

Precise Stable Durability High Rigidity

Meet the Multi-Demand of Accuracy and Efficiency

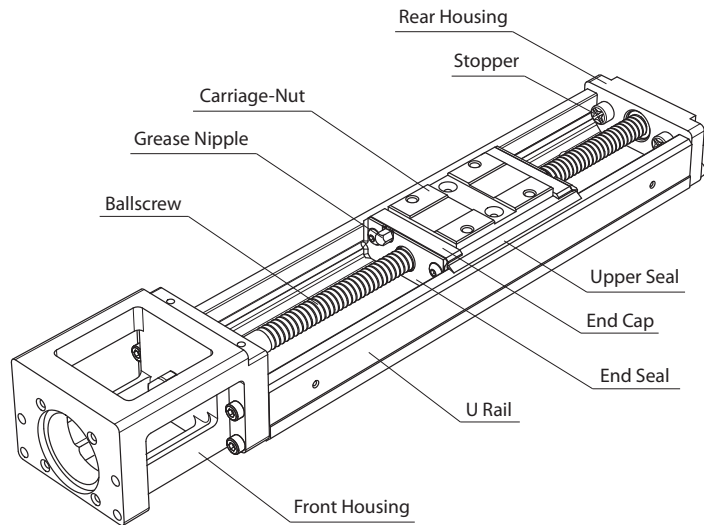


Mono Stage



1 KM Series

A. Construction

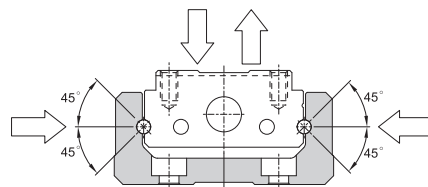


B. Characteristics

KM series consist of linear guideway unit and ballscrew unit. For saving space, **PMI** combine the carriage of linear guideway and nut of ballscrew to a integral Carriage-Nut. The carriage-nut cooperate with the U rail designed for high rigidity to achieve the high rigidity and high accuracy in the minimal space, especially to saving time of installation. Moreover, the design of two rows with Gothic-arch groove and contact angle of 45° can bear four directional loading.

Four Directional Equal Load

KM series are applied two rows with Gothic-arch groove and designed to contact angle of 45° which enables it to carry an equal load in radial, reversed radial and lateral directions to suit to any mounting orientation.



Saving Space

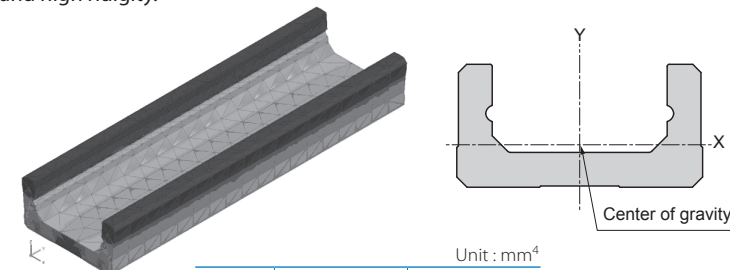
Combine the carriage of linear guideway and nut of ballscrew to a carriage-nut, KM series can achieve the best use of space.

Unit : mm

Model	H	W
KM20	20	40
KM26	26	50
KM30	30	60
KM 33	33	60
KM 45	45	80
KM 46	46	86
KM 55	55	100
KM 65	65	130

High Rigidity

Base on the optimal analysis of FEM for the shape of U rail, it has the balance between light weight and high rigidity.



Unit : mm⁴

Model	I _x	I _y
KM20	5.8×10 ³	6.0×10 ⁴
KM26	1.6×10 ⁴	1.5×10 ⁵
KM30	4.4×10 ⁴	3.3×10 ⁵
KM 33	6.1×10 ⁴	3.8×10 ⁵
KM 45	1.5×10 ⁵	1.1×10 ⁶
KM 46	2.5×10 ⁵	1.6×10 ⁶
KM 55	2.3×10 ⁵	2.3×10 ⁶
KM 65	4.7×10 ⁵	5.9×10 ⁶

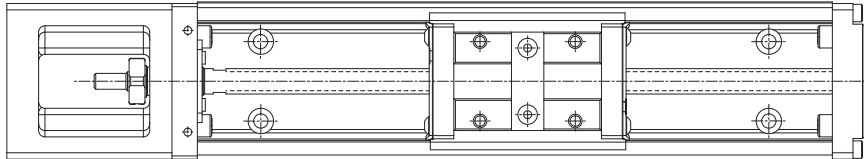
Note* I_x : Geometrical moment of inertia around X axis
I_y : Geometrical moment of inertia around Y axis

High Accuracy

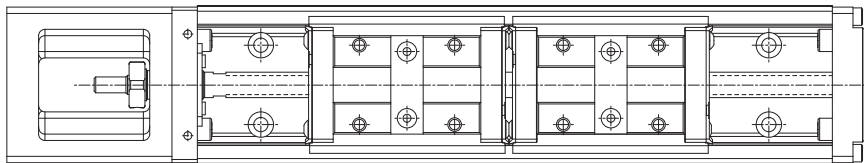
The design of two rows with Gothic-arch groove and stable manufacturing technology can control the variation by load at the minimum. It can provide the smooth feed with high accuracy.

C. Carriage-Nut Type

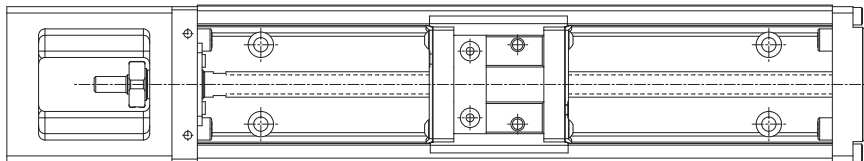
A Type : A single carriage-nut with standard length



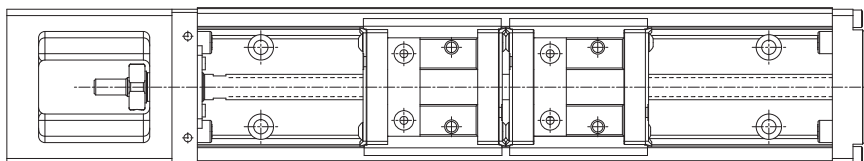
B Type : Two carriage-nuts with standard length



C Type* : A single carriage-nut with short length



D Type* : Two carriage-nuts with short length



* C and D type are only optional for KM30, KM33, KM45 and KM46 model.

D. Description of Specification

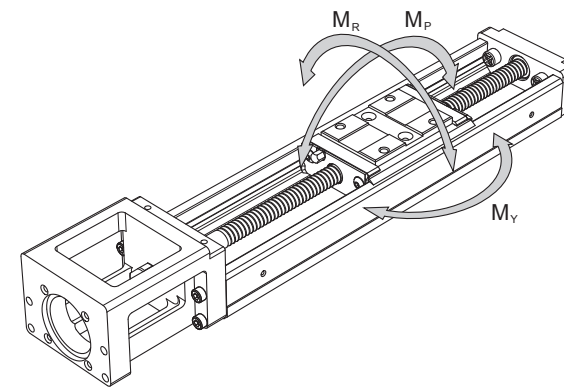
	KM33	05	A	+400	P	0	-0	0	30	CA	AA
Model											
Ballscrew Lead											
Carriage-Nut type											
A : A single carriage-nut with standard length											
B : Two carriage-nuts with standard length											
C : A single carriage-nut with short length											
D : Two carriage-nuts with short length											
Rail length (mm)											
Accuracy grade											
N : Normal grade											
H : High grade											
P : Precision grade											
With / Without a Motor											
0 : None											
1 : With a Motor (mounted at <i>PMI</i>)											
With / Without a Cover											
0 : None											
1 : With a Cover											
2 : With a Bellows											
Sensor Specification (see page C15)											
Type of Motor Bracket type (see page C17)											
Surface treatment mode:											
No symbol : Fluoride low temperature chrome											
CB : Black oxide treatment											
CA : Electroless Nickel											
Code of special type											
AA : Special process											

E. Load Ratings

The load ratings of KM series are divided to linear guideway and ballscrew, the load ratings of each part are shown below.

Model	Linear Guideway				Ballscrew								
	Basic dynamic load rating C (kN)		Basic static load rating C ₀ (kN)		Basic dynamic load rating C _a (kN)		Basic static load rating C _{0a} (kN)		Ballscrew diameter (mm)	Lead (mm)	Thread minor diameter (mm)	Ball center to center diameter (mm)	
	A \ B	C \ D	A \ B	C \ D	Normal N	High, Precision H \ P	Normal N	High, Precision H \ P					
KM 20	KM 20 01	4.75	-	8.33	-	0.76	0.76	1.26	1.26	6	1	7.8	8.1
	KM 20 02					0.6	0.6	0.9	0.9		2	7.8	8.1
KM 26	KM 26 02	7.99	-	15.23	-	1.79	2.50	2.94	4.02	8	2	6.6	8.3
	KM 26 06					0.88	1.18	1.18	1.67		6	6.6	8.3
KM 30	KM 30 05	12.21	7.91	22.11	11.90	2.25	2.94	4.31	5.10	12	5	10.3	12.4
	KM 30 10					2.16	2.84	3.72	4.51		10	9.9	12.4
KM 33	KM 33 05	12.21	7.91	22.11	11.90	2.25	2.94	4.31	5.10	12	5	10.3	12.4
	KM 33 10					2.16	2.84	3.72	4.51		10	9.9	12.4
KM 45	KM 45 10	26.35	16.26	46.65	23.33	5.00	6.66	8.92	11.86	15	10	12.3	15.6
	KM 45 20					3.72	5.00	6.37	8.53		20	12.3	15.6
	KM4520C					4.40	4.40	7.30	7.30		20	12.3	15.6
KM 46	KM 46 10	26.35	16.26	46.65	23.33	5.00	6.66	8.92	11.86	15	10	12.3	15.6
	KM 46 20					3.72	5.00	6.37	8.53		20	12.3	15.6
	KM4620C					4.40	4.40	7.30	7.30		20	12.3	15.6
	KM 55 20	36.73	-	65.29	-	4.61	6.08	9.11	12.15	20	20	17.3	20.6
	KM 65 25	50.75	-	81.62	-	6.72	9.02	17.32	18.91	25	25	21.6	25.7

F. Static Permissible Moments



Unit : N-m

Model	Static Permissible Moments												
	M _p				M _y				M _R				
	A	B	C	D	A	B	C	D	A	B	C	D	
KM 20	KM 20 01	38.2	192.6	-	-	38.2	192.6	-	-	114.6	229.1	-	-
	KM 20 02												
KM 26	KM 26 02	107.3	501.8	-	-	107.3	501.8	-	-	278.6	557.3	-	-
	KM 26 06												
KM 30	KM 30 05	156.6	858.5	43.8	326.4	156.6	858.5	43.8	326.4	462.0	924.0	248.8	497.6
	KM 30 10												
KM 33	KM 33 05	156.6	858.5	43.8	326.4	156.6	858.5	43.8	326.4	462.0	924.0	248.8	497.6
	KM 33 10												
KM 45	KM 45 10	575.0	2678.0	120.0	1245.6	575.0	2678.0	120.0	1245.6	1334.2	2668.5	762.4	1524.8
	KM 45 20												
	KM 4520C												
KM 46	KM 46 10	575.0	2678.0	120.0	1245.6	575.0	2678.0	120.0	1245.6	1397.9	2795.8	798.8	1597.6
	KM 46 20												
	KM 4620C												
	KM 55 20	858.4	4617.2	-	-	858.4	4617.2	-	-	2347.2	4694.4	-	-
	KM 65 25	1299.6	7001.3	-	-	1299.6	7001.3	-	-	3917.9	7835.8	-	-

Note*: The static permissible moments of B and D type are base on two carriage nuts used in closed contact with each other.

G. Accuracy Grade

KM series is classified into normal grade (N), high (H) and precision grade (P), the standards are shown below.

Model	Rail Length (mm)	Positioning Repeatability (mm)			Positioning Accuracy (mm)			Running of Parallelism(mm)			Backlash (mm)			Starting Torque (N-cm)		
		Nomal N	High H	Precision P	Nomal N	High H	Precision P	Nomal N	High H	Precision P	Nomal N	High H	Precision P	Nomal N	High H	Precision P
KM 20	100															
	150	±0.01	±0.005	±0.003	-	0.06	0.02	-	0.025	0.01	0.02	0.01	0.003	0.5	0.5	1.2
	200															
KM 26	150															
	200	±0.01	±0.005	±0.003	-	0.06	0.02	-	0.025	0.01	0.02	0.01	0.003	2	1.5	4
	250															
KM 30	300															
	400	±0.01	±0.005	±0.003	-	0.06	0.02	-	0.025	0.01	0.02	0.02	0.003	7	7	15
	500					0.1	0.025		0.035	0.015						
KM 33	600															
	150															
	200	±0.01	±0.005	±0.003	-	0.06	0.02	-	0.025	0.01	0.02	0.02	0.003	7	7	15
KM 45	340															
	440					0.1	0.025		0.035	0.015						15
	540	±0.01	±0.005	±0.003	-			-			0.02	0.02	0.003	10	10	
KM 46	640					0.12	0.03		0.04	0.02						17
	740					0.15	0.04		0.05	0.03						25
	840															
KM 45	940															
	340					0.1	0.025		0.035	0.015						15
	440	±0.01	±0.005	±0.003	-			-			0.02	0.02	0.003	10	10	
KM 46	540					0.12	0.03		0.04	0.02						17
	640					0.15	0.04		0.05	0.03						25
	740															
KM 55	840															
	940															
	980					0.18	0.035		0.025					12		17
KM 55	1080	±0.01	±0.005	±0.005	-	0.25	0.04	-	0.05	0.03	0.05	0.05	0.003		12	20
	1180					0.25	0.045		0.035	0.04				15		23
	1280					0.25	0.045		0.035	0.04						25
KM 55	1380															

Model	Rail Length (mm)	Positioning Repeatability (mm)			Positioning Accuracy (mm)			Running of Parallelism(mm)			Backlash (mm)			Starting Torque (N-cm)		
		Nomal N	High H	Precision P	Nomal N	High H	Precision P	Nomal N	High H	Precision P	Nomal N	High H	Precision P	Nomal N	High H	Precision P
KM 65	980							0.18								
	1180	±0.01	±0.008	±0.005	-	0.2	0.035	-	0.05	0.025	0.05	0.05	0.005	12	12	20
	1380							0.28	0.04							
	1680	±0.012							0.055	0.03						

H. Maximum Travel Speed and the Maximum Length

KM series is limited by the dangerous speed of the ballscrew and the DN value regardless, the maximum travel speed and the maximum length are shown below. Unit : mm

Model	Ballscrew Lead	Rail Length	Maximum Travel Speed (mm/s)			Maximum Length		
			Normal N	High H	Precision P	Normal N	High H	Precision P
KM 20	1	100						
		150	137	137	190	200	200	200
		200						
KM 26	2	100						
		150	273	273	383	200	200	200
		200						
KM 30	6	150						
		200	590	590	830	300	300	300
		250						
KM 33	6	300						
		400						
		500						
KM 30	5	600	340	340	340			
		150						
		200						
KM 30	10	300	790	790	1100	600	600	600
		400						
		500				980		
KM 33	5	600	650	650	650			
		150						
		200						
KM 33	5	300	390	390	550	600	600	600
		400						
		500						
KM 33	5	600	340	340	340			

Model	Ball screw Lead	Rail Length	Maximum Travel Speed (mm/s)			Maximum Length		
			Normal N	High H	Precision P	Normal N	High H	Precision P
KM 33	10	150	790	790	1100	600	600	600
		200						
		300						
		400						
		500						
KM 45	10	340	520	520	740	940	940	740
		440						
		540						
		640						
		740						
	20	840	1050	1050	1480	940	940	740
		940						
		340						
		440						
		540						
		640						
		740						
		840						
		940						
		840						
KM 46	10	340	520	520	740	940	940	740
		440						
		540						
		640						
		740						
	20	840	1050	1050	1480	940	940	740
		940						
		340						
		440						
		540						
		640						
		740						
		840						
		940						
		840						
KM 55	20	980	800	800	1120	1380	1380	1180
		1080						
		1180						
		1280						
		1380						
KM 65	25	980	800	800	1120	1680	1680	1380
		1180						
		1380						
		830						
		1680						

I. Life Calculation

KM series consists of a linear guideway, a ballscrew and a support bearing. The calculation of nominal life of each component is shown below. The nominal life is defined as the total running distance that 90% of identical linear guideways or ballscrew in a group, when they are applied under the same conditions, can work without developing flaking.

