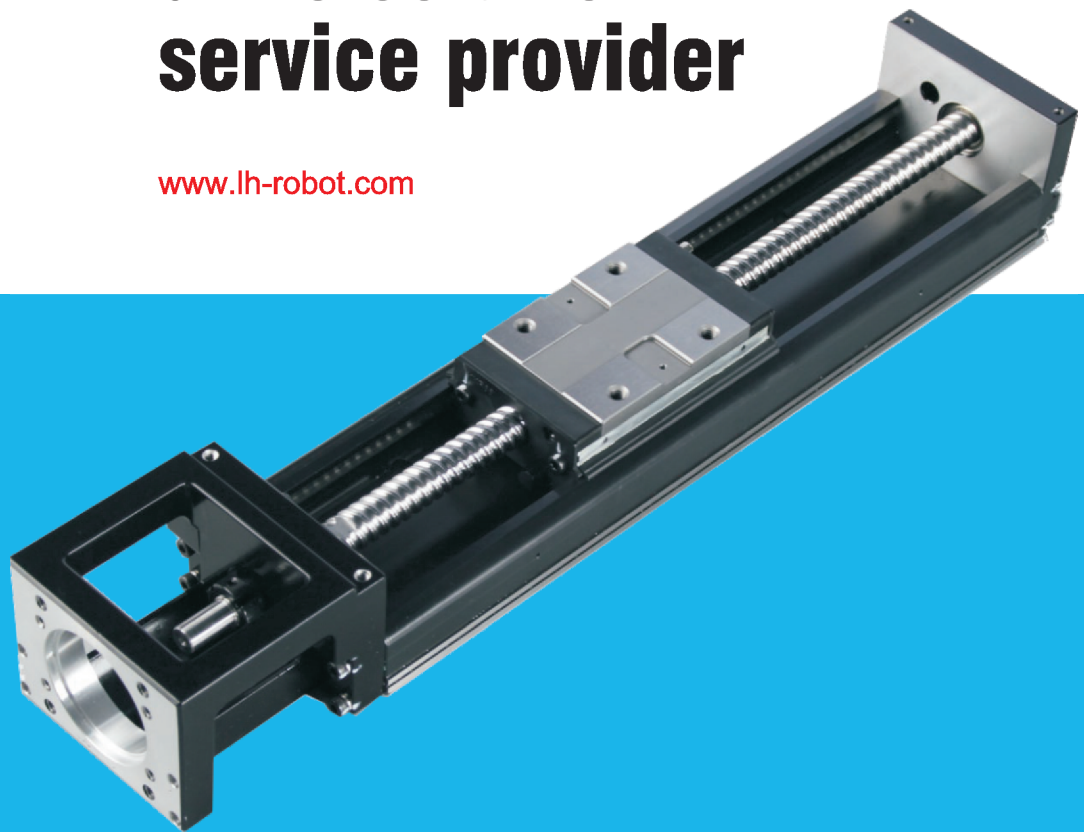


High performance linear drive solution service provider

www.lh-robot.com



Single Axis Robot

Technical Information

1. About LH-Auto

Dongguan LingHang Automation Technology Co., Ltd. (brand LH-AUTO) is a high-tech enterprise specializing in R&D, manufacturing and sales of linear transmission components. The main products are single axis robot, linear modules, slide table modules, multi-axis robots, and desktops. Platform, precision positioning platform, products are widely used in various types of automated production lines, automation equipment (locking screws, dispensing, soldering), packaging, handling, spraying, printing, laser cutting, scientific research and other fields requiring precision linear transmission and positioning .

We have an experienced technical team, advanced testing technology and testing methods. In order to ensure the stable and reliable quality of the products, the company has purchased the three-dimensional equipment of Hexagon of Switzerland and the laser *interferometer* of National Instruments API. With superb product positioning and fine design and manufacture, we help our customers to achieve lean automation production and customized personalization equipment.

LH-Auto the pursuit of superior quality and taking the lead in supporting the development direction of the domestic automation industry, and adhering to the "quality first, customer first" principle, to serve our customers!

LH-AUTO 소개

동관시링항자동화과기유한공사(Brand: LH-AUTO)는 리니어트랜스미션 컴포넌트 (직선이송장치)의 연구개발, 생산 및 판매에 일체화된 하이테크 기업입니다.

주요 생산품으로는 단축로봇, 리니어 모듈, 슬라이드테이블 모듈, 다축로봇, 데스크탑 그리고 정밀 위치제어 플랫폼입니다. 이들 제품들은 정밀직선이송과 위치제어가 필요한 영역인 각종 자동화생산라인, 자동화설비, 포장, 운송, 스프레이, 인쇄, 레이저커팅, 과학연구 그리고 기타분야에서 광범위하게 사용되고 있습니다.

LH-AUTO는 경험이 풍부한 기술팀, 최신 이송기술 및 측정장비 보유로 제품의 품질안정성을 보증하고 있습니다. 주요 장비로는 스위스 Hexagon사의 3D 장비와 미국 API의 레이저간섭계를 보유하고 있으며 이를 통해 제품의 완벽한 포지셔닝, 정밀하고 미세한 설계제조를 가능하게 하여 고객들이 생산자동화 극대화와 맞춤형 개별화 설비를 실현하는데 기여하고 있습니다.

LH-AUTO는 품질 제일, 고객우선을 원칙으로 탁월한 품질을 추구하며 자동화 업계의 새로운 발전방향을 적극 지원합니다.



Single-Axis Robot

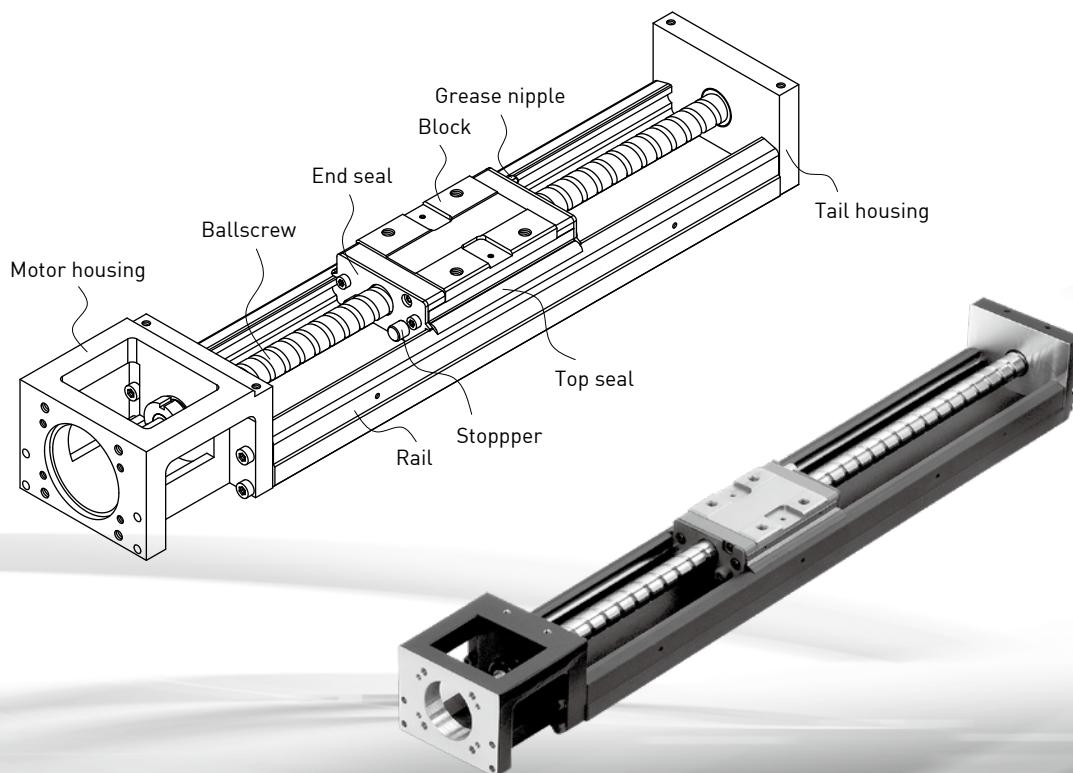
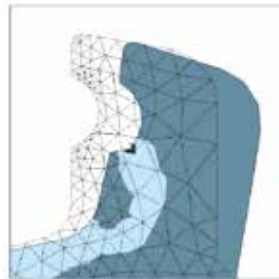
1. LHK Series

The **LHK** single-axis robot is driven by a ballscrew while a guideway slides on an optimized U-rail to achieve higher accuracy and greater stiffness.

1.1 Features

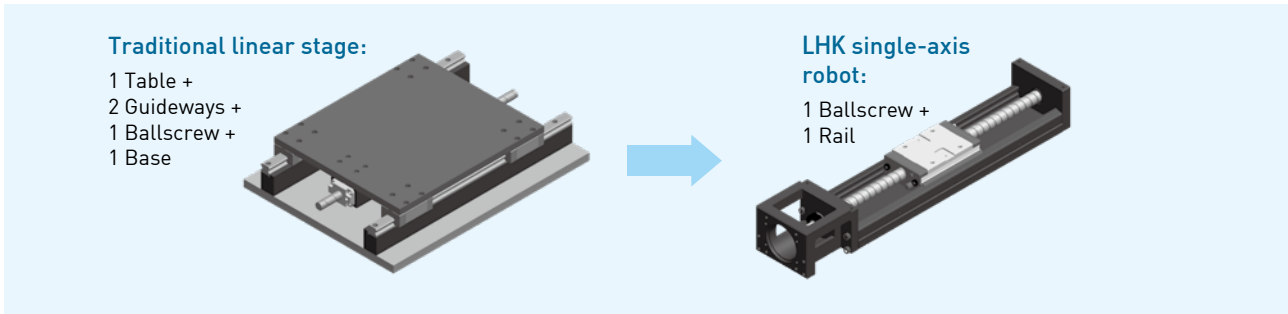
- ⦿ An integrated system
- ⦿ Easy installation and maintenance
- ⦿ Compact and lightweight
- ⦿ High accuracy
- ⦿ High stiffness
- ⦿ Complete line of accessories

The structure of rail is analyzed by FEA to get the best rigidity and weight. The analysis results are shown as the right figures.



