

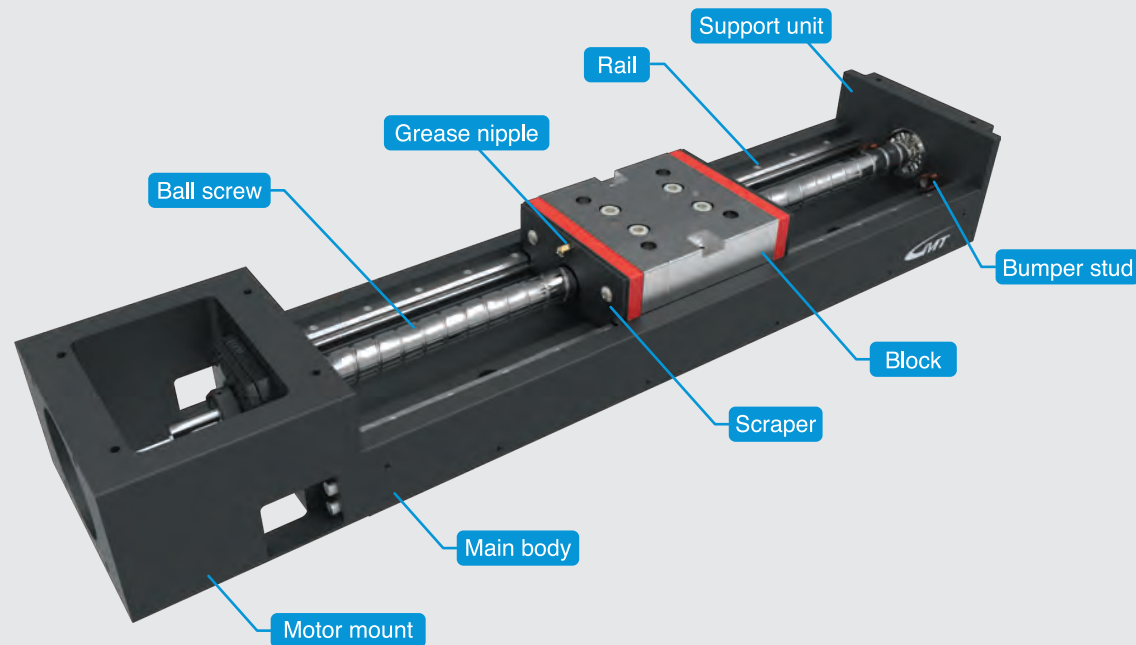
## Linear Actuators

---

## Features

- ◎ Guiding type - Gothic arc - groove rail with linear ball bearing formed to a strong structure.
- ◎ Ball screw feeding is equipped high and easy changeable transmission, as well as its high precision and life utility feature.
- ◎ Accuracy of Precision Type(P) and Standard(N) Type combined to various rail length for options fit to needs.
- ◎ Lightweight design from aluminum alloy material to save transportation budget and inconvenience.
- ◎ High rigidity design from carbon steel material to strengthen structural rigidity.

## Structure Introduction



## Selection Steps

- ① Main unit(P.0465 ~ P.0472)→
- ② Motor mount adaptings(P.0474 ~ P.0480)→
- ③ Couplings(P.0481)→
- ④ Sensor sets(P.0483)→
- ⑤ Dustproof covers(P.0484)→
- ⑥ Sensor set protection covers(P.0484)

## Steps in Choosing Product Type

1 Basic needs	2 Accuracy needs	3 Axis numbers	4 Motor options	5 Motor loading
<ul style="list-style-type: none"> <li>◎ Available stroke</li> <li>◎ Space limitation(Length, Width, Height)</li> <li>◎ Mount type(Horizontal, Vertical, Side - haning)</li> <li>◎ Loading center of gravity location operation request(Lead, Speed-acceleration / Deceleration, Frequency of use)</li> <li>◎ Application environment(High temperature, Vibration, Greasy, Corrodent enviroment)</li> </ul>	<ul style="list-style-type: none"> <li>◎ Positioning accuracy</li> <li>◎ Repeatability accuracy</li> <li>◎ Movement Parallelism</li> </ul>	<ul style="list-style-type: none"> <li>◎ Single axis</li> <li>◎ Double axes</li> <li>◎ Multi axes</li> <li>◎ Special combination</li> </ul>	<ul style="list-style-type: none"> <li>◎ AC Servo motors</li> <li>◎ Stepper motors</li> <li>(Option on request)</li> </ul>	<ul style="list-style-type: none"> <li>◎ Max. speed</li> <li>◎ Motor resolution</li> <li>◎ Motor torque</li> </ul>

## GKA & GKS Characteristic

	GKA(Aluminum)	GKS(Steel)
Accuracy	Regular repeatability	Precision(Repeatability, Positioning accuracy, Running parallelism)
Load capacity	Medium loading	Heavy loading
Weight	Medium	Heavy
Rigidity	Aluminum base with standard performance	Steel base with good rigidity
Clean	Standard	Standard
Anti-corrosion	Standard	Standard
Feeding type	Ball screw(Long stroke, High speed)	Ball screw(Long stroke, High precision)
Drive to ball screw	Direct	Direct
Dustproof cover	Option on request	Option on request
Lock type	Bottom to up	Bottom to up

© Optional Accessories: Motor adopt mountings, couplings, dustproof covers, sensor protection covers are options referred to P.0474 ~ P.0484.

### Model Specifications

GKA	3065	150	1	2	P	P5
Model No.	Size(H x W)	Rail L	Block Type	Feeding	Accuracy	Ball Screw Lead
GKA(Aluminum) GKS(Steel)	30*65 mm	150 mm 200 mm 250 mm 300 mm	Standard block	Ball screw	P : Precision N : Standard	P5 : 5 mm

GKA	4270	150	1	2	P	P5
Model No.	Size(H x W)	Rail L	Block Type	Feeding	Accuracy	Ball Screw Lead
GKA(Aluminum) GKS(Steel)	42*70 mm	150 mm 200 mm 300 mm 400 mm 500 mm 600 mm	Standard block	Ball screw	P : Precision N : Standard	P5 : 5 mm P10 : 10 mm

GKA	5496	340	1	2	P	P10
Model No.	Size(H x W)	Rail L	Block Type	Feeding	Accuracy	Ball Screw Lead
GKA(Aluminum) GKS(Steel)	54*96 mm	340 mm 440 mm 540 mm 640 mm 740 mm 940 mm	Standard block	Ball screw	P : Precision N : Standard	P10 : 10 mm P20 : 20 mm

GKA	60110	340	1	2	P	P20
Model No.	Size(H x W)	Rail L	Block Type	Feeding	Accuracy	Ball Screw Lead
GKA(Aluminum) GKS(Steel)	60*110 mm	980 mm 1080 mm 1180 mm 1280 mm 1380 mm	Standard block	Ball screw	P : Precision N : Standard	P20 : 20 mm

### Accuracy Grade

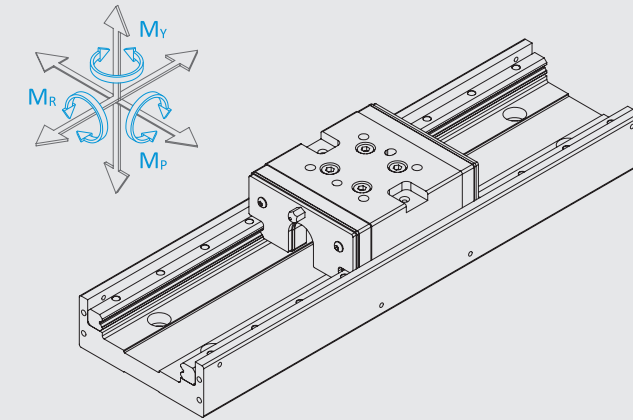
(Unit : mm)

Model No.	Rail L	Repeatability Accuracy		Positioning Accuracy		Movement Paralleism		Max. Torque (N·cm)				
		Standard	Precision	Standard	Precision	Standard	Precision	Standard	Precision			
GK□3065	150	±0.01	±0.003	0.05	0.02	0.02	0.01	2	4			
	200											
	250											
	300											
GK□4270	150	±0.01	±0.003	0.05	0.02	0.02	0.01	7	15			
	200											
	300											
	400			0.1	0.025	0.03	0.015					
	500											
	600											
GK□5496	340	±0.01	±0.003	0.1	0.025	0.03	0.015	10	15			
	440											
	540											
	640			0.15	0.03	0.04	0.02					
	740											
	940											
GK□60110	980	±0.01	±0.005	0.15	0.04	0.05	0.025	12	20			
	1080											
	1180									0.05	0.06	0.03
	1280											
	1380											

Max. Speed

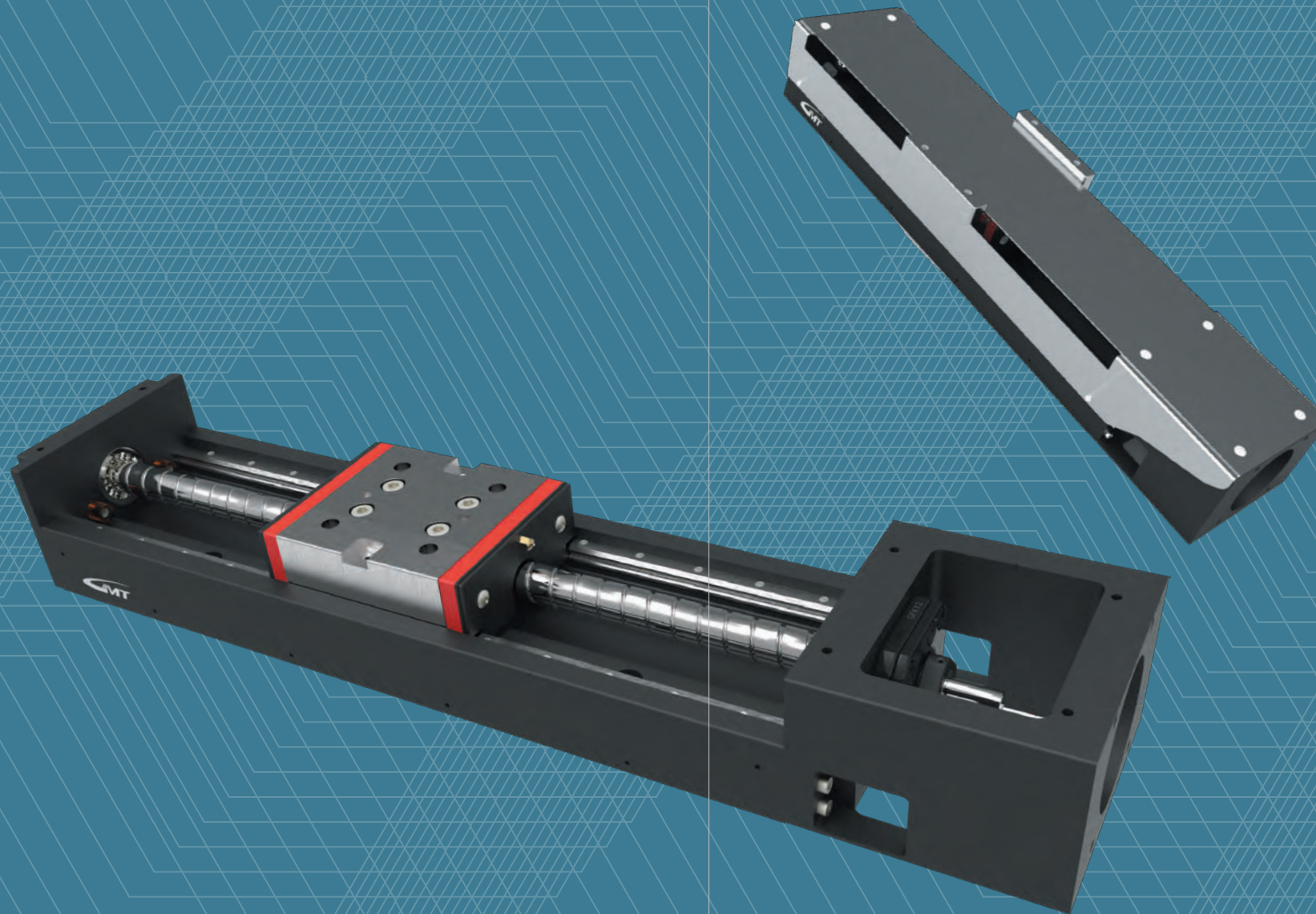
Model No.	Ball Screw Lead(mm)	Rail L(mm)	Speed(mm / sec)	
			Standard	Precision
GK□3065	5	150	270	270
		200		
		250		
		300		
GK□4270	5	150	550	550
		200		
		300		
		400		
		500		
	10	150	1100	1100
		200		
		300		
		400		
		500		
GK□5496	10	340	740	550
		440		
		540		
		640		
		740		
	20	940	1480	1100
		340		
		440		
		540		
		640		
740	20	940	1480	1100
		340		
		440		
		540		
		640		
GK□60110	20	980	1120	1120
		1080	980	980
		1180	750	750
		1280	630	630
		1380	530	530