Linear Guideway

$$L = \left(\frac{f_c}{f_w} \cdot \frac{C}{P} \right)^3 \times 50 \text{ km}$$

L : Nominal life (km)
 f_c : Contact factor (see Table 1)
 f_w : Load factor (see Table 2)
 C: Basic dynamic load rating (N)
 P: Calculated applied load (N)

Carriage-Nut Type	Contact factor f_c
A \ C	1.00
B \ D	0.81

Ballscrew and Bearing

$$L = \left(\frac{1}{f_w} \cdot \frac{C_a}{P_a} \right)^3 \times 10^6 \text{ rev}$$

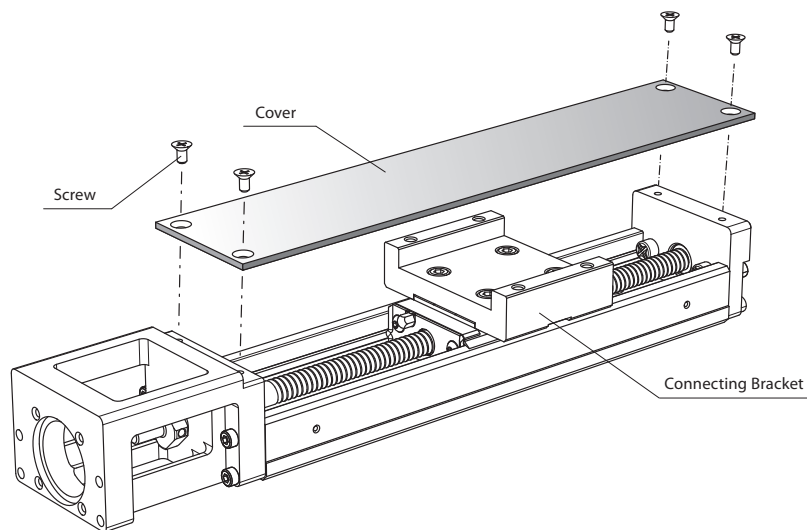
L: Nominal life (rev)
 f_w : Load factor (see Table 2)
 C_a : Basic dynamic load rating (N)
 P_a : Applied axial load (N)

Motion Condition	Operating Speed	Load factor f_w
No Impact & Vibration	$V \leq 15\text{m/min}$	1.0~1.2
Slight Impact & Vibration	$15 < V \leq 60\text{m/min}$	1.2~1.5
Moderate Impact & Vibration	$60 < V \leq 120\text{m/min}$	1.5~2.0
Strong Impact & Vibration	$V \geq 120\text{m/min}$	2.0~3.5

J. Options

Cover

KM series provides cover and transfer seat option. The detail size could be referred by specification tables of product, please.



Bellows

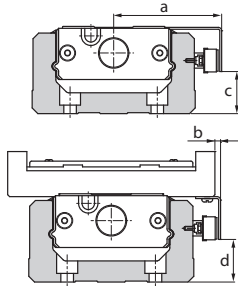
For KM series, a bellows is available for option. Please contact **PMI**.

Sensor

For KM series, a optional proximity sensors and photo sensors are available as an option. Models equipped with a sensor are provided with a dedicated sensor rail / detecting plate. Please see the table below.

Symbol	Description	Type	Accessory
0	None	-	-
1	with Sensor rail (3 units)	-	Mounting Screw
2	Photo sensor (3 units)	EE-SX671 (Omron)	Mounting Screw / Nut, Detecting Plate, Sensor Rail, Mounting Plate, Connector (EE-1001)
3	Photo sensor (3 units)	EE-SX674 (Omron)	Mounting Screw / Nut, Detecting Plate, Sensor Rail, Mounting Plate, Connector (EE-1001)
4	Proximity sensor a-contact (On when close, 3 units)	GX-F12A(Panasonic)	Mounting Screw/Nut \ Detecting Plate \ Sensor Rail
5	Proximity sensor b-contact (On when away, 3 units)	GX-F12B(Panasonic)	Mounting Screw/Nut \ Detecting Plate \ Sensor Rail
A	Proximity sensor a-contact (Single) b-contact (Double)	GX-F12A(Single) \ GX-F12B(Double)	Mounting Screw/Nut \ Detecting Plate \ Sensor Rail

The dimension of installation for sensor:

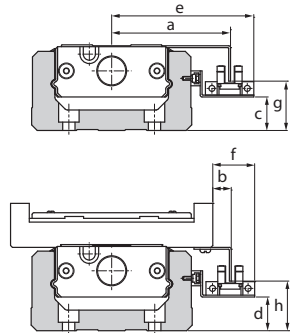


Panasonic GX-F12A \ GX-F12B

Model	a	b	c	d
KM 20	34.2	8.2	3.5	3.5
KM 26	38.9	7.9	6.2	6.2
KM 30	44	4	8.2	8.2
KM 33	44	1	9.2	10
KM 45	54.0	2.0	13.2	13
KM 46	57.0	1.0	22.2	23
KM 55	64	2	21.2	22.7
KM 65	79.0	-6.0	23.3	23.3

Unit : mm

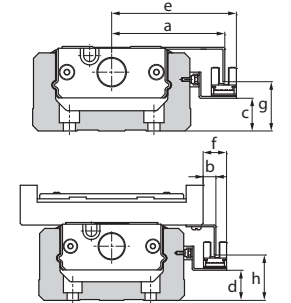
Omron EE-SX671



Model	a	b	c	d	e	f	g	h
KM 20	41	15	0	0	53.5	27.5	8	8
KM 26	46.0	15.0	2.0	2.0	58.5	27.5	10.5	10.5
KM 30	50.9	10.9	3.8	3.8	63.4	23.4	12.8	14
KM 33	50.9	7.9	5.0	5.0	63.4	20.4	13.8	15
KM 45	60.5	8.9	8.8	8.8	73.4	21.4	17.7	19
KM 46	63.9	7.9	18.0	18.0	76.4	20.4	26.5	28
KM 55	72	8.8	17.0	17.0	83.3	21.3	25.5	27
KM 65	85.8	0.8	19.0	19.0	98.3	13.3	27.7	27.7

Unit : mm

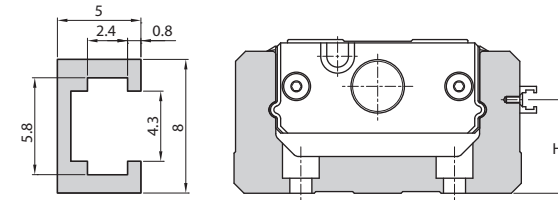
Omron EE-SX674



Model	a	b	c	d	e	f	g	h
KM 20	38.7	12.7	0	0	45	19	8.5	8.5
KM 26	43.7	12.7	1.8	1.8	50.0	19.0	10.8	10.8
KM 30	48.6	8.6	3.6	3.6	54.9	14.9	12.8	12.6
KM 33	48.6	5.6	4.8	4.8	54.9	11.9	13.8	14
KM 45	58.6	6.6	8.8	8.8	64.9	12.9	18.2	19.3
KM 46	61.6	5.6	17.8	17.8	67.9	11.9	26.8	28.1
KM 55	68.5	6.9	16.8	16.8	74.8	12.8	26.8	27.5
KM 65	83.5	-1.5	19.0	19.0	89.8	4.8	28.3	28.3

Unit : mm

The dimension of sensor rail:



Model	H
KM 20	9.5
KM 26	12
KM 30	14
KM 33	15
KM 45	19
KM 46	28
KM 55	27
KM 65	30

Intermediate Flange

KM series allow different motors to be attached by intermediate flange. Please see the table below when ordering.

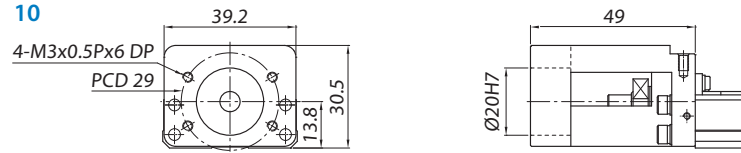
Unit : mm

Brand of Motor	Model	KM 20	KM 26	KM 30	KM 33	KM 45	KM 46	KM 55	KM 65
Yaskawa Electric AC servomotor	SGMAH-A3(30W)	1A	2A	3A	3A	4A	4A		
	SGMAH-A5(50W)	1A	2A	3A	3A	4A	4A		
	SGMAH-01(100W)			3A	3A	4A	4A		
	SGMPH-01(100W)					40	40	50	6C
	SGMAH-02(200W)					40	40	50	6C
	SGMAH-04(400W)					40	40	50	6C
	SGMPH-02(200W)							5C	60
	SGMPH-04(400W)							5C	60
Mitsubishi Electric AC servomotor	SGMAH-08(750W)							5C	6G
	HC-MFS053(50W)	1A	2A	3A	3A	4A	4A		
	HC-MFS13(100W)			3A	3A	4A	4A		
	HC-MFS23(200W)					40	40	50	6C
	HC-KFS23(200W)					40	40	50	6C
	HC-MFS43(400W)					40	40	50	6C
	HC-KFS43(400W)					40	40	50	6C
	HC-MFS73(750W)							5C	6G
HC-KFS73(750W)							5C	6G	
Matsushita Electric AC servomotor	MSMD5A(50W)	1D	2D	3D	3D	4D	4D		
	MSMD01(100W)			3D	3D	4D	4D		
	MQMA01(100W)						40		
	MSMD02(200W)						40		
	MSMD04(400W)						40		
	MSMD08(750W)							5F	6F
Fastech Stepping motor	EzM-28	1G	2G						
	EzM-42	1H	2H	3H	3H	4H	4H		
	EzM-56			3I	3I	4I	4I		
	EzM-60			3J	3J	4J	4J		
Oriental Motor Stepping motor	PK22	1G	2G						
	PK24	1H	2H	3H	3H	4H	4H		
	PK26(Standard)			3I	3I	4I	4I		
	RK54	1H	2H	3H	3H	4H	4H		
	RK56			3J	3J	4J	4J		
	RK59							5K	6K

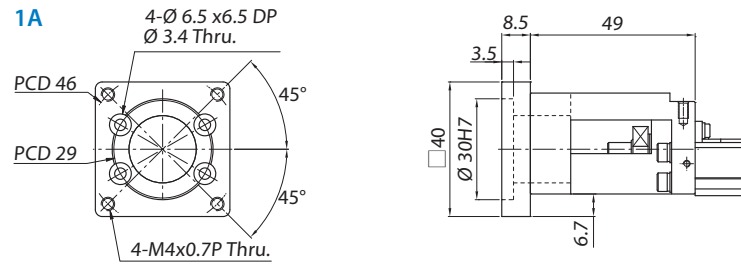
The dimension of intermediate flange:

[KM20](#)

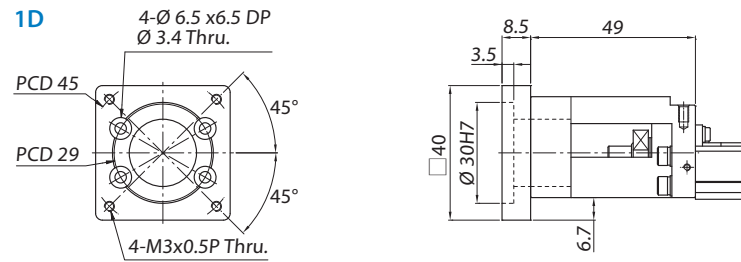
10



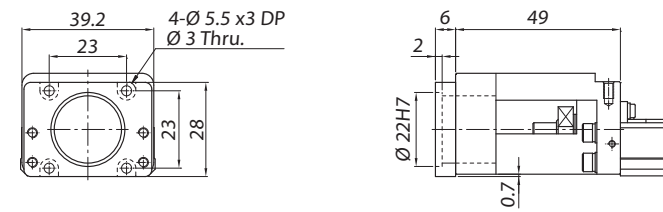
1A



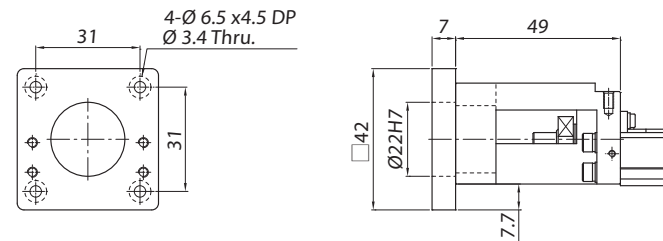
1D



1G

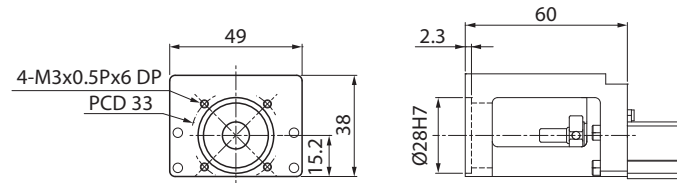


1H

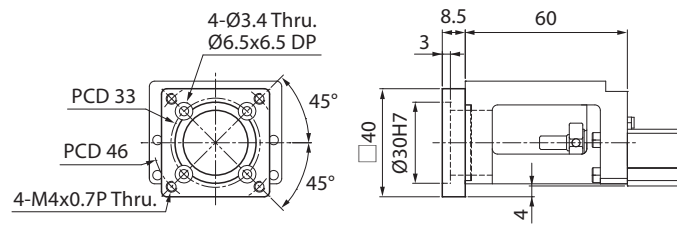


KM26

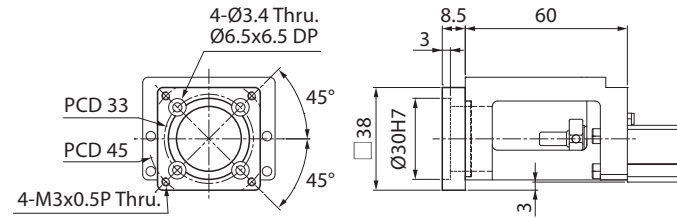
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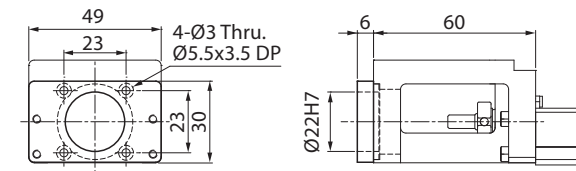
2A