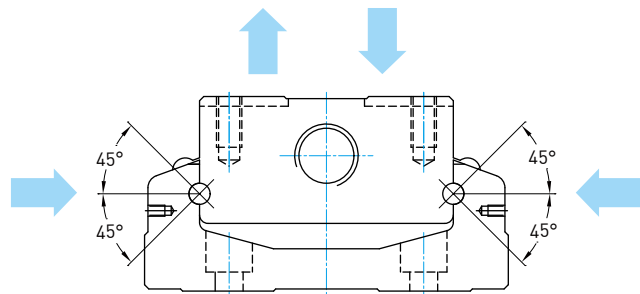
2.1.1 Modulization

The **LHK** single-axis robot integrating a ballscrew and guideway forms a modularized product. The modularized design can help customers save time, cost and system inspection. Therefore, installation efficiency and a space-saving design are also promoted.



2.1.2 Equivalent Load

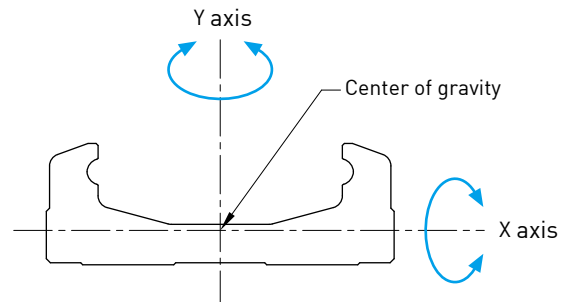
The gothic arch contact design sustains load from all directions and offers high rigidity and accuracy.



2.1.3 High Stiffness

Using finite element analysis on the U-shaped cross section allows the volume and rigidity to be made balanced, therefore, a high rigidity rail, compact design and a light weight design are also accomplished simultaneously.

Moment of inertia		Unit:mm ⁴	
Model no.	I _x	I _y	
LHK50	9.6 x 10 ³	1.34 x 10 ⁵	
LHK60	2.056 x 10 ⁴	2.802 x 10 ⁵	
LHK86	7.445 x 10 ⁴	1.134 x 10 ⁶	

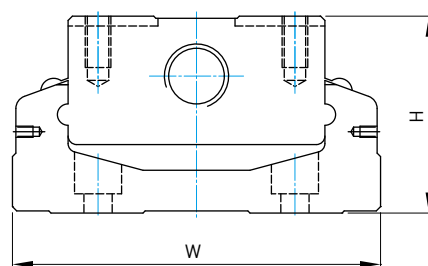


I_x : Moment of inertia computed about X axis
 I_y : Moment of inertia computed about Y axis

2.1.4 Various Specification

LHK single-axis robots of various specifications are developed, providing customers with different choices relating to space and loading conditions.

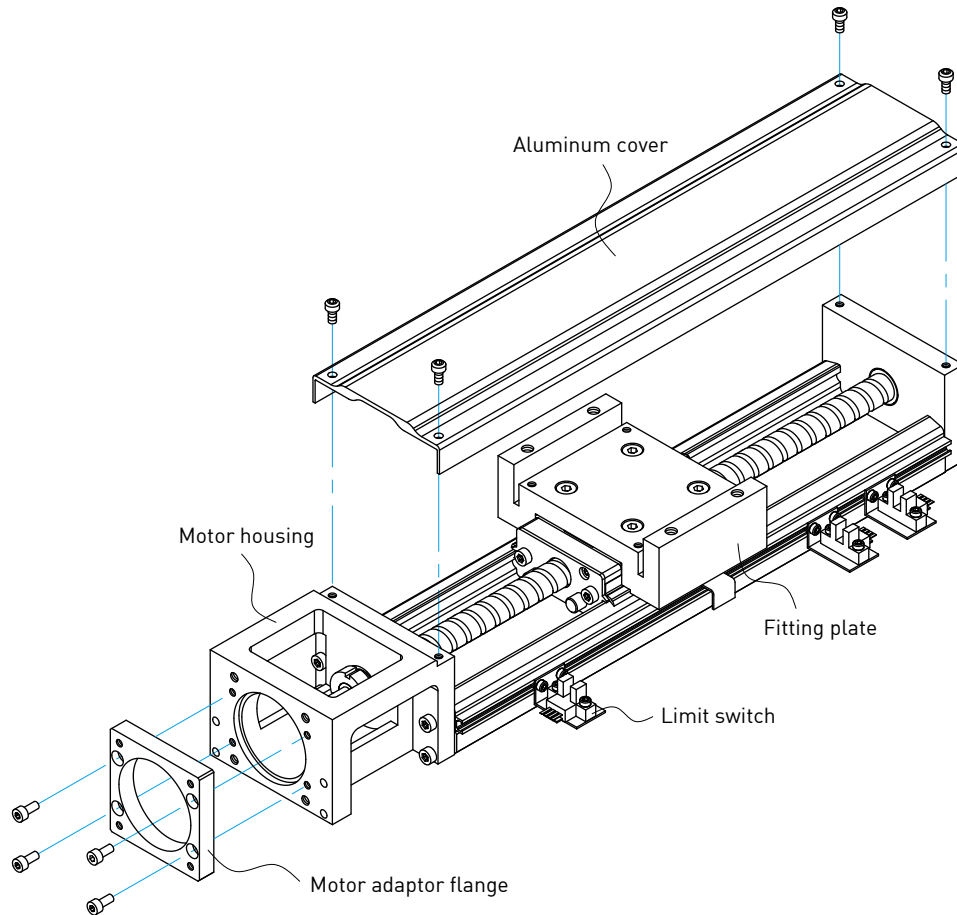
Model no.	W	H
KK50	50	26
KK60	60	33
KK86	86	46



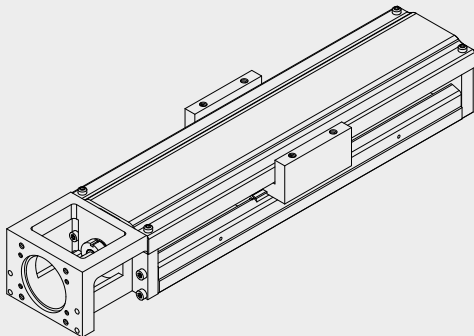
2.2 Accessories

Accessories of **LHK** single-axis robot are also supported for specific demands, such as an aluminum cover, bellows, motor adaptor flange and limit switches.

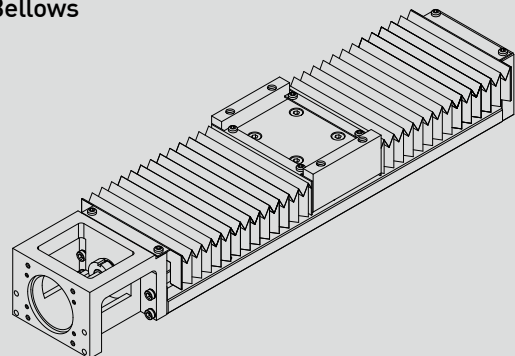
- ⊙ Aluminum cover and bellow: contamination protection
- ⊙ Motor adaptor flange: connection for different types of motors
- ⊙ Limit switches: starting point, positioning and other safety matters