Loading Specifications



Model No.	Ball Screw				Linear Guide					
	Dia (mm)	Lead (mm)	Basic Rated Dynamic Loading (N)	Basic Rated Static Loading (N)	Main Unit					
					Basic Rated Dynamic Loading (N)	Basic Rated Static Loading (N)	Allowable Torque			
				Pitching (N·m)			Yawing (N·m)	Rolling (N·m)		
GK□3065	Standard	10	5	2730	4440	5644	9102	82	82	155
	Precision									
GK□4270	Standard	12	5	3240	5930	9314.4	15110	107	107	295
	Precision									
	Standard									
Precision										
GK□5496	Standard	15	10	7100	12610	22168	35660	428	428	1032
	Precision									
	Standard									
Precision										
GK□60110	Standard	20	20	6766	15101	279600	44575	675	675	1535
	Precision			5840	11280					

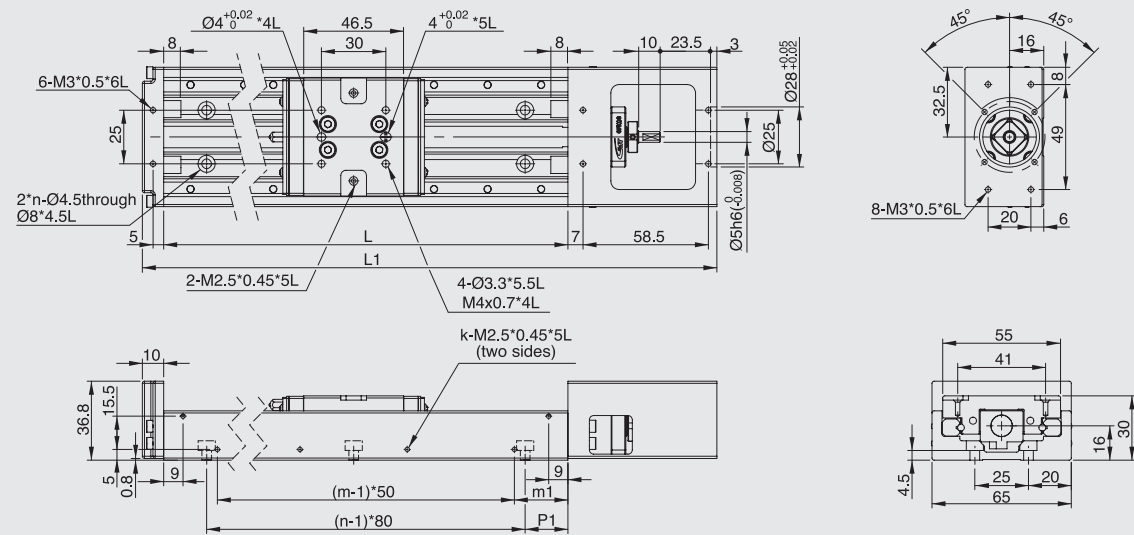
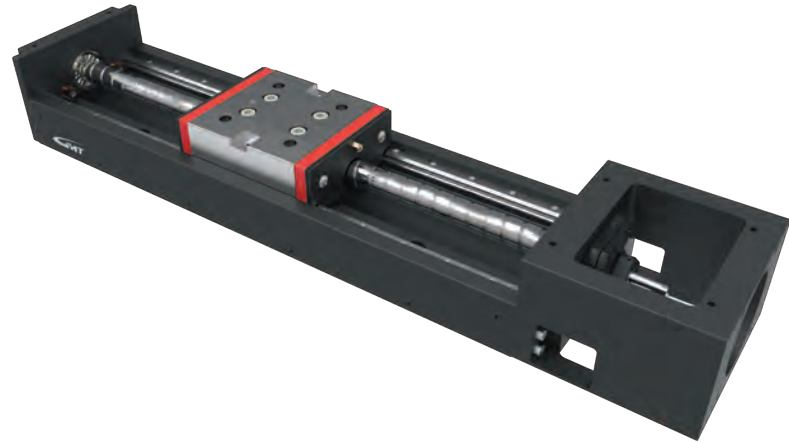




Product  
Specification  
**Linear  
Actuators**

## GK□3065 Specifications

Order Example : GKA3065 - 150 - 12P - P5(Main unit)+ Optional accessories models(P.0474 ~ P.0484).

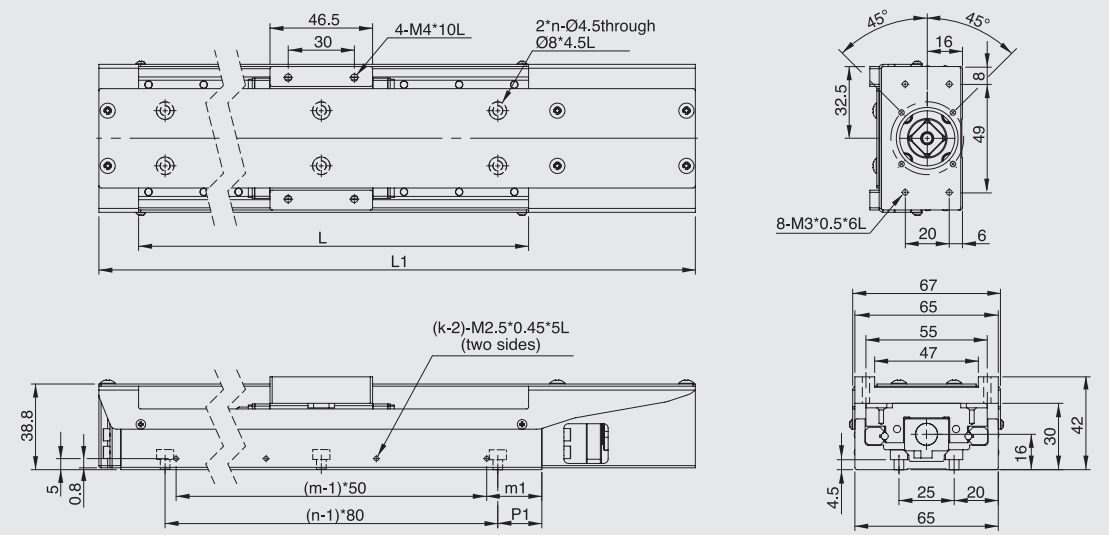
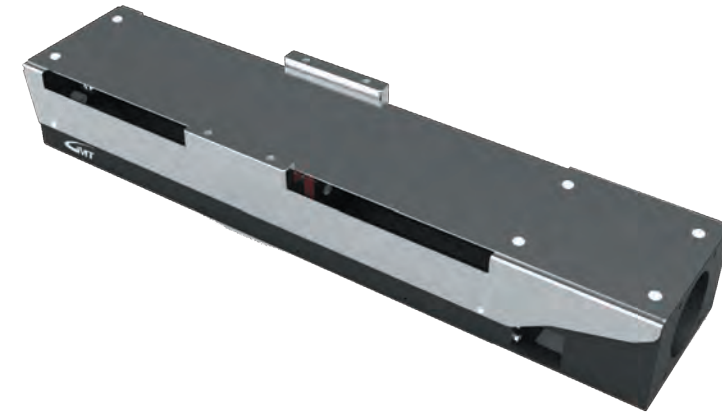


Model No.	Rail L (mm)	Total L1 (mm)	Max. Stroke (mm)	k	m	m1	n	P1	Main Unit Weight(Kg)	
									GKA	GKS
GK□3065	150	229.5	67	5	3	25	2	35	1.2	1.6
	200	279.5	117	6	4		3	20	1.3	2.0
	250	329.5	167	7	5		3	45	1.5	2.3
	300	379.5	217	8	6		4	30	1.6	2.6

© Example picture shown above is GKA5496 - 340.  
© Both GKA and GKS apply to the above specifications.

## GK□3065 w / Dustproof Cover Specifications

Order Example : GKA3065 - 150 - 12P - P5(Main unit)+Optional accessories models(P.0474 ~ P.0484).

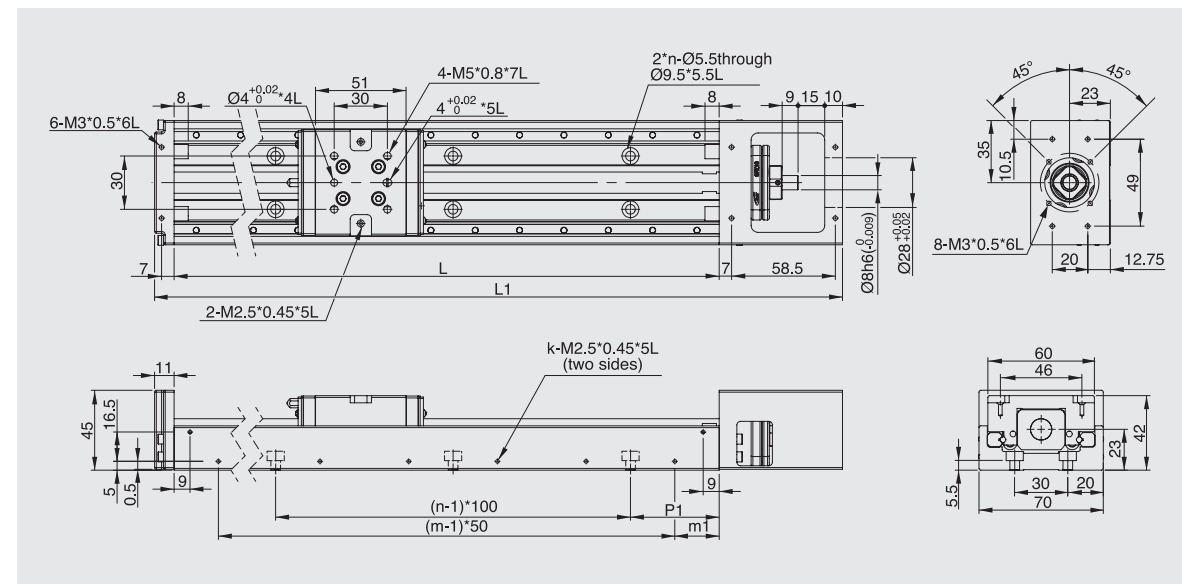
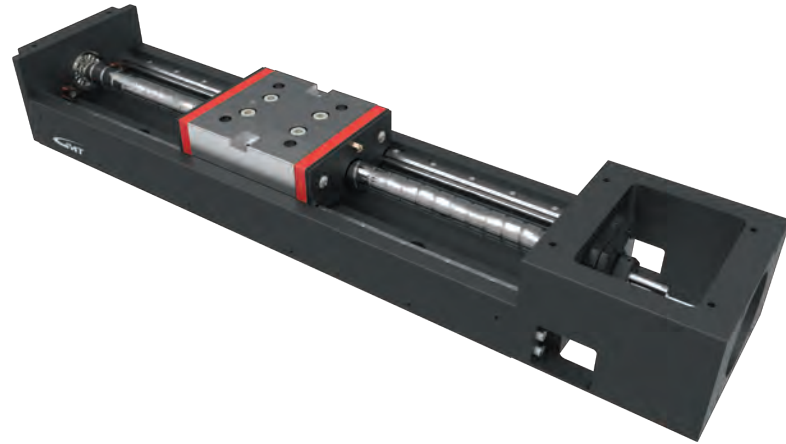