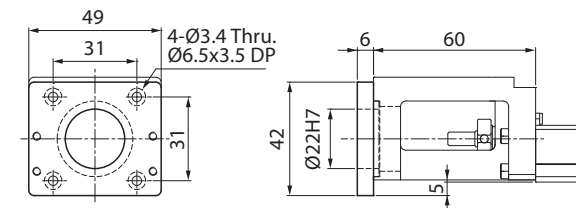
2D



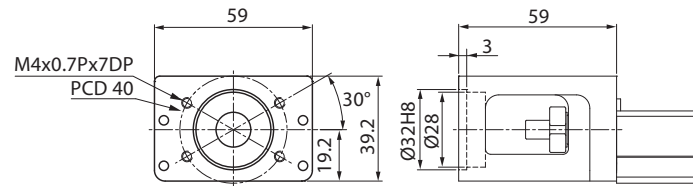
2G



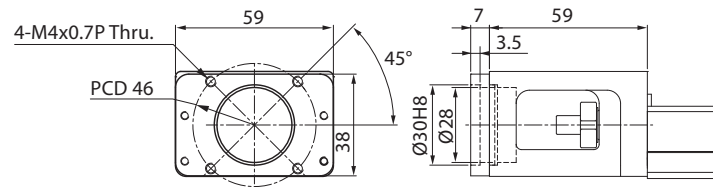
2H



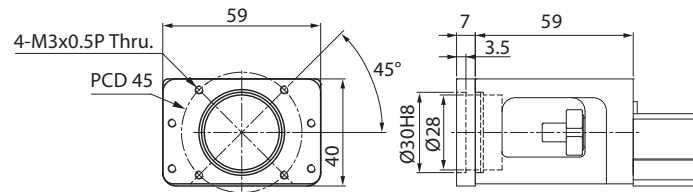
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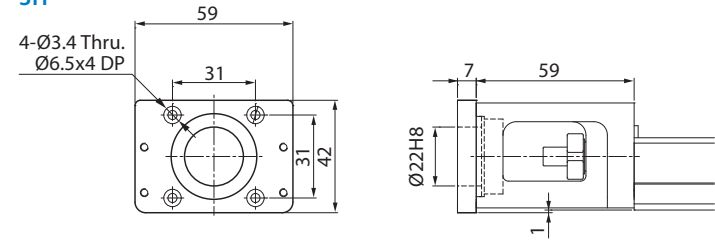
3A



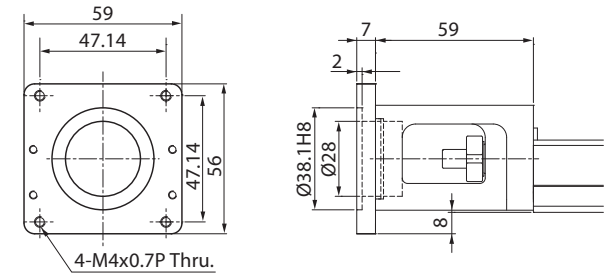
3D



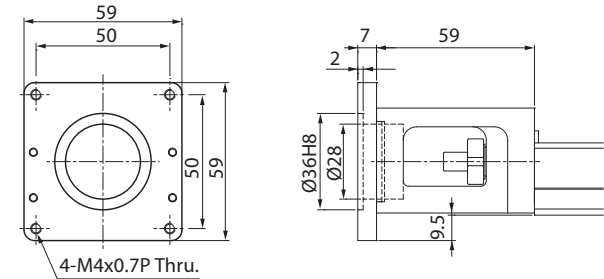
3H



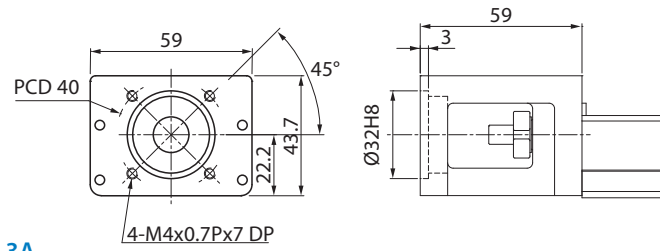
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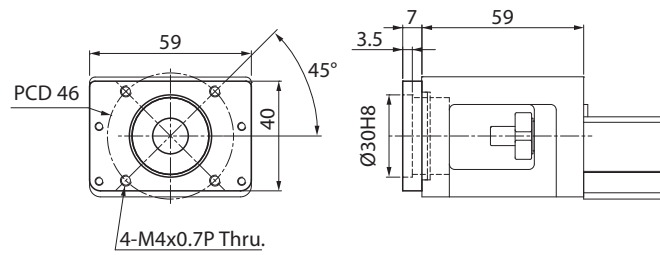
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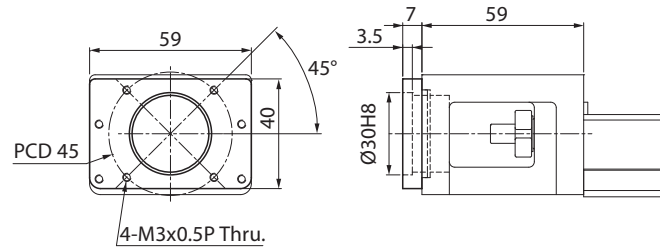
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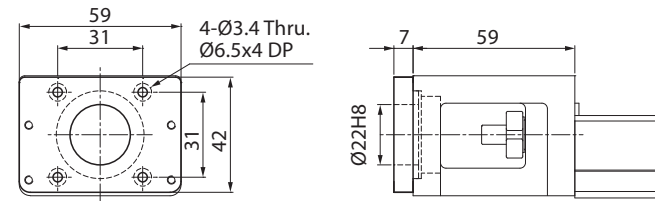
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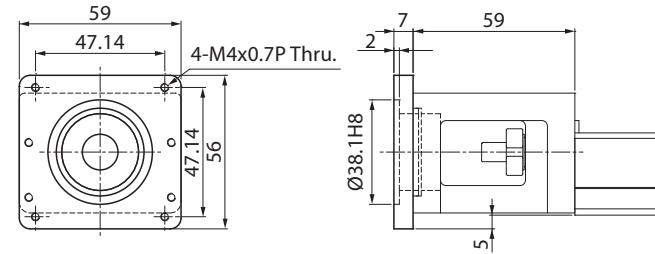
3D



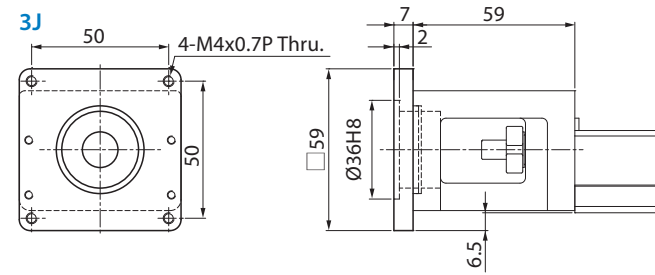
3H



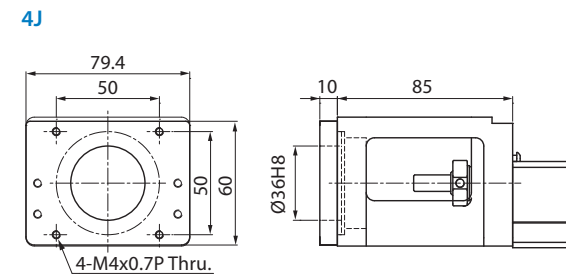
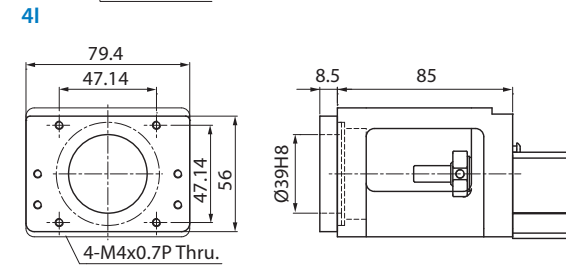
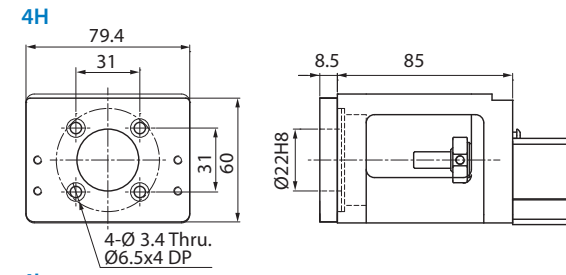
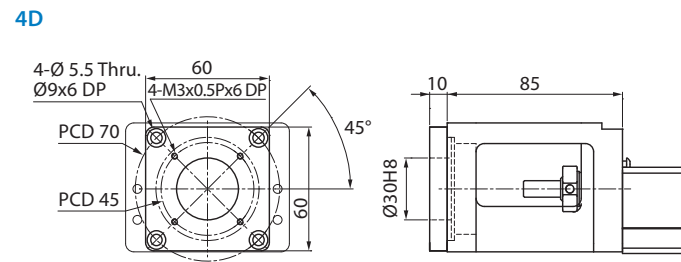
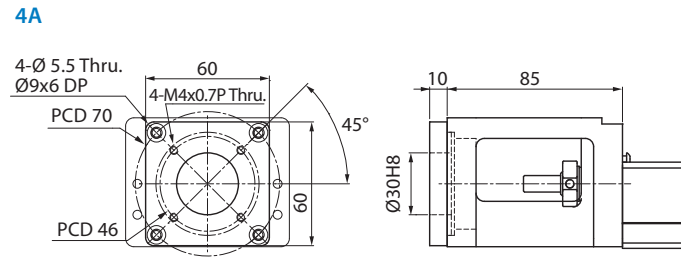
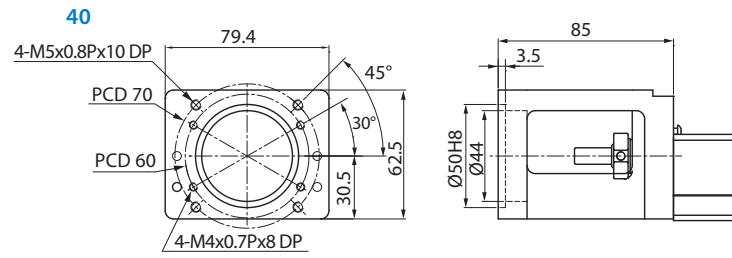
3I



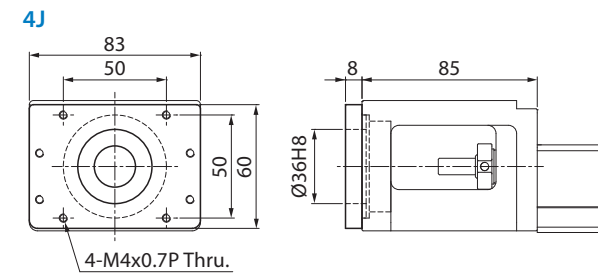
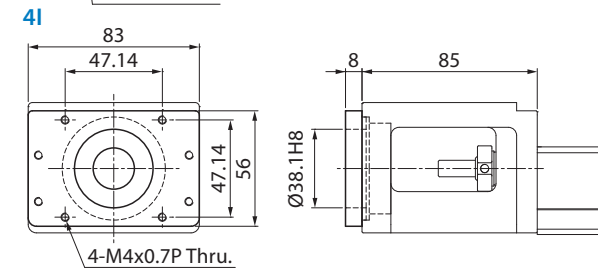
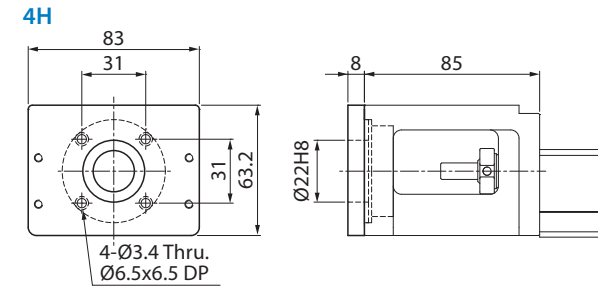
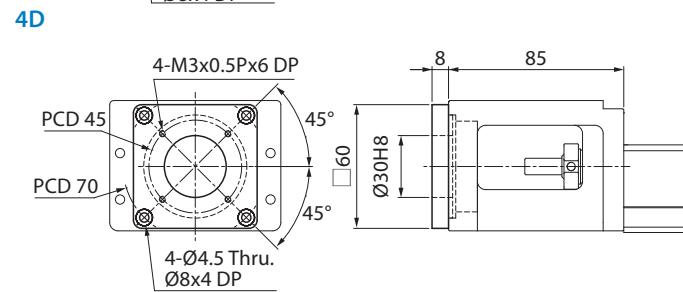
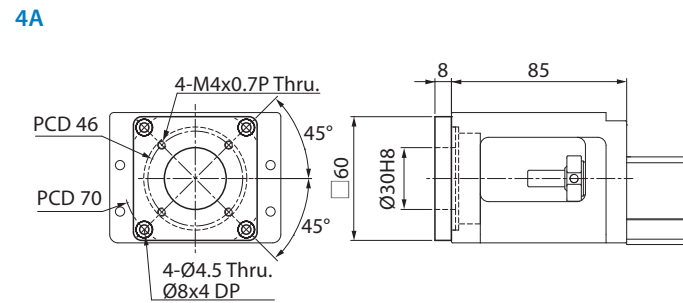
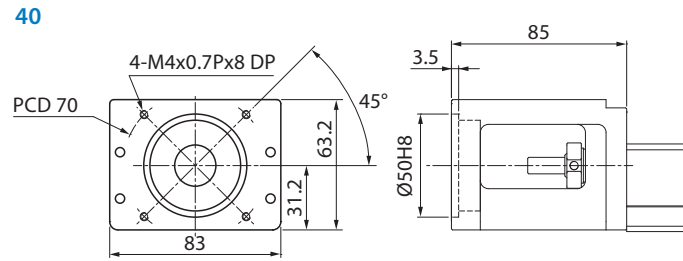
3J



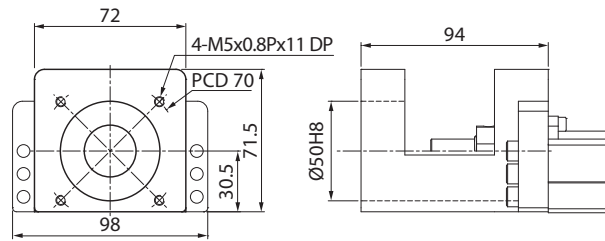
KM45



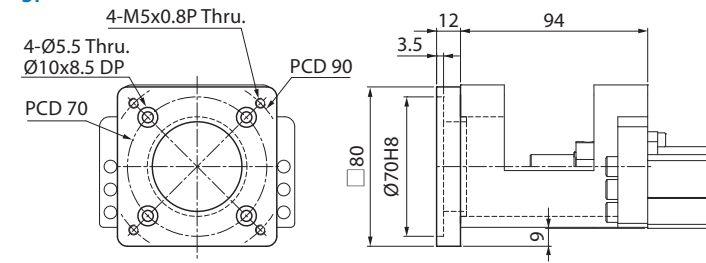
KM46



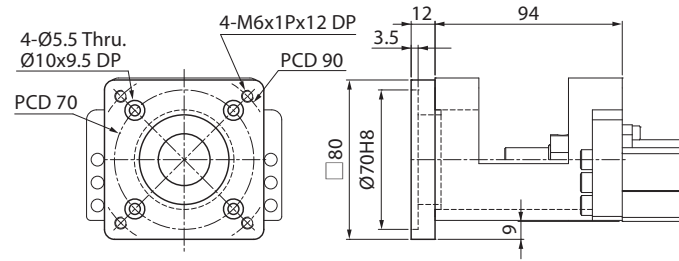
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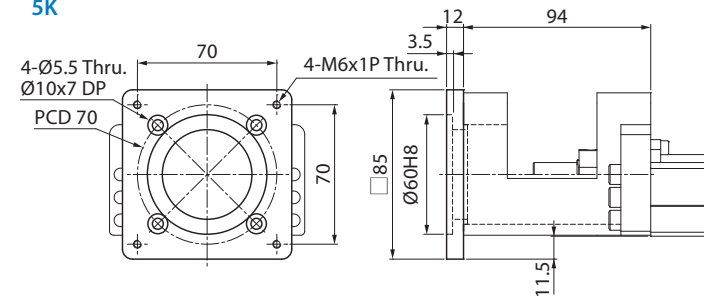
5F



