	THK	NSK
GFF06	FF06	/
GFF08	FF08	/
GFF10	FF10	/
GFF12	FF12	/
GFF15	FF15	/
GFF20	FF20	/
GFF25	FF25	/
GFF30	FF30	/

Round Design

GMT	KURODA
GUR06	GUR06 BUM-6S
GUR08	GUR08 BUM-8S
GUR10	GUR10 BUM-10S
GUR12	GUR12 BUM-12S
GUR15	GUR15 BUM-15S
GUR20	GUR20 BUM-20S
GUR25	GUR25 BUM-25S