Model No.	Rail L (mm)	Total L1 (mm)	Max. Stroke (mm)	k	m	m1	n	P1	Main Unit Weight(Kg)	
									GKA	GKS
GK□3065	150	229.5	67	5	3	25	2	35	1.5	1.9
	200	279.5	117	6	4		3	20	1.6	2.3
	250	329.5	167	7	5		3	45	1.8	2.6
	300	379.5	217	8	6		4	30	1.9	2.9

© Example picture shown above is GKA5496 - 340 with dustproof cover.  
© Both GKA and GKS apply to the above specifications.

### GK□4270 Specifications

Order Example : GKA4270 - 150 - 12P - P5 (Main unit)+Optional accessories models(P.0474 ~ P.0484).

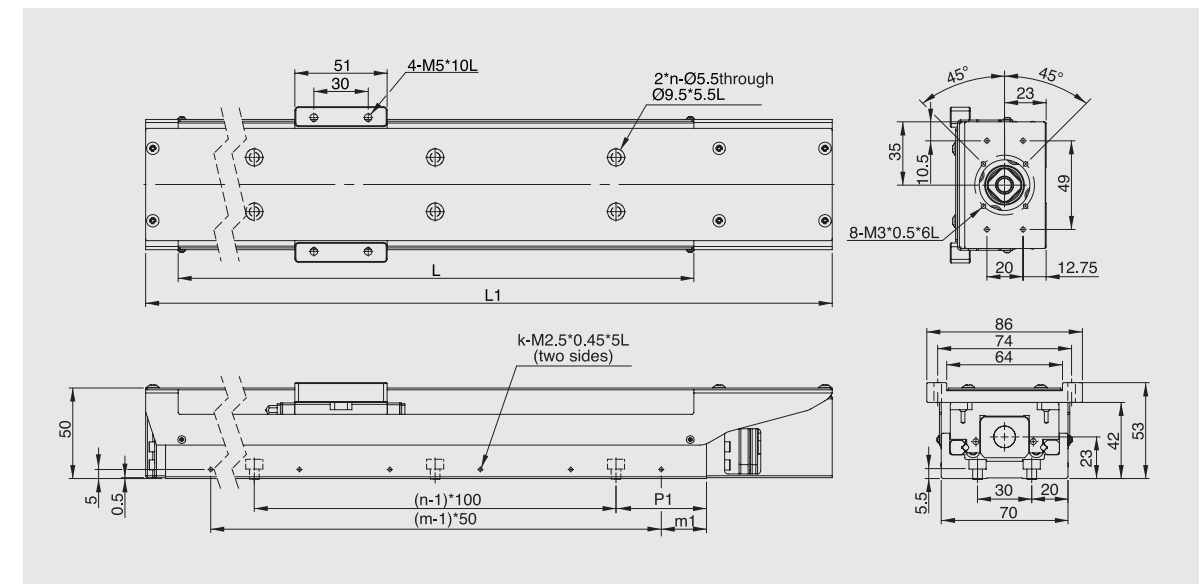
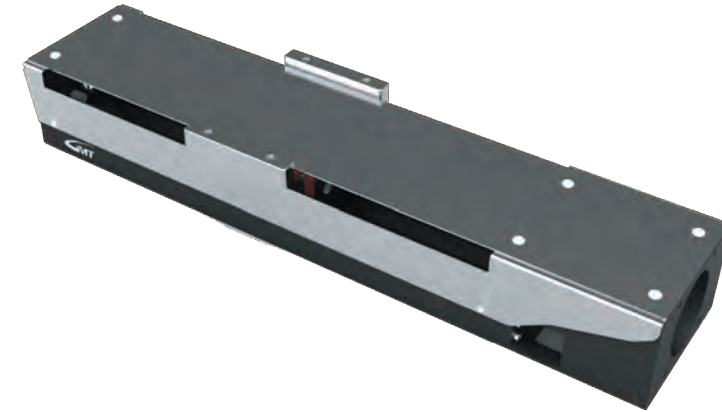


Model No.	Rail L (mm)	Total L1 (mm)	Max. Stroke (mm)	k	m	m1	n	P1	Main Unit Weight(Kg)	
									GKA	GKS
GK□4270	150	230.5	63	5	3	25	2	25	1.7	2.4
	200	280.5	113	6	4		2	50	2.1	2.9
	300	380.5	213	8	6		3		2.5	3.8
	400	480.5	313	10	8		4		2.9	4.6
	500	580.5	413	12	10		5		3.3	5.4
	600	680.5	513	14	12		6		3.7	6.3

◎ Example picture shown above is GKA5496 - 340.  
 ◎ Both GKA and GKS apply to the above specifications.

### GK□4270 w / Dustproof Cover Specifications

Order Example : GKA4270 - 150 - 12P - P5 (Main unit)+Optional accessories models(P.0474 ~ P.0484).

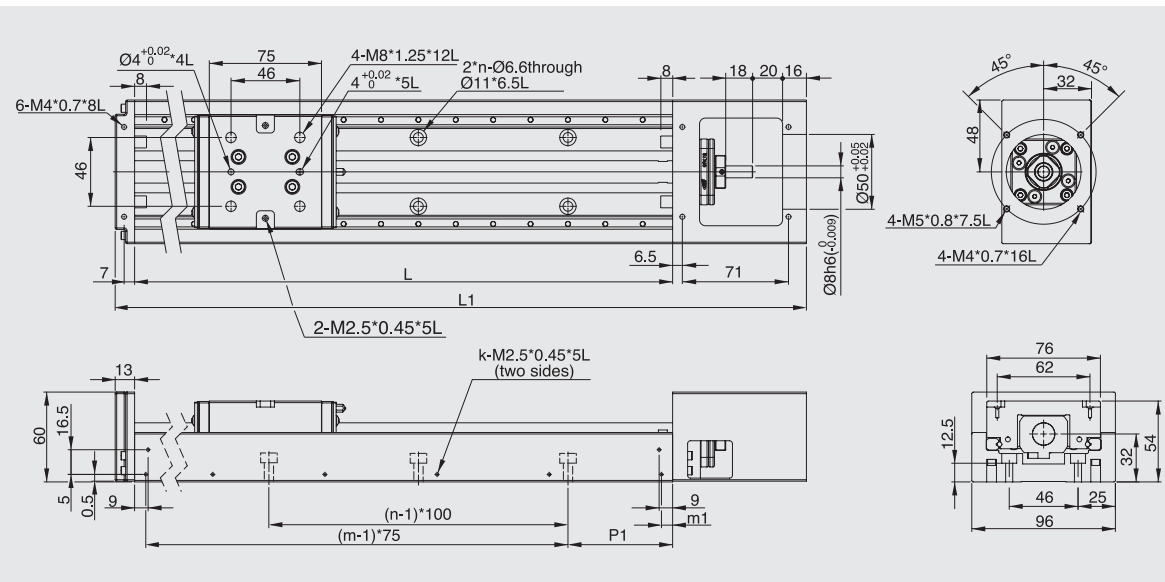
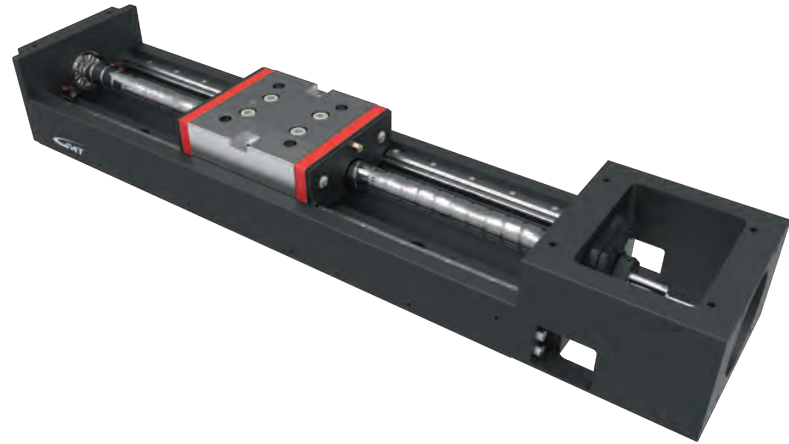


Model No.	Rail L (mm)	Total L1 (mm)	Max. Stroke (mm)	k	m	m1	n	P1	Main Unit Weight(Kg)	
									GKA	GKS
GK□4270	150	230.5	63	5	3	25	2	25	2.1	2.8
	200	280.5	113	6	4		2	50	2.5	3.3
	300	380.5	213	8	6		3		2.9	4.2
	400	480.5	313	10	8		4		3.3	5.0
	500	580.5	413	12	10		5		3.7	5.8
	600	680.5	513	14	12		6		4.1	6.7

◎ Example picture shown above is GKA5496 - 340 with dustproof cover.  
 ◎ Both GKA and GKS apply to the above specifications.

## GK□5496 Specifications

Order Example : GKA5496 - 340 - 12P - P10 (Main unit)+Optional accessories models(P.0474 ~ P.0484).