5C

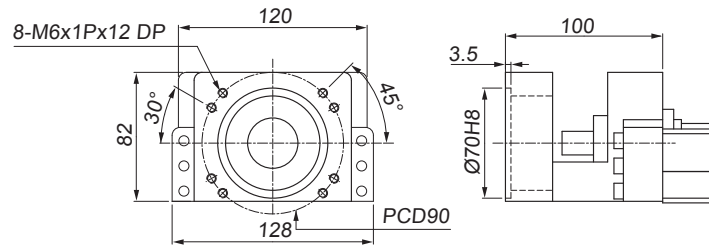


5K

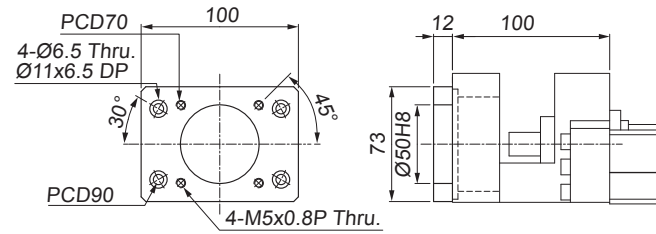


KM65

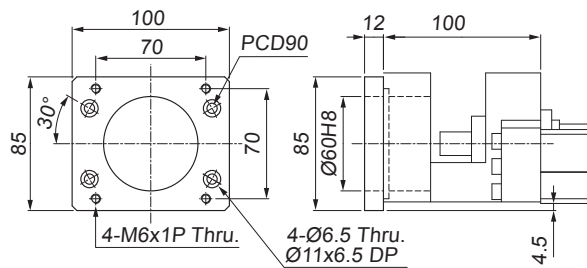
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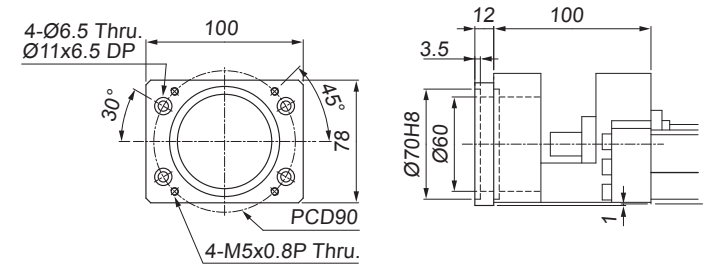
6C



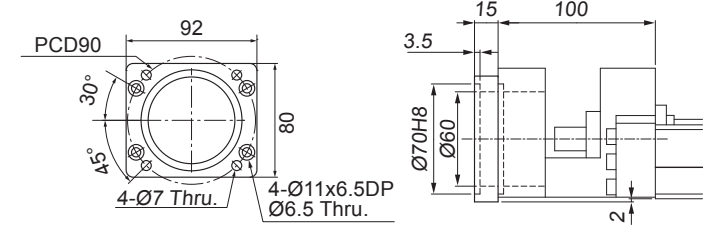
6K



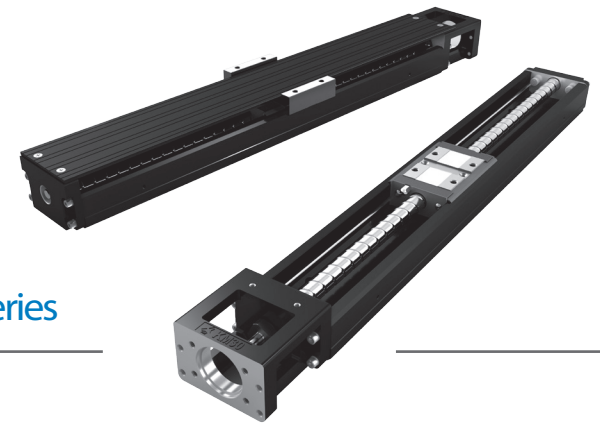
6F



6G

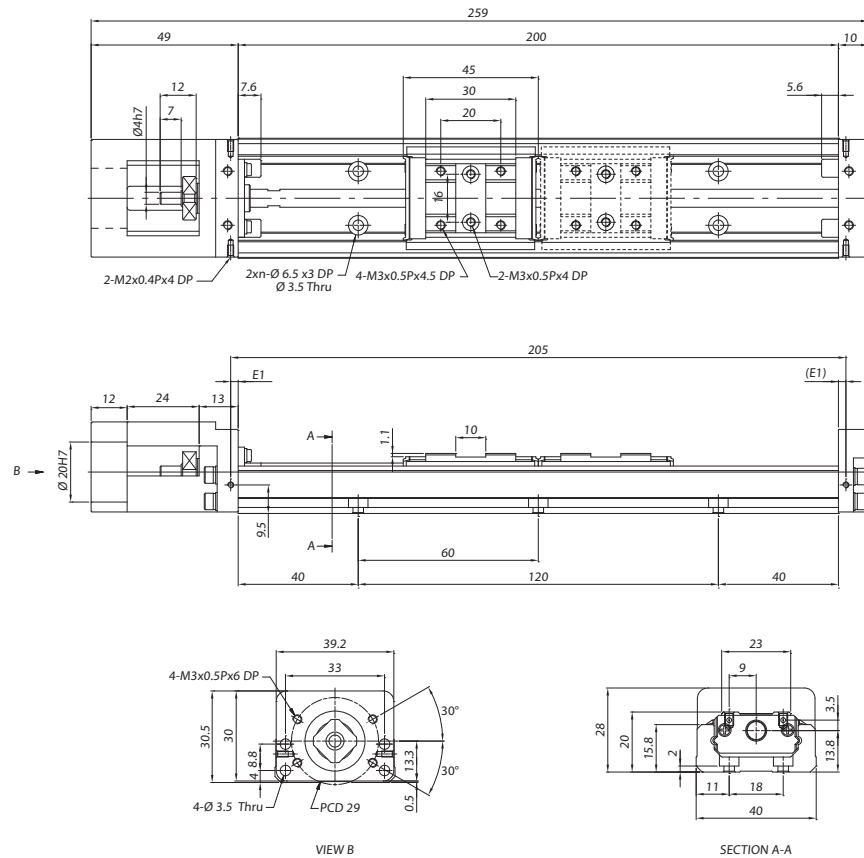


■ Mono Stage KM Series



KM20 Standard Type

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length



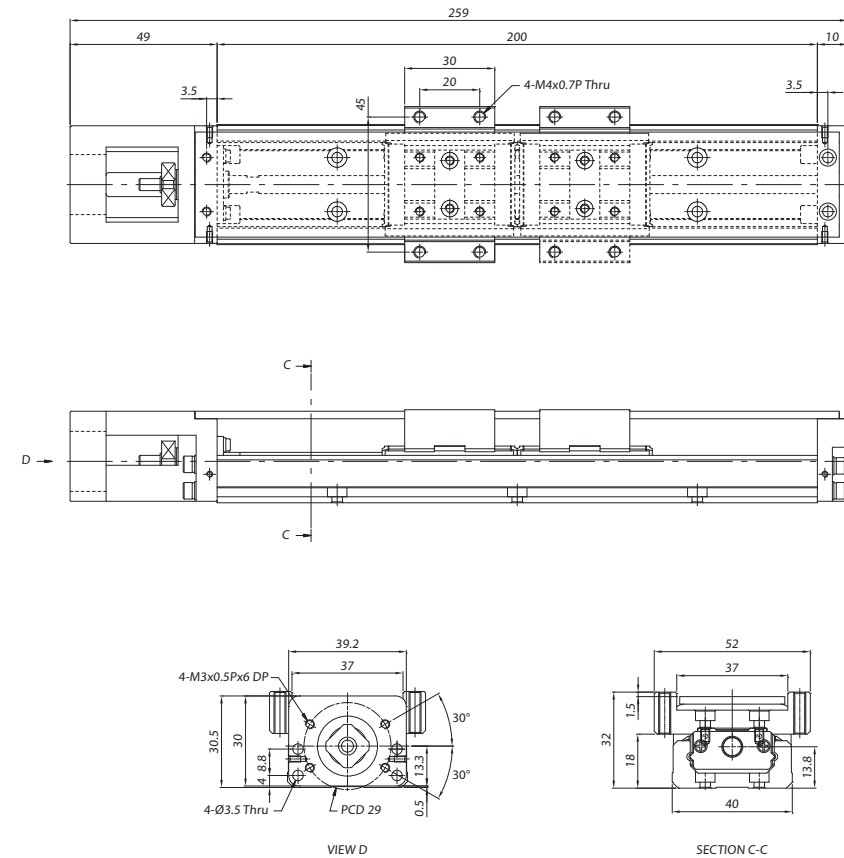
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		E	n	E ₁	F	Weight (kg)	
		A Type	B Type					A Type	B Type
100	159	41.8	-	20	2	20	105	0.473	-
150	209	91.8	46.8	15	3	15	155	0.593	0.693
200	259	141.8	96.8	40	3	40	205	0.713	0.813

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length

KM20 Cover Type



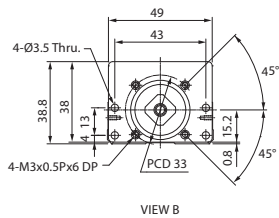
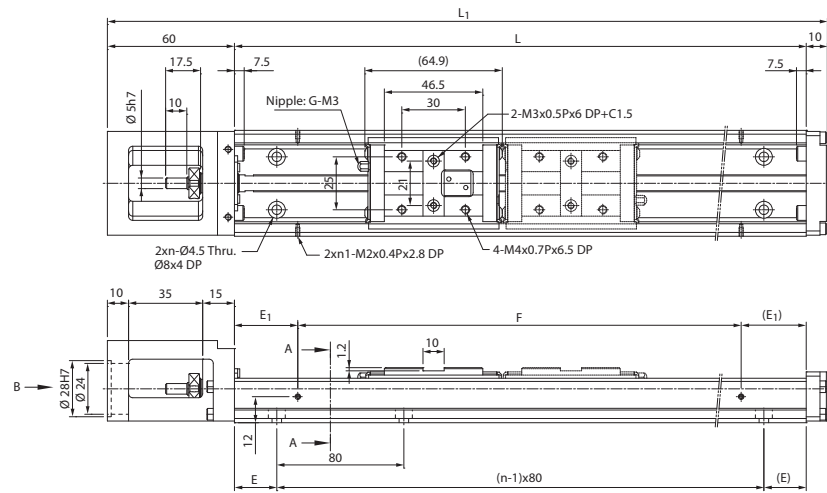
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		Weight (kg)	
		A Type	B Type	A Type	B Type
100	159	41.8	-	0.764	-
150	209	91.8	46.8	0.776	0.879
200	259	141.8	96.8	0.788	0.891

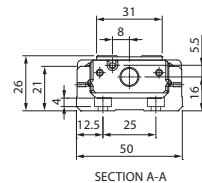
Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

KM26 Standard Type

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length

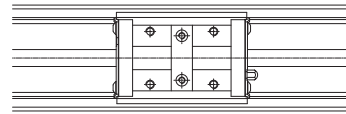


VIEW B

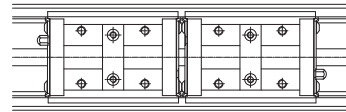


SECTION A-A

The direction of nipple with a single carriage-nut using



The direction of nipple with two carriage-nuts using



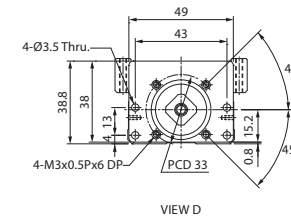
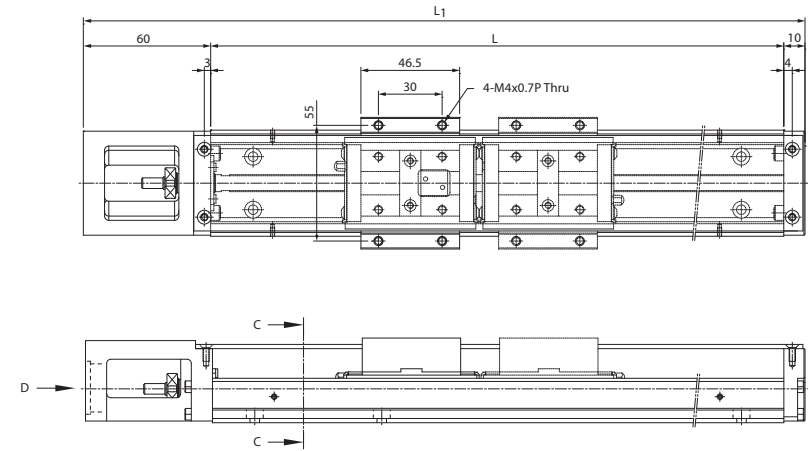
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		E	n	E ₁	n ₁	F	Weight (kg)	
		A Type	B Type						A Type	B Type
		150	220						70	-
200	270	120	55	20	3	20	2	160	1.18	1.37
250	320	170	105	45	3	45	2	160	1.38	1.57
300	370	220	155	30	4	30	2	240	1.59	1.78

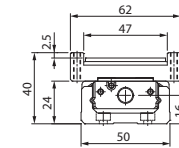
Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length

KM26 Cover Type



VIEW D



SECTION C-C

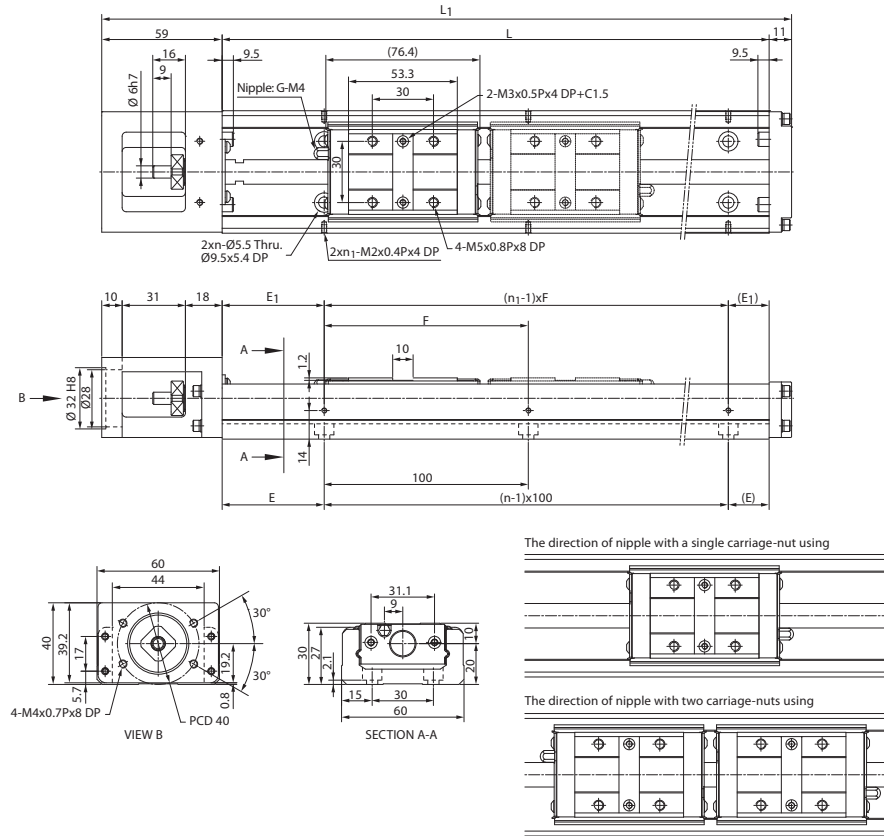
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		Weight (kg)	
		A Type	B Type	A Type	B Type
		150	220	70	-
200	270	120	55	1.26	1.45
250	320	170	105	1.46	1.65
300	370	220	155	1.67	1.86