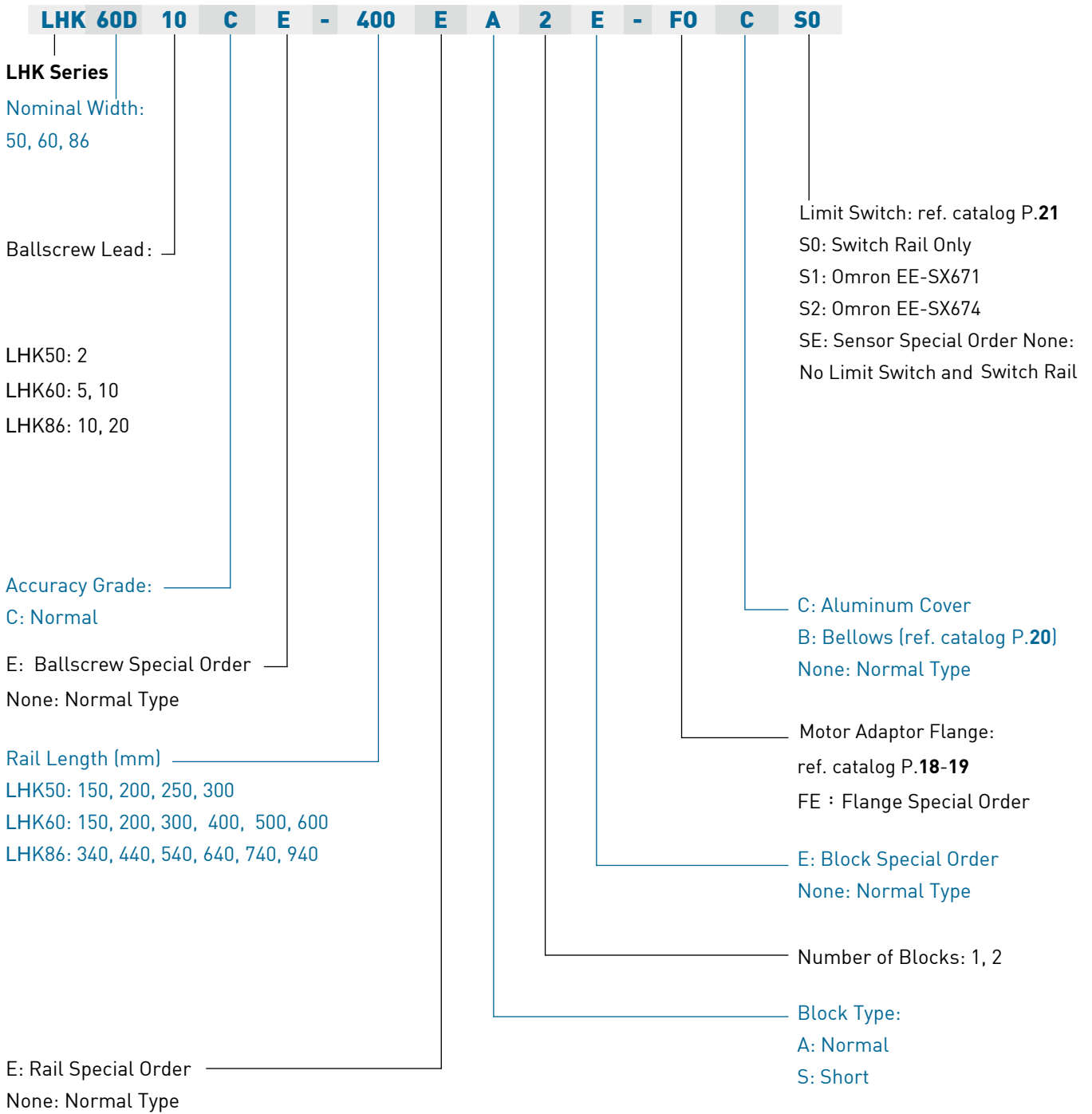
•Cover



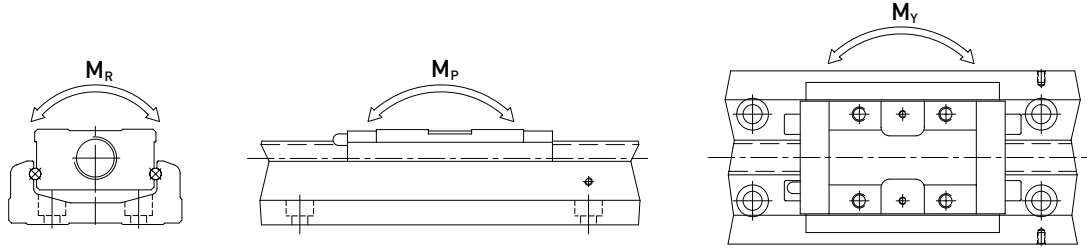
•Bellows



2.3 Model Number of KK Series



2.4 Specifications



Model No.		Ball screw				Guideway															
		Nominal Diameter (mm)	Lead (mm)	Basic Dynamic Load (N)	Basic Static Load (N)	Basic Dynamic Load Rating (N)		Basic Static Load Rating (N)		Static Rated Moment											
						Block A	Block S	Block A	Block S	Allowable Static Moment M_p (N-m) (pitching)				Allowable Static Moment M_y (N-m) (yawing)				Allowable Static Moment M_r (N-m) (rolling)			
										Block A1	Block A2	Block S1	Block S2	Block A1	Block A2	Block S1	Block S2	Block A1	Block A2	Block S1	Block S2
LHK5002	Precision	8	2	2136	3489	8007	-	12916	-	116	545	-	-	116	545	-	-	222	444	-	-
	Normal			1813	2910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LHK6005	Precision	12	5	3744	6243	13230	7173	21462	11574	152	760	72	367	152	760	72	367	419	838	241	482
	Normal			3377	5625	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LHK6010	Precision	12	10	2410	3743	13230	7173	21462	11574	152	760	72	367	152	760	72	367	419	838	241	482
	Normal			2107	3234	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LHK8610	Precision	15	10	7144	12642	31458	21051	50764	29475	622	3050	228	1309	622	3050	228	1309	1507	3014	847	1694
	Normal			6429	11387	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LHK8620	Precision	15	20	4645	7655	31458	21051	50764	29475	622	3050	228	1309	622	3050	228	1309	1507	3014	847	1694
	Normal			4175	6889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

2.5 Accuracy Grade

Unit : mm

Model	Rail Length	Repeatability		Accuracy		Running Parallelism		Starting Torque(N-cm)	
		Precision	Normal	Precision	Normal	Precision	Normal	Precision	Normal
LHK50	150	±0.003	±0.005	0.020	-	0.010	-	4	2
	200								
	250								
	300								
LHK60	150	±0.003	±0.005	0.020	-	0.010	-	15	7
	200								
	300								
	400								
	500	±0.003	±0.005	0.025	-	0.015	-	15	7
	600								
LHK86	340	±0.003	±0.005	0.025	-	0.015	-	15	10
	440								
	540								
	640								
	740	±0.003	±0.005	0.030	-	0.020	-	17	10
	940								

2.6 Maximum Speed Limit

Model	Ballscrew Lead (mm)	Rail Length L2 (mm)	Speed (mm/sec)	
			Precision	Normal
LHK50	02	150	270	270
		200	270	270
		250	270	270
		300	270	270
LHK60	05	150	550	390
		200	550	390
		300	550	390
		400	550	390
		500	550	390
		600	340	340
	10	150	1100	790
		200	1100	790
		300	1100	790
		400	1100	790
		500	1100	790
		600	670	670
LHK86	10	340	740	520
		440	740	520
		540	740	520
		640	740	520
		740	740	520
		940	610	430
	20	340	1480	1050
		440	1480	1050
		540	1480	1050
		640	1480	1050
		740	1480	1050
		940	1220	870

2.7 Life Calculations

2.7.1 Service Life

Under repeated stress between the raceway and the rolling elements, pitting and flaking will occur as it reaches fatigue failure. The service life of the KK single-axis robot is defined as the distanced traveled before any failure of the raceway or rolling elements appear.

2.7.2 Nominal Life (L)

The service life varies greatly even when the KK units are manufactured in the same way or operated under the same conditions. For this reason, nominal life is used as the criteria for predicting the service life of a KK unit.

2.7.3 Nominal Life Calculation

The calculating formulas are divided into two parts, guideway and ballscrew. The smaller value of the two would be the recommended nominal life of the KK unit.

Nominal life formulas for both the guideway and ballscrew depend on several parameters and are shown below.

◎ Guideway

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

L : Life Rating (km) C : Basic Dynamic Load Rating (N)
 f_t : Contact Coefficient (ref. Table 1) P_n : Calculated Loading (N)
 f_w : Loading Coefficient (ref. Table 2)

Table 1

Block Type	Contact Coefficient f_t
A1, S1	1.0
A2, S2	0.81

Table 2

Operating Condition		Loading Coefficient f_w
Thrust and Vibration	Velocity (V)	
No Thrust	V < 15m/min	1.0 ~ 1.5
Low Vibration	15m/min < V < 60m/min	1.5 ~ 2.0
High Vibration	V > 60m/min	2.0 ~ 3.5

◎ Ballscrew and Bearing

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

L : Life Rating (rev.) C_a : Basic Dynamic Load Rating (N)
 f_w : Loading Coefficient (ref. Table 2) $P_{a,n}$: Axial Loading (N)

2.8 Lubrication

Insufficient lubrication of the guideway would lead to a reduction of the service life.

The lubricant provides the following functions:

- ⊙ Reducing rolling friction and avoiding abrasion
- ⊙ Providing a lubricating film and extending the service life
- ⊙ Anti-rusting

2.8.1 Lubricating Grease

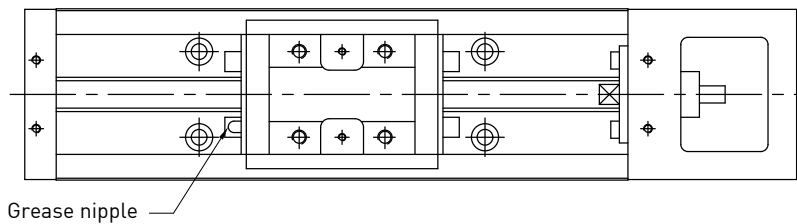
Re-lubricating the KK single-axis robot every 100km is recommended. Generally, grease is applied for speeds under 60 m/min. For operating speeds over 60 m/min, a grease with a higher viscosity should be used.

$$T = \frac{100 \times 1000}{V_e \times 60}$$

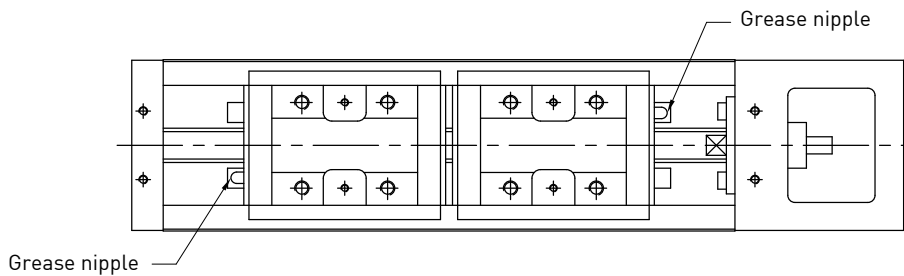
T : Lubricating frequency (hrs)
V_e : Speed (m/min)