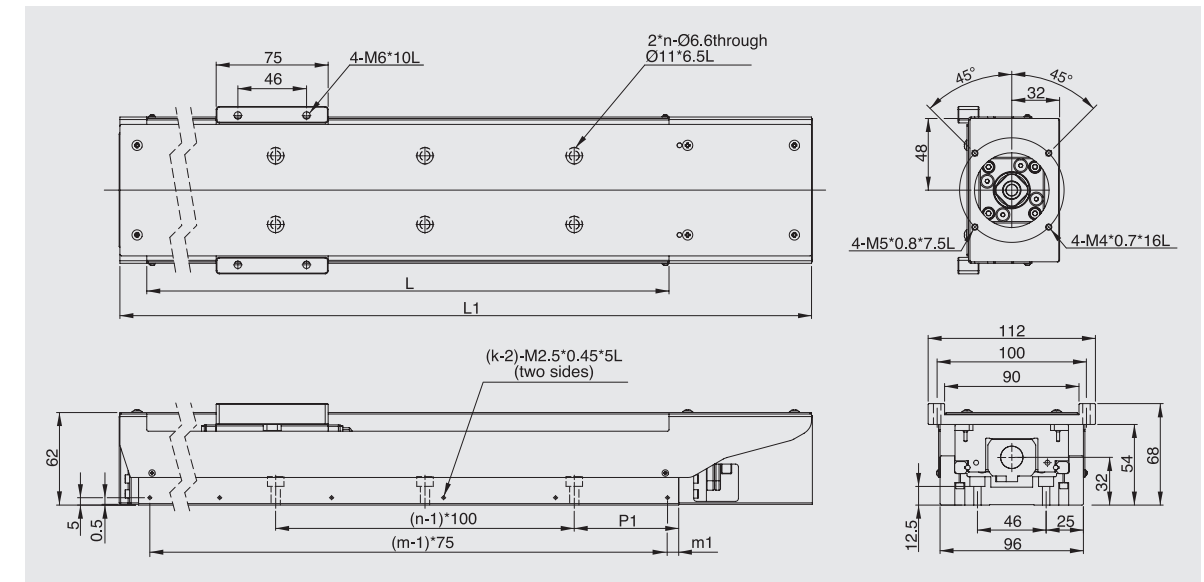
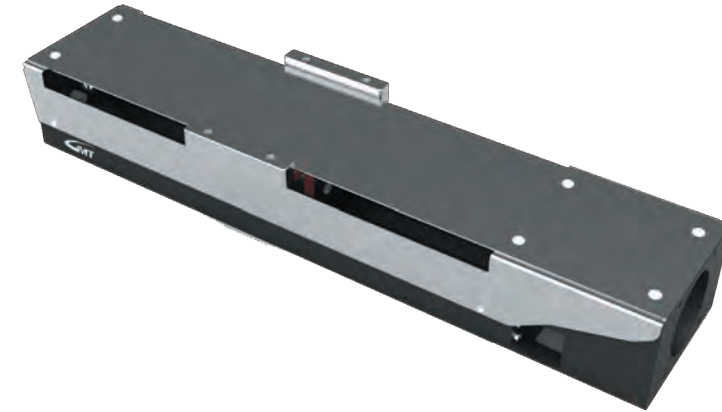


Model No.	Rail L (mm)	Total L1 (mm)	Max. Stroke (mm)	k	m	m1	n	P1	Main Unit Weight(Kg)	
									GKA	GKS
GK□5496	340	442.5	229	6	4	57.5	3	70	4.7	7.9
	440	542.5	329	8	6	32.5	4		5.4	9.6
	540	642.5	429	10	8	7.5	5		6.1	11.2
	640	742.5	529	10	8	57.5	6		6.8	12.9
	740	842.5	629	12	10	32.5	7		7.5	14.5
	940	1042.5	829	14	12	57.5	9		9.1	17.9

- ⊙ Example picture shown above is GKA5496 - 340.
- ⊙ Both GKA and GKS apply to the above specifications.

## GK□5496 W / Dustproof Cover Specifications

Order Example : GKA5496 - 340 - 12P - P10(Main unit)+Optional accessories models(P.0474 ~ P.0484).



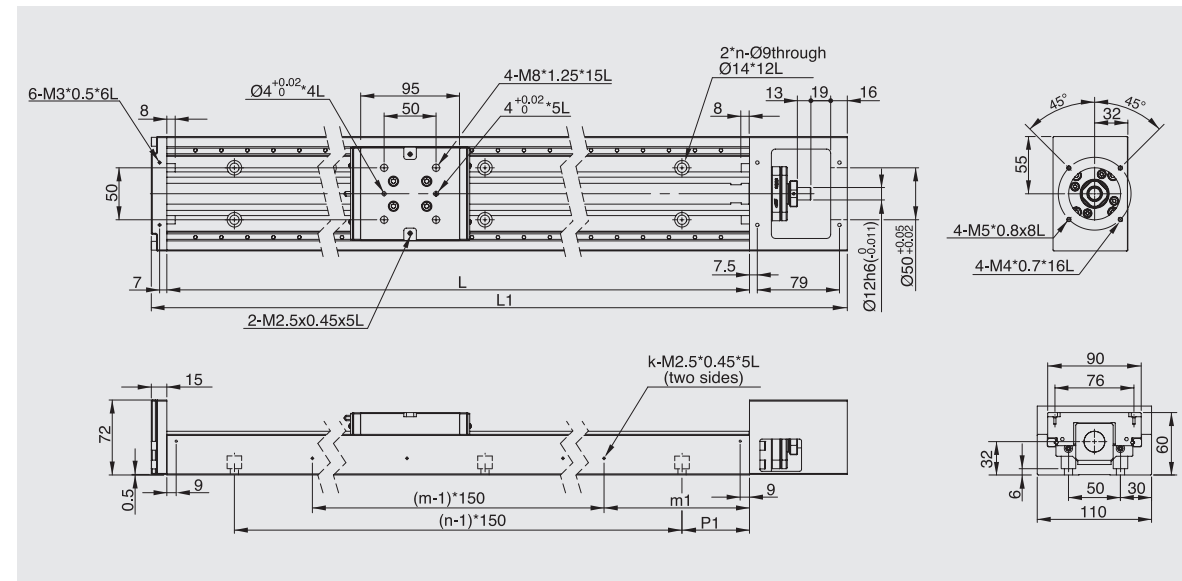
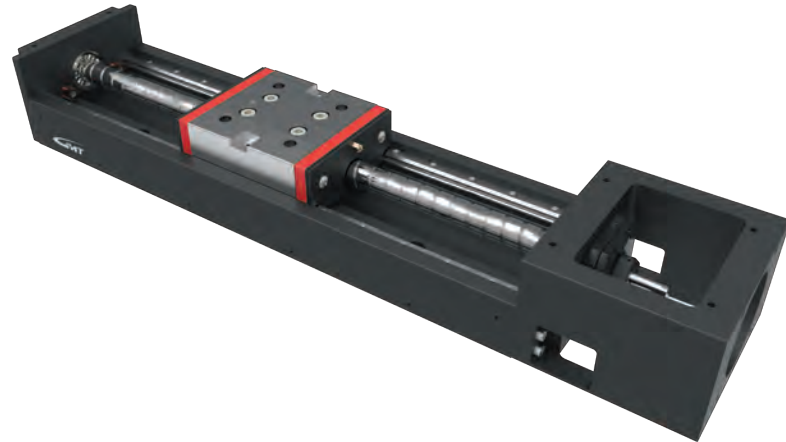
Model No.	Rail L (mm)	Total L1 (mm)	Max. Stroke (mm)	k	m	m1	n	P1	Main Unit Weight(Kg)	
									GKA	GKS
GK□5496	340	442.5	229	6	4	57.5	3	70	5.4	8.6
	440	542.5	329	8	6	32.5	4		6.1	10.3
	540	642.5	429	10	8	7.5	5		6.9	12.0
	640	742.5	529	10	8	57.5	6		7.7	13.8
	740	842.5	629	12	10	32.5	7		8.4	15.4
	940	1042.5	829	14	12	57.5	9		10.0	18.8

- ⊙ Example picture shown above is GKA5496 - 340 with dustproof cover.
- ⊙ Both GKA and GKS apply to the above specifications.



## GK□60110 Specifications

Order Example : GK60110 - 980 - 12P - P20(Main unit)+Optional accessories models(P.0474 ~ P.0484).

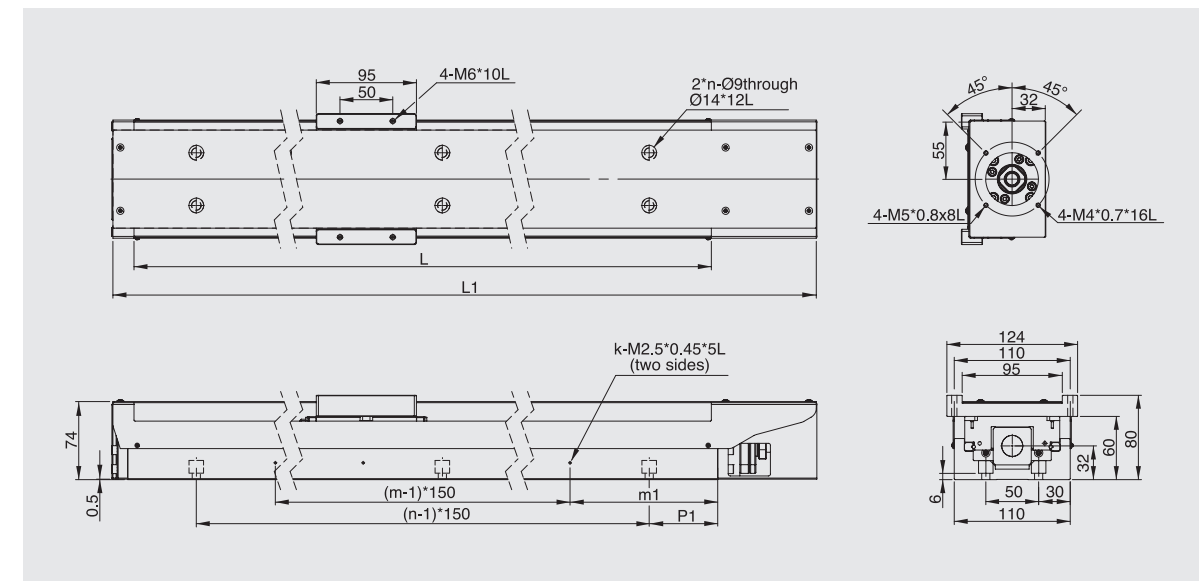
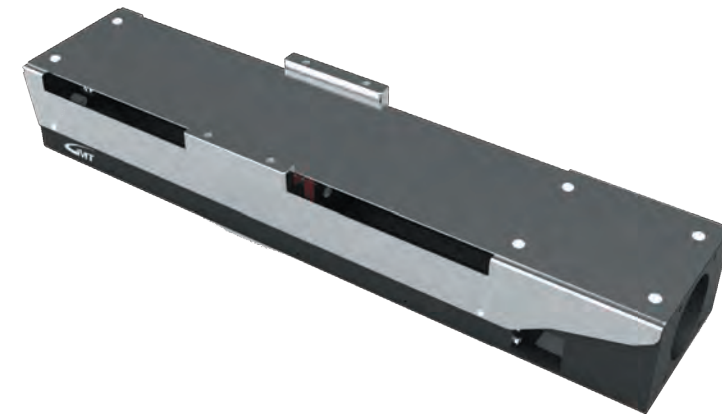


Model No.	Rail L (mm)	Total L1 (mm)	Max. Stroke (mm)	k	m	m1	n	P1	Main Unit Weight(Kg)	
									GKA	GKS
GK□60110	980	1089	849	9	7	40	7	40	12.5	23.9
	1080	1189	949	9	7	90	8	15	13.5	25.6
	1180	1289	1049	9	7	65	8	65	14.5	27.2
	1280	1389	1149	11	9	40	9	40	15.5	29.9
	1380	1489	1249	11	9	15	10	15	16.5	31.5

© Example picture shown above is GKA5496 - 340.  
© Both GKA and GKS apply to the above specifications.