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

KM30 Standard Type

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length



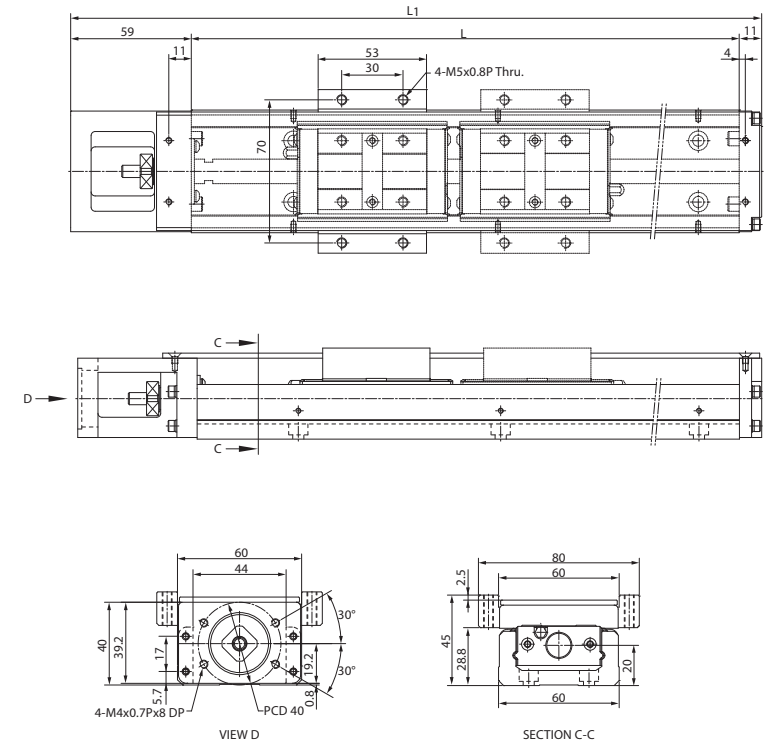
Unit : mm

Rail Length L	Overall Length L1	Max. Stroke		E	n	E1	n1	F	Weight (kg)	
		A Type	B Type						A Type	B Type
150	220	54.5	-	25	2	25	2	100	1.5	-
200	270	104.5	-	50	2	50	2	100	1.81	-
300	370	204.5	128	50	3	50	2	200	2.39	2.74
400	470	304.5	228	50	4	100	2	200	2.98	3.33
500	570	404.5	328	50	5	50	3	200	3.68	4.03
600	670	504.5	428	50	6	100	3	200	4.29	4.64

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

KM30 Cover Type

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length



Unit : mm

Rail Length L	Overall Length L1	Max. Stroke		Weight (kg)	
		A Type	B Type	A Type	B Type
150	220	54.5	-	1.7	-
200	270	104.5	-	2.01	-
300	370	204.5	128	2.59	3.04
400	470	304.5	228	3.21	3.66
500	570	404.5	328	3.92	4.37
600	670	504.5	428	4.54	4.99

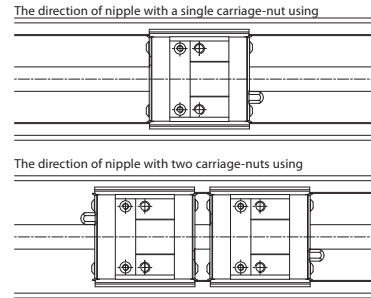
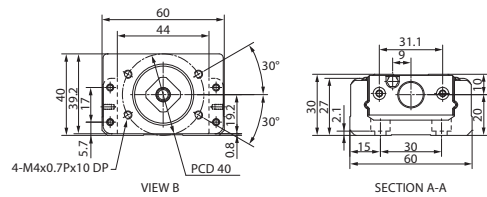
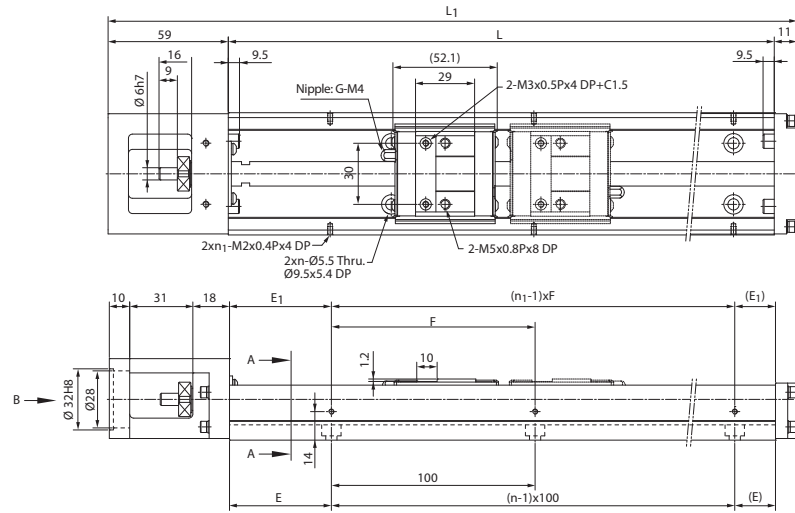
Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

KM30 Standard Type

C type : A single carriage-nut with short length
 D type : Two carriage-nuts with short length

C type : A single carriage-nut with short length
 D type : Two carriage-nuts with short length

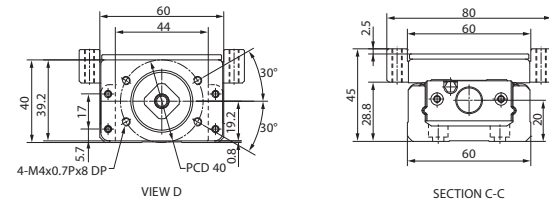
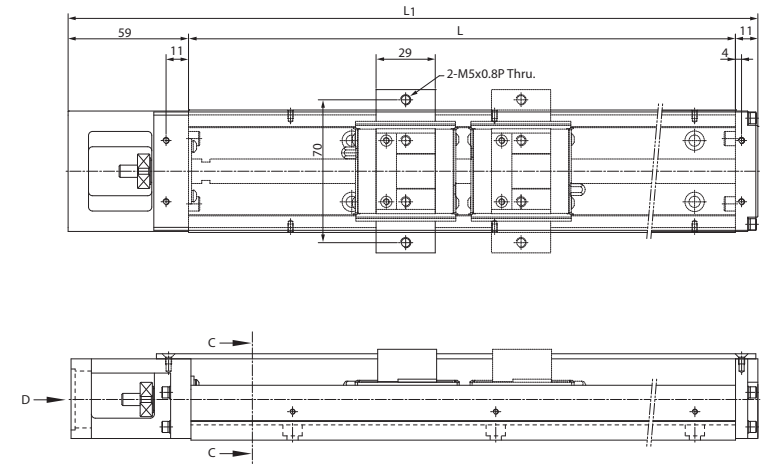
KM30 Cover Type



Unit : mm

Rail Length L	Overall Length L1	Max. Stroke		E	n	E1	n1	F	Weight (kg)	
		C Type	D Type						C Type	D Type
150	220	78.8	26.6	25	2	25	2	100	1.4	1.63
200	270	128.8	76.6	50	2	50	2	100	1.69	1.92
300	370	228.8	176.6	50	3	50	2	200	2.28	2.51
400	470	328.8	276.6	50	4	100	2	200	2.88	3.11
500	570	428.8	376.6	50	5	50	3	200	3.56	3.79
600	670	528.8	476.6	50	6	100	3	200	4.17	4.4

Note*: The max. stroke of D type is base on two carriage-nuts used in closed contact with each other.



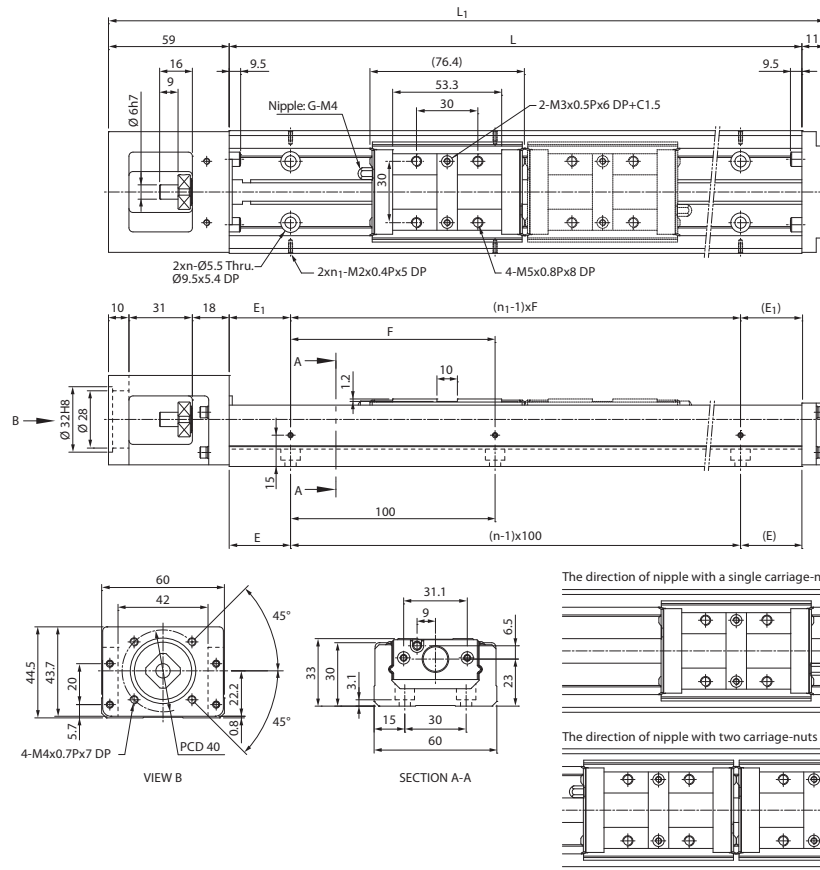
Unit : mm

Rail Length L	Overall Length L1	Max. Stroke		Weight (kg)	
		C Type	D Type	C Type	D Type
150	220	78.8	26.6	1.51	1.76
200	270	128.8	76.6	1.82	2.07
300	370	228.8	176.6	2.45	2.70
400	470	328.8	276.6	3.09	3.34
500	570	428.8	376.6	3.82	4.07
600	670	528.8	476.6	4.47	4.72

Note*: The max. stroke of D type is base on two carriage-nuts used in closed contact with each other.

KM33 Standard Type

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length



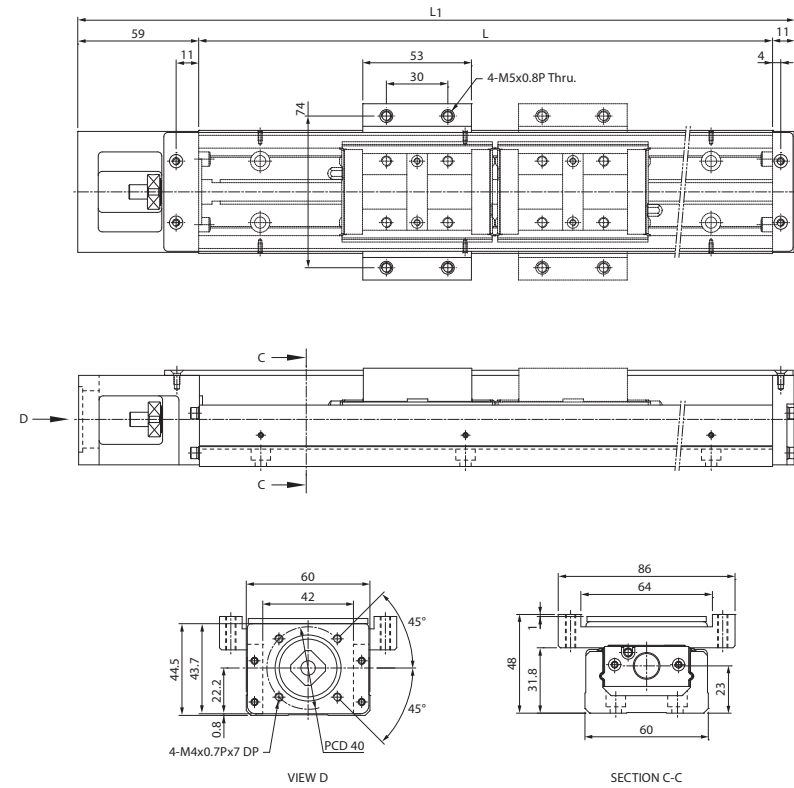
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		E	n	E ₁	n ₁	F	Weight (kg)	
		A Type	B Type						A Type	B Type
150	220	54.5	-	25	2	25	2	100	1.67	-
200	270	104.5	-	50	2	50	2	100	1.98	-
300	370	204.5	128	50	3	50	2	200	2.56	2.91
400	470	304.5	228	50	4	100	2	200	3.15	3.5
500	570	404.5	328	50	5	50	3	200	3.85	4.2
600	670	504.5	428	50	6	100	3	200	4.46	4.81