2.8.2 Grease Nipple

- ⊙ 1 Block

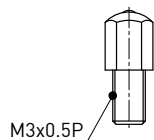


- ⊙ 2 Block



Types of grease nipple

KK40



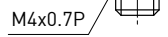
NO. 34310010

KK50

KK60

KK80

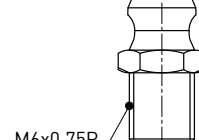
KK86



NO. 34310002

KK100

KK130

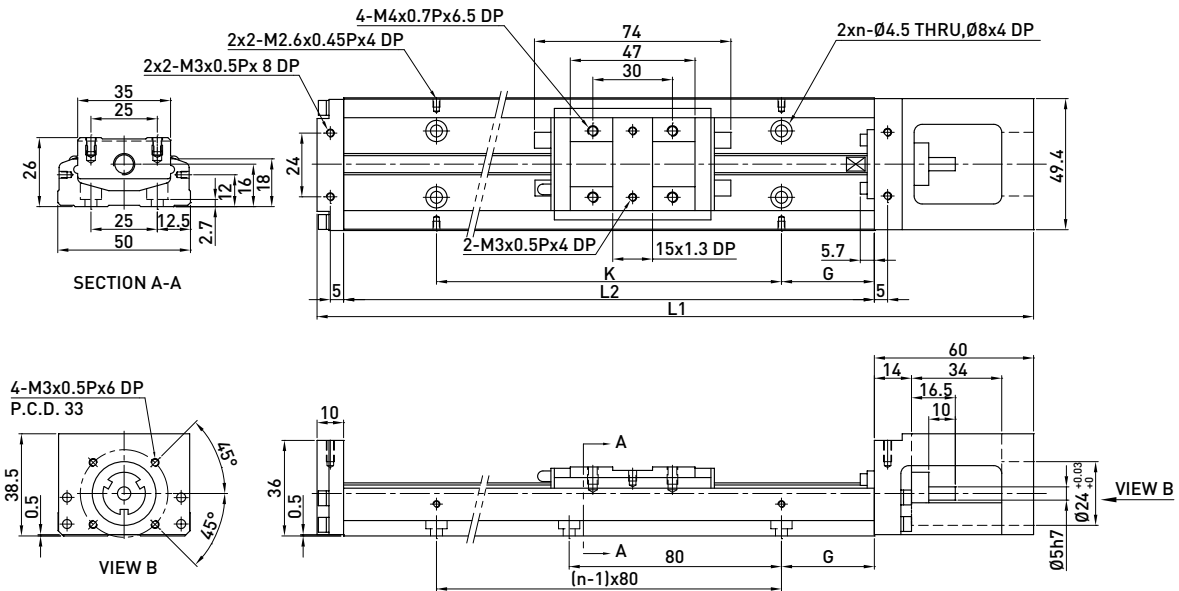


NO. 34310008

2.9 LHK Series

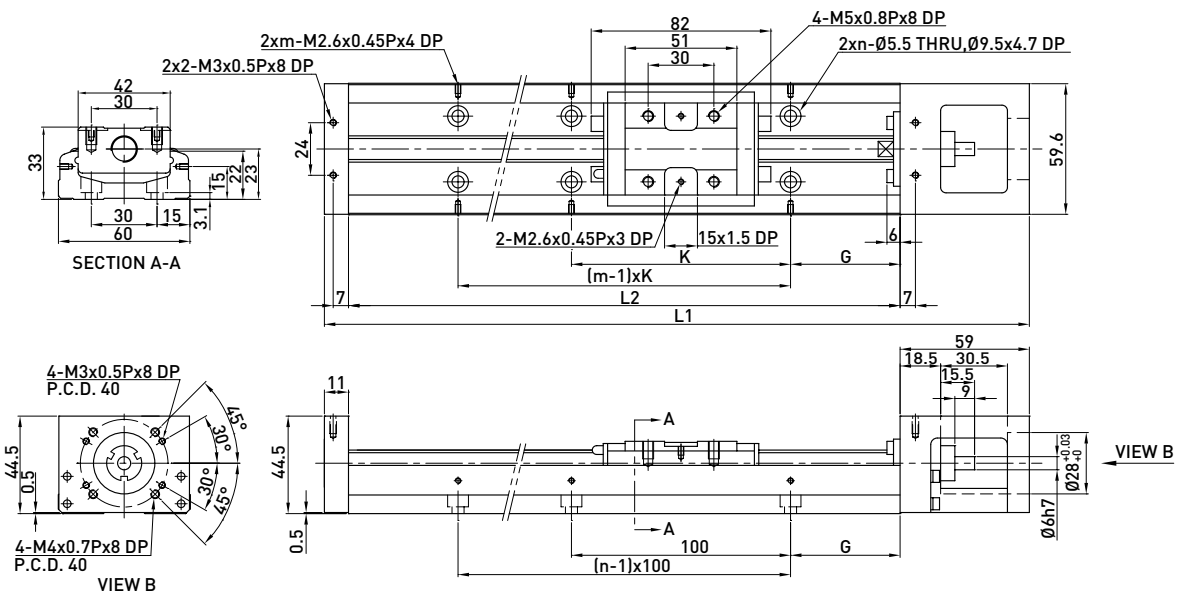
2.9.1 Without cover

LHK50



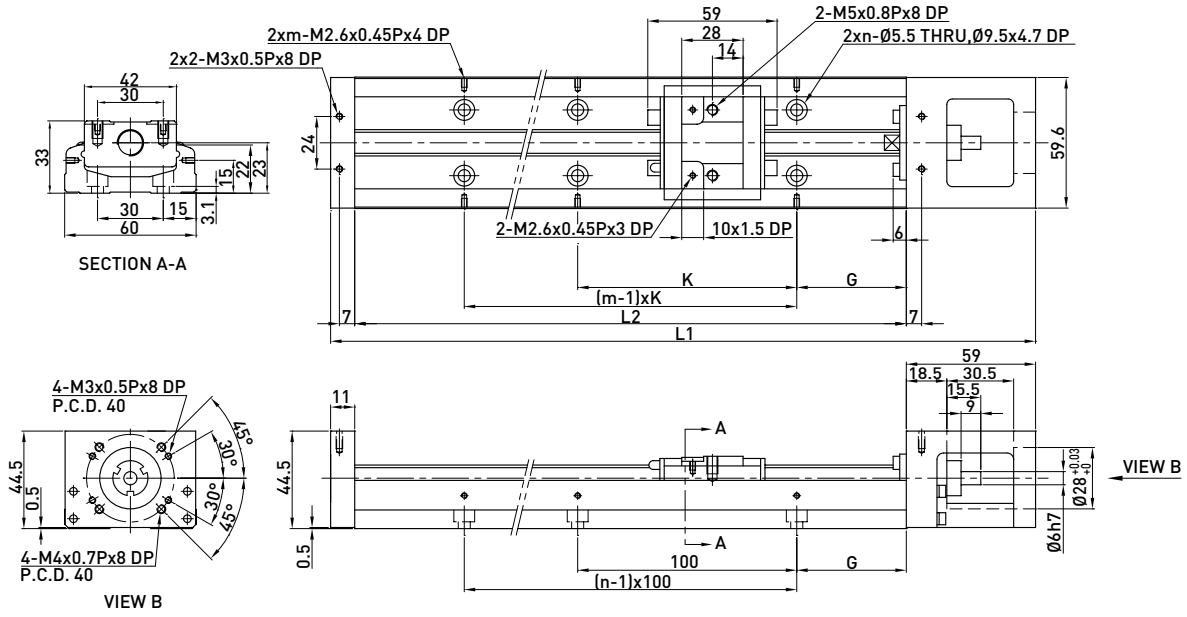
Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	Mass (kg)	
		A1 Block	A2 Block				A1 Block	A2 Block
150	220	70	-	35	80	2	1	-
200	270	120	55	20	160	3	1.2	1.4
250	320	170	105	45	160	3	1.4	1.6
300	370	220	155	30	240	4	1.6	1.8

LHK60 (Standard)



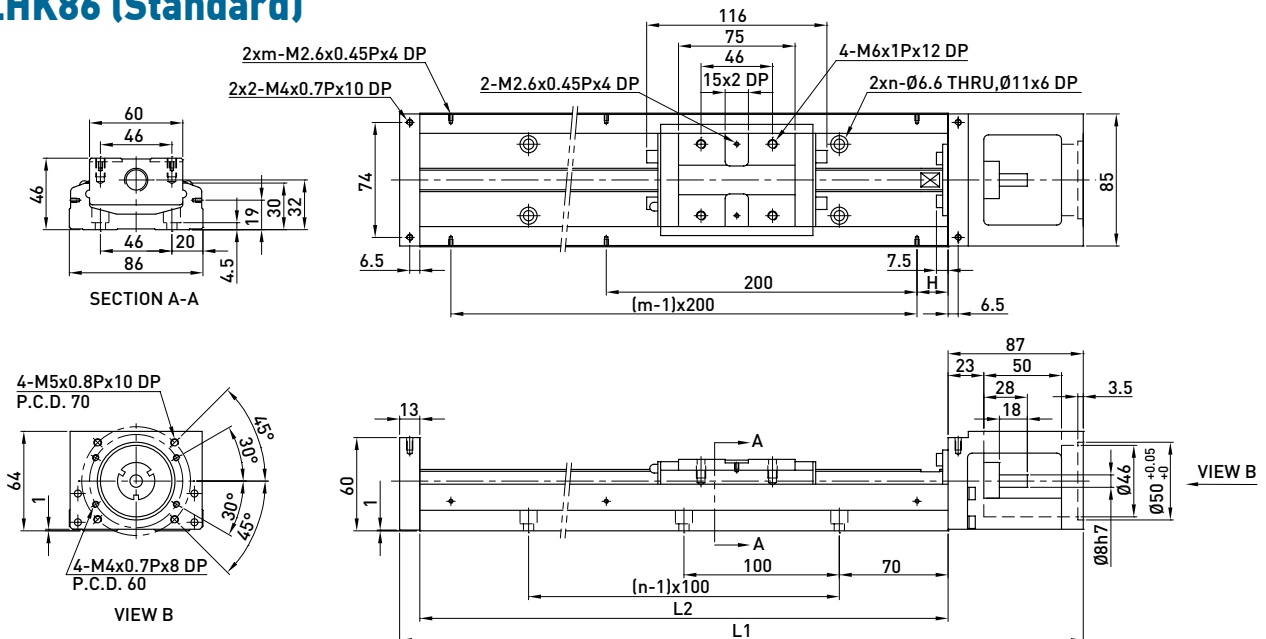
Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block					A1 Block	A2 Block
150	220	60	-	25	100	2	2	1.5	-
200	270	110	-	50	100	2	2	1.8	-
300	370	210	135	50	200	3	2	2.4	2.7
400	470	310	235	50	100	4	4	3	3.3
500	570	410	335	50	200	5	3	3.6	3.9
600	670	510	435	50	100	6	6	4.2	4.6