## GK□60110 w / Dustproof Cover Specifications

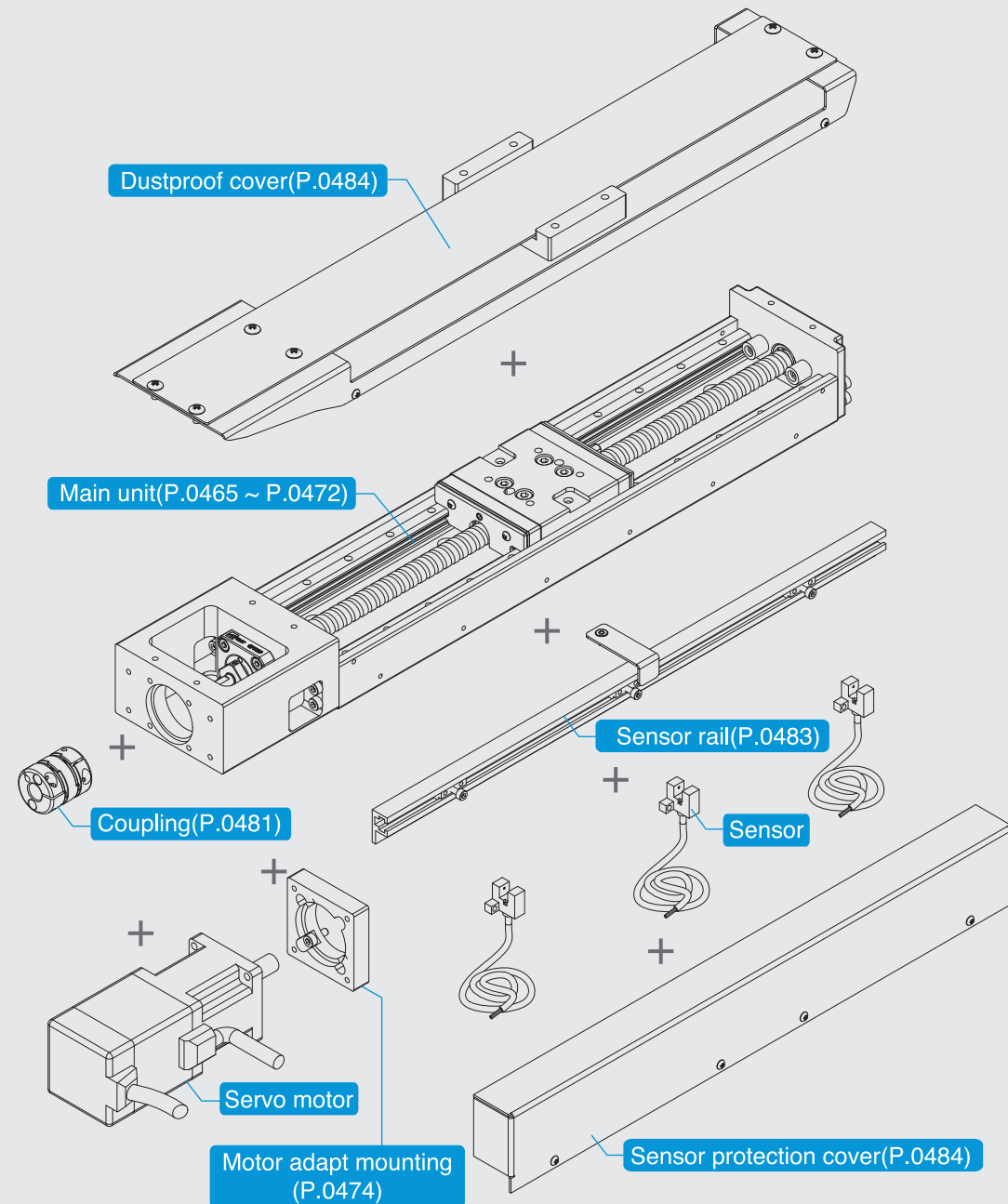
Order Example : GKA60110 - 980 - 12P - P20(Main unit)+ Optional accessories models(P.0474 ~ P.0484).



Model No.	Rail L (mm)	Total L1 (mm)	Max. Stroke (mm)	k	m	m1	n	P1	Main Unit Weight(Kg)	
									GKA	GKS
GK□60110	980	1089	849	9	7	40	7	40	14.5	25.5
	1080	1189	949	9	7	90	8	15	15.5	27.5
	1180	1289	1049	9	7	65	8	65	16.5	29.5
	1280	1389	1149	11	9	40	9	40	17.5	31.5
	1380	1489	1249	11	9	15	10	15	18.5	33.5

© Example picture shown above is GKA5496 - 340 with dustproof cover.  
© Both GKA and GKS apply to the above specifications.

### Accessories Introduction



- ◎“( )” Motor adapt mounting model
- ◎“(—)” Can be mounted with motor directly
- ◎“(N / A)” Not applicable
- ◎Motor mount bases and adapt mountings are optional
- ◎GKA series - The material of motor mount bases and adapt mountings are aluminum
- ◎GKS series - The material of motor mount bases and adapt mountings are steel

### Motor Mount Bases and Adapt Mountings

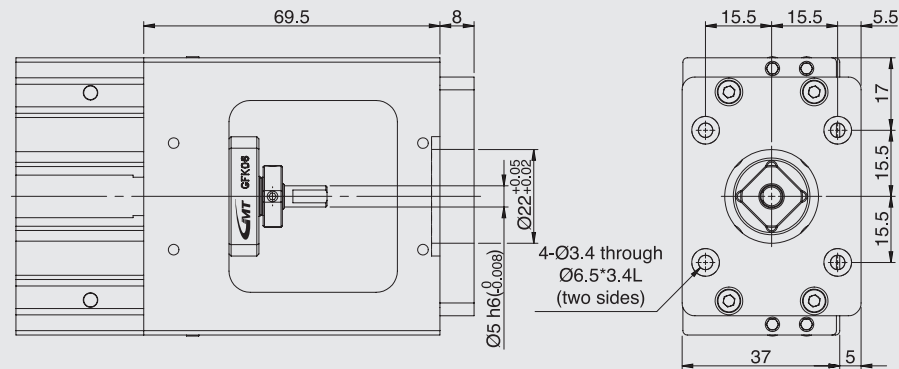
Motor Type	Motor Brand	Motor Model		Species	GK□3065	GK□4270	GK□5496	GK□60110
		Single Shaft	Double Shaft					
Stepper Motor	GMT	2MS-N42U47A	2MS-N42D47A	2-Phase 4-Lead 1.8°				
		103H5210-0440	103H5210-0410	2-Phase 6-Lead 1.8°	(GK-G42)			N / A
	Sanyo	103F5510-8241	103F5510-8211	5-Phase 5-Lead 0.72°				
		103H7823-0140	103H7823-0110	2-Phase 6-Lead 1.8°	N / A		(GK-G60)	
		SM5603-8241	SM5603-8211	5-Phase 5-Lead 0.72°				
	Oriental	PKP246D23A	PKP246D23B	2-Phase 6-Lead 1.8°	(GK-G42)			N / A
		PKP546N18A	PKP546N18B	5-Phase 5-Lead 0.72°				
		PKP569FN24AW	PKP569FN24BW	5-Phase 5-Lead 0.72°	N / A			(GK-G60)

Motor Type	Motor Brand	Motor Model	Motor Rate	GK□3065	GK□4270	GK□5496	GK□60110	
Servo Motor	Delta	ECMA-C□0401	100W	(GK-H)		(GK-H1)	N / A	
		ECMA-C□0602	200W			—	—	
		ECMA-C□0604	400W	N / A				
		ECMA-C□0807	750W			N / A	(GK-H8)	
	Panasonic	MSMD5A	50W		(GK-M)		(GK-M1)	N / A
		MSME5A						
		MSMD01	100W					
		MSME01						
		MSMD02						
		MSME02	200W					
		MHME02						
		MSMD04						
		MSME04	400W			N / A		
		MHME04						
		MDME04						
		MSMD08						
		MSME08	750W					
		MHME08						
		MDME08						
		Mitsubishi	HG-KR053	50W			(GK-H)	(GK-H1)
	HG-MR053							
	HG-KR13		100W					
	HK-MR13							
	HG-KR23		200W					
	HG-MR23							
	HG-KR43		400W					
	HG-MR43							
	HG-KR73	750W						
HK-MR73								

### Stepper Mototr Mount Bases and Adapt Mountings

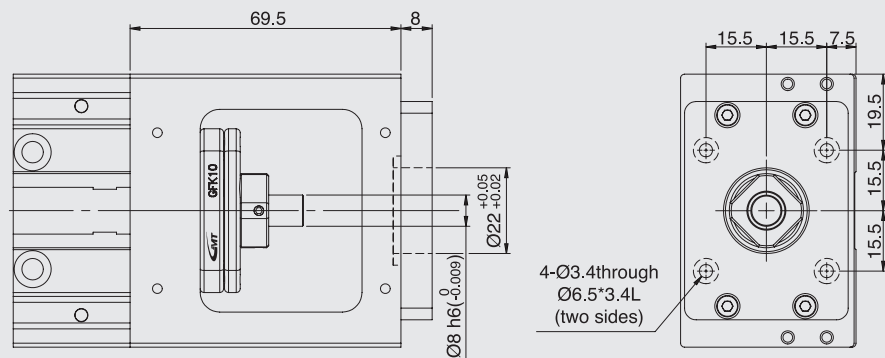
GK□3065 Motor mount base(GK-G42)

Can be compatible with Sanyo □42,  
Oriental motor □42, GMT□42



GK□4270 Motor mount base(GK-G42)

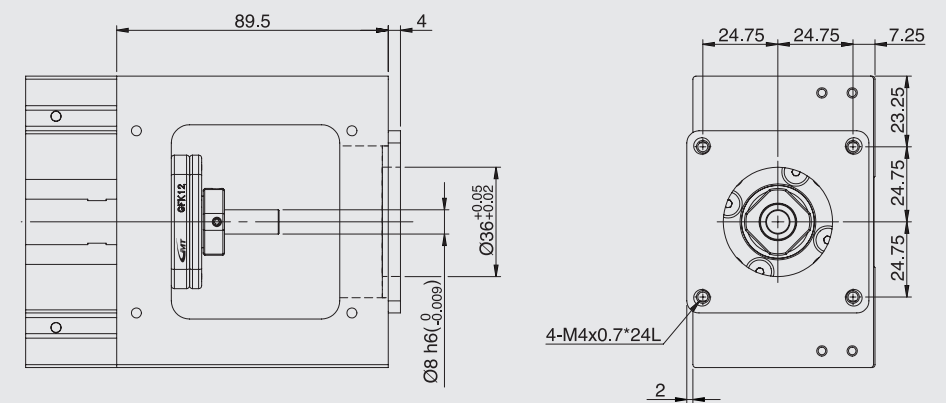
Can be compatible with Sanyo □42,  
Oriental motor □42, GMT□42



### Stepper Mototr Mount Bases and Adapt Mountings

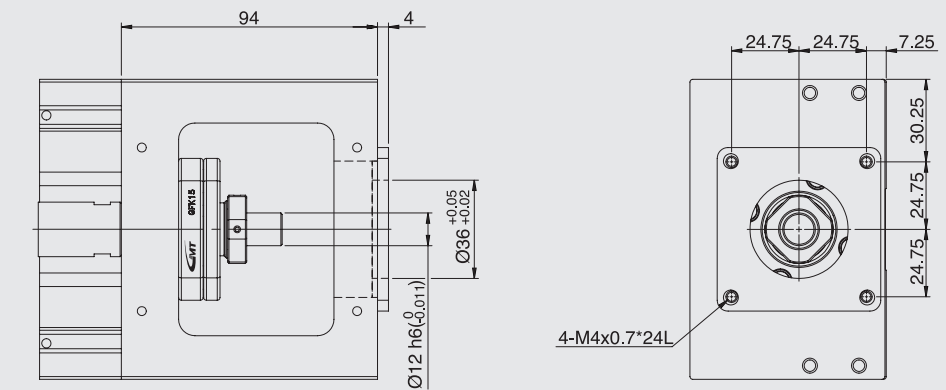
GK□5496 Motor mount base(GK-G60)