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length

KM33 Cover Type



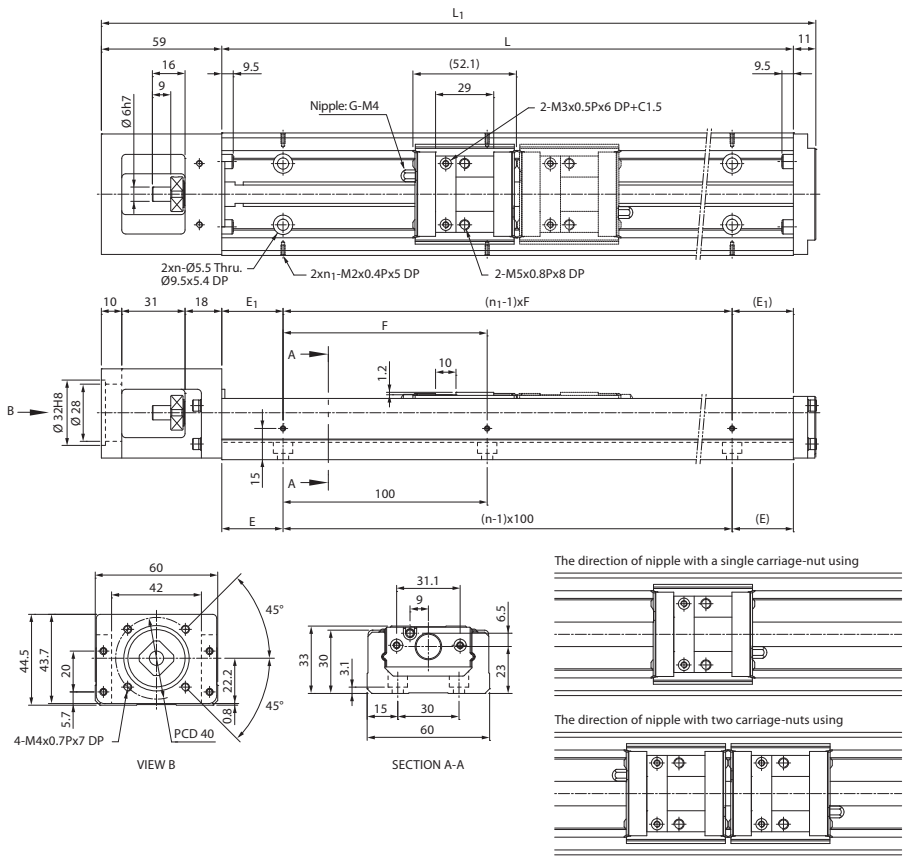
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		Weight (kg)	
		A Type	B Type	A Type	B Type
150	220	54.5	-	1.87	-
200	270	104.5	-	2.18	-
300	370	204.5	128	2.76	3.21
400	470	304.5	228	3.38	3.83
500	570	404.5	328	4.09	4.54
600	670	504.5	428	4.71	5.16

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

KM33 Standard Type

C type : A single carriage-nut with short length
 D type : Two carriage-nuts with short length



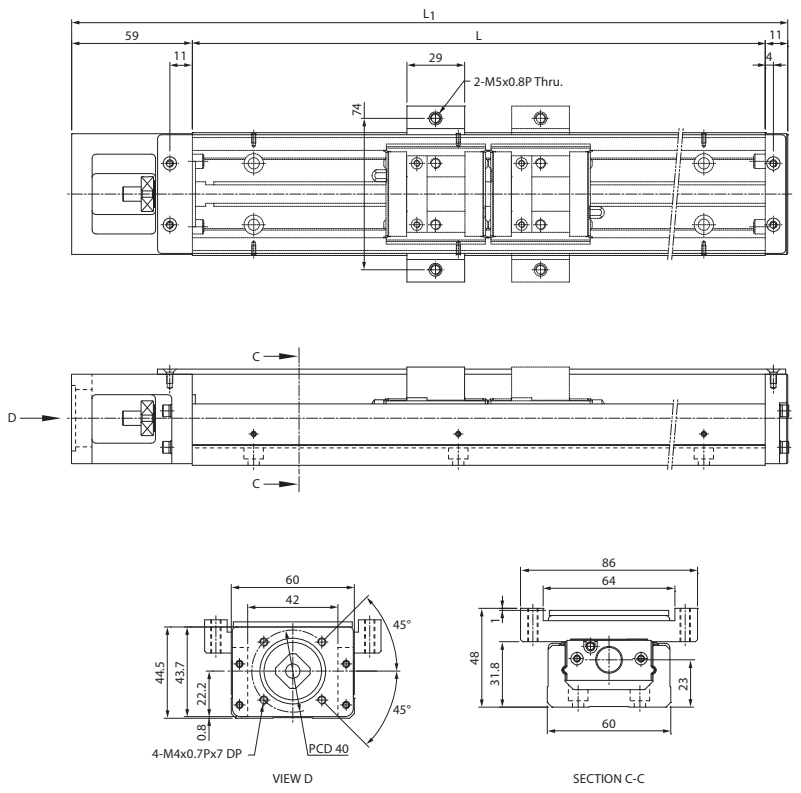
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		E	n	E ₁	n ₁	F	Weight (kg)	
		C Type	D Type						C Type	D Type
		150	220						78.8	26.6
200	270	128.8	76.6	50	2	50	2	100	1.86	2.09
300	370	228.8	176.6	50	3	50	2	200	2.45	2.68
400	470	328.8	276.6	50	4	100	2	200	3.05	3.28
500	570	428.8	376.6	50	5	50	3	200	3.73	3.96
600	670	528.8	476.6	50	6	100	3	200	4.34	4.57

Note*: The max. stroke of D type is base on two carriage-nuts used in closed contact with each other.

C type : A single carriage-nut with short length
 D type : Two carriage-nuts with short length

KM33 Cover Type



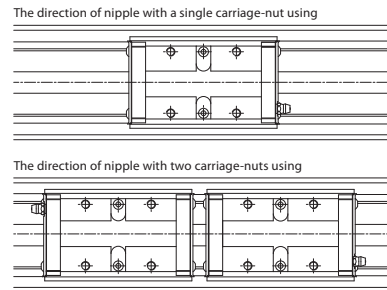
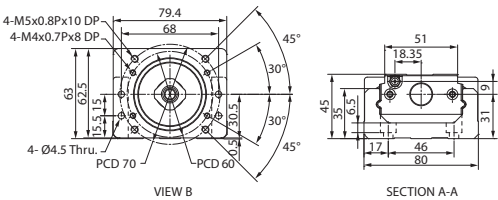
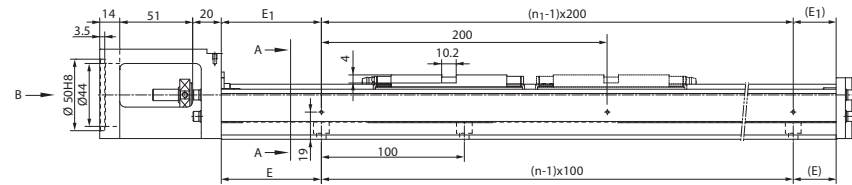
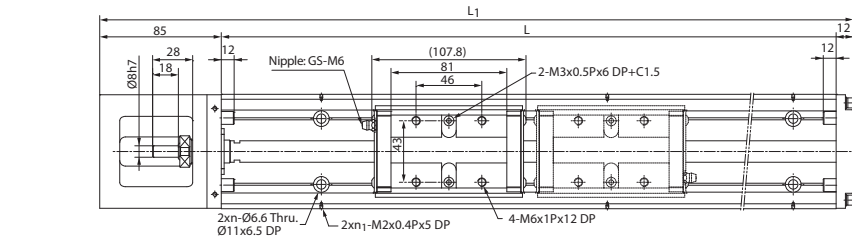
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		Weight (kg)	
		C Type	D Type	C Type	D Type
		150	220	78.8	26.6
200	270	128.8	76.6	1.99	2.24
300	370	228.8	176.6	2.62	2.87
400	470	328.8	276.6	3.26	3.51
500	570	428.8	376.6	3.99	4.24
600	670	528.8	476.6	4.64	4.89

Note*: The max. stroke of D type is base on two carriage-nuts used in closed contact with each other.

KM45 Standard Type

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length



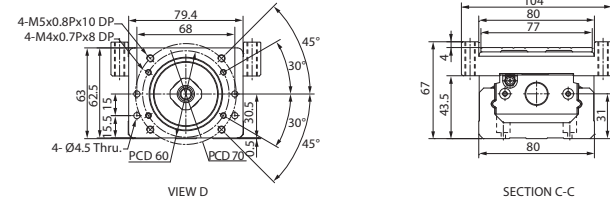
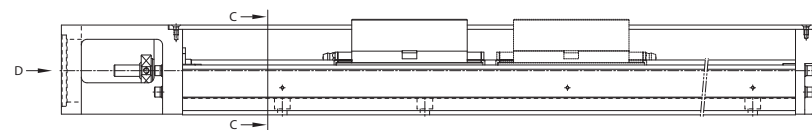
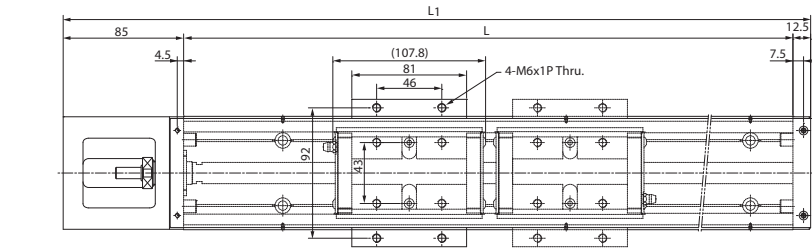
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		E	n	E ₁	n ₁	Weight (kg)	
		A Type	B Type					A Type	B Type
340	437	208.2	100.4	70	3	70	2	6.78	7.98
440	537	308.2	200.4	70	4	20	3	8.07	9.27
540	637	408.2	300.4	70	5	70	3	9.37	10.57
640	737	508.2	400.4	70	6	20	4	10.68	11.88
740	837	608.2	500.4	70	7	70	4	12.08	13.28
840	937	708.2	600.4	70	8	20	5	13.2	14.4
940	1037	808.2	700.4	70	9	70	5	14.37	15.57

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length

KM45 Cover Type



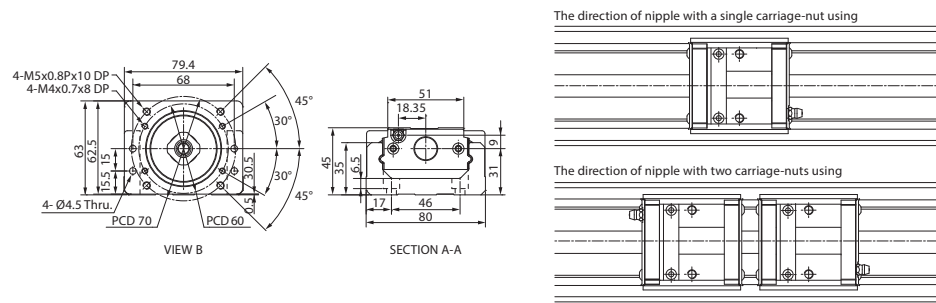
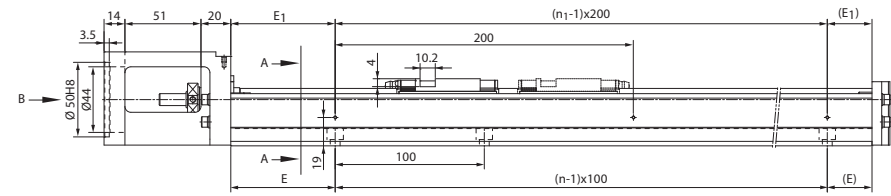
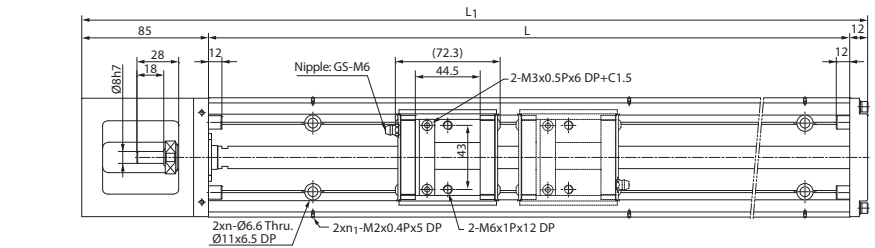
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		Weight (kg)	
		A Type	B Type	A Type	B Type
340	437	208.2	100.4	7.38	8.78
440	537	308.2	200.4	8.67	10.07
540	637	408.2	300.4	9.97	11.37
640	737	508.2	400.4	11.28	12.68
740	837	608.2	500.4	12.68	14.08
840	937	708.2	600.4	13.78	15.18
940	1037	808.2	700.4	14.97	16.37

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

KM45 Standard Type

C type : A single carriage-nut with short length
 D type : Two carriage-nuts with short length



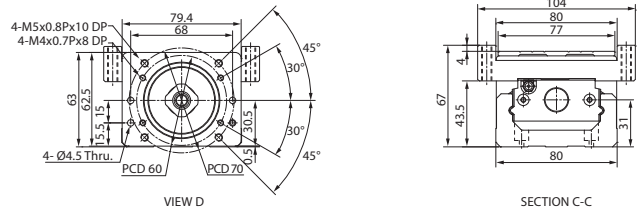
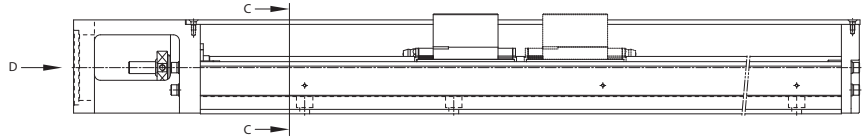
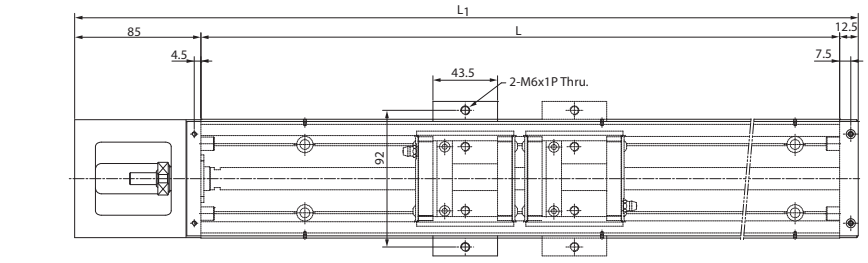
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		E	n	E ₁	n ₁	Weight (kg)	
		C Type	D Type					C Type	D Type
340	437	244.7	173.4	70	3	70	2	6.38	7.18
440	537	344.7	273.4	70	4	20	3	7.67	8.47
540	637	444.7	373.4	70	5	70	3	8.97	9.77
640	737	544.7	473.4	70	6	20	4	10.28	11.08
740	837	644.7	573.4	70	7	70	4	11.68	12.48
840	937	744.7	673.4	70	8	20	5	12.78	13.58
940	1037	844.7	773.4	70	9	70	5	13.97	14.77

Note*: The max. stroke of D type is base on two carriage-nuts used in closed contact with each other.