LHK60 (Light Duty)



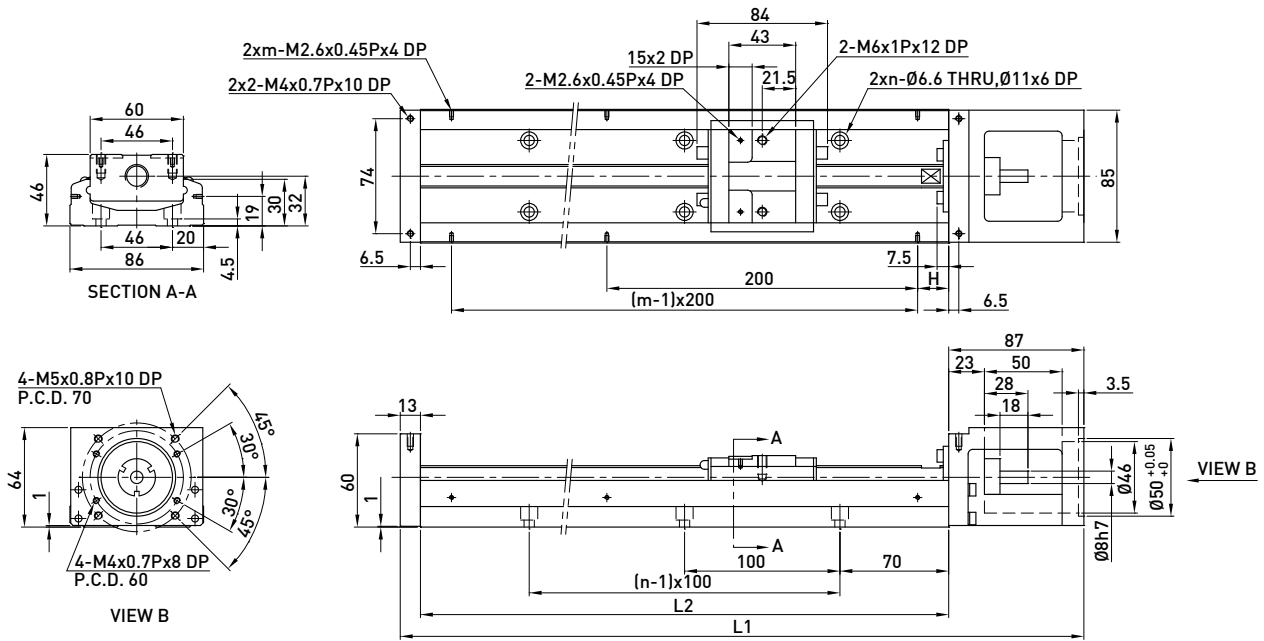
Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	m	Mass (kg)	
		S1 Block	S2 Block					S1 Block	S2 Block
150	220	85	34	25	100	2	2	1.4	1.6
200	270	135	84	50	100	2	2	1.7	1.9
300	370	235	184	50	200	3	2	2.3	2.5
400	470	335	284	50	100	4	4	2.9	3.1
500	570	435	384	50	200	5	3	3.5	3.7
600	670	535	484	50	100	6	6	4.1	4.3

LHK86 (Standard)



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		H (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block				A1 Block	A2 Block
340	440	216.5	108.5	70	3	2	5.7	6.5
440	540	316.5	208.5	20	4	3	6.9	7.7
540	640	416.5	308.5	70	5	3	8.0	8.8
640	740	516.5	408.5	20	6	4	9.2	10.0
740	840	616.5	508.5	70	7	4	10.4	11.2
940	1040	816.5	708.5	70	9	5	11.6	12.4

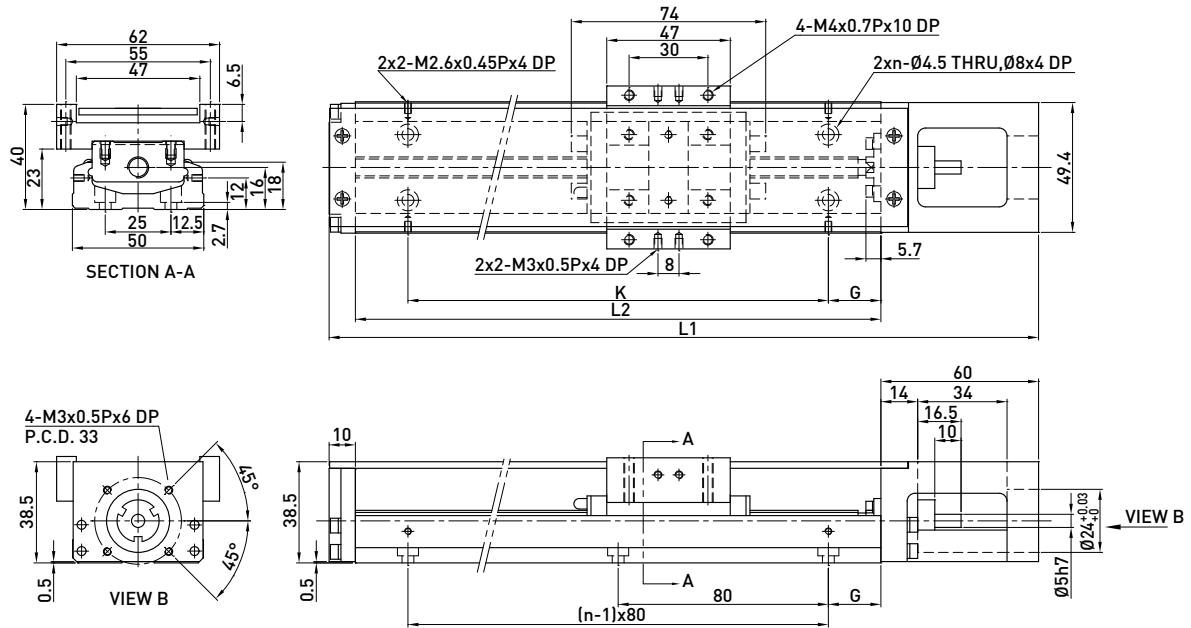
LHK86 (Light Duty)



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		H (mm)	n	m	Mass (kg)	
		S1 Block	S2 Block				S1 Block	S2 Block
340	440	248.5	172.5	70	3	2	5.4	5.9
440	540	348.5	272.5	20	4	3	6.6	7.1
540	640	448.5	372.5	70	5	3	7.7	8.2
640	740	548.5	472.5	20	6	4	8.9	9.4
740	840	648.5	572.5	70	7	4	10.1	10.6
940	1040	848.5	772.5	70	9	5	11.3	11.8