Can be compatible with Sanyo □56,  
Oriental motor □56



GK□60110 Motor mount base(GK-G60)

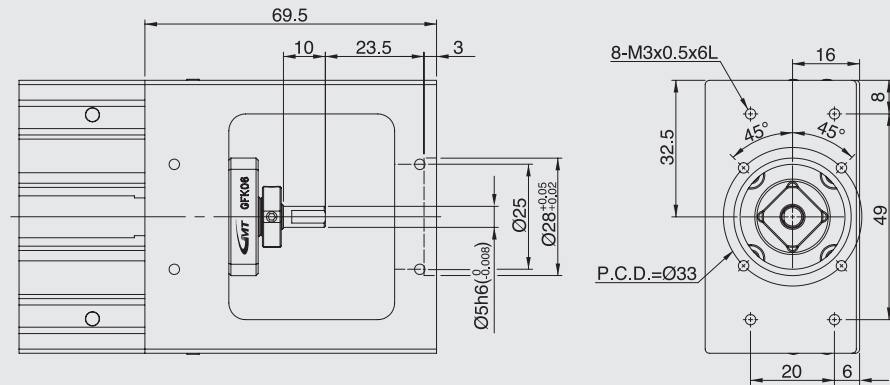
Can be compatible with Sanyo □60,  
Oriental motor □60



### Servo Motor Mount Bases and Adapt Mountings

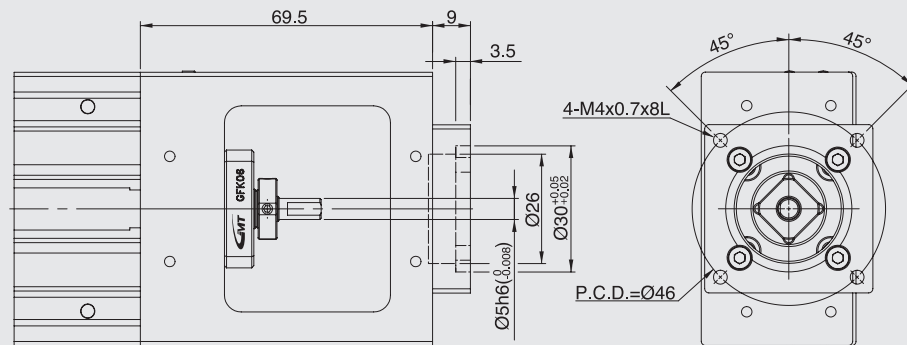
GK□3065 Motor mount base

Drawing for reference only



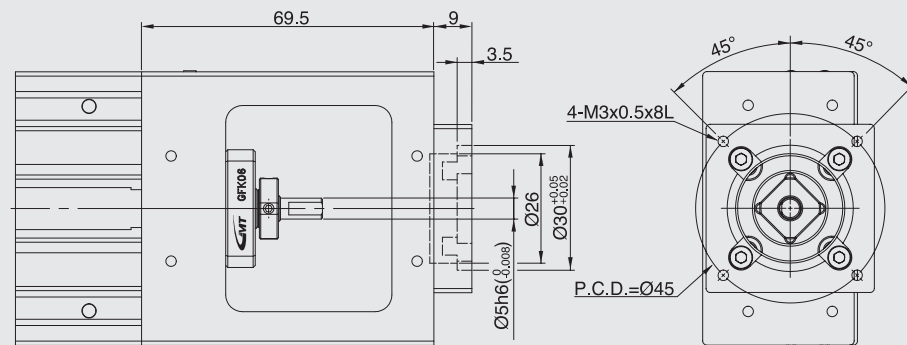
GK□3065 Motor mount base(GK-H)

Can be compatible with Delta 100W, Mitsubishi 50W & 100W



GK□3065 Motor mount base(GK-M)

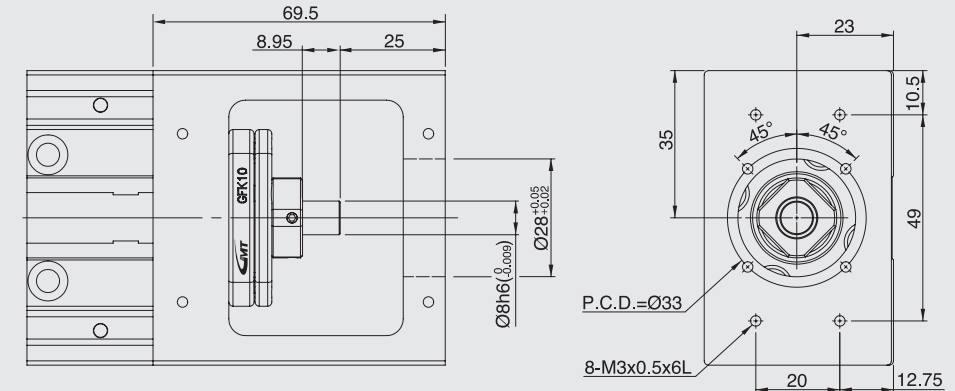
Can be compatible with Panasonic 50W & 100W



### Servo Motor Mount Bases and Adapt Mountings

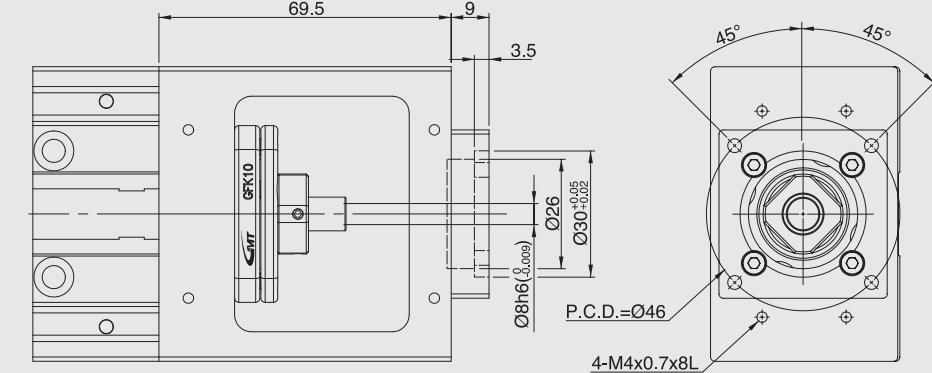
GK□4270 Motor mount base

Drawing for reference only



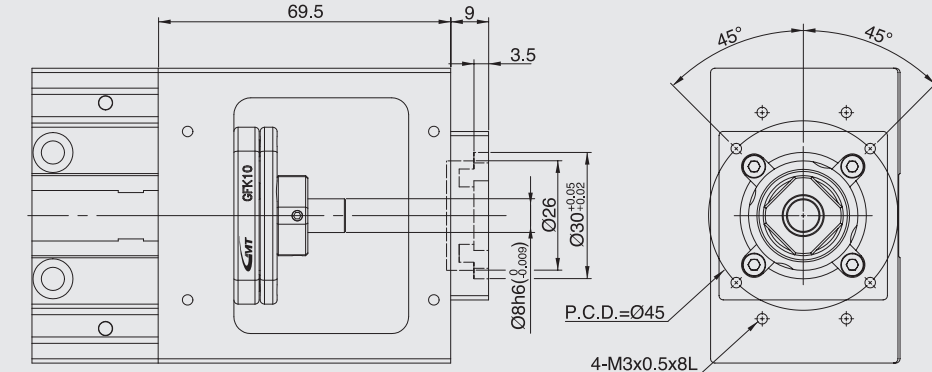
GK□4270 Motor mount base(GK-H)

Can be compatible with Delta 100W, Mitsubishi 50W & 100W



GK□4270 Motor mount base(GK-M)

Can be compatible with Panasonic 50W & 100W

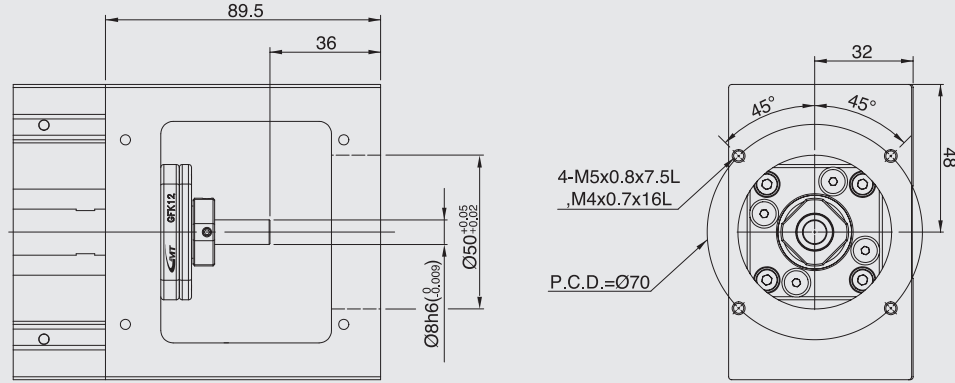




### Servo Motor Mount Bases and Adapt Mountings

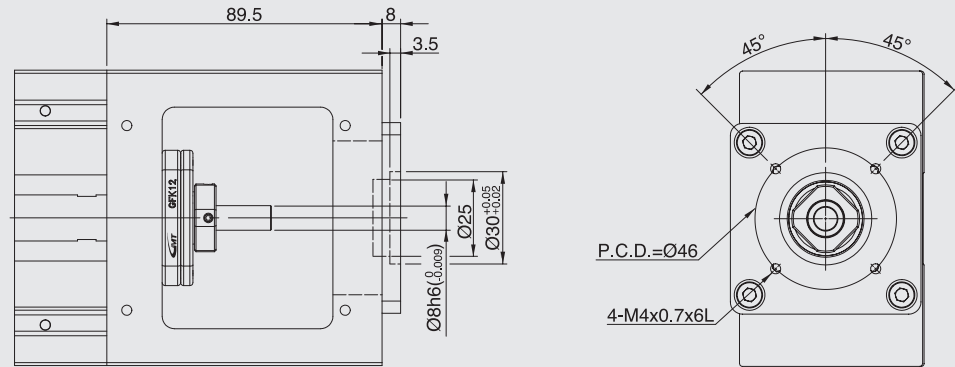
GK□5496 Motor mount base

Can be compatible with Delta, Panasonic, Mitsubishi 200W & 400W



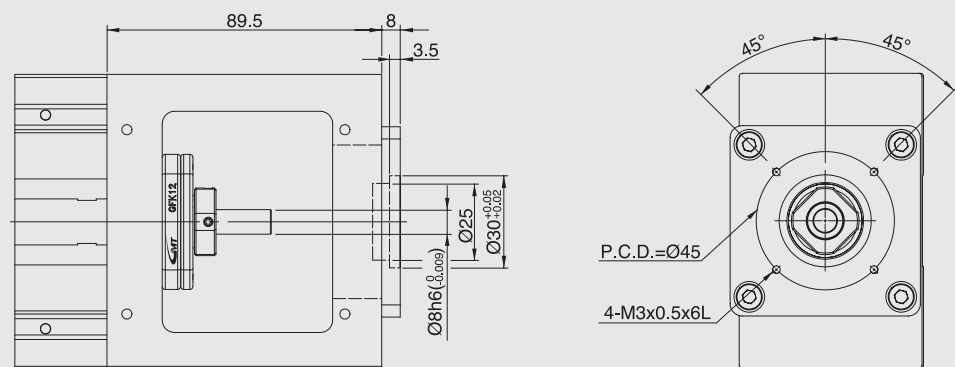
GK□5496 Motor mount base(GK-H1)