C type : A single carriage-nut with short length
 D type : Two carriage-nuts with short length

KM45 Cover Type



Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		Weight (kg)	
		C Type	D Type	C Type	D Type
340	437	244.7	173.4	6.58	7.58
440	537	344.7	273.4	7.87	8.87
540	637	444.7	373.4	9.17	10.17
640	737	544.7	473.4	10.48	11.48
740	837	644.7	573.4	11.88	12.88
840	937	744.7	673.4	12.98	13.98
940	1037	844.7	773.4	14.17	15.17

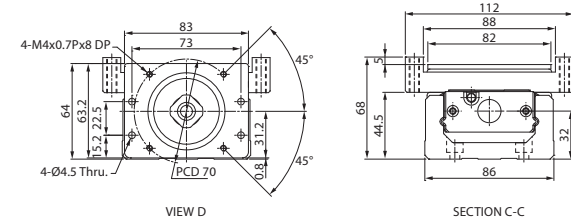
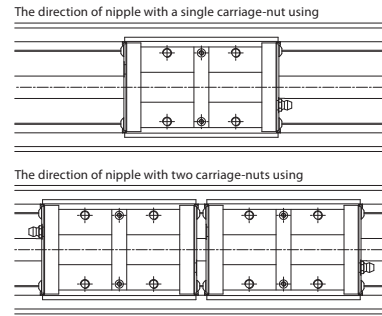
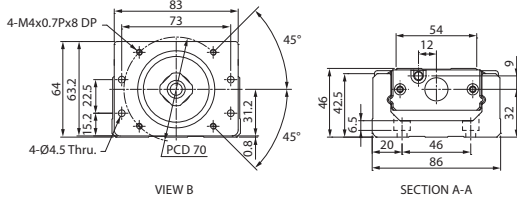
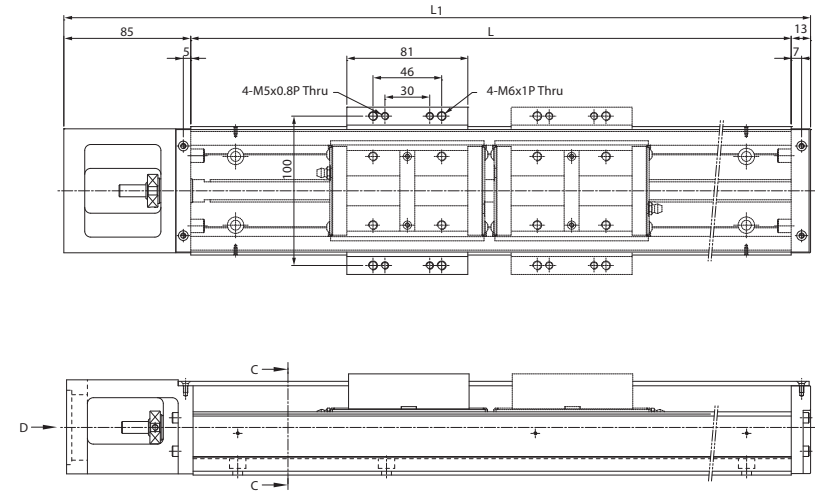
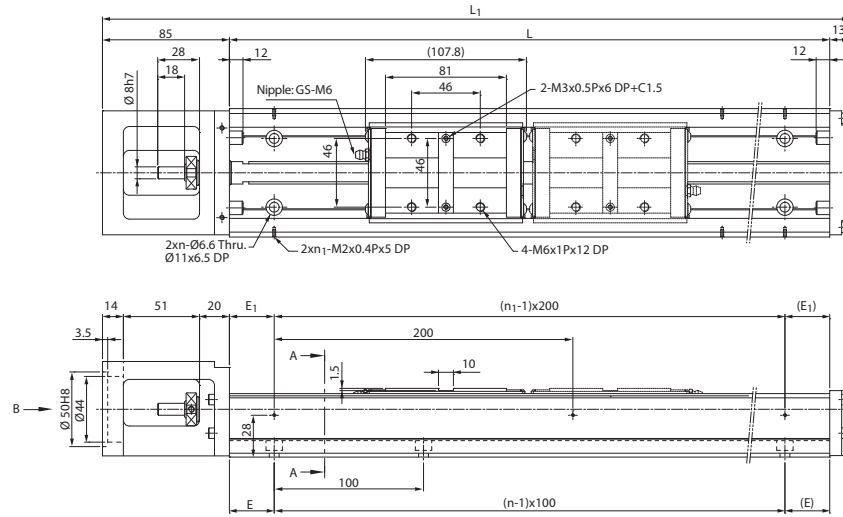
Note*: The max. stroke of D type is base on two carriage-nuts used in closed contact with each other.

KM46 Standard Type

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length

KM46 Cover Type



Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		E	n	E ₁	n ₁	Weight (kg)	
		A Type	B Type					A Type	B Type
		340	437					208.2	100.4
440	537	308.2	200.4	70	4	20	3	8.94	10.14
540	637	408.2	300.4	70	5	70	3	10.24	11.44
640	737	508.2	400.4	70	6	20	4	11.55	12.75
740	837	608.2	500.4	70	7	70	4	12.95	14.15
840	937	708.2	600.4	70	8	20	5	14.1	15.3
940	1037	808.2	700.4	70	9	70	5	15.24	16.44

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

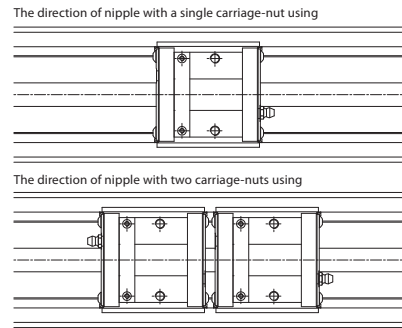
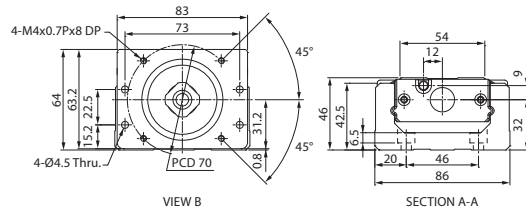
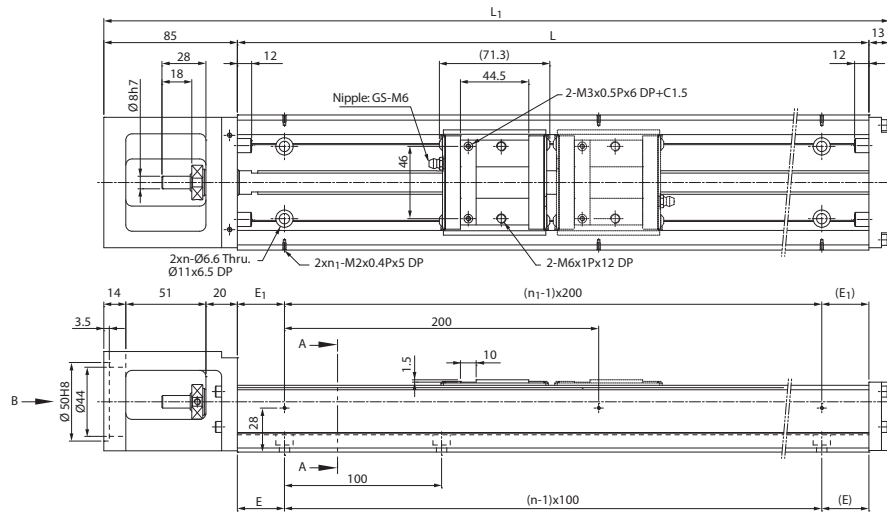
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		Weight (kg)	
		A Type	B Type	A Type	B Type
		340	437	208.2	100.4
440	537	308.2	200.4	9.54	10.94
540	637	408.2	300.4	10.84	12.24
640	737	508.2	400.4	12.15	13.55
740	837	608.2	500.4	13.55	14.95
840	937	708.2	600.4	14.65	16.05
940	1037	808.2	700.4	15.84	17.24

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

KM46 Standard Type

C type : A single carriage-nut with short length
 D type : Two carriage-nuts with short length



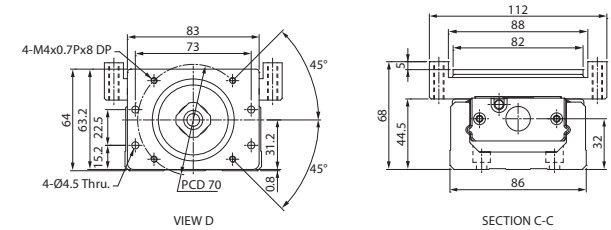
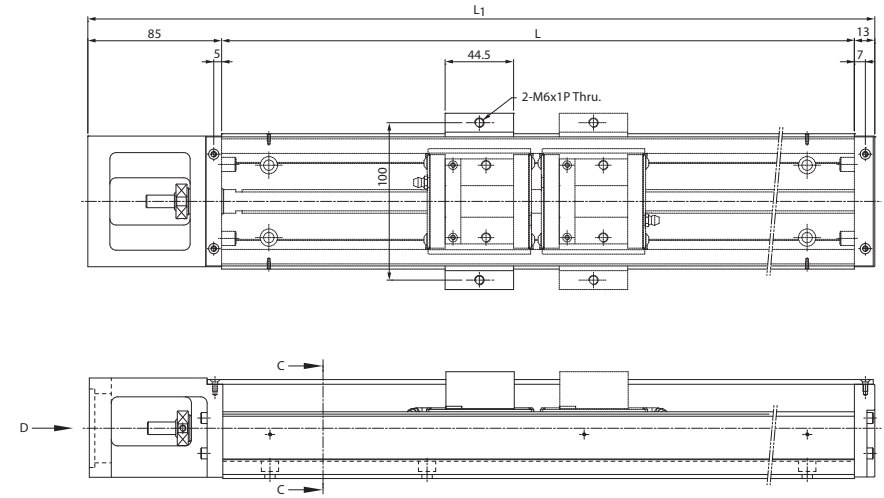
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		E	n	E ₁	n ₁	Weight (kg)	
		C Type	D Type					C Type	D Type
340	437	244.7	173.4	70	3	70	2	7.25	8.05
440	537	344.7	273.4	70	4	20	3	8.54	9.34
540	637	444.7	373.4	70	5	70	3	9.84	10.64
640	737	544.7	473.4	70	6	20	4	11.15	11.95
740	837	644.7	573.4	70	7	70	4	12.55	13.35
840	937	744.7	673.4	70	8	20	5	13.65	14.45
940	1037	844.7	773.4	70	9	70	5	14.84	15.64

Note*: The max. stroke of D type is base on two carriage-nuts used in closed contact with each other.

C type : A single carriage-nut with short length
 D type : Two carriage-nuts with short length

KM46 Cover Type



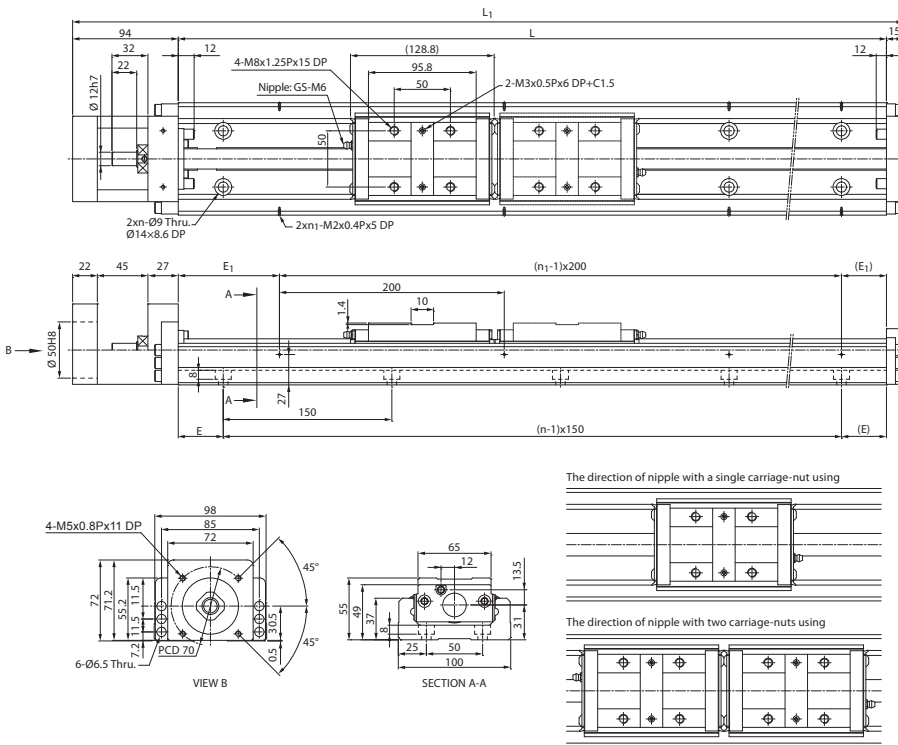
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		Weight (kg)	
		C Type	D Type	C Type	D Type
340	437	244.7	173.4	7.45	8.45
440	537	344.7	273.4	8.74	9.74
540	637	444.7	373.4	10.04	11.04
640	737	544.7	473.4	11.35	12.35
740	837	644.7	573.4	12.75	13.75
840	937	744.7	673.4	13.85	14.85
940	1037	844.7	773.4	15.04	16.04

Note*: The max. stroke of D type is base on two carriage-nuts used in closed contact with each other.

KM55 Standard Type

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length



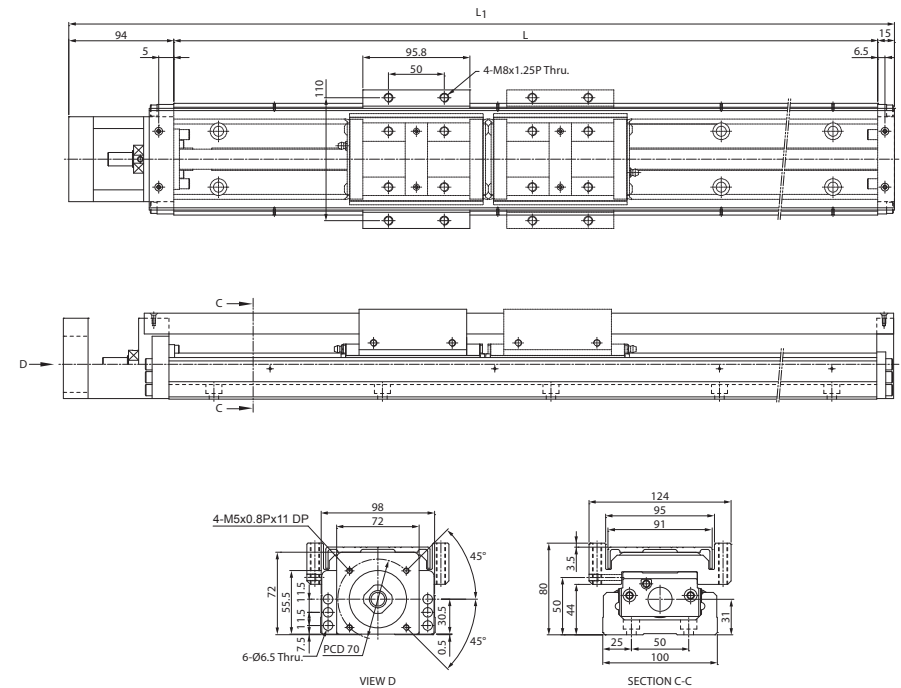
Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		E	n	E ₁	n ₁	Weight (kg)	
		A Type	B Type					A Type	B Type
980	1089	828	699	40	7	90	5	19.90	21.62
1080	1189	928	799	15	8	40	6	21.63	23.35
1180	1289	1028	899	65	8	90	6	23.36	25.08
1280	1389	1128	999	40	9	40	7	25.09	26.81
1380	1489	1228	1099	15	10	90	7	26.82	28.54

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length

KM55 Cover Type



Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		Weight (kg)	
		A Type	B Type	A Type	B Type
980	1089	828	699	21.78	24.25
1080	1189	928	799	23.61	26.08
1180	1289	1028	899	25.44	27.91
1280	1389	1128	999	27.26	29.73
1380	1489	1228	1099	29.09	31.56

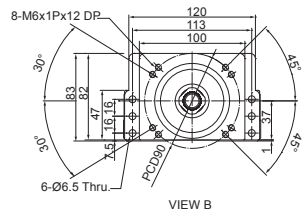
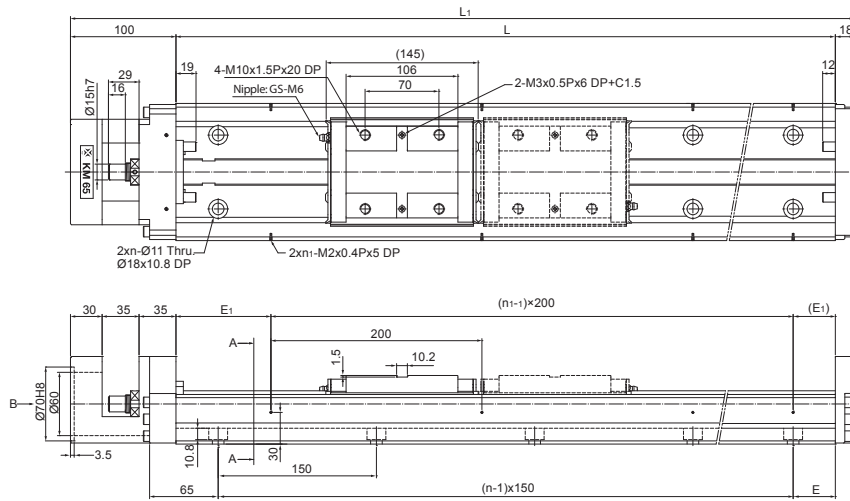
Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