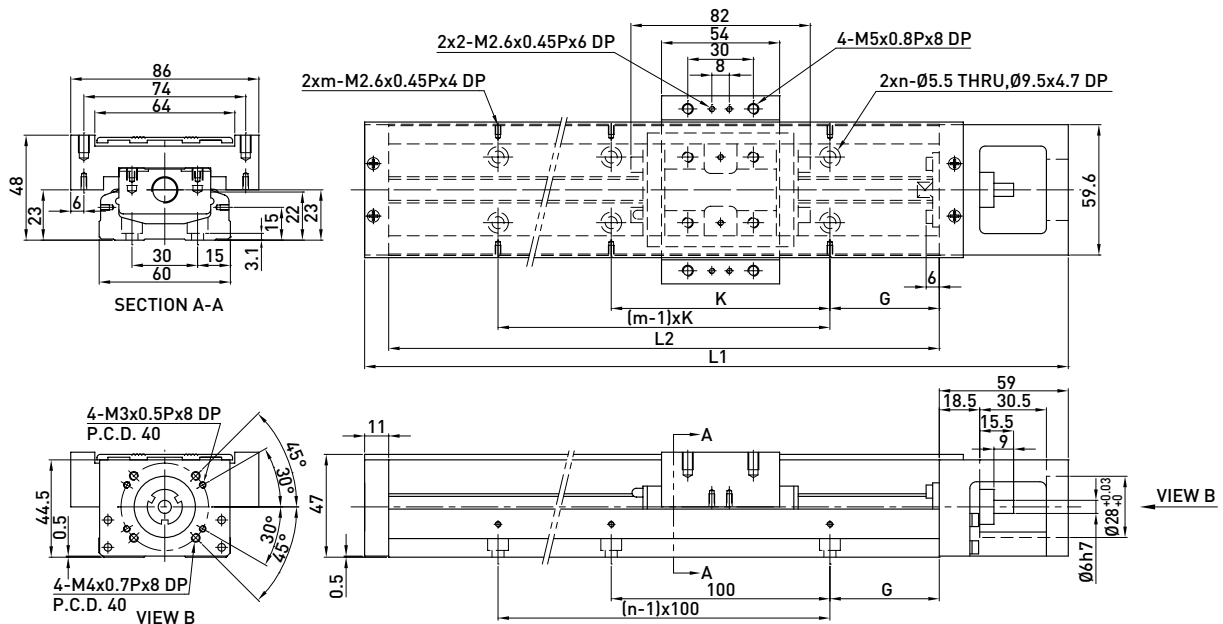
2.9.2 With cover

LHK50



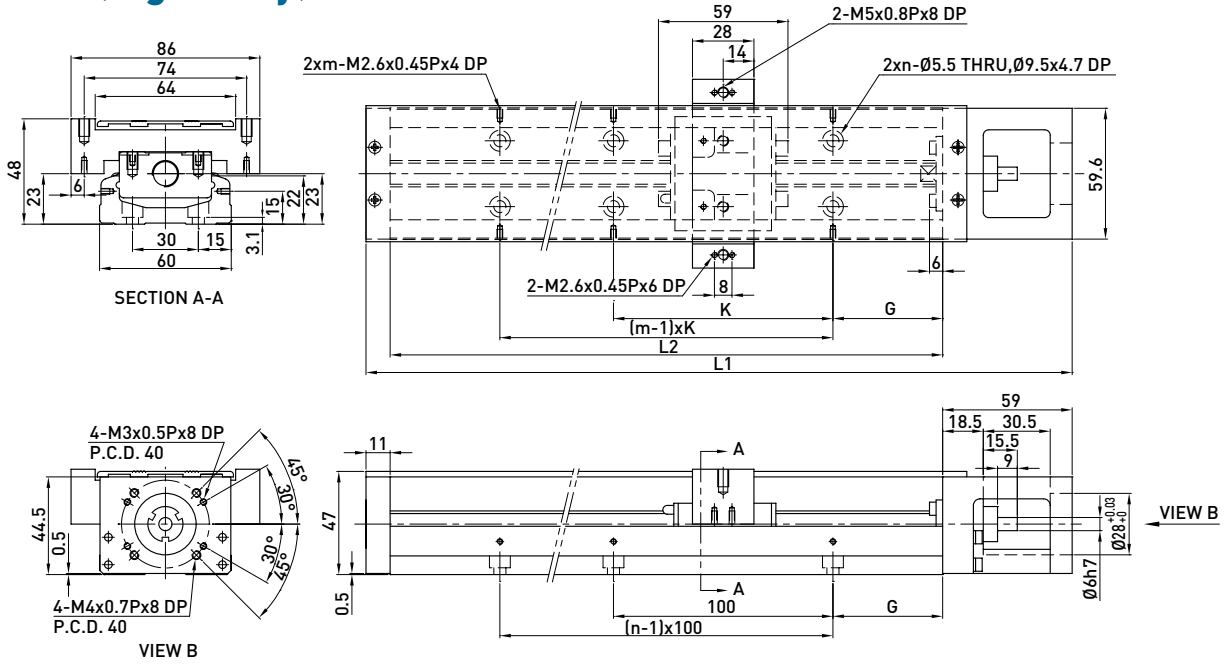
Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	Mass (kg)	
		A1 Block	A2 Block				A1 Block	A2 Block
150	220	70	-	35	80	2	1.1	-
200	270	120	55	20	160	3	1.3	1.5
250	320	170	105	45	160	3	1.6	1.8
300	370	220	155	30	240	4	1.8	2.0

LHK60 (Standard)



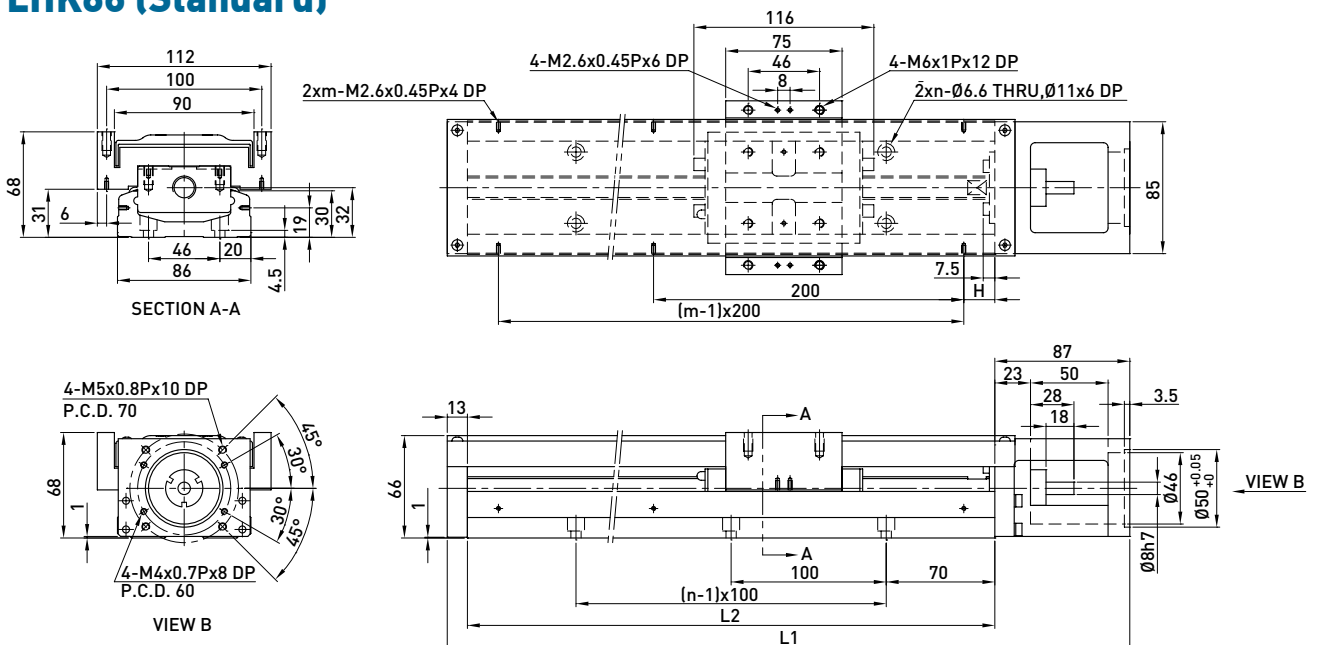
Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block					A1 Block	A2 Block
150	220	60	-	25	100	2	2	1.7	-
200	270	110	-	50	100	2	2	2.1	-
300	370	210	135	50	200	3	2	2.7	3.0
400	470	310	235	50	100	4	4	3.3	3.6
500	570	410	335	50	200	5	3	3.9	4.2
600	670	510	435	50	100	6	6	4.6	5.0

LHK60 (Light Duty)



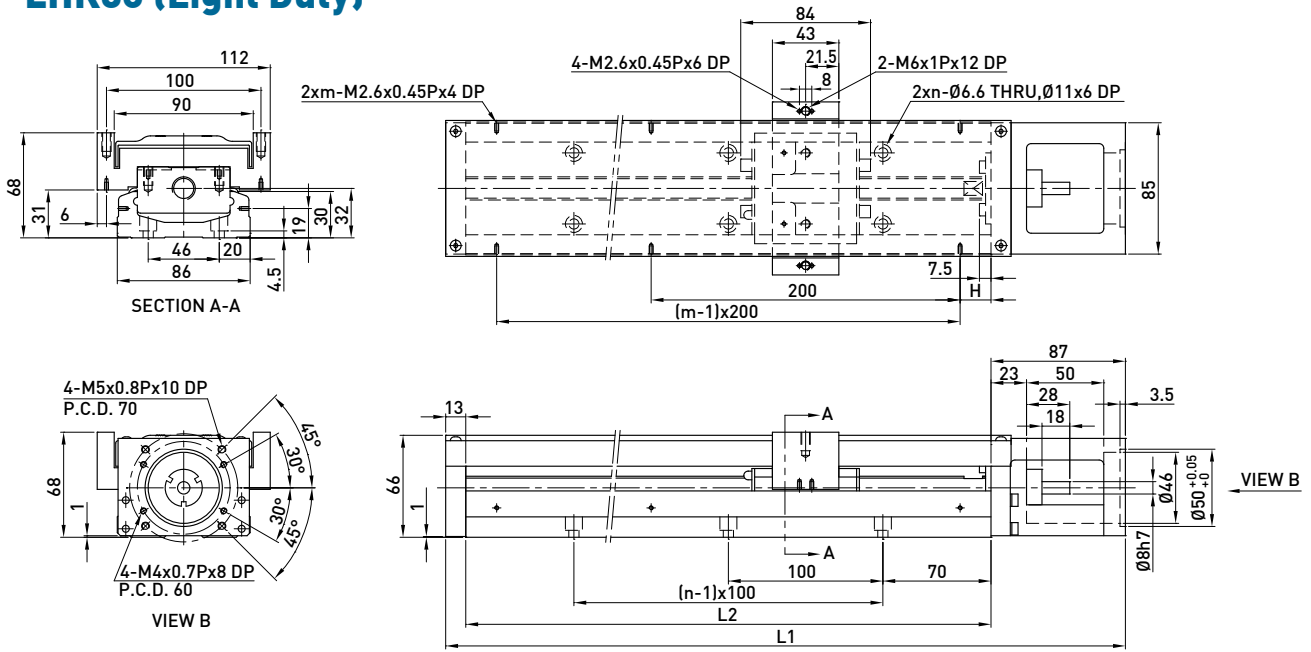
Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	m	Mass (kg)	
		S1 Block	S2 Block					S1 Block	S2 Block
150	220	85	34	25	100	2	2	1.6	1.8
200	270	135	84	50	100	2	2	1.9	2.1
300	370	235	184	50	200	3	2	2.5	2.7
400	470	335	284	50	100	4	4	3.1	3.3
500	570	435	384	50	200	5	3	3.7	3.9
600	670	535	484	50	100	6	6	4.4	4.6