Can be compatible with Delta 100W, Mitsubishi 50W & 100W



GK□5496 Motor mount base(GK-M1)

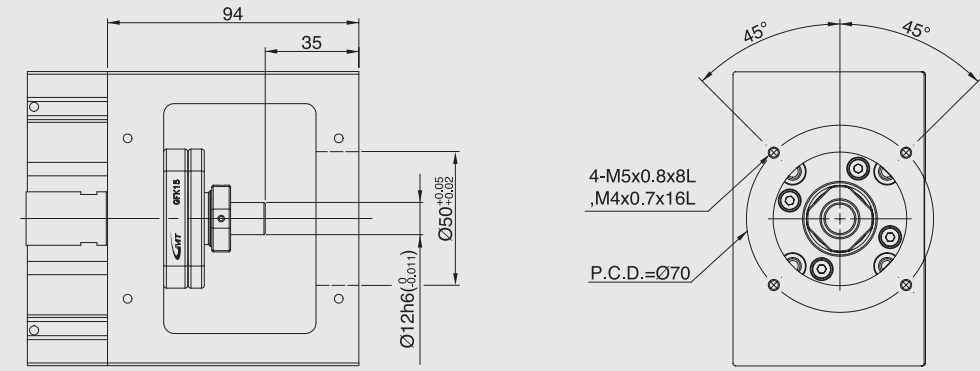
Can be compatible with Panasonic 50W & 100W



### Servo Motor Mount Bases and Adapt Mountings

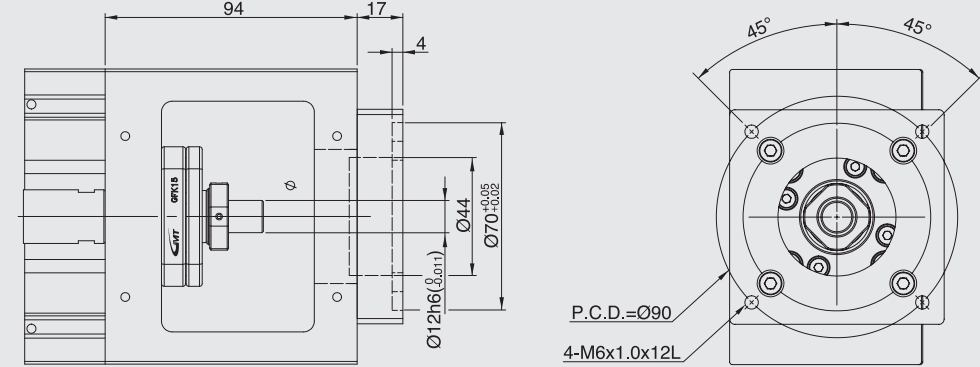
GK□60110 Motor mount base

Can be compatible with Delta, Panasonic, Mitsubishi 200W & 400W



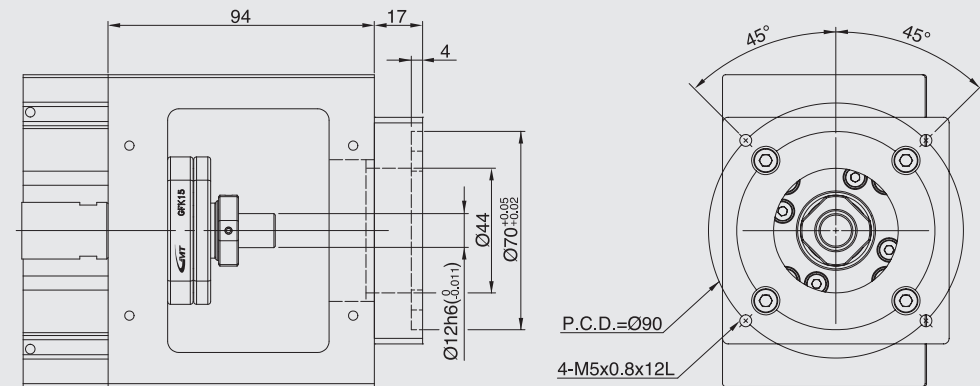
GK□60110 Motor mount base(GK-H8)

Can be compatible with Delta 100W, Mitsubishi 50W & 100W



GK□60110 Motor mount base(GK-M8)

Can be compatible with Panasonic 50W & 100W



- ⊙ "N / A" Not applicable
- ⊙ Option on request

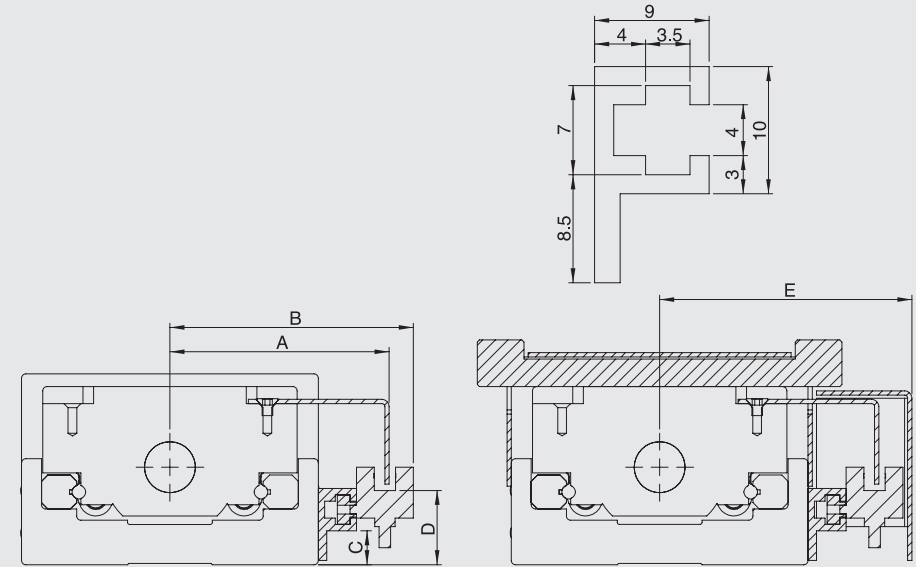
### Coupling Selection Recommendations

Motor Type	Motor Brand	Motor Model		Species	GK□3065	GK□4270	GK□5496	GK□60110
		Single Shaft	Double Shaft					
Stepper Motor	GMT	2MS-N42U47A	2MS-N42D47A	2-Phase 4-Lead 1.8°				
		103H5210-0440	103H5210-0410	2-Phase 6-Lead 1.8°	FATCL21-5*5	FATCL21-5*8		N / A
	Sanyo	103F5510-8241	103F5510-8211	5-Phase 5-Lead 0.72°				
		103H7823-0140	103H7823-0110	2-Phase 6-Lead 1.8°			FATCL34-8*8	FATCL34-8*14
		SM5603-8241	SM5603-8211	5-Phase 5-Lead 0.72°		N / A		
		PKP246D23A	PKP246D23B	2-Phase 6-Lead 1.8°	FATCL21-5*5	FATCL21-5*8		N / A
	Oriental	PKP546N18A	PKP546N18B	5-Phase 5-Lead 0.72°				
		PKP569FN24AW	PKP569FN24BW	5-Phase 5-Lead 0.72°		N / A	FATCL34-8*8	FATCL34-8*14

Motor Type	Motor Brand	Motor Model	Motor Rate	GK□3065	GK□4270	GK□5496	GK□60110
Servo Motor	Delta	ECMA-C□0401	100W	FACCL21-5*8	FACCL21-8*8	FACCL34-8*8	N / A
		ECMA-C□0602	200W			FACCL34-8*14	FACCL46-12*14
		ECMA-C□0604	400W		N / A		
		ECMA-C□0807	750W			N / A	FACCL46-12*19
	Panasonic	MSMD5A	50W	FACCL21-5*8	FACCL21-8*8	FACCL34-8*8	N / A
		MSME5A					
		MSMD01	100W			FACCL34-8*11	FACCL46-12*11
		MSME01					
		MSMD02	200W			FACCL34-8*14	FACCL46-12*14
		MSME02					
		MHME02	400W			FACCL34-8*14	FACCL46-12*14
		MSMD04					
		MSME04	750W			N / A	FACCL46-12*19
		MHME04					
		MDME04					
		MSMD08					
		MSME08					
		MHME08					
	MDME08						
	Mitsubishi	HG-KR053	50W	FACCL21-5*8	FACCL21-8*8	FACCL34-8*8	N / A
		HG-MR053					
		HG-KR13	100W				
		HK-MR13					
		HG-KR23	200W			FACCL34-8*14	FACCL46-12*14
		HG-MR23					
		HG-KR43	400W				
		HG-MR43					
		HG-KR73	750W				
HK-MR73							

⊙ Sensor rail set selection, please refer to P.0483

### Sensor Rail Set Installation Diagrams



Model	A	B	C	D	E
GK□3065	49.2	54.9	8	17.6	56.5
GK□4270	51.7	57.4			59
GK□5496	64.2	70.4			72
GK□60110	71.2	77.4			79

Brand	Panasonic
Model	PM - F24
Power Supply Voltage	5~24V DC±10% Pulsation : Under P-P10%
Current Sinking	Under 15MA
Output	NPN type Black : Light on White : Shading dark on
Reaction Time	Light : under 20 μs Shading dark : under 100 μs (Reaction frequency : above 1KHz)

- ☉ Apply to both GKA and GKS series
- ☉ **Option on request**

### Sensor Rail Sets

Model	With Sensor Rail	With Sensor Rail and Sensors*3
GK□3065-150	GK□3065-150-SG	GK□3065-150-SP
GK□3065-200	GK□3065-200-SG	GK□3065-200-SP
GK□3065-250	GK□3065-250-SG	GK□3065-250-SP
GK□3065-300	GK□3065-300-SG	GK□3065-300-SP
GK□4270-150	GK□4270-150-SG	GK□4270-150-SP
GK□4270-200	GK□4270-200-SG	GK□4270-200-SP
GK□4270-300	GK□4270-300-SG	GK□4270-300-SP
GK□4270-400	GK□4270-400-SG	GK□4270-400-SP
GK□4270-500	GK□4270-500-SG	GK□4270-500-SP
GK□4270-600	GK□4270-600-SG	GK□4270-600-SP
GK□5496-340	GK□5496-340-SG	GK□5496-340-SP
GK□5496-440	GK□5496-440-SG	GK□5496-440-SP
GK□5496-540	GK□5496-540-SG	GK□5496-540-SP
GK□5496-640	GK□5496-640-SG	GK□5496-640-SP
GK□5496-740	GK□5496-740-SG	GK□5496-740-SP
GK□5496-940	GK□5496-940-SG	GK□5496-940-SP
GK□60110-980	GK□60110-980-SG	GK□60110-980-SP
GK□60110-1080	GK□60110-1080-SG	GK□60110-1080-SP
GK□60110-1180	GK□60110-1180-SG	GK□60110-1180-SP
GK□60110-1280	GK□60110-1280-SG	GK□60110-1280-SP
GK□60110-1380	GK□60110-1380-SG	GK□60110-1380-SP