KM65 Standard Type

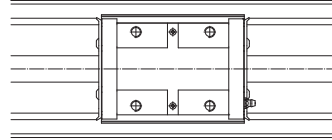
A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length

A type : A single carriage-nut with standard length
 B type : Two carriage-nuts with standard length

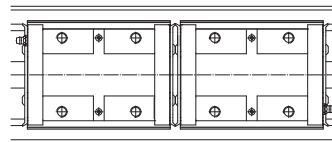
KM65 Cover Type



The direction of nipple with a single carriage-nut using



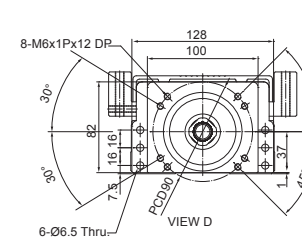
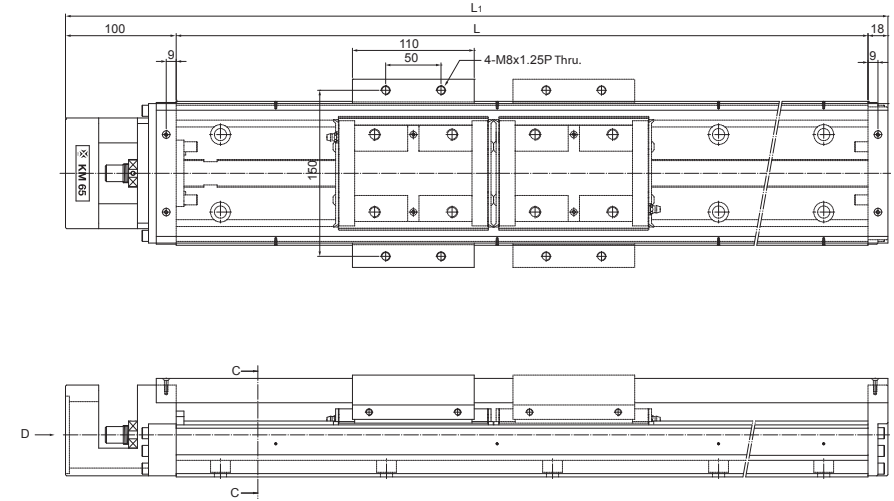
The direction of nipple with two carriage-nuts using



Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		E	n	E ₁	n ₁	Weight (kg)	
		A Type	B Type					A Type	B Type
980	1098	800	655	40	7	90	5	31.60	34.60
1180	1298	1000	855	65	8	90	6	67.00	40.00
1380	1498	1200	1055	90	9	90	7	42.40	45.40
1680	1798	1500	1355	90	11	40	9	50.50	53.50

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.



Unit : mm

Rail Length L	Overall Length L ₁	Max. Stroke		Weight (kg)	
		A Type	B Type	A Type	B Type
980	1098	800	655	31.60	34.60
1180	1298	1000	855	67.00	40.00
1380	1498	1200	1055	42.40	45.40
1680	1798	1500	1355	50.50	53.50

Note*: The max. stroke of B type is base on two carriage-nuts used in closed contact with each other.

Appendix

PMI Ballscrew Request Form

Date :

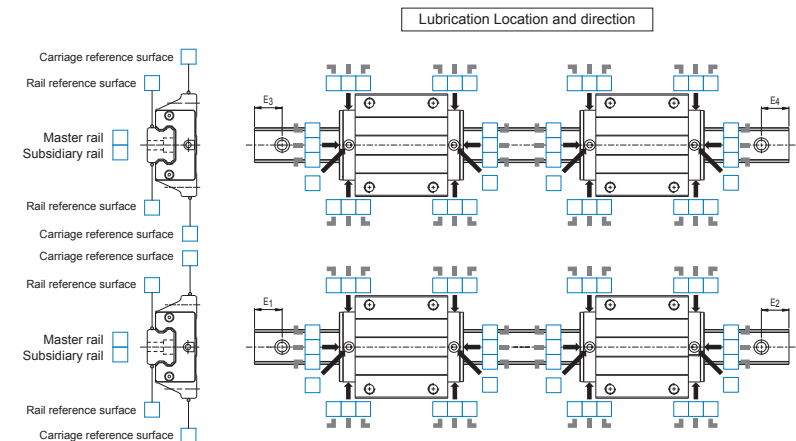
Company :	Address :	
Tel :		
Fax :	Country :	
Machine Type :	Delivery Point :	
Application :	Desired Delivery Date :	Quantity :
Required Specifications		
1	A. Thread Direction : <input type="checkbox"/> L <input type="checkbox"/> R Number Of Thread (1~4) :	
	B. Screw Nominal O.D. :	Lead : Effective Turns :
	C. Thread Length :	Overall Length : Accuracy Grade :
	D. Nut Type : <input type="checkbox"/> Miniature Series <input type="checkbox"/> End Deflector Series <input type="checkbox"/> External Ball Circulation Series <input type="checkbox"/> Internal Ball Circulation Series <input type="checkbox"/> High Lead Series <input type="checkbox"/> Heavy Load Series <input type="checkbox"/> End Cap Series	
Load Condition		
A. Stroke : mm Max. Rotation Speed : r.p.m Motor Specifications : kw		
B. Mounting Method : <input type="checkbox"/> Vertical <input type="checkbox"/> Horizontal <input type="checkbox"/> Obligie Declining Angle : Mounting Span : mm		
C. Acceleration Time : S Acceleration Speed : m/s ² Rapid Feed Speed : m/min		
D. Life : ×10 ⁶ revs km hr		
2	E. Working Axial Load :	
	Rapid Feed : kgf Feed Speed : mm/min Time : Ratio(%)	
	Light Cutting : kgf Feed Speed : mm/min Time : Ratio(%)	
	Heavy Cutting : kgf Feed Speed : mm/min Time : Ratio(%)	
F. Max. Axial Static Load : kgf		
G. Table Weight : kg Work Piece Weight : kg		
H. Linear Guide Way : <input type="checkbox"/> Ball Type <input type="checkbox"/> Roller Type <input type="checkbox"/> Box Way		
I. Mount Method : <input type="checkbox"/> Fixed-Fixed <input type="checkbox"/> Fixed-Supported <input type="checkbox"/> Fixed-Free <input type="checkbox"/> Supported-Supported		
Lead Accuracy, Axial Clearance, Preload and Stiffness		
3	A. Specified Travel (T) : mm	
	B. Positioning Accuracy : mm(No Load) Repeatability Accuracy : mm(No Load)	
	C. Preload : kgf (Preload Torque : kgf/cm)	
	D. Axial play : mm (No Load)	
E. Nut Stiffness : kgf/μm		
Other Conditions		
4	A. Lubrication Oil : Grease : Other :	
	B. Ambient Temperature : <input type="checkbox"/> °C <input type="checkbox"/> °F	
	C. Special Conditions :	

PMI Linear Guideway Request Form

Date :

Customer Name :	Address :						
Tel :							
Fax :	Machine Type :						
Contact Person :	Drawing No. :						
Installation Direction	<input type="checkbox"/> H type	<input type="checkbox"/> R type	<input type="checkbox"/> V type	<input type="checkbox"/> K type	<input type="checkbox"/> T type	<input type="checkbox"/> RV type	<input type="checkbox"/> Others
Carriage Type							
Size							
No. of Carriages	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> Others:						
Dust Protection	<input type="checkbox"/> No symbol <input type="checkbox"/> UU <input type="checkbox"/> SS <input type="checkbox"/> ZZ <input type="checkbox"/> DD <input type="checkbox"/> KK <input type="checkbox"/> LL <input type="checkbox"/> RR						
Rail Protection	<input type="checkbox"/> No symbol <input type="checkbox"/> CC <input type="checkbox"/> MC <input type="checkbox"/> MD						
Preload Grade	<input type="checkbox"/> FZ <input type="checkbox"/> FC <input type="checkbox"/> F0 <input type="checkbox"/> F1 <input type="checkbox"/> F2						
Rail Type	<input type="checkbox"/> Counter-bore (R type) <input type="checkbox"/> Counter-bore (U type) <input type="checkbox"/> Tapped hole (T type)						
Rail Length & Pitch	Length:	E1:	E2:	E3:	E4:		
Accuracy Grade	<input type="checkbox"/> N <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> SP <input type="checkbox"/> UP						
Rail per Axis	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> Others:						
Lubrication Type	<input type="checkbox"/> Grease <input type="checkbox"/> Oil						
Lubrication Fitting	<input type="checkbox"/> Grease nipple (Code:) <input type="checkbox"/> Oil piping joint (Code:)						
Full Code of Specification							
Required Quantity							

Reference surface & Lubrication Location



Nonspecified cases followed by PMI standards. For other special requirements, please contact us.

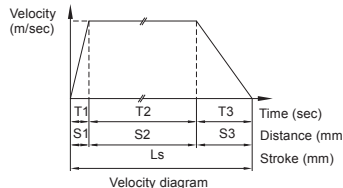
The specifications in this catalogue are subject to change without notification.

P.S. The specifications in this catalogue are subject to change without notification, For other special requirements, please contact us.

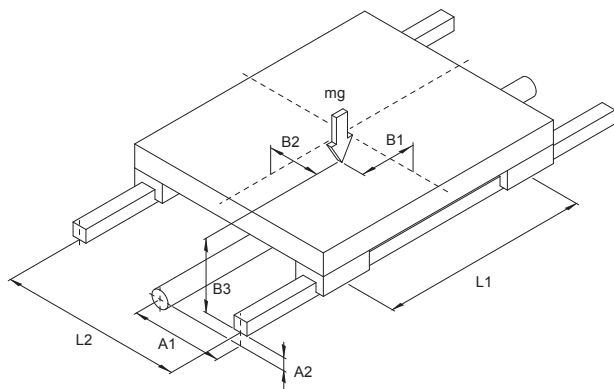
Service Life Calculation of *PMI* Linear Guideway

Date :

Company :	Address :
Tel :	
Fax :	Machine Type :
Contact Person :	Others :

Velocity: $V =$ <input type="text"/> m/sec Acceleration time: $T1 =$ <input type="text"/> sec $T2 =$ <input type="text"/> sec $T3 =$ <input type="text"/> sec Stroke length: $Ls =$ <input type="text"/> mm Number of reciprocations per minute: $N =$ <input type="text"/> min ⁻¹	Thrust point: $A1 =$ <input type="text"/> mm $A2 =$ <input type="text"/> mm Carriage span: $L1 =$ <input type="text"/> mm Rail span: $L2 =$ <input type="text"/> mm Mass: $m =$ <input type="text"/> kg	Gravity point: $B1 =$ <input type="text"/> mm $B3 =$ <input type="text"/> mm $B2 =$ <input type="text"/> mm 
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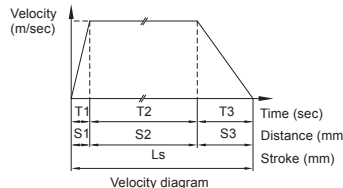
Horizontal application



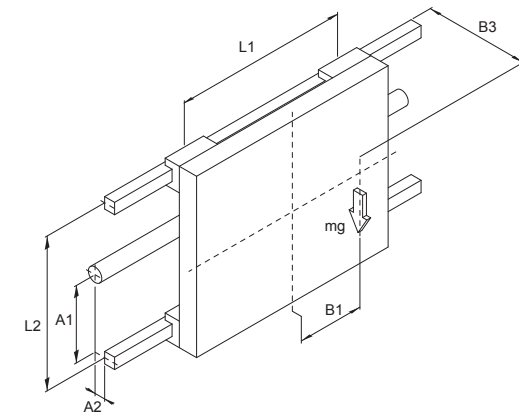
Service Life Calculation of *PMI* Linear Guideway

Date :

Company :	Address :
Tel :	
Fax :	Machine Type :
Contact Person :	Others :

Velocity: $V =$ <input type="text"/> m/sec Acceleration time: $T1 =$ <input type="text"/> sec $T2 =$ <input type="text"/> sec $T3 =$ <input type="text"/> sec Stroke length: $Ls =$ <input type="text"/> mm Number of reciprocations per minute: $N =$ <input type="text"/> min ⁻¹	Thrust point: $A1 =$ <input type="text"/> mm $A2 =$ <input type="text"/> mm Carriage span: $L1 =$ <input type="text"/> mm Rail span: $L2 =$ <input type="text"/> mm Mass: $m =$ <input type="text"/> kg	Gravity point: $B1 =$ <input type="text"/> mm $B3 =$ <input type="text"/> mm $B2 =$ <input type="text"/> mm 
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Wall installation application



Service Life Calculation of PMI Linear Guideway

Date :

Company :	Address :
Tel :	
Fax :	Machine Type :
Contact Person :	Others :

Velocity:
 $V =$ m/sec
 Acceleration time:
 $T1 =$ sec
 $T2 =$ sec
 $T3 =$ sec
 Stroke length:
 $Ls =$ mm
 Number of reciprocations per minute:
 $N =$ min⁻¹

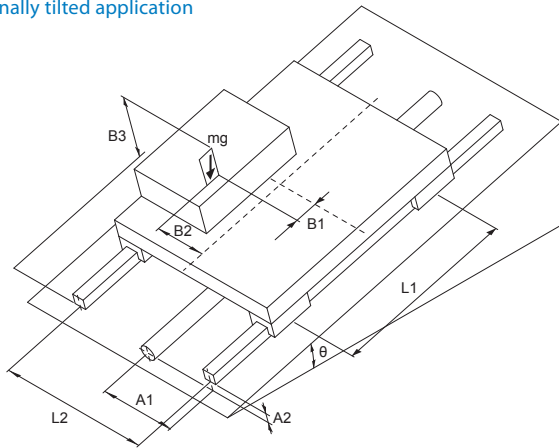
Thrust point:
 $A1 =$ mm
 $A2 =$ mm
 Carriage span:
 $L1 =$ mm
 Rail span:
 $L2 =$ mm
 Mass:
 $m =$ kg

Gravity point:
 $B1 =$ mm $B3 =$ mm
 $B2 =$ mm $\theta =$ Degree

Velocity diagram

working condition

Longitudinally tilted application



Service Life Calculation of PMI Linear Guideway

Date :

Company :	Address :
Tel :	
Fax :	Machine Type :
Contact Person :	Others :

Velocity:
 $V =$ m/sec
 Acceleration time:
 $T1 =$ sec
 $T2 =$ sec
 $T3 =$ sec
 Stroke length:
 $Ls =$ mm
 Number of reciprocations per minute:
 $N =$ min⁻¹

Thrust point:
 $A1 =$ mm
 $A2 =$ mm
 Carriage span:
 $L1 =$ mm
 Rail span:
 $L2 =$ mm
 Mass:
 $m =$ kg

Gravity point:
 $B1 =$ mm $B3 =$ mm
 $B2 =$ mm $\theta =$ Degree

Velocity diagram

working condition

Laterally tilted application