LHK86 (Standard)



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		H (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block				A1 Block	A2 Block
340	440	216.5	108.5	70	3	2	6.5	7.3
440	540	316.5	208.5	20	4	3	7.8	8.6
540	640	416.5	308.5	70	5	3	9.0	9.8
640	740	516.5	408.5	20	6	4	10.3	11.3
740	840	616.5	508.5	70	7	4	11.6	12.4
940	1040	816.5	708.5	70	9	5	13.0	13.8

LHK86 (Light Duty)



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		H (mm)	n	m	Mass (kg)	
		S1 Block	S2 Block				S1 Block	S2 Block
340	440	248.5	172.5	70	3	2	6.3	7.1
440	540	348.5	272.5	20	4	3	7.6	8.4
540	640	448.5	372.5	70	5	3	8.8	9.6
640	740	548.5	472.5	20	6	4	10.1	11.1
740	840	648.5	572.5	70	7	4	11.4	12.2
940	1040	848.5	772.5	70	9	5	12.8	13.6

2.10 Motor Housing and Motor Adaptor Flange

2.10.1 Motor Selection

HIWIN Mikrosystem Servo Motor

Motor Output	Motor	Weight (kg)	Flange Selection			+Brake Weight (kg)	Drive	Weight (kg)	Remarks
			LHK50	LHK60	LHK86				
50W	FRLS052□□A4□	0.45	F2	F2	F3	0.58	D2T	1.25	220V
100W	FRLS102□□A4□	0.6	F2	F2	F3	0.76			220V
200W	FRLS202□□06□	1	-	-	F0	1.5			220V
400W	FRLS402□□06□	1.45	-	-	F0	1.86			220V
750W	FRMS752□□08□	2.66	-	-	-	3.32			220V

Mitsubishi Servo Motor

Motor Output	Motor	Weight (kg)	Flange Selection			+Brake Weight (kg)	Drive	Weight (kg)	Remarks
			LHK50	LHK60	LHK86				
10W	HC-AQ0135D	0.19	-	-	-	0.29	M2-JR-03A5	0.2	
20W	HC-AQ0235D	0.22	-	-	-	0.32	M2-JR-03A5	0.2	
50W	HF-KP053	0.35	F1	F1	F2	0.75	MR-J3S-10A	0.8	220V
100W	HF-KP13	0.56	F1	F1	F2	0.89	MR-J3S-10A	0.8	220V
200W	HF-KP23	0.94	-	-	F0	1.6	MR-J3S-20A	0.8	220V
400W	HF-KP43	1.5	-	-	F0	2.1	MR-J3S-40A	1	220V
750W	HF-KP73	2.9	-	-	-	4	MR-J3S-70A	1.4	220V

Panasonic Servo Motor

Motor Output	Motor	Weight (kg)	Flange Selection			+Brake Weight (kg)	Drive	Weight (kg)	Remarks
			LHK50	LHK60	LHK86				
50W	MSMD5AZP1	0.32	F2	F2	F3	0.53	MADDT1105	0.8	110V
50W	MSMD5AZP1	0.32	F2	F2	F3	0.53	MADDT1205	0.8	220V
100W	MSMD011P1	0.47	F2	F2	F3	0.68	MADDT1107	0.8	110V
100W	MSMD012P1	0.47	F2	F2	F3	0.68	MADDT1205	0.8	220V
200W	MSMD021P1	0.82	-	-	F1	1.3	MADDT2110	1.1	110V
200W	MSMD022P1	0.82	-	-	F1	1.3	MADDT1207	0.8	220V
400W	MSMD041P1	1.2	-	-	F1	1.7	MADDT3120	1.5	110V
400W	MSMD042P1	1.2	-	-	F1	1.7	MADDT2210	1.1	220V
750W	MSMD082S1	2.3	-	-	F4	3.1	MADDT3520	1.5	220V

Yasukawa Servo Motor

Motor Output	Motor	Weight (kg)	Flange Selection			+Brake Weight (kg)	Drive	Weight (kg)	Remarks
			LHK50	LHK60	LHK86				
10W	SGMMV-A1A2A21	0.13	-	-	-	0.215	SGDV-R90A01A	0.9	220V
20W	SGMMV-A2A2A21	0.17	-	-	-	0.27	SGDV-R90A01A	0.9	220V
50W	SGMAV-A5ADA61	0.3	F1	F1	F2	-	SGDV-R70A01A	0.9	with key
50W	SGMAV-A5ADA2C	0.3	F1	F1	F2	-	SGDV-R70A01A	0.9	no key
50W	SGMAV-A5ADA21	0.3	F1	F1	F2	0.75	SGDV-R70A01A	0.9	Mid inertia
100W	SGMAV-01ADA64	0.4	F1	F1	F2	0.89	SGDV-R90A01A	0.9	
200W	SGMAV-02ADA65	0.9	-	-	F0	1.6	SGDV-1R6A01A	0.9	
400W	SGMAV-04ADA66	1.2	-	-	F0	2.1	SGDV-2R8A01A	1	
750W	SGMAV-08ADA67	2.6	-	-	-	4	SGDV-5R5A01A	1.5	

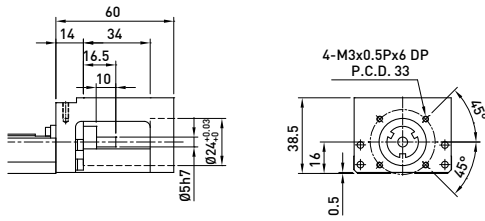
Oriental Step Motor

Series	Model	Flange Selection			Built in Motor	Weight (kg)	Built in Drive	Weight (kg)
		LHK50	LHK60	LHK86				
CSK 2 phase	CSK243-AP	F3	F5	-	PK243-01A	0.21	CSD2109-P	0.12
	CSK244-AP	F3	F5	-	PK244-01A	0.27	CSD2112-P	0.12
	CSK245-AP	F3	F5	-	PK245-01A	0.35	CSD2112-P	0.12
	CSK264-AP	-	F4	F6	PK264-02A	0.45	CSD2120-P	0.12
	CSK266-AP	-	F4	F6	PK266-02A	0.7	CSD2120-P	0.12
	CSK268-AP	-	F4	F6	PK268-02A	1	CSD2120-P	0.12
	CSK296-AP	-	-	-	PK296-03A	1.7	CSD2145P	0.2
	CSK299-AP	-	-	-	PK299-03A	2.8	CSD2145P	0.2
CSK 2 phase	CSK2913-AP	-	-	-	PK2913-02A	3.8	CSD2140P	0.2
	CSK523-AP	-	-	-	PK523A	0.1	SD5103P3	0.04
CFKII 5 phase micro stepping	CFK543AP2	F3	F5	-	PK543NAW	0.21	DFC5107P	0.2
	CFK544AP2	F3	F5	-	PK544NAW	0.27	DFC5107P	0.2
	CFK545AP2	F3	F5	-	PK545NAW	0.35	DFC5107P	0.2
	CFK564AP2	-	-	F5	PK564NAW	0.6	DFC5114P	0.2
	CFK566AP2	-	-	F5	PK566NAW	0.8	DFC5114P	0.2
	CFK569AP2	-	-	F5	PK569NAW	1.3	DFC5114P	0.2
	CFK566HAP2	-	-	F5	PK566HNAW	0.8	DFC5128P	0.22
	CKF569HAP2	-	-	F5	PK569HNAW	1.3	DFC5128P	0.22
	CFK596HAP2	-	-	-	PK596HNAW	1.7	DFC5128P	0.22
	CFK599HAP2	-	-	-	PK599HNAW	2.8	DFC5128P	0.22
CFK5913HAP2	-	-	-	PK5913HNAW	3.8	DFC5128P	0.22	
UMK 2 phase	UMK243A	F3	F5	-	PK243-01	0.21	UDK2109	0.47
	UMK244A	F3	F5	-	PK244-01	0.27	UDK2112	0.47
	UMK245A	F3	F5	-	PK245-01	0.35	UDK2112	0.47
	UMK264A	-	F4	F6	PK264-02	0.45	UDK2120	0.47
	UMK266A	-	F4	F6	PK266-02	0.7	UDK2120	0.47
	UMK268A	-	F4	F6	PK268-02	1	UDK2120	0.47
RK 5 phase	RK543AA	F3	F5	-	PK543W	0.25	RKD507-A	0.4
	RK544AA	F3	F5	-	PK544W	0.3	RKD507-A	0.4
	RK545AA	F3	F5	-	PK545W	0.4	RKD507-A	0.4
	RK566AA	-	-	F5	PK566W	0.8	RKD514L-A	0.85
	RK569AA	-	-	F5	PK569W	1.3	RKD514L-A	0.85
	RK596AA	-	-	-	PK596W	1.7	RKD514H-A	0.85
	RK599AA	-	-	-	PK599W	2.8	RKD514H-A	0.85
	RK5913AA	-	-	-	PK5913W	3.8	RKD514H-A	0.85
ASC α -step	ASC34AK	-	-	-	ASM34AK	0.15	ASD10A-K	0.25