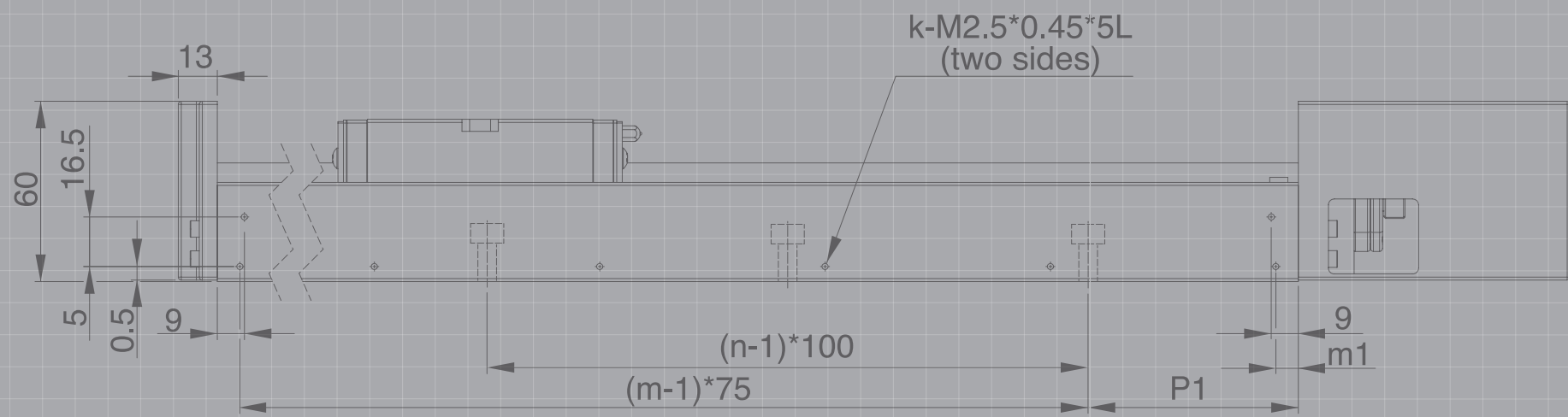
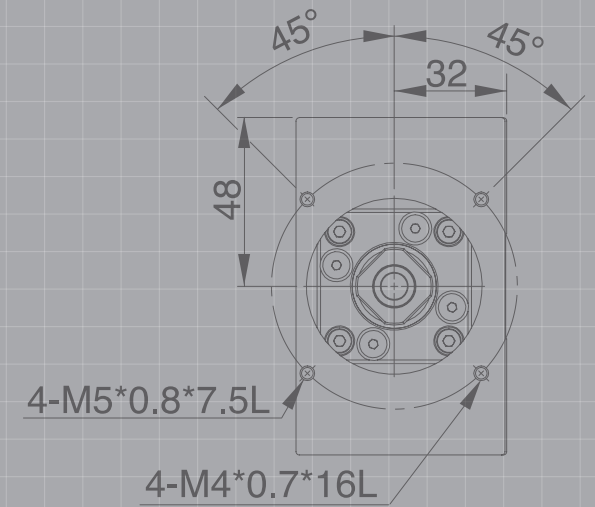
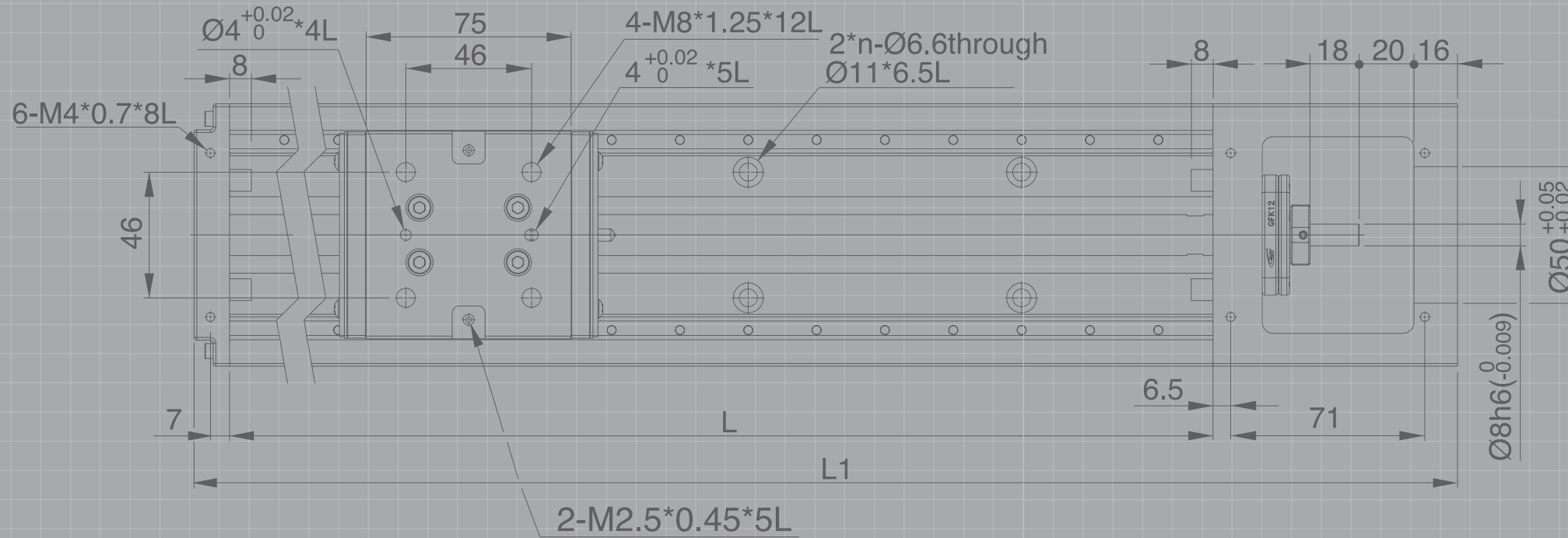
- ☉ Apply to both GKA & GKS series
- ☉ The material is stainless steel
- ☉ **Option on request**

### Dustproof Covers

Model	With Dustproof Cover	Model	With Dustproof Cover
GK□3065-150	GK□3065-150-C	GK□5496-340	GK□5496-340-C
GK□3065-200	GK□3065-200-C	GK□5496-440	GK□5496-440-C
GK□3065-250	GK□3065-250-C	GK□5496-540	GK□5496-540-C
GK□3065-300	GK□3065-300-C	GK□5496-640	GK□5496-640-C
GK□4270-150	GK□4270-150-C	GK□5496-740	GK□5496-740-C
GK□4270-200	GK□4270-200-C	GK□5496-940	GK□5496-940-C
GK□4270-300	GK□4270-300-C	GK□60110-980	GK□60110-980-C
GK□4270-400	GK□4270-400-C	GK□60110-1080	GK□60110-1080-C
GK□4270-500	GK□4270-500-C	GK□60110-1180	GK□60110-1180-C
GK□4270-600	GK□4270-600-C	GK□60110-1280	GK□60110-1280-C
		GK□60110-1380	GK□60110-1380-C

### Sensor Set Protection Covers

Model	With Sensor Protection Cover	Model	With Sensor Protection Cover
GK□3065-150	GK□3065-150-CS	GK□5496-340	GK□5496-340-CS
GK□3065-200	GK□3065-200-CS	GK□5496-440	GK□5496-440-CS
GK□3065-250	GK□3065-250-CS	GK□5496-540	GK□5496-540-CS
GK□3065-300	GK□3065-300-CS	GK□5496-640	GK□5496-640-CS
GK□4270-150	GK□4270-150-CS	GK□5496-740	GK□5496-740-CS
GK□4270-200	GK□4270-200-CS	GK□5496-940	GK□5496-940-CS
GK□4270-300	GK□4270-300-CS	GK□60110-980	GK□60110-980-CS
GK□4270-400	GK□4270-400-CS	GK□60110-1080	GK□60110-1080-CS
GK□4270-500	GK□4270-500-CS	GK□60110-1180	GK□60110-1180-CS
GK□4270-600	GK□4270-600-CS	GK□60110-1280	GK□60110-1280-CS
		GK□60110-1380	GK□60110-1380-CS



Technical  
 Information  
**Linear  
 Actuators**



## Speed Calculation

### 1 Max. Speed

Maximum linear velocity(V) is calculated from the motor speed(S) multiplied by the lead(L).

$$V \left( \frac{\text{mm}}{\text{s}} \right) = \left( \frac{S(\text{rpm})}{60} \right) \times L(\text{mm})$$

### 2 Acceleration / Deceleration

- ① The speed here is referred to the working speed set by the stage. The acceleration needs to start from static status, and it will decelerate before it arrives at the end of destination.
- ② The setting of acceleration / deceleration is adjusted by user depends on the actual working environment.

\* Inertia load will be derived from acceleration / deceleration. The higher the drop height between acceleration and deceleration is, the stronger impact will be caused, and the lighter weight can be carried only. It shall be avoided while setting.

### 3 Working Cycle

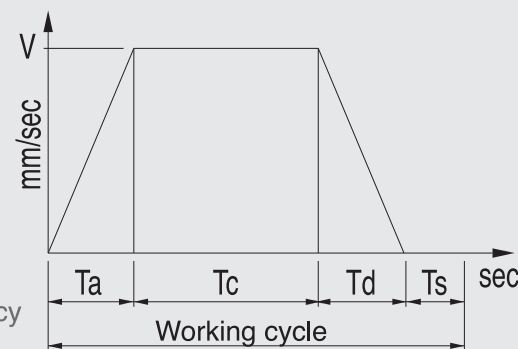
Working cycle is determined by the user. The below diagram illustrates how the working cycle works, including the formulas of acceleration time TA, constant speed time Tc, deceleration time Td, and retention time Ts.

◎ Acceleration :  $\frac{V}{T_a}$

◎ Deceleration :  $\frac{V}{T_d}$

◎ Working cycle :  $T_a + T_c + T_d + T_s$

◎ Working cycle = Working cycle x Frequency



## Life Calculation

### Linear Guideway

$$M = \left( \frac{f_t}{f_w} \cdot \frac{C}{f_n} \right)^3 \times 50 \text{ km}$$

- ◎ M : Rated life(km)
- ◎ C : Basic rated dynamic loading(N)
- ◎  $f_n$  : Axis working load(N)
- ◎  $f_t$  : Contact factor(Table A)
- ◎  $f_w$  : Load factor(Table B)

### A

#### Contact Factor( $f_t$ )

1.0

### B

#### Working Environment

Load Condition	Speed(V)	Load Factor( $f_w$ )
No impact & vibration	Low-speed $V < 15$ m/min	1.0 ~ 1.5
Normal load	Medium-speed $15 < V < 60$ m/min	1.5 ~ 2.0
With impacts & vibration	High-speed $V > 60$ m/min	2.0 ~ 3.5

### Ball Screw & Bearing

$$M = \left( \frac{1}{f_w} \cdot \frac{C}{f_a} \right)^3 \times 10^6 \text{ rev}$$

- ◎ M : Rated life(Number of rotation)
- ◎ C : Basic rated dynamic loading(N)
- ◎  $f_a$  : Axial dynamic loading(N)
- ◎  $f_w$  : Load factor(Table B)