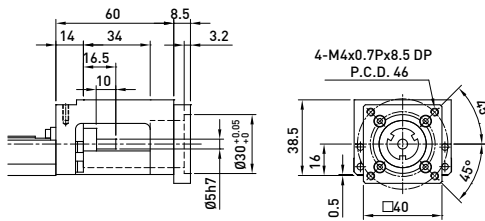
2.10.3 Motor Housing and Motor Adaptor Flange

LHK50

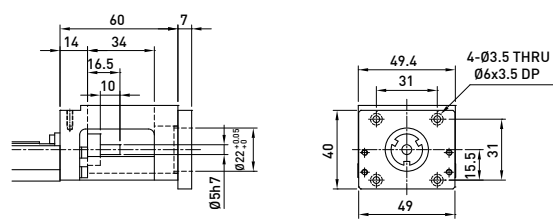
Motor Housing F0



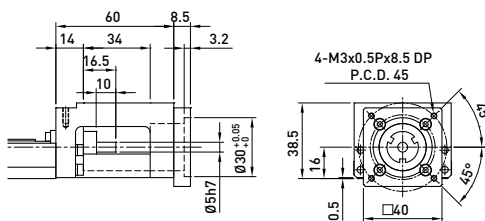
Motor Adaptor Flange F1



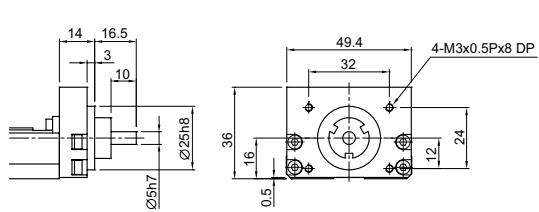
Motor Adaptor Flange F3



Motor Adaptor Flange F2

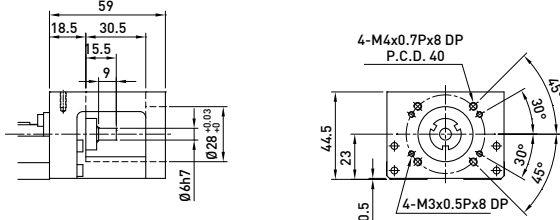


Mount Housing H0

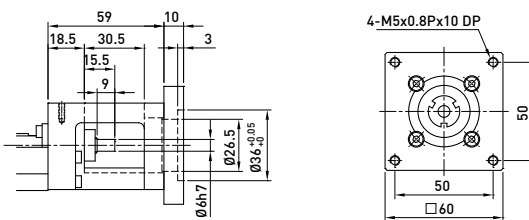


LHK60

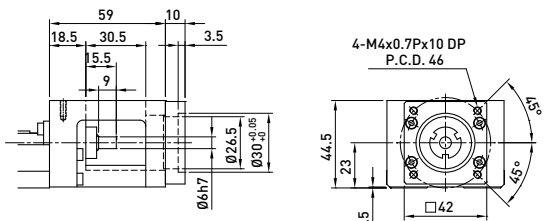
Motor Housing F0



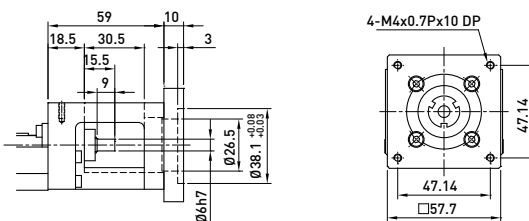
Motor Adaptor Flange F3



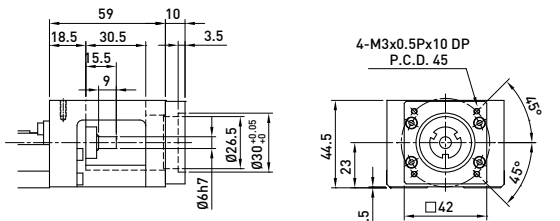
Motor Adaptor Flange F1



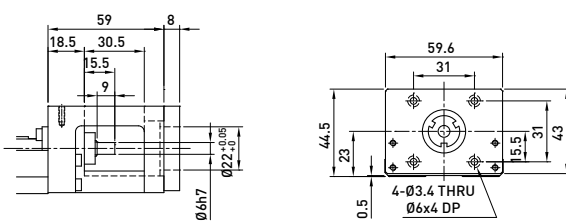
Motor Adaptor Flange F4



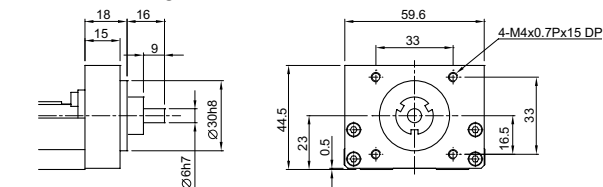
Motor Adaptor Flange F2



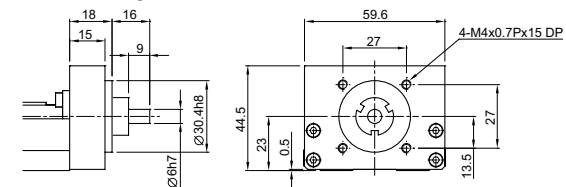
Motor Adaptor Flange F5



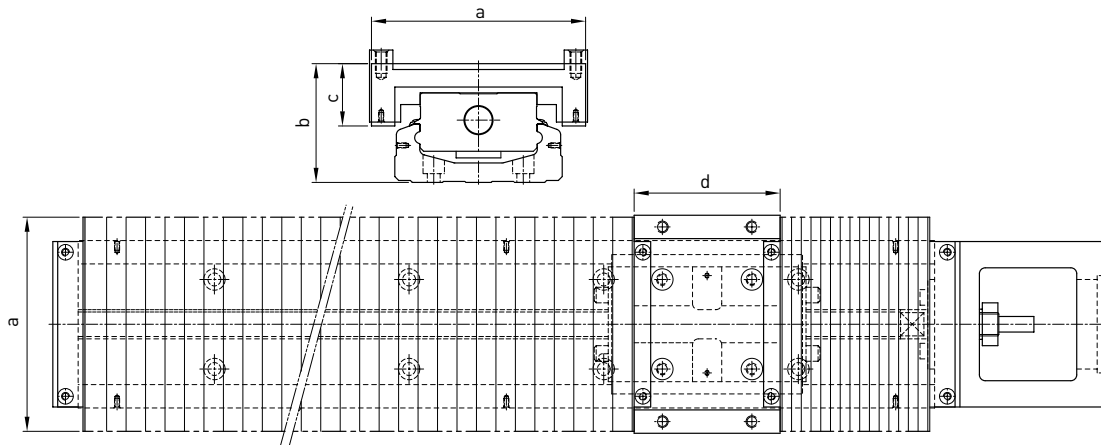
Mount Housing H0



Mount Housing H1



2.11 Optional Accessories

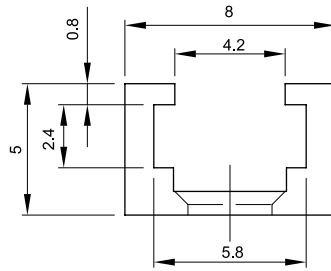


Unit : mm

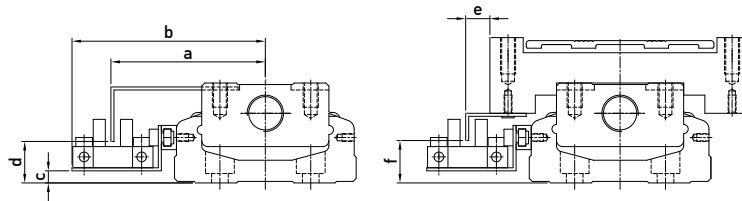
Nominal Width	Rail Length	Stroke	Min.	Max.	a	b	c	d
LHK50	150	60	21.5	81.5	62	37	19	47
	200	95	29	124				
	250	130	36.5	166.5				
	300	160	46.5	206.5				
LHK60	150	56	16	80	84	45.5	24	54
	200	106	20	126				
	300	166	40	206				
	400	234	56	290				
	500	306	70	376				
	600	366	90	456				
LHK86	340	188	36	224	110	61	32	75
	440	260	50	310				
	540	336	62	398				
	640	408	76	484				
	740	480	90	570				
	940	640	110	750				

2.12 Switch

Switch rail

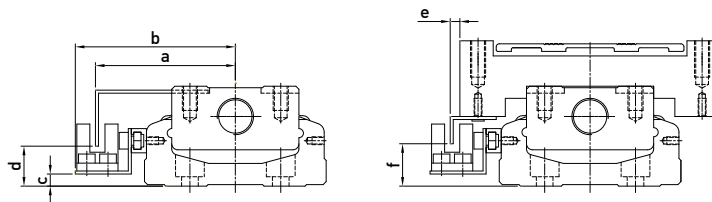


Switch



Nominal Width	a	b	c	d	e	f
LHK50	45.5	59	1	10	15	11
LHK60	51	63.8	4	14.5	8	13
LHK86	63.5	76.7	8	18	8	18

Switch 1 : Omron EE-SX671



Nominal Width	a	b	c	d	e	f
LHK50	41.3	48	1	10.5	10.2	11
LHK60	46.2	52.8	4	14	3.2	13
LHK86	59	65.7	8	18	3	18

Switch 2 : Omron EE-SX674

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